WEST VALLEY DEMONSTRATION PROJECT
WEST VALLEY, NEW YORK

Resource Conservation and Recovery Act
Facility Investigation Report
Volume 8

High-level Waste Storage and Processing Area

West Valley Nuclear Services Company, Inc.

and

Dames & Moore

Prepared for:
U.S. Department of Energy
Ohio Field Office
West Valley Area Office

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Volume 8
High-level Waste Storage and Processing Area

West Valley Demonstration Project
West Valley, New York

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List of Acronyms

ANA	Analytical Aisle
ANC	Analytical Cell
CCR	Chemical Crane Room
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CFMT	Concentrator Feed Make-up Tank
CFR	Code of Federal Regulations
COA	Chemical Operating Aisle
CPC	Chemical Process Cell
Cs-137	Cesium-137
CSS	Cement Solidification System
CTS	Component Test Stand (Vitrification)
CVA	Chemical Process Cell Viewing Aisle
DOE	(U.S.) Department of Energy
EDR	Equipment Decontamination Room
EPA	(U.S.) Environmental Protection Agency
FACTS	Functional and Checkout Testing of Systems
GCR	General Purpose Cell Crane Room
GRITS/STAT	Groundwater Information Tracking System/STATistical Analysis System
GPC	General Purpose Cell
HAC	Hot Acid Cell
HLW	High-level Waste
HLWSA	High-level Waste Storage and Processing Area
HLWTF	High-level Waste Treatment Facility
HLWVF	High-level Waste Vitrification Facility
IRTS	Integrated Radwaste Treatment System
LDR	Land Disposal Restrictions
LLW	Low-level Waste
LLWTF	Low-level Waste Treatment Facility
LWC	Liquid Waste Cell
LWTS	Liquid Waste Treatment System
M	Molar
MDL	Method Detection Limit
MFHT	Melter Feed Hold Tank
MSM	Master Slave Manipulator
NFS	Nuclear Fuel Services, Inc.
NGVD	National Geodetic Vertical Datum

List of Acronyms *(continued)*

NPOC	Nonpurgeable Organic Carbon
NRC	(U.S.) Nuclear Regulatory Commission
NYCRR	Official Compilation of Codes, Rules and Regulations of the State of New York
NYSDEC	New York State Department of Environmental Conservation
PAH	Polycyclic Aromatic Hydrocarbon
PCB	Polychlorinated Biphenyl
PCDD	Polychlorinated Dibenzo-p-dioxins
PCDF	Polychlorinated Dibenzofurans
PCR	Process Chemical Room
PID	Photoionization Detector
PMC	Process Mechanical Cell
PPC	Product Purification Cell
PSC	Process Sample Cell
PUREX	Plutonium Uranium Reduction Extraction Process
PVC	Polyvinyl Chloride
QA	Quality Assurance
QA/QC	Quality Assurance/Quality Control
QC	Quality Control
QAPjP	Quality Assurance Project Plan
RCRA	Resource Conservation and Recovery Act
RFI	RCRA Facility Investigation
SAT	Saturated Zone
SFCM	Slurry-fed Ceramic Melter
SOP	Standard Operating Procedure
Sr-90	Strontium-90
SS	Stainless Steel
SSWMU	Super Solid Waste Management Unit
STS	Supernatant Treatment System
SVOC	Semivolatile Organic Compound
SVS	Scaled Vitrification System
SWMU	Solid Waste Management Unit
TAGM	Technical Administrative Guidance Memorandum
TAL	Target Analyte List
TBP	Tributyl Phosphate
TCL	Target Compound List
THOREX	Thorium Reduction Extraction Process
TIC	Tentatively Identified Compound
TOC	Total Organic Carbon
TOX	Total Organic Halogen

List of Acronyms *(concluded)*

VF	Vitrification Facility
VOA	Volatile Organic Analysis
VOC	Volatile Organic Compound
VTF	Vitrification Test Facility
WNYNSC	Western New York Nuclear Service Center
WTF	Waste Tank Farm
WVDP	West Valley Demonstration Project
WVNS	West Valley Nuclear Services Company, Inc.
XC-1	Extraction Cell 1

Key to Analyte Abbreviations in Appendices

ABBREVIATIONS	ANALYTES
VOLATILES	
acetone	Acetone
acnitril	Acetonitrile
acrolein	Acrolein
acrynitr	Acrylonitrile
allylcl	Allyl chloride
benzene	Benzene
br_meth	Methyl bromide
brdcmeth	Bromodichloromethane
brform	Bromoform
c_13_dcp	cis-1,3-Dichloropropene
cc14	Carbon tetrachloride
cl_benz	Chlorobenzene
cl_eth	Chloroethane
cl_form	Chloroform
cl_meth	Methyl chloride
cl_prene	Chloroprene
clevthr	2-Chloroethylvinyl ether
cs2	Carbon disulfide
dbc_meth	Dibromochloromethane
dbc_prop	1,2-Dibromo-3-chloropropane
dbeth_12	1,2-Dibromoethane
dca_11	1,1-Dichloroethane
dca_12	1,2-Dichloroethane
dcdfmeth	Dichlorodifluoromethane
dce_11	1,1-Dichloroethylene

Key to Analyte Abbreviations in Appendices
(continued)

ABBREVIATIONS	ANALYTES
dcp_12	1,2-Dichloropropane
diox_14	1,4-Dioxane
eth_benz	Ethyl benzene
eth_meth	Ethyl methacrylate
hexnone2	2-Hexanone
ibut_alc	Isobutyl alcohol
meacryln	Methacrylonitrile
mek	Methyl ethyl ketone
mene_br	Methylene bromide
mene_cl	Methylene chloride
meth_i	Methyl iodide
methmeac	Methyl methacrylate
mibk	4-Methyl-2-pentanone
picoline	2-Picoline
pntcleth	Pentachloroethane
propnitl	Propionitrile
pyridine	Pyridine
styrene	Styrene
t_13_dcp	trans-1,3-Dichloropropene
t_14dc2b	trans-1,4-Dichloro-2-butene
tca_111	1,1,1-Trichloroethane
tca_1112	1,1,1,2-Tetrachloroethane
tca_112	1,1,2-Trichloroethane
tca_1122	1,1,2,2-Tetrachloroethane
tcf_meth	Trichlorofluoromethane
tcp_123	1,2,3-Trichloropropane
tetcleth	Tetrachloroethylene

Key to Analyte Abbreviations in Appendices
(continued)

ABBREVIATIONS	ANALYTES
toluene	Toluene
tricleth	Trichloroethylene
vnyl_ace	Vinyl acetate
vnyl_cl	Vinyl chloride
xylene	Xylene (Total)
PESTICIDES and PCBs	
a_bhc	alpha-BHC
aldrin	Aldrin
b_bhc	beta-BHC
chlrdane	Chlordane (Total)
d_24	2,4-D
d_bhc	delta-BHC
ddd_44	4,4'-DDD
dde_44	4,4'-DDE
ddt_44	4,4'-DDT
dieldrin	Dieldrin
dinoseb	Dinoseb
disulftn	Disulfoton
endos_1	Endosulfan I
endos_2	Endosulfan II
endos_s	Endosulfan sulfate
endrin	Endrin
endrn_al	Endrin aldehyde
endrn_kt	Endrin ketone
g_bhc	gamma-BHC (Lindane)
hept_clr	Hepatachlor

Key to Analyte Abbreviations in Appendices
(continued)

ABBREVIATIONS	ANALYTES
hept_epx	Hepatachlor epoxide
meth_par	Methyl parathion
meth_xcl	Methoxychlor
pcb_1016	PCB-1016
pcb_1221	PCB-1221
pcb_1232	PCB-1232
pcb_1242	PCB-1242
pcb_1248	PCB-1248
pcb_1254	PCB-1254
pcb_1260	PCB-1260
phorate	Phorate
silvex	Silvex
t_245	2,4,5_T
toxaphen	Toxaphene
METALS	
ag_t	Silver
al_t	Aluminum
as_t	Arsenic
b_t	Boron
ba_t	Barium
be_t	Beryllium
ca_t	Calcium
cd_t	Cadmium
co_t	Cobalt
cr_t	Chromium
cu_t	Copper

Key to Analyte Abbreviations in Appendices
(continued)

ABBREVIATIONS	ANALYTES
fe_t	Iron
hg_t	Mercury
k_t	Potassium
mg_t	Magnesium
mn_t	Manganese
mo_t	Molybdenum
na_t	Sodium
ni_t	Nickel
pb_t	Lead
sb_t	Antimony
se_t	Selenium
sn_t	Tin
ti_t	Titanium
tl_t	Thallium
v_t	Vanadium
zn_t	Zinc
SEMIVOLATILES	
aadimthp	alpha, alpha-Dimethylphenethylamine
aceanf12	2-Acetylaminofluorene
acetophn	Acetophenone
acnphthe	Acenaphthene
acnphthy	Acenaphthylene
amnobph4	4-Aminobiphenyl
aniline	Aniline
antracn	Anthracene
aramite	Aramite

Key to Analyte Abbreviations in Appendices
(continued)

ABBREVIATIONS	ANALYTES
benz_alc	Benzyl alcohol
benzdine	Benzidine
bis2ceth	Bis(2-chlorethyl)ether
bis2cexy	Bis(2-chloroethoxy)methane
bis2clis	Bis(2-chloroisopropyl)ether
bis2ehex	Bis(2-ethylhexyl)phthalate
bnz_a_an	Benzo[a]anthracene
bnz_a_py	Benzo[a]pyrene
bnz_b_fl	Benzo[b]fluoranthene
bnz-k-fl	Benzo[k]fluoranthene
bnzc_acd	Benzoic acid
bnzghipr	Benzo[ghi]perylene
brppeth4	4-Bromophenyl phenyl ether
butbnzph	Butyl benzyl phthalate
carbazol	Carbazole
chppeth4	4-Chlorophenyl phenyl ether
chrysene	Chrysene
clbnzilt	Chlorobenzilate
clnapht2	2-Chloronaphthalene
clphen_2	2-Chlorphenol
dbahanth	Dibenz[a,h]anthracene
dcb_33	3,3'-Dichlorobenzidine
dethylpy	0,0-Diethyl 0-2-pyrazinyl-phosphorothiaoate
diallate	Diallate
dibnzfur	Dibenzofuran
diclph24	2,4-dichlorophenol
diclph26	2,6-Dichlorophenol

Key to Analyte Abbreviations in Appendices
(continued)

ABBREVIATIONS	ANALYTES
diethyph	Diethyl phthalate
dimthoat	Dimethoate
dimthp24	2,4-dimethylphenol
dimthyph	Dimethyl phthalate
dinbutph	Di-n-butyl phthalate
dinoctph	Di-n-octyl phthalate
dintrp24	2,4-Dinitrophenol
dintrt24	2,4-Dinitrotoluene
dintrt26	2,6-Dinitrotoluene
diphhy12	1,2-Diphenylhydrazine
diphnyam	Diphenylamine
dmb_33	3,3'-Dimethylbenzidine
dmb_7_12	7,12-Dimethylbenz[a]anthracene
dntrcr46	4,6-Dinitro-o-cresol
ethmthsl	Ethyl methanesulfonate
famphur	Famphur
flranthn	Fluoranthene
fluorene	Fluorene
hexclbnz	Hexachlorobenzene
hexclbut	Hexachlorobutadiene
hexcleth	Hexachloroethane
hexclpen	Hexachlorocyclopentadiene
hexclphn	Hexachlorophene
hexclpro	Hexachloropropene
indnpyre	Indeno(1,2,3,-cd)pyrene
isodrin	Isodrin
isophron	Isophorone

Key to Analyte Abbreviations in Appendices
(continued)

ABBREVIATIONS	ANALYTES
isosfrol	Isosafrole
kepone	Kepone
m_cresol	m-Cresol
m_dclbnz	m-Dichlorobenzene
m_dntbnz	m-Dinitrobenzene
m_ntranl	m-Nitroaniline
me_mnso4	Methyl methanesulfonate
mthchla3	3-Methylcholanthrene
mthpriln	Methapyrilene
mthynph2	2-Methylnaphthalene
n_dodcan	N-Dodecane
naphthal	Naphthalene
naphthy2	2-Naphthylamine
nntrethy	N-Nitrosodiethylamine
nntrmeet	N-Nitrosomethylethylamine
nntrmorp	N-Nitrosomorpholine
nntrmthy	N-Nitrosodimethylamine
nntrnbut	N-Nitrosodi-n-butylamine
nntrphny	N-Nitrosodiphenylamine
nntrpipr	N-Nitrosopiperidine
nntrprpy	N-Nitrosodi-n-propylamine
nntrpyrr	N-Nitrosopyrrolidine
nphthy11	1-Naphthylamine
npthqn14	1,4-Naphthoquinone
ntr5_otl	5-Nitro-o-toluidine
ntrobenz	Nitrobenzene
ntrq4_lo	4-Nitroquinoline 1-oxide

Key to Analyte Abbreviations in Appendices
(continued)

ABBREVIATIONS	ANALYTES
o_cresol	o-Cresol
o_dclbnz	o-Dichlorobenzene
o_ntranl	o-Nitroaniline
o_ntrphn	o-Nitrophenol
o_toludn	o-Toluidine
p_dclbnz	p-Dichlorobenzene
p_ntranl	p-Nitroaniline
p_ntrphn	p-Nitrophenol
p_cresol	p-Cresol
p_phndam	p-Phenylenediamine
parthion	Parathion
pclranil	p-Chloroaniline
pclrmcrs	p-Chloro-m-cresol
pdimthaz	p-(Dimethylamino)azobenzene
phenol	Phenol
phnacetn	Phenacetin
phnanthr	Phenanthrene
pntclbnz	Pentachlorobenzene
pntclnbn	Pentachloronitrobenzene
pntclphn	Pentachlorophenol
prnamide	Pronimide
pyrene	Pyrene
safrole	Safrole
symtrbnz	sym-Trinitrobenzene
tcb_124	1,2,4-Trichlorobenzene
tcb_1245	1,2,4,5-Tetrachlorobenzene
tclph245	2,4,5-Trichlorophenol

Key to Analyte Abbreviations in Appendices
(concluded)

ABBREVIATIONS	ANALYTES
tclph246	2,4,6-Trichlorophenol
tcph2346	2,3,4,6-Tetrachlorophenol
trbutphs	Tributyl phosphate
triethph	0,0,0-Triethyl phosphorothiaoate
ttraethd	Tetraethyl dithiopyrophosphate

Key to Analyte Abbreviations for Tentatively Identified Compounds
in Appendices

ABBREVIATIONS	ANALYTES
VOLATILES	
hexane	Hexane
tctf_eth	Ethane, 1,1,2-Trichloro, 1,2-Trifluoro
toluene	Toluene
SEMIVOLATILES	
butoxeth	Ethanol -2(2-Butoxyethoxy)
camphene	Camphene
cyclhptr	1,3,5 Cycloheptatriene
cyclobut	Cyclobutene, Z-Propenylidine
dietgyac	Dithylene Glycol Monobutyl Ether Acetate
docosane	Docosane
hexlmeth	Hexanedioic acid, bis (1-meth...)
hexacdio	Hexanedioic acid, dioctyles
hexdcac9	9-Hexadecenoic Acid
hexdcacd	Hexadecanoic Acid
octconte	1-iodo-Octatetracontane
pntdecan	Pentadecane
tetrdcac	Tetradecanoic Acid
tetrdencn	Tetradecane
undecane	Undecane

1.0 Introduction

1.1 Purpose and Objective

The purpose and objective of the Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) is to determine the nature and extent of releases of hazardous waste or hazardous constituents from solid waste management units (SWMUs) at the West Valley Demonstration Project (WVDP), as defined in section III.1 of the Administrative Order on Consent (Docket No. II RCRA-3008[h]-92-0202). Pursuant to the RFI Work Plan (West Valley Nuclear Services Co., Inc. December 16, 1993), the main goal of this investigation is to collect and evaluate information to determine which of the following actions are appropriate for each SWMU or super SWMU (SSWMU): no further action; a corrective measures study; or additional studies to support one of the other actions.

The intent of this particular volume, Volume 8, of the Resource Conservation and Recovery Act Facility Investigation Report, High-level Waste Storage and Processing Area, is threefold: 1) to detail the source and contamination characteristics of the facilities associated with the high-level waste storage and processing area (HLWSA); 2) to identify potential receptors of contamination generated at these facilities; and 3) to develop conclusions and recommendations specific to the contamination assessment of the facilities obtained during the RFI.

General information pertaining to the Western New York Nuclear Service Center (WNYNSC), the regulatory history of the WVDP, the environmental setting of the site, and potential receptors of contaminants are contained in Volume 1 of this report, Introduction and General Site Overview, WVDP-RFI-017 (West Valley Nuclear Services Co., Inc. March 1995).

1.2 Information Contained in this Report

Twelve SSWMUs at the WVDP were identified in the RFI Work Plan. This volume of the RFI report, Volume 8, contains information resulting from the investigation of SSWMU #4, the HLWSA.

SSWMU #4 is located on the site as shown in Figure 1-1. The design features, operating history, and waste management activities associated with SSWMU #4 are described in section 2.0, which includes a description of the original processes and function, the procedures and materials used to decontaminate several of the facilities, waste characterization, and current and future uses of the facilities. Environmental characterization information is found in section 3.0, and RFI results are found in section 4.0. Information on potential receptors and pathways of contamination is in section 5.0 and conclusions and recommendations are contained in section 6.0.

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2.0 Source and Waste Characterization

The HLWSA consists of various pre-existing and newly constructed components, systems, and facilities used to accomplish the WVDP's mission of high-level waste (HLW) solidification.

The facilities within SSWMU #4, originally designed and constructed as part of the WVDP for the purpose of processing HLW, are 1) the supernatant treatment system (STS), 2) the vitrification facility (VF), which includes 3) the cold chemical facility, and 4) the vitrification test tanks. Facilities included in SSWMU #4 that functioned as part of commercial operations prior to the WVDP that have been modified to support HLW processing include 1) the HLW tank farm, 2) the analytical cells (ANCs), 3) the chemical crane room (CCR), 4) the chemical process cell (CPC), 5) the equipment decontamination room (EDR), 6) the process chemical room (PCR), 7) the process sample cells (PSCs), 8) the chemical process cell viewing aisle (CVA), and 9) the chemical operating aisle (COA). (See SSWMU #4, Fig. 2-1.) Table 2-1 lists SSWMU #4 facilities and identifies their historical (pre-WVDP 1980) and current (post-WVDP 1980) functions, describing how they integrate as part of the HLWSA.

Relevant details on the location, description, design features, operating history, and waste characterization of each of the four facilities originally constructed to process HLW are discussed in section 2.1. Also included in this section is a discussion of the HLW tank farm. Areas that were modified to support HLW processing are discussed in section 2.2.

2.1 Location, Description, Design Features, and Waste Characterization of Original Facilities Designed to Process High-level Waste

2.1.1 High-level Waste Tank Farm

The HLW tank farm consists of four below-ground tanks. Tanks 8D-1 and 8D-2 are contained in individual concrete vaults. They are situated 48.8 meters (160 ft) north of the high-level waste vitrification facility (HLWVF), which is adjacent to the process building. Tanks 8D-3 and 8D-4 are contained in a common concrete vault, situated 18.3 to 24.4 meters (60-80 ft) north of tank 8D-1. (See Fig. 2-1).

- Tanks 8D-1 and 8D-2

  Tank 8D-2 is used to hold high-level radioactive waste until it is solidified for disposal. The waste is the byproduct resulting from the solvent extraction process that separated uranium and plutonium from spent nuclear fuel. In this process, spent nuclear fuel was leached from its cladding with hot nitric acid. Using an n-dodecane/tributyl phosphate solvent, the uranium and plutonium were then separated from the fission products, which remained in the aqueous phase. The nitric acid waste solution was then neutralized by adding sodium hydroxide to allow storage in a carbon steel tank. The neutralizing reaction formed insoluble metal hydroxides that accumulated at the bottom of the storage tank as a precipitate. The supernatant liquid was essentially a saturated solution of sodium nitrate. The waste in tank 8D-2 thus consisted of two phases — a supernatant that has been treated and a precipitate. After the supernatant was pumped from tank 8D-2, the sludge was repeatedly washed to remove salts. The sludge wash solution was also removed and sent to the STS for management. The HLW precipitate will be vitrified for eventual disposal. Table 2-2 lists the chemicals used during various phases of fuel reprocessing.

Tanks 8D-1 and 8D-2 provide backup storage for each other. As part of HLW processing, tank 8D-1 is being used to contain spent zeolite from the STS and STS processing. The spent zeolite is being transferred to tank 8D-2 where it will become part of the vitrification waste feed. The tanks were constructed as part of the reprocessing facility and tank 8D-2 entered radioactive service in 1966 (Shaffner, H. February 17, 1992).

Tanks 8D-1 and 8D-2 are nearly identically constructed and have similar instrumentation. Figure 2-2 is a schematic of the tanks. Each tank is 21.3 meters (70 ft) in diameter and 8.2 meters (27 ft) high. Each has a total capacity of 2.8 million liters (760,000 gal [Shaffner, H. November 30, 1993]). The tanks are made of carbon steel plate with a thickness of at least 1.1 centimeters (0.4375 in) for the sides, 1.7 centimeters (0.656 in) for the floor, and 1.1 centimeters (0.4375 in) for the roof. There is an annular air space of approximately 83.8 centimeters (33 in) between the walls of the tank and the vault. Tanks 8D-1 and 8D-2 are fitted with an elaborate gridwork of wide flange beams supported approximately 59.2 centimeters (23.3 in) above the tank bottom by cross members of 2.54-centimeter (1-in) thick steel plates. These plates, in turn, are supported about 25.4 centimeters (10 in) above the tank bottom by 3.8-centimeter (1.5-in) diameter staybolts welded to doubler plates on the tank floor and to the vertical supporting plates above. The tank roof is supported by 20.3-centimeter (8-in) schedule 80 pipe columns resting on top of this beam assembly at forty-five locations throughout the tank. There are numerous tank penetrations for various functions such as a liquid-level probe assembly, a steam-heat exchanger (8D-2), a corrosion coupon rack (8D-1), a mixing pump, and waste transfer equipment.

Tanks 8D-1 and 8D-2 Area, Secondary Containment, and Leak Detection Design

Each tank rests on two 15.2-centimeter (6-in) layers of perlite blocks, which in turn are supported by a 7.6-centimeter (3-in) layer of pea gravel contained in a carbon steel pan. The pan rests on a second 7.6-centimeter (3-in) layer of pea gravel on the vault floor. The vault floor is 68.6 centimeters (27 in) thick except for under the columns, where thicker rings support the vault roof. Under the concrete vault is a 1.22-meter (4-ft) thick bed of gravel that is kept saturated with water to prevent distortion of the underlying silty till. The water level outside the vault is also maintained at a level higher than the resulting level inside the vault if there were complete failure of the tank. This difference in elevation provides a hydrostatic pressure on the outside of the vault that would act to contain liquid potentially leaking from the tank in the vault. A water injection system was installed following construction of the vaults to be used, if necessary, to maintain the hydrostatic pressure. Project personnel have indicated that the system was used at one time; however, its future use is unlikely as water levels remain relatively constant. The gravel bed is penetrated by standpipes that provide leak-detection capability outside the vaults. There are five 20.3-centimeter (8-in) standpipes around tank 8D-2 and four standpipes around tank 8D-1. A dewatering well also constructed within the gravel bed and located between the 8D-1 and 8D-2 tank vaults (Fig. 2-1) allows for the removal of excess groundwater. In accordance with site operational requirements, a sample is collected from the dewatering well on at least a weekly basis and analyzed for gross alpha and gross beta. The samples collected from this well have not shown evidence of a release from the HLW tanks. A study was performed in April 1985 to evaluate communication of the gravel base beneath tanks 8D-1 and 8D-2. The dewatering well was pumped and drawdown in the standpipes was measured. Prior to pumping, groundwater elevations in the standpipes were within a few inches of one another. This suggested direct communication within the gravel base between the standpipes and the dewatering well. During pumping, the standpipes responded similarly, confirming continuity of the gravel base beneath the tank vaults.

For each tank, the steel pan is equipped with a liquid-level indicator, a recorder, and an alarm system. When a pan high-level alarm is received and verified, a sample of the pan solution is collected and analyzed at the on-site laboratory for gross alpha and gross beta. Following analysis, the results are reviewed and liquids accumulated in the pan are transferred to either the site low-level waste treatment facility (LLWTF) or to the tank in the vault. Gross beta activity of samples collected from the pan for tank 8D-2 have generally increased since about late October 1993. An increase in the rate of water intrusion into the 8D-2 vault also occurred during this time frame. Investigations were conducted to determine the cause of the increased activity and rate of water intrusion. Studies show that this increase in activity is not associated with a leak from the HLW tank. A portion of the tank's off-gas line, where it passes through a wall of the vault, was also evaluated as a potential source area. However, the investigation did not yield results to substantiate this area as a source of the radioactivity. Video taken inside the vault to further investigate this situation revealed that water was entering the vault around the outside of one of the tank's risers (M-8 riser) which penetrates the roof of the vault. A pump pit is also situated on top of the vault above this riser. It is concluded that in October 1993, the grout seal of the pit and M-8 riser to the vault roof was disturbed during removal of the heavy pump pit roof shielding. This allowed shallow perched groundwater to seep into the vault around the M-8 riser. In addition to an increased rate of water intrusion following this disturbance, gross beta activities of liquid in the pan also began to increase. This prompted the formulation of a plan to mitigate the water infiltration around the M-8 riser. In October 1996, a cement and bentonite grout was injected around the pump pit to mitigate the seepage of water into the vault. The grouting program was successful in substantially reducing the inflow of water into the tank 8D-2 vault from several hundred gallons per day to less than 30 gallons per day.

Gross beta activity of liquids in the tank 8D-2 pan/vault have generally leveled off since August 1995 and remain five to six orders of magnitude below activity in the tank. These levels will continue to be monitored as part of routine operating procedures at the HLW tank farm. Another liquid-level indicator, recorder, and alarm system in the vault operate with a steam jet to transfer the contents of the vault to the pan if required. In 1978, testing at tank 8D-2 showed that there is an interconnection between the pan and vault that allows water to pass between them; when water is pumped from the pan, the water level in the vault also is lowered.

The vault roof is supported by six concrete columns contained in 76.2-centimeter (30-in) diameter steel pipes. These columns penetrate the tank 4.88 meters (16 ft) from its center. The concrete columns pass through 1.22-meter (4-ft) diameter steel tubes welded to the top and bottom of each tank, leaving approximately a 22.9-centimeter (9-in) annular air space around each column. The concrete vault roof is 0.61 meters (2 ft) thick. These tanks were installed to U.S. Nuclear Regulatory Commission (NRC) quality standards, and the seams were installed to nuclear industry quality control (QC) installation standards and QC checks. Tanks 8D-1 and 8D-2 serve as standbys for each other. The total combined waste volume of these tanks is maintained at less than the capacity of either individual tank. The WVDP has an ongoing corrosion-monitoring program for tanks 8D-1 and 8D-2 to monitor the integrity of the tanks.

The HLW transfer trench provides shielding for the double-wall piping used to transfer the mixed HLW from tank 8D-2 to the VF. Supernatant and wash water were passed between tank 8D-2 and the STS through stainless steel pipes contained inside of a common stainless steel pipe. Any leaks can be drained back into tank 8D-2. Two concrete pipeways form a contained pathway for the stainless steel transfer lines that transport HLW to and from the STS vessels in tank 8D-1 and pipes used to transport decontaminated supernatant and wash water to or from tank 8D-3. Any liquids released here are returned to tank 8D-1.

On March 15, 1985, radioactive condensate generated from tank 8D-2 and stored in tank 8D-1 was released from a leaking flange valve in the waste tank farm (WTF) pumphouse (Daugherty, H. F. March 28, 1985;

July 9, 1985). The leak occurred during a periodic transfer of the condensate back to tank 8D-2. The released condensate flowed into and over the top of the 8D-2 valve pit, which is a 0.91-meter (3-ft) diameter corrugated steel pipe that is 3.7 meters (12 ft) deep with a capacity of approximately 2,270 liters (600 gal). Some of the condensate flowed onto the ground and into a nearby culvert that drains to the low-level waste (LLW) storage area. Radioactively contaminated soil in the WTF area was removed, packaged, and put in storage on-site. Two earth and concrete dams placed in the drainage ditch prevented the condensate from migrating more than 90 meters (300 ft) downstream from the spill site. None of the spill migrated off-site.

A stream sediment sample (ST-37) collected from the ditch during the 1993 soils characterization program was analyzed for target compound list (TCL) semivolatile organic compounds (SVOC), target analyte list (TAL) metals, and radiological parameters. Several SVOCs were detected in the stream sediment sample. However, the condensate spill is not the source of these SVOCs since these compounds, predominantly polycyclic aromatic hydrocarbons (PAHs), are not present in the HLW stored in tank 8D-2 and, therefore, are not in the condensate generated from this tank. The SVOCs detected in the trench are typically found in asphalt and probably originated from nearby roadways. The concentration of several metals, including the RCRA-hazardous constituents barium and cadmium, slightly exceeded metals concentrations measured in background location ST-26. However, these metals concentrations are considered to be within background concentration ranges for the sand and gravel unit. Several radioisotopes, most notably cesium-137 (Cs-137) and strontium (Sr-90), exceeded background concentrations measured at location ST-26. The condensate spill, or other past operational practices such as the 1968 process building stack discharge of radioactivity, may be the source of these radionuclides in ST-37. (See section 4.2.2 for more information on the ditch sampling location.)

An examination revealed that the carbon steel bolts connecting the stainless steel flange valve had failed. The condensate in the valve pit had a gross beta activity of 4.63E-02 μCi/mL, while the liquid in the drainage ditch had a gross beta activity of 4.50E-05 μCi/mL. An estimated 1,900 liters (500 gal) of condensate was believed to have been released (Daugherty July 9, 1985).

Type and Quantity of Waste

At the initiation of the WVDP, the total waste quantity in tank 8D-2 was nearly 2,271,000 liters (600,000 gal). The waste has undergone pretreatment before vitrification; supernatant processing was completed in April 1991. The remaining sludge in tank 8D-2 was subsequently washed during two campaigns and the resulting wash water decanted and processed through the integrated radwaste treatment system (IRTS [completed in 1994]). Waste material from tank 8D-4 was transferred to tank 8D-2 in January 1995. The combined wastes were then washed and the wash water decanted and processed by the IRTS. The precipitate wastes in tank 8D-2 have been mixed with spent zeolite from tank 8D-1, and vitrification of the waste will begin in 1996. The chemical composition of the precipitate and supernatant are identified in Table 2-3 and 2-4, respectively. RCRA waste codes associated with the wastes contained in tank 8D-1 and 8D-2 are barium (D005), cadmium (D006), chromium (D007), mercury (D009), and selenium (D010 [Rowland, T. J. September 11, 1995]). Due to the transfer of the waste in tank 8D-4 to tank 8D-2 in January 1995, an additional waste code associated with tank 8D-2 is silver (D011). The spent zeolite in tank 8D-1 is not considered a RCRA hazardous waste.

- Tanks 8D-3 and 8D-4

  Tanks 8D-3 and 8D-4 are also below-ground in a common concrete vault (Fig. 2-3) about 18.3 to 24.4 meters (60-80 ft) north of HLW tank 8D-1. Tank 8D-4 was used to store acidic thorium reduction extraction process (THOREX) waste generated during a single reprocessing campaign of approximately 16,000 kilograms (16 metric tons) of thorium-enriched uranium fuel. This HLW was stored in an acid form in the stainless steel tank to prevent precipitation of the thorium. In January 1995, the waste in tank 8D-4 was transferred to tank 8D-2.

  Tank 8D-3 served as backup for the waste in tank 8D-4. Tank 8D-3 was also used as a holding and sampling tank for low-level liquid wastes that were processed through the STS.

  Tanks 8D-4 and 8D-3 are similar in construction and instrumentation. The tanks, composed of 304 and 304L stainless steel, are 3.66 meters (12 ft) in diameter and 4.88 meters (16 ft) in height, with a working capacity of 50,762 liters (13,410 gal). Tank 8D-4 was used for storage of the THOREX waste. The majority of its contents have been transferred to tank 8D-2 to facilitate its treatment. Tank 8D-4 will be utilized in the vitrification process for waste header collection. Tank 8D-3 was used as a process tank in the STS and will be used in the vitrification process to receive vessel vent condenser concentrates.

Tanks 8D-3 and 8D-4 Area, Secondary Containment, and Leak Detection Design

The two tanks are located in a single reinforced concrete vault with outside dimensions of 9.8 by 5.8 by 7.7 meters (32 x 19 x 25 ft). The floor foundation of the vault is 12.5 by 8.5 meters (41 x 28 ft) and its walls are 0.53 meters (1.75 ft) thick.

The vault is surrounded by silty till and covered with a layer of earth approximately 1.83 meters (6 ft) thick. The bottom of the vault is lined to a height of 0.46 meters (18 in) with 0.32-centimeter (0.125-in) 304L stainless steel. A sump in the floor contains a liquid-level monitor and a steam jet to transfer any contents to 8D-3 or 8D-4.

In the event that the tanks containing HLW should leak, leakage would be detectable by the retention-pan level detectors, which are equipped with alarms. Each waste tank is also equipped with a high-pressure alarm that would signal a decrease in the storage tank's vacuum. Alarm systems are monitored in the tank farm complex and provide warning in the event of a leak. Should it be necessary to transfer the contents of a leaking tank to a standby spare tank, equipment and procedures for the installation and operation of the pump have been developed to transfer the contents of the tank.

There are three stainless steel process lines that pass between the STS and tank 8D-3. These lines are contained (i.e., double containment) in an 0.46-meter (18-in) stainless steel pipe that drains to tank 8D-3.

A record review and personnel interviews indicate that there have been no uncontained releases from tanks 8D-3 and 8D-4 to the environment during their use by either Nuclear Fuel Services, Inc. (NFS) or the WVDP (Ross, C. November 17, 1995).

Type and Quantity of Waste

Tank 8D-3 was used to hold decontaminated supernatant and "sludge-wash" solutions that resulted from treatment of tank 8D-2 and tank 8D-4 wastes. The "sludge-wash" solutions were generated from the washing of a homogenized mixture of HLW precipitates. Table 2-4 lists the chemical composition of the supernatant in its untreated form. The sludge-wash solution contained constituents from the precipitates. (See Table 2-4.) Supernatant and sludge wash solution treatment produced a LLW by removing more than 99.9% of the liquid's radioactive cesium. Wastes held and sampled in tank 8D-3 were eventually processed further via the liquid waste treatment system (LWTS), solidified in the cement solidification system (CSS), and placed in storage. Although tank 8D-3 has a working capacity of only 50,762 liters (13,410 gal), a total of more than 3,785,000 liters (1,000,000 gal) of sludge-wash solutions and 2,271,000 liters (600,000 gal) of supernatant ultimately were routed through it by the end of sludge washing in May 1995.

Tank 8D-4 was used to store the radioactive waste that resulted from the solvent extraction of thorium from spent nuclear fuel. The spent thorium fuel, housed in stainless steel fuel tubes, was sheared into short lengths and the fuel dissolved in concentrated nitric acid in the presence of approximately 0.04 and 0.05 molar (M) fluoride and 0.1M boric acid. In January 1995 the majority of the waste in tank 8D-4 was transferred to tank 8D-2 for future vitrification.

The volume of the waste in tank 8D-4 was approximately 50,762 liters (13,410 gal), at a calculated specific gravity of 1.656, and was maintained at a temperature in the range of 40°C to 50°C. The waste consisted predominantly of a single phase with some precipitates present. The composition of the waste in tank 8D-4 has been estimated. (See Table 2-5.) The majority of the waste has been transferred to tank 8D-2 in preparation for vitrification.

Engineering estimates of decaying radionuclides, knowledge of the waste-generating process, and the chemical data indicate that prior to transfer to tank 8D-2, the tank 8D-4 high-level radioactive wastes exhibited RCRA-defined hazardous waste characteristics. The waste has been calculated to contain barium (D005), cadmium (D006), chromium (D007), selenium (D010), and silver (D011), at concentrations above the toxicity characteristic. Furthermore, the waste had a pH of less than 2.0 and thus meets the definition of the characteristic of corrosivity (D002 [Rowland, T. J. September 11, 1995]).

2.1.2 Supernatant Treatment System

The STS was not part of the original process building design but installed to support the overall objective of the West Valley Demonstration Project Act — to solidify the high-level solid wastes. The STS began radioactive operations in May 1988 (Ploetz, D. K. and I. M. Leonard December 1988).

The STS is installed in and adjacent to tank 8D-1. (See Fig. 2-1.) The STS is a zeolite ion-exchange system designed to strip cesium, the principal radioactive species, and strontium and plutonium from the tank 8D-2 solutions. The STS equipment installed in tank 8D-1 includes a prefilter, a feed tank, a cooler, three zeolite ion-exchange columns (each having a capacity of 60 ft^3 of zeolite), and a sand filter. The equipment in the STS support building does not come in contact with the wastes; it provides water for processing and flushing, coolant for cooling, and allows for the addition of fresh zeolite.

The STS vessels are largely contained within tank 8D-1. For further detail concerning the secondary containment design of this tank, see the section detailing characteristics of tank 8D-1 earlier in this report (See section 2.1.1). Figure 2-4 provides an STS facility layout. The STS process involves five steps:

- Tank 8D-2 solution mobilization and transfer. A vertical turbine pump in tank 8D-2 is used to decant the liquid to the prefilter and STS collection tank 50-D-001 (Fig. 2-5).

- Filtering and cooling. The 8D-2 solutions are filtered to remove suspended fines (particles), water is added, and the solutions are cooled for optimum processing and increased Cs-137 removal. The prefilter and supernatant cooler are located within tank 8D-1.

- Ion exchange. Following filtration and cooling, the liquid wastes are passed through ion-exchange columns containing zeolite. The majority of the cesium, plutonium, and strontium dissolved in solution is absorbed onto the ion-exchange media. The ion-exchange columns are housed in tank 8D-1.

- Decontaminated solution collection and transfer. Following ion exchange, the decontaminated solutions are filtered to remove suspended zeolite fines and collected in tank 8D-3. Following sampling, the decontaminated solution is transferred to the LWTS.

- Spent zeolite discharge. The cesium loaded ion-exchange media (zeolite) is discharged from the columns to the bottom of tank 8D-1. Columns are discharged one at a time; following discharge, the ion-exchange column is regenerated with fresh zeolite.

A record review and interviews with operating personnel indicate that there have been no uncontained releases from the STS equipment to the environment during its use from 1988 to the present (Ross, C. November 17, 1995).

Type and Quantity of Waste

The STS has processed approximately 2,271,000 liters (600,000 gal) of tank 8D-2 supernatant and more than 3,785,000 liters (1,000,000 gal) of sludge-wash solutions. Table 2-4 lists the chemical composition of the untreated supernatant. The sludge-wash solutions will be very similar in composition to the untreated plutonium uranium reduction extraction process (PUREX) precipitates in tank 8D-2. As already discussed above in relation to tank 8D-2, the wastes (PUREX precipitates, PUREX supernatant, and THOREX) exceed the toxicity characteristic of certain metals.

2.1.3 High-level Waste Vitrification Facility

The HLWVF is located adjacent to the process building, where high-level-radioactive mixed waste will be vitrified into borosilicate glass. (See Fig. 2-1.) The facility includes a concentrator feed make-up tank (CFMT), a melter feed hold tank (MFHT), a slurry-fed ceramic melter (SFCM), a slurry sample station, a canister turntable, canister lid welding and decontamination stations, an off-gas process system, process and backup cranes, a canister transfer cart, and associated interconnecting piping and wiring.

The major functions of the HLWVF are melter feed preparation; HLW vitrification; and canister filling, handling, and storage. The HLWVF is currently scheduled to start processing HLW in 1996.

Treatment Unit Area, Secondary Containment, and Leak Detection Design

The units that make up the HLWVF are located in a cell that measures 10.36 meters (34 ft) wide, 19.8 meters (65 ft) long, and 12.8 meters (42 ft) to the overhead crane hook. The local grade elevation is defined as 30.48 meters (100 ft). Relative to the local grade, the bottom of the pit is 4.27 meters (14 ft) below grade or at a relative elevation of 26.2 meters (86 ft). The pit floor slopes north to a channel that leads to a sump nearly centered on the north wall. This pit is lined with 3.18-millimeter (1/8-in) stainless steel plate to contain spills. The pit is 10.36 meters (34 ft) wide, 7.62 meters (25 ft) in a north-to-south direction, and 4.27 meters (14 ft) deep. The pit area holds the vessels containing the radioactive slurry. All other vessels, which are above grade and on the apron, either contain few liquids or little radioactivity. The HLW lines enter below grade at elevation 27.43 meters (90 ft) near the center of the west pit wall. The CFMT is located in the southwest corner of the pit and the MFHT is in the northwest corner of the pit. On the north wall, approximately 4.6 meters (15 ft) above grade, the sample table, associated viewing window, and manipulators are used to take samples from the CFMT. In the northeast corner, 4.6 meters (15 ft) above grade, another viewing window is centered on the top of the melter box. This provides viewing and manipulation of the melter's top flanges. This window also provides a view of the apron of the vitrification cell. The canister welding and decontamination stations and the transfer cart can be observed from this window. The canister welding station and canister decontamination station are located along the east wall of the cell.

Type and Quantity of Waste

The HLW feed for the HLWVF is stored in tank 8D-2. As described in previous sections, the waste feed consists of the following HLWs that have been combined in tank 8D-2 to facilitate their processing: 1) radioactive cesium-loaded zeolite from tank 8D-1 (approximately 60,000 kilograms [132,000 lbs]), 2) washed PUREX mixed waste sludge (precipitates) from tank 8D-2 (approximately 98,000 kilograms [215,600 lbs]), and 3) washed THOREX mixed waste sludge originating from tank 8D-4 (approximately 45,420 liters [12,000 gal]). Tables 2-3, 2-4, and 2-5 list the chemical compositions of the PUREX precipitates, PUREX supernatant, and THOREX wastes, respectively.

Although the PUREX and THOREX wastes have RCRA-defined hazardous waste characteristics, the final land disposal restrictions (LDRs) encompassing these wastes (55 FR 22520) state that the technology-based treatment standard for high-level radioactive mixed waste generated during the reprocessing of fuel rods is vitrification. However, the solidified waste will remain radioactive and, therefore, subject to NRC regulation. Approximately 300 borosilicate glass logs with approximate dimensions of 0.61 meters (2 ft) diameter by 3.05 meters (10 ft) long will be created upon completion of the vitrification process of the HLW.

2.1.4 Cold Chemical Facility

Associated with the HLWVF are nine process tanks and one waste tank contained in the cold chemical system building. The cold chemical system will be used for preparation and transfer of nonradioactive slurries, decontamination solutions, and water to the VF during integrated testing and radioactive operational phases of the vitrification campaign. The cold chemical building is located northwest of and adjacent to the vitrification cell. (See Fig. 2-1.) It is 17.25 by 10.36 meters (56.6 x 34 ft), with a concrete foundation and concrete walls extending to an average height of 0.61 meters (2 ft), above which the construction is steel frame and aluminum siding. The floor is coated with a chemical-resistant covering. Two of the ten tanks contain the nitric acid and sodium hydroxide used as additives to the HLW to be vitrified. Six of the remaining eight tanks are holding tanks or mix tanks for varying concentrations of the glass formers, waste stimulant (used for testing), nitric or

caustic solutions, and demineralized water and miscellaneous decontamination solutions as required that are fed to the vitrification cell and melter. One of the remaining tanks is planned to be utilized during the upcoming vitrification campaign as a temporary (<90 day) waste storage tank. The other remaining tank functions as a particulate scrub solution tank for off-gases from the other tanks within the cold chemical building.

Process Unit Area, Secondary Containment, and Leak Detection Design

The 0.61-meter (2-ft) thick concrete walls provide a berm capacity of 65,450 liters (17,290 gal), which exceeds the capacity of the largest single tank of 41,635 liters (11,000 gal). In addition, the nitric acid day tank and the caustic day tank are individually bermed. The estimated volumes of the nitric and caustic berms are 5,261 liters (1,390 gal) and 4,315 liters (1,140 gal), respectively. The chemical-resistant coated floor is sloped to divert liquid to a central catch drain and then to a sump equipped with an alarm. Liquids accumulated in the sump would be pumped to the waste storage tank described above for temporary storage.

A record review indicates that there has not been any uncontained releases from the equipment in the cold chemical facility to the environment. An interview with operating personnel indicates that small leaks have occurred from hose fittings and from ancillary equipment that was being replaced (Paul, J. November 16, 1995). However, these were very small volume leaks that were contained within the berm and were immediately wiped up and disposed of.

Type and Quantity of Waste

If generated, RCRA-regulated wastes could be temporarily stored in the cold chemical facility in the waste tank (65-D-01) if liquid products in vessels in the cold chemical facility should spill or if prepared cold chemical batches are rejected. Materials to be contained within vessels in the cold chemical facility that will be used during testing or HLW vitrification operations are identified in Table 2-6.

2.1.5 Vitrification Test Facility (Component Test Stand) Waste Feed Storage Tank

During nonradiological functional and checkout testing of vitrification systems from December 1984 to November 1989, a 41,635-liter (11,000-gal) tank (65-D-01) was used to prepare and store simulated-waste feed. The nonradioactive simulated-waste feed was formulated and prepared to simulate the HLW that would be treated by the VF. This tank was installed in late 1985 to support nonradioactive testing of the vitrification system and was used throughout the test program.

The simulated-waste feed tank, constructed of stainless steel, was located next to the vitrification component test stand (CTS) where the vitrification system is currently located. (See Fig. 2-1.) The tank was on a curbed concrete pad.

The simulated-waste feed tank was used to store prepared simulated-waste feed to the vitrification system and liquid effluents generated during test operations that were destined for recirculation back into the vitrification system.

Functional and checkout testing of systems (FACTS) ceased in November 1989. The tank (65-D-01) currently resides in the previously mentioned cold chemical building. A record review and interviews with operating

personnel indicate that there has not been any uncontained releases of material from this tank or its associated valves or piping during its use during FACTS (Sheridan, M. November 17, 1995; Petkus, L. November 17, 1995).

2.1.6 Scaled Vitrification System Scrubber Solution Hold Tank

The scaled vitrification system (SVS) is a nonradiological vitrification test system used in three operational phases before full-scale vitrification. SVS I and II functioned between 1985 and 1989 at the CTS, located where the full-scale vitrification system now exists. SVS III, located at the vitrification test facility (VTF), 167.6 meters (550 ft) north-northeast of the VF (Fig. 2-1) has completed the first nonradiological test run in January 1995. It is currently in a standby mode.

During both SVS I and II phases, a 22,710-liter (6,000-gal) off-gas scrubber solution holding tank (61-D-07) was intended to be used to contain liquid wastes generated from the SVS scrubber and NO_x reactor treatment units. These wastes were either recycled or disposed of off-site. During SVS III, RCRA nonhazardous system rinse water was stored in tank 61-D-07. The tank is located outside the north wall of the VTF within a secondary containment basin with more than 110% of the capacity of the tanks. (See Fig. 2-1 [West Valley Nuclear Services Co., Inc. (WVNS) Drawings 900D-4466, sheet 2, and 900D-3090].) No hazardous waste has been stored in this tank and it will not be used for the storage of hazardous or mixed waste during vitrification. A record review and interviews with operating personnel indicate that there has not been any uncontained releases of material from this tank or its associated valves or piping during its use during FACTS (Petkus, L. November 17, 1995). During routine maintenance activities, care was taken in draining tank hoses to prevent any spills or leaks.

2.2 Operating History, Current Use, and Future Functions of Original Facilities Designed to Process High-level Waste

PUREX and THOREX wastes stored in tanks 8D-1, 8D-2, 8D-3, and 8D-4 are the result of the reprocessing of about 582,000 kilograms (640 tons) of nuclear fuel between 1966 to 1972. About 2.3 million liters (600,000 gal) of waste were generated during reprocessing of uranium fuels using the PUREX process. These wastes have been stored in tank 8D-2. From November 12, 1968, through January 19, 1969, about 16,000 kilograms (16 metric tons) of thorium fuel was processed using the THOREX process. The 49,210 liters (13,000 gal) of waste generated during this process were originally stored in tank 8D-4. Most of this waste was transferred to tank 8D-2 in January 1995.

Spent fuels reprocessing ceased in 1972. (See West Valley Nuclear Services Co., Inc. March 1995, section 2.0, for details.) In 1982, the U.S. Department of Energy (DOE) was authorized by the West Valley Demonstration Project Act to demonstrate that HLW can be solidified in suitable form for transportation and disposal; the Act also directed the DOE to develop containers and transport the waste to a geologic repository for long-term disposal; dispose of WVDP generated low-level and transuranic waste from the WVDP, in accordance with applicable licensing requirements, and decontaminate and decommission the tanks, facilities, materials, and hardware used by the WVDP in accordance with such requirements as the NRC may prescribe.

From 1972 through 1980, NFS decontaminated portions of the process building to upgrade the facility. From 1982 to 1988 specific portions of the process building were decontaminated by WVDP for installation of the high-level waste treatment facility (HLWTF). IRTS, which includes the STS, the LWTS, the CSS, and the IRTS drum cell, was being designed during this time. Upon successful decontamination of specific cells within

the process building, the IRTS was constructed, installed, and tested. Specific cells in the IRTS as part of the LWTS/CSS will be discussed in, Resource Conservation and Recovery Act Facility Investigation Report, Volume 10, Liquid Waste Treatment System, WVDP-RFI-026 (West Valley Nuclear Services Co., Inc. March 1996). The STS began operating on May 23, 1988.

Construction of the VF for FACTS began in late 1983. FACTS (nonradiological) testing of the full-scale vitrification system began in December 1984 and continued until November 1989. More than 181,820 kilograms (400,000 lbs) of test glass were produced during that period. All test equipment has since been removed to convert the VF to remote, high-level radioactive waste processing. Dismantling of all equipment took two to three months. Full-scale vitrification of the HLWs is scheduled for 1996 and will take about three years to complete. It is anticipated that about 300 canisters of solidified HLW will be produced and stored on-site until final disposal at a geologic repository.

2.3 Location, Description, Design Features, and Waste Characterization of the Process Building Process Areas

Various process rooms and cells in the process building used previously during fuel reprocessing have been radiologically decontaminated to allow the installation and operation of systems associated with the HLW storage and process areas, including the laboratory area.

Waste Associated with the Decontaminated Process Building Process Rooms and Cells

Radiologically contaminated solid waste was removed from these areas through NFS and WVDP decontamination efforts. These solid radioactive wastes have been packaged and stored on-site. In addition, liquid waste, generated as a result of using decontamination solutions to remove radioactivity, have been generated and either treated in the LLWTF, or routed back to the HLW tank 8D-2. Table 2-7 identifies these chemical decontamination solutions used in the ANCs, CCR, CPC, and EDR. The decontamination solutions contained no RCRA hazardous constituents defined in 6 NYCRR Part 371 Appendix 23.

The former function of the facilities currently associated with SSWMU #4 during fuel reprocessing, their current function and, if applicable, their intended function during future activities at the WVDP is described below. There have been no known releases of material from any of these areas to the environment. The stainless steel liners, sumps, drains, ventilation system, and the location of the rooms within the process building have prevented releases to the environment.

2.3.1 Analytical Cells

The ANCs are a row of seven shielded work cells made of reinforced concrete 0.91 meters (3 ft) thick on all sides except between cells where there is 0.46 meters (18 in) of concrete. The rear of each cell, except the sample storage cell, is accessed by 0.30-meter (12-in) thick steel doors, 0.91 by 2.74 meters (3 x 9 ft), from the analytical access aisle, which is entered from the off-gas aisle. The sample storage cell has a removable roof plug and wall plug and the floor is 1.22-meters (4-ft) thick concrete. The ANCs are located in the laboratory at plant elevation 40.08 meters (13 ft 6 in) against the east wall of the CPC.

There are five identical ANCs 1.83 by 1.83 by 2.74 meters (6 x 6 x 9 ft) high, each with a pair of master slave manipulators (MSMs) mounted over a zinc bromide shielding window in the east wall. Each cell has a pair of 0.91 by 1.83-meter (3 x 6-ft) stainless steel work pans mounted 0.91 meters (3 ft) off the floor to

present a convenient working area for the analyst. Each cell is also provided with lights, convenience outlets, distilled water, air, vacuum, and demineralized water. A conveyor for intercell sample movement runs the full length of the ANC and can be controlled from the five ANCs.

The cells are held at a negative pressure with respect to the aisle and have waste drainage connections to the radioactive analytical waste tank (7D-14) in the liquid waste cell (LWC). Historically, the cells could also drain to the interceptors via tank 7D-13, however, this path can no longer be utilized. Tank 7D-14 is routed to tank 7D-2 which is ultimately routed to tank 8D-2. Two transfer drawers are provided at cells 1 and 5 for inserting samples and other materials from the analytical aisle (ANA).

The ANCs were used from 1966 through 1972 for analyses to support reprocessing operations such as the analysis of dissolver solutions, leached hulls, and HLW solutions. Samples analyzed in these cells from the HLW tanks are a RCRA-regulated hazardous waste due to corrosivity and/or the presence of metals. There are no known releases of any material from the ANC. The cells will continue to be used for radioactive analysis until final decontamination and decommissioning at the WVDP facilities.

2.3.2 Chemical Crane Room

The CCR is a reinforced concrete room 6.7 meters (22 ft) wide east-west, 8.4 meters (27.54 ft) long north-south, and 4.9 meters (16 ft) high inside. The walls on east and west sides vary from 1.75 meters (5.75 ft) thick at the base to 0.61 meters (2 ft) thick at the top because of set backs for crane rails. The thinner sections are poured of high density (280 lb/ft^3) concrete. The north wall is 0.61 meters (2 ft) thick and the south wall is 0.91 meters (3 ft) thick. The floor and ceiling are both 0.61 meters (2 ft) thick. The CCR has removable concrete roof blocks for crane removal or replacement and a removable floor hatch. The interior surfaces are coated with carboline paint. There is a standard metal-clad door on the east side with an air lock and shielding labyrinth. There is also a lead glass shielding window on the east wall. The CCR is provided with lighting, spray piping for decontamination, and floor drain to the general purpose cell crane room (GCR) catch tank. The door to the CPC on the south wall weighs approximately 90,910 kilograms (100 tons) and is raised and lowered by means of a built-in electric hoist. When the door is up or opened, it retracts into a structural steel and concrete block structure (CCR door enclosure). There is a structural steel work platform on the north side of the CCR for crane access.

The CCR is in the process building at the north end of the CPC. Its floor is at elevation 38.7 meters (127 ft [Burn, P. February 1983]). Figure 2-7 provides the relative location of the CCR within the process building.

The CCR has a personnel access lock so hands-on maintenance of the cranes can be performed. Also present is a crane retrieval system, work platforms for decontaminating and maintaining the cranes, and space to store the cranes when not in use.

No hazardous constituents listed in 6 NYCRR Part 371 Appendix 23 were ever known to be managed in the CCR.

2.3.3 Chemical Process Cell

The CPC is a large reinforced concrete cell 6.7 by 32.92 by 13.1 meters high (22 x 108 x 43 ft) oriented north-south. The CPC contained the fuel dissolvers, feed measurement vessel, waste and rework evaporators, and waste neutralization tank. The CPC was used for fuel dissolution. Concentration and neutralization of

acidic wastes (i.e., PUREX) generated during fuel dissolution were also performed in the CPC prior to transfer of this material to tank 8D-2. The equipment was designed for remote maintenance using cranes for installation or removal. (See section 2.3.2.)

The cell walls are 1.75-meter (5.75-ft) thick concrete unless they are adjacent to another cell area in which case thicknesses are reduced to 1.04 meters (3 ft 5 in). At the north end, there is a special shield section made of 0.30-meter (12-in) thick steel to save space and two sliding concrete doors to the EDR and the CCR. The walls are also stepped back on the upper portions to support two sets of crane rails. On these thinner wall sections, high density concrete (280 lb/ft^3) is used to equal the 1.75 meters (5.75 ft) concrete. The roof is 1.52 meters (5 ft) thick and the floor, which rests on grade, is 1.14 meters (3.75 ft) thick. The floor is clad with stainless steel that extends a few inches up the walls. The floor contains two sumps for liquid collection, various locating dowels for vessels, rails to accommodate equipment handling carts, and a 0.76 by 1.6 meter (2.5 ft x 5.25 ft) hatch opening to the general purpose cell (GPC) below. There are three lead glass shielding windows on the west wall and one on the north wall as well as a periscope near the southeast corner to assist in remote mechanical operation and maintenance of the equipment using cranes and a power manipulator. The operation is partly by mechanical movement of materials and standard movement of liquids, such as jet transfer evaporation, condensation, pumping, and gravity flow.

The CPC is on the ground floor of the process building at plant elevation 30.48 meters (100 ft) (Bechtel drawing Nos. 15A-A-117, 15A-A-118, 15A-A-119, 15A-A-143, 15R-A-144, and 15R-A-145). Figure 2-7 provides the relative location of the CPC within the process building.

The CPC functioned as the fuel solution and HLW evaporator area. In the dissolver the uranium, plutonium, and fission products were leached from the chopped fuel with boiling nitric acid, leaving behind the metal hulls. (E.R. Johnson Associates, Inc. December 26, 1980).

Since the reprocessing facility was designed to store neutralized wastes, the volumes of wastes associated with the various cycles of reprocessing were reduced by recovering much of the nitric acid for recycling by evaporation and fractionation. Bechtel drawing 15R-A-145 provides the layout of the vessels and ancillary equipment within the CPC (Meigs, R. A. July 1987).

After fuel reprocessing ceased, decontamination of the CPC was performed by NFS. Additional decontamination efforts were later performed by WVDP for reuse in support of HLW Project activities. Equipment and vessels used in the CPC during spent fuel reprocessing were removed during the two decontamination efforts.

The CPC has been outfitted with canister storage racks and will be used as a HLW interim storage cell for the borosilicate glass logs to be produced at the WVDP during vitrification.

RCRA-regulated hazardous waste or hazardous constituents are not currently being managed in the CPC. However, from 1966 to mid-1971 during the regeneration of scrubber solutions in the dissolver off-gas scrubber (6C-6) in the off-gas cell, the RCRA hazardous constituent mercury from mercurous or mercuric nitrate was transferred from the off-gas cell to the dissolvers in the CPC (West Valley Nuclear Services Co., Inc. May 1994). Since this material was part of the NFS spent fuel cycle it was contained within the NFS process equipment through the dissolution, solvent extraction, and waste reduction stages until it was transferred to the HLW tanks for management.

The CPC was designed to process a variety of different types of spent nuclear fuel. Provisions were made to include the use of chromic acid and hydrofluoric acid to dissolve uranium-zirconium alloy fuels. However, none of these fuel types were reprocessed by NFS. NFS purchase records from 1966 to 1978 do not indicate any purchases of chromic acid. According to the purchase records, only 0.91 kilograms (2 lbs) of hydrofluoric acid were purchased during this period. The small volume of hydrofluoric acid purchased suggests it was used in the NFS analytical laboratories rather than in the CPC during the NFS fuel dissolution process.

Chemical Process Cell Viewing Aisle

The CVA is located on the west and north sides of the HLW interim storage cell at a plant elevation of 35.66 meters (117 ft). (See Fig. 2-7). The CVA is 39.62 meters (130 ft) long, 2.44 meters (8 ft) wide, and 3.05 meters (10 ft) high. The concrete walls are 1.75 meters (5.75 ft) thick and the concrete floor is 0.15 to 0.91 meters (0.5-3.0 ft) thick.

Three leaded glass viewing windows in the west wall of the CPC and one in the north wall of the CPC allow remote operation of the CPC cranes. During fuel reprocessing the CVA was used to perform remote operations in the CPC such as loading and removing fuel baskets from the CPC dissolvers. Chemicals were not used in the CVA during NFS operations.

The CVA was used during the remote decontamination of the CPC between 1985 and 1987. It was also used to paint the interior of the CPC in 1994 by remote control. Future operations in the CPC such as the storage of vitrified HLW will be controlled from the CVA.

This review indicates that no RCRA-defined hazardous waste or hazardous constituents were managed in the CVA. There are no known releases from the CVA.

2.3.4 Equipment Decontamination Room

The EDR is a reinforced concrete cell 9.75 by 13.3 by 7.6 meters (32 x 43.75 x 25 ft) high inside. The walls are 0.91-meter (3-ft) thick concrete, except a section of the east wall common with the scrap removal room, which is 1.22 meters (4 ft) thick, and a section on the south wall that encloses the door to the CPC and is made up of two walls, each 0.61 meters (2 ft) thick. The roof is 0.61 meters (2 ft) thick and the upper 2.44 meters (8 ft) of the walls is also 0.61 meters (2 ft) thick to allow for crane rail setback. The EDR is located at a plant elevation of 30.48 meters (100 ft) on the north side of the process building (Burn, P. February 1983).

A 4.1 by 6.7 by 4-meter (13.5 x 22 x 16.25-ft) deep soaking pit approximately midway along the south side of the room was used for decontamination of CPC vessels. A 0.6 by 0.6-meter (2 x 2-ft) sump, 0.3 meters (1 ft) deep, collects decontamination solutions. Solutions are transferred from the sump via an eductor to an underground catch tank via the south floor drain or via the north floor drain to a concrete catch basin (Meigs, R. A. December 1985). The floor of the EDR is 0.30-meter (1-ft) thick concrete, surfaced with paint and contains the previously mentioned soaking pit of concrete with stainless steel lining.

The EDR has been used for the WVDP in the decontamination and packaging of the CPC equipment. In the future, the EDR will be used to connect the process building to the vitrification cell through the vitrification transfer tunnel, connect the CPC through a shielded door, and provide access to the vitrification load-in facility for bringing new equipment and canisters into the vitrification cell. Figure 2-6 provides the relative location of the EDR within the process building.

The decontamination solutions previously used at the EDR are identified in section 2.3. There are no known releases of any material from the EDR.

2.3.5 Process Chemical Room

The PCR is an area 4.22 by 12.14 by 4.88 meters (13.83 x 39.83 x 16 ft) high. The walls are concrete block (Burn, P. February 1983). It is located on top of the north end of the CPC at a plant elevation of 43.89 meters (144 ft). During reprocessing the PCR contained four chemical make-up tanks and their associated pumps that were used to mix and transfer chemicals to equipment in the CPC and the LWC.

Three of the tanks were constructed of 304L stainless steel and the fourth was constructed of Monel. NFS piping and instrument diagrams indicate that the PCR was designed to utilize boric acid, sodium fluoride, aluminum nitrate, sodium nitrate, and the RCRA hazardous constituents hydrofluoric acid and chromic acid. These chemicals were to have been used for dissolution of different types of spent nuclear fuel that NFS intended to reprocess. However, fuel types requiring their use were not reprocessed by NFS. Furthermore, purchase records from 1966 to 1978 do not indicate any purchases of chromic acid indicating that it was never used in the PCR. Purchase records indicate that 0.91 kilograms (2 lbs) of hydrofluoric acid was purchased. The small amount of this acid suggests it was not used as part of the NFS spent fuel dissolution operations.

The PCR was decontaminated by the WVDP in the early 1980s. The tanks were removed from the PCR and size-reduced for on-site storage. The PCR is not currently being used to support WVDP operations. Bechtel drawing 15A-A-120 provides the relative location of the PCR in the process building.

This review indicates that RCRA-regulated hazardous waste or hazardous constituents have not been managed in the PCR. There are no known releases of any material from the PCR.

2.3.6 Process Sample Cells

PSCs are in the following locations in and around the process building:

Location	Sampler	Areas Sampled
COA	1C	CPC; LWC
ANCs	2C	Extraction cells; off-gas cell
Lower Extraction Aisle	PSC-I	Uranium product cell; product purification cell (PPC)
	PSC-II	Uranium load out
Off-gas Aisle	PSC-III	Acid recovery cell
Hot Acid Cell (HAC)	B	HAC
Extraction Sample Aisle	15V-42 15V-43	Extraction cell 2; PPC
MSM Repair Shop	B	MSM shop
Yard North of Office Building		Tanks 35104, 8D-1, 8D-2

The PSCs were and are currently used to remotely sample liquid from approximately seventy tanks and vessels in several of the cells in the process building without exposing the sampler to radiation. The PSCs are principally located on the second and third floors of the process building. Two PSCs are located outside of the process building. Two of the sample cells, 1C and 2C, were contained in shielded concrete, steel, and lead enclosures and were operated remotely with a manipulator behind shielding. The remaining sample cells are lightly shielded stainless steel boxes that were operated by direct contact or through glove ports. These stainless steel sampling boxes are located in small rooms to prevent the spread of radioactivity.

This review indicates that RCRA-regulated listed hazardous waste was not managed in the PSC. However, samples of RCRA-regulated metal characteristic waste from tank 8D-2 and RCRA-defined hazardous constituents were handled in several of the PSCs. There are no known releases of any material from the PSC.

2.3.7 Chemical Operating Aisle

The COA is a room 4.88 meters (16 ft) wide, 36.57 meters (120 ft) long, and 4.88 meters (16 ft) high located on the second floor of the process building between the CPC and the process mechanical cell (PMC). (See Fig. 2-6.) The concrete floor is 0.15 to 0.91 meters (0.5-3.0 ft) thick and the concrete walls are 0.20 to 1.52 meters (0.67-5.0 ft) thick.

During fuel reprocessing the COA was used to support operations in the CPC and the LWC. The COA contained valves and piping that supplied process building air, steam, cooling water, and process chemicals to the CPC, the underlying LWC, and portions of extraction cell 1 (XC-1). The COA also contained instrument transmitters that relayed signals from equipment sensors in the CPC and LWC to the control room. A remotely controlled sampling station (C1) located midway along the west wall of the COA was capable of sampling any of the vessels in the CPC or LWC and transferring the liquid remotely to the analytical laboratory for analysis.

During reprocessing, sodium hydroxide was introduced into some of the process lines in the COA to neutralize the contents of the LLW accountability and neutralizer tank 7D-10 in the CPC, before it was transferred to the HLW storage tank 8D-2.

In October 1971 radioactive process solutions from the CPC dissolver (3C-1) backed up into a steam supply line and leaked from the line's block valves, contaminating piping, parts of the floor and walls of the COA, and the north area of the sample station 1C (Riethmiller, G. Ellis June 12, 1981). A December 1971 radioactive solution that backed up in another steam supply line leaked from a valve bonnet and contaminated portions of the south end of the east side of the COA.

The area was decontaminated between October 1971 and August 1974 (Riethmiller, G. Ellis June 12, 1981). The area near sample station 1C was hydrobrushed, scrubbed with cleanser (Ajax®, Brillo-pads®), oven cleaner, and rinsed. Contaminated steam lines were flushed to 3C-2 and 3D-1 and the contaminated lines were removed and their valves shielded with lead to reduce radiation levels. Contaminated paint was removed with Zip-Strip®, a commercial furniture stripper containing methylene chloride, and contaminated metal surfaces were cleaned. Contaminated concrete was chipped out and replaced with new concrete. The area was flushed frequently with large amounts of water that drained to the floor drains that were open to the interceptor.

The WVDP further decontaminated the COA by sweeping and wiping contaminated areas down with Windex® dampened wipes. The COA is not currently being used to support WVDP operations. A periscope located at the south end of the COA may still be operable and may be used in observing future operations in the CPC.

2.4 Geologic and Hydrologic Setting

SSWMU #4 is underlain, from top to bottom, by the sand and gravel; the clay-silt Lavery till including, along its western and southwestern edge, the Lavery till-sand; the Kent recessional sequence; the Kent till; and bedrock. At SSWMU #4 the sand and gravel is 3.05 to 7.62 meters (10-25 ft) thick; the Lavery clay-silt till is 9.14 to 21.3 meters (30-70 ft) thick, the sequence of Kent recessional and Kent till between the Lavery till and bedrock is on average 12.2 meters (40 ft) thick; and bedrock occurs at elevations between 390 and 408 meters (1,280 and 1,340 ft) National Geodetic Vertical Datum (NGVD). Beneath the 8D-1/8D-2 excavation, the sand and gravel is not present and the thickness of the Lavery clay-silt till is 4.57 to 9.14 meters (15-30 ft).

Subsurface studies within and around SSWMU #4 have focused on the HLW tank farm and this particular area is represented by a majority of the data available on the deeper stratigraphic units. The most informative set of data in that regard was generated from August to September 1991 when six deep boreholes were installed at the tank farm for the purpose of conducting down-hole seismic characterization of the entire glacial sequence. Although this program stopped short of characterizing underlying bedrock it did provide the means to adequately describe the sub-Lavery sequence (i.e., Kent recessional sequence) in that vicinity and to more confidently map the bedrock-sediment interface. Cross section A-A' (Figs. 2-8 and 2-9), based mainly on the 1991 program results, places the 8D-1/8D-2 tank excavation in its stratigraphic context and illustrates the vertical arrangement of the geologic units and potential groundwater pathways around and beneath the facility.

The uppermost in-place stratigraphic unit at SSWMU #4, the sand and gravel, is a silty slightly sandy pebble-cobble gravel with hydraulic conductivity of 1.0E-04 centimeters per second (cm/s), which is characterized by horizontal groundwater flow to the east and northeast (Fig. 2-7). At SSWMU #4, the HLW tank excavation is isolated, or nearly isolated, from "the sand and gravel" stratum by secondarily emplaced compacted clay-silt till backfill. The Lavery clay-silt till is a dense relatively impermeable unit with hydraulic conductivity of 1.0E-08 cm/s both laterally and vertically, groundwater flow within the Lavery clay-silt till, in the absence of till-sand-like units is vertically downward. The calculated rate of downward transit of groundwater across the Lavery till is 20 years per foot. The Kent recessional sequence generally is considered as being unsaturated in its "upper" part and saturated, at least seasonally, in its "lower" part where it rests upon the Kent till, a rubble zone, or permeable bedrock. Groundwater flow within the Kent recessional sequence and within shallowest bedrock is generally eastward toward the axis of Buttermilk Creek Valley.

2.5 Historical Groundwater Sampling

From 1991 to the present, groundwater from the sand and gravel unit in the vicinity of SSWMU #4 has been routinely sampled for contamination indicator parameters and groundwater quality parameters (Table 2-8). From 1991 through the end of 1992, the groundwater monitoring year was divided into two semiannual periods and four samples were taken from each SSWMU #4 well during each period. The analytical schedule comprised three categories: contamination indicator parameters, including Appendix IX volatile organic compounds (VOCs [collected eight times a year]); groundwater quality parameters (collected twice a year); and U.S. Environmental Protection Agency (EPA) interim primary drinking water parameters (collected a total of four times during the 1991-1992 period). This schedule was implemented through the end of 1992. The groundwater indicator parameter data collected before the expanded sampling in support of the RFI program are described below.

The contamination indicator parameter results from each of the SSWMU #4 sand and gravel unit monitoring well locations from January 1991 through July 1994 were reviewed to supplement the findings of the two

expanded rounds. Indicator parameters include pH, specific conductance, nonpurgeable organic carbon (NPOC), and total organic halogens (TOX). Those results are provided in Appendix C.

The indicator results for wells monitoring SSWMU #4 are either similar to or less than background.

A review of VOC and pesticide/polychlorinated biphenyl (PCB) data before the initiation of the expanded groundwater characterization program revealed the presence of one pesticide. The RCRA hazardous constituent silvex was found once at well WNW0408 during 1992 at a concentration of 0.2 μg/L, well below its proposed 40 Code of Federal Regulations (CFR) 264 Subpart S action level.

Ten VOCs were detected at SSWMU #4 monitoring wells during this time period (Table 2-9). These included the RCRA hazardous constituents chloroform, carbon disulfide, methylene chloride, dichlorodifluoromethane, 1,1-dichloroethene, and methyl ethyl ketone. At upgradient well WNW0403 acetone and chloroform were detected at estimated concentrations of 2.0 μg/L and 3.2 μg/L, respectively, during one monitoring event in 1991. The chloroform detection was below its proposed 40 CFR 264 Subpart S action level and neither constituent has been found in well WNW0403 since 1991. Methylene chloride was detected at an estimated concentration of 6.2 μg/L during one sampling event at well WNW0405. Acetone, dichlorodifluoromethane, and methyl ethyl ketone were detected during the same 1991 sampling event at well WNW8607 at concentrations of 170.0 μg/L, 5.0 μg/L, and 280.0 μg/L. The New York State Department of Environmental Conservation (NYSDEC) RCRA Quality Assurance Project Plan (QAPjP) states that concentrations of common laboratory contaminants, such as acetone and methyl ethyl ketone, in analyte-free water are acceptable at three times the method detection limit (MDL). Therefore, although these constituents were not detected in associated sample blanks, they are pervasive in the laboratory and their presence at certain levels is considered acceptable by NYSDEC pursuant to the QAPjP. Acetone and methyl ethyl ketone were not detected during either of the expanded rounds at well WNW8607. Based on the random detections and the NYSDEC guidance, the contaminants are not considered present in the groundwater. The detections of acetone and methyl ethyl ketone were below the respective proposed 40 CFR 264 Subpart S action levels. The RCRA hazardous constituent 1,1-dichloroethene was detected below its proposed 40 CFR 264 Subpart S action level at an estimated concentration of 0.5 μg/L at well WNW8609 once during 1992 and has not been detected during subsequent monitoring events. At well WNW8609 the RCRA hazardous constituent 1,1-dichloroethane has been detected between 1991 and 1994 at levels ranging from 1.0 μg/L to 8.0 μg/L, with the levels decreasing over time. Also at this well proprionitrile was found once during 1991, and 1,1,1-trichloroethane was detected below the proposed 40 CFR 264 Subpart S action level at estimated concentrations ranging from 0.7 μg/L to 0.9 μg/L between 1992 and 1993.

Several wells monitoring the SSWMU #4 sand and gravel unit were among those selected to undergo expanded groundwater monitoring in the fourth quarter of 1993 and the second quarter of 1994. An assessment of the results of the RFI expanded program is contained in section 4.0.

3.0 Environmental Characterization

The process knowledge information, historical sampling results, and the hydrogeologic setting formed the basis for confirmatory sampling at SSWMU #4. This sampling, as specified in the RFI Work Plan, WVDP-RFI-014 (West Valley Nuclear Services Co., Inc. December 16, 1993), concentrated on collecting two expanded rounds of groundwater as well as specific soil and sediment samples to supply the data necessary to evaluate SSWMU #4. These media were identified in the RFI Work Plan as having the highest potential for being pathways for releases.

Field and laboratory QC samples were collected as specified in the RFI Work Plan. Section 4.0 provides a description of the results of the quality assurance/quality control (QA/QC) samples.

Decontamination procedures followed during field sampling were in accordance with the approved procedures contained in the RFI Work Plan.

3.1 Sampling Activities

Subsurface Soil

Subsurface soil samples were collected from two boreholes intended to characterize SSWMU #4 (BH-32 and BH-40) and one background borehole, BH-38. (See Figs. 3-1 and 1-1.) BH-32 and BH-40 were located immediately downgradient of SSWMU #4. Table 3-1 shows the borehole depths and the parameters analyzed. The sampling depths, photoionization detector (PID) responses to the presence of organic vapors, real-time radiation readings, and the percent recovery for each split-spoon sample were recorded on the borehole logs contained in Appendix A. The borehole sampling program is summarized in Table B-7 of the RFI Work Plan.

No volatile organic vapors or above-background radioactivity were detected using field instrumentation during the drilling program. All samples for nonradiometric analysis were packaged and shipped to EcoTek LSI. The samples were analyzed in accordance with standard and recommended procedures identified in the RFI Work Plan for TCL and TAL parameters.

Surface Soil

In July 1990 two surface soil samples were collected in the vicinity of the HLW tank farm as part of a sampling program at waste management areas. These sample data are included as part of the RFI found in section 4.0.

Sediment

Sediment samples were collected from one location near SSWMU #4 (ST-37) and from one background location, ST-26. (See Fig. 1-1.) ST-37 was located in a drainage ditch northeast of the HLW tank farm. (Refer to Fig. 3-1.)

Groundwater

The 1991 and 1992 facility-wide groundwater data were evaluated using the EPA-developed Groundwater Information Tracking System/STATistical Analysis System (GRITS/STAT) v.4.2 software

(U.S. Environmental Protection Agency November 1992), process knowledge, and hydrogeologic information to determine the presence of contaminants in facility groundwater. That evaluation resulted in the selection of specific wells at which two rounds of expanded characterization were performed in accordance with the RFI Work Plan. This characterization was conducted at forty-nine locations during the fourth-quarter 1993 and the second-quarter 1994 sampling rounds. Groundwater was analyzed for TCL VOCs, SVOCs, PCBs, pesticides, and TAL metals. Library scans were conducted to distinguish tentatively identified compounds (TICs). The goal of expanded characterization at SSWMU #4 (wells WNW0405, WNW0406, WNW0408, and WNW8609) was to evaluate whether RCRA-regulated hazardous waste or hazardous constituents were released to the environment from SSWMU #4 and to confirm historical groundwater information.

Eight monitoring wells were proposed in the RFI Work Plan as sand and gravel unit monitoring locations for SSWMU #4. Upgradient conditions are monitored at well locations WNW0401 and WNW0403. Downgradient conditions at SSWMU #4 are monitored at locations WNW0405, WNW0406, WNW0408, WNW8607, WNW8608, and WNW8609.

The sand and gravel unit background wells are WNW0301, WNW0401, and WNW0706. The use of these wells represents a change from the RFI Work Plan, which identified well NB1S as the north plateau background well. It recently has been determined that wells WNW0301, WNW0401, and WNW0706 are more appropriate wells for assessing background conditions in the sand and gravel unit because the NB1S well was completed close to bedrock and possibly reflects bedrock groundwater chemistry more closely than it reflects the chemistry of groundwater in the sand and gravel unit. Wells WNW0301, WNW0401, and WNW0706 are located upgradient of all the SSWMUs and are now considered more appropriately located than NB1S, both aerially and stratigraphically, to monitor groundwater in the sand and gravel unit.

Three monitoring wells were originally proposed in the RFI Work Plan as Kent recessional sequence monitoring locations for SSWMU #4. The designated upgradient wells were WNW0410 and WNW0411 (well WNW0411 is located in borehole WNW0411B due to the collapse of boring WNW0411A during installation), and well WNW0407 was the designated downgradient well. However, these wells have historically been dry and have never provided any groundwater analytical data.

Wells WNW8607, WNW8608, and WNW8609 are 10-centimeter (4-in) internal diameter slotted polyvinyl chloride (PVC) installations with 1.52-meter (5-ft) long screens. The other wells are 5-centimeter (2-in) internal diameter wire-wound channel pack installations constructed of type 304 stainless steel; the well screens are either 1.52 meters (5 ft) or 3.05 meters (10 ft) in length. Specifications for the SSWMU #4 monitoring array are contained in Table 3-2 and the borehole logs and well schematics are contained in Appendix B.

4.0 Resource Conservation and Recovery Act Facility Investigation

4.1 Groundwater

Expanded Groundwater Evaluation: Fourth Quarter 1993 and Second Quarter 1994

Based on the statistical evaluation of 1991 and 1992 radiometric and nonradiometric contamination indicator parameters, and based on process knowledge, four of the eight wells monitoring the sand and gravel unit at this SSWMU were selected for expanded characterization. Downgradient wells WNW0405, WNW0406, WNW0408, and WNW8609 were the sand and gravel locations related to SSWMU #4 that were selected for expanded characterization.

Groundwater from these wells was analyzed for TCL VOCs, TCL SVOCs, pesticides and PCBs, and TAL metals during the expanded characterization conducted during the fourth quarter of 1993 and the second quarter of 1994. The analytical results are provided in Appendix D and are summarized below.

- Volatile Organic Compounds

  Two VOCs were detected at wells monitoring this SSWMU. The RCRA hazardous constituent 1,1-dichloroethane was detected in well WNW8609 at estimated concentrations of 3.0 μg/L and 2.0 μg/L during the fourth quarter of 1993 and the second quarter of 1994, respectively. Detected concentrations were below the NYSDEC Class GA groundwater standard.

  The RCRA hazardous constituent toluene was detected at well WNW0408 at an estimated concentration of 1.0 μg/L during the fourth quarter of 1993 but was not detected during the second quarter of 1994. This concentration is below the proposed 40 CFR 264 Subpart S action level.

- Semivolatile Organic Compounds

  There were no SVOCs detected in any of the SSWMU #4 monitoring wells during the expanded sampling rounds.

- Pesticides/PCBs

  No pesticides or PCBs were detected in any of the SSWMU #4 monitoring wells during the expanded sampling rounds.

- Target Analyte List Metals

  The RCRA-regulated hazardous constituents barium, cadmium, chromium, lead, mercury, and nickel were detected in some SSWMU #4 monitoring wells during the expanded program. TAL metals results (Tables 4-1 and 4-2) were below proposed 40 CFR 264 Subpart S action levels for all RCRA-regulated hazardous constituent metals with the exception of nickel in wells WNW0408 and WNW0405 and chromium in well WNW0405. Nickel concentrations at well WNW0408 were above proposed 40 CFR 264 Subpart S action levels at 180.0 μg/L and 192.0 μg/L during the fourth quarter of 1993 and the second quarter of 1994, respectively. The nickel concentration at crossgradient well WNW0405 was above the proposed 40 CFR 264 Subpart S action level at 169.0 μg/L during the

fourth quarter of 1993, but was below the action level during the second quarter of 1994 at 89.9 μg/L. Chromium was detected at well WNW0405 above the proposed 40 CFR 264 Subpart S action level during the fourth quarter of 1993 at a concentration of 446.0 μg/L but below the action level at 35.7 μg/L during the second quarter of 1994. Since metals data varies widely across the site and nickel and chromium were not detected at elevated levels at other downgradient wells or soil locations, these concentrations are not believed to represent a release from SSWMU #4.

A statistical analysis of arsenic, barium, cadmium, chromium, mercury, lead, silver, and selenium concentrations in SSWMU #4 sand and gravel monitoring locations is depicted in Appendix E. The samples were taken from these locations during routine and expanded groundwater monitoring from 1991 through the second quarter of 1994. This list represents metals analyzed at the site since 1991 and for which a large enough population exists to perform statistics. Since antimony, beryllium, and nickel were only analyzed during the two expanded rounds, they were not part of the statistical analysis. The 99% confidence intervals, which are shown as vertical bars around a mean tick point (tick mark on bar), were constructed using GRITS/STATS v.4.2 software (U.S. Environmental Protection Agency November 1992).

GRITS/STAT v.4.2 is a comprehensive groundwater database system, designed by the EPA, to store, analyze, and report data generated during groundwater monitoring programs at RCRA, Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), and other regulated facilities and sites.

The three types of statistical intervals most often used in the evaluation of groundwater monitoring results are confidence intervals, tolerance intervals, and prediction intervals. Each interval type has distinct uses and interpretations. The interval type encountered most often is the confidence interval, which gives information about the average concentration at a particular well or group of wells, but provides little or no information on the highest or most extreme concentrations likely to be encountered over time.

The use of GRITS/STAT v.4.2 software in constructing confidence intervals employs a one-sided, 99% confidence limit. Application in the RFIs has consisted of taking the numerical output from GRITS/STAT v.4.2 and creating a graphic display of the two-tailed intervals for both background and downgradient wells chosen to evaluate particular SSWMUs. In doing so, the upper confidence limit for background has been treated as the background concentration. Significant evidence of exceedance has been defined as a lower limit from a downgradient well that exceeds the upper limit for background.

GRITS/STAT v.4.2 has been employed for a number of reasons, including its ability to handle nondetects properly and to check distributional assumptions. It offers flexibility in terms of different approaches to evaluating data, and its use reduces the likelihood of errors associated with multiple computations by hand (U.S. Environmental Protection Agency November 1992).

Wells with confidence intervals having lower limits exceeding upper limits of background confidence statistically indicate groundwater concentrations are not within background intervals. Wells that show confidence intervals overlapping background confidence intervals can be considered to have metals concentrations similar to background wells (U.S. Environmental Protection Agency 1989; November 1992; Davis, J. C. 1986).

It is important to note that 1) all results represent analyses of unfiltered samples and represent total metals, 2) the data units are micrograms per liter (μg/L), 3) the number of results from a given location range from four to six depending on whether or not that location was included in the 1993 to 1994 expanded program, and

4) the results were obtained from different analytical laboratories under different data validation objectives over time.

A review of this statistical comparison (Appendix E) indicates that groundwater downgradient of SSWMU #4 does not appear to have been impacted by the unit for these metals. The illustrated ranges of concentrations represent natural variations in levels of these metals across the site.

The confidence intervals for chromium at well WNW0403, selenium at well WNW0408, and lead at well WNW0406 reflect a larger standard deviation as compared to the other wells. These intervals were heavily influenced by results that were significantly different compared to the remaining data. In 1991, a significantly different result occurred once for selenium at well WNW0408, while significantly different results for chromium at well WNW0403 and lead at well WNW0406 occurred once during 1992.

4.2 Soil

The results of the soil program conducted during 1993 at SSWMU #4 are summarized below.

4.2.1 Deep Soil Drilling Program

Samples from two boreholes were collected to characterize SSWMU #4 deep soils. BH-32 and BH-40 were located immediately downgradient of SSWMU #4. (See Fig. 2-1.) The background borehole is BH-38.

Samples were collected as described in the RFI Work Plan and the samples were analyzed for TCL VOCs, TCL SVOCs, and TAL metals. (See Appendix F.)

- Volatile Organic Compounds

  Soils taken from the 4.27 to 4.88 meter (14-16 ft) and 6.7 to 7.3 meter (22-24 ft) intervals from BH-32, and the 3.66 to 4.27 meter (12-14 ft) and 6.1 to 6.7 meter (20-22 ft) intervals from BH-40 were analyzed for TCL VOCs. (Refer to Appendix F.)

  One RCRA-regulated hazardous constituent VOC was detected at these boreholes. At BH-40 (3.66 to 4.27 meter [12-14 ft interval]) chloroform was detected at an estimated concentration of 2.1 μg/kg. This detection was below its proposed 40 CFR 264 Subpart S action level (Appendix F). Although not found in the associated method blank, chloroform was detected in blanks associated with other soil samples and may be the result of laboratory contamination.

- Semivolatile Organic Compounds

  Soils from the 4.27 to 4.88 meter (14-16 ft) interval at BH-32 and the 0 to 0.60 meter (0-2 ft) and 3.66 to 4.27 meter (12-14 ft) intervals at BH-40 were analyzed for TCL SVOCs (Appendix F). Bis-2 ethylhexyl phthalate was detected at a concentration of 684.1 μg/kg in the 4.27 to 4.88 meter (14-16 ft) depth interval at BH-32. Di-n-butyl phthalate was detected at estimated concentrations of 227.6 μg/kg and 147.0 μg/kg at the 0 to 0.60 meter (0-2 ft) and 3.66 to 4.27 meter (12-14 ft) depth intervals at BH-40, respectively. Both compounds were below proposed 40 CFR 264 Subpart S action levels. The NYSDEC RCRA QAPjP states that concentrations of common laboratory contaminants, such as phthalates, in analyte-free water are acceptable at three times the MDL. Therefore, although

these constituents were not detected in associated blank samples, they are pervasive in the laboratory and their presence at certain levels is considered acceptable by NYSDEC pursuant to the QAPjP.

- Target Analyte List Metals

  Soil from each depth interval selected for analysis at BH-32 and BH-40 was analyzed for TAL metals (Table 4-3).

  With the exception of beryllium, no RCRA-regulated hazardous constituent metals were detected above proposed 40 CFR 264 Subpart S action levels. In all instances, beryllium concentrations were representative of background conditions across the site (range of 3x background values).

- Radiological Parameters

  Soil samples from BH-32 and BH-40 were analyzed for radiological parameters. There was no direct correlation observed between chemical and radiological contamination at these locations when the radioisotopic results were compared with the chemical parameter results. Radiological results from two samples from BH-32 were found to be only slightly above (i.e., same order of magnitude) recommended screening values from WVDP-EIS-008 and are shown in Table 4-4 (West Valley Nuclear Services Co., Inc. September 1994).

4.2.2 Stream/Ditch Sediment Sampling

Stream and ditch sediment sampling was performed downslope of this SSWMU at location ST-37 (Fig. 3-1). The background sediment location is ST-26. (See Fig. 1-1.)

Sampling was conducted in accordance with the RFI Work Plan. Silt and mud deposits in the stream channels were sampled rather than coarse-grained sediments since potential radioactive and chemical contaminants are more likely to associate with these fine-grained sediments through ion-exchange and sorption processes. The collected sediment was analyzed for TAL metals and TCL SVOCs.

- Semivolatile Organic Compounds

  The results of the TCL SVOCs analyzed at ST-37 are contained in Appendix F. Ten SVOCs were detected at ST-37. These were PAHs for which no proposed 40 CFR 264 Subpart S action levels exist. Three of the PAHs were detected at estimated concentrations above NYSDEC Technical Administrative Guidance Memorandum (TAGM) 4046 recommended clean-up objectives. These RCRA-regulated hazardous constituents included benzo-a-anthracene at 413 μg/kg, benzo-a-pyrene at 565.5 μg/kg, and chrysene at 604.9 μg/kg. These detections appear to be effected by the nearby asphalt roadway.

- Target Analyte List Metals

  Among the metals results, the RCRA-regulated hazardous constituent beryllium was the only one detected above proposed 40 CFR 264 Subpart S action levels, but the concentration fell within the expected site background range (Table 4-5).

4.2.3 Surface Soil Sampling

In July 1990, two surface soil samples were collected near the HLW tank farm 0 to 15 centimeter (0-6 in) and 15 to 46 centimeter (6-18 in) depths as part of a sampling program at waste management areas. These samples were analyzed for indicator parameters and TCL VOCs (West Valley Nuclear Services Co., Inc. December 16, 1993).

Methylene chloride, acetone, 2-butanone, carbon disulfide, and 4-methyl-2-pentanone were detected at concentrations ranging from 3 μg/kg to 27 μg/kg in the 0 to 46 centimeter (0-18-in) depth interval. Methylene chloride, acetone, and 2-butanone were found in the associated laboratory blanks and are not believed to represent a release from this unit. Carbon disulfide was detected below the proposed 40 CFR 264 Subpart S action level as was 4-methyl-2-pentanone. Chloroform was detected in the 15 to 46 centimeter (6-18 in) interval at a concentration of 11 μg/kg, below its proposed 40 CFR 264 Subpart S action level (West Valley Nuclear Services Co., Inc. December 1990).

4.2.4 Quality Assurance/Quality Control Summary

Field quality assurance (QA) audits were performed during execution of RFI field activities. The surveillance revealed that the work was conducted in conformance with the RFI Work Plan.

Field QC samples used to evaluate sampling techniques included trip blanks, equipment blanks, and field duplicates.

Laboratory QC Review

Data for the soils program and two expanded groundwater monitoring rounds were validated using the guidelines contained in the RFI Work Plan. Data qualifying flags have been applied to data points that are associated with QC anomalies. The data qualifying flags provide the data user with guidance regarding the use of the data. The following data qualifiers have been used in the data tables contained in Appendix D and in the Key to Analyte Abbreviations in Appendices.

"U" - The data entry should be treated as not detected above the reporting limit.

"J" - The data entry should be considered quantitatively biased or inaccurate; however, the data are usable as presented.

"UJ" - The data entry should be considered not detected. Although the detection limit may be imprecise or inaccurate, the data are usable as presented.

"R" - The data entry is qualitatively or quantitatively unreliable.

"F" - The data point is subject to interferences that in the professional judgement of the reviewer requires special consideration by the data user although not subject to qualification under normal validation protocols. The data should be used only as detailed in the validation report.

For the overall program, the data meet the quality assurance objectives as defined in the RFI Work Plan.

Precision and accuracy criteria were met with few exceptions. Data qualifying flags have been applied to any data associated with QC results that fail to meet acceptance criteria.

The completeness for the overall soils program as defined by being usable (non-"R" flagged) data was greater than 98.0% for all parameters requested, as shown in Table 4-6. The completeness for the two expanded groundwater monitoring rounds was 98.0% for the fourth-quarter 1993 round and greater than 96.0% for the second-quarter 1994 round for all parameters requested.

Complete data validation reports for groundwater and soil/sediment samples collected during the RFI were submitted to NYSDEC and the EPA in February 1995.

5.0 Fate and Transport

The wastes managed at SSWMU #4 are identified in section 2.0 of this report. The underground tanks in this SSWMU contained mixed high-level radioactive waste that has been characterized as RCRA hazardous due to corrosivity and/or heavy metals. The following is a chemical properties and toxic profile summary of compounds that have been detected in groundwater and soil samples downgradient of SSWMU #4 during environmental sampling (See sections 3.0 and 4.0).

5.1 Chemical Properties and Toxic Profile

The transport of heavy metals and other inorganic waste constituents through environmental media is regulated by physicochemical properties that determine the processes of physical sorption, ion exchange, and precipitation. Similarly, physical and chemical parameters such as water solubility, vapor pressure, and octanol-water partitioning, determine the behavior and fate of organic materials released into the environment. The extent to which any particular physicochemical parameter influences contaminant mobility is dependent in large part on such local environmental factors as pH, redox potential, temperature, and the concentration of other constituents in the media of concern. Thus, the migration of any particular contaminant tends to be highly system-specific. However, the examination of a few basic physicochemical properties can provide insight into the anticipated behavior and fate of chemicals released into the environment.

Unless otherwise noted, the information in this section was derived from the following sources: U.S. Environmental Protection Agency (December 1979), Dragun (1988), and Verschueren (1983).

Polycyclic Aromatic Hydrocarbons: PAHs are a class of compounds characterized by molecules containing three or more fused unsaturated carbon rings. These compounds are practically insoluble in water. In general, PAHs adsorb strongly onto organic and mineral particulates; their transport through soil and water is determined largely by the hydrogeologic condition of the environmental system. The predominant fate process for PAHs dissolved in surface waters is probably direct photolysis, which occurs at a rapid rate. The ultimate fate of those that accumulate in soils or sediments is believed to be biodegradation and biotransformation by microbes and multicellular organisms. Even though these compounds are highly lipophilic (i.e., the log octanol/water partition coefficient is high) and are readily taken up across cell membranes, bioaccumulation is not a significant long-term fate process since PAHs are readily metabolized by all organisms, including humans (Pike, S. 1992). Based upon available information (summarized in U.S. Environmental Protection Agency December 1979), volatilization, hydrolysis, and oxidation are also unlikely to significantly influence the fate of PAHs in the environment. The PAHs detected in sediment samples are believed to be associated with nearby asphalt roadways and not to represent a release from SSWMU #4.

5.2 Pathway Assessment

The primary groundwater pathway between SSWMU #4 and the off-site environment is laterally outward in the sand and gravel to Frank's Creek Valley. Another pathway is downward through the Lavery clay-silt till to the Kent recessional sequence and from there outward to Buttermilk Creek Valley. The very low permeability of the Lavery clay-silt till has the effect of limiting the down-section migration of shallow groundwater to an extremely low percentage of the groundwater available; the low permeability and thickness of the Lavery clay-silt till also determines the time it would take for groundwater to reach the Kent recessional sequence. The thickness of this unit beneath the HLW tanks is presented on Figure 2-9.

Given the containment provided by the tank vaults, the hydrostatic pressure maintained on the outside of the vaults and the presence of the underlying Lavery till, in conjunction with routine monitoring inside and outside of the vaults, undetected migration of contaminants to this deeper pathway is unlikely.

6.0 Conclusions and Recommendations

The purpose of the RFI was to assess the nature and extent of releases of RCRA hazardous waste or hazardous constituents as defined in Section III.1 of the Administrative Order on Consent (Docket No. II RCRA-3008[h]-92-0202), from SSWMU #4. The facility investigation was performed in a phased approach. Results of previous investigations, ongoing environmental monitoring, and process knowledge provided the basis for the focused sampling performed for the RFI. The work summarized in this report was completed in accordance with the RFI Work Plan. The data presented in the previous sections of this report were assessed to form the basis of the following conclusions and recommendations.

The waste managed in SSWMU #4 is containerized high-level and low-level radioactive waste and RCRA-regulated mixed waste. HLW from the HLW tank farm is scheduled for vitrification into borosilicate glass logs in the near future as described in section 2.2 of this report.

SSWMU #4 consists of the STS; the VF, which includes the cold chemical facility and the vitrification test tanks; the HLW tank farm; and eight additional rooms in the process building, some of which were decontaminated so they could be used in conjunction with ongoing facility operations such as vitrification and STS. The RFI field program was designed to support all of the units identified in this SSWMU. Consequently, the sampling results are summarized together and then individual unit discussions follow incorporating the environmental results as appropriate to support the conclusions and recommendations.

RCRA Facility Field Investigation Results

Soil samples were collected from two borehole locations and one stream/ditch location for purposes of characterizing this SSWMU. The soils data for organics indicate that several common laboratory contaminants and PAHs were detected in samples. All detections were below proposed 40 CFR 264 Subpart S action levels. Several PAHs that do not have proposed 40 CFR 264 Subpart S action levels were detected above NYSDEC recommended cleanup objectives (TAGM 4046); however, these can be reasonably attributed to nearby asphalt roadways. Chloroform is present below its proposed 40 CFR 264 Subpart S action level at an estimated concentration of 2.1 μg/kg in the 3.66 to 4.27 meter (12-14 ft) depth interval from BH-40. With the exception of beryllium, all RCRA-regulated constituent metals were detected at levels below the proposed 40 CFR 264 Subpart S action levels. Beryllium occurs naturally across the site at elevated levels. There was no direct correlation observed between chemical and radiological contamination at borehole locations BH-32 and BH-40 when the radioisotopic results were compared with the chemical parameter results. Radiological results from two samples from BH-32 were found to be only slightly above (i.e., same order of magnitude) recommended screening values from WVDP-EIS-008. (Refer to Table 4-4 [West Valley Nuclear Services Co., Inc. September 1994].) ST-37 results are further discussed under the HLW tank farm conclusions.

Expanded characterization sampling was conducted at four downgradient groundwater monitoring wells. The groundwater data show that no RCRA hazardous organic constituents have been detected above proposed 40 CFR 264 Subpart S action levels in groundwater samples from wells monitoring SSWMU #4. The RCRA-regulated hazardous constituent metals chromium and nickel were found above proposed 40 CFR 264 Subpart S action levels in one and two wells, respectively. However, since metals data varies widely across the site, and other downgradient wells and soil samples did not exhibit elevated levels of chromium and nickel, the detected concentrations are not believed to represent a release from this unit.

Monitoring results for radioactive indicator parameters at downgradient wells WNW0406 and WNW8607 and the dewatering well do not show evidence of a release of radioactive waste managed at the HLWSA. The gross beta indicator results are slightly elevated at well WNW8609, but this is believed to be due to residual activity and not due to a release from this unit.

Unit Evaluations and Recommendations

Eight rooms and cells in the process building, used previously during fuel reprocessing operations, were partially decontaminated by NFS and the WVDP. Six of the rooms were reused as part of the Project activities for solidification of the HLW (see Table 2-1) and are further evaluated as part of those operating systems, which are discussed below. Solutions used during the decontamination activities did not contain any hazardous constituents as defined in 6 NYCRR Part 371 Appendix 23. In addition, there have been no known releases of material from any of these areas to the environment. The stainless steel liners, sumps, drains, ventilation system, and location of the rooms within the process building (all above ground) have prevented releases to the environment. Based on this information and the environmental sampling results, no further action is recommended for these rooms.

The STS, a WVDP designed and constructed treatment system, began radioactive operations in 1988. The STS vessels used in the treatment of the radioactive mixed waste are largely contained in the HLW tank 8D-1. The system, as designed and constructed, meets the intent of the secondary containment requirements identified in 6 NYCRR Part 373-3.10. To date, there have been no known releases from the STS system to the environment. Based on the above reasons and the field sampling results, no further action pursuant to the Consent Order is recommended for the STS facility.

The VF, constructed to treat high-level radioactive waste, was assembled with secondary containment features including a stainless steel-lined concrete vault for below-grade portions of the vitrification cell. Above-ground portions of the cell house the remaining vessels that will manage little radioactivity or liquids. Vitrification of the high-level radioactive waste is scheduled to begin in spring 1996. To date, only nonradioactive mock melter feeds have been managed in the vitrification cell for purposes of testing the system. No known releases of material have occurred from the VF or its associated ancillary equipment to the environment. Based on this information and the field sampling results, no further action under the Consent Order is recommended for the VF.

The cold chemical facility, used to house melter feed chemical storage tanks and a waste tank to be used for off-specification melter feed materials, was constructed with concrete secondary containment. To date, there have been no releases from the cold chemical facility to the environment. As a result of these findings and the field sampling results, no further action under the Consent Order is recommended for this unit. No further action is also being recommended for two additional tanks used during the vitrification testing phase. These two tanks are the vitrification test facility waste feed storage tank and the scaled vitrification system scrubber solution hold tank. There are no known occurrences of uncontained releases from either of these tanks to the environment. This information is further supported by the field sampling results.

The HLW tank farm is comprised of tanks 8D-1, 8D-2, 8D-3, 8D-4, and ancillary equipment. Secondary containment for the underground tanks are provided by carbon or stainless steel pans and concrete vaults. There was one known surface spill in the HLW tank farm in 1985 resulting from a leaking flange valve in the WTF pumphouse. The leaking flange valve led to a spill of approximately 1,900 liters (500 gal) of condensate that was being transferred from 8D-1 to 8D-2. Although some of the condensate reached a nearby drainage

ditch, actions were taken to prevent any off-site migration of the radioactively contaminated material. Radioactively contaminated soil in the tank farm area was collected and placed in containers for on-site storage. As part of the RFI field sampling program, sample ST-37 was collected and analyzed for radionuclides, SVOCs, and TALs. Although radionuclides Cs-137 and Sr-90 were detected at levels slightly above background, no chemical contaminants were detected that could be attributable to the condensate spill. Some PAHs were detected but are thought to be associated with the nearby roadway and asphalt run-off. Metals detected were considered present within background levels for the sand and gravel unit. No other chemicals or radionuclides were detected during the field sampling program that could be attributed to a release from the HLW tank farm.

Potential contaminant migration from the concrete vaults that house the tanks is controlled by the hydrostatic pressure maintained on the outside of the vault and the underlying Lavery till. Early detection of a leak would be accomplished by the routine monitoring of levels and activities of liquids in the vault pans and the dewatering well currently performed as part of standard operating procedures (SOPs). As interim status units, closure of the HLW tank farm following vitrification of tank contents will be coordinated with NYSDEC.

The results of this RFI do not indicate the presence of a release of RCRA-regulated hazardous constituents or waste from the HLW tank farm. Based upon the RFI results, no further action other than continued groundwater monitoring is deemed necessary for the unit. As part of this RFI program, groundwater monitoring at several downgradient monitoring wells is recommended. Wells WNW0406, WNW0408, WNW8607, and WNW8609 will be sampled semiannually for indicator parameters (including gross alpha and gross beta). Title 6 NYCRR Appendix 33 VOCs will be monitored on an annual basis. Four additional rounds of groundwater samples were collected and analyzed for RCRA hazardous constituent metals at these wells to support statistical evaluations. An evaluation of the additional metals data will be completed in April 1997.

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_____. March 1996. Draft Resource Conservation and Recovery Act Facility Investigation Report, Volume 10: Liquid Waste Treatment System. West Valley Demonstration Project, West Valley, New York. WVDP-RFI-026.

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Table 2-1

HLWSA Facility Specific Functioning History

Unit	Function	
	WVDP Function	NFS Function
<u>HLW Tank Farm & STS</u>		
Tank 8D-1	- backup storage for wastes contained in tank 8D-2 - houses STS components; top portion contain STS process vessels, bottom portion contains spent zeolite from STS process	- backup storage for wastes contained in tank 8D-2
Tank 8D-2	- store PUREX precipitates and supernatant - process (wash) PUREX precipitates and PUREX/THOREX mixture - store spent zeolite transferred from tank 8D-1 - functions as waste feed tank for VF	- store PUREX precipitates and supernatant
Tank 8D-3	- backup storage of THOREX waste contained in tank 8D-4 - process tank in STS; contains decontaminated supernatant and "sludge wash" solutions - receive vessel vent condenser coordinates during vitrification	- backup storage of THOREX waste contained in tank 8D-4
Tank 8D-4	- storage of THOREX waste - receive canister decontamination rinse from the waste header during vitrification	- storage of THOREX waste
<u>STS</u>		
Support Building	- houses ancillary equipment and control room	- nonexistent
Valve Aisle	- stores STS process vessels	- nonexistent

Table 2-1 *(continued)*

HLWSA Facility Specific Functioning History

Unit	Function	
	WVDP Function	NFS Function
HLWVF Vitrification Cell	- houses vitrification melter and associated vessels and equipment	- nonexistent
Cold Chemical Facility	- houses vessels containing nonradioactive chemicals used in the vitrification process	- nonexistent
(2) Vitrification Tanks 11,000 gallon tank (65-D-01)	- 1985-1989 functioned as a simulated (nonradioactive) waste tank near the former CTS where the VF is currently located. This tank now serves as a temporary waste catch tank in the cold chemical facility.	- nonexistent
6,000 gallon tank (61-D-07)	- 1985-1989 intended for use as a scrubber solution hold tank during nonradiological testing at the former CTS (SVS I and II). This tank was used to store RCRA nonhazardous system rinse water during subsequent testing (SVS III) and is located outside the north wall of the vitrification test facility (VTF)	- nonexistent
Analytical Cells	- radiological analysis of samples	- radiological analysis of samples
Chemical Crane Room	- decontamination and repair of crane	- crane decontamination - crane maintenance
Chemical Process Cell	- interim HLW canister storage	- fuel dissolution

Table 2-1 *(concluded)*

HLWSA Facility Specific Functioning History

Unit	Function	
	WVDP Function	NFS Function
Equipment Decontamination Room	- used during installation of process equipment log storage racks - connect the vitrification cell to the CPC and provide access to the load-in facility	- decontamination, package of CPC equipment
Process Chemical Room	- inactive	- mix and transfer chemicals to the CPC and LWC during fuel reprocessing
Process Sample Cells	- used for remote sampling of process liquids	- used for remote sampling of process liquids
Chemical Process Cell Viewing Aisle	- control area for HLW storage activities in the CPC	- perform remote operations in the CPC
Chemical Operating Aisle	- inactive	- contained valves, piping, instruments to support operations in the CPC and LWC

Table 2-2

Chemicals and Materials Used by
the Nuclear Fuel Services, Inc. Facility

Process/System	Chemicals/Materials Used
Chop-leach	Mild steel $Hg(NO_3)_2$ - Mercuric Nitrate HNO_3 - Nitric Acid
Solvent Extraction	$Fe(SO_3NH_2)_2$ - Ferrous Sulfamate $NaNO_2$ - Sodium Nitrite H_2SO_4 - Sulfuric Acid NaOH - Sodium Hydroxide
Solvent and Treatment	$C_{12}H_{27}O_4P$ - Tributyl phosphate (TBP) $Na_2CO_3 + HNO_3$ - Sodium Carbonate + Nitric Acid $C_{12}H_{26}$ - Dodecane
Decontamination & Decommissioning	See Table 2-7

Source: West Valley Demonstration Project RCRA Facility Investigation (RFI) Work Plan (West Valley Nuclear Services Co., Inc. December 16, 1993).

Table 2-3

PUREX HLW Settleable Solids Chemical Composition

Components	**Weight (kg) in Sludge**	
$Fe(OH)_3$	66,040	
$FePO_4$	6,351	
$Al(OH)_3$	5,852	
MnO_2	4,581	
$CaCO_3$	3,208	
SiO_2	1,263	
$Ni(OH)_2$	938	
$MgCO_3$	826	
AlF_3	659	
$Cu(OH)_2$	376	
$Zr(OH)_4$	159[a]	
$Zn(OH)_2$	128	
$Cr(OH)_3$	146	
$Hg(OH)_3$	23	
Subtotal		**90,550**
Actinides	**Weight (kg)**	
$UO_2(OH)_2$	3,087	
NpO_2	38	
PuO_2	37	
AmO_2	19	
CmO_2	0.1	
Subtotal		**3,181.1**
Fission Products	**Weight (kg)**	
$Zr(OH)_4$	917	
$Nd(OH)_3$	739	
$Ru(OH)_4$	447	
$BaSO_4$	423	
$Ce(OH)_3$	375	

[a] Excludes fission product zirconium.

Source: RCRA Closure Plan for the High-level Waste Process Tanks (West Valley Nuclear Services Co., Inc. June 12, 1992a).

Table 2-3 *(concluded)*

PUREX HLW Settleable Solids Chemical Composition

Components	**Weight (kg) in Sludge** (kg)	
Fission Products		
$La(OH)_3$	226	
$Pr(OH)_3$	210	
$SrSO_4$	175	
$Pd(OH)_4$	166	
$Sm(OH)_3$	143	
$Rh(OH)_4$	123	
$Y(OH)_3$	103	
$Sn(OH)_4$	18.8	
$Eu(OH)_3$	15.8	
$Cd(OH)_2$	13.3	
$Gd(OH)_3$	11.2	
AgOH	9.7	
$Sb(OH)_3$	3.4	
$In(OH)_3$	1.1	
$Tb(OH)_3$	0.3	
$Ge(OH)_3$	0.2	
$Dy(OH)_3$	0.2	
$Pm(OH)_3$	0.1	
Subtotal		**4,121.1**
Grand Total		**97,852**

Table 2-4

PUREX HLW Supernatant Chemical Composition
Before Supernatant Treatment System Operations*

Compound	Total kg in Supernatant
$NaNO_3$	602,659
$NaNO_2$	311,326
Na_2SO_4	76,261
$NaHCO_3$	42,557
KNO_3	36,274
Na_2CO_3	25,249
NaOH	17,537
K_2CrO_4	5,113
NaCl	4,684
Na_3PO_4	3,799
Na_2MoO_4	691
AlF_3	659
Na_3BO_3	597
$CsNO_3$	534
NaF	503
$Sn(NO_3)_4$	245
$Na_2U_2O_7$	231
$Si(NO_3)_4$	230
$NaToO_4$	177
$RbNO_3$	119
Na_2TeO_4	82
$Fe(NO_3)_3$	43
Na_2SeO_4	15
$LiNO_3$	14
H_2CO_3	9
$Cu(NO_3)_3$	6
$Sr(NO_3)_3$	4
$Mg(NO_3)_2$	2
Total	1,129,620
H_2O (by difference)	1,726,581
Note: pH = 10.0	
Grand Total	**2,856,201**

* Approximately 87% of activity was removed by STS treatment as of December 1, 1993.

Source: RCRA Closure Plan for the High-level Waste Process Tanks (West Valley Nuclear Services Co., Inc. June 12, 1992a).

Table 2-5

THOREX Waste Chemical Composition

Solution Compound	Mass (kg)	Compound	Mass (kg)
$Th(NO_3)_4$	11,633	Na_3PO_4	12
$Fe(NO_3)_3$	8,462	$Zr(NO_3)_4$	12
$Al(NO_3)_3$	4,175	$Rh(NO_3)_4$	11
HNO_3	2,805	$NaTcO_4$	11
$Cr(NO_3)_3$	1,918	$Zn(NO_3)_2$	10
$Ni(NO_3)_2$	791	$Pd(NO_3)_4$	8
H_3BO_3	480	$RbNO_3$	6
$NaNO_3$	227	$UO_2(NO_3)_2$	6
KNO_3	191	Na_2TeO_4	5
Na_2SO_4	180	$Co(NO_3)_2$	3
Na_2SiO_3	126	$Eu(NO_3)_3$	1
K_2MnO_4	98	Na_2SeO_4	1
$Nd(NO_3)_3$	73	NaF	1
$Mg(NO_3)_3$	57	$Np(NO_3)_4$	0.9
Na_2MoO_4	54	$Cu(NO_3)_2$	0.8
$Ce(NO_3)_4$	51	$Pa(NO_3)_4$	0.7
NaCl	50	$Pu(NO_3)_4$	0.7
$Ru(NO_3)_4$	42	$Sn(NO_3)_3$	0.7
ZrO_2	35	$Gd(NO_3)_3$	0.4
$Ca(NO_3)_2$	30	$Cd(NO_3)_2$	0.3
$CsNO_3$	28	$Sb(NO_3)_3$	0.1
$Ba(NO_3)_2$	27	$AgNO_3$	0.08
$La(NO_3)_3$	22	$In(NO_3)_3$	0.04
$Pr(NO_3)_3$	21	$Ge(NO_3)_4$	0.02
$Sr(NO_3)_2$	16	$Pm(NO_3)_2$	0.01
$Sm(NO_3)_3$	14	$Tb(NO_3)_3$	0.004
$Y(NO_3)_3$	14	$Dy(NO_3)_3$	0.002
Solids			31,712
H_2O (by difference)		32,929	
Total			64,641 kilograms

Source: RCRA Closure Plan for the High-level Waste Process Tanks and Treatment Facility, High-level Waste Tanks 8D-3 and 8D-4 and Supernatant Treatment System (West Valley Nuclear Services Co., Inc. June 12, 1992b).

Table 2-6

Potential Waste Constituents in the Cold Chemical Facility
During Testing and High Level Waste Vitrification Operations

Slurry Components Feedstream	
Aluminum Hydroxide	Manganese Oxide
Aluminum Nitrate	Manganese Dioxide
Aluminum Oxide	Sodium Molybdate
Calcium Carbonate	Sodium Formate
Calcium Nitrate	Neodymium Oxide
Calcium Oxide	Nickel Hydroxide
Cerium Hydroxide	Sodium Phosphate Monobasic
Cerium Nitrate	Sodium Sulfate
Cerium Oxide	Silicon Oxide
Cesium Hydroxide Monohydrate	Strontium Hydroxide
Cesium Nitrate	Strontium Nitrate
Cesium Oxide	Strontium Oxide
Copper Hydroxide	Titanium Oxide
Copper Nitrate	Zirconium Hydroxide
Copper Oxide	Zirconium Oxide
Iron Oxide	Zinc Oxide
Ferrous Nitrate	Sodium Chloride
Potassium Hydroxide	Sodium Fluoride
Potassium Formate	Rhodium Oxide
Potassium Nitrate	Ruthenium Oxide
Potassium Oxide	Palladium Oxide
Lanthium Oxide	Sucrose
Lithium Hydroxide Monohydrate	Sodium Oxalate
Lithium Formate	Sodium Tetraborate Decahydrate
Lithium Nitrate	Boric Acid
Lithium Oxide	Boric Oxide
Magnesium Hydroxide	Sodium Monoxide
Magnesium Nitrate	Sodium Nitrate

Table 2-6 *(concluded)*

Potential Waste Constituents in the Cold Chemical Facility
During Testing and High Level Waste Vitrification Operations

Slurry Components Feedstream	
Magnesium Oxide	Sodium Nitrite
	IE-96/I-95 Zeolite
Independent Component Feedstream	
Nitric Acid	Sodium Hydroxide

Source: Permit to Construct CTS Vessel Vent System issued by NYSDEC, expiration date December 1994. Permit #042200-0114-CTS03.

Table 2-7

Decontamination Chemicals Used in the Process Building
Process Rooms and Cells

Process Area	Type of Decontamination Solution Used
Analytical Cells	Demineralized water spray
	Detergent solution scrub
	Nitric acid wash
	Water rinse
Chemical Crane Room	NFS Decontamination
	Oven cleaner
	Organisol
	Sodium Hydroxide
	Sodium Tartrate
	Hot Radiac Solution
	Demineralized Water
	Chem-Clean
	Sodium Hydroxide and Permanganate
	Hot Citric Acid Solution
	WVDP Decontamination
Chemical Process Cell	NFS Decontamination
	Hot Citric Acid
	Sodium Tartrate
	Radiac
	Caustic
	Hot Organisol
	Radiac
	Citric Acid
	Sodium Tartrate
	Hot Tartaric

Table 2-7 *(concluded)*

Decontamination Chemicals Used in the Process Building
Process Rooms and Cells

Process Area	Type of Decontamination Solution Used
Chemical Process Cell (cont.)	Chem-clean
	Sodium Hydroxide/Permanganate
	WVDP Decontamination
	Water
	Alkaline detergents
	Nitric acid
	Water with abrasive garnet
Equipment Decontamination Room	NFS Decontamination
	Caustic-permanganate solution
	Citric acid
	Water
	WVDP Decontamination
	Nitric acid

Table 2-8

Schedule of Groundwater Sampling and Analysis Parameters

Contamination Indicator Parameters (Four times a year)	pH[1] Conductivity[1] Total Organic Carbon (TOC)[2] Total Organic Halogens (TOX) Gross Alpha Gross Beta Tritium Gamma Isotopic Scan Appendix IX Volatile Organic Analysis (VOAs)
Groundwater Quality Parameters (Analyzed twice a year)	Aluminum[3] Silica[3] Ammonia Sodium Bicarbonate/Carbonate Sulfate Calcium Sulfide[3] Chloride Iron Magnesium Manganese Nitrate+Nitrite-N Phenols Phosphate[3] Potassium
Expanded Characterization Parameters for Project Monitoring Locations Only (Completed 4th Quarter 1993 and 2nd Quarter 1994)	<u>Schedule A (43 locations)</u> Target Compound List (TCL) Radioisotopic <u>Schedule B (6 locations)</u> Modified Appendix IX[4] (40 CFR Part 264) Radioisotopic <u>Schedule C (2 locations)</u> Modified Appendix IX[4] Radioisotopic Tributyl phosphate (TBP) N-dodecane <u>Schedule I (3 locations)</u> Radioisotopic only

[1] Field measurement.
[2] Includes nonpurgeable organic carbon (NPOC) only.
[3] Analyses performed only once during 1993 because parameters were added to the schedule at mid-year.
[4] Does not include polychlorinated dibenzo-p-dioxins (PCDDs) or polychlorinated dibenzofurans (PCDFs).

Table 2-9

1991 to 1994 Groundwater Volatile Detections at the HLWSA (SSWMU #4)

Well ID	Parameter	Sample Date	Sample ID	Result	Units	QA Flags
WNW0403	acetone	11/25/91	91-11325	2.00	µg/L	J
WNW0403	cl_form	11/25/91	91-11325	3.20	µg/L	J
WNW0403	cl_form	11/25/91	91-11325	1.20	µg/L	J
WNW0405	mene_cl	01/20/92	92-00117	6.20	µg/L	J
WNW0408	toluene	12/06/93	93-12956	1.00	µg/L	J
WNW0706	acetone	12/02/91	91-11689	3.00	µg/L	J
WNW8607	acetone	07/09/91	91-05925	42.0	µg/L	
WNW8067	acetone	07/09/91	91-05925	170	µg/L	
WNW8607	dcdfmeth	07/09/91	91-05925	5.00	µg/L	
WNW8607	mek	07/09/91	91-05925	62.0	µg/L	
WNW8607	mek	07/09/91	91-05925	280	µg/L	
WNW8609	dca_11	01/14/91	91-00265	6.70	µg/L	
WNW8609	dca_11	02/21/91	91-01366	6.00	µg/L	
WNW8609	dca_11	04/17/91	91-02779	7.00	µg/L	
WNW8609	dca_11	05/15/91	91-03853	6.00	µg/L	
WNW8609	dca_11	07/10/91	91-05963	6.00	µg/L	
WNW8609	dca_11	08/19/91	91-07332	8.00	µg/L	
WNW8609	dca_11	11/18/91	91-10697	8.00	µg/L	
WNW8609	dca_11	01/15/92	92-00348	8.00	µg/L	
WNW8609	dca_11	01/15/92	92-00416	8.00	µg/L	
WNW8609	dca_11	07/17/92	92-06457	5.00	µg/L	
WNW8609	dca_11	08/26/92	92-09078	5.00	µg/L	

J - Estimated result

RFI:0003014.RM

Table 2-9 *(concluded)*

1991 to 1994 Groundwater Volatile Detections at the HLWSA (SSWMU #4)

Well ID	Parameter	Sample Date	Sample ID	Result	Units	QA Flags
WNW8609	dca_11	10/06/92	92-10585	6.00	µg/L	
WNW8609	dca_11	11/04/92	92-11637	4.00	µg/L	J
WNW8609	dca_11	12/09/92	92-13085	3.00	µg/L	J
WNW8609	dca_11	01/11/93	93-00231	4.00	µg/L	J
WNW8609	dca_11	02/18/93	93-01834	4.00	µg/L	J
WNW8609	dca_11	04/21/93	93-03848	2.00	µg/L	J
WNW8609	dca_11	05/25/93	93-05602	3.00	µg/L	J
WNW8609	dca_11	05/25/93	93-05665	3.00	µg/L	J
WNW8609	dca_11	11/11/93	93-12006	3.00	µg/L	J
WNW8609	dca_11	05/19/94	94-03105	2.00	µg/L	J
WNW8609	dca_11	05/19/94	94-03773	2.00	µg/L	J
WNW8609	dca_11	07/11/94	94-06853	2.00	µg/L	J
WNW8609	dca_11	10/06/94	94-10802	2.00	µg/L	J
WNW8609	dce_11	07/17/92	92-06457	0.50	µg/L	J
WNW8609	propntil	01/14/91	91-00265	5.00	µg/L	J
WNW8609	tca_111	07/17/92	92-06457	0.90	µg/L	J
WNW8609	tca_111	11/04/92	92-11637	0.90	µg/L	J
WNW8609	tca_111	12/09/92	92-13085	0.80	µg/L	J
WNW8609	tca_111	01/11/93	93-00231	0.90	µg/L	J
WNW8609	tca_111	05/25/93	93-05602	0.70	µg/L	J
WNW8609	tca_111	05/25/93	93-05665	0.80	µg/L	J

J - Estimated result

Table 3-1

1993 Soil and Sediment Sample Locations and Analysis at the High-level Waste Storage and Processing Area (SSWMU #4)

Location	Borehole Depths	TCL VOCS	TCL SVOCS	TAL Metals	TCL Pesticides/PCBs
BH-32, surface	0-2 ft	-	-	1	-
BH-32, sat	14-16 ft	1	1	1	-
BH-32, sat	22-24 ft	1	-	1	-
BH-40, surface	0-2 ft	-	1	1	-
BH-40, sat	14-16 ft	1	1	1	-
BH-40, sat	22-24 ft	1	-	1	-
Background surface (BH-38)	0-2 ft	-	-	1	-
Background sat (BH-38)	12-14 ft 26-28 ft	3(2)	3(2)	3(2)	3(2)
ST-26	NA	1	1	1	-
ST-37	NA	-	1	1	-

1) Numbers in parentheses reflect changes made to the original program.

Sat - Saturated zone NA - Not applicable

Source: (West Valley Nuclear Services Co., Inc. December 16, 1993).

Table 3-2

Specifications of Wells in the Vicinity of the High-level Waste Storage and Processing Area (SSWMU #4)

Well ID	Well Position	Lithological Unit Screened	Well Depth (ft)	Screen Length (ft)	Bladder Intake Depth (ft)	Well Construction
WNW0301	Background	Sand and Gravel	13.0	5.0	Bailer	SS
WNW0401	Background (Upgradient)	Sand and Gravel	17.0	10.0	16.5	SS
WNW0706	Background	Sand and Gravel	11.0	5.0	Bailer	SS
WNW0403	Upgradient	Sand and Gravel	13.0	5.0	Bailer	SS
WNW0405	Downgradient	Sand and Gravel	13.5	5.0	12.92	SS
WNW0406	Downgradient	Sand and Gravel	16.8	5.0	Bailer	SS
WNW0407	Downgradient	Kent Recessional	75.5	10.0	Bailer	SS
WNW0408	Downgradient	Sand and Gravel	38.0	10.0	37.2	SS
WNW0410	Upgradient	Kent Recessional	78.0	10.0	Bailer	SS
WNW0411	Upgradient	Kent Recessional	66.0	20.0	Bailer	SS
WNW8607	Downgradient	Sand and Gravel	17.6	5.0	15.7	PVC
WNW8608	Downgradient	Sand and Gravel	18.5	10.0	15.5	PVC
WNW8609	Downgradient	Sand and Gravel	24.7	10.0	21.3	PVC
WNW1008B	Background	Kent Recessional	51.0	5.0	51.0	SS

SS - Stainless steel
PVC - Polyvinyl chloride

Table 4-1

Fourth-Quarter 1993 Target Analyte List Metals Concentrations in Sand and Gravel Monitoring Wells at the High-level Waste Storage and Processing Area (μg/L)

Analyte	WNW0401	WNW0403	WNW0405	WNW0406	WNW0408	WNW8607	WNW8609	SG-BKGD
Aluminum	240.00	790.00	118.00	2,270.00	406.00	200.00	< 90.00	9,600.00
Antimony	NA	NA	< 3.00	< 3.00	< 12.00	NA	< 3.00	NA
Arsenic	NA	NA	< 3.00	< 3.00	< 1.00	NA	< 3.00	NA
Barium	NA	NA	55.70	116.00	332.00	NA	188.00	NA
Beryllium	NA	NA	< 3.00	< 3.00	< 1.00	NA	< 3.00	NA
Cadmium	NA	NA	< 0.20	< 0.20	< 2.00	NA	< 0.20	NA
Calcium	175,000.00	125,000.00	116,000.00	93,400.00	152,000.00	115,000.00	103,000.00	175,000.00
Chromium	NA	NA	446.00	< 10.00	14.60	NA	< 10.00	NA
Cobalt	NA	NA	< 20.00	< 20.00	< 3.00	NA	< 20.00	NA
Copper	NA	NA	13.60	< 10.00	4.70	NA	10.20	NA
Iron	752.00	1,310.00	1,010.00	2,350.00	616.00 (J)	111.00	42.00	16,700.00
Lead	NA	NA	< 2.00	2.00	1.10	NA	< 2.00	NA
Magnesium	19,100.00	8,830.00	21,800.00	13,000.00	23,600.00	14,500.00	14,200.00	19,100.00
Manganese	27.00	86.00	74.00 (R)	3,630.00	199.00	5.00	8.00	411.00
Mercury	NA	NA	< 0.20	< 0.20	< 0.15	NA	< 0.20	NA
Nickel	NA	NA	169.00	< 30.00	180.00	NA	< 30.00	NA
Potassium	1,870.00	1,440.00	2,520.00	3,050.00	3,310.00	2,330.00	1,440.00	3,760.00
Selenium	NA	NA	< 3.00	< 3.00	< 1.00	NA	< 3.00	NA
Silver	NA	NA	< 0.20	< 0.20	< 3.00	NA	< 0.20	NA
Sodium	155,000.00	28,800.00	41,700.00	14,200.00	87,800.00	14,500.00	14,700.00	22,900.00
Thallium	NA	NA	< 3.00	< 3.00	< 1.00 (J)	NA	< 3.00	NA
Vanadium	NA	NA	< 20.00	< 20.00	< 3.00	NA	< 20.00	NA
Zinc	NA	NA	< 10.00	13.50	13.20	NA	10.90	NA

NA - Not analyzed < - Nondetect (J) - Estimated value (R) - Unreliable result
SG-BKGD - Sand and Gravel unit background which is the highest value from wells WNW0301, WNW0401, and WNW0706.

Table 4-2

Second-Quarter 1994 Target Analyte List Metals Concentrations in Sand and Gravel Monitoring Wells at the High-level Waste Storage and Processing Area (μg/L)

Analyte	WNW0401	WNW0403	WNW0405	WNW0406	WNW0408	WNW8607	WNW8609	SG-BKGD
Aluminum	830.00	810.00	380.00	1,170.00	397.00	< 90.00	< 90.00	9,600.00
Antimony	NA	NA	< 6.00	< 6.00	< 20.00	NA	< 6.00	NA
Arsenic	NA	NA	< 3.00	< 3.00	< 1.00	NA	< 3.00	NA
Barium	NA	NA	48.00	105.00	291.00	NA	190.00	NA
Beryllium	NA	NA	< 3.00	< 3.00	< 1.00	NA	< 3.00	NA
Cadmium	NA	NA	< 0.20	< 0.20	< 3.00	NA	< 0.20	NA
Calcium	221,000.00	212,000.00	110,000.00	94,300.00	146,000.00	137,000.00	115,000.00	175,000.00
Chromium	NA	NA	35.70	< 10.00	39.00	NA	< 10.00	NA
Cobalt	NA	NA	< 10.00	< 10.00	< 3.00	NA	< 10.00	NA
Copper	NA	NA	< 10.00	< 10.00	5.20	NA	< 10.00	NA
Iron	3,600.00	1,900.00	813.00	2,090.00	1,250.00	100.00	56.00	16,700.00
Lead	NA	NA	< 2.00	< 2.00	11.40 (J)	NA	< 2.00	NA
Magnesium	21,400.00	15,400.00	19,600.00	12,400.00	24,200.00	18,000.00	14,800.00	19,100.00
Manganese	89.00	63.00	68.00	3,730.00	76.00	7.00	7.00	411.00
Mercury	NA	NA	< 0.20	< 0.20	0.30	NA	< 0.20	NA
Nickel	NA	NA	89.90	< 30.00	192.00	NA	< 20.00	NA
Potassium	2,100.00	2,300.00	1,880.00	1,990.00	3,610.00	2,700.00	1,350.00	3,760.00
Selenium	NA	NA	< 3.00	< 3.00	< 1.00	NA	< 3.00	NA
Silver	NA	NA	< 0.60	< 0.60	8.80	NA	< 3.00 (UJ)	NA
Sodium	185,000.00	90,600.00	36,200.00	15,400.00	91,000.00	103,000.00	16,900.00	22,900.00
Thallium	NA	NA	< 3.00	< 3.00	< 1.00 (UJ)	NA	< 5.00	NA
Vanadium	NA	NA	< 10.00	< 10.00	2.20	NA	2.20	NA
Zinc	NA	NA	< 10.00	31.60	7.80	NA	13.00	NA

NA - Not analyzed < - Nondetect (J) - Estimated value (UJ) - Not detected, estimated value
SG-BKGD - Sand and gravel unit background which is the highest value from wells WNW0301, WNW0401, and WNW0706.

Table 4-3

Target Analyte List Metals Concentration Ranges in Soil from Borehole Samples for the High-level Waste Storage and Processing Area (mg/kg)

Analyte	BH-32	BH-40	Subpart S Action Level[1]	TAGM 4046[2]	Benchmark[3]	Eastern USA Bkgd[4]
Aluminum	5,290(J) - 7,950(J)	8,190 - 11,600(J)	-	SB	41,700	33,000
Antimony	1.69(J) - 2.68(J)	2.50(J) - 3.27(J)	30	SB	7.62	NA
Arsenic	13.6 - 28.2	13.1 - 27.8	80	7.5 or SB	18.18	3 - 12
Barium	29.4 - 77.5	71.3 - 110.0	4,000	300 or SB	417	15 - 600
Beryllium	0.34 - 0.39	0.36 - 0.55	0.2	0.16 or SB	1.98	0 - 1.75
Cadmium	< 0.21 - 0.26	0.22 - < 0.23	40	1.0 or SB	*	0.1 - 1
Calcium	5,680(J) - 38,100(J)	1,460 - 28,200(J)	-	SB	88,200	130 - 35,000
Chromium	8.1 - 10.0	10.2 - 14.6	400	10 or SB	53.70	1.5 - 40
Cobalt	3.96 - 6.84	7.42 - 10.20	-	30 or SB	34.50	2.5 - 60
Copper	15.2 - 19.5(J)	20.3 - 22.6(J)	-	25 or SB	74.40	1 - 50
Iron	12,000(J) - 21,300(J)	21,000 - 25,200(J)	-	2,000 or SB	80,400	2,000 - 550,000
Lead	10.3 - 17.1	17.6 - 23.2	-	SB	42.60	4 - 61 (rural) 200 - 500 (suburban)
Magnesium	3,240(J) - 7,840(J)	2,590 - 6,080(J)	-	SB	32,400	100 - 5,000
Manganese	247(J) - 374(J)	475(J) - 852	-	SB	1,458	50 - 5,000
Mercury	0.025 - 0.034	0.025 - 0.032	20	0.1	0.06	0.001 - 0.2
Nickel	13.0 - 18.0	15.9 - 26.8	2,000	13 or SB	81.90	0.5 - 25
Potassium	732 - 842	770 - 1,620	-	SB	8,940	8,500 - 43,000
Selenium	< 0.20(UJ) - < 0.21(J)	< 0.22(UJ)	-	2 or SB	*	0.1 - 3.9
Silver	< 0.31 - < 0.33	< 0.33 - < 0.34	200	SB	*	NA
Sodium	46.4 - 171.0(J)	46.0(J) - 87.4	-	SB	408	6,000 - 8,000
Thallium	< 0.51(UJ) - < 0.53(UJ)	< 0.55(UJ)	-	SB	*	NA
Vanadium	8.76 - 10.4	9.9 - 17.0	-	150 or SB	63.90	1 - 300
Zinc	54.2(J) - 87.4(J)	59.5 - 97.9(J)	-	20 or SB	240	9 - 50

[1] Action levels are taken from proposed 40 CFR 264 Subpart S.
[2] Values are based on recommended soil cleanup objective from Table 4 of Appendix A of the NYSDEC TAGM 4046.
[3] Due to natural variability in concentrations, levels are not considered to exceed background unless 3x > highest background value.
[4] Eastern USA Background values taken from TAGM 4046, Table 4 of Appendix A.

NA - Not analyzed < - Nondetect (J) - Estimated result (UJ) - Not detected, estimated value SB - Site background
* Not applicable because site background value is a nondetect.

Table 4-4

Radionuclide Concentrations in High-level Waste Storage and Processing Area Boreholes
Above Recommended Screening Values
(μCi/g)

Sample Location	Depth Interval (ft)	Nuclide	Result	Recommended Screening Value[1]
BH-32	00-02	Cs-137	7.8E-07	2.5E-07
BH-32	22-24	Gross Beta	5.3E-05	1.5E-05
BH-32	22-24	Sr-90	5.8E-07	2.5E-07

[1] Screening values from Table 4-2, West Valley Nuclear Services Co., Inc. September 1994

Table 4-5

Target Analyte List Metals Concentration Ranges in Stream Sediment Samples for the High-level Waste Storage and Processing Area (mg/kg)

Analyte	ST-37	Subpart S Action Levels[1]	TAGM 4046[2]	Benchmark[3]	Eastern USA Background[4]
Aluminum	8,060	-	SB	34,800	33,000
Antimony	< 1.81	30	SB	*	NA
Arsenic	15.4	80	7.5 or SB	46.50(R)	3 - 12
Barium	76.8	4,000	300 or SB	216.30	15 - 600
Beryllium	0.42	0.2	0.16 or SB	1.74	0 - 1.75
Cadmium	0.39	40	1.0 or SB	*	0.1 - 1.0
Calcium	43,800(J)	-	SB	6,630(J)	130 - 35,000
Chromium	15.5	400	10 or SB	46.80	1.5 - 40
Cobalt	6.11	-	30 or SB	31.20	2.5 - 60
Copper	26.0	-	25 or SB	42.90	1 - 50
Iron	16,500(J)	-	2,000 or SB	57,900(J)	2,000 - 550,000
Lead	22.1	-	SB	66.60	4 - 500
Magnesium	6,770(J)	-	SB	8,790(J)	100 - 5,000
Manganese	509(J)	-	SB	1,179(J)	50 - 5,000
Mercury	< 0.11	20	0.1	*	0.001 - 0.2
Nickel	17.9	2,000	13 or SB	54.00	0.5 - 25
Potassium	1,610	-	SB	5,100	8,500 - 43,000
Selenium	0.28	-	2 or SB	*	0.1 - 3.9
Silver	< 0.45(UJ)	200	SB	*	NA
Sodium	161(J)	-	SB	447(J)	6,000 - 8,000
Thallium	< 0.15	-	SB	*	NA
Vanadium	16.0	-	150 or SB	54.30	1 - 300
Zinc	510(J)	-	20 or SB	1035.00(J)	9 - 50

[1] Action levels are taken from proposed 40 CFR 264 Subpart S.
[2] Values are based on recommended soil cleanup objective from Table 4 of Appendix A of the NYSDEC TAGM 4046.
[3] Due to natural variability in concentrations, levels are not considered to exceed background unless 3x > highest background value.
[4] Eastern USA Background values taken from TAGM 4046, Table 4 of Appendix A.

NA - Not analyzed < - Nondetect (J) - Estimated result (UJ) - Not detected, estimated value (R) - Unreliable result SB - Site background

* Not applicable because site background value is a nondetect.

Table 4-6

Completeness of Analytical Results from the 1993 Soils Sampling Program

	Radiometric Results			
	Borehole	Surface Soil	Stream Sediment	TOTALS
Activity	100.0%	100.0%	100.0%	100.0%
	Nonradiometric Results			
	Borehole	Surface Soil	Stream Sediment	TOTALS
TCL VOC	98.9%	95.6%	94.8%	98.2%
TCL Pesticides/PCBs	100.0%	100.0%	100.0%	100.0%
TAL Metals	99.2%	99.4%	99.2%	99.2%
TCL SVOC	100.0%	99.6%	100.0%	99.9%
TOTALS	99.3%	99.0%	98.0%	99.2%

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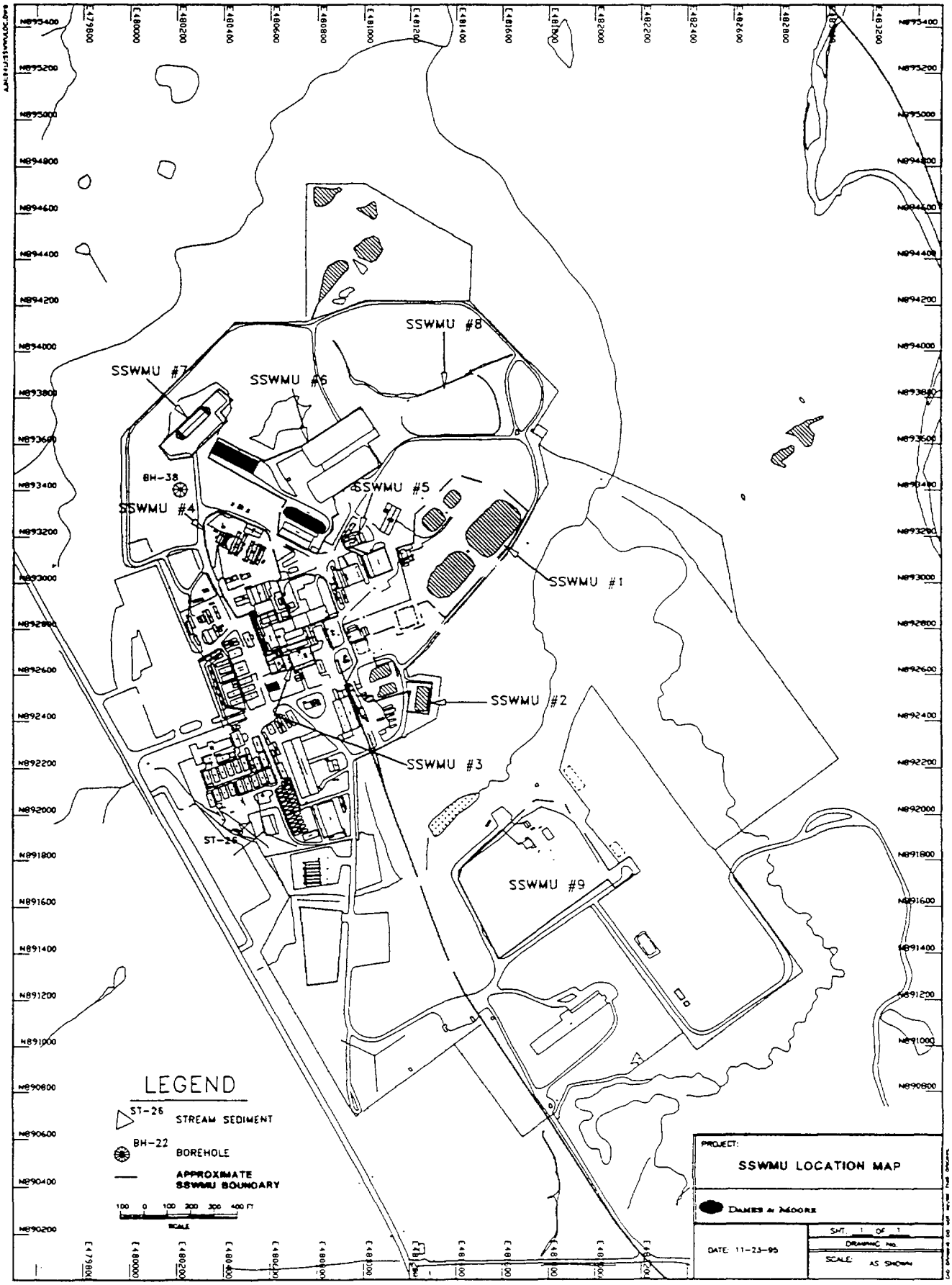


Figure 1-1. HLWSA (SSWMU #4) LOCATION MAP

DLK:94:CDD:HILSTRPA.DWG

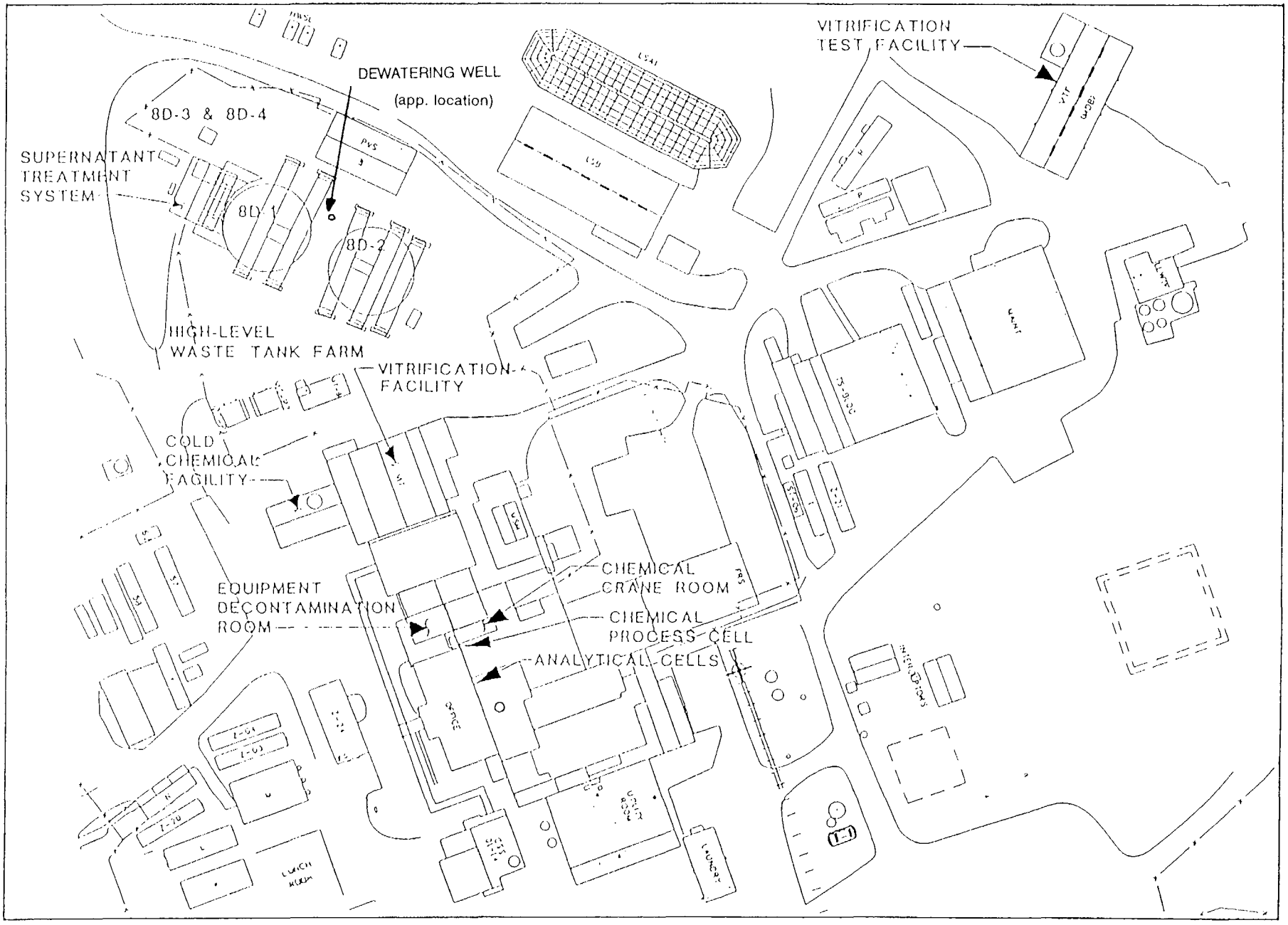
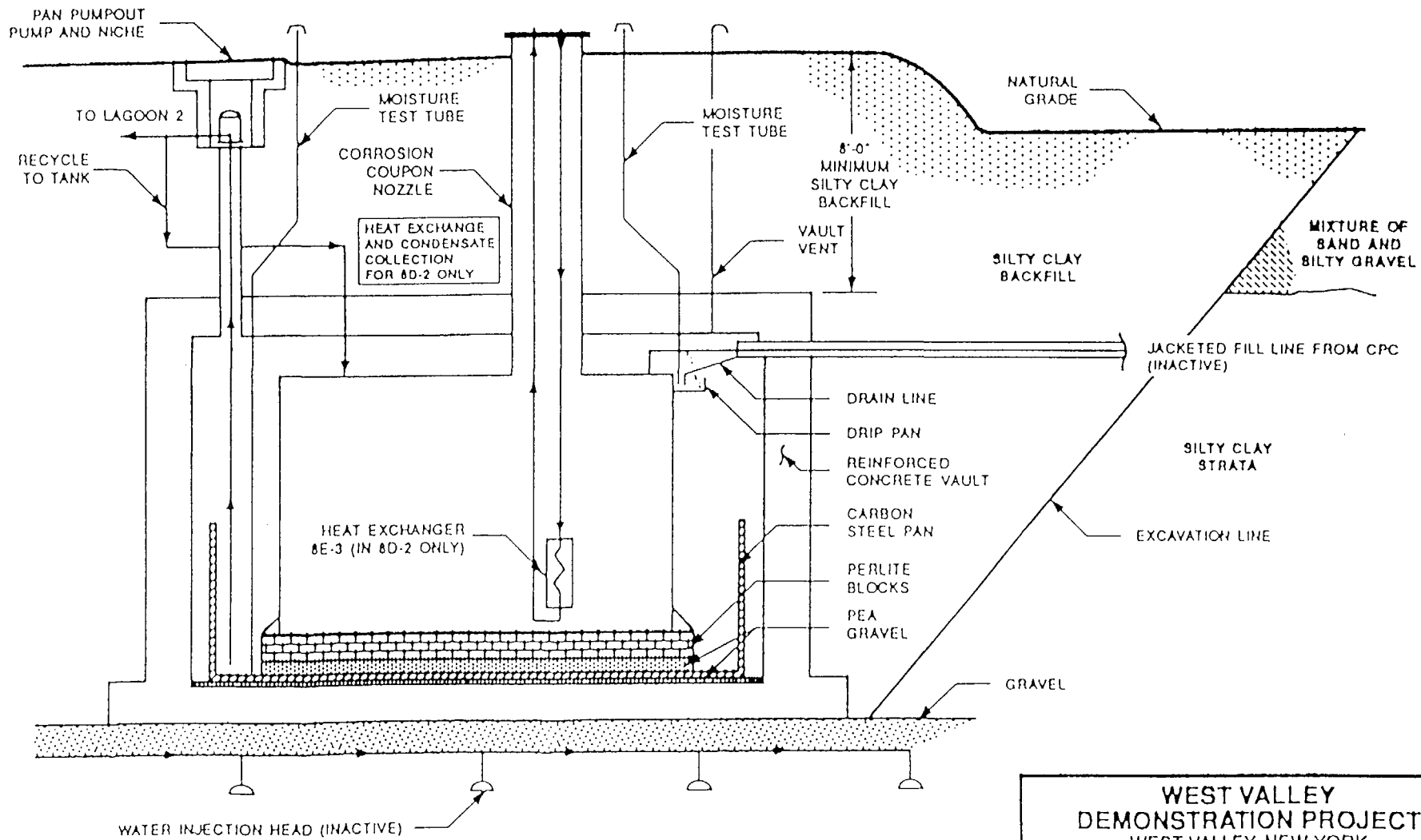
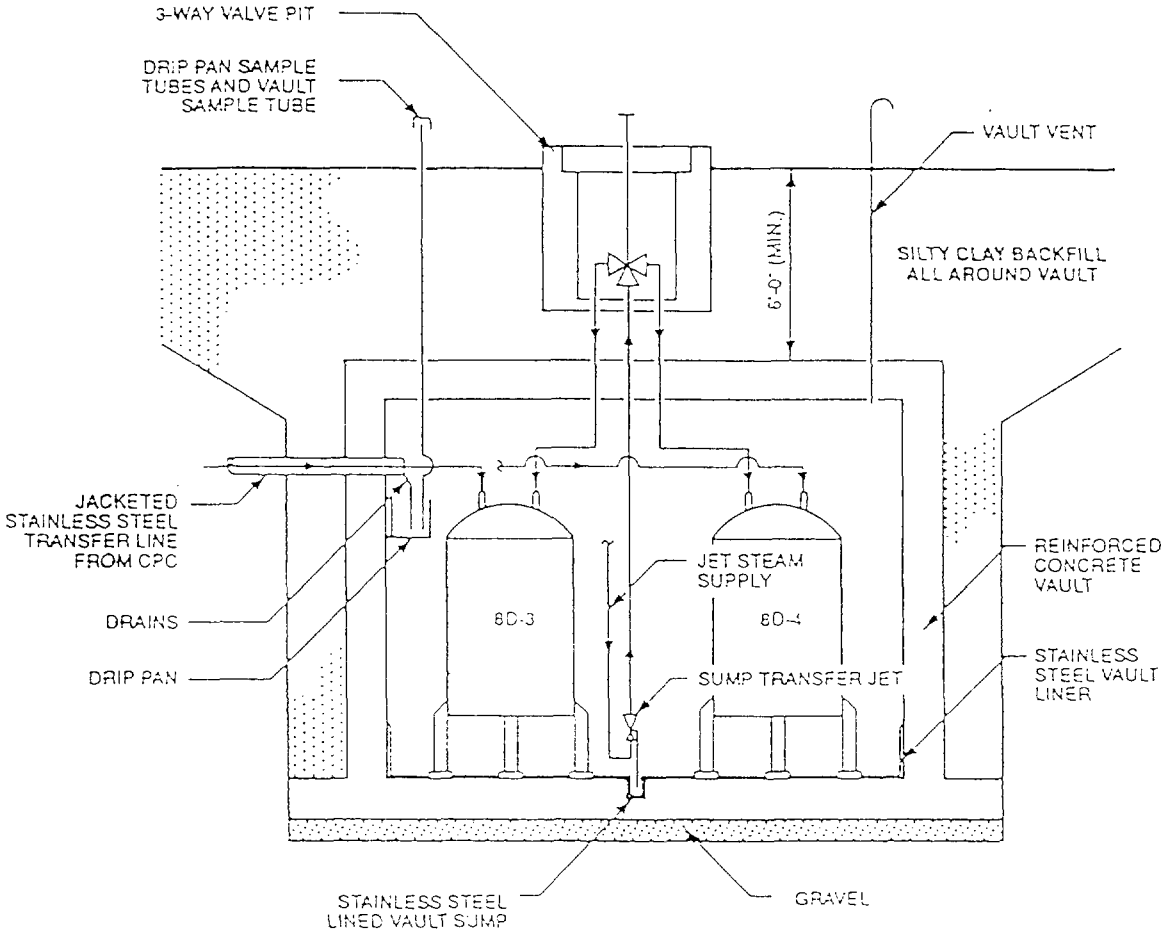


Figure 2-1. High-level Waste Storage and Processing Area Location



WEST VALLEY DEMONSTRATION PROJECT
WEST VALLEY, NEW YORK

Figure 2-2.
SCHEMATIC OF WASTE TANKS 8D-1 AND 8D-2



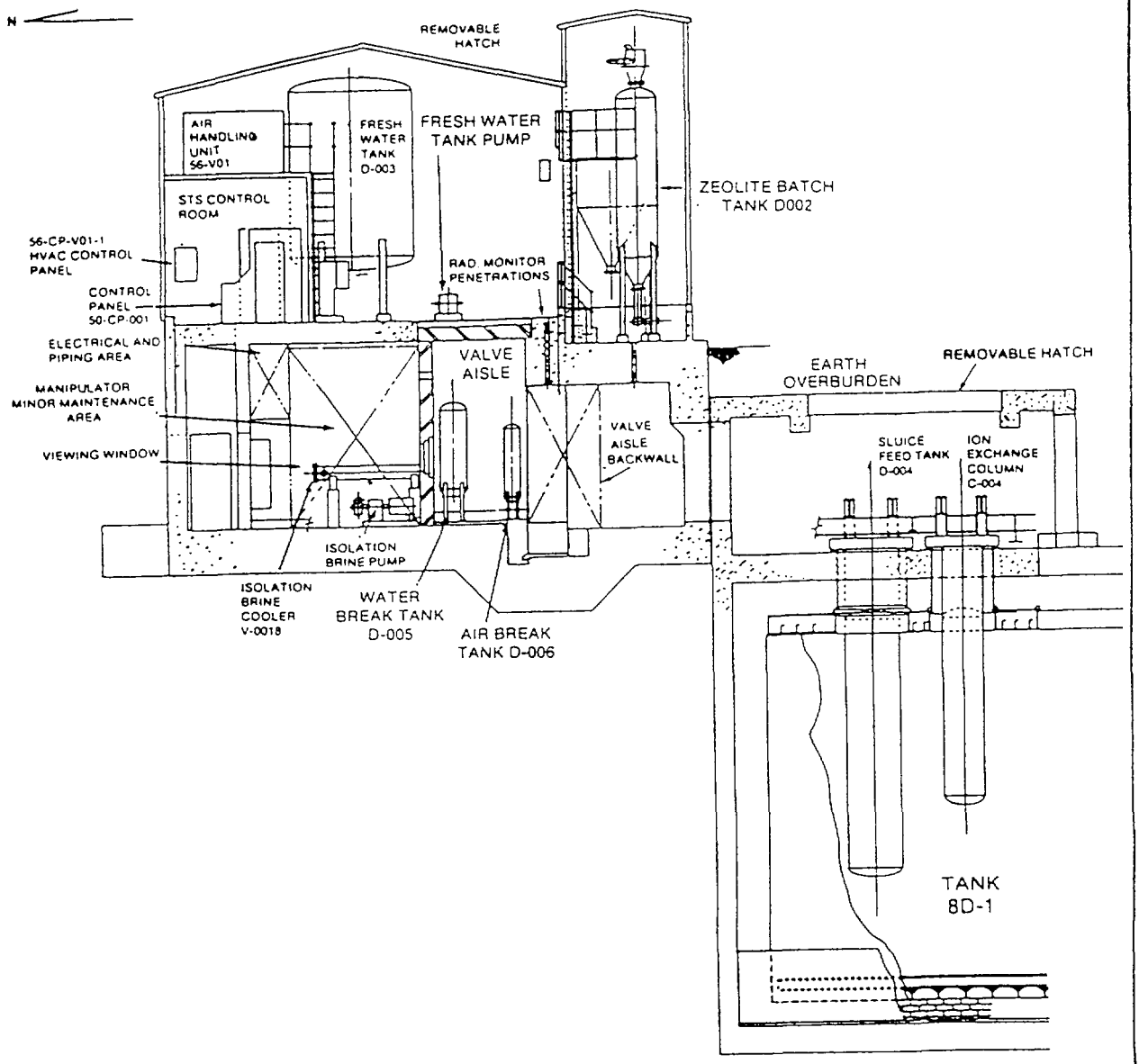
(NOT TO SCALE)

WEST VALLEY
DEMONSTRATION PROJECT
WEST VALLEY, NEW YORK

Figure 2-3.

SCHEMATIC OF WASTE TANKS
8D-3 AND 8D-4

SOURCE: Western New York Nuclear Service Center Study Companion Report, nd.



NOT TO SCALE

SOURCE: Supernatant Treatment System Design through Testing, Topical Report. West Valley Nuclear Services Co., Inc., December 1988.

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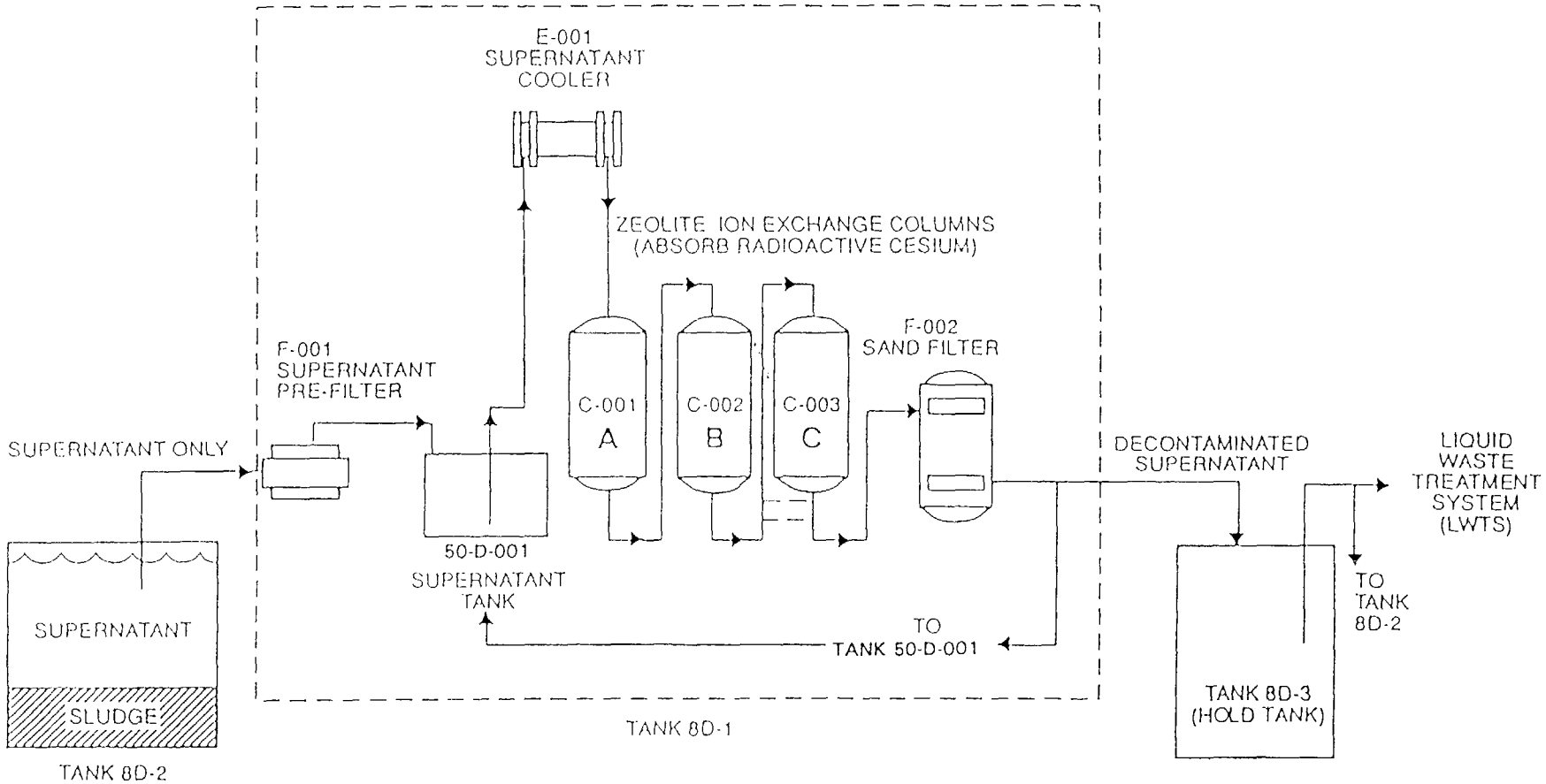
Figure 2-4.
SUPERNATANT TREATMENT SYSTEM (STS) SUPPORT BUILDING AND 8D-1 TANK/VAULT MODIFICATION



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DEMONSTRATION PROJECT
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Figure 2-5.
SIMPLIFIED SUPERNATANT
TREATMENT SYSTEM (STS)
FLOW DIAGRAM

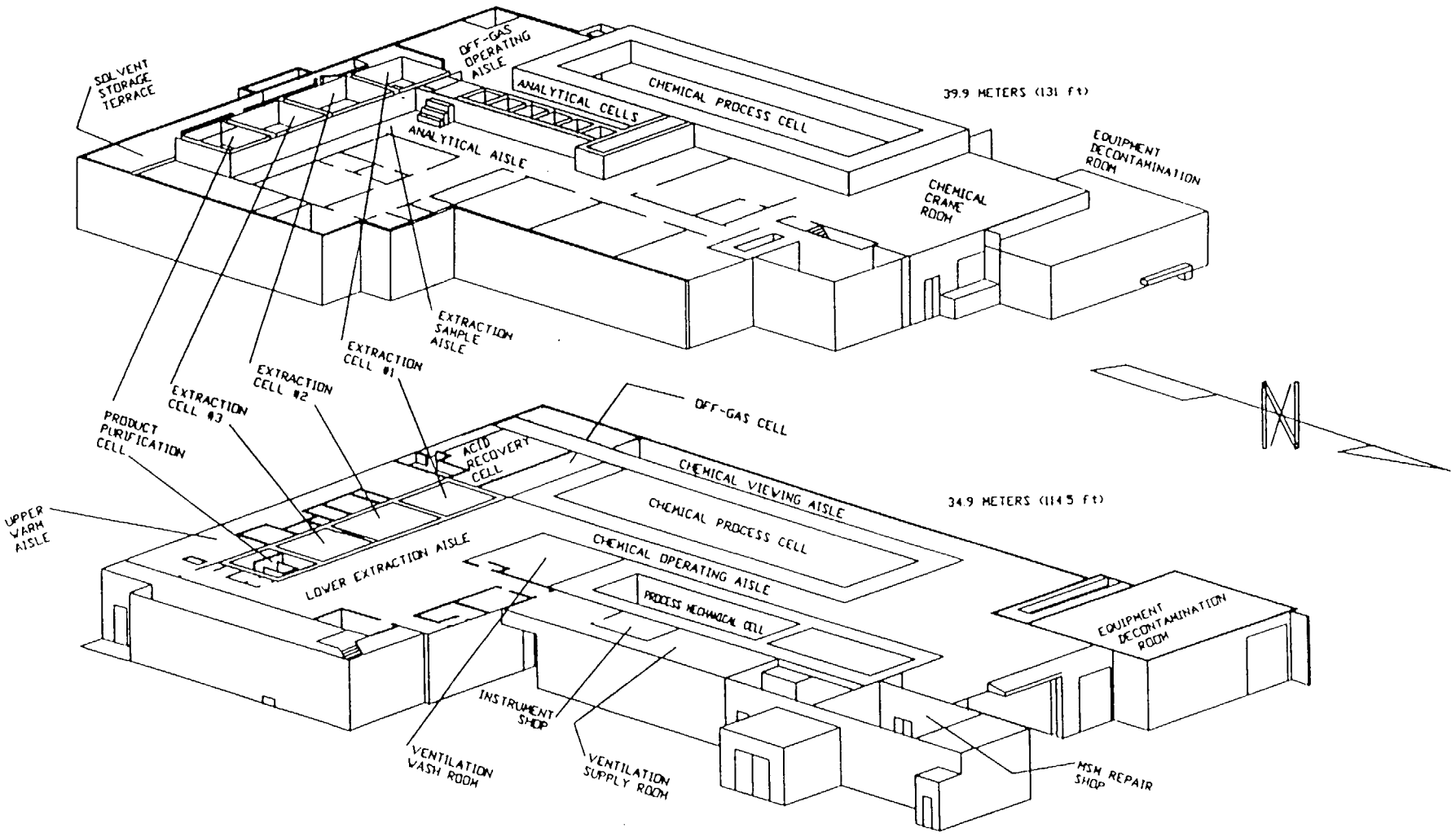

Figure 2-6. Layout of the Process Building at Plant Elevations of 34.9 Meters (114.5 ft) and 39.9 Meters (131.0 ft).

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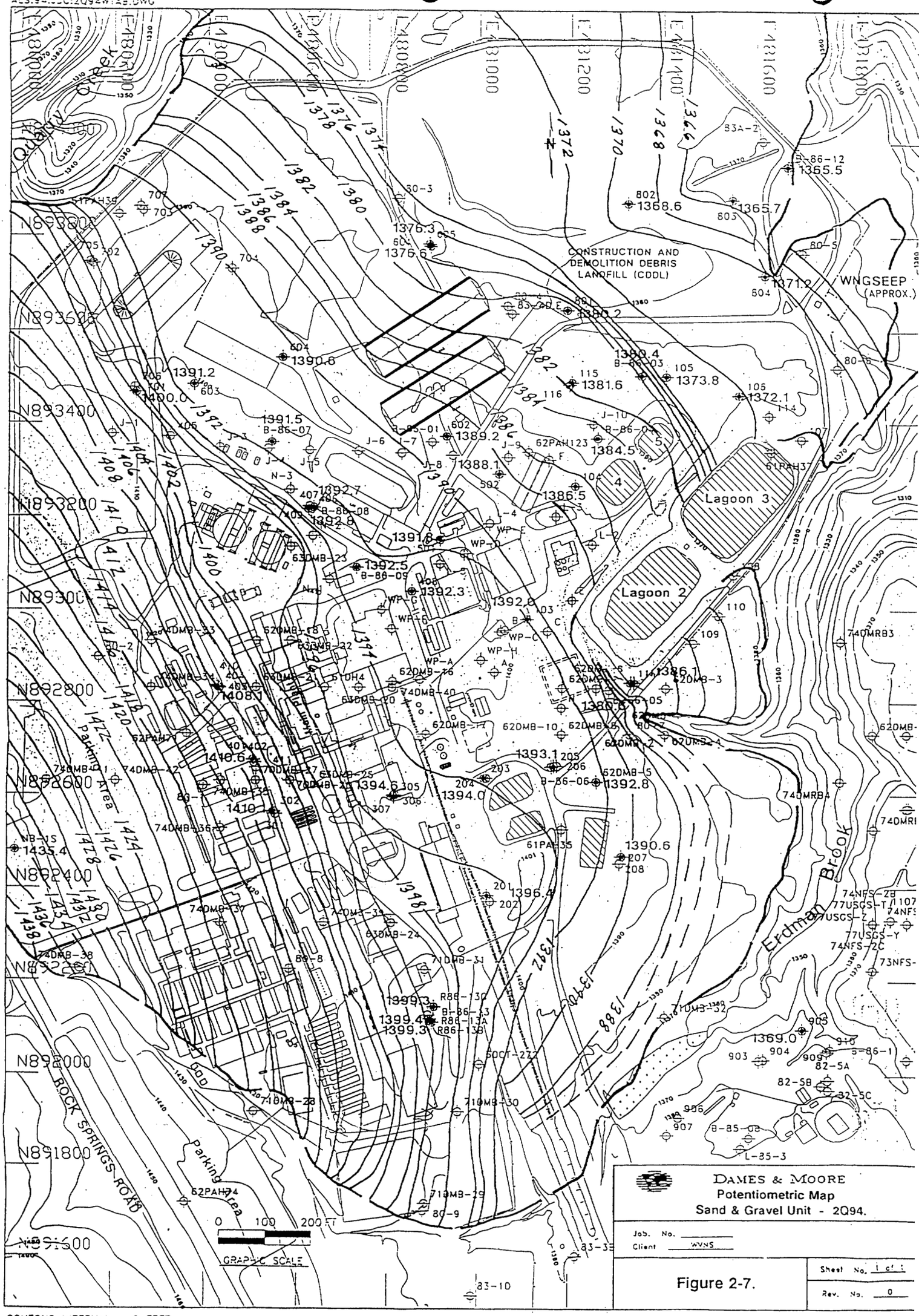

Figure 2-7.

CONTOUR INTERVAL = 2 FEET

THIS MAP BASE WAS TAKEN FROM THE ENGINEERING RELEASED DRAWING #900D-5040, SHEET 3, REV. 0, DATED 7/92.

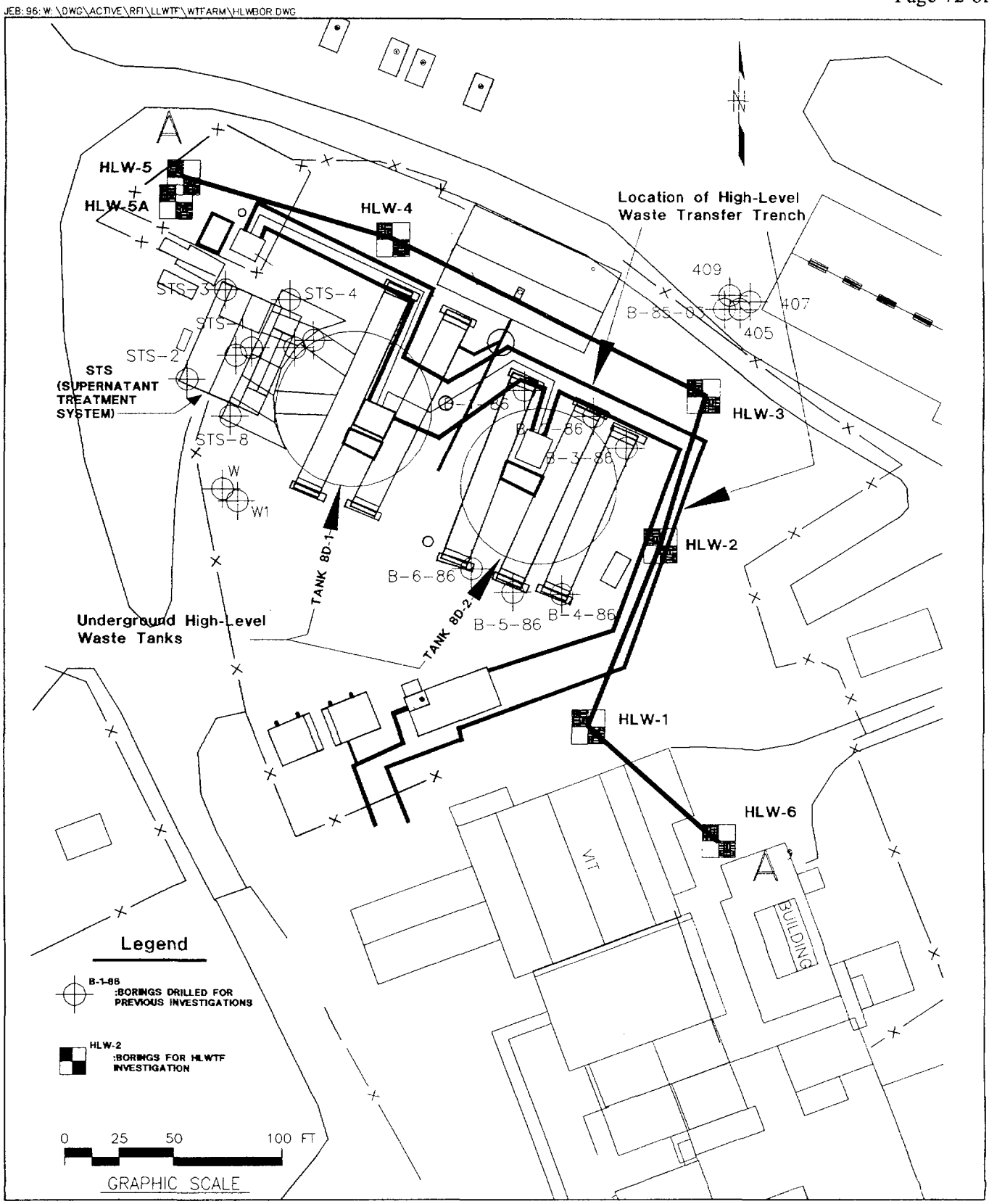

Figure 2-8. Map of HLW Tank Farm and Vicinity Showing Location of Cross Section A-A'

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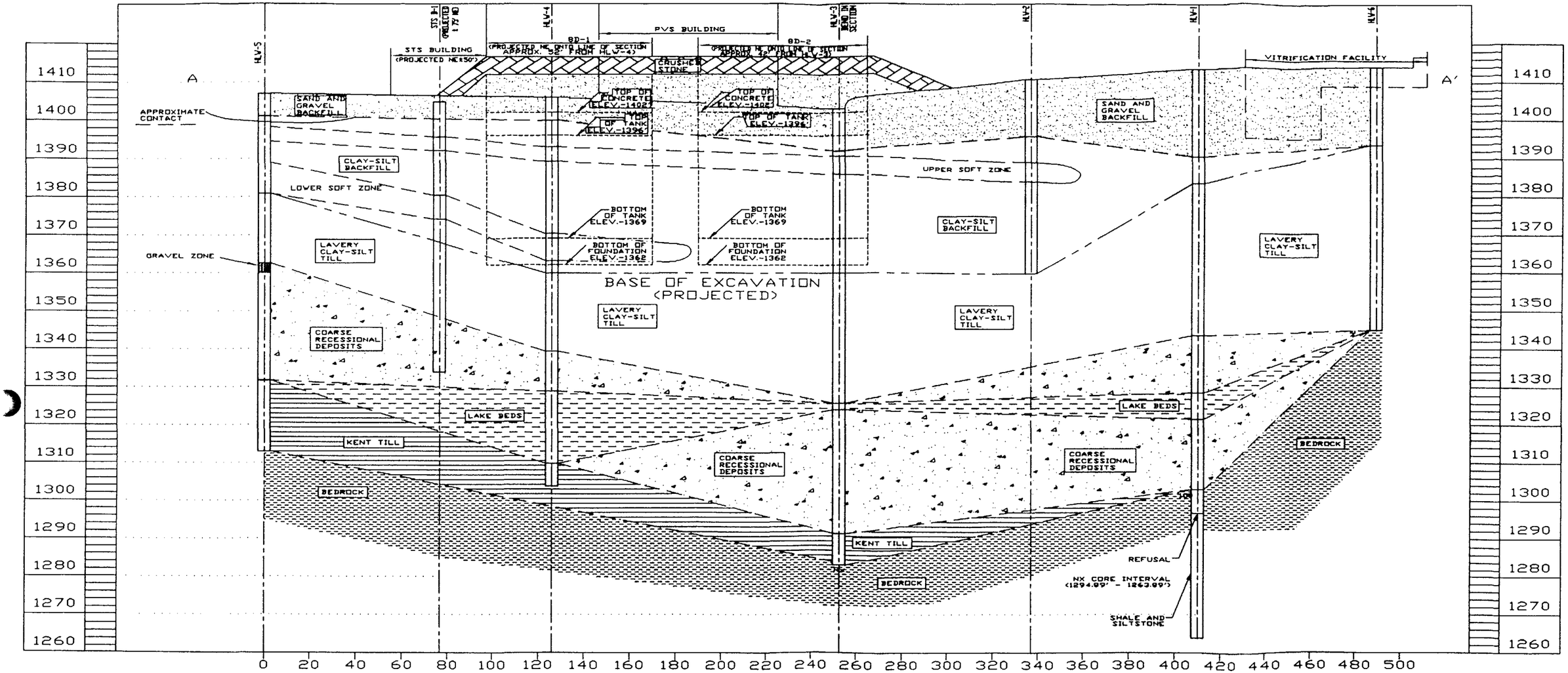

FIGURE 2-9. CROSS SECTION A-A'

HORIZ. - 0 5 10 20 FT
VERT. - 0 5 10 20 FT

NOTE: 8D-1 AND 8D-2 VAULTS ARE COVERED WITH CLAY-SILT BACKFILL

LEGEND:
APPROXIMATE GEOLOGIC CONTACT (UNCONFIRMED)
GEOLOGIC CONTACT (CONFIRMED)
BASE OF EXCAVATION

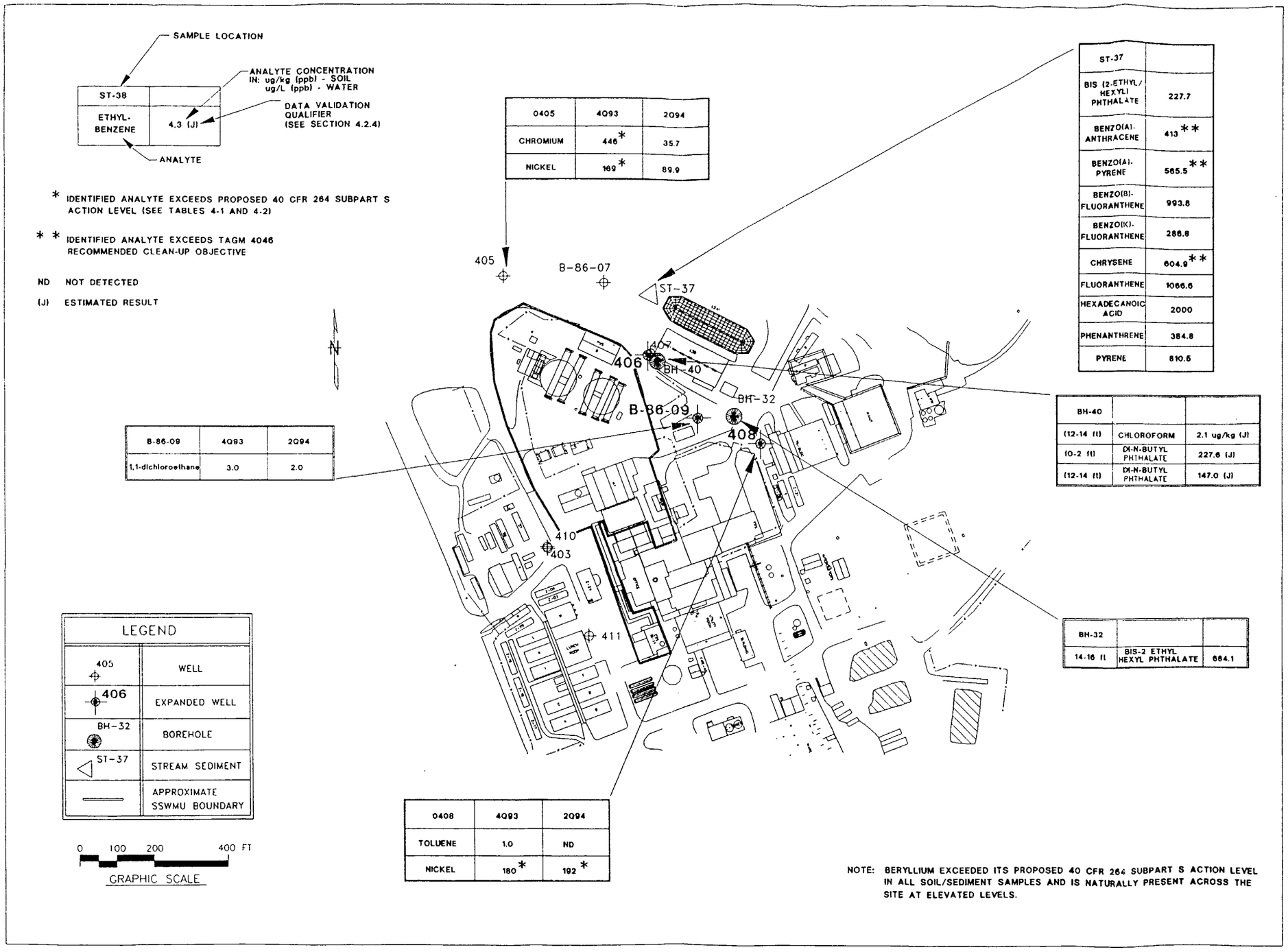

Figure 3-1. HLWSA (SSWMU #4) RFI Sampling Locations and Analytical Results Summary

Appendix A

Borehole Logs for BH-32, BH-40, BH-38,
HLW-1, HLW-2, HLW-3, HLW-4, HLW-5, HLW-5A, and HLW-6

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SHEET 1 OF: 2
DATE STARTED: 10/31/93
DATE FINISHED: 11/1/93
DRILLER: BUFFALO DRILLING CO.
INSPECTOR: ROBERT H.TEIFKE

BORING LOG

DAMES & MOORE

BOREHOLE NO.: BH-32
SURFACE ELEVATION (FT.): 1,402.36
NORTHING: 893,110.91
EASTING: 480,822.28

PROJECT: 1993 SOILS PROGRAM
JOB NUMBER: 10805-827-8350

LOCATION: NORTH FRS
SSWMU Locale:

DEPTH IN FEET	INCHES DRIVEN / RECOVERED	SAMPLE TYPE-NO.	BLOWS ON SAMPLER 0-6 / 12-18	BLOWS ON SAMPLER 6-12 / 18-24	LITHOLOGY	DESCRIPTION AND NOTES
	18/17	SS-1	-	28		Blacktop pavement and underlayment (0.5') Gray brown silty SAND and GRAVEL; moist, very dense. (0.6') (SM/GM) Gray brown pebbly silty CLAY; moist, hard. (0.8') (CL) (Hnu:<0.1ppm, beta/gamma:BB)
			40	51		
	24/18	SS-2	33	60		Brown green brown, red brown pebbly cobbly slightly clayey SILT; moist, hard. (ML) (Hnu:<0.1ppm, beta/gamma:BB)
			48	28		
5	24/19	SS-3	11	16		Green brown clayey SILT, slightly pebbly; moist. (0.7') (ML) Orange brown very silty sandy GRAVEL; moist. (0.7') (GM) Green gray CLAY; wet. (0.1') (CL) Orange brown SAND and GRAVEL; moist. (0.1') (GM) (Hnu:<0.1ppm, beta/gamma:BB)
			18	19		
	24/22	SS-4	27	24		Orange brown silty moderately clayey coarse SAND and pebble GRAVEL; with humic masses, upper most 0.2' dark gray clayey SAND and GRAVEL; moist to wet, very dense. (Hnu:<0.1ppm, beta/gamma:BB) (SM/GM)
			22	17		
	24/23	SS-5	19	20		Brown silty moderately clayey SAND and pebble-cobble GRAVEL, with clots of humic material; wet, dense. (Hnu:<0.1ppm, beta/gamma:BB) (SC/GM)
			19	25		
10	24/19	SS-6	31	38		Yellow brown flat-pebble-cobble GRAVEL, with sparse matrix silty sand; moist, very dense. (GM) (Hnu:<0.1ppm, beta/gamma:BB)
			30	35		
	24/4	SS-7	38	51		Yellow brown silty clayey SAND and GRAVEL; cut cobble in driving shoe, wet. (GM) (Hnu:<0.1ppm, beta/gamma:BB)
			31	33		
15	24/20	SS-8	25	27		Yellow brown pebble-cobble GRAVEL, slightly silty, slightly sandy; saturated, very dense. (GM) (Hnu:<0.1ppm, beta/gamma:BB)
			28	33		
	24/16	SS-9	19	30		As Above.
			41	89		
	24/17	SS-10	25	41		Yellow brown clayey silty sandy pebble-cobble GRAVEL; wet to saturated, very dense. (GM) (Hnu:<0.1ppm, beta/gamma:BB)
			49	42		

CLASSIFICATION: VISUAL (Modified Burmister) and USCS

METHOD OF SAMPLING: 140 LB. HAMMER
3" O.D. SPLITSPOON SAMPLER

SHEET 2 OF: 2 DATE STARTED: 10/31/93 DATE FINISHED: 11/1/93 DRILLER: BUFFALO DRILLING CO. INSPECTOR: ROBERT H.TEIFKE	BORING LOG DAMES & MOORE	BOREHOLE NO.: BH-32 SURFACE ELEVATION (FT.): 1,402.36 NORTHING: 893,110.91 EASTING: 480,822.28
PROJECT: 1993 SOILS PROGRAM JOB NUMBER: 10805-827-8350		LOCATION: NORTH FRS SSWMU Locale:

DEPTH IN FEET	INCHES DRIVEN / RECOVERED	SAMPLE TYPE-NO.	BLOWS ON SAMPLER 0-6 / 6-12	BLOWS ON SAMPLER 12-18 / 18-24	LITHOLOGY	DESCRIPTION AND NOTES
	24/13	SS-11	35	36		Yellow brown silty sandy pebble-cobble GRAVEL; saturated, very dense. (GM) (Hnu:<0.1ppm, beta/gamma:BB)
			37	36		
	24/18	SS-12	12	20		Dark brown silty moderately clayey sandy pebble GRAVEL; saturated, dense. (1.1') (GM) (Hnu:<0.1ppm, beta/gamma:BB)
			22	23		Brown CLAY, slightly silty, very slightly pebbly; moist to wet, (0.4') (CL) (Hnu:<0.1ppm, beta/gamma:BB)
	24/20	SS-13	12	29		Brown clayey SILT; wet. (0.5') (ML)
25			19	25		Gray fine GRAVEL; wet. (0.4) (GP)
						Brown clayey SILT; gray at base, wet. (0.8') (ML) (Hnu:<0.1ppm, beta/gamma:BB)
	24/23	SS-14	5	13		
			22	31		
	24/23	SS-5	11	24		Brown CLAY; wet. (1.7') (CL) Brown CLAY, pebbly; hard, moist. (0.2') (CL) (Hnu:<0.1ppm, beta/gamma:BB)
			35	60		Gray brown silty moderately pebbly CLAY; moist to wet, very stiff. (CL) (Hnu:,0.1ppm, beta/gamma:BB)
30						
						AUGERED TO 28 FT. SAMPLED TO 30 FT. BOREHOLE ABANDONED AND BACKGROUTED TO GRADE BACKGROUND READINGS: Hnu =<0.1ppm beta/gamma = 20-80cpm
35						

CLASSIFICATION: VISUAL (Modified Burmister) and USCS

METHOD OF SAMPLING: 140 LB. HAMMER
3" O.D. SPLITSPOON SAMPLER

SHEET 1 OF: 2 DATE STARTED: 10/26/93 DATE FINISHED: 10/26/93 DRILLER: BUFFALO DRILLING CO. INSPECTOR: ROBERT H. TEIFKE	BORING LOG DAMES & MOORE	BOREHOLE NO.: BH-38 SURFACE ELEVATION (FT.): 1,416.03 NORTHING: 893,383.75 EASTING: 480,195.17
PROJECT: 1993 SOILS PROGRAM JOB NUMBER: 10805-827-8350		LOCATION: WEST HAZ WASTE LOCKERS SSWMU Locale:

DEPTH IN FEET	INCHES DRIVEN / RECOVERED	SAMPLE TYPE-NO.	BLOWS ON SAMPLER 0-6 / 6-12	BLOWS ON SAMPLER 12-18 / 18-24	LITHOLOGY	DESCRIPTION AND NOTES
	24/11	SS-1	25	37		Brown silty SAND and GRAVEL; dry, very dense. (SM/GM) (Hnu:<1.0ppm, beta/gamma:BB)
			38	19		
	24/11	SS-2	6	7		Dark brown and gray pebbly slightly silty CLAY; damp, stiff. (CL) (Hnu:<1.0ppm, beta/gamma:BB)
			6	7		
	24/17	SS-3	4	7		As above. (0.4')
5			8	15		Dark brown slightly clayey slightly pebbly SILT; with root masses, damp. (0.5') (ML) Yellow brown pebbly SILT and fine SAND; damp. (0.4') (Hnu:<1.0ppm, beta/gamma:BB) (ML)
	24/22	SS-4	22	25		Yellow brown silty sandy GRAVEL; damp, very dense. (Hnu:<1.0ppm, beta/gamma:BB) (GM)
			26	37		
	24/22	SS-5	33	34		Brown silty sandy pebble-cobble GRAVEL; damp to moist, very dense. (GM) (Hnu:<1.0ppm, beta/gamma:BB)
			21	17		
10	24/14	SS-6	12	27		As above.
			38	15		
	24/19	SS-7	11	17		As above. (0.4')
			32	43		Brown silty CLAY, slighlty pebbly; damp. (0.4') (CL) Brown gray silty CLAY, slighlty pebbly; damp. (0.8') (CL) (Hnu:<1.0ppm, beta/gamma:BB)
15	24/22	SS-8	11	20		Brown gray to gray slightly pebbly slightly silty CLAY; damp, hard. (CL) (Hnu:<1.0ppm, beta/gamma:BB)
			29	39		
	24/24	SS-9	9	15		Gray slighlty pebbly slighlty silty CLAY; moist, hard. (Hnu:<1.0ppm, beta/gamma:BB) (CL)
			22	27		
	24/24	SS-10	6	11		As above.
			18	22		

CLASSIFICATION: VISUAL (Modified Burmister) and USCS

METHOD OF SAMPLING: 140 LB. HAMMER
3" O.D. SPLITSPOON SAMPLER

SHEET 2 OF: 2 DATE STARTED: 10/26/93 DATE FINISHED: 10/26/93 DRILLER: BUFFALO DRILLING CO. INSPECTOR: ROBERT H. TEIFKE	BORING LOG DAMES & MOORE	BOREHOLE NO.: BH-38 SURFACE ELEVATION (FT.): 1,416.03 NORTHING: 893,383.75 EASTING: 480,195.17
PROJECT: 1993 SOILS PROGRAM JOB NUMBER: 10805-827-8350		LOCATION: WEST HAZ WASTE LOCKERS SSWMU Locale:

DEPTH IN FEET	INCHES DRIVEN / RECOVERED	SAMPLE TYPE-NO.	BLOWS ON SAMPLER 0-6 / 6-12	BLOWS ON SAMPLER 12-18 / 18-24	LITHOLOGY	DESCRIPTION AND NOTES
	24/24	SS-11	4	11		As above (1.1') Gray clayey coarse SILT and brown CLAY; saturated, very stiff. (0.9') (ML/CL) (Hnu:<1.0ppm, beta/gamma:BB)
			17	18		
	24/24	SS-12	5	11		Brown gray slightly pebbly silty CLAY; moist, very stiff. (CL) (Hnu:<1.0ppm, beta/gamma:BB)
			18	20		
25	24/24	SS-13	7	12		Gray brown slighlty pebbly silty CLAY; moist, very stiff. (CL) (Hnu:<1.0ppm, beta/gamma:BB)
			16	18		
	24/24	SS-14	10	10		Brown very slightly pebbly CLAY; moist to wet, very stiff. (CL) (Hnu:<1.0ppm, beta/gamma:BB)
			13	15		
	24/24	SS-15	5	6		Brown slighlty pebbly silty CLAY; moist, stiff. (0.5') (CL) Gray brown very slighlty pebbly clayey SILT and fine SAND, locally slightly clayey SILT and fine SAND; wet, stiff. (1.5') (ML/SM) (Hnu:<1.0ppm, beta/gamma:BB)
			9	10		
30						AUGERED TO 28 FT. SAMPLED TO 30 FT. BOREHOLE BACKGROUTED TO GRADE BACKGROUND READINGS: Hnu = <1.0ppm beta/gamma = 160cpm
35						

CLASSIFICATION: VISUAL (Modified Burmister) and USCS

METHOD OF SAMPLING: 140 LB. HAMMER
3" O.D. SPLITSPOON SAMPLER

SHEET 1 OF: 2
DATE STARTED: 10/28/93
DATE FINISHED: 10/31/93
DRILLER: BUFFALO DRILLING CO.
INSPECTOR: ROBERT H. TEIFKE

BORING LOG

DAMES & MOORE

BOREHOLE NO.: BH-40
SURFACE ELEVATION (FT.): 1,402.0 TOPO
NORTHING: est.893,192.14
EASTING: est.480,629.53

PROJECT: 1993 SOILS PROGRAM
JOB NUMBER: 10805-827-8350

LOCATION: WEST STO. BUILDING
SSWMU Locale:

DEPTH IN FEET	INCHES DRIVEN / RECOVERED	SAMPLE TYPE-NO.	BLOWS ON SAMPLER 0-6 / 6-12	BLOWS ON SAMPLER 12-18 / 18-24	LITHOLOGY	DESCRIPTION AND NOTES
	24/24	SS-1				Dark brown pebbly SILT, with root networks; damp. (0.2') (ML) Brown silty GRAVEL; dry. (1.8') (GM)
	24/14	SS-2	22	59		Brown silty GRAVEL; dry to damp, very dense. (GM) (Hnu:<0.5ppm, beta/gamma:BB)
			24	20		
5	24/18	SS-3	10	13		Dark brown pebbly SILT, with plant debris; damp, medium dense. (1.3') (ML)
			13	11		Orange brown slightly pebbly clayey SILT; moist. (Hnu:<0.5ppm, beta/gamma:BB) (ML)
	24/19	SS-4	19	20		Orange brown silty SAND and GRAVEL; damp, dense. (OVA:<0.5ppm, beta/gamma:BB) (SM/GM)
			19	23		
	24/14	SS-5	30	32		Orange brown silty sandy pebble-cobble GRAVEL; damp, very dense. (GM) (OVA:0.5ppm, beta/gamma:BB)
10			48	76		
	24/14	SS-6	50	36		As above.
			26	17		
	24/16	SS-7	9	14		Yellow brown silty pebble-cobble GRAVEL, locally clayey; saturated, dense. (GM) (OVA:0.5ppm, beta/gamma:BB)
			14	15		
15	24/16	SS-8	10	19		Yellow brown sandy silty GRAVEL, moderately clayey; saturated, dense. (GC/GM) (OVA:0.5ppm, beta/gamma:BB)
			18	18		
	24/22	SS-9	17	20		Yellow brown sandy silty GRAVEL, with many clots of humic matter; saturated, dense. (GM) (OVA:0.5ppm, beta/gamma:BB)
			11	21		
	24/16	SS-10	17	15		As above.
			21	25		

CLASSIFICATION: VISUAL (Modified Burmister) and USCS

METHOD OF SAMPLING: 140 LB. HAMMER
3" O.D. SPLITSPOON SAMPLER

SHEET 2 OF: 2 DATE STARTED: 10/28/93 DATE FINISHED: 10/31/93 DRILLER: BUFFALO DRILLING CO. INSPECTOR: ROBERT H. TEIFKE	BORING LOG DAMES & MOORE	BOREHOLE NO.: BH-40 SURFACE ELEVATION (FT.): 1,402.0 TOPO NORTHING: est.893,192.14 EASTING: est.480,629.53

PROJECT: 1993 SOILS PROGRAM
JOB NUMBER: 10805-827-8350

LOCATION: WEST STO. BUILDING
SSWMU Locale:

DEPTH IN FEET	INCHES DRIVEN / RECOVERED	SAMPLE TYPE-NO.	BLOWS ON SAMPLER 0-6 / 12-18	BLOWS ON SAMPLER 6-12 / 18-24	LITHOLOGY	DESCRIPTION AND NOTES
	24/18	SS-11	4	19		As above. (0.9')
			19	25		Yellow brown CLAY, slighlty pebbly, moderately silty; moist. (0.6') (CL) (OVA:0.5ppm, beta/gamma:BB)
	24/20	SS-12	11	26		
			36	46		Brown gray CLAY, slighlty pebbly, moderately silty; mosit, hard. (CL) (OVA:0.5ppm, beta/gamma:BB)
25						AUGERED TO 22 FT. SAMPLED TO 24 FT. BOREHOLE BACKGROUTED TO GRADE BACKGROUND READINGS: Hnu = <0.5ppm beta/gamma = 150 cpm
30						
35						

CLASSIFICATION: VISUAL (Modified Burmister) and USCS

METHOD OF SAMPLING: 140 LB. HAMMER
3" O.D. SPLITSPOON SAMPLER

HOLE/WELL NO.: HLW-1 DATE STARTED: 8/26/91 DATE FINISHED: 9/06/91 DRILLER: Empire Soils INSPECTOR: JTB & FJC	BORING LOG Dames & Moore	SHEET 1 OF: 3 SURFACE ELEVATION: 1413.39 NORTHING 893031.203 EASTING 480568.572
PROJECT: HLW Trench JOB NUMBER: 10805-509-7751		LOCATION: Tank Farm SWMU Locale: 4

DEPTH IN FEET	INCHES DRIVEN / RECOVERED	SAMPLE TYPE-NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	18/24	UNIT	LITHOLOGY	DESCRIPTION / NOTES
	24/3	SS-1	7	6	18	Rx	Sand/Gravel FILL		Moist brown silty fine-medium SAND, some fine-medium subangular Gravel, trace clay, medium dense. Fill (SM)
5	18/18	DM-2	27	25	34				Moist dark orangish-brown to grayish silty fine to medium SAND and fine to coarse subangular GRAVEL, little clay, medium dense, oxidized. Fill (SM).
	24/12	SS-3	3	6	8	10			
10	24/16	SS-4	5	7	10	11			Wet brown to grayish sandy silty CLAY, little fine to medium subangular gravel, very stiff, trace roots, oxidized. Fill (SM)
15	18/8	DM-5	9	8	10				Saturated brownish gray fine to coarse subangular GRAVEL, some sand, little silt, trace clay loose. Fill (SM)
	24/6	SS-6	4	2	3	1			
20	24/12	SS-7	9	6	5	9			
25	24/18	SS-8	9	7	11	13	CLAY FILL		Moist to very moist dark gray silty CLAY, trace fine to medium subangular gravel, very stiff. Fill (CL)
30	12/12	DM-9	PUSHED				UTILL		Grades to...some sand. (CL)
	18/12	DM-10	8	7	11				
	24/24	SS-11	9	8	9	8			
35									

CLASSIFICATION: Visual (Modified Burmister), USCS

METHOD OF SAMPLING: ASTM-D1586-84
D & M Sampler

HOLE/WELL NO.: HLW-1 DATE STARTED: 8/26/91 DATE FINISHED: 9/06/91 DRILLER: Empire Soils INSPECTOR: JTB & FJC	BORING LOG Dames & Moore	SHEET 2 OF: 3 SURFACE ELEVATION: 1413.39 NORTHING 893031.203 EASTING 480568.572	
PROJECT: HLW Trench JOB NUMBER: 10805-509-7751		LOCATION: Tank Farm SWMU Locale: 4	

DEPTH IN FEET	INCHES DRIVEN / RECOVERED	SAMPLE TYPE-NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	18/24	UNIT	LITHOLOGY	DESCRIPTION / NOTES
	24/18	SS-12	9	7	13	16	UTILL		Wet dark gray sandy silty CLAY, very stiff, low plasticity. (CL)
45	24/24	SS-13	10	8	12	15			Grades to...trace subangular gravel. (CL)
50	24/20	SS-14	9	9	11	17			Grades to...moist. (CL)
55	18/5	DM-15	20	28	41				some fine to coarse subangular gravel. (CL)
	24/15	SS-16	10	16	26	23			
60	24/20	SS-17	13	18	25	27			Moist dark gray silty CLAY, trace fine to medium subangular gravel, very stiff. (CL)
65	12/4	DM-18	PUSHED						trace medium sand. (CL)
	24/23	SS-19	12	10	16	18			
70	18/6	DM-20	125				RTILL		Moist greenish blue-gray fine to medium SAND, little fine gravel, little silt, trace clay. (SM/SP)
	24/15	SS-21	25	48	61	105			
75	24/21	SS-22	10	34	28	31			

CLASSIFICATION: Visual (Modified Burmister), USCS

METHOD OF SAMPLING: ASTM-D1586-84
D & M Sampler

HOLE/WELL NO.: HLW-1 DATE STARTED: 8/26/91 DATE FINISHED: 9/06/91 DRILLER: Empire Soils INSPECTOR: JTB & FJC	BORING LOG Dames & Moore	SHEET 3 OF: 3 SURFACE ELEVATION: 1413.39 NORTHING 893031.203 EASTING 480568.572	
PROJECT: HLW Trench JOB NUMBER: 10805-509-7751		LOCATION: Tank Farm SWMU Locale: 4	

DEPTH IN FEET	INCHES DRIVEN / RECOVERED	SAMPLE TYPE-NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	18/24	UNIT	LITHOLOGY	DESCRIPTION / NOTES
	24/18	SS-23	25	30	15	25	RTILL		Dry greenish-gray medium to coarse GRAVEL, some silt, little sand, dense. (GM)
85	18/16	DM-24	18	28	45		Lacustrine		Moist dark gray CLAY and SILT, trace fine sand partings, medium dense. (ML/CL)
	24/24	SS-25	9	9	9	13			
90	12/12	DM-26	PUSHED						Grades to...wet SILT, some Clay, layered. (ML/CL)
	24/24	SS-27	9	33	63	45	RTILL		
95	24/18	SS-28	10	53	58	58			Dry green, blue, rust angular medium to coarse GRAVEL and SAND, trace clay. (SM/SP)
100	24/20	SS-29	9	10	28	33			
105	24/18	SS-30	14	40	60	61			
110									Moist dark brown to gray very fine sandy SILT, little fine to medium subangular gravel, little clay, very stiff to hard. (SM)
	24/12	SS-31	136	100			WBR		Wet dark and light grayish SILT and fine to coarse SHALE, trace very fine sand. Weathered bedrock.
115	24/12	SS-32	100	100					
	24/0	SS-33	100/.1						

CLASSIFICATION: Visual (Modified Burmister), USCS

METHOD OF SAMPLING: ASTM-D1586-84
D & M Sampler

HOLE/WELL NO.: HLW-2 DATE STARTED: 9/19/91 DATE FINISHED: 9/20/91 DRILLER: Empire Soils INSPECTOR: FJC	BORING LOG Dames & Moore	SHEET 1 OF: 2 SURFACE ELEVATION: 1410.72 NORTHING 893100.461 EASTING 480601.331	
PROJECT: HLW Trench JOB NUMBER: 10805-509-7751		LOCATION: Tank Farm SWMU Locale: 4	

DEPTH IN FEET	INCHES DRIVEN / RECOVERED	SAMPLE TYPE-NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	18/24	UNIT	LITHOLOGY	DESCRIPTION / NOTES
	24/18	SS-1	8	20	37	32	SAND/GRAVEL FILL		Wet crushed stone (shale), little sand Fill (GW)
5	24/0	SS-2	17	7	8	9			
	12/12	DM-3	PUSHED						Moist brown CLAY, some medium to coarse gravel, little silt and sand. Fill (CL)
10	24/11	SS-4	4	6	12	14			Wet grey and brown fine to medium GRAVEL, some sand and clay, medium dense. Fill (SM/GM)
15	24/10	SS-5	7	6	5	8	CLAY FILL		Moist brown CLAY, little silt and fine subrounded gravel, trace sand, stiff. Fill (CL)
20	24/12	SS-6	6	7	7	8			
25	12/8	DM-7	PUSHED						
	24/16	SS-8	6	5	3	5			
30	24/0	SS-9	8	8	11	14			
									Moist brown to grey CLAY, little silt, trace gravel and sand. Fill (CL)
35	24/9	SS-10	5	6	5	11			Grades to... green subangular fine to medium GRAVEL, some clay, stiff. Fill (ML/SM)

CLASSIFICATION: Visual (Modified Burmister),USCS

METHOD OF SAMPLING: ASTM-D1586-8
D & M Sampler

HOLE/WELL NO.: HLW-2 DATE STARTED: 9/19/91 DATE FINISHED: 9/20/91 DRILLER: Empire Soils INSPECTOR: FJC	BORING LOG Dames & Moore	SHEET 2 OF: 2 SURFACE ELEVATION: 1410.72 NORTHING 893100.461 EASTING 480601.331	
PROJECT: HLW Trench JOB NUMBER: 10805-509-7751		LOCATION: Tank Farm SWMU Locale: 4	

DEPTH IN FEET	INCHES DRIVEN / RECOVERED	SAMPLE TYPE-NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	18/24	UNIT	LITHOLOGY	DESCRIPTION / NOTES
	24/15	SS-11	15	7	12	12	CLAY FILL		Moist brown grey CLAY, little silt and medium sand, trace fine gravel, very stiff. Fill (CL)
45	12/2	DM-12	PUSHED						
	24/20	SS-13	3	5	6	6			
50	24/19	SS-14	5	5	9	9			
55									Augered to 49.0 ft. Sampled to 51.0 ft. No radiation detected above background. Augers 10 ft. below grade, water at 8.5 ft. below grade. The borehole was grouted to the surface with an appropiate cement/bentonite mixture.
60									
65									
70									
75									

CLASSIFICATION: Visual (Modified Burmister),USCS

METHOD OF SAMPLING: ASTM-D1586-84
D & M Sampler

HOLE/WELL NO.: HLW-3 DATE STARTED: 9/10/91 DATE FINISHED: 9/18/91 DRILLER: Empire Soils INSPECTOR: JTB	BORING LOG Dames & Moore	SHEET 1 OF: 4 SURFACE ELEVATION: 1402.95 NORTHING 893175.731 EASTING 480619.071	
PROJECT: HLW Trench JOB NUMBER: 10805-509-7751		LOCATION: Tank Farm SWMU Locale: 4	

DEPTH IN FEET	INCHES DRIVEN / RECOVERED	SAMPLE TYPE-NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	18/24	UNIT	LITHOLOGY	DESCRIPTION / NOTES
	24/12	SS-1	20	7	12	10	SAND/GRAVEL FILL		Dry, brown to light grey silty fine to medium SAND and fine to coarse subangular GRAVEL, loose. Fill (SM)
5	24/17	SS-2	10	12	7	9			Grades to...Damp, sandy SILT, some clay, trace fine to medium subangular gravel, medium. Fill (ML)
10	12/12	DM-3	PUSHED						Grades to...trace roots. (CL)
	24/16	SS-4	10	14	11	15	CLAY FILL		
15	24/12	SS-5	4	3	4	4			
20	12/0	N/A	PUSHED						
	18/7	DM-6	9	9	12				Damp brown to grey silty CLAY to SILT and CLAY, trace very fine sand and fine to coarse subangular gravel, medium, (piece of concrete in end of spoon). Fill (CL)
25	24/22	SS-7	3	7	8	9			Moist dark grey silty CLAY, trace mostly fine to medium subangular gravel (blackish shale, siltstone), medium stiff, medium plasticity. Fill (CL)
30	12/12	DM-8A,B	PUSHED						Grades to...trace very fine sand. Fill (CL)
	24/24	SS-9	7	6	7	11			
35	24/24	SS-10	4	6	10	14			

CLASSIFICATION: Visual (Modified Burmister), USCS

METHOD OF SAMPLING: ASTM-D1586-8
D & M Sampler

HOLE/WELL NO.: HLW-3 DATE STARTED: 9/10/91 DATE FINISHED: 9/18/91 DRILLER: Empire Soils INSPECTOR: JTB	BORING LOG Dames & Moore	SHEET 2 OF: 4 SURFACE ELEVATION: 1402.95 NORTHING 893175.731 EASTING 480619.071
PROJECT: HLW Trench JOB NUMBER: 10805-509-7751		LOCATION: Tank Farm SWMU Locale: 4

DEPTH IN FEET	INCHES DRIVEN / RECOVERED	SAMPLE TYPE-NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	18/24	UNIT	LITHOLOGY	DESCRIPTION / NOTES
	12/12	DM-11A,B	PUSHED						Moist dark grey silty CLAY, trace fine to medium subangular gravel, trace fine sand. Fill (CL)
	24/24	SS-12	2	2	2	2			
45	24/22	SS-13	10	9	11	11			Wet fine to coarse SAND, some fine gravel, trace clay, lenses. Natural (SM/SP)
50	12/12	DM-14	PUSHED						
	24/18	SS-15	7	10	16	17			
55	24/24	SS-16	3	5	9	14			Damp brownish-grey SILT and CLAY, trace to little fine to medium subangular gravel, trace very fine sand, stiff, medium to low plasticity. (CL)
60	24/24	SS-17	5	8	12	15	UTILL		
65	24/22	SS-18	6	12	14	14			Grades to...very stiff. (CL)
70	24/24	SS-19	3	5	7	9			Grades to...stiff. (CL)
75	12/12	DM-20A,B	PUSHED						
	24/24	SS-21	7	7	17	25	LAC		Moist dark grey silty CLAY, trace subangular gravel, with interbeded layers of red, black, and green very fine sand and silt. (CL/ML)
							RTILL		

CLASSIFICATION: Visual (Modified Burmister), USCS

METHOD OF SAMPLING: ASTM-D1586-84
D & M Sampler

HOLE/WELL NO.: HLW-3 DATE STARTED: 9/10/91 DATE FINISHED: 9/18/91 DRILLER: Empire Soils INSPECTOR: JTB	BORING LOG Dames & Moore	SHEET 3 OF: 4 SURFACE ELEVATION: 1402.95 NORTHING 893175.731 EASTING 480619.071	
PROJECT: HLW Trench JOB NUMBER: 10805-509-7751		LOCATION: Tank Farm SWMU Locale: 4	

DEPTH IN FEET	INCHES DRIVEN / RECOVERED	SAMPLE TYPE-NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	18/24	UNIT	LITHOLOGY	DESCRIPTION / NOTES
	24/18	SS-22	18	20	26	18	RTILL		Dry greenish-grey sandy SILT and fine to coarse subangular GRAVEL, very dense, friable when disturbed, non-plastic. (GM)
85	24/24	SS-23	31	29	30	27			
90	24/20	SS-24	15	19	25	27			
95	12/6	DM-25	PUSHED						
	24/18	SS-26	11	12	12	15			Grades to...dark grey very fine to fine SAND, trace silt. (SM/SP)
100	18/10	DM-27	38	117	100/.3				Grades to...very hard. (SM/SP)
	24/22	SS-28	17	38	35	47			Moist light grey to dark greyish brown SILT, some clay, little fine to medium subangular to subrounded gravel, very hard. (ML)
105	24/24	SS-29	15	38	52	80			
110	24/20	SS-30	82	57	45	47	UTILL		Moist olive to dark grey silty CLAY, trace fine to coarse subangular gravel, hard. (CL)
115	24/18	SS-31	36	69	92	92			Grades to...Wet greenish grey very fine sandy SILT, trace fine to medium subangular to subrounded gravel (siltstone, shale), trace clay. (CL)

CLASSIFICATION: Visual (Modified Burmister), USCS

METHOD OF SAMPLING: ASTM-D1586-84
D & M Sampler

HOLE/WELL NO.: HLW-3 DATE STARTED: 9/10/91 DATE FINISHED: 9/18/91 DRILLER: Empire Soils INSPECTOR: JTB	BORING LOG Dames & Moore	SHEET 4 OF: 4 SURFACE ELEVATION: 1402.95 NORTHING 893175.731 EASTING 480619.071
PROJECT: HLW Trench JOB NUMBER: 10805-509-7751		LOCATION: Tank Farm SWMU Locale: 4

DEPTH IN FEET	INCHES DRIVEN / RECOVERED	SAMPLE TYPE-NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	18/24	UNIT	LITHOLOGY	DESCRIPTION / NOTES
	24/12	SS-32	57	87	100/0				Wet grey weathered SHALE and SILTSTONE, trace silt, trace sand, trace clay, shale fissile.
125									Augered to 120.0 ft. Sampled to 121.0 ft. No radiation detected above background. 2.5" ID PVC casing placed in hole, annular space grouted Augers 50.0 ft. below grade, dry. Augers 64.0 ft. below grade, dry. Augers 90.0 ft. below grade, dry. Augers 105.0 ft. below grade, water at 95 ft. below grade.
130									
135									
140									
145									
150									
155									

CLASSIFICATION: Visual (Modified Burmister), USCS

METHOD OF SAMPLING: ASTM-D1586-84
D & M Sampler

HOLE/WELL NO.: HLW-4 DATE STARTED: 8/14/91 DATE FINISHED: 8/20/91 DRILLER: Empire Soils INSPECTOR: JTB & FJC	BORING LOG Dames & Moore	SHEET 1 OF: 3 SURFACE ELEVATION: 1405.84 NORTHING 893243.387 EASTING 480478.978
PROJECT: HLW JOB NUMBER: 10805-509-7751		LOCATION: Tank Farm SWMU Locale: 4

DEPTH IN FEET	INCHES DRIVEN / RECOVERED	SAMPLE TYPE-NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	18/24	UNIT	LITHOLOGY	DESCRIPTION / NOTES
							SAND/GRAVEL		Dry to damp light brown medium to coarse subangular GRAVEL, some sand. Fill (SM)
5	24/18	SS-1	9	12	9	12			
							CLAY FILL		Damp to moist brown CLAY, some silt. Fill (CL) 1/8 inch. layer of brown to black organic wood-muck at 6.5 ft. Fill.
10	12/6	DM-2	PUSHED						
	18/0	DM-3	3	8	8				Damp dark grey CLAY, some silt, little subangular gravel, little sand. Fill (CL)
	24/12	SS-4	WOR	1	3	4			
15	24/12	SS-5	5	5	6	6			
20	18/1	DM-6	11	7	1				Damp dark brown CLAY and SILT, some fine subrounded gravel and sand. Fill (CL)
	24/20	SS-7	4	6	6	6			
25	24/18	SS-8	1	5	6	8			Damp dark grey brown CLAY and SILT, little medium subangular gravel, little fine sand. Fill (CL)
30	24/18	SS-9	2	5	7	10			Damp dark grey CLAY, some silt, little fine to coarse subangular gravel, trace medium sand. Fill (CL)
35	18/0	DM-10	4	7	16				Moist dark grey CLAY, some silt, trace medium gravel, trace sand. Fill (CL)
	18/18	DM-11	PUSHED						

CLASSIFICATION: Visual (Modified Burmister), USCS

METHOD OF SAMPLING: ASTM-D1586-8
D&M SAMPLER

HOLE/WELL NO.: HLW-4	BORING LOG	SHEET 2 OF: 3	
DATE STARTED: 8/14/91		SURFACE ELEVATION: 1405.84	
DATE FINISHED: 8/20/91			
DRILLER: Empire Soils	Dames & Moore	NORTHING 893243.387	
INSPECTOR: JTB & FJC		EASTING 480478.978	
PROJECT: HLW		LOCATION: Tank Farm	
JOB NUMBER: 10805-509-7751		SWMU Locale: 4	

DEPTH IN FEET	INCHES DRIVEN / RECOVERED	SAMPLE TYPE-NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	18/24	UNIT	LITHOLOGY	DESCRIPTION / NOTES
	24/1	SS-12	WOR	4	5	6	CLAY FILL		1" Saturated grey silty CLAY, soft, plastic. Fill (CL)
45	24/18	SS-13	2	6	8	11	UTILL		Saturated dark grey silty CLAY, trace to little fine to coarse subangular gravel (mostly shale), trace very fine sand, medium dense, slightly plastic. Natural (CL)
50	12/12	DM-14	PUSHED						3 inches saturated grey fine SAND, some silt. (SM)
	24/15	SS-15	10	17	48	19			
55	24/15	SS-16	11	12	20	16			Moist brown to grey CLAY, some silt, some medium subrounded to subangular grey-black gravel, little fine to medium sand. Rust lamination. (CL)
60	24/20	SS-17	8	7	9	11			Moist grey-brown CLAY, some silt, little medium to coarse subangular black-brown gravel, trace fine sand. (CL)
65	24/23	SS-18	3	5	9	26			Moist grey CLAY and SILT, layering and fine sandy silt partings. (CL)
	24/15	SS-19	46	28	30	22	RTILL		8 inches angular green medium to coarse broken shale fragments GRAVEL and SAND. (GM/GP)
70	24/15	SS-20	58	45	51	50			Moist grey brown CLAY, some silt, little medium gravel, trace sand. (CL)
	24/22	SS-21	50	83	70	75			Dry green grey angular shale fragments GRAVEL and SAND. (GM/GP)
75	24/22	SS-22	36	30	41	39			Dry grey fine SAND and medium to coarse subrounded to subangular GRAVEL, some clay and silt. (GM)
	18/18	DM-23	30	29	37		LAC		Moist dark grey-brown CLAY and SILT, fine sandy silt partings. (ML/CL)

CLASSIFICATION: Visual (Modified Burmister), USCS

METHOD OF SAMPLING: ASTM-D1586-84
D&M SAMPLER

HOLE/WELL NO.: HLW-4 DATE STARTED: 8/14/91 DATE FINISHED: 8/20/91 DRILLER: Empire Soils INSPECTOR: JTB & FJC	BORING LOG Dames & Moore	SHEET 3 OF: 3 SURFACE ELEVATION: 1405.84 NORTHING 893243.387 EASTING 480478.978
PROJECT: HLW JOB NUMBER: 10805-509-7751		LOCATION: Tank Farm SWMU Locale: 4

DEPTH IN FEET	INCHES DRIVEN / RECOVERED	SAMPLE TYPE-NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	18/24	UNIT	LITHOLOGY	DESCRIPTION / NOTES
	24/18	SS-24	WOR	12	12	13	LAC		
85	12/10	DM-25	PUSHED						Moist SILT, some clay, fine silty sandy partings, at 1/8 inch intervals. (ML/CL)
	24/0	SS-26	24	18	17	16			No Recovery.
90	24/24	SS-27	4	7	15	12			Moist SILT, some clay, little medium to coarse subangular to subrounded gravel, little sand. silty laminations and partings. (ML/CL)
95	24/17	SS-28	18	23	13	17			Wet green medium SAND and fine to medium GRAVEL, little clay. (SM)
							UTILL		Grades to...moist brown-red SILT, some clay, trace fine gravel. (CL)
100	24/22	SS-29	43	30	34	43			Moist SILT and CLAY, little fine gravel and sand. (CL)
105 110 115									Augered to 100 ft. Sampled to 102 ft. No radiation detected above background. Borehole grouted to surface. Augers 40.0 ft. below grade, water in hole. Augers 50.0 ft. below grade, water at 37.3 ft. below grade. Augers 51.0 ft. belod grade, water at 30.0 ft. below grade. Augers 94.0 ft. below grade, water at 42.0 ft. below grade.

CLASSIFICATION: Visual (Modified Burmister), USCS

METHOD OF SAMPLING: ASTM-D1586-8
D&M SAMPLER

HOLE/WELL NO.: HLW-5 DATE STARTED: 8/21/91 DATE FINISHED: 8/26/91 DRILLER: Empire Soils INSPECTOR: JTB & FJC	BORING LOG Dames & Moore	SHEET 1 OF: 3 SURFACE ELEVATION: 1407.13 NORTHING 893270.251 EASTING 480383.16	
PROJECT: HLW Trench JOB NUMBER: 10805-509-7751		LOCATION: Tank Farm SWMU Locale: 4	

DEPTH IN FEET	INCHES DRIVEN / RECOVERED	SAMPLE TYPE-NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	18/24	UNIT	LITHOLOGY	DESCRIPTION / NOTES
	24/8	SS-1	5	4	3	6	SGG FILL		Moist brown silty fine-coarse SAND and fine-medium subangular GRAVEL, trace clay, loose. Fill (SM)
5	24/7	SS-2	5	5	5	5			
	12/10	DM-3	PUSHED				CLAY FILL		Moist brownish-grey silty CLAY to SILT & CLAY, trace fine-medium subangular gravel, trace fine sand with lighter brown silty areas, medium dense, low plasticity. Fill (CL)
10	24/12	SS-4	2	2	3	3			
15	12/7	DM-5	PUSHED						
	24/12	SS-6	5	5	6	6			Wet grey silty CLAY, trace fine to medium subangular gravel, stiff, medium plasticity. Fill (CL)
20									
	24/10	SS-7	2	3	4	6			Grades to...medium stiff. Fill (CL)
25	12/6	DM-8	PUSHED						
	18/11	DM-9	9	10	18				
30	24/17	SS-10	6	8	10	12	UTILL		Moist brown grey CLAY, some silt, little fine to coarse subangular gravel, trace medium sand, stiff. (CL)
35	24/20	SS-11	5	5	7	8			Grades to...very stiff. (CL)

CLASSIFICATION: Visual (Modified Burmister), USCS

METHOD OF SAMPLING: ASTM-D1586-84
D & M Sampler

HOLE/WELL NO.: HLW-5 DATE STARTED: 8/21/91 DATE FINISHED: 8/26/91 DRILLER: Empire Soils INSPECTOR: JTB & FJC	BORING LOG Dames & Moore	SHEET 2 OF: 3 SURFACE ELEVATION: 1407.13 NORTHING 893270.251 EASTING 480383.16	
PROJECT: HLW Trench JOB NUMBER: 10805-509-7751		LOCATION: Tank Farm SWMU Locale: 4	

DEPTH IN FEET	INCHES DRIVEN / RECOVERED	SAMPLE TYPE-NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	18/24	UNIT	LITHOLOGY	DESCRIPTION / NOTES
	24/15	SS-12	3	4	8	11	UTILL		Moist grey CLAY, little silt, little fine to medium subangular gravel, trace sand. (CL)
									Moist dark grey silty CLAY, trace fine to medium subangular gravel, trace fine sand. (CL)
45	6/0	DM-13	PUSHED				RTILL		
	18/12	DM-14	17	27	39				Damp brown-grey fine to medium SAND and fine to coarse subrounded to subangular gravel, some silt, some clay. (ML/SM)
	24/15	SS-15	10	11	18	23			
50	24/14	SS-16	51	39	39	65			Damp greenish-grey fine to medium SAND and fine to coarse subangular to subrounded GRAVEL, some clay, some silt. (SM)
55	24/12	SS-17	82	60	50	51			Dry brown to greenish-grey silty fine to coarse SAND and fine to coarse subangular to angular GRAVEL, trace clay, very dense-friable when disturbed. (SM)
60	24/18	SS-18	16	30	45	60			
65	18/12	DM-19	60	60	50				
	24/16	SS-20	10	20	18	29			
70	24/16	SS-21	8	20	30	33			
75	24/24	SS-22	5	5	11	12	UTILL		Moist dark grey silty CLAY, stiff. (CL)

CLASSIFICATION: Visual (Modified Burmister), USCS

METHOD OF SAMPLING: ASTM-D1586-84
D & M Sampler

HOLE/WELL NO.: HLW-5 DATE STARTED: 8/21/91 DATE FINISHED: 8/26/91 DRILLER: Empire Soils INSPECTOR: JTB & FJC	BORING LOG Dames & Moore	SHEET 3 OF: 3 SURFACE ELEVATION: 1407.13 NORTHING 893270.251 EASTING 480383.16
PROJECT: HLW Trench JOB NUMBER: 10805-509-7751		LOCATION: Tank Farm SWMU Locale: 4

DEPTH IN FEET	INCHES DRIVEN / RECOVERED	SAMPLE TYPE-NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	18/24	UNIT	LITHOLOGY	DESCRIPTION / NOTES
	12/10	DM-23	PUSHED				UTILL		
	24/24	SS-24	5	5	15	10			
85	24/12	SS-25	6	11	21	13			Grades to...silty angular GRAVEL, blended with clay. (SM/GM)
90	24/18	SS-26	18	23	37	53			Moist silty CLAY, trace gravel, trace red clay. (CL)
95	0/0	SS-27	100/0						greenish SHALE FRAGMENTS.
100									Augered to 94.0 ft. Sampled to 94.0 ft. No radiation detected above background. 2.5" ID PVC casing placed in borehole, annular space grouted. Augers 16.0 ft. below grade, water at 15.0 ft. below grade. Augers 29.0 ft. below grade, water at 25.0 ft. below grade. Augers 60.0 ft. below grade, dry.
105									
110									
115									

CLASSIFICATION: Visual (Modified Burmister), USCS

METHOD OF SAMPLING: ASTM-D1586-84
D & M Sampler

HOLE/WELL NO.: HLW-5A DATE STARTED: 4/17/92 DATE FINISHED: 4/17/92 DRILLER: EARTH DIMENSIONS INSPECTOR: TXG	BORING LOG Dames & Moore	SHEET 1 OF: 1 SURFACE ELEVATION: NORTHING EASTING Note: Approx 7ft. due west of boring HLW-5
PROJECT: HLW Trench JOB NUMBER: 10805-641-6350		LOCATION: Tank Farm SWMU Locale: 4

DEPTH IN FEET	INCHES DRIVEN / RECOVERED	SAMPLE TYPE-NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	18/24	UNIT	LITHOLOGY	DESCRIPTION / NOTES
							SSS FILL		The area surrounding the borehole has been filled with approximately 18 inches of crushed stone. No samples were collected until 4 feet below ground surface.
5	24/12	SS-1	5	4	5	5	CLAY FILL		1.) Moist brown-grey silty CLAY, trace fine to medium angular to subangular gravel. Mottled orange. (ML/CL)
	12/4	DM-2	PUSHED						2.) saturated brown silty CLAY, no recovery in tube, sample recovered in waste rings. (water in hole).
	12/6	DM-3	PUSHED						3.) Grey-brown silty CLAY, sample tube was bent and contained water. (CL)
10	18/0	DM-4	PUSHED						4.) Pushed 18 inches. No recovery.
	6/0	DM-	PUSHED						Pushed 6 inches. No recovery.
	18/12	SS-5	3	4	5	N/A			switched to splitspoon to observe type of material.
15	24/11.5	ST-6	PUSHED						5.) Saturated grey CLAY, little to some fine to medium subrounded to rounded gravel. Fill (ML/CL)
	18/10	DM-7	PUSHED						6.) Pushed 24-inch Shelby tube. Recovered 11.5 inches. Wet grey-brown silty CLAY. (CL)
	18/12	DM-8	PUSHED						7.) Damp, slightly stiffer than previous sample.
20	18/10	DM-9	PUSHED						8.) Recovered 6 inch tube + 6 inches in rings. Moist grey silty CLAY, with some plant/organic material. (CL)
	18/11	DM-10	PUSHED						9.) Recovered 6 inch tube. Wet grey silty CLAY, trace black plant material, trace fine to medium subangular gravel and plant fibers. (CL)
25	18/6	DM-11	PUSHED						10.) Recovered 6 inch tube dented at bottom, some sample missing at bottom. Additional 5 inches in waste rings. Wet grey CLAY, trace fine to medium subangular gravel, soft. (CL)
	0/0	DM	PUSHED						
	24/21	SS-12	5	5	8	9	UTILL		11.) Recovered 6 inch tube. Moist grey-brown CLAY, little fine sand, trace fine to medium angular to subangular gravel. (CL)
30									Attempted to push D&M sampler but refused. switched to splitspoon sampler.
									12.) Moist grey silty CLAY, trace fine to medium angular to subangular gravel, medium stiff to stiff. (CL)
35									Augered to 27.0 ft., sampled to 29.0 ft. No radiation detected above background. Augers 15.0 ft. below grade, water at 6.0 ft. below grade. Backfilled with soil cuttings and tamped down with A-rods. DM sample type: 6-inch thin wall extension utilized for all.

CLASSIFICATION: Visual (Modified Burmister), USCS

METHOD OF SAMPLING: ASTM-D1586-84
D & M Sampler

HOLE/WELL NO.: HLW-6	BORING LOG	SHEET 1 OF: 2	
DATE STARTED: 9/23/91		SURFACE ELEVATION: 1414.00	
DATE FINISHED: 9/25/91			
DRILLER: Empire Soils	Dames & Moore	NORTHING 892973.266	
INSPECTOR: JTB		EASTING 480603.137	
PROJECT: HLW Trench		LOCATION: Tank Farm	
JOB NUMBER: 10805-509-7751		SWMU Locale: 4	

DEPTH IN FEET	INCHES DRIVEN / RECOVERED	SAMPLE TYPE-NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	18/24	UNIT	LITHOLOGY	DESCRIPTION / NOTES
	24/24	SS-1	7	10	17	25	S/G FILL		Moist brown silty fine-coarse SAND and fine-medium subangular GRAVEL, trace clay, dense. Fill (SM)
5	24/18	SS-2	11	13	10	9			Grades to...Moist yellowish brown very fine sandy SILT and fine to coarse subangular GRAVEL, trace clay. Fill (ML/SM)
	18/4	DM-3	35	27	31				
10	24/18	SS-4	22	10	10	12			Moist light yellowish brown very fine to fine sandy SILT, and fine to coarse subangular GRAVEL, trace trace to little clay. Fill (ML/SM)
15	18/12	DM-5	17	21	24				Moist to wet light brown to brown very fine sandy SILT, and fine to coarse subangular gravel, trace to little clay, dense. Fill (ML/SM)
20	24/20	SS-6	10	12	13	19	UTILL		Moist dark grey SILT, some clay, trace fine to medium subangular gravel (black shale), trace very fine sand, very stiff, low plasticity. (CL)
25	12/0	DM-7	PUSHED						
	24/12	SS-8	7	10	10	15			Grades to...SILT and CLAY. (CL)
30	12/6	DM-9	PUSHED						Grades to...silty CLAY, trace fine sand. (CL)
	24/24	SS-10	7	10	12	17			
35	12/6	DM-11	PUSHED						
	18/12	DM-12	13	27	35				

CLASSIFICATION: Visual (Modified Burmister),USCS

METHOD OF SAMPLING: ASTM-D1586-84
D & M Sampler

HOLE/WELL NO.: HLW-6 DATE STARTED: 9/23/91 DATE FINISHED: 9/25/91 DRILLER: Empire Soils INSPECTOR: JTB	BORING LOG Dames & Moore	SHEET 2 OF: 2 SURFACE ELEVATION: 1414.00 NORTHING 892973.266 EASTING 480603.137	
PROJECT: HLW Trench JOB NUMBER: 10805-509-7751		LOCATION: Tank Farm SWMU Locale: 4	

DEPTH IN FEET	INCHES DRIVEN / RECOVERED	SAMPLE TYPE-NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	18/24	UNIT	LITHOLOGY	DESCRIPTION / NOTES
	24/24	SS-13	7	7	11	14	UTILL		Moist dark grey silty CLAY, trace fine to medium subangular gravel (black shale), very stiff. (CL)
45	12/7	DM-14	PUSHED						
	24/18	SS-15	4	7	10	12			
50	24/.5	SS-16	10	15	20	20			
55	18/12	DM-17	PUSHED						
	24/1	SS-18	10	12	17	25			
60	24/24	SS-19	8	16	24	35			Moist dark grey silty CLAY to SILT and CLAY, trace fine to medium subangular gravel, trace very fine sand, very stiff to hard. (CL)
65	24/24	SS-20	18	20	25	25			
70	24/1	SS-21	100/1						Moist black, grey, green, trace pink, whitish GRAVEL, weathered bedrock and gravel layer.
75									Augered to 69.5 ft. Sampled to 69.5 ft. No radiation detected above background 2.5" ID PVC casing placed in borehole, annular space grouted. Augers 25.0 ft. below grade, water at 18.0 ft. below grade.

CLASSIFICATION: Visual (Modified Burmister),USCS

METHOD OF SAMPLING: ASTM-D1586-84
D & M Sampler

Appendix B

Borehole Logs and Well Construction Diagrams for
WNW0301, WNW0401, WNW0403, WNW0405, WNW0406, WNW0407, WNW0408, WNW0410, WNW0411a, WNW0411b, WNW0706, WNW1008b, and NB1S

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SHEET 1 OF: 1 DATE STARTED: 12/12/89 DATE FINISHED: 12/13/89 DRILLER: Empire Soils Inv. Hamburg, New York INSPECTOR: JTB	BORING LOG DAMES & MOORE	HOLE/WELL NO.: 0301 SURFACE ELEVATION: 1,416.13 NORTHING 892,558.93 EASTING 480,551.54
PROJECT: WVDP DOE/RCRA wells JOB NUMBER: 10805-410-023		LOCATION: SW OF CSS SSWMU Locale: 3

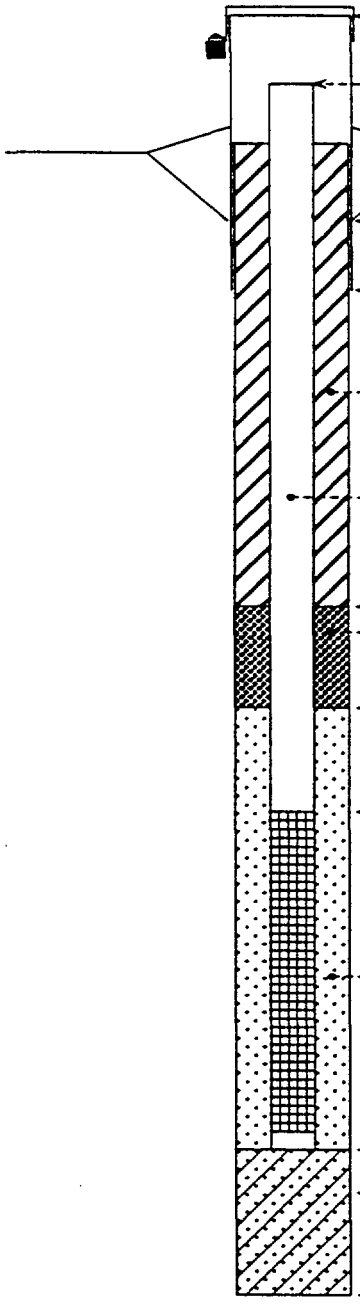
DEPTH IN FEET	INCHES DRIVEN / RECOVERED	SAMPLE TYPE-NO.	BLOWS ON SAMPLER 0 / 6	6 / 12	12 / 18	18 / 24	LITHOLOGY	DESCRIPTION / NOTES
								Moist, brown, SILT, some fine to medium subangular gravel, little sand, trace clay, orange and green mottling. (GM)
5								Moist, light to dark brown, silty SAND and fine to coarse GRAVEL, trace clay. (GM) Saturated, brown. (GM)
	24/8	SS-1	16	16	15	13		Saturated,brown, fine to coarse subangular GRAVEL, little fine to coarse sand, trace silt. (GM)
10								Some silt. (GM/ML) Saturated, brown, silty SAND and fine to coarse GRAVEL, little subangular shale fragments. (GP/ML)
15	24/6	SS-2	11	200				Saturated, brown, fine to coarse subangular GRAVEL and fine to medium SAND, little silt. (GW) Two-inch fossil fragment in end of spoon (brachiopod).
								Saturated, brown, SILT, little fine sand, trace clay and fine subangular gravel. Weathered till. (ML)
20								Augered to 17.0 ft. Sampled 8-10 ft. and 14-16 ft. See log 0302 for complete sampling details. The water level at completion of well installation was 8.75 ft. b.g.s.. No radiation detected above background by R/S.
25								
30								
35								

CLASSIFICATION: VISUAL (Modified Burmister),USCS

METHOD OF SAMPLING: ASTM D1586-84
SEE 0302 FOR COMPLETE DESCRIPTION

SHEET 1 OF 1		HOLE/WELL NO.:	0301
DATE STARTED:	12/12/89	SURFACE ELEVATION:	1,416.13
DATE FINISHED:	12/13/89		
DRILLER:	Empire Soils Inv. Hamburg, New York	NORTHING:	892,558.93
FIELD GEOLOGIST:	JTB	EASTING:	480,551.54
PROJECT:	WVDP DOE/RCRA wells	LOCATION:	SW OF CSS
JOB NUMBER:	10805-410-023	SSWMU Locale:	3

Dames & Moore
Overburden
Well Construction



Top of outer casing elevation: 1,418.31 feet MSL
Outer casing stick-up: 2.18 feet
Top of riser elevation: 1,418.18 feet MSL
Riser pipe stick-up: 2.05 feet
Ground surface elevation: 1,416.13 feet MSL
Type of surface seal: QUICKRETE
Depth of surface seal: 3.00 inches

Depth of outer casing: 2.82 feet
I.D. of outer casing: 6 inches
Type of outer casing: STEEL
Type of backfill: CEMENT/BENTONITE
Volume of backfill: 0.72 cu.ft.
Borehole diameter: 8 inches
Type of riser: 304 S.S. FLUSHJOINT, SCH.5
Section lengths (from base) 1-5' + 1-3'
I.D. of riser pipe: 2 inches
Depth of seal: 3.0 feet
Type of seal: BENTONITE PELLETS (1/4" DIA.)
Volume of seal: .804 cu.ft.
Depth of sand pack: 5 feet

Depth of top of screen: 6 feet
Screen: S.S. JOHNSON CHANNEL PACK, 10 SLOT
Section lengths (from base) 1-10'
I.D. of screen: 2 inches

Type of sand pack: OTTAWA FLINTSHOT 3.0
Volume of sand pack: 4.04 cu.ft.

Depth to bottom of screen with attached 5 inch sump: 16.42 feet
Depth of bottom of sand pack: 17 feet
Backfill:
(May or may not be present)
Depth of borehole: 17 feet

SHEET 1 OF: 1 DATE STARTED: 11/8/89 DATE FINISHED: 11/8/89 DRILLER: Empire Soils Inv. Hamburg, New York INSPECTOR: FJC	BORING LOG DAMES & MOORE	HOLE/WELL NO.: 0401 SURFACE ELEVATION: 1,416.79 NORTHING 892,674.32 EASTING 480,501.55
PROJECT: WVDP DOE/RCRA wells JOB NUMBER: 10805-410-023		LOCATION: EAST OF TRAILER J SSWMU Locale: 4

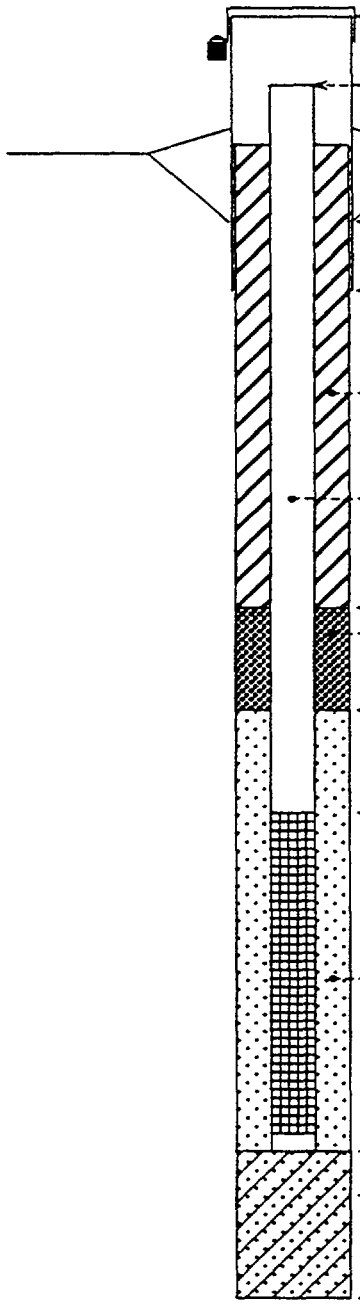
DEPTH IN FEET	INCHES DRIVEN / RECOVERED	SAMPLE TYPE-NO.	BLOWS ON SAMPLER 0 / 6	6 / 12	12 / 18	18 / 24	LITHOLOGY	DESCRIPTION / NOTES
	24/18	SS-1	4	11	13	11		Medium brown, silty GRAVEL and SAND. (GP)
	24/5	SS-2	12	26	21	26		
5	24/16	SS-3	10	16	12	13		
	24/19	SS-4	8	11	11	17		Medium brown, SAND and GRAVEL, some silt. (SM)
	24/13	SS-5	5	13	21	16		
10	24/17	SS-6	4	14	21	27		
	24/19	SS-7	9	19	25	25		
15	24/17	SS-8	8	15	17	22		Medium brown, clayey SILT, trace gravel and sand. (ML)
	24/17	SS-9	16	14	28	32		Moist, medium brown to dark gray, SILT, some clay, trace gravel, trace sand. (ML)
20								Augered to 16 ft. Sampled to 18 ft. The water level was measured at 6.8 ft. b.g.s.- While the bottom of the augers were 16.0 ft. b.g.s.. No radiation detected above background by R/S.
25								
30								
35								

CLASSIFICATION: VISUAL (Modified Burmister),USCS

METHOD OF SAMPLING: ASTM D1586-84

SHEET 1 OF 1		HOLE/WELL NO.:	0401
DATE STARTED:	11/8/89	SURFACE ELEVATION:	1,416.79
DATE FINISHED:	11/8/89		
DRILLER:	Empire Soils Inv. Hamburg, New York	NORTHING:	892,874.32
FIELD GEOLOGIST:	FJC	EASTING:	480,501.55
PROJECT:	WVDP DOE/RCRA wells	LOCATION:	EAST OF TRAILER J
JOB NUMBER:	10805-410-023	SSWMU Locale:	4

Dames & Moore
Overburden
Well Construction



Top of outer casing elevation: 1,420.62 feet MSL
Outer casing stick-up: 2.2 feet
Top of riser elevation: 1,418.42 feet MSL
Riser pipe stick-up: 1.63 feet
Ground surface elevation: 1,416.79 feet MSL
Type of surface seal: quickrete
Depth of surface seal: 4 inches

Depth of outer casing: 2.8 feet
I.D. of outer casing: 6 inches
Type of outer casing: steel
Type of backfill: cement-bentonite
Volume of backfill: 1.5 cu.ft.
Borehole diameter: 8 inches
Type of riser: 304 s.s. flushjoint, sch.5
Section lengths (from base) 1-5', 1-3'
I.D. of riser pipe: 2 inches
Depth of seal: 2 feet
Type of seal: bentonite pellets (1/4" dia)
Volume of seal: 0.7 cu.ft.
Depth of sand pack: 4 feet

Depth of top of screen: 6 feet
Screen: S.S. Johnson Channel Pack, 10 slot
Section lengths (from base) 1-10'
I.D. of screen: 2 inches

Type of sand pack: Ottawa flintshot 3.0 (fine)
Volume of sand pack: 3.0 cu.ft.

Depth to bottom of screen with attached 5 inch sump: 16.42 feet
Depth of bottom of sand pack: 16.42 feet
Backfill:
(May or may not be present)
Depth of borehole: 17 feet

SHEET 1 OF: 1 DATE STARTED: 11/9/89 DATE FINISHED: 11/9/89 DRILLER: Empire Soils Inv. Hamburg, New York INSPECTOR: JTB	BORING LOG DAMES & MOORE	HOLE/WELL NO.: 0403 SURFACE ELEVATION: 1,417.26 NORTHING 892,831.81 EASTING 480,427.49
PROJECT: WVDP DOE/RCRA wells JOB NUMBER: 10805-410-023		LOCATION: SOUTHWEST OF CTS SSWMU Locale: 4

DEPTH IN FEET	INCHES DRIVEN / RECOVERED	SAMPLE TYPE-NO.	BLOWS ON SAMPLER 0 / 6	6 / 12	12 / 18	18 / 24	LITHOLOGY	DESCRIPTION / NOTES
	24/13	SS-1	7	14	14	22		Damp, brown to red SILT, trace fine sand and clay, trace angular gravel, some orange mottling. (ML)
	24/14	SS-2	10	16	18	16		Wet to saturated, brown, SILT and fine to coarse GRAVEL, trace fine to medium sand, orange mottling. (GM)
5	24/12	SS-3	9	19	21	10		
	24/10	SS-4	10	11	9	18		
	24/11	SS-5	19	18	38	39		
10	24/12	SS-6	9	17	18	30		
	24/15	SS-7	16	15	18	19		Wet, brown, SILT and fine to medium angular GRAVEL, trace fine to medium sand, trace clay. mottled (GM)
15	24/18	SS-8	50	25	18	21		Damp, brown, SILT, trace sand, oxidized. (ML)
	24/11	SS-9	14	21	23	31		Damp, gray, SILT, little fine to medium angular to subangular gravel, trace clay, unweathered. (ML)
	24/23	SS-10	7	12	16	24		Wet, gray, SILT and CLAY, trace subangular gravel. (ML/CL)
20								Augered to 18 ft. Sampled to 20 ft. The water level was measured at 16.1 ft. b.g.s.- While the bottom of the augers were 20.0 ft. b.g.s.. No radiation detected above background by R/S.
25								
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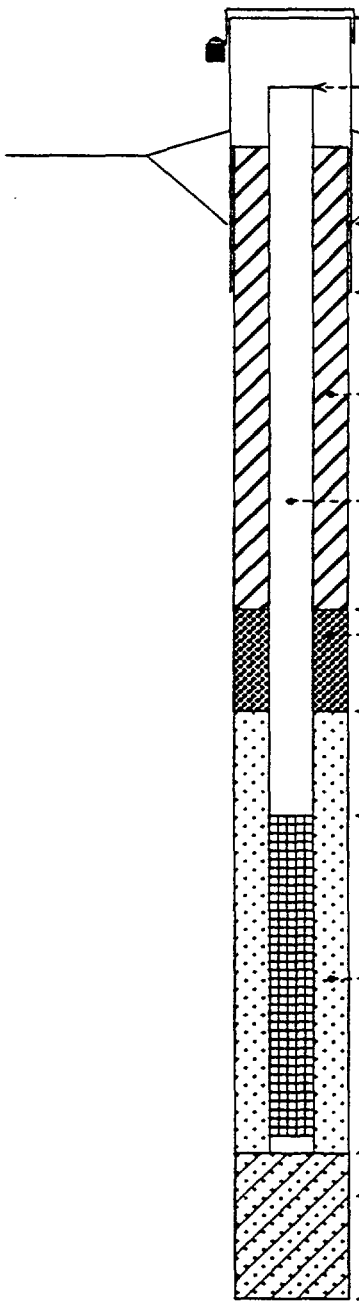
CLASSIFICATION: VISUAL (Modified Burmister),USCS

METHOD OF SAMPLING: ASTM D1586-84

SHEET 1 OF 1		HOLE/WELL NO.:	0403
DATE STARTED:	11/9/89	SURFACE ELEVATION:	1,417.26
DATE FINISHED:	11/9/89		
DRILLER:	Empire Soils Inv. Hamburg, New York	NORTHING:	892,831.81
FIELD GEOLOGIST:	JTB	EASTING:	480,427.49
PROJECT:	WVDP DOE/RCRA wells	LOCATION:	SOUTHWEST OF CTS
JOB NUMBER:	10805-410-023	SSWMU Locale:	4

Dames & Moore
Overburden
Well Construction



Top of outer casing elevation: 1,419.71 feet MSL
Outer casing stick-up: 2.45 feet
Top of riser elevation: 1,419.60 feet MSL
Riser pipe stick-up: 2.34 feet
Ground surface elevation: 1,417.26 feet MSL
Type of surface seal: quickrete
Depth of surface seal: 4 inches

Depth of outer casing: 2.55 feet
I.D. of outer casing: 6 inches
Type of outer casing: steel
Type of backfill: cement-bentonite
Volume of backfill: 1.44 cu.ft.
Borehole diameter: 8 inches
Type of riser: 304 s.s. flushjoint, sch.5
Section lengths (from base) 1-10'
I.D. of riser pipe: 2 inches
Depth of seal: 4.0 feet
Type of seal: bentonite pellets (1/4" dia.)
Volume of seal: 1.34 cu.ft.
Depth of sand pack: 6.0 feet

Depth of top of screen: 8.0 feet
Screen: S.S. Johnson Channel Pack, 10 slot
Section lengths (from base) 1-5'
I.D. of screen: 2 inches

Type of sand pack: Ottawa flintshot 3.0 (fine)
Volume of sand pack: 2.98 cu.ft.

Depth to bottom of screen with attached 5 inch sump: 13.42 feet
Depth of bottom of sand pack: 15.0 feet
Backfill: bentonite pellets (1/4" dia.)
(May or may not be present)
Depth of borehole: 18.0 feet

SHEET 1 OF: 1 DATE STARTED: 10/27/89 DATE FINISHED: 10/27/89 DRILLER: Empire Soils Inv. Hamburg, New York INSPECTOR: FJC	BORING LOG DAMES & MOORE	HOLE/WELL NO.: 0405 SURFACE ELEVATION: 1,405.87 NORTHING 893,371.36 EASTING 480,322.56
PROJECT: WVDP DOE/RCRA wells JOB NUMBER: 10805-410-023		LOCATION: W. OF LSA 1 SSWMU Locale: 4

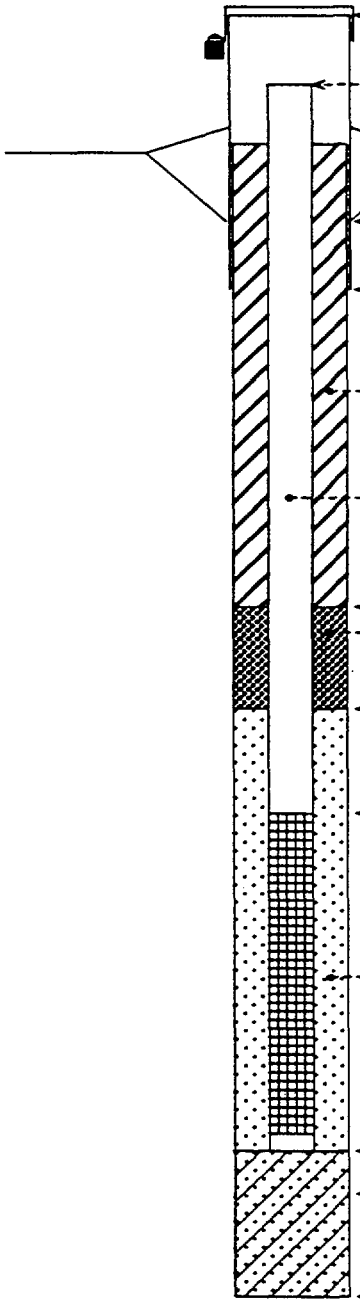
DEPTH IN FEET	INCHES DRIVEN / RECOVERED	SAMPLE TYPE-NO.	BLOWS ON SAMPLER 0 / 6	6 / 12	12 / 18	18 / 24	LITHOLOGY	DESCRIPTION / NOTES
	24/12	SS-1	11	7	11	4		Damp, orange-brown, SILT, some subangular gravel, trace clay, trace roots. (ML/GM)
	24/17	SS-2	13	13	19	16		Damp, medium brown, fine to medium SAND and medium to coarse GRAVEL, some silt, trace clay. (GM)
5	24/16	SS-3	12	16	14	15		Moist, brown, silty SAND and subangular to angular GRAVEL, trace clay. (GM)
	24/20	SS-4	8	8	12	17		Moist, dark grayish-brown, clayey SILT, trace fine to medium gravel. (ML)
	24/4	SS-5	11	17	20	25		
10	24/21	SS-6	8	12	18	21		Moist, medium brown, fine to medium gravelly sandy SILT TO SILT and CLAY. (ML/CL)
	24/10	SS-7	5	10	15	18		
15	24/20	SS-8	8	9	11	13		Moist, brown, SILT and CLAY, little coarse gravel. (ML)
20								Augered to 14 ft. Sampled to 16 ft. No water level information was recorded. No radiation detected above background by R/S.
25								
30								
35								

CLASSIFICATION: VISUAL (Modified Burmister),USCS

METHOD OF SAMPLING: ASTM D1586-84

SHEET 1 OF 1		HOLE/WELL NO.:	0405
DATE STARTED:	10/27/89	SURFACE ELEVATION:	1,405.87
DATE FINISHED:	10/27/89		
DRILLER:	Empire Soils Inv. Hamburg, New York	NORTHING:	893,371.36
FIELD GEOLOGIST:	FJC	EASTING:	480,322.56
PROJECT:	WVDP DOE/RCRA wells	LOCATION:	W. OF LSA 1
JOB NUMBER:	10805-410-023	SSWMU Locale:	4

Dames & Moore
Overburden
Well Construction



Top of outer casing elevation: 1,408.87 feet MSL
Outer casing stick-up: 3.0 feet
Top of riser elevation: 1,408.42 feet MSL
Riser pipe stick-up: 2.55 feet
Ground surface elevation: 1,405.87 feet MSL
Type of surface seal: quickrete
Depth of surface seal: 4 inches

Depth of outer casing: 2.0 feet
I.D. of outer casing: 6 inches
Type of outer casing: steel
Type of backfill: cement-bentonite
Volume of backfill: 1.5 cu.ft.
Borehole diameter: 8 inches
Type of riser: 304 s.s. flushjoint, sch.5
Section lengths (from base) 2-5'
I.D. of riser pipe: 2 inches
Depth of seal: 2.0 feet
Type of seal: bentonite pellets (1/4" dia.)
Volume of seal: 0.7 cu.ft.
Depth of sand pack: 4.0 feet

Depth of top of screen: 7.5 feet
Screen: S.S. Johnson Channel Pack, 10 slot
Section lengths (from base) 1-5'
I.D. of screen: 2 inches

Type of sand pack: Ottawa flintshot 3.0 (fine)
Volume of sand pack: 2.1 cu.ft.

Depth to bottom of screen with attached 5 inch sump: 12.92 feet
Depth of bottom of sand pack: 13.5 feet
Backfill: bentonite pellets (1/4" dia.)
(May or may not be present)
Depth of borehole: 14 feet

SHEET 1 OF: 1 DATE STARTED: 10/30/89 DATE FINISHED: 10/30/89 DRILLER: Empire Soils Inv. Hamburg, New York INSPECTOR: FJC	BORING LOG DAMES & MOORE	HOLE/WELL NO.: 0406 SURFACE ELEVATION: 1,402.61 NORTHING 893,215.58 EASTING 480,628.58
PROJECT: WVDP DOE/RCRA wells JOB NUMBER: 10805-410-023		LOCATION:W. OF LAG STORAGE ANNEX SSWMU Locale: 4

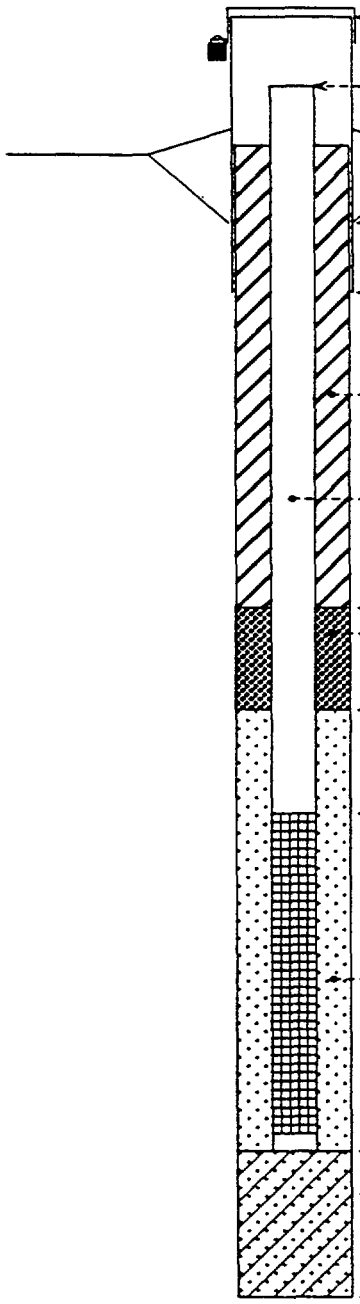
DEPTH IN FEET	INCHES DRIVEN / RECOVERED	SAMPLE TYPE-NO.	BLOWS ON SAMPLER 0 / 6	6 / 12	12 / 18	18 / 24	LITHOLOGY	DESCRIPTION / NOTES
	24/20	SS-1	7	13	14	21		Damp, brown to gray, sandy SILT, some fine to coarse gravel. (GM)
	24/23	SS-2	14	22	14	15		Moist, light brown, fine SAND and coarse angular GRAVEL. (GP) to dark greenish-blue coarse GRAVEL, trace silt. (GP/GM)
5	24/13	SS-3	13	9	6	6		Damp, dark brown, clayey SILT, some fine to medium gravel, some sand, green mottling. (ML/GM)
	24/5	SS-4	4	2	6	2		Moist, gray-brown, clayey SILT and fine to medium GRAVEL. (GM)
	24/13	SS-5	2	7	27	18		Moist, light greenish-tan, sandy clayey SILT, some fine to medium gravel. (ML/GM)
10	24/16	SS-6	6	12	10	13		Damp, brown-black, fine SAND, some silt at 8.8 ft. b.g.s.. (SM) Damp, brown-black, fine SAND, some silt at 10.5 ft. b.g.s.. (SM)
	24/14	SS-7	3	10	11	10		Wet, light brown, SAND and angular GRAVEL, some silt, trace clay. (GM)
15	24/12	SS-8	4	22	17	16		Wet, light brown SILT, some angular gravel and sand. (ML/GM) (Small lens of rust-brown fine SAND at 14.4 ft.) (SP)
	24/9	SS-9	3	7	14	11		Dark gray, SILT and CLAY, trace fine subangular gravel. (ML/CL)
	24/22	SS-10	6	10	16	19		
20	24/19	SS-11	3	10	15	21		
25								Augered to 20 ft. Sampled to 22 ft. The water level was measured at 12 ft. b.g.s- While the bottom of the augers were 10.0 ft. b.g.s.. No radiation detected above background by R/S.
30								
35								

CLASSIFICATION: VISUAL (Modified Burmister),USCS

METHOD OF SAMPLING: ASTM D1586-84

SHEET 1 OF 1		HOLE/WELL NO.:	0406
DATE STARTED:	10/30/89	SURFACE ELEVATION:	1,402.61
DATE FINISHED:	10/30/89		
DRILLER:	Empire Soils Inv. Hamburg, New York	NORTHING:	893,215.58
FIELD GEOLOGIST:	FJC	EASTING:	480,628.58
PROJECT:	WVDP DOE/RCRA wells	LOCATION:	W. OF LAG STORAGE ANNEX
JOB NUMBER:	10805-410-023	SSWMU Locale:	4

Dames & Moore
Overburden
Well Construction



Top of outer casing elevation: 1,406.31 feet MSL
Outer casing stick-up: 3.7 feet
Top of riser elevation: 1,405.76 feet MSL
Riser pipe stick-up: 3.15 feet
Ground surface elevation: 1,402.61 feet MSL
Type of surface seal: quickrete
Depth of surface seal: 4 inches

Depth of outer casing: 1.3 feet
I.D. of outer casing: 6 inches
Type of outer casing: steel
Type of backfill: cement-bentonite
Volume of backfill: 2.25 cu.ft.
Borehole diameter: 8 inches
Type of riser: 304 s.s. flushjoint, sch.5
Section lengths (from base) 1-10', 1-5'
I.D. of riser pipe: 2 inches
Depth of seal: 7.0 feet
Type of seal: bentonite pellets (1/4" dia.)
Volume of seal: 1.23 cu.ft.
Depth of sand pack: 9.8 feet

Depth of top of screen: 11.8 feet
Screen: S.S. Johnson Channel Pack, 10 slot
Section lengths (from base) 1-5'
I.D. of screen: 2 inches

Type of sand pack: Ottawa flintshot 3.0 (fine)
Volume of sand pack: 1.7 cu.ft.

Depth to bottom of screen with attached 5 inch sump: 17.22 feet
Depth of bottom of sand pack: 19.0 feet
Backfill: bentonite pellets (1/4" dia.)
(May or may not be present)
Depth of borehole: 20 feet

SHEET 1 OF: 3 DATE STARTED: 2/23/90 DATE FINISHED: 3/1/90 DRILLER: Empire Soils Inv. Hamburg, New York INSPECTOR: FJC	BORING LOG DAMES & MOORE	HOLE/WELL NO.: 0407 SURFACE ELEVATION: 1,402.57 NORTHING 893,219.26 EASTING 480,633.45
PROJECT: WVDP DOE/RCRA wells JOB NUMBER: 10805-410-023		LOCATION:W. OF LAG STORAGE ANNEX SSWMU Locale: 4

DEPTH IN FEET	INCHES DRIVEN / RECOVERED	SAMPLE TYPE-NO.	BLOWS ON SAMPLER 0 / 6	6 / 12	12 / 18	18 / 24	LITHOLOGY	DESCRIPTION / NOTES
								Damp, brown to gray, sandy SILT, some fine to coarse gravel. (GM)
								Damp, light brown, silty fine SAND and coarse angular GRAVEL. to dark greenish-blue, coarse GRAVEL. (GP)
5								Damp, dark brown, clayey SILT, some fine to medium gravel, some sand, green mottling, trace roots. (ML/GM)
								Moist, grayish-brown, clayey SILT and fine to medium GRAVEL. (GM)
10								Moist, light greenish-tan, sandy clayey SILT, some fine to medium gravel. (ML/GM)
								Damp, brownish-black, fine SAND, some silt at 8.8 ft. b.g.s.. (SM)
								Damp, brownish-black, fine SAND, some silt at 10.5 ft. b.g.s.. (SM)
15								Wet, light brown, SAND and angular GRAVEL, some silt trace clay. (GM)
								Wet, light brown SILT, some angular GRAVEL and SAND. (ML/GM) (Small lens of rust-brown fine SAND at 14.4 ft.) (SM)
								Dark gray, SILT and CLAY, trace fine subangular gravel. (ML/GM)
20	24/16	SS-1	23	18	22	43		Moist, dark gray, CLAY, little silt, trace gravel trace sand. (CL)
	24/16	SS-2	8	12	18	20		
25	24/24	SS-3	7	10	10	18		Moist, dark gray, SILT, little clay, little fine sand. (ML)
	24/24	SS-4	4	7	10	14		
	24/21	SS-5	5	5	10	11		Moist, dark gray, CLAY, little silt, trace gravel, trace sand. (CL)
30	24/20	SS-6	4	6	9	11		
	24/5	SS-7	8	11	12	19		
35	24/12	SS-8	4	5	7	11		
	24/21	SS-9	6	9	12	18		
	24/21	SS-10	5	5	7	10		

CLASSIFICATION: VISUAL (Modified Burmister),USCS

METHOD OF SAMPLING: ASTM D1586-84
SEE 0406 FOR ADDITIONAL SAMPLING

SHEET 2 OF: 3
DATE STARTED: 2/23/90
DATE FINISHED: 3/1/90
DRILLER: Empire Soils Inv.
Hamburg, New York
INSPECTOR: FJC

BORING LOG

DAMES & MOORE

HOLE/WELL NO.: 0407
SURFACE ELEVATION: 1,402.57
NORTHING 893,219.26
EASTING 480,633.45

PROJECT: WVDP DOE/RCRA wells
JOB NUMBER: 10805-410-023

LOCATION: W. OF LAG STORAGE ANNEX
SSWMU Locale: 4

DEPTH IN FEET	INCHES DRIVEN / RECOVERED	SAMPLE TYPE-NO.	BLOWS ON SAMPLER 0 / 6	6 / 12	12 / 18	18 / 24	LITHOLOGY	DESCRIPTION / NOTES
	24/17	SS-11	2	7	11	13		Moist, dark gray, CLAY, little silt, little angular gravel (shale), trace sand. (CL)
	24/24	SS-12	3	7	11	10		
45	24/17	SS-13	3	7	5	7		Saturated, dark gray, CLAY and SILT, trace gravel, trace sand. (CL)
	24/18	SS-14	4	5	6	8		
	24/18	SS-15	4	7	11	13		
50	24/21	SS-16	WOR	6	10	12		Saturated, dark gray, CLAY and SILT, some rounded gravel, some medium to coarse sand. (CL/ML)
	24/17	SS-17	7	14	19	11		Saturated, dark gray, CLAY, some silt, little gravel, little sand. (ML/CL)
55	24/5	SS-18	19	15	22	100		
	24/17	SS-19	5	9	8	26		
	24/22	SS-20	10	15	22	30		Moist, dark gray, CLAY, some silt, trace gravel, trace sand. (CL)
60	24/18	SS-21	5	10	20	30		
	24/18	SS-22	11	18	21	29		
65	24/21	SS-23	11	15	17	37		
	24/22	SS-24	9	20	21	28		
	24/24	SS-25	8	9	12	20		
70	24/21	SS-26	4	8	10	15		
	24/24	SS-27	4	7	11	10		
75	24/23	SS-28	6	5	7	10		
	24/23	SS-29	6	12	14	18		Damp to moist, dark gray, thinly layered, CLAY and SILT, some fine, greenish, sand lenses. (ML/CL)
	24/22	SS-30	4	6	12	62		

CLASSIFICATION: VISUAL (Modified Burmister),USCS

METHOD OF SAMPLING: ASTM D1586-84
SEE 0406 FOR ADDITIONAL SAMPLING

SHEET 3 OF: 3 DATE STARTED: 2/23/90 DATE FINISHED: 3/1/90 DRILLER: Empire Soils Inv. Hamburg, New York INSPECTOR: FJC	BORING LOG DAMES & MOORE	HOLE/WELL NO.: 0407 SURFACE ELEVATION: 1,402.57 NORTHING 893,219.26 EASTING 480,633.45
PROJECT: WVDP DOE/RCRA wells JOB NUMBER: 10805-410-023		LOCATION:W. OF LAG STORAGE ANNEX SSWMU Locale: 4

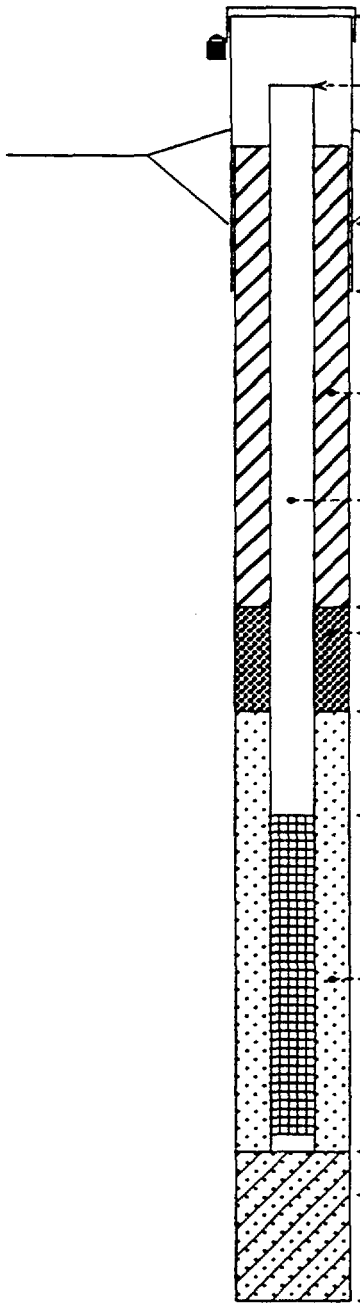
DEPTH IN FEET	INCHES DRIVEN / RECOVERED	SAMPLE TYPE-NO.	BLOWS ON SAMPLER 0 / 6	6 / 12	12 / 18	18 / 24	LITHOLOGY	DESCRIPTION / NOTES
	24/16	SS-31	7	31	34	22		Dry to moist, green, fine to coarse, SAND and GRAVEL, trace silt and clay. (GW)
	24/16	SS-32	23	50	70	45		
85	24/17	SS-33	22	30	30	22		Damp, greenish, fine to coarse angular GRAVEL and coarse SAND, trace silt, trace clay. (GM)
	24/20	SS-34	5	12	32	59		
	24/19	SS-35	7	34	70	61		Saturated, greenish, SAND and mostly fine to medium GRAVEL, trace silt, trace clay. (GW/GM)
90	24/17	SS-36	8	35	64	67		Dry, angular SHALE and GRAVEL, little coarse sand. (GW) Saturated, fine to medium GRAVEL and SAND, trace clay and silt. (GW) Dry, GRAVEL and SHALE fragments, little coarse sand. (GW) Shale bedrock.
95								
								Augered to 90 ft. Sampled to 92 ft. The water level was measured at 68.7 ft. b.g.s.- While the bottom of the augers were 75.5 ft. b.g.s.. No radiation detected above background by R/S.
100								
105								
110								
115								

CLASSIFICATION: VISUAL (Modified Burmister),USCS

METHOD OF SAMPLING: ASTM D1586-84
SEE 0406 FOR ADDITIONAL SAMPLING

SHEET 1 OF 1		HOLE/WELL NO.:	0407
DATE STARTED:	2/23/90	SURFACE ELEVATION:	1,402.57
DATE FINISHED:	3/1/90		
DRILLER:	Empire Soils Inv. Hamburg, New York	NORTHING:	893,219.26
FIELD GEOLOGIST:	FJC	EASTING:	480,833.45
PROJECT:	WVDP DOE/RCRA wells	LOCATION:	W. OF LAG STORAGE ANNEX
JOB NUMBER:	10805-410-023	SSWMU Locale:	4

Dames & Moore
Overburden
Well Construction



Top of outer casing elevation: 1,405.87 feet MSL
Outer casing stick-up: 3.1 feet
Top of riser elevation: 1,405.08 feet MSL
Riser pipe stick-up: 2.51 feet
Ground surface elevation: 1,402.57 feet MSL
Type of surface seal: quickrete
Depth of surface seal: 4 inches

Depth of outer casing: 1.9 feet
I.D. of outer casing: 6 inches
Type of outer casing: steel
Type of backfill: cement-bentonite
Volume of backfill: 10.44 cu.ft.
Borehole diameter: 8 inches
Type of riser: 304 s.s. flushjoint, sch.5
Section lengths (from base) 10-5', 6-3'
I.D. of riser pipe: 2 inches
Depth of seal: 60.1 feet
Type of seal: bentonite pellets (1/4" dia.)
Volume of seal: 2.01 cu.ft.
Depth of sand pack: 62.4 feet

Depth of top of screen: 65.5 feet
Screen: S.S. Johnson Channel Pack, 10 slot
Section lengths (from base) 2-5'
I.D. of screen: 2 inches

Type of sand pack: Ottawa flintshot 3.0 (fine)
Volume of sand pack: 5.1 cu.ft.

Depth to bottom of screen with attached 5 inch sump: 75.92 feet
Depth of bottom of sand pack: 76.0 feet
Backfill: bent. pellets, sand, bent. slurry
(May or may not be present)
Depth of borehole: 80 feet

SHEET 1 OF: 2 DATE STARTED: 12/28/89 DATE FINISHED: 6/22/90 DRILLER: Empire Soils Inv. Hamburg, New York INSPECTOR: FJC	BORING LOG DAMES & MOORE	HOLE/WELL NO.: 0408 SURFACE ELEVATION: 1,404.02 NORTHING 893,040.01 EASTING 480,851.09
PROJECT: WVDP DOE/RCRA wells JOB NUMBER: 10805-410-023		LOCATION: NW OF T&S BLDG SSWMU Locale: 4

DEPTH IN FEET	INCHES DRIVEN / RECOVERED	SAMPLE TYPE-NO.	BLOWS ON SAMPLER 0 / 6	6 / 12	12 / 18	18 / 24	LITHOLOGY	DESCRIPTION / NOTES
	24/12	SS-1	3	6	7	8		Moist, light brown, fine to coarse SAND and GRAVEL, trace silt and clay, some yellow-orange mottling. (GW)
	24/17	SS-2	7	6	5	8		
5	24/5	SS-3	11	12	11	16		
	24/15	SS-4	8	8	9	11		
	24/6	SS-5	9	8	10	10		
10	24/12	SS-6	3	8	15	17		Wet, light brown, fine to medium GRAVEL and fine to coarse sand, trace silt and clay. (GW)
	24/11	SS-7	6	7	10	24		
15	24/6	SS-8	14	10	13	14		Saturated, light brown, fine to coarse SAND and fine subangular to angular GRAVEL, trace silt, trace clay. (GM)
	24/13	SS-9	8	24	17	16		
	24/9	SS-10	10	14	24	27		
20	24/12	SS-11	6	20	25	33		
	24/16	SS-12	4	17	17	25		
25	24/11	SS-13	7	13	24	27		
	24/14	SS-14	12	22	17	12		Saturated, light brown, CLAY, some silt, trace fine gravel, trace sand. (CL/ML) (1200 CPM reading on GM Meter)
	24/12	SS-15	11	11	20	18		Saturated, brown, fine to coarse GRAVEL and SAND, trace silt and clay. (GW) (1200 CPM)
30	24/9	SS-16	6	14	14	8		Saturated, brown, coarse SAND, trace fine gravel. (SP) (1200 CPM)
	24/	SS-17	4	8	18	16		Saturated, brown, SAND and GRAVEL. (SW/GW) (3000 CPM) Saturated, brown, SAND. (SW) (3000 CPM)
35	24/20	SS-18	8	18	16	18		Saturated, fine to medium GRAVEL, some fine to medium SAND, little clay and silt. (GW) (1500 CPM)
	18/0	SS-19	17	15	25	–		No recovery.
			–	–	–	–		

CLASSIFICATION: VISUAL (Modified Burmister),USCS METHOD OF SAMPLING: ASTM D1586-84

SHEET 2 OF: 2 DATE STARTED: 12/28/89 DATE FINISHED: 6/22/90 DRILLER: Empire Soils Inv. Hamburg, New York INSPECTOR: FJC	BORING LOG DAMES & MOORE	HOLE/WELL NO.: 0408 SURFACE ELEVATION: 1,404.02 NORTHING 893,040.01 EASTING 480,851.09

PROJECT: WVDP DOE/RCRA wells
JOB NUMBER: 10805-410-023

LOCATION: NW OF T&S BLDG
SSWMU Locale: 4

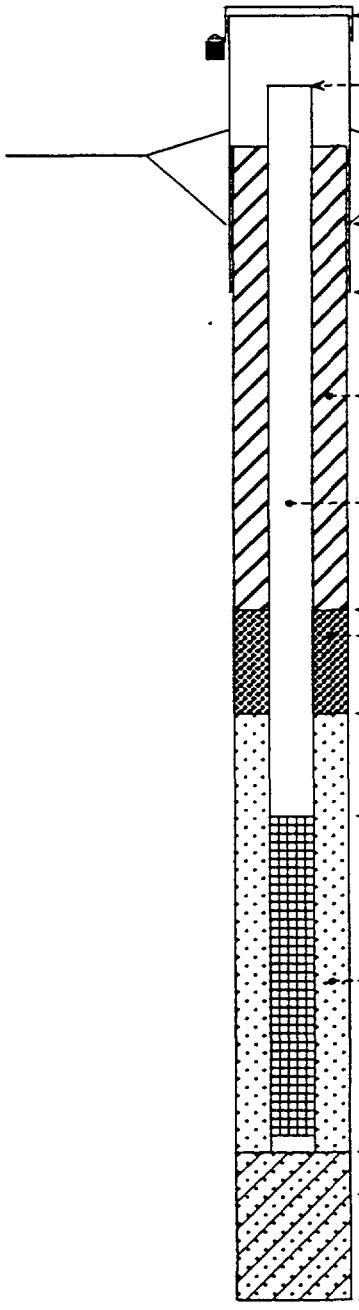
DEPTH IN FEET	INCHES DRIVEN / RECOVERED	SAMPLE TYPE-NO.	BLOWS ON SAMPLER 0 / 6	6 / 12	12 / 18	18 / 24	LITHOLOGY	DESCRIPTION / NOTES
	24/22	SS-20	6	9	18	20		Saturated, fine to medium SAND, trace clay. (SW)
								Moist, dark gray-brown, CLAY, some silt, trace clay and silt. (CL/ML)
45								AUGERED TO 40 FT. SAMPLED TO 42 FT. THE WATER LEVEL WAS MEASURED AT 12 FT.B.G.S.- WHILE THE BOTTOM OF THE AUGERS WERE 40.0 FT. B.G.S.. RADIATION ENCOUNTERED (1200-3000 CPM) STARTING AT 28 FEET.
50								
55								
60								
65								
70								
75								

CLASSIFICATION: VISUAL (Modified Burmister),USCS

METHOD OF SAMPLING: ASTM D1586-84

SHEET 1 OF 1		HOLE/WELL NO.:	0408
DATE STARTED:	12/28/89	SURFACE ELEVATION:	1,404.02
DATE FINISHED:	6/22/90		
DRILLER:	Empire Soils Inv.		
	Hamburg, New York	NORTHING:	893,040.01
FIELD GEOLOGIST:	FJC	EASTING:	480,851.09
PROJECT:	WVDP DOE/RCRA wells	LOCATION:	NW OF T&S BLDG
JOB NUMBER:	10805-410-023	SSWMU Locale:	4

Dames & Moore
Overburden
Well Construction



Top of outer casing elevation: 1,406.32 feet MSL
Outer casing stick-up: 2.3 feet
Top of riser elevation: 1,405.56 feet MSL
Riser pipe stick-up: 1.54 feet
Ground surface elevation: 1,404.02 feet MSL
Type of surface seal: quickrete
Depth of surface seal: 4 inches

Depth of outer casing: 2.7 feet
I.D. of outer casing: 6 inches
Type of outer casing: steel
Type of backfill: cement-bentonite
Volume of backfill: 1.44 cu.ft.
Borehole diameter: 8 inches
Type of riser: 304 s.s. flushjoint, sch.5
Section lengths (from base) 3-10'
I.D. of riser pipe: 2 inches
Depth of seal: 25 feet
Type of seal: bentonite pellets (1/4" dia.)
Volume of seal: 0.67 cu.ft.
Depth of sand pack: 27.3 feet

Depth of top of screen: 28 feet
Screen: S.S. Johnson Channel Pack, 10 slot
Section lengths (from base) 1-10'
I.D. of screen: 2 inches

Type of sand pack: Natural materials
Volume of sand pack: Not measured cu.ft.

Depth to bottom of screen with attached 5 inch sump: 38.42 feet
Depth of bottom of sand pack: 40 feet
Backfill:
(May or may not be present)
Depth of borehole: 42 feet

SHEET 1 OF: 3 DATE STARTED: 11/10/89 DATE FINISHED: 11/29/89 DRILLER: Empire Soils Inv. Hamburg, New York INSPECTOR: JTB	BORING LOG DAMES & MOORE	HOLE/WELL NO.: 0410 SURFACE ELEVATION: 1,417.15 NORTHING 892,834.68 EASTING 480,426.42

PROJECT: WVDP DOE/RCRA wells
JOB NUMBER: 10805-410-023

LOCATION: SOUTHWEST OF CTS
SSWMU Locale: 4

DEPTH IN FEET	INCHES DRIVEN / RECOVERED	SAMPLE TYPE-NO.	BLOWS ON SAMPLER 0 / 6	6 / 12	12 / 18	18 / 24	LITHOLOGY	DESCRIPTION / NOTES
								Damp, brown to red, SILT, trace fine sand and clay, trace angular gravel, some orange mottling. (ML)
5								Wet to saturated, brown, SILT and fine to coarse GRAVEL, trace fine to medium sand, orange mottling. (GM)
10								Wet, brown, SILT and fine to medium angular GRAVEL, trace fine to medium sand, trace clay, mottled. (GM)
15								Damp, brown, SILT, trace sand, oxidized. (ML)
								Damp, gray, SILT, little fine to medium angular to subangular gravel, trace clay, unweathered. (ML)
								Wet, gray, SILT and CLAY, trace angular to subangular gravel. (ML)
20	24/21	SS-1	7	14	17	21		Saturated, gray, silty CLAY, trace fine sand and gravel. (CL)
	24/24	SS-2	8	12	15	20		
25	24/23	SS-3	6	8	10	14		Wet, gray, fine SAND, some silt, trace clay. (SM) Saturated, gray, CLAY, little silt, little very fine sand, trace gravel. (CL)
	24/23	SS-4	4	5	7	10		Wet, gray, fine SAND and SILT, little clay at 26.0 ft. b.g.s.
	24/24	SS-5	6	6	13	18		
30	24/23	SS-6	13	16	18	25		Saturated, gray, fine SAND and SILT, trace gravel and clay. (SM)
	24/15	SS-7	16	10	11	12		Wet, gray, SILT, little fine sand, trace clay, trace fine to medium subangular gravel. (ML)
35	24/3	SS-8	13	16	26	21		
	24/19	SS-9	7	7	11	13		
	24/14	SS-10	12	10	9	14		Wet, gray, SILT, little clay, trace fine sand, trace fine gravel. (CL)

CLASSIFICATION: VISUAL (Modified Burmister),USCS

METHOD OF SAMPLING: ASTM D1586-84
SEE 0403 FOR ADDITIONAL SAMPLING

SHEET 2 OF: 3 DATE STARTED: 11/10/89 DATE FINISHED: 11/29/89 DRILLER: Empire Soils Inv. Hamburg, New York INSPECTOR: JTB	BORING LOG DAMES & MOORE	HOLE/WELL NO.: 0410 SURFACE ELEVATION: 1,417.15 NORTHING 892,834.68 EASTING 480,426.42
PROJECT: WVDP DOE/RCRA wells JOB NUMBER: 10805-410-023		LOCATION: SOUTHWEST OF CTS SSWMU Locale: 4

DEPTH IN FEET	INCHES DRIVEN / RECOVERED	SAMPLE TYPE-NO.	BLOWS ON SAMPLER 0 / 6	6 / 12	12 / 18	18 / 24	LITHOLOGY	DESCRIPTION / NOTES
	24/14	SS-11	WOR	WOR	15	19		Saturated, gray, silty CLAY, trace fine gravel. (CL)
	24/18	SS-12	7	11	20	30		
45	24/12	SS-13	10	23	36	39		Moist to wet, gray, SILT, little fine to medium gravel, trace fine sand, trace clay. (ML)
	24/11	SS-14	12	21	44	50		Moist, brown, SILT, little fine to coarse gravel and clay , trace fine sand. (ML)
	24/23	SS-15	WOR3	24	26	30		Moist, brownish-gray, SILT, some fine to coarse gravel, trace clay. (ML/CL)
50	24/24	SS-16	8	15	23	30		Moist, gray, SILT, little fine to medium subangular gravel. (ML)
	24/23	SS-17	8	17	20	21		
55	24/0	SS-18	12	18	22	31		
	24/24	SS-19	10	13	17	22		
	24/24	SS-20	11	17	20	22		
60	24/24	SS-21	WOR	WOR	11	17		Saturated, gray, silty CLAY, trace fine to medium gravel. (CL)
	24/18	SS-22	25	28	50	42		Damp, green, fine SAND, trace angular gravel (shale), little silt. (SP)
65	24/19	SS-23	10	50	36	19		
	24/20	SS-24	14	13	69	27		Wet, medium brown, SILT, some clay, trace fine to medium gravel. (ML)
	24/21	SS-25	6	15	18	21		Moist to wet, gray, SILT, little clay, trace gravel, trace sand. (ML)
70	24/13	SS-26	WOR6	7	11	18		
	24/24	SS-27	6	7	11	15		
75	24/24	SS-28	8	9	12	16		Moist to wet,brownish-gray, SILT, little clay, trace sand, blueish-gray mottling. (ML)
	24/17	SS-29	14	22	49	107		Moist, brown to green, silty SAND. (SM) Moist, gray, SILT and fine to coarse subangular GRAVEL, little fine to medium sand. (ML/GM)
	24/17	SS-30	25	33	34	30		

CLASSIFICATION: VISUAL (Modified Burmister),USCS

METHOD OF SAMPLING: ASTM D1586-84
SEE 0403 FOR ADDITIONAL SAMPLING

SHEET 3 OF: 3 DATE STARTED: 11/10/89 DATE FINISHED: 11/29/89 DRILLER: Empire Soils Inv. Hamburg, New York INSPECTOR: JTB	BORING LOG DAMES & MOORE	HOLE/WELL NO.: 0410 SURFACE ELEVATION: 1,417.15 NORTHING 892,834.68 EASTING 480,426.42
PROJECT: WVDP DOE/RCRA wells JOB NUMBER: 10805-410-023		LOCATION: SOUTHWEST OF CTS SSWMU Locale: 4

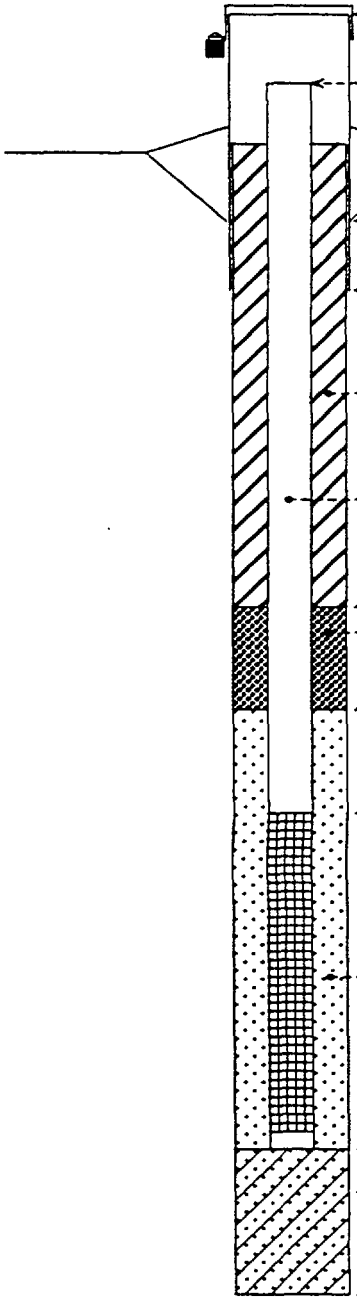
DEPTH IN FEET	INCHES DRIVEN / RECOVERED	SAMPLE TYPE-NO.	BLOWS ON SAMPLER 0 / 6	6 / 12	12 / 18	18 / 24	LITHOLOGY	DESCRIPTION / NOTES
	24/14	SS-31	9	22	28	78		Moist to wet, gray, SHALE and GRAVEL, trace silt, trace sand. (GM)
	24/7	SS-32	200/.3					Moist to wet, gray, SHALE and SILT, little fine sand, thin-bedded, fissile. Shale bedrock.
	24/0	SS-33	100/.2					
85								Augered to 83.5 ft.. Sampled to 82.5 ft.. The water level was measured at 7 ft. b.g.s- while the bottom of the augers were 32 ft. b.g.s.. No radiation detected above background by R/S.
90								
95								
100								
105								
110								
115								

CLASSIFICATION: VISUAL (Modified Burmister),USCS

METHOD OF SAMPLING: ASTM D1586-84
SEE 0403 FOR ADDITIONAL SAMPLING

SHEET 1 OF 1		HOLE/WELL NO.:	0410
DATE STARTED:	11/10/89	SURFACE ELEVATION:	1,417.15
DATE FINISHED:	11/29/89		
DRILLER:	Empire Soils Inv. Hamburg, New York	NORTHING:	892,834.68
FIELD GEOLOGIST:	JTB	EASTING:	480,426.42
PROJECT:	WVDP DOE/RCRA wells	LOCATION:	SOUTHWEST OF CTS
JOB NUMBER:	10805-410-023	SSWMU Locale:	4

Dames & Moore
Overburden
Well Construction



Top of outer casing elevation: 1,419.60 feet MSL
Outer casing stick-up: 2.45 feet
Top of riser elevation: 1,419.22 feet MSL
Riser pipe stick-up: 2.07 feet
Ground surface elevation: 1,417.15 feet MSL
Type of surface seal: quickrete
Depth of surface seal: 4 inches

Depth of outer casing: 2.55 feet
I.D. of outer casing: 8 inches
Type of outer casing: steel
Type of backfill: cement-bentonite
Volume of backfill: 18.72 cu.ft.
Borehole diameter: 8 inches
Type of riser: 304 s.s. flushjoint, sch.5
Section lengths (from base) 7-10'
I.D. of riser pipe: 2 inches
Depth of seal: 65.5 feet
Type of seal: bent. slurry w/ cement cap
Volume of seal: 0.84 cu.ft.
Depth of sand pack: 66.0 feet

Depth of top of screen: 68.0 feet
Screen: S.S. Johnson Channel Pack, 10 slot
Section lengths (from base) 1-10'
I.D. of screen: 2 inches

Type of sand pack: Ottawa flintshot 3.0 (fine)
Volume of sand pack: 4.68 cu.ft.

Depth to bottom of screen with attached 5 inch sump: 78.42 feet
Depth of bottom of sand pack: 80.3 feet
Backfill: bentonite pellets (1/4" dia.)
(May or may not be present)
Depth of borehole: 82.8 feet

SHEET 1 OF: 2 DATE STARTED: 3/23/90 DATE FINISHED: 3/27/90 DRILLER: Empire Soils Inv. Hamburg, New York INSPECTOR: JTB	BORING LOG DAMES & MOORE	HOLE/WELL NO.: 041la SURFACE ELEVATION: est.1,416.22 NORTHING est.892,555.00 EASTING est.480,558.00
PROJECT: WVDP DOE/RCRA wells JOB NUMBER: 10805-410-023		LOCATION: SOUTHWEST OF CSS SSWMU Locale: 4

DEPTH IN FEET	INCHES DRIVEN / RECOVERED	SAMPLE TYPE-NO.	BLOWS ON SAMPLER 0 / 6	6 / 12	12 / 18	18 / 24	LITHOLOGY	DESCRIPTION / NOTES
								Moist, brown, SILT, some fine to medium subangular gravel, little sand, trace clay, orange and green mottling. (OL/GM)
5								Moist, light to dark, brown, silty SAND and fine to coarse GRAVEL, trace clay. (GM) Saturated, brown. (GM)
10								Some silt. (GM/ML) Saturated, brown, silty SAND and fine to coarse GRAVEL, little subangular shale fragments. (GP/ML)
15								Saturated, light brown with red and orange mottling. (GP/ML)
								Saturated, brown, SILT, little fine sand, trace clay and fine subangular gravel. Weathered till. (ML)
20								Wet, gray SILT, some clay, trace fine sand and fine to medium subangular gravel. Unweathered. (CL) Some to little sand. (CL) Wet, gray, SILT, little clay, little fine to medium sand and gravel, brown-red mottling. (CL)
25								Saturated, brown-orange, fine to coarse SAND and fine to coarse subangular GRAVEL, trace clay. (SP) Little silt and clay. (SP/SM)
30								Saturated, brown-gray, sandy SILT, little clay, trace fine to medium gravel. Unweathered. (ML/CL) Saturated, dark gray, SILT, some clay, trace fine sand, trace fine to medium subangular gravel. (CL)
	24/0	SS-1	17	13	17	22		No recovery.
35	24/16	SS-2	4	7	6	12		Moist, dark gray, CLAY, little silt, gravel, and sand. (CL)
	24/22	SS-3	1	6	9	13		Trace gravel and sand. (CL)
	24/4	SS-4	12	50	46	47		Saturated, gray, fine to medium GRAVEL, some fine sand, trace silt. (GW)

CLASSIFICATION: VISUAL (Modified Burmister),USCS

METHOD OF SAMPLING: ASTM D1586-84
SEE 0302 FOR ADDITIONAL SAMPLING

SHEET 2 OF: 2 DATE STARTED: 3/23/90 DATE FINISHED: 3/27/90 DRILLER: Empire Soils Inv. Hamburg, New York INSPECTOR: JTB	BORING LOG DAMES & MOORE	HOLE/WELL NO.: 041la SURFACE ELEVATION: est.1,416.22 NORTHING est.892,555.00 EASTING est.480,558.00
PROJECT: WVDP DOE/RCRA wells JOB NUMBER: 10805-410-023		LOCATION: SOUTHWEST OF CSS SSWMU Locale: 4

DEPTH IN FEET	INCHES DRIVEN / RECOVERED	SAMPLE TYPE-NO.	BLOWS ON SAMPLER 0 / 6	6 / 12	12 / 18	18 / 24	LITHOLOGY	DESCRIPTION / NOTES
	24/6	SS-5	25	30	35	27		Saturated, gray, SILT and CLAY, little to trace fine to medium subangular to subrounded gravel, trace sand. (ML/CL)
	18/6	SS-6	52	73	100/.3	-		
45	12/8	SS-7	32	100/.4	-	-		Some fine to coarse gravel, little clay, green staining. (ML/GM)
	24/12	SS-8	18	26	31	35		Some clay, trace fine to medium gravel. (ML/CL)
50								Augered to 46.0 ft. Sampled to 48.0 ft. The water level was measured at 36.0 ft. b.g.s.- while the bottom of the augers were 38.0 ft b.g.s.. No radiation detected above background by R/S. The well was abandoned due to faulty installation of the bentonite seal. The well lifted approximately 5.0 ft. as the augers were pulled from the borehole. The well screen and riser were retrieved and the borehole was grouted to the surface.
55								
60								
65								
70								
75								

CLASSIFICATION: VISUAL (Modified Burmister),USCS

METHOD OF SAMPLING: ASTM D1586-84
SEE 0302 FOR ADDITIONAL SAMPLING

SHEET 1 OF: 2 DATE STARTED: 3/27/90 DATE FINISHED: 3/29/90 DRILLER: Empire Soils Inv. Hamburg, New York INSPECTOR: JTB	BORING LOG DAMES & MOORE	HOLE/WELL NO.: 0411b SURFACE ELEVATION: 1,416.76 NORTHING 892,657.72 EASTING 480,509.12

PROJECT: WVDP DOE/RCRA wells
JOB NUMBER: 10805-410-023

LOCATION: WEST OF TRAILER J
SSWMU Locale: 4

DEPTH IN FEET	INCHES DRIVEN / RECOVERED	SAMPLE TYPE-NO.	BLOWS ON SAMPLER 0 / 6	6 / 12	12 / 18	18 / 24	LITHOLOGY	DESCRIPTION / NOTES
								Medium brown, silty GRAVEL and SAND. (OL/GP)
5								Medium brown, SAND and GRAVEL, some silt. (SM)
10								
15								Medium brown, clayey SILT, trace gravel, trace sand. (ML)
								Dark gray, SILT, some clay, trace gravel. (ML)
20								
								Dark gray, SILT, some clay, trace gravel. (ML)
25								Dark gray, fine SAND, trace silt. (SP) Dark gray, GRAVEL and SAND, trace silt. (GP/GM) Dark gray, fine SAND, some silt, little gravel. (SM)
30								Dark gray, SILT and CLAY, trace gravel. (ML/CL) Dark gray, SAND, little silt. (SM) Dark gray, SILT and CLAY, trace gravel. (ML/CL)
35	24/18	SS-1	4	5	7	6		Saturated, gray, SILT, some clay, little fine to medium sand, trace fine to medium subangular to angular gravel, slightly plastic, medium plastic. (ML/CL)
	24/18	SS-2	3	8	11	19		
	24/8	SS-3	7	7	16	24		Saturated, gray, SILT and CLAY, trace fine to medium subangular to angular gravel, medium stiff. (ML/CL)

CLASSIFICATION: VISUAL (Modified Burmister),USCS

METHOD OF SAMPLING: ASTM D1586-84
SEE 0401 & 0402 FOR ADD'L SAMPLING

SHEET 2 OF: 2 DATE STARTED: 3/27/90 DATE FINISHED: 3/29/90 DRILLER: Empire Soils Inv. Hamburg, New York INSPECTOR: JTB	BORING LOG DAMES & MOORE	HOLE/WELL NO.: 041lb SURFACE ELEVATION: 1,416.76 NORTHING 892,657.72 EASTING 480,509.12
PROJECT: WVDP DOE/RCRA wells JOB NUMBER: 10805-410-023		LOCATION: WEST OF TRAILER J SSWMU Locale: 4

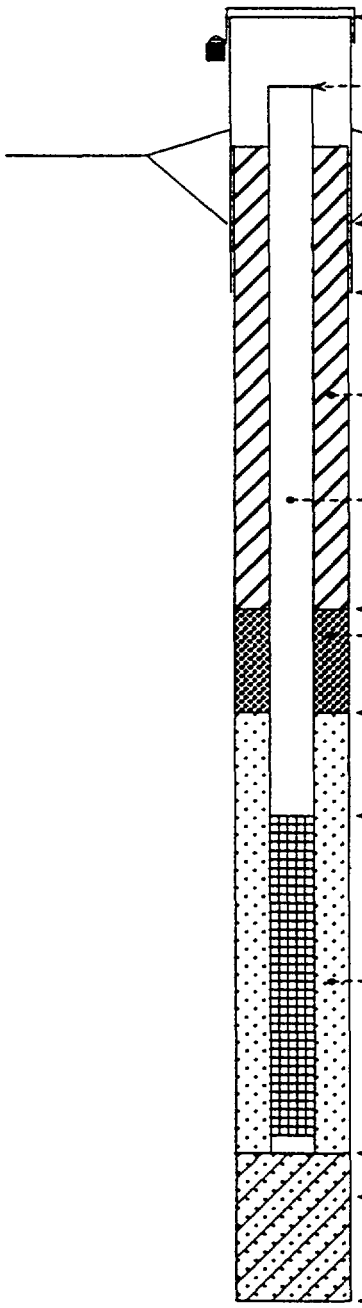
DEPTH IN FEET	INCHES DRIVEN / RECOVERED	SAMPLE TYPE-NO.	BLOWS ON SAMPLER 0 / 6	6 / 12	12 / 18	18 / 24	LITHOLOGY	DESCRIPTION / NOTES
	24/15	SS-4	17	17	23	30		Wet, dark gray, SILT, some clay, trace fine to coarse subangular to subrounded gravel, trace fine sand, slightly plastic, dense. (ML/CL)
	24/24	SS-5	20	30	35	31		
45	24/24	SS-6	31	30	34	38		
	24/18	SS-7	53	100		100/.2		Saturated, greenish-gray, mostly fine to coarse GRAVEL and fine to medium SAND, trace silt, trace clay. (GM)
	24/3	SS-8						Saturated, gray, medium to coarse GRAVEL, trace silt, trace clay, trace fine sand. (GM)
50	24/18	SS-9	68	52	84	59/.4		Wet, gray, black, greenish, medium SAND. (SM)
	24/10	SS-10	80	100/.3				Moist, greenish, fine to coarse GRAVEL, little silt, trace sand. Dry, medium to coarse GRAVEL, trace fine sand, trace silt, dense, undisturbed till. (GM)
55	24/12	SS-11	39	59	48	36		Wet, greenish-gray, silty SAND and fine to medium subangular to subrounded GRAVEL, trace clay. (GM)
	24/18	SS-12	9	21	17	23		
	24/12	SS-13	15	15	14	11		Saturated, greenish-gray, fine to medium GRAVEL and fine to medium SAND, little silt, trace clay. (GM)
60	24/8	SS-14	12	16	20	21		
	24/10	SS-15	26	15	21	23		
65	24/6	SS-16	30	31	30	38		Saturated, greenish-gray, silty SAND and fine to medium GRAVEL, trace clay, loose. (GM)
	24/12	SS-17	5	9	14	17		Moist to wet, gray, SILT and CLAY, trace fine to medium subangular to subrounded gravel, medium stiff. (ML/CL)
	24/18	SS-18	5	7	16	15		
70								Augered to 68.0 ft.. Sampled to 70.0 ft.. The water level was measured at 44.8 ft. b.g.s. - while the bottom of the augers were at 68.0 ft. b.g.s.. No radiation was detected above background by R/S.
75								

CLASSIFICATION: VISUAL (Modified Burmister),USCS

METHOD OF SAMPLING: ASTM D1586-84
SEE 0401 & 0402 FOR ADD'L SAMPLING

SHEET 1 OF 1		HOLE/WELL NO.:	0411b
DATE STARTED:	3/27/90	SURFACE ELEVATION:	1,416.76
DATE FINISHED:	3/29/90		
DRILLER:	Empire Soils Inv. Hamburg, New York	NORTHING:	892,657.72
FIELD GEOLOGIST:	JTB	EASTING:	480,509.12
PROJECT:	WVDP DOE/RCRA wells	LOCATION:	WEST OF TRAILER J
JOB NUMBER:	10805-410-023	SSWMU Locale:	4

Dames & Moore
Overburden
Well Construction



Top of outer casing elevation: 1,419.44 feet MSL
Outer casing stick-up: 2.68 feet
Top of riser elevation: 1,419.23 feet MSL
Riser pipe stick-up: 2.47 feet
Ground surface elevation: 1,416.76 feet MSL
Type of surface seal: quickrete
Depth of surface seal: 4 inches

Depth of outer casing: 2.32 feet
I.D. of outer casing: 6 inches
Type of outer casing: steel
Type of backfill: cement-bentonite
Volume of backfill: 9.36 cu.ft.
Borehole diameter: 8 inches
Type of riser: 304 s.s. flushjoint, sch.5
Section lengths (from base) 4-10', 1-5', 1-3'
I.D. of riser pipe: 2 inches
Depth of seal: 37.0 feet
Type of seal: bent. slurry w/ cement cap
Volume of seal: 1.5 cu.ft.
Depth of sand pack: 43.0 feet

Depth of top of screen: 46.0 feet
Screen: S.S. Johnson Channel Pack, 10 slot
Section lengths (from base) 2-10'
I.D. of screen: 2 inches

Type of sand pack: Ottawa flintshot 3.0 (fine)
Volume of sand pack: 4.89 cu.ft.

Depth to bottom of screen with attached 5 inch sump: 66.42 feet
Depth of bottom of sand pack: 68 feet
Backfill:
(May or may not be present)
Depth of borehole: 70.0 feet

SHEET 1 OF: 1 DATE STARTED: 1/19/90 DATE FINISHED: 1/23/90 DRILLER: Empire Soils Inv. Hamburg, New York INSPECTOR: FJC	BORING LOG DAMES & MOORE	HOLE/WELL NO.: 0706 SURFACE ELEVATION: 1,406.81 NORTHING 893,478.76 EASTING 480,245.61
PROJECT: WVDP DOE/RCRA wells JOB NUMBER: 10805-410-023		LOCATION: S. CPC STORAGE AREA SSWMU Locale: 7

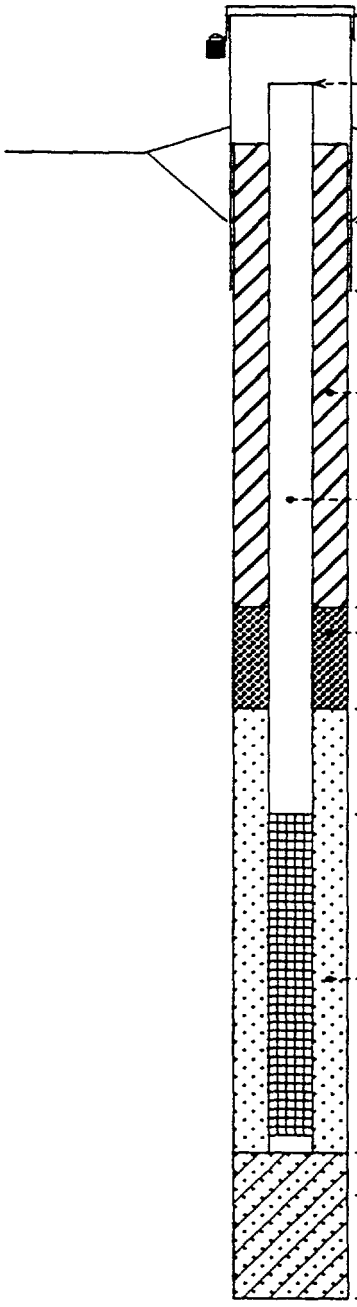
DEPTH IN FEET	INCHES DRIVEN / RECOVERED	SAMPLE TYPE-NO.	BLOWS ON SAMPLER 0 / 6	6 / 12	12 / 18	18 / 24	LITHOLOGY	DESCRIPTION / NOTES
								Grass, organic, TOPSOIL. (OL)
								Dry, reddish-brown, SILT and fine to medium GRAVEL, little fine sand, trace clay, green mottling. (GM)
5								Moist, reddish-brown, silty GRAVEL to SILT and GRAVEL, little fine sand, trace clay, mottled, loose. (GM)
								Moist, brown, SILT, trace to little subangular gravel, trace sand, mottled. (GM/ML)
10								Moist, brown, SILT, little clay, trace fine to medium subangular gravel, trace fine sand. (ML)
								Moist to wet, gray, SILT and CLAY, trace fine to medium subangular gravel. (CL)
15								AUGERED TO 13.0 FT. NO SAMPLES TAKEN - DESCRIPTION FROM 0701US THE WATER LEVEL WAS MEASURED AT 6.2 FT.B.G.S.- WHILE THE BOTTOM OF THE AUGERS WERE 13.0 FT. B.G.S.. NO RADIATON WAS DETECTED ABOVE BACKGROUND BY R/S
20								
25								
30								
35								

CLASSIFICATION: VISUAL (Modified Burmister),USCS

METHOD OF SAMPLING: ASTM D1586-84

SHEET 1 OF 1		HOLE/WELL NO.:	0706
DATE STARTED:	1/19/90	SURFACE ELEVATION:	1,406.81
DATE FINISHED:	1/23/90		
DRILLER:	Empire Soils Inv. Hamburg, New York	NORTHING:	893,478.76
FIELD GEOLOGIST:	FJC	EASTING:	480,245.61
PROJECT:	WVDP DOE/RCRA wells	LOCATION:	S. CPC STORAGE AREA
JOB NUMBER:	10805-410-023	SSWMU Locale:	7

Dames & Moore
Overburden
Well Construction



Top of outer casing elevation: 1,409.46 feet MSL
Outer casing stick-up: 2.65 feet
Top of riser elevation: 1,408.81 feet MSL
Riser pipe stick-up: 2.0 feet
Ground surface elevation: 1,406.81 feet MSL
Type of surface seal: quickrete
Depth of surface seal: 4 inches

Depth of outer casing: 2.35 feet
I.D. of outer casing: 6 inches
Type of outer casing: steel
Type of backfill: cement/bentonite
Volume of backfill: 1.5 cu.ft.
Borehole diameter: 8 inches
Type of riser: 304 s.s. flushjoint, sch.5
Section lengths (from base) 1-5',1-3'
I.D. of riser pipe: 2 inches
Depth of seal: 2.5 feet
Type of seal: bentonite pellets (1/4" dia.)
Volume of seal: 0.67 cu.ft.
Depth of sand pack: 4.50 feet

Depth of top of screen: 6.0 feet
Screen: S.S. Johnson Channel Pack, 10 slot
Section lengths (from base) 1-5'
I.D. of screen: 2 inches

Type of sand pack: Ottawa flintshot 3.0 (fine)
Volume of sand pack: 2.1 cu.ft.

Depth to bottom of screen with attached 5 inch sump: 11.42 feet
Depth of bottom of sand pack: 11.42 feet
Backfill: NATURAL DEPOSIT
(May or may not be present)
Depth of borehole: 13.0 feet

SHEET 1 OF: 2 DATE STARTED: 5/31/90 DATE FINISHED: 6/4/90 DRILLER: Empire Soils Inv. Hamburg, New York INSPECTOR: FJC	BORING LOG DAMES & MOORE	HOLE/WELL NO.: 1008b SURFACE ELEVATION: 1,400.26 NORTHING 890,868.78 EASTING 481,169.09
PROJECT: WVDP DOE/RCRA wells JOB NUMBER: 10805-410-023		LOCATION: WSW OF DRUMCELL SSWMU Locale: 10

DEPTH IN FEET	INCHES DRIVEN / RECOVERED	SAMPLE TYPE-NO.	BLOWS ON SAMPLER 0 / 6	6 / 12	12 / 18	18 / 24	LITHOLOGY	DESCRIPTION / NOTES
	24/22	SS-1	1	2	3	7		Organic layer w/grass and TOPSOIL. (OL)
	24/16	SS-2	7	7	7	9		Damp, brown to gray, SILT, little clay, some fine sand, trace subrounded to angular gravel, some orange & green mottling.
5	24/23	SS-3	8	11	11	17		
	24/17	SS-4	5	4	5	7		Moist, gray, CLAY, some gravel (shale fragments) trace sand. (CL)
	24/19	SS-5	6	7	8	9		
10	24/21	SS-6	5	8	10	12		Moist, gray, SILT, some clay, trace fine black gravel, trace sand. (ML/CL)
	24/17	SS-7	4	9	11	12		
15	24/18	SS-8	5	12	14	17		Moist, gray, CLAY, some silt, trace fine to coarse subangular gravel, trace sand. (CL)
	24/15	SS-9	5	10	14	17		
	24/15	SS-10	6	10	12	14		
20	24/15	SS-11	8	10	15	17		Moist, dark gray, CLAY, some silt, trace fine to medium subangular gravel, trace sand. (CL)
	24/16	SS-12	5	11	12	15		
25	24/18	SS-13	7	11	17	16		Moist, dark gray, CLAY, some silt, little fine gravel (black shale), little sand. (CL)
	24/19	SS-14	5	9	10	12		
	24/15	SS-15	8	11	13	18		
30	24/12	SS-16	4	12	17	18		
	24/8	SS-17	12	21	12	19		
35	24/8	SS-18	5	17	100	–		Moist, dark gray, CLAY, some silt, little gravel, trace sand. (CL)
	24/0	SS-19	42	47	22	26		
	24/21	SS-20	16	15	16	21		

CLASSIFICATION: VISUAL (Modified Burmister),USCS

METHOD OF SAMPLING: ASTM D1586-84,

SHEET 2 OF: 2 DATE STARTED: 5/31/90 DATE FINISHED: 6/4/90 DRILLER: Empire Soils Inv. Hamburg, New York INSPECTOR: FJC	BORING LOG DAMES & MOORE	HOLE/WELL NO.: 1008b SURFACE ELEVATION: 1,400.26 NORTHING 890,868.78 EASTING 481,169.09

PROJECT: WVDP DOE/RCRA wells
JOB NUMBER: 10805-410-023

LOCATION: WSW OF DRUMCELL
SSWMU Locale: 10

DEPTH IN FEET	INCHES DRIVEN / RECOVERED	SAMPLE TYPE-NO.	BLOWS ON SAMPLER 0 / 6	6 / 12	12 / 18	18 / 24	LITHOLOGY	DESCRIPTION / NOTES
	24/20	SS-21	13	13	14	16		
	24/17	SS-22	5	11	14	15		Moist to saturated, dark gray, CLAY, some silt, trace very fine sand, trace fine gravel. (CL)
45	24/12	SS-23	3	19	59	-		
	24/6	SS-24	99	19	17	14		Wet, gray, CLAY, some silt, little medium angular gravel, trace sand. (CL)
	24/8	SS-25	36	11	8	7		SHALE fragments. Saturated, CLAY and SILT, some layering visible.
50	24/14	SS-26	6	10	13	17		Saturated, gray, CLAY, some silt, some fine to medium green-gray subangular gravel. (CL)
	12/11	SS-26	52	100				
			-	-				SHALE- bedrock.
	12/8	SS-28	100	100				
55			-	-				AUGERED TO 54 FT. SAMPLED TO 54.5 FT. THE WATER LEVEL WAS MEASURED AT 15.1 FT. B.G.S. - WHILE THE BOTTOM OF THE AUGERS WERE 52.0 FT. B.G.S.. NO RADIATION DETECTED ABOVE BACKGROUND BY R/S.
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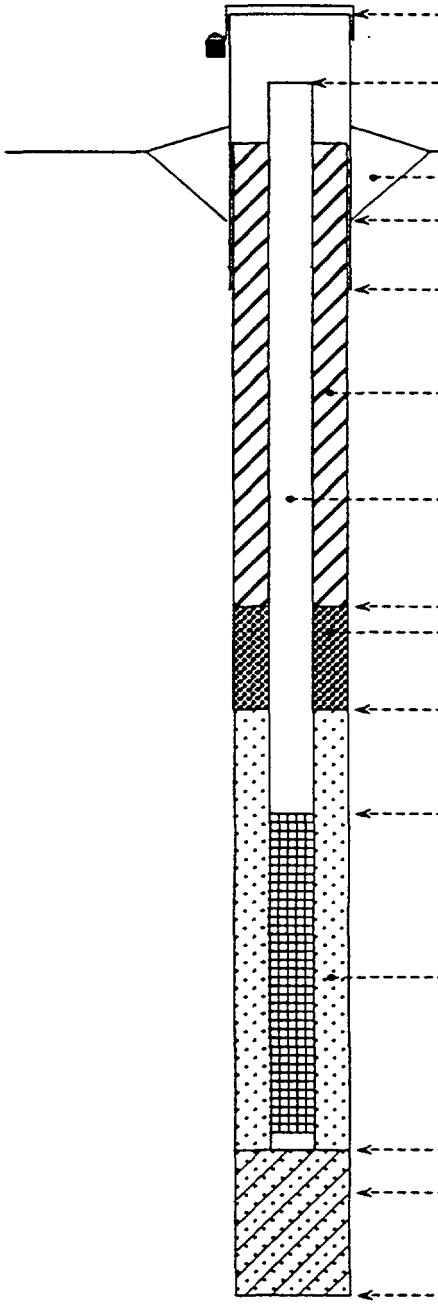
CLASSIFICATION: VISUAL (Modified Burmister),USCS

METHOD OF SAMPLING: ASTM D1586-84,

SHEET 1 OF 1		HOLE/WELL NO.:	1008b
DATE STARTED:	5/31/90	SURFACE ELEVATION:	1,400.26
DATE FINISHED:	6/4/90		
DRILLER:	Empire Soils Inv. Hamburg, New York	NORTHING:	890,868.78
FIELD GEOLOGIST:	FJC	EASTING:	481,169.09
PROJECT:	WVDP DOE/RCRA wells	LOCATION:	WSW OF DRUMCELL
JOB NUMBER:	10805-410-023	SSWMU Locale:	10

Dames & Moore
Overburden
Well Construction



Top of outer casing elevation: 1,402.49 feet MSL
Outer casing stick-up: 2.3 feet
Top of riser elevation: 1,402.35 feet MSL
Riser pipe stick-up: 2.09 feet
Ground surface elevation: 1,400.26 feet MSL
Type of surface seal: quickrete
Depth of surface seal: 4 inches

Depth of outer casing: 2.7 feet
I.D. of outer casing: 6. inches
Type of outer casing: steel
Type of backfill: cement/bentonite
Volume of backfill: 7.2 cu.ft.
Borehole diameter: 8 inches
Type of riser: 304 s.s. flushjoint, sch 5
Section lengths (from base) 4-10', 1-5', 1-3'
I.D. of riser pipe: 2 inches
Depth of seal: 40.1 feet
Type of seal: bentonite pellets (1/4" dia.)
Volume of seal: 0.67 cu.ft.
Depth of sand pack: 44.5 feet

Depth of top of screen: 46 feet
Screen: S.S. Johnson Channel Pack, 10 slot
Section lengths (from base) 1-5'
I.D. of screen: 2 inches

Type of sand pack: ottawa flintshot 3.0 (fine)
Volume of sand pack: 1.7 cu.ft.

Depth to bottom of screen with attached 5 inch sump: 51.42 feet
Depth of bottom of sand pack: 52 feet
Backfill: bentonite pellets (1/4" dia.)
(May or may not be present)
Depth of borehole: 54.5 feet

SHEET 1 OF: 1 DATE STARTED: 3/26/90 DATE FINISHED: 3/26/90 DRILLER: Empire Soils Inv. Hamburg, New York INSPECTOR: FJC	BORING LOG DAMES & MOORE	HOLE/WELL NO.: NB-1S SURFACE ELEVATION: 1,444.36 NORTHING 892,479.66 EASTING 479,990.58
PROJECT: WVDP DOE/RCRA wells JOB NUMBER: 10805-410-023		LOCATION: W. OF MAIN PARKING LOT SSWMU Locale: 3

DEPTH IN FEET	INCHES DRIVEN / RECOVERED	SAMPLE TYPE-NO.	BLOWS ON SAMPLER 0 / 6	6 / 12	12 / 18	18 / 24	LITHOLOGY	DESCRIPTION / NOTES
	24/20	SS-1	3	5	4	6		Moist, brown, SILT, little fine sand, trace fine to medium subrounded gravel, roots. (ML)
	24/15	SS-2	10	23	26	19		Moist, dark brown, SILT, some brown very fine sand, little medium to coarse angular gravel. (ML/SM)
5	24/21	SS-3	12	15	17	15		Damp, light brown, fine SAND, some medium to coarse angular gravel, some silt, trace clay. (SM/GM)
	24/10	SS-4	91	28	18	24		Damp, light brown, medium to coarse angular GRAVEL, some brown silt, some fine to medium brown sand, trace clay. (GM)
	24/13	SS-5	8	8	2	77		Saturated, brown, medium to coarse angular GRAVEL, some brown silt, some fine to medium brown sand, trace clay. (GM)
10	24/18	SS-6	76	13	23	54		Dry, light brown, CLAY and SILT. (CL)
	24/10	SS-7	24	100	-	-		Dry, brown, medium to coarse angular GRAVEL, some fine sand, some silt, trace clay. (Weathered bedrock).
15	24/10	SS-8	15	100	-	-		Dry, broken SHALE fragments to Saturated, brownish-gray, CLAY, some angular shale fragments.
	24/9	SS-9	89	100	-	-		SHALE bedrock, fractured and broken.
20								AUGERED TO 16 FT. SAMPLED TO 18 FT. WATER LEVEL AT COMPLETION OF WELL INSTALLATION WAS 10.6 FT. B.G.S.. NO RADIATION DETECTED ABOVE BACKGROUND BY R/S.
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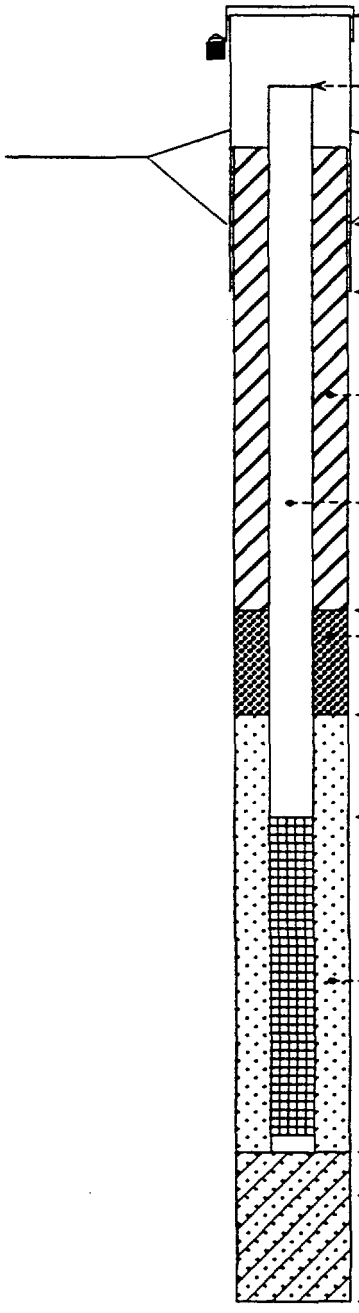
CLASSIFICATION: VISUAL (Modified Burmister),USCS

METHOD OF SAMPLING: ASTM D1586-84,

SHEET 1 OF 1		HOLE/WELL NO.:	NB-IS
DATE STARTED:	3/26/90	SURFACE ELEVATION:	1,444.36
DATE FINISHED:	3/26/90		
DRILLER:	Empire Soils Inv. Hamburg, New York	NORTHING:	892,479.66
FIELD GEOLOGIST:	FJC	EASTING:	479,990.58
PROJECT:	WVDP DOE/RCRA wells	LOCATION:	W. OF MAIN PARKING LOT
JOB NUMBER:	10805-410-023	SSWMU Locale:	3

Dames & Moore
Overburden
Well Construction



Top of outer casing elevation: 1,446.81 feet MSL
Outer casing stick-up: 2.45 feet
Top of riser elevation: 1,446.41 feet MSL
Riser pipe stick-up: 2.05 feet
Ground surface elevation: 1,444.36 feet MSL
Type of surface seal: quickrete
Depth of surface seal: 4 inches

Depth of outer casing: 2.55 feet
I.D. of outer casing: 6 inches
Type of outer casing: steel
Type of backfill: cement-bentonite
Volume of backfill: 1.44 cu.ft.
Borehole diameter: 8 inches
Type of riser: 304 s.s. flushjoint, sch.5
Section lengths (from base) 1-10'
I.D. of riser pipe: 2 inches
Depth of seal: 4 feet
Type of seal: bentonite pellets (1/4" dia.)
Volume of seal: 1.3 cu.ft.
Depth of sand pack: 6 feet

Depth of top of screen: 8 feet
Screen: S.S. Johnson channel pack, 10 slot
Section lengths (from base) 1-5'
I.D. of screen: 2 inches

Type of sand pack: Ottawa flintshot 3.0 (fine)
Volume of sand pack: 2.13 cu.ft.

Depth to bottom of screen with attached 5 inch sump: 13.42 feet
Depth of bottom of sand pack: 14 feet
Backfill: BENTONITE PELLETS (1/4"dia)
(May or may not be present)
Depth of borehole: 18 feet

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Appendix C

Groundwater Contamination Indicator Parameter Data

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HLWSA Groundwater Contamination Indicator Parameter Data

Well_ID	Parameter	Samp_Date	Chr_Data	Result	Units	Sample_ID	Flags
WNW0401	pH	02/07/91		6.43	N/A	91-00992	
WNW0401	pH	02/07/91		6.34	N/A	91-00992	
WNW0401	pH	05/01/91		6.95	N/A	91-03306	
WNW0401	pH	05/01/91		6.92	N/A	91-03306	
WNW0401	pH	05/21/91		6.91	N/A	91-04137	
WNW0401	pH	07/15/91		6.18	N/A	91-06208	
WNW0401	pH	08/26/91		6.95	N/A	91-07603	
WNW0401	pH	08/26/91		6.94	N/A	91-07603	
WNW0401	pH	10/29/91		6.86	N/A	91-09673	
WNW0401	pH	10/29/91		6.81	N/A	91-09673	
WNW0401	pH	11/27/91		6.39	N/A	91-11299	
WNW0401	pH	11/27/91		6.68	N/A	91-11299	
WNW0401	pH	01/22/92		6.58	N/A	92-00099	
WNW0401	pH	01/22/92		6.56	N/A	92-00099	
WNW0401	pH	03/04/92		6.61	N/A	92-01981	
WNW0401	pH	03/04/92		6.85	N/A	92-01981	
WNW0401	pH	04/13/92		6.70	N/A	92-04037	
WNW0401	pH	04/13/92		6.84	N/A	92-04037	
WNW0401	pH	07/16/92		6.15	N/A	92-06923	
WNW0401	pH	07/16/92		6.14	N/A	92-06923	
WNW0401	pH	08/26/92		6.90	N/A	92-09007	
WNW0401	pH	08/26/92		6.97	N/A	92-09007	
WNW0401	pH	10/05/92		6.77	N/A	92-10543	
WNW0401	pH	10/05/92		6.83	N/A	92-10543	
WNW0401	pH	11/04/92		6.87	N/A	92-11595	
WNW0401	pH	11/04/92		6.87	N/A	92-11595	
WNW0401	pH	12/07/92		6.77	N/A	92-12849	
WNW0401	pH	12/07/92		6.79	N/A	92-12849	
WNW0401	pH	01/13/93		6.76	N/A	93-00161	
WNW0401	pH	01/13/93		6.62	N/A	93-00161	
WNW0401	pH	02/18/93		7.13	N/A	93-01742	
WNW0401	pH	02/18/93		7.06	N/A	93-01742	
WNW0401	pH	04/21/93		6.99	N/A	93-03773	
WNW0401	pH	04/21/93		6.72	N/A	93-03773	
WNW0401	pH	05/24/93		7.23	N/A	93-05608	
WNW0401	pH	05/24/93		7.18	N/A	93-05608	
WNW0401	pH	07/12/93		6.25	N/A	93-06975	
WNW0401	pH	07/12/93		6.40	N/A	93-06975	
WNW0401	pH	11/04/93		6.71	N/A	93-11500	
WNW0401	pH	11/04/93		6.59	N/A	93-11500	
WNW0401	pH	02/21/94		6.19	N/A	94-00263	
WNW0401	pH	02/21/94		6.14	N/A	94-00263	
WNW0401	pH	05/04/94		7.14	N/A	94-02988	
WNW0401	pH	05/04/94		7.04	N/A	94-02988	
WNW0401	pH	07/05/94		7.12	N/A	94-06604	
WNW0401	pH	07/05/94		7.13	N/A	94-06604	
WNW0401	pH	10/05/94		6.94	N/A	94-10713	

HLWSA Groundwater Contamination Indicator Parameter Data

Well_ID	Parameter	Samp_Date	Chr_Data	Result	Units	Sample_ID	Flags
WNW0401	pH	10/05/94		6.95	N/A	94-10713	

HLWSA Groundwater Contamination Indicator Parameter Data

Well_ID	Parameter	Samp_Date	Chr_Data	Result	Units	Sample_ID	Flags
WNW0401	Cond	02/07/91		2210.00	µmhos/cm	91-00992	
WNW0401	Cond	02/07/91		2200.00	µmhos/cm	91-00992	
WNW0401	Cond	05/01/91		1176.00	µmhos/cm	91-03306	
WNW0401	Cond	05/01/91		1175.00	µmhos/cm	91-03306	
WNW0401	Cond	05/21/91		2120.00	µmhos/cm	91-04137	
WNW0401	Cond	07/15/91		1006.00	µmhos/cm	91-06208	
WNW0401	Cond	08/26/91		1155.00	µmhos/cm	91-07603	
WNW0401	Cond	08/26/91		1164.00	µmhos/cm	91-07603	
WNW0401	Cond	10/29/91		1153.00	µmhos/cm	91-09673	
WNW0401	Cond	10/29/91		1133.00	µmhos/cm	91-09673	
WNW0401	Cond	11/27/91		975.00	µmhos/cm	91-11299	J
WNW0401	Cond	11/27/91		880.00	µmhos/cm	91-11299	J
WNW0401	Cond	01/22/92		1252.00	µmhos/cm	92-00099	
WNW0401	Cond	01/22/92		1316.00	µmhos/cm	92-00099	
WNW0401	Cond	03/04/92		1932.00	µmhos/cm	92-01981	
WNW0401	Cond	03/04/92		2010.00	µmhos/cm	92-01981	
WNW0401	Cond	04/13/92		2000.00	µmhos/cm	92-04037	
WNW0401	Cond	04/13/92		2040.00	µmhos/cm	92-04037	
WNW0401	Cond	07/16/92		1485.00	µmhos/cm	92-06923	
WNW0401	Cond	07/16/92		1479.00	µmhos/cm	92-06923	
WNW0401	Cond	08/26/92		1714.00	µmhos/cm	92-09007	
WNW0401	Cond	08/26/92		1712.00	µmhos/cm	92-09007	
WNW0401	Cond	10/05/92		1557.00	µmhos/cm	92-10543	
WNW0401	Cond	10/05/92		1579.00	µmhos/cm	92-10543	
WNW0401	Cond	11/04/92		1550.00	µmhos/cm	92-11595	
WNW0401	Cond	11/04/92		1474.00	µmhos/cm	92-11595	
WNW0401	Cond	12/07/92		1368.00	µmhos/cm	92-12849	
WNW0401	Cond	12/07/92		1407.00	µmhos/cm	92-12849	
WNW0401	Cond	01/13/93		1384.00	µmhos/cm	93-00161	
WNW0401	Cond	01/13/93		1278.00	µmhos/cm	93-00161	
WNW0401	Cond	02/18/93		1321.00	µmhos/cm	93-01742	
WNW0401	Cond	02/18/93		1348.00	µmhos/cm	93-01742	
WNW0401	Cond	04/21/93		1731.00	µmhos/cm	93-03773	
WNW0401	Cond	04/21/93		1972.00	µmhos/cm	93-03773	
WNW0401	Cond	05/24/93		1673.00	µmhos/cm	93-05608	
WNW0401	Cond	05/24/93		1726.00	µmhos/cm	93-05608	
WNW0401	Cond	07/12/93		2210.00	µmhos/cm	93-06975	
WNW0401	Cond	07/12/93		2100.00	µmhos/cm	93-06975	
WNW0401	Cond	11/04/93		2040.00	µmhos/cm	93-11500	
WNW0401	Cond	11/04/93		1726.00	µmhos/cm	93-11500	
WNW0401	Cond	02/21/94		4070.00	µmhos/cm	94-00263	
WNW0401	Cond	02/21/94		3960.00	µmhos/cm	94-00263	
WNW0401	Cond	05/04/94		2460.00	µmhos/cm	94-02988	
WNW0401	Cond	05/04/94		2610.00	µmhos/cm	94-02988	
WNW0401	Cond	07/05/94		3200.00	µmhos/cm	94-06604	

HLWSA Groundwater Contamination Indicator Parameter Data

Well_ID	Parameter	Samp_Date	Chr_Data	Result	Units	Sample_ID	Flags
WNW0401	Cond	07/05/94		3130.00	μmhos/cm	94-06604	
WNW0401	Cond	10/05/94		2880.00	μmhos/cm	94-10713	
WNW0401	Cond	10/05/94		2770.00	μmhos/cm	94-10713	

HLWSA Groundwater Contamination Indicator Parameter Data

Well_ID	Parameter	Samp_Date	Chr_Data	Result	Units	Sample_ID	Flags
WNW0401	NPOC	05/01/91		1.90	mg/L	91-03309	
WNW0401	NPOC	05/21/91		8.00	mg/L	91-04141	
WNW0401	NPOC	07/15/91		10.00	mg/L	91-06212	
WNW0401	NPOC	08/26/91		2.60	mg/L	91-07607	
WNW0401	NPOC	10/29/91	ND < 1.000	1.00	mg/L	91-09676	
WNW0401	NPOC	11/27/91		2.90	mg/L	91-11303	
WNW0401	NPOC	01/22/92		0.70	mg/L	92-00100	
WNW0401	NPOC	03/04/92		0.60	mg/L	92-02888	
WNW0401	NPOC	03/04/92		0.60	mg/L	92-01982	
WNW0401	NPOC	04/13/92		0.90	mg/L	92-04038	
WNW0401	NPOC	07/16/92		1.10	mg/L	92-06924	
WNW0401	NPOC	07/16/92		1.30	mg/L	92-06924	
WNW0401	NPOC	08/26/92		0.70	mg/L	92-09008	
WNW0401	NPOC	10/05/92		0.60	mg/L	92-10544	
WNW0401	NPOC	11/04/92		0.70	mg/L	92-11596	
WNW0401	NPOC	12/07/92		0.70	mg/L	92-12850	
WNW0401	NPOC	12/07/92		0.60	mg/L	92-13224	
WNW0401	NPOC	01/13/93		0.80	mg/L	93-00162	
WNW0401	NPOC	02/18/93		0.60	mg/L	93-01912	
WNW0401	NPOC	02/18/93		0.60	mg/L	93-01743	
WNW0401	NPOC	04/21/93		0.60	mg/L	93-03774	
WNW0401	NPOC	05/24/93		0.80	mg/L	93-05609	
WNW0401	NPOC	07/12/93		0.80	mg/L	93-06976	
WNW0401	NPOC	11/04/93		0.90	mg/L	93-11501	
WNW0401	NPOC	02/21/94		1.80	mg/L	94-00264	
WNW0401	NPOC	05/04/94		0.80	mg/L	94-02989	
WNW0401	NPOC	07/05/94		0.80	mg/L	94-06605	
WNW0401	NPOC	10/05/94	ND < 1.000	1.00	mg/L	94-10942	
WNW0401	NPOC	10/05/94	ND < 1.000	1.00	mg/L	94-10858	
WNW0401	TOX	05/01/91		46.00	μg/L	91-03309	
WNW0401	TOX	05/21/91		44.00	μg/L	91-04141	J
WNW0401	TOX	07/15/91		13.00	μg/L	91-06212	
WNW0401	TOX	08/26/91	ND < 5.000	5.00	μg/L	91-07607	J
WNW0401	TOX	10/29/91		7.40	μg/L	91-09676	
WNW0401	TOX	11/27/91		6.10	μg/L	91-11303	J
WNW0401	TOX	01/22/92		6.20	μg/L	92-00100	
WNW0401	TOX	03/04/92		9.80	μg/L	92-01982	
WNW0401	TOX	03/04/92	ND < 4.000	4.00	μg/L	92-02888	
WNW0401	TOX	04/13/92		18.00	μg/L	92-04038	
WNW0401	TOX	07/16/92		6.10	μg/L	92-07850	
WNW0401	TOX	08/26/92		6.20	μg/L	92-09008	
WNW0401	TOX	10/05/92		6.40	μg/L	92-10544	
WNW0401	TOX	11/04/92		6.20	μg/L	92-11596	
WNW0401	TOX	12/07/92		4.80	μg/L	92-13224	
WNW0401	TOX	12/07/92	ND < 4.000	4.00	μg/L	92-12850	

HLWSA Groundwater Contamination Indicator Parameter Data

Well_ID	Parameter	Samp_Date	Chr_Data	Result	Units	Sample_ID	Flags
WNW0401	TOX	01/13/93		15.40	µg/L	93-00162	
WNW0401	TOX	02/18/93		4.50	µg/L	93-01912	
WNW0401	TOX	02/18/93		10.60	µg/L	93-01743	
WNW0401	TOX	04/21/93		19.80	µg/L	93-03774	
WNW0401	TOX	05/24/93		7.40	µg/L	93-05609	
WNW0401	TOX	07/12/93		15.80	µg/L	93-06976	
WNW0401	TOX	11/04/93		12.80	µg/L	93-11501	
WNW0401	TOX	02/21/94		22.40	µg/L	94-00264	
WNW0401	TOX	05/04/94		17.80	µg/L	94-02989	
WNW0401	TOX	07/05/94		9.00	µg/L	94-06605	
WNW0401	TOX	10/05/94		20.00	µg/L	94-10934	J
WNW0401	TOX	10/05/94		25.00	µg/L	94-10714	J
WNW0403	pH	02/07/91		6.97	N/A	91-00994	
WNW0403	pH	02/07/91		6.97	N/A	91-00994	
WNW0403	pH	04/22/91		6.93	N/A	91-02892	
WNW0403	pH	04/22/91		6.80	N/A	91-02892	
WNW0403	pH	05/21/91		6.93	N/A	91-04155	
WNW0403	pH	07/15/91		6.69	N/A	91-06218	
WNW0403	pH	08/26/91		7.08	N/A	91-07613	
WNW0403	pH	08/26/91		7.09	N/A	91-07613	
WNW0403	pH	10/28/91		6.88	N/A	91-09681	
WNW0403	pH	10/28/91		6.88	N/A	91-09681	
WNW0403	pH	11/25/91		6.88	N/A	91-11323	
WNW0403	pH	11/25/91		6.92	N/A	91-11323	
WNW0403	pH	01/20/92		6.58	N/A	92-00107	
WNW0403	pH	01/20/92		6.44	N/A	92-00107	
WNW0403	pH	03/02/92		6.86	N/A	92-02003	
WNW0403	pH	03/02/92		6.76	N/A	92-02003	
WNW0403	pH	04/13/92		6.83	N/A	92-04045	
WNW0403	pH	04/13/92		6.67	N/A	92-04045	
WNW0403	pH	07/16/92		6.25	N/A	92-06949	
WNW0403	pH	07/16/92		6.28	N/A	92-06949	
WNW0403	pH	08/26/92		6.54	N/A	92-09015	
WNW0403	pH	08/26/92		6.36	N/A	92-09015	
WNW0403	pH	10/05/92		6.84	N/A	92-10551	
WNW0403	pH	10/05/92		6.80	N/A	92-10551	
WNW0403	pH	11/04/92		6.60	N/A	92-11603	
WNW0403	pH	11/04/92		6.59	N/A	92-11603	
WNW0403	pH	12/07/92		6.74	N/A	92-12875	
WNW0403	pH	12/07/92		6.72	N/A	92-12875	
WNW0403	pH	01/13/93		7.04	N/A	93-00169	
WNW0403	pH	01/13/93		7.23	N/A	93-00169	
WNW0403	pH	02/17/93		7.20	N/A	93-01762	
WNW0403	pH	04/21/93		6.46	N/A	93-03781	

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Well_ID	Parameter	Samp_Date	Chr_Data	Result	Units	Sample_ID	Flags
WNW0403	pH	04/21/93		6.44	N/A	93-03781	
WNW0403	pH	05/24/93		7.27	N/A	93-05616	
WNW0403	pH	05/24/93		7.20	N/A	93-05616	
WNW0403	pH	07/13/93		6.54	N/A	93-06983	
WNW0403	pH	07/13/93		6.53	N/A	93-06983	
WNW0403	pH	11/04/93		6.75	N/A	93-11453	
WNW0403	pH	11/04/93		6.63	N/A	93-11453	
WNW0403	pH	02/21/94		6.70	N/A	94-00269	
WNW0403	pH	02/21/94		6.70	N/A	94-00269	
WNW0403	pH	05/05/94		6.40	N/A	94-02997	
WNW0403	pH	05/05/94		6.46	N/A	94-02997	
WNW0403	pH	07/05/94		6.39	N/A	94-06829	
WNW0403	pH	07/05/94		6.29	N/A	94-06829	
WNW0403	pH	10/05/94		6.69	N/A	94-10731	
WNW0403	pH	10/05/94		6.68	N/A	94-10731	
WNW0403	Cond	02/07/91		597.00	µmhos/cm	91-00994	
WNW0403	Cond	02/07/91		608.00	µmhos/cm	91-00994	
WNW0403	Cond	04/22/91		688.00	µmhos/cm	91-02892	
WNW0403	Cond	04/22/91		688.00	µmhos/cm	91-02892	
WNW0403	Cond	05/21/91		844.00	µmhos/cm	91-04155	
WNW0403	Cond	07/15/91		749.00	µmhos/cm	91-06218	
WNW0403	Cond	08/26/91		745.00	µmhos/cm	91-07613	
WNW0403	Cond	08/26/91		757.00	µmhos/cm	91-07613	
WNW0403	Cond	10/28/91		648.00	µmhos/cm	91-09681	
WNW0403	Cond	10/28/91		633.00	µmhos/cm	91-09681	
WNW0403	Cond	11/25/91		526.00	µmhos/cm	91-11323	
WNW0403	Cond	11/25/91		579.00	µmhos/cm	91-11323	
WNW0403	Cond	01/20/92		743.00	µmhos/cm	92-00107	
WNW0403	Cond	01/20/92		748.00	µmhos/cm	92-00107	
WNW0403	Cond	03/02/92		967.00	µmhos/cm	92-02003	
WNW0403	Cond	03/02/92		977.00	µmhos/cm	92-02003	
WNW0403	Cond	04/13/92		1143.00	µmhos/cm	92-04045	
WNW0403	Cond	04/13/92		1151.00	µmhos/cm	92-04045	
WNW0403	Cond	07/16/92		1460.00	µmhos/cm	92-06949	
WNW0403	Cond	07/16/92		1447.00	µmhos/cm	92-06949	
WNW0403	Cond	08/26/92		1083.00	µmhos/cm	92-09015	
WNW0403	Cond	08/26/92		1112.00	µmhos/cm	92-09015	
WNW0403	Cond	10/05/92		1093.00	µmhos/cm	92-10551	
WNW0403	Cond	10/05/92		1088.00	µmhos/cm	92-10551	
WNW0403	Cond	11/04/92		780.00	µmhos/cm	92-11603	
WNW0403	Cond	11/04/92		767.00	µmhos/cm	92-11603	
WNW0403	Cond	12/07/92		876.00	µmhos/cm	92-12875	
WNW0403	Cond	12/07/92		879.00	µmhos/cm	92-12875	
WNW0403	Cond	01/13/93		1283.00	µmhos/cm	93-00169	
WNW0403	Cond	01/13/93		1248.00	µmhos/cm	93-00169	

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Well_ID	Parameter	Samp_Date	Chr_Data	Result	Units	Sample_ID	Flags
WNW0403	Cond	02/17/93		1024.00	μmhos/cm	93-01762	
WNW0403	Cond	04/21/93		1361.00	μmhos/cm	93-03781	
WNW0403	Cond	04/21/93		1388.00	μmhos/cm	93-03781	
WNW0403	Cond	05/24/93		1314.00	μmhos/cm	93-05616	
WNW0403	Cond	05/24/93		1371.00	μmhos/cm	93-05616	
WNW0403	Cond	07/13/93		1879.00	μmhos/cm	93-06983	
WNW0403	Cond	07/13/93		1899.00	μmhos/cm	93-06983	
WNW0403	Cond	11/04/93		1036.00	μmhos/cm	93-11453	
WNW0403	Cond	11/04/93		899.00	μmhos/cm	93-11453	
WNW0403	Cond	02/21/94		2500.00	μmhos/cm	94-00269	
WNW0403	Cond	02/21/94		2440.00	μmhos/cm	94-00269	
WNW0403	Cond	05/05/94		1815.00	μmhos/cm	94-02997	
WNW0403	Cond	05/05/94		1882.00	μmhos/cm	94-02997	
WNW0403	Cond	07/05/94		2030.00	μmhos/cm	94-06829	
WNW0403	Cond	07/05/94		2080.00	μmhos/cm	94-06829	
WNW0403	Cond	10/05/94		1672.00	μmhos/cm	94-10731	
WNW0403	Cond	10/05/94		1773.00	μmhos/cm	94-10731	
WNW0403	NPOC	04/22/91		3.50	mg/L	91-02895	
WNW0403	NPOC	05/21/91		1.90	mg/L	91-04159	
WNW0403	NPOC	07/15/91		18.00	mg/L	91-06222	
WNW0403	NPOC	08/26/91		2.50	mg/L	91-07617	
WNW0403	NPOC	10/28/91	ND<1.000	1.00	mg/L	91-09684	
WNW0403	NPOC	11/25/91		4.20	mg/L	91-11327	J
WNW0403	NPOC	01/20/92		1.20	mg/L	92-00108	
WNW0403	NPOC	03/02/92		1.90	mg/L	92-02004	
WNW0403	NPOC	04/13/92		1.40	mg/L	92-04046	
WNW0403	NPOC	07/16/92		1.80	mg/L	92-06950	
WNW0403	NPOC	08/26/92		2.80	mg/L	92-09016	
WNW0403	NPOC	10/05/92		1.60	mg/L	92-10552	
WNW0403	NPOC	11/04/92		1.60	mg/L	92-11604	
WNW0403	NPOC	11/04/92		1.50	mg/L	92-11604	
WNW0403	NPOC	12/07/92		1.20	mg/L	92-12876	
WNW0403	NPOC	01/13/93		1.10	mg/L	93-00170	
WNW0403	NPOC	02/17/93		1.10	mg/L	93-01763	
WNW0403	NPOC	02/17/93		1.10	mg/L	93-01763	
WNW0403	NPOC	04/21/93		1.30	mg/L	93-03782	
WNW0403	NPOC	05/24/93		1.20	mg/L	93-05617	
WNW0403	NPOC	07/13/93		1.30	mg/L	93-06984	
WNW0403	NPOC	11/04/93		2.00	mg/L	93-11454	
WNW0403	NPOC	02/21/94		1.90	mg/L	94-00270	
WNW0403	NPOC	05/05/94		1.30	mg/L	94-02998	
WNW0403	NPOC	07/05/94		1.50	mg/L	94-06830	
WNW0403	NPOC	10/05/94	ND<1.000	1.00	mg/L	94-10864	
WNW0403	TOX	04/22/91		22.00	μg/L	91-02895	
WNW0403	TOX	05/21/91		15.00	μg/L	91-04159	J

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Well_ID	Parameter	Samp_Date	Chr_Data	Result	Units	Sample_ID	Flags
WNW0403	TOX	07/15/91		15.00	μg/L	91-06222	
WNW0403	TOX	08/26/91	ND<5.000	5.00	μg/L	91-07617	
WNW0403	TOX	10/28/91		5.20	μg/L	91-09684	
WNW0403	TOX	11/25/91	ND<5.000	5.00	μg/L	91-11327	
WNW0403	TOX	01/20/92		5.90	μg/L	92-00108	
WNW0403	TOX	03/02/92		16.30	μg/L	92-02004	
WNW0403	TOX	04/13/92		8.40	μg/L	92-04046	
WNW0403	TOX	07/16/92		18.00	μg/L	92-07851	
WNW0403	TOX	08/26/92		13.70	μg/L	92-09016	
WNW0403	TOX	10/05/92		9.90	μg/L	92-10552	
WNW0403	TOX	11/04/92		4.90	μg/L	92-11604	
WNW0403	TOX	12/07/92		5.40	μg/L	92-12876	
WNW0403	TOX	01/13/93		9.40	μg/L	93-00170	
WNW0403	TOX	02/17/93		7.30	μg/L	93-01763	
WNW0403	TOX	04/21/93		16.20	μg/L	93-03782	
WNW0403	TOX	05/24/93		6.60	μg/L	93-05617	
WNW0403	TOX	07/13/93		16.80	μg/L	93-06984	
WNW0403	TOX	11/04/93		9.20	μg/L	93-11454	
WNW0403	TOX	02/21/94		17.80	μg/L	94-00270	
WNW0403	TOX	05/05/94		18.80	μg/L	94-02998	
WNW0403	TOX	07/05/94		19.80	μg/L	94-06830	
WNW0403	TOX	10/05/94		30.00	μg/L	94-10732	J
WNW0405	pH	02/06/91		7.32	N/A	91-00996	
WNW0405	pH	02/06/91		7.41	N/A	91-00996	
WNW0405	pH	05/01/91		7.34	N/A	91-03310	
WNW0405	pH	05/01/91		7.29	N/A	91-03310	
WNW0405	pH	05/21/91		7.25	N/A	91-04173	
WNW0405	pH	07/15/91		7.17	N/A	91-06270	
WNW0405	pH	08/26/91		7.18	N/A	91-07623	
WNW0405	pH	08/26/91		7.09	N/A	91-07623	
WNW0405	pH	10/28/91		7.03	N/A	91-09689	
WNW0405	pH	10/28/91		7.03	N/A	91-09689	
WNW0405	pH	11/25/91		7.07	N/A	91-11346	
WNW0405	pH	11/25/91		7.10	N/A	91-11346	
WNW0405	pH	01/20/92		6.97	N/A	92-00115	
WNW0405	pH	01/20/92		6.97	N/A	92-00115	
WNW0405	pH	03/02/92		7.17	N/A	92-02025	
WNW0405	pH	03/02/92		7.18	N/A	92-02025	
WNW0405	pH	04/13/92		7.22	N/A	92-04053	
WNW0405	pH	04/13/92		7.19	N/A	92-04053	
WNW0405	pH	07/16/92		7.13	N/A	92-06975	
WNW0405	pH	07/16/92		7.15	N/A	92-06975	
WNW0405	pH	08/26/92		7.33	N/A	92-09023	
WNW0405	pH	08/26/92		7.30	N/A	92-09023	

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Well_ID	Parameter	Samp_Date	Chr_Data	Result	Units	Sample_ID	Flags
WNW0405	pH	10/05/92		7.21	N/A	92-10559	
WNW0405	pH	10/05/92		7.21	N/A	92-10559	
WNW0405	pH	11/04/92		7.04	N/A	92-11611	
WNW0405	pH	11/04/92		6.92	N/A	92-11611	
WNW0405	pH	12/09/92		7.21	N/A	92-12901	
WNW0405	pH	12/09/92		7.28	N/A	92-12901	
WNW0405	pH	01/13/93		7.22	N/A	93-00177	
WNW0405	pH	01/13/93		7.22	N/A	93-00177	
WNW0405	pH	02/17/93		7.47	N/A	93-01782	
WNW0405	pH	02/17/93		7.46	N/A	93-01782	
WNW0405	pH	04/21/93		7.37	N/A	93-03789	
WNW0405	pH	04/21/93		7.32	N/A	93-03789	
WNW0405	pH	05/24/93		7.43	N/A	93-05624	
WNW0405	pH	05/24/93		7.76	N/A	93-05624	
WNW0405	pH	07/13/93		7.35	N/A	93-06991	
WNW0405	pH	07/13/93		7.31	N/A	93-06991	
WNW0405	pH	11/08/93		7.46	N/A	93-11665	
WNW0405	pH	02/14/94		7.33	N/A	94-00275	
WNW0405	pH	02/14/94		7.38	N/A	94-00275	
WNW0405	pH	05/04/94		7.87	N/A	94-03031	
WNW0405	pH	07/05/94		7.32	N/A	94-06835	
WNW0405	pH	07/05/94		7.34	N/A	94-06835	
WNW0405	pH	10/05/94		7.15	N/A	94-10749	
WNW0405	pH	10/05/94		7.23	N/A	94-10749	
WNW0405	Cond	02/06/91		887.00	μmhos/cm	91-00996	
WNW0405	Cond	02/06/91		922.00	μmhos/cm	91-00996	
WNW0405	Cond	05/01/91		824.00	μmhos/cm	91-03310	
WNW0405	Cond	05/01/91		766.00	μmhos/cm	91-03310	
WNW0405	Cond	05/21/91		733.00	μmhos/cm	91-04173	
WNW0405	Cond	07/15/91		1050.00	μmhos/cm	91-06270	
WNW0405	Cond	08/26/91		1021.00	μmhos/cm	91-07623	
WNW0405	Cond	08/26/91		1069.00	μmhos/cm	91-07623	
WNW0405	Cond	10/28/91		960.00	μmhos/cm	91-09689	
WNW0405	Cond	10/28/91		988.00	μmhos/cm	91-09689	
WNW0405	Cond	11/25/91		1008.00	μmhos/cm	91-11346	
WNW0405	Cond	11/25/91		992.00	μmhos/cm	91-11346	
WNW0405	Cond	01/20/92		921.00	μmhos/cm	92-00115	
WNW0405	Cond	01/20/92		765.00	μmhos/cm	92-00115	
WNW0405	Cond	03/02/92		844.00	μmhos/cm	92-02025	
WNW0405	Cond	03/02/92		787.00	μmhos/cm	92-02025	
WNW0405	Cond	04/13/92		1026.00	μmhos/cm	92-04053	
WNW0405	Cond	04/13/92		902.00	μmhos/cm	92-04053	
WNW0405	Cond	07/16/92		922.00	μmhos/cm	92-06975	
WNW0405	Cond	07/16/92		939.00	μmhos/cm	92-06975	
WNW0405	Cond	08/26/92		899.00	μmhos/cm	92-09023	

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WNW0405	Cond	08/26/92		881.00	µmhos/cm	92-09023	
WNW0405	Cond	10/05/92		870.00	µmhos/cm	92-10559	
WNW0405	Cond	10/05/92		901.00	µmhos/cm	92-10559	
WNW0405	Cond	11/04/92		855.00	µmhos/cm	92-11611	
WNW0405	Cond	11/04/92		819.00	µmhos/cm	92-11611	
WNW0405	Cond	12/09/92		864.00	µmhos/cm	92-12901	
WNW0405	Cond	12/09/92		777.00	µmhos/cm	92-12901	
WNW0405	Cond	01/13/93		826.00	µmhos/cm	93-00177	
WNW0405	Cond	01/13/93		803.00	µmhos/cm	93-00177	
WNW0405	Cond	02/17/93		763.00	µmhos/cm	93-01782	
WNW0405	Cond	02/17/93		728.00	µmhos/cm	93-01782	
WNW0405	Cond	04/21/93		899.00	µmhos/cm	93-03789	
WNW0405	Cond	04/21/93		835.00	µmhos/cm	93-03789	
WNW0405	Cond	05/24/93		815.00	µmhos/cm	93-05624	
WNW0405	Cond	05/24/93		867.00	µmhos/cm	93-05624	
WNW0405	Cond	07/13/93		959.00	µmhos/cm	93-06991	
WNW0405	Cond	07/13/93		991.00	µmhos/cm	93-06991	
WNW0405	Cond	11/08/93		865.00	µmhos/cm	93-11665	
WNW0405	Cond	02/14/94		880.00	µmhos/cm	94-00275	
WNW0405	Cond	02/14/94		896.00	µmhos/cm	94-00275	
WNW0405	Cond	05/04/94		790.00	µmhos/cm	94-03031	
WNW0405	Cond	07/05/94		1000.00	µmhos/cm	94-06835	
WNW0405	Cond	07/05/94		1030.00	µmhos/cm	94-06835	
WNW0405	Cond	10/05/94		1152.00	µmhos/cm	94-10749	
WNW0405	Cond	10/05/94		1120.00	µmhos/cm	94-10749	
WNW0405	NPOC	05/01/91		3.60	mg/L	91-03313	
WNW0405	NPOC	05/21/91		2.50	mg/L	91-04177	
WNW0405	NPOC	07/15/91		3.00	mg/L	91-06274	
WNW0405	NPOC	08/26/91		2.60	mg/L	91-07628	
WNW0405	NPOC	10/28/91		2.20	mg/L	91-09692	
WNW0405	NPOC	11/25/91		3.30	mg/L	91-11350	J
WNW0405	NPOC	01/20/92		0.70	mg/L	92-00116	
WNW0405	NPOC	03/02/92		1.40	mg/L	92-02026	
WNW0405	NPOC	04/13/92		1.20	mg/L	92-04054	
WNW0405	NPOC	07/16/92		1.70	mg/L	92-06976	
WNW0405	NPOC	07/16/92		1.80	mg/L	92-06976	
WNW0405	NPOC	08/26/92		1.50	mg/L	92-09024	
WNW0405	NPOC	10/05/92		1.70	mg/L	92-10560	
WNW0405	NPOC	11/04/92		1.50	mg/L	92-11612	
WNW0405	NPOC	11/04/92		1.60	mg/L	92-11612	
WNW0405	NPOC	12/09/92		1.80	mg/L	92-12902	
WNW0405	NPOC	12/09/92		1.70	mg/L	92-12902	
WNW0405	NPOC	01/13/93		1.70	mg/L	93-00178	
WNW0405	NPOC	02/17/93		1.50	mg/L	93-01783	
WNW0405	NPOC	02/17/93		1.60	mg/L	93-01783	

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Well_ID	Parameter	Samp_Date	Chr_Data	Result	Units	Sample_ID	Flags
WNW0405	NPOC	04/21/93		1.20	mg/L	93-03790	
WNW0405	NPOC	05/24/93		1.30	mg/L	93-05625	
WNW0405	NPOC	07/13/93		1.40	mg/L	93-06992	
WNW0405	NPOC	11/08/93		2.10	mg/L	93-11666	
WNW0405	NPOC	02/14/94		1.60	mg/L	94-00276	
WNW0405	NPOC	02/14/94		1.50	mg/L	94-00276	
WNW0405	NPOC	05/04/94		1.40	mg/L	94-03032	
WNW0405	NPOC	05/04/94		1.40	mg/L	94-03032	
WNW0405	NPOC	07/05/94		1.40	mg/L	94-06836	
WNW0405	NPOC	10/05/94		1.40	mg/L	94-10870	
WNW0405	TOX	05/01/91		17.00	µg/L	91-03313	
WNW0405	TOX	05/21/91		11.00	µg/L	91-04177	J
WNW0405	TOX	07/15/91		10.00	µg/L	91-06274	
WNW0405	TOX	08/26/91	ND<5.000	5.00	µg/L	91-07628	
WNW0405	TOX	10/28/91	ND<5.000	5.00	µg/L	91-09692	
WNW0405	TOX	11/25/91	ND<5.000	5.00	µg/L	91-11350	
WNW0405	TOX	01/20/92		4.20	µg/L	92-00116	
WNW0405	TOX	03/02/92	ND<4.000	4.00	µg/L	92-02026	
WNW0405	TOX	04/13/92		4.70	µg/L	92-04054	
WNW0405	TOX	07/16/92		14.00	µg/L	92-07852	
WNW0405	TOX	08/26/92		6.70	µg/L	92-09024	
WNW0405	TOX	10/05/92	ND<4.000	4.00	µg/L	92-10560	
WNW0405	TOX	11/04/92		4.60	µg/L	92-11612	
WNW0405	TOX	12/09/92		4.30	µg/L	92-12902	
WNW0405	TOX	01/13/93		6.80	µg/L	93-00178	
WNW0405	TOX	02/17/93		5.90	µg/L	93-01783	
WNW0405	TOX	04/21/93		11.80	µg/L	93-03790	
WNW0405	TOX	05/24/93		7.00	µg/L	93-05625	
WNW0405	TOX	07/13/93		10.80	µg/L	93-06992	
WNW0405	TOX	11/08/93		6.30	µg/L	93-11666	
WNW0405	TOX	02/14/94		12.10	µg/L	94-00276	
WNW0405	TOX	05/04/94		15.60	µg/L	94-03032	
WNW0405	TOX	07/05/94		10.20	µg/L	94-06836	
WNW0405	TOX	10/05/94		13.00	µg/L	94-10750	
WNW0406	pH	02/07/91		7.23	N/A	91-00998	
WNW0406	pH	02/07/91		7.19	N/A	91-00998	
WNW0406	pH	05/01/91		7.16	N/A	91-03314	
WNW0406	pH	05/01/91		7.26	N/A	91-03314	
WNW0406	pH	05/21/91		7.30	N/A	91-04182	
WNW0406	pH	07/15/91		7.02	N/A	91-06275	
WNW0406	pH	08/26/91		7.08	N/A	91-07630	
WNW0406	pH	08/26/91		7.04	N/A	91-07630	
WNW0406	pH	10/28/91		7.08	N/A	91-09693	
WNW0406	pH	10/28/91		7.15	N/A	91-09693	

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Well_ID	Parameter	Samp_Date	Chr_Data	Result	Units	Sample_ID	Flags
WNW0406	pH	11/25/91		6.84	N/A	91-11358	
WNW0406	pH	11/25/91		6.88	N/A	91-11358	
WNW0406	pH	01/21/92		6.74	N/A	92-00119	
WNW0406	pH	01/21/92		6.76	N/A	92-00119	
WNW0406	pH	03/02/92		6.87	N/A	92-02036	
WNW0406	pH	03/02/92		6.83	N/A	92-02036	
WNW0406	pH	04/15/92		7.16	N/A	92-04057	
WNW0406	pH	04/15/92		7.22	N/A	92-04057	
WNW0406	pH	07/16/92		6.87	N/A	92-06988	
WNW0406	pH	07/16/92		6.93	N/A	92-06988	
WNW0406	pH	08/26/92		6.94	N/A	92-09027	
WNW0406	pH	08/26/92		6.84	N/A	92-09027	
WNW0406	pH	10/05/92		7.00	N/A	92-10563	
WNW0406	pH	10/05/92		6.95	N/A	92-10563	
WNW0406	pH	11/04/92		6.77	N/A	92-11615	
WNW0406	pH	11/04/92		6.82	N/A	92-11615	
WNW0406	pH	12/08/92		6.95	N/A	92-12914	
WNW0406	pH	12/08/92		7.05	N/A	92-12914	
WNW0406	pH	01/13/93		6.87	N/A	93-00181	
WNW0406	pH	01/13/93		6.90	N/A	93-00181	
WNW0406	pH	02/17/93		7.08	N/A	93-01792	
WNW0406	pH	04/21/93		6.95	N/A	93-03793	
WNW0406	pH	04/21/93		6.96	N/A	93-03793	
WNW0406	pH	05/24/93		7.16	N/A	93-05628	
WNW0406	pH	05/24/93		7.30	N/A	93-05628	
WNW0406	pH	07/12/93		6.91	N/A	93-06995	
WNW0406	pH	07/12/93		6.97	N/A	93-06995	
WNW0406	pH	11/04/93		7.07	N/A	93-11685	
WNW0406	pH	11/04/93		6.97	N/A	93-11685	
WNW0406	pH	02/21/94		6.97	N/A	94-00278	
WNW0406	pH	02/21/94		6.96	N/A	94-00278	
WNW0406	pH	05/04/94		7.32	N/A	94-03047	
WNW0406	pH	07/05/94		7.03	N/A	94-06838	
WNW0406	pH	07/05/94		7.01	N/A	94-06838	
WNW0406	pH	10/05/94		6.98	N/A	94-10758	
WNW0406	pH	10/05/94		7.11	N/A	94-10758	
WNW0406	Cond	02/07/91		583.00	µmhos/cm	91-00998	
WNW0406	Cond	02/07/91		577.00	µmhos/cm	91-00998	
WNW0406	Cond	05/01/91		580.00	µmhos/cm	91-03314	
WNW0406	Cond	05/01/91		583.00	µmhos/cm	91-03314	
WNW0406	Cond	05/21/91		582.00	µmhos/cm	91-04182	
WNW0406	Cond	07/15/91		650.00	µmhos/cm	91-06275	
WNW0406	Cond	08/26/91		676.00	µmhos/cm	91-07630	
WNW0406	Cond	08/26/91		680.00	µmhos/cm	91-07630	
WNW0406	Cond	10/28/91		718.00	µmhos/cm	91-09693	

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Well_ID	Parameter	Samp_Date	Chr_Data	Result	Units	Sample_ID	Flags
WNW0406	Cond	10/28/91		711.00	µmhos/cm	91-09693	
WNW0406	Cond	11/25/91		702.00	µmhos/cm	91-11358	
WNW0406	Cond	11/25/91		700.00	µmhos/cm	91-11358	
WNW0406	Cond	01/21/92		683.00	µmhos/cm	92-00119	
WNW0406	Cond	01/21/92		686.00	µmhos/cm	92-00119	
WNW0406	Cond	03/02/92		712.00	µmhos/cm	92-02036	
WNW0406	Cond	03/02/92		694.00	µmhos/cm	92-02036	
WNW0406	Cond	04/15/92		701.00	µmhos/cm	92-04057	
WNW0406	Cond	04/15/92		688.00	µmhos/cm	92-04057	
WNW0406	Cond	07/16/92		687.00	µmhos/cm	92-06988	
WNW0406	Cond	07/16/92		695.00	µmhos/cm	92-06988	
WNW0406	Cond	08/26/92		621.00	µmhos/cm	92-09027	
WNW0406	Cond	08/26/92		605.00	µmhos/cm	92-09027	
WNW0406	Cond	10/05/92		621.00	µmhos/cm	92-10563	
WNW0406	Cond	10/05/92		626.00	µmhos/cm	92-10563	
WNW0406	Cond	11/04/92		616.00	µmhos/cm	92-11615	
WNW0406	Cond	11/04/92		638.00	µmhos/cm	92-11615	
WNW0406	Cond	12/08/92		596.00	µmhos/cm	92-12914	
WNW0406	Cond	12/08/92		592.00	µmhos/cm	92-12914	
WNW0406	Cond	01/13/93		662.00	µmhos/cm	93-00181	
WNW0406	Cond	01/13/93		621.00	µmhos/cm	93-00181	
WNW0406	Cond	02/17/93		622.00	µmhos/cm	93-01792	
WNW0406	Cond	04/21/93		680.00	µmhos/cm	93-03793	
WNW0406	Cond	04/21/93		674.00	µmhos/cm	93-03793	
WNW0406	Cond	05/24/93		680.00	µmhos/cm	93-05628	
WNW0406	Cond	05/24/93		667.00	µmhos/cm	93-05628	
WNW0406	Cond	07/12/93		710.00	µmhos/cm	93-06995	
WNW0406	Cond	07/12/93		680.00	µmhos/cm	93-06995	
WNW0406	Cond	11/04/93		628.00	µmhos/cm	93-11685	
WNW0406	Cond	11/04/93		645.00	µmhos/cm	93-11685	
WNW0406	Cond	02/21/94		629.00	µmhos/cm	94-00278	
WNW0406	Cond	02/21/94		617.00	µmhos/cm	94-00278	
WNW0406	Cond	05/04/94		606.00	µmhos/cm	94-03047	
WNW0406	Cond	07/05/94		6100.00	µmhos/cm	94-06838	
WNW0406	Cond	07/05/94		6110.00	µmhos/cm	94-06838	
WNW0406	Cond	10/05/94		607.00	µmhos/cm	94-10758	
WNW0406	Cond	10/05/94		615.00	µmhos/cm	94-10758	
WNW0406	NPOC	05/01/91		23.00	mg/L	91-03317	
WNW0406	NPOC	05/21/91		3.90	mg/L	91-04186	
WNW0406	NPOC	07/15/91		4.90	mg/L	91-06279	
WNW0406	NPOC	08/26/91		3.80	mg/L	91-07634	
WNW0406	NPOC	10/28/91		3.70	mg/L	91-09696	
WNW0406	NPOC	11/25/91		11.00	mg/L	91-11362	F
WNW0406	NPOC	01/21/92		4.20	mg/L	92-00120	
WNW0406	NPOC	03/02/92		3.20	mg/L	92-02037	

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Well_ID	Parameter	Samp_Date	Chr_Data	Result	Units	Sample_ID	Flags
WNW0406	NPOC	03/02/92		3.30	mg/L	92-02037	
WNW0406	NPOC	04/15/92		3.10	mg/L	92-04058	
WNW0406	NPOC	07/16/92		3.10	mg/L	92-06989	
WNW0406	NPOC	08/26/92		3.70	mg/L	92-09028	
WNW0406	NPOC	08/26/92		3.50	mg/L	92-09113	
WNW0406	NPOC	10/05/92		3.70	mg/L	92-10564	
WNW0406	NPOC	10/05/92		3.70	mg/L	92-10564	
WNW0406	NPOC	11/04/92		3.20	mg/L	92-11899	
WNW0406	NPOC	11/04/92		3.10	mg/L	92-11616	
WNW0406	NPOC	12/08/92		3.30	mg/L	92-12915	
WNW0406	NPOC	01/13/93		2.90	mg/L	93-00182	
WNW0406	NPOC	02/17/93		2.70	mg/L	93-01793	
WNW0406	NPOC	04/21/93		3.00	mg/L	93-03794	
WNW0406	NPOC	05/24/93		2.50	mg/L	93-05629	
WNW0406	NPOC	07/12/93		2.80	mg/L	93-07051	
WNW0406	NPOC	07/12/93		3.00	mg/L	93-07051	
WNW0406	NPOC	07/12/93		2.50	mg/L	93-06996	
WNW0406	NPOC	11/04/93		2.90	mg/L	93-11686	
WNW0406	NPOC	02/21/94		2.50	mg/L	94-00279	
WNW0406	NPOC	05/04/94		2.40	mg/L	94-03048	
WNW0406	NPOC	07/05/94		2.40	mg/L	94-06839	
WNW0406	NPOC	07/05/94		2.30	mg/L	94-06839	
WNW0406	NPOC	10/05/94	ND < 1.000	1.00	mg/L	94-10873	
WNW0406	TOX	05/01/91	ND < 5.000	5.00	μg/L	91-03317	
WNW0406	TOX	05/21/91		15.00	μg/L	91-04186	J
WNW0406	TOX	07/15/91		19.00	μg/L	91-06279	
WNW0406	TOX	08/26/91		20.00	μg/L	91-07634	J
WNW0406	TOX	10/28/91		18.00	μg/L	91-09696	
WNW0406	TOX	11/25/91		24.00	μg/L	91-11362	
WNW0406	TOX	01/21/92		17.30	μg/L	92-00120	
WNW0406	TOX	03/02/92		18.40	μg/L	92-02037	
WNW0406	TOX	04/15/92		10.30	μg/L	92-04058	
WNW0406	TOX	07/16/92		17.00	μg/L	92-07853	
WNW0406	TOX	08/26/92		16.60	μg/L	92-09028	
WNW0406	TOX	08/26/92		20.40	μg/L	92-09113	
WNW0406	TOX	10/05/92		4.90	μg/L	92-10564	
WNW0406	TOX	11/04/92		6.80	μg/L	92-11616	
WNW0406	TOX	11/04/92		6.40	μg/L	92-11899	
WNW0406	TOX	12/08/92		15.80	μg/L	92-12915	
WNW0406	TOX	01/13/93		17.20	μg/L	93-00182	
WNW0406	TOX	02/17/93		22.00	μg/L	93-01793	
WNW0406	TOX	04/21/93		35.20	μg/L	93-03794	
WNW0406	TOX	05/24/93		22.50	μg/L	93-05629	
WNW0406	TOX	07/12/93		15.20	μg/L	93-07051	
WNW0406	TOX	07/12/93		12.00	μg/L	93-06996	

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Well_ID	Parameter	Samp_Date	Chr_Data	Result	Units	Sample_ID	Flags
WNW0406	TOX	11/04/93		12.60	μg/L	93-11686	
WNW0406	TOX	02/21/94		11.00	μg/L	94-00279	
WNW0406	TOX	05/04/94		13.80	μg/L	94-03048	
WNW0406	TOX	07/05/94		8.40	μg/L	94-06839	
WNW0406	TOX	10/05/94		19.00	μg/L	94-10759	J
WNW0408	pH	03/28/91		7.78	N/A	91-02246	
WNW0408	pH	04/24/91		7.74	N/A	91-02997	
WNW0408	pH	06/05/91		7.68	N/A	91-04851	
WNW0408	pH	08/05/91		7.59	N/A	91-06822	
WNW0408	pH	09/16/91		7.26	N/A	91-08286	
WNW0408	pH	10/21/91		7.44	N/A	91-09563	
WNW0408	pH	12/11/91		6.88	N/A	91-12171	
WNW0408	pH	12/11/91		7.43	N/A	91-12171	
WNW0408	pH	02/13/92		7.26	N/A	92-00382	
WNW0408	pH	02/13/92		7.62	N/A	92-00382	
WNW0408	pH	03/25/92		7.62	N/A	92-03261	
WNW0408	pH	07/22/92		7.28	N/A	92-04440	
WNW0408	pH	07/22/92		7.26	N/A	92-04440	
WNW0408	pH	08/13/92		7.38	N/A	92-08401	
WNW0408	pH	08/13/92		7.65	N/A	92-08401	
WNW0408	pH	09/16/92		7.37	N/A	92-09728	
WNW0408	pH	10/28/92		7.07	N/A	92-11289	
WNW0408	pH	11/18/92		7.31	N/A	92-12358	
WNW0408	pH	11/18/92		7.71	N/A	92-12358	
WNW0408	pH	12/16/92		7.27	N/A	92-14176	
WNW0408	pH	12/16/92		7.20	N/A	92-14176	
WNW0408	pH	02/08/93		7.35	N/A	93-00863	
WNW0408	pH	03/08/93		7.54	N/A	93-02911	
WNW0408	pH	03/08/93		7.72	N/A	93-02911	
WNW0408	pH	05/10/93		7.12	N/A	93-05173	
WNW0408	pH	06/21/93		7.96	N/A	93-06128	
WNW0408	pH	08/02/93		7.35	N/A	93-07814	
WNW0408	pH	12/06/93		7.09	N/A	93-12948	
WNW0408	pH	03/14/94		7.88	N/A	94-02095	
WNW0408	pH	05/09/94		7.43	N/A	94-04130	
WNW0408	pH	07/11/94		7.53	N/A	94-07045	
WNW0408	pH	07/11/94		7.49	N/A	94-07045	
WNW0408	pH	10/10/94		7.04	N/A	94-11389	
WNW0408	Cond	03/28/91		891.00	μmhos/cm	91-02246	
WNW0408	Cond	04/24/91		974.00	μmhos/cm	91-02997	
WNW0408	Cond	06/05/91		1042.00	μmhos/cm	91-04851	
WNW0408	Cond	08/05/91		1072.00	μmhos/cm	91-06822	
WNW0408	Cond	09/16/91		1111.00	μmhos/cm	91-08286	
WNW0408	Cond	10/21/91		1141.00	μmhos/cm	91-09563	

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WNW0408	Cond	12/11/91		1117.00	µmhos/cm	91-12171	
WNW0408	Cond	12/11/91		1159.00	µmhos/cm	91-12171	
WNW0408	Cond	02/13/92		1090.00	µmhos/cm	92-00382	
WNW0408	Cond	02/13/92		1048.00	µmhos/cm	92-00382	
WNW0408	Cond	03/25/92		1060.00	µmhos/cm	92-03261	
WNW0408	Cond	07/22/92		1301.00	µmhos/cm	92-04440	
WNW0408	Cond	07/22/92		1188.00	µmhos/cm	92-04440	
WNW0408	Cond	08/13/92		1342.00	µmhos/cm	92-08401	
WNW0408	Cond	08/13/92		1312.00	µmhos/cm	92-08401	
WNW0408	Cond	09/16/92		1324.00	µmhos/cm	92-09728	
WNW0408	Cond	10/28/92		1215.00	µmhos/cm	92-11289	
WNW0408	Cond	11/18/92		1270.00	µmhos/cm	92-12358	
WNW0408	Cond	11/18/92		1211.00	µmhos/cm	92-12358	
WNW0408	Cond	12/16/92		1189.00	µmhos/cm	92-14176	
WNW0408	Cond	12/16/92		1140.00	µmhos/cm	92-14176	
WNW0408	Cond	02/08/93		378.00	µmhos/cm	93-00863	
WNW0408	Cond	03/08/93		1052.00	µmhos/cm	93-02911	
WNW0408	Cond	03/08/93		1074.00	µmhos/cm	93-02911	
WNW0408	Cond	05/10/93		1159.00	µmhos/cm	93-05173	
WNW0408	Cond	06/21/93		1327.00	µmhos/cm	93-06128	
WNW0408	Cond	08/02/93		1463.00	µmhos/cm	93-07814	
WNW0408	Cond	12/06/93		1354.00	µmhos/cm	93-12948	
WNW0408	Cond	03/14/94		1285.00	µmhos/cm	94-02095	
WNW0408	Cond	05/09/94		1491.00	µmhos/cm	94-04130	
WNW0408	Cond	07/11/94		1844.00	µmhos/cm	94-07045	
WNW0408	Cond	07/11/94		1799.00	µmhos/cm	94-07045	
WNW0408	Cond	10/10/94		1776.00	µmhos/cm	94-11389	
WNW0408	NPOC	04/24/91		13.30	mg/L	91-03000	J
WNW0408	NPOC	06/05/91		1.60	mg/L	91-04857	J
WNW0408	NPOC	08/05/91		3.50	mg/L	91-06825	
WNW0408	NPOC	09/16/91		2.70	mg/L	91-08289	
WNW0408	NPOC	10/21/91		4.00	mg/L	91-09566	
WNW0408	NPOC	12/11/91		2.20	mg/L	91-12175	
WNW0408	NPOC	02/13/92		2.00	mg/L	92-00384	
WNW0408	NPOC	03/25/92	ND < 1.000	1.00	mg/L	92-03262	
WNW0408	NPOC	07/22/92		1.50	mg/L	92-04441	
WNW0408	NPOC	08/13/92		1.50	mg/L	92-08402	
WNW0408	NPOC	09/16/92		2.60	mg/L	92-09738	
WNW0408	NPOC	10/28/92		2.30	mg/L	92-11290	
WNW0408	NPOC	11/18/92		1.10	mg/L	92-12359	
WNW0408	NPOC	12/16/92		1.70	mg/L	92-14177	
WNW0408	NPOC	02/08/93		3.30	mg/L	93-00864	
WNW0408	NPOC	03/08/93		1.40	mg/L	93-02912	
WNW0408	NPOC	05/10/93		1.90	mg/L	93-05174	
WNW0408	NPOC	06/21/93		2.60	mg/L	93-06129	J

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Well_ID	Parameter	Samp_Date	Chr_Data	Result	Units	Sample_ID	Flags
WNW0408	NPOC	08/02/93		1.10	mg/L	93-07815	
WNW0408	NPOC	03/14/94	ND < 1.000	1.00	mg/L	94-02096	R
WNW0408	NPOC	05/10/94	ND < 1.000	1.00	mg/L	94-04131	
WNW0408	NPOC	07/11/94		6.60	mg/L	94-07047	R
WNW0408	NPOC	10/10/94		16.00	mg/L	94-11390	
WNW0408	TOX	04/24/91		295.00	µg/L	91-03000	
WNW0408	TOX	06/05/91		151.00	µg/L	91-04853	R
WNW0408	TOX	08/05/91		100.00	µg/L	91-06825	
WNW0408	TOX	09/16/91		72.90	µg/L	91-08289	
WNW0408	TOX	10/21/91		61.60	µg/L	91-09566	
WNW0408	TOX	12/11/91		52.10	µg/L	91-12175	
WNW0408	TOX	02/13/92		43.10	µg/L	92-00384	
WNW0408	TOX	03/25/92		28.50	µg/L	92-03262	J
WNW0408	TOX	07/22/92		46.40	µg/L	92-04441	
WNW0408	TOX	08/13/92		27.20	µg/L	92-08402	
WNW0408	TOX	09/16/92	ND < 10.000	10.00	µg/L	92-09738	
WNW0408	TOX	10/28/92		21.40	µg/L	92-11290	
WNW0408	TOX	11/18/92	ND < 10.000	10.00	µg/L	92-12359	
WNW0408	TOX	12/16/92		25.20	µg/L	92-14177	
WNW0408	TOX	02/08/93	ND < 10.000	10.00	µg/L	93-00864	
WNW0408	TOX	03/08/93	ND < 10.000	10.00	µg/L	93-02912	
WNW0408	TOX	05/10/93	ND < 10.000	10.00	µg/L	93-05174	
WNW0408	TOX	06/21/93	ND < 10.000	10.00	µg/L	93-06129	
WNW0408	TOX	08/02/93		1580.00	µg/L	93-07815	F
WNW0408	TOX	03/14/94	ND < 10.000	10.00	µg/L	94-02096	R
WNW0408	TOX	05/10/94	ND < 10.000	10.00	µg/L	94-04131	R
WNW0408	TOX	07/11/94	ND < 50.000	50.00	µg/L	94-07047	
WNW0408	TOX	10/10/94		15.80	µg/L	94-11390	J
WNW8607	pH	01/14/91		6.44	N/A	91-00254	
WNW8607	pH	01/14/91		6.64	N/A	91-00254	
WNW8607	pH	04/17/91		6.11	N/A	91-02767	
WNW8607	pH	05/15/91		6.36	N/A	91-03834	
WNW8607	pH	07/09/91		6.95	N/A	91-05923	
WNW8607	pH	07/09/91		6.89	N/A	91-05923	
WNW8607	pH	08/19/91		6.29	N/A	91-07320	
WNW8607	pH	08/19/91		6.22	N/A	91-07320	
WNW8607	pH	10/07/91		6.33	N/A	91-09105	
WNW8607	pH	10/07/91		6.34	N/A	91-09105	
WNW8607	pH	11/18/91		6.13	N/A	91-10671	
WNW8607	pH	11/18/91		6.18	N/A	91-10671	
WNW8607	pH	01/13/92		5.89	N/A	92-00338	
WNW8607	pH	01/13/92		5.90	N/A	92-00338	
WNW8607	pH	02/24/92		6.16	N/A	92-01568	
WNW8607	pH	02/24/92		6.16	N/A	92-01568	

HLWSA Groundwater Contamination Indicator Parameter Data

Well_ID	Parameter	Samp_Date	Chr_Data	Result	Units	Sample_ID	Flags
WNW8607	pH	04/06/92		6.03	N/A	92-03898	
WNW8607	pH	04/06/92		6.06	N/A	92-03898	
WNW8607	pH	07/17/92		6.18	N/A	92-06428	
WNW8607	pH	07/17/92		6.07	N/A	92-06428	
WNW8607	pH	08/26/92		6.53	N/A	92-09068	
WNW8607	pH	08/26/92		6.50	N/A	92-09068	
WNW8607	pH	10/05/92		6.53	N/A	92-10575	
WNW8607	pH	10/05/92		6.65	N/A	92-10575	
WNW8607	pH	11/04/92		6.38	N/A	92-11627	
WNW8607	pH	11/04/92		6.36	N/A	92-11627	
WNW8607	pH	12/09/92		6.25	N/A	92-13057	
WNW8607	pH	12/09/92		6.20	N/A	92-13057	
WNW8607	pH	01/11/93		6.29	N/A	93-00221	
WNW8607	pH	01/11/93		6.30	N/A	93-00221	
WNW8607	pH	02/17/93		6.60	N/A	93-01812	
WNW8607	pH	02/17/93		6.72	N/A	93-01812	
WNW8607	pH	04/21/93		6.67	N/A	93-03838	
WNW8607	pH	04/21/93		6.66	N/A	93-03838	
WNW8607	pH	05/24/93		6.62	N/A	93-05592	
WNW8607	pH	07/12/93		6.51	N/A	93-07007	
WNW8607	pH	07/12/93		6.48	N/A	93-07007	
WNW8607	pH	11/04/93		6.28	N/A	93-11480	
WNW8607	pH	11/04/93		6.30	N/A	93-11480	
WNW8607	pH	02/21/94		6.25	N/A	94-00284	
WNW8607	pH	02/21/94		6.25	N/A	94-00284	
WNW8607	pH	05/04/94		6.48	N/A	94-03079	
WNW8607	pH	05/04/94		6.56	N/A	94-03079	
WNW8607	pH	07/05/94		6.10	N/A	94-06844	
WNW8607	pH	07/05/94		6.06	N/A	94-06844	
WNW8607	pH	10/06/94		6.22	N/A	94-10776	
WNW8607	pH	10/06/94		6.10	N/A	94-10776	
WNW8607	Cond	01/14/91		556.00	µmhos/cm	91-00254	
WNW8607	Cond	01/14/91		601.00	µmhos/cm	91-00254	
WNW8607	Cond	04/17/91		608.00	µmhos/cm	91-02767	
WNW8607	Cond	05/15/91		793.00	µmhos/cm	91-03834	
WNW8607	Cond	07/09/91		649.00	µmhos/cm	91-05923	
WNW8607	Cond	07/09/91		651.00	µmhos/cm	91-05923	
WNW8607	Cond	08/19/91		714.00	µmhos/cm	91-07320	
WNW8607	Cond	08/19/91		706.00	µmhos/cm	91-07320	
WNW8607	Cond	10/07/91		838.00	µmhos/cm	91-09105	
WNW8607	Cond	10/07/91		846.00	µmhos/cm	91-09105	
WNW8607	Cond	11/18/91		944.00	µmhos/cm	91-10671	
WNW8607	Cond	11/18/91		958.00	µmhos/cm	91-10671	
WNW8607	Cond	01/13/92		684.00	µmhos/cm	92-00338	
WNW8607	Cond	01/13/92		661.00	µmhos/cm	92-00338	

HLWSA Groundwater Contamination Indicator Parameter Data

Well_ID	Parameter	Samp_Date	Chr_Data	Result	Units	Sample_ID	Flags
WNW8607	Cond	02/24/92		596.00	µmhos/cm	92-01568	
WNW8607	Cond	02/24/92		612.00	µmhos/cm	92-01568	
WNW8607	Cond	04/06/92		764.00	µmhos/cm	92-03898	
WNW8607	Cond	04/06/92		743.00	µmhos/cm	92-03898	
WNW8607	Cond	07/17/92		656.00	µmhos/cm	92-06428	
WNW8607	Cond	07/17/92		685.00	µmhos/cm	92-06428	
WNW8607	Cond	08/26/92		794.00	µmhos/cm	92-09068	
WNW8607	Cond	08/26/92		767.00	µmhos/cm	92-09068	
WNW8607	Cond	10/05/92		734.00	µmhos/cm	92-10575	
WNW8607	Cond	10/05/92		754.00	µmhos/cm	92-10575	
WNW8607	Cond	11/04/92		677.00	µmhos/cm	92-11627	
WNW8607	Cond	11/04/92		676.00	µmhos/cm	92-11627	
WNW8607	Cond	12/09/92		620.00	µmhos/cm	92-13057	
WNW8607	Cond	12/09/92		592.00	µmhos/cm	92-13057	
WNW8607	Cond	01/11/93		547.00	µmhos/cm	93-00221	
WNW8607	Cond	01/11/93		527.00	µmhos/cm	93-00221	
WNW8607	Cond	02/17/93		588.00	µmhos/cm	93-01812	
WNW8607	Cond	02/17/93		678.00	µmhos/cm	93-01812	
WNW8607	Cond	04/21/93		369.00	µmhos/cm	93-03838	
WNW8607	Cond	04/21/93		640.00	µmhos/cm	93-03838	
WNW8607	Cond	05/24/93		721.00	µmhos/cm	93-05592	
WNW8607	Cond	07/12/93		802.00	µmhos/cm	93-07007	
WNW8607	Cond	07/12/93		793.00	µmhos/cm	93-07007	
WNW8607	Cond	11/04/93		766.00	µmhos/cm	93-11480	
WNW8607	Cond	11/04/93		745.00	µmhos/cm	93-11480	
WNW8607	Cond	02/21/94		1334.00	µmhos/cm	94-00284	
WNW8607	Cond	02/21/94		1329.00	µmhos/cm	94-00284	
WNW8607	Cond	05/04/94		1446.00	µmhos/cm	94-03079	
WNW8607	Cond	05/04/94		1468.00	µmhos/cm	94-03079	
WNW8607	Cond	07/05/94		1424.00	µmhos/cm	94-06844	
WNW8607	Cond	07/05/94		1388.00	µmhos/cm	94-06844	
WNW8607	Cond	10/06/94		798.00	µmhos/cm	94-10776	
WNW8607	Cond	10/06/94		807.00	µmhos/cm	94-10776	
WNW8607	NPOC	01/14/91		1.20	mg/L	91-00258	
WNW8607	NPOC	02/18/91		7.10	mg/L	91-01194	
WNW8607	NPOC	04/17/91		1.60	mg/L	91-02773	J
WNW8607	NPOC	04/17/91		5.70	mg/L	91-02770	J
WNW8607	NPOC	05/15/91	ND < 1.000	1.00	mg/L	91-03838	
WNW8607	NPOC	07/09/91		3.20	mg/L	91-05927	
WNW8607	NPOC	08/19/91		14.00	mg/L	91-07324	
WNW8607	NPOC	10/07/91		3.90	mg/L	91-09108	
WNW8607	NPOC	11/18/91		20.00	mg/L	91-10675	
WNW8607	NPOC	01/13/92		1.20	mg/L	92-00339	
WNW8607	NPOC	01/13/92		1.30	mg/L	92-00339	
WNW8607	NPOC	02/24/92		1.10	mg/L	92-01569	

HLWSA Groundwater Contamination Indicator Parameter Data

Well_ID	Parameter	Samp_Date	Chr_Data	Result	Units	Sample_ID	Flags
WNW8607	NPOC	04/06/92		0.90	mg/L	92-03899	
WNW8607	NPOC	04/06/92		1.10	mg/L	92-03899	
WNW8607	NPOC	07/17/92		1.30	mg/L	92-06429	
WNW8607	NPOC	08/26/92		1.20	mg/L	92-09069	
WNW8607	NPOC	10/05/92		1.30	mg/L	92-10576	
WNW8607	NPOC	11/04/92		1.20	mg/L	92-11628	
WNW8607	NPOC	12/09/92		1.10	mg/L	92-13058	
WNW8607	NPOC	01/11/93		1.00	mg/L	93-00222	
WNW8607	NPOC	01/11/93		0.90	mg/L	93-00222	
WNW8607	NPOC	02/17/93		1.00	mg/L	93-01813	
WNW8607	NPOC	04/21/93		0.80	mg/L	93-03839	
WNW8607	NPOC	05/24/93		0.90	mg/L	93-05593	
WNW8607	NPOC	07/12/93		1.20	mg/L	93-07008	
WNW8607	NPOC	11/04/93		1.60	mg/L	93-11481	
WNW8607	NPOC	02/21/94		1.00	mg/L	94-00285	
WNW8607	NPOC	07/05/94		1.30	mg/L	94-06845	
WNW8607	NPOC	10/06/94	ND<1.000	1.00	mg/L	94-10879	
WNW8607	TOX	01/14/91		6.00	µg/L	91-00257	
WNW8607	TOX	02/18/91		15.00	µg/L	91-01193	
WNW8607	TOX	04/17/91	ND<5.000	5.00	µg/L	91-02773	
WNW8607	TOX	04/17/91	ND<5.000	5.00	µg/L	91-02770	
WNW8607	TOX	05/15/91	ND<5.000	5.00	µg/L	91-03838	
WNW8607	TOX	07/09/91	ND<5.000	5.00	µg/L	91-05927	
WNW8607	TOX	08/19/91	ND<5.000	5.00	µg/L	91-07324	
WNW8607	TOX	10/07/91		17.00	µg/L	91-09108	
WNW8607	TOX	11/18/91	ND<5.000	5.00	µg/L	91-10675	
WNW8607	TOX	01/13/92	ND<4.000	4.00	µg/L	92-00339	
WNW8607	TOX	02/24/92	ND<4.000	4.00	µg/L	92-01569	
WNW8607	TOX	04/06/92	ND<4.000	4.00	µg/L	92-03899	
WNW8607	TOX	07/17/92	ND<5.000	5.00	µg/L	92-07855	
WNW8607	TOX	08/26/92	ND<4.000	4.00	µg/L	92-09069	
WNW8607	TOX	10/05/92	ND<4.000	4.00	µg/L	92-10576	
WNW8607	TOX	11/04/92	ND<4.000	4.00	µg/L	92-11628	
WNW8607	TOX	12/09/92	ND<4.000	4.00	µg/L	92-13058	
WNW8607	TOX	01/11/93	ND<2.000	2.00	µg/L	93-00222	
WNW8607	TOX	02/17/93	ND<4.000	4.00	µg/L	93-01813	
WNW8607	TOX	04/21/93		5.40	µg/L	93-03839	
WNW8607	TOX	05/24/93		3.70	µg/L	93-05593	
WNW8607	TOX	07/12/93		5.10	µg/L	93-07008	
WNW8607	TOX	11/04/93		5.60	µg/L	93-11481	
WNW8607	TOX	02/21/94		14.30	µg/L	94-00285	
WNW8607	TOX	05/04/94		2.80	µg/L	94-03080	
WNW8607	TOX	07/05/94		12.90	µg/L	94-06845	
WNW8607	TOX	10/06/94	ND<5.000	5.00	µg/L	94-10777	UJ

HLWSA Groundwater Contamination Indicator Parameter Data

Well_ID	Parameter	Samp_Date	Chr_Data	Result	Units	Sample_ID	Flags
WNW8609	pH	01/14/91		7.23	N/A	91-00264	
WNW8609	pH	01/14/91		7.22	N/A	91-00264	
WNW8609	pH	02/21/91		7.14	N/A	91-01365	
WNW8609	pH	02/21/91		7.16	N/A	91-01365	
WNW8609	pH	04/17/91		7.23	N/A	91-02778	
WNW8609	pH	04/17/91		7.26	N/A	91-02778	
WNW8609	pH	05/15/91		7.06	N/A	91-03851	
WNW8609	pH	05/15/91		7.03	N/A	91-03851	
WNW8609	pH	07/10/91		6.99	N/A	91-05933	
WNW8609	pH	07/10/91		7.00	N/A	91-05933	
WNW8609	pH	08/19/91		7.18	N/A	91-07330	
WNW8609	pH	08/19/91		7.16	N/A	91-07330	
WNW8609	pH	10/07/91		7.15	N/A	91-09113	
WNW8609	pH	10/07/91		7.15	N/A	91-09113	
WNW8609	pH	11/18/91		6.94	N/A	91-10695	
WNW8609	pH	11/18/91		6.93	N/A	91-10695	
WNW8609	pH	01/15/92		6.69	N/A	92-00346	
WNW8609	pH	01/15/92		6.72	N/A	92-00346	
WNW8609	pH	02/24/92		7.09	N/A	92-01586	
WNW8609	pH	02/24/92		7.12	N/A	92-01586	
WNW8609	pH	04/06/92		7.03	N/A	92-03906	
WNW8609	pH	04/06/92		7.11	N/A	92-03906	
WNW8609	pH	07/17/92		6.98	N/A	92-06455	
WNW8609	pH	07/17/92		6.98	N/A	92-06455	
WNW8609	pH	08/26/92		7.02	N/A	92-09076	
WNW8609	pH	08/26/92		7.01	N/A	92-09076	
WNW8609	pH	10/06/92		7.05	N/A	92-10583	
WNW8609	pH	10/06/92		7.04	N/A	92-10583	
WNW8609	pH	11/04/92		7.03	N/A	92-11635	
WNW8609	pH	11/04/92		7.01	N/A	92-11635	
WNW8609	pH	12/09/92		7.09	N/A	92-13083	
WNW8609	pH	12/09/92		7.12	N/A	92-13083	
WNW8609	pH	01/11/93		7.00	N/A	93-00229	
WNW8609	pH	01/11/93		6.94	N/A	93-00229	
WNW8609	pH	02/18/93		7.02	N/A	93-01832	
WNW8609	pH	02/18/93		7.06	N/A	93-01832	
WNW8609	pH	04/21/93		7.17	N/A	93-03846	
WNW8609	pH	04/21/93		7.15	N/A	93-03846	
WNW8609	pH	05/25/93		7.45	N/A	93-05600	
WNW8609	pH	05/25/93		7.45	N/A	93-05600	
WNW8609	pH	07/12/93		6.96	N/A	93-07015	
WNW8609	pH	07/12/93		6.98	N/A	93-07015	
WNW8609	pH	11/11/93		7.09	N/A	93-11999	
WNW8609	pH	11/11/93		7.07	N/A	93-11999	
WNW8609	pH	03/09/94		7.25	N/A	94-00290	

HLWSA Groundwater Contamination Indicator Parameter Data

Well_ID	Parameter	Samp_Date	Chr_Data	Result	Units	Sample_ID	Flags
WNW8609	pH	03/09/94		7.23	N/A	94-00290	
WNW8609	pH	05/19/94		7.24	N/A	94-03097	
WNW8609	pH	05/19/94		7.24	N/A	94-03097	
WNW8609	pH	07/11/94		7.09	N/A	94-06850	
WNW8609	pH	07/11/94		7.15	N/A	94-06850	
WNW8609	pH	10/06/94		7.10	N/A	94-10794	
WNW8609	pH	10/06/94		7.04	N/A	94-10794	
WNW8609	Cond	01/14/91		668.00	µmhos/cm	91-00264	
WNW8609	Cond	01/14/91		676.00	µmhos/cm	91-00264	
WNW8609	Cond	02/21/91		679.00	µmhos/cm	91-01365	
WNW8609	Cond	02/21/91		678.00	µmhos/cm	91-01365	
WNW8609	Cond	04/17/91		686.00	µmhos/cm	91-02778	
WNW8609	Cond	04/17/91		687.00	µmhos/cm	91-02778	
WNW8609	Cond	05/15/91		684.00	µmhos/cm	91-03851	
WNW8609	Cond	05/15/91		683.00	µmhos/cm	91-03851	
WNW8609	Cond	07/10/91		699.00	µmhos/cm	91-05933	
WNW8609	Cond	07/10/91		698.00	µmhos/cm	91-05933	
WNW8609	Cond	08/19/91		705.00	µmhos/cm	91-07330	
WNW8609	Cond	08/19/91		716.00	µmhos/cm	91-07330	
WNW8609	Cond	10/07/91		727.00	µmhos/cm	91-09113	
WNW8609	Cond	10/07/91		729.00	µmhos/cm	91-09113	
WNW8609	Cond	11/18/91		723.00	µmhos/cm	91-10695	
WNW8609	Cond	11/18/91		721.00	µmhos/cm	91-10695	
WNW8609	Cond	01/15/92		721.00	µmhos/cm	92-00346	
WNW8609	Cond	01/15/92		721.00	µmhos/cm	92-00346	
WNW8609	Cond	02/24/92		643.00	µmhos/cm	92-01586	
WNW8609	Cond	02/24/92		684.00	µmhos/cm	92-01586	
WNW8609	Cond	04/06/92		743.00	µmhos/cm	92-03906	
WNW8609	Cond	04/06/92		743.00	µmhos/cm	92-03906	
WNW8609	Cond	07/17/92		756.00	µmhos/cm	92-06455	
WNW8609	Cond	07/17/92		756.00	µmhos/cm	92-06455	
WNW8609	Cond	08/26/92		748.00	µmhos/cm	92-09076	
WNW8609	Cond	08/26/92		740.00	µmhos/cm	92-09076	
WNW8609	Cond	10/06/92		754.00	µmhos/cm	92-10583	
WNW8609	Cond	10/06/92		748.00	µmhos/cm	92-10583	
WNW8609	Cond	11/04/92		745.00	µmhos/cm	92-11635	
WNW8609	Cond	11/04/92		738.00	µmhos/cm	92-11635	
WNW8609	Cond	12/09/92		707.00	µmhos/cm	92-13083	
WNW8609	Cond	12/09/92		691.00	µmhos/cm	92-13083	
WNW8609	Cond	01/11/93		683.00	µmhos/cm	93-00229	
WNW8609	Cond	01/11/93		687.00	µmhos/cm	93-00229	
WNW8609	Cond	02/18/93		700.00	µmhos/cm	93-01832	
WNW8609	Cond	02/18/93		704.00	µmhos/cm	93-01832	
WNW8609	Cond	04/21/93		689.00	µmhos/cm	93-03846	
WNW8609	Cond	04/21/93		686.00	µmhos/cm	93-03846	

HLWSA Groundwater Contamination Indicator Parameter Data

Well_ID	Parameter	Samp_Date	Chr_Data	Result	Units	Sample_ID	Flags
WNW8609	Cond	05/25/93		701.00	µmhos/cm	93-05600	
WNW8609	Cond	05/25/93		690.00	µmhos/cm	93-05600	
WNW8609	Cond	07/12/93		712.00	µmhos/cm	93-07015	
WNW8609	Cond	07/12/93		706.00	µmhos/cm	93-07015	
WNW8609	Cond	11/11/93		716.00	µmhos/cm	93-11999	
WNW8609	Cond	11/11/93		710.00	µmhos/cm	93-11999	
WNW8609	Cond	03/09/94		700.00	µmhos/cm	94-00290	
WNW8609	Cond	03/09/94		698.00	µmhos/cm	94-00290	
WNW8609	Cond	05/19/94		728.00	µmhos/cm	94-03097	
WNW8609	Cond	05/19/94		726.00	µmhos/cm	94-03097	
WNW8609	Cond	07/11/94		749.00	µmhos/cm	94-06850	
WNW8609	Cond	07/11/94		746.00	µmhos/cm	94-06850	
WNW8609	Cond	10/06/94		780.00	µmhos/cm	94-10794	
WNW8609	Cond	10/06/94		771.00	µmhos/cm	94-10794	
WNW8609	NPOC	01/14/91		1.00	mg/L	91-00268	
WNW8609	NPOC	02/21/91		3.10	mg/L	91-01369	
WNW8609	NPOC	04/17/91		16.00	mg/L	91-02781	
WNW8609	NPOC	05/15/91		2.00	mg/L	91-03855	
WNW8609	NPOC	07/10/91		4.60	mg/L	91-05932	
WNW8609	NPOC	08/19/91		5.40	mg/L	91-07334	
WNW8609	NPOC	10/07/91	ND < 1.000	1.00	mg/L	91-09116	
WNW8609	NPOC	11/18/91		8.10	mg/L	91-10699	
WNW8609	NPOC	01/15/92		1.60	mg/L	92-00347	
WNW8609	NPOC	01/15/92		2.00	mg/L	92-00415	
WNW8609	NPOC	01/15/92		2.10	mg/L	92-00415	
WNW8609	NPOC	02/24/92		2.10	mg/L	92-01587	
WNW8609	NPOC	04/06/92		1.80	mg/L	92-03907	
WNW8609	NPOC	04/06/92		1.80	mg/L	92-03907	
WNW8609	NPOC	07/17/92		2.10	mg/L	92-06456	
WNW8609	NPOC	08/26/92		1.70	mg/L	92-09077	
WNW8609	NPOC	08/26/92		1.80	mg/L	92-09077	
WNW8609	NPOC	10/06/92		2.00	mg/L	92-10584	
WNW8609	NPOC	11/04/92		1.90	mg/L	92-11636	
WNW8609	NPOC	12/09/92		1.80	mg/L	92-13084	
WNW8609	NPOC	01/11/93		1.60	mg/L	93-00230	
WNW8609	NPOC	02/18/93		2.00	mg/L	93-01833	
WNW8609	NPOC	04/21/93		1.60	mg/L	93-03847	
WNW8609	NPOC	04/21/93		1.50	mg/L	93-03847	
WNW8609	NPOC	05/25/93		1.70	mg/L	93-05601	
WNW8609	NPOC	05/25/93		1.80	mg/L	93-05664	
WNW8609	NPOC	07/12/93		1.70	mg/L	93-07016	
WNW8609	NPOC	11/11/93		1.80	mg/L	93-12001	
WNW8609	NPOC	03/09/94		1.50	mg/L	94-00291	
WNW8609	NPOC	03/09/94		1.50	mg/L	94-00291	
WNW8609	NPOC	05/19/94		1.50	mg/L	94-03098	

HLWSA Groundwater Contamination Indicator Parameter Data

Well_ID	Parameter	Samp_Date	Chr_Data	Result	Units	Sample_ID	Flags
WNW8609	NPOC	05/19/94		1.60	mg/L	94-03098	
WNW8609	NPOC	05/19/94		1.40	mg/L	94-03766	
WNW8609	NPOC	07/11/94		1.50	mg/L	94-06851	
WNW8609	NPOC	10/06/94	ND < 1.000	1.00	mg/L	94-10885	
WNW8609	TOX	01/14/91		17.00	μg/L	91-00267	
WNW8609	TOX	02/21/91		25.00	μg/L	91-01368	
WNW8609	TOX	04/17/91		8.30	μg/L	91-02781	
WNW8609	TOX	05/15/91		11.00	μg/L	91-03855	
WNW8609	TOX	07/10/91		14.00	μg/L	91-05932	J
WNW8609	TOX	08/19/91		11.00	μg/L	91-07334	
WNW8609	TOX	10/07/91		24.00	μg/L	91-09116	
WNW8609	TOX	11/18/91		11.00	μg/L	91-10699	
WNW8609	TOX	01/15/92		13.20	μg/L	92-00347	
WNW8609	TOX	01/15/92		9.20	μg/L	92-00415	
WNW8609	TOX	02/24/92		12.00	μg/L	92-01587	
WNW8609	TOX	04/06/92		10.20	μg/L	92-03907	
WNW8609	TOX	07/17/92		9.50	μg/L	92-07856	
WNW8609	TOX	08/26/92		10.30	μg/L	92-09077	
WNW8609	TOX	10/06/92		8.50	μg/L	92-10584	
WNW8609	TOX	11/04/92		10.70	μg/L	92-11636	
WNW8609	TOX	12/09/92		8.70	μg/L	92-13084	
WNW8609	TOX	01/11/93		13.00	μg/L	93-00230	
WNW8609	TOX	02/18/93		11.40	μg/L	93-01833	
WNW8609	TOX	04/21/93		11.00	μg/L	93-03847	
WNW8609	TOX	05/25/93		10.40	μg/L	93-05664	
WNW8609	TOX	05/25/93		14.70	μg/L	93-05601	
WNW8609	TOX	07/12/93		11.60	μg/L	93-07016	
WNW8609	TOX	11/11/93		10.20	μg/L	93-12001	
WNW8609	TOX	03/09/94		12.60	μg/L	94-00291	
WNW8609	TOX	05/19/94		13.60	μg/L	94-03766	
WNW8609	TOX	05/19/94		14.20	μg/L	94-03098	
WNW8609	TOX	07/11/94		11.40	μg/L	94-06851	
WNW8609	TOX	10/06/94		11.00	μg/L	94-10795	

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Appendix D

Expanded Groundwater Program Data

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HLWSA Groundwater Metals Analyte Data
from the 4th Rd. 1993 and 2nd Rd. 1994

Well_ID	Parameter	Samp_Date	Chr_Data	Result	Units	Sample_ID	Flags
WNW0401	Aluminum	11/04/93		240.00	µg/L	93-11450	
WNW0401	Aluminum	05/04/94		830.00	µg/L	94-02994	
WNW0401	Calcium	11/04/93		175000.00	µg/L	93-11450	
WNW0401	Calcium	05/04/94		221000.00	µg/L	94-02994	
WNW0401	Iron	11/04/93		752.00	µg/L	93-11450	
WNW0401	Iron	05/04/94		3600.00	µg/L	94-02994	
WNW0401	Magnesium	11/04/93		19100.00	µg/L	93-11450	
WNW0401	Magnesium	05/04/94		21400.00	µg/L	94-02994	
WNW0401	Manganese	11/04/93		27.00	µg/L	93-11450	
WNW0401	Manganese	05/04/94		89.00	µg/L	94-02994	
WNW0401	Potassium	11/04/93		1870.00	µg/L	93-11450	
WNW0401	Potassium	05/04/94		2100.00	µg/L	94-02994	
WNW0401	Sodium	11/04/93		155000.00	µg/L	93-11450	
WNW0401	Sodium	05/04/94		185000.00	µg/L	94-02994	
WNW0403	Aluminum	11/04/93		790.00	µg/L	93-11459	
WNW0403	Aluminum	05/05/94		810.00	µg/L	94-03003	
WNW0403	Calcium	11/04/93		125000.00	µg/L	93-11459	
WNW0403	Calcium	05/05/94		212000.00	µg/L	94-03003	
WNW0403	Iron	11/04/93		1310.00	µg/L	93-11459	
WNW0403	Iron	05/05/94		1900.00	µg/L	94-03003	
WNW0403	Magnesium	11/04/93		8830.00	µg/L	93-11459	
WNW0403	Magnesium	05/05/94		15400.00	µg/L	94-03003	
WNW0403	Manganese	11/04/93		86.00	µg/L	93-11459	
WNW0403	Manganese	05/05/94		63.00	µg/L	94-03003	
WNW0403	Potassium	11/04/93		1440.00	µg/L	93-11459	
WNW0403	Potassium	05/05/94		2300.00	µg/L	94-03003	
WNW0403	Sodium	11/04/93		28800.00	µg/L	93-11459	
WNW0403	Sodium	05/05/94		90600.00	µg/L	94-03003	
WNW0405	Aluminum	11/08/93		118.00	µg/L	93-11671	
WNW0405	Aluminum	05/04/94		380.00	µg/L	94-03041	
WNW0405	Antimony	11/08/93	ND<3.000	3.00	µg/L	93-11671	
WNW0405	Antimony	05/04/94	ND<6.000	6.00	µg/L	94-03041	
WNW0405	Arsenic	11/08/93	ND<3.000	3.00	µg/L	93-11671	
WNW0405	Arsenic	05/04/94	ND<3.000	3.00	µg/L	94-03041	
WNW0405	Barium	11/08/93		55.70	µg/L	93-11671	
WNW0405	Barium	05/04/94		48.00	µg/L	94-03041	
WNW0405	Beryllium	11/08/93	ND<3.000	3.00	µg/L	93-11671	
WNW0405	Beryllium	05/04/94	ND<3.000	3.00	µg/L	94-03041	
WNW0405	Cadmium	11/08/93	ND<0.200	0.20	µg/L	93-11671	
WNW0405	Cadmium	05/04/94	ND<0.200	0.20	µg/L	94-03041	
WNW0405	Calcium	11/08/93		116000.00	µg/L	93-11671	
WNW0405	Calcium	05/04/94		110000.00	µg/L	94-03041	
WNW0405	Chromium	11/08/93		446.00	µg/L	93-11671	
WNW0405	Chromium	05/04/94		35.70	µg/L	94-03041	

HLWSA Groundwater Metals Analyte Data
from the 4th Rd. 1993 and 2nd Rd. 1994

Well_ID	Parameter	Samp_Date	Chr_Data	Result	Units	Sample_ID	Flags
WNW0405	Cobalt	11/08/93	ND<20.00	20.00	µg/L	93-11671	
WNW0405	Cobalt	05/04/94	ND<10.00	10.00	µg/L	94-03041	
WNW0405	Copper	11/08/93		13.60	µg/L	93-11671	
WNW0405	Copper	05/04/94	ND<10.00	10.00	µg/L	94-03041	
WNW0405	Iron	11/08/93		1010.00	µg/L	93-11671	
WNW0405	Iron	05/04/94		813.00	µg/L	94-03041	
WNW0405	Lead	11/08/93	ND<2.00	2.00	µg/L	93-11671	
WNW0405	Lead	05/04/94	ND<2.00	2.00	µg/L	94-03041	
WNW0405	Magnesium	11/08/93		21800.00	µg/L	93-11671	
WNW0405	Magnesium	05/04/94		19600.00	µg/L	94-03041	
WNW0405	Manganese	11/08/93		74.00	µg/L	93-11671	R
WNW0405	Manganese	05/04/94		68.00	µg/L	94-03041	
WNW0405	Mercury	11/08/93	ND<0.20	0.20	µg/L	93-11671	
WNW0405	Mercury	05/04/94	ND<0.20	0.20	µg/L	94-03041	
WNW0405	Nickel	11/08/93		169.00	µg/L	93-11671	
WNW0405	Nickel	05/04/94		89.90	µg/L	94-03041	
WNW0405	Potassium	11/08/93		2520.00	µg/L	93-11671	
WNW0405	Potassium	05/04/94		1880.00	µg/L	94-03041	
WNW0405	Selenium	11/08/93	ND<3.00	3.00	µg/L	93-11671	
WNW0405	Selenium	05/04/94	ND<3.00	3.00	µg/L	94-03041	
WNW0405	Silver	11/08/93	ND<0.20	0.20	µg/L	93-11671	
WNW0405	Silver	05/04/94	ND<0.60	0.60	µg/L	94-03041	
WNW0405	Sodium	11/08/93		41700.00	µg/L	93-11671	
WNW0405	Sodium	11/08/93		41700.00	µg/L	93-11671	
WNW0405	Sodium	05/04/94		36200.00	µg/L	94-03041	
WNW0405	Thallium	11/08/93	ND<3.00	3.00	µg/L	93-11671	
WNW0405	Thallium	05/04/94	ND<3.00	3.00	µg/L	94-03041	
WNW0405	Vanadium	11/08/93	ND<20.00	20.00	µg/L	93-11671	
WNW0405	Vanadium	05/04/94	ND<10.00	10.00	µg/L	94-03041	
WNW0405	Zinc	11/08/93	ND<10.00	10.00	µg/L	93-11671	
WNW0405	Zinc	05/04/94	ND<10.00	10.00	µg/L	94-03041	
WNW0406	Aluminum	11/04/93		2270.00	µg/L	93-11691	
WNW0406	Aluminum	05/04/94		1170.00	µg/L	94-03057	
WNW0406	Antimony	11/04/93	ND<3.00	3.00	µg/L	93-11691	
WNW0406	Antimony	05/04/94	ND<6.00	6.00	µg/L	94-03057	
WNW0406	Arsenic	11/04/93	ND<3.00	3.00	µg/L	93-11691	
WNW0406	Arsenic	05/04/94	ND<3.00	3.00	µg/L	94-03057	
WNW0406	Barium	11/04/93		116.00	µg/L	93-11691	
WNW0406	Barium	05/04/94		105.00	µg/L	94-03057	
WNW0406	Beryllium	11/04/93	ND<3.00	3.00	µg/L	93-11691	
WNW0406	Beryllium	05/04/94	ND<3.00	3.00	µg/L	94-03057	
WNW0406	Cadmium	11/04/93	ND<0.20	0.20	µg/L	93-11691	
WNW0406	Cadmium	05/04/94	ND<0.20	0.20	µg/L	94-03057	
WNW0406	Calcium	11/04/93		93400.00	µg/L	93-11691	

HLWSA Groundwater Metals Analyte Data
from the 4th Rd. 1993 and 2nd Rd. 1994

Well_ID	Parameter	Samp_Date	Chr_Data	Result	Units	Sample_ID	Flags
WNW0406	Calcium	05/04/94		94300.00	µg/L	94-03057	
WNW0406	Chromium	11/04/93	ND<10.00	10.00	µg/L	93-11691	
WNW0406	Chromium	05/04/94	ND<10.00	10.00	µg/L	94-03057	
WNW0406	Cobalt	11/04/93	ND<20.00	20.00	µg/L	93-11691	
WNW0406	Cobalt	05/04/94	ND<10.00	10.00	µg/L	94-03057	
WNW0406	Copper	11/04/93	ND<10.00	10.00	µg/L	93-11691	
WNW0406	Copper	05/04/94	ND<10.00	10.00	µg/L	94-03057	
WNW0406	Iron	11/04/93		2350.00	µg/L	93-11691	
WNW0406	Iron	05/04/94		2090.00	µg/L	94-03057	
WNW0406	Lead	11/04/93		2.00	µg/L	93-11691	
WNW0406	Lead	05/04/94	ND<2.00	2.00	µg/L	94-03057	
WNW0406	Magnesium	11/04/93		13000.00	µg/L	93-11691	
WNW0406	Magnesium	05/04/94		12400.00	µg/L	94-03057	
WNW0406	Manganese	11/04/93		3630.00	µg/L	93-11691	
WNW0406	Manganese	05/04/94		3730.00	µg/L	94-03057	
WNW0406	Mercury	11/04/93	ND<0.20	0.20	µg/L	93-11691	
WNW0406	Mercury	05/04/94	ND<0.20	0.20	µg/L	94-03057	
WNW0406	Nickel	11/04/93	ND<30.00	30.00	µg/L	93-11691	
WNW0406	Nickel	05/04/94	ND<30.00	30.00	µg/L	94-03057	
WNW0406	Potassium	11/04/93		3050.00	µg/L	93-11691	
WNW0406	Potassium	05/04/94		1990.00	µg/L	94-03057	
WNW0406	Selenium	11/04/93	ND<3.00	3.00	µg/L	93-11691	
WNW0406	Selenium	05/04/94	ND<3.00	3.00	µg/L	94-03057	
WNW0406	Silver	11/04/93	ND<0.20	0.20	µg/L	93-11691	
WNW0406	Silver	05/04/94	ND<0.60	0.60	µg/L	94-03057	
WNW0406	Sodium	11/04/93		14200.00	µg/L	93-11691	
WNW0406	Sodium	11/04/93		14200.00	µg/L	93-11691	
WNW0406	Sodium	05/04/94		15400.00	µg/L	94-03057	
WNW0406	Thallium	11/04/93	ND<3.00	3.00	µg/L	93-11691	
WNW0406	Thallium	05/04/94	ND<3.00	3.00	µg/L	94-03057	
WNW0406	Vanadium	11/04/93	ND<20.00	20.00	µg/L	93-11691	
WNW0406	Vanadium	05/04/94	ND<10.00	10.00	µg/L	94-03057	
WNW0406	Zinc	11/04/93		13.50	µg/L	93-11691	
WNW0406	Zinc	05/04/94		31.60	µg/L	94-03057	
WNW0408	Aluminum	12/07/93		406.00	µg/L	93-12953	
WNW0408	Aluminum	05/09/94		397.00	µg/L	94-04139	
WNW0408	Antimony	12/07/93	ND<12.00	12.00	µg/L	93-12953	
WNW0408	Antimony	05/09/94	ND<20.00	20.00	µg/L	94-04139	
WNW0408	Arsenic	12/07/93	ND<1.00	1.00	µg/L	93-12953	
WNW0408	Arsenic	05/09/94	ND<1.00	1.00	µg/L	94-04139	
WNW0408	Barium	12/07/93		332.00	µg/L	93-12953	
WNW0408	Barium	05/09/94		291.00	µg/L	94-04139	
WNW0408	Beryllium	12/07/93	ND<1.00	1.00	µg/L	93-12953	
WNW0408	Beryllium	05/09/94	ND<1.00	1.00	µg/L	94-04139	

HLWSA Groundwater Metals Analyte Data
from the 4th Rd. 1993 and 2nd Rd. 1994

Well_ID	Parameter	Samp_Date	Chr_Data	Result	Units	Sample_ID	Flags
WNW0408	Cadmium	12/07/93	ND<2.00	2.00	µg/L	93-12953	
WNW0408	Cadmium	05/09/94		3.00	µg/L	94-04139	
WNW0408	Calcium	12/07/93		152000.00	µg/L	93-12953	
WNW0408	Calcium	05/09/94		146000.00	µg/L	94-04139	
WNW0408	Chromium	12/07/93		14.60	µg/L	93-12953	
WNW0408	Chromium	05/09/94		39.00	µg/L	94-04139	
WNW0408	Cobalt	12/07/93	ND<3.00	3.00	µg/L	93-12953	
WNW0408	Cobalt	05/09/94	ND<3.00	3.00	µg/L	94-04139	
WNW0408	Copper	12/07/93		4.70	µg/L	93-12953	
WNW0408	Copper	05/09/94		5.20	µg/L	94-04139	
WNW0408	Iron	12/07/93		616.00	µg/L	93-12953	J
WNW0408	Iron	05/09/94		1250.00	µg/L	94-04139	
WNW0408	Lead	12/07/93		1.10	µg/L	93-12953	
WNW0408	Lead	05/09/94		11.40	µg/L	94-04139	J
WNW0408	Magnesium	12/07/93		23600.00	µg/L	93-12953	
WNW0408	Magnesium	05/09/94		24200.00	µg/L	94-04139	
WNW0408	Manganese	12/07/93		199.00	µg/L	93-12953	
WNW0408	Manganese	05/09/94		76.00	µg/L	94-04139	
WNW0408	Mercury	12/07/93	ND<0.15	0.15	µg/L	93-12953	
WNW0408	Mercury	05/09/94		0.30	µg/L	94-04139	
WNW0408	Nickel	12/07/93		180.00	µg/L	93-12953	
WNW0408	Nickel	05/09/94		192.00	µg/L	94-04139	
WNW0408	Potassium	12/07/93		3310.00	µg/L	93-12953	
WNW0408	Potassium	05/09/94		3610.00	µg/L	94-04139	
WNW0408	Selenium	12/07/93	ND<1.00	1.00	µg/L	93-12953	
WNW0408	Selenium	05/09/94	ND<1.00	1.00	µg/L	94-04139	
WNW0408	Silver	12/07/93	ND<3.00	3.00	µg/L	93-12953	
WNW0408	Silver	05/09/94		8.80	µg/L	94-04139	
WNW0408	Sodium	12/07/93		87800.00	µg/L	93-12953	
WNW0408	Sodium	12/07/93		87800.00	µg/L	93-12953	
WNW0408	Sodium	05/09/94		91000.00	µg/L	94-04139	
WNW0408	Thallium	12/07/93	ND<1.00	1.00	µg/L	93-12953	J
WNW0408	Thallium	05/09/94	ND<1.00	1.00	µg/L	94-04139	UJ
WNW0408	Vanadium	12/07/93	ND<3.00	3.00	µg/L	93-12953	
WNW0408	Vanadium	05/09/94		2.20	µg/L	94-04139	
WNW0408	Zinc	12/07/93		13.20	µg/L	93-12953	
WNW0408	Zinc	05/09/94		7.80	µg/L	94-04139	
WNW8607	Aluminum	11/04/93		200.00	µg/L	93-11486	
WNW8607	Aluminum	05/04/94	ND<90.00	90.00	µg/L	94-03085	
WNW8607	Calcium	11/04/93		115000.00	µg/L	93-11486	
WNW8607	Calcium	05/04/94		137000.00	µg/L	94-03085	
WNW8607	Iron	11/04/93		111.00	µg/L	93-11486	
WNW8607	Iron	05/04/94		100.00	µg/L	94-03085	
WNW8607	Magnesium	11/04/93		14500.00	µg/L	93-11486	

HLWSA Groundwater Metals Analyte Data
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Well_ID	Parameter	Samp_Date	Chr_Data	Result	Units	Sample_ID	Flags
WNW8607	Magnesium	05/04/94		18000.00	µg/L	94-03085	
WNW8607	Manganese	11/04/93		5.00	µg/L	93-11486	
WNW8607	Manganese	05/04/94		7.00	µg/L	94-03085	
WNW8607	Potassium	11/04/93		2330.00	µg/L	93-11486	
WNW8607	Potassium	05/04/94		2700.00	µg/L	94-03085	
WNW8607	Sodium	11/04/93		14500.00	µg/L	93-11486	
WNW8607	Sodium	11/04/93		14500.00	µg/L	93-11486	
WNW8607	Sodium	05/04/94		103000.00	µg/L	94-03085	
WNW8609	Aluminum	11/11/93	ND<90.00	90.00	µg/L	93-12005	
WNW8609	Aluminum	05/19/94	ND<90.00	90.00	µg/L	94-03107	
WNW8609	Aluminum	05/19/94	ND<90.00	90.00	µg/L	94-03775	
WNW8609	Antimony	11/11/93	ND<3.00	3.00	µg/L	93-12005	
WNW8609	Antimony	05/19/94	ND<6.00	6.00	µg/L	94-03107	
WNW8609	Antimony	05/19/94	ND<6.00	6.00	µg/L	94-03775	
WNW8609	Arsenic	11/11/93	ND<3.00	3.00	µg/L	93-12005	
WNW8609	Arsenic	05/19/94	ND<3.00	3.00	µg/L	94-03775	
WNW8609	Arsenic	05/19/94	ND<3.00	3.00	µg/L	94-03107	
WNW8609	Barium	11/11/93		188.00	µg/L	93-12005	
WNW8609	Barium	05/19/94		190.00	µg/L	94-03775	
WNW8609	Barium	05/19/94		182.00	µg/L	94-03107	
WNW8609	Beryllium	11/11/93	ND<3.00	3.00	µg/L	93-12005	
WNW8609	Beryllium	05/19/94	ND<3.00	3.00	µg/L	94-03107	
WNW8609	Beryllium	05/19/94	ND<3.00	3.00	µg/L	94-03775	
WNW8609	Cadmium	11/11/93	ND<0.20	0.20	µg/L	93-12005	
WNW8609	Cadmium	05/19/94	ND<0.20	0.20	µg/L	94-03775	
WNW8609	Cadmium	05/19/94	ND<0.20	0.20	µg/L	94-03107	
WNW8609	Calcium	11/11/93		103000.00	µg/L	93-12005	
WNW8609	Calcium	05/19/94		115000.00	µg/L	94-03775	
WNW8609	Calcium	05/19/94		111000.00	µg/L	94-03107	
WNW8609	Chromium	11/11/93	ND<10.00	10.00	µg/L	93-12005	
WNW8609	Chromium	05/19/94	ND<10.00	10.00	µg/L	94-03107	
WNW8609	Chromium	05/19/94	ND<10.00	10.00	µg/L	94-03775	
WNW8609	Cobalt	11/11/93	ND<20.00	20.00	µg/L	93-12005	
WNW8609	Cobalt	05/19/94	ND<10.00	10.00	µg/L	94-03107	
WNW8609	Cobalt	05/19/94	ND<10.00	10.00	µg/L	94-03775	
WNW8609	Copper	11/11/93		10.20	µg/L	93-12005	
WNW8609	Copper	05/19/94	ND<10.00	10.00	µg/L	94-03775	
WNW8609	Copper	05/19/94	ND<10.00	10.00	µg/L	94-03107	
WNW8609	Iron	11/11/93		42.00	µg/L	93-12005	
WNW8609	Iron	05/19/94		56.00	µg/L	94-03107	
WNW8609	Iron	05/19/94		44.00	µg/L	94-03775	
WNW8609	Lead	11/11/93	ND<2.00	2.00	µg/L	93-12005	
WNW8609	Lead	05/19/94	ND<2.00	2.00	µg/L	94-03775	
WNW8609	Lead	05/19/94	ND<2.00	2.00	µg/L	94-03107	

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Well_ID	Parameter	Samp_Date	Chr_Data	Result	Units	Sample_ID	Flags
WNW8609	Magnesium	11/11/93		14200.00	µg/L	93-12005	
WNW8609	Magnesium	05/19/94		14800.00	µg/L	94-03775	
WNW8609	Magnesium	05/19/94		14200.00	µg/L	94-03107	
WNW8609	Manganese	11/11/93		8.00	µg/L	93-12005	
WNW8609	Manganese	05/19/94		6.00	µg/L	94-03107	
WNW8609	Manganese	05/19/94		7.00	µg/L	94-03775	
WNW8609	Mercury	11/11/93	ND<0.20	0.20	µg/L	93-12005	
WNW8609	Mercury	05/19/94	ND<0.20	0.20	µg/L	94-03107	
WNW8609	Mercury	05/19/94	ND<0.20	0.20	µg/L	94-03775	
WNW8609	Nickel	11/11/93	ND<30.00	30.00	µg/L	93-12005	
WNW8609	Nickel	05/19/94	ND<20.00	20.00	µg/L	94-03775	
WNW8609	Nickel	05/19/94	ND<20.00	20.00	µg/L	94-03107	
WNW8609	Potassium	11/11/93		1440.00	µg/L	93-12005	
WNW8609	Potassium	05/19/94		1300.00	µg/L	94-03107	
WNW8609	Potassium	05/19/94		1350.00	µg/L	94-03775	
WNW8609	Selenium	11/11/93	ND<3.00	3.00	µg/L	93-12005	
WNW8609	Selenium	05/19/94	ND<3.00	3.00	µg/L	94-03107	
WNW8609	Selenium	05/19/94	ND<3.00	3.00	µg/L	94-03775	
WNW8609	Silver	11/11/93	ND<0.20	0.20	µg/L	93-12005	
WNW8609	Silver	05/19/94	ND<0.30	0.30	µg/L	94-03107	UJ
WNW8609	Silver	05/19/94	ND<0.30	0.30	µg/L	94-03775	UJ
WNW8609	Sodium	11/11/93		14700.00	µg/L	93-12005	
WNW8609	Sodium	05/19/94		16900.00	µg/L	94-03775	
WNW8609	Sodium	05/19/94		16300.00	µg/L	94-03107	
WNW8609	Thallium	11/11/93	ND<3.00	3.00	µg/L	93-12005	
WNW8609	Thallium	05/19/94	ND<5.00	5.00	µg/L	94-03775	
WNW8609	Thallium	05/19/94	ND<5.00	5.00	µg/L	94-03107	
WNW8609	Vanadium	11/11/93	ND<20.00	20.00	µg/L	93-12005	
WNW0406	Vanadium	05/04/94	ND<10.00	10.00	µg/L	94-03057	
WNW0408	Vanadium	05/09/94		2.20	µg/L	94-04139	
WNW8609	Zinc	11/11/93		10.90	µg/L	93-12005	
WNW8609	Zinc	05/19/94	ND<10.00	10.00	µg/L	94-03775	
WNW8609	Zinc	05/19/94		13.00	µg/L	94-03107	
BACKGROUND							
WNW0301	Aluminum	10/29/93		9430.00	µg/L	93-11090	
WNW0301	Aluminum	05/16/94		3000.00	µg/L	94-03821	
WNW0301	Calcium	10/29/93		102000.00	µg/L	93-11090	
WNW0301	Calcium	05/16/94		132000.00	µg/L	94-03821	
WNW0301	Iron	10/29/93		16700.00	µg/L	93-11090	
WNW0301	Iron	05/16/94		14800.00	µg/L	94-03821	
WNW0301	Magnesium	10/29/93		11400.00	µg/L	93-11090	
WNW0301	Magnesium	05/16/94		12600.00	µg/L	94-03821	
WNW0301	Manganese	10/29/93		411.00	µg/L	93-11090	

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Well_ID	Parameter	Samp_Date	Chr_Data	Result	Units	Sample_ID	Flags
WNW0301	Manganese	05/16/94		480.00	µg/L	94-03821	
WNW0301	Potassium	10/29/93		3760.00	µg/L	93-11090	
WNW0301	Potassium	05/16/94		2100.00	µg/L	94-03821	
WNW0301	Sodium	10/29/93		22900.00	µg/L	93-11090	
WNW0301	Sodium	05/16/94		46200.00	µg/L	94-03821	
WNW0401	Aluminum	11/04/93		240.00	µg/L	93-11450	
WNW0401	Aluminum	05/04/94		830.00	µg/L	94-02994	
WNW0401	Calcium	11/04/93		175000.00	µg/L	93-11450	
WNW0401	Calcium	05/04/94		221000.00	µg/L	94-02994	
WNW0401	Iron	11/04/93		752.00	µg/L	93-11450	
WNW0401	Iron	05/04/94		3600.00	µg/L	94-02994	
WNW0401	Magnesium	11/04/93		19100.00	µg/L	93-11450	
WNW0401	Magnesium	05/04/94		21400.00	µg/L	94-02994	
WNW0401	Manganese	11/04/93		27.00	µg/L	93-11450	
WNW0401	Manganese	05/04/94		89.00	µg/L	94-02994	
WNW0401	Potassium	11/04/93		1870.00	µg/L	93-11450	
WNW0401	Potassium	05/04/94		2100.00	µg/L	94-02994	
WNW0401	Sodium	11/04/93		155000.00	µg/L	93-11450	
WNW0401	Sodium	05/04/94		185000.00	µg/L	94-02994	
WNW0706	Aluminum	11/05/93		9600.00	µg/L	93-11603	
WNW0706	Aluminum	05/05/94		2700.00	µg/L	94-03479	
WNW0706	Calcium	11/05/93		69300.00	µg/L	93-11603	
WNW0706	Calcium	05/05/94		87300.00	µg/L	94-03479	
WNW0706	Iron	11/05/93		4280.00	µg/L	93-11603	
WNW0706	Iron	05/05/94		4300.00	µg/L	94-03479	
WNW0706	Magnesium	11/05/93		10700.00	µg/L	93-11603	
WNW0706	Magnesium	05/05/94		13400.00	µg/L	94-03479	
WNW0706	Manganese	11/05/93		230.00	µg/L	93-11603	
WNW0706	Manganese	05/05/94		150.00	µg/L	94-03479	
WNW0706	Potassium	11/05/93		1790.00	µg/L	93-11603	
WNW0706	Potassium	05/05/94		1500.00	µg/L	94-03479	
WNW0706	Sodium	11/05/93		3650.00	µg/L	93-11603	
WNW0706	Sodium	05/05/94		4600.00	µg/L	94-03479	

HLWSA Groundwater Volatiles Analyte Data
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Well_ID	Parameter	Samp_Date	Chr_Data	Result	Units	Sample_ID	Flags
WNW0405	acetone	11/08/93	ND<10.00	10.00	µg/L	93-11674	
WNW0405	acetone	05/04/94	ND<10.00	10.00	µg/L	94-03039	
WNW0405	benzene	11/08/93	ND<5.00	5.00	µg/L	93-11674	
WNW0405	benzene	05/04/94	ND<0.70	0.70	µg/L	94-03039	
WNW0405	br_meth	11/08/93	ND<10.00	10.00	µg/L	93-11674	UJ
WNW0405	br_meth	05/04/94	ND<10.00	10.00	µg/L	94-03039	
WNW0405	brdcmeth	11/08/93	ND<5.00	5.00	µg/L	93-11674	
WNW0405	brdcmeth	05/04/94	ND<5.00	5.00	µg/L	94-03039	
WNW0405	brform	11/08/93	ND<5.00	5.00	µg/L	93-11674	
WNW0405	brform	05/04/94	ND<5.00	5.00	µg/L	94-03039	
WNW0405	c_13_dcp	11/08/93	ND<5.00	5.00	µg/L	93-11674	
WNW0405	c_13_dcp	05/04/94	ND<5.00	5.00	µg/L	94-03039	
WNW0405	ccl4	11/08/93	ND<5.00	5.00	µg/L	93-11674	
WNW0405	ccl4	05/04/94	ND<5.00	5.00	µg/L	94-03039	
WNW0405	cl_benz	11/08/93	ND<5.00	5.00	µg/L	93-11674	
WNW0405	cl_benz	05/04/94	ND<5.00	5.00	µg/L	94-03039	
WNW0405	cl_eth	11/08/93	ND<10.00	10.00	µg/L	93-11674	
WNW0405	cl_eth	05/04/94	ND<5.00	5.00	µg/L	94-03039	
WNW0405	cl_form	11/08/93	ND<5.00	5.00	µg/L	93-11674	
WNW0405	cl_form	05/04/94	ND<5.00	5.00	µg/L	94-03039	
WNW0405	cl_meth	11/08/93	ND<10.00	10.00	µg/L	93-11674	
WNW0405	cl_meth	05/04/94	ND<5.00	5.00	µg/L	94-03039	
WNW0405	cs2	11/08/93	ND<5.00	5.00	µg/L	93-11674	
WNW0405	cs2	05/04/94	ND<5.00	5.00	µg/L	94-03039	
WNW0405	dbc_meth	11/08/93	ND<5.00	5.00	µg/L	93-11674	
WNW0405	dbc_meth	05/04/94	ND<5.00	5.00	µg/L	94-03039	
WNW0405	dca_11	11/08/93	ND<5.00	5.00	µg/L	93-11674	
WNW0405	dca_11	05/04/94	ND<5.00	5.00	µg/L	94-03039	
WNW0405	dca_12	11/08/93	ND<5.00	5.00	µg/L	93-11674	
WNW0405	dca_12	05/04/94	ND<5.00	5.00	µg/L	94-03039	
WNW0405	dce_11	11/08/93	ND<5.00	5.00	µg/L	93-11674	
WNW0405	dce_11	05/04/94	ND<5.00	5.00	µg/L	94-03039	
WNW0405	dce_12_t	11/08/93	ND<5.00	5.00	µg/L	93-11674	
WNW0405	dce_12_t	05/04/94	ND<5.00	5.00	µg/L	94-03039	UJ
WNW0405	dcp_12	11/08/93	ND<5.00	5.00	µg/L	93-11674	
WNW0405	dcp_12	05/04/94	ND<5.00	5.00	µg/L	94-03039	
WNW0405	eth_benz	11/08/93	ND<5.00	5.00	µg/L	93-11674	
WNW0405	eth_benz	05/04/94	ND<5.00	5.00	µg/L	94-03039	
WNW0405	hexnone2	11/08/93	ND<10.00	10.00	µg/L	93-11674	
WNW0405	hexnone2	05/04/94	ND<10.00	10.00	µg/L	94-03039	
WNW0405	mek	11/08/93	ND<10.00	10.00	µg/L	93-11674	
WNW0405	mek	05/04/94	ND<10.00	10.00	µg/L	94-03039	
WNW0405	mene_cl	11/08/93	ND<5.00	5.00	µg/L	93-11674	
WNW0405	mene_cl	05/04/94	ND<5.00	5.00	µg/L	94-03039	
WNW0405	mibk	11/08/93	ND<10.00	10.00	µg/L	93-11674	

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Well_ID	Parameter	Samp_Date	Chr_Data	Result	Units	Sample_ID	Flags
WNW0405	mibk	05/04/94	ND<10.00	10.00	µg/L	94-03039	
WNW0405	styrene	11/08/93	ND<5.00	5.00	µg/L	93-11674	
WNW0405	styrene	05/04/94	ND<5.00	5.00	µg/L	94-03039	
WNW0405	t_13_dcp	11/08/93	ND<5.00	5.00	µg/L	93-11674	
WNW0405	t_13_dcp	05/04/94	ND<5.00	5.00	µg/L	94-03039	
WNW0405	tca_111	11/08/93	ND<5.00	5.00	µg/L	93-11674	
WNW0405	tca_111	05/04/94	ND<5.00	5.00	µg/L	94-03039	
WNW0405	tca_112	11/08/93	ND<5.00	5.00	µg/L	93-11674	
WNW0405	tca_112	05/04/94	ND<5.00	5.00	µg/L	94-03039	
WNW0405	tca_1122	11/08/93	ND<5.00	5.00	µg/L	93-11674	
WNW0405	tca_1122	05/04/94	ND<5.00	5.00	µg/L	94-03039	
WNW0405	tcb_124	11/08/93	ND<10.00	10.00	µg/L	93-11675	
WNW0405	tcb_124	05/04/94	ND<10.00	10.00	µg/L	94-03040	
WNW0405	tetcleth	11/08/93	ND<5.00	5.00	µg/L	93-11674	
WNW0405	tetcleth	05/04/94	ND<5.00	5.00	µg/L	94-03039	
WNW0405	toluene	11/08/93	ND<5.00	5.00	µg/L	93-11674	
WNW0405	toluene	05/04/94	ND<5.00	5.00	µg/L	94-03039	
WNW0405	tricleth	11/08/93	ND<5.00	5.00	µg/L	93-11674	
WNW0405	tricleth	05/04/94	ND<5.00	5.00	µg/L	94-03039	
WNW0405	vnyl_cl	11/08/93	ND<10.00	10.00	µg/L	93-11674	
WNW0405	vnyl_cl	05/04/94	ND<2.00	2.00	µg/L	94-03039	
WNW0405	xylene	11/08/93	ND<5.00	5.00	µg/L	93-11674	
WNW0405	xylene	05/04/94	ND<5.00	5.00	µg/L	94-03039	
WNW0406	acetone	11/04/93	ND<10.00	10.00	µg/L	93-11694	
WNW0406	acetone	05/04/94	ND<10.00	10.00	µg/L	94-03055	
WNW0406	benzene	11/04/93	ND<5.00	5.00	µg/L	93-11694	
WNW0406	benzene	05/04/94	ND<0.70	0.70	µg/L	94-03055	
WNW0406	br_meth	11/04/93	ND<10.00	10.00	µg/L	93-11694	
WNW0406	br_meth	05/04/94	ND<10.00	10.00	µg/L	94-03055	
WNW0406	brdcmeth	11/04/93	ND<5.00	5.00	µg/L	93-11694	
WNW0406	brdcmeth	05/04/94	ND<5.00	5.00	µg/L	94-03055	
WNW0406	brform	11/04/93	ND<5.00	5.00	µg/L	93-11694	
WNW0406	brform	05/04/94	ND<5.00	5.00	µg/L	94-03055	
WNW0406	c_13_dcp	11/04/93	ND<5.00	5.00	µg/L	93-11694	
WNW0406	c_13_dcp	05/04/94	ND<5.00	5.00	µg/L	94-03055	
WNW0406	ccl4	11/04/93	ND<5.00	5.00	µg/L	93-11694	
WNW0406	ccl4	05/04/94	ND<5.00	5.00	µg/L	94-03055	
WNW0406	cl_benz	11/04/93	ND<5.00	5.00	µg/L	93-11694	
WNW0406	cl_benz	05/04/94	ND<5.00	5.00	µg/L	94-03055	
WNW0406	cl_eth	11/04/93	ND<10.00	10.00	µg/L	93-11694	
WNW0406	cl_eth	05/04/94	ND<5.00	5.00	µg/L	94-03055	
WNW0406	cl_form	11/04/93	ND<5.00	5.00	µg/L	93-11694	
WNW0406	cl_form	05/04/94	ND<5.00	5.00	µg/L	94-03055	
WNW0406	cl_meth	11/04/93	ND<10.00	10.00	µg/L	93-11694	UJ
WNW0406	cl_meth	05/04/94	ND<5.00	5.00	µg/L	94-03055	

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Well_ID	Parameter	Samp_Date	Chr_Data	Result	Units	Sample_ID	Flags
WNW0406	cs2	11/04/93	ND<5.00	5.00	µg/L	93-11694	
WNW0406	cs2	05/04/94	ND<5.00	5.00	µg/L	94-03055	
WNW0406	dbc_meth	11/04/93	ND<5.00	5.00	µg/L	93-11694	
WNW0406	dbc_meth	05/04/94	ND<5.00	5.00	µg/L	94-03055	
WNW0406	dca_11	11/04/93	ND<5.00	5.00	µg/L	93-11694	
WNW0406	dca_11	05/04/94	ND<5.00	5.00	µg/L	94-03055	
WNW0406	dca_12	11/04/93	ND<5.00	5.00	µg/L	93-11694	
WNW0406	dca_12	05/04/94	ND<5.00	5.00	µg/L	94-03055	
WNW0406	dce_11	11/04/93	ND<5.00	5.00	µg/L	93-11694	
WNW0406	dce_11	05/04/94	ND<5.00	5.00	µg/L	94-03055	
WNW0406	dce_12_t	11/04/93	ND<5.00	5.00	µg/L	93-11694	
WNW0406	dce_12_t	05/04/94	ND<5.00	5.00	µg/L	94-03055	UJ
WNW0406	dcp_12	11/04/93	ND<5.00	5.00	µg/L	93-11694	
WNW0406	dcp_12	05/04/94	ND<5.00	5.00	µg/L	94-03055	
WNW0406	eth_benz	11/04/93	ND<5.00	5.00	µg/L	93-11694	
WNW0406	eth_benz	05/04/94	ND<5.00	5.00	µg/L	94-03055	
WNW0406	hexnone2	11/04/93	ND<10.00	10.00	µg/L	93-11694	
WNW0406	hexnone2	05/04/94	ND<10.00	10.00	µg/L	94-03055	
WNW0406	mek	11/04/93	ND<10.00	10.00	µg/L	93-11694	
WNW0406	mek	05/04/94	ND<10.00	10.00	µg/L	94-03055	
WNW0406	mene_cl	11/04/93	ND<5.00	5.00	µg/L	93-11694	
WNW0406	mene_cl	05/04/94	ND<5.00	5.00	µg/L	94-03055	
WNW0406	mibk	11/04/93	ND<10.00	10.00	µg/L	93-11694	
WNW0406	mibk	05/04/94	ND<10.00	10.00	µg/L	94-03055	
WNW0406	styrene	11/04/93	ND<5.00	5.00	µg/L	93-11694	
WNW0406	styrene	05/04/94	ND<5.00	5.00	µg/L	94-03055	
WNW0406	t_13_dcp	11/04/93	ND<5.00	5.00	µg/L	93-11694	
WNW0406	t_13_dcp	05/04/94	ND<5.00	5.00	µg/L	94-03055	
WNW0406	tca_111	11/04/93	ND<5.00	5.00	µg/L	93-11694	
WNW0406	tca_111	05/04/94	ND<5.00	5.00	µg/L	94-03055	
WNW0406	tca_112	11/04/93	ND<5.00	5.00	µg/L	93-11694	
WNW0406	tca_112	05/04/94	ND<5.00	5.00	µg/L	94-03055	
WNW0406	tca_1122	11/04/93	ND<5.00	5.00	µg/L	93-11694	
WNW0406	tca_1122	05/04/94	ND<5.00	5.00	µg/L	94-03055	
WNW0406	tcb_124	11/04/93	ND<10.00	10.00	µg/L	93-11695	
WNW0406	tcb_124	05/04/94	ND<10.00	10.00	µg/L	94-03056	
WNW0406	tetcleth	11/04/93	ND<5.00	5.00	µg/L	93-11694	
WNW0406	tetcleth	05/04/94	ND<5.00	5.00	µg/L	94-03055	
WNW0406	toluene	11/04/93	ND<5.00	5.00	µg/L	93-11694	
WNW0406	toluene	05/04/94	ND<5.00	5.00	µg/L	94-03055	
WNW0406	tricleth	11/04/93	ND<5.00	5.00	µg/L	93-11694	
WNW0406	tricleth	05/04/94	ND<5.00	5.00	µg/L	94-03055	
WNW0406	vnyl_cl	11/04/93	ND<10.00	10.00	µg/L	93-11694	
WNW0406	vnyl_cl	05/04/94	ND<2.00	2.00	µg/L	94-03055	
WNW0406	xylene	11/04/93	ND<5.00	5.00	µg/L	93-11694	

HLWSA Groundwater Volatiles Analyte Data
from the 4th Rd. 1993 and 2nd Rd. 1994

Well_ID	Parameter	Samp_Date	Chr_Data	Result	Units	Sample_ID	Flags
WNW0406	xylene	05/04/94	ND<5.00	5.00	µg/L	94-03055	
WNW0408	acetone	12/06/93	ND<10.00	10.00	µg/L	93-12956	
WNW0408	acetone	05/09/94	ND<10.00	10.00	µg/L	94-04137	R
WNW0408	benzene	12/06/93	ND<5.00	5.00	µg/L	93-12956	
WNW0408	benzene	05/09/94	ND<0.70	0.70	µg/L	94-04137	
WNW0408	br_meth	12/06/93	ND<10.00	10.00	µg/L	93-12956	
WNW0408	br_meth	05/09/94	ND<10.00	10.00	µg/L	94-04137	
WNW0408	brdcmeth	12/06/93	ND<5.00	5.00	µg/L	93-12956	
WNW0408	brdcmeth	05/09/94	ND<5.00	5.00	µg/L	94-04137	
WNW0408	brform	12/06/93	ND<5.00	5.00	µg/L	93-12956	
WNW0408	brform	05/09/94	ND<5.00	5.00	µg/L	94-04137	
WNW0408	c_13_dcp	12/06/93	ND<5.00	5.00	µg/L	93-12956	
WNW0408	c_13_dcp	05/09/94	ND<5.00	5.00	µg/L	94-04137	
WNW0408	ccl4	12/06/93	ND<5.00	5.00	µg/L	93-12956	
WNW0408	ccl4	05/09/94	ND<5.00	5.00	µg/L	94-04137	
WNW0408	cl_benz	12/06/93	ND<5.00	5.00	µg/L	93-12956	
WNW0408	cl_benz	05/09/94	ND<5.00	5.00	µg/L	94-04137	
WNW0408	cl_eth	12/06/93	ND<10.00	10.00	µg/L	93-12956	
WNW0408	cl_eth	05/09/94	ND<5.00	5.00	µg/L	94-04137	
WNW0408	cl_form	12/06/93	ND<5.00	5.00	µg/L	93-12956	
WNW0408	cl_form	05/09/94	ND<5.00	5.00	µg/L	94-04137	
WNW0408	cl_meth	12/06/93	ND<10.00	10.00	µg/L	93-12956	
WNW0408	cl_meth	05/09/94	ND<5.00	5.00	µg/L	94-04137	
WNW0408	cs2	12/06/93	ND<5.00	5.00	µg/L	93-12956	
WNW0408	cs2	05/09/94	ND<5.00	5.00	µg/L	94-04137	
WNW0408	dbc_meth	12/06/93	ND<5.00	5.00	µg/L	93-12956	
WNW0408	dbc_meth	05/09/94	ND<5.00	5.00	µg/L	94-04137	
WNW0408	dca_11	12/06/93	ND<5.00	5.00	µg/L	93-12956	
WNW0408	dca_11	05/09/94	ND<5.00	5.00	µg/L	94-04137	
WNW0408	dca_12	12/06/93	ND<5.00	5.00	µg/L	93-12956	
WNW0408	dca_12	05/09/94	ND<5.00	5.00	µg/L	94-04137	
WNW0408	dce_11	12/06/93	ND<5.00	5.00	µg/L	93-12956	
WNW0408	dce_11	05/09/94	ND<5.00	5.00	µg/L	94-04137	
WNW0408	dce_12_t	12/06/93	ND<5.00	5.00	µg/L	93-12956	
WNW0408	dce_12_t	05/09/94	ND<5.00	5.00	µg/L	94-04137	
WNW0408	dcp_12	12/06/93	ND<5.00	5.00	µg/L	93-12956	
WNW0408	dcp_12	05/09/94	ND<5.00	5.00	µg/L	94-04137	
WNW0408	eth_benz	12/06/93	ND<5.00	5.00	µg/L	93-12956	
WNW0408	eth_benz	05/09/94	ND<5.00	5.00	µg/L	94-04137	
WNW0408	hexnone2	12/06/93	ND<10.00	10.00	µg/L	93-12956	
WNW0408	hexnone2	05/09/94	ND<10.00	10.00	µg/L	94-04137	
WNW0408	mek	12/06/93	ND<10.00	10.00	µg/L	93-12956	
WNW0408	mek	05/09/94	ND<10.00	10.00	µg/L	94-04137	
WNW0408	mene_cl	12/06/93		2.00	µg/L	93-12956	UJ

HLWSA Groundwater Volatiles Analyte Data
from the 4th Rd. 1993 and 2nd Rd. 1994

Well_ID	Parameter	Samp_Date	Chr_Data	Result	Units	Sample_ID	Flags
WNW0408	mene_cl	05/09/94		4.00	µg/L	94-04137	UJ
WNW0408	mibk	12/06/93	ND<10.00	10.00	µg/L	93-12956	
WNW0408	mibk	05/09/94	ND<10.00	10.00	µg/L	94-04137	UJ
WNW0408	styrene	12/06/93	ND<5.00	5.00	µg/L	93-12956	
WNW0408	styrene	05/09/94	ND<5.00	5.00	µg/L	94-04137	
WNW0408	t_13_dcp	12/06/93	ND<5.00	5.00	µg/L	93-12956	UJ
WNW0408	t_13_dcp	05/09/94	ND<5.00	5.00	µg/L	94-04137	
WNW0408	tca_111	12/06/93	ND<5.00	5.00	µg/L	93-12956	
WNW0408	tca_111	05/09/94	ND<5.00	5.00	µg/L	94-04137	
WNW0408	tca_112	12/06/93	ND<5.00	5.00	µg/L	93-12956	
WNW0408	tca_112	05/09/94	ND<5.00	5.00	µg/L	94-04137	
WNW0408	tca_1122	12/06/93	ND<5.00	5.00	µg/L	93-12956	
WNW0408	tca_1122	05/09/94	ND<5.00	5.00	µg/L	94-04137	
WNW0408	tcb_124	12/06/93	ND<10.00	10.00	µg/L	93-12957	
WNW0408	tcb_124	05/09/94	ND<9.90	9.90	µg/L	94-04138	
WNW0408	tetcleth	12/06/93	ND<5.00	5.00	µg/L	93-12956	
WNW0408	tetcleth	05/09/94	ND<5.00	5.00	µg/L	94-04137	
WNW0408	toluene	12/06/93		1.00	µg/L	93-12956	J
WNW0408	toluene	05/09/94	ND<5.00	5.00	µg/L	94-04137	
WNW0408	tricleth	12/06/93	ND<5.00	5.00	µg/L	93-12956	
WNW0408	tricleth	05/09/94	ND<5.00	5.00	µg/L	94-04137	
WNW0408	vnyl_cl	12/06/93	ND<10.00	10.00	µg/L	93-12956	
WNW0408	vnyl_cl	05/09/94	ND<2.00	2.00	µg/L	94-04137	
WNW0408	xylene	12/06/93	ND<5.00	5.00	µg/L	93-12956	
WNW0408	xylene	05/09/94	ND<5.00	5.00	µg/L	94-04137	
WNW8609	acetone	11/11/93	ND<10.00	10.00	µg/L	93-12006	UJ
WNW8609	acetone	11/11/93	ND<10.00	10.00	µg/L	93-12006	UJ
WNW8609	acetone	05/19/94	ND<10.00	10.00	µg/L	94-03105	
WNW8609	acetone	05/19/94	ND<10.00	10.00	µg/L	94-03105	
WNW8609	acetone	05/19/94	ND<10.00	10.00	µg/L	94-03773	
WNW8609	acetone	05/19/94	ND<10.00	10.00	µg/L	94-03773	
WNW8609	acnitril	11/11/93	ND<100.00	100.00	µg/L	93-12006	
WNW8609	acnitril	11/11/93	ND<100.00	100.00	µg/L	93-12006	
WNW8609	acnitril	05/19/94	ND<100.00	100.00	µg/L	94-03105	
WNW8609	acnitril	05/19/94	ND<100.00	100.00	µg/L	94-03105	
WNW8609	acnitril	05/19/94	ND<100.00	100.00	µg/L	94-03773	
WNW8609	acnitril	05/19/94	ND<100.00	100.00	µg/L	94-03773	
WNW8609	acrolein	11/11/93	ND<5.00	5.00	µg/L	93-12006	
WNW8609	acrolein	11/11/93	ND<5.00	5.00	µg/L	93-12006	
WNW8609	acrolein	05/19/94	ND<5.00	5.00	µg/L	94-03105	
WNW8609	acrolein	05/19/94	ND<5.00	5.00	µg/L	94-03105	
WNW8609	acrolein	05/19/94	ND<5.00	5.00	µg/L	94-03773	
WNW8609	acrolein	05/19/94	ND<5.00	5.00	µg/L	94-03773	
WNW8609	acrynitr	11/11/93	ND<5.00	5.00	µg/L	93-12006	

HLWSA Groundwater Volatiles Analyte Data
from the 4th Rd. 1993 and 2nd Rd. 1994

Well_ID	Parameter	Samp_Date	Chr_Data	Result	Units	Sample_ID	Flags
WNW8609	acrynitr	11/11/93	ND<5.00	5.00	µg/L	93-12006	
WNW8609	acrynitr	05/19/94	ND<5.00	5.00	µg/L	94-03105	
WNW8609	acrynitr	05/19/94	ND<5.00	5.00	µg/L	94-03105	
WNW8609	acrynitr	05/19/94	ND<5.00	5.00	µg/L	94-03773	
WNW8609	acrynitr	05/19/94	ND<5.00	5.00	µg/L	94-03773	
WNW8609	allylcl	11/11/93	ND<100.00	100.00	µg/L	93-12006	UJ
WNW8609	allylcl	11/11/93	ND<100.00	100.00	µg/L	93-12006	UJ
WNW8609	allylcl	05/19/94	ND<5.00	5.00	µg/L	94-03105	UJ
WNW8609	allylcl	05/19/94	ND<5.00	5.00	µg/L	94-03105	UJ
WNW8609	allylcl	05/19/94	ND<5.00	5.00	µg/L	94-03773	UJ
WNW8609	allylcl	05/19/94	ND<5.00	5.00	µg/L	94-03773	UJ
WNW8609	benzene	11/11/93	ND<5.00	5.00	µg/L	93-12006	
WNW8609	benzene	11/11/93	ND<5.00	5.00	µg/L	93-12006	
WNW8609	benzene	05/19/94	ND<0.70	0.70	µg/L	94-03105	
WNW8609	benzene	05/19/94	ND<0.70	0.70	µg/L	94-03105	
WNW8609	benzene	05/19/94	ND<0.70	0.70	µg/L	94-03773	
WNW8609	benzene	05/19/94	ND<0.70	0.70	µg/L	94-03773	
WNW8609	br_meth	11/11/93	ND<10.00	10.00	µg/L	93-12006	UJ
WNW8609	br_meth	11/11/93	ND<10.00	10.00	µg/L	93-12006	UJ
WNW8609	br_meth	05/19/94	ND<10.00	10.00	µg/L	94-03105	
WNW8609	br_meth	05/19/94	ND<10.00	10.00	µg/L	94-03105	
WNW8609	br_meth	05/19/94	ND<10.00	10.00	µg/L	94-03773	
WNW8609	br_meth	05/19/94	ND<10.00	10.00	µg/L	94-03773	
WNW8609	brdcmeth	11/11/93	ND<5.00	5.00	µg/L	93-12006	
WNW8609	brdcmeth	11/11/93	ND<5.00	5.00	µg/L	93-12006	
WNW8609	brdcmeth	05/19/94	ND<5.00	5.00	µg/L	94-03105	
WNW8609	brdcmeth	05/19/94	ND<5.00	5.00	µg/L	94-03105	
WNW8609	brdcmeth	05/19/94	ND<5.00	5.00	µg/L	94-03773	
WNW8609	brdcmeth	05/19/94	ND<5.00	5.00	µg/L	94-03773	
WNW8609	brform	11/11/93	ND<5.00	5.00	µg/L	93-12006	
WNW8609	brform	11/11/93	ND<5.00	5.00	µg/L	93-12006	
WNW8609	brform	05/19/94	ND<5.00	5.00	µg/L	94-03105	
WNW8609	brform	05/19/94	ND<5.00	5.00	µg/L	94-03105	
WNW8609	brform	05/19/94	ND<5.00	5.00	µg/L	94-03773	
WNW8609	brform	05/19/94	ND<5.00	5.00	µg/L	94-03773	
WNW8609	c_13_dcp	11/11/93	ND<5.00	5.00	µg/L	93-12006	
WNW8609	c_13_dcp	11/11/93	ND<5.00	5.00	µg/L	93-12006	
WNW8609	c_13_dcp	05/19/94	ND<5.00	5.00	µg/L	94-03105	
WNW8609	c_13_dcp	05/19/94	ND<5.00	5.00	µg/L	94-03105	
WNW8609	c_13_dcp	05/19/94	ND<5.00	5.00	µg/L	94-03773	
WNW8609	c_13_dcp	05/19/94	ND<5.00	5.00	µg/L	94-03773	
WNW8609	ccl4	11/11/93	ND<5.00	5.00	µg/L	93-12006	
WNW8609	ccl4	11/11/93	ND<5.00	5.00	µg/L	93-12006	
WNW8609	ccl4	05/19/94	ND<5.00	5.00	µg/L	94-03105	
WNW8609	ccl4	05/19/94	ND<5.00	5.00	µg/L	94-03105	

HLWSA Groundwater Volatiles Analyte Data
from the 4th Rd. 1993 and 2nd Rd. 1994

Well_ID	Parameter	Samp_Date	Chr_Data	Result	Units	Sample_ID	Flags
WNW8609	ccl4	05/19/94	ND<5.00	5.00	µg/L	94-03773	
WNW8609	ccl4	05/19/94	ND<5.00	5.00	µg/L	94-03773	
WNW8609	cl_benz	11/11/93	ND<5.00	5.00	µg/L	93-12006	
WNW8609	cl_benz	11/11/93	ND<5.00	5.00	µg/L	93-12006	
WNW8609	cl_benz	05/19/94	ND<5.00	5.00	µg/L	94-03105	
WNW8609	cl_benz	05/19/94	ND<5.00	5.00	µg/L	94-03105	
WNW8609	cl_benz	05/19/94	ND<5.00	5.00	µg/L	94-03773	
WNW8609	cl_benz	05/19/94	ND<5.00	5.00	µg/L	94-03773	
WNW8609	cl_eth	11/11/93	ND<10.00	10.00	µg/L	93-12006	
WNW8609	cl_eth	11/11/93	ND<10.00	10.00	µg/L	93-12006	
WNW8609	cl_eth	05/19/94	ND<5.00	5.00	µg/L	94-03105	
WNW8609	cl_eth	05/19/94	ND<5.00	5.00	µg/L	94-03105	
WNW8609	cl_eth	05/19/94	ND<5.00	5.00	µg/L	94-03773	
WNW8609	cl_eth	05/19/94	ND<5.00	5.00	µg/L	94-03773	
WNW8609	cl_form	11/11/93	ND<5.00	5.00	µg/L	93-12006	
WNW8609	cl_form	11/11/93	ND<5.00	5.00	µg/L	93-12006	
WNW8609	cl_form	05/19/94	ND<5.00	5.00	µg/L	94-03105	
WNW8609	cl_form	05/19/94	ND<5.00	5.00	µg/L	94-03105	
WNW8609	cl_form	05/19/94	ND<5.00	5.00	µg/L	94-03773	
WNW8609	cl_form	05/19/94	ND<5.00	5.00	µg/L	94-03773	
WNW8609	cl_meth	11/11/93	ND<10.00	10.00	µg/L	93-12006	
WNW8609	cl_meth	11/11/93	ND<10.00	10.00	µg/L	93-12006	
WNW8609	cl_meth	05/19/94	ND<5.00	5.00	µg/L	94-03105	
WNW8609	cl_meth	05/19/94	ND<5.00	5.00	µg/L	94-03105	
WNW8609	cl_meth	05/19/94	ND<5.00	5.00	µg/L	94-03773	
WNW8609	cl_meth	05/19/94	ND<5.00	5.00	µg/L	94-03773	
WNW8609	cl_prene	11/11/93	ND<5.00	5.00	µg/L	93-12006	
WNW8609	cl_prene	11/11/93	ND<5.00	5.00	µg/L	93-12006	
WNW8609	cl_prene	05/19/94	ND<5.00	5.00	µg/L	94-03105	UJ
WNW8609	cl_prene	05/19/94	ND<5.00	5.00	µg/L	94-03105	UJ
WNW8609	cl_prene	05/19/94	ND<5.00	5.00	µg/L	94-03773	UJ
WNW8609	cl_prene	05/19/94	ND<5.00	5.00	µg/L	94-03773	UJ
WNW8609	clbnzilt	05/19/94	ND<10.00	10.00	µg/L	94-03106	
WNW8609	clbnzilt	05/19/94	ND<10.00	10.00	µg/L	94-03774	
WNW8609	clevethr	11/11/93	ND<10.00	10.00	µg/L	93-12006	
WNW8609	clevethr	11/11/93	ND<10.00	10.00	µg/L	93-12006	
WNW8609	clevethr	05/19/94	ND<10.00	10.00	µg/L	94-03105	
WNW8609	clevethr	05/19/94	ND<10.00	10.00	µg/L	94-03105	
WNW8609	clevethr	05/19/94	ND<10.00	10.00	µg/L	94-03773	
WNW8609	clevethr	05/19/94	ND<10.00	10.00	µg/L	94-03773	
WNW8609	cs2	11/11/93	ND<5.00	5.00	µg/L	93-12006	
WNW8609	cs2	11/11/93	ND<5.00	5.00	µg/L	93-12006	
WNW8609	cs2	05/19/94	ND<5.00	5.00	µg/L	94-03105	
WNW8609	cs2	05/19/94	ND<5.00	5.00	µg/L	94-03105	
WNW8609	cs2	05/19/94	ND<5.00	5.00	µg/L	94-03773	

HLWSA Groundwater Volatiles Analyte Data
from the 4th Rd. 1993 and 2nd Rd. 1994

Well_ID	Parameter	Samp_Date	Chr_Data	Result	Units	Sample_ID	Flags
WNW8609	cs2	05/19/94	ND<5.00	5.00	µg/L	94-03773	
WNW8609	dbc_meth	11/11/93	ND<5.00	5.00	µg/L	93-12006	
WNW8609	dbc_meth	11/11/93	ND<5.00	5.00	µg/L	93-12006	
WNW8609	dbc_meth	05/19/94	ND<5.00	5.00	µg/L	94-03105	
WNW8609	dbc_meth	05/19/94	ND<5.00	5.00	µg/L	94-03105	
WNW8609	dbc_meth	05/19/94	ND<5.00	5.00	µg/L	94-03773	
WNW8609	dbc_meth	05/19/94	ND<5.00	5.00	µg/L	94-03773	
WNW8609	dbc_prop	11/11/93	ND<5.00	5.00	µg/L	93-12006	
WNW8609	dbc_prop	11/11/93	ND<5.00	5.00	µg/L	93-12006	
WNW8609	dbc_prop	05/19/94	ND<5.00	5.00	µg/L	94-03105	
WNW8609	dbc_prop	05/19/94	ND<5.00	5.00	µg/L	94-03105	
WNW8609	dbc_prop	05/19/94	ND<5.00	5.00	µg/L	94-03773	
WNW8609	dbc_prop	05/19/94	ND<5.00	5.00	µg/L	94-03773	
WNW8609	dbeth_12	11/11/93	ND<5.00	5.00	µg/L	93-12006	
WNW8609	dbeth_12	11/11/93	ND<5.00	5.00	µg/L	93-12006	
WNW8609	dbeth_12	05/19/94	ND<5.00	5.00	µg/L	94-03105	
WNW8609	dbeth_12	05/19/94	ND<5.00	5.00	µg/L	94-03105	
WNW8609	dbeth_12	05/19/94	ND<5.00	5.00	µg/L	94-03773	
WNW8609	dbeth_12	05/19/94	ND<5.00	5.00	µg/L	94-03773	
WNW8609	dca_11	11/11/93		3.00	µg/L	93-12006	J
WNW8609	dca_11	11/11/93		3.00	µg/L	93-12006	J
WNW8609	dca_11	05/19/94		2.00	µg/L	94-03105	J
WNW8609	dca_11	05/19/94		2.00	µg/L	94-03105	J
WNW8609	dca_11	05/19/94		2.00	µg/L	94-03773	J
WNW8609	dca_11	05/19/94		2.00	µg/L	94-03773	J
WNW8609	dca_12	11/11/93	ND<5.00	5.00	µg/L	93-12006	
WNW8609	dca_12	11/11/93	ND<5.00	5.00	µg/L	93-12006	
WNW8609	dca_12	05/19/94	ND<5.00	5.00	µg/L	94-03105	
WNW8609	dca_12	05/19/94	ND<5.00	5.00	µg/L	94-03105	
WNW8609	dca_12	05/19/94	ND<5.00	5.00	µg/L	94-03773	
WNW8609	dca_12	05/19/94	ND<5.00	5.00	µg/L	94-03773	
WNW8609	dcdfmeth	11/11/93	ND<5.00	5.00	µg/L	93-12006	UJ
WNW8609	dcdfmeth	11/11/93	ND<5.00	5.00	µg/L	93-12006	UJ
WNW8609	dcdfmeth	05/19/94	ND<5.00	5.00	µg/L	94-03105	
WNW8609	dcdfmeth	05/19/94	ND<5.00	5.00	µg/L	94-03105	
WNW8609	dcdfmeth	05/19/94	ND<5.00	5.00	µg/L	94-03773	
WNW8609	dcdfmeth	05/19/94	ND<5.00	5.00	µg/L	94-03773	
WNW8609	dce_11	11/11/93	ND<5.00	5.00	µg/L	93-12006	
WNW8609	dce_11	11/11/93	ND<5.00	5.00	µg/L	93-12006	
WNW8609	dce_11	05/19/94	ND<5.00	5.00	µg/L	94-03105	
WNW8609	dce_11	05/19/94	ND<5.00	5.00	µg/L	94-03105	
WNW8609	dce_11	05/19/94	ND<5.00	5.00	µg/L	94-03773	
WNW8609	dce_11	05/19/94	ND<5.00	5.00	µg/L	94-03773	
WNW8609	dcp_12	11/11/93	ND<5.00	5.00	µg/L	93-12006	
WNW8609	dcp_12	11/11/93	ND<5.00	5.00	µg/L	93-12006	

HLWSA Groundwater Volatiles Analyte Data
from the 4th Rd. 1993 and 2nd Rd. 1994

Well_ID	Parameter	Samp_Date	Chr_Data	Result	Units	Sample_ID	Flags
WNW8609	dcp_12	05/19/94	ND<5.00	5.00	µg/L	94-03105	
WNW8609	dcp_12	05/19/94	ND<5.00	5.00	µg/L	94-03105	
WNW8609	dcp_12	05/19/94	ND<5.00	5.00	µg/L	94-03773	
WNW8609	dcp_12	05/19/94	ND<5.00	5.00	µg/L	94-03773	
WNW8609	diox_14	11/11/93	ND<10.00	10.00	µg/L	93-12015	
WNW8609	diox_14	05/19/94	ND<10.00	10.00	µg/L	94-03106	UJ
WNW8609	diox_14	05/19/94	ND<10.00	10.00	µg/L	94-03774	UJ
WNW8609	eth_benz	11/11/93	ND<5.00	5.00	µg/L	93-12006	
WNW8609	eth_benz	11/11/93	ND<5.00	5.00	µg/L	93-12006	
WNW8609	eth_benz	05/19/94	ND<5.00	5.00	µg/L	94-03105	
WNW8609	eth_benz	05/19/94	ND<5.00	5.00	µg/L	94-03105	
WNW8609	eth_benz	05/19/94	ND<5.00	5.00	µg/L	94-03773	
WNW8609	eth_benz	05/19/94	ND<5.00	5.00	µg/L	94-03773	
WNW8609	eth_meth	11/11/93	ND<5.00	5.00	µg/L	93-12006	
WNW8609	eth_meth	11/11/93	ND<5.00	5.00	µg/L	93-12006	
WNW8609	eth_meth	05/19/94	ND<5.00	5.00	µg/L	94-03105	UJ
WNW8609	eth_meth	05/19/94	ND<5.00	5.00	µg/L	94-03105	UJ
WNW8609	eth_meth	05/19/94	ND<5.00	5.00	µg/L	94-03773	UJ
WNW8609	eth_meth	05/19/94	ND<5.00	5.00	µg/L	94-03773	UJ
WNW8609	hexnone2	11/11/93	ND<10.00	10.00	µg/L	93-12006	UJ
WNW8609	hexnone2	11/11/93	ND<10.00	10.00	µg/L	93-12006	UJ
WNW8609	hexnone2	05/19/94	ND<10.00	10.00	µg/L	94-03105	
WNW8609	hexnone2	05/19/94	ND<10.00	10.00	µg/L	94-03105	
WNW8609	hexnone2	05/19/94	ND<10.00	10.00	µg/L	94-03773	
WNW8609	hexnone2	05/19/94	ND<10.00	10.00	µg/L	94-03773	
WNW8609	ibut_alc	11/11/93	ND<50.00	50.00	µg/L	93-12006	R
WNW8609	ibut_alc	11/11/93	ND<50.00	50.00	µg/L	93-12006	R
WNW8609	ibut_alc	05/19/94	ND<50.00	50.00	µg/L	94-03105	R
WNW8609	ibut_alc	05/19/94	ND<50.00	50.00	µg/L	94-03105	R
WNW8609	ibut_alc	05/19/94	ND<50.00	50.00	µg/L	94-03773	R
WNW8609	ibut_alc	05/19/94	ND<50.00	50.00	µg/L	94-03773	R
WNW8609	meacryln	11/11/93	ND<5.00	5.00	µg/L	93-12006	UJ
WNW8609	meacryln	11/11/93	ND<5.00	5.00	µg/L	93-12006	UJ
WNW8609	meacryln	05/19/94	ND<5.00	5.00	µg/L	94-03105	UJ
WNW8609	meacryln	05/19/94	ND<5.00	5.00	µg/L	94-03105	UJ
WNW8609	meacryln	05/19/94	ND<5.00	5.00	µg/L	94-03773	UJ
WNW8609	meacryln	05/19/94	ND<5.00	5.00	µg/L	94-03773	UJ
WNW8609	mek	11/11/93	ND<10.00	10.00	µg/L	93-12006	
WNW8609	mek	11/11/93	ND<10.00	10.00	µg/L	93-12006	
WNW8609	mek	05/19/94	ND<10.00	10.00	µg/L	94-03105	
WNW8609	mek	05/19/94	ND<10.00	10.00	µg/L	94-03105	
WNW8609	mek	05/19/94	ND<10.00	10.00	µg/L	94-03773	
WNW8609	mek	05/19/94	ND<10.00	10.00	µg/L	94-03773	
WNW8609	mene_br	11/11/93	ND<5.00	5.00	µg/L	93-12006	
WNW8609	mene_br	11/11/93	ND<5.00	5.00	µg/L	93-12006	

HLWSA Groundwater Volatiles Analyte Data
from the 4th Rd. 1993 and 2nd Rd. 1994

Well_ID	Parameter	Samp_Date	Chr_Data	Result	Units	Sample_ID	Flags
WNW8609	mene_br	05/19/94	ND<5.00	5.00	µg/L	94-03105	UJ
WNW8609	mene_br	05/19/94	ND<5.00	5.00	µg/L	94-03105	UJ
WNW8609	mene_br	05/19/94	ND<5.00	5.00	µg/L	94-03773	UJ
WNW8609	mene_br	05/19/94	ND<5.00	5.00	µg/L	94-03773	UJ
WNW8609	mene_cl	11/11/93	ND<5.00	5.00	µg/L	93-12006	
WNW8609	mene_cl	11/11/93	ND<5.00	5.00	µg/L	93-12006	
WNW8609	mene_cl	05/19/94	ND<5.00	5.00	µg/L	94-03105	UJ
WNW8609	mene_cl	05/19/94	ND<5.00	5.00	µg/L	94-03105	UJ
WNW8609	mene_cl	05/19/94	ND<5.00	5.00	µg/L	94-03773	UJ
WNW8609	mene_cl	05/19/94	ND<5.00	5.00	µg/L	94-03773	UJ
WNW8609	meth_i	11/11/93	ND<5.00	5.00	µg/L	93-12006	
WNW8609	meth_i	11/11/93	ND<5.00	5.00	µg/L	93-12006	
WNW8609	meth_i	05/19/94	ND<5.00	5.00	µg/L	94-03105	UJ
WNW8609	meth_i	05/19/94	ND<5.00	5.00	µg/L	94-03105	UJ
WNW8609	meth_i	05/19/94	ND<5.00	5.00	µg/L	94-03773	UJ
WNW8609	meth_i	05/19/94	ND<5.00	5.00	µg/L	94-03773	UJ
WNW8609	methmeac	11/11/93	ND<5.00	5.00	µg/L	93-12006	UJ
WNW8609	methmeac	11/11/93	ND<5.00	5.00	µg/L	93-12006	UJ
WNW8609	methmeac	05/19/94	ND<5.00	5.00	µg/L	94-03105	UJ
WNW8609	methmeac	05/19/94	ND<5.00	5.00	µg/L	94-03105	UJ
WNW8609	methmeac	05/19/94	ND<5.00	5.00	µg/L	94-03773	UJ
WNW8609	methmeac	05/19/94	ND<5.00	5.00	µg/L	94-03773	UJ
WNW8609	mibk	11/11/93	ND<10.00	10.00	µg/L	93-12006	UJ
WNW8609	mibk	11/11/93	ND<10.00	10.00	µg/L	93-12006	UJ
WNW8609	mibk	05/19/94	ND<10.00	10.00	µg/L	94-03105	
WNW8609	mibk	05/19/94	ND<10.00	10.00	µg/L	94-03105	
WNW8609	mibk	05/19/94	ND<10.00	10.00	µg/L	94-03773	
WNW8609	mibk	05/19/94	ND<10.00	10.00	µg/L	94-03773	
WNW8609	picoline	11/11/93	ND<10.00	10.00	µg/L	93-12015	
WNW8609	picoline	05/19/94	ND<10.00	10.00	µg/L	94-03106	
WNW8609	picoline	05/19/94	ND<10.00	10.00	µg/L	94-03774	
WNW8609	pntcleth	11/11/93	ND<5.00	5.00	µg/L	93-12006	UJ
WNW8609	pntcleth	11/11/93	ND<5.00	5.00	µg/L	93-12006	UJ
WNW8609	pntcleth	05/19/94	ND<5.00	5.00	µg/L	94-03105	
WNW8609	pntcleth	05/19/94	ND<5.00	5.00	µg/L	94-03105	
WNW8609	pntcleth	05/19/94	ND<5.00	5.00	µg/L	94-03773	
WNW8609	pntcleth	05/19/94	ND<5.00	5.00	µg/L	94-03773	
WNW8609	propnitl	11/11/93	ND<5.00	5.00	µg/L	93-12006	
WNW8609	propnitl	11/11/93	ND<5.00	5.00	µg/L	93-12006	
WNW8609	propnitl	05/19/94	ND<5.00	5.00	µg/L	94-03105	UJ
WNW8609	propnitl	05/19/94	ND<5.00	5.00	µg/L	94-03105	UJ
WNW8609	propnitl	05/19/94	ND<5.00	5.00	µg/L	94-03773	UJ
WNW8609	propnitl	05/19/94	ND<5.00	5.00	µg/L	94-03773	UJ
WNW8609	pyridine	11/11/93	ND<10.00	10.00	µg/L	93-12015	
WNW8609	pyridine	05/19/94	ND<10.00	10.00	µg/L	94-03106	

HLWSA Groundwater Volatiles Analyte Data
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Well_ID	Parameter	Samp_Date	Chr_Data	Result	Units	Sample_ID	Flags
WNW8609	pyridine	05/19/94	ND<10.00	10.00	µg/L	94-03774	
WNW8609	styrene	11/11/93	ND<5.00	5.00	µg/L	93-12006	
WNW8609	styrene	11/11/93	ND<5.00	5.00	µg/L	93-12006	
WNW8609	styrene	05/19/94	ND<5.00	5.00	µg/L	94-03105	
WNW8609	styrene	05/19/94	ND<5.00	5.00	µg/L	94-03105	
WNW8609	styrene	05/19/94	ND<5.00	5.00	µg/L	94-03773	
WNW8609	styrene	05/19/94	ND<5.00	5.00	µg/L	94-03773	
WNW8609	t_12_dce	11/11/93	ND<5.00	5.00	µg/L	93-12006	
WNW8609	t_12_dce	11/11/93	ND<5.00	5.00	µg/L	93-12006	
WNW8609	t_12_dce	05/19/94	ND<5.00	5.00	µg/L	94-03105	UJ
WNW8609	t_12_dce	05/19/94	ND<5.00	5.00	µg/L	94-03105	UJ
WNW8609	t_12_dce	05/19/94	ND<5.00	5.00	µg/L	94-03773	UJ
WNW8609	t_12_dce	05/19/94	ND<5.00	5.00	µg/L	94-03773	UJ
WNW8609	t_13_dcp	11/11/93	ND<5.00	5.00	µg/L	93-12006	
WNW8609	t_13_dcp	11/11/93	ND<5.00	5.00	µg/L	93-12006	
WNW8609	t_13_dcp	05/19/94	ND<5.00	5.00	µg/L	94-03105	
WNW8609	t_13_dcp	05/19/94	ND<5.00	5.00	µg/L	94-03105	
WNW8609	t_13_dcp	05/19/94	ND<5.00	5.00	µg/L	94-03773	
WNW8609	t_13_dcp	05/19/94	ND<5.00	5.00	µg/L	94-03773	
WNW8609	t_14dc2b	11/11/93	ND<5.00	5.00	µg/L	93-12006	UJ
WNW8609	t_14dc2b	11/11/93	ND<5.00	5.00	µg/L	93-12006	UJ
WNW8609	t_14dc2b	05/19/94	ND<5.00	5.00	µg/L	94-03105	UJ
WNW8609	t_14dc2b	05/19/94	ND<5.00	5.00	µg/L	94-03105	UJ
WNW8609	t_14dc2b	05/19/94	ND<5.00	5.00	µg/L	94-03773	UJ
WNW8609	t_14dc2b	05/19/94	ND<5.00	5.00	µg/L	94-03773	UJ
WNW8609	tca_111	11/11/93	ND<5.00	5.00	µg/L	93-12006	
WNW8609	tca_111	11/11/93	ND<5.00	5.00	µg/L	93-12006	
WNW8609	tca_111	05/19/94	ND<5.00	5.00	µg/L	94-03105	
WNW8609	tca_111	05/19/94	ND<5.00	5.00	µg/L	94-03105	
WNW8609	tca_111	05/19/94	ND<5.00	5.00	µg/L	94-03773	
WNW8609	tca_111	05/19/94	ND<5.00	5.00	µg/L	94-03773	
WNW8609	tca_1112	11/11/93	ND<5.00	5.00	µg/L	93-12006	
WNW8609	tca_1112	11/11/93	ND<5.00	5.00	µg/L	93-12006	
WNW8609	tca_1112	05/19/94	ND<5.00	5.00	µg/L	94-03105	
WNW8609	tca_1112	05/19/94	ND<5.00	5.00	µg/L	94-03105	
WNW8609	tca_1112	05/19/94	ND<5.00	5.00	µg/L	94-03773	
WNW8609	tca_1112	05/19/94	ND<5.00	5.00	µg/L	94-03773	
WNW8609	tca_112	11/11/93	ND<5.00	5.00	µg/L	93-12006	
WNW8609	tca_112	11/11/93	ND<5.00	5.00	µg/L	93-12006	
WNW8609	tca_112	05/19/94	ND<5.00	5.00	µg/L	94-03105	
WNW8609	tca_112	05/19/94	ND<5.00	5.00	µg/L	94-03105	
WNW8609	tca_112	05/19/94	ND<5.00	5.00	µg/L	94-03773	
WNW8609	tca_112	05/19/94	ND<5.00	5.00	µg/L	94-03773	
WNW8609	tca_1122	11/11/93	ND<5.00	5.00	µg/L	93-12006	
WNW8609	tca_1122	11/11/93	ND<5.00	5.00	µg/L	93-12006	

HLWSA Groundwater Volatiles Analyte Data
from the 4th Rd. 1993 and 2nd Rd. 1994

Well_ID	Parameter	Samp_Date	Chr_Data	Result	Units	Sample_ID	Flags
WNW8609	tca_1122	05/19/94	ND<5.00	5.00	µg/L	94-03105	
WNW8609	tca_1122	05/19/94	ND<5.00	5.00	µg/L	94-03105	
WNW8609	tca_1122	05/19/94	ND<5.00	5.00	µg/L	94-03773	
WNW8609	tca_1122	05/19/94	ND<5.00	5.00	µg/L	94-03773	
WNW8609	tcb_124	11/11/93	ND<10.00	10.00	µg/L	93-12015	
WNW8609	tcb_124	05/19/94	ND<10.00	10.00	µg/L	94-03106	
WNW8609	tcb_124	05/19/94	ND<10.00	10.00	µg/L	94-03774	
WNW8609	tcf_meth	11/11/93	ND<5.00	5.00	µg/L	93-12006	
WNW8609	tcf_meth	11/11/93	ND<5.00	5.00	µg/L	93-12006	
WNW8609	tcf_meth	05/19/94	ND<5.00	5.00	µg/L	94-03105	
WNW8609	tcf_meth	05/19/94	ND<5.00	5.00	µg/L	94-03105	
WNW8609	tcf_meth	05/19/94	ND<5.00	5.00	µg/L	94-03773	
WNW8609	tcf_meth	05/19/94	ND<5.00	5.00	µg/L	94-03773	
WNW8609	tcp_123	11/11/93	ND<5.00	5.00	µg/L	93-12006	
WNW8609	tcp_123	11/11/93	ND<5.00	5.00	µg/L	93-12006	
WNW8609	tcp_123	05/19/94	ND<5.00	5.00	µg/L	94-03105	UJ
WNW8609	tcp_123	05/19/94	ND<5.00	5.00	µg/L	94-03105	UJ
WNW8609	tcp_123	05/19/94	ND<5.00	5.00	µg/L	94-03773	UJ
WNW8609	tcp_123	05/19/94	ND<5.00	5.00	µg/L	94-03773	UJ
WNW8609	tetcleth	11/11/93	ND<5.00	5.00	µg/L	93-12006	
WNW8609	tetcleth	11/11/93	ND<5.00	5.00	µg/L	93-12006	
WNW8609	tetcleth	05/19/94	ND<5.00	5.00	µg/L	94-03105	
WNW8609	tetcleth	05/19/94	ND<5.00	5.00	µg/L	94-03105	
WNW8609	tetcleth	05/19/94	ND<5.00	5.00	µg/L	94-03773	
WNW8609	tetcleth	05/19/94	ND<5.00	5.00	µg/L	94-03773	
WNW8609	toluene	11/11/93	ND<5.00	5.00	µg/L	93-12006	
WNW8609	toluene	11/11/93	ND<5.00	5.00	µg/L	93-12006	
WNW8609	toluene	05/19/94	ND<5.00	5.00	µg/L	94-03105	
WNW8609	toluene	05/19/94	ND<5.00	5.00	µg/L	94-03105	
WNW8609	toluene	05/19/94	ND<5.00	5.00	µg/L	94-03773	
WNW8609	toluene	05/19/94	ND<5.00	5.00	µg/L	94-03773	
WNW8609	tricleth	11/11/93	ND<5.00	5.00	µg/L	93-12006	
WNW8609	tricleth	11/11/93	ND<5.00	5.00	µg/L	93-12006	
WNW8609	tricleth	05/19/94	ND<5.00	5.00	µg/L	94-03105	
WNW8609	tricleth	05/19/94	ND<5.00	5.00	µg/L	94-03105	
WNW8609	tricleth	05/19/94	ND<5.00	5.00	µg/L	94-03773	
WNW8609	tricleth	05/19/94	ND<5.00	5.00	µg/L	94-03773	
WNW8609	vnyl_ace	11/11/93	ND<5.00	5.00	µg/L	93-12006	UJ
WNW8609	vnyl_ace	11/11/93	ND<5.00	5.00	µg/L	93-12006	UJ
WNW8609	vnyl_ace	05/19/94	ND<5.00	5.00	µg/L	94-03105	
WNW8609	vnyl_ace	05/19/94	ND<5.00	5.00	µg/L	94-03105	
WNW8609	vnyl_ace	05/19/94	ND<5.00	5.00	µg/L	94-03773	
WNW8609	vnyl_ace	05/19/94	ND<5.00	5.00	µg/L	94-03773	
WNW8609	vnyl_cl	11/11/93	ND<10.00	10.00	µg/L	93-12006	
WNW8609	vnyl_cl	11/11/93	ND<10.00	10.00	µg/L	93-12006	

HLWSA Groundwater Volatiles Analyte Data
from the 4th Rd. 1993 and 2nd Rd. 1994

Well_ID	Parameter	Samp_Date	Chr_Data	Result	Units	Sample_ID	Flags
WNW8609	vnyl_cl	05/19/94	ND<2.00	2.00	µg/L	94-03105	
WNW8609	vnyl_cl	05/19/94	ND<2.00	2.00	µg/L	94-03105	
WNW8609	vnyl_cl	05/19/94	ND<2.00	2.00	µg/L	94-03773	
WNW8609	vnyl_cl	05/19/94	ND<2.00	2.00	µg/L	94-03773	
WNW8609	xylene	11/11/93	ND<5.00	5.00	µg/L	93-12006	
WNW8609	xylene	11/11/93	ND<5.00	5.00	µg/L	93-12006	
WNW8609	xylene	05/19/94	ND<5.00	5.00	µg/L	94-03105	
WNW8609	xylene	05/19/94	ND<5.00	5.00	µg/L	94-03105	
WNW8609	xylene	05/19/94	ND<5.00	5.00	µg/L	94-03773	
WNW8609	xylene	05/19/94	ND<5.00	5.00	µg/L	94-03773	

HLWSA Groundwater Semivolatiles Analyte Data
from the 4th Rd. 1993 and 2nd Rd. 1994

Well_ID	Parameter	Samp_Date	Chr_Data	Result	Units	Sample_ID	Flags
WNW0405	acnphthe	11/08/93	ND < 10.00	10.00	µg/L	93-11675	
WNW0405	acnphthe	05/04/94	ND < 10.00	10.00	µg/L	94-03040	
WNW0405	acnphthy	11/08/93	ND < 10.00	10.00	µg/L	93-11675	
WNW0405	acnphthy	05/04/94	ND < 10.00	10.00	µg/L	94-03040	
WNW0405	anthracn	11/08/93	ND < 10.00	10.00	µg/L	93-11675	
WNW0405	anthracn	05/04/94	ND < 10.00	10.00	µg/L	94-03040	
WNW0405	bis2ceth	11/08/93	ND < 10.00	10.00	µg/L	93-11675	
WNW0405	bis2ceth	05/04/94	ND < 10.00	10.00	µg/L	94-03040	
WNW0405	bis2cexy	11/08/93	ND < 10.00	10.00	µg/L	93-11675	
WNW0405	bis2cexy	05/04/94	ND < 10.00	10.00	µg/L	94-03040	
WNW0405	bis2clis	11/08/93	ND < 10.00	10.00	µg/L	93-11675	
WNW0405	bis2clis	05/04/94	ND < 10.00	10.00	µg/L	94-03040	
WNW0405	bis2ehex	11/08/93	ND < 10.00	10.00	µg/L	93-11675	
WNW0405	bis2ehex	05/04/94	ND < 10.00	10.00	µg/L	94-03040	
WNW0405	bnz_a_an	11/08/93	ND < 10.00	10.00	µg/L	93-11675	
WNW0405	bnz_a_an	05/04/94	ND < 10.00	10.00	µg/L	94-03040	
WNW0405	bnz_a_py	11/08/93	ND < 10.00	10.00	µg/L	93-11675	
WNW0405	bnz_a_py	05/04/94	ND < 10.00	10.00	µg/L	94-03040	
WNW0405	bnz_b_fl	11/08/93	ND < 10.00	10.00	µg/L	93-11675	
WNW0405	bnz_b_fl	05/04/94	ND < 10.00	10.00	µg/L	94-03040	
WNW0405	bnz_k_fl	11/08/93	ND < 10.00	10.00	µg/L	93-11675	
WNW0405	bnz_k_fl	05/04/94	ND < 10.00	10.00	µg/L	94-03040	
WNW0405	bnzghipr	11/08/93	ND < 10.00	10.00	µg/L	93-11675	
WNW0405	bnzghipr	05/04/94	ND < 10.00	10.00	µg/L	94-03040	
WNW0405	brppeth4	11/08/93	ND < 10.00	10.00	µg/L	93-11675	
WNW0405	brppeth4	05/04/94	ND < 10.00	10.00	µg/L	94-03040	
WNW0405	butbnzph	11/08/93	ND < 10.00	10.00	µg/L	93-11675	
WNW0405	butbnzph	05/04/94	ND < 10.00	10.00	µg/L	94-03040	
WNW0405	carbazol	11/08/93	ND < 10.00	10.00	µg/L	93-11675	
WNW0405	carbazol	05/04/94	ND < 10.00	10.00	µg/L	94-03040	
WNW0405	chppeth4	11/08/93	ND < 10.00	10.00	µg/L	93-11675	
WNW0405	chppeth4	05/04/94	ND < 10.00	10.00	µg/L	94-03040	
WNW0405	chrysene	11/08/93	ND < 10.00	10.00	µg/L	93-11675	
WNW0405	chrysene	05/04/94	ND < 10.00	10.00	µg/L	94-03040	
WNW0405	clnapht2	11/08/93	ND < 10.00	10.00	µg/L	93-11675	
WNW0405	clnapht2	05/04/94	ND < 10.00	10.00	µg/L	94-03040	
WNW0405	clphen_2	11/08/93	ND < 10.00	10.00	µg/L	93-11675	
WNW0405	clphen_2	05/04/94	ND < 10.00	10.00	µg/L	94-03040	
WNW0405	dbahanth	11/08/93	ND < 10.00	10.00	µg/L	93-11675	
WNW0405	dbahanth	05/04/94	ND < 10.00	10.00	µg/L	94-03040	
WNW0405	dcb_33	11/08/93	ND < 10.00	10.00	µg/L	93-11675	
WNW0405	dcb_33	05/04/94	ND < 10.00	10.00	µg/L	94-03040	
WNW0405	dibnzfur	11/08/93	ND < 10.00	10.00	µg/L	93-11675	
WNW0405	dibnzfur	05/04/94	ND < 10.00	10.00	µg/L	94-03040	
WNW0405	diclph24	11/08/93	ND < 10.00	10.00	µg/L	93-11675	

HLWSA Groundwater Semivolatiles Analyte Data
from the 4th Rd. 1993 and 2nd Rd. 1994

Well_ID	Parameter	Samp_Date	Chr_Data	Result	Units	Sample_ID	Flags
WNW0405	diclph24	05/04/94	ND<10.00	10.00	µg/L	94-03040	
WNW0405	diethyph	11/08/93	ND<10.00	10.00	µg/L	93-11675	
WNW0405	diethyph	05/04/94	ND<10.00	10.00	µg/L	94-03040	
WNW0405	dimthp24	11/08/93	ND<10.00	10.00	µg/L	93-11675	
WNW0405	dimthp24	05/04/94	ND<10.00	10.00	µg/L	94-03040	
WNW0405	dimthyph	11/08/93	ND<10.00	10.00	µg/L	93-11675	
WNW0405	dimthyph	05/04/94	ND<10.00	10.00	µg/L	94-03040	
WNW0405	dinbutph	11/08/93	ND<10.00	10.00	µg/L	93-11675	
WNW0405	dinbutph	05/04/94	ND<10.00	10.00	µg/L	94-03040	
WNW0405	dinoctph	11/08/93	ND<10.00	10.00	µg/L	93-11675	
WNW0405	dinoctph	05/04/94	ND<10.00	10.00	µg/L	94-03040	
WNW0405	dintrp24	11/08/93	ND<50.00	50.00	µg/L	93-11675	UJ
WNW0405	dintrp24	05/04/94	ND<50.00	50.00	µg/L	94-03040	
WNW0405	dintrt24	11/08/93	ND<10.00	10.00	µg/L	93-11675	
WNW0405	dintrt24	05/04/94	ND<10.00	10.00	µg/L	94-03040	
WNW0405	dintrt26	11/08/93	ND<10.00	10.00	µg/L	93-11675	
WNW0405	dintrt26	05/04/94	ND<10.00	10.00	µg/L	94-03040	
WNW0405	dntrcr46	11/08/93	ND<50.00	50.00	µg/L	93-11675	
WNW0405	dntrcr46	05/04/94	ND<50.00	50.00	µg/L	94-03040	
WNW0405	flranthn	11/08/93	ND<10.00	10.00	µg/L	93-11675	
WNW0405	flranthn	05/04/94	ND<10.00	10.00	µg/L	94-03040	
WNW0405	fluorene	11/08/93	ND<10.00	10.00	µg/L	93-11675	
WNW0405	fluorene	05/04/94	ND<10.00	10.00	µg/L	94-03040	
WNW0405	hexclbnz	11/08/93	ND<10.00	10.00	µg/L	93-11675	
WNW0405	hexclbnz	05/04/94	ND<10.00	10.00	µg/L	94-03040	
WNW0405	hexclbut	11/08/93	ND<10.00	10.00	µg/L	93-11675	
WNW0405	hexclbut	05/04/94	ND<10.00	10.00	µg/L	94-03040	
WNW0405	hexcleth	11/08/93	ND<10.00	10.00	µg/L	93-11675	
WNW0405	hexcleth	05/04/94	ND<10.00	10.00	µg/L	94-03040	
WNW0405	hexclpen	11/08/93	ND<10.00	10.00	µg/L	93-11675	UJ
WNW0405	hexclpen	05/04/94	ND<10.00	10.00	µg/L	94-03040	
WNW0405	indnpyre	11/08/93	ND<10.00	10.00	µg/L	93-11675	
WNW0405	indnpyre	05/04/94	ND<10.00	10.00	µg/L	94-03040	
WNW0405	isophron	11/08/93	ND<10.00	10.00	µg/L	93-11675	
WNW0405	isophron	05/04/94	ND<10.00	10.00	µg/L	94-03040	
WNW0405	m_dclbnz	11/08/93	ND<10.00	10.00	µg/L	93-11675	
WNW0405	m_dclbnz	05/04/94	ND<10.00	10.00	µg/L	94-03040	
WNW0405	m_ntranl	11/08/93	ND<50.00	50.00	µg/L	93-11675	
WNW0405	m_ntranl	05/04/94	ND<50.00	50.00	µg/L	94-03040	
WNW0405	mthynph2	11/08/93	ND<10.00	10.00	µg/L	93-11675	UJ
WNW0405	mthynph2	05/04/94	ND<10.00	10.00	µg/L	94-03040	
WNW0405	naphthal	11/08/93	ND<10.00	10.00	µg/L	93-11675	
WNW0405	naphthal	05/04/94	ND<10.00	10.00	µg/L	94-03040	
WNW0405	nntrphny	11/08/93	ND<10.00	10.00	µg/L	93-11675	
WNW0405	nntrphny	05/04/94	ND<10.00	10.00	µg/L	94-03040	

HLWSA Groundwater Semivolatiles Analyte Data
from the 4th Rd. 1993 and 2nd Rd. 1994

Well_ID	Parameter	Samp_Date	Chr_Data	Result	Units	Sample_ID	Flags
WNW0405	nntrprpy	11/08/93	ND < 10.00	10.00	µg/L	93-11675	
WNW0405	nntrprpy	05/04/94	ND < 10.00	10.00	µg/L	94-03040	
WNW0405	ntrobenz	11/08/93	ND < 10.00	10.00	µg/L	93-11675	
WNW0405	ntrobenz	05/04/94	ND < 10.00	10.00	µg/L	94-03040	
WNW0405	o_cresol	11/08/93	ND < 10.00	10.00	µg/L	93-11675	
WNW0405	o_cresol	05/04/94	ND < 10.00	10.00	µg/L	94-03040	
WNW0405	o_dclbnz	11/08/93	ND < 10.00	10.00	µg/L	93-11675	
WNW0405	o_dclbnz	05/04/94	ND < 10.00	10.00	µg/L	94-03040	
WNW0405	o_ntranl	11/08/93	ND < 50.00	50.00	µg/L	93-11675	
WNW0405	o_ntranl	05/04/94	ND < 50.00	50.00	µg/L	94-03040	
WNW0405	o_ntrphn	11/08/93	ND < 10.00	10.00	µg/L	93-11675	
WNW0405	o_ntrphn	05/04/94	ND < 10.00	10.00	µg/L	94-03040	
WNW0405	p_cresol	11/08/93	ND < 10.00	10.00	µg/L	93-11675	
WNW0405	p_cresol	05/04/94	ND < 10.00	10.00	µg/L	94-03040	
WNW0405	p_dclbnz	11/08/93	ND < 10.00	10.00	µg/L	93-11675	
WNW0405	p_dclbnz	05/04/94	ND < 10.00	10.00	µg/L	94-03040	
WNW0405	p_ntranl	11/08/93	ND < 50.00	50.00	µg/L	93-11675	
WNW0405	p_ntranl	05/04/94	ND < 50.00	50.00	µg/L	94-03040	
WNW0405	p_ntrphn	11/08/93	ND < 50.00	50.00	µg/L	93-11675	
WNW0405	p_ntrphn	05/04/94	ND < 50.00	50.00	µg/L	94-03040	
WNW0405	pclranil	11/08/93	ND < 10.00	10.00	µg/L	93-11675	
WNW0405	pclranil	05/04/94	ND < 10.00	10.00	µg/L	94-03040	
WNW0405	pclrmcrs	11/08/93	ND < 10.00	10.00	µg/L	93-11675	
WNW0405	pclrmcrs	05/04/94	ND < 10.00	10.00	µg/L	94-03040	
WNW0405	phenol	11/08/93	ND < 10.00	10.00	µg/L	93-11675	
WNW0405	phenol	05/04/94	ND < 10.00	10.00	µg/L	94-03040	
WNW0405	phnanthr	11/08/93	ND < 10.00	10.00	µg/L	93-11675	
WNW0405	phnanthr	05/04/94	ND < 10.00	10.00	µg/L	94-03040	
WNW0405	pntclphn	11/08/93	ND < 50.00	50.00	µg/L	93-11675	
WNW0405	pntclphn	05/04/94	ND < 50.00	50.00	µg/L	94-03040	
WNW0405	pyrene	11/08/93	ND < 10.00	10.00	µg/L	93-11675	
WNW0405	pyrene	05/04/94	ND < 10.00	10.00	µg/L	94-03040	
WNW0405	tclph245	11/08/93	ND < 10.00	10.00	µg/L	93-11675	
WNW0405	tclph245	05/04/94	ND < 10.00	10.00	µg/L	94-03040	
WNW0405	tclph246	11/08/93	ND < 10.00	10.00	µg/L	93-11675	
WNW0405	tclph246	05/04/94	ND < 10.00	10.00	µg/L	94-03040	
WNW0406	acnphthe	11/04/93	ND < 10.00	10.00	µg/L	93-11695	
WNW0406	acnphthe	05/04/94	ND < 10.00	10.00	µg/L	94-03056	
WNW0406	acnphthy	11/04/93	ND < 10.00	10.00	µg/L	93-11695	
WNW0406	acnphthy	05/04/94	ND < 10.00	10.00	µg/L	94-03056	
WNW0406	anthracn	11/04/93	ND < 10.00	10.00	µg/L	93-11695	
WNW0406	anthracn	05/04/94	ND < 10.00	10.00	µg/L	94-03056	
WNW0406	bis2ceth	11/04/93	ND < 10.00	10.00	µg/L	93-11695	
WNW0406	bis2ceth	05/04/94	ND < 10.00	10.00	µg/L	94-03056	
WNW0406	bis2cexy	11/04/93	ND < 10.00	10.00	µg/L	93-11695	

HLWSA Groundwater Semivolatiles Analyte Data
from the 4th Rd. 1993 and 2nd Rd. 1994

Well_ID	Parameter	Samp_Date	Chr_Data	Result	Units	Sample_ID	Flags
WNW0406	bis2cexy	05/04/94	ND < 10.00	10.00	µg/L	94-03056	
WNW0406	bis2clis	11/04/93	ND < 10.00	10.00	µg/L	93-11695	UJ
WNW0406	bis2clis	05/04/94	ND < 10.00	10.00	µg/L	94-03056	
WNW0406	bis2ehex	11/04/93	ND < 10.00	10.00	µg/L	93-11695	
WNW0406	bis2ehex	05/04/94	ND < 10.00	10.00	µg/L	94-03056	
WNW0406	bnz_a_an	11/04/93	ND < 10.00	10.00	µg/L	93-11695	
WNW0406	bnz_a_an	05/04/94	ND < 10.00	10.00	µg/L	94-03056	
WNW0406	bnz_a_py	11/04/93	ND < 10.00	10.00	µg/L	93-11695	
WNW0406	bnz_a_py	05/04/94	ND < 10.00	10.00	µg/L	94-03056	
WNW0406	bnz_b_fl	11/04/93	ND < 10.00	10.00	µg/L	93-11695	
WNW0406	bnz_b_fl	05/04/94	ND < 10.00	10.00	µg/L	94-03056	
WNW0406	bnz_k_fl	11/04/93	ND < 10.00	10.00	µg/L	93-11695	
WNW0406	bnz_k_fl	05/04/94	ND < 10.00	10.00	µg/L	94-03056	
WNW0406	bnzghipr	11/04/93	ND < 10.00	10.00	µg/L	93-11695	
WNW0406	bnzghipr	05/04/94	ND < 10.00	10.00	µg/L	94-03056	
WNW0406	brppeth4	11/04/93	ND < 10.00	10.00	µg/L	93-11695	
WNW0406	brppeth4	05/04/94	ND < 10.00	10.00	µg/L	94-03056	
WNW0406	butbnzph	11/04/93	ND < 10.00	10.00	µg/L	93-11695	
WNW0406	butbnzph	05/04/94	ND < 10.00	10.00	µg/L	94-03056	
WNW0406	carbazol	11/04/93	ND < 10.00	10.00	µg/L	93-11695	
WNW0406	carbazol	05/04/94	ND < 10.00	10.00	µg/L	94-03056	
WNW0406	chppeth4	11/04/93	ND < 10.00	10.00	µg/L	93-11695	
WNW0406	chppeth4	05/04/94	ND < 10.00	10.00	µg/L	94-03056	
WNW0406	chrysene	11/04/93	ND < 10.00	10.00	µg/L	93-11695	
WNW0406	chrysene	05/04/94	ND < 10.00	10.00	µg/L	94-03056	
WNW0406	clnapht2	11/04/93	ND < 10.00	10.00	µg/L	93-11695	
WNW0406	clnapht2	05/04/94	ND < 10.00	10.00	µg/L	94-03056	
WNW0406	clphen_2	11/04/93	ND < 10.00	10.00	µg/L	93-11695	
WNW0406	clphen_2	05/04/94	ND < 10.00	10.00	µg/L	94-03056	
WNW0406	dbahanth	11/04/93	ND < 10.00	10.00	µg/L	93-11695	
WNW0406	dbahanth	05/04/94	ND < 10.00	10.00	µg/L	94-03056	
WNW0406	dcb_33	11/04/93	ND < 10.00	10.00	µg/L	93-11695	
WNW0406	dcb_33	05/04/94	ND < 10.00	10.00	µg/L	94-03056	
WNW0406	dibnzfur	11/04/93	ND < 10.00	10.00	µg/L	93-11695	
WNW0406	dibnzfur	05/04/94	ND < 10.00	10.00	µg/L	94-03056	
WNW0406	diclph24	11/04/93	ND < 10.00	10.00	µg/L	93-11695	
WNW0406	diclph24	05/04/94	ND < 10.00	10.00	µg/L	94-03056	
WNW0406	diethyph	11/04/93	ND < 10.00	10.00	µg/L	93-11695	
WNW0406	diethyph	05/04/94	ND < 10.00	10.00	µg/L	94-03056	
WNW0406	dimthp24	11/04/93	ND < 10.00	10.00	µg/L	93-11695	
WNW0406	dimthp24	05/04/94	ND < 10.00	10.00	µg/L	94-03056	
WNW0406	dimthyph	11/04/93	ND < 10.00	10.00	µg/L	93-11695	
WNW0406	dimthyph	05/04/94	ND < 10.00	10.00	µg/L	94-03056	
WNW0406	dinbutph	11/04/93	ND < 10.00	10.00	µg/L	93-11695	
WNW0406	dinbutph	05/04/94	ND < 10.00	10.00	µg/L	94-03056	

HLWSA Groundwater Semivolatiles Analyte Data
from the 4th Rd. 1993 and 2nd Rd. 1994

Well_ID	Parameter	Samp_Date	Chr_Data	Result	Units	Sample_ID	Flags
WNW0406	dinoctph	11/04/93	ND < 10.00	10.00	µg/L	93-11695	
WNW0406	dinoctph	05/04/94	ND < 10.00	10.00	µg/L	94-03056	
WNW0406	dintrp24	11/04/93	ND < 50.00	50.00	µg/L	93-11695	UJ
WNW0406	dintrp24	05/04/94	ND < 51.00	51.00	µg/L	94-03056	
WNW0406	dintrt24	11/04/93	ND < 10.00	10.00	µg/L	93-11695	
WNW0406	dintrt24	05/04/94	ND < 10.00	10.00	µg/L	94-03056	
WNW0406	dintrt26	11/04/93	ND < 10.00	10.00	µg/L	93-11695	
WNW0406	dintrt26	05/04/94	ND < 10.00	10.00	µg/L	94-03056	
WNW0406	dntrcr46	11/04/93	ND < 50.00	50.00	µg/L	93-11695	
WNW0406	dntrcr46	05/04/94	ND < 51.00	51.00	µg/L	94-03056	
WNW0406	flranthn	11/04/93	ND < 10.00	10.00	µg/L	93-11695	
WNW0406	flranthn	05/04/94	ND < 10.00	10.00	µg/L	94-03056	
WNW0406	fluorene	11/04/93	ND < 10.00	10.00	µg/L	93-11695	
WNW0406	fluorene	05/04/94	ND < 10.00	10.00	µg/L	94-03056	
WNW0406	hexclbnz	11/04/93	ND < 10.00	10.00	µg/L	93-11695	
WNW0406	hexclbnz	05/04/94	ND < 10.00	10.00	µg/L	94-03056	
WNW0406	hexclbut	11/04/93	ND < 10.00	10.00	µg/L	93-11695	
WNW0406	hexclbut	05/04/94	ND < 10.00	10.00	µg/L	94-03056	
WNW0406	hexcleth	11/04/93	ND < 10.00	10.00	µg/L	93-11695	
WNW0406	hexcleth	05/04/94	ND < 10.00	10.00	µg/L	94-03056	
WNW0406	hexclpen	11/04/93	ND < 10.00	10.00	µg/L	93-11695	UJ
WNW0406	hexclpen	05/04/94	ND < 10.00	10.00	µg/L	94-03056	
WNW0406	indnpyre	11/04/93	ND < 10.00	10.00	µg/L	93-11695	
WNW0406	indnpyre	05/04/94	ND < 10.00	10.00	µg/L	94-03056	
WNW0406	isophron	11/04/93	ND < 10.00	10.00	µg/L	93-11695	
WNW0406	isophron	05/04/94	ND < 10.00	10.00	µg/L	94-03056	
WNW0406	m_dclbnz	11/04/93	ND < 10.00	10.00	µg/L	93-11695	
WNW0406	m_dclbnz	05/04/94	ND < 10.00	10.00	µg/L	94-03056	
WNW0406	m_ntranl	11/04/93	ND < 50.00	50.00	µg/L	93-11695	
WNW0406	m_ntranl	05/04/94	ND < 51.00	51.00	µg/L	94-03056	
WNW0406	mthynph2	11/04/93	ND < 10.00	10.00	µg/L	93-11695	UJ
WNW0406	mthynph2	05/04/94	ND < 10.00	10.00	µg/L	94-03056	
WNW0406	naphthal	11/04/93	ND < 10.00	10.00	µg/L	93-11695	
WNW0406	naphthal	05/04/94	ND < 10.00	10.00	µg/L	94-03056	
WNW0406	nntrphny	11/04/93	ND < 10.00	10.00	µg/L	93-11695	
WNW0406	nntrphny	05/04/94	ND < 10.00	10.00	µg/L	94-03056	
WNW0406	nntrprpy	11/04/93	ND < 10.00	10.00	µg/L	93-11695	
WNW0406	nntrprpy	05/04/94	ND < 10.00	10.00	µg/L	94-03056	
WNW0406	ntrobenz	11/04/93	ND < 10.00	10.00	µg/L	93-11695	
WNW0406	ntrobenz	05/04/94	ND < 10.00	10.00	µg/L	94-03056	
WNW0406	o_cresol	11/04/93	ND < 10.00	10.00	µg/L	93-11695	
WNW0406	o_cresol	05/04/94	ND < 10.00	10.00	µg/L	94-03056	
WNW0406	o_dclbnz	11/04/93	ND < 10.00	10.00	µg/L	93-11695	
WNW0406	o_dclbnz	05/04/94	ND < 10.00	10.00	µg/L	94-03056	
WNW0406	o_ntranl	11/04/93	ND < 50.00	50.00	µg/L	93-11695	

HLWSA Groundwater Semivolatiles Analyte Data
from the 4th Rd. 1993 and 2nd Rd. 1994

Well_ID	Parameter	Samp_Date	Chr_Data	Result	Units	Sample_ID	Flags
WNW0406	o_ntranl	05/04/94	ND<51.00	51.00	µg/L	94-03056	
WNW0406	o_ntrphn	11/04/93	ND<10.00	10.00	µg/L	93-11695	
WNW0406	o_ntrphn	05/04/94	ND<10.00	10.00	µg/L	94-03056	
WNW0406	p_cresol	11/04/93	ND<10.00	10.00	µg/L	93-11695	
WNW0406	p_cresol	05/04/94	ND<10.00	10.00	µg/L	94-03056	
WNW0406	p_dclbnz	11/04/93	ND<10.00	10.00	µg/L	93-11695	
WNW0406	p_dclbnz	05/04/94	ND<10.00	10.00	µg/L	94-03056	
WNW0406	p_ntranl	11/04/93	ND<50.00	50.00	µg/L	93-11695	
WNW0406	p_ntranl	05/04/94	ND<51.00	51.00	µg/L	94-03056	
WNW0406	p_ntrphn	11/04/93	ND<50.00	50.00	µg/L	93-11695	
WNW0406	p_ntrphn	05/04/94	ND<51.00	51.00	µg/L	94-03056	
WNW0406	pclranil	11/04/93	ND<10.00	10.00	µg/L	93-11695	
WNW0406	pclranil	05/04/94	ND<10.00	10.00	µg/L	94-03056	
WNW0406	pclrmcrs	11/04/93	ND<10.00	10.00	µg/L	93-11695	
WNW0406	pclrmcrs	05/04/94	ND<10.00	10.00	µg/L	94-03056	
WNW0406	phenol	11/04/93	ND<10.00	10.00	µg/L	93-11695	
WNW0406	phenol	05/04/94	ND<10.00	10.00	µg/L	94-03056	
WNW0406	phnanthr	11/04/93	ND<10.00	10.00	µg/L	93-11695	
WNW0406	phnanthr	05/04/94	ND<10.00	10.00	µg/L	94-03056	
WNW0406	pntclphn	11/04/93	ND<50.00	50.00	µg/L	93-11695	
WNW0406	pntclphn	05/04/94	ND<51.00	51.00	µg/L	94-03056	
WNW0406	pyrene	11/04/93	ND<10.00	10.00	µg/L	93-11695	
WNW0406	pyrene	05/04/94	ND<10.00	10.00	µg/L	94-03056	
WNW0406	tclph245	11/04/93	ND<10.00	10.00	µg/L	93-11695	
WNW0406	tclph245	05/04/94	ND<10.00	10.00	µg/L	94-03056	
WNW0406	tclph246	11/04/93	ND<10.00	10.00	µg/L	93-11695	
WNW0406	tclph246	05/04/94	ND<10.00	10.00	µg/L	94-03056	
WNW0408	acnphthe	12/06/93	ND<10.00	10.00	µg/L	93-12957	
WNW0408	acnphthe	05/09/94	ND<9.90	9.90	µg/L	94-04138	
WNW0408	acnphthy	12/06/93	ND<10.00	10.00	µg/L	93-12957	
WNW0408	acnphthy	05/09/94	ND<9.90	9.90	µg/L	94-04138	
WNW0408	anthracn	12/06/93	ND<10.00	10.00	µg/L	93-12957	
WNW0408	anthracn	05/09/94	ND<9.90	9.90	µg/L	94-04138	
WNW0408	bis2ceth	12/06/93	ND<10.00	10.00	µg/L	93-12957	
WNW0408	bis2ceth	05/09/94	ND<9.90	9.90	µg/L	94-04138	
WNW0408	bis2cexy	12/06/93	ND<10.00	10.00	µg/L	93-12957	
WNW0408	bis2cexy	05/09/94	ND<9.90	9.90	µg/L	94-04138	
WNW0408	bis2clis	12/06/93	ND<10.00	10.00	µg/L	93-12957	
WNW0408	bis2clis	05/09/94	ND<9.90	9.90	µg/L	94-04138	
WNW0408	bis2ehex	12/06/93	ND<10.00	10.00	µg/L	93-12957	
WNW0408	bis2ehex	05/09/94	ND<9.90	9.90	µg/L	94-04138	
WNW0408	bnz_a_an	12/06/93	ND<10.00	10.00	µg/L	93-12957	
WNW0408	bnz_a_an	05/09/94	ND<9.90	9.90	µg/L	94-04138	
WNW0408	bnz_a_py	12/06/93	ND<10.00	10.00	µg/L	93-12957	

HLWSA Groundwater Semivolatiles Analyte Data
from the 4th Rd. 1993 and 2nd Rd. 1994

Well_ID	Parameter	Samp_Date	Chr_Data	Result	Units	Sample_ID	Flags
WNW0408	bnz_a_py	05/09/94	ND<9.90	9.90	µg/L	94-04138	
WNW0408	bnz_b_fl	12/06/93	ND<10.00	10.00	µg/L	93-12957	
WNW0408	bnz_b_fl	05/09/94	ND<9.90	9.90	µg/L	94-04138	
WNW0408	bnz_k_fl	12/06/93	ND<10.00	10.00	µg/L	93-12957	
WNW0408	bnz_k_fl	05/09/94	ND<9.90	9.90	µg/L	94-04138	
WNW0408	bnzghipr	12/06/93	ND<10.00	10.00	µg/L	93-12957	
WNW0408	bnzghipr	05/09/94	ND<9.90	9.90	µg/L	94-04138	
WNW0408	brppeth4	12/06/93	ND<10.00	10.00	µg/L	93-12957	
WNW0408	brppeth4	05/09/94	ND<9.90	9.90	µg/L	94-04138	
WNW0408	butbnzph	12/06/93	ND<10.00	10.00	µg/L	93-12957	
WNW0408	butbnzph	05/09/94	ND<9.90	9.90	µg/L	94-04138	
WNW0408	carbazol	12/06/93	ND<10.00	10.00	µg/L	93-12957	
WNW0408	carbazol	05/09/94	ND<9.90	9.90	µg/L	94-04138	
WNW0408	chppeth4	12/06/93	ND<10.00	10.00	µg/L	93-12957	
WNW0408	chppeth4	05/09/94	ND<9.90	9.90	µg/L	94-04138	
WNW0408	chrysene	12/06/93	ND<10.00	10.00	µg/L	93-12957	
WNW0408	chrysene	05/09/94	ND<9.90	9.90	µg/L	94-04138	
WNW0408	clnapht2	12/06/93	ND<10.00	10.00	µg/L	93-12957	
WNW0408	clnapht2	05/09/94	ND<9.90	9.90	µg/L	94-04138	
WNW0408	clphen_2	12/06/93	ND<10.00	10.00	µg/L	93-12957	
WNW0408	clphen_2	05/09/94	ND<9.90	9.90	µg/L	94-04138	
WNW0408	dbahanth	12/06/93	ND<10.00	10.00	µg/L	93-12957	
WNW0408	dbahanth	05/09/94	ND<9.90	9.90	µg/L	94-04138	
WNW0408	dcb_33	12/06/93	ND<10.00	10.00	µg/L	93-12957	
WNW0408	dcb_33	05/09/94	ND<9.90	9.90	µg/L	94-04138	
WNW0408	dibnzfur	12/06/93	ND<10.00	10.00	µg/L	93-12957	
WNW0408	dibnzfur	05/09/94	ND<9.90	9.90	µg/L	94-04138	
WNW0408	diclph24	12/06/93	ND<10.00	10.00	µg/L	93-12957	
WNW0408	diclph24	05/09/94	ND<9.90	9.90	µg/L	94-04138	
WNW0408	diethyph	12/06/93	ND<10.00	10.00	µg/L	93-12957	
WNW0408	diethyph	05/09/94	ND<9.90	9.90	µg/L	94-04138	
WNW0408	dimthp24	12/06/93	ND<10.00	10.00	µg/L	93-12957	
WNW0408	dimthp24	05/09/94	ND<9.90	9.90	µg/L	94-04138	
WNW0408	dimthyph	12/06/93	ND<10.00	10.00	µg/L	93-12957	
WNW0408	dimthyph	05/09/94	ND<9.90	9.90	µg/L	94-04138	
WNW0408	dinbutph	12/06/93	ND<10.00	10.00	µg/L	93-12957	
WNW0408	dinbutph	05/09/94	ND<9.90	9.90	µg/L	94-04138	
WNW0408	dinoctph	12/06/93	ND<10.00	10.00	µg/L	93-12957	
WNW0408	dinoctph	05/09/94	ND<9.90	9.90	µg/L	94-04138	
WNW0408	dintrp24	12/06/93	ND<25.00	25.00	µg/L	93-12957	UJ
WNW0408	dintrp24	05/09/94	ND<25.00	25.00	µg/L	94-04138	UJ
WNW0408	dintrt24	12/06/93	ND<10.00	10.00	µg/L	93-12957	
WNW0408	dintrt24	05/09/94	ND<9.90	9.90	µg/L	94-04138	
WNW0408	dintrt26	12/06/93	ND<10.00	10.00	µg/L	93-12957	
WNW0408	dintrt26	05/09/94	ND<9.90	9.90	µg/L	94-04138	

HLWSA Groundwater Semivolatiles Analyte Data
from the 4th Rd. 1993 and 2nd Rd. 1994

Well_ID	Parameter	Samp_Date	Chr_Data	Result	Units	Sample_ID	Flags
WNW0408	dntrcr46	12/06/93	ND<25.00	25.00	µg/L	93-12957	
WNW0408	dntrcr46	05/09/94	ND<25.00	25.00	µg/L	94-04138	UJ
WNW0408	flranthn	12/06/93	ND<10.00	10.00	µg/L	93-12957	
WNW0408	flranthn	05/09/94	ND<9.90	9.90	µg/L	94-04138	
WNW0408	fluorene	12/06/93	ND<10.00	10.00	µg/L	93-12957	
WNW0408	fluorene	05/09/94	ND<9.90	9.90	µg/L	94-04138	
WNW0408	hexclbnz	12/06/93	ND<10.00	10.00	µg/L	93-12957	
WNW0408	hexclbnz	05/09/94	ND<9.90	9.90	µg/L	94-04138	
WNW0408	hexclbut	12/06/93	ND<10.00	10.00	µg/L	93-12957	
WNW0408	hexclbut	05/09/94	ND<9.90	9.90	µg/L	94-04138	
WNW0408	hexcleth	12/06/93	ND<10.00	10.00	µg/L	93-12957	
WNW0408	hexcleth	05/09/94	ND<9.90	9.90	µg/L	94-04138	
WNW0408	hexclpen	12/06/93	ND<10.00	10.00	µg/L	93-12957	
WNW0408	hexclpen	05/09/94	ND<9.90	9.90	µg/L	94-04138	
WNW0408	indnpyre	12/06/93	ND<10.00	10.00	µg/L	93-12957	
WNW0408	indnpyre	05/09/94	ND<9.90	9.90	µg/L	94-04138	
WNW0408	isophron	12/06/93	ND<10.00	10.00	µg/L	93-12957	
WNW0408	isophron	05/09/94	ND<9.90	9.90	µg/L	94-04138	
WNW0408	m_dclbnz	12/06/93	ND<10.00	10.00	µg/L	93-12957	
WNW0408	m_dclbnz	05/09/94	ND<9.90	9.90	µg/L	94-04138	
WNW0408	m_ntranl	12/06/93	ND<25.00	25.00	µg/L	93-12957	
WNW0408	m_ntranl	05/09/94	ND<25.00	25.00	µg/L	94-04138	
WNW0408	mthynph2	12/06/93	ND<10.00	10.00	µg/L	93-12957	
WNW0408	mthynph2	05/09/94	ND<9.90	9.90	µg/L	94-04138	
WNW0408	naphthal	12/06/93	ND<10.00	10.00	µg/L	93-12957	
WNW0408	naphthal	05/09/94	ND<9.90	9.90	µg/L	94-04138	
WNW0408	nntrphny	12/06/93	ND<10.00	10.00	µg/L	93-12957	
WNW0408	nntrphny	05/09/94	ND<9.90	9.90	µg/L	94-04138	
WNW0408	nntrprpy	12/06/93	ND<10.00	10.00	µg/L	93-12957	
WNW0408	nntrprpy	05/09/94	ND<9.90	9.90	µg/L	94-04138	
WNW0408	ntrobenz	12/06/93	ND<10.00	10.00	µg/L	93-12957	
WNW0408	ntrobenz	05/09/94	ND<9.90	9.90	µg/L	94-04138	
WNW0408	o_cresol	12/06/93	ND<10.00	10.00	µg/L	93-12957	
WNW0408	o_cresol	05/09/94	ND<9.90	9.90	µg/L	94-04138	
WNW0408	o_dclbnz	12/06/93	ND<10.00	10.00	µg/L	93-12957	
WNW0408	o_dclbnz	05/09/94	ND<9.90	9.90	µg/L	94-04138	
WNW0408	o_ntranl	12/06/93	ND<25.00	25.00	µg/L	93-12957	
WNW0408	o_ntranl	05/09/94	ND<25.00	25.00	µg/L	94-04138	
WNW0408	o_ntrphn	12/06/93	ND<10.00	10.00	µg/L	93-12957	
WNW0408	o_ntrphn	05/09/94	ND<9.90	9.90	µg/L	94-04138	
WNW0408	p_cresol	12/06/93	ND<10.00	10.00	µg/L	93-12957	
WNW0408	p_cresol	05/09/94	ND<9.90	9.90	µg/L	94-04138	
WNW0408	p_dclbnz	12/06/93	ND<10.00	10.00	µg/L	93-12957	
WNW0408	p_dclbnz	05/09/94	ND<9.90	9.90	µg/L	94-04138	
WNW0408	p_ntranl	12/06/93	ND<25.00	25.00	µg/L	93-12957	

HLWSA Groundwater Semivolatiles Analyte Data
from the 4th Rd. 1993 and 2nd Rd. 1994

Well_ID	Parameter	Samp_Date	Chr_Data	Result	Units	Sample_ID	Flags
WNW0408	p_ntranl	05/09/94	ND<25.00	25.00	µg/L	94-04138	
WNW0408	p_ntrphn	12/06/93	ND<25.00	25.00	µg/L	93-12957	
WNW0408	p_ntrphn	05/09/94	ND<25.00	25.00	µg/L	94-04138	UJ
WNW0408	pclranil	12/06/93	ND<10.00	10.00	µg/L	93-12957	
WNW0408	pclranil	05/09/94	ND<9.90	9.90	µg/L	94-04138	
WNW0408	pclrmcrs	12/06/93	ND<10.00	10.00	µg/L	93-12957	
WNW0408	pclrmcrs	05/09/94	ND<9.90	9.90	µg/L	94-04138	
WNW0408	phenol	12/06/93	ND<10.00	10.00	µg/L	93-12957	
WNW0408	phenol	05/09/94	ND<9.90	9.90	µg/L	94-04138	
WNW0408	phnanthr	12/06/93	ND<10.00	10.00	µg/L	93-12957	
WNW0408	phnanthr	05/09/94	ND<9.90	9.90	µg/L	94-04138	
WNW0408	pntclphn	12/06/93	ND<25.00	25.00	µg/L	93-12957	
WNW0408	pntclphn	05/09/94	ND<25.00	25.00	µg/L	94-04138	
WNW0408	pyrene	12/06/93	ND<10.00	10.00	µg/L	93-12957	
WNW0408	pyrene	05/09/94	ND<9.90	9.90	µg/L	94-04138	
WNW0408	tclph245	12/06/93	ND<10.00	10.00	µg/L	93-12957	
WNW0408	tclph245	05/09/94	ND<9.90	9.90	µg/L	94-04138	
WNW0408	tclph246	12/06/93	ND<10.00	10.00	µg/L	93-12957	
WNW0408	tclph246	05/09/94	ND<9.90	9.90	µg/L	94-04138	
WNW8609	aadimthp	11/11/93	ND<10.00	10.00	µg/L	93-12015	
WNW8609	aadimthp	05/19/94	ND<10.00	10.00	µg/L	94-03106	UJ
WNW8609	aadimthp	05/19/94	ND<10.00	10.00	µg/L	94-03774	UJ
WNW8609	aceanfl2	11/11/93	ND<10.00	10.00	µg/L	93-12015	
WNW8609	aceanfl2	05/19/94	ND<10.00	10.00	µg/L	94-03106	
WNW8609	aceanfl2	05/19/94	ND<10.00	10.00	µg/L	94-03774	
WNW8609	acetophn	11/11/93	ND<10.00	10.00	µg/L	93-12015	
WNW8609	acetophn	05/19/94	ND<10.00	10.00	µg/L	94-03106	
WNW8609	acetophn	05/19/94	ND<10.00	10.00	µg/L	94-03774	
WNW8609	acnphthe	11/11/93	ND<10.00	10.00	µg/L	93-12015	
WNW8609	acnphthe	05/19/94	ND<10.00	10.00	µg/L	94-03106	
WNW8609	acnphthe	05/19/94	ND<10.00	10.00	µg/L	94-03774	
WNW8609	acnphthy	11/11/93	ND<10.00	10.00	µg/L	93-12015	
WNW8609	acnphthy	05/19/94	ND<10.00	10.00	µg/L	94-03106	
WNW8609	acnphthy	05/19/94	ND<10.00	10.00	µg/L	94-03774	
WNW8609	amnobph4	11/11/93	ND<10.00	10.00	µg/L	93-12015	
WNW8609	amnobph4	05/19/94	ND<10.00	10.00	µg/L	94-03106	
WNW8609	amnobph4	05/19/94	ND<10.00	10.00	µg/L	94-03774	
WNW8609	aniline	11/11/93	ND<10.00	10.00	µg/L	93-12015	
WNW8609	aniline	05/19/94	ND<10.00	10.00	µg/L	94-03106	
WNW8609	aniline	05/19/94	ND<10.00	10.00	µg/L	94-03774	
WNW8609	anthracn	11/11/93	ND<10.00	10.00	µg/L	93-12015	
WNW8609	anthracn	05/19/94	ND<10.00	10.00	µg/L	94-03106	
WNW8609	anthracn	05/19/94	ND<10.00	10.00	µg/L	94-03774	
WNW8609	aramite	11/11/93	ND<10.00	10.00	µg/L	93-12015	
WNW8609	aramite	05/19/94	ND<10.00	10.00	µg/L	94-03106	UJ

HLWSA Groundwater Semivolatiles Analyte Data
from the 4th Rd. 1993 and 2nd Rd. 1994

Well_ID	Parameter	Samp_Date	Chr_Data	Result	Units	Sample_ID	Flags
WNW8609	aramite	05/19/94	ND < 10.00	10.00	μg/L	94-03774	UJ
WNW8609	benz_alc	11/11/93	ND < 10.00	10.00	μg/L	93-12015	
WNW8609	benz_alc	05/19/94	ND < 10.00	10.00	μg/L	94-03106	
WNW8609	benz_alc	05/19/94	ND < 10.00	10.00	μg/L	94-03774	
WNW8609	bis2ceth	11/11/93	ND < 10.00	10.00	μg/L	93-12015	
WNW8609	bis2ceth	05/19/94	ND < 10.00	10.00	μg/L	94-03106	
WNW8609	bis2ceth	05/19/94	ND < 10.00	10.00	μg/L	94-03774	
WNW8609	bis2cexy	11/11/93	ND < 10.00	10.00	μg/L	93-12015	
WNW8609	bis2cexy	05/19/94	ND < 10.00	10.00	μg/L	94-03106	
WNW8609	bis2cexy	05/19/94	ND < 10.00	10.00	μg/L	94-03774	
WNW8609	bis2clis	11/11/93	ND < 10.00	10.00	μg/L	93-12015	
WNW8609	bis2clis	05/19/94	ND < 10.00	10.00	μg/L	94-03106	
WNW8609	bis2clis	05/19/94	ND < 10.00	10.00	μg/L	94-03774	
WNW8609	bis2ehex	11/11/93	ND < 10.00	10.00	μg/L	93-12015	
WNW8609	bis2ehex	05/19/94	ND < 10.00	10.00	μg/L	94-03106	
WNW8609	bis2ehex	05/19/94	ND < 10.00	10.00	μg/L	94-03774	
WNW8609	bnz_a_an	11/11/93	ND < 10.00	10.00	μg/L	93-12015	
WNW8609	bnz_a_an	05/19/94	ND < 10.00	10.00	μg/L	94-03106	
WNW8609	bnz_a_an	05/19/94	ND < 10.00	10.00	μg/L	94-03774	
WNW8609	bnz_a_py	11/11/93	ND < 10.00	10.00	μg/L	93-12015	
WNW8609	bnz_a_py	05/19/94	ND < 10.00	10.00	μg/L	94-03106	
WNW8609	bnz_a_py	05/19/94	ND < 10.00	10.00	μg/L	94-03774	
WNW8609	bnz_b_fl	11/11/93	ND < 10.00	10.00	μg/L	93-12015	
WNW8609	bnz_b_fl	05/19/94	ND < 10.00	10.00	μg/L	94-03106	
WNW8609	bnz_b_fl	05/19/94	ND < 10.00	10.00	μg/L	94-03774	
WNW8609	bnz_k_fl	11/11/93	ND < 10.00	10.00	μg/L	93-12015	
WNW8609	bnz_k_fl	05/19/94	ND < 10.00	10.00	μg/L	94-03106	
WNW8609	bnz_k_fl	05/19/94	ND < 10.00	10.00	μg/L	94-03774	
WNW8609	bnzghipr	11/11/93	ND < 10.00	10.00	μg/L	93-12015	
WNW8609	bnzghipr	05/19/94	ND < 10.00	10.00	μg/L	94-03106	
WNW8609	bnzghipr	05/19/94	ND < 10.00	10.00	μg/L	94-03774	
WNW8609	brppeth4	11/11/93	ND < 10.00	10.00	μg/L	93-12015	
WNW8609	brppeth4	05/19/94	ND < 10.00	10.00	μg/L	94-03106	
WNW8609	brppeth4	05/19/94	ND < 10.00	10.00	μg/L	94-03774	
WNW8609	butbnzph	11/11/93	ND < 10.00	10.00	μg/L	93-12015	
WNW8609	butbnzph	05/19/94	ND < 10.00	10.00	μg/L	94-03106	
WNW8609	butbnzph	05/19/94	ND < 10.00	10.00	μg/L	94-03774	
WNW8609	chppeth4	11/11/93	ND < 10.00	10.00	μg/L	93-12015	
WNW8609	chppeth4	05/19/94	ND < 10.00	10.00	μg/L	94-03106	
WNW8609	chppeth4	05/19/94	ND < 10.00	10.00	μg/L	94-03774	
WNW8609	chrysene	11/11/93	ND < 10.00	10.00	μg/L	93-12015	
WNW8609	chrysene	05/19/94	ND < 10.00	10.00	μg/L	94-03106	
WNW8609	chrysene	05/19/94	ND < 10.00	10.00	μg/L	94-03774	
WNW8609	clbnzilt	11/11/93	ND < 10.00	10.00	μg/L	93-12015	
WNW8609	clnapht2	11/11/93	ND < 10.00	10.00	μg/L	93-12015	

HLWSA Groundwater Semivolatiles Analyte Data
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Well_ID	Parameter	Samp_Date	Chr_Data	Result	Units	Sample_ID	Flags
WNW8609	clnapht2	05/19/94	ND < 10.00	10.00	µg/L	94-03106	
WNW8609	clnapht2	05/19/94	ND < 10.00	10.00	µg/L	94-03774	
WNW8609	clphen_2	11/11/93	ND < 10.00	10.00	µg/L	93-12015	
WNW8609	clphen_2	05/19/94	ND < 10.00	10.00	µg/L	94-03106	
WNW8609	clphen_2	05/19/94	ND < 10.00	10.00	µg/L	94-03774	
WNW8609	dbahanth	11/11/93	ND < 10.00	10.00	µg/L	93-12015	
WNW8609	dbahanth	05/19/94	ND < 10.00	10.00	µg/L	94-03106	
WNW8609	dbahanth	05/19/94	ND < 10.00	10.00	µg/L	94-03774	
WNW8609	dcb_33	11/11/93	ND < 10.00	10.00	µg/L	93-12015	UJ
WNW8609	dcb_33	05/19/94	ND < 10.00	10.00	µg/L	94-03106	UJ
WNW8609	dcb_33	05/19/94	ND < 10.00	10.00	µg/L	94-03774	UJ
WNW8609	dethylpy	11/11/93	ND < 10.00	10.00	µg/L	93-12015	
WNW8609	dethylpy	05/19/94	ND < 10.00	10.00	µg/L	94-03106	
WNW8609	dethylpy	05/19/94	ND < 10.00	10.00	µg/L	94-03774	
WNW8609	diallate	11/11/93	ND < 10.00	10.00	µg/L	93-12015	
WNW8609	diallate	05/19/94	ND < 10.00	10.00	µg/L	94-03106	UJ
WNW8609	diallate	05/19/94	ND < 10.00	10.00	µg/L	94-03774	UJ
WNW8609	dibnzfur	11/11/93	ND < 10.00	10.00	µg/L	93-12015	
WNW8609	dibnzfur	05/19/94	ND < 10.00	10.00	µg/L	94-03774	
WNW8609	diclph24	11/11/93	ND < 10.00	10.00	µg/L	93-12015	
WNW8609	diclph24	05/19/94	ND < 10.00	10.00	µg/L	94-03106	
WNW8609	diclph24	05/19/94	ND < 10.00	10.00	µg/L	94-03774	
WNW8609	diclph26	11/11/93	ND < 10.00	10.00	µg/L	93-12015	
WNW8609	diclph26	05/19/94	ND < 10.00	10.00	µg/L	94-03106	
WNW8609	diclph26	05/19/94	ND < 10.00	10.00	µg/L	94-03774	
WNW8609	diclph26	05/19/94	ND < 10.00	10.00	µg/L	94-03774	
WNW8609	diethyph	11/11/93	ND < 10.00	10.00	µg/L	93-12015	
WNW8609	diethyph	05/19/94	ND < 10.00	10.00	µg/L	94-03106	
WNW8609	diethyph	05/19/94	ND < 10.00	10.00	µg/L	94-03774	
WNW8609	dimthoat	11/11/93	ND < 10.00	10.00	µg/L	93-12015	
WNW8609	dimthoat	05/19/94	ND < 10.00	10.00	µg/L	94-03106	
WNW8609	dimthoat	05/19/94	ND < 10.00	10.00	µg/L	94-03774	
WNW8609	dimthp24	11/11/93	ND < 10.00	10.00	µg/L	93-12015	
WNW8609	dimthp24	05/19/94	ND < 10.00	10.00	µg/L	94-03106	
WNW8609	dimthp24	05/19/94	ND < 10.00	10.00	µg/L	94-03774	
WNW8609	dimthyph	11/11/93	ND < 10.00	10.00	µg/L	93-12015	
WNW8609	dimthyph	05/19/94	ND < 10.00	10.00	µg/L	94-03106	
WNW8609	dimthyph	05/19/94	ND < 10.00	10.00	µg/L	94-03774	
WNW8609	dinbutph	11/11/93	ND < 10.00	10.00	µg/L	93-12015	
WNW8609	dinbutph	05/19/94	ND < 10.00	10.00	µg/L	94-03106	
WNW8609	dinbutph	05/19/94	ND < 10.00	10.00	µg/L	94-03774	
WNW8609	dinoctph	11/11/93	ND < 10.00	10.00	µg/L	93-12015	
WNW8609	dinoctph	05/19/94	ND < 10.00	10.00	µg/L	94-03106	
WNW8609	dinoctph	05/19/94	ND < 10.00	10.00	µg/L	94-03774	
WNW8609	dintrp24	11/11/93	ND < 50.00	50.00	µg/L	93-12015	

HLWSA Groundwater Semivolatiles Analyte Data
from the 4th Rd. 1993 and 2nd Rd. 1994

Well_ID	Parameter	Samp_Date	Chr_Data	Result	Units	Sample_ID	Flags
WNW8609	dintrp24	05/19/94	ND<50.00	50.00	µg/L	94-03106	
WNW8609	dintrp24	05/19/94	ND<50.00	50.00	µg/L	94-03774	
WNW8609	dintrt24	11/11/93	ND<10.00	10.00	µg/L	93-12015	
WNW8609	dintrt24	05/19/94	ND<10.00	10.00	µg/L	94-03106	
WNW8609	dintrt24	05/19/94	ND<10.00	10.00	µg/L	94-03774	
WNW8609	dintrt26	11/11/93	ND<10.00	10.00	µg/L	93-12015	
WNW8609	dintrt26	05/19/94	ND<10.00	10.00	µg/L	94-03106	
WNW8609	dintrt26	05/19/94	ND<10.00	10.00	µg/L	94-03774	
WNW8609	diphnyam	11/11/93	ND<10.00	10.00	µg/L	93-12015	
WNW8609	diphnyam	05/19/94	ND<10.00	10.00	µg/L	94-03106	
WNW8609	diphnyam	05/19/94	ND<10.00	10.00	µg/L	94-03774	
WNW8609	dmb_33	11/11/93	ND<10.00	10.00	µg/L	93-12015	UJ
WNW8609	dmb_33	05/19/94	ND<10.00	10.00	µg/L	94-03106	
WNW8609	dmb_33	05/19/94	ND<10.00	10.00	µg/L	94-03774	
WNW8609	dmb_7_12	11/11/93	ND<10.00	10.00	µg/L	93-12015	UJ
WNW8609	dmb_7_12	05/19/94	ND<10.00	10.00	µg/L	94-03106	
WNW8609	dmb_7_12	05/19/94	ND<10.00	10.00	µg/L	94-03774	
WNW8609	dntrcr46	11/11/93	ND<50.00	50.00	µg/L	93-12015	
WNW8609	dntrcr46	05/19/94	ND<50.00	50.00	µg/L	94-03106	
WNW8609	dntrcr46	05/19/94	ND<50.00	50.00	µg/L	94-03774	
WNW8609	ethmthsl	11/11/93	ND<10.00	10.00	µg/L	93-12015	
WNW8609	ethmthsl	05/19/94	ND<10.00	10.00	µg/L	94-03106	
WNW8609	ethmthsl	05/19/94	ND<10.00	10.00	µg/L	94-03774	
WNW8609	famphur	11/11/93	ND<10.00	10.00	µg/L	93-12015	
WNW8609	famphur	05/19/94	ND<10.00	10.00	µg/L	94-03106	
WNW8609	famphur	05/19/94	ND<10.00	10.00	µg/L	94-03774	
WNW8609	flranthn	11/11/93	ND<10.00	10.00	µg/L	93-12015	
WNW8609	flranthn	05/19/94	ND<10.00	10.00	µg/L	94-03106	
WNW8609	flranthn	05/19/94	ND<10.00	10.00	µg/L	94-03774	
WNW8609	fluorene	11/11/93	ND<10.00	10.00	µg/L	93-12015	
WNW8609	fluorene	05/19/94	ND<10.00	10.00	µg/L	94-03106	
WNW8609	fluorene	05/19/94	ND<10.00	10.00	µg/L	94-03774	
WNW8609	hexclbnz	11/11/93	ND<10.00	10.00	µg/L	93-12015	
WNW8609	hexclbnz	05/19/94	ND<10.00	10.00	µg/L	94-03106	
WNW8609	hexclbnz	05/19/94	ND<10.00	10.00	µg/L	94-03774	
WNW8609	hexclbut	11/11/93	ND<10.00	10.00	µg/L	93-12015	
WNW8609	hexclbut	05/19/94	ND<10.00	10.00	µg/L	94-03106	
WNW8609	hexclbut	05/19/94	ND<10.00	10.00	µg/L	94-03774	
WNW8609	hexcleth	11/11/93	ND<10.00	10.00	µg/L	93-12015	
WNW8609	hexcleth	05/19/94	ND<10.00	10.00	µg/L	94-03106	
WNW8609	hexcleth	05/19/94	ND<10.00	10.00	µg/L	94-03774	
WNW8609	hexclpen	11/11/93	ND<10.00	10.00	µg/L	93-12015	
WNW8609	hexclpen	05/19/94	ND<10.00	10.00	µg/L	94-03106	
WNW8609	hexclpen	05/19/94	ND<10.00	10.00	µg/L	94-03774	
WNW8609	hexclphn	11/11/93	ND<10.00	10.00	µg/L	93-12015	

HLWSA Groundwater Semivolatiles Analyte Data
from the 4th Rd. 1993 and 2nd Rd. 1994

Well_ID	Parameter	Samp_Date	Chr_Data	Result	Units	Sample_ID	Flags
WNW8609	hexclphn	05/19/94	ND < 10.00	10.00	μg/L	94-03106	UJ
WNW8609	hexclphn	05/19/94	ND < 10.00	10.00	μg/L	94-03774	UJ
WNW8609	hexclpro	11/11/93	ND < 10.00	10.00	μg/L	93-12015	
WNW8609	hexclpro	05/19/94	ND < 10.00	10.00	μg/L	94-03106	R
WNW8609	hexclpro	05/19/94	ND < 10.00	10.00	μg/L	94-03774	R
WNW8609	indnpyre	11/11/93	ND < 10.00	10.00	μg/L	93-12015	
WNW8609	indnpyre	05/19/94	ND < 10.00	10.00	μg/L	94-03106	
WNW8609	indnpyre	05/19/94	ND < 10.00	10.00	μg/L	94-03774	
WNW8609	isodrin	11/11/93	ND < 10.00	10.00	μg/L	93-12015	
WNW8609	isodrin	05/19/94	ND < 10.00	10.00	μg/L	94-03106	
WNW8609	isodrin	05/19/94	ND < 10.00	10.00	μg/L	94-03774	
WNW8609	isophron	11/11/93	ND < 10.00	10.00	μg/L	93-12015	
WNW8609	isophron	05/19/94	ND < 10.00	10.00	μg/L	94-03106	
WNW8609	isophron	05/19/94	ND < 10.00	10.00	μg/L	94-03774	
WNW8609	isosfrol	11/11/93	ND < 10.00	10.00	μg/L	93-12015	
WNW8609	isosfrol	05/19/94	ND < 10.00	10.00	μg/L	94-03106	
WNW8609	isosfrol	05/19/94	ND < 10.00	10.00	μg/L	94-03774	
WNW8609	kepone	11/11/93	ND < 10.00	10.00	μg/L	93-12015	
WNW8609	kepone	05/19/94	ND < 10.00	10.00	μg/L	94-03106	R
WNW8609	kepone	05/19/94	ND < 10.00	10.00	μg/L	94-03774	R
WNW8609	m_cresol	11/11/93	ND < 10.00	10.00	μg/L	93-12015	UJ
WNW8609	m_cresol	05/19/94	ND < 10.00	10.00	μg/L	94-03106	
WNW8609	m_cresol	05/19/94	ND < 10.00	10.00	μg/L	94-03774	
WNW8609	m_dclbnz	11/11/93	ND < 10.00	10.00	μg/L	93-12015	
WNW8609	m_dclbnz	05/19/94	ND < 10.00	10.00	μg/L	94-03106	
WNW8609	m_dclbnz	05/19/94	ND < 10.00	10.00	μg/L	94-03774	
WNW8609	m_dntbnz	11/11/93	ND < 10.00	10.00	μg/L	93-12015	
WNW8609	m_dntbnz	05/19/94	ND < 10.00	10.00	μg/L	94-03106	
WNW8609	m_dntbnz	05/19/94	ND < 10.00	10.00	μg/L	94-03774	
WNW8609	m_ntranl	11/11/93	ND < 50.00	50.00	μg/L	93-12015	
WNW8609	m_ntranl	05/19/94	ND < 50.00	50.00	μg/L	94-03106	
WNW8609	m_ntranl	05/19/94	ND < 50.00	50.00	μg/L	94-03774	
WNW8609	me_mnso4	11/11/93	ND < 10.00	10.00	μg/L	93-12015	
WNW8609	me_mnso4	05/19/94	ND < 10.00	10.00	μg/L	94-03106	
WNW8609	me_mnso4	05/19/94	ND < 10.00	10.00	μg/L	94-03774	
WNW8609	mthchla3	11/11/93	ND < 10.00	10.00	μg/L	93-12015	
WNW8609	mthchla3	05/19/94	ND < 10.00	10.00	μg/L	94-03106	
WNW8609	mthchla3	05/19/94	ND < 10.00	10.00	μg/L	94-03774	
WNW8609	mthpriln	11/11/93	ND < 10.00	10.00	μg/L	93-12015	
WNW8609	mthpriln	05/19/94	ND < 10.00	10.00	μg/L	94-03106	UJ
WNW8609	mthpriln	05/19/94	ND < 10.00	10.00	μg/L	94-03774	UJ
WNW8609	mthynph2	11/11/93	ND < 10.00	10.00	μg/L	93-12015	
WNW8609	mthynph2	05/19/94	ND < 10.00	10.00	μg/L	94-03106	
WNW8609	mthynph2	05/19/94	ND < 10.00	10.00	μg/L	94-03774	
WNW8609	naphthal	11/11/93	ND < 10.00	10.00	μg/L	93-12015	

HLWSA Groundwater Semivolatiles Analyte Data
from the 4th Rd. 1993 and 2nd Rd. 1994

Well_ID	Parameter	Samp_Date	Chr_Data	Result	Units	Sample_ID	Flags
WNW8609	naphthal	05/19/94	ND < 10.00	10.00	μg/L	94-03106	
WNW8609	naphthal	05/19/94	ND < 10.00	10.00	μg/L	94-03774	
WNW8609	naphthy2	11/11/93	ND < 10.00	10.00	μg/L	93-12015	
WNW8609	naphthy2	05/19/94	ND < 10.00	10.00	μg/L	94-03106	
WNW8609	naphthy2	05/19/94	ND < 10.00	10.00	μg/L	94-03774	
WNW8609	nntrethy	11/11/93	ND < 10.00	10.00	μg/L	93-12015	
WNW8609	nntrethy	05/19/94	ND < 10.00	10.00	μg/L	94-03106	
WNW8609	nntrethy	05/19/94	ND < 10.00	10.00	μg/L	94-03774	
WNW8609	nntrmeet	11/11/93	ND < 10.00	10.00	μg/L	93-12015	
WNW8609	nntrmeet	05/19/94	ND < 10.00	10.00	μg/L	94-03106	
WNW8609	nntrmeet	05/19/94	ND < 10.00	10.00	μg/L	94-03774	
WNW8609	nntrmorp	11/11/93	ND < 10.00	10.00	μg/L	93-12015	
WNW8609	nntrmorp	05/19/94	ND < 10.00	10.00	μg/L	94-03106	
WNW8609	nntrmorp	05/19/94	ND < 10.00	10.00	μg/L	94-03774	
WNW8609	nntrmthy	11/11/93	ND < 10.00	10.00	μg/L	93-12015	UJ
WNW8609	nntrmthy	05/19/94	ND < 10.00	10.00	μg/L	94-03106	
WNW8609	nntrmthy	05/19/94	ND < 10.00	10.00	μg/L	94-03774	
WNW8609	nntrnbut	11/11/93	ND < 10.00	10.00	μg/L	93-12015	
WNW8609	nntrnbut	05/19/94	ND < 10.00	10.00	μg/L	94-03106	
WNW8609	nntrnbut	05/19/94	ND < 10.00	10.00	μg/L	94-03774	
WNW8609	nntrphny	11/11/93	ND < 10.00	10.00	μg/L	93-12015	
WNW8609	nntrphny	05/19/94	ND < 10.00	10.00	μg/L	94-03106	
WNW8609	nntrphny	05/19/94	ND < 10.00	10.00	μg/L	94-03774	
WNW8609	nntrpipr	11/11/93	ND < 10.00	10.00	μg/L	93-12015	
WNW8609	nntrpipr	05/19/94	ND < 10.00	10.00	μg/L	94-03106	
WNW8609	nntrpipr	05/19/94	ND < 10.00	10.00	μg/L	94-03774	
WNW8609	nntrprpy	11/11/93	ND < 10.00	10.00	μg/L	93-12015	
WNW8609	nntrprpy	05/19/94	ND < 10.00	10.00	μg/L	94-03106	
WNW8609	nntrprpy	05/19/94	ND < 10.00	10.00	μg/L	94-03774	
WNW8609	nntrpyrr	11/11/93	ND < 10.00	10.00	μg/L	93-12015	UJ
WNW8609	nntrpyrr	05/19/94	ND < 10.00	10.00	μg/L	94-03106	
WNW8609	nntrpyrr	05/19/94	ND < 10.00	10.00	μg/L	94-03774	
WNW8609	nphthyl1	11/11/93	ND < 10.00	10.00	μg/L	93-12015	
WNW8609	nphthyl1	05/19/94	ND < 10.00	10.00	μg/L	94-03106	
WNW8609	nphthyl1	05/19/94	ND < 10.00	10.00	μg/L	94-03774	
WNW8609	npthqn14	11/11/93	ND < 10.00	10.00	μg/L	93-12015	
WNW8609	npthqn14	05/19/94	ND < 10.00	10.00	μg/L	94-03106	UJ
WNW8609	npthqn14	05/19/94	ND < 10.00	10.00	μg/L	94-03774	UJ
WNW8609	ntr5_otl	11/11/93	ND < 10.00	10.00	μg/L	93-12015	
WNW8609	ntr5_otl	05/19/94	ND < 10.00	10.00	μg/L	94-03106	
WNW8609	ntr5_otl	05/19/94	ND < 10.00	10.00	μg/L	94-03774	
WNW8609	ntrobenz	11/11/93	ND < 10.00	10.00	μg/L	93-12015	
WNW8609	ntrobenz	05/19/94	ND < 10.00	10.00	μg/L	94-03106	
WNW8609	ntrobenz	05/19/94	ND < 10.00	10.00	μg/L	94-03774	
WNW8609	ntrq4_1o	11/11/93	ND < 10.00	10.00	μg/L	93-12015	

HLWSA Groundwater Semivolatiles Analyte Data
from the 4th Rd. 1993 and 2nd Rd. 1994

Well_ID	Parameter	Samp_Date	Chr_Data	Result	Units	Sample_ID	Flags
WNW8609	ntrq4_1o	05/19/94	ND < 10.00	10.00	µg/L	94-03106	
WNW8609	ntrq4_1o	05/19/94	ND < 10.00	10.00	µg/L	94-03774	
WNW8609	o_cresol	11/11/93	ND < 10.00	10.00	µg/L	93-12015	
WNW8609	o_cresol	05/19/94	ND < 10.00	10.00	µg/L	94-03106	
WNW8609	o_cresol	05/19/94	ND < 10.00	10.00	µg/L	94-03774	
WNW8609	o_dclbnz	11/11/93	ND < 10.00	10.00	µg/L	93-12015	
WNW8609	o_dclbnz	05/19/94	ND < 10.00	10.00	µg/L	94-03106	
WNW8609	o_dclbnz	05/19/94	ND < 10.00	10.00	µg/L	94-03774	
WNW8609	o_ntranl	11/11/93	ND < 50.00	50.00	µg/L	93-12015	
WNW8609	o_ntranl	05/19/94	ND < 50.00	50.00	µg/L	94-03106	
WNW8609	o_ntranl	05/19/94	ND < 50.00	50.00	µg/L	94-03774	
WNW8609	o_ntrphn	11/11/93	ND < 10.00	10.00	µg/L	93-12015	
WNW8609	o_ntrphn	05/19/94	ND < 10.00	10.00	µg/L	94-03106	
WNW8609	o_ntrphn	05/19/94	ND < 10.00	10.00	µg/L	94-03774	
WNW8609	o_toludn	11/11/93	ND < 10.00	10.00	µg/L	93-12015	
WNW8609	o_toludn	05/19/94	ND < 10.00	10.00	µg/L	94-03106	
WNW8609	o_toludn	05/19/94	ND < 10.00	10.00	µg/L	94-03774	
WNW8609	p_cresol	11/11/93	ND < 10.00	10.00	µg/L	93-12015	
WNW8609	p_cresol	05/19/94	ND < 10.00	10.00	µg/L	94-03106	
WNW8609	p_cresol	05/19/94	ND < 10.00	10.00	µg/L	94-03774	
WNW8609	p_dclbnz	11/11/93	ND < 10.00	10.00	µg/L	93-12015	
WNW8609	p_dclbnz	05/19/94	ND < 10.00	10.00	µg/L	94-03106	
WNW8609	p_dclbnz	05/19/94	ND < 10.00	10.00	µg/L	94-03774	
WNW8609	p_ntranl	11/11/93	ND < 50.00	50.00	µg/L	93-12015	
WNW8609	p_ntranl	05/19/94	ND < 50.00	50.00	µg/L	94-03106	
WNW8609	p_ntranl	05/19/94	ND < 50.00	50.00	µg/L	94-03774	
WNW8609	p_ntrphn	11/11/93	ND < 50.00	50.00	µg/L	93-12015	UJ
WNW8609	p_ntrphn	05/19/94	ND < 50.00	50.00	µg/L	94-03106	
WNW8609	p_ntrphn	05/19/94	ND < 50.00	50.00	µg/L	94-03774	
WNW8609	p_phndam	11/11/93	ND < 10.00	10.00	µg/L	93-12015	UJ
WNW8609	p_phndam	05/19/94	ND < 10.00	10.00	µg/L	94-03106	UJ
WNW8609	p_phndam	05/19/94	ND < 10.00	10.00	µg/L	94-03774	UJ
WNW8609	parthion	11/11/93	ND < 10.00	10.00	µg/L	93-12015	
WNW8609	parthion	05/19/94	ND < 10.00	10.00	µg/L	94-03106	
WNW8609	parthion	05/19/94	ND < 10.00	10.00	µg/L	94-03774	
WNW8609	pclranil	11/11/93	ND < 10.00	10.00	µg/L	93-12015	
WNW8609	pclranil	05/19/94	ND < 10.00	10.00	µg/L	94-03106	
WNW8609	pclranil	05/19/94	ND < 10.00	10.00	µg/L	94-03774	
WNW8609	pclrmcrs	11/11/93	ND < 10.00	10.00	µg/L	93-12015	
WNW8609	pclrmcrs	05/19/94	ND < 10.00	10.00	µg/L	94-03106	
WNW8609	pclrmcrs	05/19/94	ND < 10.00	10.00	µg/L	94-03774	
WNW8609	pdimthaz	11/11/93	ND < 10.00	10.00	µg/L	93-12015	
WNW8609	pdimthaz	05/19/94	ND < 10.00	10.00	µg/L	94-03106	
WNW8609	pdimthaz	05/19/94	ND < 10.00	10.00	µg/L	94-03774	
WNW8609	phenol	11/11/93	ND < 10.00	10.00	µg/L	93-12015	

HLWSA Groundwater Semivolatiles Analyte Data
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Well_ID	Parameter	Samp_Date	Chr_Data	Result	Units	Sample_ID	Flags
WNW8609	phenol	05/19/94	ND < 10.00	10.00	µg/L	94-03106	
WNW8609	phenol	05/19/94	ND < 10.00	10.00	µg/L	94-03774	
WNW8609	phnacetn	11/11/93	ND < 10.00	10.00	µg/L	93-12015	
WNW8609	phnacetn	05/19/94	ND < 10.00	10.00	µg/L	94-03106	
WNW8609	phnacetn	05/19/94	ND < 10.00	10.00	µg/L	94-03774	
WNW8609	phnanthr	11/11/93	ND < 10.00	10.00	µg/L	93-12015	
WNW8609	phnanthr	05/19/94	ND < 10.00	10.00	µg/L	94-03106	
WNW8609	phnanthr	05/19/94	ND < 10.00	10.00	µg/L	94-03774	
WNW8609	pntclbnz	11/11/93	ND < 10.00	10.00	µg/L	93-12015	
WNW8609	pntclbnz	05/19/94	ND < 10.00	10.00	µg/L	94-03106	
WNW8609	pntclbnz	05/19/94	ND < 10.00	10.00	µg/L	94-03774	
WNW8609	pntclnbn	11/11/93	ND < 10.00	10.00	µg/L	93-12015	
WNW8609	pntclnbn	05/19/94	ND < 10.00	10.00	µg/L	94-03106	R
WNW8609	pntclnbn	05/19/94	ND < 10.00	10.00	µg/L	94-03774	R
WNW8609	pntclphn	11/11/93	ND < 50.00	50.00	µg/L	93-12015	
WNW8609	pntclphn	05/19/94	ND < 50.00	50.00	µg/L	94-03106	
WNW8609	pntclphn	05/19/94	ND < 50.00	50.00	µg/L	94-03774	
WNW8609	prnamide	11/11/93	ND < 10.00	10.00	µg/L	93-12015	
WNW8609	prnamide	05/19/94	ND < 10.00	10.00	µg/L	94-03106	
WNW8609	prnamide	05/19/94	ND < 10.00	10.00	µg/L	94-03774	
WNW8609	pyrene	11/11/93	ND < 10.00	10.00	µg/L	93-12015	
WNW8609	pyrene	05/19/94	ND < 10.00	10.00	µg/L	94-03106	
WNW8609	pyrene	05/19/94	ND < 10.00	10.00	µg/L	94-03774	
WNW8609	safrole	11/11/93	ND < 10.00	10.00	µg/L	93-12015	
WNW8609	safrole	05/19/94	ND < 10.00	10.00	µg/L	94-03106	
WNW8609	safrole	05/19/94	ND < 10.00	10.00	µg/L	94-03774	
WNW8609	symtrbnz	11/11/93	ND < 10.00	10.00	µg/L	93-12015	UJ
WNW8609	symtrbnz	05/19/94	ND < 10.00	10.00	µg/L	94-03106	
WNW8609	symtrbnz	05/19/94	ND < 10.00	10.00	µg/L	94-03774	
WNW8609	tcb_1245	11/11/93	ND < 10.00	10.00	µg/L	93-12015	
WNW8609	tcb_1245	05/19/94	ND < 10.00	10.00	µg/L	94-03106	
WNW8609	tcb_1245	05/19/94	ND < 10.00	10.00	µg/L	94-03774	
WNW8609	tclph245	11/11/93	ND < 10.00	10.00	µg/L	93-12015	
WNW8609	tclph245	05/19/94	ND < 10.00	10.00	µg/L	94-03106	
WNW8609	tclph245	05/19/94	ND < 10.00	10.00	µg/L	94-03774	
WNW8609	tclph246	11/11/93	ND < 10.00	10.00	µg/L	93-12015	
WNW8609	tclph246	05/19/94	ND < 10.00	10.00	µg/L	94-03106	
WNW8609	tclph246	05/19/94	ND < 10.00	10.00	µg/L	94-03774	
WNW8609	tcph2346	11/11/93	ND < 10.00	10.00	µg/L	93-12015	UJ
WNW8609	tcph2346	05/19/94	ND < 10.00	10.00	µg/L	94-03106	
WNW8609	tcph2346	05/19/94	ND < 10.00	10.00	µg/L	94-03774	
WNW8609	triethph	11/11/93	ND < 10.00	10.00	µg/L	93-12015	
WNW8609	triethph	05/19/94	ND < 10.00	10.00	µg/L	94-03106	
WNW8609	triethph	05/19/94	ND < 10.00	10.00	µg/L	94-03774	
WNW8609	ttraethd	11/11/93	ND < 10.00	10.00	µg/L	93-12015	

HLWSA Groundwater Semivolatiles Analyte Data
from the 4th Rd. 1993 and 2nd Rd. 1994

Well_ID	Parameter	Samp_Date	Chr_Data	Result	Units	Sample_ID	Flags
WNW8609	ttraethd	05/19/94	ND < 10.00	10.00	μg/L	94-03106	
WNW8609	ttraethd	05/19/94	ND < 10.00	10.00	μg/L	94-03774	

HLWSA Groundwater Pesticides/PCBs Analyte Data
from the 4th Rd. 1993 and 2nd Rd. 1994

Well_ID	Parameter	Samp_Date	Chr_Data	Result	Units	Sample_ID	Flags
WNW0405	a_bhc	11/08/93	ND<0.050	0.05	µg/L	93-11676	UJ
WNW0405	a_bhc	05/04/94	ND<0.050	0.05	µg/L	94-03042	
WNW0405	a_chrldn	11/08/93	ND<0.500	0.50	µg/L	93-11676	
WNW0405	a_chrldn	05/04/94	ND<0.500	0.50	µg/L	94-03042	
WNW0405	aldrin	11/08/93	ND<0.050	0.05	µg/L	93-11676	
WNW0405	aldrin	05/04/94	ND<0.050	0.05	µg/L	94-03042	
WNW0405	b_bhc	11/08/93	ND<0.050	0.05	µg/L	93-11676	
WNW0405	b_bhc	05/04/94	ND<0.050	0.05	µg/L	94-03042	
WNW0405	d_bhc	11/08/93	ND<0.050	0.05	µg/L	93-11676	UJ
WNW0405	d_bhc	05/04/94	ND<0.050	0.05	µg/L	94-03042	
WNW0405	ddd_44	11/08/93	ND<0.100	0.10	µg/L	93-11676	
WNW0405	ddd_44	05/04/94	ND<0.100	0.10	µg/L	94-03042	
WNW0405	dde_44	11/08/93	ND<0.100	0.10	µg/L	93-11676	
WNW0405	dde_44	05/04/94	ND<0.100	0.10	µg/L	94-03042	
WNW0405	ddt_44	11/08/93	ND<0.100	0.10	µg/L	93-11676	
WNW0405	ddt_44	05/04/94	ND<0.100	0.10	µg/L	94-03042	UJ
WNW0405	dieldrin	11/08/93	ND<0.100	0.10	µg/L	93-11676	
WNW0405	dieldrin	05/04/94	ND<0.100	0.10	µg/L	94-03042	
WNW0405	endos_1	11/08/93	ND<0.100	0.10	µg/L	93-11676	
WNW0405	endos_1	05/04/94	ND<0.100	0.10	µg/L	94-03042	
WNW0405	endos_2	11/08/93	ND<0.100	0.10	µg/L	93-11676	
WNW0405	endos_2	05/04/94	ND<0.100	0.10	µg/L	94-03042	
WNW0405	endos_s	11/08/93	ND<0.100	0.10	µg/L	93-11676	
WNW0405	endos_s	05/04/94	ND<0.100	0.10	µg/L	94-03042	
WNW0405	endrin	11/08/93	ND<0.100	0.10	µg/L	93-11676	
WNW0405	endrin	05/04/94	ND<0.100	0.10	µg/L	94-03042	
WNW0405	endrn_al	05/04/94	ND<0.100	0.10	µg/L	94-03042	
WNW0405	endrn_kt	11/08/93	ND<0.100	0.10	µg/L	93-11676	
WNW0405	endrn_kt	05/04/94	ND<0.100	0.10	µg/L	94-03042	
WNW0405	g_bhc	11/08/93	ND<0.050	0.05	µg/L	93-11676	
WNW0405	g_bhc	05/04/94	ND<0.050	0.05	µg/L	94-03042	
WNW0405	g_chlrdn	11/08/93	ND<1.000	1.00	µg/L	93-11676	
WNW0405	g_chlrdn	05/04/94	ND<0.500	0.50	µg/L	94-03042	
WNW0405	hept_clr	11/08/93	ND<0.050	0.05	µg/L	93-11676	
WNW0405	hept_clr	05/04/94	ND<0.050	0.05	µg/L	94-03042	
WNW0405	hept_epx	11/08/93	ND<0.050	0.05	µg/L	93-11676	
WNW0405	hept_epx	05/04/94	ND<0.050	0.05	µg/L	94-03042	
WNW0405	meth_xcl	11/08/93	ND<0.500	0.50	µg/L	93-11676	
WNW0405	meth_xcl	05/04/94	ND<0.500	0.50	µg/L	94-03042	
WNW0405	pcb_1016	11/08/93	ND<0.500	0.50	µg/L	93-11676	UJ
WNW0405	pcb_1016	05/04/94	ND<0.500	0.50	µg/L	94-03042	
WNW0405	pcb_1221	11/08/93	ND<1.000	1.00	µg/L	93-11676	
WNW0405	pcb_1221	05/04/94	ND<1.000	1.00	µg/L	94-03042	
WNW0405	pcb_1232	11/08/93	ND<0.500	0.50	µg/L	93-11676	
WNW0405	pcb_1232	05/04/94	ND<0.500	0.50	µg/L	94-03042	

HLWSA Groundwater Pesticides/PCBs Analyte Data
from the 4th Rd. 1993 and 2nd Rd. 1994

Well_ID	Parameter	Samp_Date	Chr_Data	Result	Units	Sample_ID	Flags
WNW0405	pcb_1242	11/08/93	ND<0.500	0.50	µg/L	93-11676	UJ
WNW0405	pcb_1242	05/04/94	ND<0.500	0.50	µg/L	94-03042	
WNW0405	pcb_1248	11/08/93	ND<0.500	0.50	µg/L	93-11676	
WNW0405	pcb_1248	05/04/94	ND<0.500	0.50	µg/L	94-03042	
WNW0405	pcb_1254	11/08/93	ND<0.500	0.50	µg/L	93-11676	
WNW0405	pcb_1254	05/04/94	ND<0.500	0.50	µg/L	94-03042	
WNW0405	pcb_1260	11/08/93	ND<0.500	0.50	µg/L	93-11676	
WNW0405	pcb_1260	05/04/94	ND<0.500	0.50	µg/L	94-03042	
WNW0405	toxaphen	11/08/93	ND<1.000	1.00	µg/L	93-11676	
WNW0405	toxaphen	05/04/94	ND<1.000	1.00	µg/L	94-03042	UJ
WNW0406	a_bhc	11/04/93	ND<0.050	0.05	µg/L	93-11696	UJ
WNW0406	a_bhc	05/04/94	ND<0.052	0.05	µg/L	94-03058	
WNW0406	a_chrldn	11/04/93	ND<0.500	0.50	µg/L	93-11696	
WNW0406	a_chrldn	05/04/94	ND<0.520	0.52	µg/L	94-03058	
WNW0406	aldrin	11/04/93	ND<0.050	0.05	µg/L	93-11696	
WNW0406	aldrin	05/04/94	ND<0.050	0.05	µg/L	94-03058	
WNW0406	b_bhc	11/04/93	ND<0.050	0.05	µg/L	93-11696	
WNW0406	b_bhc	05/04/94	ND<0.050	0.05	µg/L	94-03058	
WNW0406	d_bhc	11/04/93	ND<0.050	0.05	µg/L	93-11696	UJ
WNW0406	d_bhc	05/04/94	ND<0.050	0.05	µg/L	94-03058	
WNW0406	ddd_44	11/04/93	ND<0.100	0.10	µg/L	93-11696	
WNW0406	ddd_44	05/04/94	ND<0.100	0.10	µg/L	94-03058	
WNW0406	dde_44	11/04/93	ND<0.100	0.10	µg/L	93-11696	
WNW0406	dde_44	05/04/94	ND<0.100	0.10	µg/L	94-03058	
WNW0406	ddt_44	11/04/93	ND<0.100	0.10	µg/L	93-11696	
WNW0406	ddt_44	05/04/94	ND<0.100	0.10	µg/L	94-03058	UJ
WNW0406	dieldrin	11/04/93	ND<0.100	0.10	µg/L	93-11696	
WNW0406	dieldrin	05/04/94	ND<0.100	0.10	µg/L	94-03058	
WNW0406	endos_1	11/04/93	ND<0.100	0.10	µg/L	93-11696	
WNW0406	endos_1	05/04/94	ND<0.100	0.10	µg/L	94-03058	
WNW0406	endos_2	11/04/93	ND<0.100	0.10	µg/L	93-11696	
WNW0406	endos_2	05/04/94	ND<0.100	0.10	µg/L	94-03058	
WNW0406	endos_s	11/04/93	ND<0.100	0.10	µg/L	93-11696	
WNW0406	endos_s	05/04/94	ND<0.100	0.10	µg/L	94-03058	
WNW0406	endrin	11/04/93	ND<0.100	0.10	µg/L	93-11696	
WNW0406	endrin	05/04/94	ND<0.100	0.10	µg/L	94-03058	
WNW0406	endrn_al	05/04/94	ND<0.100	0.10	µg/L	94-03058	
WNW0406	endrn_kt	11/04/93	ND<0.100	0.10	µg/L	93-11696	
WNW0406	endrn_kt	05/04/94	ND<0.100	0.10	µg/L	94-03058	
WNW0406	g_bhc	11/04/93	ND<0.050	0.05	µg/L	93-11696	
WNW0406	g_bhc	05/04/94	ND<0.052	0.05	µg/L	94-03058	
WNW0406	g_chlrdn	11/04/93	ND<1.000	1.00	µg/L	93-11696	
WNW0406	g_chlrdn	05/04/94	ND<0.520	0.52	µg/L	94-03058	
WNW0406	hept_clr	11/04/93	ND<0.050	0.05	µg/L	93-11696	

HLWSA Groundwater Pesticides/PCBs Analyte Data
from the 4th Rd. 1993 and 2nd Rd. 1994

Well_ID	Parameter	Samp_Date	Chr_Data	Result	Units	Sample_ID	Flags
WNW0406	hept_clr	05/04/94	ND<0.052	0.05	µg/L	94-03058	
WNW0406	hept_epx	11/04/93	ND<0.050	0.05	µg/L	93-11696	
WNW0406	hept_epx	05/04/94	ND<0.050	0.05	µg/L	94-03058	
WNW0406	meth_xcl	11/04/93	ND<0.500	0.50	µg/L	93-11696	
WNW0406	meth_xcl	05/04/94	ND<0.500	0.50	µg/L	94-03058	
WNW0406	pcb_1016	11/04/93	ND<0.500	0.50	µg/L	93-11696	UJ
WNW0406	pcb_1016	05/04/94	ND<0.500	0.50	µg/L	94-03058	
WNW0406	pcb_1221	11/04/93	ND<1.000	1.00	µg/L	93-11696	
WNW0406	pcb_1221	05/04/94	ND<1.000	1.00	µg/L	94-03058	
WNW0406	pcb_1232	11/04/93	ND<0.500	0.50	µg/L	93-11696	
WNW0406	pcb_1232	05/04/94	ND<0.500	0.50	µg/L	94-03058	
WNW0406	pcb_1242	11/04/93	ND<0.500	0.50	µg/L	93-11696	UJ
WNW0406	pcb_1242	05/04/94	ND<0.500	0.50	µg/L	94-03058	
WNW0406	pcb_1248	11/04/93	ND<0.500	0.50	µg/L	93-11696	
WNW0406	pcb_1248	05/04/94	ND<0.500	0.50	µg/L	94-03058	
WNW0406	pcb_1254	11/04/93	ND<0.500	0.50	µg/L	93-11696	
WNW0406	pcb_1254	05/04/94	ND<0.500	0.50	µg/L	94-03058	
WNW0406	pcb_1260	11/04/93	ND<0.500	0.50	µg/L	93-11696	
WNW0406	pcb_1260	05/04/94	ND<0.500	0.50	µg/L	94-03058	
WNW0406	toxaphen	11/04/93	ND<1.000	1.00	µg/L	93-11696	
WNW0406	toxaphen	05/04/94	ND<1.000	1.00	µg/L	94-03058	UJ
WNW0408	a_bhc	12/06/93	ND<0.010	0.01	µg/L	93-12958	
WNW0408	a_bhc	05/09/94	ND<0.005	0.01	µg/L	94-04140	
WNW0408	a_chrldn	12/06/93	ND<0.010	0.01	µg/L	93-12958	
WNW0408	a_chrldn	05/09/94	ND<0.000	0.00	µg/L	94-04140	
WNW0408	aldrin	12/06/93	ND<0.010	0.01	µg/L	93-12958	
WNW0408	aldrin	05/09/94	ND<0.000	0.00	µg/L	94-04140	
WNW0408	b_bhc	12/06/93	ND<0.010	0.01	µg/L	93-12958	
WNW0408	b_bhc	05/09/94	ND<0.000	0.00	µg/L	94-04140	
WNW0408	d_bhc	12/06/93	ND<0.010	0.01	µg/L	93-12958	
WNW0408	d_bhc	05/09/94	ND<0.000	0.00	µg/L	94-04140	
WNW0408	ddd_44	12/06/93	ND<0.010	0.01	µg/L	93-12958	
WNW0408	ddd_44	05/09/94	ND<0.010	0.01	µg/L	94-04140	
WNW0408	dde_44	12/06/93	ND<0.010	0.01	µg/L	93-12958	
WNW0408	dde_44	05/09/94	ND<0.010	0.01	µg/L	94-04140	
WNW0408	ddt_44	12/06/93	ND<0.010	0.01	µg/L	93-12958	
WNW0408	ddt_44	05/09/94	ND<0.010	0.01	µg/L	94-04140	
WNW0408	dieldrin	12/06/93	ND<0.010	0.01	µg/L	93-12958	
WNW0408	dieldrin	05/09/94	ND<0.010	0.01	µg/L	94-04140	
WNW0408	endos_1	12/06/93	ND<0.010	0.01	µg/L	93-12958	
WNW0408	endos_1	05/09/94	ND<0.000	0.00	µg/L	94-04140	
WNW0408	endos_2	12/06/93	ND<0.010	0.01	µg/L	93-12958	
WNW0408	endos_2	05/09/94	ND<0.010	0.01	µg/L	94-04140	
WNW0408	endos_s	12/06/93	ND<0.010	0.01	µg/L	93-12958	

HLWSA Groundwater Pesticides/PCBs Analyte Data
from the 4th Rd. 1993 and 2nd Rd. 1994

Well_ID	Parameter	Samp_Date	Chr_Data	Result	Units	Sample_ID	Flags
WNW0408	endos_s	05/09/94	ND<0.010	0.01	µg/L	94-04140	
WNW0408	endrin	12/06/93	ND<0.010	0.01	µg/L	93-12958	
WNW0408	endrin	05/09/94	ND<0.010	0.01	µg/L	94-04140	
WNW0408	endrn_al	12/06/93	ND<0.010	0.01	µg/L	93-12958	
WNW0408	endrn_al	05/09/94	ND<0.010	0.01	µg/L	94-04140	
WNW0408	endrn_kt	12/06/93	ND<0.010	0.01	µg/L	93-12958	
WNW0408	endrn_kt	05/09/94	ND<0.010	0.01	µg/L	94-04140	
WNW0408	g_bhc	12/06/93	ND<0.010	0.01	µg/L	93-12958	
WNW0408	g_bhc	05/09/94	ND<0.005	0.01	µg/L	94-04140	
WNW0408	g_chlrdn	12/06/93	ND<0.010	0.01	µg/L	93-12958	
WNW0408	g_chlrdn	05/09/94	ND<0.000	0.00	µg/L	94-04140	
WNW0408	hept_clr	12/06/93	ND<0.010	0.01	µg/L	93-12958	
WNW0408	hept_clr	05/09/94	ND<0.005	0.01	µg/L	94-04140	
WNW0408	hept_epx	12/06/93	ND<0.010	0.01	µg/L	93-12958	
WNW0408	hept_epx	05/09/94	ND<0.000	0.00	µg/L	94-04140	
WNW0408	meth_xcl	12/06/93	ND<0.100	0.10	µg/L	93-12958	
WNW0408	meth_xcl	05/09/94	ND<0.000	0.00	µg/L	94-04140	
WNW0408	pcb_1016	12/06/93	ND<0.100	0.10	µg/L	93-12958	
WNW0408	pcb_1016	05/09/94	ND<0.100	0.10	µg/L	94-04140	
WNW0408	pcb_1221	12/06/93	ND<0.200	0.20	µg/L	93-12958	
WNW0408	pcb_1221	05/09/94	ND<0.200	0.20	µg/L	94-04140	
WNW0408	pcb_1232	12/06/93	ND<0.100	0.10	µg/L	93-12958	
WNW0408	pcb_1232	05/09/94	ND<0.100	0.10	µg/L	94-04140	
WNW0408	pcb_1242	12/06/93	ND<0.100	0.10	µg/L	93-12958	
WNW0408	pcb_1242	05/09/94	ND<0.100	0.10	µg/L	94-04140	
WNW0408	pcb_1248	12/06/93	ND<0.100	0.10	µg/L	93-12958	
WNW0408	pcb_1248	05/09/94	ND<0.100	0.10	µg/L	94-04140	
WNW0408	pcb_1254	12/06/93	ND<0.100	0.10	µg/L	93-12958	
WNW0408	pcb_1254	05/09/94	ND<0.100	0.10	µg/L	94-04140	
WNW0408	pcb_1260	12/06/93	ND<0.100	0.10	µg/L	93-12958	
WNW0408	pcb_1260	05/09/94	ND<0.100	0.10	µg/L	94-04140	
WNW0408	toxaphen	12/06/93	ND<1.000	1.00	µg/L	93-12958	
WNW0408	toxaphen	05/09/94	ND<0.500	0.50	µg/L	94-04140	
WNW8609	a_bhc	11/11/93	ND<0.050	0.05	µg/L	93-12008	UJ
WNW8609	a_bhc	05/19/94	ND<0.050	0.05	µg/L	94-03108	UJ
WNW8609	a_bhc	05/19/94	ND<0.050	0.05	µg/L	94-03776	UJ
WNW8609	aldrin	11/11/93	ND<0.050	0.05	µg/L	93-12008	
WNW8609	aldrin	05/19/94	ND<0.050	0.05	µg/L	94-03108	
WNW8609	aldrin	05/19/94	ND<0.050	0.05	µg/L	94-03776	
WNW8609	b_bhc	11/11/93	ND<0.050	0.05	µg/L	93-12008	
WNW8609	b_bhc	05/19/94	ND<0.050	0.05	µg/L	94-03108	
WNW8609	b_bhc	05/19/94	ND<0.050	0.05	µg/L	94-03776	
WNW8609	chlrdane	11/11/93	ND<0.500	0.50	µg/L	93-12008	
WNW8609	chlrdane	05/19/94	ND<0.500	0.50	µg/L	94-03108	

HLWSA Groundwater Pesticides/PCBs Analyte Data
from the 4th Rd. 1993 and 2nd Rd. 1994

Well_ID	Parameter	Samp_Date	Chr_Data	Result	Units	Sample_ID	Flags
WNW8609	chlrdane	05/19/94	ND<0.500	0.50	µg/L	94-03776	
WNW8609	d_24	11/11/93	ND<0.100	0.10	µg/L	93-12014	
WNW8609	d_24	05/19/94	ND<0.100	0.10	µg/L	94-03113	
WNW8609	d_24	05/19/94	ND<0.100	0.10	µg/L	94-03781	
WNW8609	d_bhc	11/11/93	ND<0.050	0.05	µg/L	93-12008	
WNW8609	d_bhc	05/19/94	ND<0.050	0.05	µg/L	94-03108	
WNW8609	d_bhc	05/19/94	ND<0.050	0.05	µg/L	94-03776	
WNW8609	ddd_44	11/11/93	ND<0.100	0.10	µg/L	93-12008	
WNW8609	ddd_44	05/19/94	ND<0.100	0.10	µg/L	94-03108	
WNW8609	ddd_44	05/19/94	ND<0.100	0.10	µg/L	94-03776	
WNW8609	dde_44	11/11/93	ND<0.100	0.10	µg/L	93-12008	
WNW8609	dde_44	05/19/94	ND<0.100	0.10	µg/L	94-03108	
WNW8609	dde_44	05/19/94	ND<0.100	0.10	µg/L	94-03776	
WNW8609	ddt_44	11/11/93	ND<0.100	0.10	µg/L	93-12008	
WNW8609	ddt_44	05/19/94	ND<0.100	0.10	µg/L	94-03108	UJ
WNW8609	ddt_44	05/19/94	ND<0.100	0.10	µg/L	94-03776	UJ
WNW8609	dieldrin	11/11/93	ND<0.100	0.10	µg/L	93-12008	
WNW8609	dieldrin	05/19/94	ND<0.100	0.10	µg/L	94-03108	
WNW8609	dieldrin	05/19/94	ND<0.100	0.10	µg/L	94-03776	
WNW8609	dinoseb	11/11/93	ND<10.000	10.00	µg/L	93-12015	
WNW8609	dinoseb	05/19/94	ND<10.000	10.00	µg/L	94-03106	
WNW8609	dinoseb	05/19/94	ND<10.000	10.00	µg/L	94-03774	
WNW8609	disulftn	11/11/93	ND<10.000	10.00	µg/L	93-12015	UJ
WNW8609	disulftn	05/19/94	ND<10.000	10.00	µg/L	94-03106	
WNW8609	disulftn	05/19/94	ND<10.000	10.00	µg/L	94-03774	
WNW8609	endos_1	11/11/93	ND<0.100	0.10	µg/L	93-12008	
WNW8609	endos_1	05/19/94	ND<0.100	0.10	µg/L	94-03108	
WNW8609	endos_1	05/19/94	ND<0.100	0.10	µg/L	94-03776	
WNW8609	endos_2	11/11/93	ND<0.100	0.10	µg/L	93-12008	
WNW8609	endos_2	05/19/94	ND<0.100	0.10	µg/L	94-03108	
WNW8609	endos_2	05/19/94	ND<0.100	0.10	µg/L	94-03776	
WNW8609	endos_s	11/11/93	ND<0.100	0.10	µg/L	93-12008	
WNW8609	endos_s	05/19/94	ND<0.100	0.10	µg/L	94-03108	
WNW8609	endos_s	05/19/94	ND<0.100	0.10	µg/L	94-03776	
WNW8609	endrin	11/11/93	ND<0.100	0.10	µg/L	93-12008	
WNW8609	endrin	05/19/94	ND<0.100	0.10	µg/L	94-03108	
WNW8609	endrin	05/19/94	ND<0.100	0.10	µg/L	94-03776	
WNW8609	endrn_al	11/11/93	ND<0.200	0.20	µg/L	93-12008	
WNW8609	endrn_al	05/19/94	ND<0.200	0.20	µg/L	94-03108	
WNW8609	endrn_al	05/19/94	ND<0.200	0.20	µg/L	94-03776	
WNW8609	g_bhc	11/11/93	ND<0.050	0.05	µg/L	93-12008	
WNW8609	g_bhc	05/19/94	ND<0.050	0.05	µg/L	94-03108	
WNW8609	g_bhc	05/19/94	ND<0.050	0.05	µg/L	94-03776	
WNW8609	hept_clr	11/11/93	ND<0.050	0.05	µg/L	93-12008	
WNW8609	hept_clr	05/19/94	ND<0.050	0.05	µg/L	94-03108	

HLWSA Groundwater Pesticides/PCBs Analyte Data
from the 4th Rd. 1993 and 2nd Rd. 1994

Well_ID	Parameter	Samp_Date	Chr_Data	Result	Units	Sample_ID	Flags
WNW8609	hept_clr	05/19/94	ND<0.050	0.05	µg/L	94-03776	
WNW8609	hept_epx	11/11/93	ND<0.050	0.05	µg/L	93-12008	
WNW8609	hept_epx	05/19/94	ND<0.050	0.05	µg/L	94-03108	
WNW8609	hept_epx	05/19/94	ND<0.050	0.05	µg/L	94-03776	
WNW8609	meth_par	11/11/93	ND<10.000	10.00	µg/L	93-12015	
WNW8609	meth_par	05/19/94	ND<10.000	10.00	µg/L	94-03106	
WNW8609	meth_par	05/19/94	ND<10.000	10.00	µg/L	94-03774	
WNW8609	meth_xcl	11/11/93	ND<0.500	0.50	µg/L	93-12008	
WNW8609	meth_xcl	05/19/94	ND<0.500	0.50	µg/L	94-03108	UJ
WNW8609	meth_xcl	05/19/94	ND<0.500	0.50	µg/L	94-03776	UJ
WNW8609	pcb_1016	11/11/93	ND<0.500	0.50	µg/L	93-12008	
WNW8609	pcb_1016	05/19/94	ND<0.500	0.50	µg/L	94-03108	
WNW8609	pcb_1016	05/19/94	ND<0.500	0.50	µg/L	94-03776	
WNW8609	pcb_1221	11/11/93	ND<0.500	0.50	µg/L	93-12008	
WNW8609	pcb_1221	05/19/94	ND<0.500	0.50	µg/L	94-03108	
WNW8609	pcb_1221	05/19/94	ND<0.500	0.50	µg/L	94-03776	
WNW8609	pcb_1232	11/11/93	ND<0.500	0.50	µg/L	93-12008	
WNW8609	pcb_1232	05/19/94	ND<0.500	0.50	µg/L	94-03108	
WNW8609	pcb_1232	05/19/94	ND<0.500	0.50	µg/L	94-03776	
WNW8609	pcb_1242	11/11/93	ND<0.500	0.50	µg/L	93-12008	
WNW8609	pcb_1242	05/19/94	ND<0.500	0.50	µg/L	94-03108	
WNW8609	pcb_1242	05/19/94	ND<0.500	0.50	µg/L	94-03776	
WNW8609	pcb_1248	11/11/93	ND<0.500	0.50	µg/L	93-12008	
WNW8609	pcb_1248	05/19/94	ND<0.500	0.50	µg/L	94-03108	
WNW8609	pcb_1248	05/19/94	ND<0.500	0.50	µg/L	94-03776	
WNW8609	pcb_1254	11/11/93	ND<1.000	1.00	µg/L	93-12008	UJ
WNW8609	pcb_1254	05/19/94	ND<1.000	1.00	µg/L	94-03108	
WNW8609	pcb_1254	05/19/94	ND<1.000	1.00	µg/L	94-03776	
WNW8609	pcb_1260	11/11/93	ND<1.000	1.00	µg/L	93-12008	
WNW8609	pcb_1260	05/19/94	ND<1.000	1.00	µg/L	94-03108	
WNW8609	pcb_1260	05/19/94	ND<1.000	1.00	µg/L	94-03776	
WNW8609	phorate	11/11/93	ND<10.000	10.00	µg/L	93-12015	
WNW8609	phorate	05/19/94	ND<10.000	10.00	µg/L	94-03106	
WNW8609	phorate	05/19/94	ND<10.000	10.00	µg/L	94-03774	
WNW8609	silvex	11/11/93	ND<0.050	0.05	µg/L	93-12014	
WNW8609	silvex	05/19/94	ND<0.050	0.05	µg/L	94-03113	
WNW8609	silvex	05/19/94	ND<0.050	0.05	µg/L	94-03781	
WNW8609	t_245	11/11/93	ND<0.050	0.05	µg/L	93-12014	
WNW8609	t_245	05/19/94	ND<0.050	0.05	µg/L	94-03113	
WNW8609	t_245	05/19/94	ND<0.050	0.05	µg/L	94-03781	
WNW8609	toxaphen	11/11/93	ND<1.000	1.00	µg/L	93-12008	
WNW8609	toxaphen	05/19/94	ND<1.000	1.00	µg/L	94-03108	UJ
WNW8609	toxaphen	05/19/94	ND<1.000	1.00	µg/L	94-03776	UJ

HLWSA Groundwater Quality Parameter Data
from the 4th Rd. 1993 and 2nd Rd. 1994

Well_ID	Parameter	Samp_Date	Chr_Data	Result	Units	Sample_ID	Flags
WNW0401	cl	11/04/93		451.00	mg/L	93-11449	
WNW0401	cl	05/04/94		586.00	mg/L	94-02993	
WNW0401	co3	11/04/93	ND<1.00	1.00	mg/L	93-11449	
WNW0401	co3	05/04/94	ND<1.00	1.00	mg/L	94-02993	
WNW0401	hco3	11/04/93		139.00	mg/L	93-11449	
WNW0401	hco3	05/04/94		139.00	mg/L	94-02993	
WNW0401	hydroxyl	11/04/93	ND<1.00	1.00	mg/L	93-11449	
WNW0401	hydroxyl	05/04/94	ND<1.00	1.00	mg/L	94-02993	
WNW0401	nh3	11/04/93	ND<0.05	0.05	mg/L	93-11502	
WNW0401	nh3	05/04/94	ND<0.05	0.05	mg/L	94-02990	
WNW0401	no3no2	11/04/93		7.60	mg/L	93-11504	
WNW0401	no3no2	05/04/94		8.20	mg/L	94-02992	
WNW0401	po4_totl	11/04/93		0.14	mg/L	93-11504	
WNW0401	po4_totl	05/04/94	ND<0.02	0.02	mg/L	94-02992	
WNW0401	silica	11/04/93		6.60	mg/L	93-11449	
WNW0401	silica	05/04/94		6.50	mg/L	94-02993	
WNW0401	so4	11/04/93		21.70	mg/L	93-11449	
WNW0401	so4	05/04/94		22.40	mg/L	94-02993	
WNW0401	sulfide	11/04/93	ND<1.00	1.00	mg/L	93-11452	
WNW0401	sulfide	05/04/94	ND<1.00	1.00	mg/L	94-02996	
WNW0403	cl	11/04/93		147.00	mg/L	93-11458	
WNW0403	cl	05/05/94		374.00	mg/L	94-03002	
WNW0403	co3	11/04/93	ND<1.00	1.00	mg/L	93-11458	
WNW0403	co3	05/05/94	ND<1.00	1.00	mg/L	94-03002	
WNW0403	hco3	11/04/93		110.00	mg/L	93-11458	
WNW0403	hco3	05/05/94		106.00	mg/L	94-03002	
WNW0403	hydroxyl	11/04/93	ND<1.00	1.00	mg/L	93-11458	
WNW0403	hydroxyl	05/05/94	ND<1.00	1.00	mg/L	94-03002	
WNW0403	nh3	11/04/93	ND<0.05	0.05	mg/L	93-11455	
WNW0403	nh3	05/05/94	ND<0.05	0.05	mg/L	94-02999	
WNW0403	no3no2	11/04/93		11.80	mg/L	93-11457	
WNW0403	no3no2	05/05/94		34.10	mg/L	94-03001	
WNW0403	po4_totl	11/04/93		0.10	mg/L	93-11457	
WNW0403	po4_totl	05/05/94		0.06	mg/L	94-03001	
WNW0403	silica	11/04/93		5.00	mg/L	93-11458	
WNW0403	silica	05/05/94		6.60	mg/L	94-03002	
WNW0403	so4	11/04/93		19.50	mg/L	93-11458	
WNW0403	so4	05/05/94		25.50	mg/L	94-03002	
WNW0403	sulfide	11/04/93	ND<1.00	1.00	mg/L	93-11461	
WNW0403	sulfide	05/05/94	ND<1.00	1.00	mg/L	94-03005	
WNW0405	cl	11/08/93		70.90	mg/L	93-11670	
WNW0405	cl	05/04/94		78.60	mg/L	94-03036	
WNW0405	co3	11/08/93	ND<1.00	1.00	mg/L	93-11670	

HLWSA Groundwater Quality Parameter Data
from the 4th Rd. 1993 and 2nd Rd. 1994

Well_ID	Parameter	Samp_Date	Chr_Data	Result	Units	Sample_ID	Flags
WNW0405	co3	05/04/94	ND<1.00	1.00	mg/L	94-03036	
WNW0405	hco3	11/08/93		231.00	mg/L	93-11670	
WNW0405	hco3	05/04/94		192.00	mg/L	94-03036	
WNW0405	hydroxyl	11/08/93	ND<1.00	1.00	mg/L	93-11670	
WNW0405	hydroxyl	05/04/94	ND<1.00	1.00	mg/L	94-03036	
WNW0405	nh3	11/08/93	ND<0.05	0.05	mg/L	93-11667	
WNW0405	nh3	05/04/94	ND<0.05	0.05	mg/L	94-03033	
WNW0405	no3no2	11/08/93		0.35	mg/L	93-11669	
WNW0405	no3no2	05/04/94		0.09	mg/L	94-03035	
WNW0405	po4_totl	11/08/93	ND<0.05	0.05	mg/L	93-11669	
WNW0405	po4_totl	05/04/94	ND<0.02	0.02	mg/L	94-03035	
WNW0405	silica	11/08/93		6.80	mg/L	93-11670	
WNW0405	silica	05/04/94		5.10	mg/L	94-03036	
WNW0405	so4	11/08/93		122.00	mg/L	93-11670	
WNW0405	so4	05/04/94		106.00	mg/L	94-03036	
WNW0405	sulfide	11/08/93	ND<1.00	1.00	mg/L	93-11673	
WNW0406	cl	11/04/93		25.00	mg/L	93-11690	
WNW0406	cl	05/04/94		46.90	mg/L	94-03052	
WNW0406	co3	11/04/93	ND<1.00	1.00	mg/L	93-11690	
WNW0406	co3	05/04/94	ND<1.00	1.00	mg/L	94-03052	
WNW0406	hco3	11/04/93		215.00	mg/L	93-11690	
WNW0406	hco3	05/04/94		185.00	mg/L	94-03052	
WNW0406	hydroxyl	11/04/93	ND<1.00	1.00	mg/L	93-11690	
WNW0406	hydroxyl	05/04/94	ND<1.00	1.00	mg/L	94-03052	
WNW0406	nh3	11/04/93		0.18	mg/L	93-11687	
WNW0406	nh3	05/04/94		0.16	mg/L	94-03049	
WNW0406	nh3	05/04/94		0.16	mg/L	94-03049	
WNW0406	no3no2	11/04/93		0.60	mg/L	93-11689	
WNW0406	no3no2	05/04/94		0.39	mg/L	94-03051	
WNW0406	po4_totl	11/04/93	ND<0.05	0.05	mg/L	93-11689	
WNW0406	po4_totl	05/04/94		0.06	mg/L	94-03051	
WNW0406	silica	11/04/93		9.60	mg/L	93-11690	
WNW0406	silica	05/04/94		7.90	mg/L	94-03052	
WNW0406	so4	11/04/93		73.20	mg/L	93-11690	
WNW0406	so4	05/04/94		64.60	mg/L	94-03052	
WNW0406	sulfide	11/04/93	ND<1.00	1.00	mg/L	93-11693	
WNW0406	sulfide	05/04/94	ND<1.00	1.00	mg/L	94-03054	
WNW0408	cl	12/07/93		282.00	mg/L	93-12952	
WNW0408	cl	05/09/94		317.00	mg/L	94-04134	
WNW0408	co3	12/07/93	ND<1.00	1.00	mg/L	93-12952	
WNW0408	co3	05/09/94		122.00	mg/L	94-04134	
WNW0408	hco3	12/07/93		338.00	mg/L	93-12952	
WNW0408	hco3	05/09/94	ND<1.00	1.00	mg/L	94-04134	

HLWSA Groundwater Quality Parameter Data
from the 4th Rd. 1993 and 2nd Rd. 1994

Well_ID	Parameter	Samp_Date	Chr_Data	Result	Units	Sample_ID	Flags
WNW0408	hydroxyl	12/07/93	ND<1.00	1.00	mg/L	93-12952	
WNW0408	hydroxyl	05/09/94	ND<1.00	1.00	mg/L	94-04134	
WNW0408	nh3	12/07/93		0.12	mg/L	93-12951	
WNW0408	nh3	05/09/94	ND<0.03	0.03	mg/L	94-04133	R
WNW0408	no3no2	12/07/93		1.41	mg/L	93-12951	
WNW0408	no3no2	05/09/94		1.46	mg/L	94-04133	
WNW0408	po4_totl	12/07/93	ND<0.05	0.05	mg/L	93-12951	
WNW0408	po4_totl	05/09/94	ND<0.05	0.05	mg/L	94-04133	R
WNW0408	silica	12/07/93		12.70	mg/L	93-12952	J
WNW0408	so4	12/07/93		34.80	mg/L	93-12952	
WNW0408	so4	05/09/94		31.80	mg/L	94-04134	
WNW0408	sulfide	12/07/93	ND<1.00	1.00	mg/L	93-12955	
WNW0408	sulfide	05/09/94	ND<1.00	1.00	mg/L	94-04136	
WNW8607	cl	11/04/93		24.00	mg/L	93-11485	
WNW8607	cl	05/04/94		257.00	mg/L	94-03084	
WNW8607	co3	11/04/93	ND<1.00	1.00	mg/L	93-11485	
WNW8607	co3	05/04/94	ND<1.00	1.00	mg/L	94-03084	
WNW8607	hco3	11/04/93		199.00	mg/L	93-11485	
WNW8607	hco3	05/04/94		157.00	mg/L	94-03084	
WNW8607	hydroxyl	11/04/93	ND<1.00	1.00	mg/L	93-11485	
WNW8607	hydroxyl	05/04/94	ND<1.00	1.00	mg/L	94-03084	
WNW8607	nh3	11/04/93	ND<0.05	0.05	mg/L	93-11482	
WNW8607	nh3	05/04/94	ND<0.05	0.05	mg/L	94-03081	
WNW8607	no3no2	11/04/93		0.98	mg/L	93-11484	
WNW8607	no3no2	05/04/94		1.80	mg/L	94-03083	
WNW8607	po4_totl	11/04/93		0.07	mg/L	93-11484	
WNW8607	po4_totl	05/04/94	ND<0.02	0.02	mg/L	94-03083	
WNW8607	silica	11/04/93		4.50	mg/L	93-11485	
WNW8607	silica	05/04/94		4.50	mg/L	94-03084	
WNW8607	so4	11/04/93		168.00	mg/L	93-11485	
WNW8607	so4	05/04/94		106.00	mg/L	94-03084	
WNW8607	sulfide	11/04/93	ND<1.00	1.00	mg/L	93-11488	
WNW8607	sulfide	05/04/94	ND<1.00	1.00	mg/L	94-03087	
WNW8609	cl	11/11/93		45.60	mg/L	93-12002	
WNW8609	cl	05/19/94		54.90	mg/L	94-03102	
WNW8609	cl	05/19/94		53.80	mg/L	94-03770	
WNW8609	co3	11/11/93	ND<1.00	1.00	mg/L	93-12002	
WNW8609	co3	05/19/94	ND<1.00	1.00	mg/L	94-03102	
WNW8609	co3	05/19/94	ND<1.00	1.00	mg/L	94-03770	
WNW8609	hco3	11/11/93		250.00	mg/L	93-12002	
WNW8609	hco3	05/19/94		226.00	mg/L	94-03102	
WNW8609	hco3	05/19/94		225.00	mg/L	94-03770	
WNW8609	hydroxyl	11/11/93	ND<1.00	1.00	mg/L	93-12002	

HLWSA Groundwater Quality Parameter Data
from the 4th Rd. 1993 and 2nd Rd. 1994

Well_ID	Parameter	Samp_Date	Chr_Data	Result	Units	Sample_ID	Flags
WNW8609	hydroxyl	05/19/94	ND < 1.00	1.00	mg/L	94-03102	
WNW8609	hydroxyl	05/19/94	ND < 1.00	1.00	mg/L	94-03770	
WNW8609	nh3	11/11/93	ND < 0.05	0.05	mg/L	93-12009	
WNW8609	nh3	05/19/94	ND < 0.05	0.05	mg/L	94-03099	
WNW8609	nh3	05/19/94	ND < 0.05	0.05	mg/L	94-03767	
WNW8609	no3no2	11/11/93		3.60	mg/L	93-12003	
WNW8609	no3no2	05/19/94		5.40	mg/L	94-03101	
WNW8609	no3no2	05/19/94		5.40	mg/L	94-03769	
WNW8609	po4_totl	11/11/93	ND < 0.05	0.05	mg/L	93-12003	
WNW8609	po4_totl	05/19/94		0.04	mg/L	94-03101	
WNW8609	po4_totl	05/19/94		0.03	mg/L	94-03769	
WNW8609	silica	11/11/93		11.60	mg/L	93-12002	
WNW8609	silica	05/19/94		11.20	mg/L	94-03102	
WNW8609	silica	05/19/94		11.10	mg/L	94-03770	
WNW8609	so4	11/11/93		32.90	mg/L	93-12002	
WNW8609	so4	05/19/94		30.70	mg/L	94-03102	
WNW8609	so4	05/19/94		32.30	mg/L	94-03770	
WNW8609	sulfide	11/11/93	ND < 1.00	1.00	mg/L	93-12007	
WNW8609	sulfide	05/19/94	ND < 1.00	1.00	mg/L	94-03104	
WNW8609	sulfide	05/19/94	ND < 1.00	1.00	mg/L	94-03772	

HLWSA Groundwater Indicator Parameter Data
from the 4th Rd. 1993 and 2nd Rd. 1994

Well_ID	Parameter	Samp_Date	Result	Units	Sample_ID	Flags
WNW0406	gr_al__r	11/04/93	-2.580 +/- 4.5	pCi/L	93-11688	
WNW0406	gr_al__r	05/04/94	0.000 +/- 5.1	pCi/L	94-03050	
WNW0406	gr_bt__r	11/04/93	9.1 +/- 4.4	pCi/L	93-11688	
WNW0406	gr_bt__r	05/04/94	9.9 +/- 3.9	pCi/L	94-03050	
WNW0406	trtium_r	11/04/93	1333 +/- 103	pCi/L	93-11688	
WNW0406	trtium_r	05/04/94	1110 +/- 94	pCi/L	94-03050	
WNW8607	gr_al__r	11/04/93	-3.807 +/- 4.6	pCi/L	93-11483	
WNW8607	gr_al__r	05/04/94	-5.222 +/- 7.6	pCi/L	94-03082	
WNW8607	gr_bt__r	11/04/93	9.2 +/- 4.9	pCi/L	93-11483	
WNW8607	gr_bt__r	05/04/94	11.9 +/- 6.4	pCi/L	94-03082	
WNW8607	trtium_r	11/04/93	0.000 +/- 100	pCi/L	93-11483	
WNW8607	trtium_r	05/04/94	83.9 +/- 78	pCi/L	94-03082	
WNW8609	gr_al__r	11/11/93	-2.066 +/- 5.7	pCi/L	93-12000	
WNW8609	gr_al__r	05/19/94	-1.141 +/- 5.0	pCi/L	94-03100	
WNW8609	gr_al__r	05/19/94	0.000 +/- 5.5	pCi/L	94-03768	
WNW8609	gr_bt__r	11/11/93	297 +/- 18	pCi/L	93-12000	
WNW8609	gr_bt__r	05/19/94	315 +/- 17	pCi/L	94-03100	
WNW8609	gr_bt__r	05/19/94	328 +/- 17	pCi/L	94-03768	
WNW8609	trtium_r	11/11/93	1264 +/- 101	pCi/L	93-12000	
WNW8609	trtium_r	05/19/94	1220 +/- 97	pCi/L	94-03100	
WNW8609	trtium_r	05/19/94	1194 +/- 96	pCi/L	94-03768	

Appendix E

99% Confidence Interval Comparisons of Groundwater Parameters

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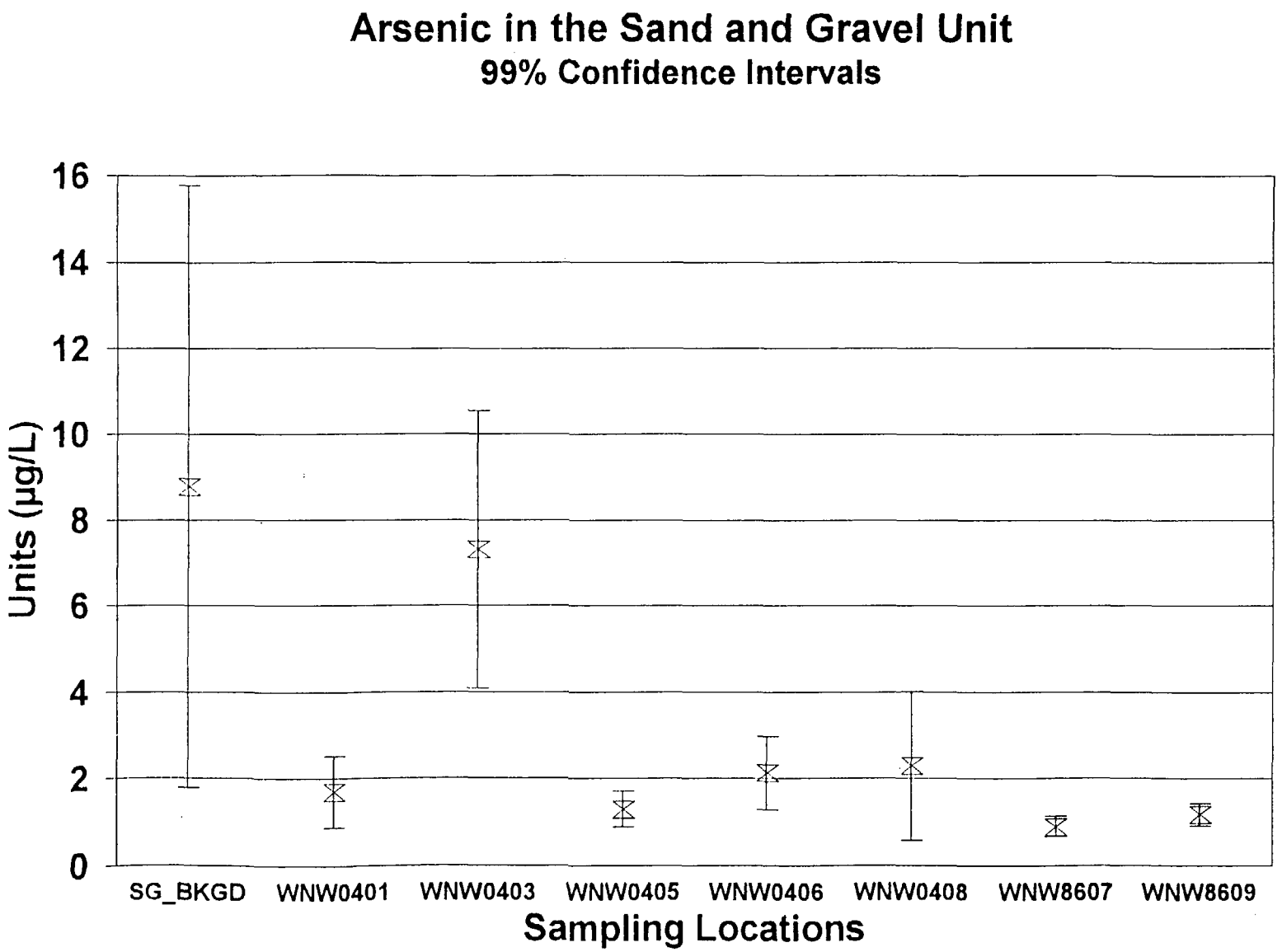
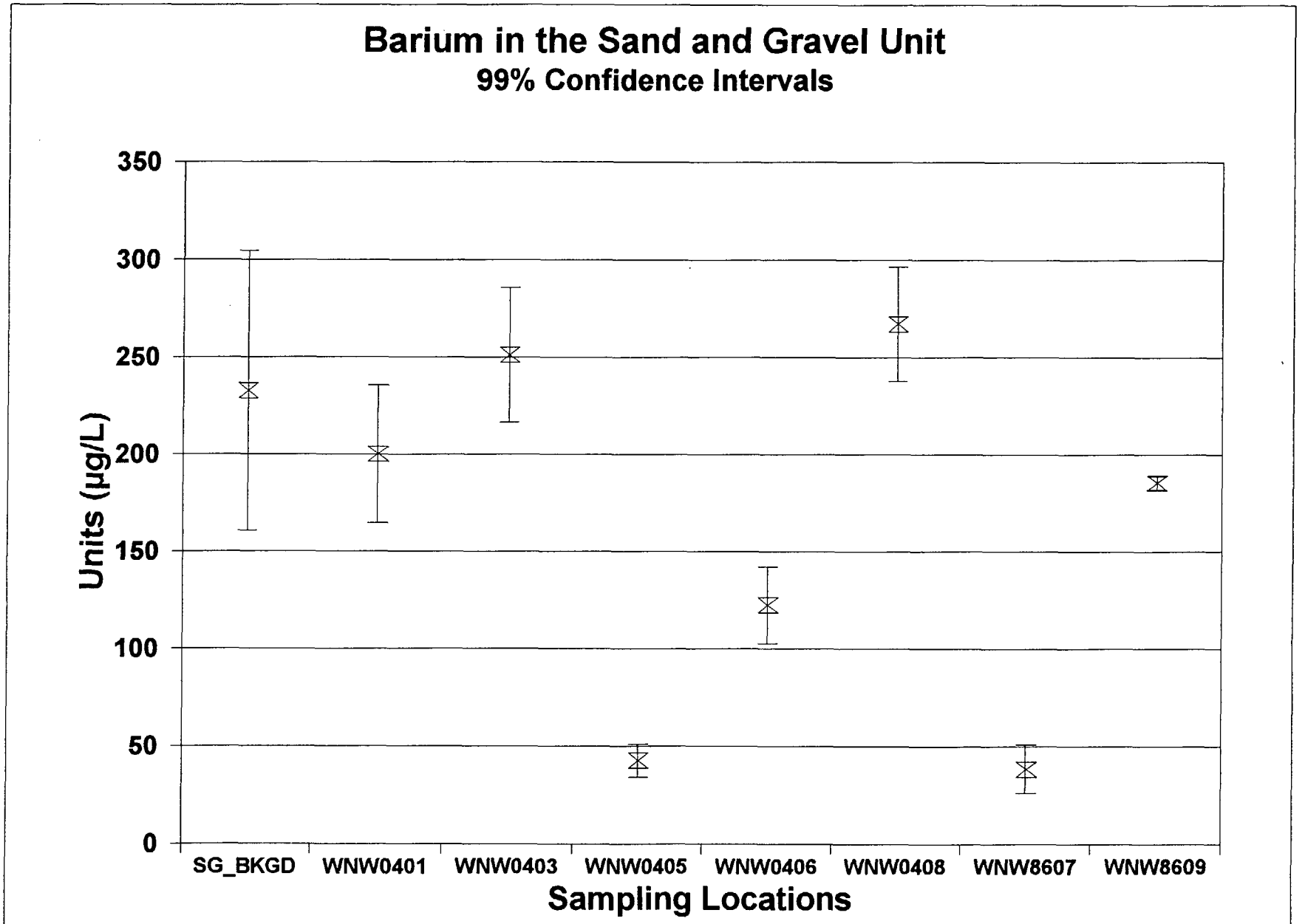
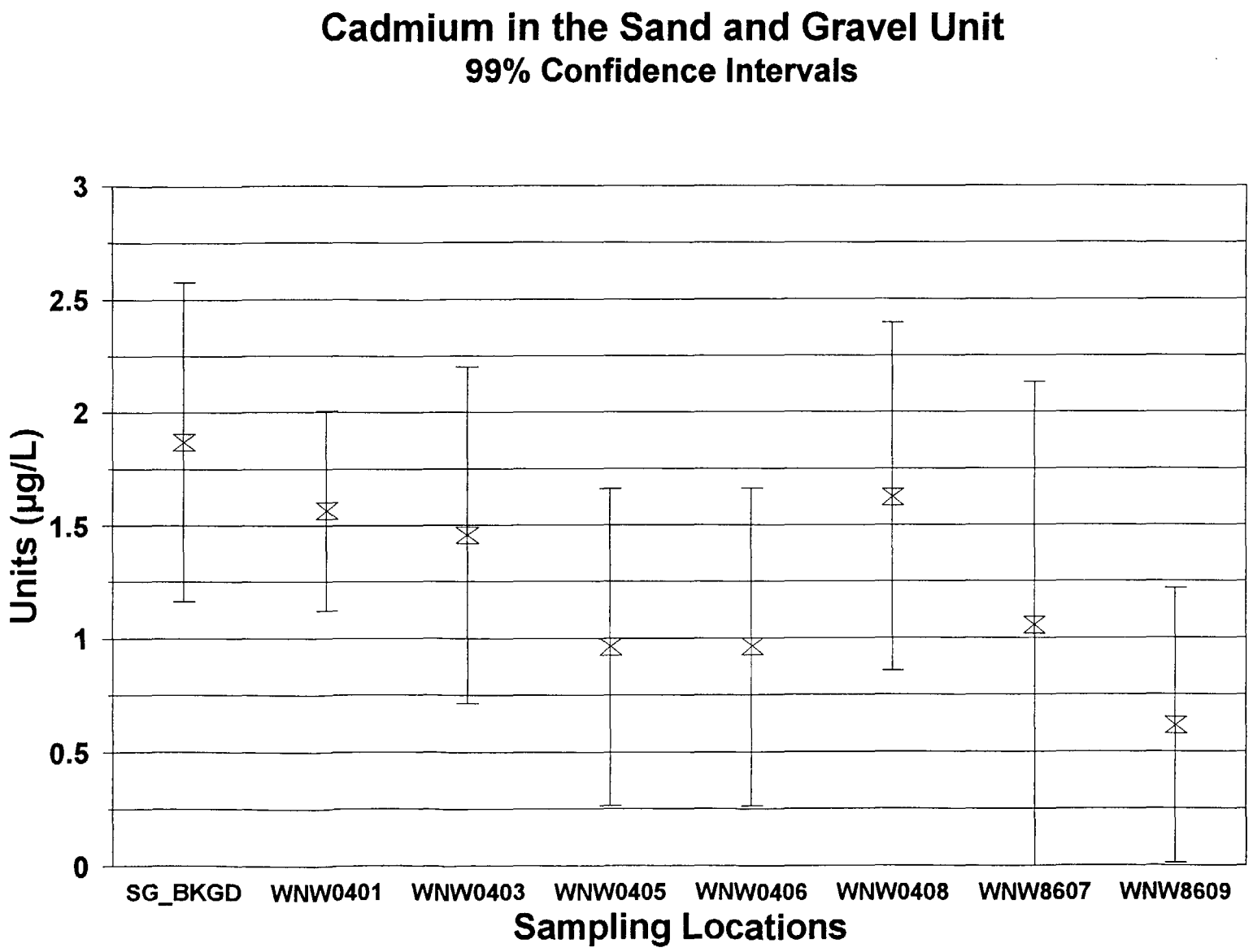


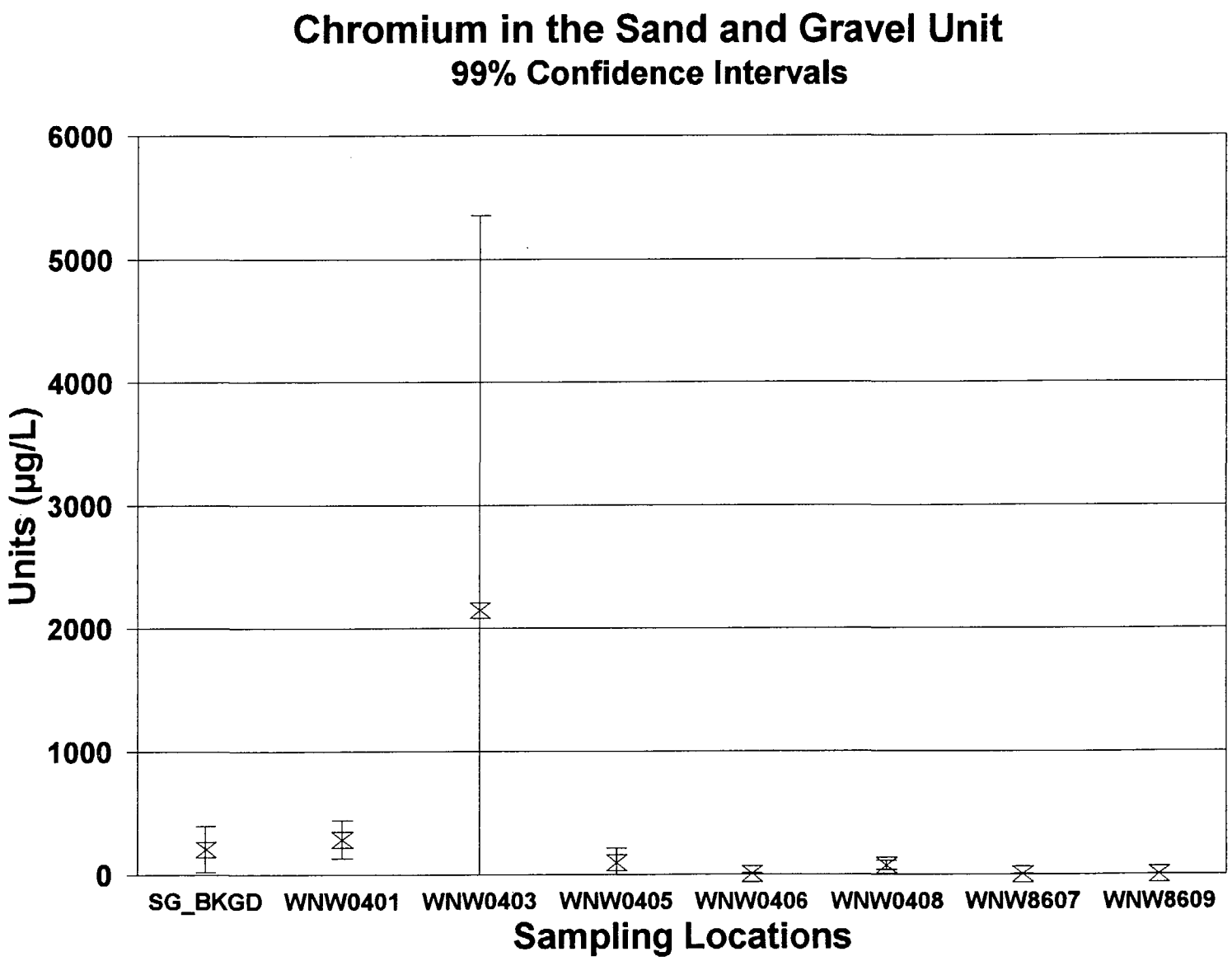
SG_BKGD is a combination of wells - WNW0301, WNW0401 and WNW0706



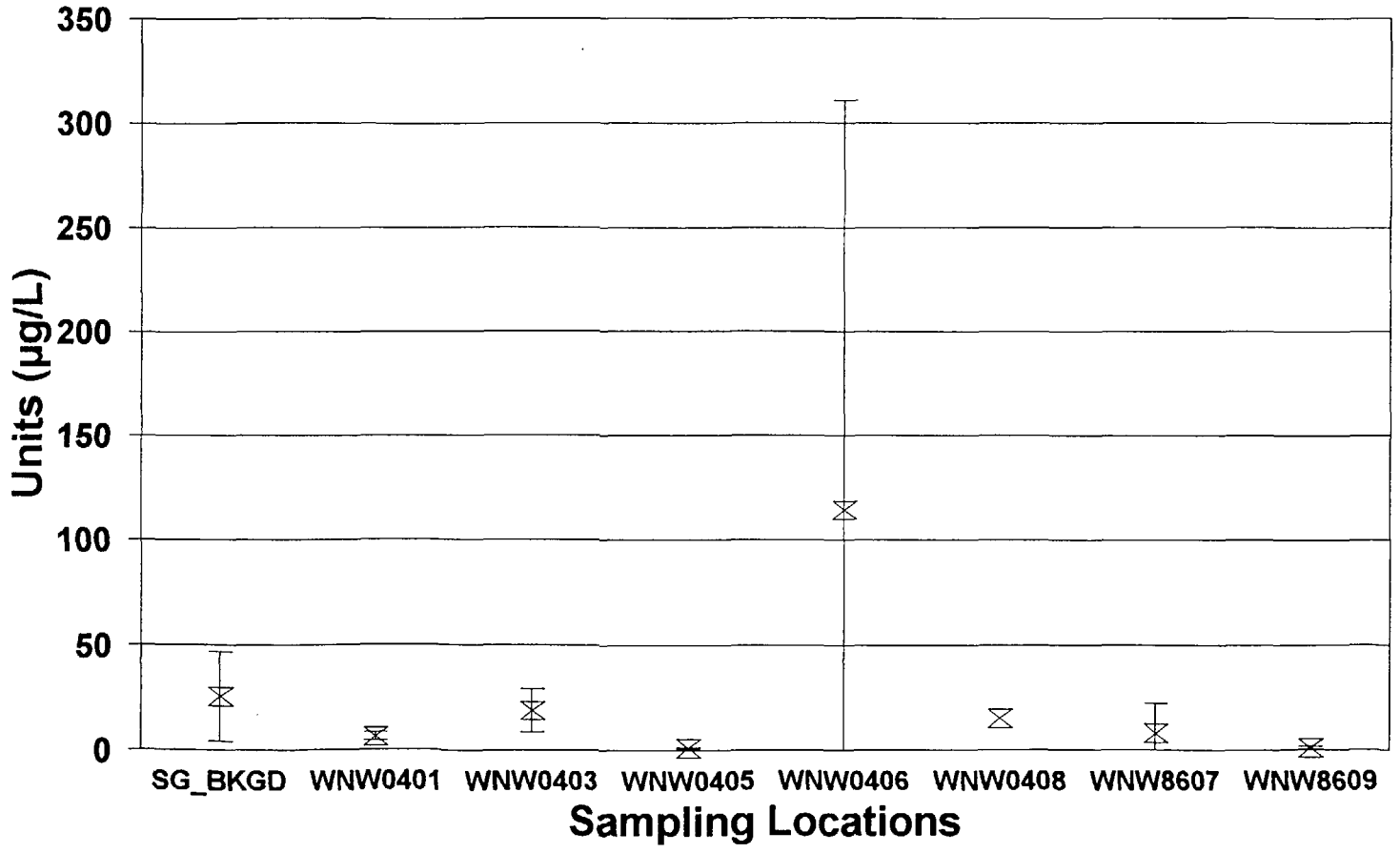
SG_BKGD is a combination of wells - WNW0301, WNW0401 and WNW0706



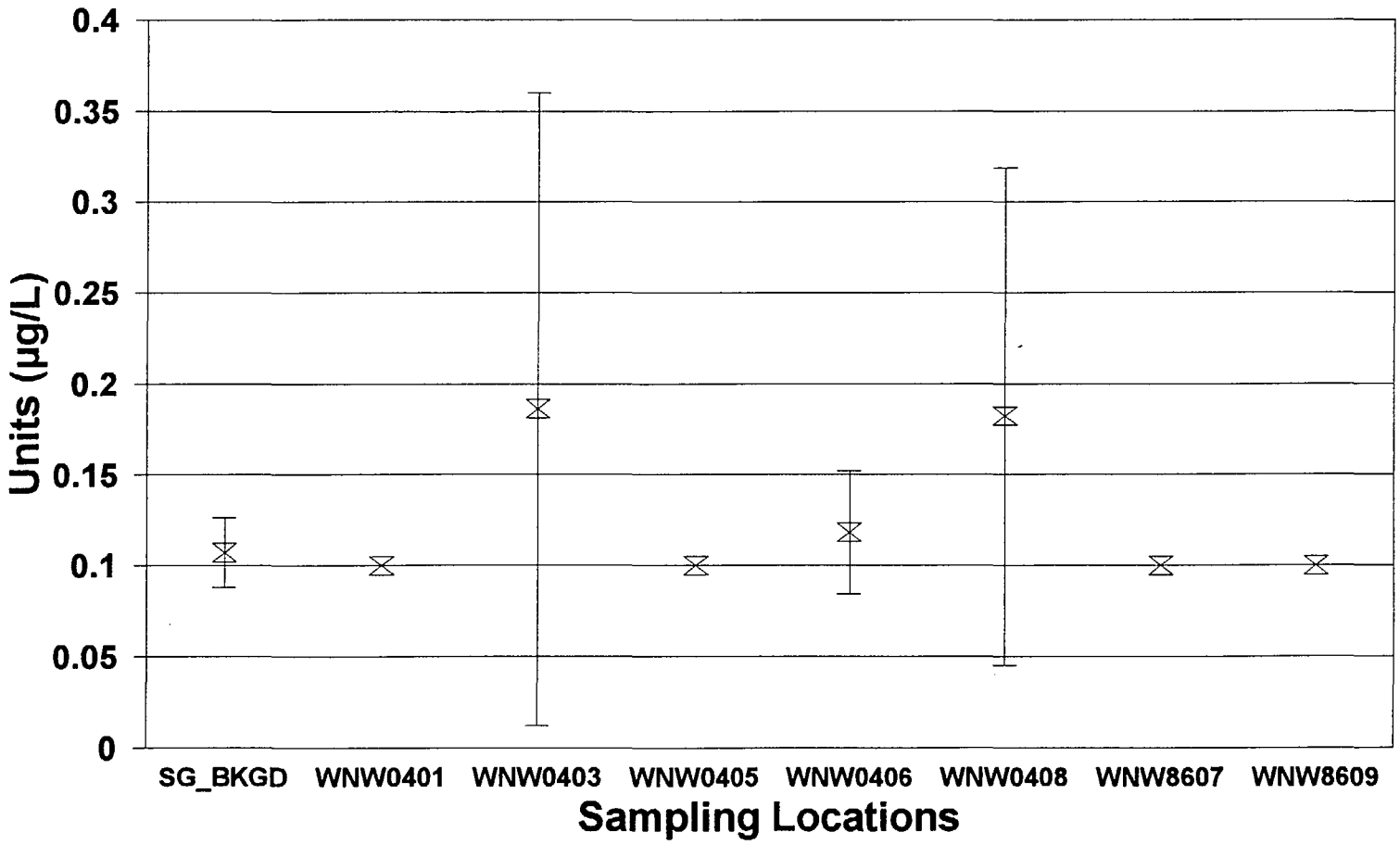
SG_BKGD is a combination of wells - WNW0301, WNW0401 and WNW0706



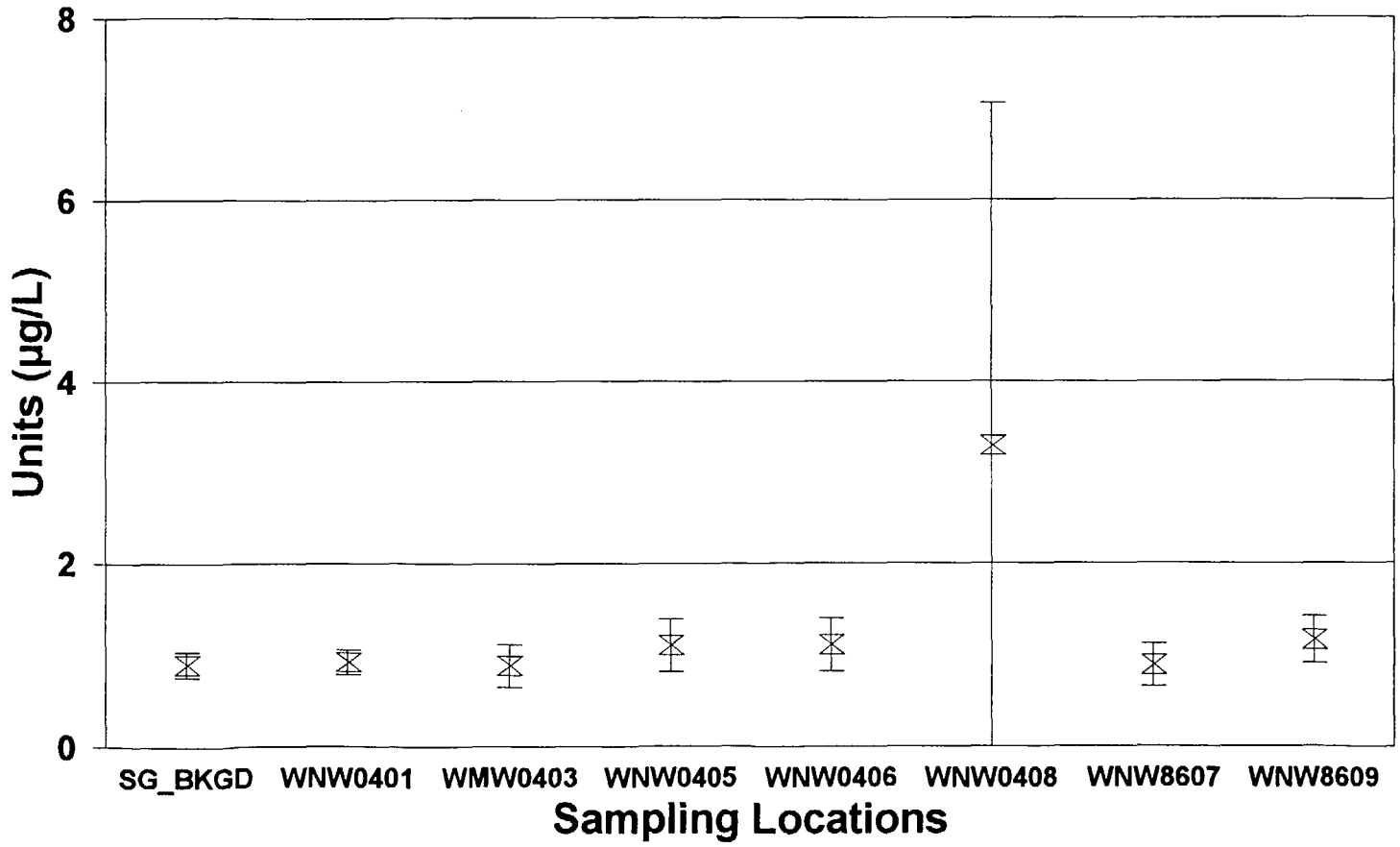
SG_BKGD is a combination of wells - WNW0301, WNW0401 and WNW0706



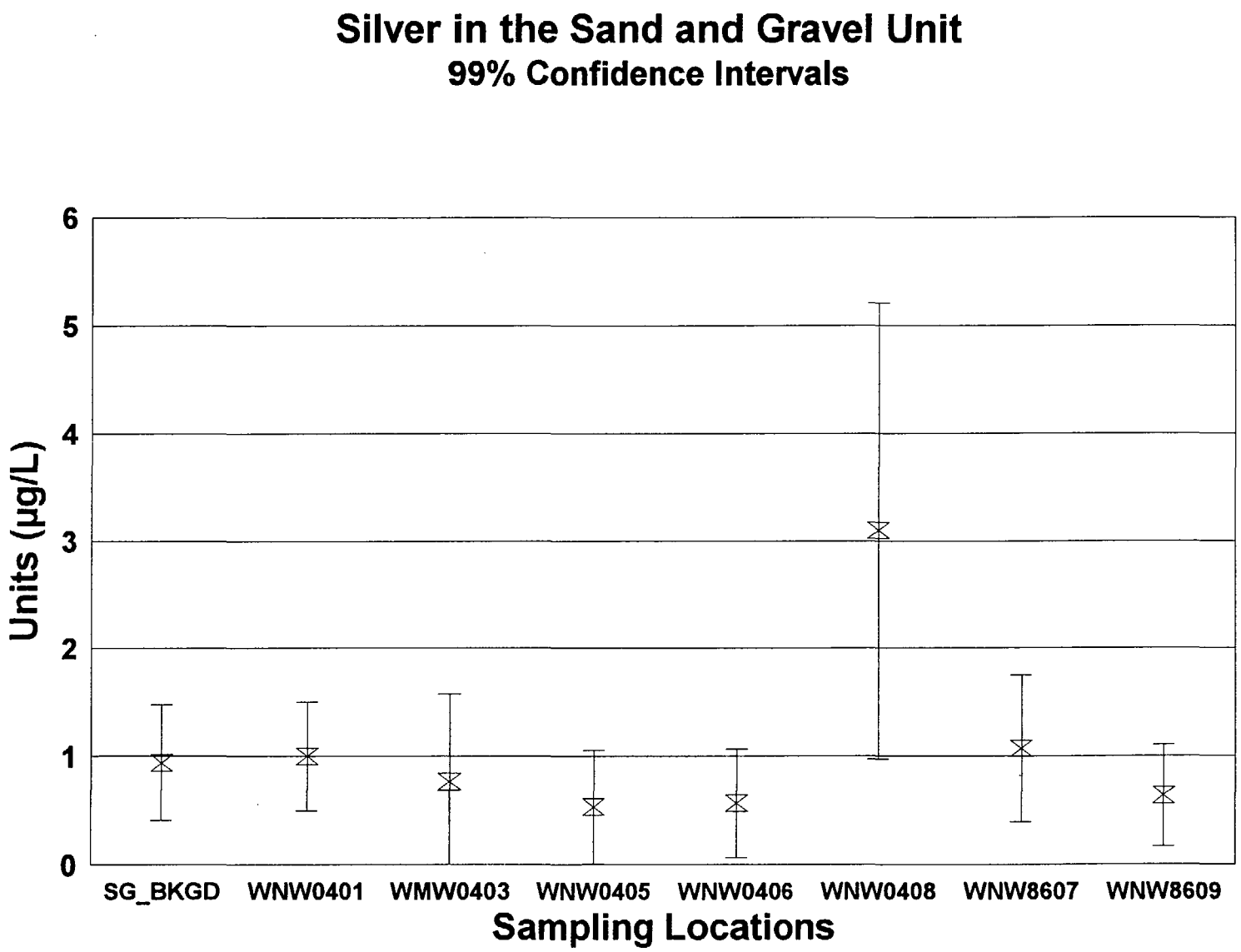
SG_BKGD is a combination of wells - WNW0301, WNW0401 and WNW0706



SG_BKGD is a combination of wells - WNW0301, WNW0401 and WNW0706



SG_BKGD is a combination of wells - WNW0301, WNW0401 and WNW0706



SG_BKGD is a combination of wells - WNW0301, WNW0401 and WNW0706

Appendix F

Soil Program Data from
ST-26, ST-37, BH-32, BH-40, and BH-38

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HLWSA Stream Sediment Metals Analyte Data

Location	Parameter	Samp_Date		Result	Units	Sample_ID	Flags
ST-37	Aluminum	09/08/93	ND	453.00	µg/kg	RFI-00225	UJ
ST-37	Antimony	09/08/93		8060000.00	µg/kg	RFI-00225	
ST-37	Arsenic	09/08/93		15400.00	µg/kg	RFI-00225	
ST-37	Barium	09/08/93		76800.00	µg/kg	RFI-00225	
ST-37	Beryllium	09/08/93		415.00	µg/kg	RFI-00225	
ST-37	Cadmium	09/08/93		43800000.00	µg/kg	RFI-00225	J
ST-37	Calcium	09/08/93		394.00	µg/kg	RFI-00225	
ST-37	Chromium	09/08/93		6110.00	µg/kg	RFI-00225	
ST-37	Cobalt	09/08/93		15500.00	µg/kg	RFI-00225	
ST-37	Copper	09/08/93		26000.00	µg/kg	RFI-00225	
ST-37	Iron	09/08/93		16500000.00	µg/kg	RFI-00225	J
ST-37	Lead	09/08/93	ND	112.00	µg/kg	RFI-00225	
ST-37	Magnesium	09/08/93		1610000.00	µg/kg	RFI-00225	
ST-37	Manganese	09/08/93		6770000.00	µg/kg	RFI-00225	J
ST-37	Mercury	09/08/93		509000.00	µg/kg	RFI-00225	J
ST-37	Nickel	09/08/93		161000.00	µg/kg	RFI-00225	J
ST-37	Potassium	09/08/93		17900.00	µg/kg	RFI-00225	
ST-37	Selenium	09/08/93		22100.00	µg/kg	RFI-00225	
ST-37	Silver	09/08/93	ND	1810.00	µg/kg	RFI-00225	
ST-37	Sodium	09/08/93		279.00	µg/kg	RFI-00225	
ST-37	Thallium	09/08/93	ND	154.00	µg/kg	RFI-00225	
ST-37	Vanadium	09/08/93		16000.00	µg/kg	RFI-00225	
ST-37	Zinc	09/08/93		510000.00	µg/kg	RFI-00225	J
BACKGROUND							
ST-26	Aluminum	09/08/93		11600000.00	µg/kg	RFI-00224	
ST-26	Antimony	09/08/93	ND	1760.00	µg/kg	RFI-00224	
ST-26	Arsenic	09/08/93		15500.00	µg/kg	RFI-00224	R
ST-26	Barium	09/08/93		72100.00	µg/kg	RFI-00224	
ST-26	Beryllium	09/08/93		581.00	µg/kg	RFI-00224	
ST-26	Cadmium	09/08/93	ND	293.00	µg/kg	RFI-00224	
ST-26	Calcium	09/08/93		2210000.00	µg/kg	RFI-00224	J
ST-26	Chromium	09/08/93		15600.00	µg/kg	RFI-00224	
ST-26	Cobalt	09/08/93		10400.00	µg/kg	RFI-00224	
ST-26	Copper	09/08/93		14300.00	µg/kg	RFI-00224	
ST-26	Iron	09/08/93		19300000.00	µg/kg	RFI-00224	J
ST-26	Lead	09/08/93		22200.00	µg/kg	RFI-00224	
ST-26	Magnesium	09/08/93		2930000.00	µg/kg	RFI-00224	J
ST-26	Manganese	09/08/93		393000.00	µg/kg	RFI-00224	J
ST-26	Mercury	09/08/93	ND	110.00	µg/kg	RFI-00224	
ST-26	Nickel	09/08/93		18000.00	µg/kg	RFI-00224	

HLWSA Stream Sediment Metals Analyte Data

Location	Parameter	Samp_Date		Result	Units	Sample_ID	Flags
ST-26	Potassium	09/08/93		1700000.00	μg/kg	RFI-00224	
ST-26	Selenium	09/08/93		155.00	μg/kg	RFI-00224	
ST-26	Silver	09/08/93	ND	439.00	μg/kg	RFI-00224	UJ
ST-26	Sodium	09/08/93		149000.00	μg/kg	RFI-00224	J
ST-26	Thallium	09/08/93	ND	142.00	μg/kg	RFI-00224	
ST-26	Vanadium	09/08/93		18100.00	μg/kg	RFI-00224	
ST-26	Zinc	09/08/93		345000.00	μg/kg	RFI-00224	J

HLWSA Stream Sediment Semivolatiles Analyte Data

Location	Parameter	Samp_Date		Result	Units	Sample_ID	Flags
ST-37	acnphthe	09/08/93	ND	659.10	µg/kg	RFI-00196	
ST-37	acnphthy	09/08/93	ND	659.10	µg/kg	RFI-00196	
ST-37	anthracn	09/08/93	ND	659.10	µg/kg	RFI-00196	
ST-37	bis2ceth	09/08/93	ND	659.10	µg/kg	RFI-00196	
ST-37	bis2cexy	09/08/93	ND	659.10	µg/kg	RFI-00196	
ST-37	bis2clis	09/08/93	ND	659.10	µg/kg	RFI-00196	
ST-37	bis2ehex	09/08/93		227.70	µg/kg	RFI-00196	J
ST-37	bnz_a_an	09/08/93		413.00	µg/kg	RFI-00196	J
ST-37	bnz_a_py	09/08/93		565.50	µg/kg	RFI-00196	J
ST-37	bnz_b_fl	09/08/93		993.80	µg/kg	RFI-00196	
ST-37	bnz_k_fl	09/08/93		286.80	µg/kg	RFI-00196	J
ST-37	bnzghipr	09/08/93	ND	659.10	µg/kg	RFI-00196	
ST-37	brppeth4	09/08/93	ND	659.10	µg/kg	RFI-00196	
ST-37	butbnzph	09/08/93	ND	659.10	µg/kg	RFI-00196	
ST-37	carbazol	09/08/93	ND	659.10	µg/kg	RFI-00196	
ST-37	chppeth4	09/08/93	ND	659.10	µg/kg	RFI-00196	UJ
ST-37	chrysene	09/08/93		604.90	µg/kg	RFI-00196	J
ST-37	clnapht2	09/08/93	ND	659.10	µg/kg	RFI-00196	
ST-37	clphen_2	09/08/93	ND	659.10	µg/kg	RFI-00196	
ST-37	dbahanth	09/08/93	ND	659.10	µg/kg	RFI-00196	
ST-37	dcb_33	09/08/93	ND	659.10	µg/kg	RFI-00196	
ST-37	dibnzfur	09/08/93	ND	659.10	µg/kg	RFI-00196	
ST-37	diclph24	09/08/93	ND	659.10	µg/kg	RFI-00196	
ST-37	diethyph	09/08/93	ND	659.10	µg/kg	RFI-00196	
ST-37	dimthp24	09/08/93	ND	659.10	µg/kg	RFI-00196	
ST-37	dimthyph	09/08/93	ND	659.10	µg/kg	RFI-00196	
ST-37	dinbutph	09/08/93	ND	659.10	µg/kg	RFI-00196	
ST-37	dinoctph	09/08/93	ND	659.10	µg/kg	RFI-00196	
ST-37	dintrp24	09/08/93	ND	1664.00	µg/kg	RFI-00196	UJ
ST-37	dintrt24	09/08/93	ND	659.10	µg/kg	RFI-00196	
ST-37	dintrt26	09/08/93	ND	659.10	µg/kg	RFI-00196	
ST-37	dntrcr46	09/08/93	ND	1664.00	µg/kg	RFI-00196	
ST-37	flranthn	09/08/93		1066.60	µg/kg	RFI-00196	
ST-37	fluorene	09/08/93	ND	659.10	µg/kg	RFI-00196	UJ
ST-37	hexclbnz	09/08/93	ND	659.10	µg/kg	RFI-00196	
ST-37	hexclbut	09/08/93	ND	659.10	µg/kg	RFI-00196	
ST-37	hexcleth	09/08/93	ND	659.10	µg/kg	RFI-00196	
ST-37	hexclpen	09/08/93	ND	659.10	µg/kg	RFI-00196	
ST-37	hexdcacd	09/08/93		2000.00	µg/kg	RFI-00196	J
ST-37	indnpyre	09/08/93	ND	659.10	µg/kg	RFI-00196	
ST-37	isophron	09/08/93	ND	659.10	µg/kg	RFI-00196	

HLWSA Stream Sediment Semivolatiles Analyte Data

Location	Parameter	Samp_Date		Result	Units	Sample_ID	Flags
ST-37	m_dclbnz	09/08/93	ND	659.10	µg/kg	RFI-00196	
ST-37	m_ntranl	09/08/93	ND	1664.00	µg/kg	RFI-00196	
ST-37	mthynph2	09/08/93	ND	659.10	µg/kg	RFI-00196	
ST-37	naphthal	09/08/93	ND	659.10	µg/kg	RFI-00196	
ST-37	nntrphny	09/08/93	ND	659.10	µg/kg	RFI-00196	
ST-37	nntrprpy	09/08/93	ND	659.10	µg/kg	RFI-00196	
ST-37	ntrobenz	09/08/93	ND	659.10	µg/kg	RFI-00196	
ST-37	o_cresol	09/08/93	ND	659.10	µg/kg	RFI-00196	
ST-37	o_dclbnz	09/08/93	ND	659.10	µg/kg	RFI-00196	
ST-37	o_ntranl	09/08/93	ND	1664.00	µg/kg	RFI-00196	
ST-37	o_ntrphn	09/08/93	ND	659.10	µg/kg	RFI-00196	
ST-37	p_cresol	09/08/93	ND	659.10	µg/kg	RFI-00196	
ST-37	p_dclbnz	09/08/93	ND	659.10	µg/kg	RFI-00196	
ST-37	p_ntranl	09/08/93	ND	1664.00	µg/kg	RFI-00196	
ST-37	p_ntrphn	09/08/93	ND	1664.00	µg/kg	RFI-00196	
ST-37	pclranil	09/08/93	ND	659.10	µg/kg	RFI-00196	
ST-37	pclrmcrs	09/08/93	ND	659.10	µg/kg	RFI-00196	
ST-37	phenol	09/08/93	ND	659.10	µg/kg	RFI-00196	
ST-37	phnanthr	09/08/93		384.80	µg/kg	RFI-00196	J
ST-37	pntclphn	09/08/93	ND	1664.00	µg/kg	RFI-00196	
ST-37	pyrene	09/08/93		810.50	µg/kg	RFI-00196	
ST-37	tcb_124	09/08/93	ND	659.10	µg/kg	RFI-00196	
ST-37	tclph245	09/08/93	ND	659.10	µg/kg	RFI-00196	
ST-37	tclph246	09/08/93	ND	659.10	µg/kg	RFI-00196	
BACKGROUND							
ST-26	acnphthe	09/08/93	ND	449.60	µg/kg	RFI-00193	
ST-26	acnphthy	09/08/93	ND	449.60	µg/kg	RFI-00193	
ST-26	anthracn	09/08/93	ND	449.60	µg/kg	RFI-00193	
ST-26	bis2ceth	09/08/93	ND	449.60	µg/kg	RFI-00193	
ST-26	bis2cexy	09/08/93	ND	449.60	µg/kg	RFI-00193	
ST-26	bis2clis	09/08/93	ND	449.60	µg/kg	RFI-00193	
ST-26	bis2ehex	09/08/93	ND	449.60	µg/kg	RFI-00193	
ST-26	bnz_a_an	09/08/93	ND	449.60	µg/kg	RFI-00193	
ST-26	bnz_a_py	09/08/93	ND	449.60	µg/kg	RFI-00193	
ST-26	bnz_b_fl	09/08/93		76.20	µg/kg	RFI-00193	J
ST-26	bnz_k_fl	09/08/93	ND	449.60	µg/kg	RFI-00193	
ST-26	bnzghipr	09/08/93	ND	449.60	µg/kg	RFI-00193	
ST-26	brppeth4	09/08/93	ND	449.60	µg/kg	RFI-00193	
ST-26	butbnzph	09/08/93	ND	449.60	µg/kg	RFI-00193	

HLWSA Stream Sediment Semivolatiles Analyte Data

Location	Parameter	Samp_Date		Result	Units	Sample_ID	Flags
ST-26	carbazol	09/08/93	ND	449.60	µg/kg	RFI-00193	
ST-26	chppeth4	09/08/93	ND	449.60	µg/kg	RFI-00193	UJ
ST-26	chrysene	09/08/93	ND	449.60	µg/kg	RFI-00193	
ST-26	clnapht2	09/08/93	ND	449.60	µg/kg	RFI-00193	
ST-26	clphen_2	09/08/93	ND	449.60	µg/kg	RFI-00193	
ST-26	dbahanth	09/08/93	ND	449.60	µg/kg	RFI-00193	
ST-26	dcb_33	09/08/93	ND	449.60	µg/kg	RFI-00193	
ST-26	dibnzfur	09/08/93	ND	449.60	µg/kg	RFI-00193	
ST-26	diclph24	09/08/93	ND	449.60	µg/kg	RFI-00193	
ST-26	diethyph	09/08/93	ND	449.60	µg/kg	RFI-00193	
ST-26	dimthp24	09/08/93	ND	449.60	µg/kg	RFI-00193	
ST-26	dimthyph	09/08/93	ND	449.60	µg/kg	RFI-00193	
ST-26	dinbutph	09/08/93	ND	449.60	µg/kg	RFI-00193	
ST-26	dinoctph	09/08/93	ND	449.60	µg/kg	RFI-00193	
ST-26	dintrp24	09/08/93	ND	1135.00	µg/kg	RFI-00193	UJ
ST-26	dintrt24	09/08/93	ND	449.60	µg/kg	RFI-00193	
ST-26	dintrt26	09/08/93	ND	449.60	µg/kg	RFI-00193	
ST-26	dntrcr46	09/08/93	ND	1135.00	µg/kg	RFI-00193	
ST-26	flranthn	09/08/93		113.90	µg/kg	RFI-00193	J
ST-26	fluorene	09/08/93	ND	449.60	µg/kg	RFI-00193	UJ
ST-26	hexclbnz	09/08/93	ND	449.60	µg/kg	RFI-00193	
ST-26	hexclbut	09/08/93	ND	449.60	µg/kg	RFI-00193	
ST-26	hexcleth	09/08/93	ND	449.60	µg/kg	RFI-00193	
ST-26	hexclpen	09/08/93	ND	449.60	µg/kg	RFI-00193	
ST-26	hexdcacd	09/08/93		400.00	µg/kg	RFI-00193	J
ST-26	indnpyre	09/08/93	ND	449.60	µg/kg	RFI-00193	
ST-26	isophron	09/08/93	ND	449.60	µg/kg	RFI-00193	
ST-26	m_dclbnz	09/08/93	ND	449.60	µg/kg	RFI-00193	
ST-26	m_ntranl	09/08/93	ND	1135.00	µg/kg	RFI-00193	
ST-26	mthynph2	09/08/93	ND	449.60	µg/kg	RFI-00193	
ST-26	naphthal	09/08/93	ND	449.60	µg/kg	RFI-00193	
ST-26	nntrphny	09/08/93	ND	449.60	µg/kg	RFI-00193	
ST-26	nntrprpy	09/08/93	ND	449.60	µg/kg	RFI-00193	
ST-26	ntrobenz	09/08/93	ND	449.60	µg/kg	RFI-00193	
ST-26	o_cresol	09/08/93	ND	449.60	µg/kg	RFI-00193	
ST-26	o_dclbnz	09/08/93	ND	449.60	µg/kg	RFI-00193	
ST-26	o_ntranl	09/08/93	ND	1135.00	µg/kg	RFI-00193	
ST-26	o_ntrphn	09/08/93	ND	449.60	µg/kg	RFI-00193	
ST-26	p_cresol	09/08/93	ND	449.60	µg/kg	RFI-00193	
ST-26	p_dclbnz	09/08/93	ND	449.60	µg/kg	RFI-00193	
ST-26	p_ntranl	09/08/93	ND	1135.00	µg/kg	RFI-00193	

HLWSA Stream Sediment Semivolatiles Analyte Data

Location	Parameter	Samp_Date		Result	Units	Sample_ID	Flags
ST-26	p_ntrphn	09/08/93	ND	1135.00	µg/kg	RFI-00193	
ST-26	pclranil	09/08/93	ND	449.60	µg/kg	RFI-00193	
ST-26	pclrmcrs	09/08/93	ND	449.60	µg/kg	RFI-00193	
ST-26	phenol	09/08/93	ND	449.60	µg/kg	RFI-00193	
ST-26	phnanthr	09/08/93		51.10	µg/kg	RFI-00193	J
ST-26	pntclphn	09/08/93	ND	1135.00	µg/kg	RFI-00193	
ST-26	pyrene	09/08/93		75.10	µg/kg	RFI-00193	J
ST-26	tcb_124	09/08/93	ND	449.60	µg/kg	RFI-00193	
ST-26	tclph245	09/08/93	ND	449.60	µg/kg	RFI-00193	
ST-26	tclph246	09/08/93	ND	449.60	µg/kg	RFI-00193	

HLWSA Stream Sediment Volatiles Analyte Data

Location	Parameter	Samp_Date		Result	Units	Sample_ID	Flags
BACKGROUND							
ST-26	acetone	09/08/93		31.00	µg/kg	RFI-00175	J
ST-26	benzene	09/08/93		3.00	µg/kg	RFI-00175	UJ
ST-26	br_meth	09/08/93	ND	13.40	µg/kg	RFI-00175	
ST-26	brdcmeth	09/08/93	ND	6.70	µg/kg	RFI-00175	
ST-26	brform	09/08/93	ND	6.70	µg/kg	RFI-00175	
ST-26	c_13_dcp	09/08/93	ND	6.70	µg/kg	RFI-00175	
ST-26	ccl4	09/08/93	ND	6.70	µg/kg	RFI-00175	
ST-26	cl_benz	09/08/93	ND	6.70	µg/kg	RFI-00175	
ST-26	cl_eth	09/08/93	ND	13.40	µg/kg	RFI-00175	
ST-26	cl_form	09/08/93	ND	6.70	µg/kg	RFI-00175	
ST-26	cl_meth	09/08/93	ND	13.40	µg/kg	RFI-00175	
ST-26	cs2	09/08/93	ND	6.70	µg/kg	RFI-00175	
ST-26	dbc_meth	09/08/93	ND	6.70	µg/kg	RFI-00175	
ST-26	dca_11	09/08/93	ND	6.70	µg/kg	RFI-00175	
ST-26	dca_12	09/08/93		6.80	µg/kg	RFI-00175	
ST-26	dce_11	09/08/93	ND	6.70	µg/kg	RFI-00175	
ST-26	dce_12_t	09/08/93	ND	6.70	µg/kg	RFI-00175	UJ
ST-26	dcp_12	09/08/93	ND	6.70	µg/kg	RFI-00175	
ST-26	eth_benz	09/08/93	ND	6.70	µg/kg	RFI-00175	
ST-26	hexnone2	09/08/93	ND	13.00	µg/kg	RFI-00175	UJ
ST-26	mek	09/08/93	ND	13.40	µg/kg	RFI-00175	
ST-26	mene_cl	09/08/93		14.50	µg/kg	RFI-00175	UJ
ST-26	mibk	09/08/93	ND	13.40	µg/kg	RFI-00175	UJ
ST-26	styrene	09/08/93	ND	6.70	µg/kg	RFI-00175	
ST-26	t_13_dcp	09/08/93	ND	6.70	µg/kg	RFI-00175	
ST-26	tca_111	09/08/93	ND	6.70	µg/kg	RFI-00175	
ST-26	tca_112	09/08/93	ND	6.70	µg/kg	RFI-00175	
ST-26	tca_1122	09/08/93		1.50	µg/kg	RFI-00175	J
ST-26	tetcleth	09/08/93	ND	6.70	µg/kg	RFI-00175	
ST-26	toluene	09/08/93		600.00	µg/kg	RFI-00193	R
ST-26	toluene	09/08/93	ND	6.70	µg/kg	RFI-00175	
ST-26	tricleth	09/08/93	ND	6.70	µg/kg	RFI-00175	
ST-26	vnyl_cl	09/08/93	ND	13.40	µg/kg	RFI-00175	
ST-26	xylene	09/08/93		1.70	µg/kg	RFI-00175	J

HLWSA Borehole Metals Analyte Data

Location	Parameter	Samp_Date		Result	Units	Sample_ID	Flags	Depth
BH-32	Aluminum	10/31/93		5290000.00	µg/kg	RFI-00783	J	(00-02')
BH-32	Aluminum	10/31/93		7950000.00	µg/kg	RFI-00786	J	(14-16')
BH-32	Aluminum	10/31/93		7790000.00	µg/kg	RFI-00787	J	(22-24')
BH-32	Antimony	10/31/93		2680.00	µg/kg	RFI-00783	J	(00-02')
BH-32	Antimony	10/31/93		2560.00	µg/kg	RFI-00786	J	(14-16')
BH-32	Antimony	10/31/93		1690.00	µg/kg	RFI-00787	J	(22-24')
BH-32	Arsenic	10/31/93		13600.00	µg/kg	RFI-00783		(00-02')
BH-32	Arsenic	10/31/93		28200.00	µg/kg	RFI-00786		(14-16')
BH-32	Arsenic	10/31/93		19500.00	µg/kg	RFI-00787		(22-24')
BH-32	Barium	10/31/93		29400.00	µg/kg	RFI-00783		(00-02')
BH-32	Barium	10/31/93		77500.00	µg/kg	RFI-00786		(14-16')
BH-32	Barium	10/31/93		77100.00	µg/kg	RFI-00787		(22-24')
BH-32	Beryllium	10/31/93		390.00	µg/kg	RFI-00783		(00-02')
BH-32	Beryllium	10/31/93		357.00	µg/kg	RFI-00786		(14-16')
BH-32	Beryllium	10/31/93		344.00	µg/kg	RFI-00787		(22-24')
BH-32	Cadmium	10/31/93		263.00	µg/kg	RFI-00783		(00-02')
BH-32	Cadmium	10/31/93	ND	211.00	µg/kg	RFI-00786		(14-16')
BH-32	Cadmium	10/31/93	ND	211.00	µg/kg	RFI-00787		(22-24')
BH-32	Calcium	10/31/93		38100000.00	µg/kg	RFI-00783	J	(00-02')
BH-32	Calcium	10/31/93		5680000.00	µg/kg	RFI-00786	J	(14-16')
BH-32	Calcium	10/31/93		15000000.00	µg/kg	RFI-00787	J	(22-24')
BH-32	Chromium	10/31/93		8190.00	µg/kg	RFI-00783		(00-02')
BH-32	Chromium	10/31/93		10000.00	µg/kg	RFI-00786		(14-16')
BH-32	Chromium	10/31/93		9500.00	µg/kg	RFI-00787		(22-24')
BH-32	Cobalt	10/31/93		3960.00	µg/kg	RFI-00783		(00-02')
BH-32	Cobalt	10/31/93		6630.00	µg/kg	RFI-00786		(14-16')
BH-32	Cobalt	10/31/93		6840.00	µg/kg	RFI-00787		(22-24')
BH-32	Copper	10/31/93		15200.00	µg/kg	RFI-00783		(00-02')
BH-32	Copper	10/31/93		19500.00	µg/kg	RFI-00786	J	(14-16')
BH-32	Copper	10/31/93		17600.00	µg/kg	RFI-00787	J	(22-24')
BH-32	Iron	10/31/93		12000000.00	µg/kg	RFI-00783	J	(00-02')
BH-32	Iron	10/31/93		21300000.00	µg/kg	RFI-00786	J	(14-16')
BH-32	Iron	10/31/93		18700000.00	µg/kg	RFI-00787	J	(22-24')
BH-32	Lead	10/31/93		12700.00	µg/kg	RFI-00783		(00-02')
BH-32	Lead	10/31/93		17100.00	µg/kg	RFI-00786		(14-16')
BH-32	Lead	10/31/93		10300.00	µg/kg	RFI-00787		(22-24')
BH-32	Magnesium	10/31/93		7840000.00	µg/kg	RFI-00783	J	(00-02')
BH-32	Magnesium	10/31/93		3240000.00	µg/kg	RFI-00786	J	(14-16')
BH-32	Magnesium	10/31/93		5020000.00	µg/kg	RFI-00787	J	(22-24')
BH-32	Manganese	10/31/93		353000.00	µg/kg	RFI-00783	J	(00-02')
BH-32	Manganese	10/31/93		374000.00	µg/kg	RFI-00786	J	(14-16')

HLWSA Borehole Metals Analyte Data

Location	Parameter	Samp_Date		Result	Units	Sample_ID	Flags	Depth
BH-32	Manganese	10/31/93		247000.00	µg/kg	RFI-00787	J	(22-24')
BH-32	Mercury	10/31/93		33.70	µg/kg	RFI-00783		(00-02')
BH-32	Mercury	10/31/93		25.20	µg/kg	RFI-00786		(14-16')
BH-32	Mercury	10/31/93		25.40	µg/kg	RFI-00787		(22-24')
BH-32	Nickel	10/31/93		13000.00	µg/kg	RFI-00783		(00-02')
BH-32	Nickel	10/31/93		17600.00	µg/kg	RFI-00786		(14-16')
BH-32	Nickel	10/31/93		18000.00	µg/kg	RFI-00787		(22-24')
BH-32	Potassium	10/31/93		732000.00	µg/kg	RFI-00783		(00-02')
BH-32	Potassium	10/31/93		783000.00	µg/kg	RFI-00786		(14-16')
BH-32	Potassium	10/31/93		842000.00	µg/kg	RFI-00787		(22-24')
BH-32	Selenium	10/31/93	ND	213.00	µg/kg	RFI-00783	UJ	(00-02')
BH-32	Selenium	10/31/93	ND	206.00	µg/kg	RFI-00786	UJ	(14-16')
BH-32	Selenium	10/31/93	ND	211.00	µg/kg	RFI-00787	UJ	(22-24')
BH-32	Silver	10/31/93	ND	330.00	µg/kg	RFI-00783		(00-02')
BH-32	Silver	10/31/93	ND	317.00	µg/kg	RFI-00786		(14-16')
BH-32	Silver	10/31/93	ND	316.00	µg/kg	RFI-00787		(22-24')
BH-32	Sodium	10/31/93		171000.00	µg/kg	RFI-00783	J	(00-02')
BH-32	Sodium	10/31/93		46400.00	µg/kg	RFI-00786		(14-16')
BH-32	Sodium	10/31/93		50100.00	µg/kg	RFI-00787		(22-24')
BH-32	Thallium	10/31/93	ND	532.00	µg/kg	RFI-00783	UJ	(00-02')
BH-32	Thallium	10/31/93	ND	515.00	µg/kg	RFI-00786	UJ	(14-16')
BH-32	Thallium	10/31/93	ND	529.00	µg/kg	RFI-00787	UJ	(22-24')
BH-32	Vanadium	10/31/93		8760.00	µg/kg	RFI-00783		(00-02')
BH-32	Vanadium	10/31/93		10400.00	µg/kg	RFI-00786		(14-16')
BH-32	Vanadium	10/31/93		10200.00	µg/kg	RFI-00787		(22-24')
BH-32	Zinc	10/31/93		87400.00	µg/kg	RFI-00783	J	(00-02')
BH-32	Zinc	10/31/93		54200.00	µg/kg	RFI-00786	J	(14-16')
BH-32	Zinc	10/31/93		70400.00	µg/kg	RFI-00787	J	(22-24')
BH-40	Aluminum	10/28/93		15500000.00	µg/kg	RFI-00780		(00-02')
BH-40	Aluminum	10/28/93		8190000.00	µg/kg	RFI-00781		(12-14')
BH-40	Aluminum	10/31/93		11600000.00	µg/kg	RFI-00782	J	(20-22')
BH-40	Antimony	10/28/93		3620.00	µg/kg	RFI-00780	J	(00-02')
BH-40	Antimony	10/28/93		2500.00	µg/kg	RFI-00781	J	(12-14')
BH-40	Antimony	10/31/93		3270.00	µg/kg	RFI-00782	J	(20-22')
BH-40	Arsenic	10/28/93		23000.00	µg/kg	RFI-00780		(00-02')
BH-40	Arsenic	10/28/93		13100.00	µg/kg	RFI-00781		(12-14')
BH-40	Arsenic	10/31/93		27800.00	µg/kg	RFI-00782		(20-22')
BH-40	Barium	10/28/93		134000.00	µg/kg	RFI-00780		(00-02')
BH-40	Barium	10/28/93		71300.00	µg/kg	RFI-00781		(12-14')
BH-40	Barium	10/31/93		110000.00	µg/kg	RFI-00782		(20-22')

HLWSA Borehole Metals Analyte Data

Location	Parameter	Samp_Date		Result	Units	Sample_ID	Flags	Depth
BH-40	Beryllium	10/28/93		650.00	µg/kg	RFI-00780		(00-02')
BH-40	Beryllium	10/28/93		364.00	µg/kg	RFI-00781		(12-14')
BH-40	Beryllium	10/31/93		548.00	µg/kg	RFI-00782		(20-22')
BH-40	Cadmium	10/28/93	ND	236.00	µg/kg	RFI-00780		(00-02')
BH-40	Cadmium	10/28/93		222.00	µg/kg	RFI-00781		(12-14')
BH-40	Cadmium	10/31/93	ND	229.00	µg/kg	RFI-00782		(20-22')
BH-40	Calcium	10/28/93		10700000.00	µg/kg	RFI-00780		(00-02')
BH-40	Calcium	10/28/93		1460000.00	µg/kg	RFI-00781		(12-14')
BH-40	Calcium	10/31/93		28200000.00	µg/kg	RFI-00782	J	(20-22')
BH-40	Chromium	10/28/93		16100.00	µg/kg	RFI-00780		(00-02')
BH-40	Chromium	10/28/93		10200.00	µg/kg	RFI-00781		(12-14')
BH-40	Chromium	10/31/93		15600.00	µg/kg	RFI-00782		(20-22')
BH-40	Cobalt	10/28/93		12500.00	µg/kg	RFI-00780		(00-02')
BH-40	Cobalt	10/28/93		7420.00	µg/kg	RFI-00781		(12-14')
BH-40	Cobalt	10/31/93		10200.00	µg/kg	RFI-00782		(20-22')
BH-40	Copper	10/28/93		29600.00	µg/kg	RFI-00780		(00-02')
BH-40	Copper	10/28/93		20300.00	µg/kg	RFI-00781		(12-14')
BH-40	Copper	10/31/93		22600.00	µg/kg	RFI-00782	J	(20-22')
BH-40	Iron	10/28/93		33200000.00	µg/kg	RFI-00780		(00-02')
BH-40	Iron	10/28/93		21000000.00	µg/kg	RFI-00781		(12-14')
BH-40	Iron	10/31/93		25200000.00	µg/kg	RFI-00782	J	(20-22')
BH-40	Lead	10/28/93		41200.00	µg/kg	RFI-00780		(00-02')
BH-40	Lead	10/28/93		17600.00	µg/kg	RFI-00781		(12-14')
BH-40	Lead	10/31/93		23200.00	µg/kg	RFI-00782		(20-22')
BH-40	Magnesium	10/28/93		5750000.00	µg/kg	RFI-00780		(00-02')
BH-40	Magnesium	10/28/93		2590000.00	µg/kg	RFI-00781		(12-14')
BH-40	Magnesium	10/31/93		6080000.00	µg/kg	RFI-00782	J	(20-22')
BH-40	Manganese	10/28/93		1290000.00	µg/kg	RFI-00780		(00-02')
BH-40	Manganese	10/28/93		852000.00	µg/kg	RFI-00781		(12-14')
BH-40	Manganese	10/31/93		475000.00	µg/kg	RFI-00782	J	(20-22')
BH-40	Mercury	10/28/93		35.00	µg/kg	RFI-00780		(00-02')
BH-40	Mercury	10/28/93		24.90	µg/kg	RFI-00781		(12-14')
BH-40	Mercury	10/31/93		32.30	µg/kg	RFI-00782		(20-22')
BH-40	Nickel	10/28/93		25800.00	µg/kg	RFI-00780		(00-02')
BH-40	Nickel	10/28/93		15900.00	µg/kg	RFI-00781		(12-14')
BH-40	Nickel	10/31/93		26800.00	µg/kg	RFI-00782		(20-22')
BH-40	Potassium	10/28/93		1510000.00	µg/kg	RFI-00780		(00-02')
BH-40	Potassium	10/28/93		770000.00	µg/kg	RFI-00781		(12-14')
BH-40	Potassium	10/31/93		1620000.00	µg/kg	RFI-00782		(20-22')
BH-40	Selenium	10/28/93	ND	236.00	µg/kg	RFI-00780	UJ	(00-02')
BH-40	Selenium	10/28/93	ND	221.00	µg/kg	RFI-00781	UJ	(12-14')

HLWSA Borehole Metals Analyte Data

Location	Parameter	Samp_Date		Result	Units	Sample_ID	Flags	Depth
BH-40	Selenium	10/31/93	ND	221.00	µg/kg	RFI-00782	UJ	(20-22')
BH-40	Silver	10/28/93	ND	354.00	µg/kg	RFI-00780		(00-02')
BH-40	Silver	10/28/93	ND	325.00	µg/kg	RFI-00781		(12-14')
BH-40	Silver	10/31/93	ND	344.00	µg/kg	RFI-00782		(20-22')
BH-40	Sodium	10/28/93		77000.00	µg/kg	RFI-00780	J	(00-02')
BH-40	Sodium	10/28/93		46000.00	µg/kg	RFI-00781	J	(12-14')
BH-40	Sodium	10/31/93		87400.00	µg/kg	RFI-00782		(20-22')
BH-40	Thallium	10/28/93	ND	590.00	µg/kg	RFI-00780	UJ	(00-02')
BH-40	Thallium	10/28/93	ND	553.00	µg/kg	RFI-00781	UJ	(12-14')
BH-40	Thallium	10/31/93	ND	553.00	µg/kg	RFI-00782	UJ	(20-22')
BH-40	Vanadium	10/28/93		21400.00	µg/kg	RFI-00780		(00-02')
BH-40	Vanadium	10/28/93		9930.00	µg/kg	RFI-00781		(12-14')
BH-40	Vanadium	10/31/93		17000.00	µg/kg	RFI-00782		(20-22')
BH-40	Zinc	10/28/93		121000.00	µg/kg	RFI-00780		(00-02')
BH-40	Zinc	10/28/93		59500.00	µg/kg	RFI-00781		(12-14')
BH-40	Zinc	10/31/93		97900.00	µg/kg	RFI-00782	J	(20-22')
BACKGROUND								
BH-38	Aluminum	10/26/93		13900000.00	µg/kg	RFI-00668	J	(00-02')
BH-38	Aluminum	10/26/93		12500000.00	µg/kg	RFI-00669	J	(12-14')
BH-38	Aluminum	10/26/93		14000000.00	µg/kg	RFI-00670	J	(26-28')
BH-38	Antimony	10/26/93		2540.00	µg/kg	RFI-00668	J	(00-02')
BH-38	Antimony	10/26/93		2040.00	µg/kg	RFI-00669	J	(12-14')
BH-38	Antimony	10/26/93		2280.00	µg/kg	RFI-00670	J	(26-28')
BH-38	Arsenic	10/26/93		5350.00	µg/kg	RFI-00668	J	(00-02')
BH-38	Arsenic	10/26/93		6060.00	µg/kg	RFI-00669	J	(12-14')
BH-38	Arsenic	10/26/93		5090.00	µg/kg	RFI-00670	J	(26-28')
BH-38	Barium	10/26/93		105000.00	µg/kg	RFI-00668		(00-02')
BH-38	Barium	10/26/93		139000.00	µg/kg	RFI-00669		(12-14')
BH-38	Barium	10/26/93		151000.00	µg/kg	RFI-00670		(26-28')
BH-38	Beryllium	10/26/93		657.00	µg/kg	RFI-00668		(00-02')
BH-38	Beryllium	10/26/93		602.00	µg/kg	RFI-00669		(12-14')
BH-38	Beryllium	10/26/93		691.00	µg/kg	RFI-00670		(26-28')
BH-38	Cadmium	10/26/93	ND	228.00	µg/kg	RFI-00668		(00-02')
BH-38	Cadmium	10/26/93	ND	226.00	µg/kg	RFI-00669		(12-14')
BH-38	Cadmium	10/26/93	ND	247.00	µg/kg	RFI-00670		(26-28')
BH-38	Calcium	10/26/93		29400000.00	µg/kg	RFI-00668	J	(00-02')
BH-38	Calcium	10/26/93		17400000.00	µg/kg	RFI-00669	J	(12-14')
BH-38	Calcium	10/26/93		29400000.00	µg/kg	RFI-00670	J	(26-28')
BH-38	Chromium	10/26/93		17900.00	µg/kg	RFI-00668	J	(00-02')

HLWSA Borehole Metals Analyte Data

Location	Parameter	Samp_Date		Result	Units	Sample_ID	Flags	Depth
BH-38	Chromium	10/26/93		16000.00	µg/kg	RFI-00669		(12-14')
BH-38	Chromium	10/26/93		19700.00	µg/kg	RFI-00670	J	(26-28')
BH-38	Cobalt	10/26/93		11500.00	µg/kg	RFI-00668		(00-02')
BH-38	Cobalt	10/26/93		11200.00	µg/kg	RFI-00669		(12-14')
BH-38	Cobalt	10/26/93		13200.00	µg/kg	RFI-00670		(26-28')
BH-38	Copper	10/26/93		20500.00	µg/kg	RFI-00668		(00-02')
BH-38	Copper	10/26/93		24800.00	µg/kg	RFI-00669		(12-14')
BH-38	Copper	10/26/93		23500.00	µg/kg	RFI-00670		(26-28')
BH-38	Iron	10/26/93		25200000.00	µg/kg	RFI-00668	J	(00-02')
BH-38	Iron	10/26/93		26800000.00	µg/kg	RFI-00669	J	(12-14')
BH-38	Iron	10/26/93		28000000.00	µg/kg	RFI-00670	J	(26-28')
BH-38	Lead	10/26/93		14200.00	µg/kg	RFI-00668		(00-02')
BH-38	Lead	10/26/93		14000.00	µg/kg	RFI-00669		(12-14')
BH-38	Lead	10/26/93		16700.00	µg/kg	RFI-00670		(26-28')
BH-38	Magnesium	10/26/93		10800000.00	µg/kg	RFI-00668	J	(00-02')
BH-38	Magnesium	10/26/93		6050000.00	µg/kg	RFI-00669	J	(12-14')
BH-38	Magnesium	10/26/93		10800000.00	µg/kg	RFI-00670	J	(26-28')
BH-38	Manganese	10/26/93		476000.00	µg/kg	RFI-00668	J	(00-02')
BH-38	Manganese	10/26/93		486000.00	µg/kg	RFI-00669	J	(12-14')
BH-38	Manganese	10/26/93		433000.00	µg/kg	RFI-00670	J	(26-28')
BH-38	Mercury	10/26/93		18.20	µg/kg	RFI-00668		(00-02')
BH-38	Mercury	10/26/93		19.70	µg/kg	RFI-00669		(12-14')
BH-38	Mercury	10/26/93		21.20	µg/kg	RFI-00670		(26-28')
BH-38	Nickel	10/26/93		27300.00	µg/kg	RFI-00668		(00-02')
BH-38	Nickel	10/26/93		27000.00	µg/kg	RFI-00669		(12-14')
BH-38	Nickel	10/26/93		32600.00	µg/kg	RFI-00670		(26-28')
BH-38	Potassium	10/26/93		2980000.00	µg/kg	RFI-00668		(00-02')
BH-38	Potassium	10/26/93		1700000.00	µg/kg	RFI-00669		(12-14')
BH-38	Potassium	10/26/93		2580000.00	µg/kg	RFI-00670		(26-28')
BH-38	Selenium	10/26/93	ND	114.00	µg/kg	RFI-00668	UJ	(00-02')
BH-38	Selenium	10/26/93	ND	107.00	µg/kg	RFI-00669	UJ	(12-14')
BH-38	Selenium	10/26/93	ND	125.00	µg/kg	RFI-00670	UJ	(26-28')
BH-38	Silver	10/26/93	ND	342.00	µg/kg	RFI-00668		(00-02')
BH-38	Silver	10/26/93	ND	339.00	µg/kg	RFI-00669		(12-14')
BH-38	Silver	10/26/93	ND	370.00	µg/kg	RFI-00670		(26-28')
BH-38	Sodium	10/26/93		136000.00	µg/kg	RFI-00668	J	(00-02')
BH-38	Sodium	10/26/93		76200.00	µg/kg	RFI-00669		(12-14')
BH-38	Sodium	10/26/93		127000.00	µg/kg	RFI-00670	J	(26-28')
BH-38	Thallium	10/26/93	ND	114.00	µg/kg	RFI-00668	UJ	(00-02')
BH-38	Thallium	10/26/93	ND	107.00	µg/kg	RFI-00669	UJ	(12-14')
BH-38	Thallium	10/26/93	ND	125.00	µg/kg	RFI-00670	UJ	(26-28')

HLWSA Borehole Metals Analyte Data

Location	Parameter	Samp_Date	Result	Units	Sample_ID	Flags	Depth
BH-38	Vanadium	10/26/93	21300.00	µg/kg	RFI-00668	J	(00-02')
BH-38	Vanadium	10/26/93	16900.00	µg/kg	RFI-00669	J	(12-14')
BH-38	Vanadium	10/26/93	20900.00	µg/kg	RFI-00670	J	(26-28')
BH-38	Zinc	10/26/93	60000.00	µg/kg	RFI-00668	J	(00-02')
BH-38	Zinc	10/26/93	80000.00	µg/kg	RFI-00669	J	(12-14')
BH-38	Zinc	10/26/93	65800.00	µg/kg	RFI-00670	J	(26-28')

HLWSA Borehole Semivolatiles Analyte Data

Location	Parameter	Samp_Date		Result	Units	Sample_ID	Flags	Depth
BH-32	acnphthe	10/31/93	ND	359.90	µg/kg	RFI-00613		(14-16')
BH-32	acnphthy	10/31/93	ND	359.90	µg/kg	RFI-00613		(14-16')
BH-32	anthracn	10/31/93	ND	359.90	µg/kg	RFI-00613		(14-16')
BH-32	bis2ceth	10/31/93	ND	359.90	µg/kg	RFI-00613		(14-16')
BH-32	bis2cexy	10/31/93	ND	359.90	µg/kg	RFI-00613		(14-16')
BH-32	bis2clis	10/31/93	ND	359.90	µg/kg	RFI-00613	UJ	(14-16')
BH-32	bis2ehex	10/31/93		684.10	µg/kg	RFI-00613		(14-16')
BH-32	bnz_a_an	10/31/93	ND	359.90	µg/kg	RFI-00613		(14-16')
BH-32	bnz_a_py	10/31/93	ND	359.90	µg/kg	RFI-00613		(14-16')
BH-32	bnz_b_fl	10/31/93	ND	359.90	µg/kg	RFI-00613		(14-16')
BH-32	bnz_k_fl	10/31/93	ND	359.90	µg/kg	RFI-00613		(14-16')
BH-32	bnzghipr	10/31/93	ND	359.90	µg/kg	RFI-00613		(14-16')
BH-32	brppeth4	10/31/93	ND	359.90	µg/kg	RFI-00613		(14-16')
BH-32	butbnzph	10/31/93	ND	359.90	µg/kg	RFI-00613		(14-16')
BH-32	carbazol	10/31/93	ND	359.90	µg/kg	RFI-00613		(14-16')
BH-32	chppeth4	10/31/93	ND	359.90	µg/kg	RFI-00613		(14-16')
BH-32	chrysene	10/31/93	ND	359.90	µg/kg	RFI-00613		(14-16')
BH-32	clnapht2	10/31/93	ND	359.90	µg/kg	RFI-00613		(14-16')
BH-32	clphen_2	10/31/93	ND	359.90	µg/kg	RFI-00613		(14-16')
BH-32	dbahanth	10/31/93	ND	359.90	µg/kg	RFI-00613		(14-16')
BH-32	dcb_33	10/31/93	ND	359.90	µg/kg	RFI-00613		(14-16')
BH-32	dibnzfur	10/31/93	ND	359.90	µg/kg	RFI-00613		(14-16')
BH-32	diclph24	10/31/93	ND	359.90	µg/kg	RFI-00613		(14-16')
BH-32	diethyph	10/31/93	ND	359.90	µg/kg	RFI-00613		(14-16')
BH-32	dimthp24	10/31/93	ND	359.90	µg/kg	RFI-00613		(14-16')
BH-32	dimthyph	10/31/93	ND	359.90	µg/kg	RFI-00613		(14-16')
BH-32	dinbutph	10/31/93		54.90	µg/kg	RFI-00613	UJ	(14-16')
BH-32	dinoctph	10/31/93	ND	359.90	µg/kg	RFI-00613		(14-16')
BH-32	dintrp24	10/31/93	ND	870.00	µg/kg	RFI-00613		(14-16')
BH-32	dintrt24	10/31/93	ND	359.90	µg/kg	RFI-00613		(14-16')
BH-32	dintrt26	10/31/93	ND	359.90	µg/kg	RFI-00613		(14-16')
BH-32	dntrcr46	10/31/93	ND	870.00	µg/kg	RFI-00613		(14-16')
BH-32	flranthn	10/31/93	ND	359.90	µg/kg	RFI-00613		(14-16')
BH-32	fluorene	10/31/93	ND	359.90	µg/kg	RFI-00613		(14-16')
BH-32	hexclbnz	10/31/93	ND	359.90	µg/kg	RFI-00613		(14-16')
BH-32	hexclbut	10/31/93	ND	359.90	µg/kg	RFI-00613		(14-16')
BH-32	hexcleth	10/31/93	ND	359.90	µg/kg	RFI-00613		(14-16')
BH-32	hexclpen	10/31/93	ND	359.90	µg/kg	RFI-00613		(14-16')
BH-32	indnpyre	10/31/93	ND	359.90	µg/kg	RFI-00613		(14-16')
BH-32	isophron	10/31/93	ND	359.90	µg/kg	RFI-00613		(14-16')
BH-32	m_dclbnz	10/31/93	ND	359.90	µg/kg	RFI-00613		(14-16')

HLWSA Borehole Semivolatiles Analyte Data

Location	Parameter	Samp_Date		Result	Units	Sample_ID	Flags	Depth
BH-32	m_ntranl	10/31/93	ND	870.00	µg/kg	RFI-00613		(14-16')
BH-32	mthynph2	10/31/93	ND	359.90	µg/kg	RFI-00613		(14-16')
BH-32	naphthal	10/31/93	ND	359.90	µg/kg	RFI-00613		(14-16')
BH-32	nntrphny	10/31/93	ND	359.90	µg/kg	RFI-00613		(14-16')
BH-32	nntrprpy	10/31/93	ND	359.90	µg/kg	RFI-00613		(14-16')
BH-32	ntrobenz	10/31/93	ND	359.90	µg/kg	RFI-00613		(14-16')
BH-32	o_cresol	10/31/93	ND	359.90	µg/kg	RFI-00613		(14-16')
BH-32	o_dclbnz	10/31/93	ND	359.90	µg/kg	RFI-00613		(14-16')
BH-32	o_ntranl	10/31/93	ND	870.00	µg/kg	RFI-00613		(14-16')
BH-32	o_ntrphn	10/31/93	ND	359.90	µg/kg	RFI-00613		(14-16')
BH-32	p_cresol	10/31/93	ND	359.90	µg/kg	RFI-00613		(14-16')
BH-32	p_dclbnz	10/31/93	ND	359.90	µg/kg	RFI-00613		(14-16')
BH-32	p_ntranl	10/31/93	ND	870.00	µg/kg	RFI-00613		(14-16')
BH-32	p_ntrphn	10/31/93	ND	870.00	µg/kg	RFI-00613		(14-16')
BH-32	pclranil	10/31/93	ND	359.90	µg/kg	RFI-00613		(14-16')
BH-32	pclrmcrs	10/31/93	ND	359.90	µg/kg	RFI-00613		(14-16')
BH-32	phenol	10/31/93	ND	359.90	µg/kg	RFI-00613		(14-16')
BH-32	phnanthr	10/31/93	ND	359.90	µg/kg	RFI-00613		(14-16')
BH-32	pntclphn	10/31/93	ND	870.00	µg/kg	RFI-00613		(14-16')
BH-32	pyrene	10/31/93	ND	359.90	µg/kg	RFI-00613		(14-16')
BH-32	tcb_124	10/31/93	ND	359.90	µg/kg	RFI-00613		(14-16')
BH-32	tclph245	10/31/93	ND	359.90	µg/kg	RFI-00613		(14-16')
BH-32	tclph246	10/31/93	ND	359.90	µg/kg	RFI-00613		(14-16')
BH-40	acnphthe	10/28/93	ND	372.40	µg/kg	RFI-00610		(00-02')
BH-40	acnphthe	10/28/93	ND	376.90	µg/kg	RFI-00612		(12-14')
BH-40	acnphthy	10/28/93	ND	372.40	µg/kg	RFI-00610		(00-02')
BH-40	acnphthy	10/28/93	ND	376.90	µg/kg	RFI-00612		(12-14')
BH-40	anthracn	10/28/93	ND	372.40	µg/kg	RFI-00610		(00-02')
BH-40	anthracn	10/28/93	ND	376.90	µg/kg	RFI-00612		(12-14')
BH-40	bis2ceth	10/28/93	ND	372.40	µg/kg	RFI-00610		(00-02')
BH-40	bis2ceth	10/28/93	ND	376.90	µg/kg	RFI-00612		(12-14')
BH-40	bis2cexy	10/28/93	ND	372.40	µg/kg	RFI-00610		(00-02')
BH-40	bis2cexy	10/28/93	ND	376.90	µg/kg	RFI-00612		(12-14')
BH-40	bis2clis	10/28/93	ND	372.40	µg/kg	RFI-00610	UJ	(00-02')
BH-40	bis2clis	10/28/93	ND	376.90	µg/kg	RFI-00612	UJ	(12-14')
BH-40	bis2ehex	10/28/93	ND	372.40	µg/kg	RFI-00610		(00-02')
BH-40	bis2ehex	10/28/93	ND	376.90	µg/kg	RFI-00612		(12-14')
BH-40	bnz_a_an	10/28/93	ND	372.40	µg/kg	RFI-00610		(00-02')
BH-40	bnz_a_an	10/28/93	ND	376.90	µg/kg	RFI-00612		(12-14')
BH-40	bnz_a_py	10/28/93	ND	372.40	µg/kg	RFI-00610		(00-02')

HLWSA Borehole Semivolatiles Analyte Data

Location	Parameter	Samp_Date		Result	Units	Sample_ID	Flags	Depth
BH-40	bnz_a_py	10/28/93	ND	376.90	µg/kg	RFI-00612		(12-14')
BH-40	bnz_b_fl	10/28/93	ND	372.40	µg/kg	RFI-00610		(00-02')
BH-40	bnz_b_fl	10/28/93	ND	376.90	µg/kg	RFI-00612		(12-14')
BH-40	bnz_k_fl	10/28/93	ND	372.40	µg/kg	RFI-00610		(00-02')
BH-40	bnz_k_fl	10/28/93	ND	376.90	µg/kg	RFI-00612		(12-14')
BH-40	bnzghipr	10/28/93	ND	372.40	µg/kg	RFI-00610		(00-02')
BH-40	bnzghipr	10/28/93	ND	376.90	µg/kg	RFI-00612		(12-14')
BH-40	brppeth4	10/28/93	ND	372.40	µg/kg	RFI-00610		(00-02')
BH-40	brppeth4	10/28/93	ND	376.90	µg/kg	RFI-00612		(12-14')
BH-40	butbnzph	10/28/93	ND	372.40	µg/kg	RFI-00610		(00-02')
BH-40	butbnzph	10/28/93	ND	376.90	µg/kg	RFI-00612		(12-14')
BH-40	carbazol	10/28/93	ND	372.40	µg/kg	RFI-00610		(00-02')
BH-40	carbazol	10/28/93	ND	376.90	µg/kg	RFI-00612		(12-14')
BH-40	chppeth4	10/28/93	ND	372.40	µg/kg	RFI-00610		(00-02')
BH-40	chppeth4	10/28/93	ND	376.90	µg/kg	RFI-00612		(12-14')
BH-40	chrysene	10/28/93	ND	372.40	µg/kg	RFI-00610		(00-02')
BH-40	chrysene	10/28/93	ND	376.90	µg/kg	RFI-00612		(12-14')
BH-40	clnapht2	10/28/93	ND	372.40	µg/kg	RFI-00610		(00-02')
BH-40	clnapht2	10/28/93	ND	376.90	µg/kg	RFI-00612		(12-14')
BH-40	clphen_2	10/28/93	ND	372.40	µg/kg	RFI-00610		(00-02')
BH-40	clphen_2	10/28/93	ND	376.90	µg/kg	RFI-00612		(12-14')
BH-40	dbahanth	10/28/93	ND	372.40	µg/kg	RFI-00610		(00-02')
BH-40	dbahanth	10/28/93	ND	376.90	µg/kg	RFI-00612		(12-14')
BH-40	dcb_33	10/28/93	ND	372.40	µg/kg	RFI-00610		(00-02')
BH-40	dcb_33	10/28/93	ND	376.90	µg/kg	RFI-00612		(12-14')
BH-40	dibnzfur	10/28/93	ND	372.40	µg/kg	RFI-00610		(00-02')
BH-40	dibnzfur	10/28/93	ND	376.90	µg/kg	RFI-00612		(12-14')
BH-40	diclph24	10/28/93	ND	372.40	µg/kg	RFI-00610		(00-02')
BH-40	diclph24	10/28/93	ND	376.90	µg/kg	RFI-00612		(12-14')
BH-40	diethyph	10/28/93	ND	372.40	µg/kg	RFI-00610		(00-02')
BH-40	diethyph	10/28/93	ND	376.90	µg/kg	RFI-00612		(12-14')
BH-40	dimthp24	10/28/93	ND	372.40	µg/kg	RFI-00610		(00-02')
BH-40	dimthp24	10/28/93	ND	376.90	µg/kg	RFI-00612		(12-14')
BH-40	dimthyph	10/28/93	ND	372.40	µg/kg	RFI-00610		(00-02')
BH-40	dimthyph	10/28/93	ND	376.90	µg/kg	RFI-00612		(12-14')
BH-40	dinbutph	10/28/93		227.60	µg/kg	RFI-00610	J	(00-02')
BH-40	dinbutph	10/28/93		147.00	µg/kg	RFI-00612	J	(12-14')
BH-40	dinoctph	10/28/93	ND	372.40	µg/kg	RFI-00610		(00-02')
BH-40	dinoctph	10/28/93	ND	376.90	µg/kg	RFI-00612		(12-14')
BH-40	dintrp24	10/28/93	ND	900.00	µg/kg	RFI-00610		(00-02')
BH-40	dintrp24	10/28/93	ND	910.00	µg/kg	RFI-00612		(12-14')

HLWSA Borehole Semivolatiles Analyte Data

Location	Parameter	Samp_Date		Result	Units	Sample_ID	Flags	Depth
BH-40	dintrt24	10/28/93	ND	372.40	µg/kg	RFI-00610		(00-02')
BH-40	dintrt24	10/28/93	ND	376.90	µg/kg	RFI-00612		(12-14')
BH-40	dintrt26	10/28/93	ND	372.40	µg/kg	RFI-00610		(00-02')
BH-40	dintrt26	10/28/93	ND	376.90	µg/kg	RFI-00612		(12-14')
BH-40	dntrcr46	10/28/93	ND	900.00	µg/kg	RFI-00610		(00-02')
BH-40	dntrcr46	10/28/93	ND	910.00	µg/kg	RFI-00612		(12-14')
BH-40	flranthn	10/28/93	ND	372.40	µg/kg	RFI-00610		(00-02')
BH-40	flranthn	10/28/93	ND	376.90	µg/kg	RFI-00612		(12-14')
BH-40	fluorene	10/28/93	ND	372.40	µg/kg	RFI-00610		(00-02')
BH-40	fluorene	10/28/93	ND	376.90	µg/kg	RFI-00612		(12-14')
BH-40	hexclbnz	10/28/93	ND	372.40	µg/kg	RFI-00610		(00-02')
BH-40	hexclbnz	10/28/93	ND	376.90	µg/kg	RFI-00612		(12-14')
BH-40	hexclbut	10/28/93	ND	372.40	µg/kg	RFI-00610		(00-02')
BH-40	hexclbut	10/28/93	ND	376.90	µg/kg	RFI-00612		(12-14')
BH-40	hexcleth	10/28/93	ND	372.40	µg/kg	RFI-00610		(00-02')
BH-40	hexcleth	10/28/93	ND	376.90	µg/kg	RFI-00612		(12-14')
BH-40	hexclpen	10/28/93	ND	372.40	µg/kg	RFI-00610		(00-02')
BH-40	hexclpen	10/28/93	ND	376.90	µg/kg	RFI-00612		(12-14')
BH-40	indnpyre	10/28/93	ND	372.40	µg/kg	RFI-00610		(00-02')
BH-40	indnpyre	10/28/93	ND	376.90	µg/kg	RFI-00612		(12-14')
BH-40	isophron	10/28/93	ND	372.40	µg/kg	RFI-00610		(00-02')
BH-40	isophron	10/28/93	ND	376.90	µg/kg	RFI-00612		(12-14')
BH-40	m_dclbnz	10/28/93	ND	372.40	µg/kg	RFI-00610		(00-02')
BH-40	m_dclbnz	10/28/93	ND	376.90	µg/kg	RFI-00612		(12-14')
BH-40	m_ntranl	10/28/93	ND	900.00	µg/kg	RFI-00610		(00-02')
BH-40	m_ntranl	10/28/93	ND	910.00	µg/kg	RFI-00612		(12-14')
BH-40	mthynph2	10/28/93	ND	372.40	µg/kg	RFI-00610		(00-02')
BH-40	mthynph2	10/28/93	ND	376.90	µg/kg	RFI-00612		(12-14')
BH-40	naphthal	10/28/93	ND	372.40	µg/kg	RFI-00610		(00-02')
BH-40	naphthal	10/28/93	ND	376.90	µg/kg	RFI-00612		(12-14')
BH-40	nntrphny	10/28/93	ND	372.40	µg/kg	RFI-00610		(00-02')
BH-40	nntrphny	10/28/93	ND	376.90	µg/kg	RFI-00612		(12-14')
BH-40	nntrprpy	10/28/93	ND	372.40	µg/kg	RFI-00610		(00-02')
BH-40	nntrprpy	10/28/93	ND	376.90	µg/kg	RFI-00612		(12-14')
BH-40	ntrobenz	10/28/93	ND	372.40	µg/kg	RFI-00610		(00-02')
BH-40	ntrobenz	10/28/93	ND	376.90	µg/kg	RFI-00612		(12-14')
BH-40	o_cresol	10/28/93	ND	372.40	µg/kg	RFI-00610		(00-02')
BH-40	o_cresol	10/28/93	ND	376.90	µg/kg	RFI-00612		(12-14')
BH-40	o_dclbnz	10/28/93	ND	372.40	µg/kg	RFI-00610		(00-02')
BH-40	o_dclbnz	10/28/93	ND	376.90	µg/kg	RFI-00612		(12-14')
BH-40	o_ntranl	10/28/93	ND	900.00	µg/kg	RFI-00610		(00-02')

HLWSA Borehole Semivolatiles Analyte Data

Location	Parameter	Samp_Date		Result	Units	Sample_ID	Flags	Depth
BH-40	o_ntranl	10/28/93	ND	910.00	µg/kg	RFI-00612		(12-14')
BH-40	o_ntrphn	10/28/93	ND	372.40	µg/kg	RFI-00610		(00-02')
BH-40	o_ntrphn	10/28/93	ND	376.90	µg/kg	RFI-00612		(12-14')
BH-40	p_cresol	10/28/93	ND	372.40	µg/kg	RFI-00610		(00-02')
BH-40	p_cresol	10/28/93	ND	376.90	µg/kg	RFI-00612		(12-14')
BH-40	p_dclbnz	10/28/93	ND	372.40	µg/kg	RFI-00610		(00-02')
BH-40	p_dclbnz	10/28/93	ND	376.90	µg/kg	RFI-00612		(12-14')
BH-40	p_ntranl	10/28/93	ND	900.00	µg/kg	RFI-00610		(00-02')
BH-40	p_ntranl	10/28/93	ND	910.00	µg/kg	RFI-00612		(12-14')
BH-40	p_ntrphn	10/28/93	ND	900.00	µg/kg	RFI-00610	UJ	(00-02')
BH-40	p_ntrphn	10/28/93	ND	910.00	µg/kg	RFI-00612	UJ	(12-14')
BH-40	pclranil	10/28/93	ND	372.40	µg/kg	RFI-00610		(00-02')
BH-40	pclranil	10/28/93	ND	376.90	µg/kg	RFI-00612		(12-14')
BH-40	pclrmcrs	10/28/93	ND	372.40	µg/kg	RFI-00610		(00-02')
BH-40	pclrmcrs	10/28/93	ND	376.90	µg/kg	RFI-00612		(12-14')
BH-40	phenol	10/28/93	ND	372.40	µg/kg	RFI-00610		(00-02')
BH-40	phenol	10/28/93	ND	376.90	µg/kg	RFI-00612		(12-14')
BH-40	phnanthr	10/28/93	ND	372.40	µg/kg	RFI-00610		(00-02')
BH-40	phnanthr	10/28/93	ND	376.90	µg/kg	RFI-00612		(12-14')
BH-40	pntclphn	10/28/93	ND	900.00	µg/kg	RFI-00610		(00-02')
BH-40	pntclphn	10/28/93	ND	910.00	µg/kg	RFI-00612		(12-14')
BH-40	pyrene	10/28/93	ND	372.40	µg/kg	RFI-00610		(00-02')
BH-40	pyrene	10/28/93	ND	376.90	µg/kg	RFI-00612		(12-14')
BH-40	tcb_124	10/28/93	ND	372.40	µg/kg	RFI-00610		(00-02')
BH-40	tcb_124	10/28/93	ND	376.90	µg/kg	RFI-00612		(12-14')
BH-40	tclph245	10/28/93	ND	372.40	µg/kg	RFI-00610		(00-02')
BH-40	tclph245	10/28/93	ND	376.90	µg/kg	RFI-00612		(12-14')
BH-40	tclph246	10/28/93	ND	372.40	µg/kg	RFI-00610		(00-02')
BH-40	tclph246	10/28/93	ND	376.90	µg/kg	RFI-00612		(12-14')
BACKGROUND								
BH-38	acnphthe	10/26/93	ND	378.30	µg/kg	RFI-00607		(12-14')
BH-38	acnphthe	10/26/93	ND	402.30	µg/kg	RFI-00608		(26-28')
BH-38	acnphthy	10/26/93	ND	378.30	µg/kg	RFI-00607		(12-14')
BH-38	acnphthy	10/26/93	ND	402.30	µg/kg	RFI-00608		(26-28')
BH-38	anthracn	10/26/93	ND	378.30	µg/kg	RFI-00607		(12-14')
BH-38	anthracn	10/26/93	ND	402.30	µg/kg	RFI-00608		(26-28')
BH-38	bis2ceth	10/26/93	ND	378.30	µg/kg	RFI-00607		(12-14')
BH-38	bis2ceth	10/26/93	ND	402.30	µg/kg	RFI-00608		(26-28')
BH-38	bis2cexy	10/26/93	ND	378.30	µg/kg	RFI-00607		(12-14')

HLWSA Borehole Semivolatiles Analyte Data

Location	Parameter	Samp_Date		Result	Units	Sample_ID	Flags	Depth
BH-38	bis2cexy	10/26/93	ND	402.30	µg/kg	RFI-00608		(26-28')
BH-38	bis2clis	10/26/93	ND	378.30	µg/kg	RFI-00607		(12-14')
BH-38	bis2clis	10/26/93	ND	402.30	µg/kg	RFI-00608		(26-28')
BH-38	bis2ehex	10/26/93	ND	378.30	µg/kg	RFI-00607		(12-14')
BH-38	bis2ehex	10/26/93	ND	402.30	µg/kg	RFI-00608		(26-28')
BH-38	bnz_a_an	10/26/93	ND	378.30	µg/kg	RFI-00607		(12-14')
BH-38	bnz_a_an	10/26/93	ND	402.30	µg/kg	RFI-00608		(26-28')
BH-38	bnz_a_py	10/26/93	ND	378.30	µg/kg	RFI-00607		(12-14')
BH-38	bnz_a_py	10/26/93	ND	402.30	µg/kg	RFI-00608		(26-28')
BH-38	bnz_b_fl	10/26/93	ND	378.30	µg/kg	RFI-00607		(12-14')
BH-38	bnz_b_fl	10/26/93	ND	402.30	µg/kg	RFI-00608		(26-28')
BH-38	bnz_k_fl	10/26/93	ND	378.30	µg/kg	RFI-00607		(12-14')
BH-38	bnz_k_fl	10/26/93	ND	402.30	µg/kg	RFI-00608		(26-28')
BH-38	bnzghipr	10/26/93	ND	378.30	µg/kg	RFI-00607		(12-14')
BH-38	bnzghipr	10/26/93	ND	402.30	µg/kg	RFI-00608		(26-28')
BH-38	brppeth4	10/26/93	ND	378.30	µg/kg	RFI-00607		(12-14')
BH-38	brppeth4	10/26/93	ND	402.30	µg/kg	RFI-00608		(26-28')
BH-38	butbnzph	10/26/93	ND	378.30	µg/kg	RFI-00607		(12-14')
BH-38	butbnzph	10/26/93	ND	402.30	µg/kg	RFI-00608		(26-28')
BH-38	carbazol	10/26/93	ND	378.30	µg/kg	RFI-00607		(12-14')
BH-38	carbazol	10/26/93	ND	402.30	µg/kg	RFI-00608		(26-28')
BH-38	chppeth4	10/26/93	ND	378.30	µg/kg	RFI-00607		(12-14')
BH-38	chppeth4	10/26/93	ND	402.30	µg/kg	RFI-00608		(26-28')
BH-38	chrysene	10/26/93	ND	378.30	µg/kg	RFI-00607		(12-14')
BH-38	chrysene	10/26/93	ND	402.30	µg/kg	RFI-00608		(26-28')
BH-38	clnapht2	10/26/93	ND	378.30	µg/kg	RFI-00607		(12-14')
BH-38	clnapht2	10/26/93	ND	402.30	µg/kg	RFI-00608		(26-28')
BH-38	clphen_2	10/26/93	ND	378.30	µg/kg	RFI-00607		(12-14')
BH-38	clphen_2	10/26/93	ND	402.30	µg/kg	RFI-00608		(26-28')
BH-38	dbahanth	10/26/93	ND	378.30	µg/kg	RFI-00607		(12-14')
BH-38	dbahanth	10/26/93	ND	402.30	µg/kg	RFI-00608		(26-28')
BH-38	dcb_33	10/26/93	ND	378.30	µg/kg	RFI-00607	UJ	(12-14')
BH-38	dcb_33	10/26/93	ND	402.30	µg/kg	RFI-00608	UJ	(26-28')
BH-38	dibnzfur	10/26/93	ND	378.30	µg/kg	RFI-00607		(12-14')
BH-38	dibnzfur	10/26/93	ND	402.30	µg/kg	RFI-00608		(26-28')
BH-38	diclph24	10/26/93	ND	378.30	µg/kg	RFI-00607		(12-14')
BH-38	diclph24	10/26/93	ND	402.30	µg/kg	RFI-00608		(26-28')
BH-38	diethyph	10/26/93	ND	378.30	µg/kg	RFI-00607		(12-14')
BH-38	diethyph	10/26/93	ND	402.30	µg/kg	RFI-00608		(26-28')
BH-38	dimthp24	10/26/93	ND	378.30	µg/kg	RFI-00607		(12-14')
BH-38	dimthp24	10/26/93	ND	402.30	µg/kg	RFI-00608		(26-28')

HLWSA Borehole Semivolatiles Analyte Data

Location	Parameter	Samp_Date		Result	Units	Sample_ID	Flags	Depth
BH-38	dimthyph	10/26/93	ND	378.30	µg/kg	RFI-00607		(12-14')
BH-38	dimthyph	10/26/93	ND	402.30	µg/kg	RFI-00608		(26-28')
BH-38	dinbutph	10/26/93		229.30	µg/kg	RFI-00607	UJ	(12-14')
BH-38	dinbutph	10/26/93		287.40	µg/kg	RFI-00608	UJ	(26-28')
BH-38	dinoctph	10/26/93	ND	378.30	µg/kg	RFI-00607		(12-14')
BH-38	dinoctph	10/26/93	ND	402.30	µg/kg	RFI-00608		(26-28')
BH-38	dintrp24	10/26/93	ND	920.00	µg/kg	RFI-00607		(12-14')
BH-38	dintrp24	10/26/93	ND	980.00	µg/kg	RFI-00608		(26-28')
BH-38	dintrt24	10/26/93	ND	378.30	µg/kg	RFI-00607		(12-14')
BH-38	dintrt24	10/26/93	ND	402.30	µg/kg	RFI-00608		(26-28')
BH-38	dintrt26	10/26/93	ND	378.30	µg/kg	RFI-00607		(12-14')
BH-38	dintrt26	10/26/93	ND	402.30	µg/kg	RFI-00608		(26-28')
BH-38	dntrcr46	10/26/93	ND	920.00	µg/kg	RFI-00607		(12-14')
BH-38	dntrcr46	10/26/93	ND	980.00	µg/kg	RFI-00608		(26-28')
BH-38	flranthn	10/26/93	ND	378.30	µg/kg	RFI-00607		(12-14')
BH-38	flranthn	10/26/93	ND	402.30	µg/kg	RFI-00608		(26-28')
BH-38	fluorene	10/26/93	ND	378.30	µg/kg	RFI-00607		(12-14')
BH-38	fluorene	10/26/93	ND	402.30	µg/kg	RFI-00608		(26-28')
BH-38	hexacdio	10/26/93		200.00	µg/kg	RFI-00607	J	(12-14')
BH-38	hexacdio	10/26/93		1000.00	µg/kg	RFI-00608	J	(26-28')
BH-38	hexclbnz	10/26/93	ND	378.30	µg/kg	RFI-00607		(12-14')
BH-38	hexclbnz	10/26/93	ND	402.30	µg/kg	RFI-00608		(26-28')
BH-38	hexclbut	10/26/93	ND	378.30	µg/kg	RFI-00607		(12-14')
BH-38	hexclbut	10/26/93	ND	402.30	µg/kg	RFI-00608		(26-28')
BH-38	hexcleth	10/26/93	ND	378.30	µg/kg	RFI-00607		(12-14')
BH-38	hexcleth	10/26/93	ND	402.30	µg/kg	RFI-00608		(26-28')
BH-38	hexclpen	10/26/93	ND	378.30	µg/kg	RFI-00607		(12-14')
BH-38	hexclpen	10/26/93	ND	402.30	µg/kg	RFI-00608		(26-28')
BH-38	indnpyre	10/26/93	ND	378.30	µg/kg	RFI-00607		(12-14')
BH-38	indnpyre	10/26/93	ND	402.30	µg/kg	RFI-00608		(26-28')
BH-38	isophron	10/26/93	ND	378.30	µg/kg	RFI-00607		(12-14')
BH-38	isophron	10/26/93	ND	402.30	µg/kg	RFI-00608		(26-28')
BH-38	m_dclbnz	10/26/93	ND	378.30	µg/kg	RFI-00607		(12-14')
BH-38	m_dclbnz	10/26/93	ND	402.30	µg/kg	RFI-00608		(26-28')
BH-38	m_ntranl	10/26/93	ND	920.00	µg/kg	RFI-00607		(12-14')
BH-38	m_ntranl	10/26/93	ND	980.00	µg/kg	RFI-00608		(26-28')
BH-38	mthynph2	10/26/93	ND	378.30	µg/kg	RFI-00607		(12-14')
BH-38	mthynph2	10/26/93	ND	402.30	µg/kg	RFI-00608		(26-28')
BH-38	naphthal	10/26/93	ND	378.30	µg/kg	RFI-00607		(12-14')
BH-38	naphthal	10/26/93	ND	402.30	µg/kg	RFI-00608		(26-28')
BH-38	nntrphny	10/26/93	ND	378.30	µg/kg	RFI-00607		(12-14')

HLWSA Borehole Semivolatiles Analyte Data

Location	Parameter	Samp_Date		Result	Units	Sample_ID	Flags	Depth
BH-38	nntrphny	10/26/93	ND	402.30	µg/kg	RFI-00608		(26-28')
BH-38	nntrprpy	10/26/93	ND	378.30	µg/kg	RFI-00607		(12-14')
BH-38	nntrprpy	10/26/93	ND	402.30	µg/kg	RFI-00608		(26-28')
BH-38	ntrobenz	10/26/93	ND	378.30	µg/kg	RFI-00607		(12-14')
BH-38	ntrobenz	10/26/93	ND	402.30	µg/kg	RFI-00608		(26-28')
BH-38	o_cresol	10/26/93	ND	378.30	µg/kg	RFI-00607		(12-14')
BH-38	o_cresol	10/26/93	ND	402.30	µg/kg	RFI-00608		(26-28')
BH-38	o_dclbnz	10/26/93	ND	378.30	µg/kg	RFI-00607		(12-14')
BH-38	o_dclbnz	10/26/93	ND	402.30	µg/kg	RFI-00608		(26-28')
BH-38	o_ntranl	10/26/93	ND	920.00	µg/kg	RFI-00607		(12-14')
BH-38	o_ntranl	10/26/93	ND	980.00	µg/kg	RFI-00608		(26-28')
BH-38	o_ntrphn	10/26/93	ND	378.30	µg/kg	RFI-00607		(12-14')
BH-38	o_ntrphn	10/26/93	ND	402.30	µg/kg	RFI-00608		(26-28')
BH-38	p_cresol	10/26/93	ND	378.30	µg/kg	RFI-00607		(12-14')
BH-38	p_cresol	10/26/93	ND	402.30	µg/kg	RFI-00608		(26-28')
BH-38	p_dclbnz	10/26/93	ND	378.30	µg/kg	RFI-00607		(12-14')
BH-38	p_dclbnz	10/26/93	ND	402.30	µg/kg	RFI-00608		(26-28')
BH-38	p_ntranl	10/26/93	ND	920.00	µg/kg	RFI-00607		(12-14')
BH-38	p_ntranl	10/26/93	ND	980.00	µg/kg	RFI-00608		(26-28')
BH-38	p_ntrphn	10/26/93	ND	920.00	µg/kg	RFI-00607		(12-14')
BH-38	p_ntrphn	10/26/93	ND	980.00	µg/kg	RFI-00608		(26-28')
BH-38	pclranil	10/26/93	ND	378.30	µg/kg	RFI-00607		(12-14')
BH-38	pclranil	10/26/93	ND	402.30	µg/kg	RFI-00608		(26-28')
BH-38	pclrmcrs	10/26/93	ND	378.30	µg/kg	RFI-00607		(12-14')
BH-38	pclrmcrs	10/26/93	ND	402.30	µg/kg	RFI-00608		(26-28')
BH-38	phenol	10/26/93	ND	378.30	µg/kg	RFI-00607		(12-14')
BH-38	phenol	10/26/93	ND	402.30	µg/kg	RFI-00608		(26-28')
BH-38	phnanthr	10/26/93	ND	378.30	µg/kg	RFI-00607		(12-14')
BH-38	phnanthr	10/26/93	ND	402.30	µg/kg	RFI-00608		(26-28')
BH-38	pntclphn	10/26/93	ND	920.00	µg/kg	RFI-00607		(12-14')
BH-38	pntclphn	10/26/93	ND	980.00	µg/kg	RFI-00608		(26-28')
BH-38	pyrene	10/26/93	ND	378.30	µg/kg	RFI-00607		(12-14')
BH-38	pyrene	10/26/93	ND	402.30	µg/kg	RFI-00608		(26-28')
BH-38	tcb_124	10/26/93	ND	378.30	µg/kg	RFI-00607		(12-14')
BH-38	tcb_124	10/26/93	ND	402.30	µg/kg	RFI-00608		(26-28')
BH-38	tclph245	10/26/93	ND	378.30	µg/kg	RFI-00607		(12-14')
BH-38	tclph245	10/26/93	ND	402.30	µg/kg	RFI-00608		(26-28')
BH-38	tclph246	10/26/93	ND	378.30	µg/kg	RFI-00607		(12-14')
BH-38	tclph246	10/26/93	ND	402.30	µg/kg	RFI-00608		(26-28')

HLWSA Borehole Volatiles Analyte Data

Location	Parameter	Samp_Date		Result	Units	Sample_ID	Flags	Depth
BH-32	acetone	10/31/93	ND	11.00	µg/kg	RFI-00757	UJ	(14-16')
BH-32	acetone	10/31/93	ND	11.00	µg/kg	RFI-00758	UJ	(22-24')
BH-32	benzene	10/31/93	ND	5.50	µg/kg	RFI-00757		(14-16')
BH-32	benzene	10/31/93	ND	5.60	µg/kg	RFI-00758		(22-24')
BH-32	br_meth	10/31/93	ND	11.10	µg/kg	RFI-00757		(14-16')
BH-32	br_meth	10/31/93	ND	11.10	µg/kg	RFI-00758		(22-24')
BH-32	brdcmeth	10/31/93	ND	5.50	µg/kg	RFI-00757		(14-16')
BH-32	brdcmeth	10/31/93	ND	5.60	µg/kg	RFI-00758		(22-24')
BH-32	brform	10/31/93	ND	5.50	µg/kg	RFI-00757		(14-16')
BH-32	brform	10/31/93	ND	5.60	µg/kg	RFI-00758		(22-24')
BH-32	c_13_dcp	10/31/93	ND	5.50	µg/kg	RFI-00757		(14-16')
BH-32	c_13_dcp	10/31/93	ND	5.60	µg/kg	RFI-00758		(22-24')
BH-32	ccl4	10/31/93	ND	5.50	µg/kg	RFI-00757		(14-16')
BH-32	ccl4	10/31/93	ND	5.60	µg/kg	RFI-00758		(22-24')
BH-32	cl_benz	10/31/93	ND	5.50	µg/kg	RFI-00757		(14-16')
BH-32	cl_benz	10/31/93	ND	5.60	µg/kg	RFI-00758		(22-24')
BH-32	cl_eth	10/31/93	ND	11.10	µg/kg	RFI-00757		(14-16')
BH-32	cl_eth	10/31/93	ND	11.10	µg/kg	RFI-00758	UJ	(22-24')
BH-32	cl_form	10/31/93		1.30	µg/kg	RFI-00757	UJ	(14-16')
BH-32	cl_form	10/31/93		1.30	µg/kg	RFI-00758	UJ	(22-24')
BH-32	cl_meth	10/31/93	ND	11.10	µg/kg	RFI-00757	UJ	(14-16')
BH-32	cl_meth	10/31/93	ND	11.10	µg/kg	RFI-00758		(22-24')
BH-32	cs2	10/31/93	ND	5.50	µg/kg	RFI-00757	UJ	(14-16')
BH-32	cs2	10/31/93	ND	5.60	µg/kg	RFI-00758	UJ	(22-24')
BH-32	dbc_meth	10/31/93	ND	5.50	µg/kg	RFI-00757		(14-16')
BH-32	dbc_meth	10/31/93	ND	5.60	µg/kg	RFI-00758		(22-24')
BH-32	dca_11	10/31/93	ND	5.50	µg/kg	RFI-00757		(14-16')
BH-32	dca_11	10/31/93	ND	5.60	µg/kg	RFI-00758		(22-24')
BH-32	dca_12	10/31/93	ND	5.50	µg/kg	RFI-00757		(14-16')
BH-32	dca_12	10/31/93	ND	5.60	µg/kg	RFI-00758		(22-24')
BH-32	dce_11	10/31/93	ND	5.50	µg/kg	RFI-00757		(14-16')
BH-32	dce_11	10/31/93	ND	5.60	µg/kg	RFI-00758		(22-24')
BH-32	dce_12_t	10/31/93	ND	5.50	µg/kg	RFI-00757		(14-16')
BH-32	dce_12_t	10/31/93	ND	5.60	µg/kg	RFI-00758		(22-24')
BH-32	dcp_12	10/31/93	ND	5.50	µg/kg	RFI-00757		(14-16')
BH-32	dcp_12	10/31/93	ND	5.60	µg/kg	RFI-00758		(22-24')
BH-32	eth_benz	10/31/93	ND	5.50	µg/kg	RFI-00757		(14-16')
BH-32	eth_benz	10/31/93	ND	5.60	µg/kg	RFI-00758		(22-24')
BH-32	hexnone2	10/31/93	ND	11.00	µg/kg	RFI-00757		(14-16')
BH-32	hexnone2	10/31/93	ND	11.00	µg/kg	RFI-00758		(22-24')
BH-32	mek	10/31/93	ND	11.10	µg/kg	RFI-00757		(14-16')

HLWSA Borehole Volatiles Analyte Data

Location	Parameter	Samp_Date		Result	Units	Sample_ID	Flags	Depth
BH-32	mek	10/31/93	ND	11.10	µg/kg	RFI-00758		(22-24')
BH-32	mene_cl	10/31/93		21.30	µg/kg	RFI-00757	UJ	(14-16')
BH-32	mene_cl	10/31/93		16.00	µg/kg	RFI-00758	UJ	(22-24')
BH-32	mibk	10/31/93	ND	11.10	µg/kg	RFI-00757		(14-16')
BH-32	mibk	10/31/93	ND	11.10	µg/kg	RFI-00758		(22-24')
BH-32	styrene	10/31/93	ND	5.50	µg/kg	RFI-00757		(14-16')
BH-32	styrene	10/31/93	ND	5.60	µg/kg	RFI-00758		(22-24')
BH-32	t_13_dcp	10/31/93	ND	5.50	µg/kg	RFI-00757		(14-16')
BH-32	t_13_dcp	10/31/93	ND	5.60	µg/kg	RFI-00758		(22-24')
BH-32	tca_111	10/31/93	ND	5.50	µg/kg	RFI-00757		(14-16')
BH-32	tca_111	10/31/93	ND	5.60	µg/kg	RFI-00758		(22-24')
BH-32	tca_112	10/31/93	ND	5.50	µg/kg	RFI-00757		(14-16')
BH-32	tca_112	10/31/93	ND	5.60	µg/kg	RFI-00758		(22-24')
BH-32	tca_1122	10/31/93	ND	5.50	µg/kg	RFI-00757		(14-16')
BH-32	tca_1122	10/31/93	ND	5.60	µg/kg	RFI-00758		(22-24')
BH-32	tetcleth	10/31/93	ND	5.50	µg/kg	RFI-00757		(14-16')
BH-32	tetcleth	10/31/93	ND	5.60	µg/kg	RFI-00758		(22-24')
BH-32	toluene	10/31/93		800.00	µg/kg	RFI-00613	R	(14-16')
BH-32	toluene	10/31/93	ND	5.50	µg/kg	RFI-00757		(14-16')
BH-32	toluene	10/31/93	ND	5.60	µg/kg	RFI-00758		(22-24')
BH-32	tricleth	10/31/93	ND	5.50	µg/kg	RFI-00757		(14-16')
BH-32	tricleth	10/31/93	ND	5.60	µg/kg	RFI-00758		(22-24')
BH-32	vnyl_cl	10/31/93	ND	11.10	µg/kg	RFI-00757		(14-16')
BH-32	vnyl_cl	10/31/93	ND	11.10	µg/kg	RFI-00758		(22-24')
BH-32	xylene	10/31/93	ND	5.50	µg/kg	RFI-00757		(14-16')
BH-32	xylene	10/31/93	ND	5.60	µg/kg	RFI-00758		(22-24')
BH-40	acetone	10/28/93	ND	12.00	µg/kg	RFI-00707	UJ	(12-14')
BH-40	acetone	10/31/93	ND	11.00	µg/kg	RFI-00708	UJ	(20-22')
BH-40	benzene	10/28/93	ND	5.80	µg/kg	RFI-00707		(12-14')
BH-40	benzene	10/31/93	ND	5.60	µg/kg	RFI-00708		(20-22')
BH-40	br_meth	10/28/93	ND	11.50	µg/kg	RFI-00707		(12-14')
BH-40	br_meth	10/31/93	ND	11.10	µg/kg	RFI-00708		(20-22')
BH-40	brdcmeth	10/28/93	ND	5.80	µg/kg	RFI-00707		(12-14')
BH-40	brdcmeth	10/31/93	ND	5.60	µg/kg	RFI-00708		(20-22')
BH-40	brform	10/28/93	ND	5.80	µg/kg	RFI-00707		(12-14')
BH-40	brform	10/31/93	ND	5.60	µg/kg	RFI-00708		(20-22')
BH-40	c_13_dcp	10/28/93	ND	5.80	µg/kg	RFI-00707		(12-14')
BH-40	c_13_dcp	10/31/93	ND	5.60	µg/kg	RFI-00708		(20-22')
BH-40	ccl4	10/28/93	ND	5.80	µg/kg	RFI-00707		(12-14')
BH-40	ccl4	10/31/93	ND	5.60	µg/kg	RFI-00708		(20-22')

HLWSA Borehole Volatiles Analyte Data

Location	Parameter	Samp_Date		Result	Units	Sample_ID	Flags	Depth
BH-40	cl_benz	10/28/93	ND	5.80	µg/kg	RFI-00707		(12-14')
BH-40	cl_benz	10/31/93	ND	5.60	µg/kg	RFI-00708		(20-22')
BH-40	cl_eth	10/28/93	ND	11.50	µg/kg	RFI-00707	UJ	(12-14')
BH-40	cl_eth	10/31/93	ND	11.10	µg/kg	RFI-00708	UJ	(20-22')
BH-40	cl_form	10/28/93		2.10	µg/kg	RFI-00707	J	(12-14')
BH-40	cl_form	10/31/93		1.70	µg/kg	RFI-00708	UJ	(20-22')
BH-40	cl_meth	10/28/93	ND	11.50	µg/kg	RFI-00707		(12-14')
BH-40	cl_meth	10/31/93	ND	11.10	µg/kg	RFI-00708		(20-22')
BH-40	cs2	10/28/93	ND	5.80	µg/kg	RFI-00707	UJ	(12-14')
BH-40	cs2	10/31/93	ND	5.60	µg/kg	RFI-00708	UJ	(20-22')
BH-40	dbc_meth	10/28/93	ND	5.80	µg/kg	RFI-00707		(12-14')
BH-40	dbc_meth	10/31/93	ND	5.60	µg/kg	RFI-00708		(20-22')
BH-40	dca_11	10/28/93	ND	5.80	µg/kg	RFI-00707		(12-14')
BH-40	dca_11	10/31/93	ND	5.60	µg/kg	RFI-00708		(20-22')
BH-40	dca_12	10/28/93	ND	5.80	µg/kg	RFI-00707		(12-14')
BH-40	dca_12	10/31/93	ND	5.60	µg/kg	RFI-00708		(20-22')
BH-40	dce_11	10/28/93	ND	5.80	µg/kg	RFI-00707		(12-14')
BH-40	dce_11	10/31/93	ND	5.60	µg/kg	RFI-00708		(20-22')
BH-40	dce_12_t	10/28/93	ND	5.80	µg/kg	RFI-00707		(12-14')
BH-40	dce_12_t	10/31/93	ND	5.60	µg/kg	RFI-00708		(20-22')
BH-40	dcp_12	10/28/93	ND	5.80	µg/kg	RFI-00707		(12-14')
BH-40	dcp_12	10/31/93	ND	5.60	µg/kg	RFI-00708		(20-22')
BH-40	eth_benz	10/28/93	ND	5.80	µg/kg	RFI-00707		(12-14')
BH-40	eth_benz	10/31/93	ND	5.60	µg/kg	RFI-00708		(20-22')
BH-40	hexnone2	10/28/93	ND	12.00	µg/kg	RFI-00707		(12-14')
BH-40	hexnone2	10/31/93	ND	11.00	µg/kg	RFI-00708		(20-22')
BH-40	mek	10/28/93	ND	11.50	µg/kg	RFI-00707		(12-14')
BH-40	mek	10/31/93	ND	11.10	µg/kg	RFI-00708		(20-22')
BH-40	mene_cl	10/28/93		26.00	µg/kg	RFI-00707	UJ	(12-14')
BH-40	mene_cl	10/31/93		15.50	µg/kg	RFI-00708	UJ	(20-22')
BH-40	mibk	10/28/93	ND	11.50	µg/kg	RFI-00707		(12-14')
BH-40	mibk	10/31/93	ND	11.10	µg/kg	RFI-00708		(20-22')
BH-40	styrene	10/28/93	ND	5.80	µg/kg	RFI-00707		(12-14')
BH-40	styrene	10/31/93	ND	5.60	µg/kg	RFI-00708		(20-22')
BH-40	t_13_dcp	10/28/93	ND	5.80	µg/kg	RFI-00707		(12-14')
BH-40	t_13_dcp	10/31/93	ND	5.60	µg/kg	RFI-00708		(20-22')
BH-40	tca_111	10/28/93	ND	5.80	µg/kg	RFI-00707		(12-14')
BH-40	tca_111	10/31/93	ND	5.60	µg/kg	RFI-00708		(20-22')
BH-40	tca_112	10/28/93	ND	5.80	µg/kg	RFI-00707		(12-14')
BH-40	tca_112	10/31/93	ND	5.60	µg/kg	RFI-00708		(20-22')
BH-40	tca_1122	10/28/93	ND	5.80	µg/kg	RFI-00707		(12-14')

HLWSA Borehole Volatiles Analyte Data

Location	Parameter	Samp_Date		Result	Units	Sample_ID	Flags	Depth
BH-40	tca_1122	10/31/93	ND	5.60	µg/kg	RFI-00708		(20-22')
BH-40	tetcleth	10/28/93	ND	5.80	µg/kg	RFI-00707		(12-14')
BH-40	tetcleth	10/31/93	ND	5.60	µg/kg	RFI-00708		(20-22')
BH-40	toluene	10/28/93		600.00	µg/kg	RFI-00610	R	(00-02')
BH-40	toluene	10/28/93		800.00	µg/kg	RFI-00612	R	(12-14')
BH-40	toluene	10/28/93	ND	5.80	µg/kg	RFI-00707		(12-14')
BH-40	toluene	10/31/93	ND	5.60	µg/kg	RFI-00708		(20-22')
BH-40	tricleth	10/28/93	ND	5.80	µg/kg	RFI-00707		(12-14')
BH-40	tricleth	10/31/93	ND	5.60	µg/kg	RFI-00708		(20-22')
BH-40	vnyl_cl	10/28/93	ND	11.50	µg/kg	RFI-00707		(12-14')
BH-40	vnyl_cl	10/31/93	ND	11.10	µg/kg	RFI-00708		(20-22')
BH-40	xylene	10/28/93	ND	5.80	µg/kg	RFI-00707		(12-14')
BH-40	xylene	10/31/93	ND	5.60	µg/kg	RFI-00708		(20-22')
BACKGROUND								
BH-38	acetone	10/26/93	ND	11.00	µg/kg	RFI-00694	UJ	(12-14')
BH-38	acetone	10/26/93	ND	13.00	µg/kg	RFI-00695	UJ	(26-28')
BH-38	benzene	10/26/93	ND	5.40	µg/kg	RFI-00694		(12-14')
BH-38	benzene	10/26/93	ND	6.30	µg/kg	RFI-00695		(26-28')
BH-38	br_meth	10/26/93	ND	10.90	µg/kg	RFI-00694		(12-14')
BH-38	br_meth	10/26/93	ND	12.60	µg/kg	RFI-00695		(26-28')
BH-38	brdcmeth	10/26/93	ND	5.40	µg/kg	RFI-00694		(12-14')
BH-38	brdcmeth	10/26/93	ND	6.30	µg/kg	RFI-00695		(26-28')
BH-38	brform	10/26/93	ND	5.40	µg/kg	RFI-00694		(12-14')
BH-38	brform	10/26/93	ND	6.30	µg/kg	RFI-00695		(26-28')
BH-38	c_13_dcp	10/26/93	ND	5.40	µg/kg	RFI-00694		(12-14')
BH-38	c_13_dcp	10/26/93	ND	6.30	µg/kg	RFI-00695		(26-28')
BH-38	ccl4	10/26/93	ND	5.40	µg/kg	RFI-00694		(12-14')
BH-38	ccl4	10/26/93	ND	6.30	µg/kg	RFI-00695		(26-28')
BH-38	cl_benz	10/26/93	ND	5.40	µg/kg	RFI-00694		(12-14')
BH-38	cl_benz	10/26/93	ND	6.30	µg/kg	RFI-00695		(26-28')
BH-38	cl_eth	10/26/93	ND	10.90	µg/kg	RFI-00694	UJ	(12-14')
BH-38	cl_eth	10/26/93	ND	12.60	µg/kg	RFI-00695	UJ	(26-28')
BH-38	cl_form	10/26/93	ND	5.40	µg/kg	RFI-00694		(12-14')
BH-38	cl_form	10/26/93	ND	6.30	µg/kg	RFI-00695		(26-28')
BH-38	cl_meth	10/26/93	ND	10.90	µg/kg	RFI-00694		(12-14')
BH-38	cl_meth	10/26/93	ND	12.60	µg/kg	RFI-00695		(26-28')
BH-38	cs2	10/26/93	ND	5.40	µg/kg	RFI-00694	UJ	(12-14')
BH-38	cs2	10/26/93	ND	6.30	µg/kg	RFI-00695	UJ	(26-28')
BH-38	dbc_meth	10/26/93	ND	5.40	µg/kg	RFI-00694		(12-14')

HLWSA Borehole Volatiles Analyte Data

Location	Parameter	Samp_Date		Result	Units	Sample_ID	Flags	Depth
BH-38	dbc_meth	10/26/93	ND	6.30	µg/kg	RFI-00695		(26-28')
BH-38	dca_11	10/26/93	ND	5.40	µg/kg	RFI-00694		(12-14')
BH-38	dca_11	10/26/93	ND	6.30	µg/kg	RFI-00695		(26-28')
BH-38	dca_12	10/26/93	ND	5.40	µg/kg	RFI-00694		(12-14')
BH-38	dca_12	10/26/93	ND	6.30	µg/kg	RFI-00695		(26-28')
BH-38	dce_11	10/26/93	ND	5.40	µg/kg	RFI-00694		(12-14')
BH-38	dce_11	10/26/93	ND	6.30	µg/kg	RFI-00695		(26-28')
BH-38	dce_12_t	10/26/93	ND	5.40	µg/kg	RFI-00694		(12-14')
BH-38	dce_12_t	10/26/93	ND	6.30	µg/kg	RFI-00695		(26-28')
BH-38	dcp_12	10/26/93	ND	5.40	µg/kg	RFI-00694		(12-14')
BH-38	dcp_12	10/26/93	ND	6.30	µg/kg	RFI-00695		(26-28')
BH-38	eth_benz	10/26/93	ND	5.40	µg/kg	RFI-00694		(12-14')
BH-38	eth_benz	10/26/93	ND	6.30	µg/kg	RFI-00695		(26-28')
BH-38	hexnone2	10/26/93	ND	11.00	µg/kg	RFI-00694		(12-14')
BH-38	hexnone2	10/26/93	ND	13.00	µg/kg	RFI-00695		(26-28')
BH-38	mek	10/26/93	ND	10.90	µg/kg	RFI-00694		(12-14')
BH-38	mek	10/26/93	ND	12.60	µg/kg	RFI-00695		(26-28')
BH-38	mene_cl	10/26/93		7.60	µg/kg	RFI-00694	UJ	(12-14')
BH-38	mene_cl	10/26/93		8.40	µg/kg	RFI-00695	UJ	(26-28')
BH-38	mibk	10/26/93	ND	10.90	µg/kg	RFI-00694		(12-14')
BH-38	mibk	10/26/93	ND	12.60	µg/kg	RFI-00695		(26-28')
BH-38	styrene	10/26/93	ND	5.40	µg/kg	RFI-00694		(12-14')
BH-38	styrene	10/26/93	ND	6.30	µg/kg	RFI-00695		(26-28')
BH-38	t_13_dcp	10/26/93	ND	5.40	µg/kg	RFI-00694		(12-14')
BH-38	t_13_dcp	10/26/93	ND	6.30	µg/kg	RFI-00695		(26-28')
BH-38	tca_111	10/26/93	ND	5.40	µg/kg	RFI-00694		(12-14')
BH-38	tca_111	10/26/93	ND	6.30	µg/kg	RFI-00695		(26-28')
BH-38	tca_112	10/26/93	ND	5.40	µg/kg	RFI-00694		(12-14')
BH-38	tca_112	10/26/93	ND	6.30	µg/kg	RFI-00695		(26-28')
BH-38	tca_1122	10/26/93	ND	5.40	µg/kg	RFI-00694		(12-14')
BH-38	tca_1122	10/26/93	ND	6.30	µg/kg	RFI-00695		(26-28')
BH-38	tetcleth	10/26/93	ND	5.40	µg/kg	RFI-00694		(12-14')
BH-38	tetcleth	10/26/93	ND	6.30	µg/kg	RFI-00695		(26-28')
BH-38	toluene	10/26/93	ND	5.40	µg/kg	RFI-00694		(12-14')
BH-38	toluene	10/26/93		800.00	µg/kg	RFI-00607	R	(12-14')
BH-38	toluene	10/26/93		900.00	µg/kg	RFI-00608	R	(26-28')
BH-38	toluene	10/26/93	ND	6.30	µg/kg	RFI-00695		(26-28')
BH-38	tricleth	10/26/93	ND	5.40	µg/kg	RFI-00694		(12-14')
BH-38	tricleth	10/26/93	ND	6.30	µg/kg	RFI-00695		(26-28')
BH-38	vnyl_cl	10/26/93	ND	10.90	µg/kg	RFI-00694		(12-14')
BH-38	vnyl_cl	10/26/93	ND	12.60	µg/kg	RFI-00695		(26-28')

HLWSA Borehole Volatiles Analyte Data

Location	Parameter	Samp_Date		Result	Units	Sample_ID	Flags	Depth
BH-38	xylene	10/26/93	ND	5.40	μg/kg	RFI-00694		(12-14')
BH-38	xylene	10/26/93	ND	6.30	μg/kg	RFI-00695		(26-28')

HLWSA Borehole Pesticides/PCBs Analyte Data

Location	Parameter	Samp_Date		Result	Units	Sample_ID	Flags	Depth
BACKGROUND								
BH-38	a_bhc	10/26/93	ND	1.81	µg/kg	RFI-00453	UJ	(12-14')
BH-38	a_bhc	10/26/93	ND	2.05	µg/kg	RFI-00455	UJ	(26-28')
BH-38	a_chrldn	10/26/93	ND	1.81	µg/kg	RFI-00453		(12-14')
BH-38	a_chrldn	10/26/93	ND	2.05	µg/kg	RFI-00455		(26-28')
BH-38	aldrin	10/26/93	ND	1.81	µg/kg	RFI-00453		(12-14')
BH-38	aldrin	10/26/93	ND	2.05	µg/kg	RFI-00455		(26-28')
BH-38	b_bhc	10/26/93	ND	1.81	µg/kg	RFI-00453	UJ	(12-14')
BH-38	b_bhc	10/26/93	ND	2.05	µg/kg	RFI-00455	UJ	(26-28')
BH-38	d_bhc	10/26/93	ND	1.81	µg/kg	RFI-00453	UJ	(12-14')
BH-38	d_bhc	10/26/93	ND	2.05	µg/kg	RFI-00455	UJ	(26-28')
BH-38	ddd_44	10/26/93	ND	3.62	µg/kg	RFI-00453		(12-14')
BH-38	ddd_44	10/26/93	ND	4.11	µg/kg	RFI-00455		(26-28')
BH-38	dde_44	10/26/93	ND	3.62	µg/kg	RFI-00453		(12-14')
BH-38	dde_44	10/26/93	ND	4.11	µg/kg	RFI-00455		(26-28')
BH-38	ddt_44	10/26/93	ND	3.62	µg/kg	RFI-00453	UJ	(12-14')
BH-38	ddt_44	10/26/93	ND	4.11	µg/kg	RFI-00455	UJ	(26-28')
BH-38	dieldrin	10/26/93	ND	3.62	µg/kg	RFI-00453		(12-14')
BH-38	dieldrin	10/26/93	ND	4.11	µg/kg	RFI-00455		(26-28')
BH-38	endos_1	10/26/93	ND	1.81	µg/kg	RFI-00453		(12-14')
BH-38	endos_1	10/26/93	ND	2.05	µg/kg	RFI-00455		(26-28')
BH-38	endos_2	10/26/93	ND	3.62	µg/kg	RFI-00453		(12-14')
BH-38	endos_2	10/26/93	ND	4.11	µg/kg	RFI-00455		(26-28')
BH-38	endos_s	10/26/93	ND	3.62	µg/kg	RFI-00453	UJ	(12-14')
BH-38	endos_s	10/26/93	ND	4.11	µg/kg	RFI-00455	UJ	(26-28')
BH-38	endrin	10/26/93	ND	3.62	µg/kg	RFI-00453	UJ	(12-14')
BH-38	endrin	10/26/93	ND	4.11	µg/kg	RFI-00455	UJ	(26-28')
BH-38	endrn_al	10/26/93	ND	3.62	µg/kg	RFI-00453	UJ	(12-14')
BH-38	endrn_al	10/26/93	ND	4.11	µg/kg	RFI-00455	UJ	(26-28')
BH-38	endrn_kt	10/26/93	ND	3.62	µg/kg	RFI-00453	UJ	(12-14')
BH-38	endrn_kt	10/26/93	ND	4.11	µg/kg	RFI-00455	UJ	(26-28')
BH-38	g_bhc	10/26/93	ND	1.81	µg/kg	RFI-00453	UJ	(12-14')
BH-38	g_bhc	10/26/93	ND	2.05	µg/kg	RFI-00455	UJ	(26-28')
BH-38	g_chlrdn	10/26/93	ND	1.81	µg/kg	RFI-00453		(12-14')
BH-38	g_chlrdn	10/26/93	ND	2.05	µg/kg	RFI-00455		(26-28')
BH-38	hept_clr	10/26/93	ND	1.81	µg/kg	RFI-00453	UJ	(12-14')
BH-38	hept_clr	10/26/93	ND	2.05	µg/kg	RFI-00455	UJ	(26-28')
BH-38	hept_epx	10/26/93	ND	1.81	µg/kg	RFI-00453		(12-14')
BH-38	hept_epx	10/26/93	ND	2.05	µg/kg	RFI-00455		(26-28')
BH-38	meth_xcl	10/26/93	ND	18.10	µg/kg	RFI-00453	UJ	(12-14')

HLWSA Borehole Pesticides/PCBs Analyte Data

Location	Parameter	Samp_Date		Result	Units	Sample_ID	Flags	Depth
BH-38	meth_xcl	10/26/93	ND	20.60	μg/kg	RFI-00455	UJ	(26-28')
BH-38	pcb_1016	10/26/93	ND	35.10	μg/kg	RFI-00453		(12-14')
BH-38	pcb_1016	10/26/93	ND	39.70	μg/kg	RFI-00455		(26-28')
BH-38	pcb_1221	10/26/93	ND	72.30	μg/kg	RFI-00453		(12-14')
BH-38	pcb_1221	10/26/93	ND	82.20	μg/kg	RFI-00455		(26-28')
BH-38	pcb_1232	10/26/93	ND	35.10	μg/kg	RFI-00453		(12-14')
BH-38	pcb_1232	10/26/93	ND	39.70	μg/kg	RFI-00455		(26-28')
BH-38	pcb_1242	10/26/93	ND	35.10	μg/kg	RFI-00453		(12-14')
BH-38	pcb_1242	10/26/93	ND	39.70	μg/kg	RFI-00455		(26-28')
BH-38	pcb_1248	10/26/93	ND	35.10	μg/kg	RFI-00453		(12-14')
BH-38	pcb_1248	10/26/93	ND	39.70	μg/kg	RFI-00455		(26-28')
BH-38	pcb_1254	10/26/93	ND	35.10	μg/kg	RFI-00453		(12-14')
BH-38	pcb_1254	10/26/93	ND	39.70	μg/kg	RFI-00455		(26-28')
BH-38	pcb_1260	10/26/93	ND	35.10	μg/kg	RFI-00453		(12-14')
BH-38	pcb_1260	10/26/93	ND	39.70	μg/kg	RFI-00455		(26-28')
BH-38	toxaphen	10/26/93	ND	170.00	μg/kg	RFI-00453		(12-14')
BH-38	toxaphen	10/26/93	ND	193.00	μg/kg	RFI-00455		(26-28')