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RESULTS OF FIELD AND LABORATORY INVESTIGATIONS CONDUCTED FOR REMEDIATION OF INTERIM RESPONSE ACTIONS OTHER CONTAMINATION SOURCES

DECEMBER 1990

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VOLUME II - APPENDIXES

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U.S. ARMY PROGRAM MANAGER'S OFFICE
FOR ROCKY MOUNTAIN ARSENAL CONTAMINATION CLEANUP

Rocky Mountain Arsenal
Information Center
Commerce City, Colorado

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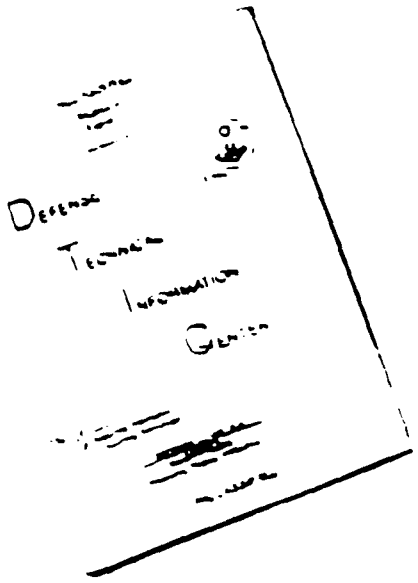

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APPENDIX A
GEOLOGY, HYDROLOGY, AND HISTORICAL CONTAMINATION STUDIES

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APPENDIX A
GEOLOGY, HYDROLOGY, AND HISTORICAL CONTAMINATION STUDIES

This section contains details concerning the geology and hydrogeology of RMA in general and at the four hot spots investigated under this task order. Additional information concerning each site is contained in the study area reports.

A.1 REGIONAL GEOLOGY

The RMA occupies approximately 27 square miles within the Colorado Piedmont section of the Great Plains physiographic province. The surficial deposits of this area are characterized primarily by a veneer of wind-blown and alluvial materials. Most of the topography at the Arsenal is gently rolling; however, there are several prominent hills that contain outcrops of resistant bedrock (Costa 1982).

The Rocky Mountain Arsenal lies within the Denver Basin, one of the largest structural basins in the Rocky Mountain region. It covers approximately 60,000 square miles in portions of Colorado, Nebraska, Wyoming, and Kansas. The Denver Basin is an asymmetrical north-south trending syncline with its structural axis close to and parallel to the Front Range. Rock units on the west flank of the basin dip gently to the east though the dip becomes progressively steeper near the boundary between the Front Range uplift and the Denver Basin (Hansen 1982). The east flank of the basin generally dips to the west at one degree or less (Sonneberg 1982).

The Denver Basin is filled with approximately 15,000 feet of sediments ranging in age from Cambrian to Quaternary. Several major transgressions followed by periods of emergence resulted in the deposition of both marine and continental sediments (Haun 1965) consisting of conglomerate, sandstone, siltstone, shale, limestone, dolomite, coal, lignite, and volcaniclastic sediments. The Laramide Orogeny marked the last retreat of the marine seaway and, thus, sediments from the upper Cretaceous and the lower Tertiary record the final regression of the inland sea (Weimer 1973).

A.1.1 Denver Formation

The Denver Formation, which subcrops and occasionally outcrops at the Rocky Mountain Arsenal, was originally as much as 900 feet thick, but due to subsequent erosion, it now ranges from 250 to 500 feet at the Arsenal (May 1982). It was derived predominately from the erosion of andesitic and basaltic rocks and was deposited in fluvial environments, and as lacustrine deposits on an extensive piedmont plain (Romero 1976).

Materials in the Denver Formation include olive-gray, brown, and green-gray interbedded claystone, siltstone, sandstone, conglomerate, carbonaceous clay shale, low-grade coal, and lignite. Volcaniclastic material is also present in the Denver Formation and consists of angular to subangular lithic fragments and minerals in a fine-grained clay matrix. The clay matrix is bentonitic and is probably the weathering product of volcanic ash (May 1982).

Individual aquifers within the Denver Formation range in thickness from several inches up to 60 feet. They are generally discontinuous, lenticular, and consist of poorly cemented, medium- to fine-grained sandstone, which grade vertically and laterally into siltstone and clay shale (May 1982).

A.1.2 Quaternary Deposits

Unconsolidated sediments of Quaternary age uncomformably overlie the Denver Formation at the Arsenal. There are, however, a few locations where bedrock is exposed at the surface near topographic highs. The upper surface of the Denver Formation is a paleotopographic or erosional surface that was incised by ancient stream channels. These paleochannels were filled by unconsolidated surficial deposits (Costa 1982). The surficial deposits, previously referred to as Quaternary alluvium or the alluvial aquifer, are up to 130 feet thick and consist of alluvium, loess, and eolian deposits.

A.1.3 Alluvium

The alluvial deposits are generally composed of yellowish-brown to very pale orange clays, silts, sands, gravels, and boulders. Coarser alluvial material is found in the paleochannels (May 1982). The alluvium is generally unconsolidated except where calcium carbonate has cemented sand and gravel into a conglomerate. The grain size of the alluvial material ranges from clay size to boulders. The sands are subangular to subrounded quartz with mica, heavy minerals, and chert. According to the Unified Soil Classification System, they are predominately SM (sand-silt mixtures) and SP (poorly graded sands) and often contain gravel. The sands are lenticular and grade laterally and vertically into clay, silt, and gravel (May 1982).

A.1.4 Loess/Eolian Deposits

Loess and other eolian deposits of Pleistocene and Holocene age are widely distributed at the RMA. The loess is generally less than 10 feet thick but may be up to 20 feet thick in the eastern part of the area. It consists of yellowish-brown to light grayish-brown sandy silt and may contain large amounts of clay. The other eolian

deposits are generally 10 to 20 feet thick but may be as much as 40 to 50 feet thick. They consist of light-brown fine sand, sandy silt, and clay (Lindvall 1980).

A.2 REGIONAL HYDROLOGY

The Rocky Mountain Arsenal lies within the South Platte River drainage basin. The river is located several miles to the west and northwest of the Arsenal.

Several tributary drainages flow northwest across the Arsenal to the South Platte River. Groundwater at the Arsenal occurs in the Quaternary surficial deposits and in several bedrock aquifers. The aquifers of primary concern at the Rocky Mountain Arsenal, however, are the Quaternary deposits and portions of the underlying Denver Formation. The deeper bedrock aquifers are separated from the Denver Formation by 50 to 100 feet of shale called a "buffer zone," which acts as an aquitard (Romero 1976).

Groundwater at the Rocky Mountain Arsenal generally flows from the southeast to the northwest and eventually discharges into the South Platte River. However, there are local variations in flow direction (May 1982) believed to be caused by local bedrock paleotopography and the groundwater mound that exists beneath the South Plants area (May 1982). Groundwater in the unconsolidated Quaternary alluvial aquifer is found under unconfined conditions. Groundwater in the Denver Formation is found under both unconfined and confined flow conditions at the Arsenal depending on the degree of weathering and nature of the contact between the alluvial aquifer and the upper Denver Formation. If a Denver Formation sandstone unit subcrops below the saturated alluvium, the base of the subcropping sandstone is considered the base of the unconfined flow system.

The hydraulic conductivity of the two aquifers varies considerably. The hydraulic conductivity of the alluvium has been measured at between 9.08×10^{-1} to 2.4×10^{-3} cm/sec. The lower hydraulic conductivity values were found in the Basin A area. Hydraulic conductivity measured in the Denver Formation yielded values ranging from 10^{-7} cm/sec for clay shales to as high as 10^{-3} cm/sec to 10^{-4} cm/sec for sands (May 1982).

Due to the contrast in hydraulic conductivity between the Denver Formation and the alluvium, groundwater flow and contaminant transport through unfractured bedrock is assumed to be relatively slow compared to flow and transport in either saturated alluvium or in fractures in the Denver Formation (Stollar 1988). Within the alluvial unit, the paleochannels generally have higher hydraulic conductivities than the surrounding alluvial materials due to the coarser materials in the paleochannels. These channels appear to serve as conduits that move alluvial groundwater at higher rates and volumes than in other parts of the unconfined system (May 1982). The primary

groundwater flow components at the Arsenal generally follow the paleochannels in the alluvium; however, flow is not restricted to only the paleochannels. A great deal of groundwater flow occurs over channel divides and through the Denver Formation (May 1982).

A.3 M-1 BASINS SITE GEOLOGY

The M-1 Basins are located on a paleotopographic high near the headwaters of a series of paleodrainages that originate in the upland area occupied by Section 1.0. Two significant stratigraphic units have been identified at the site. These are the Quaternary Alluvium and the Cretaceous-Tertiary Denver Formation.

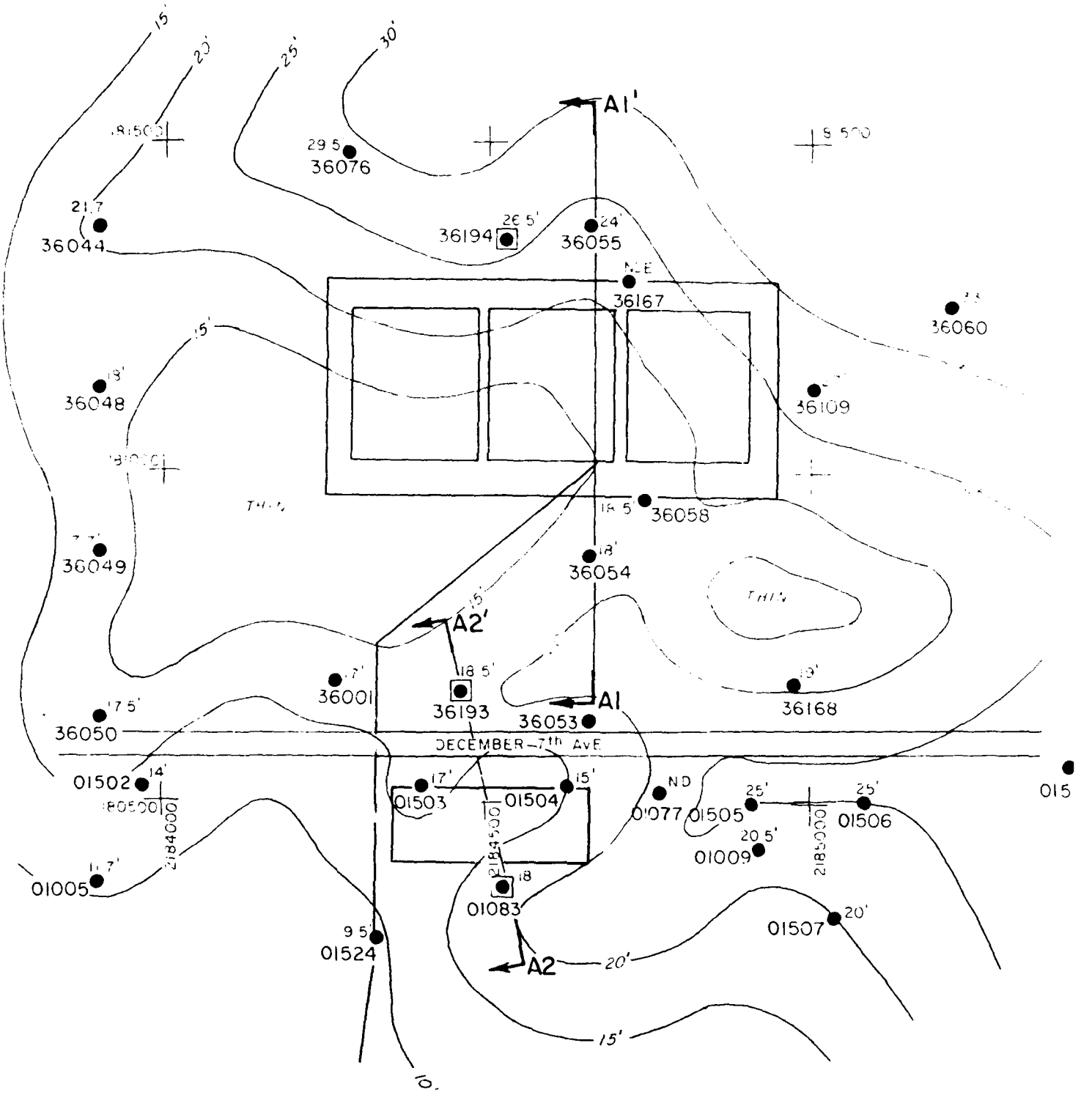
The surficial materials in the M-1 Basins are 10 to 20 feet thick and unconformably overlie the Denver Formation. The entire area around the basins is covered with a veneer of imported soil. The soil cover over the waste material in the basins ranged from 2 to 4 feet thick. Figure A-1 is an alluvial isopach map of the M-1 Settling Basins and Lime Settling Basins areas. Figure A-2 is a geologic cross-section of the M-1 Settling Basins area.

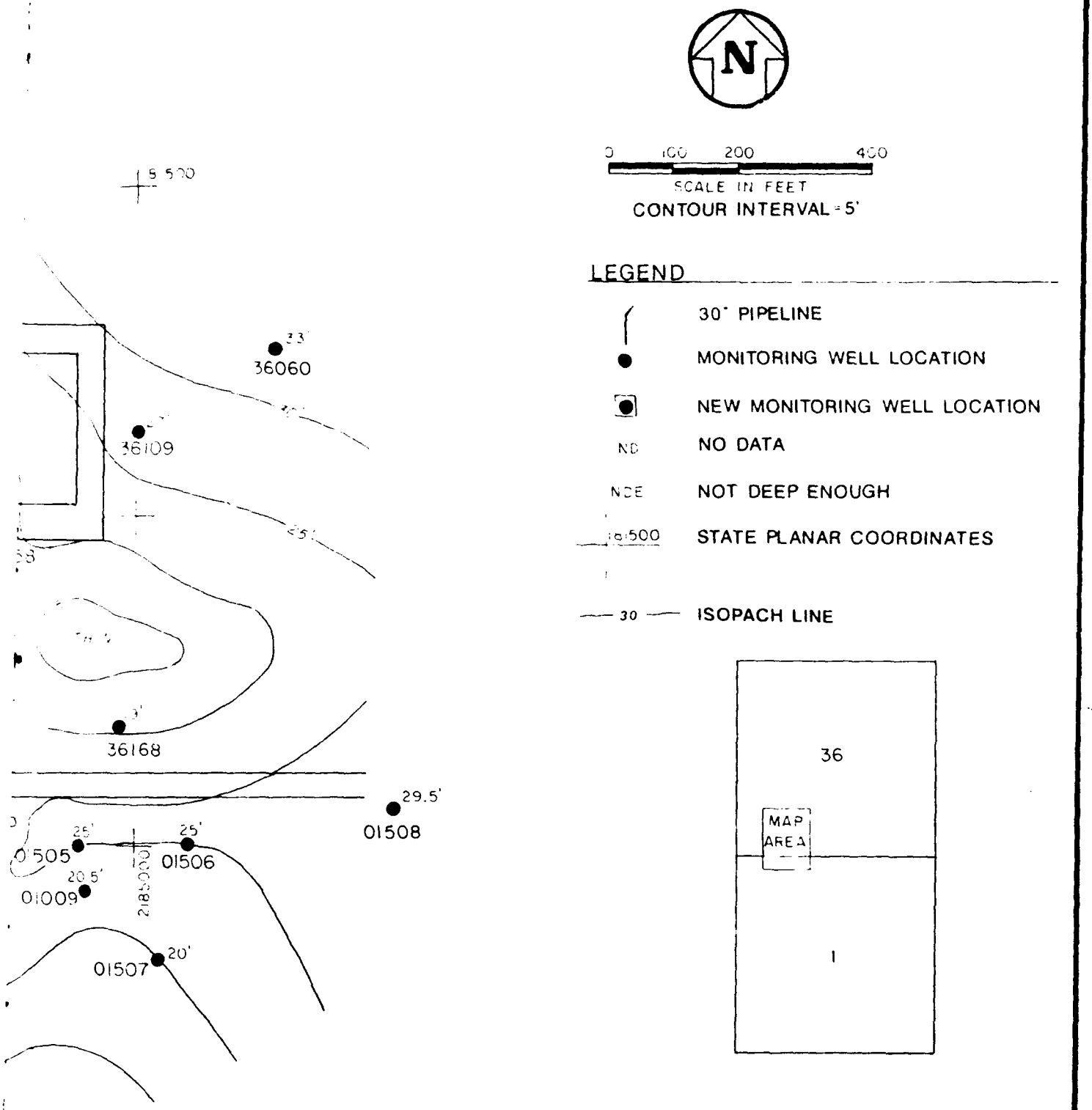
The unconsolidated alluvial material is composed of yellowish-brown to grayish-brown, fine-grained to medium-grained, sub-angular, alluvial, eolian, and alluvial sands, silts, and clays, with some minor amounts of gravel.

The Denver Formation, to the depth penetrated, is composed of weathered, dark to dusky brown, hard dense, blocky claystone interbedded with medium gray, hard, sandy to gravelly siltstone and lignite. The contact between the alluvial unit and the Denver Formation is generally characterized by a claystone; however, it may also be marked by siltsone or lignite. The elevation of the contact between the alluvial soil and the top of the Denver Formation is variable at RMA. In the M-1 Basins area, the contact was found between an elevation of approximately 5,246 feet and 5,254 feet above MSL. Figure A-3 is a contour map of the top of the Denver Formation.

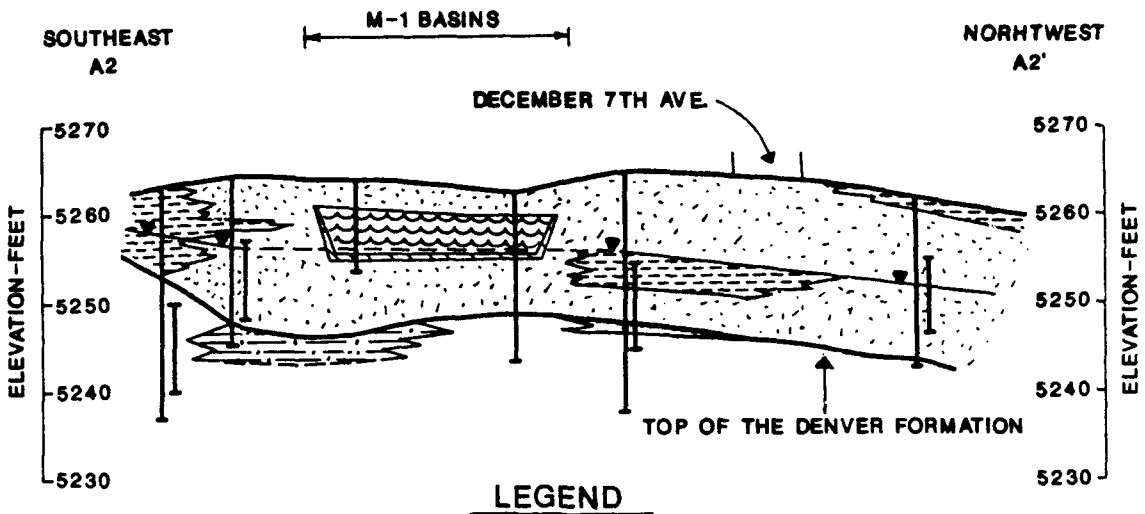
A.3.1 Site Hydrology

Both the alluvial and bedrock units are known to be water-bearing units in the M-1 Basins area. Previous investigations conducted at RMA have concluded that the alluvial aquifer is unconfined and that the Denver Formation may be partially confined in some zones beyond the upper weathered zone (Ebasco Services, Inc. 1989a). The weathered portion of the Denver Formation is apparently in contact with the alluvial aquifer. Since


A1'
A1
A2
A2'
36076
36044
36194
36055
36167
36060
36048
36109
36058
36049
36054
36001
36193
36168
36050
36053
DECEMBER 7th AVE
01502
01503
01504
01077
01505
01506
01009
01005
01083
01507
01524
THIN
15'
20'
25'
30'



Job No. : 22238	M-1 SETTLING BASINS AND LIME SETTLING BASINS AREA ALLUVIAL ISOPACH MAP Figure A-1
Prepared by : R. L. C	
Date : 7/26/89	



LEGEND

ALLUVIUM

- WASTE
- SOIL-WASTE MIXTURE
- INORGANIC CLAYS LOW TO MEDIUM PLASTICITY
- SILTY SANDS AND INORGANIC SILTS (SM, ML)

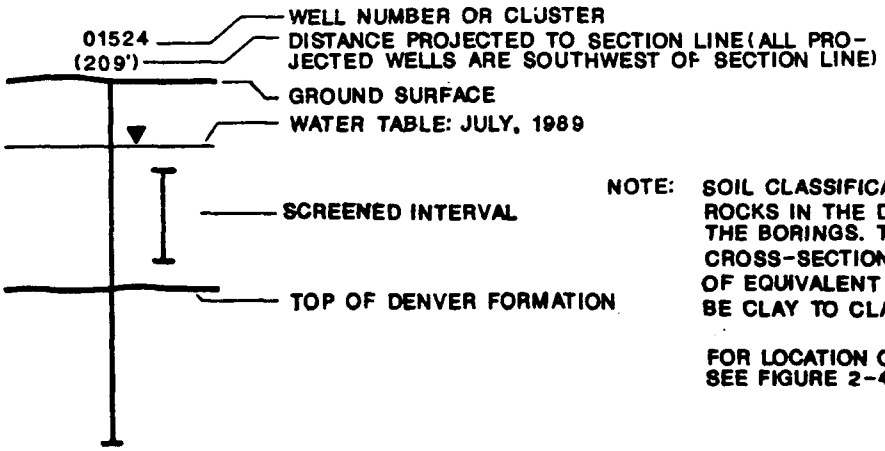
DENVER FORMATION

- SILTSTONE
- CLAYSTONE, SHALE
- LIGNITE

4X VERTICAL EXAGGERATION

0 20 40 80
HORIZONTAL

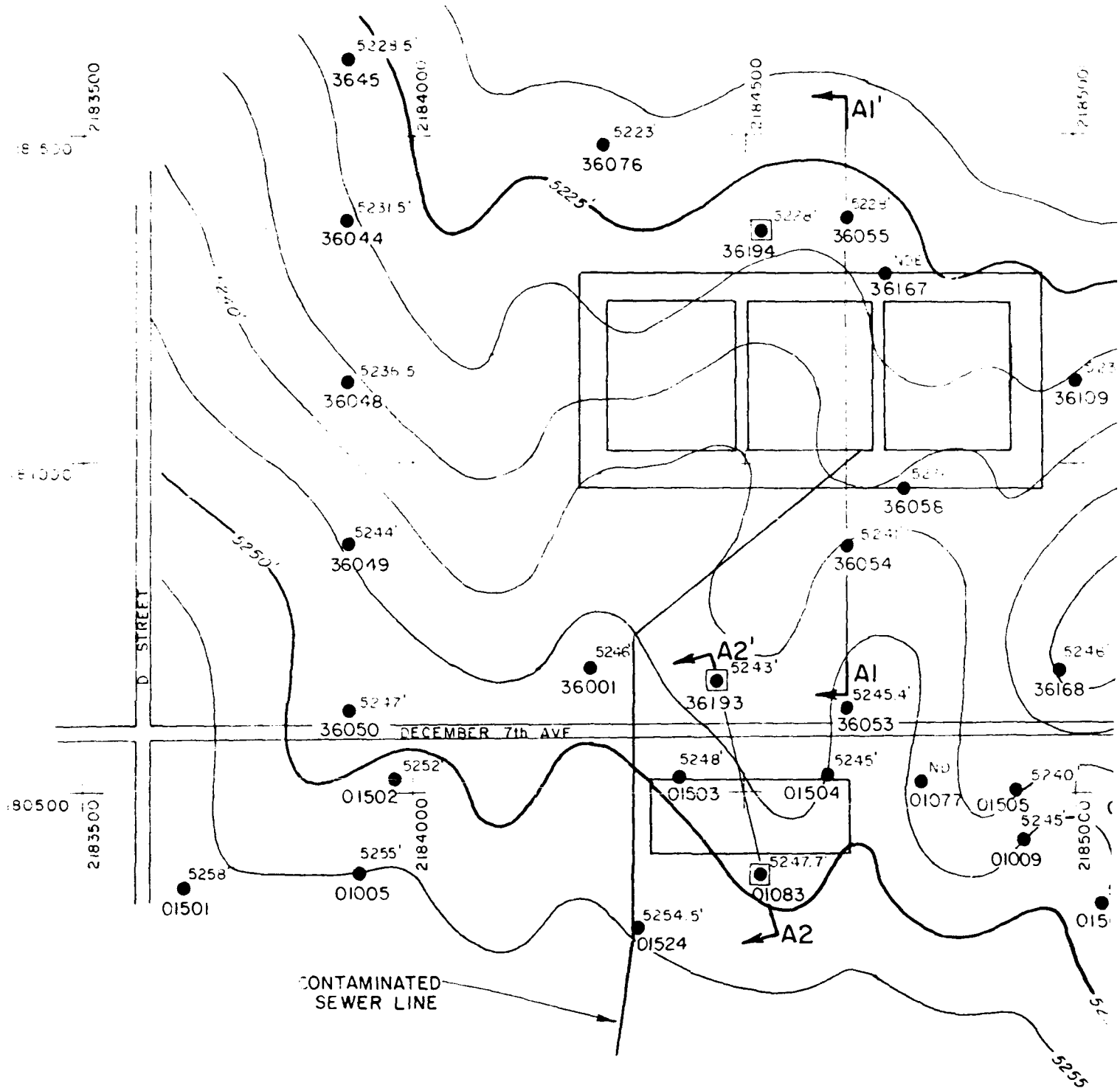
0 5 10 20
VERTICAL SCALE IN FEET



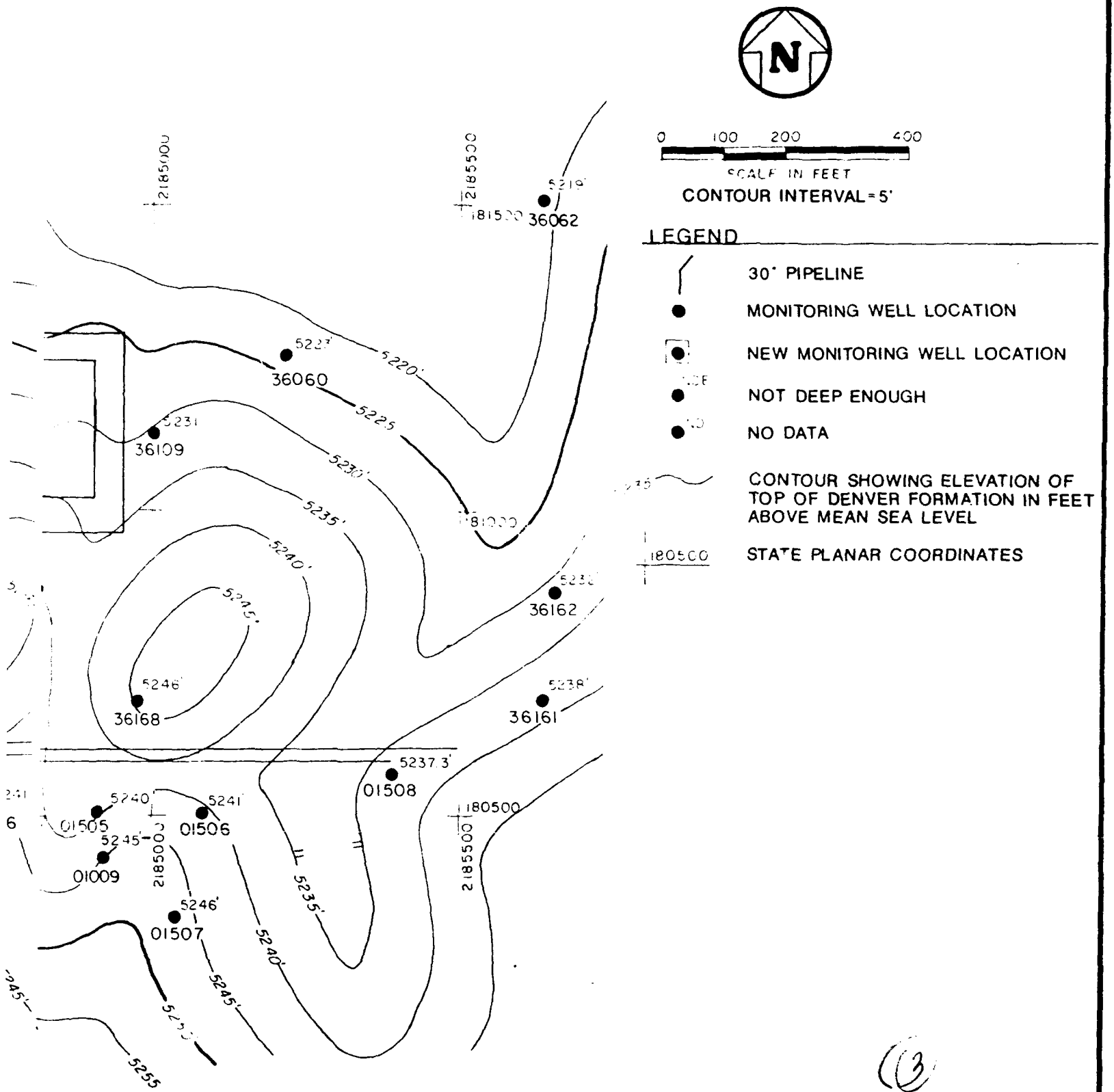
NOTE: SOIL CLASSIFICATIONS WERE USED TO DESCRIBE ROCKS IN THE DENVER FORMATION IN SOME OF THE BORINGS. THESE WERE CHANGED ON THE CROSS-SECTION TO SHOW CONSOLIDATED ROCKS OF EQUIVALENT GRAIN SIZE. AN EXAMPLE WOULD BE CLAY TO CLAYSTONE OR SHALE.

FOR LOCATION OF CROSS-SECTION A2-A2' SEE FIGURE 2-4

Job No. : 22238	M-1 BASINS
Prepared by : R.C.L.	GEOLOGIC CROSS-SECTION A2-A2'
Date : 7/26/89	Figure A-2



5228.5'
3645
2183500
2184000
2184500
A1'
5223'
36076
5225'
5231.5'
36044
5228'
36194
5228'
36055
36167
5236.5
36048
36109
36058
5244'
36049
5250'
36054
D STREET
5246'
36001
A2'
5243'
36193
A1
5245.4'
36053
5246'
36168
5247'
36050
DECEMBER 7th AVE
5252'
01502
5248'
01503
5245'
01504
ND
01077
5240'
01505
5245'
01009
2185000
2183500
2184000
5255'
01005
5258'
01501
5247.7'
01083
5254.5'
01524
A2
CONTAMINATED
SEWER LINE
5255



Job No. : 22238	M-1 AND LIME SETTLING BASINS AREA
Prepared by : R. L.C.	ELEVATION OF THE DENVER FORMATION
Date : 7/28/89	Figure A-3

this investigation focused primarily on evaluating impacts to the alluvial aquifer, the discussion will be limited to the characteristics of the unconfined alluvial aquifer.

In the M-1 Basins area, groundwater flow in the alluvial aquifer is apparently toward the north and possibly slightly northwest due to the influence of localized mounding of groundwater and paleotopographic influences in the South Plants area. The local groundwater gradient is in the range of 0.008 to 0.011 ft/ft. Due to seasonal variations and local topography, the top of the groundwater ranges from approximately 5 to 10 feet below ground surface. The average saturated thickness of the alluvial aquifer ranged from 6 feet to approximately 15 feet in the M-1 Basins area. Figure A-4 is a contour map of the alluvial aquifer potentiometric surface in the M-1 Settling Basins and Lime Settling Basins areas.

A.3.2 Previous Soil Investigations

The M-1 Settling Basins were investigated by the Army's consultant, Ebasco, in 1987 and by Shell's consultant, Morrison-Knudsen Engineers (MKE) in 1988. Twenty-six soil and waste samples were taken from six borings within or near the M-1 Settling Basins during the two investigations. The locations of these borings are shown in Figure A-5. The samples were analyzed for volatiles, semivolatiles, ICP metals, arsenic, mercury, and thiodiglycol.

A.3.3 Previous Groundwater Investigations

Several groundwater monitoring wells have been installed to monitor the alluvial unit in the vicinity of the M-1 Basins. Well Nos. 01503 and 01504 are located in the berm immediately downgradient of the M-1 Basins; Well No. 01524 is located approximately 100 feet upgradient of the western-most basin; Well No. 36001 is located approximately 100 feet northwest (downgradient) of the western-most basin; and Well No. 01077 is located approximately 100 feet east of the basin area. The locations of these wells are shown in Figure A-5. Samples from the wells were analyzed for filtered and non-filtered arsenic and mercury, as well as volatiles, semivolatiles, and pesticides.

A.3.4 Nature and Extent of Soils Contamination

Soil samples collected and analyzed during the previous investigations indicated high concentrations of arsenic and mercury in the soil in and around the M-1 Basins at depths from 0.5 foot to approximately 7.0 feet. The concentration of arsenic and mercury in samples taken within the basins was variable, ranging from 0.1 to

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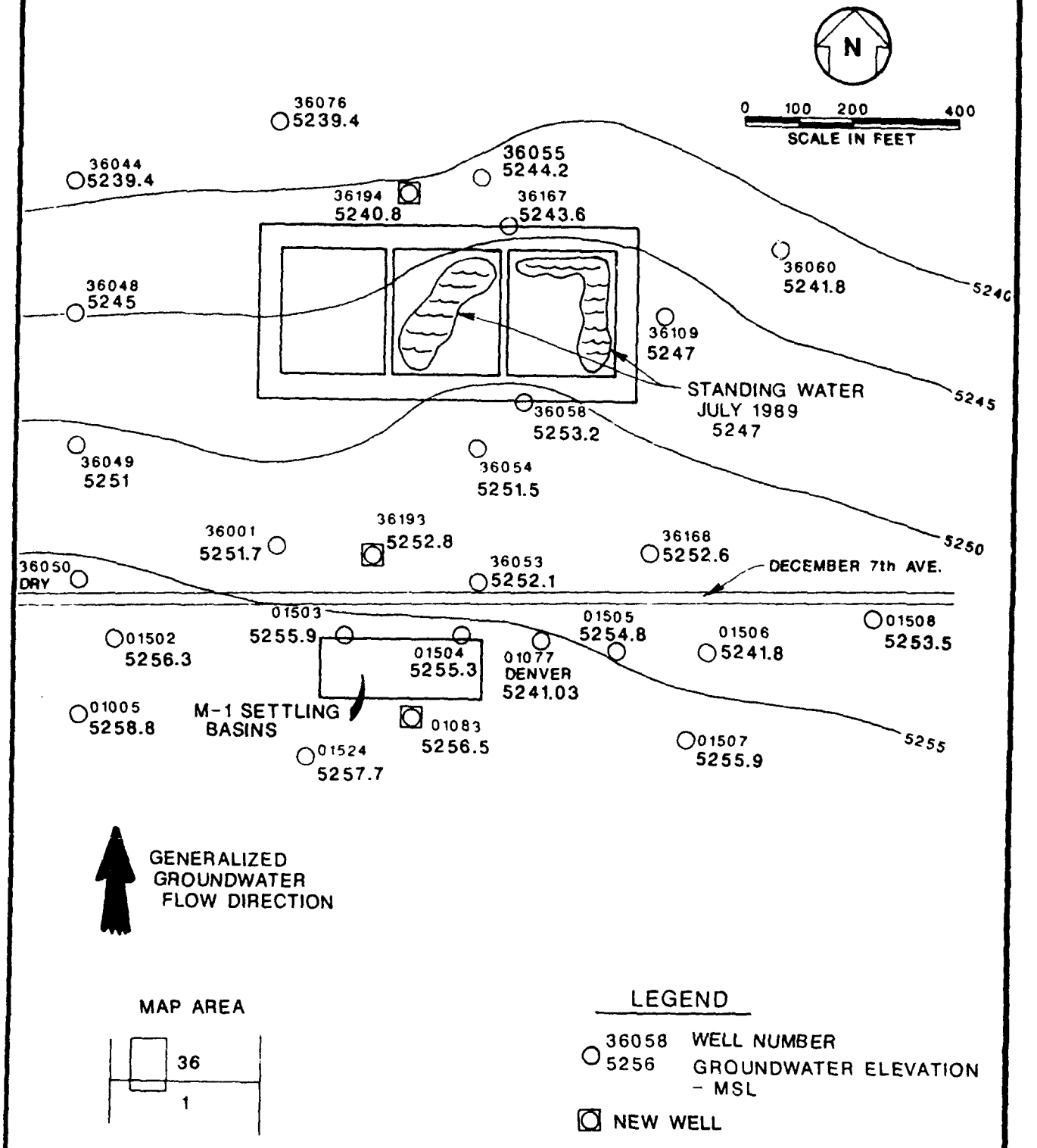

Job No. : 22238-A	M-1 AND LIME SETTLING BASINS CONTOUR MAP OF ALLUVIAL GROUNDWATER ELEVATIONS JULY, 89
Prepared by : D.C.C.	Figure A-4
Date : 11/16/89	

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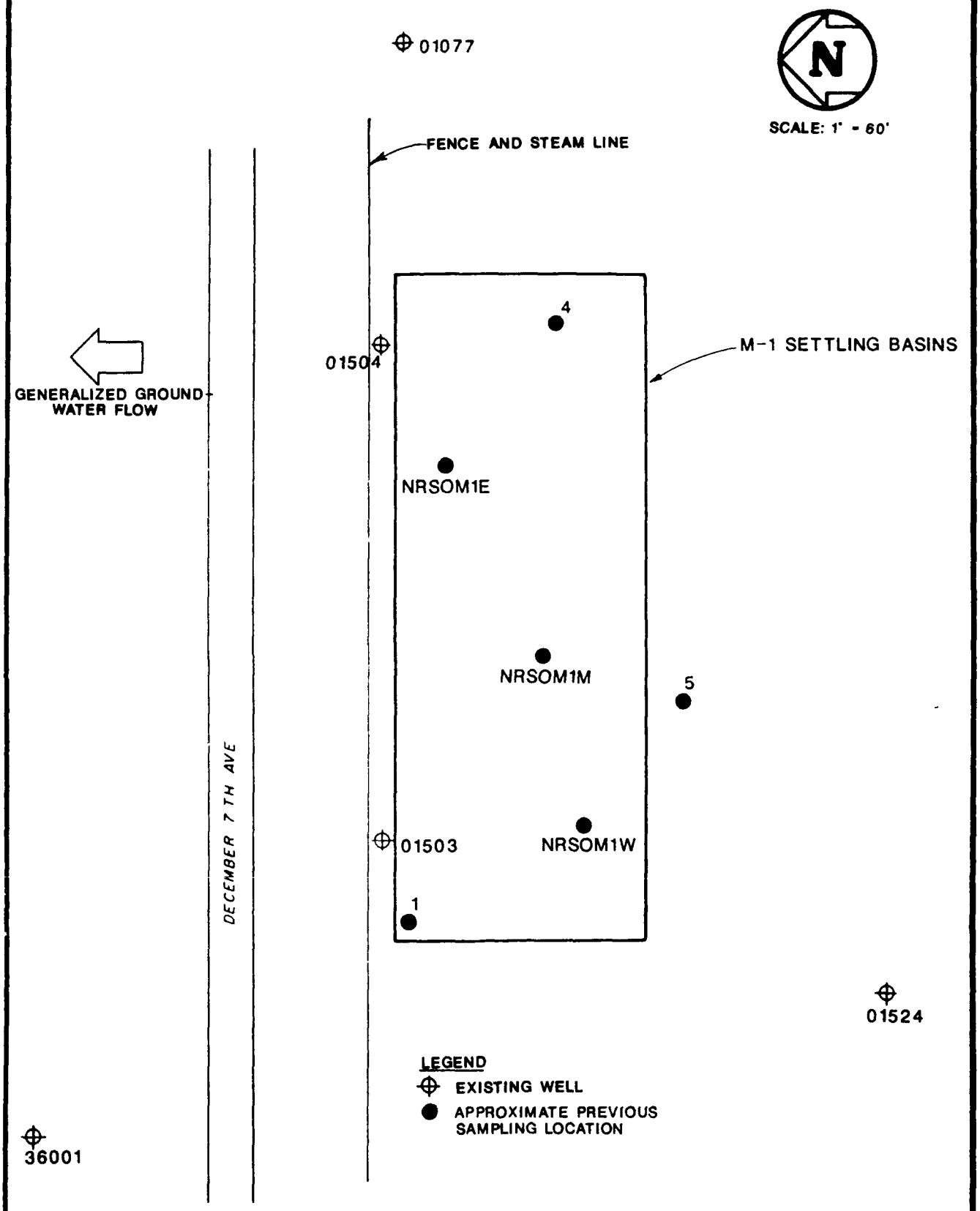

Job No. : 22238-A	M-1 SETTLING BASINS
Prepared by : R.L.C.	PREVIOUS SAMPLING PROGRAMS
Date : 11/16/80	Figure A-5

11 percent. Concentrations of these constituents are reduced at depths below about 10 feet. Table A-1 shows a summary of the contaminants identified in soil samples taken during the previous studies.

A.3.5 Nature and Extent of Groundwater Contamination

Groundwater samples collected and analyzed during the previous studies indicate that a high concentration of arsenic in unfiltered groundwater samples downgradient of the M-1 Basins area. Unfiltered water samples from Well Nos. 01503 and 01504 indicate up to 59,000 µg/l arsenic, while the filtered samples indicate 0.01 µg/l for each well. However, the findings of the field program presented in Section 4.0 of this report indicate that most of the arsenic detected in downgradient wells passed through a 0.45 micron filter. Water samples from wells located upgradient and adjacent to the basins did not indicate elevated concentrations of either filtered or nonfiltered arsenic or mercury. Table A-2 shows a summary of the contaminants identified in water from wells in the M-1 Basins area during previous studies.

A.4 36-17 TRENCHES SITE GEOLOGY

Site 36-17N lies in an upland area of RMA along the west flank of a prominent ridge that forms the eastern boundary of Basin A. The Site 36-17 trenches are located along the west flank of the bedrock ridge although some of the disposal trenches in Anomoly C may straddle the crest of the ridge. There are two stratigraphic units of interest beneath Site 36-17: the Quaternary Alluvium and the Denver Formation.

The Quaternary Alluvium is composed of fine-grained, medium-grained, and coarse-grained alluvium on the basis of the Unified Soil Classification System (USCS) scheme. In general, the fine-grained material corresponds to alluvial clay horizons, medium-grained material to eolian sand and silts, and coarse-grained material to fluvial sands and gravels of the Verdos and Piney Creek Alluvium.

In Site 36-17 the most prominent member of the alluvial unit is the medium-grained eolian sand and loess, which ranges from about 5 to 30 feet thick. It consists of interbedded tan to yellowish-brown, grayish-brown, reddish-brown, black, silty sand, clayey silt, silt, clay, and sand. Typically, a clay-rich alluvial unit is found above the contact between the Alluvium and the underlying Denver Formation bedrock. Figure A-6 is an alluvial isopach map of the Site 36-17 trench disposal area.

The other significant stratigraphic unit in the study area is the Cretaceous-Tertiary Denver Formation, which represents bedrock. Regionally, the bedrock surface of the Denver Formation slopes to northwest. However,

TABLE A-1
SUMMARY OF CONTAMINANTS (HISTORICAL DATA) IDENTIFIED IN SOIL BORINGS IN M-1 SETTLING BASINS AREA

Soil Contaminant	Highest Concentration Encountered in any of the Borings	Boring No.	Sample Depth (ft)
Volatiles (µg/g)			
Bicycloheptadiene	600	5	9-10
Dicyclopentadiene	4,000	5	4-5
Semivolatiles (µg/g)			
Aldrin	80	5	0-1
Dicyclopentadiene	400	5	4-5
Dieldrin	100	5	0-1
Hexachlorocyclopentadiene	3,000	4	0-1
Isodrin	10	5	0-1
ICP Metals (µg/g)			
Cadmium	3,900	1	2-3
Chromium	23	1	10.7-11.7
Copper	21	5	0-1
Lead	64	1	2-3
Zinc	76	5	4-5
Arsenic (µg/g)	110,000	4	4-5
Mercury (µg/g)	54,000	MKE No. NRSO1M1E	5
Thiodiglycol (µg/g)	None detected		

Note: This data is from all available data as of 11/89.

TABLE A-2
SUMMARY OF CONTAMINANTS (HISTORICAL DATA) IDENTIFIED IN MONITORING WELLS IN M-1 SETTLING BASINS AREA

Substances Analyzed in Groundwater Samples	Well No. 01502	01503	01504	01506
Dicyclopentadiene	<10 (1979)	2,319 (1979)	34,470 (1979)	173 (1979)
Bicycloheptadiene	84 (1979)	7,438 (1983)	2,379 (1983)	ND
Dieldrin	1.42 (1979)	1.26 (1983)	1.42 (1979)	1.27 (1979)
Aldrin	<0.2 (1979)	1.58 (1983)	0.75 (1979)	1.59 (1983)
Isodrin	<0.2 (1983)	2 (1983)	2 (1983)	0.47 (1983)
Arsenic (filtered)	<0.050 (1979)	0.01 (1979)	0.01 (1979)	0.07 (1979)
Total arsenic	<50 (1979)	23,400 (1979)	59,300 (1979)	<50 (1979)
DBCP	5.06 (1979)	<10 (1979)	<10 (1979)	16 (1979)
Mercury	<1.0 (1979)	<1.0 (1979)	29 (1979)	<1.0 (1979)
Tetrachloroethylene	1,000 (1988)	630 (1979)	28 (1979)	23 (1979)
Trichloroethylene	800 (1988)	210 (1979)	4 (1983)	5,000 (1988)

Note: all values in $\mu g/l$

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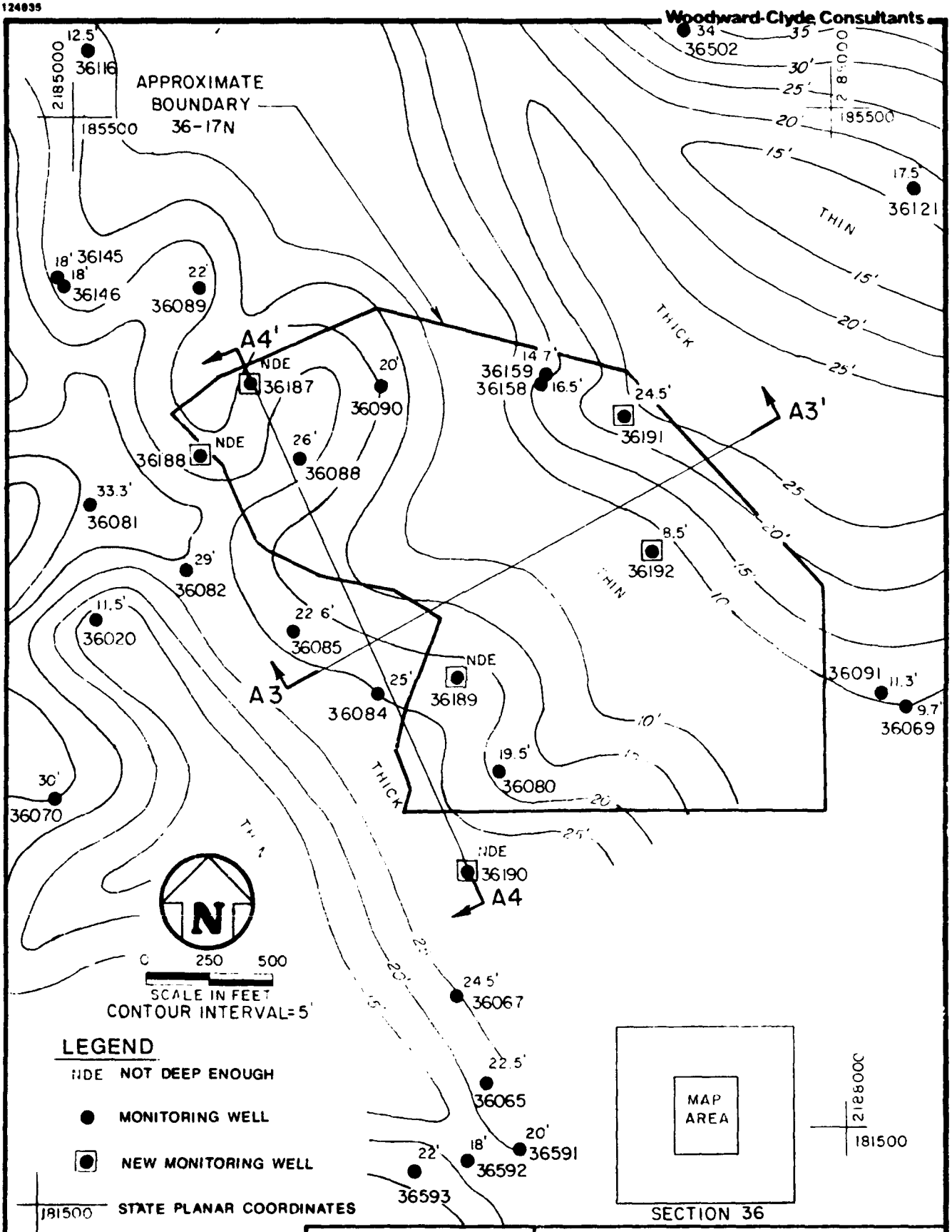


Job No. : 22238 A	COMPLEX DISPOSAL TRENCH AREA ALLUVIAL ISOPACH MAP
Prepared by : R.L.C.	
Date : 8/14/89	Figure A-6

at Site 36-17, the bedrock surface slopes to west-southwest into Basin A. Figures A-7 and A-8 are geologic cross-sections through the Site 36-17 trench disposal area. Figure A-9 is a contour map of the top of the Denver Formation.

The Denver Formation to the maximum depth penetrated consists predominately of medium to dark brown, reddish-brown, grayish-brown, and greenish-gray, hard, blocky shale and claystone with interbedded lenses of sandy to gravely siltstone, tan to yellowish-brown fine to coarse grained, well cemented sandstone, and a stiff, tan, volcaniclastic unit at the top of the Denver Formation.

Before and during the deposition of the alluvial material, an ancient stream system eroded the surface of the Denver Formation. As a result, the contact between the two stratigraphic units is highly irregular and in Site 36-17 is often marked by the volcaniclastic unit of the Denver Formation. The volcaniclastic unit caps the prominent northwest trending bedrock ridge that traverses the area.

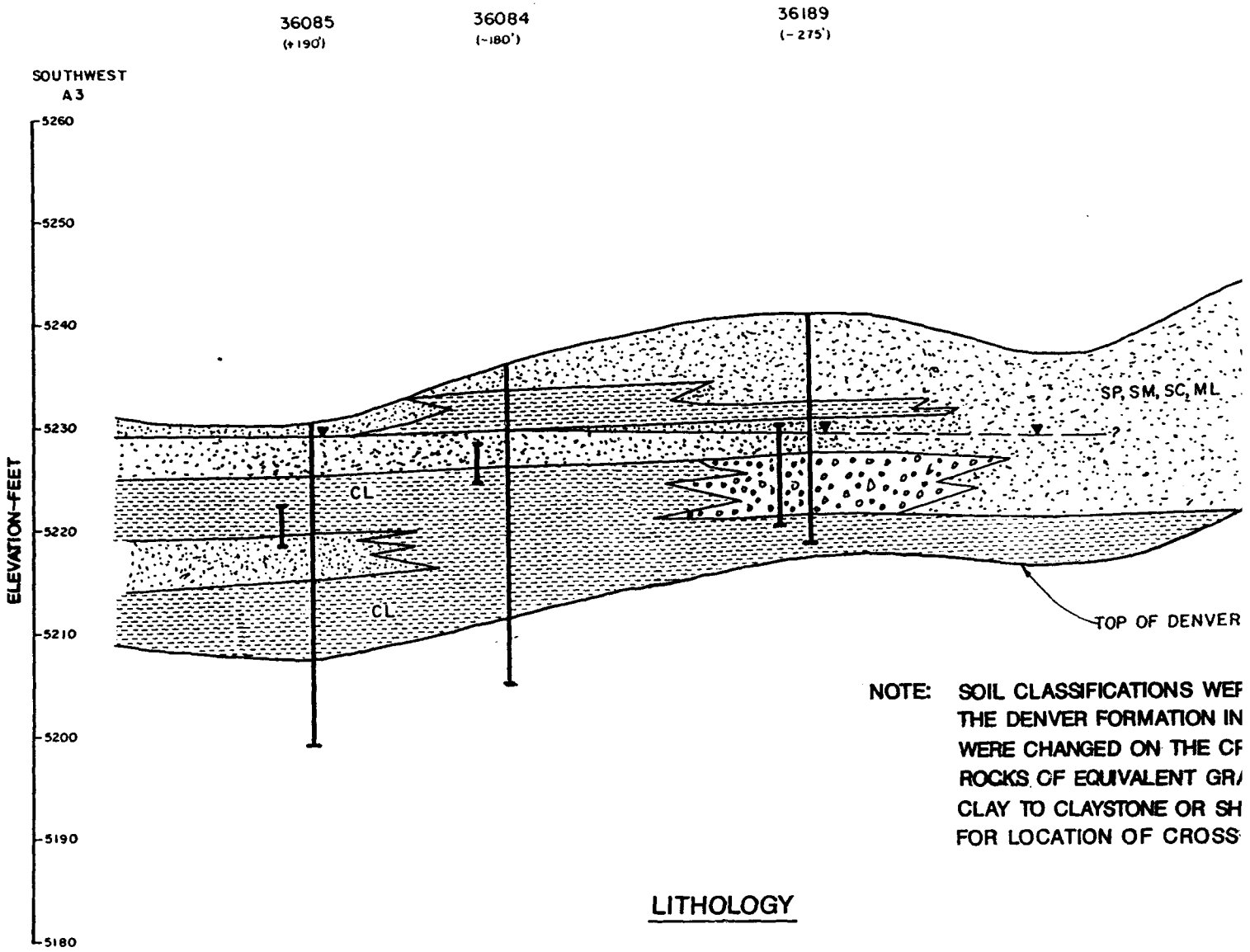
Significant features of the volcaniclastic unit include:

- Zones of iron oxide enrichment from weathering of volcanic glass and malic materials (may retard metals migration)
- Local zones of poorly defined fracturing, with or without limonic encrustations (may affect groundwater flow)
- Presence of large volcanic fragments characterize the area
- The unit is resistant to erosion

Within Site 36-17, only two Denver Formation units have been confirmed to subcrop. These are a claystone/shale unit and the volcaniclastic unit.

A.4.1 36-17 Trenches Site Hydrology

The discussion in this section addresses the hydrologic system in Site 36-17 and how it relates to evaluating the need for an IRA on the disposal trenches. Portions of the text have been excerpted from the CSAR (Ebasco 1989). A more detailed discussion of the hydrology of the CSA is contained in that report.



NOTE: SOIL CLASSIFICATIONS WEF
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CLAY TO CLAYSTONE OR SH
FOR LOCATION OF CROSS

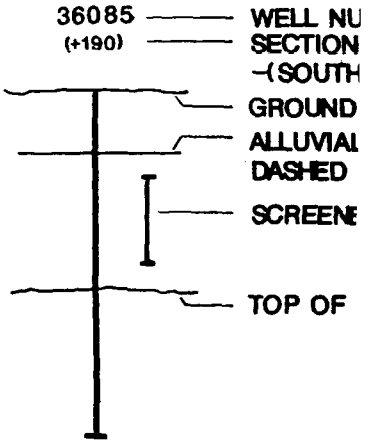
LITHOLOGY

ALLUVIUM

- SILTY GRAVELS, CLAYEY GRAVELS (GM, GC)
- SANDS, SILTY SANDS, CLAYEY SANDS AND INORGANIC SILTS (SP, SM, SC, ML)
- INORGANIC SILTY SANDY CLAYS OF LOW TO MEDIUM PLASTICITY (CL)

DENVER FORMATION

- SANDSTONE, FINE TO COARSE GRAINED, WELL CEMENTED, VERY DENSE
- SILTSTONE, SANDY, TRACE OF FINE GRAVEL, FIRM TO SOFT, DENSE
- VOLCANICLASTICS, TAN CLAY WITH BROWN, GREEN AND BLACK MINERAL FRAGMENTS
- CLAYSTONE, SHALE, BROWN TO GRAY, OCCASIONALLY SILTY AND/OR SANDY, HARD DENSE



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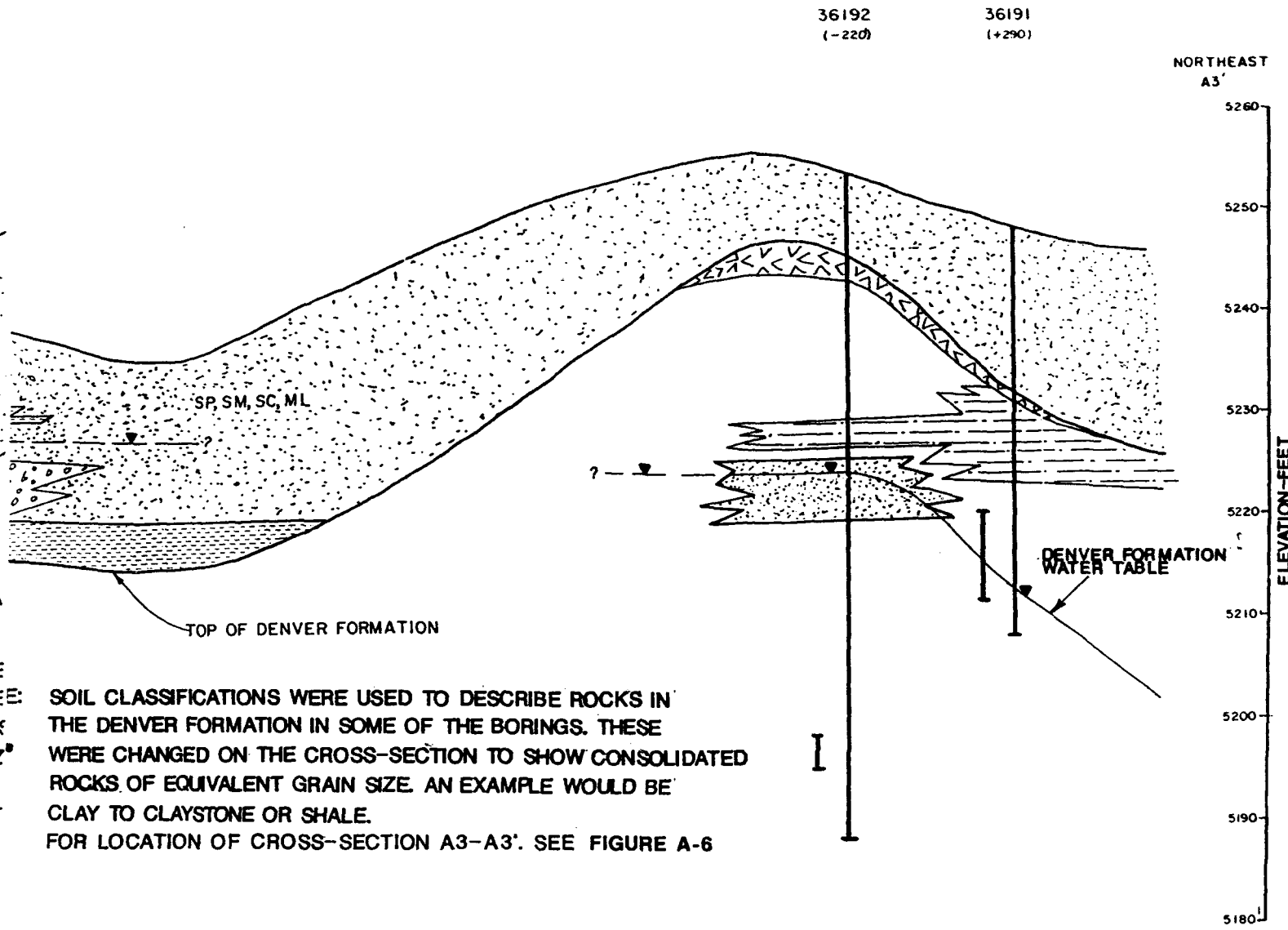

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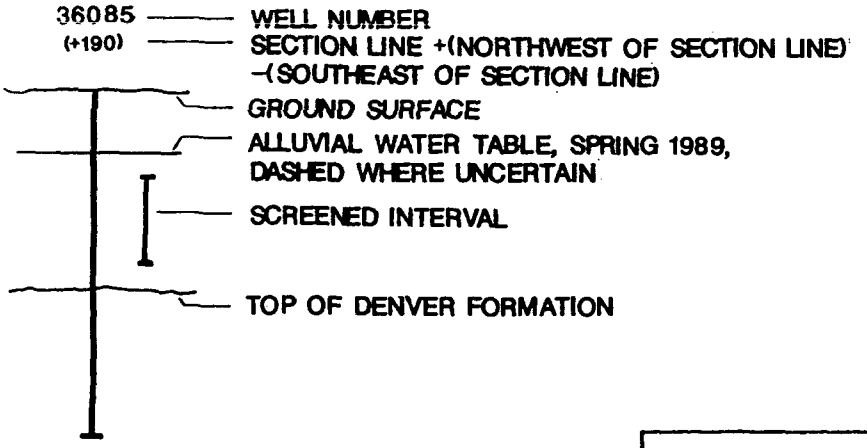
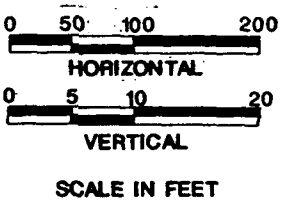
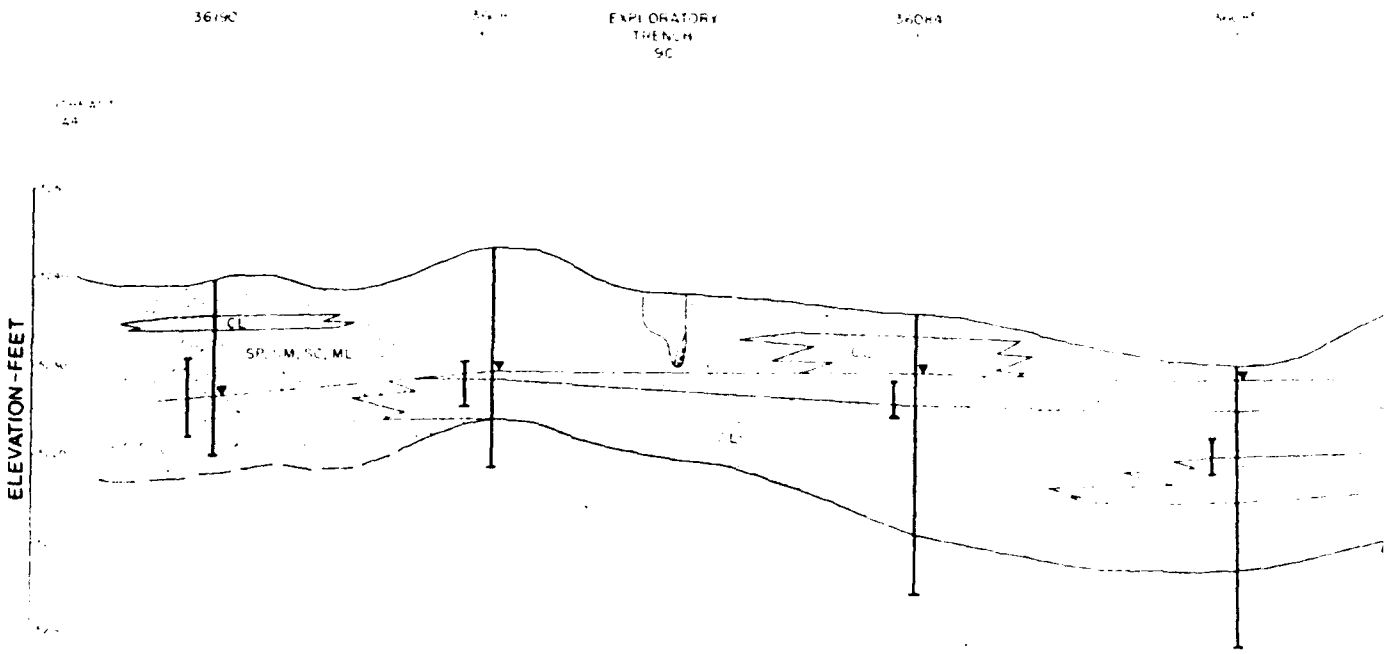
FOR LOCATION OF CROSS-SECTION A3-A3'. SEE FIGURE A-6



10 X VERTICAL EXAGGERATION



Job No. : 22238	COMPLEX DISPOSAL TRENCH AREA
Prepared by : R.C.L.	GEOLOGIC CROSS-SECTION A3-A3'
Date : 8/15/89	Figure A-7



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EXPLORATORY TRENCH, DISPOSAL TRENCH IS PERPENDICULAR TO SECTION LINE

ALLUVIUM

SANDS, SILTY SANDS, CLAYEY SANDS AND INORGANIC SILTS (SP, SM, SC, ML)

INORGANIC SILTY SANDY CLAYS OF LOW TO MEDIUM PLASTICITY (CL)

INORGANIC CLAYS OF HIGH PLASTICITY (CH)

DEBRIS MATERIAL FOUND IN TRENCH CONSISTING OF WOOD, BURNED WOOD, METAL AND EMPTY BOTTLES

DENVER FORMATION

CLAYSTONE, SHALE, BROWN TO GRAY OCCASIONALLY SILTY AND/OR SANDY, HARD DENSE

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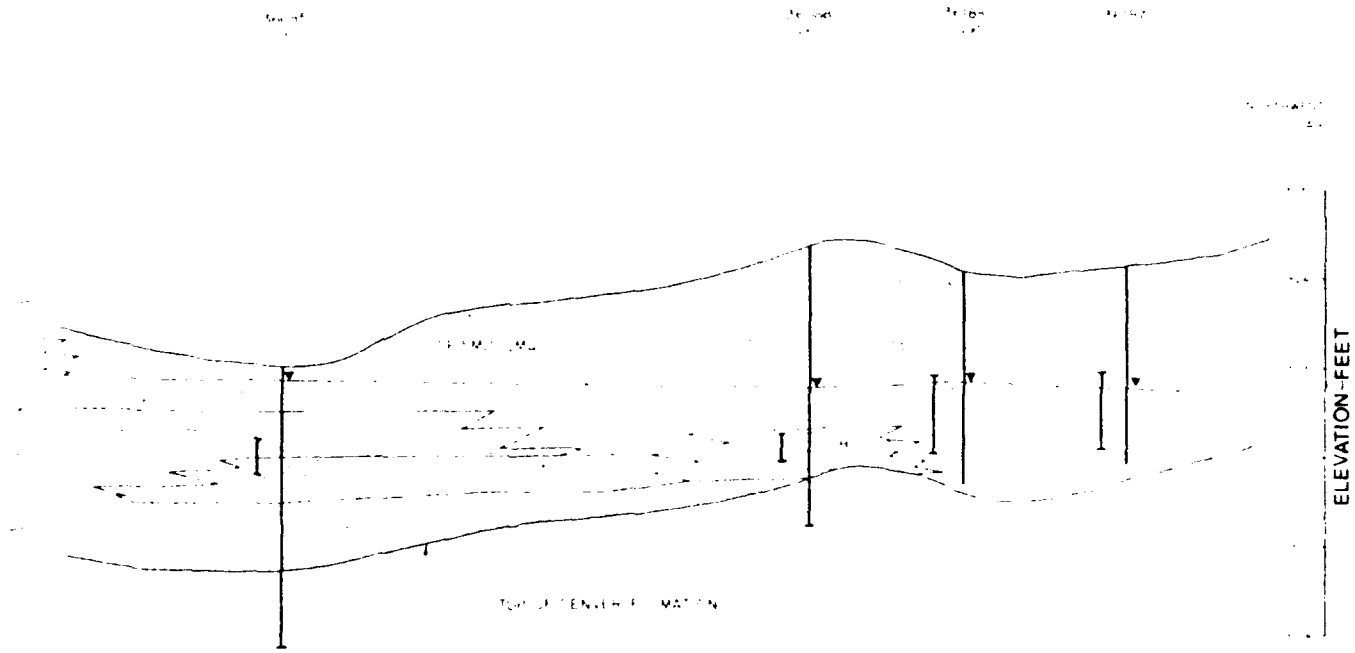

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NS AMPLE WOULD BE CLAY TO CLAYSTONE OR SHALE.
1 - OCATION OF CROSS-SECTION A4-A4'. SEE FIGURE A-6

R 36080 WELL NUMBER

DJ ST T (+270') DISTANCE PROJECTED TO SECTION LINE
+(NORTHWEST OF SECTION LINE)
- (SOUTHWEST OF SECTION LINE)

10 X VERTICAL EXAGGERATION

FA GROUND SURFACE

E WATER TABLE, SPRING 1989

NT SCREENED INTERVAL

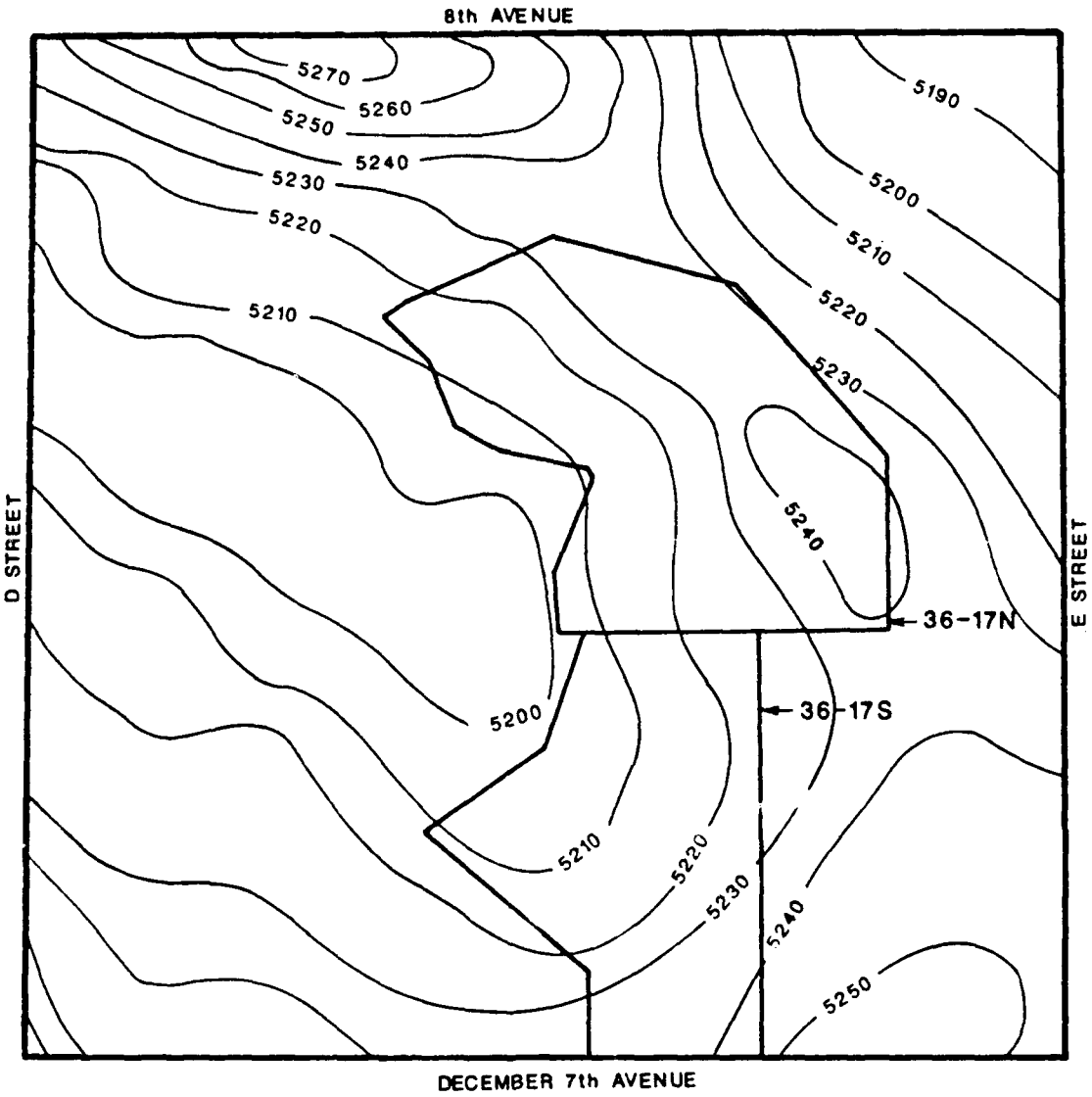
R TOP OF DENVER FORMATION

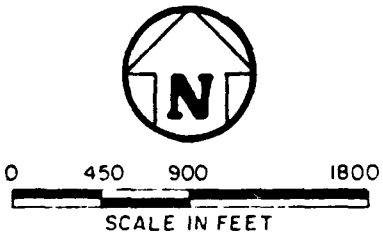
0 50 100 200
HORIZONTAL

0 5 10 20
VERTICAL

SCALE IN FEET

Job No. : 22238	COMPLEX DISPOSAL TRENCH AREA
Prepared by : R.C.L.	GEOLOGIC CROSS-SECTION A4-A4'
Date : 8/15/89	Figure A-8





NOTE: ELEVATIONS REFLECT FEET ABOVE MEAN SEA LEVEL

Job No. : 22238-A	SECTION 36
Prepared by: R.C.C.	ELEVATION OF THE DENVER FORMATION
Date: 11/16/89	Figure A-9

The hydrologic regime in Site 36-17 is affected by four major components: (1) surface water, (2) vadose zone, (3) alluvial aquifer/unconfined weathered Denver Formation flow system, and (4) unweathered Denver Formation partially confined aquifer. Emphasis here is placed on characterizing the alluvial and unconfined Denver Formation aquifers because these zones represent the dominant component of the hydrologic system. They also represent the first water in the saturated zone that any contaminants moving through the vadose zone would encounter.

A.4.2 Surface Water

The surface water component in this area is limited to the infrequent collection of runoff in low-lying areas during major rain storms or snowmelt. No perennial surface water bodies exist in the area. An area in Site 36-17S adjacent to the parking lot north of December 7th Avenue is one area that occasionally holds ponded water after a substantial rainfall.

A.4.3 Vadose Zone

The vadose zone is the unsaturated material between the ground surface and the top of the saturated zone or perennial water table. In Site 36-17, this zone is composed of either unconsolidated surficial deposits or the upper Denver Formation. The vadose zone is important to this study because it is through this zone that contaminants must travel to reach the water table.

The rate of deep percolation in the study area is of particular importance in characterizing the vadose zone and evaluating contaminant migration. In Site 36-17, deep percolation includes recharge to the unconfined aquifer only from natural precipitation, runoff, and snowmelt. It does not include enhanced local infiltration derived from long-term, free-standing surface water such as lakes or streams since they do not exist in the area.

A detailed investigation conducted by MKE (1988a) concluded that infiltration from precipitation rarely percolates downward to reach the alluvial water table. The occurrence of recharge related to infiltration of precipitation is highly variable and dependent upon a number of unrelated factors. That report concluded that groundwater received only about 0.25 inch per year of recharge from infiltration of precipitation.

A.4.4 Alluvial Aquifer

For this report the alluvial aquifer is defined as the saturated portion of the alluvial unit and the unconfined, weathered portion of the Denver Formation that is in direct hydrologic communication with the alluvial unit. In the study area, groundwater in the alluvial aquifer flows north and northwest under unconfined conditions into the buried paleochannel that underlies Basin A, then northwest out of the Basin A neck. The hydraulic gradient in the study area is in the range of 0.003 to 0.03 foot per foot. The depth from the ground surface to the water table in the alluvial aquifer ranges from less than 5 feet to approximately 20 feet. Figure A-10 shows the alluvial aquifer groundwater contours in Section 36.

Well hydrographs for the past 6 years indicate that the water table elevation has been relatively steady but slightly declining in the study area. The hydrographs also indicate that recent seasonal water level fluctuations range from 2 to 3 feet and apparently now have a greater seasonal variation year to year for past comparable seasons.

The unconfined alluvial aquifer at RMA is composed of unconsolidated Quaternary deposits consisting of fine- to very fine-grained silty sand with occasional interbedded clayey silt overlying the upper weathered portion of the Denver Formation bedrock. Previous investigations indicated that there is a contrast in permeability between the alluvial and bedrock units of about two orders of magnitude. This is significant in evaluating the potential for contaminant migration. The CSAR estimates the hydraulic conductivity of the alluvial aquifer in this area to range from 2.4×10^{-3} to 6.0×10^{-3} cm/sec and the volcaniclastic unit to be about 5×10^{-5} cm/sec.

Alluvial groundwater flowing north through Section 36 encounters the bedrock ridge, which protrudes above the water table, and, due to the sharp contrast in hydraulic conductivities, is forced to turn and flow northwest out the Basin A neck. The Basin A neck is a relatively narrow paleochannel between Rattlesnake Hill in Section 35 and the prominent bedrock ridge that cuts across Section 36.

Because of the difference in hydraulic conductivity between the alluvial and bedrock materials and the reduced cross-sectional area in the Basin A neck, the groundwater forms an apparent mound in the Basin A area as evidenced by the relatively flat hydraulic gradient in the basin (refer to Figure A-10). The apparent mound, coupled with the lower surface elevation in the basin, results in the shallow depth to groundwater in the west central portion of Section 36.

The groundwater contour map shows a sharp increase in the hydraulic gradient northeast of the ridge. The gradient increases because water moving through the ridge is slowed by the two order of magnitude drop in

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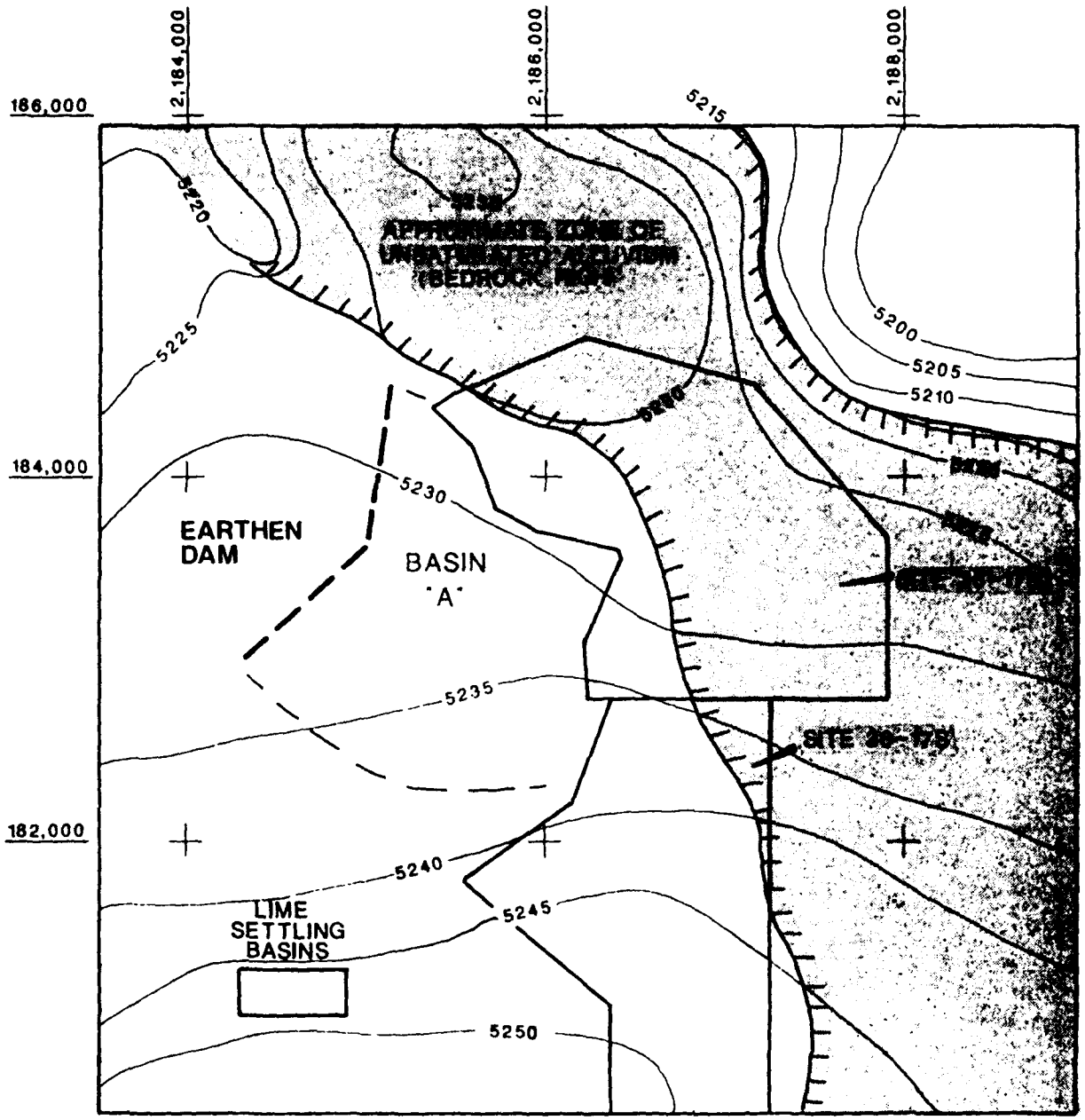
Woodward-Clyde Consultants



Section 36

N

FROM ESE 1988

0 450 900 1800

SCALE IN FEET

Job No. : 22238-A	SECTION 36 GROUNDWATER ELEVATION MAP SHOWING BEDROCK HIGH
Prepared by : R.C.C.	
Date : 11/16/89	Figure A 10

hydraulic conductivity of the unit. Before the water can continue moving through the ridge, the gradient must increase enough to offset the lower permeability. Water will eventually move through the Denver Formation ridge, but at a much slower rate than it travels in the alluvial unit.

A.4.5 Previous Investigations

Past studies at Site 36-17 were generally designed to characterize the physical setting, evaluate the nature and extent of contamination, and assess possible contaminant migration pathways. The investigations at Site 36-17 were conducted in two phases during which a variety of investigative techniques were employed including extensive use of geophysical surveys, borehole drilling and sampling, well construction and sampling, and trenching. During the previous investigations, 317 samples of soil, waste, and water were collected in Site 36-17. The Phase I and Phase II Contamination Assessment Reports and the Central Study Area Report present the findings of those investigations.

A.4.6 Nature and Extent of Contamination

The previous studies conducted to evaluate contamination in Site 36-17 concluded that past waste disposal resulted in widespread contamination in the area. The precise contaminant distribution trends are difficult to assess due to the varied disposal history and resulting heterogenous nature of the waste. However, Section 2.0 of the Remedial Investigation Report for the Central Study Area (CSAR) presents a detailed evaluation of the distribution of contamination in Site 36-17. Figures showing contaminant plumes in Site 36-17 groundwater are contained in Section 3.0 of the CSAR. See Figures 3.1-7, 3.1-8, 3.1-9, 3.1-10, 3.1-11, 3.1-14, and 3.1-15 of the CSAR for plumes including volatile hydrocarbons, volatile aromatics, organosulfur compounds (mustard related), organosulfur compounds (herbicide related), GB-agent related organophosphorous compounds, organochlorine pesticides, and arsenic, respectively. (Refer to that document if additional detail is desired.) A review of the reported findings of the previous investigations indicate that the following general conditions exist at Site 36-17:

- Contaminants found above indicator levels or detection limits in Site 36-17 soil and/or water samples include the ICP metals (cadmium, chromium, copper, lead, and zinc), arsenic, mercury, aldrin, dieldrin, fluoroacetic acid, chlordane, isodrin, dithiane, oxathiane, DIMP, IMPA, hexachlorocyclopentadiene, DDE, DDT, and DBCP.

- Several disposal trenches apparently intersect the shallow alluvial aquifer or became inundated when the water level rose in Basin A.

- Contaminants have apparently leached from several trenches to a depth of at least 20 feet below ground surface.

- There is a general increase in the number of analyte detections and concentrations in groundwater downgradient of the Site 36-17 disposal trenches, however, most of the analyte detections appear to originate at the Shell trenches in 36-17S.

- The disposal trenches can be generally categorized by their relative groundwater contamination hazard and assigning relative risk based on the depth to groundwater as follows:

    1. Trenches excavated in areas of topographic lows and potentiometric highs. These trenches may intersect the alluvial aquifer and, therefore, run the highest risk of contaminating the groundwater.

    2. Trenches excavated in areas of intermediate topographic and potentiometric elevations. The bottoms of these trenches are typically 5 to 15 feet above groundwater.

    3. *Trenches excavated in areas of topographic* highs and potentiometric lows. The bottoms of these trenches are typically more than 15 feet above groundwater. In some areas, the alluvial aquifer does not exist because of the topographic high in the bedrock surface.

These general conditions were important in evaluating which of the 46 previously confirmed disposal trenches represented the greatest risk of contaminating groundwater at Site 36-17. Generally, the trenches of highest risk containing the highest concentrations of contaminants were selected for further investigation under this program.

A.5 LIME SETTLING BASINS SITE GEOLOGY

There are two stratigraphic units of interest beneath the Lime Settling Basins: (1) the Quaternary Surficial deposits consisting of unconsolidated alluvial and erosion material, and (2) the Denver Formation. The alluvial material ranges from 15 feet to approximately 30 feet in thickness and consists of yellowish-brown, fine-grained, well-sorted, subangular silty sand.

The Denver Formation, to the maximum depth penetrated, consists of very stiff to hard, blocky, dusky brown claystone and silty claystone deposited in an ancient fluvial environment.

Before and during the deposition of the surficial material, an ancient stream system eroded the surface of the Denver Formation. As a result, the contact between the two stratigraphic units is highly irregular. Regionally, the bedrock surface of the Denver Formation slopes to the northwest. However, at the Lime Settling Basins, the bedrock surface slopes to the north-northeast.

The soil at the Lime Settling Basins is usually from the Ascalon-Vona-Truckton Association, which generally ranges from nearly level to steeply sloping, well-drained to excessively drained loamy and sandy soil. The soil typically becomes clay-rich and calcareous with depth. Alluvial thickness isopachs and the elevation of the top of the Denver Formation are included in Figures A-1 and A-3. Figure A-11 is a geologic cross-section of the Lime Settling Basins area.

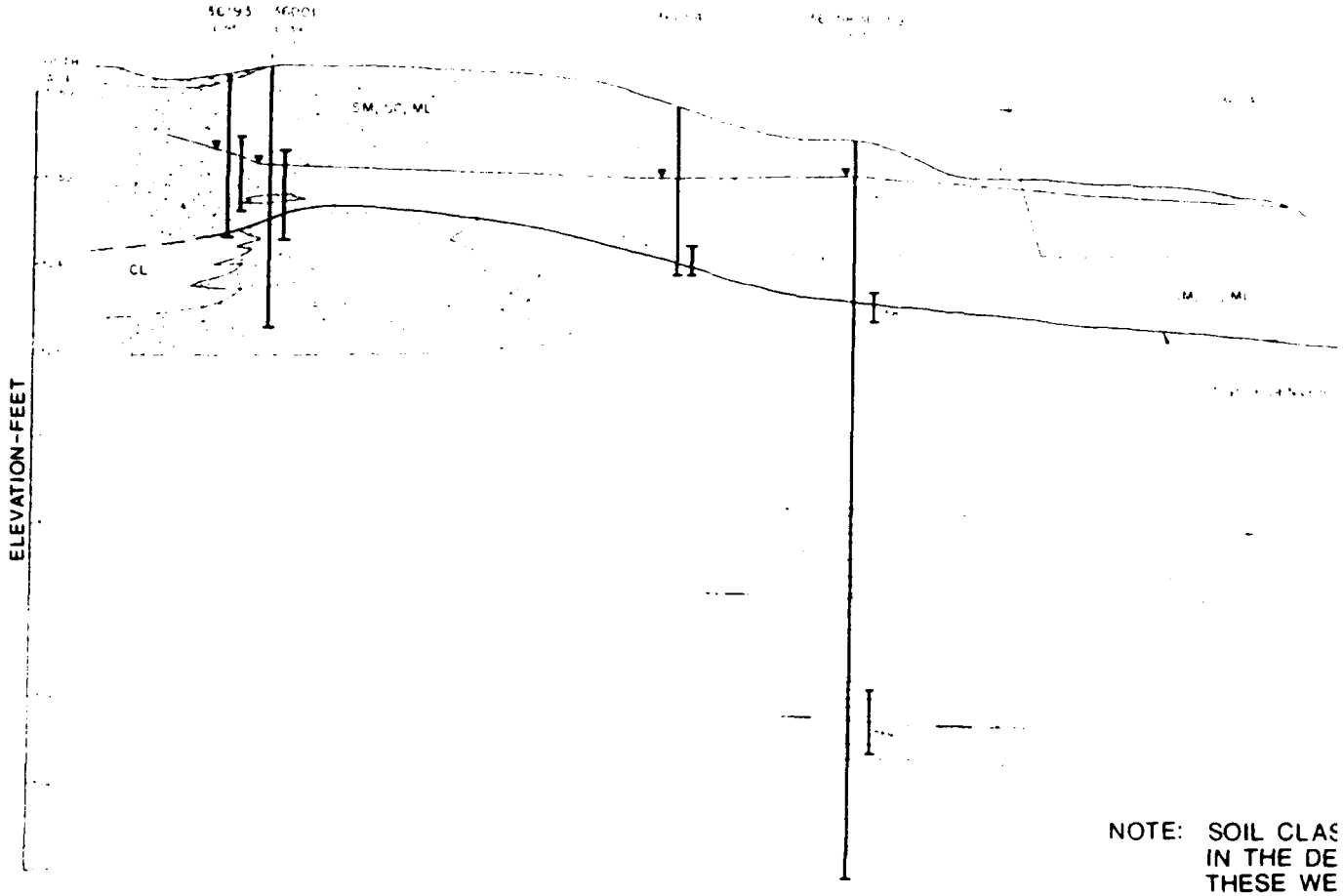
A.5.1 Lime Settling Basins Site Hydrology

The Lime Settling Basins are in a local topographic low in the southwest quadrant of Section 36. The elevation of standing water occurring in a portion of the Lime Settling Basins was measured in July 1989. Based on a measurement of 5,247 feet above mean sea level and water levels measured from surrounding wells, it appears the standing water corresponds with the local water table. Surface water currently drains from the Lime Settling Basins into Basin A as it was originally built to do. At one time, a drainage ditch also connected the Lime Settling Basins with Basin B in Section 36.

The Lime Settling Basins are situated hydrologically downgradient of the M-1 Settling Basins and the South Plants. While the regional direction of groundwater flow at the RMA is generally to the northwest, the groundwater flow in the Lime Settling Basins area is nearly due north, which is probably due to the influence of local bedrock paleotopographic influences and the groundwater mound that exists in the South Plants area.

The saturated alluvial material is from 5.4 to 18.4 feet thick at the Lime Settling Basins. Water levels measured in July 1989 for wells screened in the alluvial material ranged from 4 to 14.6 feet below ground level. Figure A-11 shows the potentiometric surface based on the July 1989 water measurements.

The Denver Formation is saturated within the site and may contain some local confined aquifers. The more hydraulically conductive units in the formation are expected to be subhorizontal sandstone or siltstone bodies adjacent to less conductive claystone. The direction of groundwater flow is expected to be generally the same as that of the alluvial groundwater.



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ALLUVIUM

- BACKFILL MATERIAL
- LIME RESIDUE
- SILTY SANDS, CLAYEY SANDS AND INORGANIC SILTS (SM, SC, ML)
- INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, OCCASIONALLY SANDY AND/OR SILTY

DENVER FORMATION

- SANDSTONE , GREEN TO GRAY, FINE TO COARSE GRAINED
- SILTSTONE, GRAY, OCCASIONALLY SANDY, HARD
- CLAYSTONE, SHALE, GRAY TO BLACK, SOFT TO HARD, OCCASIONALLY SANDY AND/OR SILTY

36193 — WELL N

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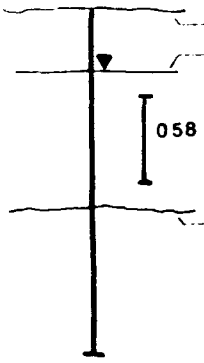

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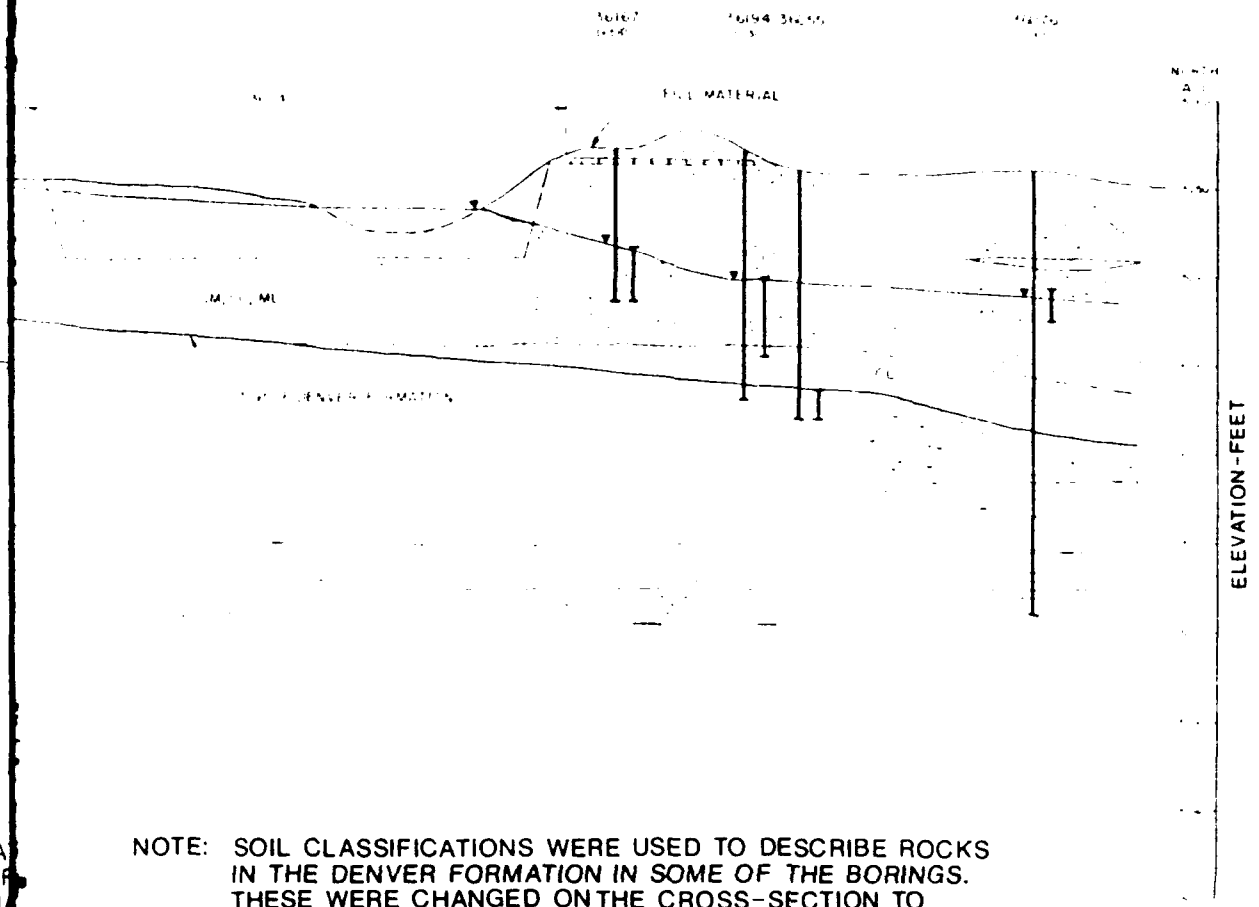
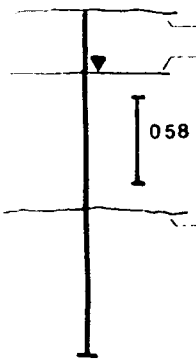


NOTE: SOIL CLASSIFICATIONS WERE USED TO DESCRIBE ROCKS IN THE DENVER FORMATION IN SOME OF THE BORINGS. THESE WERE CHANGED ON THE CROSS-SECTION TO SHOW CONSOLIDATED ROCKS OF EQUIVALENT GRAIN SIZE. AN EXAMPLE WOULD BE CLAY TO CLAYSTONE OR SHALE. FOR LOCATION OF CROSS-SECTION A1-A1'. SEE FIGURE A-1

36193 — WELL NUMBER

(-95') — DISTANCE PROJECTED TO SECTION LINE
+(EAST OF SECTION LINE)
-(WEST OF SECTION LINE)



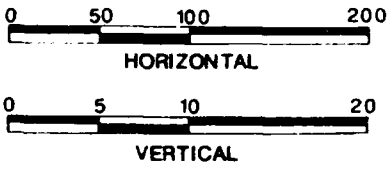
GROUND SURFACE

ALLUVIAL WATER TABLE, SPRING 1989

SCREENED INTERVAL AND NUMBER OF CLUSTER WELL IF INDICATED

TOP OF DENVER FORMATION

10 X VERTICAL EXAGGERATION



SCALE IN FEET

Job No. : 22238	LIME SETTLING BASIN - AREA 36-4
Prepared by : R.C.L.	GEOLOGIC CROSS-SECTION A3-A3' (Figure A-1)
Date : 8/15/89	Figure A-11

(2)

FIG.

A.5.2 Previous Soils Investigations

The Lime Settling Basins (Site 36-4) was investigated by ESE in two phases. Phase I consisted of 10 borings ranging in depth from 3 to 11 feet yielding 27 soil samples. Results from chemical analyses indicate elevated concentrations of aldrin, chlordane, dieldrin, endrin, heptachlor, DDE, and DDT. Although samples contained less than 0.4 ppm lead, other metals, including zinc, copper, and arsenic occurred at elevated levels.

All samples from Phase I were analyzed by gas chromatography/mass spectrometry (GC/MS) for semivolatile organic compounds and by inductively coupled argon plasma (ICP) analyses for cadmium, chromium, copper, lead, and zinc. Analyses for mercury and arsenic were conducted using atomic absorption (AA) spectroscopy, and for dibromochloropropane using gas chromatography (GC). Volatile organic analyses by GC/MS were performed on all samples more than 1 foot in depth.

The Phase II program was initiated in the summer of 1987 by ESE. It included the expansion of the study area boundaries to include data from sites around the original study area that Phase I results indicated were contaminated. Areas that were not studied in Phase I were included in Phase II. A geophysical survey was performed along the expanded western boundary of the site to locate buried metal objects. Eighteen soil borings were completed in Phase II, ranging in depth from approximately 3 to 10 feet. The 18 borings yielded 47 soil samples from various depths.

Phase II samples were analyzed for arsenic, mercury, ICP metals, organochlorine pesticides, organosulphur compounds, dibromochloropropane, dicyclopentadiene, volatile halocarbon compounds, and volatile aromatic compounds since Phase I samples were found to contain these compounds. Seven samples were analyzed for Army agent degradation products (ADP) since this method was not available in Phase I.

A.5.3 Previous Groundwater Investigations

Since 1983, groundwater samples from three wells in the Lime Settling Basins area have been analyzed for contaminants. These wells are No. 36001 (upgradient), No. 36076 (downgradient), and No. 36058. Contaminants analyzed include volatile organics, aromatic compounds, organochlorine pesticides (OCPs), DIMP, DMMP, and ICP metals. Arsenic analysis was not performed.

A.5.4 Nature and Extent of Soils Contamination

Contaminants expected at the site include raw materials, manufacturing by-products, and numerous degradation products associated with the synthesis of mustard, lewisite, and pesticides in the South Plants area.

The findings of the previous studies are consistent with the history of the area. Of the 16 borings completed and sampled by ESE, each contained detectable concentrations of one or more OCPs, including aldrin, dieldrin, endrin, and isodrin. Elevated concentrations of dieldrin were detected in 12 of 22 samples at concentrations ranging from 0.6 to 70 µg/g. Aldrin was detected in 9 samples at concentrations up to 600 µg/g. Endrin and isodrin were detected at levels up to 200 µg/g and 300 µg/g, respectively.

Organosulphur compounds, chlorophenylmethyl sulfide (CPMS), chlorophenylmethyl sulfoxide (CPMSO), and chlorophenylmethyl sulfone (CPMSO2) were detected in four borings at concentrations up to 50 µg/g. DCPD and DDE were detected in two borings, and DBCP was detected in three borings. DDT was found in one boring at 7 µg/g in the 0- to 1-foot depth interval.

Volatile organic compounds (VOC) were detected in five samples collected from the deepest intervals of five borings. Chloroform occurred in four of the five borings at concentrations ranging from 2 to 7 µg/g. Concentrations of methylene chloride were detected in two borings at concentrations of 2 and 0.9 µg/g. Benzene concentrations ranging from 5 to 6 µg/g were found in two borings. Chlorobenzene was also detected at 2 µg/g.

Arsenic and mercury were the most prevalent metals found in samples from the site. Mercury was found at elevated concentrations in 13 samples and was detected in a total of 17 samples. Arsenic was detected in 16 samples at concentrations up to 370 µg/g. Four samples contained elevated copper; lead exceeded its indicator range in two samples; and zinc exceeded its indicator range in three samples. Six samples contained cadmium; three in excess of the indicator range. Chromium was found within its indicator range in one sample.

DCPD was detected at a concentration of 7.1 µg/g in the 2- to 3-foot interval of Boring No. 3421 in the central area. DBCP and volatile and aromatic (VAO) compounds were not detected in the central region. Tetrachloroethene was detected at a concentration of 0.25 µg/g in Boring No. 3422. ADP compounds were detected in the central region of Site 36-4 in Boring Nos. 3421, 3422, and 3732.

Nontarget compounds were also detected in Phase II soils. Compounds detected were polycyclic aromatic hydrocarbons (PAH), including anthracene, pyrene, and fluoranthene at concentrations from 20 to 100 µg/g.

Also detected were bicycloheptadiene, hexachlorobutadiene, trichlorobenzenamine, and methylsulfonyldinitro-n, n-dipropyl-benzenamine, which was detected at 200 µg/g.

A.5.5 Nature and Extent of Groundwater Contamination

Three wells located in the Lime Settling Basins that were sampled since 1983 revealed the presence of contaminants, including VOCs, aromatics, OCPs, metals, and others. Of the VOCs, trichloroethylene, tetrachloroethylene, chloroform, and DBCP were all detected in both upgradient and downgradient wells at elevated concentrations.

Aromatics detected in both upgradient and downgradient wells include benzene, toluene, xylene, chlorobenzene, and dichlorobenzene. Trichlorobenzene and tetrachlorobenzene were also detected in water from wells in the area but were not specific to a particular well.

Aldrin was detected in upgradient and downgradient wells in the area. Dieldrin, endrin, and isodrin were all detected in downgradient wells.

Metals detected in water from wells in the area include arsenic (downgradient), mercury (upgradient), and chromium (upgradient). Copper was detected in both upgradient and downgradient wells. Other compounds detected in water from wells in the Lime Settling Basins area include chlorophenylmethyl sulfane, dimethyl sulfide, DIMP, DMMP, and dithiane.

A.6 MOTOR POOL AREA SITE GEOLOGY

The Motor Pool Area is in Section 4 on the Western edge of the RMA. There are two stratigraphic units of interest beneath the Motor Pool Area: (1) the Quaternary Alluvium, and (2) the Denver Formation. The alluvial material consists of discontinuous lenses of sand and gravel, interbedded with silt and clay. Gravels and gravelly sands are common at the base of the alluvial section, especially in paleochannels. The alluvial material ranges from about 70 feet to about 100 feet in thickness. The thickest alluvium occurs over bedrock lows and the thinnest over bedrock highs.

The alluvial-bedrock contact is highly irregular due to the extensive erosion by ancient streams. Generally, the bedrock surface slopes to the northwest in the Motor Pool Area; however, where the bedrock surface has been incised by an ancient stream channel, the slope becomes perpendicular to the trend of the paleochannel. A

northwest trending paleochannel cuts across the northern boundary of the Motor Pool Area and has approximately 70 feet of relief.

The Denver Formation in the Motor Pool Area is predominantly composed of claystone with interbedded sandstone, siltstone, and lignite layers from 2 to approximately 20 feet thick. Layers of volcaniclastic material are also present.

A.6.1 Motor Pool Area Site Hydrology

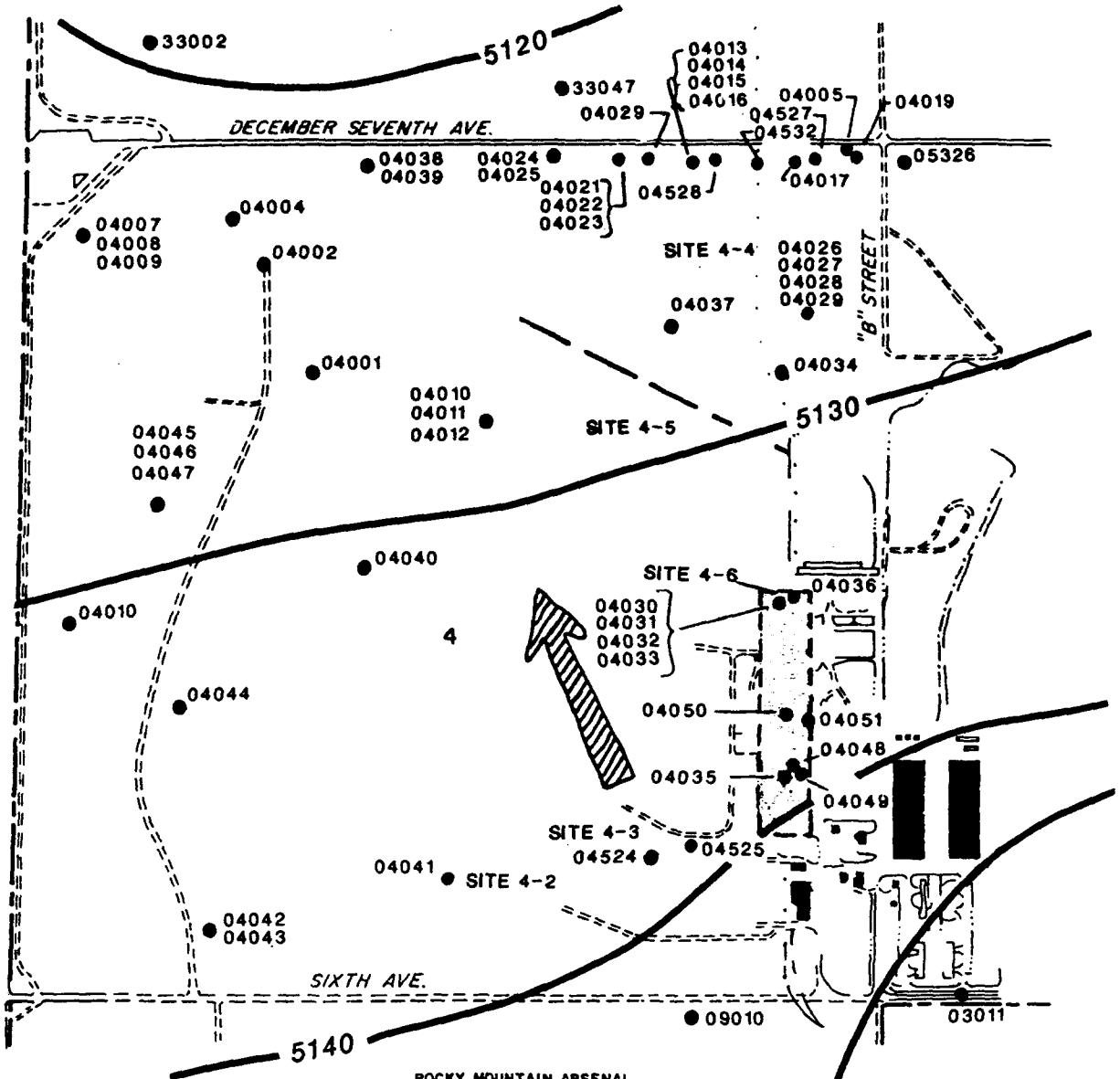
Site 4-6 is situated in the Irondale Gulch drainage basin. It has an average elevation of 5,200 feet above mean sea level (msl) and a local relief of 5 feet. In the northern portion of the area, surface water drains north and is controlled by railroad embankments and drainage ditches. The surface water from the southern portion of the area drains west into a drainage ditch and then continues northwest into a local topographic depression.

Groundwater within the alluvium is approximately 60 feet below the ground surface and it flows to the northwest and north-northwest. The February 1987 water table and groundwater flow direction, as determined by Ebasco Services (1988), is shown in Figure A-12.

The Denver Formation is saturated within the site and may contain some local confined aquifers. The more hydraulically conductive units in the formation are expected to be subhorizontal sandstone or siltstone bodies adjacent to less conductive claystone. The direction of groundwater flow is expected to be generally the same as that of the alluvial groundwater.

A.6.2 Previous Investigations

Previous studies done in the Motor Pool Area include: a May 1984 RCRA audit done by the Colorado Department of Health in the area outside the roundhouse; a 1986 study to identify possible trichloroethylene sources in the Motor Pool Area; and a soil gas study conducted in February 1986 to aid in defining trichloroethylene plumes in the groundwater. The most recent studies include a Contamination Assessment Report, and Western Study Area Remedial Investigation (Ebasco 1989). The following sections describe the intrusive investigation focused on the reported TCE plume in the Motor Pool Area.



LEGEND

SITE BOUNDARY

04010 MONITORING WELL

GENERAL DIRECTION OF GROUNDWATER FLOW

5106 WATER TABLE ELEVATION, FEBRUARY 1987

FROM: EBASCO 1988

Job No. :22238	MOTOR POOL AREA WATER TABLE ELEVATIONS AND GENERALIZED GROUNDWATER FLOW DIRECTION
Prepared by : D.C.C.	
Date : 8/22/89	Figure A-12

A.6.3 Soils

Site 4-6 was investigated by Ebasco under Task 38. Field work began in the spring of 1986. Ebasco's Task 38 Technical Plan (Ebasco 1987b) called for 25 borings to be drilled to depths of from 1 to 90 feet. A total of 125 soil samples were to be taken from these borings. Two additional borings were proposed in a letter technical plan (Ebasco 1987a). The sampling program was augmented to include a total of 166 samples from 36 borings and 1 soil grab sample that was taken from the drainage ditch west of Building 627 on the eastern side of the railroad tracks.

All but two samples were analyzed by gas chromatography/mass spectrometry (GC/MS) for volatile organics (except the 0- to 1-foot interval) and semivolatile organics. All but four samples were analyzed by inductively coupled argon plasma (ICP) screen for metals. The same samples were analyzed separately for arsenic and mercury. Several samples were analyzed for dibromochloropropane.

A.6.4 Water

Three water samples were taken by Ebasco in Site 4-6. The first was taken during the drilling of a 1-foot boring in the sump within the roundhouse in June 1986. The water that was sampled had seeped into the borehole through cracks in the concrete sump. The two remaining samples were taken from a 3-foot by 4-foot cavity that was suspected to be a collapsed septic tank located approximately 15 feet north of the roundhouse (Ebasco 1988).

A.6.5 Soil Ga

Several soil gas studies were conducted in the area during February 1986 by Ebasco to evaluate the concentration of trichloroethylene (TCE) in the Motor Pool Area soil. The soil gas survey sampled locations along several transect lines staked across the area. Line spacing ranged from about 250 to 750 feet, and the distance between sample locations ranged between 100 to 250 feet. A detailed description of the soil gas survey is contained in Ebasco 1987c.

A.6.6 *Nature and Extent of Soils Contamination*

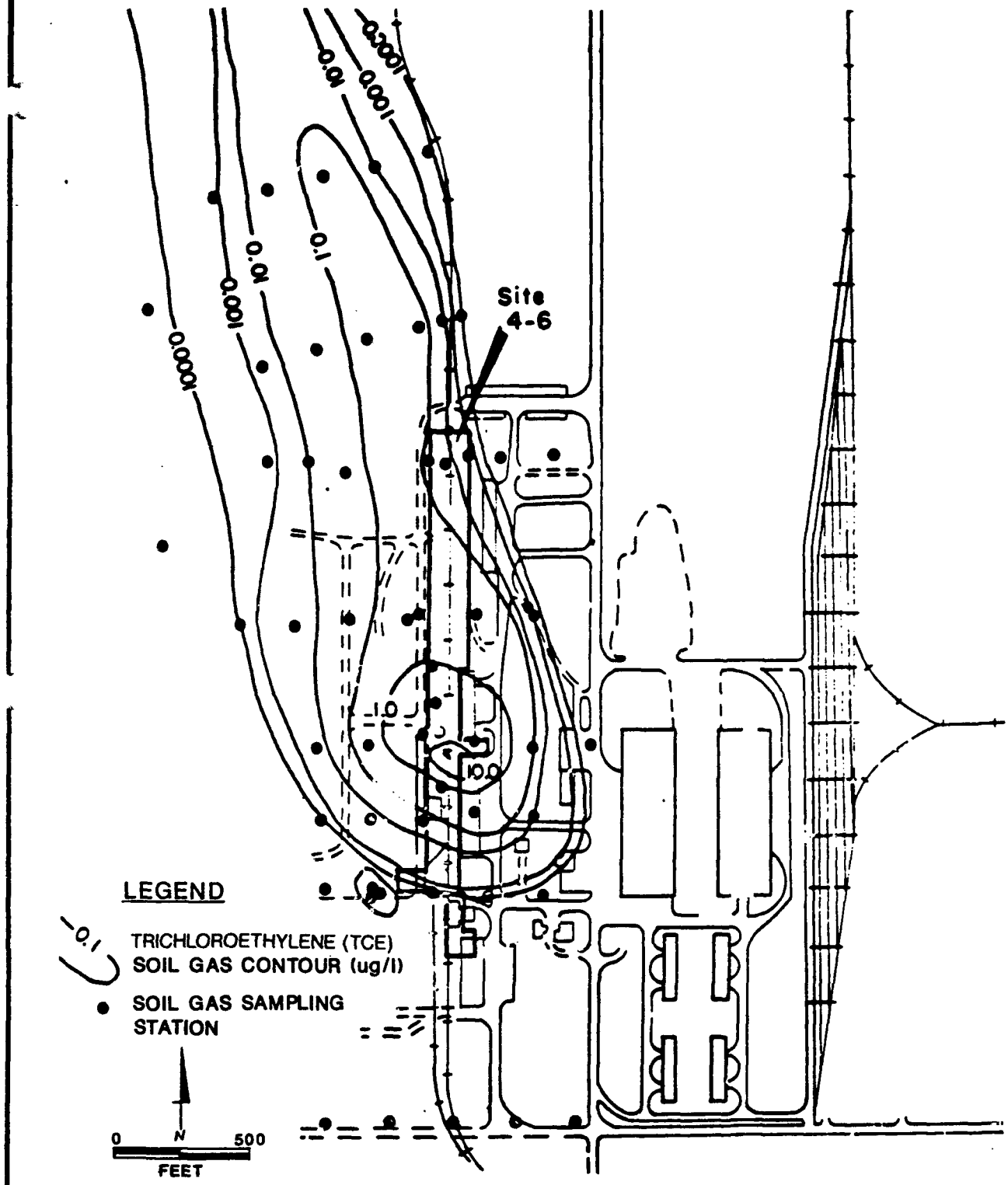
Contaminants found in soils at the Motor Pool Area within or above their indicator levels include ethylbenzene, tetrachloroethylene, trichloroethylene, m-xylene, toluene, methylene chloride, dibromochloropropane, aldrin, cadmium, chromium, copper, lead, zinc, arsenic, and mercury (Ebasco 1988).

A.6.7 Nature and Extent of Water Contamination

Samples of alluvial water were collected and analyzed by Ebasco in 1986 and 1987. Analytes found within or above their indicator ranges (in this case, their detection limits) include 1,1-dichloroethylene, 1,1,1-trichloroethane, 1,1,2-trichloroethane benzene, chloroform, trans-1,2-dichloroethylene, and trichloroethylene. The spatial distribution of the wells with detected contaminants indicate that some of these contaminants could originate at a source somewhere in the Motor Pool Area; however, a larger off-post source is also indicated.

A.6.8 Nature and Extent of Soil Gas Contamination

The data collected during the soil gas survey indicate trichloroethylene contamination of soil in the area north of Building 631; however, the information was not sufficient to identify a specific source. The concentrations detected in soil gas could not be confirmed by analysis of soil samples due to the higher certified method detection limit of the soil sample analysis. Figure A-13 shows the distribution of trichloroethylene indicated by the soil gas survey. Additional detail concerning the soil gas data is contained in a report by Ebasco (Ebasco 1987c).



FROM: EBASCO 1987

Job No. : 22238	TRICHLOROETHYLENE SOIL GAS DISTRIBUTION IN THE VICINITY OF SITE 4-6 Figure A-13
Prepared by: D.C.C.	
Date: 8/22/89	

APPENDIX B
HEALTH AND SAFETY/PERSONNEL AIR SAMPLING

Sampling Site: Section 36 Suspect Asbestos

Sample Collected by: Eric Masamori
Sample Analysis by: DataChem

Date of Collection: 22 May 1989
Date of Analysis: 23 and 31 May 1989

Field Sample Number	Sample Type	Amosite Asbestos	Chrysotile Asbestos	Crocidolite Asbestos	Actinolite/ Tremolite Asbestos	Anthophyllite Asbestos	Cellulose	Fiberglass	Mineral Wool	Synthetic Fibers
5/22/01	Bulk	70-<80%	ND	ND	ND	ND	- - -	- - -	- - -	- - -
5/22/02	Bulk	70-<80%	ND	ND	ND	ND	- - -	- - -	- - -	- - -
5/22/03	Bulk	70-<80%	ND	ND	ND	ND	- - -	- - -	- - -	- - -
5/22/04	Bulk	70-<80%	ND	ND	ND	ND	- - -	- - -	- - -	- - -
5/22/05	Bulk	70-<80%	ND	ND	ND	ND	- - -	- - -	- - -	- - -
5/22/06	Bulk	70-<80%	ND	ND	ND	ND	- - -	- - -	- - -	- - -
5/22/07	Bulk	70-<80%	ND	ND	ND	ND	- - -	- - -	- - -	- - -
5/22/08	Bulk	70-<80%	ND	ND	ND	ND	- - -	- - -	- - -	- - -
5/22/09	Bulk	70-<80%	ND	ND	ND	ND	- - -	- - -	- - -	- - -
5/22/10	Bulk	70-<80%	ND	ND	ND	ND	- - -	- - -	- - -	- - -
5/22/11	Bulk	ND	ND	ND	ND	ND	ND	ND	90-<100%	ND
5/22/12	Bulk	ND	ND	ND	ND	ND	- - -	- - -	- - -	- - -
5/22/13	Bulk	ND	ND	ND	ND	ND	<1 %	- - -	90-<100%	ND
5/22/14	Bulk	ND	ND	ND	ND	ND	- - -	- - -	- - -	- - -
5/22/15	Bulk	ND	ND	ND	ND	ND	- - -	- - -	- - -	- - -
5/22/16	Bulk	ND	ND	ND	ND	ND	- - -	- - -	- - -	- - -
5/22/17	Bulk	ND	ND	ND	ND	ND	- - -	- - -	- - -	- - -
5/22/18	Bulk	ND	ND	ND	ND	ND	ND	ND	70-<80%	ND
5/22/19	Bulk	ND	ND	ND	ND	ND	- - -	- - -	- - -	- - -
5/22/20	Bulk	ND	ND	ND	ND	ND	ND	ND	90-<100%	ND

Sampling Site: 36-054

Sample Collected by: Daniel Burgess
Sample Analysis by: DataChem

Date of Collection: 13 June 1989
Date of Analysis: 15, 16, 19 and 21 June 1989

COMPOUND	Field Sample Number	Sample Type	Found ug/sample	Sample Time (min)	Volume of Air (L)	Found mg/m3	8-hr TWA mg/m3	OSHA PEL mg/m3	Limit of Detection (ug)
Arsenic Trioxide	AS-129	Filter	ND	129	252	- - -	- - -	0.01	0.2
Arsine	AS-123	CT	ND	76	7.8	- - -	- - -	0.2	0.02
	AS-124	CT	ND	41	4.2	- - -	- - -		
Aldrin	AS-126	Filter	ND	76	115	- - -	- - -	0.25	0.003
	AS-127	Filter		41	62				
Dieldrin	AS-126	Filter	ND	76	115	- - -	- - -	0.25	0.006
	AS-127	Filter	ND	41	62				
Dicyclopentadiene	AS-126	Filter	ND	76	115	- - -	- - -	30	0.2
	AS-127	Filter	ND	41	62				
Hexachlorocyclopentadiene	AS-131F	Filter	ND	125	12.8	- - -	- - -	0.1*	0.003
	AS-131T	Tube	ND	125	12.8	- - -	- - -		
Lead	AS-133	Filter	ND	129	256	- - -	- - -	0.05	3
Total Dust	- - -	Filter	- - -	- - -	- - -	- - -	- - -	15	0.01

Equivalent exposure for mixture of compounds = ND

ND = Parameter not detected

*ACGIH time-weighted average

Sampling Site: 36-054: Field Blank

Sample Collected by: Daniel Burgess
Sample Analysis by: DataChem

Date of Collection: 13 June1989
Date of Analysis: 15, 16, 19 and 21 June1989

COMPOUND	Field Sample Number	Sample Type	Found ug/sample	Sample Time (min)	Volume of Air (L)	Found mg/m3	8-hr TWA mg/m3	OSHA PEL mg/m3	Limit of Detection (ug)
Arsenic Trioxide	AS-130	Filter	ND	- - -	- - -	- - -	- - -	0.01	0.2
Arsine	AS-125	CT	ND	- - -	- - -	- - -	- - -	0.2	0.02
Aldrin	AS-128	Filter	ND	- - -	- - -	- - -	- - -	0.25	0.003
Dieldrin	AS-128	Filter	ND	- - -	- - -	- - -	- - -	0.25	0.006
Dicyclopentadiene	AS-128	Filter	ND	- - -	- - -	- - -	- - -	30	0.2
Hexachlorocyclopentadiene	AS-132F	Filter	ND	- - -	- - -	- - -	- - -	0.1*	0.003
	AS-132T	Tube	ND	- - -	- - -	- - -	- - -		
Lead	AS-134	Filter	ND	- - -	- - -	- - -	- - -	0.05	3
Total Dust	- - -	Filter	- - -	- - -	- - -	- - -	- - -	15	0.01

Equivalent exposure for mixture of compounds = ND

ND = Parameter not detected

*ACGIH time-weighted average

Sampling Site: 36-187

Date of Collection: 5 May 1989
Date of Analysis: 10, 15, and 17 May

Sample Collected by: Daniel Burgess
Sample Analysis by: DataChem

COMPOUND	Field Sample Number	Sample Type	Found ug/sample	Sample Time (min)	Volume of Air (L)	Found mg/m3	8-hr TWA mg/m3	OSHA PEL mg/m3	Limit of Detection (ug)
Arsenic Trioxide	AS-008	Filter	ND	230	469	- - -	- - -	0.01	0.2
Arsine	AS-011	CT	ND	60	6.52	- - -	- - -	0.2	0.02
	AS-013	CT	ND	50	5.4	- - -	- - -		
Aldrin	AS-010	Filter	ND	113	232	- - -	- - -	0.25	0.003
Dieldrin	AS-010	Filter	ND	113	232	- - -	- - -	0.25	0.006
Dicyclopentadiene	- - -	Filter	- - -	- - -	- - -	- - -	- - -	30	0.2
Hexachlorocyclopentadiene	- - -	Filter	- - -	- - -	- - -	- - -	- - -	0.1*	0.003
	AS-012	Tube	ND	60	5.79	- - -	- - -		
	AS-014	Tube	ND	50	4.8	- - -	- - -		
Lead	AS-009	Filter	ND	230	469	- - -	- - -	0.05	3
Total Dust	- - -	Filter	- - -	- - -	- - -	- - -	- - -	15	0.01

Equivalent exposure for mixture of compounds = ND

ND = Parameter not detected

*ACGIH time-weighted average

Sampling Site: 36-188

Sample Collected by: Daniel Burgess
Sample Analysis by: DataChem

Date of Collection: 3 May 1989
Date of Analysis: 10 and 17 May 1989

COMPOUND	Field Sample Number	Sample Type	Found ug/sample	Sample Time (min)	Volume of Air (L)	Found mg/m3	8-hr TWA mg/m3	OSHA PEL mg/m3	Limit of Detection (ug)
Arsenic Trioxide	AS-005	Filter	ND	223	449.1	- - -	- - -	0.01	0.2
Arsine	AS-003	CT	ND	223	23.3	- - -	- - -	0.2	0.02
Aldrin	- - -	Filter	- - -	- - -	- - -	- - -	- - -	0.25	0.003
Dieldrin	AS-007	Filter	ND	230	471.5	- - -	- - -	0.25	0.006
Dicyclopentadiene	- - -	Filter	- - -	- - -	- - -	- - -	- - -	30	0.2
Hexachlorocyclopentadiene	- - -	Filter	- - -	- - -	- - -	- - -	- - -	0.1*	0.003
	AS-004	Tube	ND	223	11.08	- - -	- - -		
Lead	AS-006	Filter	ND	230	468	- - -	- - -	0.05	3
Total Dust	- - -	Filter	- - -	- - -	- - -	- - -	- - -	15	0.01

Equivalent exposure for mixture of compounds = ND

ND = Parameter not detected

*ACGIH time-weighted average

Sampling Site: 36-191

Sample Collected by: Daniel Burgess
Sample Analysis by: DataChem

Date of Collection: 10 May 1989
Date of Analysis: 15, 16, 17 May and 5 June 1989

COMPOUND	Field Sample Number	Sample Type	Found ug/sample	Sample Time (min)	Volume of Air (L)	Found mg/m3	8-hr TWA mg/m3	OSHA PEL mg/m3	Limit of Detection (ug)
Arsenic Trioxide	AS-033	Filter	ND	95	186.5	- - -	- - -	0.01	0.2
Arsine	AS-028	CT	ND	95	10.64	- - -	- - -	0.2	0.02
Aldrin	AS-030	Filter	ND	95	144	- - -	- - -	0.25	0.003
Dieldrin	AS-030	Filter	ND	95	144	- - -	- - -	0.25	0.006
Dicyclopentadiene	AS-030	Filter	ND	95	144	- - -	- - -	30	0.2
Hexachlorocyclopentadiene	AS-029F	Filter	ND	95	8.835	- - -	- - -	0.1*	0.003
	AS-029T	Tube	ND	95	8.835	- - -	- - -		
Lead	AS-032	Filter	ND	95	191.4	- - -	- - -	0.05	3
Total Dust	AS-031	Filter	0.01 mg	29	49	0.204	0.012	15	0.01
	AS-034	Filter	0.02 mg	66	111.6	0.179	0.025		

Equivalent exposure for mixture of compounds = 0.0255

ND = Parameter not detected

*ACGIH time-weighted average

Sampling Site: 36-191: Field Blank

Sample Collected by: Daniel Burgess
Sample Analysis by: DataChem

Date of Collection: 10 May 1989
Date of Analysis: 15, 16, 17 May and 5 June 1989

COMPOUND	Field Sample Number	Sample Type	Found ug/sample	Sample Time (min)	Volume of Air (L)	Found mg/m3	8-hr TWA mg/m3	OSHA PEL mg/m3	Limit of Detection (ug)
Arsenic Trioxide	AS-038	Filter	ND	- - -	- - -	- - -	- - -	0.01	0.2
Arsine	AS-037	CT	ND	- - -	- - -	- - -	- - -	0.2	0.02
Aldrin	AS-040	Filter	ND	- - -	- - -	- - -	- - -	0.25	0.003
Dieldrin	AS-040	Filter	ND	- - -	- - -	- - -	- - -	0.25	0.006
Dicyclopentadiene	AS-040	Filter	ND	- - -	- - -	- - -	- - -	30	0.2
Hexachlorocyclopentadiene	AS-035F	Filter	ND	- - -	- - -	- - -	- - -	0.1*	0.003
	AS-035T	Tube	ND	- - -	- - -	- - -	- - -		
Lead	AS-036	Filter	ND	- - -	- - -	- - -	- - -	0.05	3
Total Dust	AS-039	Filter	0.01	- - -	- - -	- - -	- - -	15	0.01

Equivalent exposure for mixture of compounds = ND

ND = Parameter not detected

*ACGIH time-weighted average

Sampling Site: 36-192

Sample Collected by: Daniel Burgess
Sample Analysis by: DataChem

Date of Collection: 18 May 1989
Date of Analysis: 19, 23 and 26 May 1989

COMPOUND	Field Sample Number	Sample Type	Found ug/sample	Sample Time (min)	Volume of Air (L)	Found mg/m3	8-hr TWA mg/m3	OSHA PEL mg/m3	Limit of Detection (ug)
Arsenic Trioxide	AS-071	Filter	ND	197	402	- - -	- - -	0.01	0.2
Arsine	AS-062	CT	ND	58	5.9	- - -	- - -	0.2	0.02
	AS-063	CT	ND	47	4.8	- - -	- - -		
	AS-068	CT	ND	90	9.19	- - -	- - -		
Aldrin	AS-066	Filter	ND	107	161	- - -	- - -	0.25	0.003
	AS-069	Filter	ND	88	133	- - -	- - -		
Dieldrin	AS-066	Filter	ND	107	161	- - -	- - -	0.25	0.006
	AS-069	Filter	ND	88	133	- - -	- - -		
Dicyclopentadiene	AS-066	Filter	ND	107	161	- - -	- - -	30	0.2
	AS-069	Filter	ND	88	133	- - -	- - -		
Hexachlorocyclopentadiene	AS-064	Filter	ND	58	6	- - -	- - -	0.1*	0.003
	AS-065	Filter	ND	137	14.1	- - -	- - -		
	- - -	Tube	- - -	- - -	- - -	- - -	- - -		
Lead	AS-070	Filter	ND	197	399	- - -	- - -	0.05	3
Total Dust	AS-060	Filter	0.00 mg	67	117.5	0.00	0.00	15	0.01
	AS-061	Filter	0.00 mg	57	99.9	0.00	0.00		
	AS-067	Filter	0.03 mg	71	124	0.242	0.036		

Equivalent exposure for mixture of compounds = 0.0161

ND = Parameter not detected

*ACGIH time-weighted average

Sampling Site: 36-192: Field Blank

Sample Collected by: Daniel Burgess
Sample Analysis by: DataChem

Date of Collection: 18 May 1989
Date of Analysis: 19, 23 and 26 May 1989

COMPOUND	Field Sample Number	Sample Type	Found ug/sample	Sample Time (min)	Volume of Air (L)	Found mg/m3	8-hr TWA mg/m3	OSHA PEL mg/m3	Limit of Detection (ug)
Arsenic Trioxide	AS-074	Filter	ND	- - -	- - -	- - -	- - -	0.01	0.2
Arsine	AS-073	CT	ND	- - -	- - -	- - -	- - -	0.2	0.02
Aldrin	AS-076	Filter	ND	- - -	- - -	- - -	- - -	0.25	0.003
Dieldrin	AS-076	Filter	ND	- - -	- - -	- - -	- - -	0.25	0.006
Dicyclopentadiene	AS-076	Filter	ND	- - -	- - -	- - -	- - -	30	0.2
Hexachlorocyclopentadiene	AS-072	Filter	ND	- - -	- - -	- - -	- - -	0.1*	0.003
	- - -	Tube	- - -	- - -	- - -	- - -	- - -		
Lead	AS-077	Filter	ND	- - -	- - -	- - -	- - -	0.05	3
Total Dust	AS-075	Filter	0.01	- - -	- - -	- - -	- - -	15	0.01

Equivalent exposure for mixture of compounds = ND

ND = Parameter not detected

*ACGIH time-weighted average

Sampling Site: 36-193

Sample Collected by: Daniel Burgess
Sample Analysis by: DataChem

Date of Collection: 16 May 1989
Date of Analysis: 17, 18 23 and 26 May 1989

COMPOUND	Field Sample Number	Sample Type	Found ug/sample	Sample Time (min)	Volume of Air (L)	Found mg/m3	8-hr TWA mg/m3	OSHA PEL mg/m3	Limit of Detection (ug)
Arsenic Trioxide	AS-050	Filter	ND	156	315	- - -	- - -	0.01	0.2
Arsine	AS-048	CT	ND	89	9.9	- - -	- - -	0.2	0.02
	AS-053	CT	ND	67	7.5	- - -	- - -		
Aldrin	AS-047	Filter	ND	115	174	- - -	- - -	0.25	0.003
Dieldrin	AS-047	Filter	ND	115	174	- - -	- - -	0.25	0.006
Dicyclopentadiene	AS-047	Filter	ND	115	174	- - -	- - -	30	0.2
Hexachlorocyclopentadiene	AS-052	Filter	ND	156	14.9	- - -	- - -	0.1*	0.003
	- - -	Tube	- - -	- - -	- - -	- - -	- - -		
Lead	AS-051	Filter	ND	156	313	- - -	- - -	0.05	3
Total Dust	AS-046	Filter	0.02 mg	72	128	0.156	0.023	15	0.01
	AS-049	Filter	0.00 mg	69	123	0.00	0.00		

Equivalent exposure for mixture of compounds = 0.0104

ND = Parameter not detected

*ACGIH time-weighted average

Sampling Site: 36-193: Field Blank

Sample Collected by: Daniel Burgess
Sample Analysis by: DataChem

Date of Collection: 16 May 1989
Date of Analysis: 17, 18, 23 and 26 May 1989

COMPOUND	Field Sample Number	Sample Type	Found ug/sample	Sample Time (min)	Volume of Air (L)	Found mg/m3	8-hr TWA mg/m3	OSHA PEL mg/m3	Limit of Detection (ug)
Arsenic Trioxide	AS-058	Filter	ND	- - -	- - -	- - -	- - -	0.01	0.2
Arsine	AS-054	CT	ND	- - -	- - -	- - -	- - -	0.2	0.02
Aldrin	AS-059	Filter	ND	- - -	- - -	- - -	- - -	0.25	0.003
Dieldrin	AS-059	Filter	ND	- - -	- - -	- - -	- - -	0.25	0.006
Dicyclopentadiene	AS-059	Filter	ND	- - -	- - -	- - -	- - -	30	0.2
Hexachlorocyclopentadiene	AS-055	Filter	ND	- - -	- - -	- - -	- - -	0.1*	0.003
	- - -	Tube	- - -	- - -	- - -	- - -	- - -		
Lead	AS-057	Filter	ND	- - -	- - -	- - -	- - -	0.05	3
Total Dust	AS-056	Filter	0.00	- - -	- - -	- - -	- - -	15	0.01

Equivalent exposure for mixture of compounds = ND

ND = Parameter not detected

*ACGIH time-weighted average

Sampling Site: 36-193

Sample Collected by: Daniel Burgess
Sample Analysis by: DataChem

Date of Collection: 7 June 1989
Date of Analysis: 12, 14, 15 and 19 June 1989

COMPOUND	Field Sample Number	Sample Type	Found ug/sample	Sample Time (min)	Volume of Air (L)	Found mg/m3	8-hr TWA mg/m3	OSHA PEL mg/m3	Limit of Detection (ug)
Arsenic Trioxide	AS-118	Filter	ND	166	323	- - -	- - -	0.01	0.2
Arsine	AS-114	CT	ND	91	9.4	- - -	- - -	0.2	0.02
	AS-115	CT	ND	75	7.8	- - -	- - -		
Aldrin	AS-116	Filter	ND	115	176	- - -	- - -	0.25	0.003
Dieldrin	AS-116	Filter	ND	115	176	- - -	- - -	0.25	0.006
Dicyclopentadiene	AS-116	Filter	ND	115	176	- - -	- - -	30	0.2
Hexachlorocyclopentadiene	- - -	Filter	- - -	- - -	- - -	- - -	- - -	0.1*	0.003
	- - -	Tube	- - -	- - -	- - -	- - -	- - -		
Lead	AS-117	Filter	ND	166	330	- - -	- - -	0.05	3
Total Dust	- - -	Filter	- - -	- - -	- - -	- - -	- - -	15	0.01

Equivalent exposure for mixture of compounds = ND

ND = Parameter not detected

*ACGIH time-weighted average

Sampling Site: 36-193: Field Blank

Sample Collected by: Daniel Burgess
Sample Analysis by: DataChem

Date of Collection: 7 June 1989
Date of Analysis: 12, 14, 15 and 19 June 1989

COMPOUND	Field Sample Number	Sample Type	Found ug/sample	Sample Time (min)	Volume of Air (L)	Found mg/m3	8-hr TWA mg/m3	OSHA PEL mg/m3	Limit of Detection (ug)
Arsenic Trioxide	AS-122	Filter	ND	- - -	- - -	- - -	- - -	0.01	0.2
Arsine	AS-119	CT	ND	- - -	- - -	- - -	- - -	0.2	0.02
Aldrin	AS-120	Filter	ND	- - -	- - -	- - -	- - -	0.25	0.003
Dieldrin	AS-120	Filter	ND	- - -	- - -	- - -	- - -	0.25	0.006
Dicyclopentadiene	AS-120	Filter	ND	- - -	- - -	- - -	- - -	30	0.2
Hexachlorocyclopentadiene	- - -	Filter	- - -	- - -	- - -	- - -	- - -	0.1*	0.003
	- - -	Tube	- - -	- - -	- - -	- - -	- - -		
Lead	AS-121	Filter	ND	- - -	- - -	- - -	- - -	0.05	3
Total Dust	- - -	Filter	- - -	- - -	- - -	- - -	- - -	15	0.01

Equivalent exposure for mixture of compounds = ND

ND = Parameter not detected

*ACGIH time-weighted average

Sampling Site: 36-194

Date of Collection: 16 June 1989
Date of Analysis: 20 and 21 June 1989

Sample Collected by: Daniel Burgess
Sample Analysis by: DataChem

COMPOUND	Field Sample Number	Sample Type	Found ug/sample	Sample Time (min)	Volume of Air (L)	Found mg/m3	8-hr TWA mg/m3	OSHA PEL mg/m3	Limit of Detection (ug)
Arsenic Trioxide	AS-141	Filter	ND	130	255	- - -	- - -	0.01	0.2
Arsine	AS-137	CT	ND	40	4.1	- - -	- - -	0.2	0.02
	AS-138	CT	ND	85	8.8	- - -	- - -		
Aldrin	AS-139	Filter	ND	115	177	- - -	- - -	0.25	0.003
Dieldrin	AS-139	Filter	ND	115	177	- - -	- - -	0.25	0.006
Dicyclopentadiene	- - -	Filter	- - -	- - -	- - -	- - -	- - -	30	0.2
Hexachlorocyclopentadiene	- - -	Filter	- - -	- - -	- - -	- - -	- - -	0.1*	0.003
	- - -	Tube	- - -	- - -	- - -	- - -	- - -		
Lead	AS-140	Filter	ND	130	260	- - -	- - -	0.05	3
Total Dust	AS-135	Filter	-0.02	55	96	-0.208	-0.024	15	0.01
	AS-136	Filter	0.00	75	131	0.00	0.00		

Equivalent exposure for mixture of compounds = -0.0139

ND = Parameter not detected

*ACGIH time-weighted average

Sampling Site: 36-194: Field Blank

Sample Collected by: Daniel Burgess
Sample Analysis by: DataChem

Date of Collection: 16 June 1989
Date of Analysis: 20 and 21 June 1989

COMPOUND	Field Sample Number	Sample Type	Found ug/sample	Sample Time (min)	Volume of Air (L)	Found mg/m3	8-hr TWA mg/m3	OSHA PEL mg/m3	Limit of Detection (ug)
Arsenic Trioxide	AS-146	Filter	ND	- - -	- - -	- - -	- - -	0.01	0.2
Arsine	AS-143	CT	ND	- - -	- - -	- - -	- - -	0.2	0.02
Aldrin	AS-144	Filter	ND	- - -	- - -	- - -	- - -	0.25	0.003
Dieldrin	AS-144	Filter	ND	- - -	- - -	- - -	- - -	0.25	0.006
Dicyclopentadiene	- - -	Filter	- - -	- - -	- - -	- - -	- - -	30	0.2
Hexachlorocyclopentadiene	- - -	Filter	- - -	- - -	- - -	- - -	- - -	0.1*	0.003
	- - -	Tube	- - -	- - -	- - -	- - -	- - -		
Lead	AS-145	Filter	ND	- - -	- - -	- - -	- - -	0.05	3
Total Dust	AS-142	Filter	-0.01	- - -	- - -	- - -	- - -	15	0.01

Equivalent exposure for mixture of compounds = ND

ND = Parameter not detected

*ACGIH time-weighted average

Sampling Site: Well 01083

Sample Collected by: Daniel Burgess
Sample Analysis by: DataChem

Date of Collection: 12 may 1989
Date of Analysis: 15, 16, 17 May and 5 June 1989

COMPOUND	Field Sample Number	Sample Type	Found ug/sample	Sample Time (min)	Volume of Air (L)	Found mg/m3	8-hr TWA mg/m3	OSHA PEL mg/m3	Limit of Detection (ug)
Arsenic Trioxide	- - -	Filter	- - -	- - -	- - -	- - -	- - -	0.01	0.2
Arsine	AS-043	CT	0.05	95	10.7	0.005	0.0009	0.2	0.02
Aldrin	AS-042	Filter	ND	111	172	- - -	- - -	0.25	0.003
Dieldrin	AS-042	Filter	ND	111	172	- - -	- - -	0.25	0.006
Dicyclopentadiene	AS-042	Filter	ND	111	172	- - -	- - -	30	0.2
Hexachlorocyclopentadiene	AS-044F AS-044T	Filter Tube	ND ND	95 95	9 9	- - - - - -	- - - - - -	0.1*	0.003
Lead	AS-041	Filter	ND	115	235	- - -	- - -	0.05	3
Total Dust	AS-045	Filter	0.02 mg	70	130	0.154	0.024	15	0.01

Equivalent exposure for mixture of compounds = 0.0353

ND = Parameter not detected

*ACGIH time-weighted average

Sampling Site: M-01503

Sample Collected by: Danie! Burgess
Sample Analysis by: DataChem

Date of Collection: 1 June 1989
Date of Analysis: 5, 6, 7 and 14 June 1989

COMPOUND	Field Sample Number	Sample Type	Found ug/sample	Sample Time (min)	Volume of Air (L)	Found mg/m3	8-hr TWA mg/m3	OSHA PEL mg/m3	Limit of Detection (ug)
Arsenic Trioxide	AS-105	Filter	ND	155	307	- - -	- - -	0.01	0.2
Arsine	AS-102	CT	ND	80	8.3	- - -	- - -	0.2	0.02
	AS-112	CT	ND	80	8.3	- - -	- - -		
Aldrin	AS-103	Filter	ND	80	122	- - -	- - -	0.25	0.003
	AS-113	Filter	ND	80	122	- - -	- - -		
Dieldrin	AS-103	Filter	0.0032	80	122	0.026	0.004	0.25	0.006
	AS-113	Filter	ND	80	122	- - -	- - -		
Dicyclopentadiene	AS-103	Filter	ND	80	122	- - -	- - -	30	0.2
	AS-113	Filter	ND						
Hexachlorocyclopentadiene	AS-104F	Filter	ND	155	306	- - -	- - -	0.1*	0.003
	AS-104T	Tube	ND	155	306	- - -	- - -		
Lead	AS-106	Filter	ND	155	306	- - -	- - -	0.05	3
Total Dust	- - -	Filter	- - -	- - -	- - -	- - -	- - -	15	0.01

Equivalent exposure for mixture of compounds = 0.104

ND = Parameter not detected

*ACGIH time-weighted average

Sampling Site: M-01503: Field Blank

Sample Collected by: Daniel Burgess
Sample Analysis by: DataChem

Date of Collection: 1 June 1989
Date of Analysis: 5, 6, 7 and 14 June 1989

COMPOUND	Field Sample Number	Sample Type	Found ug/sample	Sample Time (min)	Volume of Air (L)	Found mg/m3	8-hr TWA mg/m3	OSHA PEL mg/m3	Limit of Detection (ug)
Arsenic Trioxide	AS-110	Filter	ND	- - -	- - -	- - -	- - -	0.01	0.2
Arsine	AS-107	CT	ND	- - -	- - -	- - -	- - -	0.2	0.02
Aldrin	AS-108	Filter	ND	- - -	- - -	- - -	- - -	0.25	0.003
Dieldrin	AS-108	Filter	ND	- - -	- - -	- - -	- - -	0.25	0.006
Dicyclopentadiene	AS-108	Filter	ND	- - -	- - -	- - -	- - -	30	0.2
Hexachlorocyclopentadiene	AS-109F AS-109T	Filter Tube	ND ND	- - - - - -	- - - - - -	- - - - - -	- - - - - -	0.1*	0.003
Lead	AS-111	Filter	ND	- - -	- - -	- - -	- - -	0.05	3
Total Dust	- - -	Filter	- - -	- - -	- - -	- - -	- - -	15	0.01

Equivalent exposure for mixture of compounds = ND

ND = Parameter not detected

*ACGIH time-weighted average

Sampling Site: Boring 001, M-1 Pond

Sample Collected by: Daniel Burgess
Sample Analysis by: DataChem

Date of Collection: 24 May 1989
Date of Analysis: 25, 27, 28, 31 May and 5 June 1989

COMPOUND	Field Sample Number	Sample Type	Found ug/sample	Sample Time (min)	Volume of Air (L)	Found mg/m3	8-hr TWA mg/m3	OSHA PEL mg/m3	Limit of Detection (ug)
Arsenic Trioxide	AS-093	Filter	ND	95	191	- - -	- - -	0.01	0.2
Arsine	AS-092	CT	ND	86	9.02	- - -	- - -	0.2	0.02
Aldrin	AS-095	Filter	ND	86	132.5	- - -	- - -	0.25	0.003
Dieldrin	AS-095	Filter	ND	86	132.5	- - -	- - -	0.25	0.006
Dicyclopentadiene	AS-095	Filter	ND	86	132.5	- - -	- - -	30	0.2
Hexachlorocyclopentadiene	AS-091F	Filter	ND	86	8.77	- - -	- - -	0.1*	0.003
	AS-091T	Tube	ND	86	8.77	- - -	- - -		
Lead	AS-094	Filter	ND	95	191	- - -	- - -	0.05	3
Total Dust	AS-090	Filter	0.02 mg	70	124.5	0.161	0.023	15	0.01

Equivalent exposure for mixture of compounds = 0.0107

ND = Parameter not detected

*ACGIH time-weighted average

Sampling Site: Boring 001, M-1 Pond: Field Blank

Sample Collected by: Daniel Burgess
Sample Analysis by: DataChem

Date of Collection: 24 May 1989
Date of Analysis: 25, 27, 28, 31 May and 5 June 1989

COMPOUND	Field Sample Number	Sample Type	Found ug/sample	Sample Time (min)	Volume of Air (L)	Found mg/m3	8-hr TWA mg/m3	OSHA PEL mg/m3	Limit of Detection (ug)
Arsenic Trioxide	AS-099	Filter	ND	- - -	- - -	- - -	- - -	0.01	0.2
Arsine	AS-098	CT	ND	- - -	- - -	- - -	- - -	0.2	0.02
Aldrin	AS-101	Filter	ND	- - -	- - -	- - -	- - -	0.25	0.003
Dieldrin	AS-101	Filter	ND	- - -	- - -	- - -	- - -	0.25	0.006
Dicyclopentadiene	AS-101	Filter	ND	- - -	- - -	- - -	- - -	30	0.2
Hexachlorocyclopentadiene	AS-097F	Filter	ND	- - -	- - -	- - -	- - -	0.1*	0.003
	AS-097T	Tube	ND	- - -	- - -	- - -	- - -		
Lead	AS-100	Filter	ND	- - -	- - -	- - -	- - -	0.05	3
Total Dust	AS-096	Filter	-0.01	- - -	- - -	- - -	- - -	15	0.01

Equivalent exposure for mixture of compounds = ND

ND = Parameter not detected

*ACGIH time-weighted average

Sampling Site: BORING 007, M-1 POND

Sample Collected by: Daniel Burgess
Sample Analysis by: DataChem

Date of Collection: 22 May 1989
Date of Analysis: 23, 24, 27, 28 May and 2 June 1989

COMPOUND	Field Sample Number	Sample Type	Found ug/sample	Sample Time (min)	Volume of Air (L)	Found mg/m3	8-hr TWA mg/m3	OSHA PEL mg/m3	Limit of Detection (ug)
Arsenic Trioxide	AS-078	Filter	0.1	78	160	0.0006	0.0001	0.01	0.2
Arsine	AS-082	CT	ND	78	8.034	- - -	- - -	0.2	0.02
Aldrin	AS-080	Filter	ND	78	117.1	- - -	- - -	0.25	0.003
Dieldrin	AS-080	Filter	ND	78	17.1	- - -	- - -	0.25	0.006
Dicyclopentadiene	AS-080	Filter	ND	78	117.1	- - -	- - -	30	0.2
Hexachlorocyclopentadiene	AS-083F	Filter	ND	78	8.034	- - -	- - -	0.1*	0.003
	AS-083T	Tube	ND	78	8.034	- - -	- - -		
Lead	AS-079	Filter	ND	78	159.1	- - -	- - -	0.05	3
Total Dust	AS-081	Filter	0.03 mg	69	121.8	0.246	0.035	15	0.01

Equivalent exposure for mixture of compounds = 0.0764

ND = Parameter not detected

*ACGIH time-weighted average

Sampling Site: BORING 007, M-1 Pond: Field Blank

Sample Collected by: Daniel Burgess
Sample Analysis by: DataChem

Date of Collection: 22 May 1989
Date of Analysis: 23, 24, 27 , 28 May and 2 June 1989

COMPOUND	Field Sample Number	Sample Type	Found ug/sample	Sample Time (min)	Volume of Air (L)	Found mg/m3	8-hr TWA mg/m3	OSHA PEL mg/m3	Limit of Detection (ug)
Arsenic Trioxide	AS-084	Filter	ND	- - -	- - -	- - -	- - -	0.01	0.2
Arsine	AS-088	CT	ND	- - -	- - -	- - -	- - -	0.2	0.02
Aldrin	AS-086	Filter	ND	- - -	- - -	- - -	- - -	0.25	0.003
Dieldrin	AS-086	Filter	ND	- - -	- - -	- - -	- - -	0.25	0.006
Dicyclopentadiene	AS-086	Filter	ND	- - -	- - -	- - -	- - -	30	0.2
Hexachlorocyclopentadiene	AS-089F	Filter	ND	- - -	- - -	- - -	- - -	0.1*	0.003
	AS-089T	Tube	ND	- - -	- - -	- - -	- - -		
Lead	AS-085	Filter	ND	- - -	- - -	- - -	- - -	0.05	3
Total Dust	AS-087	Filter	ND	- - -	- - -	- - -	- - -	15	0.01

Equivalent exposure for mixture of compounds = ND

ND = Parameter not detected

*ACGIH time-weighted average

Sampling Site: North Boundary M-1 Basin

Sample Collected by: Daniel Burgess
Sample Analysis by: DataChem

Date of Collection: 2 May 1989
Date of Analysis: 17 May 1989

COMPOUND	Field Sample Number	Sample Type	Found ug/sample	Sample Time (min)	Volume of Air (L)	Found mg/m3	8-hr TWA mg/m3	OSHA PEL mg/m3	Limit of Detection (ug)
Arsenic Trioxide	AS-002	Filter	ND	111	227	- - -	- - -	0.01	0.2
Arsine	- - -	CT	- - -	- - -	- - -	- - -	- - -	0.2	0.02
Aldrin	- - -	Filter	- - -	- - -	- - -	- - -	- - -	0.25	0.003
Dieldrin	- - -	Filter	- - -	- - -	- - -	- - -	- - -	0.25	0.006
Dicyclopentadiene	- - -	Filter	- - -	- - -	- - -	- - -	- - -	30	0.2
Hexachlorocyclopentadiene	- - - - - -	Filter Tube	- - - - - -	- - - - - -	- - - - - -	- - - - - -	- - - - - -	0.1*	0.003
Lead	AS-001	Filter	ND	128	258.8	- - -	- - -	0.05	3
Total Dust	- - -	Filter	- - -	- - -	- - -	- - -	- - -	15	0.01

Equivalent exposure for mixture of compounds = ND

ND = Parameter not detected

*ACGIH time-weighted average

Sampling Site: Waste Trench, M-1 Pond

Sample Collected by: Daniel Burgess
Sample Analysis by: DataChem

Date of Collection: 8 May 1989
Date of Analysis: 10, 15, 16 and 17 May 1989

COMPOUND	Field Sample Number	Sample Type	Found ug/sample	Sample Time (min)	Volume of Air (L)	Found mg/m3	8-hr TWA mg/m3	OSHA PEL mg/m3	Limit of Detection (ug)
Arsenic Trioxide	AS-019	Filter	ND	73	148	- - -	- - -	0.01	0.2
Arsine	AS-016	CT	ND	30	3.3	- - -	- - -	0.2	0.02
	AS-021	CT	ND	25	2.8	- - -	- - -		
Aldrin	AS-017	Filter	ND	55	85.1	- - -	- - -	0.25	0.003
Dieldrin	AS-017	Filter	ND	55	85.1	- - -	- - -	0.25	0.006
Dicyclopentadiene	AS-017	Filter	ND	55	85.1	- - -	- - -	30	0.2
Hexachlorocyclopentadiene	- - -	Filter	- - -	- - -	- - -	- - -	- - -	0.1*	0.003
	AS-015	Tube	ND	30	2.7	- - -	- - -		
	AS-020	Tube	ND	25	2.2	- - -	- - -		
Lead	AS-018	Filter	ND	73	148	- - -	- - -	0.05	3
Total Dust	- - -	Filter	- - -	- - -	- - -	- - -	- - -	15	0.01

Equivalent exposure for mixture of compounds = ND

ND = Parameter not detected

*ACGIH time-weighted average

Sampling Site: Headspace Cement Mixer, M-1 Pond

Sample Collected by: Daniel Burgess
Sample Analysis by: DataChem

Date of Collection: 8 May 1989
Date of Analysis: 10, 15, 16 and 17 may 1989

COMPOUND	Field Sample Number	Sample Type	Found ug/sample	Sample Time (min)	Volume of Air (L)	Found mg/m3	8-hr TWA mg/m3	OSHA PEL mg/m3	Limit of Detection (ug)
Arsenic Trioxide	- - -	Filter	- - -	- - -	- - -	- - -	- - -	0.01	0.2
Arsine	AS-024	CT	ND	10	10	- - -	- - -	0.2	0.02
	AS-027	CT	ND	10	10	- - -	- - -		
Aldrin	- - -	Filter	- - -	- - -	- - -	- - -	- - -	0.25	0.003
Dieldrin	- - -	Filter	- - -	- - -	- - -	- - -	- - -	0.25	0.006
Dicyclopentadiene	- - -	Filter	- - -	- - -	- - -	- - -	- - -	30	0.2
Hexachlorocyclopentadiene	- - -	Filter	- - -	- - -	- - -	- - -	- - -	0.1*	0.003
	AS-025	Tube	ND	10	0.53	- - -	- - -		
	AS-026	Tube	ND	10	0.53	- - -	- - -		
Lead	- - -	Filter	- - -	- - -	- - -	- - -	- - -	0.05	3
Total Dust	- - -	Filter	- - -	- - -	- - -	- - -	- - -	15	0.01

Equivalent exposure for mixture of compounds = ND

ND = Parameter not detected

*ACGIH time-weighted average

Sampling Site: M-1 Pond Cement Mixer Headspace

Sample Collected by: Daniel Burgess
Sample Analysis by: DataChem

Date of Collection: 8 May1989
Date of Analysis: 27 June1989

COMPOUND	Field Sample Number	Sample Type	Found** ug/sample	Sample Time (sec)	Volume of Air (L)	Found mg/m3	8-hr TWA mg/m3	Limit of Detection (mg)
GC Scan	AS-022	Tedlar Bag	ND	40	1.47	- - -	- - -	0.1
	AS-023	Tedlar Bag	ND	35	1.18	- - -	- - -	

Equivalent exposure for mixture of compounds = ND

ND = Parameter not detected

**Analytical results are invalid due to the length of holding time (7 weeks) prior to chemical analysis

APPENDIX C
SAMPLE COLLECTION SUMMARY TABLE

Sample Collection Summary

Ca Typ	Section	Location Number	Number of Samples	Sample Type	Matrix	Sample Numbers	Sample Date	Sample Depth (ft) or Water Level ((ft) from ground surface)	Analytes
ench	36-17N	T01	2	Sample	Waste	WC36NT01-W001	4/24/89	10.0	GCMS Volatiles GCMS Semivolatiles Organochlorine Pestic Organosulfur Compound Thiodiglycol DIMP/DMMP Arsenic Mercury ICP Metals DBCP Fluoroacetic Acid IMPA/MPA Moisture
				Rinsate	Water	WC36NT01-W003	4/24/89		
		T02	1	Sample	Waste	WC36NT02-W001	4/25/89	3.5	
		T03	1	Sample	Waste	WC36NT03-W001	4/25/89	4.5	
		T04	2	Sample	Waste	WC36NT04-W001	4/26/89	6.0	
				Rinsate	Water	WC36NT04-W003	4/26/89		
		T05	2	Sample	Waste	WC36NT05-W001	5/4/89	5.0	
				Rinsate	Water	WC36NT05-W003	5/4/89		
		T06	2	Sample	Waste	WC36NT06-W001	5/4/89	3.5	
				Rinsate	Water	WC36NT06-W003	5/4/89		
		T07	0						
		T07B	1	Sample	Waste	WC36NT07-W001	5/3/89	8.0	
		T08	0						
		T09A	2	Sample	Waste	WC36NT09-W001	4/27/89	2.5	
				Rinsate	Water	WC36NT09-W003	4/27/89		
		T10	1	Sample	Waste	WC36NT10-W001	5/1/89	2.5	
		T11	2	Sample	Waste	WC36NT11-W001	4/27/89	5.0	
				Duplicate	Waste	WC36NT11-W002	4/27/89		
		T12	0						
		T13	1	Sample	Waste	WC36NT13-W001	4/28/89	7.0	
		T14D	3	Sample	Waste	WC36NT14-W001	5/1/89	8.0	
				Duplicate	Waste	WC36NT14-W002	5/1/89		
				Rinsate	Water	WC36NT14-W003	5/1/89		
		T15	1	Sample	Waste	WC36NT15-W001	5/9/89	5.0	
		T16	2	Sample	Waste	WC36NT16-W001	5/9/89	4.0	
				Rinsate	Water	WC36NT17-W003	5/9/89		
		T17	0						

All samples of the waste matrix were cleared for army agents by the Army lab before shipment.

Jell	36-17N	36080	2	Sample	Water	WC36N080-G001	5/1/89	16.0	GCMS Volatiles GCMS Semivolatiles Organochlorine Pestic Organosulfur Compound Thiodiglycol DIMP/DMMP Arsenic Mercury ICP Metals DBCP Fluoroacetic Acid IMPA/MPA
				Rinsate	Water	WC36N080-G003	5/1/89		
		36084	2	Sample	Water	WC36N084-G001	4/25/89	6.6	
				Rinsate	Water	WC36N084-G003	4/25/89		
		36085	2	Sample	Water	WC36N085-G001	5/2/89	1.0	
				Rinsate	Water	WC36N085-G003	5/1/89		
		36088	2	Sample	Water	WC36N088-G001	4/28/89	16.0	
				Rinsate	Water	WC36N088-G003	4/28/89		
		36180	1	Sample	Water	WC36N180-G001	4/28/89	8.0	
		36187	1	Sample	Water	WC36N187-G001	6/8/89	14.8	

	36188	2	Sample	Water	WC36N188-G001	6/7/89	12.0	
			Rinsate	Water	WC36N188-G003	6/7/89		
	36189	3	Sample	Water	WC36N189-G001	6/7/89	11.2	
			Duplicate	Water	WC36N189-G002	6/7/89		
			Field Blank	Water	WC36N189-G005	6/7/89		
	36191	2	Sample	Water	WC36N191-G001	6/12/89	32.1	
			Rinsate	Water	WC36N191-G003	6/12/89		
	36192	4	Sample	Water	WC36N192-G001	6/13/89	45.8	
			Duplicate	Water	WC36N192-G002	6/13/89		
			Rinsate	Water	WC36N192-G003	6/13/89		
			Field Blank	Water	WC36N192-G005	6/13/89		
36-17S	36067	3	Sample	Water	WC36S067-G001	4/27/89	6.9	GCMS Volatiles
			Duplicate	Water	WC36S067-G002	4/27/89		GCMS Semivolatiles
			Rinsate	Water	WC36S067-G003	4/27/89		Organochlorine Pestic
								Organosulfur Compound
	36075	2	Sample	Water	WC36S075-G001	4/18/89	9.9	Thiodiglycol
			Rinsate	Water	WC36S075-G003	4/18/89		DIMP/DMMP
								Arsenic
		2	Sample	Water	WC36S075-G011	6/2/89	9.5	Mercury
			Rinsate	Water	WC36S075-G013	6/2/89		ICP Metals
								DBCP
		2	Sample	Water	WC36S075-G021	6/6/89	9.4	Fluoroacetic Acid
			Rinsate	Water	WC36S075-G023	6/6/89		IMPA/MPA
		2	Sample	Water	WC36S075-G031	6/15/89		
			Rinsate	Water	WC36S075-G033	6/15/89		
	36087	1	Sample	Water	WC36S087-G001	4/27/89	10.7	
	36190	2	Sample	Water	WC36S190-G001	6/6/89	9.1	
			Rinsate	Water	WC36S190-G003	6/5/89		
		4	Sample	Water	WC36S190-G011	6/15/89		
			Duplicate	Water	WC36S190-G012	6/15/89		
			Rinsate	Water	WC36S190-G013	6/15/89		
			Rinsate	Water	WC36S190-G023	6/15/89		
	36590	2	Sample	Water	WC36S590-G001	4/26/89	10.51	
			Rinsate	Water	WC36S590-G003	4/26/89		
	36591	1	Sample	Water	WC36S591-G001	4/26/89	2.4	
	36593	1	Sample	Water	WC36S593-G001	4/25/89	18.5	
M-1	01077	3	Sample	Water	WCM-1077-G001	6/2/89	Not Available	Total Arsenic
			Duplicate	Water	WCM-1077-G002	6/2/89		Dissolved Arsenic
			Field Blank	Water	WCM-1007-G005	6/2/89		Total Mercury
								Dissolved Mercury
	01083	1	Sample	Water	WCM-1083-G001	6/13/89	7.2	
	01503	2	Sample	Water	WCM-1503-G001	6/2/89	7.3	
			Rinsate	Water	WCM-1503-G003	6/1/89		
	01504	3	Sample	Water	WCM-1504-G001	5/31/89	7.5	
			Rinsate	Water	WCM-1504-G003	5/3/89		Total Arsenic & Mercu
			Fltr Rnst	Water	WCM-1504-G006	5/3/89		Dissolved Arsenic & M
	01524	1	Sample	Water	WCM-1524-G001	5/25/89	5.3	Total Arsenic
								Dissolved Arsenic
	36001	1	Sample	Water	WC36S001-G001	5/5/89	11.7	Total Mercury
								Dissolved Mercury
	36193	See Section 36-4 Well Samples						
36-4	36001	1	Sample	Water	WC36L001-G001	6/7/89	11.4	GCMS Volatiles

		36054	3	Sample	Water	WC36L054-G001	6/13/89	8.1	GCMS Semivolatiles Organochlorine Pestic Organosulfur Compound Thiodiglycol DIMP/DMMP
				Duplicate	Water	WC36L054-G002	6/13/89		
				Rinsate	Water	WC36L054-G003	6/13/89		
		36055	2	Sample	Water	WC36L055-G001	6/13/89	10.9	Total Arsenic Dissolved Arsenic Total Mercury Dissolved Mercury ICP Metals
				Field Blank	Water	WC36L055-G005	6/13/89		
		36058	1	Sample	Water	WC36L058-G001	6/12/89	3.6	
		36076	1	Sample	Water	WC36L076-G001	6/14/89	13.4	
		36167	1	Sample	Water	WC36L167-G001	6/14/89	9.1	
		36193	1	Sample	Water	WC36L193-G001	6/7/89	8.8	
			1	Sample	Water	WC36L193-G011	6/15/89	8.8	
		36194	1	Sample	Water	WC36L194-G001	7/13/89	14.1	
ring	36-17N	T01	2	Sample	Soil	WC36NT01-S151	5/22/89	19.9 to 20.9	GCMS Volatiles GCMS Semivolatiles Organochlorine Pestic Organosulfur Compound Thiodiglycol DIMP/DMMP Arsenic Mercury ICP Metals DBCP Fluoroacetic Acid IMPA/MPA Moisture
				Rinsate	Water	WC36NT01-S003	5/22/89		
		T02	1	Sample	Soil	WC36NT02-S151	5/23/89	19.0 to 20.0	
		36187	3	Sample	Soil	WC36N187-S011	5/5/89	0 to 1	
				Sample	Soil	WC36N187-S041	5/5/89	4 to 5	
				Duplicate	Soil	WC36N187-S042	5/5/89	4 to 5	
		36188	3	Sample	Soil	WC36N188-S011	5/3/89	0 to 1	
				Duplicate	Soil	WC36N188-S012	5/3/89	0 to 1	
				Sample	Soil	WC36N188-S041	5/3/89	4 to 5	
		36189	4	Sample	Soil	WC36N189-S011	4/28/89	0 to 1	
				Sample	Soil	WC36N189-S041	4/28/89	4 to 5	
				Rinsate	Water	WC36N189-S003	4/28/89		
				Rinsate	Water	WC36N189-S013	4/28/[illegible]		
		36191	2	Sample	Soil	WC36N191-S041	5/9/89	4 to 5	
				Sample	Denver	WC36N191-S191	5/9/89	19 to 20.5	
		36192	4	Sample	Soil	WC36N192-S041	5/16/89	4 to 5	
				Sample	Denver	WC36N192-S191	5/17/89	12.5 to 14.5	
				Duplicate	Denver	WC36N192-S192	5/17/89	12.5 to 14.5	
				Rinsate	Water	WC36N192-S193	5/17/89		
	36-17S	36190	2	Sample	Soil	WC36N190-S011	4/19/89	0 to 1	
				Sample	Soil	WC36N190-S041	4/20/89	4 to 5	
	M-1	001	4	Sample	Soil	WCM-1001-S001	5/24/89	0.3 to 0.8	Limited Suite *
				Sample	Soil	WCM-1001-S021	5/24/89	2.4 to 2.9	Limited Suite
				Sample	Soil	WCM-1001-S041	5/24/89	4 to 6.5	Expanded Suite **
				Sample	Soil	WCM-1001-S071	5/24/89	9.5 to 10	Limited Suite
				Duplicate	Soil	WCM-1001-S042	5/24/89	4 to 6.5	Expanded Suite
		002	4	Sample	Soil	WCM-1002-S001	6/8/89	0.5 to 1	Limited Suite
				Sample	Soil	WCM-1002-S021	6/8/89	2.5 to 3	Limited Suite
				Sample	Soil	WCM-1002-S041	6/8/89	4 to 5	Expanded Suite
				Sample	Soil	WCM-1002-S071	6/8/89	9.5 to 10	Limited Suite
		003	4	Sample	Soil	WCM-1003-S021	5/30/89	2 to 2.5	Limited Suite
				Sample	Soil	WCM-1003-S041	5/30/89	4 to 5	Expanded Suite
				Sample	Soil	WCM-1003-S071	5/30/89	9 to 10	Limited Suite
				Duplicate	Soil	WCM-1003-S072	5/30/89	9 to 10	Limited Suite
		004	4	Sample	Soil	WCM-1004-S021	5/30/89	2.5 to 3	Limited Suite
				Sample	Soil	WCM-1004-S041	5/30/89	4 to 5	Expanded Suite
				Sample	Soil	WCM-1004-S071	5/30/89	9 to 9.5	Limited Suite
				Rinsate	Water	WCM-1004-S023	5/30/89		Limited Suite
		005	5	Sample	Soil	WCM-1005-S001	5/25/89	0 to 0.5	Limited Suite

				Sample	Soil	WCM-1005-S021	5/25/89	2 to 2.5	Limited Suite
				Sample	Soil	WCM-1005-S041	5/25/89	4 to 5	Expanded Suite
				Sample	Soil	WCM-1005-S071	5/25/89	7.5 to 8	Limited Suite
				Duplicate	Soil	WCM-1005-S042	5/25/89	4 to 5	Expanded Suite
		006	7	Sample	Waste	WCM-1006-W041	5/23/89	4 to 6.5	Expanded Suite
				Sample	Soil	WCM-1006-S071	5/23/89	8 to 8.5	Limited Suite
				Sample	Denver	WCM-1006-D191	5/23/89	19 to 20	Limited Suite
				Duplicate	Waste	WCM-1006-W042	5/23/89	4 to 6.5	Expanded Suite
				Duplicate	Denver	WCM-1006-D192	5/23/89	19 to 20	Limited Suite
				Rinsate	Water	WCM-1006-S073	5/23/89		Limited Suite
				Rinsate	Water	WCM-1006-D193	5/23/89		Limited Suite
		007	2	Sample	Waste	WCM-1007-W041	5/22/89	7 to 8	Expanded Suite
				Sample	Soil	WCM-1007-S071	5/22/89	8.5 to 9.0	Limited Suite
		008	2	Sample	Waste	WCM-1008-W041	5/25/89	4 to 5	Expanded Suite
				Rinsate	Water	WCM-1008-W043	5/25/89		Expanded Suite
		01083	3	Sample	Soil	WCM-1083-S021	5/10/89	2.5 to 3	Limited Suite
				Sample	Soil	WCM-1083-S041	5/11/89	4 to 5.5	Expanded Suite
				Sample	Soil	WCM-1083-S071	5/11/89	7.5 to 8	Limited Suite
		36193	4	Sample	Soil	WC36S193-S001	5/16/89	0.5 to 1	Limited Suite
				Sample	Soil	WC36S193-S041	5/16/89	4 to 5	Expanded Suite
				Sample	Soil	WC36S193-S121	5/16/89	10 to 11	Limited Suite
				Rinsate	Water	WC36S193-S123	5/16/89		Limited Suite

* Limited Suite: GCMS Semivolatiles
Arsenic
Mercury

** Expanded Suite: GCMS Volatiles
GCMS Semivolatiles
Organochlorine Pesticides
Organosulfur Compounds
Thiodiglycol
DIMP/DMMP
Arsenic
Mercury
ICP Metals
Moisture

	36-4	36194	5	Sample	Soil	WC36L194-S001	6/15/89	0 to 1	GCMS Volatiles GCMS Semivolatiles Organochlorine Pestic Organosulfur Compound Thiodiglycol DIMP/DMMP Total Arsenic Dissolved Arsenic Total Mercury Dissolved Mercury ICP Metals Moisture
				Sample	Soil	WC36L194-S041	6/15/89	4 to 5	
				Sample	Soil	WC36L194-S121	6/15/89	19 to 20	
				Duplicate	Soil	WC36L194-S042	6/15/89	4 to 5	
				Rinsate	Water	WC36L194-S003	6/15/89		
ISV	M-1	Within East Basin	5	Sample	Waste	WCM-1ISV-W001	5/9/89		GCMS Volatiles GCMS Semivolatiles Organochlorine Pestic Organosulfur Compound Thiodiglycol DIMP/DMMP Arsenic Mercury ICP Metals PCBs Dioxins Moisture
				Duplicate	Waste	WCM-1ISV-W002	5/9/89		
				Rinsate	Water	WCM-1ISV-W003	5/8/89		GCMS Volatiles GCMS Semivolatiles Organochlorine Pestic Organosulfur Compound Thiodiglycol
				Rinsate	Water	WCM-1ISV-W013	5/8/89		
				Rinsate	Water	WCM-1ISV-W023	5/8/89		
		Composite	4	Sample	Soil	WCM-1ISV-SA01	5/9/89		

Soil	Duplicate	Soil	WCM-11SV-SA02	5/9/89	DIMP/DMMP
Around	Sample	Soil	WCM-11SV-SB01	5/9/89	Arsenic
Basins	Duplicate	Soil	WCM-11SV-SB02	5/9/89	Mercury
					ICP Metals
					PCBs
					Moisture

All samples of the waste matrix were cleared for army agents by the Army lab before shipment.

APPENDIX D
WASTE MATERIAL SUMMARY TABLE

WASTE MATERIAL INVENTORY
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DRUM NUMBER	DATE OBTAINED	WASTE STORAGE OR STAGING AREA	TYPE OF WASTE	SAMPLE NO.	DATE OF SAMPLE(S)	DATE TO WASTE STORAGE	CDC ?/ INITIATED (Y/N)	REMARKS
6063	4/4/89	WASTE STRG.	PPE			4/24/89	N	
6064	4/5/89	WASTE STRG.	PPE			4/24/89	N	
6065	4/5/89	WASTE STRG.	PPE			5/23/89	N	
6069	4/14/89	WASTE STRG.	PPE			4/24/89	N	
6070	4/14/89	WASTE STRG.	EMPTY			6/16/89	Y	
6071	4/14/89	WASTE STRG.	PPE			4/24/89	N	
13001	4/14/89	WASTE STRG.	PPE			4/24/89	N	
13002	4/14/89	WASTE STRG.	PPE			4/24/89	N	
13003	4/17/89	WASTE STRG.	PPE			4/24/89	N	
13004	4/17/89	WASTE STRG.	PPE			4/24/89	N	
13005	4/17/89	WASTE STRG.	PPE			5/11/89	N	
13006	4/17/89	WASTE STRG.	PPE			5/23/89	N	
13007	4/17/89	HOLE 36-190	SOIL	WC36S190-S011 WC36S190-S041	4/19/89 4/20/89	6/12/89	Y	
13008	4/17/89	WASTE STRG.	PPE			5/23/89	N	
13009	4/17/89	WASTE STRG.	PPE			5/1/89	N	
13010	4/17/89	WASTE STRG.	PPE			5/1/89	N	
13011	4/17/89	WASTE STRG.	PPE			8/4/89	Y	5/8 INCH HOSE
13012	4/17/89	WASTE STRG.	PPE			4/24/89	N	
13013	4/19/89	WASTE STRG.	PPE			5/1/89	N	
13014	4/19/89	HOLE 36-190	SOIL	WC36S190-S011 WC36S190-S041	4/19/89 4/20/89	6/12/89	Y	
13015	4/19/89	WASTE STRG.	PPE			5/23/89	N	
13016	4/19/89	WASTE STRG.	PPE			5/11/89	N	
13017	4/19/89	WASTE STRG.	PPE			5/1/89	N	

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DRUM NUMBER	DATE OBTAINED	WASTE STORAGE OR STAGING AREA	TYPE OF WASTE	SAMPLE NO.	DATE OF SAMPLE(S)	DATE TO WASTE STORAGE	COC ?/ INITIATED (Y/N)	REMARKS
13018	4/19/89	WASTE STRG.	PPE			5/1/89	N	
13019	4/19/89	WASTE STRG.	PPE			4/24/89	N	
13020	4/19/89	WASTE STRG.	PPE			5/1/89	N	
13021	4/24/89	WASTE STRG.	PPE			5/1/89	N	
13022	4/24/89	BORING 36-191	SOIL	WC36N191-S041	5/9/89	6/13/89	Y	
				WC36N191-S191	5/9/89			
13023	4/24/89	BORING 36-192	SOIL	WC36N192-S041	5/16/89	6/15/89	Y	
				WC36N192-S191	5/17/89			
13024	4/24/89	BORING 36-190	SOIL	WC36S190-S011	4/19/89	6/12/89	Y	
				WC36S190-S041	4/20/89			
13025	4/24/89	WASTE STRG.	EMPTY			8/4/89	Y	
13026	4/24/89	WASTE STRG.	PPE			5/1/89	N	
13027	4/24/89	WASTE STRG.	PPE			5/1/89	N	
13028	4/24/89	WASTE STRG.	EMPTY			6/16/89	Y	
13029	4/24/89	WASTE STRG.	PPE			5/11/89	N	
13030	4/24/89	WASTE STRG.	PPE			5/11/89	N	
13031	4/24/89	WASTE STRG.	PPE			6/21/89	Y	
13032	4/24/89	WASTE STRG.	PPE			5/11/89	N	
13033	4/24/89	BORING 36-189	SOIL	WC36N189-S011	4/28/89	6/13/89	Y	
				WC36N189-S041	4/28/89			
13034	4/24/89	WASTE STRG.	PPE			5/23/89	N	
13035	4/24/89	BORING 36-189	SOIL	WC36N189-S011	4/28/89	6/13/89	Y	
				WC36N189-S041	4/28/89			
13036	4/24/89	BORING 36-189	SOIL	WC36N189-S011	4/28/89	6/12/89	Y	WET BUT WILL PROBABLY
				WC36N189-S041	4/28/89			PASS FILTER TEST
13037	4/24/89	BORING 36-187	SOIL	WC36N187-S011	5/5/89	6/12/89	Y	
				WC36N187-S041	5/5/89			
13038	4/24/89	BORING 36-187	SOIL	WC36N187-S011	5/5/89	6/13/89	Y	
				WC36N187-S041	5/5/89			
13039	4/24/89	WASTE STRG.	PPE			5/11/89	N	
13040	4/24/89	TRENCH 1	SOIL	WC36NT01-S151	5/26/89	6/13/89	Y	
13041	4/28/89	WASTE STRG.	PPE			5/11/89	N	

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DRUM NUMBER	DATE OBTAINED	WASTE STORAGE OR STAGING AREA	TYPE OF WASTE	SAMPLE NO.	DATE OF SAMPLE(S)	DATE TO WASTE STORAGE	COC ?/ INITIATED (Y/N)	REMARKS
13042	4/28/89	BORING 36-187	SOIL	WC36N187-S011	5/5/89	6/13/89	Y	
				WC36N187-S041	5/5/89			
13043	4/28/89	WASTE STRG.	PPE			6/16/89	Y	
13044	4/28/89	M-1 TRENCH SOIL	SOIL			6/15/89	Y	SEE ISV SAMPLE
13045	4/28/89	BORING 36-188	SOIL	WC36N188-S011	5/3/89	6/12/89	Y	
				WC36N188-S041	5/3/89			
13046	4/28/89	WASTE STRG.	PPE			5/11/89	N	
13047	4/28/89	BORING 01-083	SOIL	WCM-1083-S021	5/10/89	6/15/89	Y	
				WCM-1083-S041	5/11/89			
				WCM-1083-S071	5/11/89			
13048	4/28/89	WASTE STRG.	PPE			5/23/89	N	
13049	4/28/89	WASTE STRG.	PPE			5/11/89	N	
13050	4/28/89	WASTE STRG.	PPE			5/11/89	N	
13051	5/1/89	WASTE STRG.	PPE			6/16/89	Y	
13052	5/1/89	WASTE STRG.	EMPTY			8/4/89	Y	
13053	5/1/89	WASTE STRG.	EMPTY			8/4/89	Y	
13054	5/1/89	WASTE STRG.	PPE & PLASTIC			6/12/89	Y	
13055	5/1/89	WASTE STRG.	PPE			5/23/89	Y	
13056	5/1/89	M-1 BASINS	SOIL	WCM-11SV-SA01	5/9/89		N	ISV SAMPLE AWAITING
				WCM-11SV-SA02	5/9/69			RETURN FROM DATACHEM
13057	5/1/89	M-1 BASINS	SOIL	WCM-11SV-SB01	5/9/89		N	ISV SAMPLE AWAITING
				WCM-11SV-SB02	5/9/89			RETURN FROM DATACHEM
13058	5/1/89	BORING 36-188	SOIL	WC36N188-S011	5/3/89	6/13/89	Y	
				WC36N188-S041	5/3/89			
13059	5/1/89	WASTE STRG.	PPE			5/23/89	N	
13060	5/1/89	BORING 36-188	SOIL	WC36N188-S011	5/3/89	6/12/89	Y	
				WC36N188-S041				
13061	5/8/89	WASTE STRG.	PPE			6/21/89	Y	
13062	5/8/89	WASTE STRG.	EMPTY			8/4/89	Y	
13063	5/8/89	WASTE STRG.	PPE			7/17/89	Y	
13064	5/8/89	WASTE STRG.	PPE			5/23/89	N	

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DRUM NUMBER	DATE OBTAINED	WASTE STORAGE OR STAGING AREA	TYPE OF WASTE	SAMPLE NO.	DATE OF SAMPLE(S)	DATE TO WASTE STORAGE	COC ?/ INITIATED (Y/N)	REMARKS
13065	5/8/89	BORING 36-192	SOIL	WC36N192-S041	5/16/89	6/15/89	Y	
				WC36N192-S191	5/17/89			
13066	5/8/89	WASTE STRG.	PPE			6/16/89	Y	
13067	5/8/89	WASTE STRG.	PPE			5/23/89	N	
13068	5/8/89	BORING 36-192	SOIL	WC36N192-S041	5/16/89	6/15/89	Y	
				WC36N192-S191	5/17/89			
13069	5/8/89	BORING 36-191	SOIL	WC36N191-S041	5/9/89	6/13/89	Y	
				WC36N191-S191	5/9/89			
13070	5/8/89	WASTE STRG.	PPE			5/23/89	N	
13071	5/8/89	WASTE STRG.	PPE			5/23/89	N	
13072	5/8/89	WASTE STRG.	EMPTY			8/4/89	Y	
13073	5/8/89	BORING 36-191	SOIL	WC36N191-S041	5/9/89	6/13/89	Y	
				WC36N191-S191	5/9/89			
13074	5/8/89	BORING 36-191	SOIL	WC36N191-S041	5/9/89	6/13/89	Y	
				WC36N191-S191	5/9/89			
13075	5/8/89	BORING 36-192	SOIL	WC36N192-S041	5/16/89	6/15/89	Y	
				WC36N192-S191	5/17/89			
13076	5/10/89	WASTE STRG.	EMPTY			6/16/89	Y	
13077	5/10/89	WASTE STRG.	EMPTY			8/4/89	Y	
13078	5/10/89	WASTE STRG.	PPE			6/21/89	Y	
13079	5/10/89	WASTE STRG.	PPE			5/23/89	N	
13080	5/10/89	BORING 36-191	SOIL	WC36N191-S041	5/9/89	6/13/89	Y	
				WC36N191-S191	5/9/89			
13081	5/10/89	BORING 36-192	SOIL	WC36N192-S041	5/16/89	6/15/89	Y	
				WC36N192-S191	5/17/89			
13082	5/10/89	WASTE STRG.	PPE			6/16/89	Y	
13083	5/10/89	BORING 36-192	SOIL	WC36N192-S041	5/16/89	6/15/89	Y	
				WC36N192-S191	5/17/89			
13084	5/10/89	BORING 36-191	SOIL	WC36N191-S041	5/9/89	6/13/89	Y	
				WC36N191-S191	5/9/89			
13085	5/10/89	WASTE STRG.	EMPTY			8/4/89	Y	
13086	5/10/89	WASTE STRG.	PPE			5/23/89	N	
13087	5/10/89	WASTE STRG.	PPE			5/23/89	N	

07-Aug-89 date

WASTE MATERIAL INVENTORY
WCC RMA TASK 2
FINAL REPORT 8/7/89

DRUM NUMBER	DATE OBTAINED	WASTE STORAGE OR STAGING AREA	TYPE OF WASTE	SAMPLE NO.	DATE OF SAMPLE(S)	DATE TO WASTE STORAGE	COC ?/ INITIATED (Y/N)	REMARKS
13088	5/10/89	BORING 01-083	SOIL	WCM-1083-S021	5/10/89	6/15/89	Y	
				WCM-1083-S041	5/11/89			
				WCM-1083-S071	5/11/89			
13089	5/10/89	WASTE STRG.	EMPTY			6/21/89	Y	
13090	5/10/89	WASTE STRG.	PPE			5/23/89	N	
13091	5/10/89	BORING 36-192	SOIL	WC36N192-S041	5/16/89	6/15/89	Y	
				WC36N192-S191	5/17/89			
13092	5/10/89	BORING 36-192	SOIL	WC36N192-S041	5/16/89	6/15/89	Y	
				WC36N192-S191	5/17/89			
13093	5/10/89	WASTE STRG.	EMPTY			6/16/89	Y	
13094	5/10/89	WASTE STRG.	PPE			8/4/89	Y	5/8 INCH PUMP HOSE
13095	5/10/89	WASTE STRG.	PPE			6/16/89	Y	
13096	5/10/89	WASTE STRG.	EMPTY			8/4/89	Y	
13097	5/10/89	WASTE STRG.	EMPTY			6/16/89	Y	
13098	5/10/89	WASTE STRG.	PPE			5/23/89	N	
13099	5/10/89	WASTE STRG.	PPE			6/16/89	Y	
13100	5/10/89	WASTE STRG.	PPE			5/23/89	N	
13101	5/11/89	M-1 BORING 6	SOIL	WCM-1006-S071	5/23/89	6/15/89	Y	
				WCM-1006-D191	5/23/89			
13102	5/11/89	WASTE STRG.	PPE			5/23/89	N	
13103	5/11/89	WASTE STRG.	PPE			6/16/89	Y	
13104	5/11/89	BORING 01-083	SOIL	WCM-1083-S021	5/10/89	6/15/89	Y	
				WCM-1083-S041	5/11/89			
				WCM-1083-S071	5/11/89			
13105	5/11/89	WASTE STRG.	PPE			6/16/89	Y	
13106	5/11/89	BORING 36-193	SOIL	WC36S193-S001	5/16/89	6/15/89	Y	
				WC36S193-S041	5/16/89			
				WC36S193-S121	5/16/89			
13107	5/11/89	WASTE STRG.	PPE			6/16/89	Y	
13108	5/11/89	WASTE STRG.	EMPTY			6/21/89	Y	
13109	5/11/89	WASTE STRG.	EMPTY			8/4/89	Y	

07-Aug-89 date

WASTE MATERIAL INVENTORY
WCC RMA TASK 2
FINAL REPORT 8/7/89

DRUM NUMBER	DATE OBTAINED	WASTE STORAGE OR STAGING AREA	TYPE OF WASTE	SAMPLE NO.	DATE OF SAMPLE(S)	DATE TO WASTE STORAGE	COC ?/ INITIATED (Y/N)	REMARKS
13177	6/5/89	WASTE STRG.	PPE			8/4/89	Y	
13178	6/5/89	WASTE STRG.	PPE			8/4/89	Y	5/8 INCH PUMP HOSE
13179	6/5/89	WASTE STRG.	PPE			6/16/89	Y	
13180	6/5/89	WASTE STRG.	EMPTY			6/16/89	Y	
13181	6/5/89	WASTE STRG.	EMPTY			6/21/89	Y	
13182	6/5/89	WASTE STRG.	PPE			6/16/89	Y	
13183	6/5/89	M-1 BORING 2	SOIL	WCM-1002-S001 WCM-1002-S021 WCM-1002-S041 WCM-1002-S071	6/8/89	6/15/89	Y	
13184	6/5/89	WASTE STRG.	PPE			6/16/89	Y	
13185	6/5/89	WASTE STRG.	EMPTY			8/4/89	Y	

SOIL SAMPLES LISTED WITH ORIGINAL SAMPLE LOCATION. DRUMS ARE IN STAGING AREA.

07-Aug-89 date

WASTE MATERIAL INVENTORY
WCC RMA TASK 2
FINAL REPORT 8/7/89

DRUM NUMBER	DATE OBTAINED	WASTE STORAGE OR STAGING AREA	TYPE OF WASTE	SAMPLE NO.	DATE OF SAMPLE(S)	DATE TO WASTE STORAGE	COC ?/ INITIATED (Y/N)	REMARKS
13132	5/23/89	TRENCH 2	SOIL	WC36NT02-S151	5/23/89	6/13/89	Y	
13133	5/23/89	WASTE STRG.	PPE			8/4/89	Y	
13134	5/23/89	WASTE STRG.	PPE			8/4/89	Y	5/8 INCH PUMP HOSE
13135	5/23/89	M-1 BORING 6	SOIL	WCM-1006-S071	5/23/89	6/15/89	Y	
				WCM-1006-D191	5/23/89			
13136	5/23/89	M-1 BORING 6	SOIL	WCM-1006-S071	5/23/89	6/15/89	Y	
				WCM-1006-D191	5/23/89			
13137	5/23/89	WASTE STRG.	PPE			6/16/89	Y	
13138	5/23/89	WASTE STRG.	EMPTY			8/4/89	Y	
13139	5/23/89	WASTE STRG.	EMPTY			7/10/89	Y	
13140	5/23/89	WASTE STRG.	PPE			6/16/89	Y	PLUS PLASTIC
13141	5/24/89	WASTE STRG.	PPE			6/16/89	Y	
13142	5/24/89	WASTE STRG.	PPE			6/16/89	Y	
13143	5/24/89	WASTE STRG.	PPE			6/16/89	Y	
13144	5/24/89	WASTE STRG.	PPE			6/16/89	Y	
13145	5/24/89	WASTE STRG.	PPE			6/16/89	Y	
13146	5/24/89	WASTE STRG.	PPE			6/16/89	Y	
13147	5/24/89	WASTE STRG.	PPE			6/16/89	Y	
13148	5/24/89	WASTE STRG.	PPE			6/16/89	Y	
13149	5/24/89	WASTE STRG.	PPE			6/16/89	Y	
13150	5/24/89	WASTE STRG.	PPE			6/16/89	Y	PLUS PLASTIC
13151	5/24/89	M-1 BORING 8	SOIL	WCM-1008-S071	5/25/89	6/15/89	Y	
13152	5/24/89	M-1 BORING 5	SOIL	WCM-1005-S071	5/25/89	6/15/89	Y	
				WCM-1005-S001	5/25/89			
				WCM-1005-S021	5/25/89			
				WCM-1005-S041	5/25/89			
13153	5/24/89	WASTE STRG.	EMPTY			6/16/89	Y	
13154	5/24/89	BORING 36-194	SOIL	WCM36L194-S001	6/15/89	6/21/89	Y	

07-Aug-89 date

WASTE MATERIAL INVENTORY
WCC RMA TASK 2
FINAL REPORT 8/7/89

DRUM NUMBER	DATE OBTAINED	WASTE STORAGE OR STAGING AREA	TYPE OF WASTE	SAMPLE NO.	DATE OF SAMPLE(S)	DATE TO WASTE STORAGE	COC ?/ INITIATED (Y/N)	REMARKS
				WCM36L194-S041 WCM36L194-S121				
13155	5/24/89	WASTE STRG.	PPE			8/4/89	Y	
13156	5/24/89	WASTE STRG.	EMPTY			6/16/89	Y	
13157	5/24/89	WASTE STRG.	EMPTY			6/21/89	Y	
13158	5/24/89	WASTE STRG.	EMPTY			6/21/89	Y	
13159	5/24/89	WASTE STRG.	EMPTY			6/16/89	Y	
13160	5/24/89	M-1 BORING 3	SOIL	WCM-1003-S021 WCM-1003-S041	5/30/89	6/15/89	Y	
13161	5/30/89	M-1 BORING 4	SOIL	WCM-1004-S021 WCM-1004-S041 WCM-1004-S071	5/30/89 5/30/89 5/30/89	6/15/89	Y	
13162	5/30/89	WASTE STRG.	EMPTY			6/16/89	Y	
13163	5/30/89	WASTE STRG.	PPE			6/16/89	Y	
13164	5/30/89	WASTE STRG.	EMPTY			6/16/89	Y	
13165	5/30/89	WASTE STRG.	EMPTY			6/21/89	Y	
13166	5/30/89	WASTE STRG.	EMPTY			6/16/89	Y	AT 36192 6/6
13167	5/30/89	WASTE STRG.	EMPTY			6/16/89	Y	
13168	5/30/89	WASTE STRG.	EMPTY			6/21/89	Y	AT 36192 6/6
13169	5/30/89	WASTE STRG.	PPE			6/16/89	Y	
13170	5/30/89	WASTE STRG.	PPE			6/21/89	Y	
13171	6/5/89	WASTE STRG.	PPE			6/16/89	Y	
13172	6/5/89	WASTE STRG.	EMPTY			6/16/89	Y	
13173	6/5/89	WASTE STRG.	PPE			6/16/89	Y	
13174	6/5/89	BORING 36-194	SOIL	WC36L194-S001 WC36L194-S041 WC36L194-S121	6/15/89	6/21/89	Y	
13175	6/5/89	WASTE STRG.	EMPTY			6/16/89	Y	
13176	6/5/89	WASTE STRG.	EMPTY			6/16/89	Y	

07-Aug-89 date

WASTE MATERIAL INVENTORY
WCC RMA TASK 2
FINAL REPORT 8/7/89

DRUM NUMBER	DATE OBTAINED	WASTE STORAGE OR STAGING AREA	TYPE OF WASTE	SAMPLE NO.	DATE OF SAMPLE(S)	DATE TO WASTE STORAGE	COC ?/ INITIATED (Y/N)	REMARKS
13110	5/11/89	BORING 36-193	SOIL	WC36S193-S001	5/16/89	6/15/89	Y	
				WC36S193-S041	5/16/89			
				WC36S193-S121	5/16/89			
13111	5/16/89	WASTE STRG.	EMPTY			5/23/89	Y	HOLE IN WALL OF DRUM, RETURN TO WESTON
13112	5/16/89	BORING 36-194	SOIL	WC36L194-S001	6/15/89	6/21/89	Y	
				WC36L194-S041				
				WC36L194-S121				
13113	5/16/89	BORING 36-192	SOIL	WC36N192-S041	5/16/89	6/15/89	Y	
				WC36N192-S191	5/17/89			
13114	5/16/89	WASTE STRG.	PPE			6/16/89	Y	
13115	5/16/89	BORING 36-192	SOIL	WC36N192-S041	5/16/89	6/15/89	Y	
				WC36N192-S191	5/17/89			
13116	5/16/89	BORING 36-192	SOIL	WC36N192-S041	5/16/89	6/15/89	Y	
				WC36N192-S191	5/17/89			
13117	5/16/89	BORING 36-192	SOIL	WC36N192-S041	5/16/89	6/15/89	Y	
				WC36N192-S191	5/17/89			
13118	5/16/89	BORING 36-193	SOIL	WC36S193-S001	5/16/89	8/7/89	Y	
				WC36S193-S041	5/16/89			
				WC36S193-S121	5/16/89			
13119	5/16/89	WASTE STRG.	PPE			5/23/89	N	
13120	5/16/89	WASTE STRG.	PPE			6/16/89	Y	
13121	5/16/89	BORING 36-192	SOIL	WC36N192-S041	5/16/89	6/15/89	Y	
				WC36N192-S191	5/17/89			
13122	5/16/89	WASTE STRG.	PPE			6/16/89	Y	
13123	5/16/89	WASTE STRG.	EMPTY			6/16/89	Y	
13124	5/16/89	M-1 BORING 7	SOIL	WCM-1007-S071	5/22/89	6/15/89	Y	
13125	5/16/89	WASTE STRG.	EMPTY			8/7/89	Y	
13126	5/16/89	WASTE STRG.	PPE			6/16/89	Y	
13127	5/16/89	WASTE STRG.	PPE			6/21/89	Y	
13128	5/16/89	WASTE STRG.	EMPTY			8/4/89	Y	
13129	5/16/89	WASTE STRG.	EMPTY			6/16/89	Y	
13130	5/16/89	WASTE STRG.	PPE			6/16/89	Y	
13131	5/23/89	WASTE STRG.	EMPTY			8/4/89	Y	

07-Aug-89 date

APPENDIX E
BORING LOGS

odward-Clyde Consultants PROJECT NAME Rocky Mountain Arsenal Task #2 HOLE NO. 36-187

ING LOCATION Sec 36-17		ELEVATION AND DATUM	
LING AGENCY Datum Exploration Inc	DRILLER Tony Rodrig	DATE STARTED / DATE FINISHED 5/5/89 / 5/8/89	
QUIPMENT CME 750		COMPLETION DEPTH 22.2'	SAMPLER 1"OD Split spoon w/ Polybutyrate liners
LING METHOD Hollow stem Auger	DRILL BIT 6 1/4" OD Cutter Head	NO. OF SAMPLES DIST.	UNDIST. 9
AND TYPE OF CASING 4" Schedule 40 PVC		WATER ELEV. FIRST	COMPL. 24 HRS.
OF PERFORATION .010" (No 10) slotted	FROM 11 TO 21 FT.	LOGGED BY Bob Wilson	CHECKED BY
AND TYPE OF PACK Colorado #10-#20	FROM 8.5 TO 22.2 FT.		
OF SEAL Bentonite Pellets	FROM 3.5 TO 8.5 FT		

DESCRIPTION	GRAPHIC LOG: Lithology	GRAPHIC LOG: Piezometer Installation	Water Content	Piezometer Data	SAMPLES: Type No.	SAMPLES: Recov./L	SAMPLES: Penetra. Resist. (Blows/6 in)	REMARKS (Drill Rate, Fluid loss, Odor, etc.)
sandy Silt - brown, black, abundant roots, damp, loose (OL)								Drillers + Geologist wearing level B/C Protection.
silty Sand - yellowish brown, with occasional reddish brown clay inclussions, dry, loose (SM)								HNu readings are not above background unless noted. Background reading are 0-.2 ppm
silty Sand - as above....								
silty Sand - light yellowish brown, yellow, loose, dry, fine grain (SM)								
silty Sand - as above, with reddish brown hard clay inclussions (SM-SC)								
Silty Sand - dark yellow brown, very fine grain, trace clay, damp-moist, mod dense-loose. (ML)								

JECT NO. 22238B

SHEET 1 OF 3

odward-Clyde Consultants PROJECT NAME RMA Task #2 HOLE NO. 36-182

DEPTH (FEET)	DESCRIPTION	GRAPHIC LOG: Lithology	GRAPHIC LOG: Piezometer Installation	Water Content	Piezometer Data	SAMPLES: Type No.	SAMPLES: Recov. ft	SAMPLES: Penetr. Resist. Blows 6 in	REMARKS (Drill Rate, Fluid loss, Odor, etc)
	silty Sand to a sandy Silt - as above ...., moist, stiff-mod dense (mL)								
	as above								
	silty Sand - as above ...., clayey, very moist (mL)			▼					
	No recovery								The Shoe did not hold the Sample from 13' to 14'. This is because it was a saturated very fine sand. Free water at 13'.
	silty Sand - yellowish brown, very fine grain, wet, loose (SM-mL)								

CT NO. 22238B

SHEET 2 OF 3

odward-Clyde Consultants PROJECT NAME RMA Task #2 HOLE NO. 36-187

DESCRIPTION	GRAPHIC LOG: Lithology	GRAPHIC LOG: Piezometer Installation	Water Contact	Piezometer Data	SAMPLES: Type No.	SAMPLES: Recov. ft	SAMPLES: Penetr. Resist. Blows 6 in	REMARKS (Drill Rate, Fluid loss, Odor, etc)
silty Sand as above....								
Clayey Silt - yellowish brown, with trace very fine grain sand, trace dark brown clayey inclussions, moist, stiff (ML)								
silty Sand - yellowish brown, fine grain, wet, loose (SM)								
clayey silt - yellowish brown, with hard tan silty clay inclussions (ML)								The hole was over drilled with a 10" auger (10 5/8" cutter head) after ~~boring~~ the 6" augers were pulled
Boring terminated at 22.2'								

SHEET 3 OF 3

ECT NO. 22228B

Woodward-Clyde Consultants PROJECT NAME Rocky Mountain Arsenal / Task 2 (BAG SAMPLE) HOLE NO. 36-188

BORING LOCATION Sec. 36-12		ELEVATION AND DATUM	
DRILLING AGENCY Datum Exploration Inc	DRILLER	DATE STARTED / DATE FINISHED 5/3/89 / 5/4/89	
DRILL EQUIPMENT CME 750		COMPLETION DEPTH 23.5	SAMPLER 3" OD Split spoon w/Polybutyrate Liner
DRILLING METHOD Hollow Stem Auger	DRILL BIT 6 5/8" Cutter Head	NO. OF SAMPLES DIST.	UNDIST. 10
SIZE AND TYPE OF CASING 4" Schedule PVC		WATER ELEV. FIRST	COMPL. 24 HRS.
TYPE OF PERFORATION .010" (No.10) slotted	FROM 10.9 TO 20.9 FT.	LOGGED BY Bob Wilson	CHECKED BY
SIZE AND TYPE OF PACK Colorado #10-#20	FROM 8.5 TO 23.2 FT.		
TYPE OF SEAL Bentonite Pellets	FROM 3.5 TO 8.5 FT.		

DEPTH (FEET)	DESCRIPTION	GRAPHIC LOG: Lithology	Piezometer Installation	Water Content	Piezometer Data	SAMPLES: Type No.	Recovery	Penetr. Resist. (Blows/6 in)	REMARKS (Drill Rate, Fluid loss, Odor, etc.)
	sandy Silt - black abundant roots + organic matter loose, dry - damp (OL)								Drillers and geologist in level B/C protective clothing.
	Silty Sand - tan, yellow/brown, fine grain, occasionally clayey, loose, dry (SM)								HNu readings 0 (background) unless noted
									The hole was overdrilled with a 10" auger (10 5/8" cutterhead) after the 6" augers were removed.
	Silty Sand - as above								
	" Sand - yellow/brown, orange/brown, very fine to fine grain, loose, dry (SP)								
	silty Sand - orange/brown, yellow/brown, fine grain, trace clay, with red oxidized (veins + spherical) inclussions, damp, loose - moderately dense (SM)								

PROJECT NO. 22238 B

SHEET 1 OF 3

Woodward-Clyde Consultants PROJECT NAME RMA Task #2 HOLE NO. 36-188

DEPTH (FEET)	DESCRIPTION	GRAPHIC LOG: Lithology	GRAPHIC LOG: Piezometer Installation	Water Content	Piezometer Data	SAMPLES: Type No.	SAMPLES: Recov. (ft)	SAMPLES: Penetr. Resist. Blows/6 in	REMARKS (Drill Rate, Fluid loss, Odor, etc)
7	silty sand - as above								
	silty Sand - orangish brown, yellowish brown, with ~~rat~~ oxidized upper fine to lower medium grain sand clasts, mod dense to loose, damp (SM)								
	silty Sand as above ...., grades to a sandy silt in part (SM-ML)								
	clayey Silt dark yellowish brown, with tan hard clay inclusions damp-moist, firm (ML)								
	No Sample								The sample from 13'-15.5 was not held in the sampler by the shoe, It was equivalent to the sample from 15.5'-18'
									Free water encountered @ 14.5', measured from bottom of sampler.
	and yellowish brown, very fine-fine grain, trace ~~silt~~ to some								

SHEET 2 OF 3

CT NO. 22238B

Dames & Moore Consultants PROJECT NAME PMA Task #2 HOLE NO. 36-188

DESCRIPTION	GRAPHIC LOG: Lithology	GRAPHIC LOG: Piezometer Installation	Water Content	Penetrometer Data	SAMPLES: Type No.	SAMPLES: Recov. (ft)	SAMPLES: Penetr. Resist. (Blows/6 in.)	REMARKS (Drill Rate, Fluid loss, Odor, etc)
silt, wet, loose (SP)							7.0 ABG	
silty Sand - yellowish brown, very fine - fine grain, with trace clay as red inclusions (veins & clasts), wet, loose (SM)							7.5 ABG	
silty Sand as above ...								
clayey silt - grayish brown with reddish brown clayey inclussions, trace fine gravel, damp - dry, mod dense - dense								
ring terminated at 23.5'								

22238B

SHEET 3 OF 3

Bio sample

Edward-Clyde Consultants PROJECT NAME Rocky Mountain Arsenal Task 2 HOLE NO. 36-189

ING LOCATION Sec 36-17		ELEVATION AND DATUM	
ING AGENCY Datum Exploration Inc	DRILLER Russ Parker	DATE STARTED / DATE FINISHED 4/28/89 / 5/2/89	
ING EQUIPMENT CME 750		COMPLETION DEPTH 22.5	SAMPLER B
ING METHOD Hollow Stem Auger	DRILL BIT 6 1/8" OD cutter	NO. OF SAMPLES DIST.	UNDIST. 9
AND TYPE OF CASING 4" Schedule 40 PVC		WATER ELEV. FIRST	COMPL. 24 HRS.
OF PERFORATION .010" (No.10) Slotted	FROM 11 TO 21 FT.	LOGGED BY Bob Wilson	CHECKED BY
AND TYPE OF PACK Colorado #10-#20	FROM 8.0 TO 22.5 FT.		
OF SEAL Bentonite Pellets	FROM 3.5 TO 8.0 FT		

DESCRIPTION	GRAPHIC LOG: Lithology	GRAPHIC LOG: Piezometer Installation	Water Content	Piezometer Data	SAMPLES: Type No.	SAMPLES: Recov. ft.	SAMPLES: Penetr. Resist. (Blows/6 in)	REMARKS (Drill Rate, Fluid loss, Odor, etc.)
Sand - tan, yellow/brown, fine - very fine grain, subrounded, trace silt and clay, dry, loose (ML)			1.4 ABC					Drillers and Geologists in Respirators/compressed air
clayey Sand - tan, yellow/brown, fine - very fine grain, moist, loose (SC)					10	2 ABC		HNu B.G. 0 - 0.2 ppm HNu reading 150 ppm M43, Drager 2 m18 readings 0
clayey silty Sand - tan, yellow/brown very fine - fine grain, dry, loose - med dense (SC-SM)			0.4 ABC			7.9 ABC		
silty Sand - as above .... occasionally grades to a clayey silt (SM)						2.0 ABC		
silty Sand - yellow/brown, fine grain, trace clay, with occ black silty inclussions, dry - slightly moist, loose (SM)							0.6 ABC	HNu reading 5 ppm
sandy Silt - yellow/brown, with occasional fine to very fine								

ECT NO. 22238B

SHEET 1 OF 4

Woodward-Clyde Consultants PROJECT NAME RMA Task 2 HOLE NO. 36-189

LOCATION	Sec 36-17	ELEVATION AND DATUM	
DRILLING AGENCY	Datum Exploration Inc	DRILLER Russ Parker	DATE STARTED / DATE FINISHED 4/25/89 /
EQUIPMENT	CME 750	COMPLETION DEPTH 22.5	SAMPLER
DRILLING METHOD	Hollow Stem Auger	DRILL BIT 6 5/8" OD Cutter head	NO. OF SAMPLES: DIST. / UNDIST. 9
SIZE AND TYPE OF CASING	4" Schedule PVC	WATER ELEV. / FIRST	COMPL. / 24 HRS.
SIZE OF PERFORATION	.010" (No. 10) slotted	FROM 11 TO 21 FT.	LOGGED BY Bob Wilson / CHECKED BY
SIZE AND TYPE OF PACK	Colorado #10-#20	FROM 8.0 TO 22.5 FT.	
SIZE OF SEAL	Bentonite Pellets	FROM 3.5 TO 8.0 FT	

DESCRIPTION	GRAPHIC LOG: Lithology	Piezometer Installation	Water Content	Piezometer Data	SAMPLES: Type No.	Recov. ft.	Penetra. Resist. (Blows/6 in)	REMARKS (Drill Rate, Fluid loss, Odor, etc.)
sand grains, trace clay, (ML)								
silty sand - as above ... (SM)								HNu reading 0
silty clay - yellow/brown, orange/brown, trace very fine grain sand, firm (CL)								
clayey silt - yellow/brown, with occasional fine grain sand, wet, firm (ML)								▽ Free water @ 10'
clayey silt - as above, with ~~occasi~~ fine gravel, wet, firm-stiff (ML)								
silty clayey Gravel - yellow brown, ay, occasional tan silt inclussions								

T NO. 22238B

SHEET 2 OF 4

rd-Clyde Consultants PROJECT NAME RMA Task 2 HOLE NO. 36-189

CATION Sec 36-17		ELEVATION AND DATUM	
GENCY Datum Exploration Inc.	DRILLER Russ Parker	DATE STARTED / DATE FINISHED 4/28/89 / 5/2/89	
QUIP. CME 750		COMPLETION DEPTH 22.5	SAMPLER
THOD Hollow Stem Auger	DRILL BIT 6 3/8" OD Cutter head	NO. OF SAMPLES DIST.	UNDIST.
YPE OF CASING 4" Schedule PVC		WATER ELEV. FIRST	COMPL. 24 HRS.
FORATION .010" (No. 10) slotted	FROM 11 TO 21 FT.	LOGGED BY Bob Wilson	CHECKED BY
YPE OF PACK Colorado #10-#20	FROM 8.0 TO 22.5 FT.		
L Bentonite Pellets	FROM 3.5 TO 8.0 FT		

DESCRIPTION	GRAPHIC LOG Lithology	Piezometer Installation	Water Content	Piezometer Data	SAMPLES Type No.	Recov. ft.	Penetr. Resist. (Blows/6 in)	REMARKS (Drill Rate, Fluid loss, Odor, etc.)
ime - medium grain sand, wet, mod dense - dense ~~(GM)~~ (GM-GC)								
lty clayey ~~gravey~~ gravel - as above... (GM-GC)								we attempted a 4.5' run with the sampler from 15.5' to 20 and got a very poor sample ~75% recovery
ayey gravel grades to a gravelly lc occasionally								
ey silty gravel - as above (GM-GC)								
velly Clay - yellow/brown, red, range/brown, with trace silt, ft, firm - stiff (CH)								
clay - yellow/brown, orange/ stiff - hard, damp - moist (CL)								

22238B

ward-Clyde Consultants PROJECT NAME RMA Task 2 HOLE NO. 36-189

LOCATION Sec. 36-17		ELEVATION AND DATUM	
AGENCY Dorfum Exploration Inc	DRILLER Russ Parker	DATE STARTED / DATE FINISHED 4/28/89 / 5/2/89	
EQUIPMENT CME 750		COMPLETION DEPTH 22.5	SAMPLER
METHOD Hollow Stem Auger	DRILL BIT 6 5/8" OD Cutter head	NO. OF SAMPLES: DIST.	UNDIST. 9
TYPE OF CASING 4" Schedule PVC		WATER ELEV.: FIRST	COMPL. 24 HRS.
PERFORATION .010" (No.10) Slotted	FROM 11 TO 21 FT.	LOGGED BY Bob Wilson	CHECKED BY
TYPE OF PACK Colorado #10-#20	FROM 8.0 TO 22.5 FT.		
SEAL Bentonite Pellets	FROM 3.5 TO 8.0 FT		

DESCRIPTION	GRAPHIC LOG: Lithology	GRAPHIC LOG: Piezometer Installation	Water Content	Piezometer Data	SAMPLES: Type No.	SAMPLES: Recov. ft.	SAMPLES: Penetra. Resist. (Blows/6 in)	REMARKS (Drill Rate, Fluid loss, Odor, etc.)
silty clay - as above....								

NO. 22238B

SHEET 4 OF 4

WELLSPACE

BAG SAMPLE

10" AUGER

(1)

odward-Clyde Consultants PROJECT NAME Rocky Mountain Arsenal Task 2 HOLE NO. 36-190

ING LOCATION Sec 36-17		ELEVATION AND DATUM	
LING AGENCY Datum Exploration, Inc	DRILLER Russ Parker	DATE STARTED 4/19/89 DATE FINISHED 4/26/89	
LI UIPMENT CME 750		COMPLETION DEPTH 20 ft	SAMPLER Bob Wilson
LING METHOD Hollow Stem Auger	DRILL BIT 6 5/8" OD Cutting Head	NO. OF SAMPLES DIST.	UNDIST. 9
AND TYPE OF CASING 4" PVC (Schedule 40)		WATER ELEV. FIRST 7.5	COMPL. 6.8' 24 HRS.
OF PERFORATION .010" (No 10) Slotted	FROM 8.25 TO 18.25 FT.	LOGGED BY Bob Wilson	CHECKED BY
AND TYPE OF PACK Colorado No. 10	FROM 6.5 TO 20 FT.		
E OF SEAL Bentonite Pellets	FROM 3.0 TO 6.5 FT		

DESCRIPTION	GRAPHIC LOG: Lithology	GRAPHIC LOG: Piezometer Installation	Water Content	Piezometer Data	SAMPLES: Type No.	SAMPLES: Recov. ft.	SAMPLES: Penetra. Resist. (Blows/6 in)	REMARKS (Drill Rate, Fluid loss, Odor, etc.)
Sand - tan to brown, fine grained, medium to well sorted, loose, dry (SP)								Drill crew, geologist, health and safety Tech in respirators/ compressed air HNμ background reading 0.4-0.5 ppm prior to drilling
very silty Clay - firm, brown, with some fine grain sand, low plasticity (CL)								
silty Sand yellow, yellow brown, fine grain, very loose, dry ~~(SP)~~ (SM)								HNμ reading 0
at 6.8' soil becomes moist								▼

JECT NO. 22238B

SHEET 1 OF 3

odward-Clyde Consultants PROJECT NAME RMA Task #2 HOLE NO. 36-190

LOCATION Sec 36-17		ELEVATION AND DATUM	
AGENCY Datum Exploration Inc	DRILLER Russ Parker	DATE STARTED 4/19/89 / DATE FINISHED 4/26/89	
LING EQUIPMENT CME 750		COMPLETION DEPTH 20 ft	SAMPLER Bob Wilson
G METHOD Hollow Stem Auger	DRILL BIT 6 1/8" CD Cutting Head	NO. OF SAMPLES DIST.	UNDIST. 9
ID TYPE OF CASING 4" Schedule 40 PVC		WATER ELEV. FIRST 7.5	COMPL. 6.8 / 24 HRS.
OF PERFORATION .010" (No 10) slotted	FROM 8.25 TO 18.25 FT.	LOGGED BY Bob Wilson	CHECKED BY
ID TYPE OF PACK Colorado No 10	FROM 6.5 TO 20 FT.		
W SEAL Bentonite Pellets	FROM 3 TO 6.5 FT		

DESCRIPTION	GRAPHIC LOG: Lithology	GRAPHIC LOG: Piezometer Installation	Water Content	Piezometer Data	SAMPLES: Type No	SAMPLES: Recov./L	SAMPLES: Penetra. Resist. (Blows/6 in)	REMARKS (Drill Rate, Fluid loss, Odor, etc.)
very silty sand - yellow, yellow brown, fine grain, occasionally grading to slightly clayey silt, with red and black silt inclussions, wet (SP-ML)								HNμ reading 5ppm
								1.0 ABG
very silty sand - orange, yellow orange, fine grain, with occasional fine gray gravel, grades to a sandy silt at times, mod loose - poorly compacted. (SP-SM)								HNμ reading 1.5 ppm
								The hole was overdrilled with a 10" auger after completion depth was reached. The PVC casing was then set inside the 10" auger
very silty sand - orange, yellow orange, fine grain, with red silt inclussions, trace fine gray gravel @ 19' gravelly sand as above... (SP)								HNμ Reading 0 over background

JE T NO. 22238B

SHEET 3 OF 3

Woodward-Clyde Consultants PROJECT NAME Rocky Mountain Arsenal Test HOLE NO. 36-191

BORING LOCATION Sec. 36-17		ELEVATION AND DATUM	
DRILLING AGENCY Datum Exploration Inc	DRILLER	DATE STARTED 5/8/89 / DATE FINISHED 5/11/89	
DRILLING EQUIPMENT CME 750		COMPLETION DEPTH 40'	SAMPLER 3" OD Split Spoon w/ Polybutyrate Liners
DRILLING METHOD Hollow Stem Auger	DRILL BIT (6 5/8" OD) Cutter Head	NO. OF SAMPLES DIST.	UNDIST. 16
SIZE AND TYPE OF CASING 4" Schedule 40 PVC		WATER ELEV. FIRST	COMPL. 24 HRS.
TYPE OF PERFORATION .010" (No 10) slotted	FROM 22.5 TO 32.5 FT.	LOGGED BY Bob Wilson	CHECKED BY
SIZE AND TYPE OF PACK Colorado #10-#20	FROM 21.9 TO FT.		
TYPE OF SEAL Bentonite Pellets	FROM 16 TO 21.9 FT		

DEPTH (FEET)	DESCRIPTION	GRAPHIC LOG: Lithology	GRAPHIC LOG: Piezometer Installation	Water Content	Piezometer Data	SAMPLES: Type No.	SAMPLES: Recov. ft.	SAMPLES: Penetr. Resist. (Blows/6 in)	REMARKS (Drill Rate, Fluid loss, Odor, etc.)
	silty Sand - yellowish brown, very fine to occasionaly fine grain, with roots, dry, loose (OL-SM)								Drillers & Geologist in level C/B Protective clothing
1	silty Sand - as above without roots (SM)								HNμ readings background (0-2 ppm) unless noted
2									The boring was overdrilled with a 10" auger (10 5/8" cutter head) after the 6" augers were removed. The monitoring well was then installed through the 10" augers
3									
4	silty Sand - yellowish brown, fine - very fine grain, sub rounded, occasional roots, dry, loose (ML-SM)								
5									
6	silty Sand - yellowish brown, very fine to occasional fine grain, subrounded, loose to mod dense when silt content increases slightly, dry (ML-SM)								
7									

PROJECT NO. 22238B

SHEET 1 OF 5

Woodward-Clyde Consultants PROJECT NAME RMA Task #2 HOLE NO. 36-A1

DEPTH (FEET)	DESCRIPTION	GRAPHIC LOG: Lithology	GRAPHIC LOG: Piezometer Installation	Water Content	Piezometer Data	SAMPLES: Type No.	SAMPLES: Recov. (ft)	SAMPLES: Penetr. Resist. (Blows/6 in)	REMARKS (Drill Rate, Fluid loss, Odor, etc)
7									
8	silty Sand - orangish brown, yellowish brown, very fine grain, grades to a sandy silt in part, dry, loose - firm as a silt. (ML)								
9									
10	as above ...., trace dampness								
11									
12									
13	silty Sand - yellowish brown, very fine grain, trace tan hard clay inclussions (probable volcanics), dry, loose (ML)								
14									
15	silty Sand - as above...								
16									

SHEET 2 OF 5

PROJECT NO. 22238B

Woodward-Clyde Consultants PROJECT NAME RMA Task #2 HOLE NO. 36-191

DEPTH (FEET)	DESCRIPTION	GRAPHIC LOG: Lithology	GRAPHIC LOG: Piezometer Installation	Water Content	Piezometer Data	SAMPLES: Type Sm	SAMPLES: Recov. ft	SAMPLES: Penetr. Resist. Blows 6 in	REMARKS (Drill Rate, Fluid loss, Odor, etc)
16									16.3' Denver formation top.
	Clay (volcanic ash) tan with reddish brown, green, and black inclussions, dry, firm - stiff (CL)								
17	sandy Silt - orangeish brown, reddish brown, reddish orange, fine to occasional medium grain sand, trace fine gravel, dry, firm to soft (ML)								
18	at 17.5' tan clasts occur								
19	as above ...., trace moisture with associated organic matter roots, dense - mod dense								
20									
	sandy Silt - as above ... (ML)								
21									
	sandy Silt - varicolored (well oxidized) trace roots, with reddish very fine to fine grain sand clasts, dry, mod dense (ML - occ OL)								
22									
23	sandy Silt - as above, trace fine gravel								
24	Gravely Silt - silty Gravel - yellowish brown, gray, fine gravel, mod dense dry								
	Intebedded clay (possible weathered shale) and silt.								
25	Clay - grayish brown, dark greenish gray								

SHEET 3 OF 5

PROJECT NO. 222 38 B

Woodward-Clyde Consultants PROJECT NAME RMA Task #2 HOLE NO. 36-191

DEPTH (FEET)	DESCRIPTION	GRAPHIC LOG: Lithology	GRAPHIC LOG: Piezometer Installation	Water Content	Piezometer Data	SAMPLES: Type No.	SAMPLES: Recov. ft	SAMPLES: Penetr. Resist. Blows 6 in	REMARKS (Drill Rate, Fluid loss, Odor, etc)
25	with reddish brown and brown oxidized veins, dry, hard - dense								This claystone is really a weathered shale.
26	Shale - grayish brown to greenish gray, occasional brown vug fillings, interbedded with yellowish orange siltstone, dry, hard.								
27									
28	Shale as above ...., trace moisture								
29									
	Shale - greenish gray to grayish brown, with yellowish brown interbedded siltstone, dry, hard								
30									HNu reading 2ppm over background
31									
32									
	Shale as above								
33									
34									

PROJECT NO. 22278B

SHEET 4 OF 5

Woodward-Clyde Consultants PROJECT NAME RMA Task #2 HOLE NO. 36-191

DEPTH (FEET)	DESCRIPTION	GRAPHIC LOG: Lithology	GRAPHIC LOG: Piezometer Installation	Water Content	Piezometer Data	SAMPLES: Type No.	SAMPLES: Recov. ft	SAMPLES: Penetr. Resist. Blows 6 in	REMARKS (Drill Rate, Fluid loss, Odor, etc)
34	shale - grayish brown to greenish gray, occasional banded with dark gray brown shale and yellowish brown silt, dry, hard								
35									
36									
37	shale as above								
38									No water was detected in the hole while drilling. 16 hours after drilling 1.8' of water was detected in the hole. After overdrilling a water check indicated the hole was dry again
39	shale - gray, grayish brown, with interbedded yellow orange silt, hard, dry								
40	Boring terminated at 40.0'								

PROJECT NO. _____

SHEET 5 OF 5

Woodward-Clyde Consultants PROJECT NAME Rocky Mountain Arsenal Test #2 HOLE NO. 36-192

LOCATION Section 36-17		ELEVATION AND DATUM 5253.68	
AGENCY Datum Exploration Inc	DRILLER Tony Rodriguez	DATE STARTED / DATE FINISHED 5/16/89	
DRILLING EQUIPMENT CME 750		COMPLETION DEPTH 65'	SAMPLER 3" OD Split spoon w/ Polybutyrate liners
DRILLING METHOD Hollow Stem Auger	DRILL BIT 6 5/8 OD Cutter Head	NO. OF SAMPLES / DIST.	UNDIST.
SIZE AND TYPE OF CASING 4" OD Schedule 40 PVC		WATER ELEV. / FIRST	COMPL. / 24 HRS.
TYPE OF PERFORATION .10" (No 10) slotted	FROM 54.5 TO 64.5 FT.	LOGGED BY Bob Wilson, Dave Bufo	CHECKED BY
SIZE AND TYPE OF PACK Colorado No 10 - #20	FROM 45 TO 65 FT.		
TYPE OF SEAL Bentonite Pellets	FROM 40 TO 45 FT		

DEPTH (FEET)	DESCRIPTION	GRAPHIC LOG: Lithology	Piezometer Installation	Water Content	Piezometer Data	SAMPLES: Type No.	Recov./L	Penetra. Resist. (Blows/6 in)	REMARKS (Drill Rate, Fluid loss, Odor, etc.)
	sandy Silt - black, dark brown, with roots, damp, loose (OL)								grout
1	clayey Silt - dark brown, trace roots, damp, soft-firm (ML)								
	silty Sand - light yellowish brown, with tan silty inclussions, fine-very finegrain, dry, loose-mod dense (SM)								
4	as above ...								
5	silty sand - medium yellowish brown, with occasional tan silty inclussions, (Probable volcanic ash), dry, mod dense-loose (SM-ML)								

PROJECT NO. 22238B

SHEET 1 OF 8

Woodward-Clyde Consultants PROJECT NAME RMA Task #2 HOLE NO. 36-192

Depth	DESCRIPTION	GRAPHIC LOG: Lithology	Piezometer Installation	Water Content	Piezometer Data	SAMPLES: Type No.	Recov. ft	Penetr. Resist. Blows 6 in	REMARKS (Drill Rate, Fluid loss, Odor, etc)
7									
8	silty Sand as above...								
9	clay (volcanic ash) - tan, with green and black mineral inclussions, dry, stiff (CL)								
10	Shale - very weathered, brown to dark brown, dry, hard, crumbly								
12	Shale - medium brown to dark brown, with reddish brown silty veins - clasts, dry, hard, blocky, crumbly (very weathered)								Grout
13	Shale - brown to greyish brown, occasional layered with greenish gray shale, dry, hard, blocky, crumbly (very weathered)								
14									
15	Shale as above...								
16									

PROJECT NO. 322388

SHEET 2 OF 8

Woodward-Clyde Consultants PROJECT NAME RMA Task #2 HOLE NO. 36-192

Depth	DESCRIPTION	GRAPHIC LOG: Lithology	GRAPHIC LOG: Piezometer Installation	Water Content	Piezometer Data	SAMPLES: Type No.	SAMPLES: Recov. ft	SAMPLES: Penetr. Resist. Blows 6 in	REMARKS (Drill Rate, Fluid loss, Odor, etc)
16	Shale - brown to grayish brown, with greenish gray banded layers, dry, hard, crumbly.								grout
17									
8									
9	Shale as above with trace reddish orange to reddish brown stainning in healed fractures, occasional reddish orang siltstone clasts								
	Shale - brown, with black inclussions, hard, dry, crumbly.								
21	Shale - dark to medium brown, with some interbedded yellow brown siltstone, dry, hard, crumbly, weathered								
22									
3									
24									
	shaley siltstone dark yellowish brown, with some brown								
25									

SHEET 3 OF 8

PROJECT NO. 22238B

Woodward-Clyde Consultants PROJECT NAME RMA Task #2 HOLE NO. 36-192

DEPTH	DESCRIPTION	GRAPHIC LOG: Lithology	GRAPHIC LOG: Piezometer installation	Water Content	Piezometer Data	SAMPLES: Type No.	SAMPLES: Recov. ft	SAMPLES: Penetr. Resist (Blows 6 in)	REMARKS (Drill Rate, Fluid loss, Odor, etc)
25	interbedded shale, tr fine grain sand, dry, dense-very dense, mica inclussions, weathered								
	25 - 25.9± sandy siltstone dark yellow brown, dry, dense, breaks into plates ~~rp~~ in part.								
26	siltstone grading to a shale								
27	Shale - dark brown, clean, trace fine grain silty sand ~~layers~~ veins which have a slight trace of dampness, hard, dry								
28									Refusal drilling @28'. Pull sampler and drill with auger only.
			Grout						
30									
	Sample from unknown depth (probably from about 30') Sandstone - yellowish brown to tan, fine grain and medium to coarse grain (possible bimodal deposition), abundant dark mineral inclussions, very tight, very dense, dry								The sample came up the outside of the auger. The auger had about 2.5' of this sandstone as a plug
31									
32									Solid stem augers were used from 32.5 to completion depth
33									
34									

SHEET 4 OF 8

PROJECT NO. 22238B

Woodward-Clyde Consultants PROJECT NAME RMA Task 2 HOLE NO. 36192

Depth (ft)	DESCRIPTION	GRAPHIC LOG: Lithology	GRAPHIC LOG: Piezometer Installation	Water Content	Piezometer Data	SAMPLES: Type No.	SAMPLES: Recov. (ft)	SAMPLES: Penetr. Resist. Blows 6 in.	REMARKS (Drill Rate, Fluid loss, Odor, etc)
	Shale: dark brown, clean, hard, dry, very weathered								grout
35	2s 2 bone								
6									
6									
7									
39	2s 2 bone								
10									Bentonite Seal
11									
12									
13									

PROJECT NO. 22238 B

SHEET 5 OF 8

Woodward-Clyde Consultants PROJECT NAME RMA Trk 2 HOLE NO. 36192

DEPTH (ft)	DESCRIPTION	GRAPHIC LOG: Lithology	GRAPHIC LOG: Piezometer Installation	Water Content	Piezometer Data	SAMPLES: Type No.	SAMPLES: Recov. (ft)	SAMPLES: Penetr. Resist. Blows 6 in.	REMARKS (Drill Rate, Fluid loss, Odor, etc.)
44	2s 2 bone								Bentonite Seal
45									
46									
47	Shale/Claystone								
48									
49									sand pack
50	2s 2 bone								
51									
52									

PROJECT NO. 222388

SHEET 6 OF 8

Woodward-Clyde Consultants PROJECT NAME RMN Task 2 HOLE NO. 36192

Depth	DESCRIPTION	GRAPHIC LOG: Lithology	GRAPHIC LOG: Piezometer Installation	Water Content	Piezometer Data	SAMPLES: Type No.	SAMPLES: Recov. ft	SAMPLES: Penetr. Resist. Blows 6 in	REMARKS (Drill Rate, Fluid loss, Odor, etc)
53	as above								
54									
55									
	Weathered Shale / Claystone								sand pack
57									
58									SCREEN
59									
60	as above								
61									

PROJECT NO. 22238B

SHEET 7 OF 8

Woodward-Clyde Consultants PROJECT NAME PMH - Deck 2 HOLE NO. 36192

Depth	DESCRIPTION	GRAPHIC LOG: Lithology	GRAPHIC LOG: Piezometer Installation	Water Content	Piezometer Data	SAMPLES: Type No.	SAMPLES: Recov. ft	SAMPLES: Penetr. Resist. Blows 6 in	REMARKS (Drill Rate, Fluid loss, Odor, etc)
62	23 2 bine								screen
63									sand pack
4									
	TD								

PROJECT NO. 22238B

SHEET 8 OF 8

Woodward-Clyde Consultants PROJECT NAME RMA task 2 HOLE NO. 36193

BORING LOCATION SECTION 36		ELEVATION AND DATUM	
DRILLING AGENCY Datum Exploration Inc	DRILLER Bob Hollinger	DATE STARTED / DATE FINISHED 5-16-89 / 5-17-89	
DRILLING EQUIPMENT CME 55		COMPLETION DEPTH 19.0'	SAMPLER SPLIT SPOON 3" O.D. w/polybutyrate liners
DRILLING METHOD Hollow stem auger	DRILL BIT 6 5/8" cutter head	NO. OF SAMPLES: DIST.	UNDIST.
SIZE AND TYPE OF CASING 4" schedule 40 PVC		WATER ELEV.: FIRST	COMPL. / 24 HRS.
TYPE OF PERFORATION .010" (N. 10) slotted	FROM 6.9 TO 15.7 FT.	LOGGED BY STEVEN E. MORRISSETTE	CHECKED BY
SIZE AND TYPE OF PACK SAND / Colorado #10-#20	FROM 5.5 TO 19.0 FT.		
TYPE OF SEAL Bentonite pellets	FROM 0 TO 3.5 FT		

DEPTH (FEET)	DESCRIPTION	GRAPHIC LOG: Lithology	Piezometer Installation	Water Content	Piezometer Data	SAMPLES: Type No.	Recov. ft.	Penetr. Resist. (blows/6 in)	REMARKS (Drill Rate, Fluid loss, Odor, etc.)
	SILTY CLAY, firm-stiff, low-plastic, organic, dusky yellowish-brown (10 yr 2/2), (CL), wet, roots								LEGEND:
	SILTY SAND, loose, fine-grained, well-sorted, subangular, dark yellowish-brown (10 yr 4/2 munsell), (SM), wet, roots		4" I.D. PVC well casing			3" polybutyrate	1.2 feet		Cement/bentonite grout
1									Bentonite pellets
	Color changes to moderate yellowish-brown (10 yr 5/4 munsell), no roots								
3									
4						3" polybutyrate	1.5 feet		
5									
	Some lenses of grayish-orange (10 yr 7/4 munsell) SILTY SAND.		4" I.D. PVC well casing						

PROJECT NO. 22238B

SHEET 1 OF 3

Woodward-Clyde Consultants PROJECT NAME RMA / task 2 HOLE NO. 36193

DEPTH (FEET)	DESCRIPTION	GRAPHIC LOG: Lithology	GRAPHIC LOG: Piezometer Installation	Water Content	Piezometer Data	SAMPLES: Type No.	SAMPLES: Recov. ft	SAMPLES: Penetr. Resist (Blows 6 in)	REMARKS (Drill Rate, Fluid loss, Odor, etc)
8									
9									
10	material becomes wetter					3" polybutyrate	1.5 feet		water level 13 days AD; water level 6 days AD
11									
12									
13									
14									
15									
16	SILTY SAND, loose, fine-grained, well sorted, subangular, grayish-brown (5 ye 3/2 munsell), very wet (sm) with lenses of pale orange (10 ye 8/2 munsell), SILTY CLAY which are 2"-3" thick								

PROJECT NO. 222388

SHEET 2 OF 3

Woodward-Clyde Consultants PROJECT NAME RMA/task 2 HOLE NO. 36193

DEPTH (FT)	DESCRIPTION	GRAPHIC LOG: Lithology	GRAPHIC LOG: Piezometer Installation	Water Content	Piezometer Data	SAMPLES: Type No.	SAMPLES: Recov. (ft)	SAMPLES: Penetr. Resist. Blows 6 in	REMARKS (Drill Rate, Fluid loss, Odor, etc)
16	SILTY SAND, loose, fine-grained, well-sorted, subangular, grayish-brown (5 yr 2/2 munsell), very wet (SM) with lenses of pale orange (10 yr 8/2 mun.), SILTY CLAY which are 2"-3" thick								
7									
8			hole caved in from 17.3' to 19.0'						
	CLAYSTONE, hard, dusky brown (5 yr 2/2 munsell) CL								
19	bottom of boring at 19.0'								
1									
-1									
2									

PROJECT NO. 22238B

SHEET 3 OF 3

Edward-Clyde Consultants PROJECT NAME RMA task 2 HOLE NO. 36194

ING LOCATION SECTION 36		ELEVATION AND DATUM	
G AGENCY DATUM EXPLORATION INC	DRILLER Bob Hollinger	DATE STARTED / DATE FINISHED 6-15-89 / 6-16-89	
QUIPMENT CME 55 / 6" hollow stem augers		COMPLETION DEPTH 28.0'	SAMPLER 3" I.D. polybutyrate liners
LING METHOD hollow stem augers	DRILL BIT 6 5/8" cutting head	NO. OF SAMPLES DIST.	UNDIST. 3
ID TYPE OF CASING 4" I.D. schedule 40 PVC		WATER ELEV. FIRST 16.8'	COMPL. 24 HRS.
F PERFORATION #10 slotted	FROM 23.0 TO 14.2 FT.	LOGGED BY STEVEN E. MORRISSETTE	CHECKED BY
AND TYPE OF PACK #10-#20 Colorado sand	FROM 28.0 TO 9.0 FT.		
F SEAL bentonite pellets	FROM 9.0 TO 4.0 FT		

DESCRIPTION	GRAPHIC LOG: Lithology	GRAPHIC LOG: Piezometer Installation	Water Content	Piezometer Data	SAMPLES: Type No.	SAMPLES: Recov. ft.	SAMPLES: Penetra. Resist. (Blows/6 in)	REMARKS (Drill Rate, Fluid loss, Odor, etc.)
SILTY SAND, loose, fine-grained, well sorted, subangular, dark yellowish-brown (10 YR 4/2 munsell), slightly wet (Sm), with roots		4" I.D. PVC well casing			3" polybutyrate			NOTE: UPON REAMING THE HOLE WITH THE 10" AUGERS AN ARTILLERY SHELL (SPENT) WAS BROUGHT TO THE SURFACE FROM A DEPTH OF 2"-3".
Very light gray (N8), with the consistency of silty clay (concrete dust?)	?							
SILTY SAND, loose, fine-grained, well-sorted, subangular, moderate yellowish-brown (10 YR 5/4 munsell), slightly wet (Sm)		THREADED JOINT						
		4" I.D. PVC well casing			3" polybutyrate			

cement/bentonite grout

bentonite pellets

JECT NO. 22238A

SHEET 1 OF 4

Woodward-Clyde Consultants PROJECT NAME CMA task 2 HOLE NO. 36194

Depth	DESCRIPTION	GRAPHIC LOG: Lithology	GRAPHIC LOG: Piezometer Installation	Water Content	Piezometer Data	SAMPLES: Type No.	SAMPLES: Recov. ft	SAMPLES: Penetr. Resist. (Blows 6 in)	REMARKS (Drill Rate, Fluid loss, Odor, etc)
7	SAME AS ABOVE								
8									
9									
10			4" I.D. PVC well casing						
11									
12									material becomes much wetter at a depth of approx. 12.5 feet.
13			THREADED JOINT						water level 21 hrs. AD ▼
14									
15									
16									

PROJECT NO. 22238A

SHEET 2 OF 4

Woodward-Clyde Consultants PROJECT NAME RMA task 2 HOLE NO. 36194

Depth (Ft)	DESCRIPTION	GRAPHIC LOG: Lithology	GRAPHIC LOG: Piezometer installation	Water Content	Piezometer Data	SAMPLES: Type No.	SAMPLES: Recov. ft	SAMPLES: Penetr. Resist. (Blows 6 in)	REMARKS (Drill Rate, Fluid loss, Odor, etc)
16	Same as above								
									▼ water level ATD
17									
18									
									STAINLESS STEEL CENTRALIZER WAS INSTALLED IN THE CENTER OF THE SCREEN AREA.
19	color changes to a moderate brown (5YR 3/4 munsell)					3" polybutyrate			
21									
22	SANDY SILTY CLAY, firm-stiff, pale yellowish-brown (10 YR 6/2 munsell), wet with gravel sized inclusions of dusky yellowish-brown (10 YR 2/2 munsell) weathered shale/claystone "bedrock"								
23									Driller notes that material becomes much stiffer from 23 feet downward.
24									
25									

PROJECT NO. 22238A

SHEET 3 OF 4

Woodward-Clyde Consultants PROJECT NAME RMA task 2 HOLE NO. 36194

Depth (Ft)	DESCRIPTION	GRAPHIC LOG: Lithology	GRAPHIC LOG: Piezometer Installation	Water Content	Piezometer Data	SAMPLES: Type No.	SAMPLES: Recov. ft	SAMPLES: Penetra. Resist (Blows 6 in)	REMARKS (Drill Rate, Fluid loss, Odor, etc)
25	SAME AS ABOVE		SAND PACK #10-#20						
26									
27	SILTY CLAY, very stiff, low-plastic, dusky brown (5 YR 2/2 munsell), slightly wet (CL), blocky "WEATHERED BEDROCK" (SHALE or CLAYSTONE)								
28	bottom of boring at 28.0 ft.								
30									
31									
32									
33									
34									

PROJECT NO. 22238A

SHEET 4 OF 4

Woodward-Clyde Consultants PROJECT NAME RMA / task 2 HOLE NO. 01083

BORING LOCATION M-1 Ponds		ELEVATION AND DATUM	
DRILLING AGENCY Datum Exploration Inc	DRILLER Bob Hollinger	DATE STARTED / DATE FINISHED 5-11-89 / 5-12-89	
DRILLING EQUIPMENT CME 55		COMPLETION DEPTH 18.75'	SAMPLER 3" O.D. Split Spoon / Polycarbonate Liners
DRILLING METHOD Hollow Stem Auger	DRILL BIT 6 5/8" Auger Head	NO. OF SAMPLES DIST.	UNDIST.
SIZE AND TYPE OF CASING 4" Schedule 40 PVC		WATER ELEV. FIRST 11.5'	COMPL. 11.3 24 HRS. 6.6
TYPE OF PERFORATION .010" (No. 10) Slotted	FROM 7.5' TO 16.3 FT.	LOGGED BY STEVEN E. MORRISSETTE	CHECKED BY
SIZE AND TYPE OF PACK Sand / Colorado #10 - #20	FROM 6.0' TO 18.0' FT.		
TYPE OF SEAL Bentonite Pellets	FROM 3.0' TO 6.0' FT / FROM 18.0' TO 18.75'		

DEPTH (FEET)	DESCRIPTION	GRAPHIC LOG: Lithology	GRAPHIC LOG: Piezometer Installation	Water Content	Piezometer Data	SAMPLES: Type No.	SAMPLES: Recov./ft.	SAMPLES: Penetr. Resist. (Blows/6 in)	REMARKS (Drill Rate, Fluid loss, Odor, etc.)
1, 2, 3, 4	SILTY SAND, loose, fine-grained, well-sorted, subangular, moderate yellowish-brown (10 YR 5/4 munsell), slightly wet (SM)		4" I.D. PVC well casing			3" poly buty.	1.5 feet		LEGEND: Cement/Bentonite grout; Bentonite pellets
5	SANDY SILTY CLAY, firm, low-plastic, dusky brown (5 YR 2/2 munsell), very wet with fine-grained, well sorted, subangular sand (CL)		4" I.D. PVC well casing			3" poly buty.	2.0 feet		Note: Sample tube (6") taken from the 2.5 - 3.0 foot interval.
6, 7	SILTY SAND, loose, fine-grained, well sorted, subangular, moderate brown (5 YR 3/4 munsell), very wet (SM)		4" I.D. PVC well casing			3" poly buty.	2.0 feet		Water level 20 hrs. AD

PROJECT NO. 22238B

SHEET 1 OF 3

Woodward-Clyde Consultants PROJECT NAME KMA / task 2 HOLE NO. 01083

DEPTH (FEET)	DESCRIPTION	GRAPHIC LOG: Lithology	GRAPHIC LOG: Piezometer Installation	Water Content	Piezometer Data	SAMPLES: Type No.	SAMPLES: Recov. ft	SAMPLES: Penetr. Resist (Blows 6 in)	REMARKS (Drill Rate, Fluid loss, Odor, etc)
7	Color changes to moderate yellowish-brown (10 yr 5/4 munsell)..					3" polybutyrate	1.0 feet		← DEPTH OF SLOTTED SECTION BELOW GL. (7.5 feet)(top)
8									
9									
10									
11									
12	SILTY SAND, loose, fine-grained, well sorted, subangular, moderate yellowish-brown (10 yr 5/4 munsell), very wet (sm) with 2"-3" layers of yellowish-gray (5 y 8/1 munsell) to very light-gray (N8 munsell) soft silty clay material								
13									
14	SILTY SAND, loose, fine-med. grained, well-sorted, subangular, moderate brown (5 yr 3/4 munsell), very wet (sm)								
15									
16									

PROJECT NO. 22238B

SHEET 2 OF 3

Woodward-Clyde Consultants PROJECT NAME KMA task 2 HOLE NO. 01083

DEPTH (FEET)	DESCRIPTION	GRAPHIC LOG: Lithology	GRAPHIC LOG: Piezometer Installation	Water Content	Piezometer Data	SAMPLES: Type No.	SAMPLES: Recov. ft	SAMPLES: Penetr. Resist. Blows 6 in	REMARKS (Drill Rate, Fluid loss, Odor, etc)
16	SILTY SAND, loose, fine-medium grained, well-sorted, subangular, moderate brown (5 YR 3/4 munsell), very wet (sm)								← DEPTH OF SLOTTED SECTION BELOW G.L. (16.3 feet) (b.t.)
17	SILTSTONE, hard, medium gray (N5 munsell), with some coarse grained sand and gravel inclusions. Upper foot is fractured with SILTY SAND matrix.								
18									
	bottom of boring at 18.75'								
19									
20									
21									
22									
23									
24									
25									

PROJECT NO. 22238B

SHEET 3 OF 3

Woodward-Clyde Consultants PROJECT NAME RMA / task 2 HOLE NO. TRENCH Soil borin

DEPTH (FEET)	DESCRIPTION	GRAPHIC LOG: Lithology	GRAPHIC LOG: Piezometer Installation	Water Content	Piezometer Data	SAMPLES: Type No.	SAMPLES: Recov. ft	SAMPLES: Penetr. Resist Blows 6 in	REMARKS (Drill Rate, Fluid loss, Odor, etc)
19	same as above								
20						3" poly butty.	1.0 feet		
21									Note: Soil in sampler tube from 20.9 ft to 22.0 ft is saturated.
22	bottom of boring @ 22.0 ft.								Note: bottom of sampler shoe had free water in it at a depth of 22.0'.
23									
24									
25									
26									
27									
28									

PROJECT NO. 22238B

SHEET 2 OF 2

Woodward-Clyde Consultants PROJECT NAME RMA task 2 HOLE NO. TRENCH #2 Soil boring

BORING LOCATION SECTION 36-17N anomaly area A		ELEVATION AND DATUM 5250.3	
DRILLING AGENCY DATUM EXPLORATION	DRILLER B. Hollinger	DATE STARTED / DATE FINISHED 5-23-89 / 5-24-89	
DRILLING EQUIPMENT CME 55 / 6" hollow stem auger		COMPLETION DEPTH 20.0 ft.	SAMPLER 3" OD split spoon w/(poly)butyrate liners
DRILLING METHOD Hollow stem augers	DRILL BIT 6 5/8" cutter head	NO. OF SAMPLES DIST.	UNDIST. 1
SIZE AND TYPE OF CASING		WATER ELEV. FIRST 19.5	COMPL. 24 HRS.
TYPE OF PERFORATION	FROM TO FT.	LOGGED BY STEVEN E. MORRISSETTE	CHECKED BY
SIZE AND TYPE OF PACK	FROM TO FT.		
TYPE OF SEAL	FROM TO FT		

DEPTH (FEET)	DESCRIPTION	GRAPHIC LOG: Lithology	GRAPHIC LOG: Piezometer Installation	Water Content	Piezometer Data	SAMPLES: Type No.	SAMPLES: Recovery	SAMPLES: Penetr. Resist. (Blows/6 in)	REMARKS (Drill Rate, Fluid loss, Odor, etc.)
3.0	boring begins at a depth of 3.5! Hole has 18" PVC casing from the surface to depth of 3.5 feet.								See trench log #2 for soil I.D. above 3.5 feet.
4	SILTY SAND, loose, fine-grained, well sorted, subangular, moderate yellowish-brown (10 YR 5/4 mun.), slightly wet (sm)								Note: Bob Hollinger dropped sampler approx. 2.5 ft. into soil. We believe this plugged the tip and caused only 50% recovery on the first 5.0 ft run.
5									
6									
7									
8									
9	some small lenses (1"-2") of pale yellowish-brown (10 YR 6/2) discoloration appear.								
10									

PROJECT NO. 22238B

SHEET 1 OF 3

Woodward-Clyde Consultants PROJECT NAME RMA task 2 HOLE NO. Trench #2 Soil boring

DEPTH (FEET)	DESCRIPTION	GRAPHIC LOG: Lithology	GRAPHIC LOG: Piezometer Installation	Water Content	Piezometer Data	SAMPLES: Type No.	SAMPLES: Recov. (ft)	SAMPLES: Penetr. Resist. Blows 6 in	REMARKS (Drill Rate, Fluid loss, Odor, etc)
10	same as above								
11									
12									
13									
14									
15	material becomes much wetter.								
16									
17									
18									
19	Same as above with lenses (2"-3") of SILTY CLAY, soft-firm, low plastic, very pale orange (10 YR 8/2) to grayish-orange (10 YR 7/4), very wet (CL)								

PROJECT NO. 22238B

SHEET 2 OF 3

Woodward-Clyde Consultants PROJECT NAME RMA task 2 HOLE NO. Trench # Soil boring

DEPTH (FEET)	DESCRIPTION	GRAPHIC LOG: Lithology	GRAPHIC LOG: Piezometer Installation	Water Content	Piezometer Data	SAMPLES: Type No.	SAMPLES: Recov. ft	SAMPLES: Penetr. Resist. (Blows/6 in)	REMARKS (Drill Rate, Fluid loss, Odor, etc)
19	same as above					3" polybut.	1.0 foot		Some free water in the bottom .5 foot of sampler.
20	bottom of boring at 20.0 ft								
21									
22									
23									
24									
25									
26									
27									
28									

PROJECT NO. 22238B

SHEET 3 OF 3

WCC-1

Woodward-Clyde Consultants PROJECT NAME Rocky Mountain Arsenal Task #2 HOLE NO. ~~001~~

BORING LOCATION M-1 Ponds		ELEVATION AND DATUM 5264.0	
DRILLING AGENCY Datum Exploration Inc	DRILLER Russ Parker	DATE STARTED / DATE FINISHED 5/24/89	
DRILLING EQUIPMENT CME 750		COMPLETION DEPTH 192'	SAMPLER 2" OD Split spoon w/ polybutyrate liners
DRILLING METHOD Hollow Stem Auger	DRILL BIT 6 7/8" OD Cutter Head	NO. OF SAMPLES DIST.	UNDIST. 3
SIZE AND TYPE OF CASING		WATER ELEV. FIRST 7.0	COMPL. NA 24 HRS. NA
TYPE OF PERFORATION	FROM TO FT.	LOGGED BY Bob Wilson	CHECKED BY
SIZE AND TYPE OF PACK	FROM TO FT.		
TYPE OF SEAL	FROM TO FT		

DEPTH (FEET)	DESCRIPTION	GRAPHIC LOG: Lithology	Piezometer Installation	Water Content	Piezometer Data	SAMPLES: Type No.	Recov. ft.	Penetr. Resist. (Blows/6 in)	REMARKS (Drill Rate, Fluid loss, Odor, etc.)
	Silty Sand - yellowish brown to yellowish gray, very fine to occasional fine grain, with pebbles, dry, mod dense (SM-ML)								
1	Silty sand - as above without pebbles, damp, loose - mod dense (ML)								
2									
3									
	as above....								
4	Clayey silt - dark brown, stiff, damp. (ML)								
5									
6									
7				▼					water level from moisture on sampled

PROJECT NO. 22238B

SHEET 1 OF 2

Woodward-Clyde Consultants PROJECT NAME RMA Task #2 HOLE NO. 36-190

LOCATION Sec 36-12		ELEVATION AND DATUM	
AGENCY Datum Exploration Inc	DRILLER Russ Parker	DATE STARTED 4/19/89 / DATE FINISHED 4/26/89	
DRILLING EQUIPMENT CME 750		COMPLETION DEPTH 20 ft	SAMPLER Bob Wilson
DRILLING METHOD Hollow Stem Auger	DRILL BIT 6 5/8" OD Cutter head	NO. OF SAMPLES DIST.	UNDIST. 9
SIZE AND TYPE OF CASING 4" Schedule 40 PVC		WATER ELEV. FIRST 7.5	COMPL 6.8 24 HRS.
TYPE OF PERFORATION .010" (No 10) slotted	FROM 8.25 TO 18.25 FT.	LOGGED BY Bob Wilson	CHECKED BY
SIZE AND TYPE OF PACK Colorado No 10	FROM 6.5 TO 20 FT.		
TYPE OF SEAL Bentonite Pellets	FROM 3.0 TO 6.5 FT		

DEPTH	DESCRIPTION	GRAPHIC LOG: Lithology	GRAPHIC LOG: Piezometer Installation	Water Content	Piezometer Data	SAMPLES: Type No	SAMPLES: Recov. ft	SAMPLES: Penetr. Resist. (Blows/6 in)	REMARKS (Drill Rate, Fluid loss, Odor, etc.)
	at 7.5' soil becomes wet								1.0 A.B.6.
	black silty inclussions								
	silty Sand as above...								
									Free water encountered @ 10'
	silty Sand - yellow, fine - very fine grain, well sorted, wet (SP) - ML)								HNu reading 0 over background
	" "								
									1.0 A.B.4
	silty Sand - yellow, very fine to fine grain, well sorted, moderately loose, with red + black clayey silt inclusions, wet (SP)								

PROJECT NO. 22238B

SHEET 2 OF 3

RFC

Woodward-Clyde Consultants PROJECT NAME RMA Task #2 HOLE NO. ~~ept-001~~ WCC-1

DEPTH (FEET)	DESCRIPTION	GRAPHIC LOG: Lithology	GRAPHIC LOG: Piezometer Installation	Water Content	Piezometer Data	SAMPLES: Type No.	SAMPLES: Recov. (ft)	SAMPLES: Penetr. Resist. Blows 6 in.	REMARKS (Drill Rate, Fluid loss, Odor, etc)
7	clayey silt - dark brown, stiff, damp.								
8									
9	clay~~stone~~ (volcanic ash) - tan, cream, trace green and black mineral inclussions, dry-damp (CH)								
10	Boring terminated at 10.2 ft.								Hole grouted to surface

PROJECT NO. 22238 B

SHEET 2 OF 2

Kfe

WCC-2

oodward-Clyde Consultants PROJECT NAME RMA TASK NO. 2 HOLE NO. ~~01002~~

ORING LOCATION M-1 POND AREA, BORING LOCATION 01002		ELEVATION AND DATUM 5263.4	
ILLING AGENCY DATUM EXPLORATION	DRILLER R. PARKER	DATE STARTED / DATE FINISHED 6-8-89 / 6-8-89	
IL EQUIPMENT CME-750		COMPLETION DEPTH 10 FT.	SAMPLER 3" I.D. POLYBUTYRATE LINER
ILLING METHOD 6" DIA. H.S.A.	DRILL BIT 6 5/8" CUTTING HEAD	NO. OF SAMPLES DIST.	UNDIST. 4
ZE AND TYPE OF CASING		WATER ELEV. FIRST N/A	COMPL. 24 HRS.
PE OF PERFORATION	FROM TO FT.	LOGGED BY KLAAS DOEDEN	CHECKED BY.
ZE AND TYPE OF PACK	FROM TO FT.		
PE OF SEAL	FROM TO FT		

(FEET)	DESCRIPTION	GRAPHIC LOG Lithology	~~Piezometer Installation~~ USC	Water Content	Piezometer Data	SAMPLES Type No.	Recov./L	Penetr. Resist. (Blows/6 in)	REMARKS (Drill Rate, Fluid loss, Odor, etc.)
	LOOSE, NON-PLASTIC, DRY, BROWN TO REDDISH-BROWN, WELL SORTED, SANDY SILT WITH SOME CLAY.		ML	WC < PL		3" POLY			BORING ADVANCED WITH 6" DIA. H.S.A. WITH 6 5/8" DIA. CUTTING HEAD. NO WATER DETECTED A.T.D.
						3" POLY			
	BECOMING CLAYEY SILT WITH TRACE OF FINE SAND.		ML	WC > PL		3" POLY			
	FIRM TO SOFT, LOW PLASTIC, WELL SORTED, BROWN TO REDDISH-BROWN, VERY SILTY CLAY WITH TRACE OF SAND		CL						

ROJECT NO. 222-38B-2120

SHEET 1 OF 2

Woodward-Clyde Consultants PROJECT NAME RMA TASK NO. 2 HOLE NO. B1002

DEPTH (FEET)	DESCRIPTION	GRAPHIC LOG: Lithology	GRAPHIC LOG: Piezometer Installation	Water Content	Piezometer Data	SAMPLES: Type No.	SAMPLES: Recov. ft	SAMPLES: Penetr. Resist. Blows/6 in	REMARKS (Drill Rate, Fluid loss, Odor, etc)
7	FIRM TO SOFT, LOW PLASTIC, WELL SORTED, BROWN TO REDDISH BROWN, VERY SILTY CLAY WITH TRACE OF SAND BECOMING LT. BROWN.		CL	WC > PL					
8	BECOMING BROWN TO REDDISH BROWN			WC < PL					
9									
						MP			
10									BOTTOM OF BORING 10.0 FT. BORING BACKFILLED TO GROUND SURFACE WITH GROUT

PROJECT NO. 22238B-2120

SHEET 2 OF 2

Woodward-Clyde Consultants PROJECT NAME RMA task 2 HOLE NO. 3

BORING LOCATION M-1 pond area		ELEVATION AND DATUM 5261.6	
DRILLING AGENCY Datum Exploration Inc.	DRILLER T. Rodriguez	DATE STARTED / DATE FINISHED 5-30-89	
DRILLING EQUIPMENT CME 750		COMPLETION DEPTH 10.5	SAMPLER 3" I.D. Polybu[illegible]
DRILLING METHOD 6" hollow stem	DRILL BIT 6 5/8 [illegible]	NO. OF SAMPLES DIST.	UNDIST. 3
SIZE AND TYPE OF CASING		WATER ELEV. FIRST 6.5'	COMPL. 6.5' 24 HRS. N/[illegible]
TYPE OF PERFORATION	FROM TO FT.	LOGGED BY STEVEN E. MORRISSETTE	CHECKED BY
SIZE AND TYPE OF PACK	FROM TO FT.		
TYPE OF SEAL	FROM TO FT.		

DEPTH (FEET)	DESCRIPTION	GRAPHIC LOG: Lithology	GRAPHIC LOG: Piezometer Installation	Water Content	Piezometer Data	SAMPLES: Type No.	SAMPLES: Recov. ft.	SAMPLES: Penetr. Resist. (Blows/6 in)	REMARKS (Drill Rate, Fluid loss, Odor, etc)
0	SILTY SAND, loose, fine-grained, well-sorted, sub-angular, moderate brown (5YR 3/4 munsell from 0.0'-0.4'), moderate yellowish-brown (10 YR 5/4 munsell from 0.4' below), slightly wet, (SM)								roots from 0.0'-0.4'.
1									Note: We hit a hard object at 1.5 feet. We believe it was just a chunk of concrete or a rock and continue drilling
2	becomes slightly wetter at 2.2'.					3" polybuty.			
3	color change to dark yellowish-brown (10 YR 4/2 munsell) at a depth of 3.0'.								
4						3" polybuty.			
5									
6									
7	SILTY SAND, same as above with some thin lenses of very pale orange (10 YR 8/2 munsell) silty clay material								soil is saturated from 6.5' to bottom of boring

PROJECT NO. 22238B

SHEET 1 OF 2

Woodward-Clyde Consultants PROJECT NAME LLL301D HOLE NO. 3

DEPTH (FEET)	DESCRIPTION	GRAPHIC LOG: Lithology	GRAPHIC LOG: Piezometer Installation	Water Content	Piezometer Data	SAMPLES: Type No.	SAMPLES: Recov. ft	SAMPLES: Penetr. Resist. Blows 6 in	REMARKS (Drill Rate, Fluid loss, Odor, etc)
	Same as above								
8	SILTY SAND, loose, fine-grained, well-sorted, subangular, moderate yellowish-brown (10 YR 5/4 mm.), very wet, (SM)								
9						3" polybuty.			
10									
	bottom of boring at 10.5 feet								boring grouted immediately after completion
11									
12									
13									
14									
15									
16									

PROJECT NO. 22238B

SHEET 2 OF 2

Woodward-Clyde Consultants PROJECT NAME FMA task 2 HOLE NO. 4

BORING LOCATION M-1 pond area		ELEVATION AND DATUM 5262.1	
DRILLING AGENCY Dames Exploration Inc.	DRILLER Russ Parker	DATE STARTED / DATE FINISHED 5-30-89	
DRILLING EQUIPMENT CME 750		COMPLETION DEPTH 10.5'	SAMPLER 3" I.D. Polybutyr. liner
DRILLING METHOD 6" hollow stem	DRILL BIT 6 5/8" auger head	NO. OF SAMPLES DIST.	UNDIST. 3
SIZE AND TYPE OF CASING		WATER ELEV. FIRST N/A	COMPL. 24 HRS.
TYPE OF PERFORATION	FROM TO FT.	LOGGED BY STEVEN E. MORRISSETTE	CHECKED BY
SIZE AND TYPE OF PACK	FROM TO FT.		
TYPE OF SEAL	FROM TO FT		

DEPTH (FEET)	DESCRIPTION	GRAPHIC LOG: Lithology	GRAPHIC LOG: Piezometer Installation	Water Content	Piezometer Data	SAMPLES: Type No.	SAMPLES: Recov./L	SAMPLES: Penetra. Resist. (Blows/6 in)	REMARKS (Drill Rate, Fluid loss, Odor, etc.)
0	SILTY SAND, loose, fine-grained, well-sorted, sub-angular, moderate yellowish-brown (10 yr 5/4 munsell), dry (sm)								upper .6 feet has roots.
1									
2						3" polybuty.			
3									
4	becomes slightly wet a a depth of 3.8 feet.					3" polybuty			
5									
6									
7									

PROJECT NO. 22238B

SHEET 1 OF 2

RIC

WCC-4

Woodward-Clyde Consultants PROJECT NAME RMA task 2 HOLE NO. ~~4~~

Depth	DESCRIPTION	GRAPHIC LOG: Lithology	GRAPHIC LOG: Piezometer Installation	Water Content	Piezometer Data	SAMPLES: Type No.	SAMPLES: Recov. (ft)	SAMPLES: Penetr. Resist. (Blows/6 in)	REMARKS (Drill Rate, Fluid loss, Odor, etc)
7	Same as above								
8	Same as above except color changes to pale yellowish-brown (10 YR 6/2 munsell) with thin lenses (.5" to 1.0") of very pale orange (10 YR 8/2) and grayish-orange (10 YR 2/4) silty CLAY (CL)					3" polybuty.			
9									
10									
	bottom of boring at 10.5 feet								boring was grouted immed. after completion.
11									
12									
13									
14									
15									
16									

Woodward-Clyde Consultants PROJECT NAME: KMA task 2 HOLE NO. 5

BORING LOCATION: M-1 pond area		ELEVATION AND DATUM: 5263.5	
DRILLING AGENCY: Datum Exploration Inc.	DRILLER: T. Rodriguez	DATE STARTED / DATE FINISHED: 5-25-89 / 5-25-89	
DRILLING EQUIPMENT: CME 750		COMPLETION DEPTH: 8.5 ft.	SAMPLER: 3" I.D. Polybutyr
DRILLING METHOD: 6" hollow stem	DRILL BIT: 6 5/8" cutting head	NO. OF SAMPLES: DIST.	UNDIST. 4
SIZE AND TYPE OF CASING		WATER ELEV.: FIRST 7.4'	COMPL. 24 HRS.
TYPE OF PERFORATION	FROM TO FT.	LOGGED BY: STEVEN E. MORRISSETTE	CHECKED BY
SIZE AND TYPE OF PACK	FROM TO FT.		
TYPE OF SEAL	FROM TO FT		

DEPTH (FEET)	DESCRIPTION	GRAPHIC LOG: Lithology	Piezometer Installation	Water Content	Piezometer Data	SAMPLES: Type No.	Recov. ft.	Penetr. Resist. (Blows/6 in)	REMARKS (Drill Rate, Fluid loss, Odor, etc.)
0	SILTY SAND, loose, fine-grained, well-sorted, sub-angular, dark yellowish-brown (10 YR 4/2 munsell), slightly wet, (SM)					3" polybuty.			
1	color changes to very pale orange at (10 YR 8/2) depth of 1.5'-1.7'. color changes to moderate yellowish-brown (10 YR 5/4) at 1.7'-1.9'.								
2						3" polybuty.			
3	color change to dark yellowish-brown (10 YR 4/2 munsell) at a depth of 3.0 feet.								
4						3" polybuty.			
5									
6	SILTY CLAY, firm-Stiff, low-plastic, dusky yellowish-brown (10 YR 2/2 munsell), wet (CL)								
7									

PROJECT NO. 22238B

SHEET 1 OF 2

RLC WCC-5

oodward-Clyde Consultants PROJECT NAME RMA task 2 HOLE NO. 5

DEPTH (FEET)	DESCRIPTION	GRAPHIC LOG: Lithology	GRAPHIC LOG: Placement for Installation	Water Content	Piezometer Data	SAMPLES: Type No.	SAMPLES: Recov. ft	SAMPLES: Penetr. Resist. (Blows/6 in)	REMARKS (Drill Rate, Fluid loss, Odor, etc)
7	Same as above					3" polybuty.			Note: bottom 1.1' of sample tube had free water in it.
8									
9	bottom of boring at 8.5 feet								
10									
11									
12									
13									
14									
15									
16									

WCC-6

dward-Clyde Consultants PROJECT NAME Rocky Mountain Arsenal Task #2 HOLE NO. ~~M1-006~~

G LOCATION M-1 Ponds		ELEVATION AND DATUM 5262.4	
ING AGENCY Datum Exploration Inc	DRILLER Russ Parker	DATE STARTED / DATE FINISHED 5/23/89 / 5/24/89	
NG EQUIPMENT CME 750		COMPLETION DEPTH 19.0'	SAMPLER 3" OD Split Spoon w/ Polybuterate liner
NI HOD Hollow Stem Auger	DRILL BIT 6½ OD Cutter head	NO. OF SAMPLES DIST.	UNDIST. 7
AND TYPE OF CASING		WATER ELEV. FIRST 7.5'	COMPL. NA 24 HRS. NA
OF PERFORATION	FROM TO FT.	LOGGED BY Bob Wilson	CHECKED BY
AND TYPE OF PACK	FROM TO FT.		
OF SEAL	FROM TO FT		

DESCRIPTION	GRAPHIC LOG: Lithology	GRAPHIC LOG: Piezometer Installation	Water Content	Piezometer Data	SAMPLES: Type No.	SAMPLES: Recov./ft.	SAMPLES: Penetra. Resist. (Blows/6 in)	REMARKS (Drill Rate, Fluid loss, Odor, etc.)
silty Sand - dark yellowish brown, finegrain, with pebbles (medium gravel), dry, mod dense								
From .4 as above without pebbles, trace dampness (SM)								
becomming clayey (SC)								
soil + waste mixture - dense								
Waste - light gray with black veins, texture of a silty clay, damp to wet, soft								Note if the augers were turned to fast the waste would turn to a semi-liquid
waste as above								
soil and waste mixture dense								

JECT NO. 22238B

SHEET 1 OF 3

Woodward-Clyde Consultants PROJECT NAME RMA Task #2 HOLE NO. ~~006~~ WCC-6

DEPTH (FEET)	DESCRIPTION	GRAPHIC LOG: Lithology	GRAPHIC LOG: Piezometer Installation	GRAPHIC LOG: Water Content	GRAPHIC LOG: Piezometer Data	SAMPLES: Type No.	SAMPLES: Recov. Ft.	SAMPLES: Penetr. Resist. Blows 6 in.	REMARKS (Drill Rate, Fluid loss, Odor, etc)
7	Silty Sand - dark yellowish brown, very fine to fine grain, loose, moist - wet. ~~(SC)~~ (SM-ML)			▼					Water @ 7.5'
8									
9									
	as above								
10									
11									
12	Silty Sand - medium yellowish brown, occ grades to a sandy silt, fine to medium grain, wet, loose (SM)								
13									
14	Claystone (weathered shale) dark brown, dry, mod dense, crumbly - blocky								Denver formation @ 13.9'
15									
16									

PROJECT NO. 22238B

SHEET 2 OF 3

RJC

WCC-6

Woodward-Clyde Consultants PROJECT NAME RMA Task #2 HOLE NO. ~~M1-006~~

DEPTH (FEET)	DESCRIPTION	GRAPHIC LOG: Lithology	GRAPHIC LOG: Piezometer Installation	Water Content	Piezometer Data	SAMPLES: Type No.	SAMPLES: Recov. (ft)	SAMPLES: Penetr. Resist. Blows/6 in	REMARKS (Drill Rate, Fluid loss, Odor, etc)
16									
	Claystone (Weathered Shale) as above								
17									
18									
19									Hole grouted to surface

PROJECT NO. 22238 B

SHEET 3 OF 3

KEC WCC-7

dward-Clyde Consultants PROJECT NAME Rocky Mountain Arsenal Task #2 HOLE NO. ~~007~~

G LOCATION M-1 Ponds		ELEVATION AND DATUM 5264.0	
NG AGENCY Datum Exploration Inc	DRILLER Tony Rodriguez	DATE STARTED / DATE FINISHED 5/22/89	
NG EQUIPMENT CME 750		COMPLETION DEPTH 9.5'	SAMPLER 3" OD Split spoon w/ Polybutterate Liners
NG HOD Hollow stem Auger	DRILL BIT 6 5/8" OD cutter head	NO. OF SAMPLES DIST. 1	UNDIST. 3
AND TYPE OF CASING		WATER ELEV. FIRST 9.0'	COMPL. NA 24 HRS NA
OF PERFORATION	FROM TO FT.	LOGGED BY Bob Wilson	CHECKED BY
AND TYPE OF PACK	FROM TO FT.		
OF SEAL	FROM TO FT		

DESCRIPTION	GRAPHIC LOG: Lithology	GRAPHIC LOG: Piezometer Installation	Water Content	Piezometer Data	SAMPLES: Type No.	SAMPLES: Recov. ft.	SAMPLES: Penetr. Resist. (Blows/6 in)	REMARKS (Drill Rate, Fluid loss, Odor, etc.)
sandy Silt - dark yellowish brown with some pebbles and fine gravel, loose, dry ~~(SM)~~ (ML)								
clayey Silt - medium yellow brown, with some fine grain sand, trace dampness, stiff (ML)								
Waste - light gray to white with occasional black veins, consistency of silty clay, damp-moist, soft, possibly lime								at 5.5' the waste came out of the liner and was left in the hole. Sampler was run down the hole again and forced over the lost sample
as above								

ECT NO. 22238B

SHEET 1 OF 2

AA WCC-7

Woodward-Clyde Consultants PROJECT NAME _____ HOLE NO. ~~007~~

DEPTH (FEET)	DESCRIPTION	GRAPHIC LOG: Lithology	GRAPHIC LOG: Piezometer Installation	Water Content	Piezometer Data	SAMPLES: Type No.	SAMPLES: Recov. (ft)	SAMPLES: Penetr. Resist Blows 6 in	REMARKS (Drill Rate, Fluid loss, Odor, etc)
8	(Native soil) silty Sand - dark to medium yellowish brown, fine grain, with gray waste clastics, very dense.								
	(Clean Native soil) silty Sand - dark to medium yellowish brown, fine grain, damp, mod. dense (SM)								
9	Boring terminated at 9.5'								Hole grouted to surface
10									
11									

PROJECT NO. 22238D

SHEET 2 OF 2

Age WCC-8

Woodward-Clyde Consultants PROJECT NAME RMA task 2 HOLE NO. 8

BORING LOCATION M-1 pond area		ELEVATION AND DATUM 5263.9	
DRILLING AGENCY DATUM EXPLORATION INC.	DRILLER Russ PARKER	DATE STARTED / DATE FINISHED 5-25-89 / 5-25-89	
DRILLING EQUIPMENT CME 750		COMPLETION DEPTH 9.0'	SAMPLER 3" I.D. poly/body liner
DRILLING METHOD 6" hollow stem	DRILL BIT 6 5/8 cutting head	NO. OF SAMPLES DIST. 1	UNDIST. 1
SIZE AND TYPE OF CASING		WATER ELEV. FIRST N/A	COMPL. N/A 24 HRS. N/A
TYPE OF PERFORATION	FROM TO FT.	LOGGED BY STEVEN E. MORRISSETTE	CHECKED BY
SIZE AND TYPE OF PACK	FROM TO FT.		
TYPE OF SEAL	FROM TO FT		

DEPTH (FEET)	DESCRIPTION	GRAPHIC LOG Lithology	Piezometer Installation	Water Content	Piezometer Data	SAMPLES Type No.	Recov. ft	Penetr. Resist. (Blows/6 in)	REMARKS (Drill Rate, Fluid loss, Odor, etc.)
0	large gravel road fill. (3"-4")								Note: A 3"-4" layer of large gravel exists on the surface. Interspersed gravel was noted in the soil to a depth of 1.5'-2.0'.
1	SILTY SAND, loose, fine-grained, well sorted, subangular, moderate yellowish-brown (10 YR 5/4 munsell) very wet (SM)								Note: Water standing on the surface enters the hole immed. No water level was possible because of this.
2						ARMY SAMPLE			
	Medium dark gray (N4) to light gray (N7), firm with consistency of silty clay	WASTE							
3	same as above silty sand except color changes to dark yellowish-brown (10 YR 4/2 munsell)								
4						3" poly/body.			
5									
6									
7									

PROJECT NO. 22238B

SHEET 1 OF 2

Woodward-Clyde Consultants PROJECT NAME RMA Task 2 HOLE NO. 8

DEPTH (FEET)	DESCRIPTION	GRAPHIC LOG: Lithology	GRAPHIC LOG: Piezometer Installation	Water Content	Piezometer Data	SAMPLES: Type No.	SAMPLES: Recov. (%)	SAMPLES: Penetr. Resist. (Blows 6 in)	REMARKS (Drill Rate, Fluid loss, Odor, etc)
7	Same as above								
8									
9	bottom of boring at 9.0 feet								hole grouted in immediately after completion.
10									
11									
12									
13									
14									
15									
16									

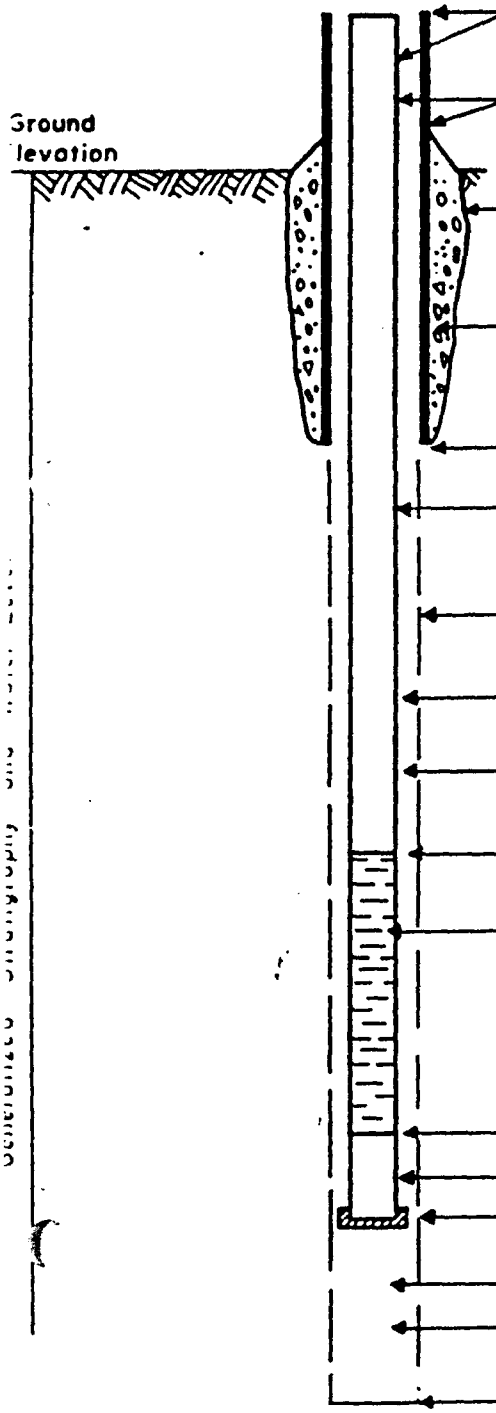
PROJECT NO. _____ SHEET 2 OF 3

APPENDIX F
GROUNDWATER OBSERVATION WELL REPORTS

GROUND WATER OBSERVATION WELL REPORT

PROJECT 222380 RMA task 2
LOCATION M-1 pond area / RMA
Date Completed 5-12-89 Original Depth
Inspected By Date
Checked By Date

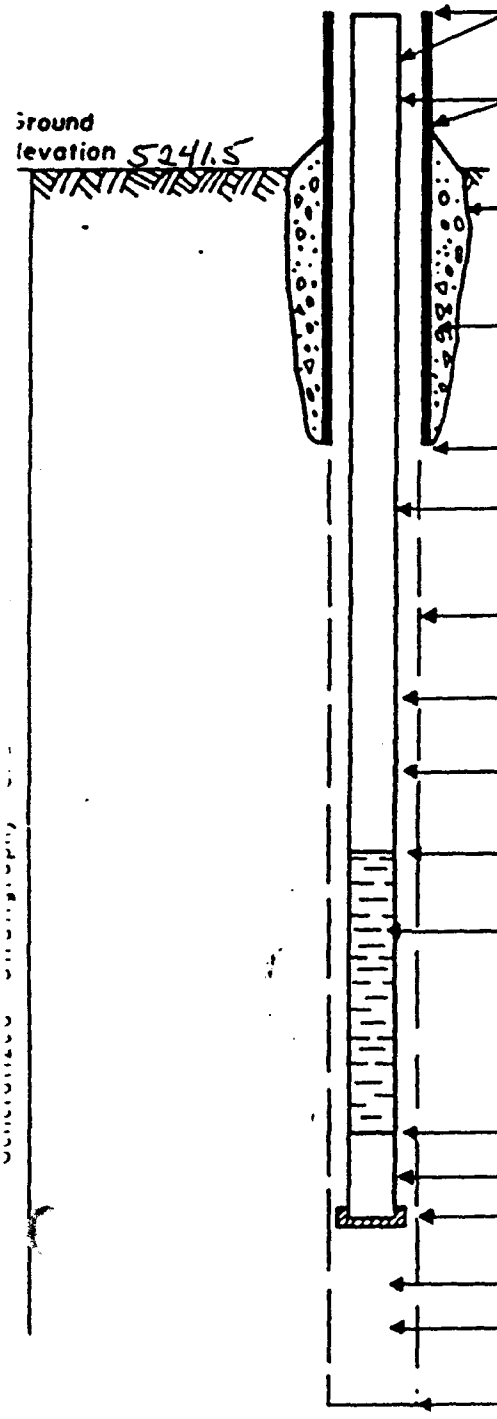
Page 1 of 1
Well No. 01083
Aquifer alluvial
Depth Interval



Elevation of top of surface casing / riser pipe.	5266.77
Height of top of surface casing / riser pipe above ground surface	2.0'(ft)
Depth of surface seal below ground surface	3.0'(ft)
Type of surface seal: cement / bentonite grout	
I.D. of surface casing.	6" square
Type of surface casing: 6" square steel with a locking cap	
Depth of surface casing below ground	2.75'(ft)
I.D. of riser pipe.	
Type of riser pipe: 4.0" I.D. PVC / Schedule 40	
Diameter of borehole	10.0"(in)
Depth of borehole	18.75'(ft)
Type of backfill: #10-#20 Colorado Sand	
Elev. / depth top of seal.	3.0'(ft)
Type of seal: bentonite pellets	
Elev. / depth bottom of seal.	6.0'(ft)
Type of sand pack. #10-#20 Colorado	
Depth of top of sand pack.	6.0'(ft)
Elev. / depth top of screened section.	7.5'(ft)
Type of screened section: slotted PVC	
Describe openings .010" (No. 10) slotted PVC	
I.D. of screened section.	4.0 inch
Elev. / depth bottom of screened section.	16.3'(ft)
Length of blank section.	1.0'(ft)
Elev. / depth bottom of plugged blank section.	17.3'(ft)
Elev. / depth bottom of sand column.	18.0'(ft)
Type of backfill below observation pipe. bentonite seal from 18.0' to 18.75'	
Elev. / depth of hole.	18.75'(ft)

GROUND WATER OBSERVATION WELL REPORT

RC-CT Rocky Mountain Arsenal Task #2	Page 1 of 1
OCATION Sec 36-17	Well No. 36-187
ate Completed 5/8/89 Original Depth	Aquifer Alluvium
ispected By Date	
hecked By Date	Depth Interval

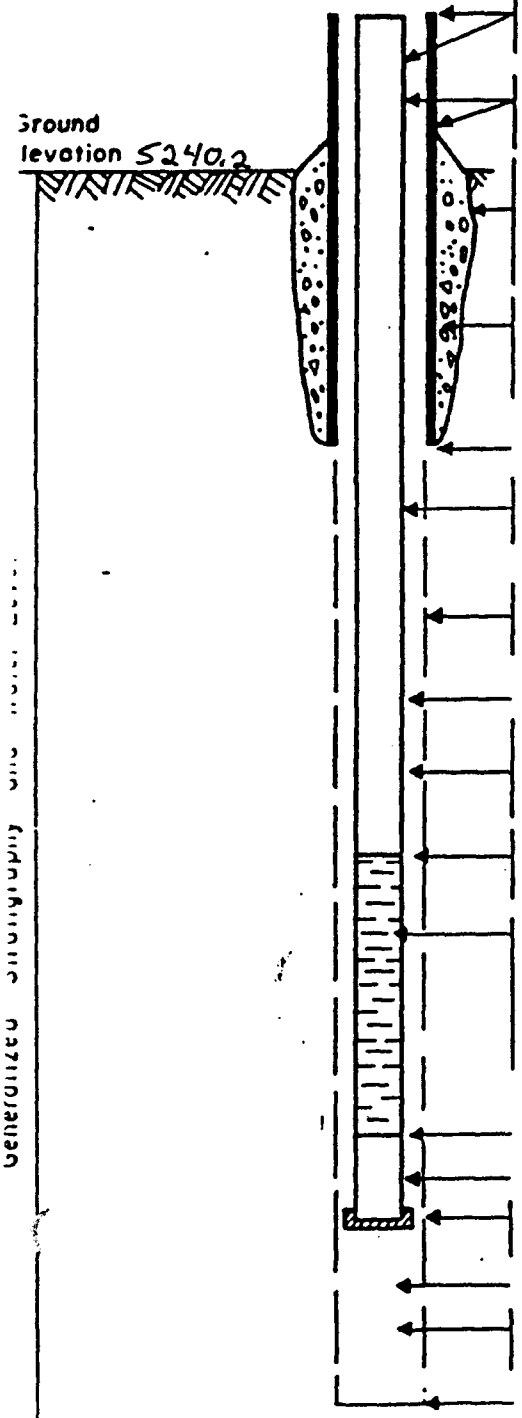


Elevation of top of surface casing / riser pipe.	5242.94
Height of top of surface casing / riser pipe above ground surface	1.7 / 1.5' (1.44)
Depth of surface seal below ground surface	3.5'
Type of surface seal: Cement / bentonite grout	
I.D. of surface casing.	6 in.
Type of surface casing: 6" square Steel with locking cap	
Depth of surface casing below ground	3.3
I.D. of riser pipe.	4 in.
Type of riser pipe: 4" I.D. schedule 40 PVC (threaded)	
Diameter of borehole	10 in.
Depth of borehole	22.2'
Type of backfill: NA	
Elev./depth top of seal.	5238.0 / 3.5'
Type of seal: Bentonite Pellets	
Elev./depth bottom of seal.	5233.0 / 8.5'
Type of sand pack. Colorado #10-#20	
Depth of top of sand pack.	18.5'
Elev./depth top of screened section.	5229.9 / 11.6'
Type of screened section: PVC	
Describe openings No 10 (.010") Slotted	
I.D. of screened section.	4 in.
Elev./depth bottom of screened section.	5221 / 20.4'
Length of blank section.	0.5 ft
Elev./depth bottom of plugged blank section.	5220.0 / 21.5'
Elev./depth bottom of sand column.	5219.3 / 22.2'
Type of backfill below observation pipe. NA	
Elev./depth of hole.	5219.3 / 22.2

GROUND WATER OBSERVATION WELL REPORT

RC-CT Rocky Mountain Arsenal Task #2
OCATION Sec 36-17
ate Completed 5/4/89 Original Depth
spected By Date
hecked By Date

Page 1 of 1
Well No. 36-188
Aquifer Alluvium
Depth Interval

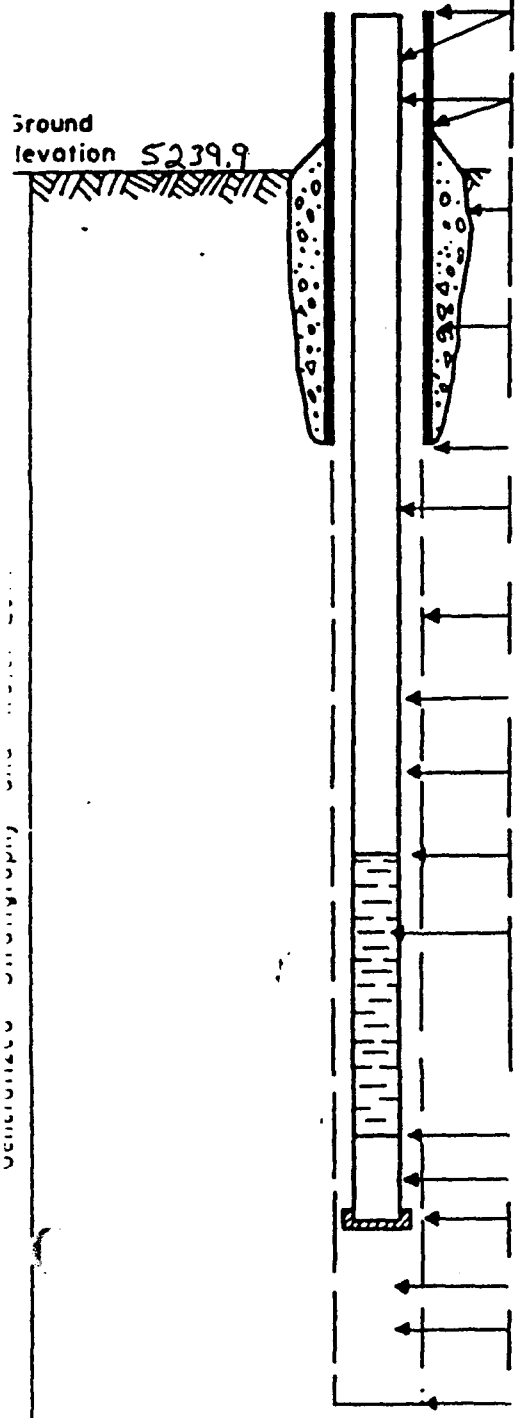


Elevation of top of surface casing / riser pipe.	15241.63
Height of top of surface casing / riser pipe above ground surface	1.7 / 1.5' (1.43)
Depth of surface seal below ground surface	3.5'
Type of surface seal: cement / bentonite grout	
I.D. of surface casing.	6 in
Type of surface casing: 6" square steel with locking cap	
Depth of surface casing below ground	3.3
I.D. of riser pipe.	4 in
Type of riser pipe: 4" ID schedule 40 PVC (threaded)	
Diameter of borehole	10 in.
Depth of borehole	23.5'
Type of backfill: NA	
Elev./depth top of seal.	5236.7/3.5'
Type of seal: Bentonite Pellets	
Elev./depth bottom of seal.	5231.7/8.5'
Type of sand pack. Colorado #10-#20	
Depth of top of sand pack.	8.5'
Elev./depth top of screened section.	5228.7/11.5
Type of screened section: PVC	
Describe openings No 10 (.010") slotted	
I.D. of screened section.	4 in
Elev./depth bottom of screened section.	5219.9/20.3
Length of blank section.	0.5 ft
Elev./depth bottom of plugged blank section.	5218.8/21.4
Elev./depth bottom of sand column.	5218.0/22.2
Type of backfill below observation pipe. N	
Elev./depth of hole.	5216.7/23.5

Generalized Stratigraphy

GROUND WATER OBSERVATION WELL REPORT

PROJECT	Rocky Mountain Arsenal Task #2	Page	1 of 1
LOCATION	Sec 36-17	Well No.	36-189
Date Completed	5/2/89 Original Depth	Aquifer	Alluvium
Inspected By	Date		
Checked By	Date	Depth Interval	

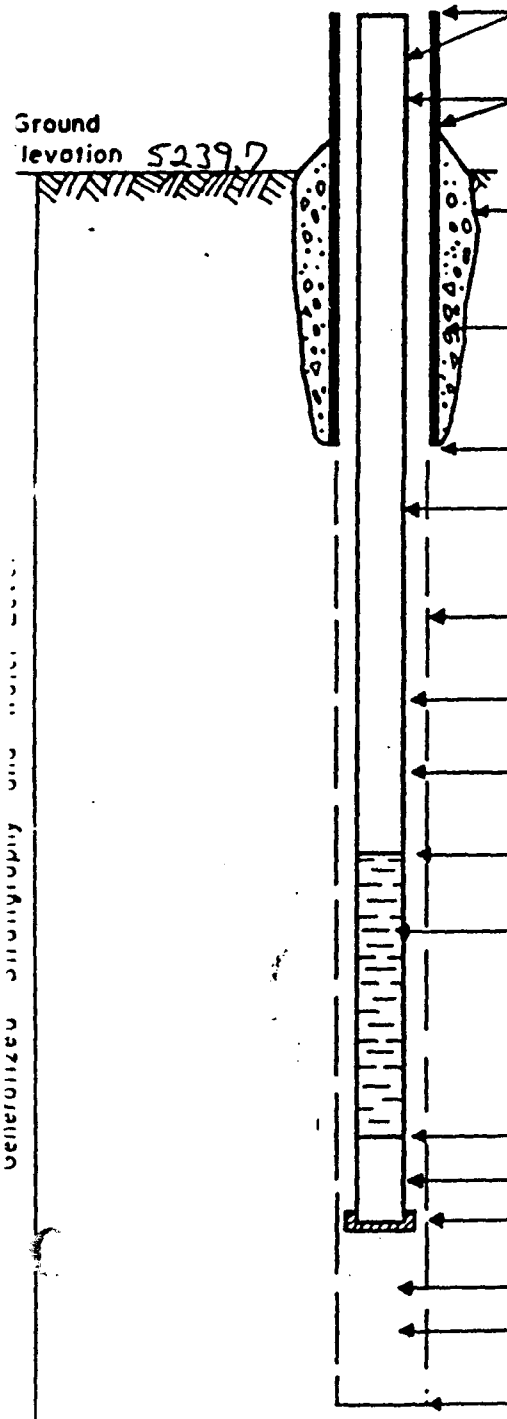


Elevation of top of surface casing / riser pipe.	5241.02
Height of top of surface casing / riser pipe above ground surface	1.7 (1.12) / 1.5'
Depth of surface seal below ground surface	3.5'
Type of surface seal: Cement / bentonite grout	
I.D. of surface casing.	6 in
Type of surface casing: 6" Square steel with locking cap	
Depth of surface casing below ground	3.3
I.D. of riser pipe.	4 in
Type of riser pipe: 4" ID schedule 40 PVC (threaded)	
Diameter of borehole	10 in
Depth of borehole	22.5
Type of backfill: NA	
Elev./depth top of seal.	5236.4/3.5'
Type of seal: Bentonite Pellets	
Elev./depth bottom of seal.	5231.9/8.0'
Type of sand pack. Colorado #10-20	
Depth of top of sand pack.	8.0'
Elev./depth top of screened section.	5228.3/11.6
Type of screened section: PVC	
Describe openings. No 10 (.010") slotted	
I.D. of screened section.	4 in.
Elev./depth bottom of screened section.	5219.5/20.4
Length of blank section.	0.5 ft
Elev./depth bottom of plugged blank section.	5218.4/21.5'
Elev./depth bottom of sand column.	5217.4/22.5'
Type of backfill below observation pipe. NA	
Elev./depth of hole.	5217.4/22.5

GROUND WATER OBSERVATION WELL REPORT

PROJECT Rocky Mountain Arsenal Task #2
LOCATION Sec 36-17
Date Completed 4/26/89 Original Depth
Inspected By Date
Checked By Date

Page 1 of 1
Well No. 36-190
Aquifer Alluvium
Depth Interval

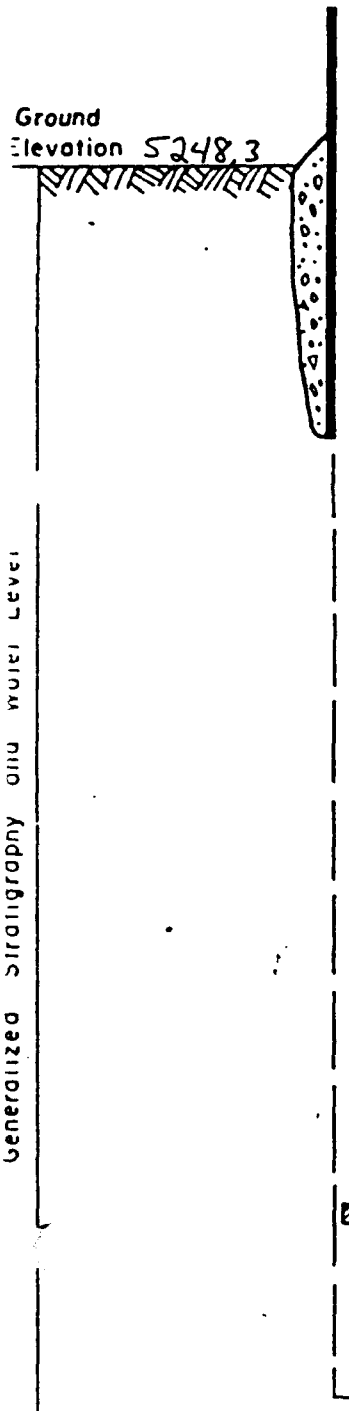


Elevation of top of surface casing / riser pipe.	5241.08
Height of top of surface casing / riser pipe above ground surface	1.7 / 1.5' (1.38)
Depth of surface seal below ground surface	3.0'
Type of surface seal: Cement / bentonite grout	
I.D. of surface casing.	6 in.
Type of surface casing: 6" square steel with locking cap	
Depth of surface casing below ground	3.3
I.D. of riser pipe.	4 in
Type of riser pipe: 4" I.D. schedule 40 PVC (threaded)	
Diameter of borehole	10 in
Depth of borehole	20'
Type of backfill: NA	
Elev./depth top of seal	5236.7 / 3.0'
Type of seal: Bentonite Pellets	
Elev./depth bottom of seal.	5233.2 / 6.5'
Type of sand pack. Colorado #10-#20	
Depth of top of sand pack.	6.5'
Elev./depth top of screened section.	5230.85 / 8.85'
Type of screened section: PVC	
Describe openings No 10 (.010") slotted	
I.D. of screened section.	4 in.
Elev./depth bottom of screened section.	5222.05 / 17.65
Length of blank section.	0.5 ft
Elev./depth bottom of plugged blank section.	5220.95 / 18.75'
Elev./depth bottom of sand column.	5219.7 / 20.0'
Type of backfill below observation pipe.	
Elev./depth of hole.	5219.7 / 20.0'

GROUND WATER OBSERVATION WELL REPORT

PROJECT Rocky Mountain Arsenal Task #2
LOCATION Sec 36-17
Date Completed 5/11/89 Original Depth
Inspected By Date
Checked By Date

Page 1 of 1
Well No. 36-191
Aquifer Denver Formation
Depth Interval

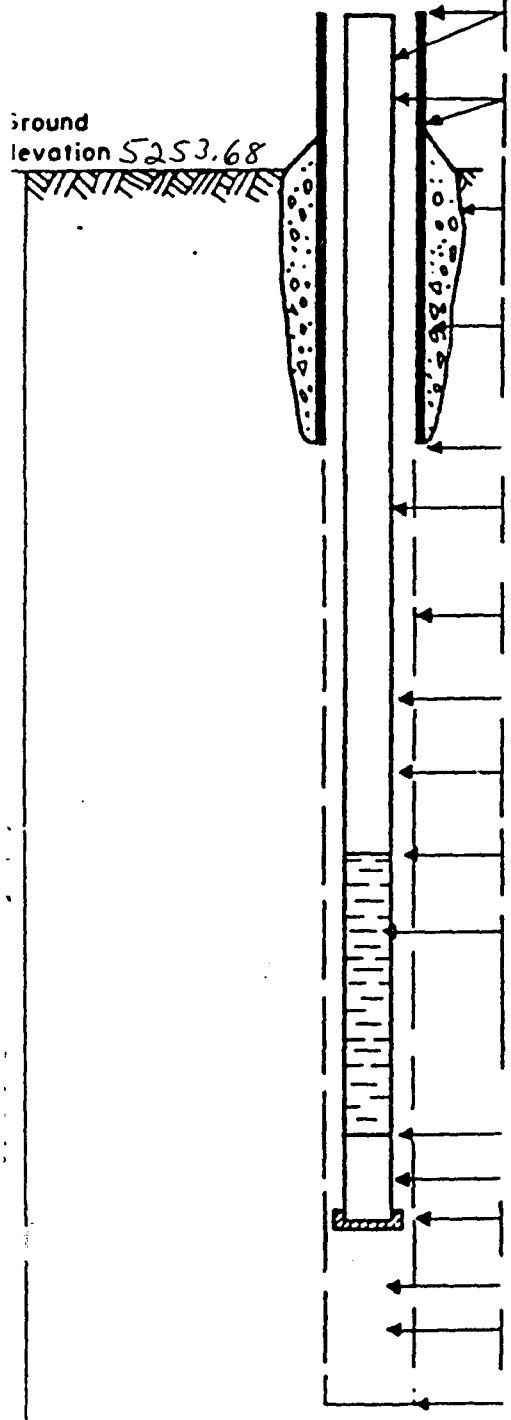


Elevation of top of surface casing / riser pipe.	5249.7
Height of top of surface casing / riser pipe above ground surface	1.8 / 1.5' (1.4)
Depth of surface seal below ground surface	16'
Type of surface seal: Cement / bentonite grout	
I.D. of surface casing.	6in
Type of surface casing: 6" square steel with locking cap	
Depth of surface casing below ground	3.3
I.D. of riser pipe.	4in
Type of riser pipe: 4" ID schedule 40 PVC (threaded)	
Diameter of borehole	10in
Depth of borehole	40.0'
Type of backfill: NA	
Elev./depth top of seal.	5232.3/16.0'
Type of seal: Bentonite Pellets	
Elev./depth bottom of seal.	5226.4/21.9'
Type of sand pack. Colorado #10-#20	
Depth of top of sand pack.	21.9
Elev./depth top of screened section.	5220.2/28.1
Type of screened section: PVC	
Describe openings No 10 (.010") Slotted	
I.D. of screened section.	4in.
Elev./depth bottom of screened section.	5211.4/36.9
Length of blank section.	0.5ft
Elev./depth bottom of plugged blank section.	5210.3/38.0'
Elev./depth bottom of sand column.	5209.3/39.0'
Type of backfill below observation pipe. Bentonite Pellets	
Elev./depth of hole.	5208.3/40.0'

GROUND WATER OBSERVATION WELL REPORT

PROJECT Rocky Mountain Arsenal Task #2
LOCATION Sec 36-17
Date Completed 5/19/89 Original Depth
Inspected By Date
Checked By Date

Page 1 of 1
Well No. 36-192
Aquifer Denver Formation
Depth Interval

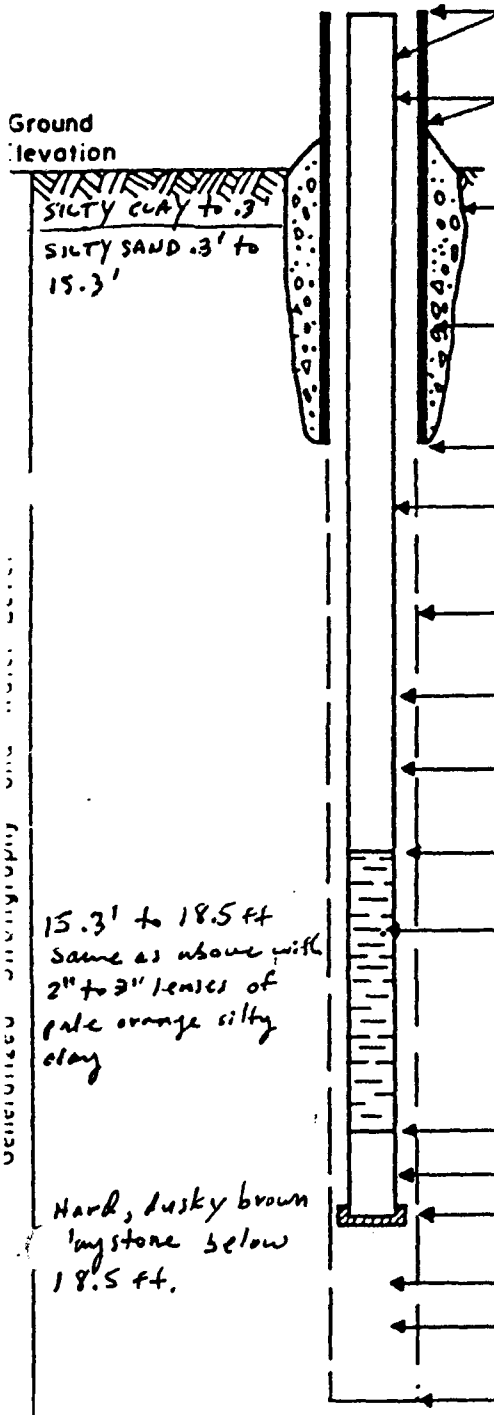


Elevation of top of surface casing / riser pipe.	5255.14
Height of top of surface casing / riser pipe above ground surface.	1.7 (1.46) 1.5'
Depth of surface seal below ground surface	40.0'
Type of surface seal: Cement/ bentonite grout	
I.D. of surface casing.	6in
Type of surface casing: 6" square steel with locking cap	
Depth of surface casing below ground	3.3
I.D. of riser pipe.	4in.
Type of riser pipe: 4" I.D schedule 40 PVC (threaded)	
Diameter of borehole	10in
Depth of borehole	65.0'
Type of backfill: NA	
Elev./depth top of seal.	5213.68/40.0'
Type of seal: Bentonite Pellets	
Elev./depth bottom of seal.	5208.68/45.0
Type of sand pack. Colorado #10-#20	
Depth of top of sand pack.	45.0
Elev./depth top of screened section.	5198.58/55.1
Type of screened section: PVC	
Describe openings No 10 (.010") slotted	
I.D. of screened section.	4in.
Elev./depth bottom of screened section.	5187.58/63.9
Length of blank section.	0.5 ft
Elev./depth bottom of plugged blank section.	5188.68/65.0'
Elev./depth bottom of sand column.	5188.68/65.0'
Type of backfill below observation pipe. NA	
Elev./depth of hole.	5188.68/65.0'

GROUND WATER OBSERVATION WELL REPORT

PROJECT 22238B RMA task 2
LOCATION SECTION 3L
Date Completed 5-17-89 Original Depth 19.0 ft
Inspected By _____ Date _____
Checked By _____ Date _____

Page 1 of 1
Well No. 36193
Aquifer Alluvial
Depth Interval _____



Elevation of top of surface casing / riser pipe.	5263.75
Height of top of surface casing / riser pipe above ground surface	2.0 (ft)
Depth of surface seal below ground surface	3.5 (ft)
Type of surface seal: cement / bentonite grout	
I.D. of surface casing.	6" square
Type of surface casing: square steel with a locking cap	
Depth of surface casing below ground	2.75 (ft)
I.D. of riser pipe.	4.0 inch
Type of riser pipe: schedule 40 PVC	
Diameter of borehole	10.0" (in)
Depth of borehole	19.0 (ft)
Type of backfill: #10-#20 Colorado SAND	
Elev./depth top of seal.	3.5 (ft)
Type of seal: bentonite pellets	
Elev./depth bottom of seal.	5.5 (ft)
Type of sand pack. #10-#20 Colorado	
Depth of top of sand pack.	5.5 (ft)
Elev./depth top of screened section.	6.9 (ft)
Type of screened section: slotted PVC	
Describe openings .010" (No. 10) slotted PVC	
I.D. of screened section.	4.0 inch
Elev./depth bottom of screened section.	15.7 (ft)
Length of blank section.	1.0 (ft)
Elev./depth bottom of plugged blank section.	16.7 (ft)
Elev./depth bottom of sand column.	17.3 (ft)
Type of backfill below observation pipe. #10-#20 SAND	
Elev./depth of hole.	19.0 (ft)

GROUND WATER OBSERVATION WELL REPORT

OJECT RMA task 2

CATION section 36

te ..mpleted 6/16/89 Original Depth 28.0 (ft)

pected By _____ Date _____

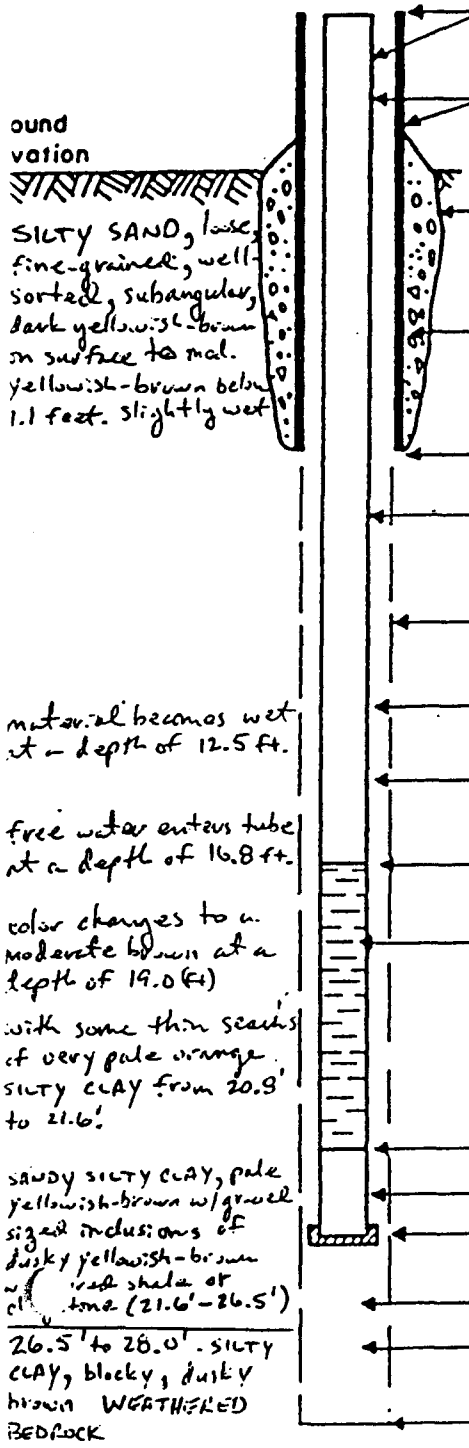
ecked By _____ Date _____

Page 1 of 1

Well No. 36194

Aquifer alluvial

Depth Interval _____

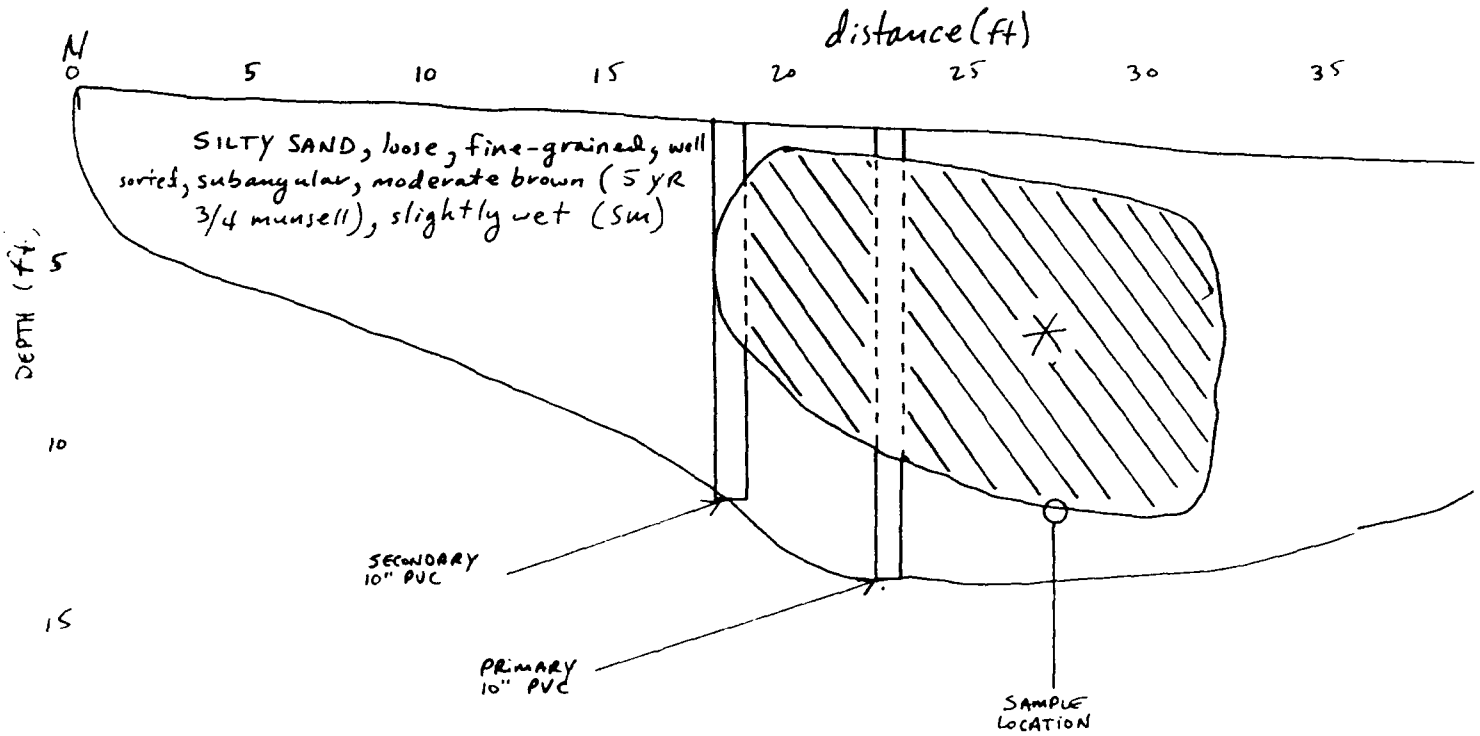


Elevation of top of surface casing / riser pipe.	5256.16
Height of top of surface casing / riser pipe above ground surface	2.0 (ft)
Depth of surface seal below ground surface	4.0 (ft)
Type of surface seal: cement / bentonite seal	
I.D. of surface casing.	6" square
Type of surface casing: 6" square steel with locking cap	
Depth of surface casing below ground	2.75 (ft)
I.D. of riser pipe.	4.0 inch
Type of riser pipe: schedule 40 PVC with threaded connections	
Diameter of borehole	10.0 inch
Depth of borehole	28.0 (ft)
Type of backfill: #10-#20 Colorado sand	
Elev. (depth) top of seal.	4.0 (ft)
Type of seal: bentonite pellets	
Elev. (depth) bottom of seal.	9.0 (ft)
Type of sand pack. #10-#20 Colorado	
Depth of top of sand pack.	9.0 (ft)
Elev. (depth) top of screened section.	14.2 (ft)
Type of screened section: slotted PVC	
Describe openings #10 slotted	
I.D. of screened section.	4.0 inch
Elev. (depth) bottom of screened section.	23.0 (ft)
Length of blank section.	1.0 (ft)
Elev. (depth) bottom of plugged blank section.	24.0 (ft)
Elev. (depth) bottom of sand column.	28.0 (ft)
Type of backfill below observation pipe. #10-#20 Colorado SAND	
Elev (depth) of hole.	28.0 (ft)

APPENDIX G
EXPLORATORY TRENCH CROSS-SECTIONS

LOGGER: STEVEN E. MORRISSETTE
DATE: 4-24-89
BACKHOE OPERATOR: CHARLIE WHARTON
TIME: 15:30
INSTRUMENT READINGS:
a) HNu - Background
b) M18 - All negative

PROJECT NAME/#: RMA task 2
TRENCH ID: TRENCH #1, section 36
COMPASS ORIENTATION: 348° NW
SCALE: 1" = 5'



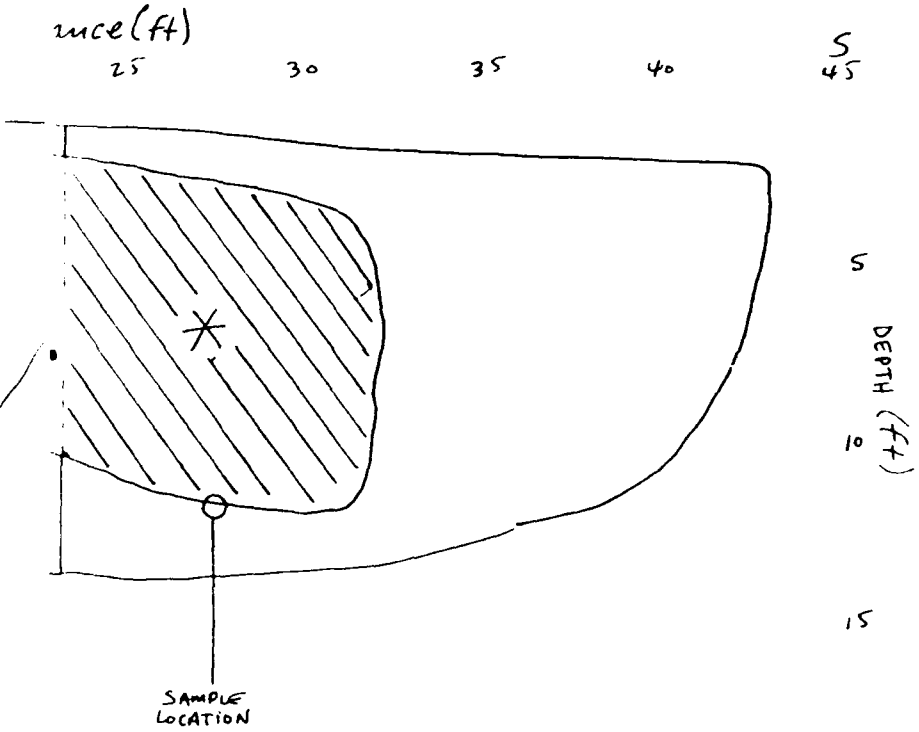
*DEBRIS: Various scrap metal (wire, steel straps incendiary casings), ~~silty sand matr~~

(1)

(2)

Job No. :	
Prepared I	
Date :	

PROJECT NAME/#: RMA task 2
TRENCH ID: TRENCH #1, section 36-17N, anomaly area A
COMPASS ORIENTATION: 348° NW
SCALE: 1" = 5'



is: Various scrap metal (wire, steel straps, burnt out incendiary casings), ~~silty sand matrix~~.

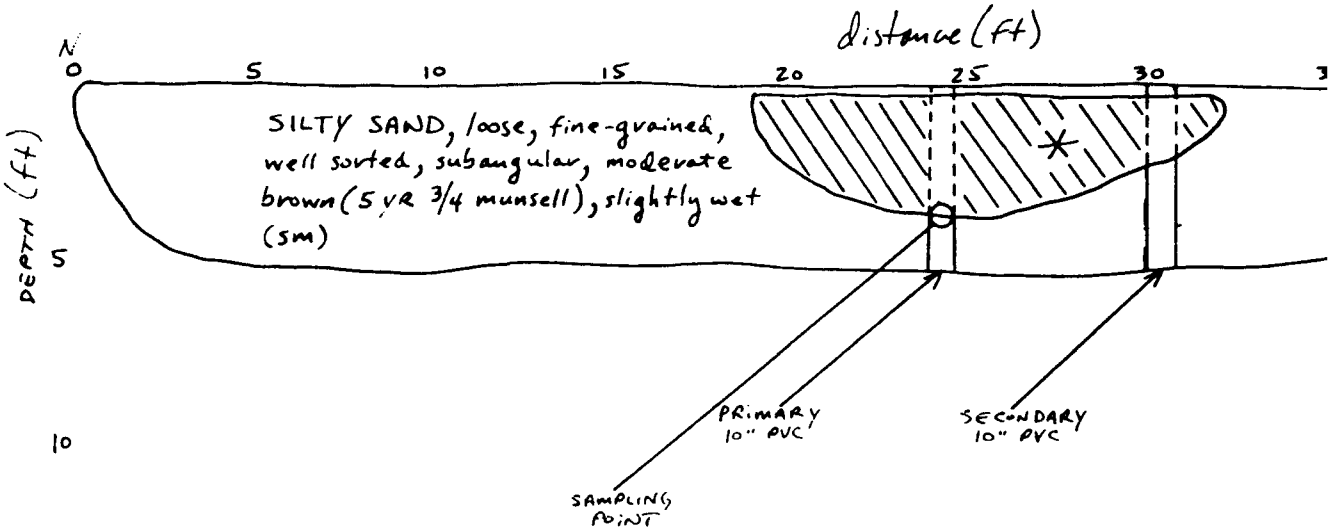
(3)

(2)

Job No. : 22238	Figure G-1 CROSS-SECTION OF TRENCH NO. 1
Prepared by: S.E.M.	SITE 36-17N
Date: 8/14/89	ANOMALOUS AREA A

LOGGER: STEVEN E MORRISSETTE
DATE: 4-25-89
BACKHOE OPERATOR: JIGGS ENNIS
TIME: 08:46
INSTRUMENT READINGS:
a) HNu - Background
b) MIB - All negative

PROJECT NAME/#: RMA t
TRENCH I.D.: TRENCH #2,
ORIENTATION: 353° NW
SCALE: 1" = 5'

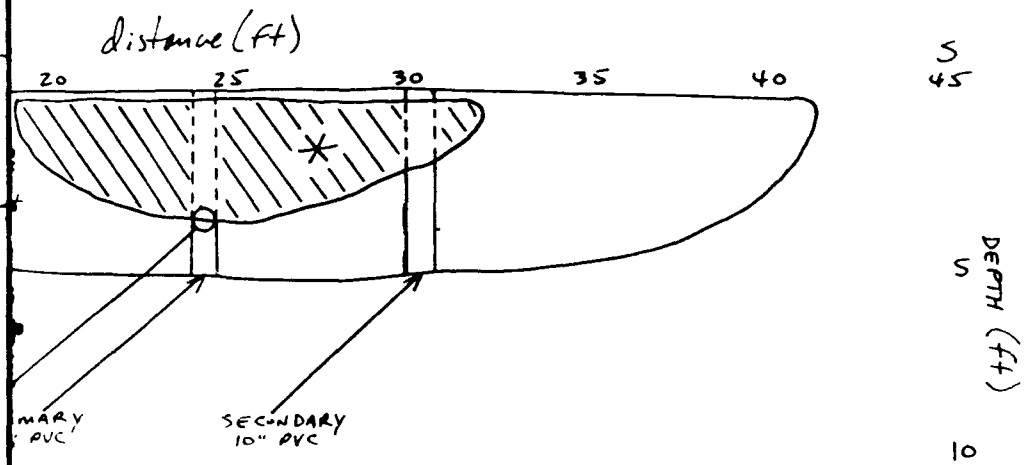


* DEBRIS: Various pieces o
burned-out inc

(1)

(2)

PROJECT NAME/#: RMA task 2
TRENCH I.D.: TRENCH #2, SECTION 36-17N, anomaly area A
ORIENTATION: 353° NW
SCALE: 1" = 5'



* DEBRIS: Various pieces of scrap metal, wire, burned-out incendiary casings, ~~[illegible]~~

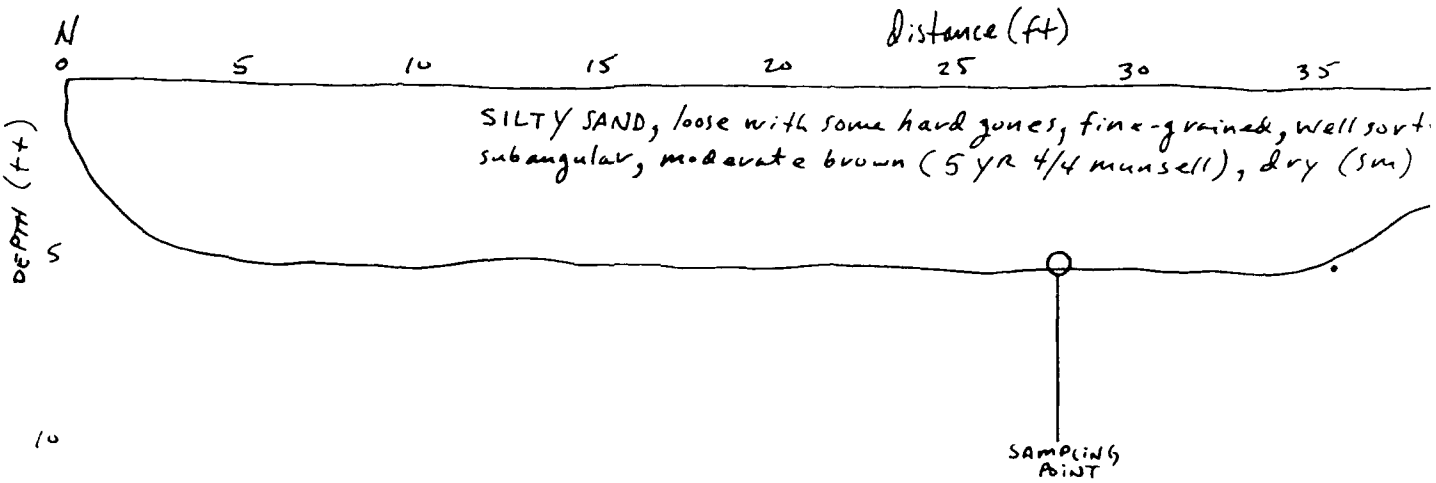
(2)

(3)

Job No.: 22238	Figure G-2 CROSS-SECTION OF TRENCH NO. 2
Prepared by: S.E.M.	SITE 36-17N ANOMALOUS AREA A
Date: 8/14/89	

LOGGER: STEVEN E. MORRISSETTE
DATE: 4-25-89
BACKHOE OPERATOR: JAMES "JIGGS" ENNIS
TIME: 11:43
INSTRUMENT READINGS:
a) HNu - Background
b) MIB - All negative

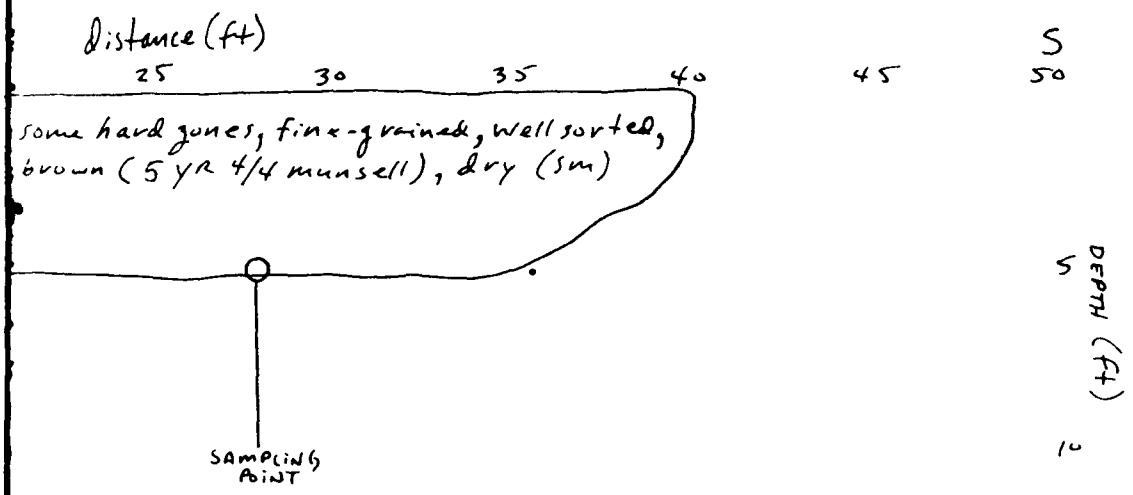
PROJECT NAME/#: RMA task 2
TRENCH ID: TRENCH #3, section
COMPASS ORIENTATION: 031° NE
SCALE: 1" = 5'



1

2

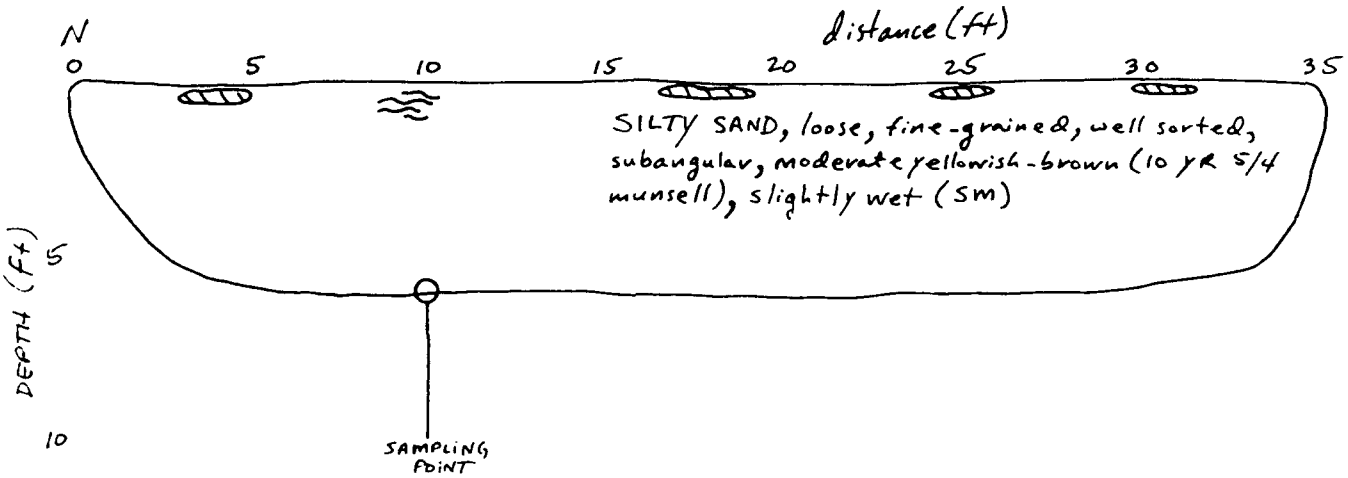
PROJECT NAME/#: RMA task 2
TRENCH ID: TRENCH #3, section 36-17N, anomaly area F
COMPASS ORIENTATION: 031° NE
SCALE: 1" = 5'



Job No. : 22238	Figure G-3 CROSS-SECTION OF TRENCH NO. 3 SITE 36-17N ANOMALOUS AREA F
Prepared by: S.E.M.	
Date: 8/14/89	

LOGGER: STEVEN E. MORRISSETTE
DATE: 4-26-89
BACKHOE OPERATOR: CHARLIE WHARTON
TIME: 09:30
INSTRUMENT READINGS:
a) HNu - Background
b) M18 - All negative

PROJECT NAME/#: RMA task 2
TRENCH I.D.: TRENCH #4, secti
COMPASS ORIENTATION: 350° Nu
SCALE: 1" = 5'



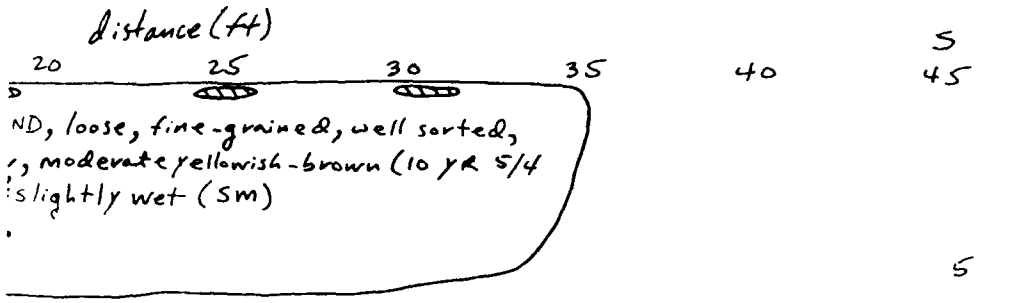
LEGEND: — surface burn marks

— buried metal bars (approx. 3/8" diamete

(2)

Job No. :	
Prepared	
Date :	

PROJECT NAME/#: RMA task 2
TRENCH I.D.: TRENCH #4, section 36-17N, anomaly area H
COMPASS ORIENTATION: 350° NW
SCALE: 1" = 5'



DEPTH (ft)
5
5
10
15

– surface burn marks

– buried metal bars (approx. 3/8" diameter)

(3)

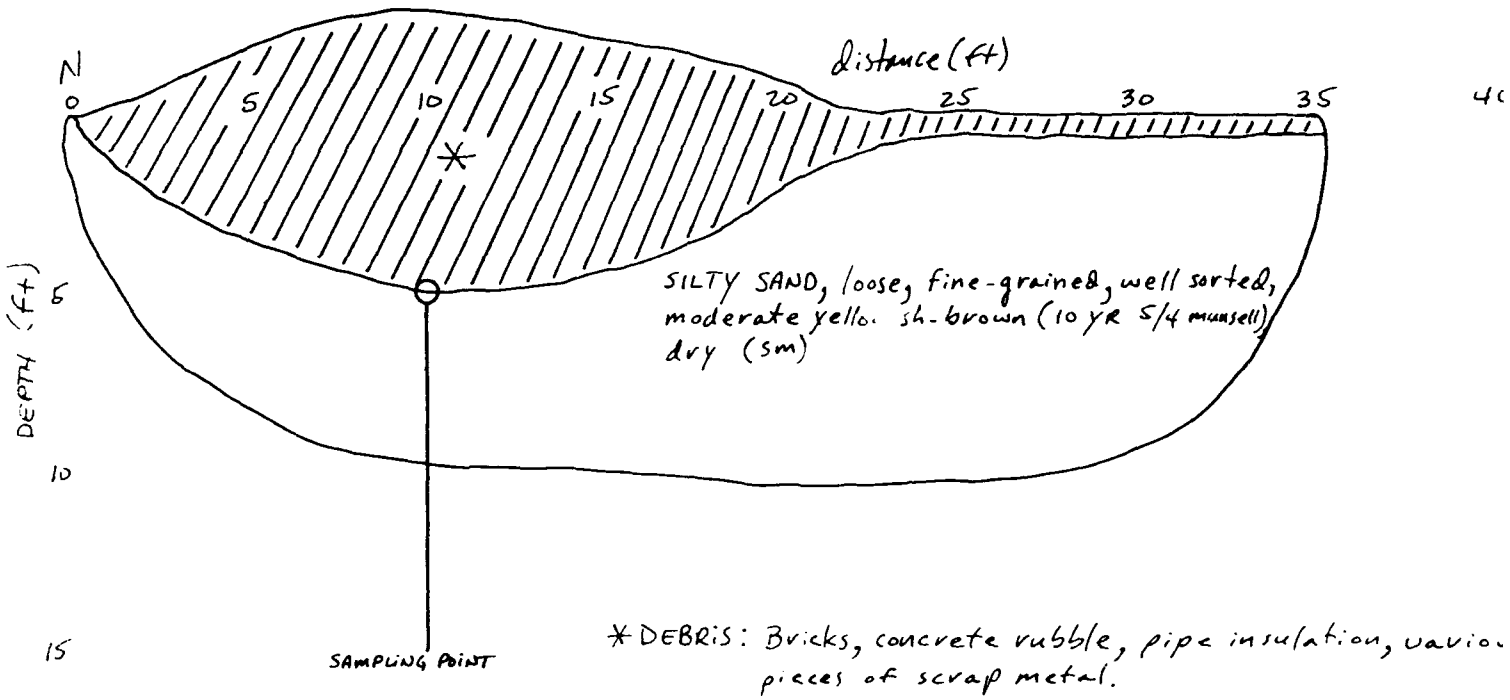
(2)

Job No. :	22238
Prepared by :	S.E.M.
Date :	8/14/89

Figure G-4 CROSS-SECTION OF TRENCH NO. 4
SITE 36-17N
ANOMALOUS AREA H

LOGGER: STEVEN E. MORRISSETTE
DATE: 5-3-89
BACKHOE OPERATOR: JAMES "JIGGS" ENNIS
TIME: 13:30
INSTRUMENT READINGS:
a) HNu - Background
b) MIB - All negative

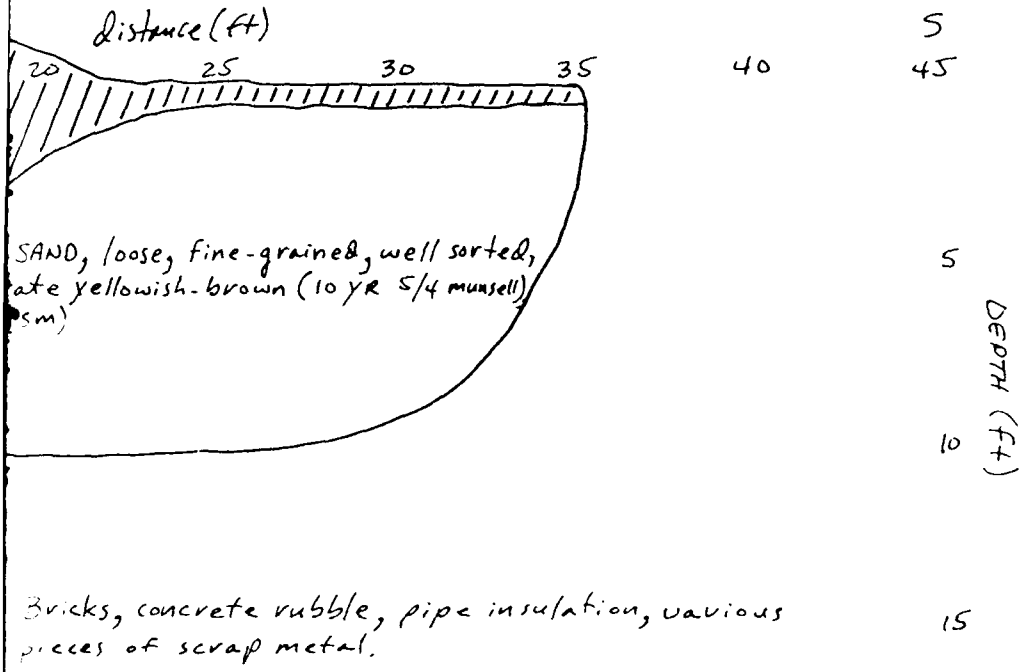
PROJECT NAME/#: RMA task 2
TRENCH I.D.: TRENCH #5, section 36
COMPASS ORIENTATION: 332°
SCALE: 1" = 5'



(1)

Job No. :	
Prepared by :	
Date :	

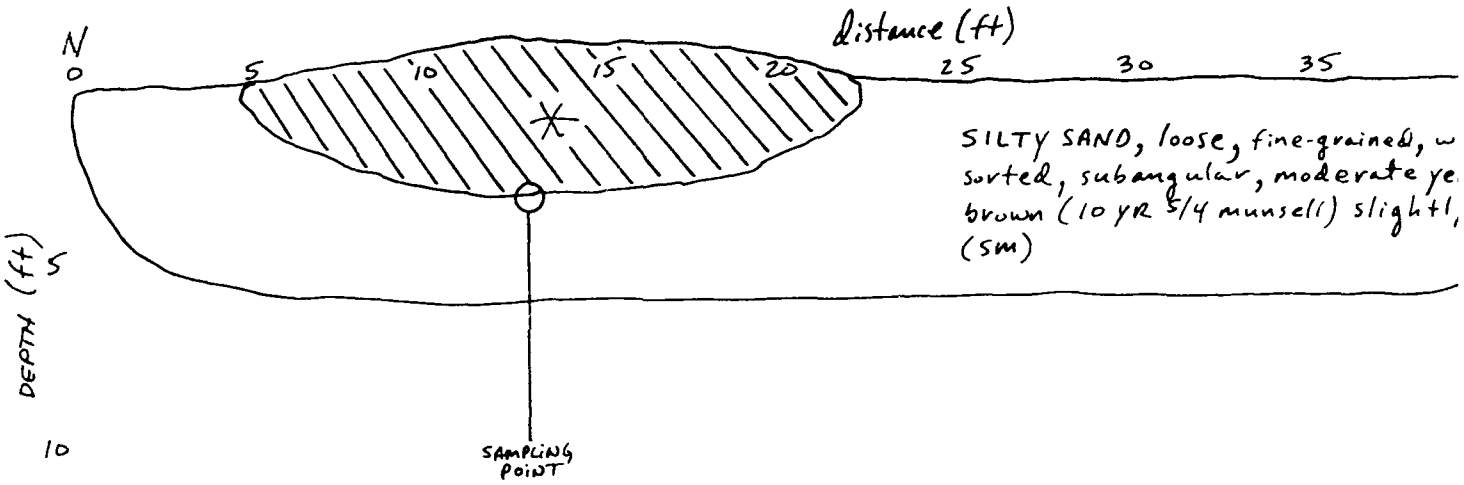
PROJECT NAME/#: RMA task 2
TRENCH I.D.: TRENCH #5, section 36-17N, anomaly area H
COMPASS ORIENTATION: 332°
SCALE: 1" = 5'



Job No.: 22238	Figure G-5 CROSS-SECTION OF TRENCH NO. 5
Prepared by: S.E.M.	SITE 36-17N
Date: 8/14/89	ANOMALOUS AREA H

LOGGER: STEVEN E. MORRISSETTE
DATE: 5-4-89
BACKHOE OPERATOR: Bud Thrift
TIME: 11:20
INSTRUMENT READINGS:
a) HNu - Background
b) MIB - All negative

PROJECT NAME/#: RMA task 2
TRENCH I.D.: TRENCH #6, sectio
COMPASS ORIENTATION: 343° NW
SCALE: 1" = 5'

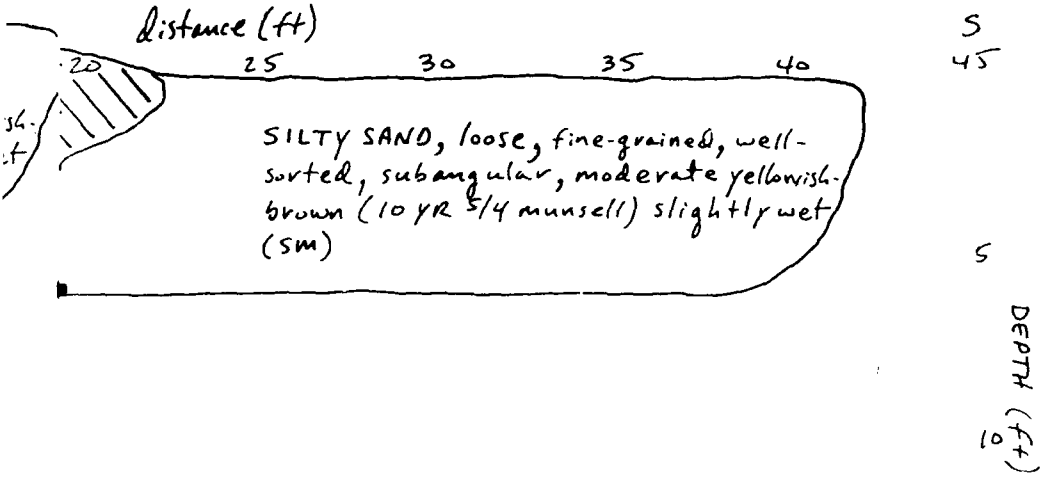


SILTY SAND, loose, fine-grained, w
sorted, subangular, moderate ye
brown (10 YR 5/4 munsell) slightl
(SM)

* DEBRIS: Bricks, concrete rubble, asphalt
plastic caps, barrel lids, variou
rebar.

Job No.	
Prepare	
Date:	

PROJECT NAME/#: RMA task 2
TRENCH I.D.: TRENCH #6, section 36-17N, anomaly area H
COMPASS ORIENTATION: 343° NW
SCALE: 1" = 5'

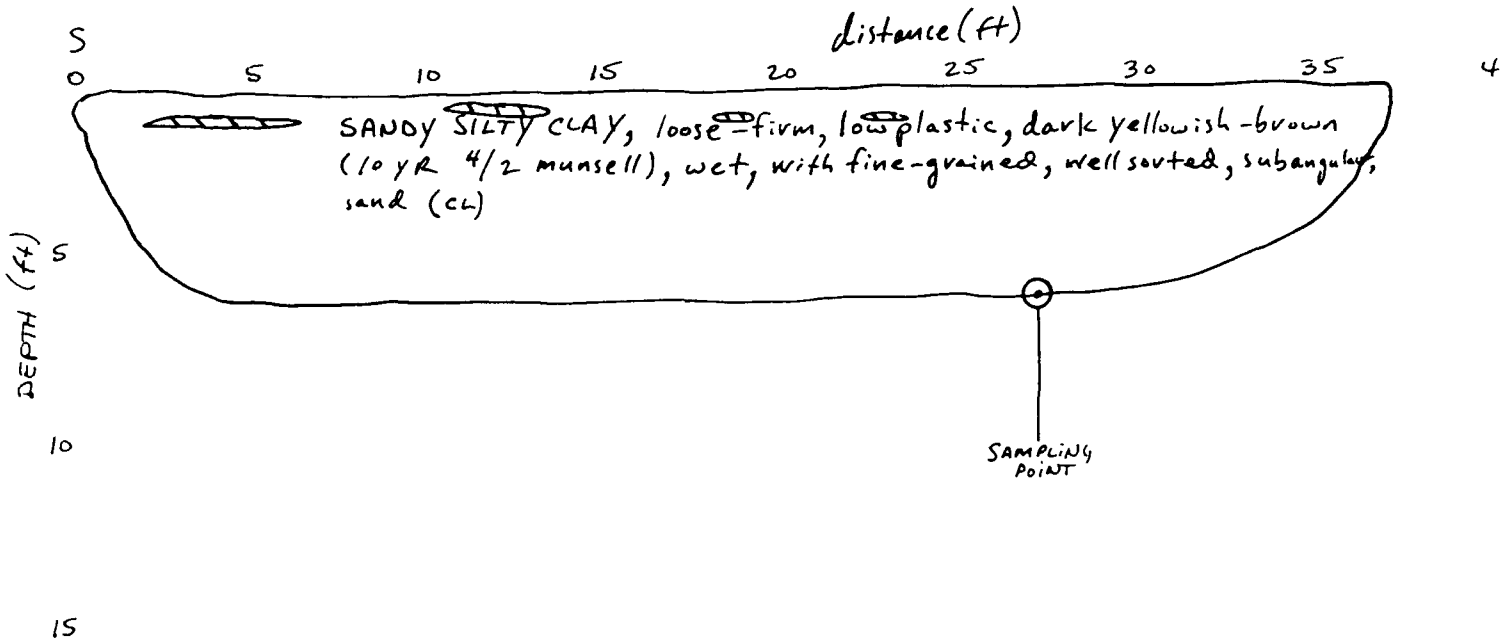


* DEBRIS: Bricks, concrete rubble, asphalt rubble, plastic caps, barrel lids, various wire, rebar.

Job No.: 22238	Figure G-6 CROSS-SECTION OF TRENCH NO. 6 SITE 36-17N ANOMALOUS AREA H
Prepared by: S.E.M.	
Date: 8/14/89	

LOGGER: STEVEN E. MORRISSETTE
DATE: 4-26-89
BACKHOE OPERATOR: CHARLIE WHARTON
TIME: 11:55
INSTRUMENT READINGS:
a) HNu - Background
b) M18 - All negative

PROJECT NAME/#: RMA task 2
TRENCH I.D.: TRENCH #7, section 36
COMPASS ORIENTATION: ~~308° NW~~ 00
SCALE: 1" = 5'



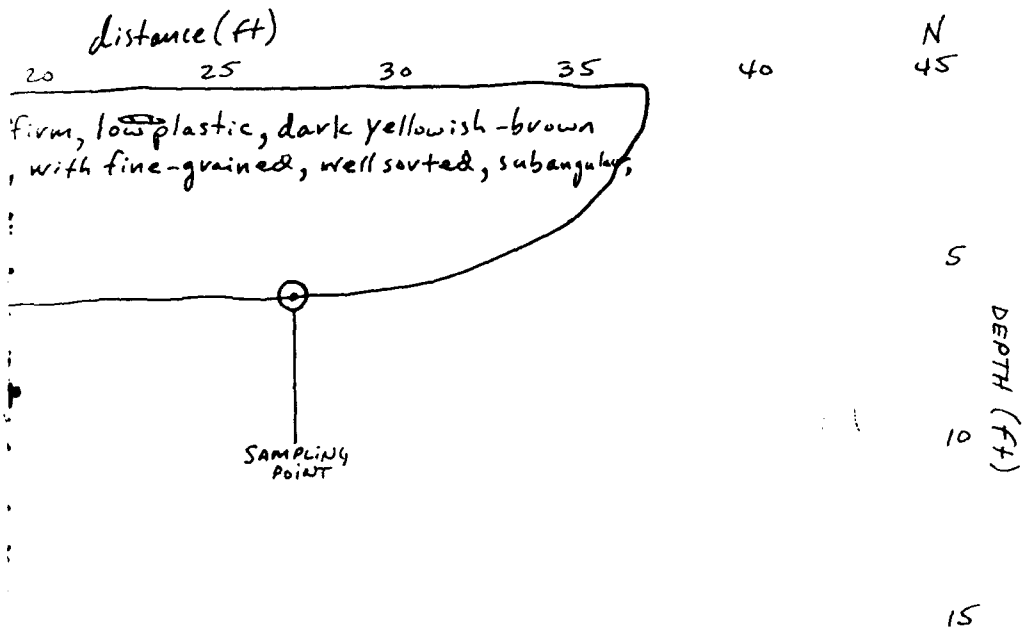
LEGEND: — Rust staining at a depth of 0.5-1.0 foot

1

2

Job No. :	
Prepared by :	
Date :	

PROJECT NAME/#: RMA task 2
TRENCH I.D.: TRENCH #7, section 36-17N, anomaly area H
COMPASS ORIENTATION: ~~308° NW~~ 006°
SCALE: 1" = 5'



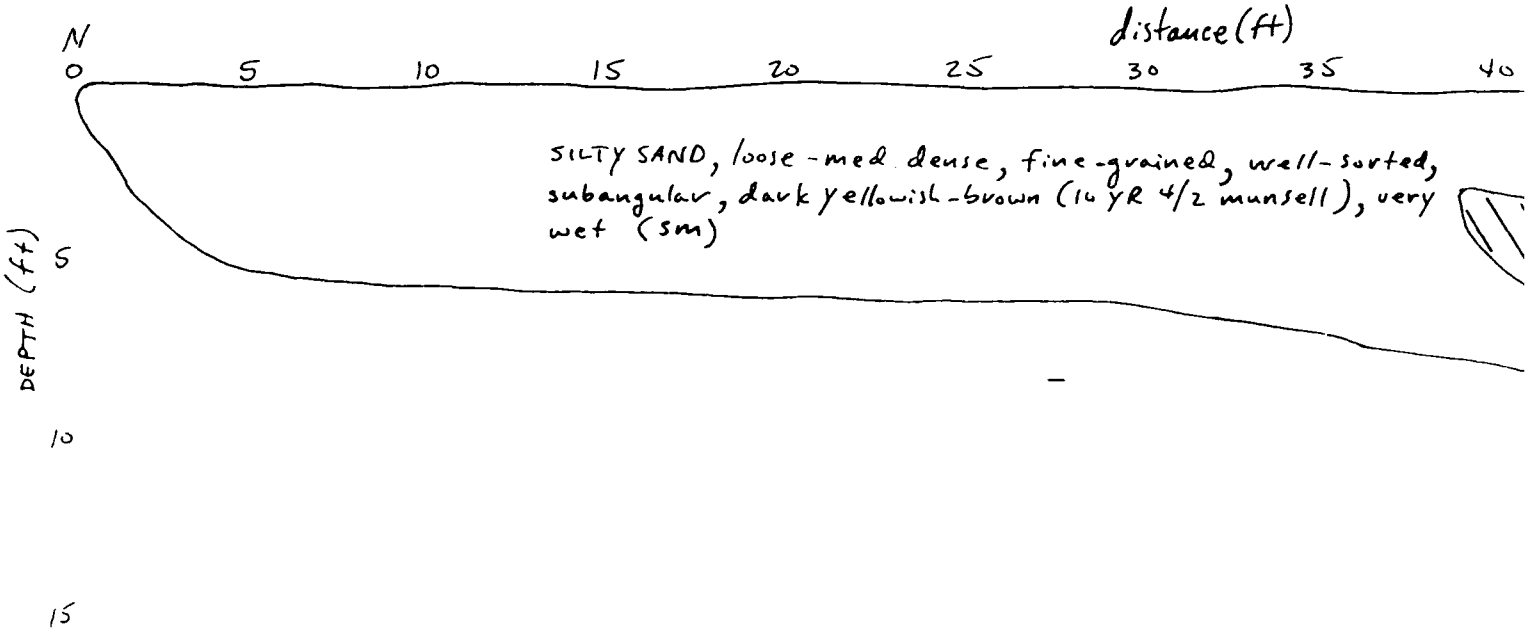
Rust staining at a depth of 0.5 - 1.0 foot.

(3)

Job No.: 22238	Figure G-7 CROSS-SECTION OF TRENCH NO. 7 SITE 36-17N ANOMALOUS AREA H
Prepared by: S.E.M.	
Date: 8/14/89	

LOGGER: STEVEN E. MORRISSETTE
DATE: 5-3-89
BACKHOE OPERATOR: CHARLIE WHARTON
TIME: 10:15
INSTRUMENT READINGS:
a) HNu - Background
b) M18 - All negative

PROJECT NAME/#: RMA task 2
TRENCH I.D.: TRENCH 7B, section 36-17
COMPASS ORIENTATION: 340°
SCALE: 1" = 5'

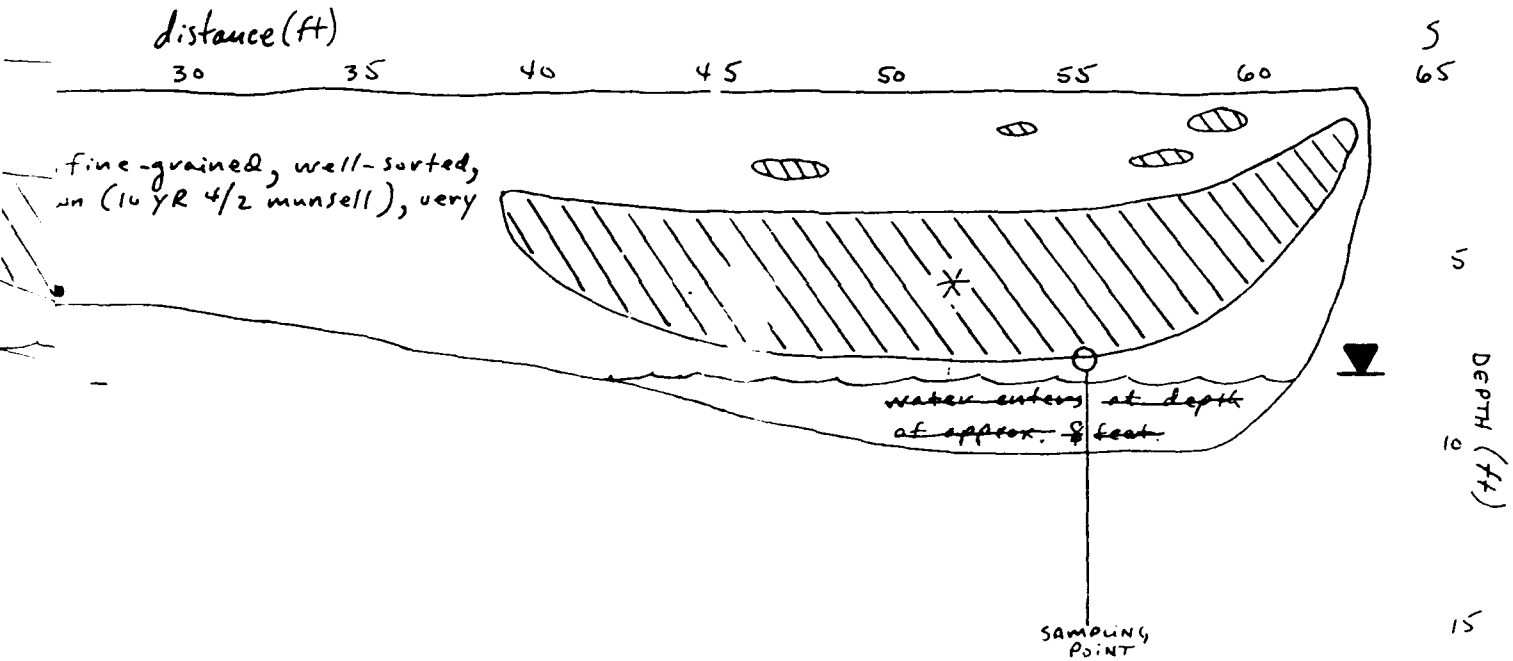


* DEBRIS: Burned wood, charcoal, various pieces of scrap metal (pipes, sludge, rubber hoses, rust staining, ~~silty sand matrix.~~

(1)

(2)

ANJECT NAME/#: RMA task 2
NCH I.D.: TRENCH 7B, section 36-17N, anomaly area H
IPASS ORIENTATION: 340°
LE: 1" = 5'



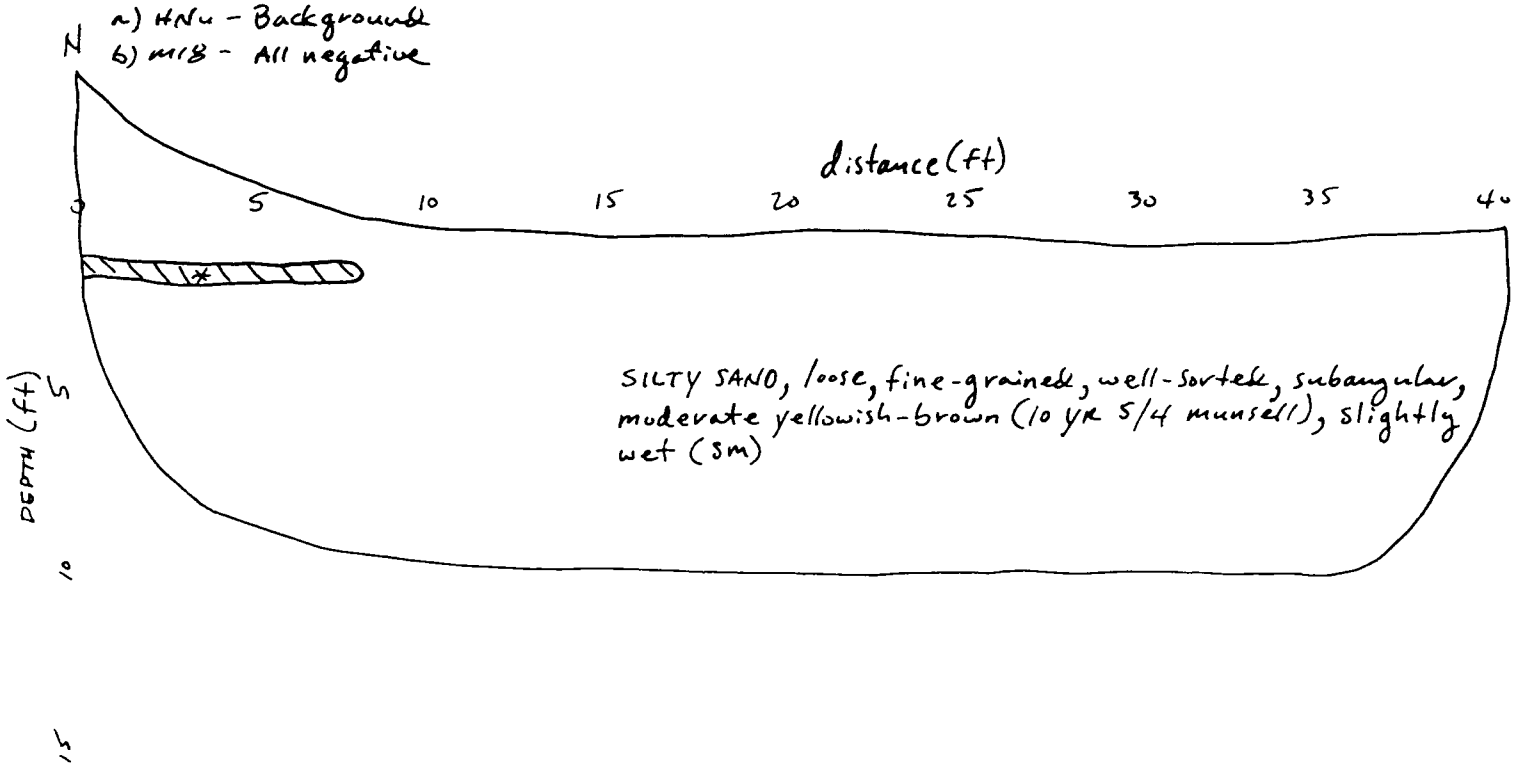
e, ' rious pieces of scrap metal (pipes, wire, cable), black & gray staining, ~~silty sand matrix.~~

(3)

Job No. : 22238	Figure G-8 CROSS-SECTION OF TRENCH NO. 7B SITE 36-17N WEST OF ANOMALOUS AREA H
Prepared by: S. E. M.	
Date: 8/14/89	

LOGGER: STEVEN E. MORRISSETTE
DATE: 5-3-89
BACKHOE OPERATOR: CHARLIE WHARTON
TIME: 11:30
INSTRUMENT READINGS:
a) HNu - Background
b) MIB - All negative

PROJECT NAME/#: RMA task #2
TRENCH I.D.: TRENCH #8, section 36-17N, anomaly
COMPASS ORIENTATION: 348°
SCALE: 1" = 5'



*DEBRIS: Wood, bricks, concrete rubble. (This material is o very near to ground surface & is interpreted to b surface dumped material).

Job No. :	2
Prepared by :	S.
Date :	8/

(1)

PROJECT NAME/#: RMA task #2
TRENCH I.D.: TRENCH #8, section 36-17N, anomaly area H
COMPASS ORIENTATION: 348°
SCALE: 1" = 5'

distance (ft)

20 25 30 35 40 45

5

ANO, loose, fine-grained, well-sorted, subangular,
te yellowish-brown (10 YR 5/4 munsell), slightly
m)

5

depth (ft)

10

15

is: Wood, bricks, concrete rubble. (This material is at or very near to ground surface & is inferred to be surface dumped material).

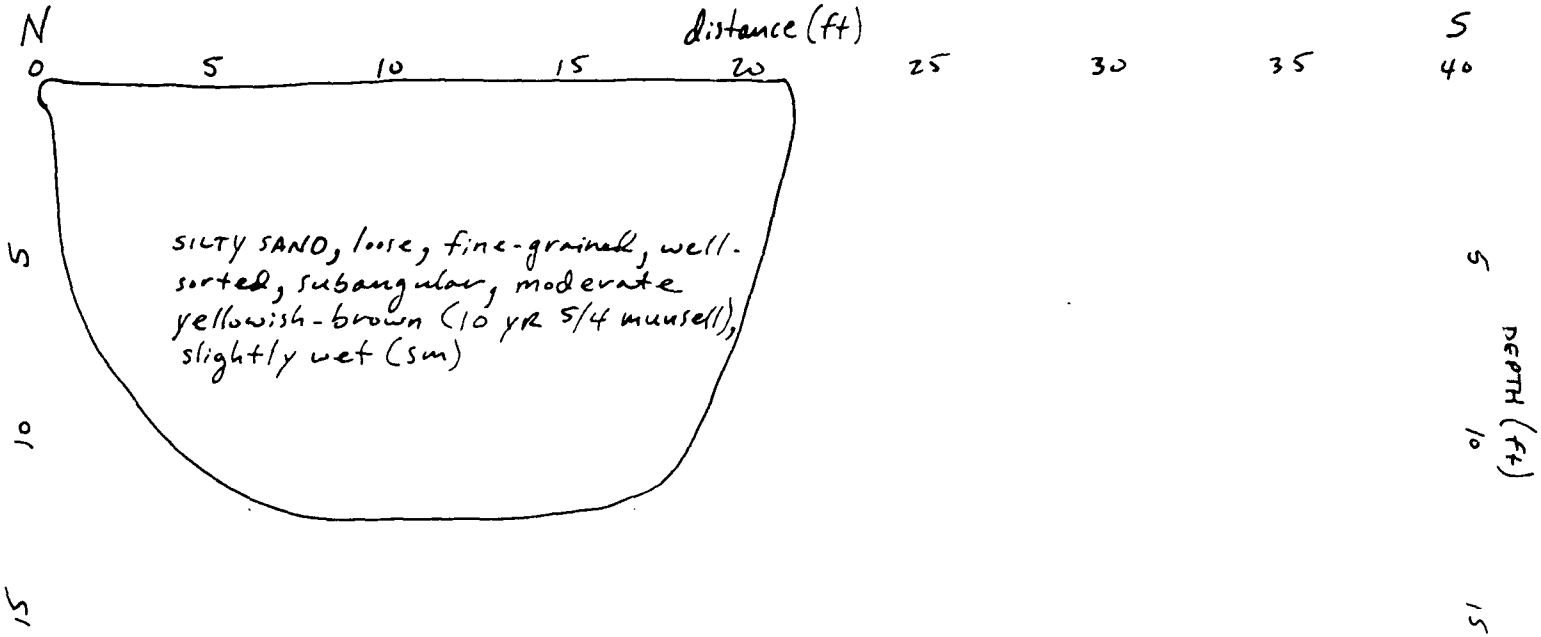
(1)

(1)

Job No.: 22238	Figure G-9 CROSS-SECTION OF TRENCH NO. 8 SITE 36-17N ANOMALOUS AREA H
Prepared by: S.E.M.	
Date: 8/14/89	

LOGGER: STEVEN E. MORRISSETTE
DATE: 5-3-89
BACKHOE OPERATOR: CHARLIE WHARTON
TIME: 12:20
INSTRUMENT READINGS:
a) HNu - Background
b) M18 - All negative

PROJECT NAME/#: RMA task #2
TRENCH I.D.: TRENCH 8B, section 36-17N, anomaly area H
COMPASS ORIENTATION: 332° NW
SCALE: 1" = 5'



Job No.:	22238
Prepared by:	S.E.M.
Date:	8/14/89

Figure G-10 CROSS-SECTION OF TRENCH NO. 8B
SITE 36-17N
ANOMALOUS AREA H

Woodward-Clyde Consultants

124835

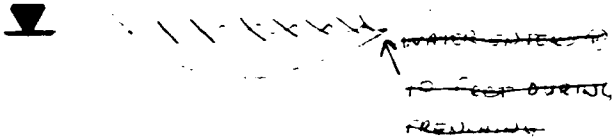
PAGE 1

LOGGER: STEVEN E. MORRISSETTE
DATE: 4-26-89 & 4-27-89
BAC: HOE OPERATOR: CHARLIE WHARTON
TIME: 13:00 & 10:20
INSTRUMENT READINGS:
a) HNu - 40 ppm spike at 6.0 feet, otherwise background
b) MIE - All negative

PROJECT NAME #: RMA TASK [illegible]
TRENCH I.D.: TRENCH # 9A, [illegible], and
COMPASS ORIENTATION: 338°
SCALE: 1" = 5'

0 5 10 15 20 25 30 35

SANDY SILTY CLAY, firm-stiff, low-plastic, dark yellowish-brown (10 yr 4/2 munsell), with fine-grained, well sorted, subangular sand ~~grains~~, wet (CL



5

10

~~WATER ENTERED~~
~~10 FEET DURING~~
~~TRENCHING~~

15

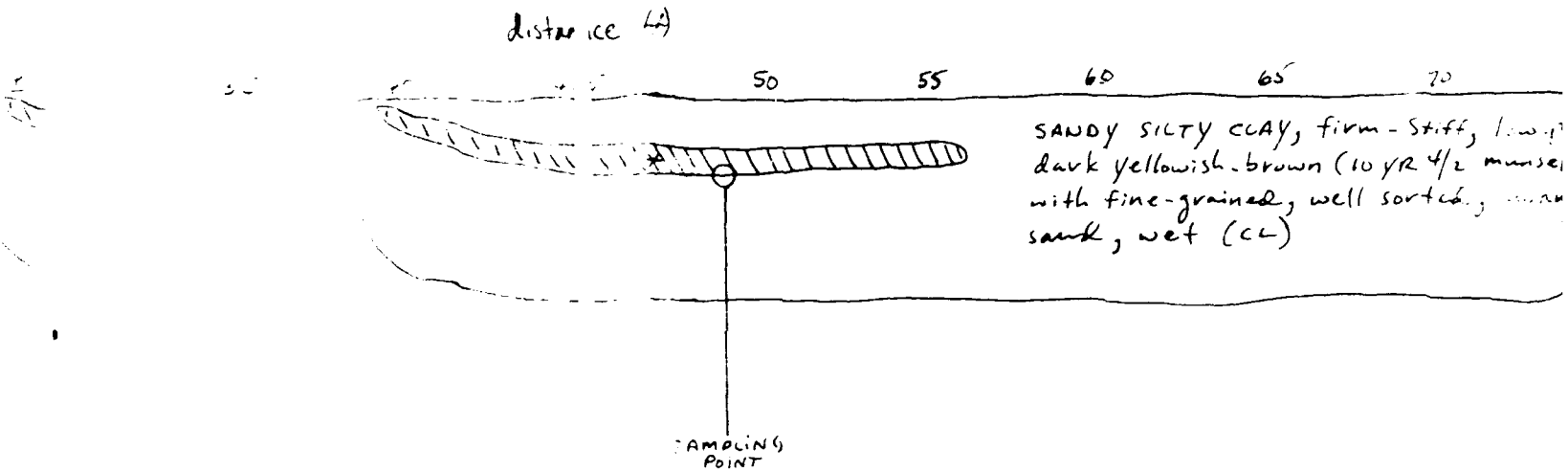
(1)

124835

Y a[illegible], section [illegible], anomaly area H

LOGGER: STEVEN E. MORRISSETTE
DATE: 4-26-89 & 4-27-89
BACKHOE OPERATOR:
TIME: 13:00 & 10:20

PROJECT [illegible]
TRENCH I[illegible]
COMPASS
SCALE: [illegible]



* DEBRIS: Burn marks, charcoal, some meta
some green & yellow discoloration.

Job No. :	
Prepared b	
Date :	

PAGE 2

9A MORRISSETTE
4-27-89

PROJECT NAME/#: RMA task 2
TRENCH I.D.: 9A, SECTION 36-17N, anomaly area H
COMPASS ORIENTATION: 336°
SCALE: 1" = 5'

60 65 70 75 80 85 N 90

SANDY SILTY CLAY, firm - stiff, low plastic, dark yellowish-brown (10 YR 4/2 munsell), with fine-grained, well sorted, angular sand, wet (CL)

5

DEPTH ft

10

DEBRIS: Burn marks, charcoal, some metal debris (wire, burned fuses), some green & yellow discoloration.

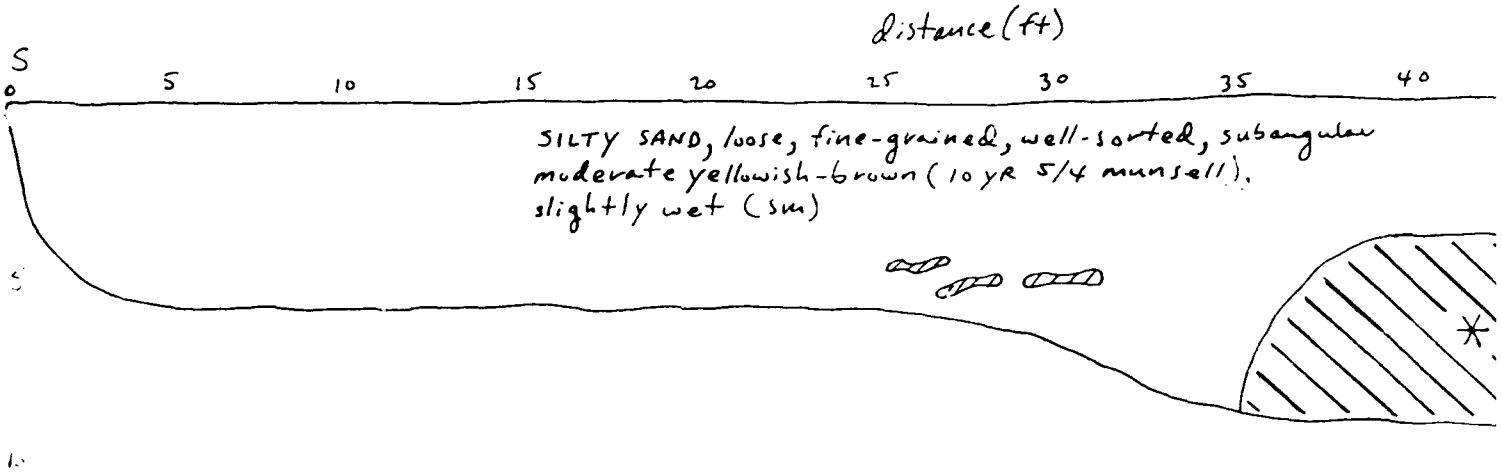
15

(3)

Job No : 22238	Figure G-11 CROSS-SECTION OF TRENCH NO. 9A SITE 36-17N ANOMALOUS AREA H
Prepared by: S. E. M.	
Date: 8/14/89	

LOGGER: STEVEN E. MORRISSETTE
DATE: 4-26-89
BACKHOE OPERATOR: JAMES "JIGGS" ENNIS
TIME: 13:30
INSTRUMENT READINGS:
a) HNu - Background
b) MIB - All negative

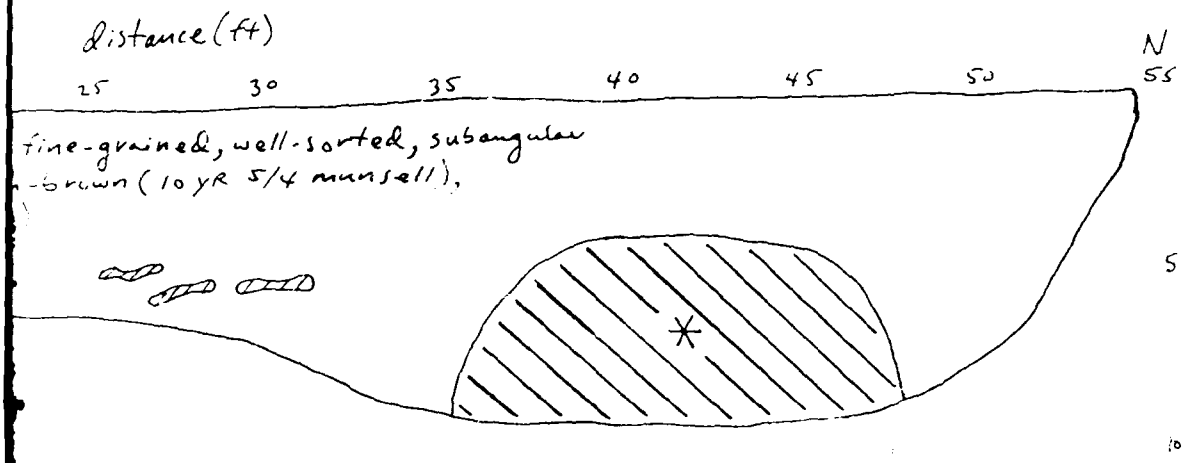
PROJECT NAME/#: RMA task 2
TRENCH I.D.: TRENCH 9B, section
COMPASS ORIENTATION: 336°
SCALE: 1" = 5'



✳ DEBRIS: Wood, burned wo
pieces of metal (
pipes, straps), so
bottles.

-- metal debris

PROJECT NAME/#: RMA task 2.
TRENCH I.D.: TRENCH 9B, SECTION 36-17N, anomaly area H
COMPASS ORIENTATION: 336°
SCALE: 1" = 5'



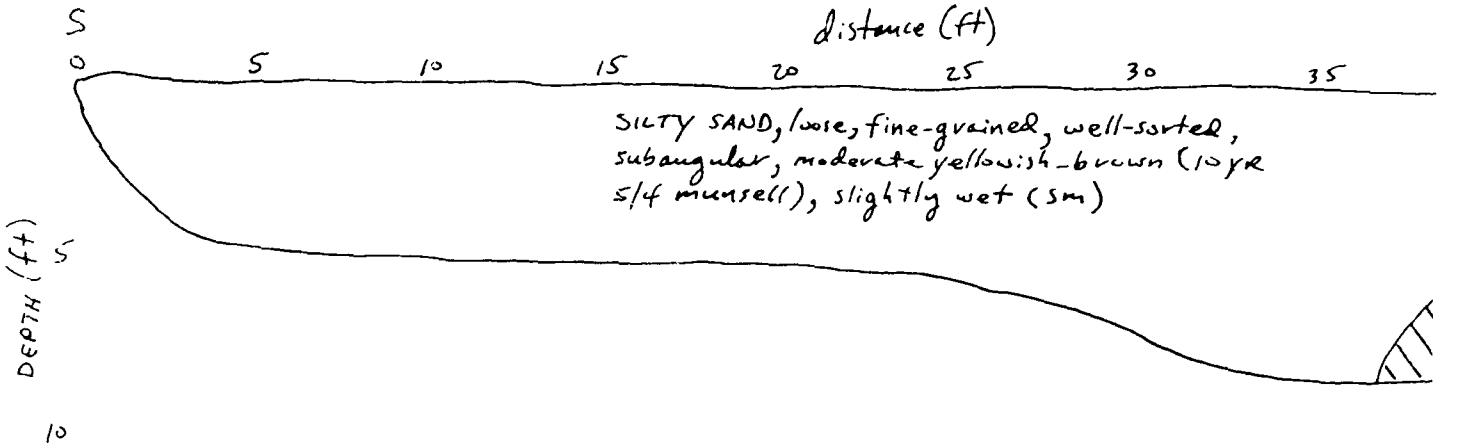
* DEBRIS: Wood, burned wood, charcoal, various pieces of metal (bars, 3"-4" diameter pipes, straps), some rust staining, various empty bottles.

metal debris.

Job No. : 22238	Figure G-12 CROSS-SECTION OF TRENCH NO. 9B SITE 36-17N ANOMALOUS AREA H
Prepared by: S.E.M.	
Date: 8/14/89	

LOGGER: STEVEN E. MORRISSETTE
DATE: 4-26-89
BACKHOE OPERATOR: JAMES "JIGGS" ENNIS
TIME: 14:15
INSTRUMENT READINGS:
a) HNu - Background
b) M18 - All negative

PROJECT NAME/#: RMA task 2
TRENCH I.D.: 9C, SECTION 36
COMPASS ORIENTATION: 340°
SCALE: 1" = 5'

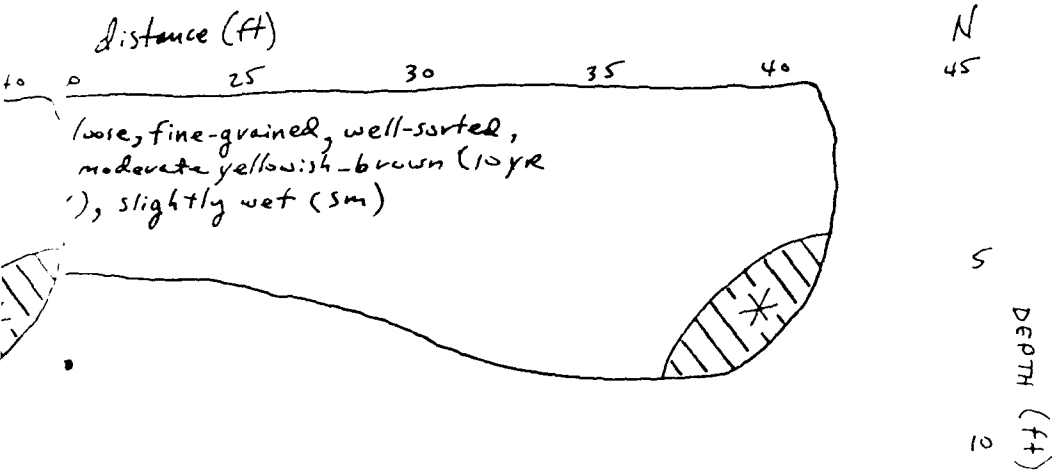


* DEBRIS: Wood, burned wood various metal debr empty bottles.

(1)

Job
Pre
Dat

PROJECT NAME/#: RMA task 2
TRENCH I.D.: 9C, SECTION 36-17N, anomaly area H
COMPASS ORIENTATION: 340°
SCALE: 1"=5'



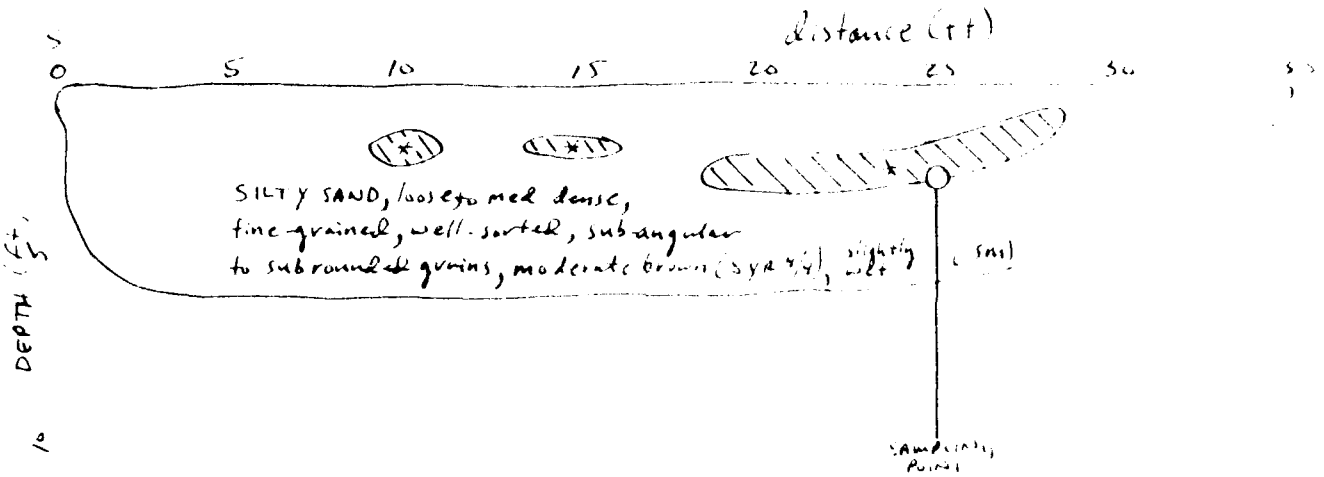
* DEBRIS: Wood, burned wood, charcoal, various metal debris, some small empty bottles.

(2)

Job No.: 22238	Figure G-13 CROSS-SECTION OF TRENCH NO. 9C SITE 36-17N ANOMALOUS AREA H
Prepared by: S.E.M.	
Date: 8/14/89	

LOGGER: STEVEN E. MORRISSETTE
DATE: 5-1-89
BACKHOE OPERATOR: BUD THRIFT
TIME: 13:45
INSTRUMENT READINGS:
a) HNu - Background
b) MIB - All negative

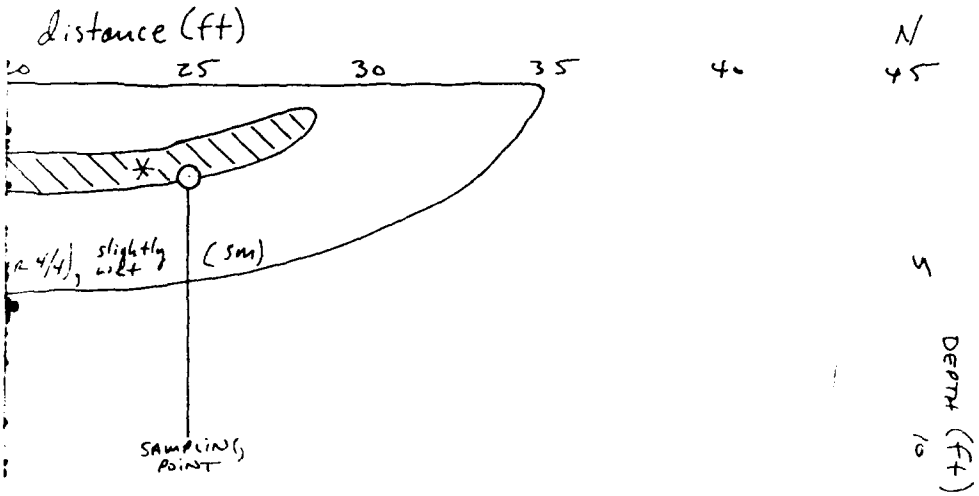
PROJECT NAME #: RMA Fuse 2
TRENCH ID: TRENCH # 6, [illegible]
COMPASS ORIENTATION: 334° NW
SCALE: [illegible] - 5'



* lit BRIS: Burn marks, various pieces of metal [illegible] staining

Job No	
Prepared	
Date	

PROJECT NAME/#: RMA task 2
TRENCH ID: TRENCH #10, section 36-17N, anomaly area H
COMPASS ORIENTATION: 334° NW
SCALE: 1" = 5'

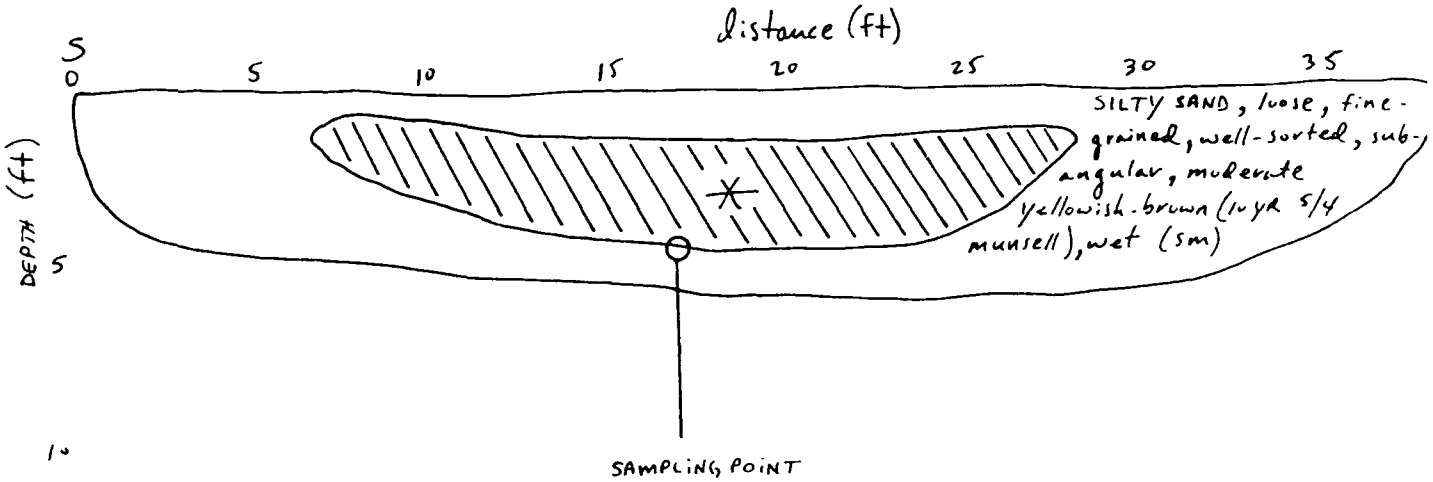


DEBRIS: Burn marks, various pieces of metal debris, rust staining.

Job No.: 22238	Figure G-14 CROSS-SECTION OF TRENCH NO. 10 SITE 36-17N ANOMALOUS AREA H
Prepared by: S.E.M.	
Date: 8/14/89	

LOGGER: STEVEN E. MORRISSETTE
DATE: 4-27-89
BACKHOE OPERATOR: BUD THRIFT
TIME: 12:30
INSTRUMENT READINGS:
a) HNu - Background
b) M18 - All negative

PROJECT NAME/#: RMA "task 2
TRENCH ID: 11, section 36-17N, A
COMPASS ORIENTATION: 334° NW
SCALE: 1" = 5'

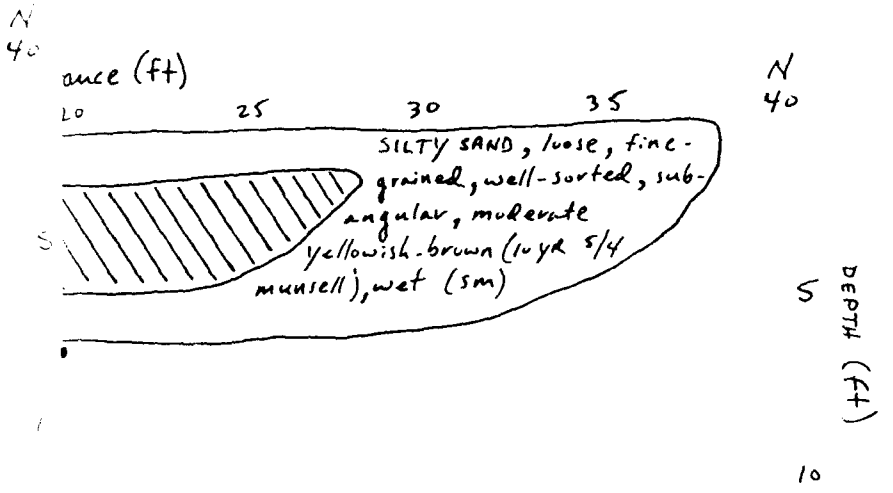


* DEBRIS: Various pieces of scrap metal (wire, cable, burne fuse casings, metal bars & straps), some empt small glass amber bottles & clear glass vials some green & yellow discoloration, ~~silty sand matrix~~

(1)

Job No.	
Prepare	
Date:	

PROJECT NAME/#: RMA task 2
TRENCH ID: 11, section 36-17N, anomaly area H
COMPASS ORIENTATION: 334° NW
SCALE: 1" = 5'

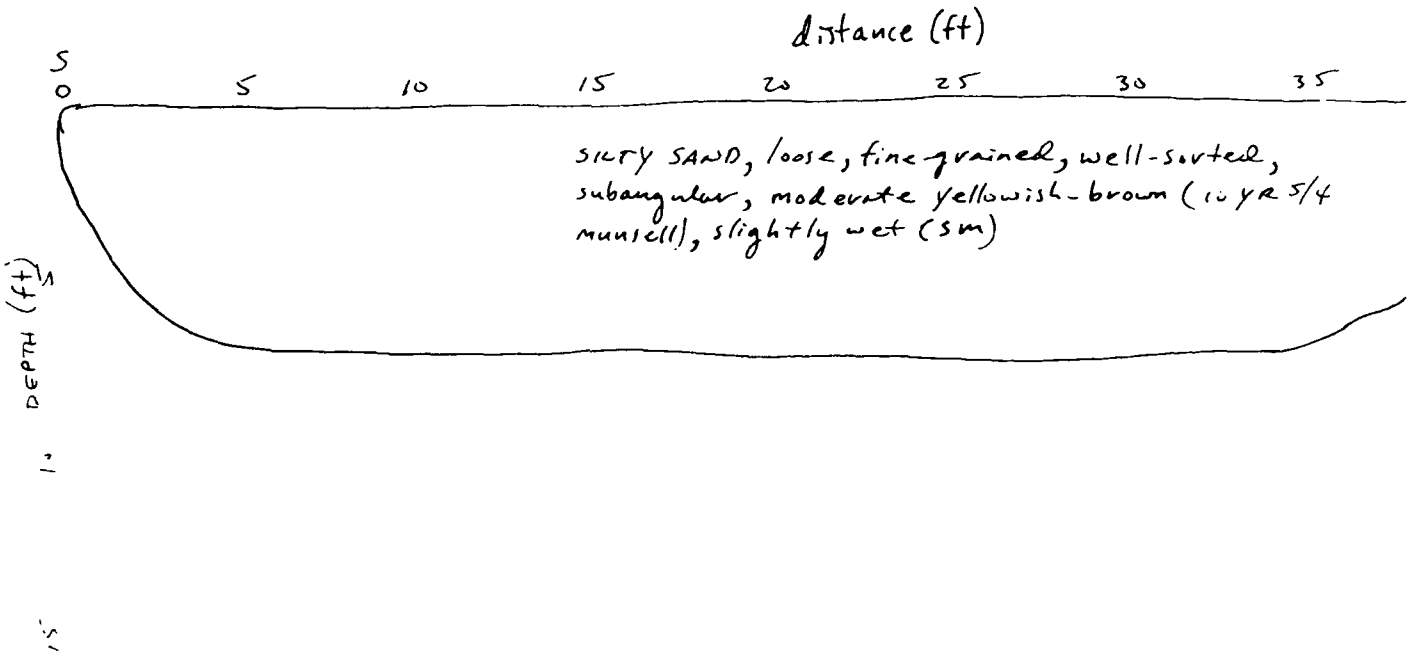


Various pieces of scrap metal (wire, cable, burned fuse casings, metal bars & straps), some empty small glass amber bottles & clear glass vials, some green & yellow discoloration, ~~silty sand matrix~~

Job No.: 22238	Figure G-15 CROSS-SECTION OF TRENCH NO. 11
Prepared by: S.E.M.	SITE 36-17N
Date: 8/14/89	ANOMALOUS AREA H

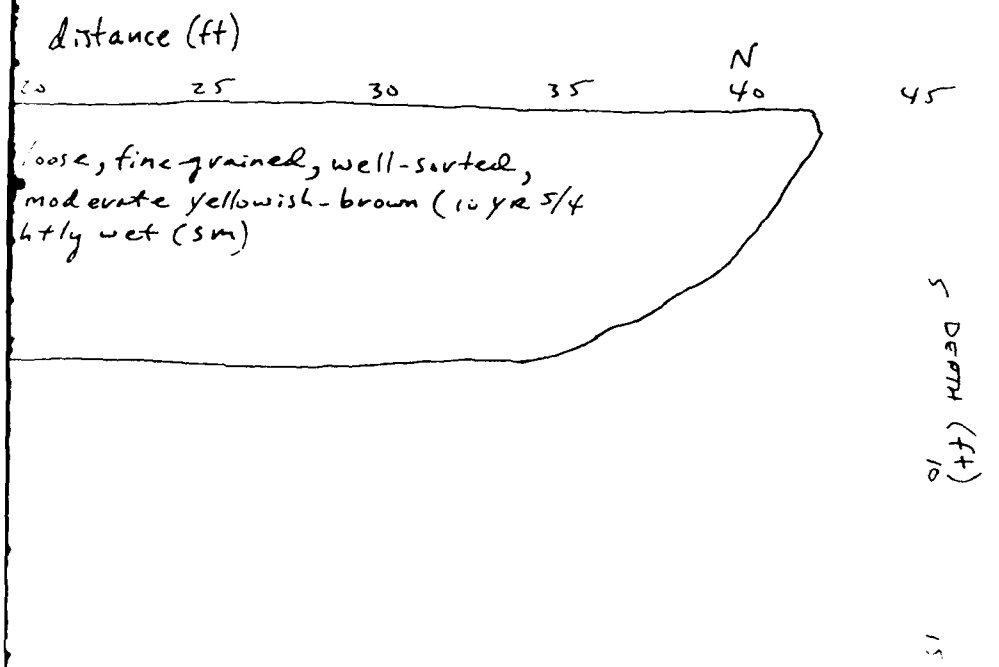
LOGGER: STEVEN E. MORRISSETTE
DATE: 5-1-89
BACKHOE OPERATOR: CHARLIE WHARTON
TIME: 08:30
INSTRUMENT READINGS:
a) HNu - Background
b) MIB - All negative

PROJECT NAME/#: RMA task
TRENCH ID: TRENCH 12, sectio
COMPASS ORIENTATION: 324° NW
SCALE: 1" = 5'



1

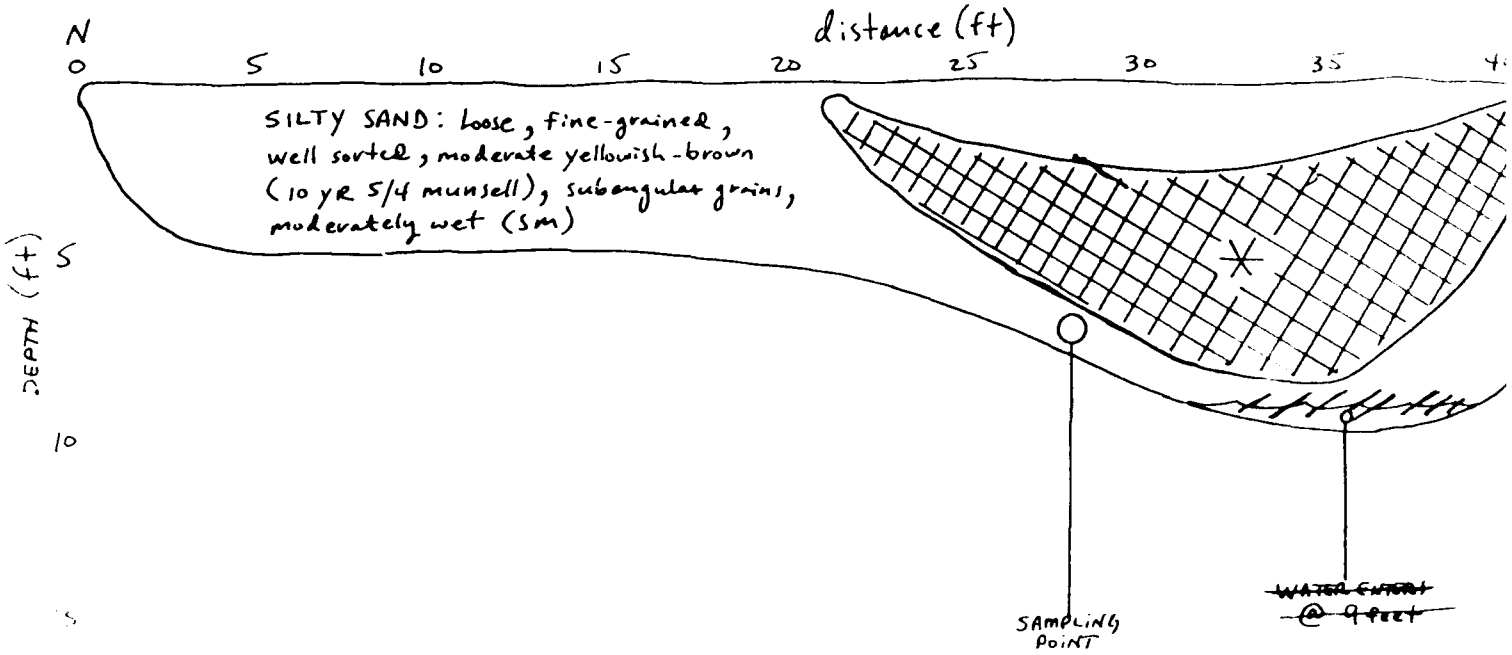
PROJECT NAME/#: RMA task 2
TRENCH ID: TRENCH 12, section 36-17N, anomaly area H
COMPASS ORIENTATION: 324° NW
SCALE: 1" = 5'



Job No. : 22238	Figure G-16 CROSS-SECTION OF TRENCH NO. 12 SITE 36-17N ANOMALOUS AREA H
Prepared by: S.E.M.	
Date: 8/14/89	

LOGGER: STEVEN E. MORRISSETTE
DATE: 4-27-89
BACKHOE OPERATOR: JAMES "JIGGS" ENNIS
TIME: 13:30
INSTRUMENT READINGS:
a) HNu - Background
b) MIB - All negative

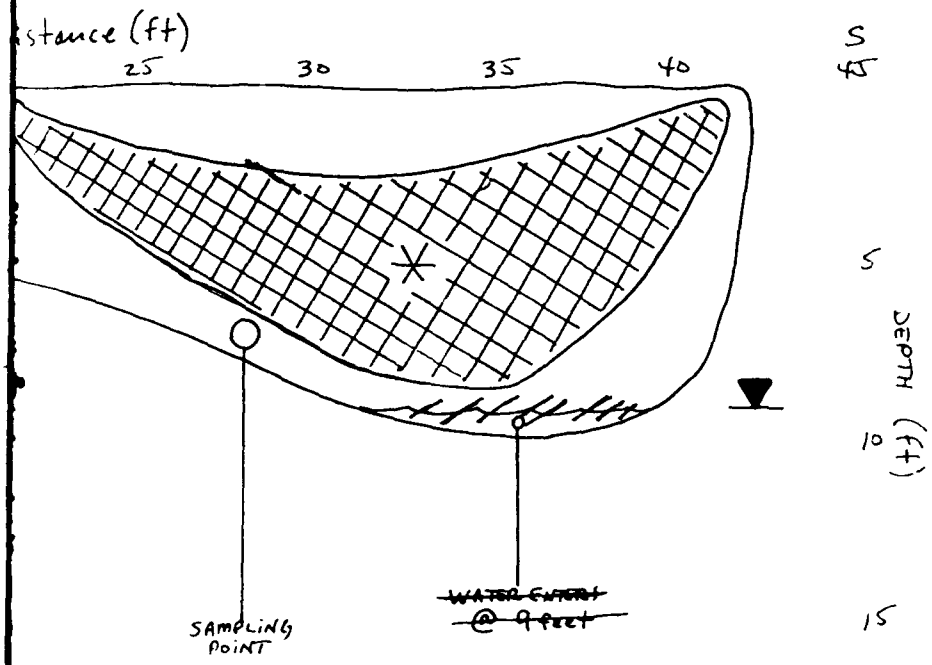
PROJECT NAME/#: RMA task 2
TRENCH I.D.: TRENCH #13, Sectio
COMPASS ORIENTATION: 336° NW
SCALE: 1" = 5'



✱ DEBRIS: Burned wood, bricks, rock fr
charcoal, 4" metal pipes,
pieces of scrap metal, s
& vials.
full clear glass

Job No	
Prepared	
Date	

PROJECT NAME/#: RMA task 2
TRENCH I.D.: TRENCH #13, section 36-17N, anomaly area H
COMPASS ORIENTATION: 336° NW
SCALE: 1" = 5'

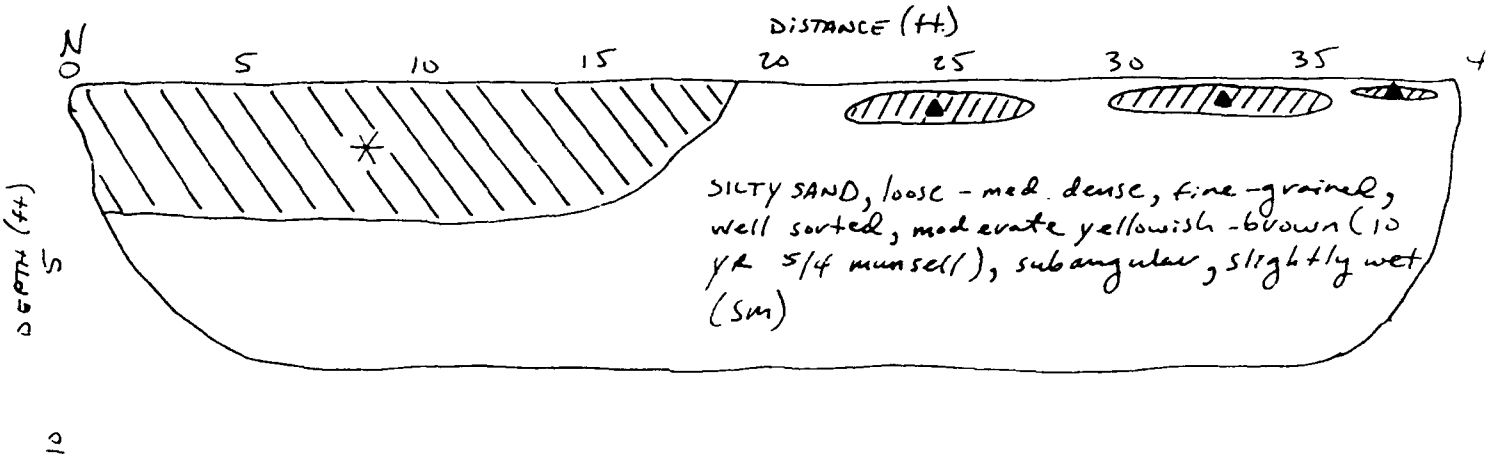


✳ DEBRIS: Burned wood, bricks, rock fragments, charcoal, 4" metal pipes, various pieces of scrap metal, small empty bottles & full clear glass vials.

Job No.: 22238	Figure G-17 CROSS-SECTION OF TRENCH NO. 13 SITE 36-17N ANOMALOUS AREA H
Prepared by: S.E.M.	
Date: 8/14/89	

LOGGER: STEVEN E. MORRISSETTE
DATE: 5-1-89
BACKHOE OPERATOR: CHARLIE WHARTON
TIME: 09:30
INSTRUMENT READINGS:
a) HNu - Background
b) MIB - All negative

PROJECT NAME/#: RMA task 2
TRENCH I.D.: TRENCH 14A, SECTION 36-17N, ANC
COMPASS ORIENTATION: 344° NW
SCALE: 1" = 5'



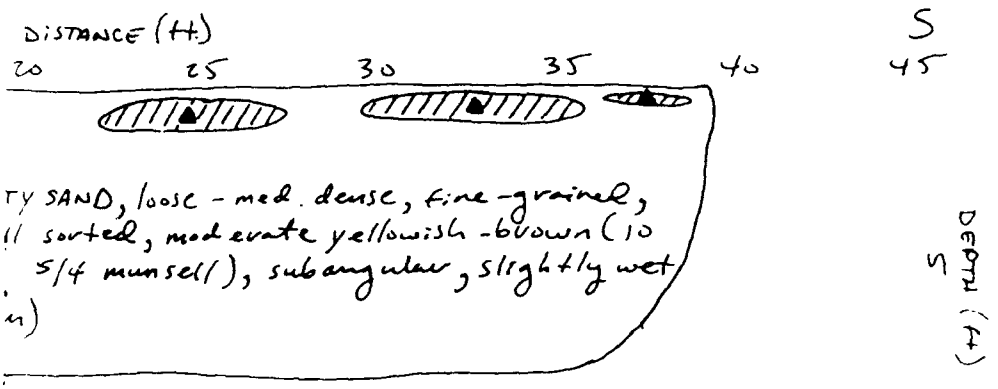
* DEBRIS: LIGHT GRAY (———), POWDERY MATERIAL (APPEARS T
CONCRETE DUST).

▲ DEBRIS: SURFACE BURN MARKS @ A DEPTH OF .5 ft to 2.0 ft.

(1)

Job No.	
Prepared	
Date:	

PROJECT NAME/#: RMA task 2
TRENCH I.D.: TRENCH 14A, SECTION 36-17N, ANOMALY AREA H
COMPASS ORIENTATION: 344° NW
SCALE: 1" = 5'



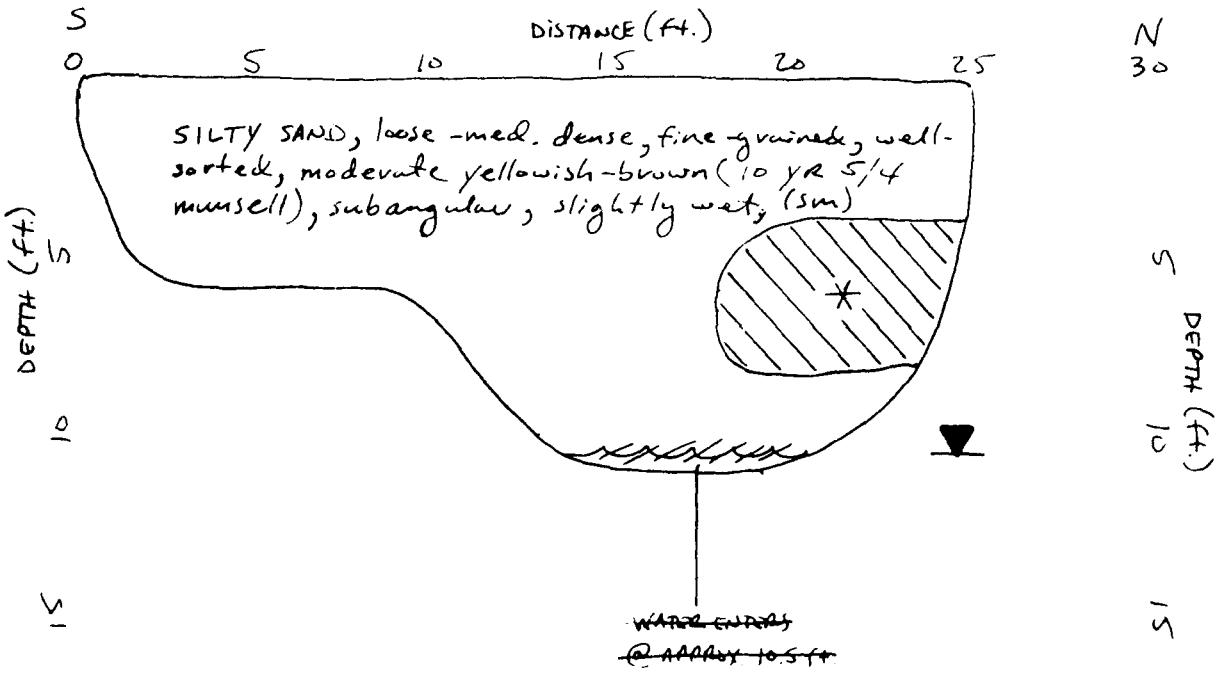
Y ←——→, POWDERY MATERIAL (APPEARS TO BE
T).

N MARKS @ A DEPTH OF .5 ft to 2.0 ft.

Job No. : 22238	Figure G-18 CROSS-SECTION OF TRENCH NO. 14A SITE 36-17N ANOMALOUS AREA H
Prepared by: S.E.M.	
Date: 8/14/89	

LOGGER: STEVEN E. MORRISSETTE
DATE: 5-1-89
BACKHOE OPERATOR: CHARLIE WHARTON
TIME: 10:20
INSTRUMENT READINGS:
a) HNu - Background
b) M18 - All negative

PROJECT NAME/#: RMA task 2
TRENCH I.D.: TRENCH 14B, SECTION 36-17N, ANOMALY AREA H
COMPASS ORIENTATION: 336° NW
~~TIME~~: SCALE: 1" = 5'



*DEBRIS: Wood, burned wood, charcoal, small empty bottles (clear & amber), test tubes, empty & full glass vials.

Job No.: 22238
Prepared by: S E M
Date: 8/14/89

Figure G-19 CROSS-SECTION OF TRENCH NO. 14B
SITE 36-17N
ANOMALOUS AREA H

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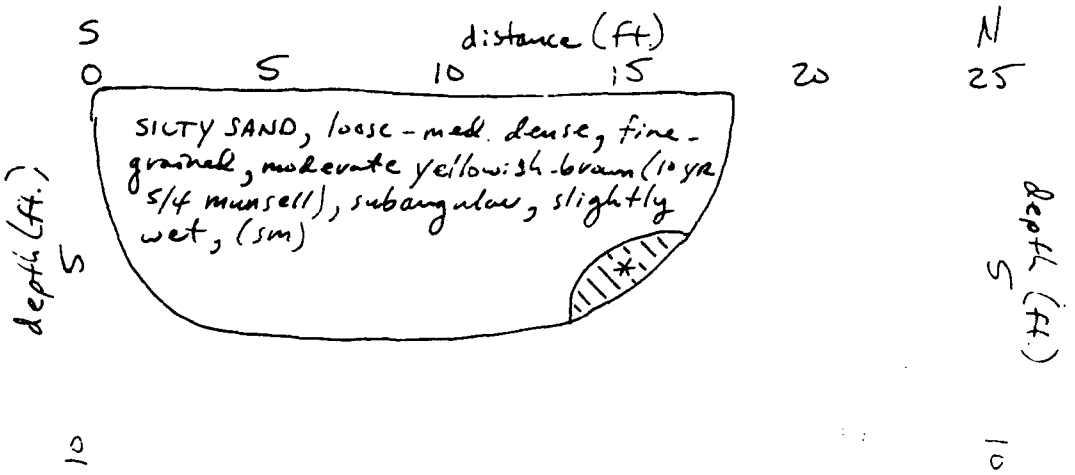
124835

LOGGER: STEVEN E. MORRISSETTE
DATE: 5-1-89
BACKHOE OPERATOR: CHARLIE WHARTON
TIME: 10:45
INSTRUMENT READINGS:
a) HNu - Background
b) MIB - All negative

PROJECT NAME/#: RMA task 2
TRENCH I.D.: TRENCH 14C, section 36-17N, anomaly area H
COMPASS ORIENTATION: 337° NW
SCALE: 1" = 5'



* DEBRIS: Wood, burned wood, charcoal.

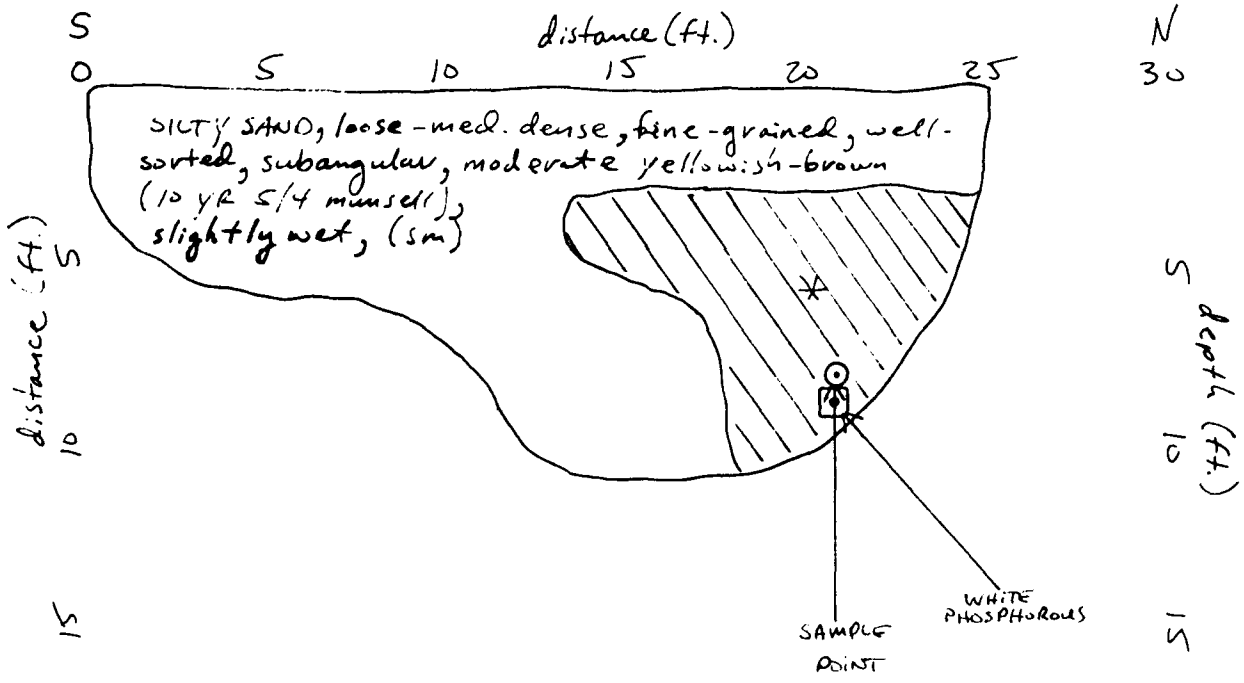
Job No.: 22238
Prepared by: S.E.M.
Date: 8/14/89

Figure G-20 CROSS-SECTION OF TRENCH NO. 14C SITE 36-17N ANOMALOUS AREA H

Woodward-Clyde Const. ants

LOGGER: STEVEN E. MORRISSETTE
DATE: 5-1-89
BACKHOE OPERATOR: CHARLIE WHARTON
TIME: 11:15
INSTRUMENT READINGS:
a) HNu - Background
b) MIB - All negative

PROJECT NAME/#: RMA task 2
TRENCH I.D.: TRENCH 14D, section 36-17N, anomaly area H
COMPASS ORIENTATION: 340° NW
SCALE: 1" = 5'



* DEBRIS: Wood, burned wood, charcoal, metal pipes, various scrap metal, small bottles (clear & amber), test tubes, empty & full clear glass vials.

Job No.:	22238
Prepared by:	S.E.M.
Date:	8/14/89

Figure G-21 CROSS-SECTION OF TRENCH NO. 14D SITE 36-17N ANOMALOUS AREA H

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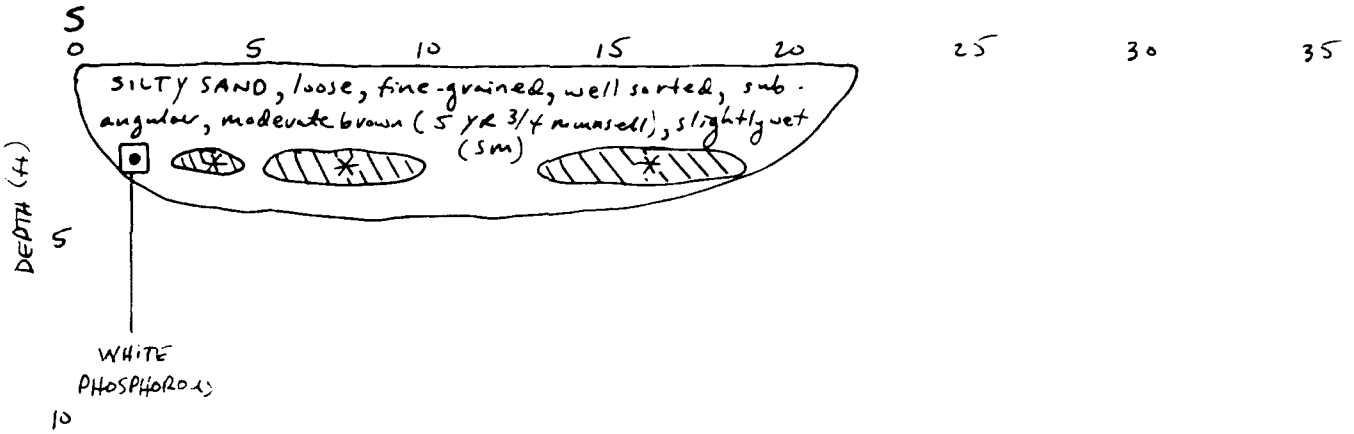
124833

LOGGER: STEVEN E. MORRISSETTE
DATE: 5-5-89
BACKHOE OPERATOR: BUD THRIFT
TIME: 10:00
INSTRUMENT READINGS:
a) HNu - 5-10 ppm around sludge, otherwise background
b) M-18 - All negative

PROJECT NAME/#: RMA tu
TRENCH I.D.: TRENCH 17, SE
COMPASS ORIENTATION: 339°
SCALE: 1" = 5'



* DEBRIS: SOME BURNED-OUT INCENDIARY CA[illegible] SLUDGE.

124835

2 MA task 2
ON 3 17, SECTION 36-17N, west of anomaly area h
339° NW

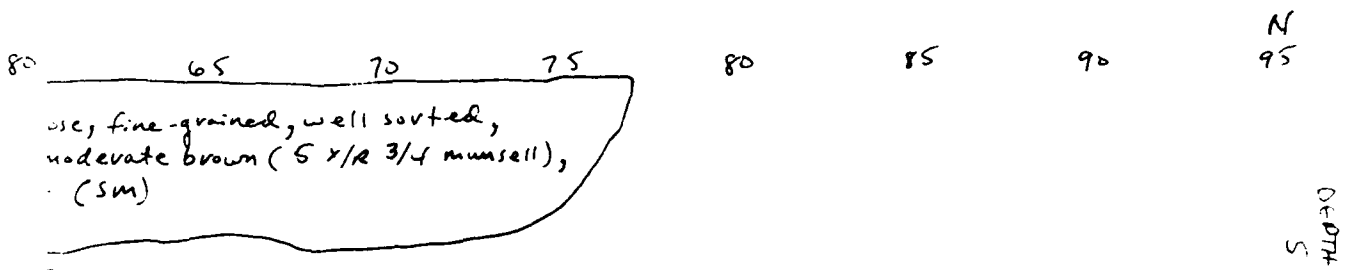
DISTANCE (ft

35 40 45 55 60 65 70 75

SILTY SAND, loose, fine-grained, well sorted, subangular, moderate brown (5 YR 3/4 munsell), slightly wet (SM)

DARCASINGS, DARK GRAY & BLACK

Job No. :	
Prepared by	
Date :	



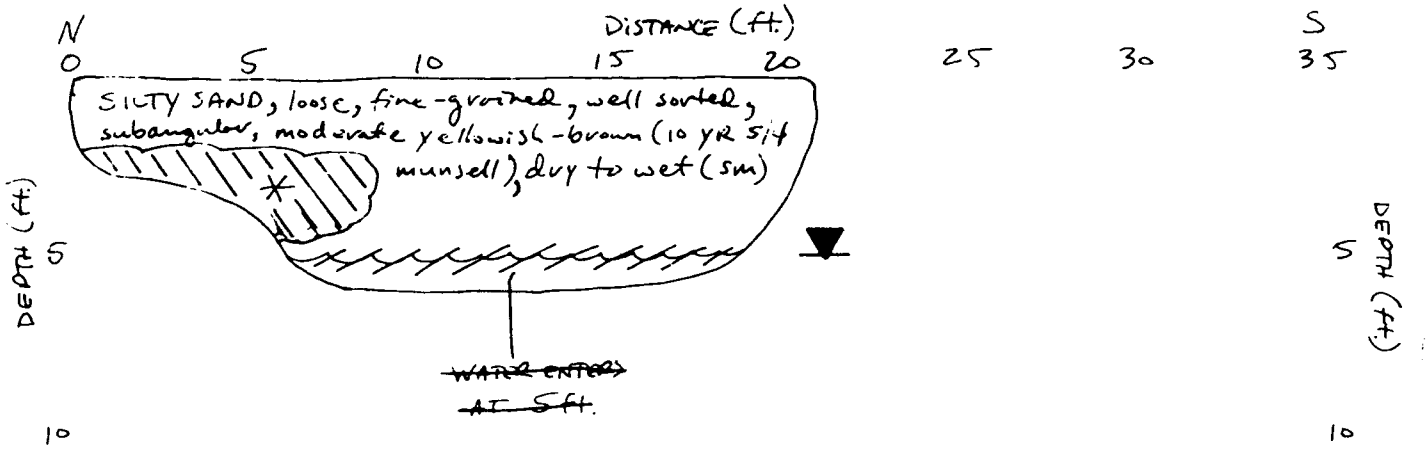
(3)

Job No. : 22238	Figure G-24 CROSS-SECTION OF TRENCH NO. 17 SITE 36-17N ANOMALOUS AREA H
Prepared by : S. E. M.	
Date : 8/14/89	

2238
E. M.
/14/8

LOGGER: STEVEN E. MORRISSETTE
DATE: 5-5-89
BACKHOE OPERATOR: CHARLIE WHARTON
TIME: 08:10
INSTRUMENT READINGS:
a) HNu - background
b) MIB - All negative

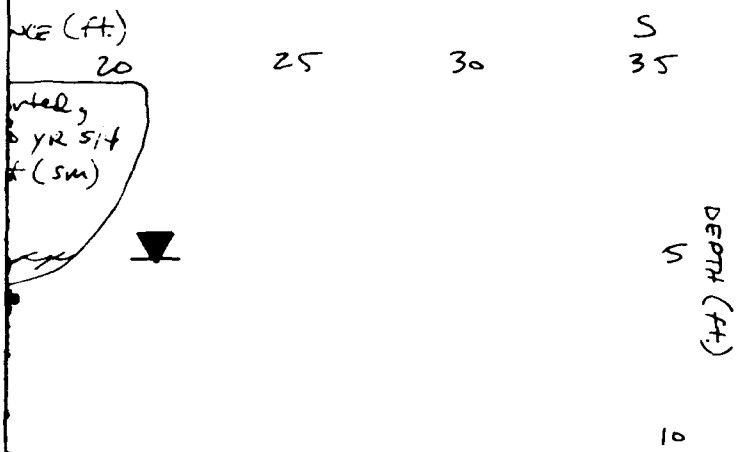
PROJECT NAME/#: RMA task 2
TRENCH I.D.: TRENCH 16, SECTION 36-17N,
COMPASS ORIENTATION: 344° NW
SCALE: 1" = 5'



* DEBRIS: LARGE PIECES OF CONCRETE RUBBLE, BRICKS, SOME WIRE.

Job No. :	222
Prepared by :	S.E.M.
Date :	8/14

PROJECT NAME/#: RMA task 2
TRENCH I.D.: TRENCH 16, SECTION 36-17N, West of ANOM. AREA H
COMPASS ORIENTATION: 344° NW
SCALE: 1" = 5'



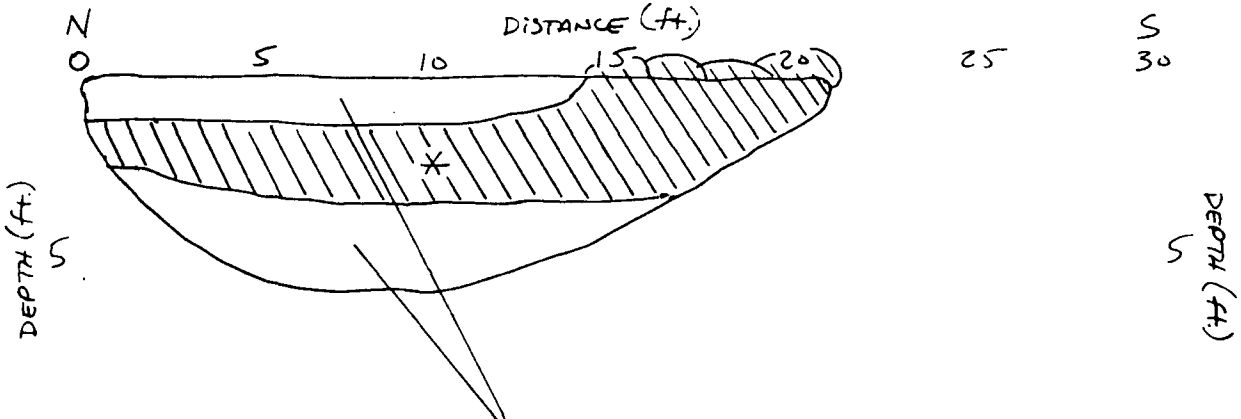
RUBBLE, BRICKS, SOME WIRE.

(2)

Job No. : 22238	Figure G-23 CROSS-SECTION OF TRENCH NO. 16 SITE 36-17N WEST OF ANOMALOUS AREA H
Prepared by: S.E.M.	
Date: 8/14/89	

LOGGER: STEVEN E. MORRISSETTE
DATE: 5-5-89
BACKHOE OPERATOR: CHARLIE WHARTON
TIME: 07:50
INSTRUMENT READINGS:
a) HNu - Background
b) MIB - All negative

PROJECT NAME/#: RMA task 2
TRENCH I.D.: TRENCH 15, SECTION 36-17N, west of ANOM. area H
COMPASS ORIENTATION: 341° NW
SCALE: 1" = 5'



SOIL:
~~MATRIX:~~ SILTY SAND, loose, fine-grained, well sorted, subangular, moderate yellowish-brown (10 YR 5/4 munsell), dry to wet, (SM)

* DEBRIS: LARGE CONCRETE SLABS, BRICKS, SOME WIRE.

Job No.:	22238
Prepared by:	S.E.M.
Date:	8/14/89

Figure G-22 CROSS-SECTION OF TRENCH NO. 15
SITE 36-17N
WEST OF ANOMALOUS AREA H

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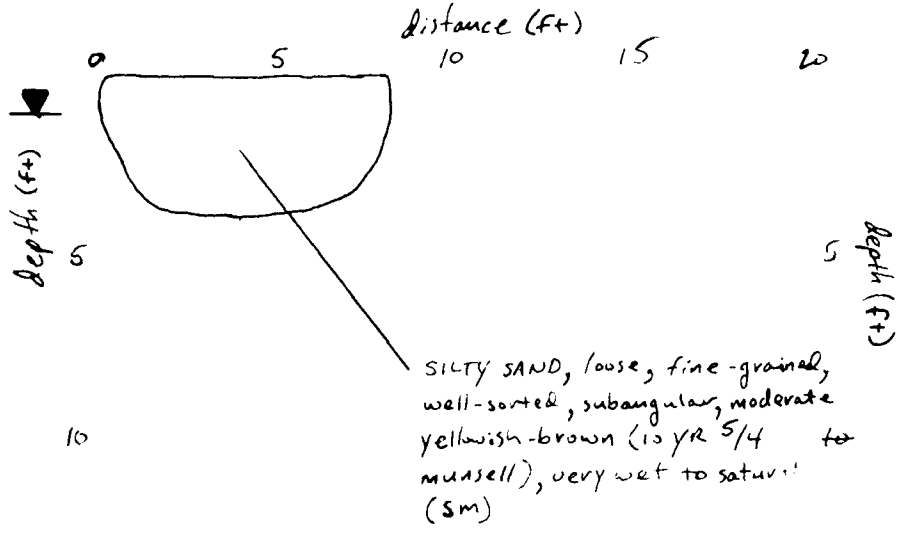
124835

LOGGER: STEVEN E. MORRISSETTE
DATE: MAY 5, 1989
BACKHOE OPERATOR: BUD THRIFT
TIME: 08:30
INSTRUMENT READINGS:
a) HNu - background
b) M18 - All negative

PROJECT NAME/#: RMA task 2
TRENCH I.D.: TRENCH 18, section 36-17N, west of anomaly area H
COMPASS ORIENTATION: 340°
SCALE: 1" = 5'



NOTE: Material becomes saturated approximately 1.0 foot under the surface

Job No.:	22238
Prepared by:	S. E. M.
Date:	8/14/89

Figure G-25 CROSS-SECTION OF TRENCH NO. 18
SITE 36-17N
WEST OF ANOMALOUS AREA H

Woodward-Clyde Consultants

124835

APPENDIX H
QA/QC DATA ANALYSIS

QUALITY ASSURANCE - APPENDIX H

Trip Blanks - A trip blank was shipped with every cooler of samples sent to the laboratory.

A total of 29 trip blanks were analyzed for volatile organic compounds (VOC). Table H-1 is a complete listing of trip blanks from this program. Five of the trip blanks indicated the presence of chloroform and two of those eight also indicated the presence of acetone (ACET). The average concentration of chloroform detected in the five trip blanks was 46.6 µg/L. The range in concentration reported in the trip blanks was from 2.3 to 66 µg/L. The concentrations of chloroform and acetone in the samples corresponding to the trip blanks with detections of chloroform and/or acetone was less than the method detection limits for those analytes.

The source of the chloroform is believed to be the sampling crew. Chloroform for Army agent screening samples was with the sample crew for 7 out of 8 of the sampling activities that chloroform was indicated in the trip blank.

Field Blanks - Field blanks were collected at the rate of 1 per 20 water samples per area. A total of four field blanks were collected during the sampling program. Table H-2 is a complete listing of field blanks from this program. Two of the four field blanks indicated the presence of sodium. No other analytes were detected in the field blanks. The concentration of sodium indicated in the field blanks was 1,950 and 3,100 µg/L in samples WC 89G-005 and WC 55G005, respectively. Very high concentrations of sodium were indicated in both of the associated groundwater samples, which were both sampled immediately prior to collecting the field blanks. The concentration of sodium in sample WC 89G001 was 1,800,000 µg/L and in sample WC 55G001 it was 2,200,000 µg/L. Based on the extremely high concentration in the groundwater samples it is likely that the concentration detected in the field blanks is a residual from the preceding groundwater sampling event.

Decontamination Rinsates

A total of 40 decontamination rinsates were collected during the field sampling program. Table H-3 is a complete listing of decontamination rinsates from the program. Decontamination rinsates were taken from each of the sample collection activities as listed below.

Sample Activity/Media	Number of Decontamination Rinsates
Groundwater Sampling	19
Boring Installation/Soil	11
Exploratory Trenching/Waste	7
ISV Sample Collection/Waste	3
	40

Target analytes were detected in 23 out of 40 of the decontamination rinsates indicating that the decontamination procedures were not perfect. However, the concentration of analyte detected in the rinsate was generally less than 1 percent of the concentration detected in the associated samples indicating that decontamination was adequate for this program.

Duplicates

A total of 20 duplicate samples were collected during the field program. Table H-4 is a complete listing of paired sample and duplicate data. Duplicates were collected from each sample media as listed below.

Media	Total Samples	Number of Duplicates
Groundwater	35	6
Soil	47	11
Waste	18	3
	100	20

Comparative evaluation of the sample and duplicate analytical results indicates very good correlation and reproducibility for paired data in each of the media. The high degree of correlation indicates that the samples are representative of the actual condition at the site.

e H-1

COMPLETE LISTING OF TRIP BLANKS

(RMA Database)

Volatiles	Semi-Volatiles	OSCS	OCPS	DBCP	Dimp/DMMD	OSCMS	IMPA/MPA	Arsenic	Flag	Mercury	Flag	ICP Metals
---------- Field number - WC04G004 Site ID - 01504 Site type - WELL Sample Date - 89151 (Julian)												
L.T.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.		N.A.		N.A.
---------- Field number - WC54G034 Site ID - 36054 Site type - WELL Sample Date - 89164 (Julian)												
L.T.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.		N.A.		N.A.
---------- Field number - WC58G004 Site ID - 36058 Site type - WELL Sample Date - 89163 (Julian)												
L.T.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.		N.A.		N.A.
---------- Field number - WC75G004 Site ID - 36075 Site type - WELL Sample Date - 89108 (Julian)												
L.T.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.		N.A.		N.A.
---------- Field number - WC75G334 Site ID - 36075 Site type - WELL Sample Date - 89166 (Julian)												
L.T.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.		N.A.		N.A.
---------- Field number - WC76G004 Site ID - 36076 Site type - WELL Sample Date - 89165 (Julian)												
L.T.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.		N.A.		N.A.
---------- Field number - WC83S004 Site ID - 36183 Site type - WELL Sample Date - 89131 (Julian)												
L.T.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.		N.A.		N.A.
---------- Field number - WC87G004 Site ID - 36187 Site type - WELL Sample Date - 89159 (Julian)												
L.T.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.		N.A.		N.A.
---------- Field number - WC87S004 Site ID - 36187 Site type - WELL Sample Date - 89124 (Julian)												
111TCE LT 1.0000	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.		N.A.		N.A.
112TCE LT 1.0000												
11DCE LT 1.0000												
11DCLE LT 1.0000												
12DCE LT 5.0000												

L.T. - less than (value) N.A. - Not Analyzed R - Rejected-out of control Units of measurement - Site type (WELL - UGL) and (BORE, WASS, CMPH - UGG)
F - indicates filtered sample analysis See Appendix K for explanation of Field number

ble H-1
COMPLETE LISTING OF TRIP BLANKS

(RMA Database)

Volatiles	Semi-Volatiles	OSCS	OCPS	DBCP	DIMP/DMMP	OSCMS	IMPA/MPA	Arsenic	F a g	Mercury	F a g	ICP Metals

WC875004 (Cont'd)

12DCLE	LT	1.0000
12DCL	LT	1.0000
13DCLB	LT	1.0000
13DCP	LT	4.8000
130MB	LT	1.0000
2CLEVE	LT	3.5000
ACET	LT	8.0000
ACRYLO	LT	8.4000
BRDCLM	LT	1.0000
C2H3CL	LT	12.0000
C2H5CL	LT	8.0000
C6H6	LT	1.0000
CCL3F	LT	1.0000
CCL4	LT	1.0000
CH2CL2	LT	1.0000
CH3BR	LT	14.0000
CH3CL	LT	1.2000
CHBR3	LT	11.0000
CHCL3		23.0000
CLC6H5	LT	1.0000
DBRCLM	LT	1.0000
DCLB	LT	2.0000
ETC6H5	LT	1.0000
MEC6H5	LT	1.0000
MEK	LT	10.0000
MIBK	LT	1.4000
TCLEA	LT	1.5000
TCLEE	LT	1.0000
TRCLE	LT	1.0000
XYLEN	LT	2.0000

---------- Field number - WC890014 Site ID - 36189 Site type - WELL Sample Date - 89158 (Julian)

L.T.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.

---------- Field number - WC905014 Site ID - 36190 Site type - BORE Sample Date - 89108 (Julian)

L.T.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.

---------- Field number - WC905044 Site ID - 36190 Site type - BORE Sample Date - 89110 (Julian)

L.T.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.

L.T. - less than (value) N.A. - Not Analyzed R - Rejected-out of control Units of measurement - Site type (WELL - UGL) and (BORE, WASS, CMPH - UGG)
F - indicates filtered sample analysis See Appendix K for explanation of field number

Site H-1
COMPLETE LISTING OF TRIP BLANKS

(RMA Database)

Volatiles	Semi-Volatiles	OSCS	OCPS	DBCP	Dimp/DMMP	OSCMS	IMPA/MPA	Arsenic	F a g	Mercury	F a g	ICP Metals
---------- Field number - WC91GD04		Site ID - 36191	Site type - BORE	Sample Date - 89163 (Julian)								
L.T.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.		N.A.		N.A.
---------- Field number - WC92S194		Site ID - 36192	Site type - WELL	Sample Date - 89137 (Julian)								
L.T.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.		N.A.		N.A.
---------- Field number - WC93S004		Site ID - 36193	Site type - WELL	Sample Date - 89136 (Julian)								
L.T.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.		N.A.		N.A.
---------- Field number - WC94GD04		Site ID - 36194	Site type - WELL	Sample Date - 89194 (Julian)								
L.T.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.		N.A.		N.A.
---------- Field number - WC94S004		Site ID - 36194	Site type - BORE	Sample Date - 89166 (Julian)								
L.T.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.		N.A.		N.A.
---------- Field number - WC01S004		Site ID - 36TRENCH01	Site type - BORE	Sample Date - 89142 (Julian)								
L.T.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.		N.A.		N.A.
---------- Field number - WC02S004		Site ID - 36TRENCH02	Site type - BORE	Sample Date - 89143 (Julian)								
L.T.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.		N.A.		N.A.
---------- Field number - WC02W004		Site ID - 36TRENCH02	Site type - WASS	Sample Date - 89115 (Julian)								
L.T.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.		N.A.		N.A.
---------- Field number - WC09W004		Site ID - 36TRENCH09	Site type - WASS	Sample Date - 89117 (Julian)								
111TCE LT 1.0000	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.		N.A.		N.A.
112TCE LT 1.0000												
11DCE LT 1.0000												
11DCLE LT 1.0000												
12DCE LT 5.0000												

L.T. - less than (value) N.A. - Not Analyzed R - Rejected-out of control Units of measurement - Site type (WELL - UGL) and (BORE, WASS, CMPH - UGG)
F - indicates filtered sample analysis See Appendix K for explanation of Field number

NO. 4
/5/90

ble H-1
COMPLETE LISTING OF TRIP BLANKS

(RMA Database)

Volatiles	Semi-Volatiles	OSCS	OCPS	DBCP	DIMP/DMMP	OSCMS	IMPA/MPA	Arsenic	Flag	Mercury	Flag	ICP Metals

WC09W004 (Cont'd)

12DCLE	LT	1.0000
12DCLP	LT	1.0000
13DCLB	LT	1.0000
13DCP	LT	4.0000
13DMB	LT	1.0000
2CLEVE	LT	3.5000
ACET	LT	8.0000
ACRYLO	LT	8.4000
BRDCLM	LT	1.0000
C2H3CL	LT	12.0000
C2H5CL	LT	8.0000
C6H6	LT	[illegible] 0000
CCL3F	LT	1.0000
CCL4	LT	1.0000
CH2CL2	LT	1.0000
CH3BR	LT	14.0000
CH3CL	LT	1.2000
CHBR3	LT	11.0000
CHCL3		66.0000
CLC6H5	LT	1.0000
DBRCLM	LT	1.0000
DCLB	LT	2.0000
ETC6H5	LT	1.0000
MEC6H5	LT	1.0000
MEK	LT	10.0000
MIBK	LT	1.4000
TCLEA	LT	1.5000
TCLEE	LT	1.0000
TRCLE	LT	1.0000
XYLEN	LT	2.0000

---------- Field number - WC16W004 Site ID - 36TRENCH16 Site type - WASS Sample Date - 89130 (Julian)

111TCE	LT	1.0000	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
112TCE	LT	1.0000										
11DCE	LT	1.0000										
11DCLE	LT	1.0000										
12DCE	LT	5.0000										
12DCLE	LT	1.0000										

L.T. - less than (value) N.A. - Not Analyzed R - Rejected-out of control Units of measurement - Site type (WELL - UGL) and (BORE, WASS, CMPH - UGG)
F - Indicates filtered sample analysis See Appendix K for explanation of Field number

able H-1
COMPLETE LISTING OF TRIP BLANKS

(RMA Database)

Volatiles	Semi-Volatiles	OSCS	OCPS	DBCP	DIMP/DMMP	OSCMS	IMPA/MPA	Arsenic	F a g	Mercury	F a g	ICP Metals

WC16W004 (Cont'd)

12DCLP	LT	1.0000
13DCLB	LT	1.0000
13DCP	LT	4.0000
13DMB	LT	1.0000
2CLEVE	LT	3.5000
ACET	LT	8.0000
ACRYLO	LT	6.4000
BRDCLM	LT	1.0000
C2H3CL	LT	12.0000
C2H5CL	LT	8.0000
C6H6	LT	1.0000
CCL3F	LT	1.0000
CCL4	LT	1.0000
CH2CL2	LT	1.0000
CH3BR	LT	14.0000
CH3CL	LT	1.2000
CHBR3	LT	11.0000
CHCL3		50.0000
CLC6H5	LT	1.0000
DBRCLM	LT	1.0000
DCLB	LT	2.0000
ETC6H5	LT	1.0000
MEC6H5	LT	1.0000
MEK	LT	10.0000
MIBK	LT	1.4000
TCLEA	LT	1.5000
TCLEE	LT	1.0000
TRCLE	LT	1.0000
XYLEN	LT	2.0000

---------- Field number - WC1SVW04 Site ID - M-11SVWASS Site type - WASS Sample Date - 89129 (Julian)

111TCE	LT	1.0000	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
112TCE	LT	1.0000										
11DCE	LT	1.0000										
11DCLE	LT	1.0000										
12DCE	LT	5.0000										
12DCLE	LT	1.0000										
12DCLP	LT	1.0000										

L.T. - less than (value) N.A. - Not Analyzed R - Rejected-out of control Units of measurement - Site type (WELL - UGL) and (BORE, WASS, CMPH - UGG)
F - indicates filtered sample analysis See Appendix K for explanation of field number

Table H-1
COMPLETE LISTING OF TRIP BLANKS

(RMA Database)

Volatiles	Semi-Volatiles	OSCS	OCPS	DBCP	DIWD/DBWD	OSCMS	IMPA/MPA	Arsenic	F a g	Mercury	F a g	ICP Metals

WCISW04 (cont'd)

130CLB	LT	1.0000
130CP	LT	4.0000
130MB	LT	1.0000
2CLEVE	LT	3.5000
ACET		109.0000
ACRYLO	LT	8.4000
BRDCLM	LT	1.0000
C2H5CL	LT	12.0000
C2H5CL	LT	8.0000
C6H6	LT	1.0000
CCL3F	LT	1.0000
CCL4	LT	1.0000
CH2CL2	LT	1.0000
CH3BR	LT	14.0000
CH3CL	LT	1.2000
CHBR3	LT	11.0000
CHCL3		47.0000
CLC6H5	LT	1.0000
DBRCLM	LT	1.0000
DCLB	LT	2.0000
ETC6H5	LT	1.0000
MEC6H5	LT	1.0000
MEK	LT	10.0000
MIBK	LT	1.4000
TCLEA	LT	1.5000
TCLEE	LT	1.0000
TRCLE	LT	1.0000
XYLEN	LT	2.0000

---------- Field number - WCISW14 Site ID - M-11SWWASS Site type - WASS Sample Date - 89128 (julian)

111TCE	LT	1.0000	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
112TCE	LT	1.0000										
11DCE	LT	1.0000										
11DCLE	LT	1.0000										
12DCE	LT	5.0000										
12DCLE	LT	1.0000										
12DCLP	LT	1.0000										
13DCLB	LT	1.0000										

L.T. - less than (value) N.A. - Not Analyzed R - Rejected-out of control Units of measurement - Site type (WELL - UGL) and (BORE, WASS, CMPH - UGG)
F - Indicates filtered sample analysis See Appendix K for explanation of Field number

Table H-1
COMPLETE LISTING OF TRIP BLANKS

(RMA Database)

Volatiles	Semi-volatiles	OSCS	OCPS	DBCP	Dinp/DMNP	OSCMS	TMPA/MPA	Arsenic	F a g	Mercury	F a g	ICP Metals

WCISWt4 (Cont'd)

13DCP	LT	4.0000
13DMB	LT	1.0000
2CLEVE	LT	3.5000
ACET		32.1000
ACRYLO	LT	8.4000
BRDCLM	LT	1.0000
C2H3CL	LT	12.0000
C2H5CL	LT	8.0000
C6H6	LT	1.0000
CCL3F	LT	1.0000
CCL4	LT	1.0000
CH2CL2	LT	1.0000
CH3BR	LT	14.0000
CH3CL	LT	1.2000
CHBR3	LT	11.0000
CHCL3		47.0000
CLCH6	LT	1.0000
DBRCLM	LT	1.0000
DCLB	LT	2.0000
ETCH6	LT	1.0000
MECH6	LT	1.0000
MEK	LT	10.0000
MIBK	LT	1.4000
TCLEA	LT	1.5000
TCLEE	LT	1.0000
TRCLE	LT	1.0000
XYLEN	LT	2.0000

---------- Field number - WC04WD44 Site ID - M18ORE006 Site type - WASS Sample Date - 89143 (Julian)

L.T.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.

---------- Field number - WC07W004 Site ID - M18ORE007 Site type - WASS Sample Date - 89142 (Julian)

L.T.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.

---------- Field number - WC04SD04 Site ID - M18ORE008 Site type - BORE Sample Date - 89150 (Julian)

L.T.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.

L.T. - less than (value) N.A. - Not Analyzed R - Rejected-out of control Units of Measurement - Site type (WELL - UGL) and (BORE, WASS, CMPH - UOG)
f - indicates filtered sample analysis See Appendix K for explanation of field number

able H-9
COMPLETE LISTING OF TRIP BLANKS

(RMA Database)

Volatiles	Semi-Volatiles	OSCS	OCPS	DBCP	DIBD/DBBD	OSCNS	HMPA/MPA	Arsenic	F a g Mercury	F a g ICP Metals
---------- Field number - WC08W034 Site ID - M1BORE008 Site type - WASS Sample Date - 89145 (Julian)										
L.T.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
---------- Field number - WC08WDC4 Site ID - M1BORE008 Site type - WASS Sample Date - 89145 (Julian)										
L.T.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.

L.T. - less than (value) N.A. - Not Analyzed R - Rejected-out of control Units of measurement - Site type (WELL - UGL) and (BORE, WASS, CMPH - UGG)
F - indicates filtered sample analysis See Appendix K for explanation of field number

able H-2
COMPLETE LISTING OF FIELD BLANKS

(RMA Database)

Volatiles	Semi-volatiles	OSCS	OCPS	DBCP	DIMP/DMMP	OSCMS	IMPA/MPA	Arsenic	F	Mercury	F	ICP Metals

---------- Field number - WC77Q005 Site ID - 01077 Site type - WELL Sample Date - 89153 (Julian)

L.T.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	AS	LT	2.3500		HG	LT	0.1000	F	N.A.		
								AS	LT	2.3500	F	HG	LT	0.1000				

---------- Field number - WC55Q005 Site ID - 36055 Site type - WELL Sample Date - 89164 (Julian)

L.T.	L.T.	BTZ	LT	5.0000	ALDRN	LT	0.0500	N.A.			DIMP	LT	0.3920	TDGCL	LT	6.6900	N.A.		AS	LT	2.3500	F	HG	LT	0.1000	F	CA	LT	500.0000
		CPMS	LT	5.6900	CL6CP	LT	0.0480				DMMP	LT	0.1880						AS	LT	2.3500		HG	LT	0.1000		CD	LT	8.4000
		CPMSO	LT	11.5000	CLDAN	LT	0.0950																				CR	LT	24.0000
		CPMSO2	LT	7.4600	DLDRN	LT	0.0500																				CU	LT	26.0000
		DITH	LT	1.3400	ENDRN	LT	0.0500																				K	LT	250.0000
		DMDS	LT	0.5500	ISODR	LT	0.0510																				MG	LT	500.0000
		OXAT	LT	2.3800	PPDDE	LT	0.0540																				NA		3100.0000
					PPDDT	LT	0.0490																				PB	LT	74.0000
																											ZN	LT	22.0000

---------- Field number - WC89Q005 Site ID - 36189 Site type - WELL Sample Date - 89158 (Julian)

L.T.	L.T.	BTZ	LT	5.0000	ALDRN	LT	0.0500	DBCP	LT	0.1950	DIMP	LT	0.3920	TDGCL	LT	6.6900	FC2A	LT	100.0000	AS	LT	2.3500		HG	LT	0.1000		CA	LT	500.0000
		CPMS	LT	5.6900	CL6CP	LT	0.0480				DMMP	LT	0.1880				IMPA	LT	100.0000									CD	LT	8.4000
		CPMSO	LT	11.5000	CLDAN	LT	0.0950										MPA	LT	100.0000									CR	LT	24.0000
		CPMSO2	LT	7.4600	DLDRN	LT	0.0500																					CU	LT	26.0000
		DITH	LT	1.3400	ENDRN	LT	0.0500																					K	LT	250.0000
		DMDS	LT	0.5500	ISODR	LT	0.0510																					MG	LT	500.0000
		OXAT	LT	2.3800	PPDDE	LT	0.0540																					NA		1950.0000
					PPDDT	LT	0.0490																					PB	LT	74.0000
																												ZN	LT	22.0000

---------- Field number - WC92Q005 Site ID - 36192 Site type - WELL Sample Date - 89164 (Julian)

L.T.	L.T.	BTZ	LT	5.0000	ALDRN	LT	0.0500	DBCP	LT	0.1950	DIMP	LT	0.3920	TDGCL	LT	6.6900	FC2A	LT	100.0000	AS	LT	2.3500		HG	LT	0.1000		CA	LT	500.0000
		CPMS	LT	5.6900	CL6CP	LT	0.0480				DMMP	LT	0.1880				IMPA	LT	100.0000									CD	LT	8.4000
		CPMSO	LT	11.5000	CLDAN	LT	0.0950										MPA	LT	100.0000									CR	LT	24.0000
		CPMSO2	LT	7.4600	DLDRN	LT	0.0500																					CU	LT	26.0000
		DITH	LT	1.3400	ENDRN	LT	0.0500																					K	LT	250.0000
		DMDS	LT	0.5500	ISODR	LT	0.0510																					MG	LT	500.0000
		OXAT	LT	2.3800	PPDDE	LT	0.0540																					NA	LT	940.0000
					PPDDT	LT	0.0490																					PB	LT	74.0000

L.T. - less than (value) N.A. - Not Analyzed R - Rejected-out of control Units of measurement - Site type (WELL - UGL) and (BORE, WASS, CMPH - UGG)
F - Indicates filtered sample analysis See Appendix K for explanation of field number

Table H-2
COMPLETE LISTING OF FIELD BLANKS

(RMA Database)

Volatiles	Semi-Volatiles	OSCS	OCPS	DBCP	DIMD/DMMD	OSCMS	IMPA/MPA	Arsenic	Flag	Mercury	Flag	ICP Metals

WC92G005 (Cont'd)

ZN LT 22.0000

L.T. - less than (value) N.A. - Not Analyzed R - Rejected-out of control Units of measurement - Site type (WELL - UGL) and (BORE, WASS, CMPH - UGG)
F - indicates filtered sample analysis See Appendix K for explanation of field number

Table H-3
COMPLETE LISTING OF RINSATES

(RMA Database)

Volatiles	Semi-Volatiles	OSCS	OCPS	DBCP	DIMP/DNMP	OSCMS	IMPA/MPA	Arsenic	F & Q	Mercury	F & Q	ICP Metals
---------- Field number - WC03G003 Site ID - 01503 Site type - WELL Sample Date - 89152 (Julian)												
N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	AS LT 2.3500		HG LT 0.1000		N.A.
								AS LT 2.3500	F	HG LT 0.1000	F	
---------- Field number - WC04G003 Site ID - 01504 Site type - WELL Sample Date - 89123 (Julian)												
N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	AS LT 2.3500		HG LT 0.1000		N.A.
---------- Field number - WC54G003 Site ID - 36054 Site type - WELL Sample Date - 89164 (Julian)												
L.T.	236TCP LT 1.7000	BTZ LT 5.0000	ALDRN LT 0.0500	N.A.	DIMP LT 0.3920	TDGCL LT 6.6900	N.A.	AS LT 2.3500	F	HG LT 0.1000	F	CA LT 500.0000
	245TCP LT 2.8000	CPMS LT 5.6900	CL6CP LT 0.0480		DNMP LT 0.1880			AS LT 2.3500		HG LT 0.1000		CD LT 8.4000
	246TCP LT 3.6000	CPMSO LT 11.5000	CLDAN LT 0.0950									CR LT 24.0000
	24DCLP LT 8.4000	CPMSO2 LT 7.4600	DLDRN LT 0.0500									CU LT 26.0000
	24DMPN LT 4.4000	DITH LT 1.3400	ENDRN LT 0.0500									K LT 250.0000
	24DNP LT 176.0000	DMDS LT 0.5500	ISODR LT 0.0510									MG LT 500.0000
	2CLP LT 2.8000	DRAT LT 2.3800	PPDDE LT 0.0540									NA LT 940.0000
	2NP LT 3.6000		PPDDT LT 0.0490									PB LT 74.0000
	3NP LT 8.2000											ZN LT 22.0000
	4CL3C LT 8.5000											
	4MP LT 2.8000											
	4NP LT 96.0000											
	ALDRN LT 13.0000											
	ATZ LT 5.9000											
	CL6CP LT 54.0000											
	CLDAN LT 37.0000											
	CPMS GT 300.0000											
	CPMSO LT 15.0000											
	CPMSO2 GT 300.0000											
	DBCP 72.5000											
	DCPD 84.4000											
	DDVP LT 8.5000											
	DIMP LT 21.0000											
	DITH LT 3.3000											
	DLDRN LT 26.0000											
	DNMP LT 130.0000											
	ENDRN LT 18.0000											
	ISODR LT 7.8000											

L.T. - less than (value) N.A. - Not Analyzed R - Rejected-out of control Units of measurement - Site type (WELL - UGL) and (BORE, WASS, CMPH - UGG)
F - indicates filtered sample analysis see Appendix K for explanation of field number

Table H-3
COMPLETE LISTING OF RINSATES

(RNA Database)

Volatiles	Semi-Volatiles	OSCS	OCPS	DBCP	Disp/DMMP	OSCHS	INPA/MPA	Arsenic	F	Mercury	F	ICP Metals

WC540003 (cont'd)

MLTHN	LT	21.0000
OXAT	LT	27.0000
PCP	LT	9.1000
PHENOL		52.4000
PPDDE	LT	14.0000
PPDDT	LT	18.0000
PRTHN	LT	37.0000
SUPONA	LT	19.0000

---------- Field number - WC670003 Site ID - 36067 Site type - WELL Sample Date - 89117 (Julian)

Volatiles	Semi-Volatiles	OSCS	OCPS	DBCP	Disp/DMMP	OSCHS	INPA/MPA	Arsenic	F	Mercury	F	ICP Metals
L.T.	L.T.	BTZ LT 5.0000	ALDRN LT 0.0500	DBCP LT 0.1950	DIMP LT 0.3920	TDCCL LT 6.6900	N.A.	AS LT 2.3500	HG 0.1770	CA LT 500.0000
		CPMS LT 5.6900	CL6CP LT 0.0480		DMMP 1.5400					CD LT 8.4000
		CPMSO LT 11.5000	CLDAN LT 0.0950							CR LT 24.0000
		CPMSO2 LT 7.4600	DLDRN LT 0.0500							CU LT 26.0000
		DITH LT 1.3400	ENDRN LT 0.0500							K LT 250.0000
		DMDS LT 0.5500	ISODR LT 0.0510							MG LT 500.0000
		OXAT LT 2.3800	PPDDE LT 0.0540							NA LT 940.0000
			PPDDT LT 0.0490							PB LT 74.0000
										ZN LT 22.0000

---------- Field number - WC750003 Site ID - 36075 Site type - WELL Sample Date - 89108 (Julian)

Volatiles	Semi-Volatiles	OSCS	OCPS	DBCP	Disp/DMMP	OSCHS	INPA/MPA	Arsenic	F	Mercury	F	ICP Metals
111TCE LT 1.0000	L.T.	N.A.	ALDRN LT 0.0500	DBCP LT 0.1950	DIMP LT 0.3920	N.A.	N.A.	AS LT 2.3500	HG LT 0.1000	CA LT 500.0000
112TCE LT 1.0000			CL6CP LT 0.0480		DMMP LT 0.1880					CD LT 8.4000
11DCE LT 1.0000			CLDAN LT 0.0950							CR LT 24.0000
11DCLE LT 1.0000			DLDRN LT 0.0500							CU LT 26.0000
12DCE LT 5.0000			ENDRN LT 0.0500							K LT 250.0000
12DCLE LT 1.0000			ISODR LT 0.0510							MG LT 500.0000
12DCLP LT 1.0000			PPDDE LT 0.0540							NA LT 940.0000
13DCLB LT 1.0000			PPDDT LT 0.0490							PB LT 74.0000
13DCP LT 4.8000										ZN LT 22.0000
13DMB LT 1.0000										
2CLEVE LT 3.5000										
ACET LT 8.0000										
ACRYLO LT 8.4000										
BRDCLM LT 1.0000										
C2HDCL LT 12.0000										
C2HSCL LT 8.0000										

L.T. - less than (value) N.A. - Not Analyzed R - Rejected-out of control Units of measurement - Site type (WELL - UGL) and (BORE, WASS, CMPH - UGG)
F - indicates filtered sample analysis See Appendix K for explanation of field number

ble H-3
COMPLETE LISTING OF RINSATES

(RMA Database)

Volatiles	Semi-Volatiles	OSCS	OCPS	DBCP	DIMP/DMMP	CLSCHS	IMPA/MPA	Arsenic	F a g	Mercury	F a g	ICP Metals

WC75G003 (Cont'd)

C6H6	LT	1.0000
CCL3F	LT	1.0000
CCL4	LT	1.0000
CH2CL2	LT	1.0000
CH3BR	LT	14.0000
CH3CL	LT	1.2000
CHBR3	LT	11.0000
CHCL3		2.0000
CLC6H5	LT	1.0000
DBRCLM	LT	1.0000
DCLB	LT	2.0000
ETC6H5	LT	1.0000
MEC6H5	LT	1.0000
MEK	LT	10.0000
MIBK	LT	1.4000
TCLEA	LT	1.5000
TCLEE	LT	1.0000
TRCLE	LT	1.0000
XYLEN	LT	2.0000

---------- Field number - WC75G023 Site ID - 36075 Site type - WELL Sample Date - 89157 (Julian)

111TCE	LT	1.0000	L.T.	BTZ	LT	5.0000	ALDRN	LT	0.0500	DBCP	LT	0.1950	DIMP	LT	0.3920	N.A.	FC2A	LT	100.0000	AS	LT	2.3500	HG	LT	0.1000	CA	LT	500.0000
112TCE	LT	1.0000		CPMS	LT	5.6900	CL6CP	LT	0.0480				DMMP	LT	0.1880		IMPA	LT	100.0000							CD	LT	8.4000
11DCE	LT	1.0000		CPMSO	LT	11.5000	CLDAN	LT	0.0950								MPA	LT	100.0000							CR	LT	24.0000
11DCLE	LT	1.0000		CPMSO2	LT	7.4600	DLDRN	LT	0.0500																	CU	LT	26.0000
12DCE	LT	5.0000		DITH	LT	1.3400	ENDRN	LT	0.0500																	K	LT	256.0000
12DCLE	LT	1.0000		DMDS	LT	0.5500	ISODR	LT	0.0510																	MG	LT	500.0000
12DCLP	LT	1.0000		OXAT	LT	2.3800	PPDDE	LT	0.0540																	NA	LT	940.0000
13DCLB	LT	1.0000					PPDDT	LT	0.0490																	PB	LT	74.0000
13DCP	LT	4.8000																								ZN	LT	22.0000
13DMB	LT	1.0000																										
2CLEVE	LT	3.5000																										
ACET	LT	8.0000																										
ACRYLO	LT	8.4000																										
BRDCLM	LT	1.0000																										
C2H3CL	LT	12.0000																										
C2H5CL	LT	8.0000																										
C6H6	LT	1.0000																										

L.T. - less than (value) N.A. - Not Analyzed R - Rejected-out of control Units of measurement - Site type (WELL - UGL) and (BORE, WASS, CMPH - UGG)
F - Indicates filtered sample analysis see Appendix K for explanation of field number

able H-3
COMPLETE LISTING OF RINSATES

(RMA Database)

Volatiles	Semi-Volatiles	OSCS	OCPS	DBCP	DIWD/DWWD	OSCMS	IMPA/MPA	Arsenic	F a g	Mercury	F a g	ICP Metals

WC750023 (Cont'd)

CCL3F	LT	1.0000
CCL4	LT	1.0000
CH2CL2	LT	1.0000
CH3BR	LT	14.0000
CH3CL	LT	1.2000
CHBR3	LT	11.0000
CHCL3	LT	1.0000
CLCH=CH2	LT	1.0000
DBRCLM	LT	1.0000
DCLB	LT	2.0000
ETCH=CH2	LT	1.0000
MECH=CH2	LT	1.0000
MEK	LT	10.0000
MIBK		2.7000
TCLEA	LT	1.5000
TCLEE	LT	1.0000
TRCLE	LT	1.0000
XYLEN	LT	2.0000

---------- Field number - WC750033 Site ID - 36075 Site type - WELL Sample Date - 89166 (Julian)

L.T. L.T.

BTZ	LT	5.0000	ALDRN	LT	0.0500	DBCP	LT	0.1950	DIMP	LT	0.3920	TDGCL	LT	6.6900	FC2A	LT	100.0000	AS	LT	2.3500	HG	LT	0.1000	CA	LT 500.0000
CPMS	LT	5.6900	CLDAN	LT	0.0950				DMMP	LT	0.1880				IMPA	LT	100.0000							CD	LT 8.4000
CPMSO	LT	11.5000	DLDRN	LT	0.0500										MPA	LT	100.0000							CR	LT 24.0000
CPMSO2	LT	7.4600	ENDRN		0.0716																			CU	LT 26.0000
DITH	LT	1.3400	ISODR	LT	0.0510																			K	LT 250.0000
DMDS	LT	0.5500	PPDDE	LT	0.0540																			MG	LT 500.0000
OXAT	LT	2.3800	PPDDT		0.0709																			NA	LT 940.0000
																								PB	LT 74.0000
																								ZN	LT 22.0000

---------- Field number - WC800003 Site ID - 36080 Site type - WELL Sample Date - 89121 (Julian)

L.T. L.T.

BTZ	LT	5.0000	ALDRN	LT	0.0500	DBCP	LT	0.1950	DIMP	LT	0.3920	TDGCL	LT	6.6900	FC2A	LT	100.0000	AS	LT	2.3500	HG	LT	0.1000	CA	LT 500.0000
CPMS	LT	5.6900	CL6CP	LT	0.0480				DMMP	LT	0.1880				IMPA	LT	100.0000							CD	LT 8.4000
CPMSO	LT	11.5000	CLDAN	LT	0.0950										MPA	LT	100.0000							CR	LT 24.0000
CPMSO2	LT	7.4600	DLDRN	LT	0.0500																			CU	LT 26.0000
DITH	LT	1.3400	ENDRN	LT	0.0500																			K	LT 250.0000
DMDS	LT	0.5500	ISODR	LT	0.0510																			MG	LT 500.0000

L.T. - less than (value) N.A. - Not Analyzed R - Rejected-out of control Units of measurement - Site type (WELL - UGL) and (BORE, WASS, CMPH - UGG)
F - Indicates filtered sample analysis See Appendix K for explanation of field number

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COMPLETE LISTING OF RINSATES

(RMA Database)

Volatiles	Semi-Volatiles	OSCS	OCPS	DBCP	DIMP/DMMP	OSCMS	IMPA/MPA	Arsenic	F a g	Mercury	F a g	ICP Metals

WC80C003 (Cont'd)

				OXAT	LT	2.3800	PPDDE	LT	0.0540																	NA	LT	940.0000
							PPDDT	LT	0.0490																	PB	LT	74.0000
																										ZN	LT	22.0000

---------- Field number - WC84C003 Site ID - 36084 Site type - WELL Sample Date - 89115 (Julian)

L.T.	L.T.	BTZ	LT	5.0000	ALDRN		0.3050	DBCP	LT	0.1950	N.A.			TDGCL	LT	6.6900	N.A.			AS	LT	2.3500	HG	LT	0.1000	CA	LT	500.0000
		CPHS	LT	5.6900	CL6CP		0.0898																			CD	LT	8.4000
		CPHSO	LT	11.5000	CLDAN	LT	0.0950																			CR	LT	24.0000
		CPHSO2	LT	7.4600	DLDRN		0.0860																			CU	LT	26.0000
		DITH	LT	1.3400	ENDRN		0.1420																			K	LT	250.0000
		DMDS	LT	0.5500	ISODR	LT	0.0510																			MG	LT	500.0000
		OXAT	LT	2.3800	PPDDE	LT	0.0540																			NA	LT	940.0000
					PPDDT	LT	0.0490																			PB	LT	74.0000
																										ZN	LT	22.0000

---------- Field number - WC85C003 Site ID - 36085 Site type - WELL Sample Date - 89121 (Julian)

L.T.	L.T.	BTZ	LT	5.0000	ALDRN	LT	0.0500	DBCP	LT	0.1950	DIMP		2.0800	TDGCL	LT	6.6900	FC2A	LT	100.0000	AS	LT	2.3500	HG	LT	0.1000	CA	LT	500.0000
		CPHS	LT	5.6900	CL6CP	LT	0.0480				DMMP	LT	0.1880				IMPA	LT	100.0000							CD	LT	8.4000
		CPHSO	LT	11.5000	CLDAN	LT	0.0950										MPA	LT	100.0000							CR	LT	24.0000
		CPHSO2	LT	7.4600	DLDRN	LT	0.0500																			CU	LT	26.0000
		DITH	LT	1.3400	ENDRN	LT	0.0500																			K	LT	250.0000
		DMDS	LT	0.5500	ISODR	LT	0.0510																			MG	LT	500.0000
		OXAT	LT	2.3800	PPDDE	LT	0.0540																			NA	LT	940.0000
					PPDDT	LT	0.0490																			PB	LT	74.0000
																										ZN	LT	22.0000

---------- Field number - WC88C003 Site ID - 36088 Site type - WELL Sample Date - 89118 (Julian)

111TCE LT	1.0000	L.T.	BTZ	LT	5.0000	ALDRN	LT	0.0500	DBCP	LT	0.1950	DIMP	LT	0.3920	TDGCL	LT	6.6900	N.A.			AS	LT	2.3500	HG	LT	0.1000	CA	LT	500.0000
112TCE LT	1.0000		CPHS	LT	5.6900	CL6CP	LT	0.0480				DMMP		0.5160													CD	LT	8.4000
11DCE LT	1.0000		CPHSO	LT	11.5000	CLDAN	LT	0.0950																			CR	LT	24.0000
11DCLE LT	1.0000		CPHSO2	LT	7.4600	DLDRN	LT	0.0500																			CU	LT	26.0000
12DCE LT	5.0000		DITH	LT	1.3400	ENDRN	LT	0.0500																			K	LT	250.0000
12DCLE LT	1.0000		DMDS	LT	0.5500	ISODR	LT	0.0510																			MG	LT	500.0000
12DCLP LT	1.0000		OXAT	LT	2.3800	PPDDE	LT	0.0540																			NA	LT	940.0000
13DCLB LT	1.0000					PPDDT	LT	0.0490																			PB	LT	74.0000
13DCP LT	4.0000																										ZN	LT	22.0000

L.T. - less than (value) N.A. - Not Analyzed R - Rejected-out of control Units of measurement - Site type (WELL - UGL) and (BORE, WASS, CMPH - UGG)
F - Indicates filtered sample analysis See Appendix K for explanation of Field number

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COMPLETE LISTING OF RINSATES

(RMA Database)

Volatiles	Semi-Volatiles	OSCS	OCPs	DBCP	DIMP/DMMP	OSCMS	IMPA/MPA	Arsenic	F	Mercury	F	ICP Metals
									l		l	
									a		a	
									g		g	

WC88G003 (Cont'd)

13DMB	LT	1.0000
2CLEVE	LT	3.5000
ACET		101.0000
ACRYLO	LT	8.4000
BRDCLM	LT	1.0000
C2H3CL	LT	12.0000
C2H5CL	LT	8.0000
C6H6	LT	1.0000
CCL3F	LT	1.0000
CCL4	LT	1.0000
CH2CL2	LT	1.0000
CH3BR	LT	14.0000
CH3CL	LT	1.2000
CHBR3	LT	11.0000
CHCL3		1.9000
CLC6H5	LT	1.0000
DBRCLM	LT	1.0000
DCLB	LT	2.0000
ETC6H5	LT	1.0000
MEC6H5	LT	1.0000
MEK	LT	10.0000
MIBK	LT	1.4000
TCLEA	LT	1.5000
TCLEE	LT	1.0000
TRCLE		3.9000
XYLEN	LT	2.0000

---------- Field number - WC88G003 Site ID - 36188 Site type - WELL Sample Date - 89158 (Julian)

L.T.	L.T.	BTZ	LT	5.0000	ALDRN	LT	0.0500	DBCP	LT	0.1950	DIMP	LT	0.3920	N.A.	FC2A	LT	100.0000	AS	LT	2.3500	HG	LT	0.1000	CA	LT	500.0000
		CPMS	LT	5.6900	CL6CP	LT	0.0480				DMMP	LT	0.1880		IMPA	LT	100.0000							CD	LT	8.4000
		CPMSO	LT	11.5000	CLDAN	LT	0.0950								MPA	LT	100.0000							CR	LT	24.0000
		CPMSO2	LT	7.4600	DLDRN	LT	0.0500																	CU	LT	26.0000
		DITH	LT	1.3400	ENDRN	LT	0.0500																	K	LT	250.0000
		DMDS	LT	0.5500	ISODR	LT	0.0510																	MG	LT	500.0000
		OXAT	LT	2.3800	PPDDE	LT	0.0540																	NA		1640.0000
					PPDDT	LT	0.0490																	PB	LT	74.0000
																								ZN	LT	22.0000

---------- Field number - WC89S003 Site ID - 36189 Site type - BORE Sample Date - 89118 (Julian)

111TCE	LT	1.0000	L.T.	BTZ	LT	5.0000	ALDRN	LT	0.0500	DBCP	LT	0.1950	DIMP	0.9820	TDGCL	17.7000	N.A.	AS	LT	2.3500	HG		0.1520	CA	LT	500.0000

L.T. - less than (value) N.A. - Not Analyzed R - Rejected-out of control Units of measurement - Site type (WELL - UGL) and (BORE, WASS, CMPH - UGG)
F - indicates filtered sample analysis See Appendix K for explanation of Field number

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COMPLETE LISTING OF RINSATES

(RMA Database)

Volatiles	Semi-Volatiles	OSCS	OCPS	DBCP	DIMP/DMMP	OSCMS	IMPA/MPA	Arsenic	F Mercury	F ICP Metals

WCB95003 (cont'd)

Volatiles			Semi-Volatiles			OSCS			OCPS			DBCP			DIMP/DMMP			OSCMS			IMPA/MPA			Arsenic			F Mercury			F ICP Metals		
112TCE	LT	1.0000				CPMS	LT	5.6900	CL6CP	LT	0.0480				DMMP		0.4180													CD	LT	8.4000
11DCE	LT	1.0000				CPMSO	LT	11.5000	CLDAN	LT	0.0950																			CR	LT	24.0000
11DCLE	LT	1.0000				CPMSO2	LT	7.4600	DLDRN	LT	0.0500																			CU	LT	26.0000
12DCE	LT	5.0000				DITH		16.5000	ENDRN	LT	0.0500																			K	LT	250.0000
12DCLE	LT	1.0000				DMDS	LT	8.5500	ISODR	LT	0.0510																			MG	LT	500.0000
12DCLP	LT	1.0000				OXAT	LT	2.3800	PPDDE	LT	0.0540																			NA	LT	940.0000
13DCLB	LT	1.0000							PPDDT	LT	0.0490																			PB	LT	74.0000
13DCP	LT	4.8000																												ZN	LT	22.0000
13DMB	LT	1.0000																														
2CLEVE	LT	3.5000																														
ACET	LT	8.0000																														
ACRYLO	LT	8.4000																														
BRDCLM	LT	1.0000																														
C2H3CL	LT	12.0000																														
C2H5CL	LT	8.0000																														
C6H6	LT	1.0000																														
CCL3F	LT	1.0000																														
CCL4	LT	1.0000																														
CH2CL2	LT	1.0000																														
CHBBR	LT	14.0000																														
CHBCL	LT	1.2000																														
CHBR3	LT	11.0000																														
CHCL3		3.7000																														
CLC6H5	LT	1.0000																														
DBRCLM	LT	1.0000																														
DCLB	LT	2.0000																														
ETC6H5	LT	1.0000																														
MEC6H5	LT	1.0000																														
MEK	LT	10.0000																														
MIBK	LT	1.4000																														
TCLEA	LT	1.5000																														
TCLEE	LT	1.0000																														
TRCLE	LT	1.0000																														
XYLEN	LT	2.0000																														

---------- Field number - WCB95013 Site ID - 36189 Site type - BORE Sample Date - 89118 (Julian)

Volatiles			Semi-Volatiles			OSCS			OCPS			DBCP			DIMP/DMMP			OSCMS			IMPA/MPA			Arsenic			F Mercury			F ICP Metals		
111TCE	LT	1.0000	L.T.			BTZ	LT	5.0000	ALDRN	LT	0.0500	N.A.			DIMP		1.6900	TDGCL	LT	6.6900	N.A.			AS	LT	2.3500	HG		0.1470	CA	LT	500.0000
112TCE	LT	1.0000				CPMS	LT	5.6900	CL6CP	LT	0.0480				DMMP	LT	0.1880														CD	LT	8.4000

L.T. - less than (value) N.A. - Not Analyzed R - Rejected-out of control Units of measurement - Site type (WELL - UGL) and (BORE, WASS, CMPH - UGG)
F - indicates filtered sample analysis See Appendix K for explanation of Field number

Table H-3
COMPLETE LISTING OF RINSATES

(RMA Database)

WC89S013 (Cont'd)

Volatiles			Semi-Volatiles			OSCS			OCPS			DBCP			DIMP/DMMP			OSCMs			IMPA/MPA			Arsenic			F	Mercury			F	ICP Metals		
11DCE	LT	1.0000				CPMSO	LT	11.5000	CLDAN	LT	0.0950																				CR	LT	24.0000
11DCLE	LT	1.0000				CPMSO2	LT	7.4600	DLDRN	LT	0.0500																				CU	LT	26.0000
12DCE	LT	5.0000				DITH	LT	1.3400	ENDRN	LT	0.0500																				K	LT	250.0000
12DCLE	LT	1.0000				DMDS	LT	0.5500	ISODR	LT	0.0510																				MG	LT	500.0000
12DCLP	LT	1.0000				DMAT	LT	2.3400	PPDDE	LT	0.0540																				NA	LT	940.0000
13DCLB	LT	1.0000							PPDDT	LT	0.0490																				PB	LT	74.0000
13DCP	LT	4.0000																													ZN	LT	22.0000
13DMB	LT	1.0000																																
2CLEVE	LT	3.5000																																
ACET	LT	8.0000																																
ACRYLO	LT	8.4000																																
BRDCLM	LT	1.0000																																
C2H3CL	LT	12.0000																																
C2H5CL	LT	8.0000																																
C6H6	LT	1.0000																																
CCL3F	LT	1.0000																																
CCL4	LT	1.0000																																
CH2CL2	LT	1.0000																																
CHBBR	LT	14.0000																																
CHBCL	LT	1.2000																																
CHBR3	LT	11.0000																																
CHCL3		9.4000																																
CLC6H5	LT	1.0000																																
DBRCLM	LT	1.0000																																
DCLB	LT	2.0000																																
ETC6H5	LT	1.0000																																
MEC6H5	LT	1.0000																																
MEK	LT	10.0000																																
MIBK	LT	1.4000																																
TCLEA	LT	1.5000																																
TCLEE	LT	1.0000																																
TRCLE	LT	1.0000																																
XYLEN	LT	2.0000																																

---------- Field number - WC90G003 Site ID - 36190 Site type - WELL Sample Date - 89156 (Julian)

L.T.			L.T.			BTZ	LT	5.0000	N.A.			DBCP	LT	0.1950	DIMP	LT	0.3920	N.A.			FC2A	LT	100.0000	AS	LT	2.3500	HG	LT	0.1000	CA	LT	500.0000
						CPMS	LT	5.6900							DMMP	LT	0.1880				IMPA	LT	100.0000							CD	LT	8.4000
						CPMSO	LT	11.5000													MPA	LT	100.0000							CR	LT	24.0000

L.T. - less than (value) N.A. - Not Analyzed R - Rejected-out of control Units of measurement - Site type (WELL - UGL) and (BORE, WASS, CMPH - UGG)
F - Indicates filtered sample analysis See Appendix K for explanation of field number

Table H-3
COMPLETE LISTING OF RINSATES

(RMA Database)

Volatiles	Semi-Volatiles	OSCS	OCPS	DBCP	DIMP/DMMP	OSCMS	IMPA/MPA	Arsenic	Flag	Mercury	Flag	ICP Metals
	WC90G003 (Cont'd)											
		CPMSO2 LT 7.4600										CU LT 26.0000
		DITH LT 1.3400										K LT 250.0000
		DMDS LT 0.5500										MG LT 500.0000
		OXAT LT 2.3800										NA LT 940.0000
												PB LT 74.0000
												ZN LT 22.0000
---------- Field number - WC90G013 Site ID - 36190 Site type - WELL Sample Date - 89166 (Julian)												
N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	FC2A LT 100.0000	N.A.		N.A.		N.A.
							IMPA LT 100.0000					
							MPA LT 100.0000					
---------- Field number - WC90G023 Site ID - 36190 Site type - WELL Sample Date - 89166 (Julian)												
L.T.	236TCP LT 1.7000	BTZ LT 5.0000	ALDRN LT 0.0500	DBCP LT 0.1950	DIMP LT 0.3920	TDGCL LT 6.6900	FC2A LT 100.0000	AS LT 2.3500		HG LT 0.1000		CA LT 500.0000
	245TCP LT 2.8000	CPMS LT 5.6900	CLDAN LT 0.0950		DMMP LT 0.1880		IMPA LT 100.0000					CD LT 8.4000
	246TCP 92.6000	CPMSO LT 11.5000	DLDRN LT 0.0500				MPA LT 100.0000					CR LT 24.0000
	24DCLP LT 8.4000	CPMSO2 LT 7.4600	ENDRN LT 0.0500									CU LT 26.0000
	24DMPN LT 4.4000	DITH LT 1.3400	ISODR LT 0.0510									K LT 250.0000
	24DNP LT 176.0000	DMDS LT 0.5500	PPDDE LT 0.0540									MG LT 500.0000
	2CLP LT 2.8000	OXAT LT 2.3800	PPDDT LT 0.0490									NA LT 940.0000
	2MP LT 3.6000											PB LT 74.0000
	2NP LT 8.2000											ZN LT 22.0000
	4CL3C LT 8.5000											
	4MP LT 2.8000											
	4NP LT 96.0000											
	ALDRN LT 13.0000											
	ATZ LT 5.9000											
	CL6CP LT 54.0000											
	CLDAN LT 37.0000											
	CPMS LT 10.0000											
	CPMSO LT 15.0000											
	CPMSO2 LT 5.3000											
	DBCP LT 12.0000											
	DCPD LT 5.5000											
	DDVP LT 8.5000											
	DIMP LT 21.0000											
	DITH LT 3.3000											

L.T. - less than (value) N.A. - Not Analyzed R - Rejected-out of control Units of measurement - Site type (WELL - UGL) and (BORE, WASS, CMPH - UGG)
F - indicates filtered sample analysis See Appendix K for explanation of Field number

Table H-3
COMPLETE LISTING OF RINSATES

(RMA Database)

Volatiles	Semi-volatiles	OSCS	OCPS	DBCP	DIMP/DMMP	OSCMS	IMPA/MPA	Arsenic	F	Mercury	F	ICP
									l		l	metals
									a		a	
									g		g	

WC90G023 (Cont'd)

DLDRN	LT	26.0000
DMMP	LT	130.0000
ENDRN	LT	18.0000
ISODR	LT	7.8000
MLTHN	LT	21.0000
OXAT	LT	27.0000
PCP	LT	9.1000
PHENOL	LT	2.2000
PPDDE	LT	14.0000
PPDDT	LT	18.0000
PRTHN	LT	37.0000
SUPONA	LT	19.0000

---------- Field number - WC90G053 Site ID - 36190 Site type - WELL Sample Date - 89166 (Julian)

111TCE	LT	1.0000	L.T.	BTZ	LT	5.0000	ALDRN	LT	0.0500	DBCP	LT	0.1950	DIMP	LT	0.3920	TDGCL	LT	6.6900	N.A.	AS	LT	2.3500	HG	LT	0.1000	CA	LT	500.0000
112TCE	LT	1.0000		CPMS	LT	5.6900	CLDAN	LT	0.0950				DMMP	LT	0.1880											CD	LT	8.4000
11DCE	LT	1.0000		CPMSO	LT	11.5000	DLDRN	LT	0.0500																	CR	LT	24.0000
11DCLE	LT	1.0000		CPMSO2	LT	7.4600	ENDRN	LT	0.0500																	CU	LT	26.0000
12DCE	LT	5.0000		DITH	LT	1.3400	ISODR	LT	0.0510																	K	LT	250.0000
12DCLE	LT	1.0000		DMDS	LT	0.5500	PPDDE	LT	0.0540																	MG	LT	500.0000
12DCLP	LT	1.0000		OXAT	LT	2.3800	PPDDT	LT	0.0490																	NA	LT	940.0000
13DCLB	LT	1.0000																								PB	LT	74.0000
13DCP	LT	4.8000																								ZN	LT	22.0000
13DMB	LT	1.0000																										
2CLEVE	LT	3.5000																										
ACET	LT	8.0000																										
ACRYLO	LT	8.4000																										
BRDCLM	LT	1.0000																										
C2H3CL	LT	12.0000																										
C2H5CL	LT	8.0000																										
C6H6	LT	1.0000																										
CCL3F	LT	1.0000																										
CCL4	LT	1.0000																										
CH2CL2		2.2200																										
CH3BR	LT	14.0000																										
CH3CL	LT	1.2000																										
CHBR3	LT	11.0000																										
CHCL3	LT	1.0000																										

L.T. - less than (value) N.A. - Not Analyzed R - Rejected-out of control Units of measurement - Site type (WELL - UGL) and (BORE, WASS, CMPH - UGG)
F - indicates filtered sample analysis See Appendix K for explanation of Field number

ile H-3
COMPLETE LISTING OF RINSATES

(RMA Database)

Volatiles	Semi-volatiles	OSCS	OCPS	DBCP	DIMP/DMMP	OSCMS	IMPA/MPA	Arsenic	F	Mercury	F	ICP Metals
									a		a	
									g		g	

WC900053 (Cont'd)

CLCMS	LT	1.0000
DBRCLM	LT	1.0000
DCLB	LT	2.0000
ETCMS	LT	1.0000
MECMS	LT	1.0000
MEK	LT	10.0000
MIBK	LT	1.4000
TCLEA	LT	1.5000
TCLEE	LT	1.0000
TRCLE	LT	1.0000
XYLEN	LT	2.0000

---------- Field number - WC910003 Site ID - 36191 Site type - WELL Sample Date - 89163 (Julian)

L.T.	L.T.	BTZ	LT	5.0000	ALDRN	LT	0.0500	DBCP	LT	0.1950	DIMP	LT	0.3920	TDGCL	LT	6.6900	FC2A	LT	100.0000	AS	LT	2.3500	HG	LT	0.1000	CA	LT	500.0000
		CPMS	LT	5.6900	CL6CP	LT	0.0480				DMMP	LT	0.1880				IMPA	LT	100.0000							CD	LT	8.4000
		CPMSO	LT	11.5000	CLDAN	LT	0.0950										MPA	LT	100.0000							CR	LT	24.0000
		CPMSO2	LT	7.4600	DLDRN	LT	0.0500																			CU	LT	26.0000
		DITH	LT	1.3400	ENDRN	LT	0.0500																			K	LT	250.0000
		DMDS	LT	0.5500	ISODR	LT	0.0510																			MG	LT	500.0000
		OXAT	LT	2.3800	PPDDE	LT	0.0540																			NA	LT	940.0000
					PPDDT	LT	0.0490																			PB	LT	74.0000
																										ZN	LT	22.0000

---------- Field number - WC920003 Site ID - 36192 Site type - WELL Sample Date - 89164 (Julian)

L.T.	L.T.	BTZ	LT	5.0000	ALDRN	LT	0.0500	DBCP	LT	0.1950	DIMP	LT	0.3920	TDGCL	LT	6.6900	FC2A	LT	100.0000	AS	LT	2.3500	HG	LT	0.1000	CA	LT	500.0000
		CPMS	LT	5.6900	CL6CP	LT	0.0480				DMMP	LT	0.1880				IMPA	LT	100.0000							CD	LT	8.4000
		CPMSO	LT	11.5000	CLDAN	LT	0.0950										MPA	LT	100.0000							CR	LT	24.0000
		CPMSO2	LT	7.4600	DLDRN	LT	0.0500																			CU	LT	26.0000
		DITH	LT	1.3400	ENDRN	LT	0.0500																			K	LT	250.0000
		DMDS	LT	0.5500	ISODR	LT	0.0510																			MG	LT	500.0000
		OXAT	LT	2.3800	PPDDE	LT	0.0540																			NA	LT	940.0000
					PPDDT	LT	0.0490																			PB	LT	74.0000
																										ZN	LT	22.0000

---------- Field number - WC925193 Site ID - 36192 Site type - BORE Sample Date - 89137 (Julian)

L.T.	L.T.	BTZ	LT	5.0000	N.A.			DBCP	LT	0.1950	DIMP	LT	0.3920	TDGCL	LT	6.6900	FC2A	LT	100.0000	AS	LT	2.3500	HG	LT	0.1000	CA	LT	500.0000

L.T. - less than (value) N.A. - Not Analyzed R - Rejected-out of control Units of measurement - Site type (WELL - UGL) and (BORE, WASS, CMPH - UOG)
F - indicates filtered sample analysis See Appendix K for explanation of field number

Table H-3
COMPLETE LISTING OF RINSATES

(RMA Database)

Volatiles	Semi-Volatiles	OSCS	OCPS	DBCP	DIMP/DMMP	OSCHS	IMPA/MPA	Arsenic	F & Q	Mercury	F & Q	ICP Metals
WC92S193 (Cont'd)												
		CPMS LT 5.6900			DMMP LT 0.1880		IMPA LT 100.0000					CD LT 8.4000
		CPMSO LT 11.5000					MPA LT 100.0000					CR LT 24.0000
		CPMSO2 LT 7.4600										CU LT 26.0000
		DITH LT 1.3400										K LT 250.0000
		OXAT LT 2.3800										MG LT 500.0000
												NA LT 940.0000
												PB LT 74.0000
												ZN LT 22.0000
---------- Field number - WC93S123 Site ID - 36193 Site type - BORE Sample Date - 89136 (Julian)												
N.A.	L.T.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	AS LT 2.3500		HG LT 0.1000		N.A.
---------- Field number - WC94S003 Site ID - 36194 Site type - BORE Sample Date - 89166 (Julian)												
L.T.	L.T.	BTZ LT 5.0000	ALDRN LT 0.0500	N.A.	DIMP LT 0.3920	TDCCL LT 6.6900	N.A.	AS LT 2.3500	F	HG LT 0.1000	F	CA LT 500.0000
		CPMS LT 5.6900	CLDAN LT 0.0950		DMMP LT 0.1880			AS LT 2.3500		HG LT 0.1000		CD LT 8.4000
		CPMSO LT 11.5000	DLDRN LT 0.0500									CR LT 24.0000
		CPMSO2 LT 7.4600	ENDRN LT 0.0500									CU LT 26.0000
		DITH LT 1.3400	ISODR LT 0.0510									K LT 250.0000
		DMDS LT 0.5500	PPDDE LT 0.0540									MG LT 500.0000
		OXAT LT 2.3800	PPDDT LT 0.0490									NA LT 940.0000
												PB LT 74.0000
												ZN LT 22.0000
---------- Field number - WC90G003 Site ID - 36590 Site type - WELL Sample Date - 89116 (Julian)												
111TCE LT 1.0000	L.T.	BTZ LT 5.0000	ALDRN LT 0.0500	DBCP LT 0.1950	DIMP LT 0.3920	TDCCL LT 6.6900	N.A.	AS LT 2.3500		HG LT 0.1000		CA LT 500.0000
112TCE LT 1.0000		CPMS LT 5.6900	CL6CP LT 0.0480		DMMP LT 0.1880							CD LT 8.4000
11DCE LT 1.0000		CPMSO LT 11.5000	CLDAN LT 0.0950									CR LT 24.0000
11DCLE LT 1.0000		CPMSO2 LT 7.4600	DLDRN LT 0.0500									CU LT 26.0000
12DCE LT 5.0000		DITH LT 1.3400	ENDRN LT 0.0500									K LT 250.0000
12DCLE LT 1.0000		DMDS LT 0.5500	ISODR LT 0.0510									MG LT 500.0000
12DCLP LT 1.0000		OXAT LT 2.3800	PPDDE LT 0.0540									NA LT 940.0000
13DCLB LT 1.0000			PPDDT LT 0.0490									PB LT 74.0000
13DCP LT 4.0000												
13DMB LT 1.0000												
2CLEVE LT 3.5000												
ACET LT 8.0000												

L.T. - less than (value) N.A. - Not Analyzed R - Rejected-out of control Units of measurement - Site type (WELL - UGL) and (BORE, WASS, CMPH - UGG)
F - indicates filtered sample analysis See Appendix K for explanation of field number

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COMPLETE LISTING OF RINSATES

(RMA Database)

Volatiles	Semi-Volatiles	OSCS	OCPS	DBCP	DIMP/DMMP	OSCMS	IMPA/MPA	Arsenic	F l a g	Mercury	F l a g	ICP metals

WC90C003 (Cont'd)

ACRYLO	LT	8.4000
BRDCLM	LT	1.0000
C2H3CL	LT	12.0000
C2H5CL	LT	8.0000
C6H6	LT	1.0000
CCL3F	LT	1.0000
CCL4	LT	1.0000
CH2CL2	LT	1.0000
CH3BR	LT	14.0000
CH3CL	LT	1.2000
CHBR3	LT	11.0000
CHCL3		3.7000
CLC6H5	LT	1.0000
DBRCLM	LT	1.0000
DCLB	LT	2.0000
ETC6H5	LT	1.0000
MEC6H5	LT	1.0000
MEK	LT	10.0000
MIBK	LT	1.4000
TCLEA	LT	1.5000
TCLEE	LT	1.0000
TRCLE	LT	1.0000
XYLEN	LT	2.0000

---------- Field number - WC01S003 Site ID - 36TRENCH01 Site type - BORE Sample Date - 89142 (Julian)

L.T.	L.T.	BTZ	LT	5.0000	ALDRN	LT	0.0500	N.A.	DIMP	LT	0.3920	TDGCL	LT	6.6900	FC2A	LT	100.0000	AS	LT	2.3500	HG	LT	0.1000	CA	LT	500.0000
		CPMS	LT	5.6900	CLDAN	LT	0.0950		DMMP	LT	0.1880				IMPA	LT	100.0000							CD	LT	8.4000
		CPMSO	LT	11.5000	DLDRN	LT	0.0500								MPA	LT	100.0000							CR	LT	24.0000
		CPMSO2	LT	7.4600	ENDRN	LT	0.0500																	CU	LT	26.0000
		DITH	LT	1.3400	ISODR	LT	0.0510																	K	LT	250.0000
		DMDS	LT	0.5500	PPDDE	LT	0.0540																	MG	LT	500.0000
		OXAT	LT	2.3800	PPDDT	LT	0.0490																	NA	LT	940.0000
																								PB	LT	74.0000
																								ZN	LT	22.0000

---------- Field number - WC01S003 Site ID - 36TRENCH01 Site type - WASS Sample Date - 89142 (Julian)

N.A.	N.A.	N.A.		N.A.		DBCP	LT	0.1950	N.A.		N.A.		N.A.		N.A.		N.A.		N.A.		N.A.					

L.T. - less than (value) N.A. - Not Analyzed R - Rejected-out of control Units of measurement - Site type (WELL - UGL) and (BORE, WASS, CMPH - UGG)
F - indicates filtered sample analysis See Appendix K for explanation of Field number

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COMPLETE LISTING OF RINSATES

(RMA Database)

Volatiles	Semi-Volatiles	OSCS	OCPS	DBCP	Dimp/DMMP	OSCMS	IMPA/MPA	Arsenic	F a g	Mercury	F a g	ICP Metals

---------- Field number - WC01W003 Site ID - 36TRENCH01 Site type - WASS Sample Date - 89115 (Julian)

111TCE	LT	1.0000	L.T.	BTZ	LT	5.0000	ALDRN	LT	0.0500	DBCP	LT	0.1950	N.A.	TDCCL	LT	6.6900	N.A.	AS	LT	2.3500	HG	LT	0.1000	CA		555.0000
111TCE	LT	1.0000		CPMS	LT	5.6900	CL6CP		0.0668															CD	LT	8.4000
112TCE	LT	1.0000		CPMSO	LT	11.5000	CLDAN	LT	0.0950															CR	LT	24.0000
112TCE	LT	1.0000		CPMSO2	LT	7.4600	DLDRN	LT	0.0500															CU	LT	26.0000
11DCE	LT	1.0000		DITH	LT	1.3400	ENDRN	LT	0.0500															K	LT	250.0000
11DCE	LT	1.0000		DMDS	LT	0.5500	ISODR	LT	0.0510															MG	LT	500.0000
11DCLE	LT	1.0000		OXAT	LT	2.3800	PPDDE	LT	0.0540															NA	LT	940.0000
11DCLE	LT	1.0000					PPDDT	LT	0.0490															PB	LT	74.0000
12DCE	LT	5.0000																						ZN	LT	22.0000
12DCE	LT	5.0000																								
12DCLE	LT	1.0000																								
12DCLE	LT	1.0000																								
12DCLP	LT	1.0000																								
12DCLP	LT	1.0000																								
13DCLB	LT	1.0000																								
13DCLB	LT	1.0000																								
13DMB	LT	1.0000																								
13DMB	LT	1.0000																								
2CLEVE	LT	3.5000																								
2CLEVE	LT	3.5000																								
ACET	LT	8.0000																								
ACET	LT	8.0000																								
ACRYLO	LT	8.4000																								
ACRYLO	LT	8.4000																								
BRDCLM	LT	1.0000																								
BRDCLM	LT	1.0000																								
C2H3CL	LT	12.0000																								
C2H3CL	LT	12.0000																								
C2H5CL	LT	8.0000																								
C2H5CL	LT	8.0000																								
C6H6	LT	1.0000																								
C6H6	LT	1.0000																								
CCL3F	LT	1.0000																								
CCL3F	LT	1.0000																								
CCL4	LT	1.0000																								
CCL4	LT	1.0000																								
CH2CL2	LT	1.0000																								

L.T. - less then (value) N.A. - Not Analyzed R - Rejected-out of control units of measurement - Site type (WELL - UGL) and (BORE, WASS, CMPH - UGG)
F - indicates filtered sample analysis see Appendix K for explanation of field number

Site H-3
COMPLETE LISTING OF RINSATES

(RMA Database)

Volatiles	Semi-Volatiles	OSCS	OCPS	DBCP	DIWD/DMWD	OSCMS	IMPA/MPA	Arsenic	F	Mercury	F	ICP Metals

WC01W003 (Cont'd)

CH2CL2	LT	1.0000
CHOBR	LT	14.0000
CHOBR	LT	14.0000
CHOCL	LT	1.2000
CHOCL	LT	1.2000
CHBR3	LT	11.0000
CHBR3	LT	11.0000
CHCL3		3.3000
CHCL3	LT	1.0000
CLCSHS	LT	1.0000
CLCSHS	LT	1.0000
DBRCLM	LT	1.0000
DBRCLM	LT	1.0000
DCLB	LT	2.0000
DCLB	LT	2.0000
ETCSHS	LT	1.0000
ETCSHS	LT	1.0000
MECSHS	LT	1.0000
MECSHS	LT	1.0000
MEK	LT	10.0000
MEK	LT	10.0000
MIBK	LT	1.4000
MIBK	LT	1.4000
TCLEA	LT	1.5000
TCLEA	LT	1.5000
TCLEE	LT	1.0000
TCLEE	LT	1.0000
TRCLE	LT	1.0000
TRCLE	LT	1.0000
XYLEN	LT	2.0000
XYLEN	LT	2.0000

---------- Field number - WC04W003 Site ID - 36TRENCH04 Site type - WASS Sample Date - 89116 (Julian)

L.T.		L.T.	BTZ	LT	5.0000	ALDRN	LT	0.0500	DBCP	LT	0.1950	DIMP	LT	0.3920	TDGCL	LT	6.6900	N.A.	AS	LT	2.3500	HG	0.1030	CA	LT	500.0000
			CPMS	LT	5.6900	CL6CP	LT	0.0480				DMMP	LT	0.1880										CD	LT	8.4000
			CPMSO	LT	11.5000	CLDAN	LT	0.0950																CR	LT	24.0000
			CPMSO2	LT	7.4600	DLDRN		0.8800																CU	LT	26.0000
			DITH	LT	1.3400	ENDRN		0.2860																K	LT	250.0000

L.T. - less than (value) N.A. - Not Analyzed R - Rejected-out of control Units of measurement - Site type (WELL - UGL) and (BORE, WASS, CMPH - UGG)
F - indicates filtered sample analysis See Appendix K for explanation of field number

Site H-3
COMPLETE LISTING OF RINSATES

(RMA Database)

Volatiles	Semi-Volatiles	OSCS	OCPS	DBCP	DIMD/DMMP	OSCMS	IMPA/MPA	Arsenic	F a g	Mercury	F a g	ICP Metals

WC04W003 (Cont'd)

				DMDS	LT	0.5500	ISODR	LT	0.0510															MG	LT	500.0000
				OXAT	LT	2.3800	PPDDE	LT	0.0540															NA	LT	940.0000
							PPDDT		0.3430															PB	LT	74.0000
																								ZN	LT	22.0000

---------- Field number - WC05W003 Site ID - 36TRENCH05 Site type - WASS Sample Date - 89124 (Julian)

N.A.	L.T.	BTZ	LT	5.0000	ALDRN	LT	0.0500	DBCP	LT	0.1950	DIMP		1.0200	TDGCL	LT	6.6900	FC2A	LT	1000.0000	AS	LT	2.3500	HG	LT	0.1000	CA	LT	500.0000
		CPMS	LT	5.6900	CL6CP	LT	0.0480				DMMP	LT	0.1880				IMPA	LT	1000.0000							CD	LT	8.4000
		CPMSO	LT	11.5000	CLDAN	LT	0.0950										MPA	LT	1000.0000							CR	LT	24.0000
		CPMSO2	LT	7.4600	DLDRN	LT	0.0500																			CU	LT	26.0000
		DITH	LT	1.3400	ENDRN	LT	0.0500																			K	LT	250.0000
		DMDS	LT	0.5500	ISODR	LT	0.0510																			MG	LT	500.0000
		OXAT	LT	2.3800	PPDDE	LT	0.0540																			NA	LT	940.0000
					PPDDT	LT	0.0490																			PB	LT	74.0000
																										ZN	LT	22.0000

---------- Field number - WC06W003 Site ID - 36TRENCH06 Site type - WASS Sample Date - 89124 (Julian)

N.A.	L.T.	BTZ	LT	5.0000	ALDRN	LT	0.0500	DBCP	LT	0.1950	DIMP	LT	0.3920	TDGCL	LT	6.6900	FC2A	LT	100.0000	AS	LT	2.3500	HG	LT	0.1000	CA	LT	500.0000
		CPMS	LT	5.6900	CL6CP	LT	0.0480				DMMP	LT	0.1880				IMPA	LT	100.0000							CD	LT	8.4000
		CPMSO	LT	11.5000	CLDAN	LT	0.0950										MPA	LT	100.0000							CR	LT	24.0000
		CPMSO2	LT	7.4600	DLDRN	LT	0.0500																			CU	LT	26.0000
		DITH	LT	1.3400	ENDRN	LT	0.0500																			K	LT	250.0000
		DMDS	LT	0.5500	ISODR	LT	0.0510																			MG	LT	500.0000
		OXAT	LT	2.3800	PPDDE	LT	0.0540																			NA	LT	940.0000
					PPDDT	LT	0.0490																			PB	LT	74.0000
																										ZN	LT	22.0000

---------- Field number - WC09W003 Site ID - 36TRENCH09 Site type - WASS Sample Date - 89117 (Julian)

L.T.	L.T.	BTZ	LT	5.0000	ALDRN	LT	0.0500	DBCP		0.5910	DIMP	LT	0.3920	TDGCL	LT	6.6900	N.A.			AS	LT	2.3500	HG		0.1870	CA	LT	500.0000
		CPMS	LT	5.6900	CL6CP	LT	0.0480				DMMP		2.6600													CD	LT	8.4000
		CPMSO	LT	11.5000	CLDAN	LT	0.0950																			CR	LT	24.0000
		CPMSO2	LT	7.4600	DLDRN	LT	0.0500																			CU	LT	26.0000
		DITH	LT	1.3400	ENDRN	LT	0.0500																			K	LT	250.0000
		DMDS	LT	0.5500	ISODR	LT	0.0510																			MG	LT	500.0000
		OXAT	LT	2.3800	PPDDE	LT	0.0540																			NA	LT	940.0000
					PPDDT	LT	0.0490																			PB	LT	74.0000

L.T. - less than (value) N.A. - Not Analyzed R - Rejected-out of control Units of measurement - Site type (WELL - UGL) and (BORE, WASS, CMPH - UGG)
F - indicates filtered sample analysis See Appendix K for explanation of field number

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COMPLETE LISTING OF RINSATES

(RMA Database)

Volatiles	Semi-Volatiles	OSCS	OCPS	DBCP	DIMP/DMMP	OSCMS	IMPA/MPA	Arsenic	F a g	Mercury	F a g	ICP Metals

WC09W003 (Cont'd)

ZN	LT	22.0000

---------- Field number - WC14W003 Site ID - 36TRENCH14 Site type - WASS Sample Date - 89121 (Julian)

111TCE	LT	1.0000	L.T.	BTZ	LT	5.0000	ALDRN	LT	0.0500	DBCP	LT	0.1950	DIMP		0.6190	TDGCL	LT	6.6900	FC2A	LT	100.0000	AS	LT	2.3500	HG	LT	0.1000	CA	LT	500.0000
112TCE	LT	1.0000		CPMS	LT	5.6900	CL6CP	LT	0.0480				DMMP	LT	0.1880				IMPA	LT	100.0000							CD	LT	8.4000
11DCE	LT	1.0000		CPMSO	LT	11.5000	CLDAN	LT	0.0950										MPA	LT	100.0000							CR	LT	24.0000
11DCLE	LT	1.0000		CPMSO2	LT	7.4600	DLDRN	LT	0.0500																			CU	LT	26.0000
12DCE	LT	5.0000		DITH	LT	1.3400	ENDRN		0.0643																			K	LT	250.0000
12DCLE	LT	1.0000		DMDS	LT	0.5500	ISODR	LT	0.0510																			MG	LT	500.0000
12DCLP	LT	1.0000		OXAT	LT	2.3800	PPDDE		0.0794																			NA	LT	940.0000
13DCLB	LT	1.0000					PPDDT	LT	0.0490																			PB	LT	74.0000
13DCP	LT	4.8000																										ZN	LT	22.0000
13DMB	LT	1.0000																												
2CLEVE	LT	3.5000																												
ACET	LT	8.0000																												
ACRYLO	LT	8.4000																												
BRDCLM	LT	1.0000																												
C2H3CL	LT	12.0000																												
C2H5CL	LT	8.0000																												
C6H6	LT	1.0000																												
CCL3F	LT	1.0000																												
CCL4	LT	1.0000																												
CH2CL2	LT	1.0000																												
CH3BR	LT	14.0000																												
CH3CL	LT	1.2000																												
CHBR3	LT	11.0000																												
CHCL3		29.0000																												
CLC6H5	LT	1.0000																												
DBRCLM	LT	1.0000																												
DCLB	LT	2.0000																												
ETC6H5	LT	1.0000																												
MEC6H5	LT	1.0000																												
MEK	LT	10.0000																												
MIBK	LT	1.4000																												
TCLEA	LT	1.5000																												
TCLEE	LT	1.0000																												
TRCLE	LT	1.0000																												
XYLEN	LT	2.0000																												

L.T. - less than (value) N.A. - Not Analyzed R - Rejected-out of control Units of measurement - Site type (WELL - UGL) and (BORE, WASS, CMPH - UGG)
F - Indicates filtered sample analysis See Appendix K for explanation of field number

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COMPLETE LISTING OF RINSATES

(RMA Database)

Volatiles	Semi-volatiles	OSCS	OCPS	DBCP	DIMP/DMMP	OSCMS	IMPA/MPA	Arsenic	F a o	Mercury	F a o	ICP Metals

---------- Field number - WC17W003 Site ID - 36TRENCH17 Site type - WASS Sample Date - 89129 (Julian)

111TCE	LT	1.0000	L.T.	BTZ	LT	5.0000	ALDRN	LT	0.0500	DBCP	LT	0.1950	DIMP	LT	0.3920	TDGCL	LT	6.6900	N.A.	AS	LT	2.3500	HG	0.1470	CA	LT 500.0000
112TCE	LT	1.0000		CPMS	LT	5.6900	CLDAN	LT	0.0950				DMMP	LT	0.1880										CD	LT 8.4000
11DCE	LT	1.0000		CPMSO	LT	11.5000	DLDRN	LT	0.0500																CR	LT 24.0000
11DCLE	LT	1.0000		CPMSO2	LT	7.4600	ENDRN	LT	0.0500																CU	LT 26.0000
12DCE	LT	5.0000		DITH	LT	1.3400	ISODR	LT	0.0510																K	LT 250.0000
12DCLE	LT	1.0000		DMDS	LT	0.5500	PPDDE	LT	0.0540																MG	LT 500.0000
12DCLP	LT	1.0000		OXAT	LT	2.3800	PPDDT	LT	0.0490																NA	LT 940.0000
13DCLB	LT	1.0000																							PB	LT 74.0000
13DCP	LT	4.8000																							ZN	LT 22.0000
13DMB	LT	1.0000																								
2CLEVE	LT	3.5000																								
ACET		56.8000																								
ACRYLO	LT	8.4000																								
BRDCLM	LT	1.0000																								
C2H3CL	LT	12.0000																								
C2H5CL	LT	8.0000																								
C6H6	LT	1.0000																								
CCL3F	LT	1.0000																								
CCL4	LT	1.0000																								
CH2CL2	LT	1.0000																								
CH3BR	LT	14.0000																								
CH3CL	LT	1.2000																								
CHBR3	LT	11.0000																								
CHCL3	LT	1.0000																								
CLC6H5	LT	1.0000																								
DBRCLM	LT	1.0000																								
DCLB	LT	2.0000																								
ETC6H5	LT	1.0000																								
MEC6H5	LT	1.0000																								
MEK	LT	10.0000																								
MIBK	LT	1.4000																								
TCLEA	LT	1.5000																								
TCLEE	LT	1.0000																								
TRCLE	LT	1.0000																								
XYLEN	LT	2.0000																								

---------- Field number - WCSVW003 Site ID - M-11SVWASS Site type - WASS Sample Date - 89128 (Julian)

111TCE	LT	1.0000	124TCB	LT	1.8000	BTZ	LT	5.0000	ALDRN	LT	0.0500	N.A.			DIMP	LT	0.3920	TDGCL	LT	6.6900	N.A.	AS	LT	2.3500	HG	LT 0.1000	CA	1400.0000

L.T. - less than (value) N.A. - Not Analyzed R - Rejected-out of control Units of measurement - Site type (WELL - UGL) and (BORE, WASS, CMPH - UGG)
F - Indicates filtered sample analysis See Appendix K for explanation of field number

COMPLETE LISTING OF RINSATES

(RMA Database)

WCSW003 (Cont'd)

Volatiles			Semi-Volatiles			OSCS			OCPS			DBCP			DIMP/DMMP			OSCMS			IMPA/MPA			Arsenic			F & G	Mercury			F & G	ICP Metals		
112TCE	LT	1.0000	120CLB	LT	1.7000	CPHS	LT	5.6900	CLDAN	LT	0.0950				DMMP	LT	0.1880															CD	LT	8.4000
11DCE	LT	1.0000	120PH	ND	2.0000	CPHS0	LT	11.5000	DLDRN	LT	0.0500																					CR	LT	24.0000
11DCLE	LT	1.0000	13DCLB	LT	1.7000	CPHS02	LT	7.4600	ENDRN	LT	0.0500																					CU	LT	26.0000
12DCE	LT	5.0000	14DCLB	LT	1.7000	DITH	LT	1.3400	ISODR	LT	0.0510																					K		561.0000
12DCLE	LT	1.0000	236TCP	LT	1.7000	DMDS	LT	0.5500	PPDDE	LT	0.0540																					MG	LT	500.0000
12DCLP	LT	1.0000	245TCP	LT	5.2000	DMAT	LT	2.3800	PPDDT	LT	0.0490																					NA	LT	940.0000
13DCLB	LT	1.0000	245TCP	LT	2.8000																											PB	LT	74.0000
13DCP	LT	4.8000	246TCP	LT	4.2000																											ZN	LT	22.0000
13DNB	LT	1.0000	246TCP	LT	3.6000																													
2CLEVE	LT	3.5000	24DCLP	LT	2.9000																													
ACET		44.4000	24DCLP	LT	8.4000																													
ACRYLO	LT	8.4000	24DMPN	LT	5.8000																													
BRDCLM	LT	1.0000	24DMPN	LT	4.4000																													
C2H3CL	LT	12.0000	24DNP	LT	21.0000																													
C2H5CL	LT	8.0000	24DNP	LT	176.0000																													
C6H6	LT	1.0000	24DNT	LT	4.5000																													
CCL3F	LT	1.0000	26DNT	LT	0.7900																													
CCL4	LT	1.0000	2CHE10		1.0000																													
CH2CL2	LT	1.0000	2CLP	LT	0.9900																													
CH3BR	LT	14.0000	2CLP	LT	2.8000																													
CH3CL	LT	1.2000	2CNAP	LT	0.5000																													
CHBR3	LT	11.0000	2MNAP	LT	1.7000																													
CHCL3	LT	1.0000	2MP	LT	3.9000																													
CLC6H5	LT	1.0000	2MP	LT	3.6000																													
DBRCLM	LT	1.0000	2NANIL	LT	4.3000																													
DCLB	LT	2.0000	2NP	LT	3.7000																													
ETC6H5	LT	1.0000	2NP	LT	8.2000																													
MEC6H5	LT	1.0000	33DCBD	ND	12.0000																													
MEK	LT	10.0000	3NANIL	LT	4.9000																													
MIBK	LT	1.4000	46DN2C	ND	17.0000																													
TCLEA	LT	1.5000	4BRPPE	ND	4.2000																													
TCLEE	LT	1.0000	4CANIL	LT	7.3000																													
TRCLE	LT	1.0000	4CL3C	LT	4.0000																													
XYLEN	LT	2.0000	4CL3C	LT	8.5000																													
			4CLPPE	LT	5.1000																													
			4MP	LT	0.5200																													
			4MP	LT	2.8000																													
			4NANIL	LT	5.2000																													
			4NP	LT	12.0000																													

L.T. - less than (value) N.A. - Not Analyzed R - Rejected-out of control Units of measurement - Site type (WELL - UGL) and (BORE, WASS, CMPH - UGG)
F - Indicates filtered sample analysis See Appendix K for explanation of Field number

Site H-3
COMPLETE LISTING OF RINSATES

(RMA Database)

Volatiles	Semi-Volatiles	OSCS	OCPS	DBCP	DIBD/DBBD	OSCMS	IMPA/MPA	Arsenic	F a g	Mercury	F a g	ICP Metals

WCSW003 (Cont'd)

4NP	LT	96.0000
ABHC	ND	4.0000
ACHLOR	ND	5.1000
AENSLF	ND	9.2000
ALDRN	ND	4.7000
ALDRN	LT	13.0000
ANAPHE	LT	1.7000
ANAPYL	LT	0.5000
ANTRC	ND	0.5000
ATZ	LT	5.9000
B2CEXM	LT	1.5000
B2CIPE	LT	5.3000
B2CLEE	LT	1.9000
B2EHP	ND	4.8000
BAANTR	ND	1.6000
BAPYR	ND	4.7000
BBFANT	ND	5.4000
BBHC	ND	4.0000
BBZP	ND	3.4000
BENSLF	ND	9.2000
BENZID	ND	10.0000
BENZOA	LT	13.0000
BGHIPY	ND	6.1000
BKFANT	ND	0.8700
BZALC	LT	0.7200
CHRY	ND	2.4000
CL6BZ	ND	1.6000
CL6CP	LT	8.6000
CL6CP	LT	54.0000
CL6ET	LT	1.5000
CLDAN	LT	37.0000
CPRS	LT	10.0000
CPRSO	LT	15.0000
CPRSO2	LT	5.3000
DBAHA	ND	6.5000
DBCP	LT	12.0000
DBHC	ND	4.0000
DBZFUR	LT	1.7000
DCPD	LT	5.5000

L.T. - less than (value) N.A. - Not Analyzed R - Rejected-out of control Units of measurement - Site type (WELL - UGL) and (BORE, WASS, CMPH - UGG)
F - indicates filtered sample analysis See Appendix K for explanation of field number

COMPLETE LISTING OF RINSATES

(RMA Database)

Volatiles	Semi-Volatiles	OSCS	OCPS	DBCP	DIMP/DMMP	OSCMS	IMPA/MPA	Arsenic	F a g	Mercury	F a g	ICP Metals

WCSW003 (Cont'd)

DDVP	LT	8.5000
DEP	LT	2.0000
DIMP	LT	21.0000
DITH	LT	3.3000
DLDRN	ND	4.7000
DLDRN	LT	26.0000
DMMP	LT	130.0000
DMP	LT	1.5000
DNBP	ND	3.7000
DNOP	ND	15.0000
ENDRN	ND	7.6000
ENDRN	LT	18.0000
ENDRNA	ND	8.0000
ENDRNK	ND	8.0000
ESFSO4	ND	9.2000
FANT	ND	3.3000
FLRENE	LT	3.7000
GCHLOR	ND	5.1000
HCBD	LT	3.4000
HPCL	ND	2.0000
HPCLE	ND	5.0000
ICDPYR	ND	8.6000
ISODR	LT	7.8000
ISOPHR	LT	4.8000
LIN	ND	4.0000
MEXCLR	ND	5.1000
MLTHN	LT	21.0000
NAP	LT	0.5000
NB	LT	0.5000
NNDMEA	ND	2.0000
NNDNPA	LT	4.4000
NNDPA	ND	3.0000
ORAT	LT	27.0000
PCB016	ND	21.0000
PCB221	ND	21.0000
PCB232	ND	21.0000
PCB242	ND	30.0000
PCB248	ND	30.0000
PCB254	ND	36.0000

L.T. - less than (value) N.A. - Not Analyzed R - Rejected-out of control Units of measurement - Site type (WELL - UGL) and (BORE, WASS, CMPH - UGG)
F - indicates filtered sample analysis See Appendix K for explanation of field number

able H-3
COMPLETE LISTING OF RINSATES

(RMA Database)

Volatiles	Semi-Volatiles	OSCS	OCPS	DBCP	DIMD/DMMD	OSCMS	IMPA/MPA	Arsenic	F	Mercury	F	ICP Metals
									a		a	
									g		g	

WCSVW003 (Cont'd)

PCB260	ND	36.0000
PCP	ND	18.0000
PCP	LT	9.1000
PHANTR	ND	0.5000
PHENOL	LT	9.2000
PHENOL	LT	2.2000
PPDDD	ND	4.0000
PPDDE	ND	4.7000
PPDDE	LT	14.0000
PPDDT	ND	9.2000
PPDDT	LT	18.0000
PRTHN	LT	37.0000
PYR	ND	2.8000
SUPONA	LT	19.0000
TXPHEN	ND	36.0000

---------- Field number - WCSVW013 Site ID - M-11SVWASS Site type - WASS Sample Date - 89128 (Julian)

L.T.	124TCB	LT	1.8000	BTZ	LT	5.0000	ALDRN	LT	0.0500	N.A.	DIMP	LT	0.3920	TDGCL	LT	6.6900	N.A.	AS	5.3400	HG	2.7000	CA		2390.0000
	12DCLB	LT	1.7000	CPMS	LT	5.6900	CLDAN	LT	0.0950		DMMP	LT	0.1880									CD	LT	8.4000
	12DPH	ND	2.0000	CPMSO	LT	11.5000	DLDRN		0.0820													CR	LT	24.0000
	13DCLB	LT	1.7000	CPMSO2	LT	7.4600	ENDRN	LT	0.0500													CU	LT	26.0000
	14DCLB	LT	1.7000	DITH	LT	1.3400	ISODR	LT	0.0510													K		1540.0000
	236TCP	LT	1.7000	DMDS	LT	0.5500	PPDDE	LT	0.0540													MG	LT	500.0000
	245TCP	LT	5.2000	OXAT	LT	2.3800	PPDDT	LT	0.0490													NA		1640.0000
	245TCP	LT	2.8000																			PB	LT	74.0000
	246TCP	LT	4.2000																			ZN		23.5000
	246TCP	LT	3.6000																					
	24DCLP	LT	2.9000																					
	24DCLP	LT	8.4000																					
	24DMPN	LT	5.8000																					
	24DMPN	LT	4.4000																					
	24DNP	LT	21.0000																					
	24DNP	LT	176.0000																					
	24DNT	LT	4.5000																					
	26DNT	LT	0.7900																					
	2CLP	LT	0.9900																					
	2CLP	LT	2.8000																					
	2CNAP	LT	0.5000																					

L.T. - less then (value) N.A. - Not Analyzed R - Rejected-out of control Units of measurement - Site type (WELL - UGL) and (BORE, WASS, CMPH - UGG)
F - indicates filtered sample analysis See Appendix K for explanation of Field number

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COMPLETE LISTING OF RINSATES

(RMA Database)

Volatiles	Semi-volatiles	OSCS	OCPS	DBCP	DIMD/DMMD	OSCMS	IMPA/MPA	Arsenic	F	Mercury	F	ICP Metals
									a		a	
									g		g	

WCSVW013 (Cont'd)

2MNAP	LT	1.7000
2MP	LT	3.9000
2MP	LT	3.6000
2NANIL	LT	4.3000
2NP	LT	3.7000
2NP	LT	8.2000
33DCBD	ND	12.0000
3NANIL	LT	4.9000
46DN2C	ND	17.0000
4BRPPE	ND	4.2000
4CANIL	LT	7.3000
4CL3C	LT	4.0000
4CL3C	LT	8.5000
4CLPPE	LT	5.1000
4MP	LT	0.5200
4MP	LT	2.8000
4NANIL	LT	5.2000
4NP	LT	12.0000
4NP	LT	96.0000
ABHC	ND	4.0000
ACHLOR	ND	5.1000
AENSLF	ND	9.2000
ALDRN	ND	4.7000
ALDRN	LT	13.0000
ANAPNE	LT	1.7000
ANAPYL	LT	0.5000
ANTRC	ND	0.5000
ATZ	LT	5.9000
B2CEXM	LT	1.5000
B2CIPE	LT	5.3000
B2CLEE	LT	1.9000
B2EHP	ND	4.8000
BAANTR	ND	1.6000
BAPYR	ND	4.7000
BBFANT	ND	5.4000
BBHC	ND	4.0000
BBZP	ND	3.4000
BENSLF	ND	9.2000
BENZID	ND	10.0000

L.T. - less than (value) N.A. - Not Analyzed R - Rejected-out of control Units of measurement - Site type (WELL - UGL) and (BORE, WASS, CMPH - UGG)
F - indicates filtered sample analysis See Appendix K for explanation of Field number

able H-3
COMPLETE LISTING OF RINSATES

(RMA Database)

Volatiles	Semi-Volatiles	OSCS	OCPS	DBCP	DIBD/DBBD	OSCMS	IMPA/MPA	Arsenic	F a g	Mercury	F a g	ICP Metals

WCSVW013 (Cont'd)

BENZOA	LT	13.0000
BGHIPY	ND	6.1000
BKFANT	ND	0.8700
BZALC	LT	0.7200
CHRY	ND	2.4000
CL6BZ	ND	1.6000
CL6CP	LT	8.6000
CL6CP	LT	54.0000
CL6ET	LT	1.5000
CLDAN	LT	37.0000
CPNS	LT	10.0000
CPNSO	LT	15.0000
CPNSO2	LT	5.3000
DBAHA	ND	6.5000
DBCP	LT	12.0000
DBHC	ND	4.0000
DBZFUR	LT	1.7000
DCPD	LT	5.5000
DDVP	LT	8.5000
DEP	LT	2.0000
DIMP	LT	21.0000
DITH	LT	3.3000
DLDRN	ND	4.7000
DLDRN	LT	26.0000
DMMP	LT	130.0000
DMP	LT	1.5000
DNBP	ND	3.7000
DNOP	ND	15.0000
ENDRN	ND	7.6000
ENDRN	LT	18.0000
ENDRNA	ND	8.0000
ENDRNK	ND	8.0000
ESFSO4	ND	9.2000
FANT	ND	3.3000
FLRENE	LT	3.7000
GCHLOR	ND	5.1000
HCBD	LT	3.4000
HPCL	ND	2.0000
HPCLE	ND	5.0000

L.T. - less than (value) N.A. - Not Analyzed R - Rejected-out of control Units of Measurement - Site type (WELL - UGL) and (BORE, WASS, CMPH - UGG)
F - Indicates filtered sample analysis See Appendix K for explanation of Field number

Table H-3
COMPLETE LISTING OF RINSATES

(RMA Database)

Volatiles	Semi-Volatiles	OSCS	OCPS	DBCP	DIMP/DMMP	OSCHS	IMPA/MPA	Arsenic	F a g	Mercury	F a g	ICP Metals

WCSVW013 (Cont'd)

ICDPYR	ND	8.6000
ISODR	LT	7.8000
ISOPHR	LT	4.8000
LIN	ND	4.0000
MEXCLR	ND	5.1000
MLTHN	LT	21.0000
NAP	LT	0.5000
NB	LT	0.5000
NNDMEA	ND	2.0000
NNDNPA	LT	4.4000
NNDPA	ND	3.0000
OXAT	LT	27.0000
PCB016	ND	21.0000
PCB221	ND	21.0000
PCB232	ND	21.0000
PCB242	ND	30.0000
PCB248	ND	30.0000
PCB254	ND	36.0000
PCB260	ND	36.0000
PCP	ND	18.0000
PCP	LT	9.1000
PHANTR	ND	0.5000
PHENOL	LT	9.2000
PHENOL	LT	2.2000
PPDDD	ND	4.0000
PPDDE	ND	4.7000
PPDDE	LT	14.0000
PPDDT	ND	9.2000
PPDDT	LT	18.0000
PRTHN	LT	37.0000
PYR	ND	2.8000
SUPONA	LT	19.0000
TXPHEN	ND	36.0000

---------- Field number - WCSVW023 Site ID - M-11SVWASS Site type - WASS Sample Date - 89128 (Julian)

L.T.	124TCB	LT	1.8000	BTZ	LT	5.0000	ALDRN	LT	0.0500	N.A.	DIMP	LT	0.3920	TDGCL	LT	6.6900	N.A.	AS	4.7600	HG	LT	0.1000	CA	LT	500.0000
	12DCLB	LT	1.7000	CPMS	LT	5.6900	CLDAN	LT	0.0950		DMMP	LT	0.1880										CD	LT	8.4000
	12DPH	ND	2.0000	CPMSO	LT	11.5000	DLDRN	LT	0.0500														CR	LT	24.0000

L.T. - less than (value) N.A. - Not Analyzed R - Rejected-out of control Units of measurement - Site type (WELL - UGL) and (BORE, WASS, CMPH - UGG)
F - Indicates filtered sample analysis See Appendix K for explanation of field number

Table H-3
COMPLETE LISTING OF RINSATES

(RMA Database)

Volatiles	Semi-volatiles	OSCS	OCPS	DBCP	DIMD/DMMD	OSCMS	IMPA/MPA	Arsenic	Flag	Mercury	Flag	ICP Metals
WCSVW023 (Cont'd)												
	13DCLB LT 1.7000	CPMS02 LT 7.4600	ENDRN LT 0.0500									CU LT 26.0000
	14DCLB LT 1.7000	DITH LT 1.3400	ISODR LT 0.0510									K LT 250.0000
	236TCP LT 1.7000	DMDS LT 0.5500	PPDDE LT 0.0540									MG LT 500.0000
	245TCP LT 5.2000	OXAT LT 2.3800										NA LT 940.0000
	245TCP LT 2.8000											PB LT 74.0000
	246TCP LT 4.2000											ZN LT 22.0000
	246TCP LT 3.6000											
	24DCLP LT 2.9000											
	24DCLP LT 8.4000											
	24DMPN LT 5.8000											
	24DMPN LT 4.4000											
	24DNP LT 21.0000											
	24DNP LT 176.0000											
	24DNT LT 4.5000											
	26DNT LT 0.7900											
	2CLP LT 0.9900											
	2CLP LT 2.8000											
	2CNAP LT 0.5000											
	2MNAP LT 1.7000											
	2MP LT 3.9000											
	2MP LT 3.6000											
	2NANIL LT 4.3000											
	2NP LT 3.7000											
	2NP LT 8.2000											
	33DCBD ND 12.0000											
	3NANIL LT 4.9000											
	46DN2C ND 17.0000											
	4BRPPE ND 4.2000											
	4CANIL LT 7.3000											
	4CL3C LT 4.0000											
	4CL3C LT 8.5000											
	4CLPPE LT 5.1000											
	4MP LT 0.5200											
	4MP LT 2.8000											
	4NANIL LT 5.2000											
	4NP LT 12.0000											
	4NP LT 96.0000											
	ABHC ND 4.0000											
	ACHLOR ND 5.1000											

L.T. - less than (value) N.A. - Not Analyzed R - Rejected-out of control Units of measurement - site type (WELL - UGL) and (BORE, WASS, CMPH - UGG)
F - indicates filtered sample analysis See Appendix K for explanation of field number

Table H-3
COMPLETE LISTING OF RINSATES

(RMA Database)

Volatiles	Semi-Volatiles	OSCS	OCPS	DBCP	DIBD/DMBD	OSCMS	IMPA/MPA	Arsenic	F a g	Mercury	F a g	ICP Metals

WCSW023 (Cont'd)

AENSLF	ND	9.2000
ALDRN	ND	4.7000
ALDRN	LT	13.0000
ANAPNE	LT	1.7000
ANAPYL	LT	0.5000
ANTRC	ND	0.5000
ATZ	LT	5.9000
B2CEXM	LT	1.5000
B2CIPE	LT	5.3000
B2CLEE	LT	1.9000
B2EHP	ND	4.8000
BAANTR	ND	1.6000
BAPYR	ND	4.7000
BBFANT	ND	5.4000
BBHC	ND	4.0000
BBZP	ND	3.4000
BENSLF	ND	9.2000
BENZID	ND	10.0000
BENZOA	LT	13.0000
BGHIPY	ND	6.1000
BKFANT	ND	0.8700
BZALC	LT	0.7200
CHRY	ND	2.4000
CL6BZ	ND	1.6000
CL6CP	LT	8.6000
CL6CP	LT	54.0000
CL6ET	LT	1.5000
CLDAN	LT	37.0000
CPHS	LT	10.0000
CPHSO	LT	15.0000
CPHSO2	LT	5.3000
DBAHA	ND	6.5000
DBCP	LT	12.0000
DBHC	ND	4.0000
DBZFUR	LT	1.7000
DCPD	LT	5.5000
DDVP	LT	8.5000
DEP	LT	2.0000
DIMP	LT	21.0000

L.T. - less than (value) N.A. - Not Analyzed R - Rejected-out of control Units of measurement - Site type (WELL - UGL) and (BORE, WASS, CMPH - UGG)
F - indicates filtered sample analysis See Appendix K for explanation of field number

Table H-3
COMPLETE LISTING OF RINSATES

(RMA Database)

Volatiles	Semi-Volatiles	OSCS	OCPS	DBCP	DIWD/DMWD	OSCMS	IMPA/MPA	Arsenic	F a g	Mercury	F a g	ICP Metals

WCSW023 (Cont'd)

DITH	LT	3.3000
DLDRN	ND	4.7000
DLDRN	LT	26.0000
DMMP	LT	130.0000
DMP	LT	1.5000
DNBP	ND	3.7000
DNOP	ND	15.0000
ENDRN	ND	7.6000
ENDRN	LT	18.0000
ENDRNA	ND	8.0000
ENDRNK	ND	8.0000
ESFSO4	ND	9.2000
FANT	ND	3.3000
FLRENE	LT	3.7000
GCHLOR	ND	5.1000
HCBD	LT	3.4000
HPCL	ND	2.0000
HPCLE	ND	5.0000
ICDPYR	ND	8.6000
ISODR	LT	7.8000
ISOPHR	LT	4.8000
LIN	ND	4.0000
MEXCLR	ND	5.1000
MLTHN	LT	21.0000
NAP	LT	0.5000
NB	LT	0.5000
NNDMEA	ND	2.0000
NNDNPA	LT	4.4000
NNDPA	ND	3.0000
OXAT	LT	27.0000
PCB016	ND	21.0000
PCB221	ND	21.0000
PCB232	ND	21.0000
PCB242	ND	30.0000
PCB248	ND	30.0000
PCB254	ND	36.0000
PCB260	ND	36.0000
PCP	ND	18.0000
PCP	LT	9.1000

L.T. - less than (value) N.A. - Not Analyzed R - Rejected-out of control Units of measurement - Site type (WELL - UGL) and (BORE, WASS, CMPH - UGG)
F - indicates filtered sample analysis See Appendix K for explanation of field number

Table H-3
COMPLETE LISTING OF RINSATES

(RMA Database)

Volatiles	Semi-volatiles	OSCS	OCPS	OBCP	DIMD/DMMD	OSCMS	IMPA/MPA	Arsenic	F & O	Mercury	F & O	ICP Metals

WCSVW023 (Cont'd)

PHANTR	ND	0.5000
PHENOL	LT	9.2000
PHENOL	LT	2.2000
PPDDD	ND	4.0000
PPDDE	ND	4.7000
PPDDE	LT	14.0000
PPDDT	ND	9.2000
PPDDT	LT	18.0000
PRTHN	LT	37.0000
PYR	ND	2.8000
SUFONA	LT	19.0000
TXPHEN	ND	36.0000

---------- Field number - WCD4S023 Site ID - M1BORE004 Site type - BORE Sample Date - 89150 (Julian)

Volatiles	Semi-volatiles	OSCS	OCPS	OBCP	DIMD/DMMD	OSCMS	IMPA/MPA	Arsenic	F & O	Mercury	F & O	ICP Metals
N.A.	L.T.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	AS LT 2.3500		HG LT 0.1000		N.A.

---------- Field number - WCD6D193 Site ID - M1BORE006 Site type - BORE Sample Date - 89143 (Julian)

Volatiles	Semi-volatiles	OSCS	OCPS	OBCP	DIMD/DMMD	OSCMS	IMPA/MPA	Arsenic	F & O	Mercury	F & O	ICP Metals
N.A.	L.T.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	AS 2.6300		HG 0.1190		N.A.

---------- Field number - WCD6S073 Site ID - M1BORE006 Site type - BORE Sample Date - 89143 (Julian)

Volatiles	Semi-volatiles	OSCS	OCPS	OBCP	DIMD/DMMD	OSCMS	IMPA/MPA	Arsenic	F & O	Mercury	F & O	ICP Metals
N.A.	L.T.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	AS 7.4200		HG LT 0.1000		N.A.

---------- Field number - WCD8W043 Site ID - M1BORE008 Site type - WASS Sample Date - 89145 (Julian)

Volatiles	Semi-volatiles	OSCS	OCPS	OBCP	DIMD/DMMD	OSCMS	IMPA/MPA	Arsenic	F & O	Mercury	F & O	ICP Metals
L.T.	L.T.	BTZ LT 5.0000	N.A.	N.A.	DIMP LT 0.3920	TDOCL LT 6.6900	N.A.	AS LT 2.3500		HG LT 0.1000	F	CA LT 500.0000
		CPHS LT 5.6900			DMMP LT 0.1880							CD LT 8.4000
		CPHSO LT 11.5000										CR LT 24.0000
		CPHSO2 LT 7.4600										CU LT 26.0000
		DITH LT 1.3400										K LT 250.0000
		DMDS LT 0.5500										MG LT 500.0000
		OXAT LT 2.3800										NA LT 940.0000
												PB LT 74.0000
												ZN LT 22.0000

L.T. - less than (value) N.A. - Not Analyzed R - Rejected-out of control Units of Measurement - Site type (WELL - UGL) and (BORE, WASS, CMPH - UGG)
F - Indicates filtered sample analysis See Appendix K for explanation of field number

Table H-4
Complete Listing
of
Sample and Duplicate

Volatiles	Semi-Volatiles	OSCS	OCPS	DBCP	DIWD/DWWD	OSCMS	IMPA/MPA	Arsenic	F	Mercury	F	ICP Metals

---------- Field number - WC770001 Site ID - 01077 Site type - WELL Sample Date - 89153 (Julian)

N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	AS	LT	2.3500		HG	LT	0.1000	F	N.A.
								AS	LT	2.3500	F	HG	LT	0.1000		

DUPLICATE - WC770002 Site ID - 01077 Site type - WELL Sample Date - 89153 (Julian)

N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	AS	LT	2.3500	D	HG	LT	0.1000	D	N.A.
								AS	LT	2.3500	D	HG	LT	0.1000	D	

---------- Field number - WC540001 Site ID - 36054 Site type - WELL Sample Date - 89164 (Julian)

112TCE	LT	500.0000	L.T.	BTZ	23.2000	ALDRN	11.0000	N.A.	DIMP	LT	0.3920	TDGCL	LT	67.0000	N.A.	AS	49.0000	F	HG	5.5000	F	CA	280000.000
11DCE	LT	500.0000		CPMS	1100.0000	CLDAN	14.0000		DMMP		1200.0000					AS	110.0000		HG	7.0000		CD	LT 8.4000
11DCLE	LT	500.0000		CPMSO	33.2000	DLDRN	1.5000															CR	49.4000
12DCE	LT	2500.0000		CPMSO2	970.0000	ENDRN	0.6900															CU	LT 26.0000
12DCLE	LT	500.0000		DITH	1.8300	ISODR	1.4000															K	5750.0000
12DCLP	LT	500.0000		DMDS	LT 0.5500	PPDDE	0.3250															MG	78300.0000
13DCLB	LT	500.0000		OXAT	2.5600	PPDDT	1.7000															NA	510000.000
13DCP	LT	2400.0000																				PB	LT 74.0000
13DMB	LT	500.0000																				ZN	31.5000
2CLEVE	LT	1750.0000																					
ACET	LT	4000.0000																					
ACRYLO	LT	4200.0000																					
BROCLM	LT	500.0000																					
C2H3CL	LT	6000.0000																					
C2H5CL	LT	4000.0000																					
C6H6		2870.0000																					
CCL3F	LT	500.0000																					
CCL4	LT	500.0000																					
CH2CL2		1260.0000																					
CH3BR	LT	7000.0000																					
CH3CL	LT	600.0000																					
CHBR3	LT	5500.0000																					
CHCL3		47000.0000																					
CLC6H5	LT	500.0000																					
DBRCLM	LT	500.0000																					

L.T. - Less Than Certified Reporting Limits N.A. - Analysis Not Requested F - Indicates filtered sample analysis

Table H-4
Complete LISTING
of
Sample and Duplicate

Volatiles	Semi-Volatiles	OSCS	OCPS	DBCP	DIMP/DMMP	OSCMS	IMPA/MPA	Arsenic	F a g	Mercury	F a g	ICP Metals

FIELD_NO - WCS4C001 Continued

DCLB	LT	1000.0000
ETC6H5	LT	500.0000
MEC6H5	LT	500.0000
MEK	LT	5000.0000
TCLEA	LT	750.0000
TCLEE	LT	500.0000
TRCLE	LT	500.0000
XYLEN	LT	1000.0000

DUPLICATE - WCS4C002 Site ID - 36054 Site type - WELL Sample Date - 89164 (Julian)

111TCE	LT	5000.0000	236TCP	LT	1.7000	BTZ		20.3000	ALDRN	11.0000	N.A.	DIMP	LT	0.3920	TDGCL	LT	6.6900	N.A.	AS	50.4000	D	HG	5.8000	D	CA	300000.000
112TCE	LT	5000.0000	245TCP	LT	2.8000	CPMS		850.0000	CLDAN	14.0000		DMMP		1200.0000					AS	104.0000	D	HG	5.0000	D	CD	LT 8.4000
11DCE	LT	5000.0000	246TCP	LT	3.6000	CPMSO		36.4000	DLDRN	1.7000															CR	62.4000
11DCLE	LT	5000.0000	24DCLP	LT	8.4000	CPMSO2		930.0000	ENDRN	0.7500															CU	LT 26.0000
12DCE	LT	25000.0000	24DMPN	LT	4.4000	DITH	LT	1.3400	ISODR	1.2200															K	7770.0000
12DCLE	LT	5000.0000	24DNP	LT	176.0000	DMDS	LT	0.5500	PPDDE	0.3460															MG	80000.0000
12DCLP	LT	5000.0000	2CLP	LT	2.8000	DXAT	LT	2.3800	PPDDT	1.8000															NA	520000.000
13DCLB	LT	5000.0000	2MP	LT	3.6000																				PB	LT 74.0000
13DCP	LT	24000.0000	2NP	LT	8.2000																				ZN	61.8000
13DMB	LT	5000.0000	4CL3C	LT	8.5000																					
2CLEVE	LT	17500.0000	4MP	LT	2.8000																					
ACET	LT	40000.0000	4NP	LT	96.0000																					
ACRYLO	LT	42000.0000	ALDRN	LT	13.0000																					
BRDCLM	LT	5000.0000	ATZ	LT	5.9000																					
C2H3CL	LT	60000.0000	CL6CP	LT	54.0000																					
C2H5CL	LT	40000.0000	CLDAN	LT	37.0000																					
C6H6		25200.0000	CPMS	GT	300.0000																					
CCL3F	LT	5000.0000	CPMSO	LT	15.0000																					
CCL4	LT	5000.0000	CPMSO2	GT	300.0000																					
CH2CL2	LT	5000.0000	DBCP		90.4000																					
CH3BR	LT	70000.0000	DCPD		122.0000																					
CH3CL	LT	6000.0000	DDVP	LT	8.5000																					
CHBR3	LT	55000.0000	DIMP	LT	21.0000																					
CHCL3		425000.000	DITH	LT	3.3000																					
CLC6H5		6730.0000	DLDRN	LT	26.0000																					
DBRCLM	LT	5000.0000	DMMP		726.0000																					

L.T. - Less Than Certified Reporting Limits N.A. - Analysis Not Requested F - Indicates filtered sample analysis

Table H-4
Complete Listing
of
Sample and Duplicate

Volatiles	Semi-Volatiles	OSCS	OCPS	DBCP	DIMP/DWMP	OSCMS	IMPA/MPA	Arsenic	F a g	Mercury	F a g	ICP Metals

DUPLICATE - WCS40002 Continued

DCLB	LT10000.0000	ENDRN	LT	18.0000
ETC6H5	LT 5000.0000	ISODR	LT	7.8000
MEC6H5	LT 5000.0000	MLTHN	LT	21.0000
MEK	LT50000.0000	OXAT	LT	27.0000
MIBK	LT 7000.0000	PCP	LT	9.1000
TCLEA	LT 7500.0000	PHENOL		69.8000
TCLEE	LT 5000.0000	PPDDE	LT	14.0000
TRCLE	LT 5000.0000	PPDDT	LT	18.0000
XYLEN	LT10000.0000	PRTHN	LT	37.0000
		SUPONA	LT	19.0000

---------- Field number - WC670001 Site ID - 36067 Site type - WELL Sample Date - 89117 (Julian)

111TCE	LT	100.0000	236TCP		46.7000	BTZ		230.0000	ALDRN		0.7750	DBCP	2200.0000	DIMP	LT	0.3920	TDGCL	LT	67.0000	N.A.	AS	17.9000	HG	1.8300	CA		230000.000
112TCE	LT	100.0000	245TCP	LT	2.8000	CPMS	LT	5.6900	CL6CP		1.9000			DWMP		1600.0000									CD	LT	8.4000
11DCE	LT	100.0000	246TCP	LT	3.6000	CPMSO		65.4000	CLDAN	LT	0.0950														CR	LT	24.0000
11DCLE	LT	100.0000	24DCLP	LT	8.4000	CPMSO2		11.0000	DLDRN		1.7000														CU		54.4000
12DCE	LT	500.0000	24DMPN	LT	4.4000	DITH	LT	1.3400	ENDRN		1.9000														K		4620.0000
12DCLE	LT	100.0000	24DNP	LT	176.0000	DMDS		330.0000	ISODR		5.8000														MG		82600.0000
12DCLP	LT	100.0000	2CLP	LT	2.8000	OXAT	LT	2.3800	PPDDE		0.6830														NA		460000.000
13DCLB	LT	100.0000	2MP		118.0000				PPDDT		2.2000														PB	LT	74.0000
13DCP	LT	480.0000	2NP	LT	8.2000																				ZN		53.5000
13DMB	LT	100.0000	4CL3C		76.4000																						
2CLEVE	LT	350.0000	4MP		106.0000																						
ACET	LT	800.0000	4NP	LT	96.0000																						
ACRYLO	LT	840.0000	ALDRN	LT	13.0000																						
BRDCLM	LT	100.0000	ATZ	LT	5.9000																						
C2H3CL	LT	1200.0000	CL6CP	LT	54.0000																						
C2H5CL	LT	800.0000	CLDAN	LT	37.0000																						
C6H6		3020.0000	CPMS	LT	10.0000																						
CCL3F	LT	100.0000	CPMSO	LT	15.0000																						
CCL4	LT	100.0000	CPMSO2	LT	5.3000																						
CH2CL2		2830.0000	DBCP	GT	300.0000																						
CH3BR	LT	1400.0000	DCPD	GT	300.0000																						
CH3CL	LT	120.0000	DDVP	LT	8.5000																						

L.T. - Less Than Certified Reporting Limits N.A. - Analysis Not Requested F - Indicates filtered sample analysis

Table H-4
Complete LISTING
of
Sample and Duplicate

Volatiles	Semi-Volatiles	OSCS	OCPS	DBCP	DIMP/DMMP	OSCMS	IMPA/MPA	Arsenic	F a g	Mercury	F a g	ICP Metals

FIELD_NO - WC670001 Continued

CHBR3	LT	1100.0000	DIMP	LT	21.0000		
CHCL3		6900.0000	DITH	LT	3.3000		
CLC6H5	LT	100.0000	DLDRN	LT	26.0000		
DBRCLM	LT	100.0000	DMMP		894.0000		
DCLB	LT	200.0000	ENDRN	LT	18.0000		
ETC6H5	LT	100.0000	ISODR	LT	7.8000		
MEC6H5		160.0000	MLTHN	LT	21.0000		
MEK	LT	1000.0000	OXAT	LT	27.0000		
MIBK	LT	140.0000	PCP	LT	9.1000		
TCLEA	LT	150.0000	PHENOL	LT	2.2000		
TCLEE	LT	100.0000	PPDDE	LT	14.0000		
TRCLE	LT	100.0000	PPDDT	LT	18.0000		
XYLEN	LT	200.0000	PRTHN	LT	37.0000		
			SUPONA	LT	19.0000		

DUPLICATE - WC670002 Site ID - 36067 Site type - WELL Sample Date - 89117 (Julian)

111TCE	LT	100.0000	236TCP		62.0000	BTZ		240.0000	ALDRN		0.6960	DBCP	2200.0000	N.A.	TDGCL	LT	67.0000	N.A.	AS	22.5000	D	HG	1.6100	D	CA	220000.000
112TCE	LT	100.0000	245TCP	LT	2.8000	CPMS	LT	5.6900	CL6CP		0.9300														CD	LT 8.4000
11DCE	LT	100.0000	246TCP	LT	3.6000	CPMS0		59.4000	CLDAN		13.0000														CR	40.1000
11DCLE	LT	100.0000	24DCLP	LT	8.4000	CPMS02		11.1000	DLDRN		1.9000														CU	115.0000
12DCE	LT	500.0000	24DMPN	LT	4.4000	DITH	LT	1.3400	ENDRN		2.0000														K	12000.0000
12DCLE	LT	100.0000	24DNP	LT	176.0000	DMDS		370.0000	ISODR		5.6000														MG	88600.0000
12DCLP	LT	100.0000	2CLP	LT	2.8000	OXAT	LT	2.3800	PPDDE		0.7390														NA	440000.000
13DCLB	LT	100.0000	2NP		129.0000				PPDDT		2.7000														PB	LT 74.0000
13DCP	LT	480.0000	2NP	LT	8.2000																				ZN	95.6000
13DMB	LT	100.0000	4CL3C		87.3000																					
2CLEVE	LT	350.0000	4NP		125.0000																					
ACET	LT	800.0000	4NP	LT	96.0000																					
ACRYLO	LT	840.0000	ALDRN	LT	13.0000																					
BRDCLM	LT	100.0000	ATZ	LT	5.9000																					
C2H3CL	LT	1200.0000	CL6CP	LT	54.0000																					
C2H5CL	LT	800.0000	CLDAN	LT	37.0000																					
C6H6		1320.0000	CPMS	LT	10.0000																					
CCL3F	LT	100.0000	CPMS0	LT	15.0000																					
CCL4	LT	100.0000	CPMS02		352.0000																					
CH2CL2		8080.0000	DBCP	GT	300.0000																					

L.T. - Less Than Certified Reporting Limits N.A. - Analysis Not Requested F - Indicates filtered sample analysis

Table H-4
Complete listing
of
Sample and Duplicate

Volatiles	Semi-Volatiles	OSCs	OCPs	DBCP	DIMP/DMMP	OSCMS	IMPA/MPA	Arsenic	F	Mercury	F	ICP Metals

DUPLICATE - WC67G002 Continued

CH3BR	LT	1400.0000	DCPD	GT	300.0000
CH3CL	LT	120.0000	DDVP	LT	8.5000
CHBR3	LT	1100.0000	DIMP		23.6000
CHCL3		6700.0000	DITH	LT	3.3000
CLC6H5	LT	100.0000	DLDRN	LT	26.0000
DBRCLM	LT	100.0000	DMMP		726.0000
DCLB	LT	200.0000	ENDRN	LT	18.0000
ETC6H5	LT	100.0000	ISODR	LT	7.8000
MEC6H5		140.0000	MLTHN	LT	21.0000
MEK	LT	1000.0000	OXAT	LT	27.0000
MIBK	LT	140.0000	PCP	LT	9.1000
TCLEA	LT	150.0000	PHENOL	LT	2.2000
TCLEE	LT	100.0000	PPDDE	LT	14.0000
TRCLE	LT	100.0000	PPDDT	LT	18.0000
XYLEN	LT	200.0000	PRTHN	LT	37.0000
			SUPONA	LT	19.0000

---------- Field number - WC87S041 Site ID - 36187 Site type - BORE Sample Date - 89125 (Julian)

L.T.	N.A.	BTZ	LT	2.0400	N.A.	DBCP	LT	0.0050	DIMP	LT	0.1140	N.A.	IMPA	LT	2.1100	AS	LT	2.5000	HG	LT	0.0500	CD	LT	0.7400
		CPMS	LT	4.4000					DMMP	LT	0.1330		MPA	LT	2.0000							CR		12.1000
		CPMS02	LT	9.0100																		CU		7.5000
		DITH	LT	1.4500																		PB		18.2000
		OXAT	LT	1.7400																		ZN		38.2000

DUPLICATE - WC87S042 Site ID - 36187 Site type - BORE Sample Date - 89125 (Julian)

L.T.	N.A.	BTZ	LT	2.0400	N.A.	DBCP	LT	0.0050	DIMP	LT	0.1140	N.A.	IMPA	LT	2.1100	AS	LT	2.5000 D	HG	LT	0.0500 D	CD	LT	0.7400
		CPMS	LT	4.4000					DMMP	LT	0.1330		MPA	LT	2.0000							CR		15.1000
		CPMS02	LT	9.0100																		CU		7.0400
		DITH	LT	1.4500																		PB		20.8000
		OXAT	LT	1.7400																		ZN		42.3000

---------- Field number - WC88S011 Site ID - 36188 Site type - BORE Sample Date - 89123 (Julian)

L.T.	N.A.	BTZ	LT	2.0400	N.A.	DBCP		0.0435	DIMP	LT	0.1140	CLC2A	LT	35.5000	IMPA	LT	2.1100	AS		28.8000	HG		0.6520	CD		3.2600

L.T. - Less Than Certified Reporting Limits N.A. - Analysis Not Requested F - Indicates filtered sample analysis

Table H-4
Complete LISTING
of
Sample and Duplicate

Volatiles	Semi-Volatiles	OSCS	OCPS	DBCP	DIWD/DMWD	OSCMS	IMPA/MPA	Arsenic	F a g	Mercury	F a g	ICP Metals

FIELD_NO - WC885011 Continued

																						CR	20.3000
		CPMS	LT	4.4000								DMMP	LT	0.1330	TDGCL	LT	4.2000	MPA	LT	2.0000		CU	55.8000
		CPMSO2	LT	9.0100																		PB	50.6000
		DITH	LT	1.4500																		ZN	85.9000
		DMDS	LT	3.1200																			
		OXAT	LT	1.7400																			

DUPLICATE - WC885012 Site ID - 36188 Site type - BORE Sample Date - 89123 (Julian)

L.T.	N.A.	BTZ	LT	2.0400	N.A.		DBCP	LT	0.0050	DIMP	LT	0.1140	CLC2A	LT	35.5000	IMPA	LT	2.1100	AS	28.7000 D	HG	0.7220 D	CD	2.4700
		CPMS	LT	4.4000						DMMP	LT	0.1330	TDGCL	LT	4.2000	MPA	LT	2.0000					CR	24.9000
		CPMSO2	LT	9.0100																			CU	84.8000
		DITH	LT	1.4500																			PB	64.3000
		DMDS	LT	3.1200																			ZN	103.0000
		OXAT	LT	1.7400																			

---------- Field number - WC890001 Site ID - 36189 Site type - WELL Sample Date - 89158 (Julian)

111TCE	LT	1.0000	236TCP	LT	1.7000	BTZ	LT	5.0000	ALDRN		8.0000	DBCP	LT	0.1950	DIMP		6900.0000	N.A.		FC2A	LT	500.0000	AS	74.4000	HG	0.1210	CA	860000.000
112TCE		3.7400	245TCP	LT	2.8000	CPMS	LT	5.6900	CL6CP		0.0828				DMMP	LT	190.0000			IMPA	LT	500.0000					CD	LT 8.4000
11DCE	LT	1.0000	246TCP	LT	3.6000	CPMSO		18.2000	CLDAN	LT	0.0950									MPA	LT	500.0000					CR	LT 24.0000
11DCLE	LT	1.0000	24DCLP	LT	8.4000	CPMSO2		26.9000	DLDRN		0.1050																CU	LT 26.0000
12DCE		8.7600	24DMPN	LT	4.4000	DITH		2200.0000	ENDRN		0.0893																K	5430.0000
12DCLE		21.1000	24DNP	LT	176.0000	DMDS	LT	0.5500	ISODR		0.2270																MG	320000.000
12DCLP	LT	1.0000	2CLP	LT	2.8000	OXAT		240.0000	PPDDE	LT	0.0540																NA	1800000.00
13DCLB	LT	1.0000	2MP	LT	3.6000				PPDDT	LT	0.0490																PB	LT 74.0000
13DCP	LT	4.8000	2NP	LT	8.2000																						ZN	LT 22.0000
13DMB	LT	1.0000	4CL3C	LT	8.5000																							
2CLEVE	LT	3.5000	4MP	LT	2.8000																							
ACET	LT	8.0000	4NP	LT	96.0000																							
ACRYLO	LT	8.4000	ALDRN	LT	13.0000																							
BRDCLM	LT	1.0000	ATZ	LT	5.9000																							
C2H3CL	LT	12.0000	CL6CP	LT	54.0000																							
C2H5CL	LT	8.0000	CLDAN	LT	37.0000																							
C6H6	LT	1.0000	CPMS	LT	10.0000																							
CCL3F	LT	1.0000	CPMSO	LT	15.0000																							

L.T. - Less Than Certified Reporting Limits N.A. - Analysis Not Requested F - Indicates filtered sample analysis

Table H-4
Complete LISTING
of
Sample and Duplicate

Volatiles		Semi-Volatiles		OSCS		OCPS		DBCP		DIRD/DMRD		OSCMS		IMPA/MPA		Arsenic	F	Mercury	F	ICP Metals

FIELD_NO - WC890001 Continued

CCL4	LT	1.0000	CPHS02	LT	5.3000															
CH2CL2	LT	1.0000	DBCP	LT	12.0000															
CHBBR	LT	14.0000	DCPD	LT	5.5000															
CHBCL	LT	1.2000	DDVP	LT	8.5000															
CHBR3	LT	11.0000	DIMP	GT	200.0000															
CHCL3		2.5000	DITH	GT	100.0000															
CLC6H5	LT	1.0000	DLDRN	LT	26.0000															
DBRCLM	LT	1.0000	DMMP	LT	130.0000															
DCLB	LT	2.0000	ENDRN	LT	18.0000															
ETC6H5	LT	1.0000	ISODR	LT	7.8000															
MEC6H5	LT	1.0000	MLTHN	LT	21.0000															
MEK	LT	10.0000	OXAT		131.0000															
MIBK	LT	1.4000	PCP	LT	9.1000															
TCLEA	LT	1.5000	PHENOL	LT	2.2000															
TCLEE	LT	1.0000	PPDDE	LT	14.0000															
TRCLE		100.0000	PPDDT	LT	18.0000															
XYLEN	LT	2.0000	PRTHN	LT	37.0000															
			SUPONA	LT	19.0000															

DUPLICATE - WC890002 Site ID - 36189 Site type - WELL Sample Date - 89158 (Julian)

111TCE	LT	1.0000	236TCP	LT	1.7000	BTZ	LT	5.0000	ALDRN		8.7000	DBCP	LT	0.1950	DIMP		5900.0000	TDGCL	LT	6.6900	FC2A	LT	500.0000	AS		73.1000	D	HG		0.1210	D	CA		1200000.00
112TCE		3.5500	245TCP	LT	2.8000	CPHS	LT	5.6900	CL6CP		0.0885				DMMP	LT	190.0000				IMPA	LT	500.0000									CD	LT	8.4000
11DCE	LT	1.0000	246TCP	LT	3.6000	CPHS0	LT	11.5000	CLDAN	LT	1.0000										MPA	LT	500.0000									CR	LT	24.0000
110CLE	LT	1.0000	24DCLP	LT	8.4000	CPHS02		28.0000	DLDRN		0.1010																					CU	LT	26.0000
12DCE		7.9400	24DMPN	LT	4.4000	DITH		2100.0000	ENDRN		0.0696																					K		4940.0000
12DCLE		19.1000	24DNP	LT	176.0000	DMDS	LT	0.5500	ISODR		0.2150																					MG		380000.000
120CLP	LT	1.0000	2CLP	LT	2.8000	OXAT		230.0000	PPDDE	LT	0.0540																					NA		1800000.00
13DCLB	LT	1.0000	2NP	LT	3.6000				PPDDT	LT	0.0490																					PB	LT	74.0000
13DCP	LT	4.8000	2NP	LT	8.2000																											ZN	LT	22.0000
130MB	LT	1.0000	4CL3C	LT	8.5000																													
2CLEVE	LT	3.5000	4NP	LT	2.8000																													
ACET	LT	8.0000	4NP	LT	96.0000																													
ACRYLO	LT	8.4000	ALDRN	LT	13.0000																													
BRDCLM	LT	1.0000	ATZ	LT	5.9000																													
C2H3CL	LT	12.0000	CL6CP	LT	54.0000																													
C2H5CL	LT	8.0000	CLDAN	LT	37.0000																													

L.T. - Less Than Certified Reporting Limits N.A. - Analysis Not Requested F - Indicates filtered sample analysis

Table H-4
Complete Listing
of
Sample and Duplicate

Volatiles	Semi-Volatiles	OSCS	OCPS	DBCP	DIMD/DMMD	OSCMS	IMPA/MPA	Arsenic	F a o	Mercury	F a o	ICP Metals

DUPLICATE - WC890002 Continued

C6H6	LT	1.0000	CPMS	LT	10.0000
CCL3F	LT	1.0000	CPMSO	LT	15.0000
CCL4	LT	1.0000	CPMSO2	LT	5.3000
CH2CL2	LT	1.0000	DBCP	LT	12.0000
CH3BR	LT	14.0000	DCPD	LT	5.5000
CH3CL	LT	1.2000	DDVP	LT	8.5000
CHBR3	LT	11.0000	DIMP	GT	200.0000
CHCL3		2.2000	DITH	GT	100.0000
CLC6H5	LT	1.0000	DLDRN	LT	26.0000
DBRCLM	LT	1.0000	DMMP	LT	130.0000
DCLB	LT	2.0000	ENDRN	LT	18.0000
ETC6H5	LT	1.0000	ISODR	LT	7.8000
MEC6H5	LT	1.0000	MLTHN	LT	21.0000
MEK	LT	10.0000	OXAT		142.0000
MIBK	LT	1.4000	PCP	LT	9.1000
TCLEA	LT	1.5000	PHENOL	LT	2.2000
TCLEE	LT	1.0000	PPDDE	LT	14.0000
TRCLE		97.0000	PPDDT	LT	18.0000
XYLEN	LT	2.0000	PRTHN	LT	37.0000
			SUPONA	LT	19.0000

---------- *Field number - WC90C011 Site ID - 36190 Site type - WELL Sample Date - 89166 (Julian)*

111TCE	LT	200.0000	236TCP	LT	1.7000	BTZ		16.2000	ALDRN		2.1000	DBCP	530.0000	DIMP	1200.0000	TDGCL	LT	67.0000	FC2A	LT 1000.0000	AS	56.4000	HG	LT	0.1000	CA	400000.000
112TCE	LT	200.0000	245TCP	LT	2.8000	CPMS	LT	5.6900	CLDAN		21.0000			DMMP	1300.0000				IMPA	LT 1000.0000						CD	LT 8.4000
11DCE	LT	200.0000	246TCP	LT	3.6000	CPMSO		30.1000	DLDRN	LT	0.0500								MPA	LT 1000.0000						CR	52.5000
11DCLE	LT	200.0000	24DCLP	LT	8.4000	CPMSO2		44.2000	ENDRN		2.5000															CU	LT 26.0000
12DCE	LT	1000.0000	24DMPN	LT	4.4000	DITH		9.6500	ISODR		3.2000															K	14000.0000
12DCLE	LT	200.0000	24DNP	LT	176.0000	DMDS		710.0000	PPDDE		1.6000															MG	180000.000
12DCLP	LT	200.0000	2CLP	LT	2.8000	OXAT		6.0000	PPDDT		3.7000															NA	970000.000
13DCLB	LT	200.0000	2NP	LT	3.6000																					PB	LT 74.0000
13DCP	LT	960.0000	2NP	LT	8.2000																					ZN	122.0000
13DMB	LT	200.0000	4CL3C	LT	8.5000																						
2CLEVE	LT	700.0000	4NP	LT	2.8000																						
ACET		5930.0000	4NP	LT	96.0000																						

L.T. - Less Than Certified Reporting Limits N.A. - Analysis Not Requested F - Indicates filtered sample analysis

Table H-4
Complete listing
of
Sample and Duplicate

Volatiles	Semi-Volatiles	OSCS	OCPS	DBCP	DIRD/DWRD	OSCHS	IMPA/MPA	Arsenic	F	Mercury	F	ICP Metals
									I		I	
									a		a	
									g		g	

FIELD_NO - WC90D011 Continued

ACRYLO	LT	1600.0000	ALDRN	LT	13.0000																		
BRDCLM	LT	200.0000	ATZ	LT	5.9000																		
C2H3CL	LT	2400.0000	CL6CP	LT	54.0000																		
C2H5CL	LT	1600.0000	CLDAN	LT	37.0000																		
C6H6	LT	200.0000	CPMS	LT	10.0000																		
CCL3F	LT	200.0000	CPMSO	LT	15.0000																		
CCL4	LT	200.0000	CPMSO2		39.0000																		
CH2CL2		525.0000	DBCP	GT	300.0000																		
CH3BR	LT	2800.0000	DCPD		44.1000																		
CH3CL	LT	240.0000	DDVP	LT	8.5000																		
CHBR3	LT	2200.0000	DIMP	GT	200.0000																		
CHCL3		2600.0000	DITH	LT	3.3000																		
CLC6H5	LT	200.0000	DLDRN	LT	26.0000																		
DBRCLM	LT	200.0000	DMMP	LT	130.0000																		
DCLB	LT	400.0000	ENDRN	LT	18.0000																		
ETC6H5	LT	200.0000	ISODR	LT	7.8000																		
MEC6H5	LT	200.0000	MLTHN	LT	21.0000																		
MEK	LT	2000.0000	OXAT	LT	27.0000																		
MIBK	LT	280.0000	PCP	LT	9.1000																		
TCLEA	LT	300.0000	PHENOL	LT	2.2000																		
TCLEE	LT	200.0000	PPDDE	LT	14.0000																		
TRCLE	LT	200.0000	PPDDT	LT	18.0000																		
XYLEN	LT	400.0000	PRTHN	LT	37.0000																		
			SUPONA	LT	19.0000																		

DUPLICATE - WC90D012 Site ID - 36190 Site type - WELL Sample Date - 89166 (Julian)

111TCE	LT	20.0000	236TCP	LT	1.7000	BTZ	35.1000	ALDRN	1.8000	DBCP	760.0000	DIMP	1100.0000	TDCCL	LT	67.0000	FC2A	LT	1000.0000	AS	29.0000	D	HG	LT	0.1000	D	CA	500000.000
112TCE	LT	20.0000	245TCP	LT	2.8000	CPMS	7.0500	CLDAN	14.0000			DMMP	1300.0000				IMPA	LT	1000.0000								CD	LT 8.4000
11DCE	LT	20.0000	246TCP	LT	3.6000	CPMSO	42.3000	DLDRN	2.1000								MPA	LT	1000.0000								CR	70.5000
11DCLE	LT	20.0000	24DCLP	LT	8.4000	CPMSO2	59.4000	ENDRN	1.8000																		CU	28.5000
12DCE	LT	100.0000	24DMPN	LT	4.4000	DITH	16.4000	ISODR	4.0000																		K	19000.0000
12DCLE	LT	20.0000	24DNP	LT	176.0000	DMDS	990.0000	PPDDE	1.1000																		MG	230000.000
12DCLP		120.0000	2CLP	LT	2.8000	OXAT	9.2500	PPDDT	2.6000																		NA	1300000.00
13DCLB	LT	20.0000	2NP	LT	3.6000																						PB	LT 74.0000
13DCP	LT	96.0000	2NP	LT	8.2000																						ZN	152.0000
13DNB	LT	20.0000	4CL3C	LT	8.5000																								

L.T. - Less Than Certified Reporting Limits N.A. - Analysis Not Requested F - Indicates filtered sample analysis

Table H-4
Complete Listing
of
Sample and Duplicate

Volatiles	Semi-Volatiles	OSCS	OCPS	DBCP	DIWD/DWWD	OSCMS	IMPA/MPA	Arsenic	F a g	Mercury	F a g	ICP Metals

DUPLICATE - WC90C012 Continued

2CLEVE	LT	70.0000	4NP	LT	2.8000
ACET	LT	160.0000	4NP	LT	96.0000
ACRYLO	LT	168.0000	ALDRN	LT	13.0000
BRDCLM	LT	20.0000	ATZ	LT	5.9000
C2H3CL	LT	240.0000	CL6CP	LT	54.0000
C2H5CL	LT	160.0000	CLDAN	LT	37.0000
C6H6	LT	20.0000	CPMS	LT	10.0000
CCL3F	LT	20.0000	CPMSO	LT	15.0000
CCL4	LT	20.0000	CPMSO2		56.6000
CH2CL2		404.0000	DBCP	GT	300.0000
CH3BR	LT	200.0000	DCPD		36.5000
CH3CL	LT	24.0000	DDVP	LT	8.5000
CHBR3	LT	220.0000	DIMP	GT	200.0000
CHCL3		2000.0000	DITH	LT	3.3000
CL6H6	LT	20.0000	DLDRN	LT	26.0000
DBRCLM	LT	20.0000	DMMP	LT	130.0000
DCLB	LT	40.0000	ENDRN	LT	18.0000
ETC6H5	LT	20.0000	ISODR	LT	7.8000
MEC6H5	LT	20.0000	MLTHN	LT	21.0000
MEK	LT	200.0000	OXAT	LT	27.0000
MIBK	LT	20.0000	PCP	LT	9.1000
TCLEA	LT	30.0000	PHENOL	LT	2.2000
TCLEE		31.5000	PPDDE	LT	14.0000
TRCLE	LT	20.0000	PPDDT	LT	18.0000
XYLEN	LT	40.0000	PRTHN	LT	37.0000
			SUPONA	LT	19.0000

---------- Field number - WC92C001 Site ID - 36192 Site type - WELL Sample Date - 89164 (Julian)

L.T.	L.T.	BTZ	LT	5.0000	ALDRN	LT	0.0500	DBCP	LT	0.1950	DIMP	LT	0.3920	TDGCL	LT	6.6900	FC2A	LT	100.0000	AS	LT	2.3500	HG	LT	0.1000	CA		230000.000
		CPMS	LT	5.6900	CL6CP	LT	0.0480				DMMP	LT	0.1880				IMPA	LT	100.0000							CD	LT	8.4000
		CPMSO	LT	11.5000	CLDAN	LT	0.0950										MPA	LT	100.0000							CR	LT	24.0000
		CPMSO2	LT	7.4600	DLDRN	LT	0.0500																			CU	LT	26.0000
		DITH	LT	1.3400	ENDRN	LT	0.0500																			K		5060.0000
		DMDS	LT	0.5500	ISODR	LT	0.0510																			MG		21900.0000

L.T. - Less Than Certified Reporting Limits N.A. - Analysis Not Requested F - Indicates filtered sample analysis

Table H-4
Complete LISTING
of
Sample and Duplicate

Volatiles	Semi-Volatiles	OSCS	OCPS	DBCP	DINP/DNNP	OSCMS	IMPA/MPA	Arsenic	F a g	Mercury	F a g	ICP Metals

FIELD_NO = WC92D001 Continued

																																		NA	750000.000
				OXAT	LT	2.3800	PPDDE	LT	0.0540																									PB	LT 74.0000
							PPDDT	LT	0.0490																									ZN	424.0000

DUPLICATE = WC92D002 Site ID = 36192 Site type = WELL Sample Date = 89164 (Julian)

L.T.	L.T.	BTZ	LT	5.0000	ALDRN	LT	0.0500	DBCP	LT	0.1950	DINP	LT	0.3920	TDGCL	LT	6.6900	FC2A	LT	100.0000	AS	LT	2.3500 D	HG	LT	0.1000 D	CA	230000.000
		CPMS	LT	5.6900	CL6CP	LT	0.0480				DNNP	LT	0.1880				IMPA	LT	100.0000							CD	LT 8.4000
		CPMSO	LT	11.5000	CLDAN	LT	0.0950										MPA	LT	100.0000							CR	LT 24.0000
		CPMSO2	LT	7.4600	DLDRN	LT	0.0500																			CU	LT 26.0000
		DITH	LT	1.3400	ENDRN	LT	0.0500																			K	5390.0000
		DMDS	LT	0.5500	ISODR	LT	0.0510																			MG	23100.0000
		OXAT	LT	2.3800	PPDDE	LT	0.0540																			NA	750000.000
					PPDDT	LT	0.0490																			PB	LT 74.0000
																										ZN	: 509.0000

---------- Field number = WC92S191 Site ID = 36192 Site type = BORE Sample Date = 89137 (Julian)

L.T.	L.T.	BTZ	LT	2.0400	ALDRN	LT	0.0019	DBCP	LT	0.0050	DINP	LT	0.1140	CLC2A	LT	35.5000	IMPA	LT	2.1100	AS	LT	2.5000	HG		0.3950	CD	LT 0.7400
		CPMS	LT	4.4000	CL6CP	LT	0.0018				DNNP	LT	0.1330	TDGCL	LT	4.2000	MPA	LT	2.0000							CR	LT 6.5000
		CPMSO2	LT	9.0100	CLDAN	LT	0.0230																			CU	43.1000
		DITH	LT	1.4500	DLDRN	LT	0.0033																			PB	18.4000
		DMDS	LT	3.1200	ENDRN	LT	0.0058																			ZN	110.0000
		OXAT	LT	1.7400	ISODR	LT	0.0011																				
					PPDDE	LT	0.0024																				
					PPDDT	LT	0.0020																				

DUPLICATE = WC92S192 Site ID = 36192 Site type = BORE Sample Date = 89137 (Julian)

L.T.	L.T.	BTZ	LT	2.0400	ALDRN	LT	0.0019	DBCP	LT	0.0050	DINP	LT	0.1140	CLC2A	LT	35.5000	IMPA	LT	2.1100	AS	LT	2.5000 D	HG		0.1180 D	CD	LT 0.7400
		CPMS	LT	4.4000	CL6CP	LT	0.0018				DNNP	LT	0.1330	TDGCL	LT	4.2000	MPA	LT	2.0000							CR	LT 6.5000
		CPMSO2	LT	9.0100	CLDAN	LT	0.0230																			CU	42.1000
		DITH	LT	1.4500	DLDRN	LT	0.0033																			PB	LT 8.4000
		DMDS	LT	3.1200	ENDRN	LT	0.0058																			ZN	94.6000
		OXAT	LT	1.7400	ISODR	LT	0.0011																				

L.T. = Less than Certified Reporting Limits N.A. = Analysis Not Requested F = Indicates filtered sample analysis

Table H-4
Complete LISTING
of
Sample and Duplicate

Volatiles	Semi-Volatiles	OSCS	OCPS	DBCP	DIMP/DMMP	OSCMS	IMPA/MPA	Arsenic	F	Mercury	F	ICP Metals
									l		l	
									a		a	
									g		g	

DUPLICATE - WC92S192 Continued

PPDDE LT 0.0024
PPDDT LT 0.0020

---------- Field number - WC94S041 Site ID - 36194 Site type - BORE Sample Date - 89166 (Julian)

L.T.	L.T.	BTZ	LT	2.04[illegible]	N.A.	N.A.	DIMP	LT	0.1140	CLC2A	LT	35.5000	N.A.	AS		3.0900	HG	LT	0.0500	CD	LT	0.7400
		CPMS	LT	4.4000			DMMP	LT	0.1330	TDGCL	LT	4.2000								CR		23.7000
		CPMSO	LT	4.8100																CU		14.6000
		CPMSO2	LT	9.0100																PB		16.4000
		DITH	LT	1.4500																ZN		63.2000
		DMDS	LT	3.1200																		
		OXAT	LT	1.7400																		

DUPLICATE - WC94S042 Site ID - 36194 Site type - BORE Sample Date - 89166 (Julian)

L.T.	L.T.	BTZ	LT	2.0400	N.A.	N.A.	DIMP	LT	0.1140	CLC2A	LT	35.5000	N.A.	AS		3.4200	D	HG	LT	0.0500	D	CD	LT	0.7400
		CPMS	LT	4.4000			DMMP	LT	0.1330	TDGCL	LT	4.2000										CR		20.6000
		CPMSO	LT	4.8100																		CU		15.4000
		CPMSO2	LT	9.0100																		PB		22.2000
		DITH	LT	1.4500																		ZN		62.9000
		DMDS	LT	3.1200																				
		OXAT	LT	1.7400																				

---------- Field number - WC11W001 Site ID - 36TRENCH11 Site type - WASS Sample Date - 89117 (Julian)

L.T.	N.A.	BTZ	LT	2.0400	N.A.	DBCP	LT	0.0050	DIMP		0.2280	N.A.	IMPA	LT	2.1100	AS		3.4800	HG	LT	0.0500	CD	LT	0.7400
		CPMS	LT	4.4000					DMMP	LT	0.1330		MPA	LT	2.0000							CR		11.5000
		CPMSO2	LT	9.0100																		CU		15.3000
		DITH	LT	1.4500																		PB		25.8000
		DMDS	LT	3.1200																		ZN		49.8000
		OXAT	LT	1.7400																				

DUPLICATE - WC11W002 Site ID - 36TRENCH11 Site type - WASS Sample Date - 89117 (Julian)

L.T.	N.A.	BTZ	LT	[illegible]	N.A.	DBCP		0.0315	DIMP		0.2270	N.A.	IMPA	LT	2.1100	AS	LT	2.5000	D	HG	LT	0.0500	D	CD	LT	0.7400

L.T. - Less Than Certified Reporting Limits N.A. - Analysis Not Requested F - Indicates filtered sample analysis

Table H-4
Complete LISTING
of
Sample and Duplicate

Volatiles	Semi-Volatiles	OSCS	OCPS	DBCP	DIMD/DMMD	OSCMS	IMPA/MPA	Arsenic	F	Mercury	F	ICP Metals
DUPLICATE - WC11W002 Continued												
		CPMS LT 4.4000			DMMP LT 0.1330		MPA LT 2.0000				CR	12.3000
		CPMSO2 LT 9.0100									CU	54.1000
		DITH LT 1.4500									PB	157.0000
		DMDS LT 3.1200									ZN	52.8000
		OXAT LT 1.7400										

---------- Field number - WC14W001 Site ID - 36TRENCH14 Site type - WASS Sample Date - 89121 (Julian)

Volatiles	Semi-Volatiles	OSCS	OCPS	DBCP	DIMD/DMMD	OSCMS	IMPA/MPA	Arsenic	F	Mercury	F	ICP Metals
111TCE LT 0.4300 N.A.		BTZ LT 2.0400 N.A.		DBCP LT 0.0050	DIMP 0.2180	CLC2A LT 35.5000	IMPA LT 2.1100	AS 28.1000		HG 12.0000	CD	2.1600
112TCE 0.7450		CPMS LT 4.4000			DMMP LT 0.1330	TDGCL LT 4.2000	MPA LT 2.0000				CR	81.6000
11DCLE LT 1.7000		CPMSO2 LT 9.0100									CU	80.0000
12DCE 4.9900		DITH LT 1.4500									PB	10000.0000
12DCLE LT 0.5600		DMDS LT 3.1200									ZN	578.0000
13DMB LT 0.7400		OXAT LT 1.7400										
BCHPD LT 0.3600												
C6H6 LT 0.2500												
CCL4 LT 0.2500												
CH2CL2 LT 1.5000												
CHCL3 LT 0.2900												
CLC6H5 LT 1.5000												
DBCP LT 2.4000												
DCPD LT 0.6400												
DMDS LT 20.0000												
ETC6H5 LT 0.3800												
MEC6H5 LT 0.2500												
MIBK LT 0.7300												
TCLEE 0.5200												
TRCLE 17.5000												
XYLEN LT 4.9000												

DUPLICATE - WC14W002 Site ID - 36TRENCH14 Site type - WASS Sample Date - 89121 (Julian)

Volatiles	Semi-Volatiles	OSCS	OCPS	DBCP	DIMD/DMMD	OSCMS	IMPA/MPA	Arsenic	F	Mercury	F	ICP Metals
111TCE LT 0.4300 N.A.		BTZ LT 2.0400 N.A.		DBCP LT 0.0050	DIMP 0.2610	CLC2A LT 35.5000	IMPA LT 2.1100	AS 16.7000	D	HG 34.0000	D CD	1.9500
112TCE LT 0.3900		CPMS LT 4.4000			DMMP LT 0.1330	TDGCL LT 4.2000	MPA LT 2.0000				CR	45.6000
11DCLE LT 1.7000		CPMSO2 LT 9.0100									CU	173.0000

L.T. - Less Than Certified Reporting Limits N.A. - Analysis Not Requested F - Indicates filtered sample analysis

Table H-4
Complete LISTING
of
Sample and Duplicate

Volatiles	Semi-Volatiles	OSCS	OCPS	DBCP	DIMP/DMMP	OSCMS	IMPA/MPA	Arsenic	F a g	Mercury	F a g	ICP Metals

DUPLICATE - WC14W002 Continued

12DCE	LT	1.7000		DITH	LT	1.4500										PB	2500.0000
12DCLE	LT	0.5600		DMDS	LT	3.1200										ZN	740.0000
13DNB	LT	0.7400		OXAT	LT	1.7400											
BCHPD	LT	0.3600															
C6H6	LT	0.2500															
CCL4	LT	0.2500															
CH2CL2	LT	1.5000															
CHCL3	LT	0.2900															
CLC6H5	LT	1.5000															
DBCP	LT	2.4000															
DCPD	LT	0.6400															
DMDS	LT	20.0000															
ETC6H5	LT	0.3800															
MEC6H5	LT	0.2500															
MIBK	LT	0.7300															
TCLEE	LT	0.2500															
TRCLE		3.9000															
XYLEN	LT	4.9000															

---------- Field number - WCSW001 Site ID - M-11SWASS Site type - WASS Sample Date - 89129 (Julian)

L.T.	124TCB	LT	0.0400	BTZ	LT	2.0400	ALDRN	LT	0.0019	N.A.	DIMP	LT	0.1140	CLC2A	LT	35.5000	N.A.	AS	34000.0000	HG	4000.0000	CD		1800.0000
	12DCLB	LT	0.1100	CPMS	LT	4.4000	CL6CP	LT	0.0018		DMMP	LT	0.1330	TDGCL	LT	4.2000						CR	LT	6.5000
	12DPH	ND	0.1400	CPMS02	LT	9.0100	CLDAN	LT	0.0230													CU		11.1000
	12EPOH		0.1470	DITH	LT	1.4500	ENDRN	LT	0.0058													PB	LT	8.4000
	13DCLB	LT	0.1300	DMDS	LT	3.1200	ISODR	LT	0.0011													ZN	LT	8.7000
	14DCLB	LT	0.0980	OXAT	LT	1.7400	PPDDE	LT	0.0024															
	245TCP	LT	0.1000				PPDDT	LT	0.0020															
	246TCP	LT	0.1700																					
	24DCLP	LT	0.1800																					
	24DMPN	LT	0.6900																					
	24DNP	LT	1.2000																					
	24DNT	LT	0.1400																					
	26DNT	LT	0.0850																					
	2CLP	LT	0.0600																					

L.T. - Less Than Certified Reporting Limits N.A. - Analysis Not Requested F - Indicates filtered sample analysis

Table H-4
Complete LISTING
of
Sample and Duplicate

Volatiles	Semi-Volatiles	OSCS	OCPS	DBCP	DIWD/DWWD	OSCMS	IMPA/MPA	Arsenic	F a g	Mercury	F a g	ICP Metals

FIELD_NO - WCSW001 Continued

2CNAP	LT	0.0360
2MNAP	LT	0.0490
2MP	LT	0.0290
2NANIL	LT	0.0620
2NP	LT	0.1400
33DCBD	ND	6.3000
3NANIL	LT	0.4500
46DN2C	ND	0.5500
4BRPPE	ND	0.0330
4CANIL	LT	0.8100
4CL3C	LT	0.0950
4CLPPE	LT	0.0330
4MP	LT	0.2400
4NANIL	LT	0.4100
4NP	LT	1.4000
ABHC	ND	0.2700
ACHLOR	ND	0.3300
AENSLF	ND	0.6200
ALDRN	LT	0.3000
ALDRN	ND	0.3300
ANAPNE	LT	0.0360
ANAPYL	LT	0.0330
ANTRC	ND	0.0330
ATZ	LT	0.3000
B2CEXM	LT	0.0590
B2CIPE	LT	0.2000
B2CLEE	LT	0.0330
B2EHP	ND	0.6200
BAANTR	ND	0.1700
BAPYR	ND	0.2500
BBFANT	ND	0.2100
BBHC	ND	0.2700
BBZP	ND	0.1700
BENSLF	ND	0.6200
BENZID	ND	0.8500
BENZOA	ND	6.1000
BGHIPY	ND	0.2500

L.T. - Less Than Certified Reporting Limits N.A. - Analysis Not Requested F - Indicates filtered sample analysis

Table H-4
Complete LISTING
of
Sample and Duplicate

Volatiles	Semi-Volatiles	OSCS	OCPS	DBCP	DIMP/DMMP	OSCMS	IMPA/MPA	(Arsenic	F a g	Mercury	F a g	ICP Metals

FIELD_NO - WCSW001 Continued

BKFANT	ND	0.0660
BZALC	LT	0.1900
C13		0.1470
C14		0.2930
C15		0.2930
C16		0.2930
C17		0.2930
CHRY	ND	0.1200
CL6BZ	ND	0.0330
CL6CP	LT	0.6000
CL6CP	LT	6.2000
CL6ET	LT	0.1500
CLDAN	LT	2.0000
CPHS	LT	0.9000
CPHSO	LT	0.3000
CPHSO2	LT	0.3000
DBAHA	ND	0.2100
DBCP	LT	0.3000
DBHC	ND	0.2700
DBZFUR	LT	0.0350
DCPD	LT	1.0000
DDVP	LT	3.0000
DEP	LT	0.2400
DIMP	LT	1.0000
DITH	LT	0.4000
DLDRN	LT	0.3000
DLDRN	ND	0.3100
DMP	LT	0.1700
DNBP	ND	0.0610
DNOP	ND	0.1900
ENDRN	LT	0.5000
ENDRN	ND	0.4500
ENDRNA	ND	0.5300
ENDRNK	ND	0.5300
ESFSO4	ND	0.6200
FANT	ND	0.0680
FLRENE	LT	0.0330

L.T. - Less Than Certified Reporting Limits N.A. - Analysis Not Requested F - Indicates filtered sample analysis

Table H-4
Complete LISTING
of
Sample and Duplicate

Volatiles	Semi-Volatiles	OSCs	OCPs	DBCP	DIMP/DMMP	OSCMS	IMPA/MPA	Arsenic	F a g	Mercury	F a g	ICP Metals

FIELD_NO = WCSW001 Continued

GCHLOR	ND	0.3300
HCBD	LT	0.2300
HPCL	ND	0.1300
HPCLE	ND	0.3300
ICDPYR	ND	0.2900
ISODR	LT	0.3000
ISOPHR	LT	0.0330
LIN	ND	0.2700
MEXCLR	ND	0.3300
MLTHN	LT	0.7000
NAP	LT	0.0370
NB	LT	0.0450
NNDMEA	ND	0.1400
NNDNPA	LT	0.2000
NNDPA	ND	0.1900
OXAT	LT	0.3000
PCB016	ND	1.4000
PCB221	ND	1.4000
PCB232	ND	1.4000
PCB242	ND	1.4000
PCB248	ND	2.0000
PCB254	ND	2.3000
PCB260	ND	2.6000
PCP	ND	1.3000
PHANTR	ND	0.0330
PHENOL	LT	0.1100
PPDDD	ND	0.3000
PPDDE	LT	0.6000
PPDDE	ND	0.3100
PPDDT	LT	0.5000
PPDDT	ND	0.3100
PRTHN	LT	0.9000
PYR	ND	0.0330
SUPONA	LT	0.6000
TXPHEN	ND	2.6000

DUPLICATE = WCSW002 Site ID = M-11SWASS Site type = WASS Sample Date = 89129 (Julian)

L.T.	124TCB	LT	0.0400	BTZ	LT	2.0400	ALDRN	LT	0.0019	N.A.	DIMP	LT	0.1140	CLC2A	LT	35.5000	N.A.	AS	38000.0000	D	HG	4600.0000	D	CD	1800.0000

L.T. = Less Than Certified Reporting Limits N.A. = Analysis Not Requested F - Indicates filtered sample analysis

Table H-4
Complete LISTING
of
Sample and Duplicate

DUPLICATE - WCSW002 Continued

Volatiles			Semi-Volatiles			OSCS			OCPS			DBCP			DIMP/DMMP			OSCMS			IMPA/MPA			Arsenic			F a g	Mercury			F a g	ICP Metals		
12DCLB	LT	0.1100	CPMS	LT	4.4000	CL6CP	LT	0.0018							DMMP	LT	0.1330	TDGCL	LT	4.2000												CR	LT	6.5000
12DPH	ND	0.1400	CPMSO2	LT	9.0100	CLDAN	LT	0.0230																								CU		11.5000
13DCLB	LT	0.1300	DITH	LT	1.4500	ENDRN	LT	0.0058																								PB	LT	8.4000
14DCLB	LT	0.0980	DMDS	LT	3.1200	ISODR	LT	0.0011																								ZN	LT	8.7000
245TCP	LT	0.1000	OXAT	LT	1.7400	PPDDE	LT	0.0024																										
246TCP	LT	0.1700				PPDDT	LT	0.0020																										
24DCLP	LT	0.1800																																
24DMPN	LT	0.6900																																
24DNP	LT	1.2000																																
24DNT	LT	0.1400																																
26DNT	LT	0.0850																																
2CLP	LT	0.0600																																
2CNAP	LT	0.0360																																
2MNAP	LT	0.0490																																
2MP	LT	0.0290																																
2NANIL	LT	0.0620																																
2NP	LT	0.1400																																
33DCBD	ND	6.3000																																
3NANIL	LT	0.4500																																
46DN2C	ND	0.5500																																
4BRPPE	ND	0.0330																																
4CANIL	LT	0.8100																																
4CL3C	LT	0.0950																																
4CLPPE	LT	0.0330																																
4MP	LT	0.2400																																
4NANIL	LT	0.4100																																
4NP	LT	1.4000																																
ABHC	ND	0.2700																																
ACHLOR	ND	0.3300																																
AENSLF	ND	0.6200																																
ALDRN	LT	0.3000																																
ALDRN	ND	0.3300																																
ANAFNE	LT	0.0360																																
ANAPYL	LT	0.0330																																
ANTRC	ND	0.0330																																
ATZ	LT	0.3000																																
B2CEXM	LT	0.0590																																

L.T. - Less Than Certified Reporting Limits N.A. - Analysis Not Requested F - Indicates filtered sample analysis

Table H-4
Complete listing
of
sample and duplicate

Volatiles	Semi-Volatiles	OSCS	OCPS	DBCP	DIMP/DMMP	OSCMS	IMPA/MPA	Arsenic	F a g	Mercury	F a g	ICP Metals

DUPLICATE - WCSVW002 Continued

B2CIPE	LT	0.2000
B2CLEE	LT	0.0330
B2EHP	ND	0.6200
BAANTR	ND	0.1700
BAPYR	ND	0.2500
BBFANT	ND	0.2100
BBHC	ND	0.2700
BBZP	ND	0.1700
BENSLF	ND	0.6200
BENZID	ND	0.8500
BENZOA	ND	6.1000
BGHIPY	ND	0.2500
BKFANT	ND	0.0660
BZALC	LT	0.1900
C12		0.1480
C13		0.2960
C14		0.2960
C15		0.4430
C16		0.4430
CHRY	ND	0.1200
CL6BZ	ND	0.0330
CL6CP	LT	0.6000
CL6CP	LT	6.2000
CL6ET	LT	0.1500
CLDAN	LT	2.0000
CPMS	LT	0.9000
CPMSO	LT	0.3000
CPMSO2	LT	0.3000
DBAHA	ND	0.2100
DBCP	LT	0.3000
DBHC	ND	0.2700
DBZFUR	LT	0.0350
DCPD	LT	1.0000
DDVP	LT	3.0000
DEP	LT	0.2400
DIMP	LT	1.0000
DITH	LT	0.4000

- Less Than Certified Reporting Limits N.A. - Analysis Not Requested F - Indicates filtered sample analysis

Table H-4
Complete Listing
of
Sample and Duplicate

Volatiles	Semi-Volatiles	OSCS	OCPS	DBCP	DIWD/DWWD	OSCMS	IMPA/MPA	Arsenic	F	Mercury	F	ICP Metals

DUPLICATE - WCSW002 Continued

DLDRN	LT	0.3000
DLDRN	ND	0.3100
DMP	LT	0.1700
DNBP	ND	0.0610
DNOP	ND	0.1900
ENDRN	LT	0.5000
ENDRN	ND	0.4500
ENDRNA	ND	0.5300
ENDRNK	ND	0.5300
ESFSO4	ND	0.6200
FANT	ND	0.0680
FLRENE	LT	0.0330
GCHLOR	ND	0.3300
HCBD	LT	0.2300
HPCL	ND	0.1300
HPCLE	ND	0.3300
ICDPYR	ND	0.2900
ISODR	LT	0.3000
ISOPHR	LT	0.0330
LIN	ND	0.2700
MEXCLR	ND	0.3300
MLTHN	LT	0.7000
NAP	LT	0.0370
NB	LT	0.0450
NNDMEA	ND	0.1400
NNDNPA	LT	0.2000
NNDPA	ND	0.1900
OXAT	LT	0.3000
PCB016	ND	1.4000
PCB221	ND	1.4000
PCB232	ND	1.4000
PCB242	ND	1.4000
PCB248	ND	2.0000
PCB254	ND	2.3000
PCB260	ND	2.6000
PCP	ND	1.3000
PHANTR	ND	0.0330

L.T. - Less Than Certified Reporting Limits N.A. - Analysis Not Requested F - Indicates filtered sample analysis

Table H-4
Complete LISTING
of
Sample and Duplicate

Volatiles	Semi-Volatiles	OSCS	OCPS	DBCP	DIMP/DMMP	OSCHS	IMPA/MPA	Arsenic	F	Mercury	F	ICP Metals

DUPLICATE - WCSVW002 Continued

PHENOL	LT	0.1100
PPDDD	ND	0.3000
PPDDE	LT	0.6000
PPDDE	ND	0.3100
PPDDT	LT	0.5000
PPDDT	ND	0.3100
PRTHN	LT	0.9000
PYR	ND	0.0330
SUPONA	LT	0.6000
TXPHEN	ND	2.6000

---------- Field number - WCSVSA01 Site ID - M-1_SOIL-A Site type - CMPH Sample Date - 89129 (julian)

L.T.	124TCB	LT	0.0400	BTZ	LT	2.0400	CL6CP	LT	0.0018	N.A.	DIMP	LT	0.1140	CLC2A	LT	35.5000	N.A.	AS	200.0000	HG	32.0000	CD	5.4900
	12DCLB	LT	0.1100	CPMS	LT	4.4000					DMMP	LT	0.1330	TDOCL	LT	4.2000						CR	19.3000
	12DPH	ND	0.1400	CPMS02	LT	9.0100																CU	12.1000
	13DCLB	LT	0.1300	DITH	LT	1.4500																PB	11.6000
	14DCLB	LT	0.0980	DMDS	LT	3.1200																ZN	50.3000
	245TCP	LT	0.1000	OXAT	LT	1.7400																	
	246TCP	LT	0.1700																				
	24DCLP	LT	0.1800																				
	24DMPH	LT	0.6900																				
	24DNP	LT	1.2000																				
	24DNT	LT	0.1400																				
	26DNT	LT	0.0850																				
	2CLP	LT	0.0600																				
	2CNAP	LT	0.0360																				
	2MNAP	LT	0.0490																				
	2MP	LT	0.0290																				
	2NANIL	LT	0.0620																				
	2NP	LT	0.1400																				
	33DCBD	ND	6.3000																				
	3NANIL	LT	0.4500																				
	46DN2C	ND	0.5500																				
	4BRPPE	ND	0.0330																				

L.T. - Less Than Certified Reporting Limits N.A. - Analysis Not Requested F - Indicates filtered sample analysis

Table H-4
Complete LISTING
of
Sample and Duplicate

Volatiles	Semi-Volatiles	OSCS	OCPS	DBCP	Dimp/Dmmp	OSCMS	IMPA/MPA	Arsenic	F ag	Mercury	F ag	ICP Metals

FIELD_NO - WCSVSA01 Continued

4CANIL	LT	0.8100
4CL3C	LT	0.0950
4CLPPE	LT	0.0330
4MP	LT	0.2400
4NANIL	LT	0.4100
4NP	LT	1.4000
ABHC	ND	0.2700
ACHLOR	ND	0.3300
AENSLF	ND	0.6200
ALDRN	LT	0.3000
ALDRN	ND	0.3300
ANAPNE	LT	0.0360
ANAPYL	LT	0.0330
ANTRC	ND	0.0330
ATZ	LT	0.3000
B2CEXM	LT	0.0590
B2CIPE	LT	0.2000
B2CLEE	LT	0.0330
B2EHP	ND	0.6200
BAANTR	ND	0.1700
BAPYR	ND	0.2500
BBFANT	ND	0.2100
BBHC	ND	0.2700
BBZP	ND	0.1700
BENSLF	ND	0.6200
BENZID	ND	0.8500
BENZOA	ND	6.1000
BGHIPY	ND	0.2500
BKFANT	ND	0.0660
BZALC	LT	0.1900
CHRY	ND	0.1200
CL6BZ	ND	0.1300
CL6CP	LT	0.6000
CL6CP	LT	6.2000
CL6ET	LT	0.1500
CLDAN	LT	2.0000
CPMS	LT	0.9000

L.T. - Less Than Certified Reporting Limits N.A. - Analysis Not Requested F - Indicates filtered sample analysis

Table H-4
Complete LISTING
of
Sample and Duplicate

Volatiles	Semi-Volatiles	OSCS	OCPS	DBCP	DIWD/DWWD	OSCMS	IMPA/MPA	Arsenic	F a g	Mercury	F a g	ICP Metals

FIELD_NO - WCSVSA01 Continued

CPMSO	LT	0.3000
CPMSO2	LT	0.3000
DBAHA	ND	0.2100
DBCP	LT	0.3000
DBHC	ND	0.2700
DBZFUR	LT	0.0350
DCPD	LT	1.0000
DDVP	LT	3.0000
DEP	LT	0.2400
DIMP	LT	1.0000
DITH	LT	0.4000
DLDRN	LT	0.3000
DLDRN	ND	0.3100
DMP	LT	0.1700
DNBP	ND	0.0610
DNOP	ND	0.1900
ENDRN	LT	0.5000
ENDRN	ND	0.4500
ENDRNA	ND	0.5300
ENDRNK	ND	0.5300
ESFSO4	ND	0.6200
FANT	ND	0.0680
FLRENE	LT	0.0330
GCHLOR	ND	0.3300
HCBD	LT	0.2300
HPCL	ND	0.1300
HPCLE	ND	0.3300
ICDPYR	ND	0.2900
ISODR	LT	0.3000
ISOPHR	LT	0.0330
LIN	ND	0.2700
MEXCLR	ND	0.3300
MLTHN	LT	0.7000
NAP	LT	0.0370
NB	LT	0.0450
NNDMEA	ND	0.1400
NNDNPA	LT	0.2000

L.T. - Less Than Certified Reporting Limits N.A. - Analysis Not Requested F - Indicates filtered sample analysis

Table H-4
Complete Listing
of
Sample and Duplicate

Volatiles	Semi-Volatiles	OSCS	OCPS	DBCP	DIWD/DWWD	OSCNS	IMPA/MPA	Arsenic	F a g	Mercury	F a g	ICP Metals

FIELD_NO = WCSVSA01 Continued

NNDPA	ND	0.1900
OXAT	LT	0.3000
PCB016	ND	1.4000
PCB221	ND	1.4000
PCB232	ND	1.4000
PCB242	ND	1.4000
PCB248	ND	2.0000
PCB254	ND	2.3000
PCB260	ND	2.6000
PCP	ND	1.3000
PHANTR	ND	0.0330
PHENOL	LT	0.1100
PPDDD	ND	0.3000
PPDDE	LT	0.6000
PPDDE	ND	0.3100
PPDDT	LT	0.5000
PPDDT	ND	0.3100
PRTHN	LT	0.9000
PYR	ND	0.0330
SUPONA	LT	0.6000
TXPHEN	ND	2.6000

DUPLICATE = WCSVSA02 Site ID = M-1_SOIL-A Site type = CMPH Sample Date = 89129 (Julian)

L.T.	124TCB	LT	0.0400	BTZ	LT	2.0400	N.A.	N.A.	DIMP	LT	0.1140	CLC2A	LT	35.5000	N.A.	AS	180.0000	D	HG	20.0000	D	CD	6.0900
	120CLB	LT	0.1100	CPNS	LT	4.4000			DNMP	LT	0.1330	TDGCL	LT	4.2000								CR	21.1000
	120PH	ND	0.1400	CPNS02	LT	9.0100																CU	13.7000
	12EPCH		0.1120	DITH	LT	1.4500																PB	14.5000
	13DCLB	LT	0.1300	DMDS	LT	3.1200																ZN	63.4000
	14DCLB	LT	0.0980	OXAT	LT	1.7400																	
	245TCP	LT	0.1000																				
	246TCP	LT	0.1700																				
	24DCLP	LT	0.1800																				
	24DMPN	LT	0.6900																				
	24DNP	LT	1.2000																				
	24DNT	LT	0.1400																				
	26DNT	LT	0.0850																				

L.T. = Less Than Certified Reporting Limits N.A. = Analysis Not Requested F = Indicates filtered sample analysis

Table H-4
Complete Listing
of
Sample and Duplicate

Volatiles	Semi-Volatiles	OSCS	OCPS	DBCP	DINO/DNBD	OSCMS	IMPA/MPA	Arsenic	F a g	Mercury	F a g	ICP Metals

DUPLICATE - WCSVSA02 Continued

2CHE10		0.1010
2CLP	LT	0.0600
2CNAP	LT	0.0360
2MNAP	LT	0.0490
2NP	LT	0.0290
2NANIL	LT	0.0620
2NP	LT	0.1400
33DCBD	ND	6.3000
3NANIL	LT	0.4500
46DN2C	ND	0.5500
4BRPPE	ND	0.0330
4CANIL	LT	0.8100
4CL3C	LT	0.0950
4CLPPE	LT	0.0330
4MP	LT	0.2400
4NANIL	LT	0.4100
4NP	LT	1.4000
ABHC	ND	0.2700
ACHLOR	ND	0.3300
AENSLF	ND	0.6200
ALDRN	LT	0.3000
ALDRN	ND	0.3300
ANAPNE	LT	0.0360
ANAPYL	LT	0.0330
ANTRC	ND	0.0330
ATZ	LT	0.3000
B2CEXM	LT	0.0590
B2CIPE	LT	0.2000
B2CLEE	LT	0.0330
B2EHP	ND	0.6200
BAANTR	ND	0.1700
BAPYR	ND	0.2500
BBFANT	ND	0.2100
BBHC	ND	0.2700
BBZP	ND	0.1700
BENSLF	ND	0.6200
BENZID	ND	0.8500

L.T. - Less Than Certified Reporting Limits N.A. - Analysis Not Requested F - Indicates filtered sample analysis

Table H-4
Complete LISTING
of
Sample and Duplicate

Volatiles	Semi-volatiles	OSCS	OCPS	DBCP	DIMD/DMMP	OSCMS	IMPA/MPA	Arsenic	F a g	Mercury	F a g	ICP Metals

DUPLICATE - WCSVSA02 continued

BENZOA	ND	6.1000
BGHIPY	ND	0.2500
BKFANT	ND	0.0660
BZALC	LT	0.1900
CHRY	ND	0.1200
CL6BZ	ND	0.0330
CL6CP	LT	0.6000
CL6CP	LT	6.2000
CL6ET	LT	0.1500
CLDAN	LT	2.0000
CPMS	LT	0.9000
CPMSO	LT	0.3000
CPMSO2	LT	0.3000
DBAHA	ND	0.2100
DBCP	LT	0.3000
DBHC	ND	0.2700
DBZFUR	LT	0.0350
DCPD	LT	1.0000
DDVP	LT	3.0000
DEP	LT	0.2400
DIMP	LT	1.0000
DITH	LT	0.4000
DLDRN	LT	0.3000
DLDRN	ND	0.3100
DMP	LT	0.1700
DNBP	ND	0.0610
DNOP	ND	0.1900
ENDRN	LT	0.5000
ENDRN	ND	0.4500
ENDRNA	ND	0.5300
ENDRNK	ND	0.5300
ESFSO4	ND	0.6200
FANT	ND	0.0680
FLRENE	LT	0.0330
GCHLOR	ND	0.3300
HCBD	LT	0.2300
HPCL	ND	0.1300

L.T. - Less Than Certified Reporting Limits N.A. - Analysis Not Requested F - Indicates filtered sample analysis

Table H-4
Complete LISTING
of
Sample and Duplicate

Volatiles	Semi-Volatiles	OSCS	OCPS	DBCP	DIMD/DMMD	OSCMS	IMPA/MPA	Arsenic	Flag	Mercury	Flag	ICP Metals

DUPLICATE - WCSVSA02 Continued

HPCLE	ND	0.3300
ICDPYR	ND	0.2900
ISODR	LT	0.3000
ISOPHR	LT	0.0330
LIN	ND	0.2700
MEXCLR	ND	0.3300
MLTHN	LT	0.7000
NAP	LT	0.0370
NB	LT	0.0450
NNDMEA	ND	0.1400
NNDNPA	LT	0.2000
NNDPA	ND	0.1900
OXAT	LT	0.3000
PCB016	ND	1.4000
PCB221	ND	1.4000
PCB232	ND	1.4000
PCB242	ND	1.4000
PCB248	ND	2.0000
PCB254	ND	2.3000
PCB260	ND	2.6000
PCP	ND	1.3000
PHANTR	ND	0.0330
PHENOL	LT	0.1100
PPDDD	ND	0.3000
PPDDE	LT	0.6000
PPDDE	ND	0.3100
PPDDT	LT	0.5000
PPDDT	ND	0.3100
PRTHN	LT	0.9000
PYR	ND	0.0330
SUPONA	LT	0.6000
TXPHEN	ND	2.6000

---------- Field number - WCSVSB01 Site ID - M-1_SOIL-B Site type - CMPH Sample Date - 89129 (julian)

112TCE LT 0.3900 12DCLB LT 0.1100 CPMS LT 4.4000 DMMP LT 0.1330 TDGCL LT 4.2000 CR 21.9000

L.T. - Less Than Certified Reporting Limits N.A. - Analysis Not Requested F - Indicates filtered sample analysis

Table H-4
Complete listing
of
Sample and Duplicate

Volatiles	Semi-volatiles	OSCs	OCPs	DBCP	DIMD/DMMD	OSCMs	IMPA/MPA	Arsenic	Flag	Mercury	Flag	ICP metals

FIELD_NO - WCSVSB01 Continued

11DCLE	LT	1.7000	12DPH	ND	0.1400	CPMS02	LT	9.0100		CU	13.6000
12DCE	LT	1.7000	12EPCH		0.1120	DITH	LT	1.4500		PB	20.4000
12DCLE	LT	0.5600	13DCLB	LT	0.1300	DMDS	LT	3.1200		ZN	73.2000
13DMB	LT	0.7400	14DCLB	LT	0.0980	OXAT	LT	1.7400			
BCHPD	LT	0.3600	245TCP	LT	0.1000						
C6H6	LT	0.2500	246TCP	LT	0.1700						
CCL4	LT	0.2500	24DCLP	LT	0.1800						
CH2CL2	LT	1.5000	24DMPN	LT	0.6900						
CHCL3	LT	0.2900	24DNP	LT	1.2000						
CLC6H5	LT	1.5000	24DNT	LT	0.1400						
DBCP	LT	2.4000	26DNT	LT	0.0850						
DCPD		0.8160	2CLP	LT	0.0600						
DMDS	LT	20.0000	2CNAP	LT	0.0360						
ETC6H5	LT	0.3800	2MNAP	LT	0.0490						
MEC6H5	LT	0.2500	2MP	LT	0.0290						
MIBK	LT	0.7300	2NANIL	LT	0.0620						
TCLEE	LT	0.2500	2NP	LT	0.1400						
TRCLE	LT	0.5400	33DCBD	ND	6.3000						
XYLEN	LT	4.9000	3NANIL	LT	0.4500						
			46DN2C	ND	0.5500						
			4BRPPE	ND	0.0330						
			4CANIL	LT	0.8100						
			4CL3C	LT	0.0950						
			4CLPPE	LT	0.0330						
			4MP	LT	0.2400						
			4NANIL	LT	0.4100						
			4NP	LT	1.4000						
			ABHC	ND	0.2700						
			ACHLOR	ND	0.3300						
			AENSLF	ND	0.6200						
			ALDRN	LT	0.3000						
			ALDRN	ND	0.3300						
			ANAPNE	LT	0.0360						
			ANAPYL	LT	0.0330						
			ANTRC	ND	0.0330						
			ATZ	LT	0.3000						
			B2CEXM	LT	0.0590						

L.T. - Less Than Certified Reporting Limits N.A. - Analysis Not Requested F - Indicates filtered sample analysis

Table H-4
Complete LISTING
of
Sample and Duplicate

Volatiles	Semi-Volatiles	OSCS	OCPS	DBCP	DIRD/DWRD	OSCMS	IMPA/MPA	Arsenic	F a g	Mercury	F a g	ICP Metals

FIELD_NO - WCSVS801 Continued

B2CIPE	LT	0.2000
B2CLEE	LT	0.0330
B2EHP	ND	0.6200
BAANTR	ND	0.1700
BAPYR	ND	0.2500
BBFANT	ND	0.2100
BBHC	ND	0.2700
BBZP	ND	0.1700
BENSLF	ND	0.6200
BENZID	ND	0.8500
BENZOA	ND	6.1000
BGHIPY	ND	0.2500
BKFANT	ND	0.0660
BZALC	LT	0.1900
CHRY	ND	0.1200
CL6BZ	ND	0.1200
CL6CP	LT	0.6000
CL6CP	LT	6.2000
CL6ET	LT	0.1500
CLDAN	LT	2.0000
CPMS	LT	0.9000
CPMSO	LT	0.3000
CPMSO2	LT	0.3000
DBAHA	ND	0.2100
DBCP	LT	0.3000
DBHC	ND	0.2700
DBZFUR	LT	0.0350
DCPD	LT	1.0000
DDVP	LT	3.0000
DEP	LT	0.2400
DIMP	LT	1.0000
DITH	LT	0.4000
DLDRN	LT	0.3000
DLDRN	ND	0.3100
DMP	LT	0.1700
DNBP	ND	0.0610
DNOP	ND	0.1900

L.T. - Less Than Certified Reporting Limits N.A. - Analysis Not Requested F - Indicates filtered sample analysis

Table H-4
Complete listing
of
Sample and Duplicate

Volatiles	Semi-Volatiles	OSCs	OCPs	DBCP	DINP/DNNP	OSCMS	IMPA/MPA	Arsenic	F a g	Mercury	F a g	ICP Metals

FIELD_NO = WCSVS801 Continued

ENDRN	LT	0.5000
ENDRN	ND	0.4500
ENDRNA	ND	0.5300
ENDRNK	ND	0.5300
ESFS04	ND	0.6200
FANT	ND	0.0680
FLRENE	LT	0.0330
GCHLOR	ND	0.3300
HCBD	LT	0.2300
HPCL	ND	0.1300
HPCLE	ND	0.3300
ICDPYR	ND	0.2900
ISODR		0.4120
ISOPHR	LT	0.0330
LIN	ND	0.2700
MEXCLR	ND	0.3300
MLTHN	LT	0.7000
NAP	LT	0.0370
NB	LT	0.0450
NNDMEA	ND	0.1400
NNDNPA	LT	0.2000
NNDPA	ND	0.1900
OXAT	LT	0.3000
PCB016	ND	1.4000
PCB221	ND	1.4000
PCB232	ND	1.4000
PCB242	ND	1.4000
PCB248	ND	2.0000
PCB254	ND	2.3000
PCB260	ND	2.6000
PCP	ND	1.3000
PHANTR	ND	0.0330
PHENOL	LT	0.1100
PPDDD	ND	0.3000
PPDDE	LT	0.6000
PPDDE	ND	0.3100
PPDDT	LT	0.5000

L.T. - Less Than Certified Reporting Limits N.A. - Analysis Not Requested F - Indicates filtered sample analysis

Table H-4
Complete LISTING
of
Sample and Duplicate

Volatiles	Semi-Volatiles	OSCS	OCPS	DBCP	DIWD/DMWD	OSCMS	IMPA/MPA	Arsenic	F	Mercury	F	ICP Metals

FIELD_NO - WCSVSB01 Continued

PPDDT	ND	0.3100
PRTHN	LT	0.9000
PYR	ND	0.0330
SUPONA	LT	0.6000
TXPHEN	ND	2.6000

DUPLICATE - WCSVSB02 Site ID - M-1_SOIL-B Site type - OMPH Sample Date - 89129 (Julian)

L.T.

124TCB	LT	0.0400	BTZ	LT	2.0400	CL6CP	LT	0.0018	N.A.	DIMP	LT	0.1140	CLC2A	LT	35.5000	N.A.	AS	150.0000	D	HG	20.0000	D	CD	6.3800
12DCLB	LT	0.1100	CPMS	LT	4.4000					DMMP	LT	0.1330	TDGCL	LT	4.2000								CR	17.5000
12DPH	ND	0.1400	CPMS02	LT	9.0100																		CU	13.0000
13DCLB	LT	0.1300	DITH	LT	1.4500																		PB	15.2000
14DCLB	LT	0.0980	DMDS	LT	3.1200																		ZN	62.2000
245TCP	LT	0.1000	OXAT	LT	1.7400																			
246TCP	LT	0.1700																						
24DCLP	LT	0.1800																						
24DMPN	LT	0.6900																						
24DNP	LT	1.2000																						
24DNT	LT	0.1400																						
26DNT	LT	0.0850																						
2CLP	LT	0.0600																						
2CNAP	LT	0.0360																						
2MNAP	LT	0.0490																						
2MP	LT	0.0290																						
2NANIL	LT	0.0620																						
2NP	LT	0.1400																						
33DCBD	ND	6.3000																						
3NANIL	LT	0.4500																						
46DN2C	ND	0.5500																						
4BRPPE	ND	0.0330																						
4CANIL	LT	0.8100																						
4CL3C	LT	0.0950																						
4CLPPE	LT	0.0330																						
4MP	LT	0.2400																						
4NANIL	LT	0.4100																						
4NP	LT	1.4000																						
ABHC	ND	0.2700																						

L.T. - Less Than Certified Reporting Limits N.A. - Analysis Not Requested F - Indicates filtered sample analysis

Table H-4
Complete Listing
of
Sample and Duplicate

Volatiles	Semi-Volatiles	OSCS	OCPS	DBCP	DIRD/DWRD	OSCMS	IMPA/MPA	Arsenic	F a g	Mercury	F a g	ICP Metals

DUPLICATE - WCSVS802 Continued

ACHLOR	ND	0.3300
AENSLF	ND	0.6200
ALDRN	LT	0.3000
ALDRN	ND	0.3300
ANAPNE	LT	0.0360
ANAPYL	LT	0.0330
ANTRC	ND	0.0330
ATZ	LT	0.3000
B2CEXM	LT	0.0590
B2CIPE	LT	0.2000
B2CLEE	LT	0.0330
B2EHP	ND	0.6200
BAANTR	ND	0.1700
BAPYR	ND	0.2500
BBFANT	ND	0.2100
BBHC	ND	0.2700
BBZP	ND	0.1700
BENSLF	ND	0.6200
BENZID	ND	0.8500
BENZOA	ND	6.1000
BGHIPY	ND	0.2500
BKFANT	ND	0.0660
BZALC	LT	0.1900
CHRY	ND	0.1200
CL6BZ	ND	0.1200
CL6CP	LT	0.6000
CL6CP	LT	6.2000
CL6ET	LT	0.1500
CLDAN	LT	2.0000
CPMS	LT	0.9000
CPMSO	LT	0.3000
CPMSO2	LT	0.3000
DBAHA	ND	0.2100
DBCP	LT	0.3000
DBHC	ND	0.2700
DBZFUR	LT	0.0350
DCPD	LT	1.0000

L.T. - Less Than Certified Reporting Limits N.A. - Analysis Not Requested F - Indicates filtered sample analysis

Table H-4
Complete Listing
of
Sample and Duplicate

Volatiles	Semi-Volatiles	OSCS	OCPS	DBCP	DINO/DNNO	OSCMS	IMPA/MPA	Arsenic	F a g	Mercury	F a g	ICP Metals

DUPLICATE - WCSVSB02 Continued

DDVP	LT	3.0000
DEP	LT	0.2400
DIMP	LT	1.0000
DITH	LT	0.4000
DLDRN	LT	0.3000
DLDRN	ND	0.3100
DMP	LT	0.1700
DNBP	ND	0.0610
DNOP	ND	0.1900
ENDRN	LT	0.5000
ENDRN	ND	0.4500
ENDRNA	ND	0.5300
ENDRNK	ND	0.5300
ESFSO4	ND	0.6200
FANT	ND	0.0680
FLRENE	LT	0.0330
GCHLOR	ND	0.3300
HCBD	LT	0.2300
HPCL	ND	0.1300
HPCLE	ND	0.3300
ICDPYR	ND	0.2900
ISODR	LT	0.3000
ISOPHR	LT	0.0330
LIN	ND	0.2700
MEXCLR	ND	0.3300
MLTHN	LT	0.7000
NAP	LT	0.0370
NB	LT	0.0450
NNDMEA	ND	0.1400
NNDNPA	LT	0.2000
NNDPA	ND	0.1900
OXAT	LT	0.3000
PCB016	ND	1.4000
PCB221	ND	1.4000
PCB232	ND	1.4000
PCB242	ND	1.4000
PCB248	ND	2.0000

L.T. - Less Than Certified Reporting Limits N.A. - Analysis Not Requested F - Indicates filtered sample analysis

Table H-4
Complete LISTING
of
Sample and Duplicate

Volatiles	Semi-Volatiles	OSCS	OCPS	DBCP	DIMP/DMMP	OSCMS	IMPA/MPA	Arsenic	F & G	Mercury	F & G	ICP Metals

DUPLICATE - WCSVSB02 Continued

PCB254	ND	2.3000
PCB260	ND	2.6000
PCP	ND	1.3000
PHANTR	ND	0.0330
PHENOL	LT	0.1100
PPDDD	ND	0.3000
PPDDE	LT	0.6000
PPDDE	ND	0.3100
PPDDT	LT	0.5000
PPDDT	ND	0.3100
PRTHN	LT	0.9000
PYR	ND	0.0330
SUPONA	LT	0.6000
TXPHEN	ND	2.6000

---------- Field number - WC01S041 Site ID - M1BORE001 Site type - BORE Sample Date - 89144 (Julian)

111TCE	LT	0.4300	L.T.	BTZ	LT	2.0400	ALDRN	LT	0.0019	N.A.	DIMP	LT	0.1140	CLC2A	49.7000	N.A.	AS	LT	2.5000	HG	LT	0.0500	CD	1.2600
112TCE	LT	0.3900		CPMS	LT	4.4000	CL6CP	LT	0.0018		DMMP	LT	0.1330	TDGCL	LT	4.2000							CR	27.6000
11DCLE	LT	1.7000		CPMSO	LT	4.8100	CLDAN	LT	0.0230														CU	23.3000
12DCE	LT	1.7000		CPMSO2	LT	9.0100	DLDRN	LT	0.0033														PB	LT 8.4000
12DCLE	LT	0.5600		DITH	LT	1.4500	ENDRN	LT	0.0058														ZN	116.0000
13DMB	LT	0.7400		DMDS	LT	3.1200	ISODR	LT	0.0011															
BCHPD		0.5270		OXAT	LT	1.7400	PPDDE	LT	0.0024															
C6H6	LT	0.2500					PPDDT	LT	0.0020															
CCL4	LT	0.2500																						
CH2CL2	LT	1.5000																						
CHCL3	LT	0.2900																						
CLC6H5	LT	1.5000																						
DBCP	LT	2.4000																						
DCPD	LT	0.6400																						
DMDS	LT	20.0000																						
ETC6H5	LT	0.3800																						
MEC6H5	LT	0.2500																						
MIBK	LT	0.7300																						

L.T. - Less Than Certified Reporting Limits N.A. - Analysis Not Requested F - Indicates filtered sample analysis

Table H-4
Complete LISTING
of
Sample and Duplicate

Volatiles	Semi-Volatiles	OSCS	OCPS	DBCP	DINP/DNNP	OSCMS	IMPA/MPA	Arsenic	F a g	Mercury	F a g	ICP Metals

FIELD_NO - WCD1S041 Continued

TCLEE LT 0.2500
TRCLE LT 0.5400
XYLEN LT 4.9000

DUPLICATE - WCD1S042 Site ID - M1BORE001 Site type - BORE Sample Date - 89144 (Julian)

L.T.	L.T.	BTZ	LT	2.0400	ALDRN	LT	0.0019	N.A.	DIMP	LT	0.1140	CLC2A	48.8000	N.A.	AS	LT	2.5000 D	HG	LT	0.0500 D	CD	LT	0.7400
		CPMS	LT	4.4000	CL6CP	LT	0.0018		DMMP	LT	0.1330	TDGCL	5.3800								CR		22.8000
		CPMSO	LT	4.8100	CLDAN	LT	0.0230														CU		19.1000
		CPMSO2	LT	9.0100	DLDRN	LT	0.0033														PB	LT	8.4000
		DITH	LT	1.4500	ENDRN	LT	0.0058														ZN		82.7000
		DMDS	LT	3.1200	ISODR	LT	0.0011																
		OXAT	LT	1.7400	PPDDE	LT	0.0024																
					PPDDT	LT	0.0020																

---------- Field number - WCD3S071 Site ID - M1BORE003 Site type - BORE Sample Date - 89150 (Julian)

N.A.	L.T.	N.A.			N.A.			N.A.	N.A.			N.A.		N.A.	AS		110.0000	HG		0.1590	N.A.			

DUPLICATE - WCD3S072 Site ID - M1BORE003 Site type - BORE Sample Date - 89150 (Julian)

N.A.	L.T.	N.A.			N.A.			N.A.	N.A.			N.A.		N.A.	AS		120.0000 D	HG		0.2000 D	N.A.			

---------- Field number - WCD5S041 Site ID - M1BORE005 Site type - BORE Sample Date - 89145 (Julian)

L.T.	L.T.	BTZ	LT	2.0400	ALDRN	LT	0.0019	N.A.	DIMP	LT	0.1140	CLC2A	45.4000	N.A.	AS	LT	2.5000	HG	LT	0.0500	CD	LT	0.7400
		CPMS	LT	4.4000	CL6CP	LT	0.0018		DMMP	LT	0.1330	TDGCL	5.0100								CR		14.8000
		CPMSO	LT	4.8100	CLDAN	LT	0.0230														CU		10.5000
		CPMSO2	LT	9.0100	DLDRN	LT	0.0033														PB		10.7000
		DITH	LT	1.4500	ENDRN	LT	0.0058														ZN		51.0000
		DMDS	LT	3.1200	ISODR	LT	0.0011																
		OXAT	LT	1.7400	PPDDE	LT	0.0024																
					PPDDT	LT	0.0020																

L.T. - Less Than Certified Reporting Limits N.A. - Analysis Not Requested F - Indicates filtered sample analysis

Table H-4
Complete Listing
of
Sample and Duplicate

Volatiles	Semi-Volatiles	OSCS	OCPS	DBCP	DINP/DMMP	OSCHS	NMPA/MPA	Arsenic	F	Mercury	F	ICP Metals

DUPLICATE - WC05S042 Site ID - M1BORE005 Site type - BORE Sample Date - 89145 (Julian)

L.T.	L.T.	BTZ	LT	2.0400	ALDRN	LT	0.0019	N.A.	DIMP	LT	0.1140	CLC2A	45.5000	N.A.	AS	LT	2.5000 D	HG	LT	0.0500 D	CD	LT	0.7400
		CPMS	LT	4.4000	CL6CP	LT	0.0018		DMMP	LT	0.1330	TDGCL	5.0100								CR		14.9000
		CPMSO	LT	4.8100	CLDAN	LT	0.0230														CU		10.6000
		CPMSO2	LT	9.0100	DLDRN	LT	0.0033														PB	LT	8.4000
		DITH	LT	1.4500	ENDRN	LT	0.0058														ZN		59.4000
		DMDS	LT	3.1200	ISODR	LT	0.0011																
		OXAT	LT	1.7400	PPDDE	LT	0.0024																
					PPDDT	LT	0.0020																

---------- Field number - WC06D191 Site ID - M1BORE006 Site type - BORE Sample Date - 89143 (Julian)

N.A.	L.T.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	AS	LT	2.5000	HG	LT	0.0500	N.A.										

DUPLICATE - WC06D192 Site ID - M1BORE006 Site type - BORE Sample Date - 89143 (Julian)

N.A.	L.T.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	AS		12.9000 D	HG		2.6000 D	N.A.										

---------- Field number - WC06W041 Site ID - M1BORE006 Site type - BORE Sample Date - 89143 (Julian)

111TCE	LT	0.4300	ALDRN	LT	0.3000	BTZ	LT	2.0400	ALDRN	LT	0.0019	N.A.	DIMP	LT	0.1140	CLC2A	LT	35.5000	N.A.	AS		12000.0000	HG		850.0000	CD		910.0000
112TCE	LT	0.3900	ATZ	LT	0.3000	CPMS	LT	4.4000	CL6CP	LT	0.0018		DMMP	LT	0.1330	TDGCL	LT	4.2000								CR	LT	6.5000
110CLE	LT	1.7000	CL6CP	LT	0.6000	CPMSO2	LT	9.0100	CLDAN	LT	0.0230															CU	LT	4.7000
12DCE	LT	1.7000	CLDAN	LT	2.0000	DITH	LT	1.4500	DLDRN	LT	0.0033															PB		148.0000
12DCLE	LT	0.5600	CPMS	LT	0.9000	DMDS	LT	3.1200	ENDRN	LT	0.0058															ZN		28.4000
13DMB	LT	0.7400	CPMSO	LT	0.3000	OXAT	LT	1.7400	ISODR	LT	0.0011																	
BCHPD		1.7700	CPMSO2	LT	0.3000				PPDDE	LT	0.0024																	
C6H6	LT	0.2500	DBCP	LT	0.3000				PPDDT	LT	0.0020																	
CCL4	LT	0.2500	DCPD		12.0000																							
CH2CL2	LT	1.5000	DDVP	LT	3.0000																							
CHCL3	LT	0.2900	DIMP	LT	1.0000																							
CLC6H5	LT	1.5000	DITH	LT	0.4000																							
DBCP	LT	2.4000	DLDRN	LT	0.3000																							
DCPD		2.2400	ENDRN	LT	0.5000																							

L.T. - Less Than Certified Reporting Limits N.A. - Analysis Not Requested F - Indicates filtered sample analysis

Table H-4
Complete LISTING
of
Sample and Duplicate

Volatiles	Semi-Volatiles	OSCS	OCPS	DBCP	DIMP/DMMP	OSCMS	IMPA/MPA	Arsenic	F l a g	Mercury	F l a g	ICP Metals

FIELD_NO - WCD6W041 Continued

DMDS	LT	20.0000	ISODR	LT	0.3000
ETC6H5	LT	0.3800	MLTHN	LT	0.7000
MEC6H5	LT	0.2500	OXAT	LT	0.3000
MIBK	LT	0.7300	PPDDE	LT	0.6000
TCLEE	LT	0.2500	PPDDT	LT	0.5000
TRCLE	LT	0.5400	PRTHN	LT	0.9000
XYLEN	LT	4.9000	SUPONA	LT	0.6000

DUPLICATE - WCD6W042 Site ID - M1BORE006 Site type - BORE Sample Date - 89143 (Julian)

111TCE	LT	0.4300	L.T.	BTZ	LT	2.0400	ALDRN	LT	0.0019	N.A.	N.A.	CLC2A	LT	35.5000	N.A.	AS	6500.0000	D	HG	4000.0000	D	CD		870.0000
112TCE	LT	0.3900		CPMS	LT	4.4000	CL6CP	LT	0.0018			TDGCL	LT	4.2000								CR	LT	6.5000
11DCLE	LT	1.7000		CPMSO2	LT	9.0100	CLDAN	LT	0.0230													CU		8.8700
12DCE	LT	1.7000		DITH	LT	1.4500	DLDRN	LT	0.0033													PB	LT	8.4000
12DCLE	LT	0.5600		DMDS	LT	3.1200	ENDRN	LT	0.0058													ZN		18.7000
13DMB	LT	0.7400		OXAT	LT	1.7400	ISODR	LT	0.0011															
BCHPD		0.8210					PPDDE	LT	0.0024															
C6H6	LT	0.2500					PPDDT	LT	0.0020															
CCL4	LT	0.2500																						
CH2CL2	LT	1.5000																						
CHCL3	LT	0.2900																						
CLC6H5	LT	1.5000																						
DBCP	LT	2.4000																						
DCPD	LT	0.6400																						
DMDS	LT	20.0000																						
ETC6H5	LT	0.3800																						
MEC6H5	LT	0.2500																						
MIBK	LT	0.7300																						
TCLEE	LT	0.2500																						
TRCLE	LT	0.5400																						
XYLEN	LT	4.9000																						

APPENDIX I
WELL DEVELOPMENT SUMMARY TABLE

WELL DEVELOPMENT SUMMARY TABLE

Well No.: 36001

Installation Date: NA

Well Description: 4-in. PVC

Volume Calculation: (29.5 - 11.7) x 0.653 + (29.5 - 11.7) x 0.591
1 Vol = 22.1 gal
5 Vol = 110.5 gal

Ground Elevation: 5263.3 feet

Depth to Water; BGS: 11.7 feet
Elevation: 5251.7 feet

Depth to Bottom; BGS: 29.52 feet
Elevation: 5233.8 feet

Date Purged	Date Sampled	Method Purged	Amount Removed (gal)	Cumulative Total (gal)	pH	Conductivity	Color	Geologist
5-2-89		Bail	15	15	7.22	710	yellow-gray	E. Gonzalez
			25	40	7.17	1300	light yellow	
			15	60	7.12	1330	light yellow	
			20	80	7.08	1320	light yellow	
			30	110	7.09	1300	light yellow	
5-5-89		Pump	20	130	7.23	1250	light gray	E. Gonzalez
			35	165	7.12	1240	clear	
	5-5-89	Bail	NA	165	NA	NA	NA	E. Gonzalez
6-7-89		Bail	25	25	7.19	1310	milky-brown	K. Doeden
			41	66	7.22	1280	lt. milky-brown	
			47	113	7.15	1270	lt. milky-brown	
	6-7-89	Bail	NA	113	NA	NA	NA	K. Doeden

WELL DEVELOPMENT SUMMARY TABLE

Well No.: 36054

Installation Date: NA

Well Description: 2-in. PVC

Volume Calculation: (21 - 7.8) x 0.163 + (21 - 7.8) x 0.726
1 Vol = 11.7 gal
5 Vol = 58.6 gal

Ground Elevation: 5259.3 feet

Depth to Water; BGS: 7.8 feet
Elevation: 5251.5 feet

Depth to Bottom; BGS: 21 feet
Elevation: 5238.3 feet

Date Purged	Date Sampled	Method Purged	Amount Removed (gal)	Cumulative Total (gal)	pH	Conductivity	Color	Geologist
6-8-89		Pump	1.5/dry	1.5	7.66	2,700	NA	T. Terry
			1.0/dry	2.5	7.85	5,700	NA	
6-9-89		Pump	2/dry	4.5	8.13	6,900	NA	T. Terry
6-12-89		Pump	2/dry	6.5	NA	NA	NA	J. Dodson
			0.75/dry	7.25	NA	NA	lime green	
		Bail	2.5/dry	9.75	7.73	3,250	NA	T. Terry
	6-13-89	Bail	2/dry	11.75	7.53	3,500	NA	J. Dodson

WELL DEVELOPMENT SUMMARY TABLE

Well No.: 36055

Installation Date: NA

Well Description: 2-in. PVC

Volume Calculation: (24.7 - 8.1) x 0.163 + (24.7 - 8.1) x 0.726
1 Vol = 14.8 gal
5 Vol = 73.8 gal

Ground Elevation: 5252.3 feet

Depth to Water; BGS: 8.1 feet
Elevation: 5244.2 feet

Depth to Bottom; BGS: 24.7 feet
Elevation: 5227.6 feet

Date Purged	Date Sampled	Method Purged	Amount Removed (gal)	Cumulative Total (gal)	pH	Conductivity	Color	Geologist
6-9-89		Pump	1	1	7.36	9,900	NA	T. Terry
			1.5/dry	2.5	NA	NA	NA	
			0.5/dry	3.0	7.74	11,800	NA	
			0.5/dry	3.5	7.86	13,000	NA	
6-9-89		Pump	2.5/dry	6.0	7.24	9,700	NA	T. Terry
6-12-89		Bail	3/dry	9.0	7.0	10,000	NA	J. Dodson
6-13-89		Bail	2.5/dry	11.5	7.51	9,100	black	T. Terry
	6-13-89	Bail	NA	11.5	7.4	10,200	NA	T. Terry

WELL DEVELOPMENT SUMMARY TABLE

Well No.: 36058

Installation Date: NA

Well Description: 2-in. PVC

Volume Calculation: (20.2 - 1) x 0.163 + (20.2 - 1) x 0.726
1 Vol = 17 gal
5 Vol = 85.3 gal

Ground Elevation: 5254.2 feet

Depth to Water; BGS: 1 foot
Elevation: 5253.2 feet

Depth to Bottom; BGS: 20.2 feet
Elevation: 5234 feet

Date Purged	Date Sampled	Method Purged	Amount Removed (gal)	Cumulative Total (gal)	pH	Conductivity	Color	Geologist
6-5-89		Pump	0.5	0.5	7.48	13,700	brown	T. Terry
			9.5	10	7.44	13,600	brown	
			35	45	7.40	13,000	yellow	
			30	75	7.40	13,000	yellow	
			15	90	NA	NA	NA	
6-12-89		Pump	Initial	NA	7.05	12,000	brown	J. Dodson
			60	150	6.90	12,800	lime green	
			25	175	NA	NA	NA	
	6-12-89	Bail	Initial	NA	7.35	12,200	NA	T. Terry
			7 Bails	7 Bails	7.43	11,800		
			10 Bails	17 Bails	7.42	11,800		

WELL DEVELOPMENT SUMMARY TABLE

Well No.: 36067

Installation Date: NA

Well Description: 2-in. PVC

Volume Calculation: (15.1 - 6.9) x 0.163 + (15.1 - 6.9) x 0.726
1 Vol = 7.3 gal
5 Vol = 36.5 gal

Ground Elevation: 5241.2 feet

Depth to Water; BGS: 6.9 feet
Elevation: 5234.3 feet

Depth to Bottom; BGS: 15.1 feet
Elevation: 5226.1 feet

Date Purged	Date Sampled	Method Purged	Amount Removed (gal)	Cumulative Total (gal)	pH	Conductivity	Color	Geologist
4-26-89		Pump	7	7	6.9	2600	clear	E. Gonzalez
			13	20	6.76	2720	clear	
			16	36	6.72	2720	clear	
	4-27-89	Bail	Initial	36	6.82	2780	gray	E. Gonzalez

WELL DEVELOPMENT SUMMARY TABLE

Well No.: 36075

Installation Date: NA

Well Description: 2-in. PVC

Volume Calculation: (15.7 - 9.4) x 0.163 + (15.7 - 9.4) x 0.726
1 Vol = 5.6 gal
5 Vol = 28 gal

Ground Elevation: 5253.3 feet

Depth to Water; BGS: 9.4 feet
Elevation: 5243.9 feet

Depth to Bottom; BGS: 15.7 feet
Elevation: 5237.6 feet

Date Purged	Date Sampled	Method Purged	Amount Removed (gal)	Cumulative Total (gal)	pH	Conductivity	Color	Geologist
6-15-89		Bail	Initial	Initial	7.85	1670	NA	T. Terry
			7	7	7.93	1600	NA	
			8	15	7.88	1630	NA	
			10	25	7.86	1630	NA	
			4	29	NA	NA	NA	
	6-15-89	Bail	NA	29	NA	NA	NA	T. Terry

* Well 36075 was sampled on 4 different occasions: 4-18-89; 6-2-89; 6-6-89; 6-15-89

WELL DEVELOPMENT SUMMARY TABLE

Well No.: 36076

Installation Date: NA

Well Description: 2-in. PVC

Volume Calculation: (15.4 - 13) x 0.163 + (15.4 - 13) x 0.726
1 Vol = 2.1 gal
5 Vol = 10.7 gal

Ground Elevation: 5252.4 feet

Depth to Water; BGS: 13 feet
Elevation: 5239.4 feet

Depth to Bottom; BGS: 15.4 feet
Elevation: 5237 feet

Date Purged	Date Sampled	Method Purged	Amount Removed (gal)	Cumulative Total (gal)	pH	Conductivity	Color	Geologist
6-5-89		Pump	1	1	7.27	3,150	tan	T. Terry
			3/dry	4	NA	NA		
			1	5	7.02	3,820	tan	
			6/dry	11	7.19	3,900	tan	
6-14-89		Bail	Initial	11	7.16	3,450	clear	T. Terry
			3	14	7.21	3,200	brown	
			3	17	7.25	3,200	NA	
			3	20	NA	NA	NA	
	6-14-89	Bail	NA	NA	NA	NA	NA	T. Terry

WELL DEVELOPMENT SUMMARY TABLE

Well No.: 36080

Installation Date: NA

Well Description: 2-in. PVC

Volume Calculation: (23.2 - 14.2) x 0.163 + (23.2 - 14.2) x 0.726
1 Vol = 8 gal
5 Vol = 40 gal

Ground Elevation: 5243.7 feet

Depth to Water; BGS: 14.2 feet
Elevation: 5229.5 feet

Depth to Bottom; BGS: 23.2 feet
Elevation: 5220.5 feet

Date Purged	Date Sampled	Method Purged	Amount Removed (gal)	Cumulative Total (gal)	pH	Conductivity	Color	Geologist
5-1-89		Pump	3	3	7.39	12,200	lt. gray	E. Gonzalez
			5	8	7.46	11,500	lt. gray	
			2 dry	10	NA	NA	NA	
			2	12	7.13	11,000	clear	
			4 dry	16	7.14	11,300	clear	
	5-1-89	Bail	NA	16	NA	NA	NA	E. Gonzalez

WELL DEVELOPMENT SUMMARY TABLE

Well No.: 36084

Installation Date: NA

Well Description: 2-in. PVC

Volume Calculation: (12.3 - 6.7) x 0.163 + (12.3 - 6.7) x 0.726
1 Vol = 5 gal
5 Vol = 25 gal

Ground Elevation: 5236 feet

Depth to Water; BGS: 6.7 feet
Elevation: 5229.3 feet

Depth to Bottom; BGS: 12.3 feet
Elevation: 5223.7 feet

Date Purged	Date Sampled	Method Purged	Amount Removed (gal)	Cumulative Total (gal)	pH	Conductivity	Color	Geologist
4-13-89		Pump	23	23	NA	NA	NA	B. Hedenkamp
4-24-89		Bail	5	28	7.12	15,600	NA	B. Hedenkamp
			10	38	7.04	15,500	NA	
			5	43	NA	NA	NA	
			5	48	NA	NA	NA	
	4-25-89	Bail	Initial	48	7.22	15,500	NA	E. Gonzalez

WELL DEVELOPMENT SUMMARY TABLE

Well No.: 36085

Installation Date: NA

Well Description: 2-in. PVC

Volume Calculation: (13.3 - 1.7) x 0.163 + (13.3 - 1.7) x 0.726
1 Vol = 10.3 gal
5 Vol = 51.5 gal

Ground Elevation: 5230.2 feet

Depth to Water; BGS: 1.7 feet
Elevation: 5228.5 feet

Depth to Bottom; BGS: 13.3 feet
Elevation: 5216.9 feet

Date Purged	Date Sampled	Method Purged	Amount Removed (gal)	Cumulative Total (gal)	pH	Conductivity	Color	Geologist
5-2-89		Pump	10	10	7.43	790	NA	E. Gonzalez
			10	20	7.54	790	NA	
			15	35	7.36	800	NA	
			10	45	7.41	790	NA	
			10	55	7.41	790	NA	
	5-2-89	Bail	NA	55	NA	NA	NA	E. Gonzalez

WELL DEVELOPMENT SUMMARY TABLE

Well No.: 36087

Installation Date: NA

Well Description: 2-in. PVC

Volume Calculation: (15.4 - 10.7) x 0.163 + (15.4 - 10.7) x 0.726
1 Vol = 4.2 gal
5 Vol = 21 gal

Ground Elevation: 5258.6 feet

Depth to Water; BGS: 10.7 feet
Elevation: 5247.9 feet

Depth to Bottom; BGS: 15.4 feet
Elevation: 5243.2 feet

Date Purged	Date Sampled	Method Purged	Amount Removed (gal)	Cumulative Total (gal)	pH	Conductivity	Color	Geologist
4-26-89		Bail	2/dry	2	7.67	800	NA	E. Gonzalez
			1/dry	3	7.31	810	NA	
4-27-89		Bail	Initial	3	7.95	680	NA	E. Gonzalez
			1/dry	4	7.97	780	NA	
			1/dry	5	7.95	780	NA	
			1/dry	6	7.89	770	NA	
			1	7	7.88	780	NA	
	4-27-89	Bail	NA	7	NA	NA	NA	E. Gonzalez

WELL DEVELOPMENT SUMMARY TABLE

Well No.: 36088

Installation Date: NA

Well Description: 2-in. PVC

Volume Calculation: (25.2 - 16) x 0.163 + (25.2 - 16) x 0.726
1 Vol = 8.2 gal
5 Vol = 41 gal

Ground Elevation: 5243.8 feet

Depth to Water; BGS: 16 feet
Elevation: 5227.8 feet

Depth to Bottom; BGS: 25.2 feet
Elevation: 5218.6 feet

Date Purged	Date Sampled	Method Purged	Amount Removed (gal)	Cumulative Total (gal)	pH	Conductivity	Color	Geologist
4-28-89		Pump	4	4	7.52	10,800	gray	E. Gonzalez
			4/dry	8	NA	NA	NA	
			2	10	7.59	11,200	lt. gray	
			2/dry	12	NA	NA	NA	
			4/dry	16	7.58	11,300	lt. gray	
			4/dry	20	7.66	11,200	lt. gray	
	4-28-89	Bail		NA	20	NA	NA	E. Gonzalez

WELL DEVELOPMENT SUMMARY TABLE

Well No.: 36167

Installation Date: 1-2-87

Well Description: 4-in. PVC

Volume Calculation: (16.8 - 10.5) x 0.653 + (16.8 - 10.5) x 0.591
1 Vol = 7.8 gal
5 Vol = 39.2 gal

Ground Elevation: 5254.1 feet

Depth to Water; BGS: 10.5 feet
Elevation: 5243.6 feet

Depth to Bottom; BGS: 16.8 feet
Elevation: 5237.3 feet

Date Purged	Date Sampled	Method Purged	Amount Removed (gal)	Cumulative Total (gal)	pH	Conductivity	Color	Geologist
6-14-89		Pump	3	3	8.2	6,000	NA	T. Terry
			9/dry	12	NA	NA	NA	
			12/dry	24	8.3	6,000	clear	
			13/dry	37	8.27	6,200	NA	
			2	39	NA	NA	NA	
	6-14-89	Bail	NA	39	NA	NA	NA	T. Terry

WELL DEVELOPMENT SUMMARY TABLE

Well No.: 36180

Installation Date: NA

Well Description: 4-in. PVC

Volume Calculation: (25.7 - 7.86) x 0.163 + (25.7 - 7.86) x 0.591
1 Vol = 22.2 gal
5 Vol = 111 gal

Ground Elevation: 5235.8 feet

Depth to Water; BGS: 7.86 feet
Elevation: 5227.9 feet

Depth to Bottom; BGS: 25.7 feet
Elevation: 5210.1 feet

Date Purged	Date Sampled	Method Purged	Amount Removed (gal)	Cumulative Total (gal)	pH	Conductivity	Color	Geologist
4-27-89		Bail	20	20	7.32	10,200	NA	E. Gonzalez
			25	45	7.28	10,100	NA	
			15	60	7.38	10,400	NA	
4-28-89		Bail	35	95	7.15	10,000	NA	E. Gonzalez
			25	120	7.33	10,000	NA	
	4-28-89	Bail	NA	120	NA	NA	NA	E. Gonzalez

WELL DEVELOPMENT SUMMARY TABLE

Well No.: 36187

Installation Date: 5-8-89

Well Description: 4-in. PVC

Volume Calculation: (21.6 - 13.8) x 0.653 + (21.6 - 13.8) x 0.591
1 Vol = 9.7 gal
5 Vol = 48.5 gal

Ground Elevation: 5241.5 feet

Depth to Water; BGS: 13.8 feet
Elevation: 5227.7 feet

Depth to Bottom; BGS: 21.6 feet
Elevation: 5219.9 feet

Date Purged	Date Sampled	Method Purged	Amount Removed (gal)	Cumulative Total (gal)	pH	Conductivity	Color	Geologist
5-16-89		Pump	10.5/dry	10.5	7.62	6500	NA	D. Bufo
5-18-89		Pump	17.5/dry	28	7.48	5700	NA	D. Bufo
6-7-89		Pump	10/dry	38	7.36	600	NA	T. Terry
			8/dry	46	7.36	5100	NA	
			8/dry	54	7.43	6000	NA	
			5/dry	59	7.44	5700	NA	
	6-7-89	Bail	NA	59	NA	NA	NA	T. Terry

WELL DEVELOPMENT SUMMARY TABLE

Well No.: 36188

Installation Date: 5-4-89

Well Description: 4-in. PVC

Volume Calculation: (22 - 11.9) x 0.653 + (22 - 11.9) x 0.591
1 Vol = 12.5 gal
5 Vol = 62.5 gal

Ground Elevation: 5240.2 feet

Depth to Water; BGS: 11.9 feet
Elevation: 5228.3 feet

Depth to Bottom; BGS: 22 feet
Elevation: 5218.2 feet

Date Purged	Date Sampled	Method Purged	Amount Removed (gal)	Cumulative Total (gal)	pH	Conductivity	Color	Geologist
5-18-89		Bail	1	1	6.99	15,900	orange/brown	D. Bufo
			14	15	NA	NA	NA	
5-22-89		Pump	10.5	25.5	7.03	17,000	clear	D. Bufo
6-7-89			Initial	25.5	7.44	11,200	brown	T. Terry
		Pump	5	30.5	7.01	15,500	NA	
			2/dry	32.5	NA	NA	NA	
			12	44.5	6.97	15,000	NA	
	6-7-89	Bail	NA	44.5	NA	NA	NA	T. Terry

WELL DEVELOPMENT SUMMARY TABLE

Well No.: 36189

Installation Date: 5-2-89

Well Description: 4-in. PVC

Volume Calculation: (22.9 - 11.3) x 0.653 + (22.9 - 11.3) x 0.591
1 Vol = 14.4 gal
5 Vol = 72 gal

Ground Elevation: 5239.9 feet

Depth to Water; BGS: 11.3 feet
Elevation: 5228.6 feet

Depth to Bottom; BGS: 22.9 feet
Elevation: 5217 feet

Date Purged	Date Sampled	Method Purged	Amount Removed (gal)	Cumulative Total (gal)	pH	Conductivity	Color	Geologist
5-4-89		Bail	16	16	7.27	990	orange/brown	E. Gonzalez
5-5-89		Bail	12	28	7.55	1,100	yellow	E. Gonzalez
5-16-89			Initial	28	7.52	9,000	orange/brown	E. Gonzalez
		Bail	11	39	7.40	11,000	orange/brown	
6-6-89		Pump	12/dry	51	7.02	12,000	brown	T. Terry
			0.5/dry	51.5	7.23	16,900	brown	
			12.5/dry	64	7.06	11,900	brown	
			8	72	7.11	12,100	brown	
	6-7-89	Bail	NA	72	NA	NA	NA	T. Terry

WELL DEVELOPMENT SUMMARY TABLE

Well No.: 36190

Installation Date: 4-26-89

Well Description: 4-in. PVC

Volume Calculation: (19.9 - 8.7) x 0.653 + (19.9 - 8.7) x 0.591
1 Vol = 13.9 gal
5 Vol = 69.5 gal

Ground Elevation: 5239.7 feet

Depth to Water; BGS: 8.7 feet
Elevation: 5231 feet

Depth to Bottom; BGS: 19.9 feet
Elevation: 5219.8 feet

Date Purged	Date Sampled	Method Purged	Amount Removed (gal)	Cumulative Total (gal)	pH	Conductivity	Color	Geologist
5-1-89		Bail	12	12	7.39	7,000	NA	E. Gonzalez
			4	16	NA	NA	NA	
5-2-89		Bail	16	32	7.38	7,000	NA	E. Gonzalez
5-4-89		Bail	15/dry	47	7.41	6,700	NA	E. Gonzalez
5-5-89		Bail	14/dry	61	7.58	8,000	NA	E. Gonzalez
6-5-89		Bail	6	6	7.09	7,700	NA	K. Doeden
			4	10	7.21	7,200	NA	
			5	15	7.16	6,950	NA	
6-6-89		Bail	Initial	15	7.20	6,350	NA	K. Doeden
	6-6-89	Bail	5	20	7.15	6,950	NA	
6-15-89		Bail	Initial	20	7.23	7,100	NA	T. Terry
			15/dry	35	NA	NA	NA	
			2	37	7.25	7,100	NA	
			5	42	NA	NA	NA	
	6-15-89	Bail	NA	42	NA	NA	NA	T. Terry

WELL DEVELOPMENT SUMMARY TABLE

Well No.: 36191

Installation Date: 5-11-89

Well Description: 4-in. PVC

Volume Calculation: (38.3 - 35) x 0.653 + (38.3 - 35) x 0.591
1 Vol = 4.1 gal
5 Vol = 20.5 gal

Ground Elevation: 5248.3 feet

Depth to Water; BGS: 35 feet
Elevation: 5213.3 feet

Depth to Bottom; BGS: 38.3 feet
Elevation: 5210 feet

Date Purged	Date Sampled	Method Purged	Amount Removed (gal)	Cumulative Total (gal)	pH	Conductivity	Color	Geologist
5-24-89		Bail	1.5	1.5	8.37	4,200	clear	D. Bufo
6-2-89		Bail	5.5	7.0	7.83	4,400	NA	T. Terry
6-6-89		Bail	2.5/dry	9.5	7.16	5,000	NA	K. Doeden
6-8-89		Bail	Initial	9.5	7.27	4,500	NA	T. Terry
			2.5/dry	12.0	NA	NA	NA	
6-9-89		Bail	0.5/dry	12.5	7.21	4,360	NA	T. Terry
	6-12-89	Bail	NA	12.5	7.32	4,400	NA	T. Terry

WELL DEVELOPMENT SUMMARY TABLE

Well No.: 36192

Installation Date: 5-19-89

Well Description: 4-in. PVC

Volume Calculation: (65.6 - 26.6) x 0.653 + (65.6 - 29.6) x 0.591
1 Vol = 44.8 gal
5 Vol = 224 gal

Ground Elevation: 5253.7 feet

Depth to Water; BGS: 29.6 feet
Elevation: 5224.1 feet

Depth to Bottom; BGS: 65.6 feet
Elevation: 5188.1 feet

Date Purged	Date Sampled	Method Purged	Amount Removed (gal)	Cumulative Total (gal)	pH	Conductivity	Color	Geologist
5-22-89		Bail	1	1	7.47	3,400	clear	D. Bufo
			34/dry	35	NA	NA	NA	
5-23-89		Bail	25/dry	60	NA	NA	NA	D. Bufo
5-24-89		Bail	2	62	7.5	2,900	clear	D. Bufo
			28/dry	90	NA	NA	NA	
6-5-89		Bail	45/dry	135	7.13	3,800	brown	K. Doeden
6-6-89		Bail	25	160	7.13	3,450	brown	K. Doeden
			4	164	NA	NA	NA	
6-8-89		Bail	1	165	7.29	2830	clear	T. Terry
			41	206	7.30	3,070	brown	
			5	211	NA	NA	NA	
6-9-89		Pump	3	214	7.11	2,940	NA	T. Terry
6-9-89		Pump	25	239	7.22	3,000	dk. brown-black	T. Terry
			2/dry	241	NA	NA	NA	
6-12-89		Bail	1	242	7.26	3,000	clear	T. Terry
			22	264	7.36	2,900	brown-black	
			18/dry	282	NA	NA	NA	
			7/dry	289	7.31	3,090	black	
			6/dry	295	7.42	3,050	NA	
	6-13-89	Bail	NA	295	7.25	2,970	NA	T. Terry

WELL DEVELOPMENT SUMMARY TABLE

Well No.: 36193

Installation Date: 5-17-89

Well Description: 4-in. PVC

Volume Calculation: (16.6 - 9) x 0.653 + (16.6 - 9) x 0.591
1 Vol = 9.5 gal
5 Vol = 47.3 gal

Ground Elevation: 5261.8 feet

Depth to Water; BGS: 9 feet
Elevation: 5252.8 feet

Depth to Bottom; BGS: 16.6 feet
Elevation: 5245.2 feet

Date Purged	Date Sampled	Method Purged	Amount Removed (gal)	Cumulative Total (gal)	pH	Conductivity	Color	Geologist
5-23-89		Pump	10	10	8.5	2300	Brown	D. Bufo
			7/dry	17	NA	NA	NA	
5-24-89		Bail	20	37	NA	NA	Brown	D. Bufo
5-30-89		NA	6	43	7.35	1600	Brown	J. Dodson
			14/dry	57	7.62	1600	Brown	
			5	62	7.78	NA	Brown	
			1	63	NA	NA	NA	
6-7-89		Bail	9	72	7.61	1700	Brown	K. Doeden
			18	90	7.63	1560	Brown	
			13	103	7.77	1500	Brown	
			14	117	7.72	1600	Brown	
			9	126	7.69	1610	Brown	
	6-7-89	Bail	NA	126	NA	NA	NA	K. Doeden
6-15-89		Pump	1	1	7.35	1800	NA	J. Dodson
			14/dry	15	NA	NA	NA	
			10	25	7.76	1490	NA	
			22	47	7.75	1500	NA	
	6-15-89	Bail	NA	47	NA	NA	NA	J. Dodson

WELL DEVELOPMENT SUMMARY TABLE

Ground Elevation: 5254.3 feet

Well No.: 36194

Depth to Water; BGS: 13.5 feet
Elevation: 5240.8 feet

Installation Date: 6-16-89

Depth to Bottom; BGS: 23.6 feet
Elevation: 5228.7 feet

Well Description: 4-in. PVC

Volume Calculation: (23.6 - 13.5) x 0.653 + (23.6 - 13.5) x 0.591
1 Vol = 12.6 gal
5 Vol = 62.8 gal

Date Purged	Date Sampled	Method Purged	Amount Removed (gal)	Cumulative Total (gal)	pH	Conductivity	Color	Geologist
6-19-89		Bail	20	20	7.96	6,000	NA	T. Terry
			10/dry	30	NA	NA	NA	
			15/dry	45	NA	NA	NA	
			5	50	7.83	6,800	NA	
			3/dry	53	NA	NA	NA	
			0	53	7.90	6,200	clear	T. Terry
6-20-89		Bail	17	70	NA	NA	NA	
			10	10	7.44	6,900	NA	D. Bufo
7-13-89		Pump	10/dry	20	NA	NA	NA	
			10	30	8.33	7,900	NA	
			10/dry	40	NA	NA	NA	
	7-13-89	Bail	NA	40	NA	NA	NA	D. Bufo

WELL DEVELOPMENT SUMMARY TABLE

Well No.: 36590

Installation Date: NA

Well Description: 4-in. PVC

Volume Calculation: (27.8 - 10.5) x 0.653 + (27.8 - 10.5) x 0.591
1 Vol = 21.5 gal
5 Vol = 107.5 gal

Ground Elevation: 5250.6 feet

Depth to Water; BGS: 10.5 feet
Elevation: 5240.1 feet

Depth to Bottom; BGS: 27.80 feet
Elevation: 5222.8 feet

Date Purged	Date Sampled	Method Purged	Amount Removed (gal)	Cumulative Total (gal)	pH	Conductivity	Color	Geologist
4-14-89		Pump	10	10	NA	NA	NA	B. Hedenkamp
		Bail	5/dry	15				
4-25-89		NA	1	16	7.03	1,600	yellow	E. Gonzalez
			4	20	7.17	1,640	yellow	
			4/dry	24	NA	NA	NA	
	4-26-89	Bail	NA	24	7.39	1,600	light yellow	E. Gonzalez

WELL DEVELOPMENT SUMMARY TABLE

Well No.: 36591

Installation Date: NA

Well Description: 4-in. PVC

Volume Calculation: (25.7 - 6) x 0.653 + (25.7 - 6) x 0.591
1 Vol = 24.5 gal
5 Vol = 122.5 gal

Ground Elevation: 5248.5 feet

Depth to Water; BGS: 6 feet
Elevation: 5242.5 feet

Depth to Bottom; BGS: 25.7 feet
Elevation: 5222.8 feet

Date Purged	Date Sampled	Method Purged	Amount Removed (gal)	Cumulative Total (gal)	pH	Conductivity	Color	Geologist
4-19-89		Bail	15/dry	15	NA	NA	NA	B. Hedenkamp
4-20-89		Bail	5	20	NA	NA	NA	B. Hedenkamp
			5	25	NA	NA	NA	
4-25-89		Bail	5	30	6.87	1,410	yellow	E. Gonzalez
			13/dry	43	7.45	1,450	yellow	
	4-26-89	Bail	Initial	43	7.37	1,300	lt. yellow	E. Gonzalez

WELL DEVELOPMENT SUMMARY TABLE

Well No.: 36593

Installation Date: NA

Well Description: 4-in. PVC

Volume Calculation: (21.7 - 6) x 0.653 + (27.1 - 6) x 0.591
1 Vol = 26.3 gal
5 Vol = 131.2 gal

Ground Elevation: 5248 feet

Depth to Water; BGS: 6 feet
Elevation: 5242 feet

Depth to Bottom; BGS: 27.1 feet
Elevation: 5220.9 feet

Date Purged	Date Sampled	Method Purged	Amount Removed (gal)	Cumulative Total (gal)	pH	Conductivity	Color	Geologist
4-19-89		Pump	15	15	NA	NA	clear	B. Hedenkamp
				15	8.08	1,550	NA	
4-20-89		Bail	2	17	8.35	NA	NA	B. Hedenkamp
			6	23	NA	NA	NA	
4-24-89		Bail	1	24	7.85	1,270	NA	B. Hedenkamp
			9	33	7.77	1,330	NA	
	4-25-89	Bail	1	34	7.62	1,270	clear	E. Gonzalez

WELL DEVELOPMENT SUMMARY TABLE

Well No.: 01077

Installation Date: 1-3-89

Well Description: 4-in. PVC

Volume Calculation: NA

Ground Elevation: 5263.5 feet

Depth to Water; BGS: NA
Elevation: NA

Depth to Bottom; BGS: 88.7 feet
Elevation: 5174.8 feet

Date Purged	Date Sampled	Method Purged	Amount Removed (gal)	Cumulative Total (gal)	pH	Conductivity	Color	Geologist
6-2-89		Pump	Initial	Initial	7.31	850	clear	S. Morrissette
			0.27	0.27	7.59	1100	clear	
			0.28	0.55	7.59	1100	clear	
			0.13	0.68	7.62	1100	clear	
			0.32	1.0	7.66	1100	clear	
			1.0	2.0	7.70	1130	clear	
			1.0	3.0	7.70	1150	clear	
			1.0	4.0	7.70	1150	clear	
			1.0	5.0	7.68	1170	clear	
	6-2-89	Bail		NA	5.0	NA	NA	S. Morrissette

* Well was purged by Harding Lawson Associates prior to sampling by WCC. HLA supplied pump; all well parameter data was collected by HLA.

WELL DEVELOPMENT SUMMARY TABLE

Well No.: 01083

Installation Date: 5-12-89

Well Description: 4-in. PVC
2-in. prepack installed 6-20-89

Volume Calculation: (16 - 8.2) x 0.653 + (16 - 8.2) x 0.591
1 Vol = 9.7 gal
5 Vol = 48.5 gal

Ground Elevation: 5264.7 feet

Depth to Water; BGS: 8.2 feet
Elevation: 5256.5 feet

Depth to Bottom; BGS: 16 feet
Elevation: 5248.7 feet

Date Purged	Date Sampled	Method Purged	Amount Removed (gal)	Cumulative Total (gal)	pH	Conductivity	Color	Geologist
5-23-89		Pump	6	6	7.43	1400	Brown	D. Bufo
5-24-89		Bail	15	21	NA	NA	NA	D. Bufo
5-26-89		Bail	20/dry	41	6.89	1050	Brown	J. Dodson
			10	51	7.10	1000	NA	
			20	71	NA	NA	NA	
5-30-89		Pump	2	73	7.14	1000	NA	J. Dodson
			3.1/dry	76.1	NA	NA	NA	
			16	92.1	7.22	1190	NA	
6-9-89		Bail	Initial	92.1	7.34	1100	NA	T. Terry
			17	109.1	7.38	1080	Brown	
6-12-89		Pump	Initial	109.1	7.10	1330	NA	J. Dodson
			10/dry	119.1	NA	NA	NA	
			6/dry	125.1	NA	NA	NA	
6-12-89		Pump/Bail	17/dry	142.1	7.2	1300	NA	J. Dodson
	6-13-89	Bail	0.5	142.6	7.5	1100	NA	J. Dodson

WELL DEVELOPMENT SUMMARY TABLE

Well No.: 01503

Installation Date: NA

Well Description: 4-in. PVC

Volume Calculation: (19.5 - 7.6) x 0.653 + (19.5 - 7.6) x 0.591
1 Vol = 14.8 gal
5 Vol = 74 gal

Ground Elevation: 5263.5 feet

Depth to Water; BGS: 7.6 feet
Elevation: 5255.9 feet

Depth to Bottom; BGS: 19.5 feet
Elevation: 5244 feet

Date Purged	Date Sampled	Method Purged	Amount Removed (gal)	Cumulative Total (gal)	pH	Conductivity	Color	Geologist
6-1-89		Pump	Initial*	Initial	11.95	1800	NA	S. Morrissette
			40/dry	40	11.98	1900	NA	
6-2-89		Pump	18/dry	58	11.68	1810	NA	S. Morrissette
			16/dry	74	11.62	1720	NA	
	6-2-89	Bail	0	74	11.59	1800	NA	S. Morrissette

* Well was pumped dry 3 times 6-1-89. *Volumes No.1 & No. 2 were not noted.*

WELL DEVELOPMENT SUMMARY TABLE

Well No.: 01504

Installation Date: NA

Well Description: 4-in. PVC

Volume Calculation: (18.9 - 8) x 0.653 + (18.9 - 8) x 0.591
1 Vol = 13.6 gal
5 Vol = 67.8 gal
(18.9 - 7.5) x 0.653 + (18.9 - 7.5) x 0.591
1 Vol = 14.2 gal
5 Vol = 71 gal

Ground Elevation: 5263.3 feet

Depth to Water; BGS: 8 feet (5-3-89)
7.5 feet (5-31-89)
Elevation: 5255.3 feet
5255.8 feet

Depth to Bottom; BGS: 18.9 feet
Elevation: 5244-4 feet

Date Purged	Date Sampled	Method Purged	Amount Removed (gal)	Cumulative Total (gal)	pH	Conductivity	Color	Geologist
5-3-89		Pump	15	15	12.4	5200	NA	B. Hedenkamp
			10	25	12.4	6000	NA	
			10	35	12.5	5900	NA	
			2	37	NA	NA	NA	
	5-3-89	Bail	NA	37	NA	NA	NA	B. Hedenkamp
5-31-89		Pump	28/dry	28	12.61	6600	NA	S. Morrissette
			14/dry	42	NA	NA	NA	
			13/dry	55	12.57	6200	NA	
			16	71	NA	NA	NA	
	5-31-89	Bail	NA	71	NA	NA	NA	S. Morrissette

WELL DEVELOPMENT SUMMARY TABLE

Well No.: 01524

Installation Date: NA

Well Description: 4-in. PVC

Volume Calculation: (22.3 - 5.3) x 0.653 + (22.3 - 5.3) x 0.591
1 Vol = 21.1 gal
5 Vol = 105.7 gal

Ground Elevation: 5263 feet

Depth to Water; BGS: 5.3 feet
Elevation: 5257.7 feet

Depth to Bottom; BGS: 22.3 feet
Elevation: 5240.7 feet

Date Purged	Date Sampled	Method Purged	Amount Removed (gal)	Cumulative Total (gal)	pH	Conductivity	Color	Geologist
5-25-89		Bail*	5	5	7.89	1000	brown	J. Dodson
			15	20	8.22	830	brown	
			15	35	8.06	900	brown	
			25	60	8.16	900	brown	
			11	71	NA	NA	NA	
	5-25-89	Bail	NA	71	NA	NA	NA	J. Dodson

* Well was bailed dry twice while purging. Volumes when well went dry were not noted.

APPENDIX J
SOIL AND GAS SAMPLING RESULTS

SOIL GAS AND SOIL SAMPLING RESULTS
ROCKY MOUNTAIN ARSENAL
COMMERCE CITY, CO
CONC'S REPORTED IN ug/l FOR SOIL GAS AND ug/kg FOR SOIL

LOCATION	TCE	1,2 trans DCE	1,2 cis DCE	1,2 DCA	1,1 DCE	BEN-ZENE	TOLUENE	ETHYL BENZENE	M & P XYLENES	O-XYLENE	COMMENTS
FB7JULY89 SAMPLING TRAIN	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	<0.01	<0.01	
FB7JULY89 ATMOSPHERIC	<0.01	0.01	<0.01	0.01	<0.01	0.01	0.01	<0.01	0.01	<0.01	
G5 @ 5'	0.06	0.01	0.01	0.02	0.06	0.02	0.12	0.05	0.15	0.05	
G5 @ 10'	0.50	<0.01	<0.01	0.01	0.03	0.01	0.03	0.01	0.04	0.03	
G5 @ 15'A	0.35	<0.01	<0.01	<0.01	<0.01	<0.01	0.07	0.02	0.02	0.01	
G5 @ 15'B	0.41	<0.01	<0.01	<0.01	0.04	<0.01	0.03	<0.01	<0.01	<0.01	
G5 5.5 @ 15'A	23.9	<0.01	0.57	<0.01	0.09	<0.01	0.03	<0.01	0.01	<0.01	
G5 5.5 @ 15'B	26.8	<0.01	0.83	<0.01	0.07	<0.01	0.06	0.01	0.07	0.02	
G5 5.5 @ 10'	36.3	<0.01	0.04	<0.01	0.02	0.01	0.04	0.01	0.04	0.01	
G5 5.5 @ 5'	16.8	<0.01	0.02	<0.01	<0.01	0.01	0.03	0.01	0.03	0.02	
H6 @ 15'	11.2	0.01	0.01	0.01	0.02	0.03	0.05	0.05	0.12	0.06	
G5 5.5 @ 20'	24.4	0.05	1.19	<0.01	0.05	0.03	0.04	0.03	0.10	0.04	
H6 @ 10'A	8.22	0.01	<0.01	<0.01	<0.01	0.01	0.09	0.03	0.06	0.02	
H6 @ 10'B	8.73	<0.01	<0.01	<0.01	<0.01	0.01	0.04	0.01	0.04	0.01	
H6 @ 5'	10.3	0.02	0.01	0.03	0.06	0.03	0.05	0.04	0.10	0.05	
G5 5.25 @ 10'	22.4	<0.01	0.24	<0.01	0.08	0.02	0.08	0.03	0.08	0.04	

SOIL GAS AND SOIL SAMPLING RESULTS
ROCKY MOUNTAIN ARSENAL
COMMERCE CITY, CO
CONC'S REPORTED IN ug/l FOR SOIL GAS AND ug/kg FOR SOIL

LOCATION	TCE	1,2 trans DCE	1,2 cis DCE	1,2 DCA	1,1 DCE	BEN-ZENE	TOLUENE	ETHYL BENZENE	M & P XYLENES	O-XYLENE	COMMENTS
FS8JULY SAMPLING TRAIN	0.01	<0.01	<0.01	<0.01	<0.01	0.10	0.29	0.06	0.21	0.08	
FB8JULY ATMOSPHERIC	<0.01	<0.01	<0.01	<0.01	<0.01	0.04	0.06	0.01	0.04	0.02	
G5 5.25 @ 15'	16.4	<0.01	0.07	<0.01	<0.01	0.11	0.05	0.01	0.02	0.01	1,1,1 TCA ALSO DETECTED
G5 5.75 @ 15'	19.1	<0.01	3.13	0.01	<0.01	<0.01	0.01	<0.01	0.01	<0.01	
G5.5 @ 15'	2.54	<0.01	<0.01	0.03	<0.01	0.03	0.08	0.03	0.09	0.04	
G6 @ 15'	5.30	<0.01	<0.01	0.01	<0.01	0.03	0.14	0.03	0.08	0.07	
G5 6 @ 15'	7.08	<0.01	<0.01	<0.01	<0.01	0.03	0.08	0.03	0.09	0.01	
G7 @ 15'A	1.91	<0.01	<0.01	0.01	<0.01	0.03	0.09	0.07	0.16	0.09	
G7 @ 15'B	2.26	<0.01	<0.01	0.02	<0.01	0.03	0.09	0.05	0.16	0.08	
G2.5-5.5 @ 15'A	4.07	<0.01	0.04	<0.01	<0.01	0.04	0.12	0.04	0.13	0.05	
G2.5-5.5 @ 15'B	3.92	<0.01	0.03	<0.01	<0.01	0.04	0.09	0.03	0.09	0.05	
G5 5 @ 15	8.95	<0.01	<0.01	<0.01	0.10	0.03	0.09	0.06	0.21	0.08	1,1,1 TCA ALSO DETECTED
G5 @ 5'B	0.22	<0.01	<0.01	<0.01	<0.01	0.01	0.11	0.04	0.15	0.06	

SOIL GAS AND SOIL SAMPLING RESULTS
ROCKY MOUNTAIN ARSENAL
COMMERCE CITY, CO
CONC'S REPORTED IN ug/l FOR SOIL GAS AND ug/kg FOR SOIL

LOCATION	TCE	1,2 trans DCE	1,2 cis DCE	1,2 DCA	1,1 DCE	BEN-ZENE	TOLUENE	ETHYL BENZENE	M & P XYLENES	O-XYLENE	COMMENTS
502.2 G5 5.25 @ 10'B	25.5	<0.01	0.07	<0.01	<0.01	0.01	<0.01	0.04	0.09	0.04	0.45uG/l 1,1,1 TCA & 0.01 PCE
502.2 G5 5 @ 15'B	10.0	<0.01	<0.01	<0.01	<0.01	0.05	0.12	0.11	0.29	0.15	3.66 uG/l 1,1,1 TCA
502.2 F88JULY II SAMPLING TRAIN	<0.01	<0.01	<0.01	<0.01	<0.01	0.03	0.28	0.31	0.98	0.40	
FB8JULY89 II ATMOSPHERIC	<0.01	<0.01	<0.01	<0.01	<0.01	0.08	0.07	0.02	0.07	0.03	
I1 @ 15'	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	0.03	0.07	0.09	0.05	PCE = 1.31 uG/l
I2 @ 15'	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	0.05	0.03	0.11	0.07	PCE = 0.75 uG/l
I3 @ 15'	<0.01	<0.01	<0.01	<0.01	<0.01	0.03	0.06	0.03	0.06	0.04	
H8 @ 15'	0.80	<0.01	<0.01	<0.01	<0.01	0.01	0.02	0.01	0.06	0.01	
F8 @ 15'	0.32	<0.01	<0.01	0.03	<0.01	0.01	0.04	0.05	0.06	0.01	
I6 @ 15'A	0.05	<0.01	<0.01	<0.01	<0.01	0.02	0.01	0.01	0.05	0.01	
I6 @ 15'B	0.06	<0.01	<0.01	<0.01	<0.01	0.02	0.03	0.01	0.06	0.01	
I4 @ 15'	0.02	<0.01	<0.01	<0.01	0.04	0.01	0.05	0.02	0.04	<0.01	
I5 @ 15'	1.11	<0.01	<0.01	0.02	<0.01	0.01	0.02	0.02	0.06	0.06	
FB9JULY89 SAMPLING TRAIN	<0.01	<0.01	<0.01	<0.01	<0.01	0.06	0.04	0.05	0.04	0.01	

SOIL GAS AND SOIL SAMPLING RESULTS
ROCKY MOUNTAIN ARSENAL
COMMERCE CITY, CO
CONC'S REPORTED IN ug/l FOR SOIL GAS AND ug/kg FOR SOIL

LOCATION	TCE	1,2 trans DCE	1,2 cis DCE	1,2 DCA	1,1 DCE	BEN-ZENE	TOLUENE	ETHYL BENZENE	M & P XYLENES	O-XYLENE	COMMENTS
FB9JULY89 ATMOSPHERIC	<0.01	<0.01	<0.01	<0.01	0.01	0.09	0.08	0.02	0.06	0.02	
F6 @ 15'	3.25	<0.01	<0.01	<0.01	<0.01	0.02	0.05	0.01	0.01	0.02	
I7 @ 15'	0.23	<0.01	<0.01	<0.01	<0.01	0.02	0.28	0.01	0.03	0.01	
F4 @ 15'	<0.01	<0.01	<0.01	0.06	<0.01	0.01	0.05	0.02	0.05	0.03	
D5 @ 15'	<0.01	<0.01	<0.01	0.02	<0.01	0.01	0.01	0.09	0.03	0.04	
D7 @ 15'	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	0.07	0.03	0.03	
D10 @ 15'	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	0.07	0.05	0.01	0.03	
F10 @ 15'	1.04	<0.01	<0.01	<0.01	<0.01	0.01	0.02	0.01	0.05	0.03	
FB9JULY89 II SAMPLE TRAIN	0.01	<0.01	<0.01	<0.01	<0.01	0.03	0.17	0.09	0.31	0.10	
FB9JULY89 II ATMOSPHERIC	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	0.03	0.01	0.02	0.01	
F14 @ 15'	1.82	<0.01	<0.01	<0.01	<0.01	0.01	0.04	0.02	0.10	0.04	
D14 @ 15'	0.01	<0.01	<0.01	<0.01	<0.01	0.01	0.03	0.02	0.05	0.04	
FB10JULY89 ATMOSPHERIC	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.10	0.02	0.01	0.01	
FB10JULY89 SAMPLE TRAIN	<0.01	<0.01	<0.01	<0.01	<0.01	0.06	0.11	0.03	0.08	0.03	
I12 @ 15'	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	0.03	0.01	0.02	0.01	
I8 @ 15'A	0.03	<0.01	<0.01	<0.01	<0.01	0.01	0.02	0.01	0.03	0.02	
I8 @ 15'B	0.03	<0.01	<0.01	<0.01	<0.01	0.01	0.04	0.01	0.03	0.01	

SOIL GAS AND SOIL SAMPLING RESULTS
ROCKY MOUNTAIN ARSENAL
COMMERCE CITY, CO
CONC'S REPORTED IN ug/l FOR SOIL GAS AND ug/kg FOR SOIL

LOCATION	TCE	1,2 trans DCE	1,2 cis DCE	1,2 DCA	1,1 DCE	BEN-NE	TOLUENE	ETHYL BENZENE	M & P XYLENES	O-XYLENE	COMMENTS
H5.5 @ 15'	12.2	<0.01	<0.01	<0.01	<0.01	0.01	0.02	0.01	0.03	0.01	
H12 @ 15'	0.01	<0.01	<0.01	<0.01	<0.01	0.01	0.04	0.04	0.03	0.01	
H5 @ 15'	13.7	<0.01	<0.01	<0.01	<0.01	0.02	0.02	0.08	0.02	0.01	
G0.75-5.5 @ 15'B	154	0.05	19.9	<0.01	0.05	.01	ND	0.27	.25	0.11	ND = NOT DETECTED,BURIED IN TCE
FB10JULY II SAMPLE TRAIN	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	0.01	<0.01	0.01	
FB10JULY II ATMOSPHERIC	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
D12 @ 15'	0.02	<0.01	<0.01	0.02	<0.01	0.01	0.02	0.01	0.04	0.01	
F12 @ 15'	1.61	<0.01	<0.01	<0.01	<0.01	0.01	0.01	0.01	0.04	0.02	
D8 @ 15'	0.01	<0.01	<0.01	<0.01	<0.01	0.01	0.04	0.01	0.04	0.01	
FB11JULY89 SAMPLING TRAIN	<0.01	<0.01	<0.01	<0.01	<0.01	0.06	0.10	0.03	0.09	0.03	
FB11JULY89 ATMOSPHERIC	<0.01	<0.01	<0.01	<0.01	<0.01	0.16	0.22	0.06	0.17	0.06	
J10 @ 15'	0.02	<0.01	<0.01	<0.01	<0.01	0.02	0.08	<0.01	<0.01	0.05	
H4 @ 15'	1.67	<0.01	<0.01	<0.01	0.80	0.05	0.06	0.05	0.09	0.01	
H7 @ 15'	1.05	0.06	0.05	0.02	0.08	0.06	0.08	0.08	0.06	0.04	
G8 @ 15'	2.88	<0.01	<0.01	0.01	<0.01	0.03	0.06	0.06	0.30	0.02	
G4 @ 15'	0.02	,0.01	<0.01	0.01	0.05	0.05	0.08	0.03	0.05	0.03	

SOIL GAS AND SOIL SAMPLING RESULTS
ROCKY MOUNTAIN ARSENAL
COMMERCE CITY, CO
CONC'S REPORTED IN ug/l FOR SOIL GAS AND ug/kg FOR SOIL

LOCATION	TCE	1,2 trans DCE	1,2 cis DCE	1,2 DCA	1,1 DCE	BEN-ZENE	TOLUENE	ETHYL BENZENE	M & P XYLENES	O-XYLENE	COMMENTS
E3 @ 15'	0.01	<0.01	<0.01	<0.01	<0.01	0.04	0.07	0.03	0.07	0.02	
J8 @ 15'	0.02	<0.01	<0.01	0.02	<0.01	0.04	0.05	0.06	0.06	0.02	
J5 @ 15'A	0.06	<0.01	<0.01	<0.01	0.02	0.02	0.03	0.01	0.04	0.01	
J5 @ 15'B	0.06	<0.01	<0.01	<0.01	0.02	0.03	0.04	0.02	0.08	0.01	
FB11JULY II SAMPLE TRAIN	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.15	0.06	0.15	0.05	
C12 @ 15'	0.02	<0.01	<0.01	0.01	<0.01	0.04	0.05	0.07	0.09	0.03	
F16 @ 15'	0.20	<0.01	<0.01	0.01	<0.01	0.03	0.05	0.05	0.09	0.03	
F18 @ 15'	0.01	<0.01	<0.01	0.01	<0.01	0.03	0.04	0.03	0.09	<0.01	
FB12JULY89 SAMPLING TRAIN	<0.01	<0.01	<0.01	<0.01	<0.01	0.14	0.20	0.04	0.13	0.05	
FB12JULY89 ATMOSPHERIC	<0.01	<0.01	<0.01	<0.01	<0.01	0.04	0.04	0.01	0.03	0.01	
G10 @ 15'	0.39	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	0.02	0.04	0.02	
G5.9-5.7 @ 15'B	268	0.03	2.61	<0.01	0.03	0.01	0.01	0.02	0.03	0.01	
G5.60-5.70	603	<0.01	27.9	<0.01	<0.01	0.03	ND	0.01	0.03	0.01	ND = NOT DETECTED,BURIED IN TCE PEAK
FB13JULY89 ATMOSPHERIC	<0.01	<0.01	<0.01	<0.01	<0.01	0.06	0.09	0.02	0.05	0.02	
G14 @ 15'	0.68	<0.01	<0.01	<0.01	<0.01	0.02	0.03	0.04	0.10	0.04	
G12 @ 15'	1.38	<0.01	<0.01	0.02	<0.01	0.02	0.03	0.04	0.09	0.03	

SOIL GAS AND SOIL SAMPLING RESULTS
ROCKY MOUNTAIN ARSENAL
COMMERCE CITY, CO
CONC'S REPORTED IN ug/l FOR SOIL GAS AND ug/kg FOR SOIL

LOCATION	TCE	1,2 trans DCE	1,2 cis DCE	1,2 DCA	1,1 DCE	BEN-ZENE	TOLUENE	ETHYL BENZENE	M & P XYLENES	O-XYLENE	COMMENTS
D16 @ 15'	0.14	<0.01	<0.01	<0.01	<0.01	<0.01	0.03	0.02	0.04	0.01	
D18 @ 15'	0.50	<0.01	<0.01	<0.01	<0.01	0.02	0.03	0.03	0.07	0.02	
E14 @ 15'	0.83	<0.01	<0.01	<0.01	<0.01	0.02	0.03	0.02	0.05	0.02	
E16 @ 15'	0.38	<0.01	<0.01	<0.01	<0.01	0.03	0.04	0.03	0.06	0.05	
E7 @ 15'	0.01	<0.01	<0.01	<0.01	<0.01	0.02	0.02	0.02	0.04	0.02	
H3 @ 15'A	0.01	<0.01	<0.01	0.04	0.52	0.02	0.02	0.02	0.04	0.01	
H3 @ 15'B	0.01	<0.01	<0.01	<0.01	0.22	0.02	0.01	0.04	0.05	0.02	
F813JULY89 SAMPLING TRAIN	0.04	<0.01	<0.01	0.03	<0.01	0.02	0.05	0.07	0.14	0.06	
F813JULY89 II ATM	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	0.02	0.01	0.01	<0.01	
B19 @ 15'	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	0.02	0.05	0.03	
E10 @ 15'	0.06	<0.01	<0.01	0.01	<0.01	0.01	0.01	0.01	0.03	0.01	
H16 @ 15'	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	0.02	0.03	0.01	
F814JULY89 SAMPLING TRAIN	<0.01	<0.01	<0.01	<0.01	<0.01	0.04	0.06	0.03	0.09	0.04	
F814JULY89 ATMOSPHERIC	<0.01	<0.01	<0.01	<0.01	<0.01	0.04	0.12	0.03	0.08	0.58	
E12 @ 15'	0.21	<0.01	<0.01	0.02	<0.01	0.03	0.05	0.06	0.12	0.04	
C16 @ 15'	0.02	<0.01	<0.01	0.07	<0.01	0.01	0.02	0.02	0.05	0.03	

SOIL GAS AND SOIL SAMPLING RESULTS
ROCKY MOUNTAIN ARSENAL
COMMERCE CITY, CO
CONC'S REPORTED IN ug/l FOR SOIL GAS AND ug/kg FOR SOIL

LOCATION	TCE	1,2 trans DCE	1,2 cis DCE	1,2 DCA	1,1 DCE	BEN-ZENE	TOLUENE	ETHYL BENZENE	M & P XYLENES	O-XYLENE	COMMENTS
H4.5 @ 15'	0.03	<0.01	<0.01	<0.01	0.38	0.02	0.02	0.03	0.08	0.02	1,1,1 TCA
G5.6-5.7 @ 30'A	96.4	<0.01	6.34	<0.01	<0.01	0.08	0.15	0.08	0.24	0.08	50.0ML SAMPLE
G5.6-5.7 @ 30'B	69.9	<0.01	6.28	<0.01	<0.01	0.04	0.06	0.04	0.10	0.04	100.0ML SAMPLE
G5.6-5.7 2 15'A	140	<0.01	<0.01	<0.01	<0.01	0.08	0.08	0.08	0.17	0.08	50.0ML SAMPLE
G5.6-5.7 2 15'B	107	<0.01	<0.01	<0.01	<0.01	0.02	ND	<0.01	0.02	<0.01	100.0 SAMPLE
G5.6-5.7 @ 5'	298	<0.01	17.2	<0.01	<0.01	0.03	ND	0.02	0.06	0.03	ND = NOT DETECTED BURIED IN TCE PEAK
F814JULY II SAMPLE TRAIN	0.36	<0.01	<0.01	0.04	<0.01	0.04	0.01	0.07	0.13	0.06	
F814JULY II ATMOSPHERIC	0.13	<0.01	<0.01	<0.01	<0.01	0.01	0.01	0.01	0.02	0.01	
G5.6-5.7 @ 15'A	136	<0.01	18.9	0.04	0.48	0.08	0.04	0.12	0.20	0.12	50.0ML SAMPLE
G5.6-5.7 @ 15'B	87.5	<0.01	14.8	0.10	0.12	0.08	0.01	0.01	0.01	0.01	100.0ML SAMPLE
H2O BLANK	<0.01	0.09	<0.01	<0.01	<0.01	0.13	0.34	0.01	0.18	0.09	
RINSATE # 1	<0.01	<0.01	<0.01	<0.01	<0.01	0.27	0.52	1.00	2.55	1.30	
G5.6-5.7 @	151	<0.01	3.54	<0.01	<0.01	1.44	0.76	3.68	4.94	9.20	

SOIL GAS AND SOIL SAMPLING RESULTS
ROCKY MOUNTAIN ARSENAL
COMMERCE CITY, CO
CONC'S REPORTED IN ug/l FOR SOIL GAS AND ug/kg FOR SOIL

LOCATION	TCE	1,2 trans DCE	1,2 cis DCE	1,2 DCA	1,1 DCE	BEN-ZENE	TOLUENE	ETHYL BENZENE	M & P XYLENES	O-XYLENE	COMMENTS
30' SOIL G5.6-5.7 @	67.7	<0.01	0.98	<0.01	<0.01	0.28	0.48	0.82	2.46	0.82	
5' SOIL G5.6-5.7 @	450	2.80	17.4	4.30	<0.01	8.60	9.68	4.91	9.46	7.57	
15'A SOIL G5.6-5.7 @	389	<0.01	4.56	<0.01	<0.01	2.38	3.05	8.14	5.57	4.56	
15'B SOIL											

APPENDIX K
TARGET ANALYTES LIST

Method

Organo Sulphur Compounds/GCFPD

Analyte

DMDS	Dimethyl Disulfide
OXAT	Oxathiane
DITH	Dithiane
BTZ	Benzothiazole
CPMS	4-Chlorophenylmethyl sulfide
CPMSO	4-Chlorophenylmethyl sulfoxide
CPMSO2	4-Chlorophenylmethyl sulfone

Method

Volitile Aromatic Organic Compounds/GCFPD

Analyte

C6H6	Benzene
MEC6H5	Toluene
CLC6H5	Chlorobenzene
ETC6H5	Ethylbenzene
13DMB	1,3-Dimethylbenzene/M-xylene
XYLEN	Xylenes
12DCLB	1,2-Dichlorobenzene
13DCLB	1,3-Dichlorobenzene
14DCLB	1,4-Dichlorobenzene

Method

Semivolatile Organic Compounds/GCMS

Analyte

13DBD4	1,3-Dichlorobenzene-D4
2CLPD4	2-Chlorophenol-D4
ALDRN	Aldrin
ATZ	Atrazine
CL6CP	Hexachlorocyclopentadiene
CLDAN	Chlordane
CPMS	4-Chlorophenylmethyl Sulfide

CPMSO	4-Chlorophenylmethyl Sulfoxide
CPMSO2	4-Chlorophenylmethyl Sulfone
DBCP	Dibromochloropropane
DCPD	Dicyclopentadiene
DDVP	Vapona
DEPD4	Diethyl Phthalate-D4
DIMP	Diisopropylmethyl Phosphonate
DITH	Dithiane
DLDRN	Dieldrin
DMMP	Dimethylmethyl Phosphate
DNOPD4	DI-N-Octyl Phthalate-D4
ENDRN	Endrin
ISODR	Isodrin
MLTHN	Malathion
OXAT	1,4-Oxathiane
PPDDE	2,2-BIS (Para-Chlorophenyl)-1,1-Dichloroethene
PPDDT	2,2-BIS (Oara-Chlorophenyl)-1,1,1-Trichloroethane
PRTHN	Parathion
SUPONA	Supona/2-Chloro-1-(2,4-Dichlorophenyl) Vinyl Diethyl Phosphate

Method

Organochlorine Pesticides/GCECD

Analyte

ALDRN	Aldrin
CL6CP	Hexachlorocyclopentadiene
CLDAN	Chlordane
DLDRN	Dieldrin
ENDRN	Endrin
ISODR	Isodrin
PPDDE	2,2-BIS (Para-Chlorophenyl)-1,1-Dichloroethese
PPDDT	2,2-BIS (Para-Chlorophenyl)-1,1,1-Trichloroethane

Method

Dibromochloropropane/GCECD

Analyte

DBCP	Dibromochloropropane

Method

Volatile Halogenated Organic Compounds/GCCON

Analyte

BCHPD	Bicyclo [2,2,1] Hepta-2,5-Diene
DCPD	Dicyclopentadiene
MIBK	Methylisobutyl Ketone

Method

Volatile Organic Compounds/GCMS

Analyte

111TCE	1,1,1-Trichloroethane
TCLEA	1,1,2,2-Tetrachloroethane
112TCE	1,1,2-Trichloroethane
11DCLE	1,1-Dichloroethane
11DCE	1,1-Dichloroethylene/1,1-Dichloroethene
DCLB	1,2-Dichlorobenzene and 1,4-Dichlorobenzene
12DCLE	1,2-Dichloroethane
12DCD4	1,2-Dichloroethane-D4
12DCE	1,2-Dichloroethylenes (CIS and Trans Isomers)
12DCLP	1,2-Dichloropropane
13DCLB	1,3-Dichlorobenzene
13DCP	1,3-Dichloropropane
2CLEVE	2,Chloroethylvinyl Ether/(2-Chloroethoxy) Ethene
C6H6	Benzene
BRDCLM	Bromodichloromethane
CHBR3	Bromoform
CCL4	Carbon Tetrachloride
CLC6H5	Chlorobenzene
C2H5CL	Chloroethane
CH3CL	Chloromethane
DBRCLM	Dibromochloromethane
CHCL3	Chloroform
ETBD10	Ethylbenzene-D10
CH2CL2	Methylene Chloride
CD2CL2	Methylene Chloride-D2
TCLEE	Tetrachloroethylene/Tetrachloroethene
MEC6D8	Toluene-D8
TRCLE	Trichloroethylene/Trichloroethene
C2H3CL	Chloroehtene/Vinyl Chloride
ACRYLO	Acrylonitrile
CCL3F	Trichlorofluoromethane
13dmb	1,3-Dimethylbenzene/M-Xylene
Xylen	Xylenes
ACET	Acetone
MEK	Methylethyl Ketone/2-Butanone
MIBK	Methylisobutyl Ketone

CH3BR	Bromomethane
MEC6H5	Toluene
ETC6H5	Ethylbenzene
DMK	Dimezhylketone

Method

Volatile Hydrocarbon Compounds/GCFID

Analyte

BCHPD	Biocyclo [2,2,1] Hepta-2,5-Diene
DCPD	Dicyclopentadiene
MIBK	Methylisobutyl Ketone

Method

Metals/ICP

Analyte

CA	Calcium
CD	Cadmium
CR	Chromium
CU	Copper
K	Potassium
MG	Magnesium
NA	Sodium
PB	Lead
ZN	Zinc

Method

Arsenic/AA

Analyte

AS	Arsenic

Method

Mercury/AA

Analyte

HG	Mercury