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FINAL

REMEDIAL REMOVAL
INTEGRATED INVESTIGATION REPORT
AGRICULTURE STREET LANDFILL
NEW ORLEANS, ORLEANS PARISH, LOUISIANA
VOLUME 3

March 1995

Prepared for:

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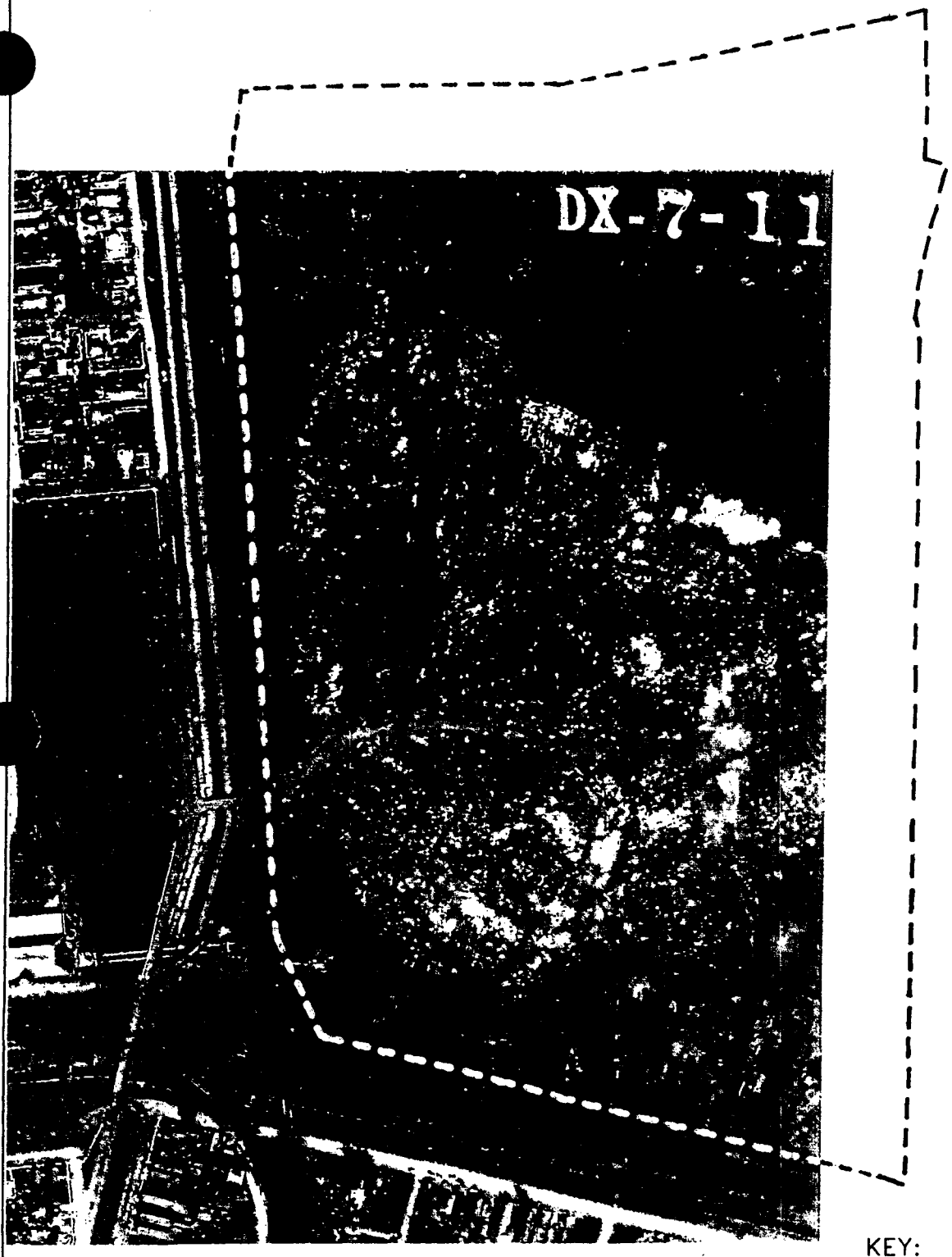
APPENDIX A

AERIAL PHOTOGRAPHS

SOURCE: United States Environmental Protection Agency, Region 6, 1994, as modified by Ecology and Environment, Inc.,1994

Figure A-1 AERIAL PHOTOGRAPH-1936
AGRICULTURE STREET LANDFILL SITE, NEW ORLEANS, LOUISIANA

00159.0002



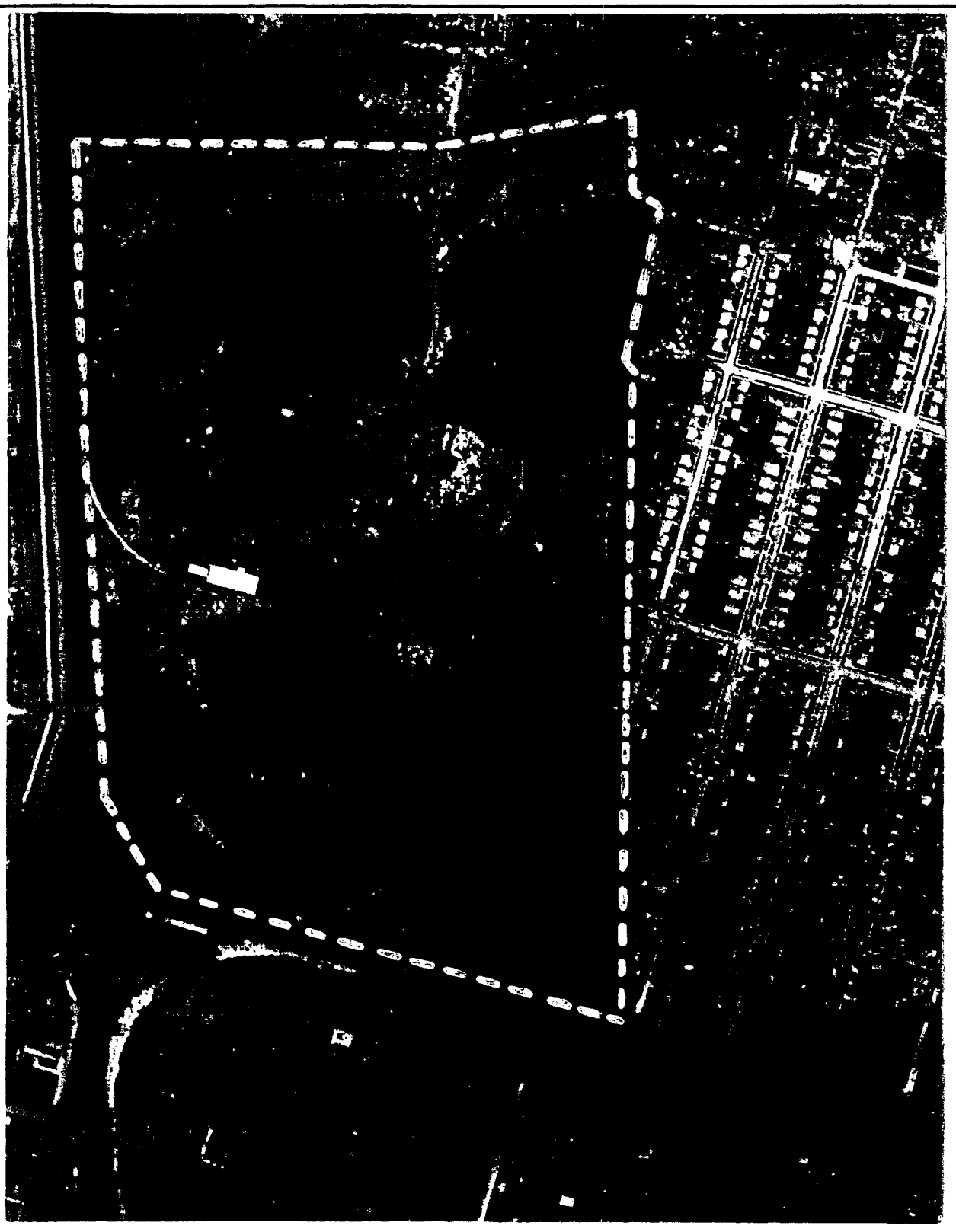
KEY:

NOTE: Boundary Extends Beyond Area of Photograph

Approximate 1952 Landfill Boundary

SOURCE: Louisiana Archives, New Orleans Public Library, as modified by Ecology and Environment, Inc.,1994

Figure A-2 AERIAL PHOTOGRAPH-1946
AGRICULTURE STREET LANDFILL SITE, NEW ORLEANS, LOUISIANA



KEY:

Approximate 1952 Landfill Boundary

SOURCE: Louisiana Department of Transportation, as modified by Ecology and Environment, Inc.,1994

Figure A-3 AERIAL PHOTOGRAPH-1951
AGRICULTURE STREET LANDFILL SITE, NEW ORLEANS, LOUISIANA

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KEY:

Approximate 1952 Landfill Boundary

SOURCE: Environmental Monitoring Systems Laboratory, 1986, as modified by Ecology and Environment, Inc.,1994

Figure A-4 AERIAL PHOTOGRAPH-1952
AGRICULTURE STREET LANDFILL SITE, NEW ORLEANS, LOUISIANA

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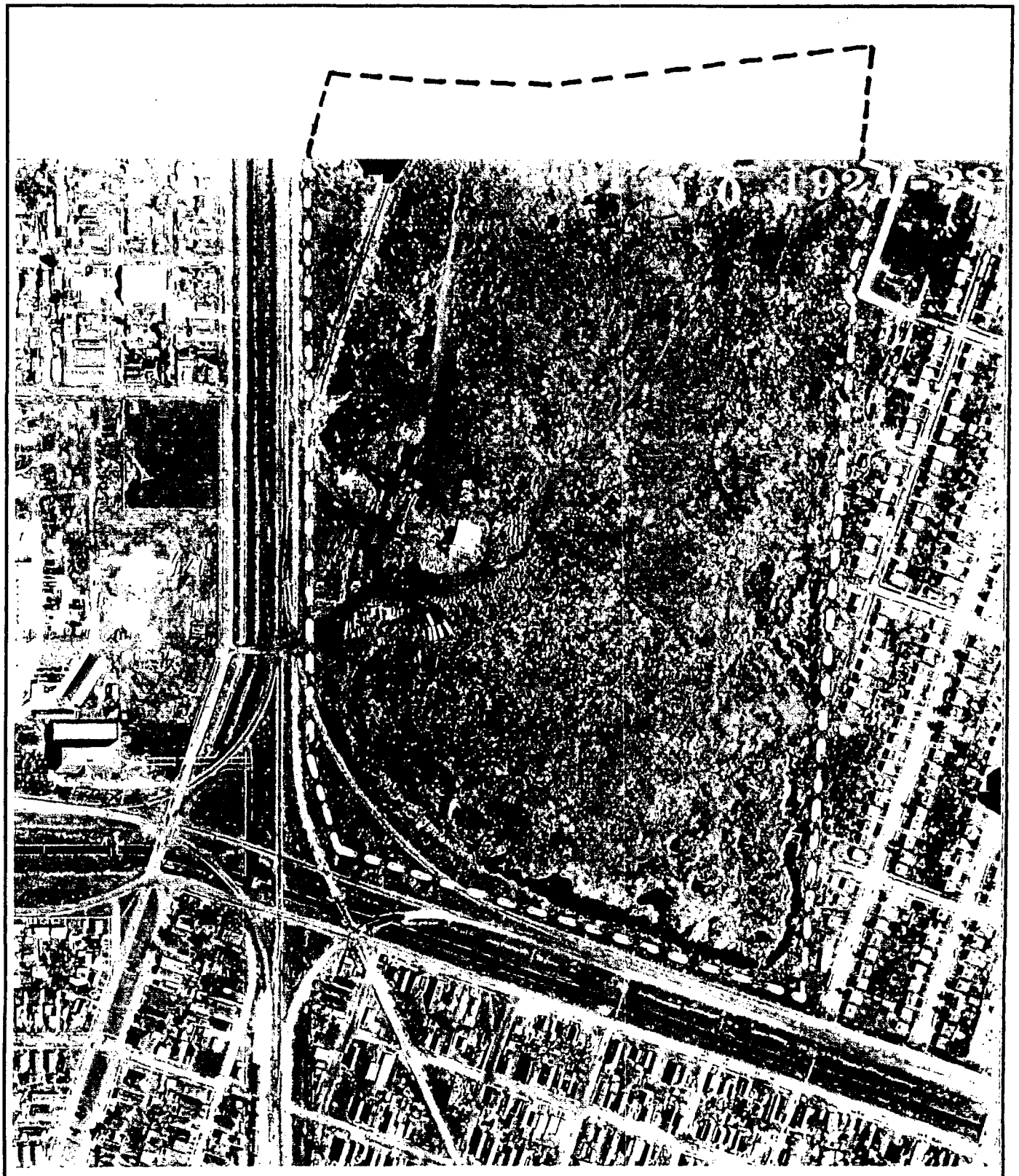

KEY:

NOTE: Boundary Extends Beyond Area of Photograph

Approximate 1952 Landfill Boundary

SOURCE: Louisiana Archives, New Orleans Public Library, as modified by Ecology and Environment, Inc.,1994

Figure A-5 AERIAL PHOTOGRAPH-1960
AGRICULTURE STREET LANDFILL SITE, NEW ORLEANS, LOUISIANA

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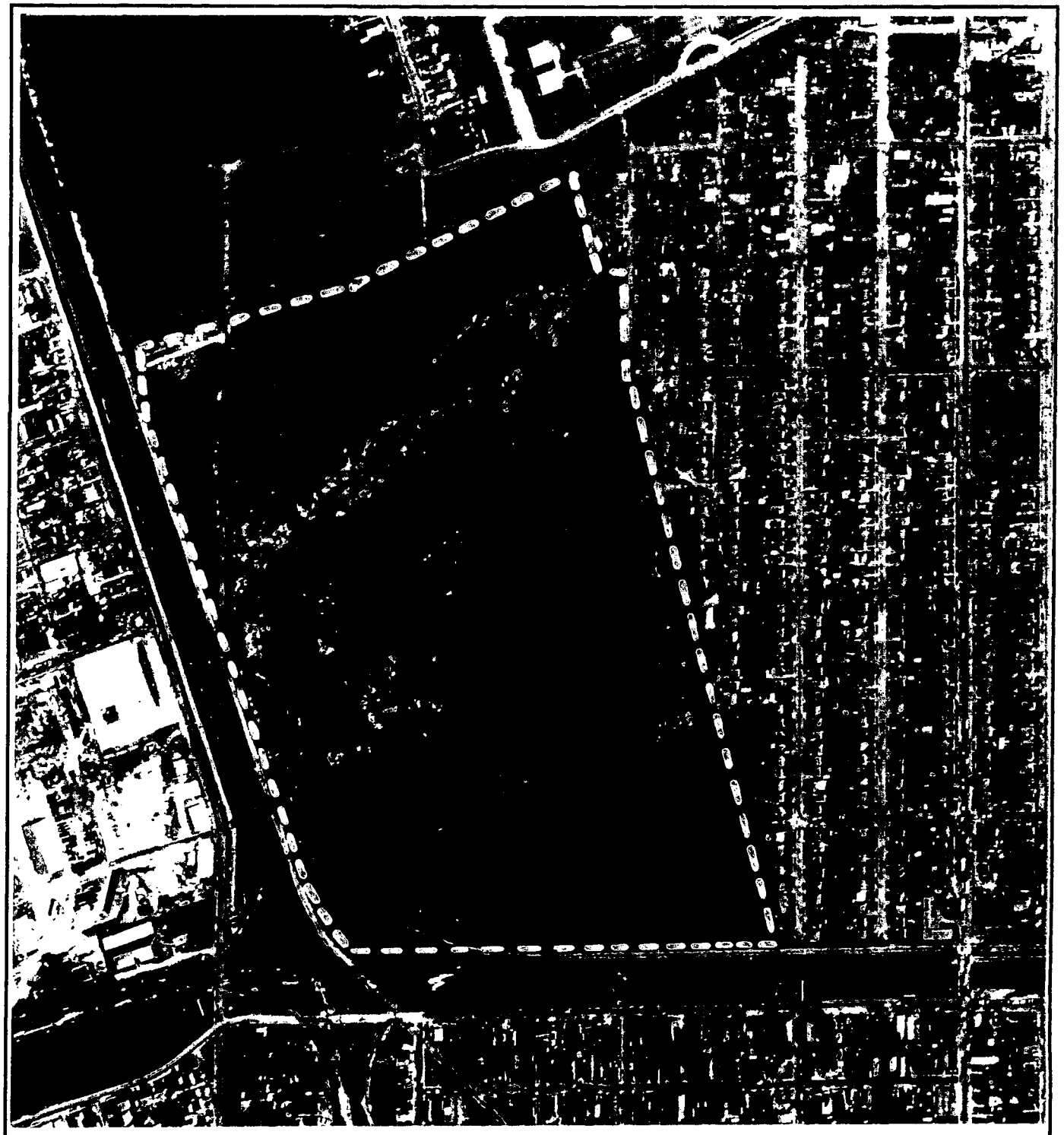

KEY:

Approximate 1952 Landfill Boundary

SOURCE: Environmental Monitoring Systems Laboratory, 1986, as modified by Ecology and Environment, Inc.,1994

Figure A-6 AERIAL PHOTOGRAPH-1964
AGRICULTURE STREET LANDFILL SITE, NEW ORLEANS, LOUISIANA

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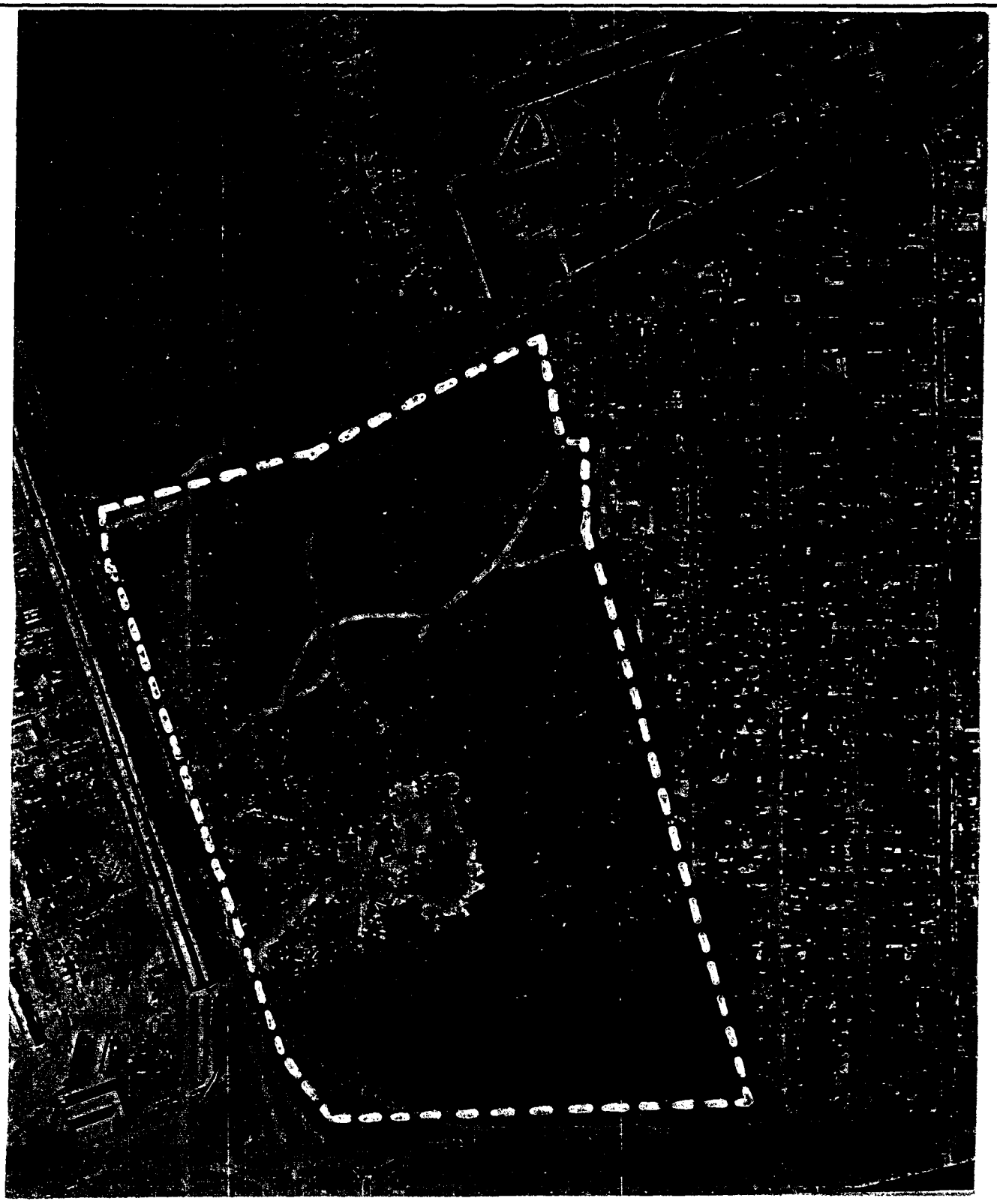

KEY:

Approximate 1952 Landfill Boundary

SOURCE: Louisiana Department of Transportation, as modified by Ecology and Environment, Inc.,1994

Figure A-7 AERIAL PHOTOGRAPH-1967
AGRICULTURE STREET LANDFILL SITE, NEW ORLEANS, LOUISIANA

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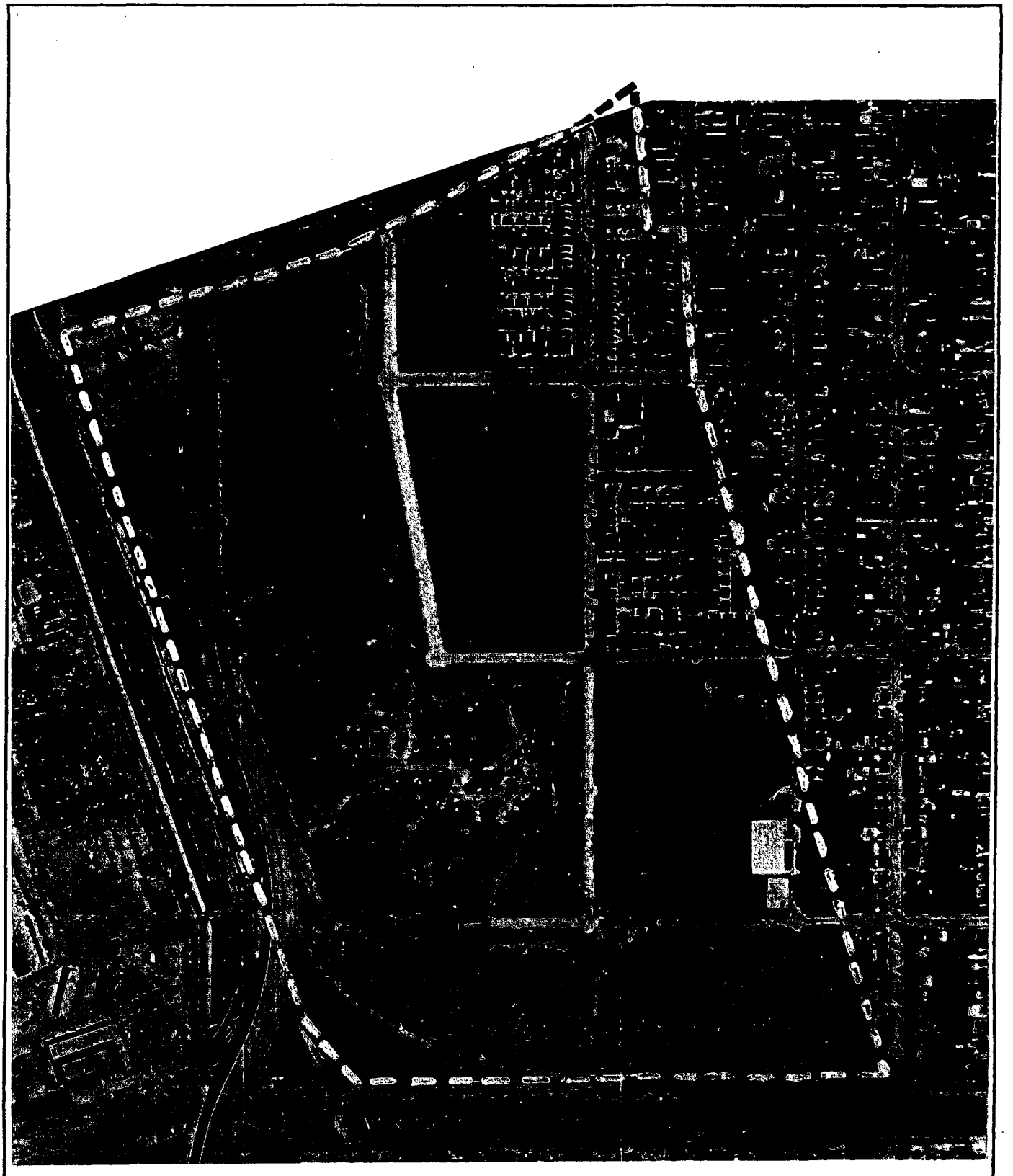

KEY:

NOTE: Boundary Extends Beyond Area of Photograph

Approximate 1952 Landfill Boundary

SOURCE: Louisiana Department of Transportation, as modified by Ecology and Environment, Inc.,1994

Figure A-8 AERIAL PHOTOGRAPH-OCTOBER 1977
AGRICULTURE STREET LANDFILL SITE, NEW ORLEANS, LOUISIANA

00159.0009

KEY:

Approximate 1952 Landfill Boundary

SOURCE: Environmental Monitoring Systems Laboratory, 1986, as modified by Ecology and Environment, Inc.,1994

Figure A-9 INFRARED AERIAL PHOTOGRAPH-NOVEMBER 1977
AGRICULTURE STREET LANDFILL SITE, NEW ORLEANS, LOUISIANA

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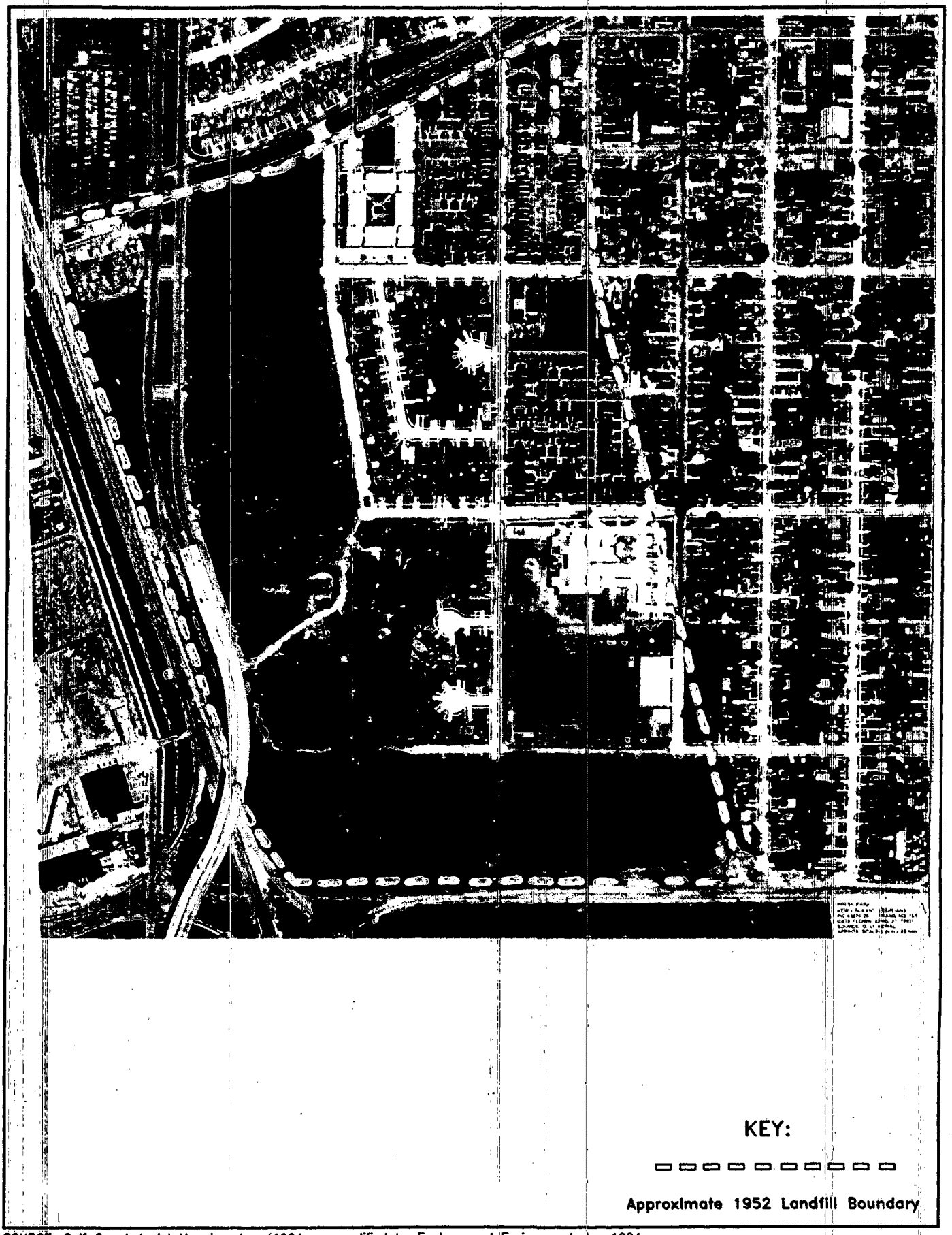
KEY:

Approximate 1952 Landfill Boundary

SOURCE: Environmental Monitoring Systems Laboratory, 1986, as modified by Ecology and Environment, Inc.,1994

Figure A-10 AERIAL PHOTOGRAPH-1986
AGRICULTURE STREET LANDFILL SITE, NEW ORLEANS, LOUISIANA



SOURCE: Gulf Coast Aerial Mapping, Inc., 1994, as modified by Ecology and Environment, Inc.,1994

Figure A-11 AERIAL PHOTOGRAPH-APRIL 1992
AGRICULTURE STREET LANDFILL SITE, NEW ORLEANS, LOUISIANA

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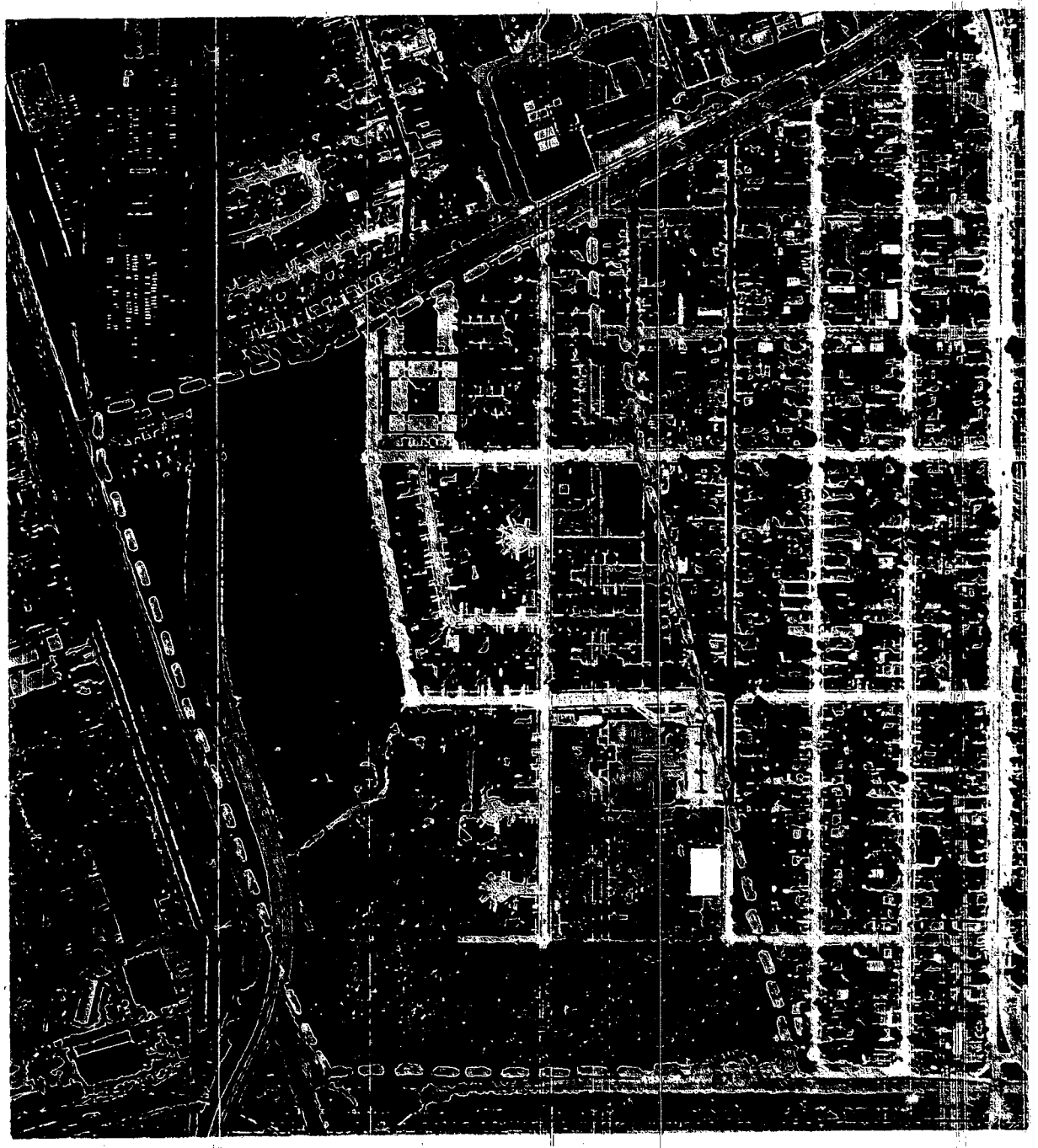

KEY:

Approximate 1952 Landfill Boundary

SOURCE: Gulf Coast Aerial Mapping, Inc., 1994, as modified by Ecology and Environment, Inc.,1994

Figure A-12 AERIAL PHOTOGRAPH-OCTOBER 1992
AGRICULTURE STREET LANDFILL SITE, NEW ORLEANS, LOUISIANA

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APPENDIX B

ADDITIONAL HISTORICAL INFORMATION

HISTORIC OVERVIEW
GARBAGE MANAGEMENT IN NEW ORLEANS

The following chronology was compiled by a researcher to provide an historical perspective of waste operations in New Orleans. This material includes additional details for the site history described in Section 1.5 of the Remedial Removal Integrated Investigation (RRII) report. The chronology is in the form of notes made by the researcher and has not been altered except to clarify reference sources, which are noted in full with the first reference and abbreviated thereafter.

1718- *Report of the Health and Sanitation Survey of the City of New Orleans 1918-1919* (*No Author*) Under French/Spanish rule, there was no direct sanitation supervision. When the United States assumed control of New Orleans, this continued.

1786 *A Short History of Street Cleaning and Garbage Collection in the City of New Orleans, LA,* by John E. Miller, 1951. Governor Miro, representing the Spanish Monarch, ordered that dead animals should not be left on the streets, but should be buried.

1798 Governor Gayoso ordered a service to be provided to collect garbage and refuse left on public streets. Very soon the city was divided into four districts for street cleaning, including garbage collection. This was modified in several ways in the years to come, but the principle of public street cleaning remained (Miller 1951).

1842 The City Surveyor was given the responsibility for street cleaning and repairs, and later, in 1852, a street commissioner was designated. The activities were closely ruled by the city council through complex and conflicting ordinances (Miller 1951).

1860 In 1860 an ordinance was passed requiring hotels and boarding houses to dispose of their own wastes into the river (like other commercial establishments) at the nuisance wharves around the city. Use of Sanitary police officers of one type or another became increasingly prevalent (Miller 1951).

1893 State Board of Health formed 1893. No organized garbage disposal, all household refuse, trash and garbage being dumped in an *ad hoc* manner in the streets - "Done in a slummiking and negligent fashion". The Department of Public Works, meant to keep the streets clean, was thought to have failed in its duties. The suggestion was made that, as elsewhere (for example in St. Louis), trash removal be carried out by contract - using a contractor to remove garbage — the contractor

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essentially pays the city to do so. *Times Democrat* (newspaper), Thursday, 4/13/1893, p. 4 column 1 (Report 1918-1919).

In a joint session of the Committees on Health and Police and Public Buildings, improved garbage management was discussed. Mr. Brand authored a resolution prompted by a fear of cholera. Suggested evaluating relative merits of floating the garbage out on the river, burning it, or mixing it with chemicals to create fertilizer (Times Democrat, Saturday, 4/22/1893, p. 4, column 6).

The question of removal of garbage has been referred to the Board of Health, discussed in a joint meeting, and the example of the City of St. Louis, provided as an ideal system, was reviewed. St. Louis is using fatty material to make soap, bones for knife handles, the rest as fertilizer. Used a crematorium to burn it - St. Louis and Buffalo use the Merz Universal Extractor and Construction company system. Dr. Fergusson of the Engle Furnace Co. of Des Moines said New Orleans spends $46,000 p.a. ($9,600 for garbage boats, $36,400 for carts — or 13.7 cents per boat or 52.9 cents for hauling, or 65.7 cents p.a. per yard cube.) Largest size Engle crematorium would destroy 75 cubic yards per day and could, short term, go to 175 cubic yards/day. Cost of a barrel of night soil equals a cubic yard in disposal cost (Times Democrat, 4/25/1893).

Three types of garbage disposal discussed — mentions problem of New York garbage, and how it contaminates the Long Island and New Jersey shores because of reliance on river dumping. But this is not the problem — the real problem is the lack of consistent collection. *Daily Picayune* (newspaper), 4/21/1893, p. 4, column 2.

Cost to St. Louis of 100 tons/day burned = $54,000/year assume New Orleans = $27,000/year as opposed to some $10K costs in current system (Daily Picayune, 4/27/1893, p. 4, column 2).

Found out that New Orleans has 44,412 tons (conservative estimate) garbage a year — would cost $80K/year to cremate — current river disposal costs $11,100 for boats and 58-60 cents/load to haul and dump (Daily Picayune, 5/1/1893, p. 4, column 2).

Fergusson suggests a crematorium on Gravier Street (Daily Picayune, 5/30/1893, p. 4, column 1).

1894 Garbage boats sold. Garbage was scavenged, dumped in river. Garbage collected daily, dumped in low areas of the city. 8 dumping

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grounds. Garbage in Algiers hauled to incinerator with a capacity of 36 tons/24 hours, achieves 10 tons a day (Report 1918-1919).

1896 New Orleans established own Department of Health (Report 1918-1919). Dissatisfaction with contractors led to a 1896 ordinance abrogating all contracts for garbage collection and disposal and returning these functions to the city. Garbage was dumped in the river, and carried "to dumping grounds on the outskirts of the city" (Miller 1951).

1905 The city was divided into seventeen refuse collection districts. The river continued to be used for dumping although this was frowned upon by the War Department of the United States (Miller 1951).

1909 An ordinance of 1909 authorized the use of an area in the swamp in the rear of the city for the purpose of dumping garbage (Miller 1951).

1910's *New Orleans Municipal Waste Collection and Disposal in Public and Private - Cost Alternatives,* by Robert Michael Lewis, Louisiana State University, New Orleans, December 1978. "One area of the city that was yet to be developed was that section of the city that currently is the site of the Desire-Florida Housing Project. During this time the area was a swamp, and sufficiently out of the way of the established residential areas to become a dump...A railway spur was added to the Public Belt Railroad to service this area....This area...the Agriculture Street Dump became the major refuse depository, while the secondary source was the Clio Street Dump which received refuse directly from the garbage carts."

1912 *Annual Budget - City of New Orleans Public Finance Annual Reports,* (No Author). Constructed Garbage receiving station.

1916 $1,200 set aside to buy site for incineration plant; $24,800 to build it (New Orleans Annual Report 1916).

In 1916 the city built its first incinerator in Algiers (Lewis 1978).

1917 $1,200 to buy site, construction set aside $33,954.62 (New Orleans Annual Report 1917).

1918 Site purchase $1,200/construction $33,954.62 (New Orleans Annual Report 1918).

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1919 Site purchase $1,200/construction $33,954.62 (New Orleans Annual Report 1919).

1921 No longer a line item or even mentioned (New Orleans Annual Report 1921).

1913 Department of Public Works Division of Public Works Monthly Reports on Operations:

1/6/13 "At Ag. Street Dump work is progressing satisfactorily. All dumps and stations in good condition. Disinfectant freely used."

9/15/13 "During the month - some little trouble in the collection of garbage owing to a congestion at the Ag. St. Dump. This has now been remedied."

11/6/13 "On last day of October, it was necessary to curtail receipt of garbage at the Ag. St. Dump to facilitate some work which was in progress.."

12/5/13 Interrupt collection for parade - need mules and carts.

1914 Department of Public Works Division of Public Works Monthly Reports on Operations:

1/5/14 "In early part of the month several delays occurred in the delivery of garbage cars by the public belt RR [note - in other files saw correspondence between this RR and Mayors office regarding car availability and on-time deliveries - an ongoing argument] to various stations due to the great congestion of freight at the Press St. Yard of the NO and NE RR Co. "Complaints.. residents ... lower Hagan Ave Dump ...[re. fleas].. dump cleaned and disinfected."

3/6/14 "Toward latter part of the month,with reference to take up with the NO and NE RR Co, the matter of delayed delivery of garbage cars to the Ag. St. Dump - the Public Belt, in handling garbage cars, does not place advantageously."

4/16/14 Garbage carts inspection - 156 of them ...

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8/8/14	Had to add on 24 carts to deal with additional waste from outbreak of Bubonic Plague.
10/8/14	"On September 5, 1914, oil was tried for the purpose of burning garbage, under the supervision of Dr. W. H. Ruche of the US Public Health Service, the Mayor... and the Commissioner... and being pronounced satisfactory, oil was regularly installed at all dumps except Florida Avenue, and Lower Hagan Avenue dumps, and daily the garbage is being burned with considerable satisfaction, as it diminishes the flies and minimizes the odor."
11/7/14	Disinfectant and oil used freely.
12/4/14	All garbage stations except Lafayette (being repaired) in order. Finally infected rats at Florida and Lower Hagan Avenue - serious.

1915 Department of Public Works Division of Public Works Monthly Reports on Operations:

1/5/15	Florida and Upper Hagan (double checked name) closed. Collection of household ash and garbage (unwilling collection of ash). Dumps have been closed, raked and burned.
2/6/15	Garbage Station at Orange St. and river front closed. Reconstructed at Race St. and the river.
3/6/15	Garbage station 2 at 8th and River altered. Garbage dump at Frenchmen and Benefit to be removed to other side of L & N RR tracks. Garbage Station No. 3 at Race and River is ready for use, needs a little work still.

1920 Department of Public Works Division of Public Works Monthly Reports on Operations:

12/1/20	Condemn garbage system for being inefficient, uneconomical and dangerous to children.

1921 The first steps are to eliminate the garbage dumps in the city - Commissioner Black Plan. John Bagert - Garbage Superintendent. The Decarie Incinerator company will not be able to deliver the 100-ton

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incinerator in under 8 months-1 year. "In the meantime, a municipally owned and operated trailer collector could be provided for and placed in operation within 3 months, and the garbage now being carried to various city dumps could all go by motor equipment to the Agriculture Street Dump at a cost of $151,800 for equipment - of which $133,400 is needed for stock, harnesses, trailers, and containers, and 15,000 are needed for a crane ... all the garbage is not [presently] delivered at the Ag. St. Dump. Eight motor trucks, 800 feet of switch track.. abolish dumps in various parts of the city within 3 months. So use the temporary trailer haulers to take all the garbage already [collected] to the dump, in preparation for later. *Times Picayune* (newspaper), 8/3/21 p. 1, column 4.

1922 Dedication of the first of the five incinerators - Wolbert Black, Mayor, "Visitors arriving in the city on trains have as their first sight of New Orleans the Clio St. and the Ag. St. Dumps. The dumps must be eliminated." Chief Engineer John Klorer "the incinerator could not in any way be declared a nuisance by residents of the vicinity as absolutely no odor will emanate. .. at present New Orleans produces 400 tons of garbage a day - one has to be told incinerator at municipal repairs plant is a garbage disposal plant - constructed of re-enforced concrete, brick and iron - $90,000 in building, $44,000 in machines, $5,200 in chimney. Wagons drive into incinerator building, wagon bodies are lifted with a crane, dumped waste to drying platform, from which falls into the fire. Fire cleans cans and metal. A downdraft system. 100 tons capacity in a day (Times Picayune, 10/27/22, p. 3, column 2).

1925 *Special Report of John Klorer - Commissioner of Public Property*, Box 2, Public Property, part of p. 1, p. 2 In 1921, the City Engineer submitted to the Commission Council a report on a proposed Garbage Collection and Disposal System for the City, recommending construction of five incinerators. "Equally important was the lesson learned that garbage could be collected with mule-drawn trailers and brought to an assembly place and hauled by trucks in trains of three trailers, to the Agriculture Street dump at a lesser cost than hauling by belt Railroad to the same destination.

1926 Commissioner of Public Works Klorer seeks at least 3 incinerators in addition to two in existence (Times Picayune).

Department of Public Works Division of Public Works Monthly Reports on Operations:

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1/20/26 Shows that during 1926 there were 4 garbage stations, Agric. Dump, Incinerator D, Algiers Incinerator, Garbage Dumps, Dead Animal disposal.

Report on Garbage Collection and Disposal, Mr. G. Schneider, Department of Public Works Files, Box No. 2, undated (around 1925/1926). Daily collections of mixed garbage and rubbish: 350 tons. Refuse from the city, some 50-75 tons commercial waste - taken by responsible manufacturers to dumps around the city. Organization: 122 hired carts with single team and driver, 27 city-owned four wheel trailers with detachable metal bodies, and five city owned carts and wagons. There is a garbage district for Algiers, and five in the city, following the wards listed below:

- "A" = wards 14 - 16 - 17
- "B" = 11 - 12 - 13
- "C" = 10 - 1 - 2 - 3
- "D" = 4 - 5 - 6
- "E" = 7 - 8 - 9 - (35 tons/day hauled to Ag. Dump)

"By the end of 6-8 months .. all available dumping space in the old Oleander Canal" will have been exhausted. The 16, 17th wards will be without nearby disposal points for refuse, and Incinerator D will not be able to take on the refuse. The Clio dump is surrounded by dwellings, and is a menace to health and welfare in its vicinity. Property is owned by the I.C. RR - it should be abandoned. "The land on which the Agriculture dump is located is owned by Mr. Gustave Lemle. The City is under agreement with Mr. Lemle to be privileged to dump refuse on this land provided that the land is leveled to an established grade and further, provided that the City reimburse Mr. Lemle for the City and State taxes on this property. This agreement will expire Dec. 31, 1926, and it would appear that the same provision should be made to purchase nearby property for dumping purposes.... Besides the ashes resulting from incineration of refuse, there will always be such rubbish as large tin cans, bed springs, automobile radiators, fenders, etc., which can only be finally disposed of by dumping. The vicinity of the Agricultural dump appears to be the most suitable location for such dumping grounds."

"In further discussion of the Agriculture dump, it should be stated that the leveling of the ashes has not kept pace with its accumulation. It is estimated that between 40,000 and 50,000 cu. yds. of ashes will have to be levelled to the proper grade. ...The aggravation of this condition

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can be somewhat remedied by laying new spur tracks or relocating some of the existing tracks. "

"The fifteen cars in which refuse is transferred from the receiving stations to the Agriculture dump are in very poor condition. ..."

> "Incinerator "D" has been in service since Nov. 1922....the plant is daily taxed to its capacity...it is sometimes necessary to divert some refuse to the Agriculture dump."
>
> "District "A" - production 45 tons - plant capacity 50 tons. Boundaries beginning at Jefferson-Orleans Parish Line and the levee, thence down Parish line to South Claiborne, thence down South Claiborne to Peters Ave., thence in Peters Ave. to the river."
>
> "District "B" - production 100 tons - Plant capacity 110 tons. Boundaries beginning at Peters Ave. and the river, thence down Peters Ave. to S. Claiborne, thence down S. Claiborne to Thalia St., thence in Thalia St. down to the river."
>
> "District "C" - production 90 tons - plant capacity 100 tons. Boundaries beginning at Thalia St. and the River, out Thalia St. to S. Claiborne thence down S. Claiborne to New Basin Canal, thence along New Basin Canal to Galvez St., thence down Galvez to St. Bernard Ave thence out St. Bernard Ave. to Florida Ave.,m thence along Marigny Ave., to Jefferson-Orleans Parish line."
>
> "District "E" - Production 32 tons - plant capacity 40 tons. Boundaries beginning at Elysian Fields and the River, out Elysian Fields to Galvez, thence up Galvez St. to St. Bernard Ave., out St. Bernard Ave. to Florida Ave. down Florida Ave to Elysian Fields St. to Dreux, down Dreux Ave. to Peoples Ave, thence in Peoples Ave to Florida Walk, thence down Florida Walk thence to the River."

1928 Bond Issue 1928, Box 1, Public Property. "Owners of land now used as public dumps have been insisting for some years that these lands be surrendered for more profitable enterprises and it is only due to the forbearance and patience of these owners that the city has not been ordered to vacate the "dumps" and forced to meet heavy increases in garbage - hauling costs."

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1930 New Garbage regulation - all organic matter must be wrapped in paper before being placed in the bins. "Commissioner Klorer announced the garbage concentration in the river front at Port/Lafayette and 8th St. from which garbage [is] removed by rail to Ag. St. Dump will be discontinued and demolished. All garbage is now to go directly to the new incinerator." (Times Picayune, 4/2/30, p. 8, column 3).

City Hall promises garbage to be collected in a five day basis (Times Picayune, 9/24/30). Mayor Walmsley orders full time garbage collection - fourscore routes in the city (Times Picayune, 9/25/30).

1934 CWA group builds new incinerator - for Gretna at Hancock and 11th, 1-1.5 tons/hour (Times Picayune, 4/28/34)

1935 240 garbage collectors. Mule drawn and automatic carriers. Incinerator at St. Louis and Derbigny Street (Times Picayune, 6/26/35, p. 1, column 7).

1936 In 1936, Mayor Maestri set up the first Garbage Division of the Commission of Public Works (Lewis 1978).

1937 Mayor Maestry has had collection equipment reconditioned - 6 days a week collection (Times Picayune, 1/7/37 p. 1, column 2). Mayor invited to celebration at the Municipal Yard on Magnolia and Geroud (Times Picayune, 1/8/37 p. 3, column 4). Garbage collection to start earlier cause of heat (Times Picayune, 6/24/37, p. 28). "Interference with the discharge of municipal wastes into the Mississippi R. at New Orleans is objectionable since the volume of river is such that cost of purifying is not prohibitive and a new sewage disposal system would cost between $5-10 million (Times Picayune, 7/16/37, p. 14).

Solid Waste Disposal Tri-Parish Area, New Orleans, Louisiana, 05/15/68, (No Author). "However, restricted budgets during the depression years, 1934 and 1935, required ceasing operations of one of the Eastbank plants, during which time a portion of household refuse was diverted to the landfill areas utilized by the producers of commercial refuse and private haulers. By 1940...all household garbage and refuse (could) be disposed of once again by incineration." "During the period of World War II, additional diversion of refuse to landfills became necessary because of lack of labor for incinerator plant operation....In 1948, a reduced budget again resulted in closing of two incinerators and resumed use of landfills for supplementary refuse disposal. ... Since 1948, landfills continued to receive increasing quantities of waste, until the construction in 1957 of the Florida

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Avenue and the Seventh St. incinerators and later augmentation by the Algiers plant.

1940 Council accepts equipment bids for incinerator extension at Incinerator E - Industry and Eads St. (Times Picayune, 2/29/40, p. 36, column 1).

1948 Property Commissioner denies statements by State Senator Frank Gipson that dead animals are being burned at Ag. St.. They are burying animals. Earlier had said "They are burning dead horses and cows and other carrion in the Ag St. Dump. The stench is terrific when the wind is wrong and the poison gas is causing paint to peel off houses in the area." Gipsons Law: 1948 Legislative Bill - prohibits piling of garbage on open dumps within city limits. Commissioner says in compliance - all garbage brought from dump, burned in incinerators. Consideration being given to turning dump into fill. Having trouble with fires on dump. Need police protection to stop trespassers (Times Picayune, 8/4/48, p. 4, column 5).

Note - 5 trash collection districts, 19 sanitation trucks for each district. *New Orleans State*, (newspaper) 7/7/48, p. 3.

The law stops open piles - must use incinerators, but cannot since these do not work properly. City incinerators burning day and night every day - burned out. *New Orleans Item*, (newspaper) 8/2/48, p. 1, column 8.

Gipson threatened court action today to halt placement of garbage on the Ag.St. dump, which he said has become a health menace. If the dumping is prohibited according to Property Commissioner Hotard garbage will have to remain on the streets. He explained that the city incinerators cannot dispose of all the garbage collected daily. At issue is the 1948 law. Quoted Gipson as above, adding, "the dump causes swarms of flies, roaches and rats. There are 20,000 people in the 2 precincts right around that place and many more than that in my district, they must be protected..." (New Orleans State, 8/3/48, p. 15).

Hotard denies carcasses being burned. [Insists they are being buried. Gipson will be mollified if the city used the dump near the Gentilly Rd. at Nine mile post instead of the Ag. St. Hotard and Holderith say law is being obeyed. All garbage is being burned from the Ag. St. Dump. -- in the city incinerators. What they cannot take, we leave in the streets - have not had to yet - if did would only be for a day or two (New Orleans State, 8/4/48, p. 30).

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Mayor acts to end open dump and turn Ag. St. into a landfill. "Some city incinerators working night shifts to get rid of garbage accumulated. Since the city stopped using dumps. Mayor explained city had leased dump Ag. St. for 5 years at $3,600 a yr. This said at a public meeting (New Orleans Item, 8/12/48).

Savings up to $250K annually foreseen as a result of the commission council action authorizing use of sanitary fill for garbage disposal. One motion would authorize salvage rights, the second would create disposal trenches. Action precipitated by the President of the Edgewood Gentilly Civic and Improvement Association who complained of noxious odors and smoke from Ag. St. fill - use of sanitary fill would gradually supplant incinerators in the city (New Orleans State, 8/14/48, p. 2, column 7).

Lists specifications for salvage at 3 dumps: Ag St., Charbonnet, and Audubon. The city took steps to grant salvage rights to a private company following a death on Ag. St. dump. It was believed death came from indiscriminate salvaging. Closing of Ag. St. was announced yesterday, will remain closed till fill area can be built there. Council acts to provide sanitation fills on dump. Advertises for bids for dump salvage rights. Establish fills - gradually lead to abandoning of incinerators (New Orleans State, 8/18/48, p. 11). Chairman of Gentilly/Edgewood says citizens annoyed with burning of garbage at Ag St. Apparently fires lit by trespassers (Times Picayune, 8/14/48 p. 1, column 5).

Rules for dump salvage listed. Existing dumps are Ag. St. reached by paved road by entrance at People and Industry; Charbonnet on old Gentilly Rd.; and Audubon Park. Accumulated garbage not to stay longer than 8 hours - first remove salvageable material then bring refuse to bank of fill pit. 10 year contract (Times Picayune, 8/19/48 p. 9, column 2).

Ag. St. has sufficient space for two years as a fill. Incinerate small garbage piles already waiting there (New Orleans Item, 9/24/48, p. 28).

Photo of crane - excavating sanitary landfill at Ag. St., to prepare for resumption of dump use by sanitation department. Garbage to be placed in pits, covered with dirt. Started in northern section, constructing 8 feet levee along northern line, near St Ferdinand St. Workers also digging 3 cells for garbage. J.J. Hote, Superintendent of Sanitary fill "said that it is expected that trucks will begin hauling

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excess garbage from city incinerators within two weeks. The dump had been closed after complaints regarding odors and burning of garbage on dump (New Orleans State, 10/6/48, p. 6). Work on a sanitary fill for disposal of part of city's garbage on Ag. Dump has started. Drag lines started work on the northern section. Eight-foot levee being constructed on north line of dump, near Ferdinand to prevent seepage to other properties. 3 cells for receipt of garbage are being dug after useable materials have been salvaged. 100'x100', 100' x 200' with depths of 10', 12'. Garbage dumped daily, covered with soil, three weeks till operational (Times Picayune 10/7/48, p. 6, column 5).

....In 1948, a reduced budget again resulted in closing of two incinerators and resumed use of landfills for supplementary refuse disposal. ... Since 1948, landfills continued to receive increasing quantities of waste, until the construction in 1957 of the Florida Avenue and the Seventh St. incinerators and later augmentation by the Algiers plant (Solid Waste Disposal, Tri-Parish Area, 1958).

1949 Board to stop illegal dumping in Gentilly lakefront levee area (Times Picayune, 1-7-49).

Incinerator closed since last Friday: Incinerator D has been closed — Garbage formerly burned in incinerator D and E to be buried in new Sanitary Landfill at Ag. St. Okayed 3 shifts for incinerator B (Times Picayune, 4/15/49, p. 11).

Incinerator B is at 6th and Loyola, Incinerator D closed, at Genois and Gravier, and Incinerator E closed at Industry and Eade. All garbage to go to B, C, and A in Algiers and Ag. St. Landfill (Times Picayune, 4/6/49, p. 1).

Garbage strike - ok to deliver to Charbonnet, bulldozers ready to cover at Ag. St. Not to incinerators - not operating (New Orleans State, 4/7/49).

Dr. Gardiner, City Health Director, says Ag. St. Dump is not a health menace. Flies or mice from dump could be. 50 residents sent letters to Grand Jury demanding relief (New Orleans State, 12/14/49, p. 4).

Note: Routine spraying of dump/landfill area with pesticide containing DDT reported throughout 1940s and 1950s (Times Picayune, 2/4/94, p. B-1, column 5).

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Report to the People of New Orleans (Mayor's Office), page 33, 1949. Mechanization of the sanitation department - mules on the way out. "At the Agriculture street dump, long a source of complaint regarding odors, flies, and smoke nuisances, an entirely new process of garbage disposal was underway. Sanitary fill process was inaugurated this year at the Agriculture Street Dump. Trucks unload garbage which is then inspected by contractor for salvage. Bulldozers then come along and cover over garbage with earth."

1950 Police stop open burning at dumps - smog causes car accidents - esp. highways 90 and 11 (New Orleans State, 10/10/50).

Three-year struggle to shut Ag. St. Dump. Meetings held at the Franklin Avenue Baptist Church, 2815 Franklin (New Orleans State 10/12/50 p. 2).

Annual Report, City of New Orleans, (Mayor's Office), page 40, 1950. "The efficient sanitary fill process of garbage disposal went into operation on a large scale during the year. ... The city began delivering its garbage to a building erected by a salvage company. The company pays the city about $16,000 a year for the garbage. As shown in these pictures, the contractor has the garbage inspected, salvages what he can, and buries the rest. During 1949, such dumping and filling covered 13 acres to a height of 7-9 feet. Garbage arrives at Agriculture Street Dump in city trucks, is dumped on platform, bulldozed on to conveyor belt, lifted into two-story building for inspection and salvage. Garbage is inspected as it moves along conveyor belt. Paper rags and other valuables are removed by hand, later baled or boxed. Tin cans are snapped up by magnetic roller further down the line, dumped into special trough. Unsalvageable material is taken to pit in trucks, dumped, and pushed in by bulldozer and covered with dirt. This filling process will one day make valuable land out of Agriculture street dump." (cited in New Orleans State 10/14/50, p. 3).

Smog back, sanitary commissioner defends Ag. St. - said dump was a landfill- not a menace to health - some spontaneous fires - immediately put out when found (New Orleans State, 11/23/50, p. 3).

Corrections of conditions in dump across Mississippi R. levee from Audubon Park - 10 acres in use since 1941 - First only received ash, now receiving undesirable fill and ash.

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1951 *Report on Refuse Disposal Study for New Orleans*, 1951 (by Carl Schneider, Department of Public Sanitation "In 1916, when its first incinerator was constructed in Algiers, ... During the McShane Administration (1920-25) the planning [program for sanitary refuse disposal] ... was accelerated by a few cases of bubonic plague....set in motion a program for the establishment of four more incinerators on the East bank of the Miss. River. The first plant was erected in 1922 and was paid for out of general revenues. That plant was known as Incinerator D, at S. Genois and Perdido St. ... During Behrmann Administration ... a bond issue voted favorably ...$1,200,000 for incinerators and equipment for refuse collection and disposal. This bond issue provided funds for the construction of Incinerators B, C, and E which were constructed during the year 1928-29...put into operation during November and December, 1929."

"Until the years of the depression, beginning about 1934, practically all household garbage was disposed of by incineration. A restricted budget, however, did not permit the operation of Incinerator E for five years - from 1934-1939. During this time a great deal of household refuse was diverted to the Agriculture Street dump for disposal. Meanwhile the Agriculture Street Dump had been constantly used for the greater portion of commercial refuse produced in the city, delivered there by producers and private haulers. In 1939 and 1940, Incinerator E was enlarged to equal in capacity plants B and C. This work was carried out as a WPA Project.

"The replacement od Incinerator E in operation again permitted all household garbage and refuse to be disposed of by burning, except during occasional periods of rainy weather when some diversion took place to the Agriculture St. dump [During Mayor Maestri admin.]

"During the war years, additional diversion of refuse to the Agriculture dump became necessary at times because of lack of labor for incinerator operation. Further, the rapid rise in population resulted in a greatly increased production of refuse. In 1946 and 1947, production had reached the point where it left practically no reserve in burning capacity in the four incinerators on the East side of the River.

"When the city sales tax was reduced in 1948, a greatly reduced budget confronted the city and this resulted in closing Incinerators D and E and the setting up of the sanitation fill at the Agriculture Street dump as an emergency refuse disposal measure.

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"Actual operation of the Agriculture Street dump as a sanitary or controlled land fill began in October 1948. For a period of approximately 6 months, while waiting on delivery of equipment purchased for operation, rented equipment was used. For part of this period, Incinerator E continued in operation, Since the closing of Incinerator E. Agriculture Land fill has been used for disposal of all garbage produced on the East bank of the river, except that delivered to Incinerators B, and C. Furthermore, it has also received trash collections from practically one-half of the city's area, and some approved commercial refuse.

"About the time that preparations were underway for establishing the land fill at the Agriculture Street dump, negotiations were carried out for the letting of a franchise for exclusive right and privileges to salvage material from all city dump, including the Agriculture land fill, on the East bank of the Miss. River. This contract was let out for a period of 10 years, beginning October 1948. At the same time a five year lease on the Agriculture land fill area was confected with the owner of the property ....

"During the war and since then a great number of dwellings were constructed on land close to the Agriculture land fill area. Furthermore, constant increase in commercial refuse delivered there led to numerous and extensive fires, from which smoke and odors were a constant and grave nuisance to a large surrounding area. Even after the controlled land fill was established, there were occasional outbreaks of fire, to the discomfort of the neighbors. The closing of the Agriculture dump as an indiscriminate dumping place and the leasing of the Charbonnet dump came about as a result of legislation.

"During the past year there has been a considerable amount of agitation among residents and civic associations interested in the greater Gentilly area featuring the permanent closure of the Agriculture land fill. There has been good reason for this dissatisfaction with conditions. Poor operation and inadequate supervision had resulted in fires and other nuisances. Since September 1950, however, no fires have taken place, despite a very dry period in October and November when spontaneous combustion had caused even the ground in that area to smoke.

"Constant effort must be expended toward improving operations and appearance at the fill. It is quite practicable to continue to improve both operations and appearances, but at some increase in cost. Presently, operations are somewhat hampered by scavengers in the working area and by inadequate personnel.

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"The holder of the franchise for salvage has constructed an expensive plant, reported to have cost over $150,000. at the Agriculture land fill. This plant was operated by having the refuse carried on belts from which pickers removed salable articles, such as - rags, papers and bottles; tin cans and other ferrous metals being removed by electro-magnet.

"Since October 1950, however, the plant has not been operating as planned, but it is handling tin cans which had been stored on the site during a period of 15 months operation..."

"During the period October, 1948 to date, or approximately 2-1/2 years, the land that has been filled to grade is approximately 25 acres. About 25 acres of land at original grade remain to be filled. ..."

"...the only sites available for garbage disposal are incinerators B. C. and E and the Agriculture land fill.... The lease on Agriculture land fill only has about 2 years to run and at the present rate of fill the available area for filling will be used up when the lease expires.... However, the main potential of the Agriculture land fill rests in the possibility of burning the tailings discharged at the salvage plant. The contractor has found that the hauling of these tailings to the fill was so expensive that the plant had to be closed down, to reduce operating cost. It seems advisable, therefore, that some experimentation be carried out, on a small scale, to determine if the tailings can be burned as economically as anticipated. The burning of the tailings from the salvage plant successfully would accomplish several ends, viz.: (1) possibly make it profitable for the contractor to operate the plant; (2) Conserve the land for a much longer period; (3) reduce the cost of operating the landfill (for trash only); and (4) remove objections of residents to depositing garbage in the fill.

"...On the other hand, Plant E is in a neighborhood where expansion of population has been rapid of recent years, and future population growth may be anticipated. Consequently, at the site of Plant E, a larger plant, preferably 500 tons daily capacity seems desirable..."

"Since the operation of the Agriculture land fill is of critical importance under present conditions, it is obvious that great care is needed to prevent it from becoming a nuisance because of fires or improper control. ... lease expires Jan 1953..."

Flames at Dump take Heavy Toll. A fire last Saturday destroyed Salvage concern structure at Agriculture St. Dump. Damage to Delta

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Byproducts Building estimated at $150k. Wood and steel structure with asbestos roof - no nearby fire hydrant (Times Picayune, 8/14/51, p. 7).

Dump attacked -- City instead of using incinerator is piling refuse at Ag. St. to earn $16,000 a year from Delta (Times Picayune, 9/6/51).

Court to hear law suit against dump (Times Picayune, 10/6/51).

1952 Use of Ag. St. Dump by City is upheld (Times Picayune, 1/4/52).

1954 *Annual Report for the City of New Orleans*, 1954, (Mayor's Office), page 52. "The sanitation department's new $750,000 incinerator, now being constructed, will permit the abandonment of the Agriculture Street Landfill operation. The incinerator will be completely odorless and practically smokeless. ... Agriculture Street Landfill, once on the city's outskirts but in recent years a nuisance, will be abandoned."

1955 Refuse disposal method cited: City sanitation Director George Rittner. "In this respect New Orleans has 2 sites (incinerators B and C) which are very appropriate. The site of the Ag. St. Dump in that general area would be very well adapted for an incinerator to serve a large and expanded tributary area. The system of sanitary landfills has expanded over the past 10 years ... virtually unlimited daily capacity .. no segregation are required for refuse" (Times Picayune 8/23/55, p. 11, column 2).

1956 Pact arranged for incinerator, Schneider retired as city sanitation department engineer to get the job - has 30 years experience, $750K bond issue. Designed several, including E on Eads and Industry built in 1938/1939. Incinerator to be erected in Commerce Place, east of Elysian field overpass, north of Florida Ave. "Designed as a substitute for Ag. St. Dump which is nearly filled up and which for years has drawn complaints as a public nuisance from residents of the surrounding area" (Times Picayune, 1/11/56, p. 11, column 3).

Plans for new incinerator to replace Ag. St. Landfill - drawing (Times Picayune, 3/21/56, p. 24, column 1).

Plan is for incinerator 300 tons/24 hrs. -- need to add several to handle a further 400 tons.. Feared that "if trucks allowed to operate in neighborhood same unsightly area as exists within 3 blocks of Ag. St. Dump." Try to relieve Ag. St. with new system (Times Picayune 4/13/56, p. 44, column 1).

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1957 ... Since 1948, landfills continued to receive increasing quantities of waste, until the construction in 1957 of the Florida Avenue and the Seventh St. incinerators and later augmentation by the Algiers plant (Solid Waste Disposal, Tri-Parish Area, 1968).

1958 New Incinerator begins Operations. "The newest incinerator in the city's sanitation system will be put into operation wednesday to replace the old Ag. St. Lf. dump - a long term eyesore and nuisance. Designed to handle 400 tons of garbage/24 hours. First plant to be built since 1926. The old landfill dump will be abandoned. Incinerator at 6th and Loyola and St. Louis and N. Roman to dispose of upper NO area" (New Orleans State, 1/27/58).

1958 *Annual Report for the City of New Orleans*, (Mayor's Office) 1957-58. "...The modern facility (new incinerator) ... has permitted the closing of the Agriculture St. landfill operation...This nuisance and eyesore, the Agriculture Street landfill operation - once on the city's outskirts - has been closed... "

1961 New incinerator 2115 7th. 400 tons in 24 hours replaces one built in 1927. New trucks, stop use of Audubon LF. Allows joint garbage and trash collection. (*New Orleans State-Item* [newspaper], 4/11/61.)

Old incinerator at 2115 7th no longer able to accommodate packing trucks - built in 1927, allows Audubon closure (New Orleans State-Item, 4/12/61).

1962 City to move dump fill in Asthma fight. Truck to move fill from Ag. St. to reduce smog from subsurface fires (New Orleans State-Item, 10/22/62, p. 17).

Removal of excess landfill. Remove excess fill for use in low areas and to widen roads. 300,000 cubic yards to put into the Haynes Boulevard Borrow pit and elsewhere. Should help stop underground fires (Times Picayune, 11/6/62).

1963 Smoke form Ag. St. Dump important factor according to Tulane U. researchers in New Orleans Asthma problem. 83% of people tested had a positive reaction to skin tests (patches) using material from Landfill plume - partly unburned silica containing material. (Further tests proposed to identify what silicate is) (Times Picayune, 1/30/63).

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Editorial: Remedial efforts at Ag. St. Landfill - result of reworking previous earth fill; and continuous burying of additional garbage and trash - underground fire (Times Picayune, 1/31/63).

1965 Hurricane Betsy - *Engineering Report, Hurricane Damage to the Sanitation Department, City of New Orleans*, 10/15/65. City Yard at 2925 Eads street was damaged by Hurricane.

Report on Hurricane Betsy, Department of Sanitation, City of New Orleans, 10/18/65. Crash clean up program. 136,500 loads of mixed garbage trash and trees carried to 7 landfills/dumps. Seven dumps opened and ordered to fire up.

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APPENDIX C

PHYSIOGRAPHY AND MAJOR GEOLOGIC FEATURES

APPENDIX C

Appendix C includes a more detailed discussion of the geology, hydrogeology, and surface water hydrology of the area in the general vicinity of the ASL that was introduced in Section 1.4. Included are maps and diagrams illustrating the geologic features and cross sections presented in the expanded text of this appendix. All references cited in Appendix C are included in Section 9.

C.1 GEOLOGY

The City of New Orleans lies within the Pontchartrain Basin in the Mississippi Deltaic Plain. This covers an area of approximately 1,600 square miles, 45% of which is occupied by lakes Pontchartrain and Maurepas.

During the last million years of the Quaternary Period, a thick complex sequence of marine, nearshore, fluvial, and lacustrine sediments was deposited and subjected to periodic erosion in the New Orleans area. This complex depositional history is a reflection of the series of sea level fluctuations (as much as 450 feet) that occurred during the Quaternary Period in combination with the simultaneous migration of the Mississippi River back and forth across the area (Rollo 1966).

Prior to the beginning of Mississippi River activity in the basin, two main sources contributed to sedimentation: streams draining the Pleistocene terraces to the north introduced silts, sands, and fine gravels, and the last major sea level rise eroded Pleistocene and Recent deposits from the continental shelf. Material from both sources were reworked by marine processes and deposited over the buried prairie surface.

Active sedimentation by the Mississippi River has occurred for the past 4,000 years. The resulting unit is a seaward-thickening wedge that overlies most of the features of the previous marine zone. Silts, clays, and fine sands were deposited during shifts in the course of the river. Deltas were formed during two major shifts evidenced by systems of abandoned distributaries and deposits of organic peats and clays in inter-levee basins (Saucier 1963).

In the Pontchartrain Basin, a series of northeast-southwest trending sand deposits located between Lakes Pontchartrain and Borgne represents the historic location of a barrier island spit

which extended from the Mississippi coast into metropolitan New Orleans. This series of deposits is referred to as the Pine Island Beach Trend (Saucier 1963).

C.1.1 Shallow Subsurface Geology (Site Specific)

The near surface geology ($\leq$100 feet below ground surface [BGS]) of the study area is a mixture of fine-grained materials, including peat, which is typical of a marsh/swamp environment. Borings completed during previous investigations demonstrated a laterally consistent sequence of sediments composed of a silty topsoil or fill, peat and organic clay, interbedded silty clays, silts and sand, and sand (see Figure C-1).

Surficial soils usually are clayey silts or sandy silts. Below the surficial units, a gray clay or an organic clay that contains roots and other marsh plant materials is encountered. A peat layer may be encountered within this clay, but it may not be continuous; the thickness of the unit has been reported to be 5 to 10 feet across the basin. A sequence of silty clays and sandy clays is encountered beneath the peat or organic clay with interspersed silt and sand lenses. A fine-grained sand has been encountered in all borings below 50 feet. Based on the deepest known borings in the area, this sand unit is more than 50 feet thick and it is assumed to be part of the Pine Island Beach Trend.

C.1.2 Deep Subsurface Geology

Nearshore gulf deposits and late Pleistocene-age Prairie Formation sediments underlie the Pine Island Beach Trend and overlie the sedimentary sequence that comprises the New Orleans Aquifer System. This aquifer system reportedly extends to a depth of approximately 850 feet BGS in the site vicinity (Dial and Sumner 1989).

The predominant lithologies of nearshore gulf deposits are silty clays and clayey silts. The top of this unit is reported to occur in some locations within the New Orleans area at approximately 40 feet BGS, and the unit ranges from 10 to 20 feet thick. At the site, this unit has not appeared in the known boring logs advanced during construction activities.

The late Pleistocene-age Prairie Formation is composed of firm-to-stiff sandy and silty clays. Sandy clays should be more predominant in the eastern and southern portions of the Pontchartrain Basin due to a continental shelf-type environment of deposition, contrary to the deltaic plain depositional environment which characterized the western and northern portions of the basin. These facies have undergone physical reworking during the postglacial incursion of the sea. All Prairie Formation sediments exhibit distinctively lower water and organic contents compared to most of the Recent-age sediments (Saucier 1963).

Faulting and downwarping have produced a step-like configuration rather than a uniform seaward slope with respect to the surface of the Prairie Formation. Downwarping of approximately 40 feet has been reported in the New Orleans area (Saucier 1963).

In the site vicinity, the top of the Prairie Formation should be encountered at a depth of approximately 50 to 70 feet BGS. However, presumed Pine Beach Island Trend sands were present on site to a depth of at least 100 feet BGS. There are at least two possible explanations for this anomaly:

- Additional faulting/downwarping may have occurred in the immediate site vicinity; and
- The site is located above a tributary of the entrenched valley system that was cut into the Prairie Formation during the early part of the Late Wisconsin glacial stage (Saucier 1963).

No evidence was found in the literature to confirm or reject the possibility of faulting/downwarping, but there is evidence to support the potential presence of a tributary valley beneath the site.

When the sea level began to fall in the early part of the Late Wisconsin glacial stage, the Mississippi River and smaller streams draining the Prairie Formation surface eroded trenches to adjust to the falling base level. The entrenchment continued until the low stand of sea level was reached at the glacial maximum (Fisk and McFarland 1955).

Based on data from several hundred borings, the entrenched valley system consists of several relatively narrow tributary valleys that converge in a single north-south-trending major valley, located approximately 6 miles west of the site, where it is approximately 1.3 miles wide and has incised 75 feet into the Prairie Formation surface (bottom depth of approximately 120 feet BGS). The trench proceeds to the south with a gradient of approximately 3 feet per mile and eventually joins the major Mississippi River trench near the coast of Louisiana, south of New Orleans.

A depiction of the entrenched valley system presented by Saucier (1963) clearly indicates that a small tributary valley located just southwest of the site could readily be extended northeastward to encompass the site area. This hypothesis is supported by the lithologies found in the deep borings previously completed at the site. If this were the case, the top of the Prairie Formation (and at maximum, the bottom of the on-site sand unit) should be encountered no deeper than approximately 120 feet BGS, which is the same depth of entrenchment of the main channel west of New Orleans.

The subsurface geology and past/present physiography of the Pontchartrain Basin have been impacted by regional subsidence of the entire coastal Louisiana area (approximately 20 feet during the last 5,000 years), but this should not be confused with the differential local subsidence that also has occurred in the area as a result of groundwater pumping and construction activities. Regional subsidence is believed to have resulted from a combination of four factors: the downwarping of older underlying strata by the thick sequence of younger sediments; compaction of the thick sediment sequence itself as a result of sedimentary loading; faulting (most faults in the area are normal, with the downthrown block toward the coast); and reduced sediment deposition from the Mississippi River (Saucier 1963). Figure C-2 presents major geological features in southeastern Louisiana, and the location of a known fault in the site vicinity, Figure C-3 presents the predevelopment sedimentary depositional environments and land forms in the metropolitan New Orleans area, and Figure C-4 presents the locations of the multiple deltas of the Mississippi Deltaic Plain.

C.2 Hydrogeology

This section discusses shallow and deep hydrogeologic units. The shallow zone refers to the water bearing zone in proximity of the site to the base of the Pine Island Beach Trend. For each of the shallow and deep zones, groundwater flow patterns and aquifer properties are discussed using available data.

C.2.1 Shallow Hydrogeology

Shallow Aquifers

Potential water-producing deposits above a depth of approximately 150 feet BGS fall into two general categories (Rollo 1966):

- The small, isolated near-surface sands that represent buried beaches and other locally deposited sands; and
- The point-bar and distributary channel sands deposited by the Mississippi River and its distributaries. These deposits yield the only fresh groundwater in parts of southeastern Orleans and western St. Bernard parishes.

The Pine Island Beach Trend is a small, isolated near-surface aquifer. These sand units are usually considered to be of little or no importance as aquifers because they are not known to contain potable water, and they are not extensive enough to supply large quantities of even poor quality water (Rollo 1966).

Point bars are deposits of poorly graded fine sand that occur inside of the growing meander loops in the Mississippi River (Kolb 1962). These deposits occur at depths of 10 to 30 feet BGS and may extend to depths of 150 feet BLS or more. Although point bars are the only source of fresh groundwater along the river below New Orleans, they have little potential as aquifers in the area because of their small areal extent and low permeability. Most wells in point bars have a small diameter and yield only a few gallons per minute (gpm). Water from point bar deposits is of poor quality because its possesses a high iron content and excessive hardness (Rollo 1966).

Distributary channel deposits reflect that, in the geologic past, the Mississippi River followed many different courses to the sea. One of these, the St. Bernard Delta distributary system, was present north and west of the current site location (see Figure C-4). The hydrologic importance of St. Bernard distributary deposits is a reflection of the fact that the only surface soils that are permeable enough to allow water to pass through them are the silty, sandy soils that filled the abandoned distributary channels. Consequently, rainwater has percolated through the distributary fill into underlying sands and flushed the native salt water from the sands in local areas (Rollo 1966). Only small water supplies can be developed from the distributary channel deposits because salt water underlies the fresh water or is nearby laterally. When wells are pumped at rates of more than a few gpm), the salt water intrudes to contaminate the fresh water in the well (Rollo 1966).

Groundwater Flow

Since shallow aquifer units are small and often isolated, shallow groundwater flow in the Pontchartrain Basin can only be defined on a site-specific basis. Any attempt at a generalized flow model would prove unreliable due to the discontinuous and intermittent nature of the units. A review of earlier investigations and technical literature indicated that no sand unit flow patterns in proximity of the ASL site were available prior to this RRII. (Refer to Section 3 for site-specific information derived during the RRII.)

Aquifer Properties

Specific data regarding the hydraulic characteristics of the sand unit are limited to yield data. Hydraulic characterization of the unit in proximity of the ASL site was absent prior to this RRII. (Refer to Section 3 for site specific information derived during the RRII.)

C.2.2 Deep Hydrogeology

The following discussion, in large part, is taken directly from Dial and Sumner (1989). The material was summarized to provide a concise description of the aquifers and their properties.

New Orleans Aquifer System

In the New Orleans area, deep groundwater is present in a complex series of alternating beds of sand and clay which comprise the New Orleans Aquifer System. Generalized hydrogeologic cross sections depicting the aquifers and intervening clay beds are shown on Figure C-5, with the location of the cross sections identified on Figure C-6. The beds dip gently southward at approximately 25 feet per mile as a result of downwarping on the southern flank of the Southern Mississippi Uplift (see Figure C-5). The dip increases progressively toward the south as a result of subsidence caused by sediment deposition in the Gulf of Mexico. The Southern Mississippi Uplift and the Mississippi Structural Trough, a downwarp that parallels the present Mississippi River Valley, are the geologic structures that affect the regional groundwater flow patterns (see Figure C-6) . The alternating beds of sand are the aquifers, whereas the clay units act as confining units between the aquifers.

The New Orleans Aquifer System is normally defined as a series of four sand units from land surface to the base of the "1,200-Foot" Aquifer. The four major aquifers in this succession from youngest to oldest are the Gramercy, Norco, Gonzales-New Orleans, and "1,200-Foot" aquifers (see Figure C-5). The Mississippi River Alluvial Aquifer, which is found approximately 40 miles west of the city in association with the eastern limb of Mississippi Structural Trough, is also a part of the aquifer system, but it is of little importance to the New Orleans area (see Figure C-6). The Mississippi River Alluvial Aquifer is not present in New Orleans, but it is hydraulically connected to the Mississippi River and the Gramercy Aquifer ("200-foot" sand), Norco Aquifer ("400-foot" sand), Gonzales-New Orleans Aquifer ("700-foot" sand), and the "1,200-Foot" Aquifer. All four aquifers merge along the alluvial valley to become a single unit (see Figure C-5, cross section A-A´).

All four aquifers become shallower toward the outcrop areas located to the north and west, and they either pinch out or merge with shallow sand beds near the land surface. The surficial deposits in each aquifer outcrop area are composed of clay and interbedded thin beds of sand. The confining unit gradually thickens southward and the underlying aquifers become more deeply buried (see Figure C-5, cross section B-B´). This confining unit may be more than 600 feet thick in the absence of the Gramercy and Norco aquifers (see eastern portion of cross section A-A' in Figure C-5). Confining units between each aquifer consist mostly of clay with some interbedded

silty or sandy lenses, and confining units range in thickness from a few feet to over 200 feet (Dial and Sumner 1989).

The Gramercy Aquifer might not be present in the site vicinity, but where present in New Orleans Parish, it contains salt water and is not pumped often. The Gramercy Aquifer is separated from the underlying Norco Aquifer by a thin bed of clay with a variable thickness from 10 to 50 feet. In some areas, the clay is missing, and the two aquifers merge into a single unit; this occurs in St. Charles, St. John the Baptist, and St. James parishes (Hosman 1972; Dial and Kilburn 1980).

The Norco Aquifer is generally widespread in western Orleans Parish and in the Mississippi River parishes west of Orleans Parish, but it pinches out in eastern Orleans Parish (Rollo 1966). Like the Gramercy Aquifer, it contains salt water and is almost unused in the area. The Norco Aquifer occurs at a depth of approximately 300 feet BGS west of the site, and it is separated from the underlying Gonzales-New Orleans Aquifer by a thick clay bed that may be up to 200 feet thick (see Figure C-5) (Dial and Sumner 1989). There is a potential for the Norco Aquifer to be absent beneath the site.

The Gonzales-New Orleans Aquifer is the only aquifer that contains significant quantities of fresh water beneath New Orleans. Because of its areal distribution, thickness, and the availability of fresh water, it is the only practical choice for consideration as a public supply source. The top of the aquifer is expected to occur at a depth of approximately 450 feet BGS in the site vicinity, and it is separated from the "1,200-Foot" Aquifer by a clay bed of variable thickness. The thickness of the clay bed is not well defined in Orleans Parish because very few wells have penetrated below the Gonzales-New Orleans Aquifer. The clay probably thins out in some areas, and a direct hydraulic connection with the "1,200-Foot" Aquifer exists (Rollo 1966). Water level measurements made by the United States Geological Survey (USGS) since the 1960s support Rollo's conclusion (Dial and Sumner 1989).

The "1,200-Foot" Aquifer is present throughout Orleans Parish. Information on the "1,200-Foot" Aquifer is sparse in the area because of its limited use as a groundwater source. The top of this unit occurs at a depth of approximately 700-850 feet BGS in the site vicinity (see Figure C-5). The aquifer contains salt water in most of Orleans Parish, except near Irish Bayou in the northeastern portion of the parish. Water levels in the "1,200-Foot" Aquifer are affected by pumping from the Gonzales-New Orleans Aquifer, as indicated by water level and pumping records for both aquifers (Dial and Sumner 1989).

The Mississippi River Alluvial Valley acts as the western boundary for the aquifers in this area (see Figure C-6). An almost unbroken sand interval may have a thickness of several

hundred feet in the alluvial valley (Whiteman 1972). Water levels in wells screened in the alluvial aquifer and underlying aquifers near the alluvial valley are closely correlated with Mississippi River stages. The hydrograph of a well screened in the Gonzales-New Orleans Aquifer in Gonzales, Louisiana, is affected by river stage although it is located more than 6 miles from the river. In the New Orleans area, however, the Mississippi River Alluvial Aquifer is absent, and the hydraulic connection between the river and underlying aquifers is lacking (Dial and Sumner 1989).

The southern boundary of the aquifers in this area is beneath the Gulf of Mexico, where the sands diminish in thickness and appear to pinch out altogether. The eastern boundary of the aquifers is also beneath the Gulf of Mexico, off the coast of southern Mississippi. The Gramercy and Norco aquifers pinch out in eastern Orleans Parish, and the Gonzales-New Orleans and "1,200-Foot" aquifers are assumed to pinch out farther east beneath the coastal waters (Dial and Sumner 1989).

Groundwater Flow

The aquifers of the New Orleans Aquifer System are recharged directly by precipitation, by percolation downward through the overlying surficial sediments, and by recharge from the Mississippi River. Recharge from precipitation is sufficient to maintain relatively constant long-term water levels in the aquifers at the outcrop areas. Observations of water levels in shallow wells near outcrop areas indicate that the long-term water levels are not affected by groundwater pumping (Dial and Sumner 1989).

Groundwater movement in all four aquifers which comprise the New Orleans Aquifer System is part of a regional flow system. Pre-pumping directions of groundwater flow were largely controlled by the geologic features shown on Figure C-2. During short periods of time, however, the river stage was higher than the artesian head in the aquifers and groundwater flow near the river was temporarily reversed. The flow system along the alluvial valley remains essentially the same as it was under pre-pumping conditions. In other areas, where the aquifers were not in contact with the Mississippi River Alluvial Aquifer, groundwater discharge moved upward through confining units to the surface (Dial and Sumner 1989).

Groundwater movement from recharge to discharge areas flushed out the original salty water in the aquifers (Morgan 1963). The current irregularity of the freshwater-saltwater contacts in the aquifers is an indication that the rate of flushing varied spatially. Unlike the typical coastal aquifer in which fresh water overlies very salty water (chloride concentration of 19,000 milligrams per liter [mg/L]), the transition from fresh water to salty water in these aquifers is gradual.

For example, most of the chemical analyses of water from wells in areas mapped as containing salt water have chloride concentrations of less than 1,000 mg/L (Dial and Sumner 1989).

Development of the Gonzales-New Orleans Aquifer in the New Orleans area altered the pre-pumping flow direction as water moved radially toward the area of lowered head. Pumping induced leakage into the pumped aquifer through confining units above and below, and it affected the position of the freshwater-saltwater interface in the Gonzales-New Orleans Aquifer. The pre-pumping interface in the aquifer extended northeastward from downtown New Orleans (Rollo 1966). Early development was close to the interface and pumping in the downtown area intercepted most of the salt water that was moving toward the pumping center. However, in the 1970s, groundwater withdrawal in the downtown area declined, and salt water began moving toward other pumping centers in the areas of the Industrial Canal, the lake front at Lake Pontchartrain, and Lake Michoud (Dial and Sumner 1989).

Although two active faults are known in the Lake Pontchartrain area, Big Point and Unknown Pass, their effect on groundwater movement is considered minimal (see Figure C-6). Water level elevations for the aquifers that comprise the New Orleans Aquifer System indicate the presence of a downward hydraulic gradient from the surface to the Gonzales-New Orleans Aquifer and an upward hydraulic gradient between the "1,200-Foot" Aquifer and the Gonzales-New Orleans Aquifer. These gradients are most pronounced in areas of aquifer pumpage (Dial and Sumner 1989; Dial 1994). Potential downward migration of groundwater and contaminants might be enhanced by the presence of downward vertical groundwater density gradients and "vertical permeable conduits" within the confining units (e.g., interconnected silt-lensed layers).

Aquifer Properties

Based on few aquifer tests, the estimated hydraulic conductivity is 100 feet per day (feet/day) for the Gramercy Aquifer and 130 feet/day for the Norco Aquifer. Transmissivities for the Gramercy and Norco aquifers range from 9,000 to 30,000 square feet per day (feet^2/day). The hydraulic conductivity determined from aquifer tests of the Gonzales-New Orleans Aquifer averages 110 feet/day. The transmissivity of the Gonzales-New Orleans Aquifer in the greater New Orleans area ranges from 12,000 to 24,000 feet^2/day, and it has been reported to be as high as 32,000 feet^2/day in the Gonzales area (Long 1965). Aquifer properties of the "1,200-Foot" Aquifer are unavailable in the greater New Orleans area, but a hydraulic conductivity of 100 feet/day can be estimated based on the similar aquifer lithology of the Gonzales-New Orleans Aquifer. Storage coefficients range from 0.0001 to 0.001, and they average approximately 0.0005 for the Gramercy, Norco, and Gonzales-New Orleans aquifers. Information on storage

coefficient is unavailable for the "1,200-Foot" Aquifer, but an average of 0.0005 is assumed (Dial and Sumner 1989).

C.3 Surface Water Hydrology

The surface water hydrologic regime of Orleans Parish involves the movement of fresh water and salt water masses through the region as a result of the interaction between Mississippi River discharge, precipitation, winds, and tides. The existing regime is influenced by natural and manmade factors. The basic, natural hydrologic system was governed by the pattern of former distributary channels of the Mississippi River Delta complex and interdistributary basin channels that drained swamps and marshes into the estuarine lakes, bays, and sounds (Trahan 1990).

Under natural conditions and before human influence, the Mississippi River flowed through the wetlands to the Gulf of Mexico through distributary channels. Rainfall and Mississippi River flood waters flowed down the gentle slopes of the natural levees and slowly through the swamps and marshes as sheet flow and interdistributary basin channel flow. The wetland vegetation and shallow, winding, interdistributary channels slowed the progress of this drainage and stored the fresh water for gradual release into the tide waters. This situation contributed to a stable environment where water levels and salinity values varied with changing tidal conditions (Trahan 1990).

Manmade factors have greatly altered the natural hydrologic regime. Levees constructed along the Mississippi River halted annual overbank flooding. The channelized drainage network in the leveed area collected precipitation to be discharged into the wetlands by pumping stations and at floodgates (Trahan 1990). Additional manmade modifications beyond levee construction have occurred recently, such as deep water canals and spoil banks developed in conjunction with logging, drainage, navigation improvements, oil and gas well drilling, and pipeline construction. These and other modifications allowed surplus fresh water to pass more quickly from point discharge sources into the estuary. Spoil banks along the canals have segmented the wetlands and hindered circulation. Greater water depths in the canals provided for greater tidal fluctuation and saltwater intrusion during dry periods. Major intrusions of salt water along the Mississippi River generally do not extend as far north as Orleans Parish; however, intrusions through canals and other channels reach other large surface water bodies in most parts of the parish (Trahan 1990).

Due to manmade conditions, the hydrologic circulation system has shifted to reflect the competition between local runoff in the wetlands coupled with discharge from diked areas and daily tides. The overall effect of these modifications has been the rapid alteration of a stable

hydrologic situation to a hydrologic situation with a greater fluctuation of water levels, salinity values, and sediment transfers and deposition (Trahan 1990).

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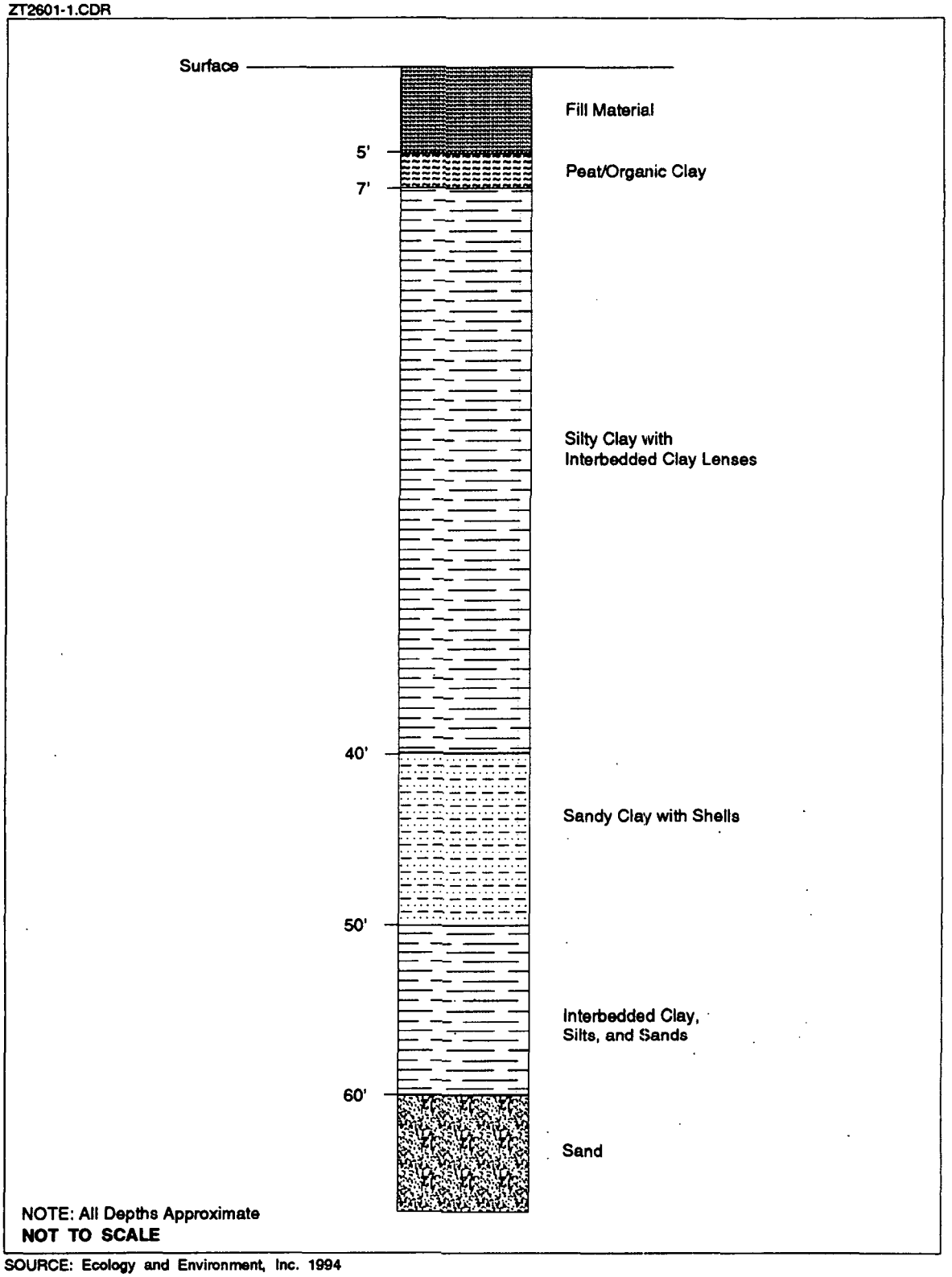
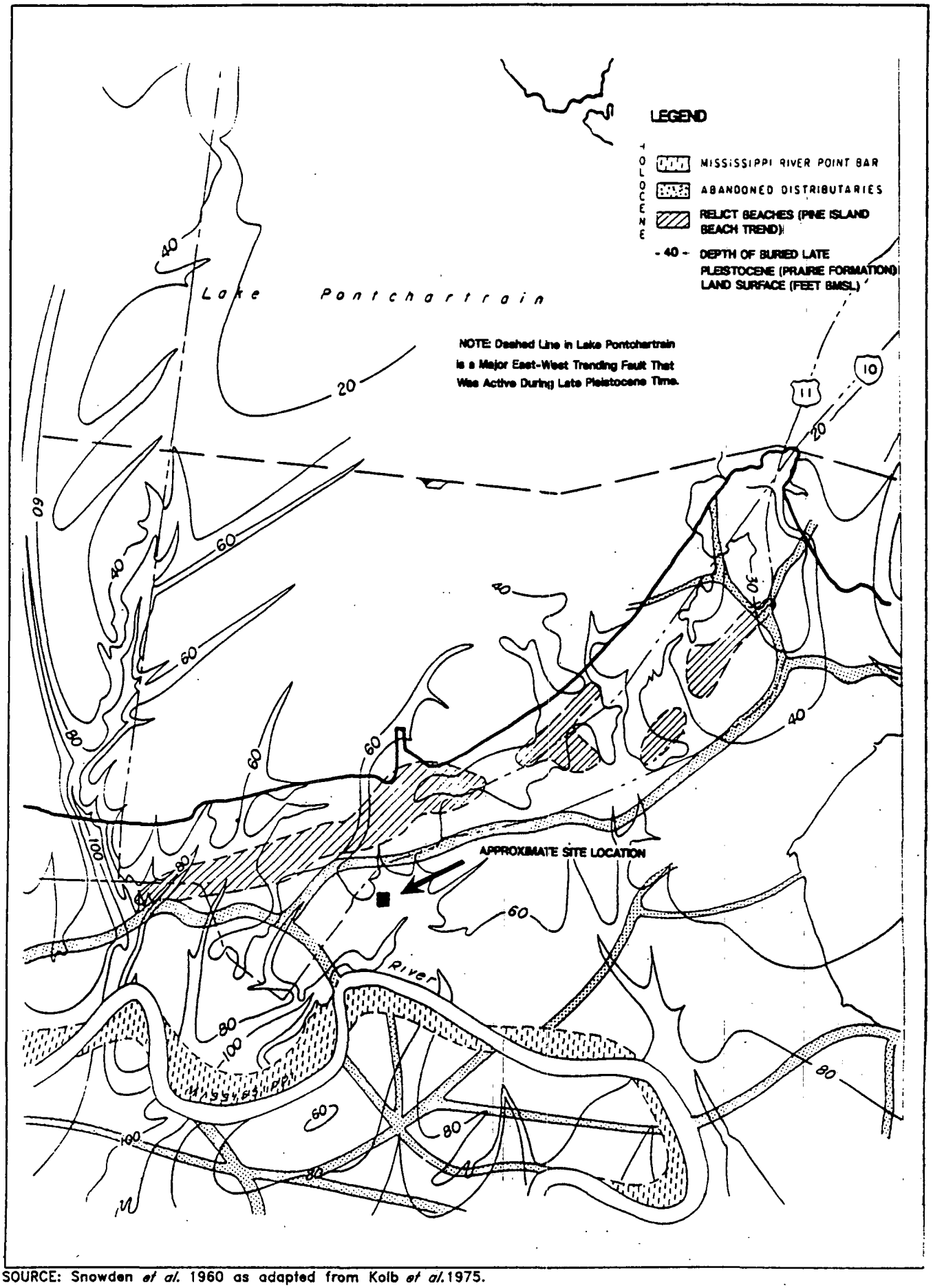


SOURCE: Ecology and Environment, Inc. 1994

Figure C-1 GENERALIZED LITHOLOGIC COLUMN
AGRICULTURE STREET LANDFILL SITE, NEW ORLEAS, LOUISIANA

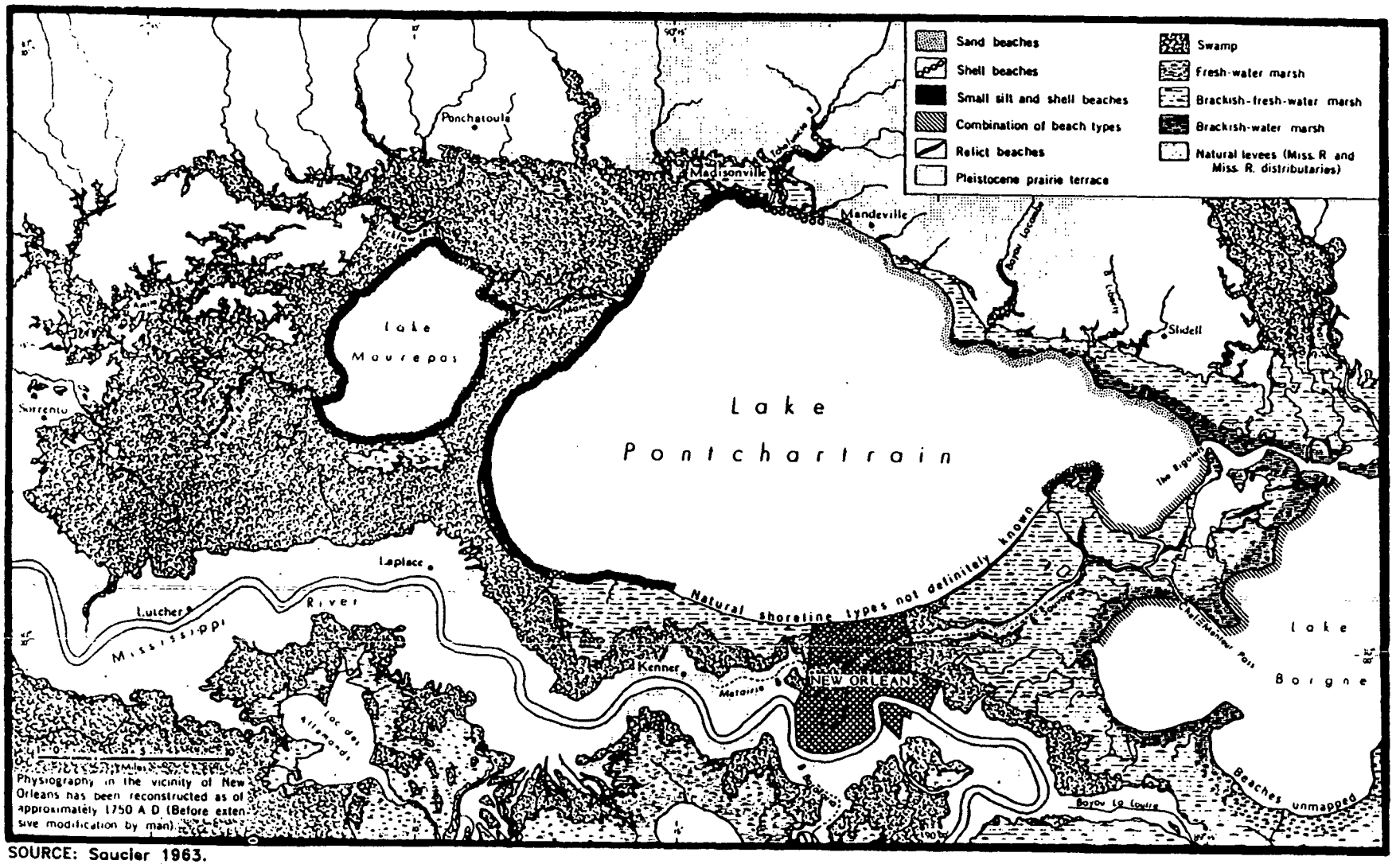


SOURCE: Snowden *et al.* 1960 as adapted from Kolb *et al.* 1975.

00159.0051

Figure C-2 MAJOR GEOLOGIC FEATURES OF METROPOLITAN NEW ORLEANS
AGRICULTURE STEET LANDFILL SITE, NEW ORLEANS, LOUISIANA

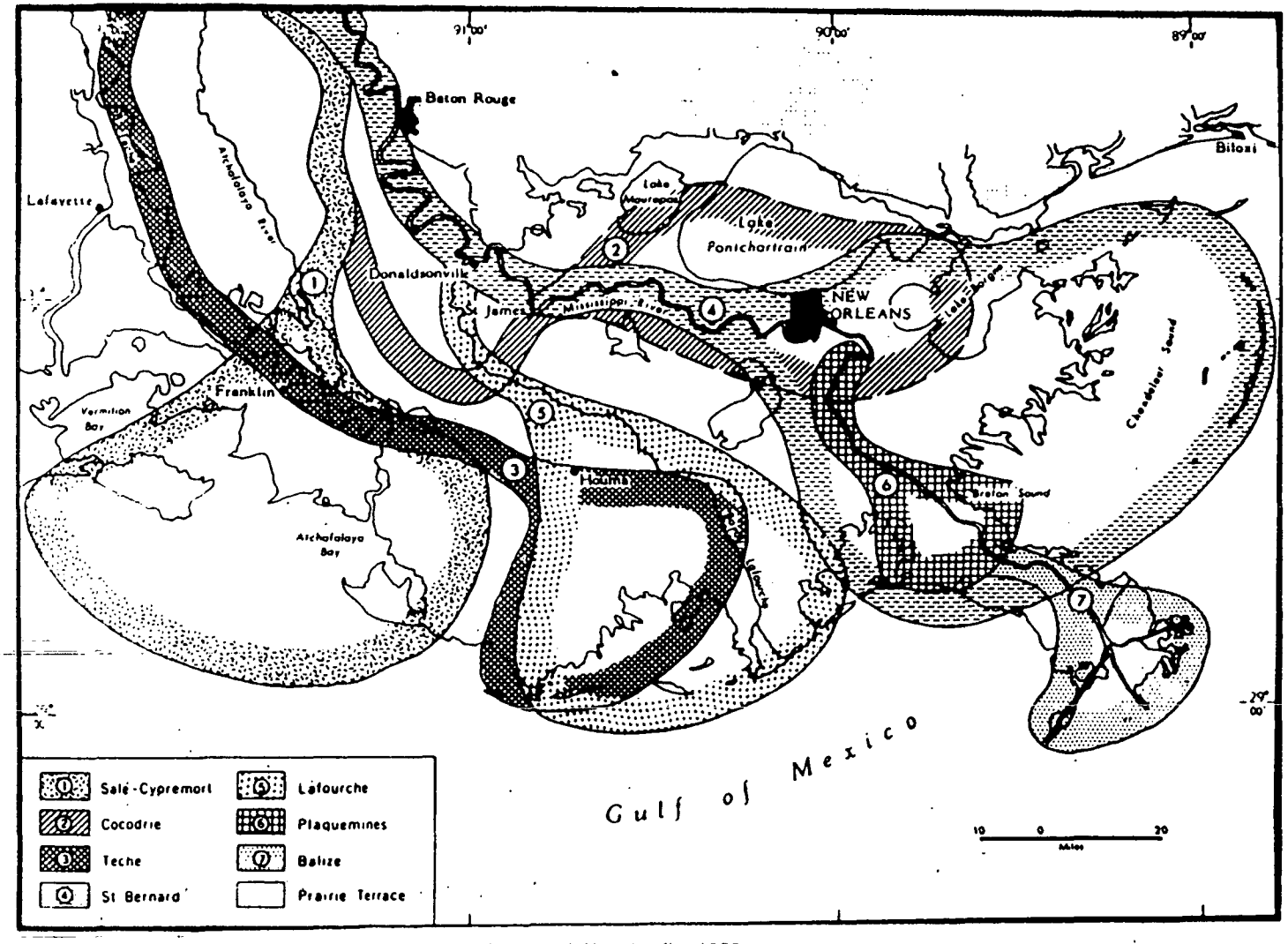
0015
9.00
53



SOURCE: Saucier 1963.

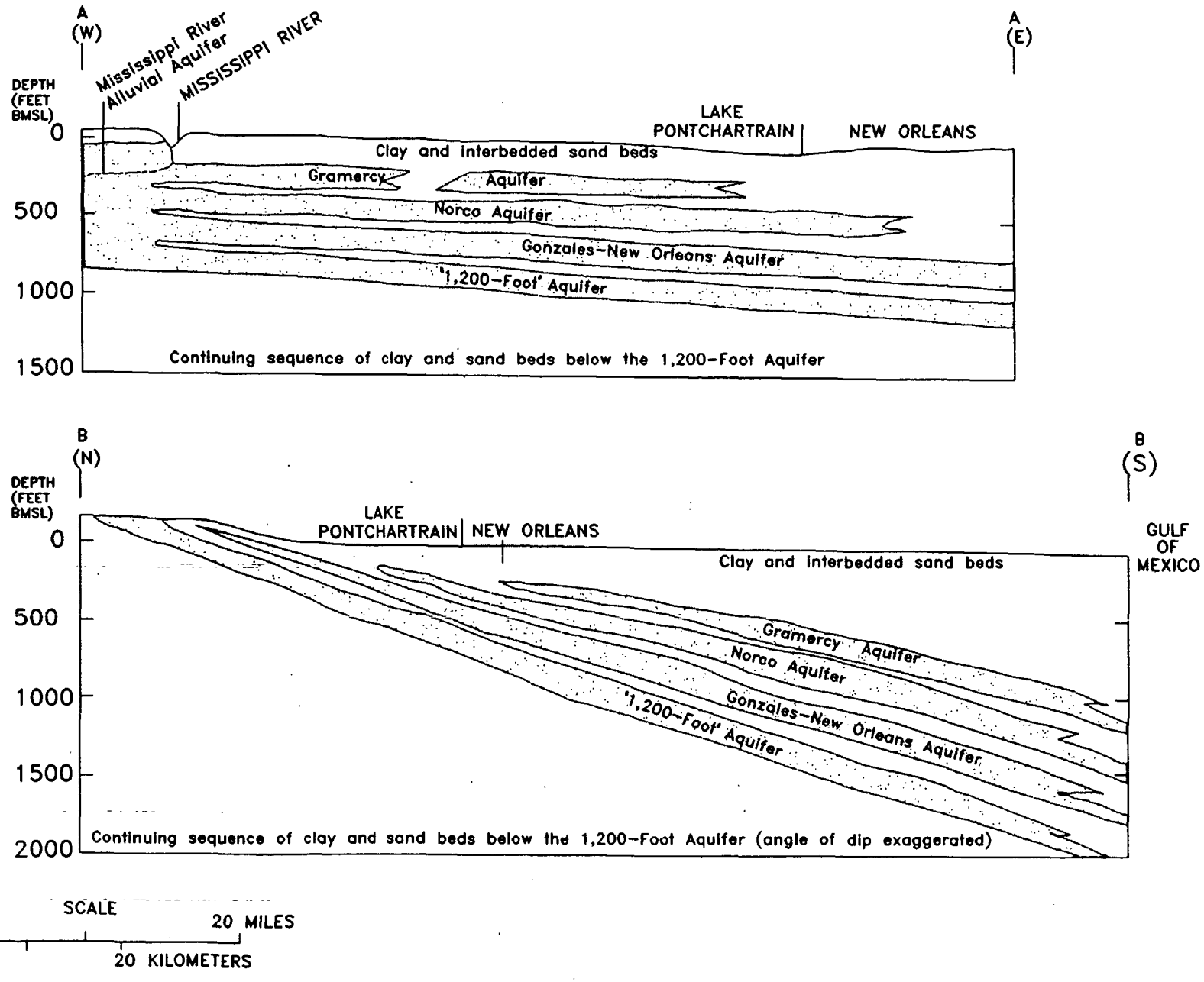
Figure C-3 SEDIMENTARY DESPOSITIONAL ENVIRONMENTS AND LANDFORMS IN METROPOLITAN NEW ORLEANS, circa 1750
AGRICULTURE STREET LANDFILL SITE, NEW ORLEANS, LOUISIANA

0015
9.00
55



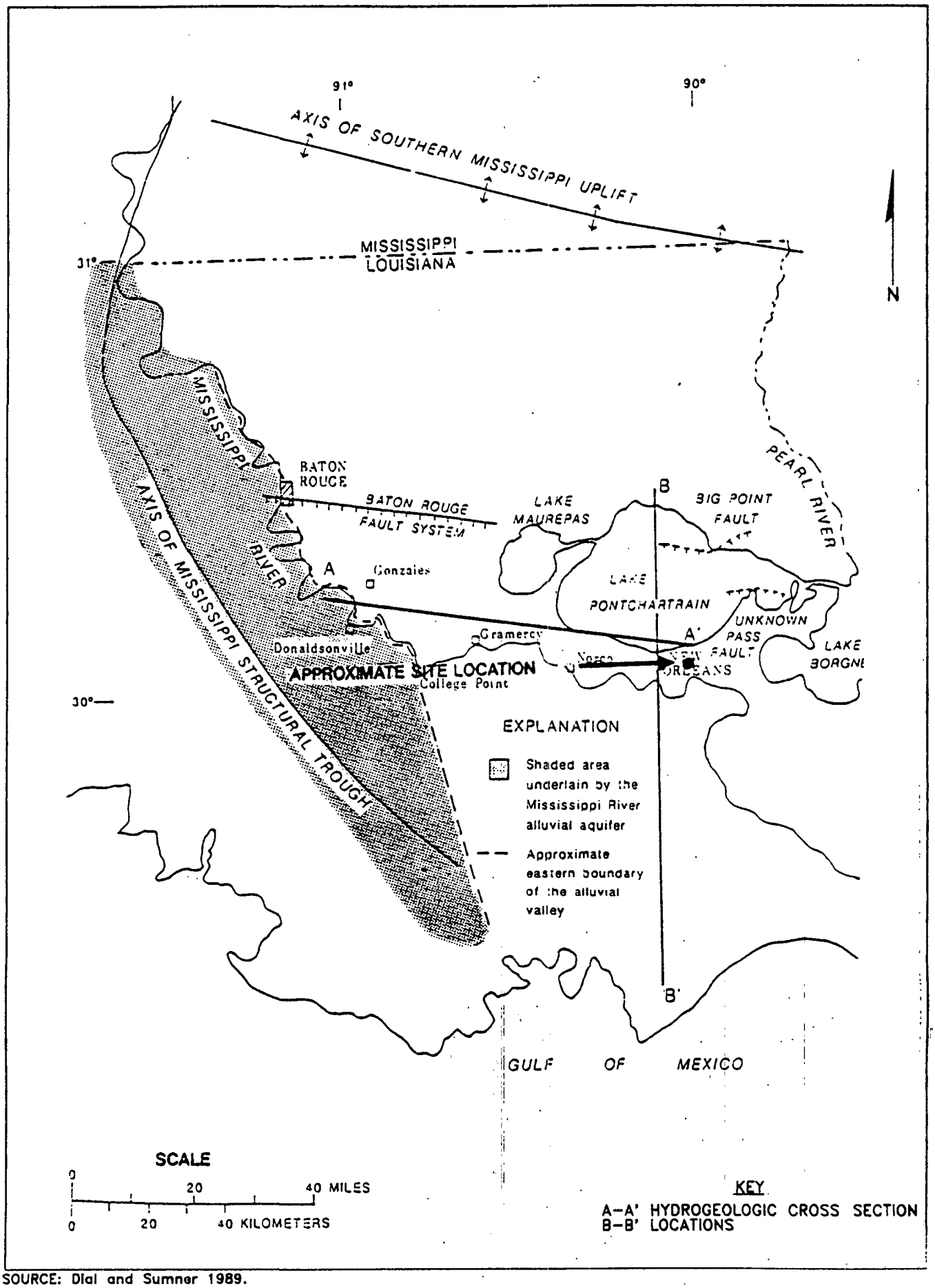
SOURCE: Snowden *et al.* 1960 as modified from Kolb and Van Lopik, 1958.

Figure C-4 MULTIPLE DELTAS OF THE MISSISSIPPI DELTAIC PLAIN
AGRICULTURE STREET LANDFILL SITE, NEW ORLEANS, LOUISIANA



SOURCE: Dial and Sumner 1989.

Figure C-5 HYDROGEOLOGIC CROSS SECTION THROUGH THE SITE VICINITY
AGRICULTURE STREET LANDFILL SITE, NEW ORLEANS, LOUISIANA

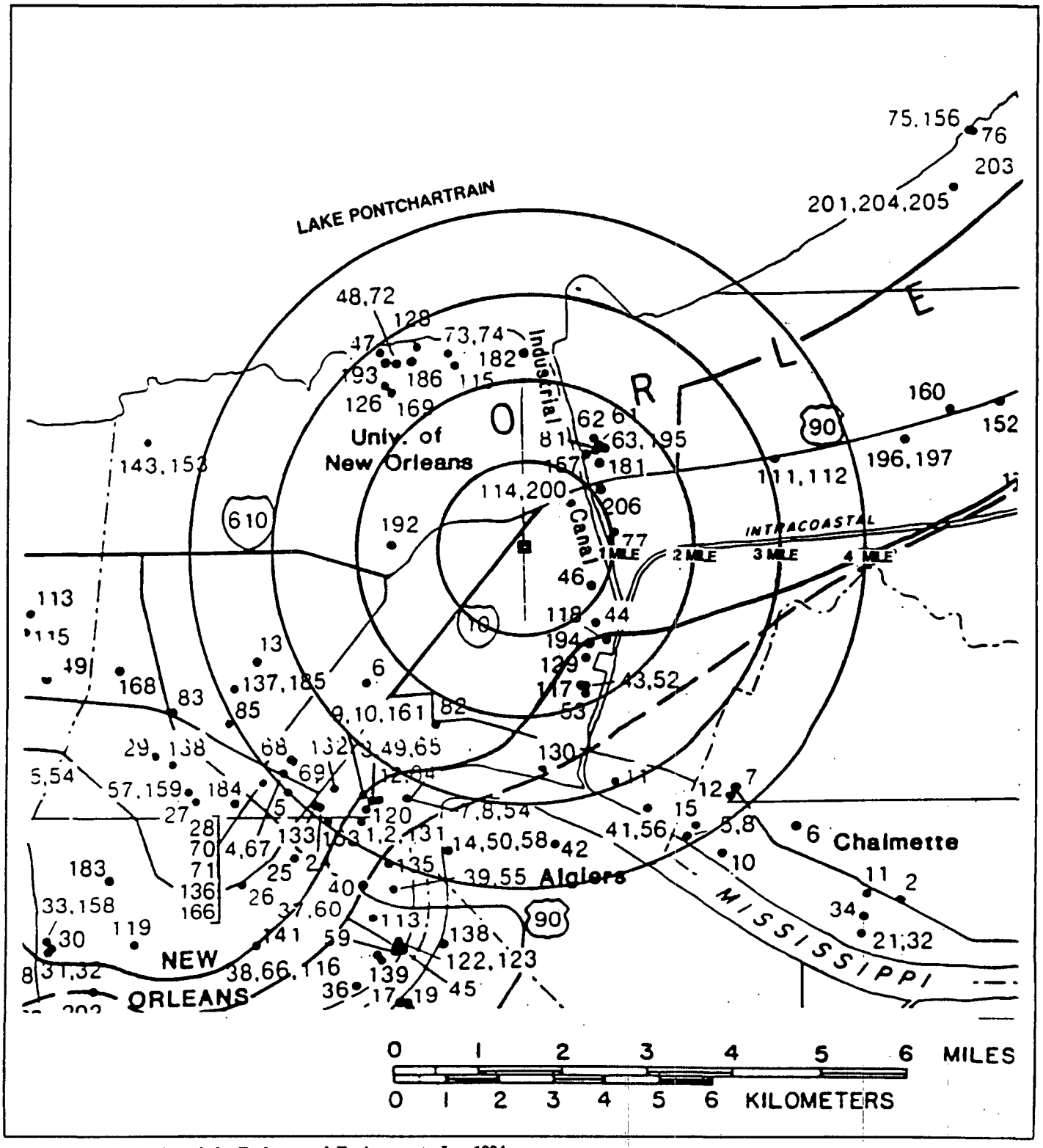


SOURCE: Dial and Sumner 1989.

Figure C–6 STRUCTURAL GEOLOGIC FRAMEWORK OF SOUTHEASTERN LOUISIANA
AGRICULTURE STEET LANDFILL SITE, NEW ORLEANS, LOUISIANA

APPENDIX D

SUPPLY WELLS IN ORLEANS PARISH



Source: Dial 1983; adapted by Ecology and Environment, Inc. 1994

Figure D-1 PRIVATE SUPPLY WELLS IN THE SITE VICINITY

Table D-1

RECORDS OF SELECTED WELLS IN ORLEANS PARISH

WELL NUMBER	OWNER	YEAR COMP-LETED	AQUIFER	ALTITUDE OF LAND SURFACE (FEET)	DEPTH OF WELL (FEET)	DEPTH TO FIRST OPENING (FEET)	CASING DIAM-ETER (INCHES)	USE	WATER LEVEL (FEET)	DATE WATER LEVEL MEASURED	DISCHARGE (GALLONS PER MINUTE)	SPECIFIC CAPACITY (GALLONS/ MIN/FOOT)	TYPES OF LOGS AVAILABLE
OR- 1	HIBERNIA BANK	1938	112GZNO	5	757	--	10-8	Z	--	--	800	--	D
OR- 2	HIBERNIA BANK	1938	112GZNO	5	748	673	10-8	U	--	--	1000	--	--
OR- 3	D H HOLMES CO	1939	112GZNO	5	750	--	8	Z	--	--	600	--	--
OR- 4	DIXIE BREWING	1935	112GZNO	-1	789	709	10-8	Z	40.00	09/41	500	--	--
OR- 5	STANDARD BREW	1938	112GZNO	1	752	674	8-6	Z	--	--	350	--	D
OR- 6	JOSEPH WADDELL	1925	112GZNO	2	800	680	12-8	Z	--	--	870	--	--
OR- 7	JACKSON BREW CO	1901	112GZNO	13	775	--	10-6	Z	30.00	1941	800	8.0	--
OR- 8	JACKSON BREW CO	1940	112GZNO	11	777	657	18-12	U	30.00	09/41	2000	67.0	D
OR- 9	NO ATHLETIC CLUB	1940	112GZNO	4	785	--	8-6	U	--	--	450	--	--
OR- 10	NO ATHLETIC CLUB	1937	11212NO	4	1248	--	6	Z	F	12/37	135	--	D
OR- 11	G & S ICE MFG	1908	112GZNO	6	760	700	6	Z	81.80	09/50	175	12.5	--
OR- 12	AMERICAN BREW	1933	112GZNO	6	780	700	10-8	U	--	--	800	21.6	--
OR- 13	AMERICAN CAN CO	1910	112GZNO	-1	800	--	8	Z	--	--	--	--	--
OR- 14	CRISTINA ICE	1913	112GZNO	9	750	670	6	Z	--	--	250	--	--
OR- 15	JEFF WICKES	1929	112GZNO	2	500	--	3	A	9.95	05/61	--	--	--
OR- 16	PIONEER LUMBER	1939	111SLNO	4	90	--	2.5	Z	0.64	04/42	--	--	--
OR- 17	ALEX BERGER	1928	11212NO	4	1100	--	4	A	15.34	02/61	--	--	--
OR- 18	H M LOMASNEY	1941	111SLNO	5	90	--	2.5	Z	--	--	--	--	--
OR- 19	LA DEPT OF HWYS	1928	112GZNO	0	553	--	8	A	F	04/42	--	--	J
OR- 20	LA DEPT OF HWYS	1925	112GZNO	4	400	--	1.5	A	F	04/42	--	--	--
OR- 21	FRANK STEWART	--	112GZNO	2	--	--	1.5	U	--	--	--	--	--
OR- 22	COCHRAN SHIPYD	1936	112GZNO	5	606	--	2	U	+ 7.00	1936	--	--	--
OR- 23	LA PARK REC COM	1927	112GZNO	2	547	--	6	O	2.36	04/57	--	--	J
OR- 24	NEW ORLEANS PSI	--	112GZNO	2	790	--	6	Z	98.00	05/42	450	--	--
OR- 25	KELLETT IND INC	--	112GZNO	6	850	790	6	Z	55.15	05/44	500	--	--
OR- 26	PAILET IND INC	1926	112GZNO	-1	850	--	6	C	40.00	05/42	100	--	--
OR- 27	AIR REDUCTION	1923	112GZNO	0	708	608	8	A	40.00	05/42	90	3.0	D
OR- 28	FALSTAFF BREW	1912	112GZNO	-1	780	--	8	Z	22.00	01/40	500	11.9	--
OR- 29	SEALTEST FOODS	1924	112GZNO	1	800	760	8	U	40.00	05/42	350	29.2	--
OR- 30	US IND CHEMICAL	1942	112GZNO	9	815	733	13-8	Z	68.34	01/51	1100	55.0	--
OR- 31	US IND CHEMICAL	1942	112GZNO	9	815	733	13-8	Z	--	--	1200	--	--
OR- 32	US IND CHEMICAL	1911	112GZNO	9	850	--	10-8	Z	68.30	01/51	500	--	--
OR- 33	US IND CHEMICAL	1943	112GZNO	9	754	666	12-8	N	84.67	03/63	750	--	--
OR- 34	NO COLD STORAGE	1930	112GZNO	14	821	721	18-10	Z	--	--	1500	--	D
OR- 35	NO COLD STORAGE	1942	112GZNO	15	840	720	16-10	Z	35.00	03/42	2200	--	--

Source: Dial 1983. See last page of table for explanation of headings.

00159.0065

Table D-1

RECORDS OF SELECTED WELLS IN ORLEANS PARISH (CONTINUED)

WELL NUMBER	OWNER	YEAR COMP-LETED	AQUIFER	ALTITUDE OF LAND SURFACE (FEET)	DEPTH OF WELL (FEET)	DEPTH TO FIRST OPENING (FEET)	CASING DIAM-ETER (INCHES)	USE	WATER LEVEL (FEET)	DATE WATER LEVEL MEASURED	DISCHARGE (GALLONS PER MINUTE)	SPECIFIC CAPACITY (GALLONS/ MIN/FOOT)	TYPES OF LOGS AVAILABLE
OR- 36	NO BREWING CO	--	112GZNO	13	837	--	6	A	--	--	425	--	--
OR- 37	NEW ORLEANS PSI	1942	112GZNO	14	784	684	12-8	Z	--	--	850	--	D
OR- 38	LIQUID CARBONIC	1942	112GRMC	13	300	280	8	A	18.00	05/42	335	8.2	--
OR- 39	NO COLD STORAGE	1922	112GZNO	14	800	700	12	U	--	--	--	--	--
OR- 40	BROWNS VELVET	1920	112GZNO	5	785	--	4	Z	--	--	110	--	--
OR- 41	NO BUTCHER COOP	1908	112GZNO	6	800	--	6	Z	44.00	1937	400	14.3	--
OR- 42	U S NAVY	1906	112GZNO	10	775	664	8	O	40.07	05/42	450	19.6	J
OR- 43	MASONITE CORP	1938	112GZNO	2	750	670	10-6	U	106.00	06/55	500	--	D
OR- 44	U S ARMY	1942	112GZNO	4	728	657	10-6	Z	28.00	06/42	650	21.7	D
OR- 45	U S CORPS ENGS		--	-8	300	--	--	T	--	--	--	--	D
OR- 46	PORT OF NEW ORL	1943	112GZNO	4	700	619	12-8	Z	33.00	05/43	800	26.7	D
OR- 47	OR LEVEE BOARD	1943	112GZNO	9	610	527	10-5	A	22.00	04/43	704	8.0	J
OR- 48	UNIV OF NEW ORL	1943	112GZNO	7	616	533	10-5	Z	80.23	05/60	500	--	J
OR- 49	D H HOLMES CO	1950	112GZNO	5	758	663	16-10	U	109.00	09/50	1500	18.5	D
OR- 50	CRISTINA ICE	1942	112GZNO	9	750	670	8-6	U	107.05	06/54	--	--	J
OR- 51	NASA MICHOUD	1942	112GZNO	3	580	520	10-4	U	+ 1.00	04/42	55	2.8	D,E
OR- 52	MASONITE CORP	1946	112GZNO	2	730	650	10-6	U	57.00	07/46	520	--	D
OR- 53	MASONITE CORP	1946	112GZNO	2	726	--	10-6	Z	57.00	12/46	500	7.7	D
OR- 54	JACKSON BREW CO	1947	112GZNO	12	756	660	18-12	U	126.00	12/59	2500	36.8	J
OR- 55	NO COLD STORAGE	1948	112GZNO	14	812	700	12-10	Z	90.00	06/48	1200	19.0	D
OR- 56	NO BUTCHER COOP	1948	112GZNO	6	800	740	10-6	Z	60.00	1948	--	--	--
* OR- 57	BLUE PLATE FOOD	1950	112GZNO	0	800	716	10-6	N	66.00	03/50	500	20.0	D
OR- 58	CRISTINA ICE	1950	112GZNO	9	800	--	8	U	104.52	01/59	150	--	--
OR- 59	NEW ORLEANS PSI	1949	112GZNO	15	771	671	12-10	E	93.00	12/49	1125	19.7	D
OR- 60	NEW ORLEANS PSI	1939	112GZNO	15	785	685	12	Z	30.00	02/39	1151	21.7	D
* OR- 61	NEW ORLEANS PSI	1947	112GZNO	-1	653	552	12-8	E	87.04	02/61	1170	--	D
* OR- 62	NEW ORLEANS PSI	1947	112GZNO	-1	643	536	12-10	E	83.50	02/63	1050	33.9	D
OR- 63	NEW ORLEANS PSI	1950	112GZNO	-1	638	538	12-10	Z	70.00	02/50	1200	26.1	D
OR- 64	AMERICAN BREW	1947	112GZNO	6	800	720	12	U	--	--	--	--	--
OR- 65	D H HOLMES CO	1947	112GZNO	5	750	--	13	Z	--	--	250	--	--
OR- 66	LIQUID CARBONIC	1945	112GZNO	13	782	--	12-10	Z	97.00	02/61	515	7.0	--
* OR- 67	DIXIE BREWING	1951	112GZNO	-1	811	727	12-10	N	110.00	1951	850	8.5	--
* OR- 68	PAN AM LIFE INS	1951	112GZNO	1	808	676	12-8	AC	63.00	01/51	1060	30.3	D
* OR- 69	PAN AM LIFE INS	1951	112GZNO	1	809	679	12-8	AC	63.00	1951	1100	31.4	D
OR- 70	FALSTAFF BREW	1950	112GZNO	-1	788	676	12-8	A	92.00	09/50	990	--	D,E
OR- 71	FALSTAFF BREW	1944	112GZNO	-1	800	--	--	A	--	--	811	--	--
OR- 72	UNIV OF NEW ORL	1951	112GZNO	7	650	--	10-8	Z	92.09	08/60	--	--	--
OR- 73	AMER STANDARD	1949	112GZNO	9	648	568	12-8	U	98.00	07/61	726	5.0	D
OR- 74	AMER STANDARD	1949	112GZNO	9	680	600	12-8	U	97.95	07/61	800	--	D
OR- 75	OR LEVEE BOARD	--	11212NO	2	760	--	6	U	13.09	10/61	200	--	--
OR- 76	OR LEVEE BOARD	--	11212NO	2	782	742	6-4	U	--	--	200	--	--
OR- 77	LIQUID CARBONIC	1953	112GZNO	4	630	567	6-4	U	89.00	07/57	132	--	D
* OR- 78	NASA MICHOUD	1953	112GZNO	4	565	486	12-9	F	46.29	11/60	890	15.8	D,E
OR- 79	NASA MICHOUD	1953	112GZNO	3	586	506	18-10	U	36.00	10/53	1200	--	D
OR- 80	NASA MICHOUD	1953	112GZNO	3	590	511	18-10	U	48.10	07/61	1200	--	D

Source: Dial 1983. See last page of table for explanation of headings.

00159.0066

Table D-1

RECORDS OF SELECTED WELLS IN ORLEANS PARISH (CONTINUED)

WELL NUMBER	OWNER	YEAR COMP-LETED	AQUIFER	ALTITUDE OF LAND SURFACE (FEET)	DEPTH OF WELL (FEET)	DEPTH TO FIRST OPENING (FEET)	CASING DIAM-ETER (INCHES)	USE	WATER LEVEL (FEET)	DATE WATER LEVEL MEASURED	DISCHARGE (GALLONS PER MINUTE)	SPECIFIC CAPACITY (GALLONS/ MIN/FOOT)	TYPES OF LOGS AVAILABLE
OR- 81	NEW ORLEANS PSI	1949	112GZNO	-1	620	540	15-10	A	94.00	08/53	1255	25.6	D
OR- 82	SCHWEGMANN BROS	1952	112GZNO	5	727	684	6-4	A	97.00	07/52	240	--	D
* OR- 83	BAUMER FOODS	1953	112GZNO	0	733	683	10-6	N	89.00	07/53	800	--	D
OR- 84	HENRY TREBUCQ	1951	112GZNO	4	482	458	2	H	--	--	--	--	--
OR- 85	G A LUTZ	1952	112GRMC	-1	178	--	2	Z	--	--	--	--	--
OR- 86	CAPT ARSONNE	1953	112GZNO	2	315	--	--	H	--	--	--	--	--
OR- 87	JOSEPH L BAAS	1950	112GZNO	2	482	472	1.5	H	F	06/54	--	--	--
OR- 88	IRVING STRENGE	1944	112GZNO	2	475	--	2	H	F	1944	--	--	--
OR- 89	GEORGE MOSS	1942	112GZNO	2	600	--	2.5	H	F	06/54	--	--	--
OR- 90	EDWIN RODRIGUEZ	--	112GZNO	4	500	--	2	U	22.48	01/61	--	--	--
OR- 91	WILMER H LOWE	--	112GZNO	4	550	--	2	H	--	--	--	--	--
OR- 92	LOUIS JEANFREAU	1946	112GZNO	3	385	365	2	H	F	1946	--	--	--
OR- 93	MARQUES BROS	1946	112GZNO	4	525	--	2	H	F	1946	--	--	--
OR- 94	LA PARK REC COM	1949	112GZNO	2	427	407	3	H	2.70	03/61	--	--	--
OR- 95	LA PARK REC COM	1947	112GZNO	2	345	325	2	U	+ 0.63	04/57	--	--	--
OR- 96	FERNANDEZ	--	112GZNO	2	220	--	1.5	H	F	06/54	--	--	--
OR- 97	LEWIS WAGNER	1951	112GZNO	2	220	--	1.5	H	F	06/54	--	--	--
OR- 98	ARNAUD ROCQUIN	1950	112GZNO	2	335	--	2	H	3.09	02/61	--	--	--
OR- 99	TOM BULOT	1954	112GZNO	2	359	339	2	H	F	06/54	--	--	--
OR- 100	L H SHULTZ	1948	112GZNO	4	580	550	2	H	11.00	1954	--	--	--
OR- 101	LA DEPT OF HWYS	1953	112GZNO	4	550	--	2	A	F	09/53	--	--	--
OR- 102	CHEF MENTEUR CO	1948	112GZNO	2	465	--	2	H	F	06/54	--	--	--
OR- 103	L&N RAILROAD CO	1952	112GZNO	2	340	--	2	H	8.33	04/61	--	--	--
OR- 104	L&N RAILROAD CO	1947	112GZNO	2	596	--	2	H	--	--	--	--	--
OR- 105	N L PEARSON	--	112GZNO	2	500	--	2	H	--	--	--	--	--
OR- 106	JACK SABO	1953	112GZNO	2	487	467	2	H	5.00	1954	--	--	--
OR- 107	ALVIN M JONES	1952	112GZNO	3	560	--	2	H	6.00	1952	--	--	--
OR- 108	MRS S A VINOT	1946	112GZNO	4	365	--	2	H	F	1946	--	--	--
OR- 109	DR J STECKLER	1947	112GZNO	3	347	--	2	H	6.10	04/57	--	--	--
OR- 110	ROBERT POWER	1957	112GZNO	3	437	417	3	P	15.50	10/57	--	--	D,J
OR- 111	R J ESPOSITO	1957	112GZNO	0	627	607	4	C	69.54	12/57	--	--	D,J
OR- 112	R J ESPOSITO	1957	11212NO	0	1040	1020	4-2	C	8.68	01/58	20	--	D,E
OR- 113	W VA PULP PAPER	1958	112GZNO	10	740	710	6-4	A	115.50	09/58	--	--	D,J
OR- 114	SCHWEGMANN BROS	1956	112GZNO	4	661	591	12-10	A	--	--	1500	--	D
* OR- 115	AMER STANDARD	1955	112GZNO	7	633	533	20-12	U	83.00	08/55	1500	31.9	D,E
OR- 116	LIQUID CARBONIC	1955	112GRMC	13	292	252	12-8	U	23.42	01/55	235	--	D
* OR- 117	MASONITE CORP	1957	112GZNO	2	732	652	12-8	N	108.00	02/57	1421	32.3	D
OR- 118	BULK TRANSPORT	1959	112GZNO	5	735	715	4-2.5	U	105.50	07/59	--	--	J
OR- 119	FABACHER CASINO	1900	11212NO	6	1229	--	4	U	+ 12.00	1905	55 F	--	D
OR- 120	NEW ORLEANS	1854	112GZNO	4	630	--	--	Z	--	--	--	--	D

Source: Dial 1983. See last page of table for explanation of headings.

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Table D-1

RECORDS OF SELECTED WELLS IN ORLEANS PARISH (CONTINUED)

WELL NUMBER	OWNER	YEAR COMP-LETED	AQUIFER	ALTITUDE OF LAND SURFACE (FEET)	DEPTH OF WELL (FEET)	DEPTH TO FIRST OPENING (FEET)	CASING DIAM-ETER (INCHES)	USE	WATER LEVEL (FEET)	DATE WATER LEVEL MEASURED	DISCHARGE (GALLONS PER MINUTE)	SPECICIC CAPACITY (GALLONS/ MIN/FOOT)	TYPES OF LOGS AVAILABLE
OR- 121	BILL PULLEN	--	112GZNO	3	425	--	2	C	--	--	--	--	--
OR- 122	NEW ORLEANS PSI	1956	112GZNO	15	764	684	12-8	E	127.35	06/61	975	36.1	D
OR- 123	NEW ORLEANS PSI	1959	112GZNO	15	772	689	14-9	E	120.00	12/59	1598	30.2	D
OR- 124	NEW ORLEANS PSI	1956	112GZNO	3	634	534	16-10	Z	63.00	03/56	2450	26.9	D
* OR- 125	NEW ORLEANS PSI	1955	112GZNO	3	632	542	16-10	E	73.00	08/59	1645	24.6	D
OR- 126	UNIV OF NEW ORL	1960	112GZNO	6	645	554	18-10	AC	87.35	09/60	2470	35.4	D,E
OR- 127	U S CORPS ENGS	1960	--	9	162	--	--	T	--	--	--	--	D,E,J
OR- 128	OR LEVEE BOARD	1956	112GZNO	5	581	541	8-4	R	130.63	02/70	--	--	D
* OR- 129	CITADEL CEMENT	1951	112GZNO	4	726	644	12-7	N	--	--	--	--	D
OR- 130	REUTHER SEAFOOD	1957	112GZNO	8	736	686	8-6	C	100.00	05/57	500	25.0	D
OR- 131	HIBERNIA BANK	1956	112GZNO	5	750	665	18-10	AC	101.00	02/56	1150	22.3	D
OR- 132	BRANIFF PLACE	1948	112GZNO	3	775	--	18-12	AC	124.00	09/58	1050	32.8	--
OR- 133	V A HOSPITAL	1952	112GZNO	3	757	670	12-10	AC	85.00	03/52	650	--	D
OR- 134	NO EAST INC	1960	112GZNO	2	556	--	--	T	28.00	06/60	--	--	D
OR- 135	HENDERSON SUGAR	1958	112GZNO	12	764	683	12-10	U	113.69	04/62	1200	--	D
OR- 136	FALSTAFF BREW	1956	112GZNO	0	745	675	12-10	Z	96.50	05/56	1325	23.0	D
OR- 137	INLAND STEEL CO	1957	112GZNO	0	730	690	8-6	A	92.00	08/57	400	--	D
OR- 138	DEEP SOUTH PKG	1955	112GZNO	1	718	688	8-4	U	--	--	--	--	D
OR- 139	CHEMTRON CORP	1943	112NORC	13	400	--	6	U	--	--	150	--	--
OR- 140	DR C C BRUCKER	1954	111PNBR	10	74	52	4	S	--	--	--	--	D
OR- 141	A SEMEL CLEANRS	1955	112GZNO	3	670	648	4-2	U	92.00	06/55	--	--	--
OR- 142	DE MONTLUZIN CO	1956	112GZNO	1	520	--	4	Z	10.00	12/56	--	--	--
OR- 143	NO CIVIL DEFENSE	1960	--	0	883	--	--	T	--	--	--	--	D,E
OR- 144	LAKEWOOD C CLUB	1960	112GRMC	-1	280	240	8-6	I	1.60	11/60	--	--	D,E
OR- 145	REGINA L GENRY	1947	112GZNO	4	520	--	2	C	5.00	12/51	--	--	--
OR- 146	MAURICE MAHER	1955	112GZNO	2	347	--	3	H	1.00	1955	--	--	--
OR- 147	VINCE VUSCOVICH	1954	112GZNO	1	325	315	2	H	2.19	02/61	--	--	--
OR- 148	C & J MAUCELLE	1945	112GZNO	2	287	--	2	C	F	06/45	--	--	--
OR- 149	NO AND NE RR CO	1945	112GZNO	2	360	--	3	H	+ 6.00	07/45	--	--	--
OR- 150	HILARY J GAUDIN	1956	111SLNO	8	150	--	2	U	--	--	--	--	--
OR- 151	M SZARKO	1954	111PNBR	10	100	90	2	H	--	--	--	--	--
OR- 152	LA INDUSTRIES	1959	112GZNO	0	360	340	4	N	--	--	--	--	--
OR- 153	NO CIVIL DEFENSE	1961	112GZNO	0	597	557	10-6	U	58.58	05/61	450	9.6	--
OR- 154	LOUIS SCHMALZ	1961	112GZNO	5	379	369	2	H	--	--	--	--	E
OR- 155	EDWIN RODRIGUEZ	1961	112GZNO	4	547	527	2.5-2	C	27.00	05/61	--	--	--
OR- 156	OR LEVEE BOARD	1961	11212NO	2	807	747	10-8	O	12.71	06/61	1500	15.8	D
OR- 157	OWENS-ILLINOIS	1961	112GZNO	-1	640	577	10-8	N	94.00	04/61	781	24.0	D
OR- 158	US IND CHEMICAL	1928	112GZNO	9	830	--	10	A	--	--	900	--	--
OR- 159	BLUE PLATE FOOD	--	112GZNO	0	--	--	--	N	--	--	--	--	--
OR- 160	A J BOSWORTH	1952	112GZNO	0	450	--	2.5	I	--	--	--	--	--
OR- 161	NO ATHLETIC CLUB	1961	11212NO	4	1251	1161	12-4	U	15.00	11/61	230	2.2	D,E
OR- 162	GULFSIDE ENGINE	1961	112GZNO	2	350	--	2	U	25.00	09/61	--	--	--
OR- 163	NEW ORLEANS	1961	112GZNO	3	753	712	6-4	U	--	--	--	--	D,E
OR- 164	U S COAST GUARD	1961	111SLNO	8	138	--	--	T	--	--	--	--	D
OR- 165	U S COAST GUARD	1961	--	8	616	--	--	T	--	--	--	--	D

Source: Dial 1983. See last page of table for explanation of headings.

00159.0068

Table D-1

RECORDS OF SELECTED WELLS IN ORLEANS PARISH (CONTINUED)

WELL NUMBER	OWNER	YEAR COMP-LETED	AQUIFER	ALTITUDE OF LAND SURFACE (FEET)	DEPTH OF WELL (FEET)	DEPTH TO FIRST OPENING (FEET)	CASING DIAM-ETER (INCHES)	USE	WATER LEVEL (FEET)	DATE WATER LEVEL MEASURED	DISCHARGE (GALLONS PER MINUTE)	SPECIFIC CAPACITY (GALLONS/ MIN/FOOT)	TYPES OF LOGS AVAILABLE
OR- 166	FALSTAFF BREW	1962	112GZNO	0	786	678	12-8	U	113.75	05/62	1870	27.1	D,E
OR- 168	METAIRIE CEMETERY	1962	112GZNO	2	720	680	6-4	I	86.64	03/63	--	--	D
OR- 169	UNIV OF NEW ORL	1962	112GZNO	6	625	525	18-12	AC	110.87	07/62	2600	40.0	D,E
* OR- 170	NEW ORLEANS PSI	1962	112GZNO	3	645	530	16-10	E	72.20	07/62	2020	41.1	D,E
* OR- 171	NEW ORLEANS PSI	1962	112GZNO	3	645	530	16-10	E	112.00	02/63	1740	45.2	D,E
OR- 172	NO EAST INC	1962	112GZNO	4	362	332	8-6	T	17.13	11/62	200	3.4	D,E
OR- 173	LA DEPT OF HWYS	1927	--	3	170	--	--	T	--	--	--	--	D
OR- 174	LA DEPT OF HWYS	1927	--	0	147	--	--	T	--	--	--	--	D
OR- 175	U S GEOL SURVEY	1963	112GZNO	10	449	439	2	O	20.19	06/63	--	--	D,E
OR- 176	U S GEOL SURVEY	1964	--	0	3000	--	--	T	--	--	--	--	E
OR- 177	U S GEOL SURVEY	1964	--	0	2009	--	--	T	--	--	--	--	E
OR- 178A	U S GEOL SURVEY	1964	120SLDL	0	2695	2680	--	T	+ 120.30	04/64	--	--	E
OR- 178B	U S GEOL SURVEY	1964	112PNCLU	0	1282	1270	--	T	+ 26.00	04/64	--	--	E
OR- 178C	U S GEOL SURVEY	1964	112PNCLU	0	1060	1048	--	T	+ 0.50	04/64	--	--	E
* OR- 179	U S GEOL SURVEY	1965	120ABIT	4	2434	2429	2.5	O	+ 102.00	06/65	50 F	--	D,E
* OR- 180	N O EAST INC	1965	112GZNO	4	360	310	10-6	U	--	--	--	--	--
* OR- 181	NEW ORLEANS PSI	1963	112GZNO	-3	630	542	16-10	E	122.00	10/63	2000	38.5	D
* OR- 182	OR LEVEE BOARD	1968	112GZNO	5	690	600	12-8	U	154.00	08/68	1000	--	D,E
* OR- 183	TULANE UNIV	1964	112GZNO	0	779	719	10-6	AC	85.00	1964	1000	35.7	D,E
* OR- 184	TIMES PICAYUNE	1967	112GZNO	0	751	701	8-6	AC	107.00	03/67	--	--	D
* OR- 185	INLAND STEEL CO	1967	112GZNO	0	764	714	12-6	N	--	--	--	--	D
* OR- 186	UNIV OF NEW ORL	1971	112GZNO	4	654	516	18-12	AC	143.00	1970	2390	50.9	D,E
OR- 187	BECHTEL CORP	1972	--	3	500	--	--	T	--	--	--	--	E
OR- 188	BECHTEL CORP	1972	--	5	612	--	--	T	--	--	--	--	E
OR- 189	BECHTEL CORP	1972	--	5	498	--	--	T	--	--	--	--	E
OR- 190	BECHTEL CORP	1972	--	5	449	--	--	T	--	--	--	--	E
OR- 191	BECHTEL CORP	1972	--	4	499	--	--	T	--	--	--	--	E
OR- 192	NO PARKWAY COMM	1975	112GZNO	0	620	610	4-2	Z	127.27	07/75	20	0.5	D
* OR- 193	UNIV OF NEW ORL	1975	112GZNO	5	634	532	18-12	AC	128.00	02/75	2600	28.0	D
OR- 194	DIXIE PLASTICS	1968	112GZNO	3	700	650	8-4	U	156.00	07/68	--	--	D
* OR- 195	NEW ORLEANS PSI	1976	112GZNO	-2	658	558	12-8	E	163.00	07/76	2030	47.2	D
OR- 196	ORLEANS PARISH	1966	112GZNO	2	634	583	10-6	A	125.00	07/71	1280	--	D
* OR- 197	ORLEANS PARISH	1966	112GZNO	3	632	581	10-6	U	125.50	07/71	700	17.7	D
* OR- 198	LONE STAR IND	1964	112GZNO	0	593	523	12-8	U	110.00	07/78	--	--	D
* OR- 199	LONE STAR IND	1974	112GZNO	0	587	517	12-8	N	108.00	01/74	--	--	D
* OR- 200	SCHWEGMANN BROS	1976	112GZNO	3	667	592	12-10	AC	130.00	09/76	1300	--	D
OR- 201	U S COAST GUARD	1981	--	-5	804	--	--	T	--	--	--	--	D,E
* OR- 202	AUDUBON PARK	1978	112GZNO	6	750	700	8-6	R	84.00	05/78	300	8.1	--
OR- 203	U S GEOL SURVEY	1981	112GZNO	-5	453	448	2	O	81.72	09/81	18	--	E
OR- 206	STANDARD BRANDS	1967	112GZNO	4	647	557	18-12	U	138.10	10/81	2500	--	D

Source: Dial 1983. See last page of table for explanation of headings.

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TABLE D-1

RECORDS OF SELECTED WELLS IN ORLEANS PARISH (CONTINUED)

EXPLANATION OF HEADINGS

AQUIFER:	111SLNO	Shallow Aquifers of New Orleans Area
	111NLLV	Natural Levee Deposits
	111PNBR	Point Bar Deposits
	111DDMRO	Older Deltaic Deposits
	112GRMC	Gramercy Aquifer
	112NORC	Norco Aquifer
	112GZNO	Gonzales-New Orleans Aquifer
	11212NO	"1,200-Foot" Aquifer
	112PNCLU	Upper Ponchatoula Aquifer
	120ABIT	Abita Aquifer
	120SLDL	Slidell Aquifer
	120TRTR	Tertiary System

USE:	AC	Air Conditioning		
	I	Irrigation		
	E	Electric Power Generation		
	C	Commercial		
	A	Abandoned		
	N	Industrial	S	Livestock
	O	Observation	T	Test Hole/Well
	F	Fire Control	U	Unused
	D	Dewatering	X	Injection
	H	Domestic	Z	Destroyed
	R	Recreation		

WATER LEVEL:	F	Flowing
	+	Above Land Surface

LOGS:	D	Driller's	C	Caliper
	E	Electrical	Z	Other
	J	Gamma Ray		

Note: An asterisk (*) next to a well number indicates that the well could be used to supply emergency drinking water (well in use during water-use survey, 1980-1981).

Source: Dial 1983.

APPENDIX E

EXPANDED SITE INSPECTION: ANALYTICAL RESULTS FOR SOILS

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Table E-1

SUMMARY OF INORGANIC RESULTS FOR ON-SITE SURFACE SOIL - 0 TO 3 INCHES
EXPANDED SITE INSPECTION
AGRICULTURE STREET LANDFILL, NEW ORLEANS, LOUISIANA
SEPTEMBER 1993
(mg/kg, dry weight)

Analyte	Background Concentration (a)	TBC (b)	Location Designation/Sample Number				
			ESI06/SSI-09	ESI07/SSI-19	ESI08/SSI-31	ESI10/SSI-20	ESI12/SSI-23
Aluminum	5352.5	79000 (c)	6902.746	5048.668	5430.165	5080.34	4186.768
Antimony	3.6	110 (c)	9.572	8.717 U	9.126 U	7.651 U	9.16 U
Arsenic	3.15	0.37 (c)	**13.4 JL**	**3.148 JL**	**8.859**	**4.2 JL**	**14.567**
Barium	145	14000 (c)	478.238	125.366	214.043	116.338	176.957
Beryllium	0.3075	0.15 (c)	**0.712**	0.484 U	0.507 U	**0.665**	0.509 U
Cadmium	0.55	140 (c)	2.437	0.726 U	0.761 U	0.638 U	0.763 U
Calcium	4958.5	NA	16343.936	4495.884	6080.101	5156.854	7955.98
Chromium	11.15	1400 (c)	44.318	15.564	21.227	15.222	16.595
Cobalt	6.25	2.7 (c)	**8.387**	**6.172**	**7.245**	**6.327**	**7.288**
Copper	10.05	10000 (c)	796.087	36.894	78.824	48.028	123.397
Iron	9581.5	NA	66677.346	14920.097	16437.262	12362.168	15959.288
Lead	36.9495	400 (c)	**837.46 J**	68.308 J	244.104	69.447 J	155.26
Magnesium	2821	NA	3248.97	2857.869	2829.911	3093.73	2517.481
Manganese	216	27000 (c)	569.725	240.128	293.283	209.318	233.071
Mercury	0.06	82 (c)	0.669	0.121 U	0.127 U	0.106 U	0.127 U
Nickel	10.75	5500 (c)	43.236	19.605	16.94	13.658	20.603
Potassium	1300.5	NA	981.693	1242.131	1500.634	1268.863	585.242
Sodium	97.4	NA	237.323	155.346	153.009	140.098	125.234
Thallium	0.295	19 (c)	0.458 U	0.484 U	0.507 UJL	0.425 U	0.509 UJL
Vanadium	15.3	1800 (c)	23.771	15.426	17.179	15.692	11.674
Zinc	111	55000 (c)	1051.236	183.155	379.823	156.929	311.018

Key at end of table.

Table E-1

SUMMARY OF INORGANIC RESULTS FOR ON-SITE SURFACE SOIL - 0 TO 3 INCHES
EXPANDED SITE INSPECTION
AGRICULTURE STREET LANDFILL, NEW ORLEANS, LOUISIANA
SEPTEMBER 1993
(mg/kg, dry weight)

Analyte	Background Concentration (a)	TBC (b)	Location Designation/Sample Number				
			ESI14/SSI-33	ESI17/SSI-29	ESI18/SSI-27	ESI19/SSI-35	ESI20/SSI-10
Aluminum	5352.5	79000 (c)	6312.303	9938.245	4092.39	4543.792	4800
Antimony	3.6	110 (c)	7.571 U	7.801 U	7.717 U	8.126 U	7.938 U
Arsenic	3.15	0.37 (c)	**13.554**	**14.865**	**12.101**	**6.851**	**9.8 JL**
Barium	145	14000 (c)	360.631	366.522	276.42	110.395	176.104
Beryllium	0.3075	0.15 (c)	**0.734**	**0.637**	0.429 U	0.452 U	0.441 U
Cadmium	0.55	140 (c)	2.078	2.518	1.158	0.677 U	0.662 U
Calcium	4958.5	NA	7924.501	8860.022	5990.782	3606.095	4550
Chromium	11.15	1400 (c)	30.845	31.597	26.847	13.027	19.552
Cobalt	6.25	2.7 (c)	**8.078**	**8.093**	**7.121**	**6.483**	**5.952**
Copper	10.05	10000 (c)	277.876	224.42	171.533	10.09	209.806
Iron	9581.5	NA	39112.513	35525.461	44692.39	10596.163	2110
Lead	36.9495	400 (c)	**609.884**	**741.018**	**488.746**	26.454	269.813 J
Magnesium	2821	NA	3011.987	2223.402	2078.178	2567.72	2080
Manganese	216	27000 (c)	380.21	433.521	297.471	265.847	291.577
Mercury	0.06	82 (c)	0.794	0.325	0.107 U	0.113 U	0.684
Nickel	10.75	5500 (c)	26.49	30.078	27.001	15.666	18.706
Potassium	1300.5	NA	1156.677	1193.933	673.098	1167.043	1159.868
Sodium	97.4	NA	162.206	203.458	133.764	121.117	171
Thallium	0.295	19 (c)	0.463 JL	0.433 UJL	0.429 UJL	0.452 U	0.441 U
Vanadium	15.3	1800 (c)	25.134	20.397	16.004	14.558	14.635
Zinc	111	55000 (c)	892.871	975.211	762.272	100.172	372.789

Key at end of table.

Table E-1

SUMMARY OF INORGANIC RESULTS FOR ON-SITE SURFACE SOIL - 0 TO 3 INCHES
EXPANDED SITE INSPECTION
AGRICULTURE STREET LANDFILL, NEW ORLEANS, LOUISIANA
SEPTEMBER 1993
(mg/kg, dry weight)

Analyte	Background Concentration (a)	TBC (b)	Location Designation/Sample Number				
			ESI21/SSI-11	ESI22/SSI-30	ESI23/SSI-01	ESI26/SSI-18	ESI28/SSI-21
Aluminum	5352.5	79000 (c)	5622.865	3048.961	2888.65	4922.222	7289.433
Antimony	3.6	110 (c)	9.461 U	8.314 U	8.602 U	8.333 U	8.009 U
Arsenic	3.15	0.37 (c)	**7.95 JL**	**5.912**	**3.692 JL**	**5.4 JL**	**2.825 JL**
Barium	145	14000 (c)	261.064	142.58	218.707	168.458	164.894
Beryllium	0.3075	0.15 (c)	0.526 U	0.462 U	0.478 U	0.463 U	**0.654**
Cadmium	0.55	140 (c)	1.711	0.693 U	0.724	0.694 U	0.667 U
Calcium	4958.5	NA	7307.49	3547.806	2961.529	7048.843	5730.812
Chromium	11.15	1400 (c)	28.029	12.908	9.331	19.16	18.627
Cobalt	6.25	2.7 (c)	**7.072**	**5.631**	**4.774**	**7.493**	**7.081**
Copper	10.05	10000 (c)	149.238	62.277	161.945	130.597	45.591
Iron	9581.5	NA	30646.518	13136.49	10631.302	25722.222	18278.309
Lead	36.9495	400 (c)	**828.936 J**	206.256	82.344 J	231.259 J	91.346 J
Magnesium	2821	NA	2514.139	1771.455	1622.151	2500	2885.428
Manganese	216	27000 (c)	345.703	170.187	158.805	243.125	365.428
Mercury	0.06	82 (c)	0.578	0.116 U	0.12 U	0.428	0.111 U
Nickel	10.75	5500 (c)	23.306	13.06	15.663	19.637	17.442
Potassium	1300.5	NA	940.867	956.12	1636.798	1238.426	1646.274
Sodium	97.4	NA	177.856	121.977	126.005	197.343	131.001
Thallium	0.295	19 (c)	0.526 U	0.462 UJL	0.478 U	0.463 U	0.445 U
Vanadium	15.3	1800 (c)	17.403	6.836	9.099	13.991	19.455
Zinc	111	55000 (c)	575.821	281.501	179.818	516.991	193.237

Key at end of table.

Table E-1

SUMMARY OF INORGANIC RESULTS FOR ON-SITE SURFACE SOIL - 0 TO 3 INCHES
EXPANDED SITE INSPECTION
AGRICULTURE STREET LANDFILL, NEW ORLEANS, LOUISIANA
SEPTEMBER 1993
(mg/kg, dry weight)

Analyte	Background Concentration (a)	TBC (b)	Location Designation/Sample Number				
			ESI29/SSI-22	ESI30/SSI-32	ESI32/SSI-02	ESI33/SSI-07	ESI36/SSI-28
Aluminum	5352.5	79000 (c)	1737.423	4934.868	3382.784	3757.143	5800
Antimony	3.6	110 (c)	7.668 U	7.895 U	7.858	7.912 U	7.287 U
Arsenic	3.15	0.37 (c)	**6 S**	**8.235**	**6.259 JL**	**2.198 JL**	**4.899**
Barium	145	14000 (c)	40.518	181.436	242.976	70.8	169.478
Beryllium	0.3075	0.15 (c)	0.426 U	0.439 U	0.425 U	0.44 U	0.405 U
Cadmium	0.55	140 (c)	0.639 U	0.658 U	1.163	0.659 U	0.953
Calcium	4958.5	NA	3038.339	5368.86	4595.749	4657.582	3650
Chromium	11.15	1400 (c)	5.327	18.322	18.113	9.365	17.705
Cobalt	6.25	2.7 (c)	**5.001**	**6.974**	**5.707**	**5.385**	**3.834**
Copper	10.05	10000 (c)	19.261	59.487	135.171	9.437	50.377
Iron	9581.5	NA	5746.326	25096.491	21666.312	8398.681	9990
Lead	36.9495	400 (c)	30.758	291.513	214.283 J	53.681 J	155.144
Magnesium	2821	NA	1750.714	2267.325	1741.127	3053.187	686
Manganese	216	27000 (c)	111.482	277.895	232.731	182.391	111.53
Mercury	0.06	82 (c)	0.107 U	0.11 U	0.202	0.11 U	0.101 U
Nickel	10.75	5500 (c)	11.497	17.476	16.937	12.993	8.065
Potassium	1300.5	NA	321.619	1263.158	1049.947	1529.67	293.522
Sodium	97.4	NA	83.926	117.665	112.079	150.666	88.2
Thallium	0.295	19 (c)	0.426 UJL	0.439 UJL	0.425 U	1.374	0.405 UJL
Vanadium	15.3	1800 (c)	7.101	15.787	13.129	13.16	7.504
Zinc	111	55000 (c)	31.131	321.667	460.468	50.147	291.417

Key at end of table.

Table E-1

SUMMARY OF INORGANIC RESULTS FOR ON-SITE SURFACE SOIL - 0 TO 3 INCHES
EXPANDED SITE INSPECTION
AGRICULTURE STREET LANDFILL, NEW ORLEANS, LOUISIANA
SEPTEMBER 1993
(mg/kg, dry weight)

Analyte	Background Concentration (a)	TBC (b)	Location Designation/Sample Number				
			ESI39/SSI-08	ESI42/SSI-13	ESI43/SSI-26	ESI44/SSI-36	ESI48/SSI-38
Aluminum	5352.5	79000 (c)	6147.845	1980.443	5307.559	1751.351	5119.486
Antimony	3.6	110 (c)	8.509	7.587 U	8.922 U	7.539 U	7.709 U
Arsenic	3.15	0.37 (c)	**15.6 JL**	**5.258**	**5.8 JL**	**3.707**	**8.961**
Barium	145	14000 (c)	382.716	218.799	351.152	36.645	71.67
Beryllium	0.3075	0.15 (c)	0.632	0.422 U	0.496 U	0.419 U	0.428 U
Cadmium	0.55	140 (c)	2.134	0.632 U	2.099	0.628 U	0.642 U
Calcium	4958.5	NA	10075.431	4103.477	6199.752	3267.853	3817.559
Chromium	11.15	1400 (c)	37.241	9.414	26.493	8.827	7.827
Cobalt	6.25	2.7 (c)	**8.504**	**4.314**	**7.425**	**4.582**	**3.985**
Copper	10.05	10000 (c)	259.116	34.529	155.219	22.098	35.058
Iron	9581.5	NA	52209.052	11176.186	30592.317	21243.979	7745.824
Lead	36.9495	400 (c)	**692.414 J**	124.379	**452.491 J**	29.569	48.917
Magnesium	2821	NA	2695.043	945.48	2206.369	1703.958	2227.837
Manganese	216	27000 (c)	460.129	157.48	253.457	124.038	127.565
Mercury	0.06	82 (c)	1.018	0.105 U	0.143	0.105 U	0.107 U
Nickel	10.75	5500 (c)	32.134	11.104	26.439	11.573	7.981
Potassium	1300.5	NA	1712.362	501.581	944.238	263.874	854.39
Sodium	97.4	NA	172.366	107.777	180.786	77.25	104.122
Thallium	0.295	19 (c)	0.431 U	0.422 U	0.496 U	4.189 U	0.428 U
Vanadium	15.3	1800 (c)	19.558	7.576	17.693	5.097	13.899
Zinc	111	55000 (c)	936.487	360.632	701.437	84.898	37.726

Key at end of table.

Table E-1

SUMMARY OF INORGANIC RESULTS FOR ON-SITE SURFACE SOIL - 0 TO 3 INCHES
EXPANDED SITE INSPECTION
AGRICULTURE STREET LANDFILL, NEW ORLEANS, LOUISIANA
SEPTEMBER 1993
(mg/kg, dry weight)

Analyte	Background Concentration (a)	TBC (b)	Location Designation/Sample Number				
			ESI50/SSI-37	ESI68/SSI-17			
Aluminum	5352.5	79000 (c)	3890	4336.289			
Antimony	3.6	110 (c)	7.438 U	8.401 U			
Arsenic	3.15	0.37 (c)	**6.302**	**9.393**			
Barium	145	14000 (c)	60.254	220.093			
Beryllium	0.3075	0.15 (c)	0.413 U	0.467 U			
Cadmium	0.55	140 (c)	0.62 U	1.645			
Calcium	4958.5	NA	2980	6954.959			
Chromium	11.15	1400 (c)	9.953	20.357			
Cobalt	6.25	2.7 (c)	**4.18**	**7.909**			
Copper	10.05	10000 (c)	8.083	90.656			
Iron	9581.5	NA	6560	21927.188			
Lead	36.9495	400 (c)	40.471	248.005			
Magnesium	2821	NA	1700	2995.333			
Manganese	216	27000 (c)	97.471	293.326			
Mercury	0.06	82 (c)	0.103 U	0.123			
Nickel	10.75	5500 (c)	9.293	18.597			
Potassium	1300.5	NA	880.165	1605.601			
Sodium	97.4	NA	90.1	133.041			
Thallium	0.295	19 (c)	0.413 U	0.49 JL			
Vanadium	15.3	1800 (c)	9.304	14.404			
Zinc	111	55000 (c)	41.816	393.792			

Key at end of table.

Note:

The to be considered (TBC) value for alpha-chlordane and gamma-chlordane (0.49 mg/kg) is designated for total chlordane, not individual isomers. The TBC criteria were not exceeded in any sample based on the sum of detected isomer concentrations.

Key:

a = Sample concentrations above background levels are shaded. See Sections 4.1.3 and 4.2.1 concerning the determination of median background concentrations for surface and subsurface soil.
b = TBC criteria are provided herein only as a reference against which to compare on-site contaminant concentrations. Sample concentrations exceeding TBC criteria appear in boldface type. Remedial action objectives (RAOs) for site-specific contaminants of concern (COCs) are provided in the Feasibility Study (FS).
c = United States Environmental Protection Agency (EPA) Region 6 risked-based concentration (RBC).
d = EPA Region 3 RBC.
B = Sample result might be biased high due to laboratory or field contamination, but is usable for evaluating site-related contamination. The reported result is above five or ten times concentration in method or field blank.
H = Sample result is biased high due to interference, background contamination, or high spike recovery, but usable for evaluating site-related contamination.
J = Sample result is estimated with unknown bias due to calibration or quality control problems, but is usable for evaluating site-related contamination. This flag is also used if reported results are below the method detection limit, but above the instrument detection limit.
L = Sample result is biased low due to low spike recovery, but usable for evaluating site-related contamination.
mg/kg = Milligrams per kilogram.
N = Qualitative identification of result is questionable due to lack of confirmatory evidence, but data are usable for evaluating site-related contamination.
NA = Not applicable.
R = Sample results are rejected and data are unusable.
T = Qualitative identification of result is questionable due to absence of other commonly co-occurring pesticides, but data are usable for evaluating site-related contamination.
U = Parameter is undetected at reported quantitation limit. For organics, indicates that result is less than five times result in method, rinsate, or trip blank and is attributable to background contamination. For common laboratory contaminants (e.g., methylene chloride, 2-butanone, and bis-2-ethylhexy-phthalate), result is flagged if it is less than 10 times the method blank result.
UC = Parameter is undetected at reported quantitation limit. For inorganics, indicates that result is less than five times result in method or field blank and attributable to background contamination.

Source: Ecology and Environment, Inc., 1995.

06:WPUZD:ZT2061_DFW1007-KEY_SOILS_RESULTS-03/08/95-D1

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Table E-2

SUMMARY OF INORGANIC RESULTS FOR OFF-SITE SURFACE SOIL - 0 TO 3 INCHES
EXPANDED SITE INSPECTION
AGRICULTURE STREET LANDFILL, NEW ORLEANS, LOUISIANA
SEPTEMBER 1993
(mg/kg, dry weight)

Analyte	Background Concentration (a)	TBC (b)	Location Designation/Sample Number				
			ESI51/SSI-14	ESI55/SSI-25	ESI64/SSI-16	ESI66/SSI-04	ESI67/SSI-15
Aluminum	5352.5	79000 (c)	4433.815	15900.867	6536.887	2687.125	5847.458
Arsenic	3.15	0.37 (c)	3.359 JL	17.596	3.4 JL	2.779 JL	3.672 JL
Barium	145	14000 (c)	172.681	706.667	163.205 JL	231.459	177.035
Beryllium	0.3075	0.15 (c)	0.445 U	0.954	0.667	0.434	0.583
Cadmium	0.55	140 (c)	1.261	3.128	0.64 U	1.85	0.848
Calcium	4958.5	NA	6117.241	25687.732	11605.757	24856.223	11578.983
Chromium	11.15	1400 (c)	12.714	65.737	12.8	11.094	12.344
Cobalt	6.25	2.7 (c)	6.125	8.615	5.529	3.7	6.222
Copper	10.05	10000 (c)	34.309	3655.266	32.429	82.579	45.496
Iron	9581.5	NA	10618.02	61472.119	11719.829	10446.137	11401.356
Lead	36.9495	400 (c)	211.079 J	583.519	100.618 J	316.609 J	172.303 J
Magnesium	2821	NA	1892.058	3998.017	3152.879	1365.601	2545.989
Manganese	216	27000 (c)	189.987	442.057	164.465	219.464	221.785
Mercury	0.06	82 (c)	0.111 U	0.211	0.107 U	0.107 U	0.113 U
Nickel	10.75	5500 (c)	14.296	41.368	13.702	13.238	15.394
Potassium	1300.5	NA	1232.481	2825.279	1563.032	714.592	1541.243
Silver	0.7	820 (c)	1.335 U	1.487 U	1.279 U	1.579	1.356 U
Sodium	97.4	NA	117.315	500.57	144.294	224.442	162.866
Thallium	0.295	19 (c)	0.445 U	0.781	0.426 U	0.429 U	0.452 U
Vanadium	15.3	1800 (c)	13.533	41.725	18.544	9.867	17.186
Zinc	111	55000 (c)	394.038	1455.762	115.91	313.326	258.057

Key at end of table.

Table E-2

SUMMARY OF INORGANIC RESULTS FOR OFF-SITE SURFACE SOIL - 0 TO 3 INCHES
EXPANDED SITE INSPECTION
AGRICULTURE STREET LANDFILL, NEW ORLEANS, LOUISIANA
SEPTEMBER 1993
(mg/kg, dry weight)

Analyte	Background Concentration (a)	TBC (b)	Location Designation/Sample Number				
			ESI69/SSI-03	ESI70/SSI-05			
Aluminum	5352.5	79000 (c)	1898.848	6477.296			
Arsenic	3.15	0.37 (c)	**1.424 JL**	**1.301 JL**			
Barium	145	14000 (c)	128.163	181.299			
Beryllium	0.3075	0.15 (c)	0.452 U	0.51 U			
Cadmium	0.55	140 (c)	0.678 U	0.765 U			
Calcium	4958.5	NA	3126.328	4866.837			
Chromium	11.15	1400 (c)	6.459	11.079			
Cobalt	6.25	2.7 (c)	**3.941**	**5.39**			
Copper	10.05	10000 (c)	62.255	59.561			
Iron	9581.5	NA	5347.797	10403.316			
Lead	36.9495	400 (c)	46.172 J	47.533 J			
Magnesium	2821	NA	1543.571	2137.296			
Manganese	216	27000 (c)	96.495	342.602			
Mercury	0.06	82 (c)	0.113 U	0.128 U			
Nickel	10.75	5500 (c)	12.78	12.459			
Potassium	1300.5	NA	402.26	471.939			
Silver	0.7	820 (c)	1.356 U	1.531 U			
Sodium	97.4	NA	127.114	141.25			
Thallium	0.295	19 (c)	0.452 U	0.51 U			
Vanadium	15.3	1800 (c)	6.784	15.151			
Zinc	111	55000 (c)	116.425	153.411			

Key at end of table.

Note:

The to be considered (TBC) value for alpha-chlordane and gamma-chlordane (0.49 mg/kg) is designated for total chlordane, not individual isomers. The TBC criteria were not exceeded in any sample based on the sum of detected isomer concentrations.

Key:

a = Sample concentrations above background levels are shaded. See Sections 4.1.3 and 4.2.1 concerning the determination of median background concentrations for surface and subsurface soil.
b = TBC criteria are provided herein only as a reference against which to compare on-site contaminant concentrations. Sample concentrations exceeding TBC criteria appear in boldface type. Remedial action objectives (RAOs) for site-specific contaminants of concern (COCs) are provided in the Feasibility Study (FS).
c = United States Environmental Protection Agency (EPA) Region 6 risked-based concentration (RBC).
d = EPA Region 3 RBC.
B = Sample result might be biased high due to laboratory or field contamination, but is usable for evaluating site-related contamination. The reported result is above five or ten times concentration in method or field blank.
H = Sample result is biased high due to interference, background contamination, or high spike recovery, but usable for evaluating site-related contamination.
J = Sample result is estimated with unknown bias due to calibration or quality control problems, but is usable for evaluating site-related contamination. This flag is also used if reported results are below the method detection limit, but above the instrument detection limit.
L = Sample result is biased low due to low spike recovery, but usable for evaluating site-related contamination.
mg/kg = Milligrams per kilogram.
N = Qualitative identification of result is questionable due to lack of confirmatory evidence, but data are usable for evaluating site-related contamination.
NA = Not applicable.
R = Sample results are rejected and data are unusable.
T = Qualitative identification of result is questionable due to absence of other commonly co-occurring pesticides, but data are usable for evaluating site-related contamination.
U = Parameter is undetected at reported quantitation limit. For organics, indicates that result is less than five times result in method, rinsate, or trip blank and is attributable to background contamination. For common laboratory contaminants (e.g., methylene chloride, 2-butanone, and bis-2-ethylhexy-phthalate), result is flagged if it is less than 10 times the method blank result.
UC = Parameter is undetected at reported quantitation limit. For inorganics, indicates that result is less than five times result in method or field blank and attributable to background contamination.

Source: Ecology and Environment, Inc., 1995.

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Table E-3

SUMMARY OF INORGANIC RESULTS FOR ON-SITE SURFACE SOIL - 0 TO 6 INCHES
EXPANDED SITE INSPECTION
AGRICULTURE STREET LANDFILL, NEW ORLEANS, LOUISIANA
SEPTEMBER 1993
(mg/kg, dry weight)

Analyte	Background Concentration (a)	TBC (b)	Location Designation/Sample Number				
			ESI03/SS-25	ESI05/SS-11	ESI09/SS-36	ESI24/SS-57	ESI25/SS-69
Aluminum	5352.5	79000 (c)	5200	7326	5416.03	4475.853	9236.71
Arsenic	3.15	0.37 (c)	10.8	14.7	7.8	11 JH	5.268
Barium	145	14000 (c)	251 JH	1038 JH	115.966	340.709	348.153
Beryllium	0.3075	0.15 (c)	0.35 JL	1.7 JL	0.525	0.581	1.063
Cadmium	0.55	140 (c)	0.98 UJ	2.7 J	0.74 UJL	1.353 B	0.715 UJL
Calcium	4958.5	NA	14752	27614	4589.889	10180.9	20935.161
Chromium	11.15	1400 (c)	10.4	90.7	15.961	18.317	41.49
Cobalt	6.25	2.7 (c)	5	17.2	5.384	3.659	9.254
Copper	10.05	10000 (c)	85.4 J	663 J	50.187	199.624	256.305
Iron	9581.5	NA	10337 J	130954 J	14677.435 J	17212.278	46538.737 J
Lead	36.9495	400 (c)	306	2223	111.157	135	552.849
Magnesium	2821	NA	2161 J	1986 J	2759.063	1950.396	3822.884
Manganese	216	27000 (c)	245	944	189.596	191.015	436.401
Mercury	0.06	82 (c)	0.15	3.4	0.123	0.212	0.119 U
Nickel	10.75	5500 (c)	11.5	86.5	16.298	14.587	44.255
Potassium	1300.5	NA	882	666	905.056	1055.935	1020.262
Selenium	0.415	820 (c)	R	R	0.493 U	0.546 U	0.477 UJ
Silver	0.7	820 (c)	0.98 U	4.3	R	R	R
Sodium	97.4	NA	96.5 J	265 J	175.181	218.052	352.134
Thallium	0.295	19 (c)	0.48 JH	0.26 UJH	0.49 U	0.546 UJL	1.693
Vanadium	15.3	1800 (c)	11.8	17.9	16.126	11.233	20.322
Zinc	111	55000 (c)	636	3312	228.012	644.966	866.508

Key at end of table.

Table E-3

SUMMARY OF INORGANIC RESULTS FOR ON-SITE SURFACE SOIL - 0 TO 6 INCHES
EXPANDED SITE INSPECTION
AGRICULTURE STREET LANDFILL, NEW ORLEANS, LOUISIANA
SEPTEMBER 1993
(mg/kg, dry weight)

Analyte	Background Concentration (a)	TBC (b)	Location Designation/Sample Number				
			ESI37/SS-6	ESI53/SS-32			
Aluminum	5352.5	79000 (c)	3178 J	14331			
Arsenic	3.15	0.37 (c)	3.2	29			
Barium	145	14000 (c)	48.6	479 JH			
Beryllium	0.3075	0.15 (c)	0.16 U	0.34 JL			
Cadmium	0.55	140 (c)	0.64 U	1.1 UJ			
Calcium	4958.5	NA	2794 J	9953			
Chromium	11.15	1400 (c)	7.1 J	63.4 J			
Cobalt	6.25	2.7 (c)	5.5	9.9			
Copper	10.05	10000 (c)	3.9	104 J			
Iron	9581.5	NA	6548 J	37652 J			
Lead	36.9495	400 (c)	10.1 J	307			
Magnesium	2821	NA	2212 J	3682 J			
Manganese	216	27000 (c)	113 J	300			
Mercury	0.06	82 (c)	0.08 U	0.24 J			
Nickel	10.75	5500 (c)	10.3	33.5			
Potassium	1300.5	NA	566	2653			
Selenium	0.415	820 (c)	R	0.47 JL			
Silver	0.7	820 (c)	0.64 U	1.2			
Sodium	97.4	NA	60.1	191 J			
Thallium	0.295	19 (c)	0.57 U	0.44 JH			
Vanadium	15.3	1800 (c)	10.2	32.3			
Zinc	111	55000 (c)	27.3 J	589			

Key at end of table.

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Note:

The to be considered (TBC) value for alpha-chlordane and gamma-chlordane (0.49 mg/kg) is designated for total chlordane, not individual isomers. The TBC criteria were not exceeded in any sample based on the sum of detected isomer concentrations.

Key:

a = Sample concentrations above background levels are shaded. See Sections 4.1.3 and 4.2.1 concerning the determination of median background concentrations for surface and subsurface soil.
b = TBC criteria are provided herein only as a reference against which to compare on-site contaminant concentrations. Sample concentrations exceeding TBC criteria appear in boldface type. Remedial action objectives (RAOs) for site-specific contaminants of concern (COCs) are provided in the Feasibility Study (FS).
c = United States Environmental Protection Agency (EPA) Region 6 risked-based concentration (RBC).
d = EPA Region 3 RBC.
B = Sample result might be biased high due to laboratory or field contamination, but is usable for evaluating site-related contamination. The reported result is above five or ten times concentration in method or field blank.
H = Sample result is biased high due to interference, background contamination, or high spike recovery, but usable for evaluating site-related contamination.
J = Sample result is estimated with unknown bias due to calibration or quality control problems, but is usable for evaluating site-related contamination. This flag is also used if reported results are below the method detection limit, but above the instrument detection limit.
L = Sample result is biased low due to low spike recovery, but usable for evaluating site-related contamination.
mg/kg = Milligrams per kilogram.
N = Qualitative identification of result is questionable due to lack of confirmatory evidence, but data are usable for evaluating site-related contamination.
NA = Not applicable.
R = Sample results are rejected and data are unusable.
T = Qualitative identification of result is questionable due to absence of other commonly co-occurring pesticides, but data are usable for evaluating site-related contamination.
U = Parameter is undetected at reported quantitation limit. For organics, indicates that result is less than five times result in method, rinsate, or trip blank and is attributable to background contamination. For common laboratory contaminants (e.g., methylene chloride, 2-butanone, and bis-2-ethylhexy-phthalate), result is flagged if it is less than 10 times the method blank result.
UC = Parameter is undetected at reported quantitation limit. For inorganics, indicates that result is less than five times result in method or field blank and attributable to background contamination.

Source: Ecology and Environment, Inc., 1995.

06:WPUZD:ZT2061_DFW1007-KEY_SOILS_RESULTS-03/08/95-D1

Table E-4

SUMMARY OF INORGANIC RESULTS FOR OFF-SITE SURFACE SOIL - 0 TO 6 INCHES
EXPANDED SITE INSPECTION
AGRICULTURE STREET LANDFILL, NEW ORLEANS, LOUISIANA
SEPTEMBER 1993
(mg/kg, dry weight)

Analyte	Background Concentration (a)	TBC (b)	Location Designation/Sample Number				
			ESI01/SS-31	ESI02/SS-21	ESI11/SS-55	ESI31/SS-23	ESI54/SS-27
Aluminum	5352.5	79000 (c)	5636.938	5905.637	2501 J	10701	3928.833
Arsenic	3.15	0.37 (c)	**2.005 JH**	**5.221 JH**	**2.3**	**5.22**	**13.375 JH**
Barium	145	14000 (c)	71.985	105.324	73.3	296 JL	118.549
Beryllium	0.3075	0.15 (c)	**0.518**	**0.549**	**0.23**	**0.4**	0.458 U
Cadmium	0.55	140 (c)	0.729 U	0.735 U	0.79 U	1.42 JL	0.687 U
Calcium	4958.5	NA	4673.147	16668.382	5411 J	4750 J	111471.396
Chromium	11.15	1400 (c)	9.881	9.706	6.2 J	17 JL	8.011
Cobalt	6.25	2.7 (c)	**5.135**	**3.745**	**5**	**4.92**	**2.78**
Copper	10.05	10000 (c)	39.623	132.601	9.5	52.9 J	23.041
Iron	9581.5	NA	9257.351	8223.775	5442 J	12368	7098.398
Lead	36.9495	400 (c)	18.3	52.7	22 J	276	87.4
Magnesium	2821	NA	3265.128	2022.696	1831 J	2550	2197.14
Manganese	216	27000 (c)	166.61	198.189	103 J	534	235.538
Mercury	0.06	82 (c)	0.122 U	0.123 U	0.11 U	0.22 J	0.114 U
Nickel	10.75	5500 (c)	12.518	12.625	10.6	23.9	9.341
Potassium	1300.5	NA	1088.7	1142.157	401	1711	759.725
Selenium	0.415	820 (c)	0.486 U	4.902 U	0.24 JL	1.04 U	0.458 U
Sodium	97.4	NA	168.705	221.593	57.9	194	812.769
Thallium	0.295	19 (c)	0.486 UJL	0.735 JL	0.59 U	1.04 U	0.938 JL
Vanadium	15.3	1800 (c)	14.537	14.549	8.5	23.1	11.565
Zinc	111	55000 (c)	62.328	184.353	54.9 J	335 J	142.616

Key at end of table.

Table E-4

SUMMARY OF INORGANIC RESULTS FOR OFF-SITE SURFACE SOIL - 0 TO 6 INCHES
EXPANDED SITE INSPECTION
AGRICULTURE STREET LANDFILL, NEW ORLEANS, LOUISIANA
SEPTEMBER 1993
(mg/kg, dry weight)

Analyte	Background Concentration (a)	TBC (b)	Location Designation/Sample Number				
			ESI55/SS-35	ESI58/SS-28	ESI59/SS-8		
Aluminum	5352.5	79000 (c)	29182	6946.437	17124.863		
Arsenic	3.15	0.37 (c)	**10.8**	**3.7 JH**	**3.4 JH**		
Barium	145	14000 (c)	716 JL	122.717 JH	318.853		
Beryllium	0.3075	0.15 (c)	**1.14**	**0.629**	**1.281**		
Cadmium	0.55	140 (c)	5.11 JL	0.737 U	0.82 U		
Calcium	4958.5	NA	21261 J	3852.334	7443.716		
Chromium	11.15	1400 (c)	70.6 JL	12.29	23.342		
Cobalt	6.25	2.7 (c)	**9.24**	**5.361**	**7.049**		
Copper	10.05	10000 (c)	352 J	30.066	44.694		
Iron	9581.5	NA	40622	11415.233	19087.705		
Lead	36.9495	400 (c)	**567**	15.5	23.1		
Magnesium	2821	NA	5423	2962.162	5219.672		
Manganese	216	27000 (c)	425	290.688	365.738		
Mercury	0.06	82 (c)	0.43 J	0.123 U	0.137 U		
Nickel	10.75	5500 (c)	32.2	14.568	20.713		
Potassium	1300.5	NA	4607	1339.066	3245.902		
Selenium	0.415	820 (c)	1.68	0.491 U	0.546 U		
Sodium	97.4	NA	517	148.752	277.896		
Thallium	0.295	19 (c)	1.04 U	0.59 JL	0.546 UJL		
Vanadium	15.3	1800 (c)	67	17.29	39.544		
Zinc	111	55000 (c)	1597 J	82.939	174.932		

Key at end of table.

Note:

The to be considered (TBC) value for alpha-chlordane and gamma-chlordane (0.49 mg/kg) is designated for total chlordane, not individual isomers. The TBC criteria were not exceeded in any sample based on the sum of detected isomer concentrations.

Key:

a = Sample concentrations above background levels are shaded. See Sections 4.1.3 and 4.2.1 concerning the determination of median background concentrations for surface and subsurface soil.
b = TBC criteria are provided herein only as a reference against which to compare on-site contaminant concentrations. Sample concentrations exceeding TBC criteria appear in boldface type. Remedial action objectives (RAOs) for site-specific contaminants of concern (COCs) are provided in the Feasibility Study (FS).
c = United States Environmental Protection Agency (EPA) Region 6 risked-based concentration (RBC).
d = EPA Region 3 RBC.
B = Sample result might be biased high due to laboratory or field contamination, but is usable for evaluating site-related contamination. The reported result is above five or ten times concentration in method or field blank.
H = Sample result is biased high due to interference, background contamination, or high spike recovery, but usable for evaluating site-related contamination.
J = Sample result is estimated with unknown bias due to calibration or quality control problems, but is usable for evaluating site-related contamination. This flag is also used if reported results are below the method detection limit, but above the instrument detection limit.
L = Sample result is biased low due to low spike recovery, but usable for evaluating site-related contamination.
mg/kg = Milligrams per kilogram.
N = Qualitative identification of result is questionable due to lack of confirmatory evidence, but data are usable for evaluating site-related contamination.
NA = Not applicable.
R = Sample results are rejected and data are unusable.
T = Qualitative identification of result is questionable due to absence of other commonly co-occurring pesticides, but data are usable for evaluating site-related contamination.
U = Parameter is undetected at reported quantitation limit. For organics, indicates that result is less than five times result in method, rinsate, or trip blank and is attributable to background contamination. For common laboratory contaminants (e.g., methylene chloride, 2-butanone, and bis-2-ethylhexy-phthalate), result is flagged if it is less than 10 times the method blank result.
UC = Parameter is undetected at reported quantitation limit. For inorganics, indicates that result is less than five times result in method or field blank and attributable to background contamination.

Source: Ecology and Environment, Inc., 1995.

06:WPUZD:ZT2061_DFW1007-KEY_SOILS_RESULTS-03/08/95-D1

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Table E-5

SUMMARY OF ORGANIC RESULTS FOR ON-SITE SURFACE SOIL - 0 TO 6 INCHES
EXPANDED SITE INSPECTION
AGRICULTURE STREET LANDFILL, NEW ORLEANS, LOUISIANA
SEPTEMBER 1993
(mg/kg, dry weight)

Analyte	Background Concentration (a)	TBC (b)	Location Designation/Sample Number				
			ESI03/SS-25	ESI05/SS-11	ESI09/SS-36	ESI24/SS-57	ESI25/SS-69
Volatile Organic Compounds							
Acetone	0.006	79000 (c)	0.012 U	0.021 J	R	0.013 U	0.045
Chloroform	0.006	110 (c)	0.003 J	0.013 U	R	0.013 U	0.004 J
Methylene Chloride	0.00925	85 (c)	0.014 B	0.066 B	R	0.013 U	0.045
Tetrachloroethene	0.006	13 (c)	0.021 J	0.012 J	0.2 J	0.013 UJ	0.025 J
Toluene	0.006	55000 (c)	0.002 J	0.013 UJ	R	0.013 UJ	0.012 UJ
Xylene	0.006	550000 (c)	0.002 J	0.013 UJ	R	0.013 UJ	0.012 UJ
Semivolatile Organic Compounds							
Acenaphthene	0.1975	16000 (c)	0.037 J	0.14 J	0.41 U	0.42 UJ	0.38 U
Acenaphthylene	0.1975	27000 (c)	0.66	0.048 J	0.41 U	0.036 J	0.38 U
Anthracene	0.1975	82000 (c)	0.78	0.93	0.41 U	0.056 J	0.38 U
Benzo(a)anthracene	0.19	0.9 (c)	7.8 D	2.3	0.11 J	0.37 J	0.14 J
Benzo(a)pyrene	0.19	0.09 (c)	7 D	2.4 J	**0.11 J**	**0.45**	**0.13 J**
Benzo(b)fluoranthene	0.1875	0.9 (c)	9.7 D	2.2 J	0.12 J	0.55	0.14 J
Benzo(g,h,i)perylene	0.1925	1100 (c)	3.2 D	1.2 J	0.071 J	0.34 J	0.097 J
Benzo(k)fluoranthene	0.1875	0.9 (c)	9.8 D	2.1 J	0.1 J	0.39 J	0.14 J
Bis(2-ethylhexyl)phthalate	0.1875	46 (c)	0.17 JB	0.39 JB	0.77 J	0.28 JB	0.52 B
Butylbenzylphthalate	0.195	55000 (c)	0.41 U	0.42 U	0.41 U	0.17 J	0.38 U
Carbazole	0.1975	32 (d)	0.073 J	0.15 J	0.41 U	0.023 J	0.38 U
Chrysene	0.19	9 (c)	7.1 D	2.3	0.12 J	0.44	0.17 J
Dibenz(a,h)anthracene	0.1975	0.09 (c)	1	0.27 J	0.41 U	0.42 U	0.38 U
Dibenzofuran	0.1975	--	0.028 J	0.1 J	0.41 U	0.42 UJ	0.38 U
Diethylphthalate	0.1975	220000 (c)	0.41 U	0.039 J	0.41 U	0.42 UJ	0.38 U
di-n-Butyl Phthalate	0.1975	7800 (d)	0.41 U	0.14 J	0.41 U	0.036 JB	0.18 J
Fluoranthene	0.1825	11000 (c)	10 D	7.2 D	0.16 J	0.55	0.14 J
Fluorene	0.1975	11000 (c)	0.04 J	0.25 J	0.41 U	0.42 UJ	0.38 U
Indeno(1,2,3-cd)pyrene	0.195	0.9 (c)	3.1 D	1.2 J	0.073 J	0.28 J	0.077 J
2-Methylnaphthalene	0.1975	--	0.41 U	0.039 J	0.41 U	0.42 UJ	0.38 U
4-Methylphenol	0.1975	14000 (c)	0.1 J	0.42 U	0.41 U	0.42 UJ	0.38 U

Key at end of table.

Table E-5

SUMMARY OF ORGANIC RESULTS FOR ON-SITE SURFACE SOIL - 0 TO 6 INCHES
EXPANDED SITE INSPECTION
AGRICULTURE STREET LANDFILL, NEW ORLEANS, LOUISIANA
SEPTEMBER 1993
(mg/kg, dry weight)

Analyte	Background Concentration (a)	TBC (b)	Location Designation/Sample Number				
			ESI03/SS-25	ESI05/SS-11	ESI09/SS-36	ESI24/SS-57	ESI25/SS-69
Naphthalene	0.1975	1100 (c)	0.025 J	0.1 J	0.41 U	0.022 J	0.38 U
Phenanthrene	0.195	7900 (c)	0.82	2.8 J	0.058 J	0.28 J	0.063 J
Pyrene	0.185	8200 (c)	15 D	10 D	0.12 J	0.74	0.22 J
Pesticides/PCBs							
alpha-BHC	0.001175	0.1 (d)	0.0021 U	0.0022 U	0.0021 U	0.0022 U	0.002 U
beta-BHC	0.001225	0.35 (d)	0.0021 U	0.0022 U	0.0021 U	0.0022 U	0.002 U
delta-BHC	0.001225	--	0.0021 U	0.0022 U	0.0021 U	0.0022 U	0.00413 PJ
gamma-BHC	0.0011	0.49 (d)	0.0021 U	0.0022 U	0.0021 U	0.0022 U	0.002 U
alpha-Chlordane	0.0195	0.49 (d)	0.0021 U	0.0148 PJ	0.0021 U	0.0022 U	0.116 D
gamma-Chlordane	0.01058	0.49 (d)	0.0021 U	0.0144	0.0021 U	0.0023 PJ	0.112 PDJ
4,4'-DDD	0.0064	2.7 (d)	0.00665 PJ	0.0312 PJ	0.0041 U	0.0042 U	0.0038 U
4,4'-DDE	0.115	1.9 (d)	0.004 U	0.0225 PJ	0.0041 U	0.00465 PJ	0.0187
4,4'-DDT	0.119	1.9 (d)	0.0217 PJ	0.0259 PJ	0.00537 PJ	0.00689 PJ	0.00932 PJ
Dieldrin	0.024	0.04 (d)	0.004 U	0.0042 U	0.0041 U	0.0042 U	0.00498 PJ
Endosulfan II	0.002375	470 (d)	0.0171 J	0.00633 PJ	0.0041 U	0.0042 U	0.0038 U
Endosulfan Sulfate	0.002275	--	0.004 U	0.0042 U	0.0041 U	0.0042 U	0.00479
Endrin	0.003975	23 (d)	0.004 U	0.00924 PJ	0.0041 U	0.0042 PJ	0.0116 PJ
Endrin Aldehyde	0.00621	--	0.004 U	0.0042 U	0.0041 U	0.0258 PJ	0.00617 PJ
Endrin Ketone	0.002375	--	0.004 U	0.0042 U	0.0041 U	0.00576 PJ	0.0038 U
Heptachlor	0.001225	0.14 (d)	0.0021 U	0.0022 U	0.0021 U	0.0022 U	0.00907
Methoxychlor	0.012	390 (d)	0.021 U	0.022 U	0.021 U	0.022 U	0.02 U

Key at end of table.

Table E-5

SUMMARY OF ORGANIC RESULTS FOR ON-SITE SURFACE SOIL - 0 TO 6 INCHES
EXPANDED SITE INSPECTION
AGRICULTURE STREET LANDFILL, NEW ORLEANS, LOUISIANA
SEPTEMBER 1993
(mg/kg, dry weight)

Analyte	Background Concentration (a)	TBC (b)	Location Designation/Sample Number				
			ESI37/SS-6	ESI53/SS-32			
Volatile Organic Compounds							
Acetone	0.006	79000 (c)	0.011 U	0.013 U			
Chloroform	0.006	110 (c)	0.011 U	0.013 U			
Methylene Chloride	0.00925	85 (c)	0.002 JB	0.005 JB			
Tetrachloroethene	0.006	13 (c)	0.002 J	0.002 J			
Toluene	0.006	55000 (c)	0.011 U	0.013 UJ			
Xylene	0.006	550000 (c)	0.011 U	0.013 UJ			
Semivolatile Organic Compounds							
Acenaphthene	0.1975	16000 (c)	0.36 U	0.43 U			
Acenaphthylene	0.1975	27000 (c)	0.36 U	0.43 U			
Anthracene	0.1975	82000 (c)	0.36 U	0.053 J			
Benzo(a)anthracene	0.19	0.9 (c)	0.36 U	0.16 J			
Benzo(a)pyrene	0.19	0.09 (c)	0.36 U	0.2 J			
Benzo(b)fluoranthene	0.1875	0.9 (c)	0.36 U	0.24 J			
Benzo(g,h,i)perylene	0.1925	1100 (c)	0.36 U	0.1 J			
Benzo(k)fluoranthene	0.1875	0.9 (c)	0.36 U	0.16 J			
Bis(2-ethylhexyl)phthalate	0.1875	46 (c)	0.04 JB	1.4 B			
Butylbenzylphthalate	0.195	55000 (c)	0.36 U	0.43 U			
Carbazole	0.1975	32 (d)	0.36 U	0.43 U			
Chrysene	0.19	9 (c)	0.36 U	0.18 J			
Dibenz(a,h)anthracene	0.1975	0.09 (c)	0.36 U	0.43 U			
Dibenzofuran	0.1975	--	0.36 U	0.43 U			
Diethylphthalate	0.1975	220000 (c)	0.36 U	0.43 U			
di-n-Butyl Phthalate	0.1975	7800 (d)	0.36 U	0.07 J			
Fluoranthene	0.1825	11000 (c)	0.36 U	0.36 J			
Fluorene	0.1975	11000 (c)	0.36 U	0.43 U			
Indeno(1,2,3-cd)pyrene	0.195	0.9 (c)	0.36 U	0.091 J			
2-Methylnaphthalene	0.1975	--	0.36 U	0.43 U			
4-Methylphenol	0.1975	14000 (c)	0.36 U	0.43 U			

Key at end of table.

Table E-5

SUMMARY OF ORGANIC RESULTS FOR ON-SITE SURFACE SOIL - 0 TO 6 INCHES
EXPANDED SITE INSPECTION
AGRICULTURE STREET LANDFILL, NEW ORLEANS, LOUISIANA
SEPTEMBER 1993
(mg/kg, dry weight)

Analyte	Background Concentration (a)	TBC (b)	Location Designation/Sample Number				
			ESI37/SS-6	ESI53/SS-32			
Naphthalene	0.1975	1100 (c)	0.36 U	0.43 U			
Phenanthrene	0.195	7900 (c)	0.36 U	0.25 J			
Pyrene	0.185	8200 (c)	0.36 U	0.46			
Pesticides/PCBs							
alpha-BHC	0.001175	0.1 (d)	0.0019 U	0.00248 PJ			
beta-BHC	0.001225	0.35 (d)	0.0019 U	0.00202 JP			
delta-BHC	0.001225	--	0.0019 U	0.00328 PJ			
gamma-BHC	0.0011	0.49 (d)	0.0019 U	0.00292			
alpha-Chlordane	0.0195	0.49 (d)	0.0019 U	0.0104 PJ			
gamma-Chlordane	0.01058	0.49 (d)	0.0019 U	0.0122			
4,4'-DDD	0.0064	2.7 (d)	0.0036 U	0.211 JPD			
4,4'-DDE	0.115	1.9 (d)	0.0036 U	0.347 DJ			
4,4'-DDT	0.119	1.9 (d)	0.0036 U	2.7 D			
Dieldrin	0.024	0.04 (d)	0.0036 U	0.0258			
Endosulfan II	0.002375	470 (d)	0.0036 U	0.0132 PJ			
Endosulfan Sulfate	0.002275	--	0.0036 U	0.0043 U			
Endrin	0.003975	23 (d)	0.0036 U	0.0123 PJ			
Endrin Aldehyde	0.00621	--	0.0036 U	0.0288 PJ			
Endrin Ketone	0.002375	--	0.0036 U	0.00608 PJ			
Heptachlor	0.001225	0.14 (d)	0.0019 U	0.0022 U			
Methoxychlor	0.012	390 (d)	0.019 U	0.0491 PJ			

Key at end of table.

Note:

The to be considered (TBC) value for alpha-chlordane and gamma-chlordane (0.49 mg/kg) is designated for total chlordane, not individual isomers. The TBC criteria were not exceeded in any sample based on the sum of detected isomer concentrations.

Key:

a = Sample concentrations above background levels are shaded. See Sections 4.1.3 and 4.2.1 concerning the determination of median background concentrations for surface and subsurface soil.
b = TBC criteria are provided herein only as a reference against which to compare on-site contaminant concentrations. Sample concentrations exceeding TBC criteria appear in boldface type. Remedial action objectives (RAOs) for site-specific contaminants of concern (COCs) are provided in the Feasibility Study (FS).
c = United States Environmental Protection Agency (EPA) Region 6 risked-based concentration (RBC).
d = EPA Region 3 RBC.
B = Sample result might be biased high due to laboratory or field contamination, but is usable for evaluating site-related contamination. The reported result is above five or ten times concentration in method or field blank.
H = Sample result is biased high due to interference, background contamination, or high spike recovery, but usable for evaluating site-related contamination.
J = Sample result is estimated with unknown bias due to calibration or quality control problems, but is usable for evaluating site-related contamination. This flag is also used if reported results are below the method detection limit, but above the instrument detection limit.
L = Sample result is biased low due to low spike recovery, but usable for evaluating site-related contamination.
mg/kg = Milligrams per kilogram.
N = Qualitative identification of result is questionable due to lack of confirmatory evidence, but data are usable for evaluating site-related contamination.
NA = Not applicable.
R = Sample results are rejected and data are unusable.
T = Qualitative identification of result is questionable due to absence of other commonly co-occurring pesticides, but data are usable for evaluating site-related contamination.
U = Parameter is undetected at reported quantitation limit. For organics, indicates that result is less than five times result in method, rinsate, or trip blank and is attributable to background contamination. For common laboratory contaminants (e.g., methylene chloride, 2-butanone, and bis-2-ethylhexyl-phthalate), result is flagged if it is less than 10 times the method blank result.
UC = Parameter is undetected at reported quantitation limit. For inorganics, indicates that result is less than five times result in method or field blank and attributable to background contamination.

Source: Ecology and Environment, Inc., 1995.

06:WPUZD:ZT2061_DFW1007-KEY_SOILS_RESULTS-03/08/95-D1

00159.0099

Table E-6

SUMMARY OF ORGANIC RESULTS FOR OFF-SITE SURFACE SOIL - 0 TO 6 INCHES
EXPANDED SITE INSPECTION
AGRICULTURE STREET LANDFILL, NEW ORLEANS, LOUISIANA
SEPTEMBER 1993
(mg/kg, dry weight)

Analyte	Background Concentration (a)	TBC (b)	Location Designation/Sample Number				
			ESI01/SS-31	ESI02/SS-21	ESI11/SS-55	ESI31/SS-23	ESI54/SS-27
Volatile Organic Compounds							
Acetone	0.006	79000 (c)	0.012 U	0.012 U	0.011 U	0.013 U	0.011 U
Chloroform	0.006	110 (c)	0.002 J	0.012 U	0.011 U	0.013 U	0.002 J
Dibromochloromethane	0.006	7.6 (c)	0.012 U	0.012 UJ	0.011 UJ	0.013 UJ	0.011 U
Ethylbenzene	0.00575	27000 (c)	0.012 U	0.012 UJ	0.011 UJ	0.013 UJ	0.011 U
Methylene Chloride	0.00925	85 (c)	0.004 J	0.012 U	0.002 JB	0.12	0.02
Tetrachloroethene	0.006	13 (c)	0.01 J	0.009 J	0.004 J	0.024 J	0.013
Toluene	0.006	55000 (c)	0.012 U	0.016 J	0.011 UJ	0.013 UJ	0.011 U
Xylene	0.006	550000 (c)	0.012 U	0.012 UJ	0.011 UJ	0.003 J	0.011 U
Semivolatile Organic Compounds							
Anthracene	0.1975	82000 (c)	0.4 U	0.023 J	0.38 U	0.44 U	0.38 U
Benzo(a)anthracene	0.19	0.9 (c)	0.022 J	0.12 J	0.38 U	0.076 J	0.058 J
Benzo(a)pyrene	0.19	0.09 (c)	0.03 J	**0.099 J**	0.38 U	**0.12 J**	0.081 J
Benzo(b)fluoranthene	0.1875	0.9 (c)	0.024 J	0.14 J	0.38 U	0.14 J	0.082 J
Benzo(g,h,i)perylene	0.1925	1100 (c)	0.4 U	0.049 J	0.38 U	0.14 J	0.064 J
Benzo(k)fluoranthene	0.1875	0.9 (c)	0.031 J	0.061 J	0.38 U	0.11 J	0.08 J
Chrysene	0.19	9 (c)	0.027 J	0.12 J	0.38 U	0.14 J	0.073 J
Dibenz(a,h)anthracene	0.1975	0.09 (c)	0.4 U	0.4 U	0.38 U	0.028 J	0.38 U
di-n-Butyl Phthalate	0.1975	7800 (d)	0.4 U	0.4 U	0.38 U	0.18 J	0.023 J
di-n-Octyl Phthalate	0.1975	1600 (d)	0.4 U	0.4 U	0.38 U	0.44 U	0.38 U
Fluoranthene	0.1825	11000 (c)	0.036 J	0.19 J	0.38 U	0.19 J	0.13 J
Indeno(1,2,3-cd)pyrene	0.195	0.9 (c)	0.4 U	0.053 J	0.38 U	0.11 J	0.055 J
Phenanthrene	0.195	7900 (c)	0.4 U	0.11 J	0.38 U	0.082 J	0.058 J
Pyrene	0.185	8200 (c)	0.037 J	0.19 J	0.026 J	0.2 J	0.1 J
Pesticides/PCBs							
alpha-Chlordane	0.0195	0.49 (d)	0.00312	0.002 U	0.0019 U	0.00261 PJ	0.0019 U
gamma-Chlordane	0.01058	0.49 (d)	0.002 U	0.002 U	0.0019 U	0.0023 U	0.0019 U
4,4'-DDD	0.0064	2.7 (d)	0.004 U	0.004 U	0.0037 U	0.0045 U	0.0037 UJ
4,4'-DDE	0.115	1.9 (d)	0.004 U	0.004 U	0.0037 U	0.0045 U	0.0037 UJ

Key at end of table.

Table E-6

SUMMARY OF ORGANIC RESULTS FOR OFF-SITE SURFACE SOIL - 0 TO 6 INCHES
EXPANDED SITE INSPECTION
AGRICULTURE STREET LANDFILL, NEW ORLEANS, LOUISIANA
SEPTEMBER 1993
(mg/kg, dry weight)

Analyte	Background Concentration (a)	TBC (b)	Location Designation/Sample Number				
			ESI01/SS-31	ESI02/SS-21	ESI11/SS-55	ESI31/SS-23	ESI54/SS-27
4,4'-DDT	0.119	1.9 (d)	0.004 U	0.0216 PJ	0.0037 U	0.00842 J	0.0037 U
Dieldrin	0.024	0.04 (d)	0.004 U	0.00448 PJ	0.0037 U	0.0045 U	0.0037 UJ
Endrin	0.003975	23 (d)	0.004 U	0.004 U	0.0037 U	0.0045 U	0.0037 UJ
Endrin Aldehyde	0.00621	--	0.004 U	0.0115 PJ	0.0037 U	0.0045 U	0.008 PJ
Heptachlor	0.001225	0.14 (d)	0.002 U	0.002 U	0.00236 PJ	0.0023 U	0.0019 UJ
Methoxychlor	0.012	390 (d)	0.02 U	0.02 U	0.019 U	0.023 U	0.019 U

Key at end of table.

Table E-6

SUMMARY OF ORGANIC RESULTS FOR OFF-SITE SURFACE SOIL - 0 TO 6 INCHES
EXPANDED SITE INSPECTION
AGRICULTURE STREET LANDFILL, NEW ORLEANS, LOUISIANA
SEPTEMBER 1993
(mg/kg, dry weight)

Analyte	Background Concentration (a)	TBC (b)	Location Designation/Sample Number				
			ESI55/SS-35	ESI58/SS-28	ESI59/SS-8		
Volatile Organic Compounds							
Acetone	0.006	79000 (c)	0.081	0.02	0.058		
Chloroform	0.006	110 (c)	0.013 U	0.002 J	0.003 J		
Dibromochloromethane	0.006	7.6 (c)	0.013 U	0.004 J	0.014 U		
Ethylbenzene	0.00575	27000 (c)	0.003 J	0.012 UJ	0.014 UJ		
Methylene Chloride	0.00925	85 (c)	0.02 B	0.021	0.044		
Tetrachloroethene	0.006	13 (c)	0.006 J	0.009 J	0.008 J		
Toluene	0.006	55000 (c)	0.002 J	0.012 UJ	0.014 UJ		
Xylene	*0.006*	*550000 (c)*	*0.015 J*	*0.012 UJ*	*0.014 UJ*		
Semivolatile Organic Compounds							
Anthracene	0.1975	82000 (c)	2.2 U	0.053 J	0.45 U		
Benzo(a)anthracene	0.19	0.9 (c)	0.34 J	0.27 J	0.45 U		
Benzo(a)pyrene	0.19	0.09 (c)	0.41 J	0.25 J	0.45 U		
Benzo(b)fluoranthene	0.1875	0.9 (c)	0.31 J	0.29 J	0.45 U		
Benzo(g,h,i)perylene	0.1925	1100 (c)	0.3 J	0.19 J	0.45 U		
Benzo(k)fluoranthene	0.1875	0.9 (c)	0.32 J	0.25 J	0.45 U		
Chrysene	0.19	9 (c)	0.53 J	0.3 J	0.45 U		
Dibenz(a,h)anthracene	0.1975	0.09 (c)	0.15 J	0.05 J	0.45 U		
di-n-Butyl Phthalate	0.1975	7800 (d)	0.4 J	0.4 U	0.45 U		
di-n-Octyl Phthalate	0.1975	1600 (d)	0.33 J	0.4 U	0.45 U		
Fluoranthene	0.1825	11000 (c)	0.62 J	0.53	0.048 J		
Indeno(1,2,3-cd)pyrene	0.195	0.9 (c)	0.16 J	0.16 J	0.45 U		
Phenanthrene	0.195	7900 (c)	0.37 J	0.29 J	0.45 U		
Pyrene	0.185	8200 (c)	0.58 J	0.43	0.075 J		
Pesticides/PCBs							
alpha-Chlordane	0.0195	0.49 (d)	0.0839 PDJ	0.0021 U	0.0023 U		
gamma-Chlordane	0.01058	0.49 (d)	0.069 D	0.0021 U	0.0023 U		
4,4'-DDD	0.0064	2.7 (d)	0.026 PJ	0.004 U	0.0045 U		
4,4'-DDE	0.115	1.9 (d)	0.171 D	0.004 U	0.0045 U		

Key at end of table.

Table E-6

SUMMARY OF ORGANIC RESULTS FOR OFF-SITE SURFACE SOIL - 0 TO 6 INCHES
EXPANDED SITE INSPECTION
AGRICULTURE STREET LANDFILL, NEW ORLEANS, LOUISIANA
SEPTEMBER 1993
(mg/kg, dry weight)

Analyte	Background Concentration (a)	TBC (b)	Location Designation/Sample Number				
			ESI55/SS-35	ESI58/SS-28	ESI59/SS-8		
4,4'-DDT	0.119	1.9 (d)	0.516 D	0.004 U	0.0045 U		
Dieldrin	0.024	0.04 (d)	0.0213	0.004 U	0.0045 U		
Endrin	0.003975	23 (d)	0.00932 PJ	0.004 U	0.0045 U		
Endrin Aldehyde	0.00621	--	0.0152 PJ	0.00623 PJ	0.00613 PJ		
Heptachlor	0.001225	0.14 (d)	0.00256	0.0021 U	0.0023 U		
Methoxychlor	0.012	390 (d)	0.0358 PJ	0.021 U	0.023 U		

Key at end of table.

Note:

The to be considered (TBC) value for alpha-chlordane and gamma-chlordane (0.49 mg/kg) is designated for total chlordane, not individual isomers. The TBC criteria were not exceeded in any sample based on the sum of detected isomer concentrations.

Key:

a = Sample concentrations above background levels are shaded. See Sections 4.1.3 and 4.2.1 concerning the determination of median background concentrations for surface and subsurface soil.
b = TBC criteria are provided herein only as a reference against which to compare on-site contaminant concentrations. Sample concentrations exceeding TBC criteria appear in boldface type. Remedial action objectives (RAOs) for site-specific contaminants of concern (COCs) are provided in the Feasibility Study (FS).
c = United States Environmental Protection Agency (EPA) Region 6 risked-based concentration (RBC).
d = EPA Region 3 RBC.
B = Sample result might be biased high due to laboratory or field contamination, but is usable for evaluating site-related contamination. The reported result is above five or ten times concentration in method or field blank.
H = Sample result is biased high due to interference, background contamination, or high spike recovery, but usable for evaluating site-related contamination.
J = Sample result is estimated with unknown bias due to calibration or quality control problems, but is usable for evaluating site-related contamination. This flag is also used if reported results are below the method detection limit, but above the instrument detection limit.
L = Sample result is biased low due to low spike recovery, but usable for evaluating site-related contamination.
mg/kg = Milligrams per kilogram.
N = Qualitative identification of result is questionable due to lack of confirmatory evidence, but data are usable for evaluating site-related contamination.
NA = Not applicable.
R = Sample results are rejected and data are unusable.
T = Qualitative identification of result is questionable due to absence of other commonly co-occurring pesticides, but data are usable for evaluating site-related contamination.
U = Parameter is undetected at reported quantitation limit. For organics, indicates that result is less than five times result in method, rinsate, or trip blank and is attributable to background contamination. For common laboratory contaminants (e.g., methylene chloride, 2-butanone, and bis-2-ethylhexy-phthalate), result is flagged if it is less than 10 times the method blank result.
UC = Parameter is undetected at reported quantitation limit. For inorganics, indicates that result is less than five times result in method or field blank and attributable to background contamination.

Source: Ecology and Environment, Inc., 1995.

06:WPUZD:ZT2061_DFW1007-KEY_SOILS_RESULTS-03/08/95-D1

Table E-7

SUMMARY OF INORGANIC RESULTS FOR ON-SITE SUBSURFACE SOIL - 6 TO 18 INCHES
EXPANDED SITE INSPECTION
AGRICULTURE STREET LANDFILL, NEW ORLEANS, LOUISIANA
SEPTEMBER 1993
(mg/kg, dry weight)

Analyte	Background Concentration (a)	TBC (b)	Location Designation/Sample Number				
			ESI06/SS-72	ESI08/SS-98	ESI15/SS-10	ESI17/SS-91	ESI21/SS-74
Aluminum	17482	79000 (c)	9778.87	7260	6003 J	10624	11084.969
Antimony	4.325	110 (c)	8.845 U	43.6 JL	15.9 JL	44 JL	8.944 U
Arsenic	7.15	0.37 (c)	32	24.7	27.2	43.4	25.491
Barium	190.5	14000 (c)	1594.202	1019 JL	945	857 JL	1072.919
Beryllium	0.68	0.15 (c)	0.673	0.32	0.85	0.32	0.571
Cadmium	0.825	140 (c)	0.737 UJL	9.46 JL	4.8	17 JL	0.745 UJL
Calcium	4198	NA	29434.889	35463	31025 J	26551	30616.149
Chromium	20.75	1400 (c)	67.268	70.8 JL	63.2 J	87.5 JL	93.396
Cobalt	8.35	2.7 (c)	11.236	13	14.7	16	15.796
Copper	26.25	10000 (c)	819.017	593	2522	752	904.571
Iron	18507	NA	99078.624 J	68356	77434 J	137701	135585.093 J
Lead	21.3	400 (c)	6275.43	5998 J	1829 J	2069 J	2156.348
Magnesium	4370.5	NA	3408.354	3302	2910 J	2895	3223.851
Manganese	84.85	27000 (c)	857.371	663	688 J	789	887.627
Mercury	0.0875	82 (c)	2.107	2.3 J	2.2	1.84 J	2.348
Nickel	21.2	5500 (c)	70.211	45.6 JL	52.2	124 JL	97.563
Potassium	2486.5	NA	1380.835	896 J	1168	1381	1304.348
Selenium	0.67	820 (c)	0.491 UJ	23.3 U	R	0.94	0.497 U
Silver	0.995	820 (c)	R	5.09 JL	5.8	7 JL	R
Sodium	144	NA	598.968	325 J	252	311 J	473.317
Thallium	0.415	19 (c)	4.914 U	23.3 U	0.71 U	2.58	4.969 U
Vanadium	36.3	1800 (c)	22.125	28.8 J	20.5	37.9 J	14.41
Zinc	77.5	55000 (c)	3034.398	2093 J	1836 J	3134 J	2988.075

Key at end of table.

Table E-7

SUMMARY OF INORGANIC RESULTS FOR ON-SITE SUBSURFACE SOIL - 6 TO 18 INCHES
EXPANDED SITE INSPECTION
AGRICULTURE STREET LANDFILL, NEW ORLEANS, LOUISIANA
SEPTEMBER 1993
(mg/kg, dry weight)

Analyte	Background Concentration (a)	TBC (b)	Location Designation/Sample Number				
			ESI22/SS-97	ESI23/SS-17	ESI36/SS-88	ESI38/SS-1	ESI39/SS-70
Aluminum	17482	79000 (c)	8592	8460	9517	1828 J	6919.654
Antimony	4.325	110 (c)	36.9 JL	8.856 U	35.5 JL	5 UJL	8.9 U
Arsenic	7.15	0.37 (c)	**45.4**	**24.1 JH**	**34.7**	**2.1**	**28.208**
Barium	190.5	14000 (c)	1541 JL	677.269	896 JL	33.6	242.359
Beryllium	0.68	0.15 (c)	**0.49**	0.492 U	0.22 U	0.19 U	**0.522**
Cadmium	0.825	140 (c)	14.1 JL	0.738 U	8.78 JL	0.77 U	0.742 UJL
Calcium	4198	NA	40428	49600	30728	3317 J	8124.846
Chromium	20.75	1400 (c)	50.8 JL	51.063	86.7 JL	4.6 J	43.461
Cobalt	8.35	2.7 (c)	**10.5**	**11.422**	**12.4**	**4.4**	**10.314**
Copper	26.25	10000 (c)	544	926.593	611	2.3	130.314
Iron	18507	NA	70352	85400	86187	4966 J	48133.498 J
Lead	21.3	400 (c)	**3703 J**	**23400**	**1860 J**	2.9 JL	138.962
Magnesium	4370.5	NA	2846	3960	2920	2321 J	3392.336
Manganese	84.85	27000 (c)	642	611.439	663	90.2 J	527.713
Mercury	0.0875	82 (c)	1.26 J	0.308	0.92 J	0.09 U	1.978
Nickel	21.2	5500 (c)	43.6 JL	59.538	57.6 JL	9.6	34.121
Potassium	2486.5	NA	1612 J	1170.972	1135 J	286	1305.315
Selenium	0.67	820 (c)	23.2 U	0.492 U	0.86 U	R	4.944 U
Silver	0.995	820 (c)	4.23 JL	R	6.23 JL	0.77 U	R
Sodium	144	NA	940 J	832	479 J	58.2	201.558
Thallium	0.415	19 (c)	23.2 U	2.5	1.34	0.61 UJH	4.944 U
Vanadium	36.3	1800 (c)	34.1 J	10.785	30.2 J	6.5	18.801
Zinc	77.5	55000 (c)	4323 J	2275.892	2432 J	39.8 J	450.927

Key at end of table.

Table E-7

SUMMARY OF INORGANIC RESULTS FOR ON-SITE SUBSURFACE SOIL - 6 TO 18 INCHES
EXPANDED SITE INSPECTION
AGRICULTURE STREET LANDFILL, NEW ORLEANS, LOUISIANA
SEPTEMBER 1993
(mg/kg, dry weight)

Analyte	Background Concentration (a)	TBC (b)	Location Designation/Sample Number				
			ESI40/SS-15	ESI41/SS-5	ESI44/SS-2	ESI47/SS-13	ESI48/SS-4
Aluminum	17482	79000 (c)	3864	2924 J	1934 J	7056 J	1987 J
Antimony	4.325	110 (c)	24.6 BJL	4.4 UJL	4.7 UJL	25.8 JL	5.1 UJL
Arsenic	7.15	0.37 (c)	**129.412**	**2.4**	**1.9**	**46.8**	**2.5**
Barium	190.5	14000 (c)	452 JH	47.9	33.4	987	33.6
Beryllium	0.68	0.15 (c)	0.24 UJL	**0.22**	**0.23**	**0.85**	0.2 U
Cadmium	0.825	140 (c)	3.3 J	0.67 U	0.72 U	15.7	0.79 U
Calcium	4198	NA	25081	4077 J	3170 J	75844 J	3430 J
Chromium	20.75	1400 (c)	65.6	6.3 J	4.9 J	72.6 J	5.7 J
Cobalt	8.35	2.7 (c)	**21.8**	**5.2**	**4.1**	**13.8**	**3.9**
Copper	26.25	10000 (c)	1661 J	3.6	3.4	557	2.9
Iron	18507	NA	143566 J	6249 J	4911 J	89710 J	5284 J
Lead	21.3	400 (c)	**1545**	2.4 JL	17.5 J	**5092 J**	3.1 J
Magnesium	4370.5	NA	1426 J	2589 J	2213 J	1877 J	2293 J
Manganese	84.85	27000 (c)	819	119 J	76.6 J	617 J	81 J
Mercury	0.0875	82 (c)	2.9	0.09 U	0.09	2.9	0.09 U
Nickel	21.2	5500 (c)	83.6	10.4	9.1	57.3	9.9
Potassium	2486.5	NA	437	488	329	610	328
Selenium	0.67	820 (c)	R	0.27 BJL	R	R	R
Silver	0.995	820 (c)	3.2	0.67 U	0.72 U	5.4	0.79 U
Sodium	144	NA	239 J	61	50.8	539	57.6
Thallium	0.415	19 (c)	0.24 UJH	0.5 U	0.51 U	1	0.54 U
Vanadium	36.3	1800 (c)	7.7	9	6.9	20.9	6.3
Zinc	77.5	55000 (c)	1962	27.6 J	23.2 J	1641 J	21.3 J

Key at end of table.

Table E-7

SUMMARY OF INORGANIC RESULTS FOR ON-SITE SUBSURFACE SOIL - 6 TO 18 INCHES
EXPANDED SITE INSPECTION
AGRICULTURE STREET LANDFILL, NEW ORLEANS, LOUISIANA
SEPTEMBER 1993
(mg/kg, dry weight)

Analyte	Background Concentration (a)	TBC (b)	Location Designation/Sample Number				
			ESI49/SS-14	ESI68/SS-89			
Aluminum	17482	79000 (c)	6331 J	8798			
Antimony	4.325	110 (c)	20.9 JL	R			
Arsenic	7.15	0.37 (c)	**37.8**	**42.8**			
Barium	190.5	14000 (c)	988	948 JL			
Beryllium	0.68	0.15 (c)	**1.1**	**0.36**			
Cadmium	0.825	140 (c)	1.4	R			
Calcium	4198	NA	21476 J	33085			
Chromium	20.75	1400 (c)	65.4 J	R			
Cobalt	8.35	2.7 (c)	**11.6**	**19**			
Copper	26.25	10000 (c)	622	808			
Iron	18507	NA	105149 J	155701			
Lead	21.3	400 (c)	**2133 J**	**2463 J**			
Magnesium	4370.5	NA	1859 J	2726			
Manganese	84.85	27000 (c)	671 J	864			
Mercury	0.0875	82 (c)	5.6	2.6 J			
Nickel	21.2	5500 (c)	52.1	77.5 JL			
Potassium	2486.5	NA	836	1117 J			
Selenium	0.67	820 (c)	R	0.91 U			
Silver	0.995	820 (c)	4.5 B	6.36 JL			
Sodium	144	NA	217	366 J			
Thallium	0.415	19 (c)	0.73 U	5.48			
Vanadium	36.3	1800 (c)	25	36.6 J			
Zinc	77.5	55000 (c)	2267 J	1818 J			

Key at end of table.

Note:

The to be considered (TBC) value for alpha-chlordane and gamma-chlordane (0.49 mg/kg) is designated for total chlordane, not individual isomers. The TBC criteria were not exceeded in any sample based on the sum of detected isomer concentrations.

Key:

a = Sample concentrations above background levels are shaded. See Sections 4.1.3 and 4.2.1 concerning the determination of median background concentrations for surface and subsurface soil.
b = TBC criteria are provided herein only as a reference against which to compare on-site contaminant concentrations. Sample concentrations exceeding TBC criteria appear in boldface type. Remedial action objectives (RAOs) for site-specific contaminants of concern (COCs) are provided in the Feasibility Study (FS).
c = United States Environmental Protection Agency (EPA) Region 6 risked-based concentration (RBC).
d = EPA Region 3 RBC.
B = Sample result might be biased high due to laboratory or field contamination, but is usable for evaluating site-related contamination. The reported result is above five or ten times concentration in method or field blank.
H = Sample result is biased high due to interference, background contamination, or high spike recovery, but usable for evaluating site-related contamination.
J = Sample result is estimated with unknown bias due to calibration or quality control problems, but is usable for evaluating site-related contamination. This flag is also used if reported results are below the method detection limit, but above the instrument detection limit.
L = Sample result is biased low due to low spike recovery, but usable for evaluating site-related contamination.
mg/kg = Milligrams per kilogram.
N = Qualitative identification of result is questionable due to lack of confirmatory evidence, but data are usable for evaluating site-related contamination.
NA = Not applicable.
R = Sample results are rejected and data are unusable.
T = Qualitative identification of result is questionable due to absence of other commonly co-occurring pesticides, but data are usable for evaluating site-related contamination.
U = Parameter is undetected at reported quantitation limit. For organics, indicates that result is less than five times result in method, rinsate, or trip blank and is attributable to background contamination. For common laboratory contaminants (e.g., methylene chloride, 2-butanone, and bis-2-ethylhexy-phthalate), result is flagged if it is less than 10 times the method blank result.
UC = Parameter is undetected at reported quantitation limit. For inorganics, indicates that result is less than five times result in method or field blank and attributable to background contamination.

Source: Ecology and Environment, Inc., 1995.

06:WPUZD:ZT2061_DFW1007-KEY_SOILS_RESULTS-03/08/95-D1

Table E-8

SUMMARY OF INORGANIC RESULTS FOR OFF-SITE SUBSURFACE SOIL - 6 TO 18 INCHES
EXPANDED SITE INSPECTION
AGRICULTURE STREET LANDFILL, NEW ORLEANS, LOUISIANA
SEPTEMBER 1993
(mg/kg, dry weight)

Analyte	Background Concentration (a)	TBC (b)	Location Designation/Sample Number				
			ESI01/SS-52	ESI02/SS-22	ESI31/SS-24	ESI51/SS-80	ESI54/SS-47
Aluminum	17482	79000 (c)	11261.874	13184.57	14675	4446	17978.517
Antimony	4.325	110 (c)	9.243 U	10.683 U	5.41 BJL	21.4 JL	10.893 U
Arsenic	7.15	0.37 (c)	**5.7 JH**	**7.923 JH**	**4.25**	**15.2**	**6.006 JH**
Barium	190.5	14000 (c)	326.033	173.24	186 JL	298 JL	147.707
Beryllium	0.68	0.15 (c)	**1.04**	**1.202**	**0.6**	**0.32**	**1.356**
Cadmium	0.825	140 (c)	0.77 U	0.89 U	0.65 JL	4.36 JL	0.908 U
Calcium	4198	NA	15226.187	11311.276	4220 J	14608	23556.127
Chromium	20.75	1400 (c)	18.1	19.039	17.3 JL	22.9 JL	22.968
Cobalt	8.35	2.7 (c)	**6.021**	**5.433**	**8.05**	**6.92**	**5.083**
Copper	26.25	10000 (c)	116.624	91.279	22.8 J	158	41.915
Iron	18507	NA	16551.99	15418.991	17203	46907	16710.439
Lead	21.3	400 (c)	75.9	137	28.1	743 J	24.6
Magnesium	4370.5	NA	4463.671	2907.211	3783	1968	4623.903
Manganese	84.85	27000 (c)	398.485	307.033	404	401	215.104
Mercury	0.0875	82 (c)	0.128 U	0.148 U	0.12 UJ	0.24 U	0.151 U
Nickel	21.2	5500 (c)	19.964	20.478	20	23.7	20.291
Potassium	2486.5	NA	1810.013	1928.783	1652	780 J	2571.861
Selenium	0.67	820 (c)	5.135 U	0.594 U	0.98 U	0.92 U	0.605 U
Silver	0.995	820 (c)	R	R	0.67 BJL	1.88 JL	R
Sodium	144	NA	225.9	203.602	162	176 J	307.746
Thallium	0.415	19 (c)	1.271 JL	0.683 JL	0.98 U	1.89	1.589 JL
Vanadium	36.3	1800 (c)	26.159	28.677	29.4	23.4 J	40.409
Zinc	77.5	55000 (c)	361.926	164.413	85 J	1386 J	83.794

Key at end of table.

Table E-8

SUMMARY OF INORGANIC RESULTS FOR OFF-SITE SUBSURFACE SOIL - 6 TO 18 INCHES
EXPANDED SITE INSPECTION
AGRICULTURE STREET LANDFILL, NEW ORLEANS, LOUISIANA
SEPTEMBER 1993
(mg/kg, dry weight)

Analyte	Background Concentration (a)	TBC (b)	Location Designation/Sample Number				
			ESI56/SS-34	ESI57/SS-38	ESI58/SS-49	ESI60/SS-44	ESI62/SS-67
Aluminum	17482	79000 (c)	9772	8031	8609.314	14841	6793
Antimony	4.325	110 (c)	6.9 UJL	6.4 UJL	8.823 U	7.7 UJL	6.3 UJL
Arsenic	7.15	0.37 (c)	**7**	**12.8**	**4.13 JH**	**15.4**	**4.3**
Barium	190.5	14000 (c)	297 JH	207 JH	116.23	529 JH	185 JH
Beryllium	0.68	0.15 (c)	**0.76 JL**	**0.74 JL**	**0.547**	**1.6 JL**	**0.59 JL**
Cadmium	0.825	140 (c)	1.1 UJ	0.98 UJ	0.735 U	1.2 UJ	0.96 UJ
Calcium	4198	NA	82181	12466	5639.951	14074	23481
Chromium	20.75	1400 (c)	17.1	17	13.811	23.2	12.8
Cobalt	8.35	2.7 (c)	**4.6**	**6.4**	**6.012**	**9.5**	**4.2**
Copper	26.25	10000 (c)	75.2 J	29.5 J	23.338	73.9 J	34.3 J
Iron	18507	NA	17551 J	12210 J	12432.598	21982 J	12937 J
Lead	21.3	400 (c)	232	179	9.8	167	190
Magnesium	4370.5	NA	2946 J	3701 J	4382.843	3218 J	3209 J
Manganese	84.85	27000 (c)	234	334	305.931	304	402
Mercury	0.0875	82 (c)	0.13 U	0.31	0.123 U	0.18	0.18
Nickel	21.2	5500 (c)	18.4	14.8	14.532	31.9	15.2
Potassium	2486.5	NA	1205	1337	1492.647	1604	1106
Selenium	0.67	820 (c)	0.37 JL	R	0.49 U	3.1 JL	R
Silver	0.995	820 (c)	1.1 U	0.98 U	R	1.2 U	0.96 U
Sodium	144	NA	448 J	254 J	185.978	117 J	167 J
Thallium	0.415	19 (c)	0.62 BJH	0.45 BJH	0.748 JL	0.62 BJH	0.33 JH
Vanadium	36.3	1800 (c)	22.9	18.8	20.574	49.5	17.2
Zinc	77.5	55000 (c)	325	208	60.451	206	215

Key at end of table.

Table E-8

SUMMARY OF INORGANIC RESULTS FOR OFF-SITE SUBSURFACE SOIL - 6 TO 18 INCHES
EXPANDED SITE INSPECTION
AGRICULTURE STREET LANDFILL, NEW ORLEANS, LOUISIANA
SEPTEMBER 1993
(mg/kg, dry weight)

Analyte	Background Concentration (a)	TBC (b)	Location Designation/Sample Number				
			ESI63/SS-7	ESI65/SS-37	ESI66/SS-40	ESI67/SS-81	ESI71/SS-53
Aluminum	17482	79000 (c)	7667 J	5606	16550.125	6929	2082 J
Antimony	4.325	110 (c)	5.6 UJL	6.7 UJL	9.023 U	8.01 JL	5.4 UJL
Arsenic	7.15	0.37 (c)	**5.5**	**20.7**	**6.942 JH**	**7.51**	**2.5**
Barium	190.5	14000 (c)	182	675 JH	411.328	205 JL	37.1
Beryllium	0.68	0.15 (c)	**0.52**	**0.77 JL**	**0.907**	**0.39**	0.21 U
Cadmium	0.825	140 (c)	0.86 U	11.4 J	0.752 U	0.99 JL	0.83 U
Calcium	4198	NA	8580 J	50472	34962.406	15289	3151 J
Chromium	20.75	1400 (c)	11.8 J	32.2	27.123	13 JL	4.4 J
Cobalt	8.35	2.7 (c)	**6**	**8.2**	**5.451**	**6.11**	**4.7**
Copper	26.25	10000 (c)	22	325 J	77.737	54	2.3
Iron	18507	NA	14061 J	46629 J	21408.271	13664	5284 J
Lead	21.3	400 (c)	87.7 J	**12405**	**951**	274 J	3.1 JL
Magnesium	4370.5	NA	2895 J	2235 J	3578.697	2826	2232 J
Manganese	84.85	27000 (c)	342 J	1145	392.181	240	89.8 J
Mercury	0.0875	82 (c)	0.12	1.2	0.464	0.14 U	0.1 U
Nickel	21.2	5500 (c)	16.4	25.5	20.707	19.4 JL	10.8
Potassium	2486.5	NA	1243	873	2340.852	1245 J	359
Selenium	0.67	820 (c)	R	R	0.501 U	1.33	R
Silver	0.995	820 (c)	0.86 U	1 U	R	0.71 JL	0.83 U
Sodium	144	NA	131	409 J	360.125	176 J	60.1
Thallium	0.415	19 (c)	0.59	0.36 BJH	0.501 UJL	0.91 U	0.61 U
Vanadium	36.3	1800 (c)	18.3	19.9	37.378	20.2 J	6.7
Zinc	77.5	55000 (c)	99.8 J	1947	504.436	342 J	23.1 J

Key at end of table.

Table E-8

SUMMARY OF INORGANIC RESULTS FOR OFF-SITE SUBSURFACE SOIL - 6 TO 18 INCHES
EXPANDED SITE INSPECTION
AGRICULTURE STREET LANDFILL, NEW ORLEANS, LOUISIANA
SEPTEMBER 1993
(mg/kg, dry weight)

Analyte	Background Concentration (a)	TBC (b)	Location Designation/Sample Number				
			ESI75/SS-41				
Aluminum	17482	79000 (c)	7859 J				
Antimony	4.325	110 (c)	6.4 UJL				
Arsenic	7.15	0.37 (c)	**24.8**				
Barium	190.5	14000 (c)	81.1				
Beryllium	0.68	0.15 (c)	**0.51**				
Cadmium	0.825	140 (c)	2.6				
Calcium	4198	NA	31462 J				
Chromium	20.75	1400 (c)	24.9 J				
Cobalt	8.35	2.7 (c)	9				
Copper	26.25	10000 (c)	237				
Iron	18507	NA	45622 J				
Lead	21.3	400 (c)	**1853 J**				
Magnesium	4370.5	NA	2812 J				
Manganese	84.85	27000 (c)	385 J				
Mercury	0.0875	82 (c)	0.74				
Nickel	21.2	5500 (c)	22.9				
Potassium	2486.5	NA	1145				
Selenium	0.67	820 (c)	R				
Silver	0.995	820 (c)	2 B				
Sodium	144	NA	240				
Thallium	0.415	19 (c)	0.65 U				
Vanadium	36.3	1800 (c)	25.2				
Zinc	77.5	55000 (c)	1395 J				

Key at end of table.

Note:

The to be considered (TBC) value for alpha-chlordane and gamma-chlordane (0.49 mg/kg) is designated for total chlordane, not individual isomers. The TBC criteria were not exceeded in any sample based on the sum of detected isomer concentrations.

Key:

a = Sample concentrations above background levels are shaded. See Sections 4.1.3 and 4.2.1 concerning the determination of median background concentrations for surface and subsurface soil.
b = TBC criteria are provided herein only as a reference against which to compare on-site contaminant concentrations. Sample concentrations exceeding TBC criteria appear in boldface type. Remedial action objectives (RAOs) for site-specific contaminants of concern (COCs) are provided in the Feasibility Study (FS).
c = United States Environmental Protection Agency (EPA) Region 6 risked-based concentration (RBC).
d = EPA Region 3 RBC.
B = Sample result might be biased high due to laboratory or field contamination, but is usable for evaluating site-related contamination. The reported result is above five or ten times concentration in method or field blank.
H = Sample result is biased high due to interference, background contamination, or high spike recovery, but usable for evaluating site-related contamination.
J = Sample result is estimated with unknown bias due to calibration or quality control problems, but is usable for evaluating site-related contamination. This flag is also used if reported results are below the method detection limit, but above the instrument detection limit.
L = Sample result is biased low due to low spike recovery, but usable for evaluating site-related contamination.
mg/kg = Milligrams per kilogram.
N = Qualitative identification of result is questionable due to lack of confirmatory evidence, but data are usable for evaluating site-related contamination.
NA = Not applicable.
R = Sample results are rejected and data are unusable.
T = Qualitative identification of result is questionable due to absence of other commonly co-occurring pesticides, but data are usable for evaluating site-related contamination.
U = Parameter is undetected at reported quantitation limit. For organics, indicates that result is less than five times result in method, rinsate, or trip blank and is attributable to background contamination. For common laboratory contaminants (e.g., methylene chloride, 2-butanone, and bis-2-ethylhexy-phthalate), result is flagged if it is less than 10 times the method blank result.
UC = Parameter is undetected at reported quantitation limit. For inorganics, indicates that result is less than five times result in method or field blank and attributable to background contamination.

Source: Ecology and Environment, Inc., 1995.

Table E-9

SUMMARY OF ORGANIC RESULTS FOR ON-SITE SUBSURFACE SOIL - 6 TO 18 INCHES
EXPANDED SITE INSPECTION
AGRICULTURE STREET LANDFILL, NEW ORLEANS, LOUISIANA
SEPTEMBER 1993
(mg/kg, dry weight)

Analyte	Background Concentration (a)	TBC (b)	Location Designation/Sample Number				
			ESI06/SS-72	ESI08/SS-98	ESI15/SS-10	ESI17/SS-91	ESI21/SS-74
Volatile Organic Compounds							
Acetone	0.00825	79000 (c)	0.012 U	0.029 JB	0.012 U	0.012 U	0.012 U
Chloroform	0.008	110 (c)	0.002 J	0.012 UJ	0.012 U	0.012 U	0.002 J
Ethylbenzene	0.008	27000 (c)	0.012 U	0.012 UJ	0.46	0.012 UJ	0.012 UJ
Methylene Chloride	0.014	85 (c)	0.003 J	0.047 JB	0.051 B	0.024 B	0.007 J
Tetrachloroethene	0.008	13 (c)	0.017	0.049 JB	0.003 J	0.014 J	0.034 J
Toluene	0.008	55000 (c)	0.012 U	0.012 UJ	0.002 J	0.012 UJ	0.002 J
1,1,1-Trichloroethane	0.008	25000 (c)	0.012 U	0.012 UJ	0.012 U	0.012 UJ	0.012 U
Xylene	0.008	550000 (c)	0.012 U	0.012 UJ	2.9	0.012 UJ	0.012 UJ
Semivolatile Organic Compounds							
Acenaphthene	0.265	16000 (c)	0.089 JD	0.12 J	0.048 J	0.049 J	0.027 J
Acenaphthylene	0.265	27000 (c)	0.061 JD	0.089 J	0.74 J	0.092 J	0.025 J
Anthracene	0.265	82000 (c)	0.36 JD	0.39 J	0.52 J	0.27 J	0.15 J
Benzo(a)anthracene	0.265	0.9 (c)	1.8 D	1.3	3.2 J	2.4 J	0.86
Benzo(a)pyrene	0.265	0.09 (c)	1.7 D	1.2 J	0.7 JD	5.1 D	1.2
Benzo(b)fluoranthene	0.265	0.9 (c)	1.4 D	2.2 J	2.1 J	5.9 D	1.3
Benzo(g,h,i)perylene	0.265	1100 (c)	1.1 D	0.94 J	2.5 J	3 J	0.85
Benzo(k)fluoranthene	0.265	0.9 (c)	1.5 D	0.4 UJ	3.2 J	0.38 UJ	0.85
Bis(2-ethylhexyl)phthalate	0.26	46 (c)	0.8 UD	0.55 B	1.3 JB	0.78 JB	0.49
Butylbenzylphthalate	0.265	55000 (c)	0.8 UD	0.4 U	0.41 U	0.38 UJ	0.41 U
Carbazole	0.265	32 (d)	0.12 JD	0.1 J	0.04 J	0.14 J	0.07 J
4-Chloro-3-methylphenol	0.265	--	0.8 UD	0.4 U	0.41 U	0.38 U	0.41 UJ
Chrysene	0.265	9 (c)	1.7 D	1.3	3.3 J	3.1 J	1
Dibenz(a,h)anthracene	0.265	0.09 (c)	0.2 JD	0.4 UJ	0.54 J	0.51 J	0.21 J
Dibenzofuran	0.265	--	0.079 JD	0.082 J	0.038 J	0.038 J	0.031 J
1,4-Dichlorobenzene	0.265	27 (c)	0.8 UD	0.4 U	0.41 U	0.047 J	0.41 UJ
Diethylphthalate	0.265	220000 (c)	0.8 UD	0.4 U	0.028 J	0.38 U	0.022 J
di-n-Butyl Phthalate	0.265	7800 (d)	0.8 UD	0.06 J	0.18 J	0.063 J	0.063 J
di-n-Octyl Phthalate	0.265	1600 (d)	0.8 UD	0.4 UJ	0.073 J	0.38 UJ	0.41 U

Key at end of table.

Table E-9

SUMMARY OF ORGANIC RESULTS FOR ON-SITE SUBSURFACE SOIL - 6 TO 18 INCHES
EXPANDED SITE INSPECTION
AGRICULTURE STREET LANDFILL, NEW ORLEANS, LOUISIANA
SEPTEMBER 1993
(mg/kg, dry weight)

Analyte	Background Concentration (a)	TBC (b)	Location Designation/Sample Number				
			ESI06/SS-72	ESI08/SS-98	ESI15/SS-10	ESI17/SS-91	ESI21/SS-74
Fluoranthene	0.2775	11000 (c)	2.8 D	1.4	0.73 JD	1.7 J	0.9
Fluorene	0.265	11000 (c)	0.15 JD	0.17 J	0.12 J	0.08 J	0.037 J
Indeno(1,2,3-cd)pyrene	0.265	0.9 (c)	0.94 D	0.79 J	1.7 J	2.6 J	0.88
2-Methylnaphthalene	0.265	--	0.1 JD	0.062 J	0.078 J	0.027 J	0.41 UJ
Naphthalene	0.265	1100 (c)	0.22 JD	0.096 J	0.12 J	0.072 J	0.044 J
Phenanthrene	0.2775	7900 (c)	1.8 D	1.5	1.7 J	1.1	0.54
Pyrene	0.2725	8200 (c)	3.8 D	2.9	1 D	4.5 D	1.2
Pesticide/PCBs							
Aldrin	0.00135	0.038 (d)	0.0021 U	0.002 U	0.0021 U	0.002 U	0.00327 PJ
Aroclor 1242	0.0265	0.083 (d)	0.04 U	0.04 U	0.041 U	0.038 U	0.041 U
Aroclor 1254	0.0265	0.083 (d)	0.04 U	0.04 U	0.041 U	0.038 U	0.041 U
alpha-Chlordane	0.001175	0.49 (d)	0.0196 PJ	0.00837 PJ	0.00784 PJ	0.0102	0.0188 PJ
gamma-Chlordane	0.001325	0.49 (d)	0.0144 PJ	0.00941 PJ	0.00938	0.00989 PJ	0.0184 PJ
4,4'-DDD	0.002775	2.7 (d)	0.203 DJ	0.00527 PJ	0.00902 PJ	0.00884	0.0199 PJ
4,4'-DDE	0.01065	1.9 (d)	0.036 PJ	0.0174 PJ	0.0117 PJ	0.0359	0.0318 PJ
4,4'-DDT	0.002875	1.9 (d)	1.78 D	0.00801 PJ	0.0178 PJ	0.0135 PJ	0.0147 PJ
Dieldrin	0.002275	0.04 (d)	0.0206 PJ	0.004 U	0.0041 U	0.0102	0.014 PJ
Endosulfan II	0.00265	470 (d)	0.0105 PJ	0.004 U	0.0041 U	0.0038 U	0.0041 U
Endrin	0.002775	23 (d)	0.0143 PJ	0.004 U	0.0045 PJ	0.00654	0.00988 PJ
Endrin Aldehyde	0.002575	--	0.012 PJ	0.004 U	0.0041 U	0.0038 U	0.0139
Heptachlor	0.001325	0.14 (d)	0.0021 U	0.002 U	0.0021 U	0.002 U	0.0021 U
Heptachlor Epoxide	0.00125	0.07 (d)	0.0021 U	0.00241 PJ	0.0021 U	0.00228 PJ	0.0021 U

Key at end of table.

Table E-9

SUMMARY OF ORGANIC RESULTS FOR ON-SITE SUBSURFACE SOIL - 6 TO 18 INCHES
EXPANDED SITE INSPECTION
AGRICULTURE STREET LANDFILL, NEW ORLEANS, LOUISIANA
SEPTEMBER 1993
(mg/kg, dry weight)

Analyte	Background Concentration (a)	TBC (b)	Location Designation/Sample Number				
			ESI22/SS-97	ESI23/SS-17	ESI36/SS-88	ESI38/SS-1	ESI39/SS-70
Volatile Organic Compounds							
Acetone	0.00825	79000 (c)	0.012 U	0.046	0.011 U	0.01 U	0.033 J
Chloroform	0.008	110 (c)	0.012 U	0.012 U	0.011 U	0.01 U	0.002 J
Ethylbenzene	0.008	27000 (c)	0.012 UJ	0.012 UJ	0.011 UJ	0.01 U	0.012 UJ
Methylene Chloride	0.014	85 (c)	0.004 J	0.012 U	0.012 JB	0.01 U	0.043 J
Tetrachloroethene	0.008	13 (c)	0.034 JB	0.012 UJ	0.049 J	0.01 U	0.006 J
Toluene	0.008	55000 (c)	0.012 UJ	0.012 UJ	0.011 UJ	0.01 U	0.012 UJ
1,1,1-Trichloroethane	0.008	25000 (c)	0.012 U	0.012 UJ	0.011 UJ	0.01 U	0.002 J
Xylene	0.008	550000 (c)	0.012 UJ	0.012 UJ	0.011 UJ	0.01 U	0.012 UJ
Semivolatile Organic Compounds							
Acenaphthene	0.265	16000 (c)	0.4 U	0.29 J	0.36 U	0.34 U	0.39 U
Acenaphthylene	0.265	27000 (c)	0.4 U	0.06 J	0.02 J	0.34 U	0.39 U
Anthracene	0.265	82000 (c)	0.021 J	2.2	0.098 J	0.34 U	0.056 J
Benzo(a)anthracene	0.265	0.9 (c)	0.4 UJ	0.81	0.86	0.34 U	0.38 J
Benzo(a)pyrene	0.265	0.09 (c)	**0.1 J**	**0.56**	**0.96**	0.34 U	**0.45**
Benzo(b)fluoranthene	0.265	0.9 (c)	0.23 J	0.59	**1.8**	0.34 U	0.67
Benzo(g,h,i)perylene	0.265	1100 (c)	0.25 J	0.23 J	0.46	0.34 U	0.45
Benzo(k)fluoranthene	0.265	0.9 (c)	0.4 UJ	0.68	0.36 U	0.34 U	0.39 U
Bis(2-ethylhexyl)phthalate	0.26	46 (c)	6.4 BD	0.42 B	5.7 BD	0.028 JB	0.59 B
Butylbenzylphthalate	0.265	55000 (c)	0.4 UJ	0.4 U	0.36 U	0.34 U	2.1
Carbazole	0.265	32 (d)	0.4 U	0.53	0.053 J	0.34 U	0.39 U
4-Chloro-3-methylphenol	0.265	--	0.4 U	0.4 U	0.36 U	0.34 U	0.39 U
Chrysene	0.265	9 (c)	0.12 J	0.98	0.91	0.34 U	0.47
Dibenz(a,h)anthracene	0.265	0.09 (c)	0.4 UJ	0.4 U	**0.15 J**	0.34 U	**0.17 J**
Dibenzofuran	0.265	--	0.4 U	0.34 J	0.36 U	0.34 U	0.39 U
1,4-Dichlorobenzene	0.265	27 (c)	0.4 U	0.4 U	0.36 U	0.34 U	0.39 U
Diethylphthalate	0.265	220000 (c)	0.4 U	0.4 U	0.36 U	0.34 U	0.39 U
di-n-Butyl Phthalate	0.265	7800 (d)	0.023 J	0.038 J	0.038 J	0.34 U	0.13 J
di-n-Octyl Phthalate	0.265	1600 (d)	0.4 UJ	0.4 U	0.036 J	0.34 U	0.39 U

Key at end of table.

Table E-9

SUMMARY OF ORGANIC RESULTS FOR ON-SITE SUBSURFACE SOIL - 6 TO 18 INCHES
EXPANDED SITE INSPECTION
AGRICULTURE STREET LANDFILL, NEW ORLEANS, LOUISIANA
SEPTEMBER 1993
(mg/kg, dry weight)

Analyte	Background Concentration (a)	TBC (b)	Location Designation/Sample Number				
			ESI22/SS-97	ESI23/SS-17	ESI36/SS-88	ESI38/SS-1	ESI39/SS-70
Fluoranthene	0.2775	11000 (c)	0.087 J	2.7	0.8	0.34 U	0.36 J
Fluorene	0.265	11000 (c)	0.4 U	0.98	0.021 J	0.34 U	0.39 U
Indeno(1,2,3-cd)pyrene	0.265	0.9 (c)	0.095 J	0.35 J	0.66	0.34 U	0.33 J
2-Methylnaphthalene	0.265	--	0.082 J	0.028 J	0.36 U	0.34 U	0.033 J
Naphthalene	0.265	1100 (c)	0.023 J	0.075 J	0.024 J	0.34 U	0.059 J
Phenanthrene	0.2775	7900 (c)	0.079 J	3.1 D	0.45	0.34 U	0.26 J
Pyrene	0.2725	8200 (c)	0.19 J	2.7	1	0.34 U	0.62
Pesticide/PCBs							
Aldrin	0.00135	0.038 (d)	0.002 U	0.002 U	0.00627	0.0018 U	0.002 U
Aroclor 1242	0.0265	0.083 (d)	0.04 U	0.04 U	0.035 U	0.034 U	0.039 U
Aroclor 1254	0.0265	0.083 (d)	0.04 U	0.04 U	0.035 U	0.034 U	0.039 U
alpha-Chlordane	0.001175	0.49 (d)	0.002 U	0.0694	0.00929 PJ	0.0018 U	0.0403 D
gamma-Chlordane	0.001325	0.49 (d)	0.002 U	0.062 PJ	0.00942 PJ	0.0018 U	0.0246 PJ
4,4'-DDD	0.002775	2.7 (d)	0.004 U	0.004 U	0.00974 PJ	0.0034 U	0.0348 PJ
4,4'-DDE	0.01065	1.9 (d)	0.004 U	0.0114	0.0108 PJ	0.0034 U	0.036
4,4'-DDT	0.002875	1.9 (d)	0.004 U	0.00461 PJ	0.00906 PJ	0.0034 U	0.0465 PJ
Dieldrin	0.002275	0.04 (d)	0.004 U	0.004 U	0.0907 PD	0.0034 U	0.00634
Endosulfan II	0.00265	470 (d)	0.004 U	0.004 U	0.0035 U	0.0034 U	0.0039 U
Endrin	0.002775	23 (d)	0.004 U	0.004 U	0.00511 PJ	0.0034 U	0.00872 PJ
Endrin Aldehyde	0.002575	--	0.004 U	0.0065 PJ	0.0035 U	0.0034 U	0.00916 PJ
Heptachlor	0.001325	0.14 (d)	0.002 U	0.002 U	0.0018 U	0.00209 PJ	0.002 U
Heptachlor Epoxide	0.00125	0.07 (d)	0.002 U	0.002 U	0.0018 U	0.0018 U	0.0027 PJ

Key at end of table.

Table E-9

SUMMARY OF ORGANIC RESULTS FOR ON-SITE SUBSURFACE SOIL - 6 TO 18 INCHES
EXPANDED SITE INSPECTION
AGRICULTURE STREET LANDFILL, NEW ORLEANS, LOUISIANA
SEPTEMBER 1993
(mg/kg, dry weight)

Analyte	Background Concentration (a)	TBC (b)	Location Designation/Sample Number				
			ESI40/SS-15	ESI41/SS-5	ESI44/SS-2	ESI47/SS-13	ESI48/SS-4
Volatile Organic Compounds							
Acetone	0.00825	79000 (c)	0.065 J	0.011 U	0.011 U	0.021	0.011 U
Chloroform	0.008	110 (c)	0.001 J	0.011 U	0.011 U	0.012 U	0.011 U
Ethylbenzene	0.008	27000 (c)	0.012 U	0.011 U	0.011 U	0.012 UJ	0.002 J
Methylene Chloride	0.014	85 (c)	0.015 B	0.011 U	0.011 U	0.048 B	0.011 U
Tetrachloroethene	0.008	13 (c)	0.013	0.011 U	0.011 U	0.003 J	0.011 U
Toluene	0.008	55000 (c)	0.012 U	0.011 U	0.011 U	0.012 UJ	0.011 U
1,1,1-Trichloroethane	0.008	25000 (c)	0.012 U	0.011 U	0.011 U	0.012 UJ	0.011 U
Xylene	0.008	550000 (c)	0.012 U	0.011 U	0.011 U	0.006 J	0.041
Semivolatile Organic Compounds							
Acenaphthene	0.265	16000 (c)	0.4 U	0.36 U	0.36 U	0.024 J	0.37 U
Acenaphthylene	0.265	27000 (c)	0.4 U	0.047 J	0.36 U	0.32 J	0.37 U
Anthracene	0.265	82000 (c)	0.4 U	0.36 U	0.36 U	0.3 J	0.37 U
Benzo(a)anthracene	0.265	0.9 (c)	0.4 U	0.2 J	0.36 U	1.5	0.046 J
Benzo(a)pyrene	0.265	0.09 (c)	0.4 U	0.46	0.36 U	2	0.048 J
Benzo(b)fluoranthene	0.265	0.9 (c)	0.4 U	0.2 J	0.36 U	1.1	0.03 J
Benzo(g,h,i)perylene	0.265	1100 (c)	0.4 U	0.28 J	0.36 U	1.7	0.37 U
Benzo(k)fluoranthene	0.265	0.9 (c)	0.4 U	0.42	0.36 U	1.4	0.026 J
Bis(2-ethylhexyl)phthalate	0.26	46 (c)	0.11 JB	0.044 JB	0.05 JB	0.59 B	0.37 U
Butylbenzylphthalate	0.265	55000 (c)	0.4 U	0.36 U	0.36 U	0.4 U	0.37 U
Carbazole	0.265	32 (d)	0.4 U	0.36 U	0.36 U	0.4 U	0.37 U
4-Chloro-3-methylphenol	0.265	--	0.4 U	0.36 U	0.36 U	0.07 J	0.37 U
Chrysene	0.265	9 (c)	0.4 U	0.27 J	0.36 U	1.7	0.044 J
Dibenz(a,h)anthracene	0.265	0.09 (c)	0.4 U	0.36 U	0.36 U	0.38 J	0.37 U
Dibenzofuran	0.265	--	0.4 U	0.36 U	0.36 U	0.052 J	0.37 U
1,4-Dichlorobenzene	0.265	27 (c)	0.4 U	0.36 U	0.36 U	0.4 U	0.37 U
Diethylphthalate	0.265	220000 (c)	0.4 U	0.36 U	0.36 U	0.4 U	0.37 U
di-n-Butyl Phthalate	0.265	7800 (d)	0.4 U	0.36 U	0.36 U	0.078 J	0.37 U
di-n-Octyl Phthalate	0.265	1600 (d)	0.4 U	0.36 U	0.36 U	0.4 U	0.37 U

Key at end of table.

Table E-9

SUMMARY OF ORGANIC RESULTS FOR ON-SITE SUBSURFACE SOIL - 6 TO 18 INCHES
EXPANDED SITE INSPECTION
AGRICULTURE STREET LANDFILL, NEW ORLEANS, LOUISIANA
SEPTEMBER 1993
(mg/kg, dry weight)

Analyte	Background Concentration (a)	TBC (b)	Location Designation/Sample Number				
			ESI40/SS-15	ESI41/SS-5	ESI44/SS-2	ESI47/SS-13	ESI48/SS-4
Fluoranthene	0.2775	11000 (c)	0.4 U	0.15 J	0.36 U	1.4	0.042 J
Fluorene	0.265	11000 (c)	0.4 U	0.36 U	0.36 U	0.052 J	0.37 U
Indeno(1,2,3-cd)pyrene	0.265	0.9 (c)	0.4 U	0.27 J	0.36 U	1.1	0.37 U
2-Methylnaphthalene	0.265	--	0.4 U	0.36 U	0.36 U	0.045 J	0.37 U
Naphthalene	0.265	1100 (c)	0.4 U	0.36 U	0.36 U	0.064 J	0.37 U
Phenanthrene	0.2775	7900 (c)	0.4 U	0.36 U	0.36 U	0.83	0.37 U
Pyrene	0.2725	8200 (c)	0.4 U	0.25 J	0.36 U	2.7 J	0.066 J
Pesticide/PCBs							
Aldrin	0.00135	0.038 (d)	0.002 U	0.0018 U	0.0019 U	0.02 U	0.0019 U
Aroclor 1242	0.0265	0.083 (d)	0.04 U	0.036 U	0.036 U	0.4 U	0.0043 JP
Aroclor 1254	0.0265	0.083 (d)	0.04 U	0.036 U	0.036 U	0.4 U	0.019 J
alpha-Chlordane	0.001175	0.49 (d)	0.00305 PJ	0.0018 U	0.00834 PJ	0.0997	0.0019 U
gamma-Chlordane	0.001325	0.49 (d)	0.00283 PJ	0.0018 U	0.0189	0.0533 PJ	0.0019 U
4,4'-DDD	0.002775	2.7 (d)	0.004 U	0.0036 U	0.0036 U	2.79 D	0.0037 U
4,4'-DDE	0.01065	1.9 (d)	0.004 U	0.0036 U	0.0036 U	0.755 D	0.0037 U
4,4'-DDT	0.002875	1.9 (d)	0.00428 PJ	0.0036 U	0.0036 U	0.249 PJ	0.0037 U
Dieldrin	0.002275	0.04 (d)	0.004 U	0.0036 U	0.0036 U	0.04 U	0.0037 U
Endosulfan II	0.00265	470 (d)	0.004 U	0.0036 U	0.0036 U	0.0372 J	0.0037 U
Endrin	0.002775	23 (d)	0.004 U	0.0036 U	0.0036 U	0.04 U	0.0037 U
Endrin Aldehyde	0.002575	--	0.004 U	0.0036 U	0.0036 U	0.0787 PJ	0.0037 U
Heptachlor	0.001325	0.14 (d)	0.002 U	0.00201 PJ	0.00703 PJ	0.02 U	0.00243 J
Heptachlor Epoxide	0.00125	0.07 (d)	0.002 U	0.0018 U	0.00379 PJ	0.02 U	0.0019 U

Key at end of table.

Table E-9

SUMMARY OF ORGANIC RESULTS FOR ON-SITE SUBSURFACE SOIL - 6 TO 18 INCHES
EXPANDED SITE INSPECTION
AGRICULTURE STREET LANDFILL, NEW ORLEANS, LOUISIANA
SEPTEMBER 1993
(mg/kg, dry weight)

Analyte	Background Concentration (a)	TBC (b)	Location Designation/Sample Number				
			ESI49/SS-14	ESI68/SS-89			
Volatile Organic Compounds							
Acetone	0.00825	79000 (c)	0.012 U	0.012 UJ			
Chloroform	0.008	110 (c)	0.012 U	0.012 UJ			
Ethylbenzene	0.008	27000 (c)	0.012 UJ	0.012 UJ			
Methylene Chloride	0.014	85 (c)	0.045 B	0.055 JB			
Tetrachloroethene	0.008	13 (c)	0.012 UJ	0.14 JB			
Toluene	0.008	55000 (c)	0.012 UJ	0.009 J			
1,1,1-Trichloroethane	0.008	25000 (c)	0.012 UJ	0.012 UJ			
Xylene	0.008	550000 (c)	0.012 UJ	0.012 UJ			
Semivolatile Organic Compounds							
Acenaphthene	0.265	16000 (c)	0.41	0.38 U			
Acenaphthylene	0.265	27000 (c)	0.16 J	0.38 U			
Anthracene	0.265	82000 (c)	1.2	0.039 J			
Benzo(a)anthracene	0.265	0.9 (c)	2.8 D	0.27 J			
Benzo(a)pyrene	0.265	0.09 (c)	3.3 D	0.39			
Benzo(b)fluoranthene	0.265	0.9 (c)	2.3 J	0.6			
Benzo(g,h,i)perylene	0.265	1100 (c)	3.1 J	0.3 J			
Benzo(k)fluoranthene	0.265	0.9 (c)	2.5 J	0.38 U			
Bis(2-ethylhexyl)phthalate	0.26	46 (c)	0.49 JB	0.33 JB			
Butylbenzylphthalate	0.265	55000 (c)	0.39 U	0.38 U			
Carbazole	0.265	32 (d)	0.56	0.028 J			
4-Chloro-3-methylphenol	0.265	--	0.39 U	0.38 U			
Chrysene	0.265	9 (c)	2.8 D	0.32 J			
Dibenz(a,h)anthracene	0.265	0.09 (c)	0.23 J	0.38 U			
Dibenzofuran	0.265	--	0.27 J	0.38 U			
1,4-Dichlorobenzene	0.265	27 (c)	0.39 U	0.38 U			
Diethylphthalate	0.265	220000 (c)	0.39 U	0.38 U			
di-n-Butyl Phthalate	0.265	7800 (d)	0.073 J	0.05 J			
di-n-Octyl Phthalate	0.265	1600 (d)	0.39 UJ	0.38 U			

Key at end of table.

Table E-9

SUMMARY OF ORGANIC RESULTS FOR ON-SITE SUBSURFACE SOIL - 6 TO 18 INCHES
EXPANDED SITE INSPECTION
AGRICULTURE STREET LANDFILL, NEW ORLEANS, LOUISIANA
SEPTEMBER 1993
(mg/kg, dry weight)

Analyte	Background Concentration (a)	TBC (b)	Location Designation/Sample Number				
			ESI49/SS-14	ESI68/SS-89			
Fluoranthene	0.2775	11000 (c)	5.9 D	0.38 J			
Fluorene	0.265	11000 (c)	0.53	0.38 U			
Indeno(1,2,3-cd)pyrene	0.265	0.9 (c)	2.4 J	0.25 J			
2-Methylnaphthalene	0.265	--	0.084 J	0.38 U			
Naphthalene	0.265	1100 (c)	0.12 J	0.046 J			
Phenanthrene	0.2775	7900 (c)	4.2 D	0.2 J			
Pyrene	0.2725	8200 (c)	7 D	0.31 J			
Pesticide/PCBs							
Aldrin	0.00135	0.038 (d)	0.002 U	0.002 U			
Aroclor 1242	0.0265	0.083 (d)	0.039 U	0.038 U			
Aroclor 1254	0.0265	0.083 (d)	0.039 U	0.038 U			
alpha-Chlordane	0.001175	0.49 (d)	0.02 PJ	0.022			
gamma-Chlordane	0.001325	0.49 (d)	0.0234 J	0.00852 PJ			
4,4'-DDD	0.002775	2.7 (d)	0.0624 PJ	0.0118 PJ			
4,4'-DDE	0.01065	1.9 (d)	0.0294 J	0.0101 PJ			
4,4'-DDT	0.002875	1.9 (d)	0.128 PDJ	0.00933 PJ			
Dieldrin	0.002275	0.04 (d)	0.0146 PJ	0.0104 PJ			
Endosulfan II	0.00265	470 (d)	0.00867 J	0.0216 PJ			
Endrin	0.002775	23 (d)	0.0039 U	0.0038 U			
Endrin Aldehyde	0.002575	--	0.0039 U	0.0038 U			
Heptachlor	0.001325	0.14 (d)	0.002 U	0.002 U			
Heptachlor Epoxide	0.00125	0.07 (d)	0.002 U	0.0024 PJ			

Key at end of table.

Note:

The to be considered (TBC) value for alpha-chlordane and gamma-chlordane (0.49 mg/kg) is designated for total chlordane, not individual isomers. The TBC criteria were not exceeded in any sample based on the sum of detected isomer concentrations.

Key:

a = Sample concentrations above background levels are shaded. See Sections 4.1.3 and 4.2.1 concerning the determination of median background concentrations for surface and subsurface soil.
b = TBC criteria are provided herein only as a reference against which to compare on-site contaminant concentrations. Sample concentrations exceeding TBC criteria appear in boldface type. Remedial action objectives (RAOs) for site-specific contaminants of concern (COCs) are provided in the Feasibility Study (FS).
c = United States Environmental Protection Agency (EPA) Region 6 risked-based concentration (RBC).
d = EPA Region 3 RBC.
B = Sample result might be biased high due to laboratory or field contamination, but is usable for evaluating site-related contamination. The reported result is above five or ten times concentration in method or field blank.
H = Sample result is biased high due to interference, background contamination, or high spike recovery, but usable for evaluating site-related contamination.
J = Sample result is estimated with unknown bias due to calibration or quality control problems, but is usable for evaluating site-related contamination. This flag is also used if reported results are below the method detection limit, but above the instrument detection limit.
L = Sample result is biased low due to low spike recovery, but usable for evaluating site-related contamination.
mg/kg = Milligrams per kilogram.
N = Qualitative identification of result is questionable due to lack of confirmatory evidence, but data are usable for evaluating site-related contamination.
NA = Not applicable.
R = Sample results are rejected and data are unusable.
T = Qualitative identification of result is questionable due to absence of other commonly co-occurring pesticides, but data are usable for evaluating site-related contamination.
U = Parameter is undetected at reported quantitation limit. For organics, indicates that result is less than five times result in method, rinsate, or trip blank and is attributable to background contamination. For common laboratory contaminants (e.g., methylene chloride, 2-butanone, and bis-2-ethylhexy-phthalate), result is flagged if it is less than 10 times the method blank result.
UC = Parameter is undetected at reported quantitation limit. For inorganics, indicates that result is less than five times result in method or field blank and attributable to background contamination.

Source: Ecology and Environment, Inc., 1995.

06:WPUZD:ZT2061_DFW1007-KEY_SOILS_RESULTS-03/08/95-D1

Table E-10

SUMMARY OF ORGANIC RESULTS FOR OFF-SITE SUBSURFACE SOIL - 6 TO 18 INCHES
EXPANDED SITE INSPECTION
AGRICULTURE STREET LANDFILL, NEW ORLEANS, LOUISIANA
SEPTEMBER 1993
(mg/kg, dry weight)

Analyte	Background Concentration (a)	TBC (b)	Location Designation/Sample Number				
			ESI01/SS-52	ESI02/SS-22	ESI31/SS-24	ESI51/SS-80	ESI54/SS-47
Volatile Organic Compounds							
Acetone	0.00825	79000 (c)	0.011 U	0.078	0.012 U	0.011 U	0.014 U
Chloroform	0.008	110 (c)	0.004 J	0.014 U	0.012 U	0.011 U	0.014 U
Methylene Chloride	0.014	85 (c)	0.034	0.014 U	0.097	0.023 B	0.014 U
Styrene	0.008	21 (c)	0.011 UJ	0.014 U	0.012 U	0.011 UJ	0.014 U
Tetrachloroethene	0.008	13 (c)	0.012 J	0.014 U	0.008 J	0.035 J	0.014 U
Xylene	0.008	550000 (c)	0.011 UJ	0.014 U	0.012 U	0.011 UJ	0.014 U
Semivolatile Organic Compounds							
Acenaphthene	0.265	16000 (c)	0.35 U	0.48 U	0.41 U	0.023 J	0.46 U
Acenaphthylene	0.265	27000 (c)	0.35 U	0.48 U	0.41 U	0.026 J	0.46 U
Anthracene	0.265	82000 (c)	0.028 J	0.042 J	0.41 U	0.074 J	0.46 U
Benzo(a)anthracene	0.265	0.9 (c)	0.13 J	0.28 J	0.023 J	0.36 J	0.031 J
Benzo(a)pyrene	0.265	0.09 (c)	**0.14 J**	**0.2 J**	0.41 U	**0.44**	0.036 J
Benzo(b)fluoranthene	0.265	0.9 (c)	0.28 J	0.24 J	0.026 J	0.81	0.067 J
Benzo(g,h,i)perylene	0.265	1100 (c)	0.1 J	0.48 U	0.41 U	0.27 J	0.029 J
Benzo(k)fluoranthene	0.265	0.9 (c)	0.35 U	0.19 J	0.024 J	0.37 U	0.04 J
Butylbenzylphthalate	0.265	55000 (c)	0.35 U	0.48 U	0.41 U	0.37 U	0.46 U
Carbazole	0.265	32 (d)	0.028 J	0.48 U	0.41 U	0.038 J	0.46 U
Chrysene	0.265	9 (c)	0.17 J	0.25 J	0.027 J	0.41	0.037 J
Dibenz(a,h)anthracene	0.265	0.09 (c)	0.35 U	0.48 U	0.41 U	0.37 U	0.46 U
Dibenzofuran	0.265	--	0.35 U	0.48 U	0.41 U	0.37 U	0.46 U
1,4-Dichlorobenzene	0.265	27 (c)	0.35 U	0.48 U	0.41 U	0.37 U	0.46 U
Diethylphthalate	0.265	220000 (c)	0.35 U	0.48 U	0.41 U	0.37 U	0.46 U
di-n-Butyl Phthalate	0.265	7800 (d)	0.021 J	0.48 U	0.025 J	0.041 J	0.46 U
di-n-Octyl Phthalate	0.265	1600 (d)	0.024 J	0.48 U	0.41 U	0.37 U	0.46 U
Fluoranthene	0.2775	11000 (c)	0.24 J	0.56	0.038 J	0.47	0.05 J
Fluorene	0.265	11000 (c)	0.35 U	0.48 U	0.41 U	0.021 J	0.46 U
Indeno(1,2,3-cd)pyrene	0.265	0.9 (c)	0.092 J	0.48 U	0.41 U	0.26 J	0.028 J
2-Methylnaphthalene	0.265	--	0.35 U	0.48 U	0.41 U	0.37 U	0.46 U

Key at end of table.

Table E-10

SUMMARY OF ORGANIC RESULTS FOR OFF-SITE SUBSURFACE SOIL - 6 TO 18 INCHES
EXPANDED SITE INSPECTION
AGRICULTURE STREET LANDFILL, NEW ORLEANS, LOUISIANA
SEPTEMBER 1993
(mg/kg, dry weight)

Analyte	Background Concentration (a)	TBC (b)	Location Designation/Sample Number				
			ESI01/SS-52	ESI02/SS-22	ESI31/SS-24	ESI51/SS-80	ESI54/SS-47
Naphthalene	0.265	1100 (c)	0.35 U	0.48 U	0.41 U	0.023 J	0.46 U
Phenanthrene	0.2775	7900 (c)	0.094 J	0.18 J	0.41 U	0.29 J	0.46 U
Pyrene	0.2725	8200 (c)	0.26 J	0.47 J	0.032 J	0.69	0.06 J
Pesticides/PCBs							
Aroclor 1254	0.0265	0.083 (d)	0.0832 PJ	0.048 U	0.041 U	0.037 U	0.046 U
alpha-Chlordane	0.001175	0.49 (d)	0.0018 U	0.0025 U	0.0021 U	0.00417 PJ	0.0024 U
gamma-Chlordane	0.001325	0.49 (d)	0.0018 U	0.0025 U	0.0021 U	0.00307	0.0024 U
4,4'-DDD	0.002775	2.7 (d)	0.0035 U	0.0048 UJ	0.0041 U	0.0037 U	0.0046 U
4,4'-DDE	0.01065	1.9 (d)	0.00377	0.0048 UJ	0.0041 U	0.0037 U	0.0046 U
4,4'-DDT	0.002875	1.9 (d)	0.00758 PJ	0.0048 U	0.0041 U	0.00574 PJ	0.0046 U
Dieldrin	0.002275	0.04 (d)	0.0035 U	0.0048 UJ	0.0041 U	0.0037 U	0.0046 U
Endosulfan II	0.00265	470 (d)	0,0035 U	0.0048 UJ	0.0041 U	0.0037 U	0.0046 U
Endrin	0.002775	23 (d)	0.00495	0.0048 UJ	0.0041 U	0.00934 PJ	0.0046 U
Endrin Aldehyde	0.002575	--	0.0036 PJ	0.00798 PJ	0.0041 U	0.0037 U	0.00919
Endrin Ketone	0.00265	--	0.0035 U	0.0048 U	0.0041 U	0.0037 U	0.0046 U
Heptachlor	0.001325	0.14 (d)	0.0018 U	0.0025 UJ	0.0021 U	0.0019 U	0.0024 U
Heptachlor Epoxide	0.00125	0.07 (d)	0.0018 U	0.0025 UJ	0.0021 U	0.0019 U	0.0024 U

Key at end of table.

Table E-10

SUMMARY OF ORGANIC RESULTS FOR OFF-SITE SUBSURFACE SOIL - 6 TO 18 INCHES
EXPANDED SITE INSPECTION
AGRICULTURE STREET LANDFILL, NEW ORLEANS, LOUISIANA
SEPTEMBER 1993
(mg/kg, dry weight)

Analyte	Background Concentration (a)	TBC (b)	Location Designation/Sample Number				
			ESI56/SS-34	ESI57/SS-38	ESI58/SS-49	ESI60/SS-44	ESI62/SS-67
Volatile Organic Compounds							
Acetone	0.00825	79000 (c)	0.071 J	0.1 J	0.012 U	0.086 J	0.012 U
Chloroform	0.008	110 (c)	0.013 U	0.002 J	0.012 U	0.014 U	0.001 J
Methylene Chloride	0.014	85 (c)	0.005 JB	0.011 JB	0.002 J	0.01 JB	0.011 JB
Styrene	0.008	21 (c)	0.013 U	0.012 UJ	0.012 U	0.002 J	0.012 U
Tetrachloroethene	0.008	13 (c)	0.044	0.019 J	0.002 J	0.008 J	0.01 J
Xylene	0.008	550000 (c)	0.013 U	0.012 UJ	0.012 U	0.014 UJ	0.012 U
Semivolatile Organic Compounds							
Acenaphthene	0.265	16000 (c)	0.42 U	0.41 U	0.4 U	0.06 J	0.38 U
Acenaphthylene	0.265	27000 (c)	0.42 U	0.074 J	0.4 U	0.28 J	0.044 J
Anthracene	0.265	82000 (c)	0.046 J	0.28 J	0.4 U	0.23 J	0.065 J
Benzo(a)anthracene	0.265	0.9 (c)	0.25 J	0.47	0.4 U	1.1	0.57
Benzo(a)pyrene	0.265	0.09 (c)	0.31 J	0.54	0.4 U	1.3	0.64
Benzo(b)fluoranthene	0.265	0.9 (c)	0.34 J	1.4	0.4 U	1.2	1.3
Benzo(g,h,i)perylene	0.265	1100 (c)	0.15 J	0.3 J	0.4 U	1	0.68
Benzo(k)fluoranthene	0.265	0.9 (c)	0.31 J	0.41 U	0.4 U	1.1	0.38 U
Butylbenzylphthalate	0.265	55000 (c)	0.42 U	0.41 U	0.4 U	0.48 U	0.38 U
Carbazole	0.265	32 (d)	0.42 U	0.41 U	0.4 U	0.12 J	0.38 U
Chrysene	0.265	9 (c)	0.27 J	0.5	0.4 U	1	0.54
Dibenz(a,h)anthracene	0.265	0.09 (c)	0.42 U	0.41 U	0.4 U	0.65	0.22 J
Dibenzofuran	0.265	--	0.42 U	0.41 U	0.4 U	0.066 J	0.38 U
1,4-Dichlorobenzene	0.265	27 (c)	0.42 U	0.41 U	0.4 U	0.48 U	0.021 J
Diethylphthalate	0.265	220000 (c)	0.42 U	0.41 U	0.4 U	0.48 U	0.38 U
di-n-Butyl Phthalate	0.265	7800 (d)	0.42 U	0.41 U	0.4 U	0.044 J	0.16 J
di-n-Octyl Phthalate	0.265	1600 (d)	0.42 U	0.41 U	0.4 U	0.48 U	0.38 U
Fluoranthene	0.2775	11000 (c)	0.43	0.6	0.075 J	1.7 J	0.73 J
Fluorene	0.265	11000 (c)	0.42 U	0.41 U	0.4 U	0.055 J	0.38 U
Indeno(1,2,3-cd)pyrene	0.265	0.9 (c)	0.15 J	0.33 J	0.4 U	1	0.51
2-Methylnaphthalene	0.265	--	0.42 U	0.41 U	0.4 U	0.079 J	0.071 J

Key at end of table.

Table E-10

SUMMARY OF ORGANIC RESULTS FOR OFF-SITE SUBSURFACE SOIL - 6 TO 18 INCHES
EXPANDED SITE INSPECTION
AGRICULTURE STREET LANDFILL, NEW ORLEANS, LOUISIANA
SEPTEMBER 1993
(mg/kg, dry weight)

Analyte	Background Concentration (a)	TBC (b)	Location Designation/Sample Number				
			ESI56/SS-34	ESI57/SS-38	ESI58/SS-49	ESI60/SS-44	ESI62/SS-67
Naphthalene	0.265	1100 (c)	0.42 U	0.41 U	0.4 U	0.34 J	0.19 J
Phenanthrene	0.2775	7900 (c)	0.23 J	0.42	0.4 U	0.72	0.3 J
Pyrene	0.2725	8200 (c)	0.56	0.71	0.071 J	1.7	0.7
Pesticides/PCBs							
Aroclor 1254	0.0265	0.083 (d)	0.042 U	0.041 U	0.04 U	0.048 U	0.038 U
alpha-Chlordane	0.001175	0.49 (d)	0.0022 U	0.00693 PJ	0.0021 U	0.0025 U	0.00546 PJ
gamma-Chlordane	0.001325	0.49 (d)	0.0022 U	0.00577 PJ	0.0021 U	0.0025 U	0.00488 PJ
4,4'-DDD	0.002775	2.7 (d)	0.0042 U	0.00875 PJ	0.004 U	0.0048 U	0.0038 U
4,4'-DDE	0.01065	1.9 (d)	0.0252 PJ	0.0354 PJ	0.004 U	0.0048 U	0.00604
4,4'-DDT	0.002875	1.9 (d)	0.0324 PJ	0.169 D	0.004 U	0.0048 U	0.0101 PJ
Dieldrin	0.002275	0.04 (d)	0.0042 U	0.0041 U	0.004 U	0.0048 U	0.0038 U
Endosulfan II	0.00265	470 (d)	0.0042 U	0.0064	0.004 U	0.0048 U	0.00391
Endrin	0.002775	23 (d)	0.0214 PJ	0.0133 PJ	0.004 U	0.0048 U	0.0244
Endrin Aldehyde	0.002575	--	0.0218 PJ	0.0104	0.0048 PJ	0.0123 PJ	0.00601 PJ
Endrin Ketone	0.00265	--	0.0042 U	0.0094 PJ	0.004 U	0.0048 U	0.0038 U
Heptachlor	0.001325	0.14 (d)	0.0022 U	0.0021 U	0.0021 U	0.0025 U	0.002 U
Heptachlor Epoxide	0.00125	0.07 (d)	0.0022 U	0.0021 U	0.0021 U	0.0025 U	0.002 U

Key at end of table.

Table E-10

SUMMARY OF ORGANIC RESULTS FOR OFF-SITE SUBSURFACE SOIL - 6 TO 18 INCHES
EXPANDED SITE INSPECTION
AGRICULTURE STREET LANDFILL, NEW ORLEANS, LOUISIANA
SEPTEMBER 1993
(mg/kg, dry weight)

Analyte	Background Concentration (a)	TBC (b)	Location Designation/Sample Number				
			ESI63/SS-7	ESI65/SS-37	ESI66/SS-40	ESI67/SS-81	ESI71/SS-53
Volatile Organic Compounds							
Acetone	0.00825	79000 (c)	0.012 U	0.011 U	0.013 UJ	0.011 U	0.011 U
Chloroform	0.008	110 (c)	0.012 U	0.001 J	0.002 J	0.011 U	0.011 U
Methylene Chloride	0.014	85 (c)	0.046 B	0.008 JB	0.013 UJ	0.021 B	0.011 U
Styrene	0.008	21 (c)	0.012 U	0.011 UJ	0.013 UJ	0.011 U	0.011 U
Tetrachloroethene	0.008	13 (c)	0.012 U	0.009 J	0.002 J	0.016	0.011 U
Xylene	0.008	550000 (c)	0.014	0.011 UJ	0.013 UJ	0.011 U	0.011 U
Semivolatile Organic Compounds							
Acenaphthene	0.265	16000 (c)	0.4 U	0.054 J	0.42 UJ	0.38 U	0.36 U
Acenaphthylene	0.265	27000 (c)	0.4 U	0.27 J	0.42 UJ	0.38 U	0.36 U
Anthracene	0.265	82000 (c)	0.052 J	0.34 J	0.048 J	0.024 J	0.36 U
Benzo(a)anthracene	0.265	0.9 (c)	0.17 J	1.4 J	0.3 J	0.22 J	0.36 U
Benzo(a)pyrene	0.265	0.09 (c)	**0.17 J**	1.5	**0.32 J**	**0.24 J**	0.36 U
Benzo(b)fluoranthene	0.265	0.9 (c)	0.14 J	1.6	0.38 J	0.25 J	0.36 U
Benzo(g,h,i)perylene	0.265	1100 (c)	0.16 J	0.98	0.34 J	0.21 J	0.36 U
Benzo(k)fluoranthene	0.265	0.9 (c)	0.19 J	1.4	0.26 J	0.23 J	0.36 U
Butylbenzylphthalate	0.265	55000 (c)	0.4 U	0.38 U	0.42 U	0.07 J	0.36 U
Carbazole	0.265	32 (d)	0.036 J	0.17 J	0.021 J	0.38 U	0.36 U
Chrysene	0.265	9 (c)	0.19 J	1.4 J	0.36 J	0.29 J	0.36 U
Dibenz(a,h)anthracene	0.265	0.09 (c)	0.4 U	0.5	0.42 UJ	0.087 J	0.36 U
Dibenzofuran	0.265	--	0.4 U	0.026 J	0.42 U	0.38 U	0.36 U
1,4-Dichlorobenzene	0.265	27 (c)	0.4 U	0.38 UJ	0.42 UJ	0.38 U	0.36 U
Diethylphthalate	0.265	220000 (c)	0.4 U	0.38 U	0.42 U	0.086 J	0.36 U
di-n-Butyl Phthalate	0.265	7800 (d)	0.4 U	0.033 J	0.037 JB	0.041 J	0.36 U
di-n-Octyl Phthalate	0.265	1600 (d)	0.4 U	0.38 UJ	0.42 UJ	0.38 U	0.36 U
Fluoranthene	0.2775	11000 (c)	0.32 J	1.9	0.3 J	0.3 J	0.04 J
Fluorene	0.265	11000 (c)	0.4 U	0.065 J	0.42 U	0.38 U	0.36 U
Indeno(1,2,3-cd)pyrene	0.265	0.9 (c)	0.11 J	0.87	0.23 J	0.16 J	0.36 U
2-Methylnaphthalene	0.265	--	0.4 U	0.027 J	0.42 UJ	0.38 U	0.36 U

Key at end of table.

Table E-10

SUMMARY OF ORGANIC RESULTS FOR OFF-SITE SUBSURFACE SOIL - 6 TO 18 INCHES
EXPANDED SITE INSPECTION
AGRICULTURE STREET LANDFILL, NEW ORLEANS, LOUISIANA
SEPTEMBER 1993
(mg/kg, dry weight)

Analyte	Background Concentration (a)	TBC (b)	Location Designation/Sample Number				
			ESI63/SS-7	ESI65/SS-37	ESI66/SS-40	ESI67/SS-81	ESI71/SS-53
Naphthalene	0.265	1100 (c)	0.4 U	0.38 U	0.42 UJ	0.38 U	0.36 U
Phenanthrene	0.2775	7900 (c)	0.24 J	1.1	0.25 J	0.13 J	0.032 J
Pyrene	0.2725	8200 (c)	0.33 J	3.2 D	0.67	0.29 J	0.029 J
Pesticides/PCBs							
Aroclor 1254	0.0265	0.083 (d)	0.04 U	0.038 U	0.042 U	0.037 U	0.036 U
alpha-Chlordane	0.001175	0.49 (d)	0.0021 U	0.0106 PJ	0.0125 PJ	0.0019 U	0.0019 U
gamma-Chlordane	0.001325	0.49 (d)	0.0021 U	0.00985 PJ	0.0109 PJ	0.0019 U	0.0019 U
4,4'-DDD	0.002775	2.7 (d)	0.004 U	0.00427 PJ	0.0042 UJ	0.0037 U	0.0036 U
4,4'-DDE	0.01065	1.9 (d)	0.004 U	0.00864	0.0042 UJ	0.0037 U	0.0036 U
4,4'-DDT	0.002875	1.9 (d)	0.0048 J	0.0198 PJ	0.0228	0.00484 PJ	0.0036 U
Dieldrin	0.002275	0.04 (d)	0.00496 PJ	0.00736 PJ	0.0042 UJ	0.0037 U	0.0036 U
Endosulfan II	0.00265	470 (d)	0.004 U	0.0056	0.0042 UJ	0.0037 U	0.0036 U
Endrin	0.002775	23 (d)	0.004 U	0.0278 PJ	0.0042 UJ	0.0037 U	0.0036 U
Endrin Aldehyde	0.002575	--	0.004 U	0.00589 PJ	0.0085 PJ	0.0037 U	0.0036 U
Endrin Ketone	0.00265	--	0.004 U	0.0038 U	0.0042 U	0.0037 U	0.0036 U
Heptachlor	0.001325	0.14 (d)	0.0021 U	0.002 U	0.0022 UJ	0.0019 U	0.0023 PJ
Heptachlor Epoxide	0.00125	0.07 (d)	0.0021 U	0.002 U	0.0022 UJ	0.0019 U	0.0019 U

Key at end of table.

Table E-10

SUMMARY OF ORGANIC RESULTS FOR OFF-SITE SUBSURFACE SOIL - 6 TO 18 INCHES
EXPANDED SITE INSPECTION
AGRICULTURE STREET LANDFILL, NEW ORLEANS, LOUISIANA
SEPTEMBER 1993
(mg/kg, dry weight)

Analyte	Background Concentration (a)	TBC (b)	Location Designation/Sample Number				
			ESI75/SS-41				
Volatile Organic Compounds							
Acetone	0.00825	79000 (c)	0.012 U				
Chloroform	0.008	110 (c)	0.012 U				
Methylene Chloride	0.014	85 (c)	0.012 U				
Styrene	0.008	21 (c)	0.012 UJ				
Tetrachloroethene	0.008	13 (c)	0.012 UJ				
Xylene	0.008	550000 (c)	0.012 U				
Semivolatile Organic Compounds							
Acenaphthene	*0.265*	*16000 (c)*	*0.028 J*				
Acenaphthylene	0.265	27000 (c)	0.067 J				
Anthracene	0.265	82000 (c)	0.14 J				
Benzo(a)anthracene	0.265	0.9 (c)	0.51				
Benzo(a)pyrene	0.265	0.09 (c)	0.65				
Benzo(b)fluoranthene	0.265	0.9 (c)	0.84 J				
Benzo(g,h,i)perylene	0.265	1100 (c)	0.51				
Benzo(k)fluoranthene	0.265	0.9 (c)	0.55				
Butylbenzylphthalate	0.265	55000 (c)	0.41 U				
Carbazole	0.265	32 (d)	0.41 U				
Chrysene	0.265	9 (c)	0.64				
Dibenz(a,h)anthracene	0.265	0.09 (c)	**0.2 J**				
Dibenzofuran	0.265	--	0.41 U				
1,4-Dichlorobenzene	0.265	27 (c)	0.41 U				
Diethylphthalate	0.265	220000 (c)	0.41 U				
di-n-Butyl Phthalate	0.265	7800 (d)	0.41 U				
di-n-Octyl Phthalate	0.265	1600 (d)	0.41 U				
Fluoranthene	0.2775	11000 (c)	0.97				
Fluorene	0.265	11000 (c)	0.021 J				
Indeno(1,2,3-cd)pyrene	0.265	0.9 (c)	0.44				
2-Methylnaphthalene	0.265	--	0.41 U				

Key at end of table.

Table E-10

SUMMARY OF ORGANIC RESULTS FOR OFF-SITE SUBSURFACE SOIL - 6 TO 18 INCHES
EXPANDED SITE INSPECTION
AGRICULTURE STREET LANDFILL, NEW ORLEANS, LOUISIANA
SEPTEMBER 1993
(mg/kg, dry weight)

Analyte	Background Concentration (a)	TBC (b)	Location Designation/Sample Number				
			ESI75/SS-41				
Naphthalene	0.265	1100 (c)	0.41 U				
Phenanthrene	0.2775	7900 (c)	0.42				
Pyrene	0.2725	8200 (c)	1 J				
Pesticides/PCBs							
Aroclor 1254	0.0265	0.083 (d)	0.041 U				
alpha-Chlordane	0.001175	0.49 (d)	0.0169 PJ				
gamma-Chlordane	0.001325	0.49 (d)	0.0286 D				
4,4'-DDD	0.002775	2.7 (d)	0.0041 U				
4,4'-DDE	0.01065	1.9 (d)	0.00441 J				
4,4'-DDT	0.002875	1.9 (d)	0.0102 PJ				
Dieldrin	0.002275	0.04 (d)	0.0041 U				
Endosulfan II	0.00265	470 (d)	0.0041 U				
Endrin	0.002775	23 (d)	0.00974 PJ				
Endrin Aldehyde	0.002575	--	0.0121 PJ				
Endrin Ketone	0.00265	--	0.0041 U				
Heptachlor	0.001325	0.14 (d)	0.00964 J				
Heptachlor Epoxide	0.00125	0.07 (d)	0.00558				

Key at end of table.

Note:

The to be considered (TBC) value for alpha-chlordane and gamma-chlordane (0.49 mg/kg) is designated for total chlordane, not individual isomers. The TBC criteria were not exceeded in any sample based on the sum of detected isomer concentrations.

Key:

a = Sample concentrations above background levels are shaded. See Sections 4.1.3 and 4.2.1 concerning the determination of median background concentrations for surface and subsurface soil.
b = TBC criteria are provided herein only as a reference against which to compare on-site contaminant concentrations. Sample concentrations exceeding TBC criteria appear in boldface type. Remedial action objectives (RAOs) for site-specific contaminants of concern (COCs) are provided in the Feasibility Study (FS).
c = United States Environmental Protection Agency (EPA) Region 6 risked-based concentration (RBC).
d = EPA Region 3 RBC.
B = Sample result might be biased high due to laboratory or field contamination, but is usable for evaluating site-related contamination. The reported result is above five or ten times concentration in method or field blank.
H = Sample result is biased high due to interference, background contamination, or high spike recovery, but usable for evaluating site-related contamination.
J = Sample result is estimated with unknown bias due to calibration or quality control problems, but is usable for evaluating site-related contamination. This flag is also used if reported results are below the method detection limit, but above the instrument detection limit.
L = Sample result is biased low due to low spike recovery, but usable for evaluating site-related contamination.
mg/kg = Milligrams per kilogram.
N = Qualitative identification of result is questionable due to lack of confirmatory evidence, but data are usable for evaluating site-related contamination.
NA = Not applicable.
R = Sample results are rejected and data are unusable.
T = Qualitative identification of result is questionable due to absence of other commonly co-occurring pesticides, but data are usable for evaluating site-related contamination.
U = Parameter is undetected at reported quantitation limit. For organics, indicates that result is less than five times result in method, rinsate, or trip blank and is attributable to background contamination. For common laboratory contaminants (e.g., methylene chloride, 2-butanone, and bis-2-ethylhexyl-phthalate), result is flagged if it is less than 10 times the method blank result.
UC = Parameter is undetected at reported quantitation limit. For inorganics, indicates that result is less than five times result in method or field blank and attributable to background contamination.

Source: Ecology and Environment, Inc., 1995.

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Table E-11

SUMMARY OF INORGANIC RESULTS FOR ON-SITE SUBSURFACE SOIL - 18 TO 24 INCHES
EXPANDED SITE INSPECTION
AGRICULTURE STREET LANDFILL, NEW ORLEANS, LOUISIANA
SEPTEMBER 1993
(mg/kg, dry weight)

Analyte	Background Concentration (a)	TBC (b)	Location Designation/Sample Number				
			ESI04/SS-26	ESI07/SS-85	ESI10/SS-87	ESI12/SS-95	ESI14/SS-99
Aluminum	17482	79000 (c)	14590	5999	5326	6104	6469
Antimony	4.325	110 (c)	7 UJL	5.21 JLB	6.33 JL	5.93 BJL	30.2 JL
Arsenic	7.15	0.37 (c)	**23.7**	**5.35**	**7.13**	**5.92**	**29.7**
Barium	190.5	14000 (c)	876 JH	84.6 JL	105 JL	110 JL	777 JL
Beryllium	0.68	0.15 (c)	**1.6 JL**	**0.33**	**0.24**	**0.32**	**0.31**
Cadmium	0.825	140 (c)	2 J	R	0.91 JL	R	9.67 JL
Calcium	4198	NA	20427	6382	5503	6652	24426
Chromium	20.75	1400 (c)	51.1	16.2 JL	15.2 JL	11.8 JL	68.8 JL
Cobalt	8.35	2.7 (c)	**15.5**	**6.53**	**5.45**	**6.08**	**12.3**
Copper	26.25	10000 (c)	465 J	14.5	47	28.2	452
Iron	18507	NA	85749 J	10645	13858	13073	72694
Lead	21.3	400 (c)	**1532**	12.7 J	137 J	86 J	**1395 J**
Magnesium	4370.5	NA	3347 J	4213	3063	3818	6517
Manganese	84.85	27000 (c)	689	231	182	429	581
Mercury	0.0875	82 (c)	1.2	0.11 U	0.42 J	1.7 J	1.35 J
Nickel	21.2	5500 (c)	62	16.2 JL	15.4 JL	14.7 JL	65.2 JL
Potassium	2486.5	NA	2645	990 J	1040 J	921 J	971 J
Selenium	0.67	820 (c)	R	0.91 U	0.85 U	0.98 U	1.04
Silver	0.995	820 (c)	3.5	0.46 UJL	0.54 JL	1.03 JL	4.06 JL
Sodium	144	NA	272 J	204 J	214 J	142 J	311 J
Thallium	0.415	19 (c)	0.36 BJH	0.91 U	0.94	1.17	1.59
Vanadium	36.3	1800 (c)	30.8	20 J	16.9 J	16.9 J	29.3 J
Zinc	77.5	55000 (c)	1693	40.5 J	162 J	95.6 J	1735 J

Key at end of table.

Table E-11

SUMMARY OF INORGANIC RESULTS FOR ON-SITE SUBSURFACE SOIL - 18 TO 24 INCHES
EXPANDED SITE INSPECTION
AGRICULTURE STREET LANDFILL, NEW ORLEANS, LOUISIANA
SEPTEMBER 1993
(mg/kg, dry weight)

Analyte	Background Concentration (a)	TBC (b)	Location Designation/Sample Number				
			ESI18/SS-94	ESI19/SS-100	ESI20/SS-73	ESI26/SS-84	ESI27/SS-58
Aluminum	17482	79000 (c)	9874	8580	5950	13454	4610
Antimony	4.325	110 (c)	42.4 JL	36.3 JL	8.9 U	38.5 JL	16.9 BJL
Arsenic	7.15	0.37 (c)	**40.7**	**42.4**	**22.404**	**57.1**	**7.2**
Barium	190.5	14000 (c)	963 JL	983 JL	778	627 JL	1086 JH
Beryllium	0.68	0.15 (c)	**0.34**	**0.34**	0.5 U	**0.24**	**1.5 JL**
Cadmium	0.825	140 (c)	9.97 JL	13.1 JL	3 UJL	5.94 JL	2 J
Calcium	4198	NA	70043	38877 J	38300	26425	28917
Chromium	20.75	1400 (c)	55.2 JL	84.5 JL	122	61.1 JL	58.3
Cobalt	8.35	2.7 (c)	**14.9**	**15**	**19.8**	**15.4**	**10.5**
Copper	26.25	10000 (c)	496	2091 J	599	488	833 J
Iron	18507	NA	121156	132300	161000 J	90924	102845 J
Lead	21.3	400 (c)	**2798 J**	**2307**	**2060**	**1110 J**	**2006**
Magnesium	4370.5	NA	7557	3167	2140	2930	1729 J
Manganese	84.85	27000 (c)	776	836	1000	743	625
Mercury	0.0875	82 (c)	1.19 J	3.36 J	2.231	0.83 J	5
Nickel	21.2	5500 (c)	57.8 JL	65.1	84.8	65.6 JL	43.4
Potassium	2486.5	NA	1376 J	844	542.751	1328 J	448
Selenium	0.67	820 (c)	0.95 U	0.92 U	0.496 UJ	0.97 U	R
Silver	0.995	820 (c)	4.77 JL	11.2 JL	R	4.88 JL	3.8
Sodium	144	NA	687 J	517	441	375 J	235 J
Thallium	0.415	19 (c)	2.43	0.92 U	0.79	4.17	0.28 UJH
Vanadium	36.3	1800 (c)	34.3 J	40.3	4.6	30.3 J	14.4
Zinc	77.5	55000 (c)	2136 J	2650 J	1610	1853 J	2224

Key at end of table.

Table E-11

SUMMARY OF INORGANIC RESULTS FOR ON-SITE SUBSURFACE SOIL - 18 TO 24 INCHES
EXPANDED SITE INSPECTION
AGRICULTURE STREET LANDFILL, NEW ORLEANS, LOUISIANA
SEPTEMBER 1993
(mg/kg, dry weight)

Analyte	Background Concentration (a)	TBC (b)	Location Designation/Sample Number				
			ESI28/SS-86	ESI29/SS-90	ESI30/SS-92	ESI32/SS-19	ESI33/SS-68
Aluminum	17482	79000 (c)	10029	6286	12997	11201.752	7053.47
Antimony	4.325	110 (c)	39.8 JL	38.6 JL	40.6 JL	9.011 U	8.191 U
Arsenic	7.15	0.37 (c)	38.5	40.2	74.2	15.5 JH	15.722
Barium	190.5	14000 (c)	788 JL	636 JL	1210 JL	968.611 JH	818.476
Beryllium	0.68	0.15 (c)	0.28	0.25 U	0.52	0.708	0.455 U
Cadmium	0.825	140 (c)	6.62 JL	6.61 JL	9.48 JL	0.751 U	0.683 UJL
Calcium	4198	NA	26473	17752	46130	39639.549	26960.182
Chromium	20.75	1400 (c)	75 JL	63.3 JL	92.8 JL	100.764	87.309
Cobalt	8.35	2.7 (c)	16.3	11.6	15.2	11.026	12.685
Copper	26.25	10000 (c)	3499	3411	806	689.612	906.075
Iron	18507	NA	89981	91134	119364	83591.99	119508.532 J
Lead	21.3	400 (c)	2977 J	1768 J	2388 J	00	1895.609
Magnesium	4370.5	NA	3108	2402	3521	4620.526	2366.78
Manganese	84.85	27000 (c)	631	588	837	603.605	725.643
Mercury	0.0875	82 (c)	2.25 J	2.22 J	2.18 J	0.582	2.935
Nickel	21.2	5500 (c)	53 JL	44.3 JL	80.8 JL	72.503	64.799
Potassium	2486.5	NA	1305 J	740 J	1744 J	2045.056	782.708
Selenium	0.67	820 (c)	1 U	1.14	0.99 U	0.501 U	0.455 U
Silver	0.995	820 (c)	5.93 JL	5.01 JL	5.9 JL	R	R
Sodium	144	NA	312 J	236 J	641 J	808.235	424.278
Thallium	0.415	19 (c)	1.73	3	2.25	0.501 UJL	0.84
Vanadium	36.3	1800 (c)	31.8 J	26.6 J	42.6 J	14.939	4.926
Zinc	77.5	55000 (c)	1867 J	1597 J	3324 J	2453.192	2210.808

Key at end of table.

Table E-11

SUMMARY OF INORGANIC RESULTS FOR ON-SITE SUBSURFACE SOIL - 18 TO 24 INCHES
EXPANDED SITE INSPECTION
AGRICULTURE STREET LANDFILL, NEW ORLEANS, LOUISIANA
SEPTEMBER 1993
(mg/kg, dry weight)

Analyte	Background Concentration (a)	TBC (b)	Location Designation/Sample Number				
			ESI35/SS-18	ESI42/SS-79	ESI43/SS-96	ESI45/SS-60	ESI46/SS-59
Aluminum	17482	79000 (c)	7094	7098	10658	8198	4797
Antimony	4.325	110 (c)	20.7 BJH	41.8 JL	70.8 JL	28.4 BJL	6.3 UJL
Arsenic	7.15	0.37 (c)	**31.9**	**58.4**	**51.3**	**46.6**	**23**
Barium	190.5	14000 (c)	774 JH	988 JL	1217 JL	576 JH	168 JH
Beryllium	0.68	0.15 (c)	0.26 UJL	0.23 U	**0.27**	**2.2 JL**	**0.49 JL**
Cadmium	0.825	140 (c)	5.6 J	12.2 JL	16 JL	1.4 J	0.97 UJ
Calcium	4198	NA	39758	41898 J	40166	62854	8699
Chromium	20.75	1400 (c)	78.5	111 JL	103 JL	93 J	15.5
Cobalt	8.35	2.7 (c)	**13.7**	**15.4**	**20.1**	**22.5**	**5.6**
Copper	26.25	10000 (c)	516 J	2353 J	1136	890 J	104 J
Iron	18507	NA	111146 J	195049	156327	161959 J	20698 J
Lead	21.3	400 (c)	**1236**	**2684**	**3267 J**	**2538**	362
Magnesium	4370.5	NA	2713 J	2290	2311	2327 J	2128 J
Manganese	84.85	27000 (c)	710	1208	978	1047	241
Mercury	0.0875	82 (c)	0.65	3.94 J	3.91 J	2.1	0.22
Nickel	21.2	5500 (c)	58.6	100	99.7 JL	93.9	23.6
Potassium	2486.5	NA	991	751	771 J	1759	654
Selenium	0.67	820 (c)	R	0.92 U	1.05 U	R	R
Silver	0.995	820 (c)	6.3	12.2 JL	9.27 JL	6	0.97 U
Sodium	144	NA	533 J	636	293 J	386 J	200 J
Thallium	0.415	19 (c)	1.5 JH	0.92 U	3.56	0.3 BJH	0.33 BJH
Vanadium	36.3	1800 (c)	13.5	29.4	33 J	27.5	13
Zinc	77.5	55000 (c)	1555	2819 J	3572 J	2424	286

Key at end of table.

Table E-11

SUMMARY OF INORGANIC RESULTS FOR ON-SITE SUBSURFACE SOIL - 18 TO 24 INCHES
EXPANDED SITE INSPECTION
AGRICULTURE STREET LANDFILL, NEW ORLEANS, LOUISIANA
SEPTEMBER 1993
(mg/kg, dry weight)

Analyte	Background Concentration (a)	TBC (b)	Location Designation/Sample Number				
			ESI50/SS-3	ESI74/SS-16			
Aluminum	17482	79000 (c)	5609 J	6916 J			
Antimony	4.325	110 (c)	6.6 JL	23.8 JL			
Arsenic	7.15	0.37 (c)	23.7	42.3			
Barium	190.5	14000 (c)	636	1432			
Beryllium	0.68	0.15 (c)	0.32	0.97			
Cadmium	0.825	140 (c)	4.3	6.5			
Calcium	4198	NA	47382 J	29149 J			
Chromium	20.75	1400 (c)	34.5 J	73.8 J			
Cobalt	8.35	2.7 (c)	23.3	14.8			
Copper	26.25	10000 (c)	399	781			
Iron	18507	NA	47735	116940 J			
Lead	21.3	400 (c)	1237 J	1919 J			
Magnesium	4370.5	NA	2751 J	2388 J			
Manganese	84.85	27000 (c)	436 J	796 J			
Mercury	0.0875	82 (c)	1.1	2.8			
Nickel	21.2	5500 (c)	38.9	67.3			
Potassium	2486.5	NA	837	842			
Selenium	0.67	820 (c)	R	R			
Silver	0.995	820 (c)	2.7 B	10.1			
Sodium	144	NA	414	288			
Thallium	0.415	19 (c)	0.58 U	0.84 U			
Vanadium	36.3	1800 (c)	41.3	19.3			
Zinc	77.5	55000 (c)	1346 J	2820 J			

Key at end of table.

Note:

The to be considered (TBC) value for alpha-chlordane and gamma-chlordane (0.49 mg/kg) is designated for total chlordane, not individual isomers. The TBC criteria were not exceeded in any sample based on the sum of detected isomer concentrations.

Key:

a = Sample concentrations above background levels are shaded. See Sections 4.1.3 and 4.2.1 concerning the determination of median background concentrations for surface and subsurface soil.
b = TBC criteria are provided herein only as a reference against which to compare on-site contaminant concentrations. Sample concentrations exceeding TBC criteria appear in boldface type. Remedial action objectives (RAOs) for site-specific contaminants of concern (COCs) are provided in the Feasibility Study (FS).
c = United States Environmental Protection Agency (EPA) Region 6 risked-based concentration (RBC).
d = EPA Region 3 RBC.
B = Sample result might be biased high due to laboratory or field contamination, but is usable for evaluating site-related contamination. The reported result is above five or ten times concentration in method or field blank.
H = Sample result is biased high due to interference, background contamination, or high spike recovery, but usable for evaluating site-related contamination.
J = Sample result is estimated with unknown bias due to calibration or quality control problems, but is usable for evaluating site-related contamination. This flag is also used if reported results are below the method detection limit, but above the instrument detection limit.
L = Sample result is biased low due to low spike recovery, but usable for evaluating site-related contamination.
mg/kg = Milligrams per kilogram.
N = Qualitative identification of result is questionable due to lack of confirmatory evidence, but data are usable for evaluating site-related contamination.
NA = Not applicable.
R = Sample results are rejected and data are unusable.
T = Qualitative identification of result is questionable due to absence of other commonly co-occurring pesticides, but data are usable for evaluating site-related contamination.
U = Parameter is undetected at reported quantitation limit. For organics, indicates that result is less than five times result in method, rinsate, or trip blank and is attributable to background contamination. For common laboratory contaminants (e.g., methylene chloride, 2-butanone, and bis-2-ethylhexy-phthalate), result is flagged if it is less than 10 times the method blank result.
UC = Parameter is undetected at reported quantitation limit. For inorganics, indicates that result is less than five times result in method or field blank and attributable to background contamination.

Source: Ecology and Environment, Inc., 1995.

06:WPUZD:ZT2061_DFW1007-KEY_SOILS_RESULTS-03/08/95-D1

Table E-12

SUMMARY OF INORGANIC RESULTS FOR OFF-SITE SUBSURFACE SOIL - 18 TO 24 INCHES
EXPANDED SITE INSPECTION
AGRICULTURE STREET LANDFILL, NEW ORLEANS, LOUISIANA
SEPTEMBER 1993
(mg/kg, dry weight)

Analyte	Background Concentration (a)	TBC (b)	Location Designation/Sample Number				
			ESI01/SS-71	ESI02/SS-65	ESI11/SS-45	ESI16/SS-54	ESI34/SS-46
Aluminum	17482	79000 (c)	23731.162	27066.667	18722	2323 J	6072
Antimony	4.325	110 (c)	10.198 U	12.565 U	8.32 BJL	4.6 UJL	7.8 BJL
Arsenic	7.15	0.37 (c)	**4.83 JH**	**3.77 JH**	**4.13**	**3**	**19.3**
Barium	190.5	14000 (c)	295.779	221.627	187 JL	41.9	535 JH
Beryllium	0.68	0.15 (c)	**1.569**	**1.899**	**0.7**	**0.23**	**0.96 JL**
Cadmium	0.825	140 (c)	0.85 U	1.047 U	0.49 UJL	0.7 U	3.2 J
Calcium	4198	NA	11402.833	10115.183	3853 J	3918 J	56194
Chromium	20.75	1400 (c)	28.858	28.747	22.1 JL	5.6 J	41.1
Cobalt	8.35	2.7 (c)	**8.198**	**3.417**	**8.29**	**3.5**	**10.3**
Copper	26.25	10000 (c)	59.598	102.387	23.9 J	3.5	553 J
Iron	18507	NA	24307.649	19611.867	16603	5913 J	56568 J
Lead	21.3	400 (c)	**659.08**	34.4	19.9	7.4 J	**1043**
Magnesium	4370.5	NA	6082.153	4861.082	4431	2563 J	3101 J
Manganese	84.85	27000 (c)	353.598	77.03	279	86.4 J	621
Mercury	0.0875	82 (c)	0.142 U	0.175 U	0.12 UJ	0.11	1.2
Nickel	21.2	5500 (c)	23.128	21.033	19.1	10.5	38.9
Potassium	2486.5	NA	3257.79	3671.902	2391	406	676
Selenium	0.67	820 (c)	0.567 U	0.698 U	0.99 U	R	R
Silver	0.995	820 (c)	R	R	0.77 BJL	0.7 U	3.4
Sodium	144	NA	205.807	239.49	212	59.1	400 J
Thallium	0.415	19 (c)	1.771 JL	1.134 JL	0.99 U	0.57 U	0.32 BJH
Vanadium	36.3	1800 (c)	49.547	61.012	41.4	8.3	17.6
Zinc	77.5	55000 (c)	275.683	126.478	81.1 J	22.9 J	1528

Key at end of table.

Table E-12

SUMMARY OF INORGANIC RESULTS FOR OFF-SITE SUBSURFACE SOIL - 18 TO 24 INCHES
EXPANDED SITE INSPECTION
AGRICULTURE STREET LANDFILL, NEW ORLEANS, LOUISIANA
SEPTEMBER 1993
(mg/kg, dry weight)

Analyte	Background Concentration (a)	TBC (b)	Location Designation/Sample Number				
			ESI52/SS-9	ESI54/SS-48	ESI58/SS-51	ESI61/SS-30	ESI64/SS-82
Aluminum	17482	79000 (c)	8458	23267.993	13397.977	15430	9031
Antimony	4.325	110 (c)	13.4 BJL	13.02 U	9.102 U	8.5 UJL	18.8 JL
Arsenic	7.15	0.37 (c)	**27.6**	**8.228 JH**	**4 JH**	2.7 B	**15.2**
Barium	190.5	14000 (c)	1038 JH	203.7	149.965	205 JH	279 JL
Beryllium	0.68	0.15 (c)	**1.5 JL**	**1.852**	**1.077**	**0.56 JL**	**0.59**
Cadmium	0.825	140 (c)	21.9 J	1.085 U	0.759 U	1.3 UJ	2.48 JL
Calcium	4198	NA	39078	20416.998	8806.827	9962	34910
Chromium	20.75	1400 (c)	43.7	26.604	17.449	17.8	24.9 JL
Cobalt	8.35	2.7 (c)	**14.7**	**6.206**	**5.507**	**8.2**	**6.84**
Copper	26.25	10000 (c)	590 J	54.94	30.791	20.7 J	190
Iron	18507	NA	82329 J	23950.814	15301.138	12137 J	44484
Lead	21.3	400 (c)	**2043**	90.4	40.3	17.9 J	**459 J**
Magnesium	4370.5	NA	3644 J	4688.246	5156.764	4332 J	3002
Manganese	84.85	27000 (c)	911	249.917	266.195	237	407
Mercury	0.0875	82 (c)	0.51	0.181 U	0.126 U	0.2	0.58 J
Nickel	21.2	5500 (c)	45.3	21.092	16.956	17.1	26.1 JL
Potassium	2486.5	NA	1419	3074.141	2025.285	1856	1520 J
Selenium	0.67	820 (c)	R	0.723 U	0.506 U	R	0.96 U
Silver	0.995	820 (c)	2.1	R	R	1.3 U	1.23 JL
Sodium	144	NA	489 J	303.624	204.104	122 J	305 J
Thallium	0.415	19 (c)	0.39 JH	1.863 JL	0.91 JL	0.46 JH	2.78
Vanadium	36.3	1800 (c)	35.8	55.313	30.577	16.2	30.8 J
Zinc	77.5	55000 (c)	3607	108.347	76.589	103	1084 J

Key at end of table.

Table E-12

SUMMARY OF INORGANIC RESULTS FOR OFF-SITE SUBSURFACE SOIL - 18 TO 24 INCHES
EXPANDED SITE INSPECTION
AGRICULTURE STREET LANDFILL, NEW ORLEANS, LOUISIANA
SEPTEMBER 1993
(mg/kg, dry weight)

Analyte	Background Concentration (a)	TBC (b)	Location Designation/Sample Number			
			ESI69/SS-39	ESI70/SS-42	ESI72/SS-61	ESI73/SS-63
Aluminum	17482	79000 (c)	10343.557	11720.578	2539 J	1617 J
Antimony	4.325	110 (c)	9.278 U	8.664 U	4.9 UJL	4.7 UJL
Arsenic	7.15	0.37 (c)	**5.889**	**9.7**	**2.1**	**1.4**
Barium	190.5	14000 (c)	159.884	196.619	41.8	30.6
Beryllium	0.68	0.15 (c)	**0.768**	**1.078**	0.19 U	0.18 U
Cadmium	0.825	140 (c)	0.773 UJL	0.722 UJL	0.75 U	0.73 U
Calcium	4198	NA	5032.99	9285.439	5074 J	2667 J
Chromium	20.75	1400 (c)	17.753	19.242	5.3 J	4.7 J
Cobalt	8.35	2.7 (c)	**7.802**	**6.895**	**4.2**	**3.1**
Copper	26.25	10000 (c)	52.335	48.811	3.7	3
Iron	18507	NA	16031.186 J	16383.634 J	4534 J	5887 J
Lead	21.3	400 (c)	102.247	149.637	11.8 J	2.7 JL
Magnesium	4370.5	NA	3315.722	4716.005	1872 J	1745 J
Manganese	84.85	27000 (c)	339.407	382.696	63.1 J	66.7 J
Mercury	0.0875	82 (c)	0.129 U	0.12 U	0.08 U	0.09 U
Nickel	21.2	5500 (c)	17.536	17.076	7.1	7.6
Potassium	2486.5	NA	1659.794	2074.609	397	300
Selenium	0.67	820 (c)	0.516 UJ	0.481 UJ	0.32 JL	R
Silver	0.995	820 (c)	R	R	0.75 U	0.73 U
Sodium	144	NA	205.969	196.221	58.8	54.7
Thallium	0.415	19 (c)	5.155 U	4.814 U	0.57 U	0.47 U
Vanadium	36.3	1800 (c)	28.559	28.185	8.8	5.6
Zinc	77.5	55000 (c)	181.613	245.584	22.2 J	17 J

Key at end of table.

Note:

The to be considered (TBC) value for alpha-chlordane and gamma-chlordane (0.49 mg/kg) is designated for total chlordane, not individual isomers. The TBC criteria were not exceeded in any sample based on the sum of detected isomer concentrations.

Key:

a = Sample concentrations above background levels are shaded. See Sections 4.1.3 and 4.2.1 concerning the determination of median background concentrations for surface and subsurface soil.
b = TBC criteria are provided herein only as a reference against which to compare on-site contaminant concentrations. Sample concentrations exceeding TBC criteria appear in boldface type. Remedial action objectives (RAOs) for site-specific contaminants of concern (COCs) are provided in the Feasibility Study (FS).
c = United States Environmental Protection Agency (EPA) Region 6 risked-based concentration (RBC).
d = EPA Region 3 RBC.
B = Sample result might be biased high due to laboratory or field contamination, but is usable for evaluating site-related contamination. The reported result is above five or ten times concentration in method or field blank.
H = Sample result is biased high due to interference, background contamination, or high spike recovery, but usable for evaluating site-related contamination.
J = Sample result is estimated with unknown bias due to calibration or quality control problems, but is usable for evaluating site-related contamination. This flag is also used if reported results are below the method detection limit, but above the instrument detection limit.
L = Sample result is biased low due to low spike recovery, but usable for evaluating site-related contamination.
mg/kg = Milligrams per kilogram.
N = Qualitative identification of result is questionable due to lack of confirmatory evidence, but data are usable for evaluating site-related contamination.
NA = Not applicable.
R = Sample results are rejected and data are unusable.
T = Qualitative identification of result is questionable due to absence of other commonly co-occurring pesticides, but data are usable for evaluating site-related contamination.
U = Parameter is undetected at reported quantitation limit. For organics, indicates that result is less than five times result in method, rinsate, or trip blank and is attributable to background contamination. For common laboratory contaminants (e.g., methylene chloride, 2-butanone, and bis-2-ethylhexy-phthalate), result is flagged if it is less than 10 times the method blank result.
UC = Parameter is undetected at reported quantitation limit. For inorganics, indicates that result is less than five times result in method or field blank and attributable to background contamination.

Source: Ecology and Environment, Inc., 1995.

06:WPUZD:ZT2061_DFW1007-KEY_SOILS_RESULTS-03/08/95-D1

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Table E-13

SUMMARY OF ORGANIC RESULTS FOR ON-SITE SUBSURFACE SOIL - 18 TO 24 INCHES
EXPANDED SITE INSPECTION
AGRICULTURE STREET LANDFILL, NEW ORLEANS, LOUISIANA
SEPTEMBER 1993
(mg/kg, dry weight)

Analyte	Background Concentration (a)	TBC (b)	Location Designation/Sample Number				
			ESI04/SS-26	ESI07/SS-85	ESI10/SS-87	ESI12/SS-95	ESI14/SS-99
Volatile Organic Compounds							
Acetone	0.00825	79000 (c)	0.02	0.011 U	0.011 U	0.012 U	0.021 JB
Chloroform	0.008	110 (c)	0.012 U	0.011 U	0.011 U	0.012 U	0.011 U
Dibromochloromethane	0.008	7.6 (c)	0.012 U	0.011 U	0.011 U	0.012 U	0.011 U
Methylene Chloride	0.014	85 (c)	0.051 B	0.011 JB	0.029 B	0.01 JB	0.023 B
Tetrachloroethene	0.008	13 (c)	0.012 U	0.025	0.082	0.036	0.073 JB
Toluene	0.008	55000 (c)	0.012 U	0.011 U	0.011 U	0.012 U	0.004 J
Xylene	0.008	550000 (c)	0.012 U	0.011 U	0.011 U	0.012 U	0.011 UJ
Semivolatile Organic Compounds							
Acenaphthene	0.265	16000 (c)	0.41 U	0.38 UJ	0.35 U	0.41 U	0.08 J
Acenaphthylene	0.265	27000 (c)	0.41 U	0.022 J	0.35 U	0.41 U	0.36 U
Anthracene	0.265	82000 (c)	0.025 J	0.053 J	0.35 U	0.046 J	0.23 J
Benzo(a)anthracene	0.265	0.9 (c)	0.15 J	0.3 J	0.35 U	0.087 J	0.67
Benzo(a)pyrene	0.265	0.09 (c)	0.15 J	0.37 J	0.026 J	0.089 J	0.78
Benzo(b)fluoranthene	0.265	0.9 (c)	0.14 J	0.68	0.031 J	0.089 J	1.4
Benzo(g,h,i)perylene	0.265	1100 (c)	0.066 J	0.29 J	0.043 J	0.066 J	0.4
Benzo(k)fluoranthene	0.265	0.9 (c)	0.19 J	0.38 U	0.35 U	0.068 J	0.36 U
Bis(2-ethylhexyl)phthalate	0.26	46 (c)	0.11 JB	0.54 B	0.059 JB	0.11 JB	0.31 JB
Butylbenzylphthalate	0.265	55000 (c)	0.41 U	0.38 U	0.35 U	0.2 J	0.36 U
Carbazole	0.265	32 (d)	0.027 J	0.022 J	0.35 U	0.41 U	0.079 J
Chrysene	0.265	9 (c)	0.16 J	0.36 J	0.35 U	0.093 J	0.69
Dibenz(a,h)anthracene	0.265	0.09 (c)	0.41 U	0.38 U	0.35 U	0.41 U	0.36 U
Dibenzofuran	0.265	--	0.41 U	0.38 UJ	0.35 U	0.41 U	0.044 J
1,4-Dichlorobenzene	0.265	27 (c)	0.41 U	0.38 U	0.35 U	0.41 U	0.36 U
Diethylphthalate	0.265	220000 (c)	0.41 U	0.38 UJ	0.35 U	0.41 U	0.36 U
di-n-Butyl Phthalate	0.265	7800 (d)	0.41 U	0.16 J	0.35 U	0.39 J	0.038 J
di-n-Octyl Phthalate	0.265	1600 (d)	0.41 U	0.031 J	0.35 U	0.41 U	0.36 U
Fluoranthene	0.2775	11000 (c)	0.25 J	0.45	0.018 J	0.22 J	1.1
Fluorene	0.265	11000 (c)	0.41 U	0.38 UJ	0.35 U	0.41 U	0.095 J

Key at end of table.

Table E-13

SUMMARY OF ORGANIC RESULTS FOR ON-SITE SUBSURFACE SOIL - 18 TO 24 INCHES
EXPANDED SITE INSPECTION
AGRICULTURE STREET LANDFILL, NEW ORLEANS, LOUISIANA
SEPTEMBER 1993
(mg/kg, dry weight)

Analyte	Background Concentration (a)	TBC (b)	Location Designation/Sample Number				
			ESI04/SS-26	ESI07/SS-85	ESI10/SS-87	ESI12/SS-95	ESI14/SS-99
Indeno(1,2,3-cd)pyrene	0.265	0.9 (c)	0.068 J	0.21 J	0.035 J	0.061 J	0.39
2-Methylnaphthalene	0.265	--	0.41 U	0.38 U	0.35 U	0.41 U	0.033 J
2-Methylphenol	0.265	14000 (c)	0.41 U	0.38 U	0.35 U	0.41 U	0.36 U
4-Methylphenol	0.265	14000 (c)	0.41 U	0.38 U	0.35 U	0.41 U	0.36 U
Naphthalene	0.265	1100 (c)	0.41 U	0.027 J	0.35 U	0.41 U	0.057 J
N-Nitrosodiphenylamine	0.265	130 (c)	0.41 U	0.38 U	0.35 U	0.41 U	0.36 U
Pentachlorophenol	0.65	5.3 (c)	0.99 U	0.91 U	0.85 U	0.047 J	0.88 U
Phenanthrene	0.2775	7900 (c)	0.097 J	0.21 J	0.35 U	0.19 J	0.92
Pyrene	0.2725	8200 (c)	0.25 J	0.52	0.018 J	0.22 J	1.4
Pesticides/PCBs							
Aldrin	0.00135	0.038 (d)	0.0021 U	0.0019 U	0.0018 U	0.0021 U	0.0019 U
Aroclor 1016	0.0265	5.5 (d)	0.041 U	0.037 U	0.035 U	0.041 U	0.037 U
Aroclor 1254	0.0265	0.083 (d)	0.041 U	0.037 U	0.035 U	0.041 U	0.037 U
alpha-BHC	0.00135	0.1 (d)	0.0021 U	0.0019 U	0.0018 U	0.0021 U	0.0019 U
beta-BHC	0.00135	0.35 (d)	0.0021 U	0.0019 U	0.0018 U	0.0021 U	0.0019 U
delta-BHC	0.001175	--	0.0021 U	0.0019 U	0.0018 U	0.0021 U	0.00305 PJ
alpha-Chlordane	0.001175	0.49 (d)	0.00277 PJ	0.0019 U	0.00316	0.0021 U	0.0121
gamma-Chlordane	0.001325	0.49 (d)	0.0021 U	0.0019 U	0.00359 PJ	0.0021 U	0.0103 PJ
4,4'-DDD	0.002775	2.7 (d)	0.00571 PJ	0.0037 U	0.0035 U	0.0041 U	0.0209 PJ
4,4'-DDE	0.01065	1.9 (d)	0.00678	0.0037 U	0.0035 U	0.0041 U	0.0368 PJ
4,4'-DDT	0.002875	1.9 (d)	0.0155 PJ	0.0037 U	0.0074 PJ	0.0041 U	0.0281 PJ
Dieldrin	0.002275	0.04 (d)	0.0041 U	0.0037 U	0.0035 U	0.0041 U	0.0037 U
Endosulfan I	0.00135	470 (d)	0.0021 U	0.0019 U	0.0018 U	0.0021 U	0.0019 U
Endosulfan II	0.00265	470 (d)	0.0041 U	0.0037 U	0.0035 U	0.0041 U	0.0037 U
Endosulfan Sulfate	0.002475	--	0.0041 U	0.0037 U	0.0035 U	0.0041 U	0.0037 U
Endrin	0.002775	23 (d)	0.0041 U	0.0037 U	0.0035 U	0.0041 U	0.0044
Endrin Aldehyde	0.002575	--	0.0041 U	0.0037 U	0.0035 U	0.0041 U	0.0037 U
Endrin Ketone	0.00265	--	0.0041 U	0.0037 U	0.0035 U	0.00982 P	0.0037 U
Heptachlor	0.001325	0.14 (d)	0.0021 U	0.0019 U	0.0018 U	0.0021 U	0.0019 U

Key at end of table.

Table E-13

SUMMARY OF ORGANIC RESULTS FOR ON-SITE SUBSURFACE SOIL - 18 TO 24 INCHES
EXPANDED SITE INSPECTION
AGRICULTURE STREET LANDFILL, NEW ORLEANS, LOUISIANA
SEPTEMBER 1993
(mg/kg, dry weight)

Analyte	Background Concentration (a)	TBC (b)	Location Designation/Sample Number				
			ESI04/SS-26	ESI07/SS-85	ESI10/SS-87	ESI12/SS-95	ESI14/SS-99
Heptachlor Epoxide	0.00125	0.07 (d)	0.0021 U	0.0019 U	0.0018 U	0.0021 U	0.00279 PJ
Methoxychlor	0.0135	390 (d)	0.021 U	0.019 U	0.018 U	0.021 U	0.019 U

Key at end of table.

Table E-13

SUMMARY OF ORGANIC RESULTS FOR ON-SITE SUBSURFACE SOIL - 18 TO 24 INCHES
EXPANDED SITE INSPECTION
AGRICULTURE STREET LANDFILL, NEW ORLEANS, LOUISIANA
SEPTEMBER 1993
(mg/kg, dry weight)

Analyte	Background Concentration (a)	TBC (b)	Location Designation/Sample Number				
			ESI18/SS-94	ESI19/SS-100	ESI20/SS-73	ESI26/SS-84	ESI27/SS-58
Volatile Organic Compounds							
Acetone	0.00825	79000 (c)	0.012 U	0.011 UJ	0.012 U	0.013 U	0.014 U
Chloroform	0.008	110 (c)	0.012 U	0.011 UJ	0.012 U	0.013 U	0.014 U
Dibromochloromethane	0.008	7.6 (c)	0.012 UJ	0.011 UJ	0.012 U	0.013 U	0.014 U
Methylene Chloride	0.014	85 (c)	0.012 JB	0.13 J	0.005 J	0.017 JB	0.004 J
Tetrachloroethene	0.008	13 (c)	0.021 J	0.035 J	0.008 J	0.064 J	0.019 J
Toluene	0.008	55000 (c)	0.012 UJ	0.008 J	0.002 J	0.013 UJ	0.014 UJ
Xylene	0.008	550000 (c)	0.012 UJ	0.011 UJ	0.012 U	0.013 UJ	0.014 UJ
Semivolatile Organic Compounds							
Acenaphthene	0.265	16000 (c)	0.38 U	0.09 J	0.058 J	0.44 U	0.44 U
Acenaphthylene	0.265	27000 (c)	0.025 J	0.44	0.056 J	0.44 U	0.062 J
Anthracene	0.265	82000 (c)	0.047 J	0.57	0.3 J	0.059 J	0.09 J
Benzo(a)anthracene	0.265	0.9 (c)	0.53 J	**6.6 DJ**	**1.6 J**	0.34 J	0.73
Benzo(a)pyrene	0.265	0.09 (c)	**0.75 J**	**10 DJ**	**1.5 J**	**0.46**	**0.94**
Benzo(b)fluoranthene	0.265	0.9 (c)	**1.4 J**	**14 DJ**	**1.4 J**	0.76	0.83
Benzo(g,h,i)perylene	0.265	1100 (c)	0.71 J	3.2 DJ	1.3 J	0.22 J	0.66
Benzo(k)fluoranthene	0.265	0.9 (c)	0.38 UJ	**11 DJ**	**1.1 J**	0.44 U	0.82
Bis(2-ethylhexyl)phthalate	0.26	46 (c)	0.29 JB	0.44 BJ	1.9 J	0.55 B	0.89 B
Butylbenzylphthalate	0.265	55000 (c)	0.38 UJ	0.38 U	0.39 UJ	0.44 U	0.44 U
Carbazole	0.265	32 (d)	0.38 U	0.15 J	0.13 J	0.44 U	0.44 U
Chrysene	0.265	9 (c)	0.63 J	**11 D**	1.7 J	0.42 J	0.62
Dibenz(a,h)anthracene	0.265	0.09 (c)	**0.32 J**	**3 J**	**0.25 J**	0.44 U	**0.31 J**
Dibenzofuran	0.265	--	0.38 U	0.062 J	0.058 J	0.44 U	0.44 U
1,4-Dichlorobenzene	0.265	27 (c)	0.38 U	0.022 J	0.39 U	0.44 U	0.44 U
Diethylphthalate	0.265	220000 (c)	0.059 J	0.034 J	0.051 J	0.44 U	0.44 U
di-n-Butyl Phthalate	0.265	7800 (d)	0.075 J	0.08 J	0.14 J	0.17 J	0.19 J
di-n-Octyl Phthalate	0.265	1600 (d)	0.38 UJ	0.074 J	0.39 UJ	0.038 J	0.44 U
Fluoranthene	0.2775	11000 (c)	0.38	5.4 D	1.3	0.44	0.85 J
Fluorene	0.265	11000 (c)	0.38 U	0.11 J	0.072 J	0.44 U	0.44 U

Key at end of table.

Table E-13

SUMMARY OF ORGANIC RESULTS FOR ON-SITE SUBSURFACE SOIL - 18 TO 24 INCHES
EXPANDED SITE INSPECTION
AGRICULTURE STREET LANDFILL, NEW ORLEANS, LOUISIANA
SEPTEMBER 1993
(mg/kg, dry weight)

Analyte	Background Concentration (a)	TBC (b)	Location Designation/Sample Number				
			ESI18/SS-94	ESI19/SS-100	ESI20/SS-73	ESI26/SS-84	ESI27/SS-58
Indeno(1,2,3-cd)pyrene	0.265	0.9 (c)	0.64 J	3.7 DJ	1.2 J	0.2 J	0.63
2-Methylnaphthalene	0.265	--	0.38 U	0.058 J	0.041 J	0.44 U	0.082 J
2-Methylphenol	0.265	14000 (c)	0.38 U	0.38 U	0.39 U	0.44 U	0.44 U
4-Methylphenol	0.265	14000 (c)	0.38 U	0.024 J	0.39 U	0.44 U	0.44 U
Naphthalene	0.265	1100 (c)	0.055 J	0.14 J	0.11 J	0.034 J	0.22 J
N-Nitrosodiphenylamine	0.265	130 (c)	0.38 U	0.023 J	0.39 U	0.44 U	0.44 U
Pentachlorophenol	0.65	5.3 (c)	0.93 U	0.92 U	0.95 U	1.1 U	1.1 U
Phenanthrene	0.2775	7900 (c)	0.19 J	0.89	1.5	0.27 J	0.36 J
Pyrene	0.2725	8200 (c)	0.54 J	6.6 DJ	2.6 J	0.68	0.8
Pesticides/PCBs							
Aldrin	0.00135	0.038 (d)	0.002 U	0.00274	0.00234 PJ	0.00436 PJ	0.0023 U
Aroclor 1016	0.0265	5.5 (d)	0.038 U	0.038 U	0.039 U	0.044 U	0.045 U
Aroclor 1254	0.0265	0.083 (d)	0.038 U	0.038 U	0.039 U	0.044 U	0.045 U
alpha-BHC	0.00135	0.1 (d)	0.002 U	0.002 U	0.002 U	0.0023 U	0.0023 U
beta-BHC	0.00135	0.35 (d)	0.002 U	0.002 U	0.002 U	0.00288 PJ	0.0023 U
delta-BHC	0.001175	--	0.002 U	0.002 U	0.00988 PJ	0.0023 U	0.0023 U
alpha-Chlordane	0.001175	0.49 (d)	0.00424	0.0201	0.0204 D	0.0642 D	0.00372 PJ
gamma-Chlordane	0.001325	0.49 (d)	0.00344 PJ	0.0159 PJ	0.0184 PDJ	0.0743 D	0.00244 PJ
4,4'-DDD	0.002775	2.7 (d)	0.0038 U	0.0294 PJ	0.0263 D	0.0182 PJ	0.00452 PJ
4,4'-DDE	0.01065	1.9 (d)	0.00922 PJ	0.109 D	0.028 PJ	0.0301	0.0068 PJ
4,4'-DDT	0.002875	1.9 (d)	0.0038 U	0.0395 PJ	0.0252 PJ	0.0106 PJ	0.0045 U
Dieldrin	0.002275	0.04 (d)	0.0038 U	0.01 PJ	0.00444 PJ	0.00851	0.00531 PJ
Endosulfan I	0.00135	470 (d)	0.002 U	0.002 U	0.002 U	0.00253	0.0023 U
Endosulfan II	0.00265	470 (d)	0.0038 U	0.0038 U	0.00498	0.0044 U	0.0045 U
Endosulfan Sulfate	0.002475	--	0.0038 U	0.0038 U	0.0039 U	0.0044 U	0.0045 U
Endrin	0.002775	23 (d)	0.00463	0.00452 PJ	0.0148 PJ	0.00632 PJ	0.00709 PJ
Endrin Aldehyde	0.002575	--	0.0038 U	0.02 PJ	0.0039 U	0.0044 U	0.0045 U
Endrin Ketone	0.00265	--	0.0038 U	0.0038 U	0.0039 U	0.0044 U	0.0045 U
Heptachlor	0.001325	0.14 (d)	0.002 U	0.002 U	0.002 U	0.0023 U	0.0023 U

Key at end of table.

Table E-13

SUMMARY OF ORGANIC RESULTS FOR ON-SITE SUBSURFACE SOIL - 18 TO 24 INCHES
EXPANDED SITE INSPECTION
AGRICULTURE STREET LANDFILL, NEW ORLEANS, LOUISIANA
SEPTEMBER 1993
(mg/kg, dry weight)

Analyte	Background Concentration (a)	TBC (b)	Location Designation/Sample Number				
			ESI18/SS-94	ESI19/SS-100	ESI20/SS-73	ESI26/SS-84	ESI27/SS-58
Heptachlor Epoxide	0.00125	0.07 (d)	0.002 U	0.00356 PJ	0.002 U	0.00557	0.0023 U
Methoxychlor	0.0135	390 (d)	0.02 U	0.02 U	0.02 U	0.023 U	0.023 U

Key at end of table.

Table E-13

SUMMARY OF ORGANIC RESULTS FOR ON-SITE SUBSURFACE SOIL - 18 TO 24 INCHES
EXPANDED SITE INSPECTION
AGRICULTURE STREET LANDFILL, NEW ORLEANS, LOUISIANA
SEPTEMBER 1993
(mg/kg, dry weight)

Analyte	Background Concentration (a)	TBC (b)	Location Designation/Sample Number				
			ESI28/SS-86	ESI29/SS-90	ESI30/SS-92	ESI32/SS-19	ESI33/SS-68
Volatile Organic Compounds							
Acetone	0.00825	79000 (c)	0.013 UJ	0.013 U	0.012 U	0.04	0.011 U
Chloroform	0.008	110 (c)	0.013 UJ	0.013 U	0.012 U	0.002 J	0.002 J
Dibromochloromethane	0.008	7.6 (c)	0.013 UJ	0.013 UJ	0.012 UJ	0.002 J	0.011 U
Methylene Chloride	0.014	85 (c)	0.021 JB	0.007 JBB	0.005 J	0.03	0.002 J
Tetrachloroethene	0.008	13 (c)	0.17 J	0.033 J	0.047 JB	0.004 J	0.007 J
Toluene	0.008	55000 (c)	0.013 UJ	0.013 UJ	0.004 J	0.012 U	0.011 U
Xylene	0.008	550000 (c)	0.013 UJ	0.013 UJ	0.012 UJ	0.012 U	0.011 U
Semivolatile Organic Compounds							
Acenaphthene	0.265	16000 (c)	0.032 J	0.15 J	0.12 J	0.22 JD	0.38 UJ
Acenaphthylene	0.265	27000 (c)	0.42 U	0.031 J	0.077 J	1.2 UD	0.38 UJ
Anthracene	0.265	82000 (c)	0.1 J	0.39 J	0.43	0.82 JD	0.028 J
Benzo(a)anthracene	0.265	0.9 (c)	0.56	1.6	1.4 J	2.6 D	0.22 J
Benzo(a)pyrene	0.265	0.09 (c)	0.61	1.6 J	1.3 J	2.8 D	0.2 J
Benzo(b)fluoranthene	0.265	0.9 (c)	1.1	3.2 J	1.6 J	2.4 D	0.42
Benzo(g,h,i)perylene	0.265	1100 (c)	0.54	0.71 J	1.1 J	1.8 D	0.17 J
Benzo(k)fluoranthene	0.265	0.9 (c)	0.42 U	0.43 UB	1.1 J	2.2 D	0.38 U
Bis(2-ethylhexyl)phthalate	0.26	46 (c)	1.2 B	0.28 JB	0.4 JB	0.21 JBD	0.17 JB
Butylbenzylphthalate	0.265	55000 (c)	0.42 U	0.43 U	0.4 UJ	1.2 UD	0.38 U
Carbazole	0.265	32 (d)	0.061 J	0.22 J	0.21 J	0.4 JD	0.006 J
Chrysene	0.265	9 (c)	0.62	1.8	1.6 J	3.1 D	0.25 J
Dibenz(a,h)anthracene	0.265	0.09 (c)	0.26 J	0.2 J	0.23 J	0.35 JD	0.033 J
Dibenzofuran	0.265	--	0.021 J	0.094 J	0.075 J	1.2 UD	0.38 UJ
1,4-Dichlorobenzene	0.265	27 (c)	0.42 U	0.029 J	0.4 U	1.2 UD	0.38 UJ
Diethylphthalate	0.265	220000 (c)	0.42 U	0.024 J	0.4 U	1.2 UD	0.38 UJ
di-n-Butyl Phthalate	0.265	7800 (d)	0.16 J	0.18 J	0.046 J	1.2 UD	0.036 JB
di-n-Octyl Phthalate	0.265	1600 (d)	0.42 U	0.43 UJ	0.4 UJ	1.2 UD	0.38 U
Fluoranthene	0.2775	11000 (c)	0.75	2.6	2 J	3.6 D	0.19 J
Fluorene	0.265	11000 (c)	0.038 J	0.18 J	0.11 J	0.12 JD	0.38 UJ

Key at end of table.

Table E-13

SUMMARY OF ORGANIC RESULTS FOR ON-SITE SUBSURFACE SOIL - 18 TO 24 INCHES
EXPANDED SITE INSPECTION
AGRICULTURE STREET LANDFILL, NEW ORLEANS, LOUISIANA
SEPTEMBER 1993
(mg/kg, dry weight)

Analyte	Background Concentration (a)	TBC (b)	Location Designation/Sample Number				
			ESI28/SS-86	ESI29/SS-90	ESI30/SS-92	ESI32/SS-19	ESI33/SS-68
Indeno(1,2,3-cd)pyrene	0.265	0.9 (c)	0.52	0.88 J	0.98 J	1.6 D	0.14 J
2-Methylnaphthalene	0.265	--	0.022 J	0.068 J	0.038 J	1.2 UD	0.38 UJ
2-Methylphenol	0.265	14000 (c)	0.42 U	0.43 U	0.026 J	1.2 UD	0.38 UJ
4-Methylphenol	0.265	14000 (c)	0.42 U	0.43 U	0.4 U	1.2 UD	0.38 UJ
Naphthalene	0.265	1100 (c)	0.048 J	0.14 J	0.079 J	1.2 UD	0.022 J
N-Nitrosodiphenylamine	0.265	130 (c)	0.42 U	0.43 U	0.4 U	1.2 UD	0.38 U
Pentachlorophenol	0.65	5.3 (c)	1 U	1 U	0.96 U	2.8 UD	0.92 U
Phenanthrene	0.2775	7900 (c)	0.47	2.3	1.8	2.8 D	0.11 J
Pyrene	0.2725	8200 (c)	0.88	3 D	2.6 J	6.4 D	0.32 J
Pesticides/PCBs							
Aldrin	0.00135	0.038 (d)	0.00439	0.0022 U	0.002 U	0.00263	0.002 U
Aroclor 1016	0.0265	5.5 (d)	0.042 U	0.043 U	0.04 U	0.053	0.038 U
Aroclor 1254	0.0265	0.083 (d)	0.042 U	0.043 U	0.04 U	0.073 PJ	0.038 U
alpha-BHC	0.00135	0.1 (d)	0.0022 U	0.0022 U	0.002 U	0.0081	0.002 U
beta-BHC	0.00135	0.35 (d)	0.0022 U	0.0022 U	0.002 U	0.0154 PJ	0.002 U
delta-BHC	0.001175	--	0.0022 U	0.0022 U	0.002 U	0.00316 PJ	0.002 U
alpha-Chlordane	0.001175	0.49 (d)	0.0154	0.00622 PJ	0.0478 D	0.0076	0.00879
gamma-Chlordane	0.001325	0.49 (d)	0.0159 PJ	0.00696 PJ	0.101 D	0.0092 PJ	0.0103 P
4,4'-DDD	0.002775	2.7 (d)	0.0106 PJ	0.00686 PJ	0.004 U	0.0113 PJ	0.0038 U
4,4'-DDE	0.01065	1.9 (d)	0.0174 PJ	0.00812 PJ	0.00526 PJ	0.00781 PJ	0.0038 U
4,4'-DDT	0.002875	1.9 (d)	0.0158 PJ	0.00955 PJ	0.00442 PJ	0.00767 PJ	0.00606 PJ
Dieldrin	0.002275	0.04 (d)	0.00433	0.0043 U	0.00697 PJ	0.0039 U	0.0038 U
Endosulfan I	0.00135	470 (d)	0.0022 U	0.0022 U	0.002 U	0.002 U	0.002 U
Endosulfan II	0.00265	470 (d)	0.0042 U	0.0043 U	0.00456 PJ	0.0039 U	0.0038 U
Endosulfan Sulfate	0.002475	--	0.0042 U	0.0043 U	0.004 U	0.0065 J	0.0038 U
Endrin	0.002775	23 (d)	0.00536 PJ	0.013	0.0178 PJ	0.00974	0.0038 U
Endrin Aldehyde	0.002575	--	0.0042 U	0.0043 U	0.004 U	0.0039 U	0.00393
Endrin Ketone	0.00265	--	0.0042 U	0.0043 U	0.004 U	0.00606 PJ	0.0038 U
Heptachlor	0.001325	0.14 (d)	0.0022 U	0.0022 U	0.00593 PJ	0.002 U	0.00199 PJ

Key at end of table.

Table E-13

SUMMARY OF ORGANIC RESULTS FOR ON-SITE SUBSURFACE SOIL - 18 TO 24 INCHES
EXPANDED SITE INSPECTION
AGRICULTURE STREET LANDFILL, NEW ORLEANS, LOUISIANA
SEPTEMBER 1993
(mg/kg, dry weight)

Analyte	Background Concentration (a)	TBC (b)	Location Designation/Sample Number				
			ESI28/SS-86	ESI29/SS-90	ESI30/SS-92	ESI32/SS-19	ESI33/SS-68
Heptachlor Epoxide	0.00125	0.07 (d)	0.00498 PJ	0.0022 U	0.0236 PJ	0.002 U	0.002 U
Methoxychlor	0.0135	390 (d)	0.022 U	0.0111 JP	0.02 U	0.02 U	0.02 U

Key at end of table.

Table E-13

SUMMARY OF ORGANIC RESULTS FOR ON-SITE SUBSURFACE SOIL - 18 TO 24 INCHES
EXPANDED SITE INSPECTION
AGRICULTURE STREET LANDFILL, NEW ORLEANS, LOUISIANA
SEPTEMBER 1993
(mg/kg, dry weight)

Analyte	Background Concentration (a)	TBC (b)	Location Designation/Sample Number				
			ESI35/SS-18	ESI42/SS-79	ESI43/SS-96	ESI45/SS-60	ESI46/SS-59
Volatile Organic Compounds							
Acetone	0.00825	79000 (c)	0.069 J	0.011 U	0.014 UJ	0.014 U	0.012 U
Chloroform	0.008	110 (c)	0.012 U	0.011 U	0.014 UJ	0.014 U	0.012 U
Dibromochloromethane	0.008	7.6 (c)	0.012 U	0.011 U	0.014 UJ	0.014 U	0.012 U
Methylene Chloride	0.014	85 (c)	0.012 U	0.093	0.042 JB	0.014 U	0.007 JB
Tetrachloroethene	0.008	13 (c)	0.003 J	0.035	0.093 J	0.016	0.004 J
Toluene	0.008	55000 (c)	0.012 U	0.003 J	0.004 J	0.014 U	0.012 U
Xylene	0.008	550000 (c)	0.001 J	0.011 U	0.014 UJ	0.014 U	0.012 U
Semivolatile Organic Compounds							
Acenaphthene	0.265	16000 (c)	0.41 U	0.38 U	0.027 J	0.44 U	0.41 U
Acenaphthylene	0.265	27000 (c)	0.41 U	0.38 U	0.031 J	0.44 U	0.41 U
Anthracene	0.265	82000 (c)	0.15 J	0.38 U	0.1 J	0.44 U	0.41 U
Benzo(a)anthracene	0.265	0.9 (c)	**0.91**	0.058 J	0.76	0.44 U	0.043 J
Benzo(a)pyrene	0.265	0.09 (c)	**0.83**	**0.093 J**	**0.8**	0.44 U	0.049 J
Benzo(b)fluoranthene	0.265	0.9 (c)	**1.1**	0.096 J	**1.4**	0.44 U	0.12 J
Benzo(g,h,i)perylene	0.265	1100 (c)	0.51	0.055 J	0.71	0.44 U	0.41 U
Benzo(k)fluoranthene	0.265	0.9 (c)	0.72	0.11 J	0.45 U	0.44 U	0.41 U
Bis(2-ethylhexyl)phthalate	0.26	46 (c)	2 B	0.21 JB	0.5 B	0.099 JB	0.14 JB
Butylbenzylphthalate	0.265	55000 (c)	0.48	0.38 U	0.45 U	0.44 U	0.41 U
Carbazole	0.265	32 (d)	0.41 U	0.38 U	0.036 J	0.44 U	0.41 U
Chrysene	0.265	9 (c)	0.97	0.081 J	0.8	0.44 U	0.052 J
Dibenz(a,h)anthracene	0.265	0.09 (c)	0.41 U	0.031 J	**0.16 J**	0.44 U	0.41 U
Dibenzofuran	0.265	--	0.036 J	0.38 U	0.45 U	0.44 U	0.41 U
1,4-Dichlorobenzene	0.265	27 (c)	0.41 U	0.38 U	0.45 U	0.44 U	0.41 U
Diethylphthalate	0.265	220000 (c)	0.41 U	0.38 U	0.45 U	0.44 U	0.41 U
di-n-Butyl Phthalate	0.265	7800 (d)	0.41 U	0.38 U	0.053 J	0.44 U	0.41 U
di-n-Octyl Phthalate	0.265	1600 (d)	0.41 U	0.38 U	0.45 U	0.44 U	0.41 U
Fluoranthene	0.2775	11000 (c)	1.5 J	0.12 J	0.83	0.44 U	0.073 J
Fluorene	0.265	11000 (c)	0.035 J	0.38 U	0.027 J	0.44 U	0.41 U

Key at end of table.

Table E-13

SUMMARY OF ORGANIC RESULTS FOR ON-SITE SUBSURFACE SOIL - 18 TO 24 INCHES
EXPANDED SITE INSPECTION
AGRICULTURE STREET LANDFILL, NEW ORLEANS, LOUISIANA
SEPTEMBER 1993
(mg/kg, dry weight)

Analyte	Background Concentration (a)	TBC (b)	Location Designation/Sample Number				
			ESI35/SS-18	ESI42/SS-79	ESI43/SS-96	ESI45/SS-60	ESI46/SS-59
Indeno(1,2,3-cd)pyrene	0.265	0.9 (c)	0.52	0.043 J	0.62	0.44 U	0.41 U
2-Methylnaphthalene	0.265	--	0.41 U	0.38 U	0.028 J	0.44 U	0.41 U
2-Methylphenol	0.265	14000 (c)	0.41 U	0.38 U	0.45 U	0.44 U	0.41 U
4-Methylphenol	0.265	14000 (c)	0.41 U	0.38 U	0.45 U	0.44 U	0.41 U
Naphthalene	0.265	1100 (c)	0.41 U	0.38 U	0.07 J	0.44 U	0.41 U
N-Nitrosodiphenylamine	0.265	130 (c)	0.41 U	0.38 U	0.45 U	0.44 U	0.41 U
Pentachlorophenol	0.65	5.3 (c)	1 U	0.91 U	1.1 U	1.1 U	0.99 U
Phenanthrene	0.2775	7900 (c)	0.56	0.043 J	0.42 J	0.44 U	0.41 U
Pyrene	0.2725	8200 (c)	1.3	0.11 J	0.88	0.44 U	0.068 J
Pesticides/PCBs							
Aldrin	0.00135	0.038 (d)	0.0021 U	0.0019 U	0.00304 PJ	0.0023 U	0.0021 U
Aroclor 1016	0.0265	5.5 (d)	0.041 U	0.037 U	0.045 U	0.045 U	0.041 U
Aroclor 1254	0.0265	0.083 (d)	0.041 U	0.037 U	0.045 U	0.045 U	0.041 U
alpha-BHC	0.00135	0.1 (d)	0.0021 U	0.0019 U	0.0023 U	0.0023 U	0.0021 U
beta-BHC	0.00135	0.35 (d)	0.0021 U	0.0019 U	0.0023 U	0.0023 U	0.0021 U
delta-BHC	0.001175	--	0.0021 U	0.0019 U	0.0023 U	0.0023 U	0.0021 U
alpha-Chlordane	0.001175	0.49 (d)	0.006 PJ	0.00404 PJ	0.0507 D	0.0023 U	0.0021 U
gamma-Chlordane	0.001325	0.49 (d)	0.0089 PJ	0.00482	0.0551 D	0.0023 U	0.0021 U
4,4'-DDD	0.002775	2.7 (d)	0.0084 PJ	0.0037 U	0.00573	0.0045 U	0.0041 U
4,4'-DDE	0.01065	1.9 (d)	0.017	0.00444	0.0138	0.0045 U	0.0041 U
4,4'-DDT	0.002875	1.9 (d)	0.00881 PJ	0.00491 PJ	0.0106 PJ	0.0045 U	0.0041 U
Dieldrin	0.002275	0.04 (d)	0.0041 U	0.0037 U	0.0045 U	0.0045 U	0.0041 U
Endosulfan I	0.00135	470 (d)	0.0021 U	0.0019 U	0.0023 U	0.0023 U	0.0021 U
Endosulfan II	0.00265	470 (d)	0.0041 U	0.0037 U	0.0045 U	0.0045 U	0.0041 U
Endosulfan Sulfate	0.002475	--	0.0041 U	0.0037 U	0.0045 U	0.0045 U	0.0041 U
Endrin	0.002775	23 (d)	0.0083	0.0037 U	0.00731 PJ	0.0045 U	0.0041 U
Endrin Aldehyde	0.002575	--	0.0052 PJ	0.00498 PJ	0.0045 U	0.0045 U	0.00849 PJ
Endrin Ketone	0.00265	--	0.0041 U	0.0037 U	0.0045 U	0.0045 U	0.0041 U
Heptachlor	0.001325	0.14 (d)	0.0021 U	0.00216 PJ	0.0023 U	0.0023 U	0.0021 U

Key at end of table.

Table E-13

SUMMARY OF ORGANIC RESULTS FOR ON-SITE SUBSURFACE SOIL - 18 TO 24 INCHES
EXPANDED SITE INSPECTION
AGRICULTURE STREET LANDFILL, NEW ORLEANS, LOUISIANA
SEPTEMBER 1993
(mg/kg, dry weight)

Analyte	Background Concentration (a)	TBC (b)	Location Designation/Sample Number				
			ESI35/SS-18	ESI42/SS-79	ESI43/SS-96	ESI45/SS-60	ESI46/SS-59
Heptachlor Epoxide	0.00125	0.07 (d)	0.0021 U	0.0019 U	0.00334	0.0023 U	0.0021 U
Methoxychlor	0.0135	390 (d)	0.021 U	0.019 U	0.023 U	0.023 U	0.021 U

Key at end of table.

Table E-13

SUMMARY OF ORGANIC RESULTS FOR ON-SITE SUBSURFACE SOIL - 18 TO 24 INCHES
EXPANDED SITE INSPECTION
AGRICULTURE STREET LANDFILL, NEW ORLEANS, LOUISIANA
SEPTEMBER 1993
(mg/kg, dry weight)

Analyte	Background Concentration (a)	TBC (b)	Location Designation/Sample Number				
			ESI50/SS-3	ESI74/SS-16			
Volatile Organic Compounds							
Acetone	0.00825	79000 (c)	0.011 U	0.014 U			
Chloroform	0.008	110 (c)	0.011 U	0.014 U			
Dibromochloromethane	0.008	7.6 (c)	0.011 U	0.014 UJ			
Methylene Chloride	0.014	85 (c)	0.011 U	0.014 U			
Tetrachloroethene	0.008	13 (c)	0.011 UJ	0.014 UJ			
Toluene	0.008	55000 (c)	0.011 UJ	0.014 UJ			
Xylene	0.008	550000 (c)	0.011 UJ	0.014 UJ			
Semivolatile Organic Compounds							
Acenaphthene	0.265	16000 (c)	0.52	0.046 J			
Acenaphthylene	0.265	27000 (c)	0.055 J	0.095 J			
Anthracene	0.265	82000 (c)	0.77	0.18 J			
Benzo(a)anthracene	0.265	0.9 (c)	2.5	0.9			
Benzo(a)pyrene	0.265	0.09 (c)	2	1.1			
Benzo(b)fluoranthene	0.265	0.9 (c)	3.5 DJ	2.4 J			
Benzo(g,h,i)perylene	0.265	1100 (c)	1.2	0.82			
Benzo(k)fluoranthene	0.265	0.9 (c)	1.6	0.47 U			
Bis(2-ethylhexyl)phthalate	0.26	46 (c)	0.18 JB	0.56 JB			
Butylbenzylphthalate	0.265	55000 (c)	0.38 U	0.47 U			
Carbazole	0.265	32 (d)	1.3	0.15 J			
Chrysene	0.265	9 (c)	2.6	0.87			
Dibenz(a,h)anthracene	0.265	0.09 (c)	0.63	0.4 J			
Dibenzofuran	0.265	--	0.35 J	0.037 J			
1,4-Dichlorobenzene	0.265	27 (c)	0.38 U	0.47 U			
Diethylphthalate	0.265	220000 (c)	0.38 U	0.47 U			
di-n-Butyl Phthalate	0.265	7800 (d)	0.028 J	0.09 J			
di-n-Octyl Phthalate	0.265	1600 (d)	0.38 U	0.47 U			
Fluoranthene	0.2775	11000 (c)	6.1 D	1.5			
Fluorene	0.265	11000 (c)	0.64	0.038 J			

Key at end of table.

Table E-13

SUMMARY OF ORGANIC RESULTS FOR ON-SITE SUBSURFACE SOIL - 18 TO 24 INCHES
EXPANDED SITE INSPECTION
AGRICULTURE STREET LANDFILL, NEW ORLEANS, LOUISIANA
SEPTEMBER 1993
(mg/kg, dry weight)

Analyte	Background Concentration (a)	TBC (b)	Location Designation/Sample Number				
			ESI50/SS-3	ESI74/SS-16			
Indeno(1,2,3-cd)pyrene	0.265	0.9 (c)	1.2	0.26 J			
2-Methylnaphthalene	0.265	--	0.18 J	0.026 J			
2-Methylphenol	0.265	14000 (c)	0.38 U	0.47 U			
4-Methylphenol	0.265	14000 (c)	0.38 U	0.47 U			
Naphthalene	0.265	1100 (c)	0.72	0.1 J			
N-Nitrosodiphenylamine	0.265	130 (c)	0.38 U	0.47 U			
Pentachlorophenol	0.65	5.3 (c)	0.92 U	1.1 U			
Phenanthrene	0.2775	7900 (c)	5.3 D	0.8			
Pyrene	0.2725	8200 (c)	4.7 DJ	1.4 J			
Pesticides/PCBs							
Aldrin	0.00135	0.038 (d)	0.002 U	0.0024 U			
Aroclor 1016	0.0265	5.5 (d)	0.038 U	0.047 U			
Aroclor 1254	0.0265	0.083 (d)	0.038 U	0.047 U			
alpha-BHC	0.00135	0.1 (d)	0.002 U	0.0024 U			
beta-BHC	0.00135	0.35 (d)	0.002 U	0.0024 U			
delta-BHC	0.001175	--	0.002 U	0.0024 U			
alpha-Chlordane	0.001175	0.49 (d)	0.00434 J	0.0611 D			
gamma-Chlordane	0.001325	0.49 (d)	0.00419 PJ	0.0574 D			
4,4'-DDD	0.002775	2.7 (d)	0.00716 J	0.0526 PJ			
4,4'-DDE	0.01065	1.9 (d)	0.00832 J	0.0377 J			
4,4'-DDT	0.002875	1.9 (d)	0.00627 PJ	0.0216 PJ			
Dieldrin	0.002275	0.04 (d)	0.0038 U	0.00611 PJ			
Endosulfan I	0.00135	470 (d)	0.002 U	0.0024 U			
Endosulfan II	0.00265	470 (d)	0.0038 U	0.0047 U			
Endosulfan Sulfate	0.002475	--	0.0038 U	0.0047 U			
Endrin	0.002775	23 (d)	0.00446 PJ	0.0206 PJ			
Endrin Aldehyde	0.002575	--	0.011 PJ	0.00758 PJ			
Endrin Ketone	0.00265	--	0.0038 U	0.0047 U			
Heptachlor	0.001325	0.14 (d)	0.002 U	0.0024 U			

Key at end of table.

Table E-13

SUMMARY OF ORGANIC RESULTS FOR ON-SITE SUBSURFACE SOIL - 18 TO 24 INCHES
EXPANDED SITE INSPECTION
AGRICULTURE STREET LANDFILL, NEW ORLEANS, LOUISIANA
SEPTEMBER 1993
(mg/kg, dry weight)

Analyte	Background Concentration (a)	TBC (b)	Location Designation/Sample Number				
			ESI50/SS-3	ESI74/SS-16			
Heptachlor Epoxide	0.00125	0.07 (d)	0.002 U	0.00346 PJ			
Methoxychlor	0.0135	390 (d)	0.02 U	0.024 U			

Key at end of table.

Note:

The to be considered (TBC) value for alpha-chlordane and gamma-chlordane (0.49 mg/kg) is designated for total chlordane, not individual isomers. The TBC criteria were not exceeded in any sample based on the sum of detected isomer concentrations.

Key:

a = Sample concentrations above background levels are shaded. See Sections 4.1.3 and 4.2.1 concerning the determination of median background concentrations for surface and subsurface soil.
b = TBC criteria are provided herein only as a reference against which to compare on-site contaminant concentrations. Sample concentrations exceeding TBC criteria appear in boldface type. Remedial action objectives (RAOs) for site-specific contaminants of concern (COCs) are provided in the Feasibility Study (FS).
c = United States Environmental Protection Agency (EPA) Region 6 risked-based concentration (RBC).
d = EPA Region 3 RBC.
B = Sample result might be biased high due to laboratory or field contamination, but is usable for evaluating site-related contamination. The reported result is above five or ten times concentration in method or field blank.
H = Sample result is biased high due to interference, background contamination, or high spike recovery, but usable for evaluating site-related contamination.
J = Sample result is estimated with unknown bias due to calibration or quality control problems, but is usable for evaluating site-related contamination. This flag is also used if reported results are below the method detection limit, but above the instrument detection limit.
L = Sample result is biased low due to low spike recovery, but usable for evaluating site-related contamination.
mg/kg = Milligrams per kilogram.
N = Qualitative identification of result is questionable due to lack of confirmatory evidence, but data are usable for evaluating site-related contamination.
NA = Not applicable.
R = Sample results are rejected and data are unusable.
T = Qualitative identification of result is questionable due to absence of other commonly co-occurring pesticides, but data are usable for evaluating site-related contamination.
U = Parameter is undetected at reported quantitation limit. For organics, indicates that result is less than five times result in method, rinsate, or trip blank and is attributable to background contamination. For common laboratory contaminants (e.g., methylene chloride, 2-butanone, and bis-2-ethylhexy-phthalate), result is flagged if it is less than 10 times the method blank result.
UC = Parameter is undetected at reported quantitation limit. For inorganics, indicates that result is less than five times result in method or field blank and attributable to background contamination.

Source: Ecology and Environment, Inc., 1995.

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Table E-14

SUMMARY OF ORGANIC RESULTS FOR OFF-SITE SUBSURFACE SOIL - 18 TO 24 INCHES
EXPANDED SITE INSPECTION
AGRICULTURE STREET LANDFILL, NEW ORLEANS, LOUISIANA
SEPTEMBER 1993
(mg/kg, dry weight)

Analyte	Background Concentration (a)	TBC (b)	Location Designation/Sample Number				
			ESI01/SS-71	ESI02/SS-65	ESI11/SS-45	ESI16/SS-54	ESI34/SS-46
Volatile Organic Compounds							
Acetone	0.00825	79000 (c)	0.014 U	0.034	0.084	0.012 U	0.034
Carbon Disulfide	0.008	27000 (c)	0.014 U	0.017 U	0.002 J	0.012 U	0.011 U
Chloroform	0.008	110 (c)	0.007 J	0.017 U	0.012 U	0.012 U	0.011 U
Methylene Chloride	0.014	85 (c)	0.019	0.018	0.11	0.012 U	0.047 B
Tetrachloroethene	0.008	13 (c)	0.05 J	0.017 U	0.004 J	0.012 U	0.011 U
Toluene	0.008	55000 (c)	0.002 J	0.017 U	0.012 U	0.012 U	0.011 U
Trichloroethene	0.008	58 (c)	0.002 J	0.017 U	0.012 U	0.012 U	0.011 U
Xylene	0.008	550000 (c)	0.014 UJ	0.017 U	0.002 J	0.012 U	0.011 U
Semivolatile Organic Compounds							
Acenaphthene	0.265	16000 (c)	0.48 U	0.55 U	0.41 U	0.41 U	0.054 J
Acenaphthylene	0.265	27000 (c)	0.48 U	0.55 U	0.41 U	0.41 U	0.022 J
Anthracene	0.265	82000 (c)	0.48 U	0.55 U	0.41 U	0.41 U	0.24 J
Benzo(a)anthracene	0.265	0.9 (c)	0.035 J	0.55 U	0.41 U	0.41 U	0.81
Benzo(a)pyrene	0.265	0.09 (c)	0.028 J	0.55 U	0.41 U	0.41 U	1.1
Benzo(b)fluoranthene	0.265	0.9 (c)	0.041 J	0.55 U	0.41 U	0.41 U	0.86
Benzo(g,h,i)perylene	0.265	1100 (c)	0.026 J	0.55 U	0.41 U	0.41 U	0.59
Benzo(k)fluoranthene	0.265	0.9 (c)	0.038 J	0.55 U	0.41 U	0.41 U	1.1
Butylbenzylphthalate	0.265	55000 (c)	0.48 U	0.55 U	0.41 U	0.41 U	0.025 J
Carbazole	0.265	32 (d)	0.48 U	0.55 U	0.41 U	0.41 U	0.12 J
Chrysene	0.265	9 (c)	0.042 J	0.55 U	0.41 U	0.41 U	0.83
Dibenz(a,h)anthracene	0.265	0.09 (c)	0.48 U	0.55 U	0.41 U	0.41 U	0.38 U
Dibenzofuran	0.265	--	0.48 U	0.55 U	0.41 U	0.41 U	0.034 J
Dimethylphthalate	0.265	780000 (d)	0.48 U	0.55 U	0.41 U	0.41 U	0.14 J
di-n-Butyl Phthalate	0.265	7800 (d)	0.48 U	0.55 U	0.032 J	0.41 U	0.039 J
Fluoranthene	0.2775	11000 (c)	0.055 J	0.55 U	0.41 U	0.41 U	1.4
Fluorene	0.265	11000 (c)	0.48 U	0.55 U	0.41 U	0.41 U	0.062 J
Indeno(1,2,3-cd)pyrene	0.265	0.9 (c)	0.028 J	0.55 U	0.41 U	0.41 U	0.55
2-Methylnaphthalene	0.265	--	0.48 U	0.55 U	0.41 U	0.41 U	0.025 J

Key at end of table.

Table E-14

SUMMARY OF ORGANIC RESULTS FOR OFF-SITE SUBSURFACE SOIL - 18 TO 24 INCHES
EXPANDED SITE INSPECTION
AGRICULTURE STREET LANDFILL, NEW ORLEANS, LOUISIANA
SEPTEMBER 1993
(mg/kg, dry weight)

Analyte	Background Concentration (a)	TBC (b)	Location Designation/Sample Number				
			ESI01/SS-71	ESI02/SS-65	ESI11/SS-45	ESI16/SS-54	ESI34/SS-46
Naphthalene	0.265	1100 (c)	0.48 U	0.55 U	0.41 U	0.41 U	0.12 J
Phenanthrene	0.2775	7900 (c)	0.026 J	0.55 U	0.41 U	0.41 U	0.69
Pyrene	0.2725	8200 (c)	0.078 J	0.55 U	0.41 U	0.41 U	1.2
Pesticide/PCBs							
alpha-BHC	0.00135	0.1 (d)	0.0025 U	0.0028 UJ	0.0021 U	0.0188	0.00241
beta-BHC	0.00135	0.35 (d)	0.0025 U	0.0028 UJ	0.0021 U	0.00785	0.002 U
delta-BHC	0.001175	--	0.0025 U	0.0028 UJ	0.0021 U	0.00583	0.002 U
gamma-BHC	0.001325	0.49 (d)	0.0025 U	0.0028 UJ	0.0021 U	0.00212 JP	0.002 U
alpha-Chlordane	0.001175	0.49 (d)	0.0025 U	0.0028 U	0.0021 U	0.0021 U	0.0598 D
gamma-Chlordane	0.001325	0.49 (d)	0.0025 U	0.0028 U	0.0021 U	0.0021 U	0.0502 PDJ
4,4'-DDD	0.002775	2.7 (d)	0.0048 U	0.0055 UJ	0.0041 U	0.0041 U	0.134 D
4,4'-DDE	0.01065	1.9 (d)	0.0048 U	0.0055 UJ	0.0041 U	0.0041 U	0.08 D
4,4'-DDT	0.002875	1.9 (d)	0.00753 PJ	0.0055 U	0.0041 U	0.0041 U	0.141 PDJ
Dieldrin	0.002275	0.04 (d)	0.0048 U	0.0055 UJ	0.0041 U	0.0041 U	0.101 PDJ
Endrin	0.002775	23 (d)	0.0048 U	0.00501 J	0.0041 U	0.0041 U	0.00589 PJ
Endrin Aldehyde	0.002575	--	0.00893 PJ	0.00987	0.0041 U	0.0041 U	0.0038 U
Heptachlor	0.001325	0.14 (d)	0.0025 U	0.0028 UJ	0.0021 U	0.0021 U	0.002 U
Heptachlor Epoxide	0.00125	0.07 (d)	0.0025 U	0.0028 UJ	0.0021 U	0.0021 U	0.002 U

Key at end of table.

Table E-14

SUMMARY OF ORGANIC RESULTS FOR OFF-SITE SUBSURFACE SOIL - 18 TO 24 INCHES
EXPANDED SITE INSPECTION
AGRICULTURE STREET LANDFILL, NEW ORLEANS, LOUISIANA
SEPTEMBER 1993
(mg/kg, dry weight)

Analyte	Background Concentration (a)	TBC (b)	Location Designation/Sample Number				
			ESI52/SS-9	ESI54/SS-48	ESI58/SS-51	ESI61/SS-30	ESI64/SS-82
Volatile Organic Compounds							
Acetone	0.00825	79000 (c)	0.045 J	0.018 U	0.23	0.014 U	0.012 U
Carbon Disulfide	0.008	27000 (c)	0.013 UJ	0.018 U	0.012 U	0.014 U	0.012 U
Chloroform	0.008	110 (c)	0.002 J	0.018 U	0.012 U	0.014 U	0.012 U
Methylene Chloride	0.014	85 (c)	0.027 BJ	0.018 U	0.001 J	0.004 J	0.028 B
Tetrachloroethene	0.008	13 (c)	0.04 J	0.018 UJ	0.012 U	0.019 J	0.066 J
Toluene	0.008	55000 (c)	0.013 J	0.018 UJ	0.012 U	0.014 UJ	0.012 UJ
Trichloroethene	0.008	58 (c)	0.013 UJ	0.018 UJ	0.012 U	0.014 U	0.012 UJ
Xylene	0.008	550000 (c)	0.013 UJ	0.018 UJ	0.012 U	0.014 UJ	0.012 UJ
Semivolatile Organic Compounds							
Acenaphthene	0.265	16000 (c)	2 J	0.61 U	0.047 J	0.44 U	0.39 U
Acenaphthylene	0.265	27000 (c)	8.7 U	0.61 U	0.41 U	0.062 J	0.39 U
Anthracene	0.265	82000 (c)	15	0.61 U	0.093 J	0.09 J	0.036 J
Benzo(a)anthracene	0.265	0.9 (c)	22	0.61 U	0.2 J	0.73	0.21 J
Benzo(a)pyrene	0.265	0.09 (c)	20 J	0.035 J	0.18 J	0.94	0.25 J
Benzo(b)fluoranthene	0.265	0.9 (c)	14 J	0.033 J	0.19 J	0.83	0.48 J
Benzo(g,h,i)perylene	0.265	1100 (c)	12 J	0.61 U	0.11 J	0.66	0.22 J
Benzo(k)fluoranthene	0.265	0.9 (c)	23 J	0.61 U	0.16 J	0.82	0.39 U
Butylbenzylphthalate	0.265	55000 (c)	8.7 U	0.61 U	0.41 U	0.44 U	0.066 J
Carbazole	0.265	32 (d)	2.3 J	0.61 U	0.087 J	0.44 U	0.39 U
Chrysene	0.265	9 (c)	23	0.047 J	0.22 J	0.62	0.27 J
Dibenz(a,h)anthracene	0.265	0.09 (c)	8.7 UJ	0.61 U	0.05 J	0.31 J	0.39 U
Dibenzofuran	0.265	--	1.2 J	0.61 U	0.41 U	0.44 U	0.39 U
Dimethylphthalate	0.265	780000 (d)	8.7 U	0.61 U	0.41 U	0.44 U	0.39 U
di-n-Butyl Phthalate	0.265	7800 (d)	8.7 U	0.61 U	0.41 U	0.19 J	0.04 J
Fluoranthene	0.2775	11000 (c)	30	0.05 J	0.53	0.85 J	0.31 J
Fluorene	0.265	11000 (c)	3.1 J	0.61 U	0.038 J	0.44 U	0.39 U
Indeno(1,2,3-cd)pyrene	0.265	0.9 (c)	10 J	0.036 J	0.11 J	0.63	0.18 J
2-Methylnaphthalene	0.265	--	8.7 U	0.61 U	0.41 U	0.082 J	0.39 U

Key at end of table.

Table E-14

SUMMARY OF ORGANIC RESULTS FOR OFF-SITE SUBSURFACE SOIL - 18 TO 24 INCHES
EXPANDED SITE INSPECTION
AGRICULTURE STREET LANDFILL, NEW ORLEANS, LOUISIANA
SEPTEMBER 1993
(mg/kg, dry weight)

Analyte	Background Concentration (a)	TBC (b)	Location Designation/Sample Number				
			ESI52/SS-9	ESI54/SS-48	ESI58/SS-51	ESI61/SS-30	ESI64/SS-82
Naphthalene	0.265	1100 (c)	8.7 U	0.61 U	0.41 U	0.22 J	0.39 U
Phenanthrene	0.2775	7900 (c)	33	0.61 U	0.34 J	0.36 J	0.12 J
Pyrene	0.2725	8200 (c)	50	0.075 J	0.36 J	0.8	0.26 J
Pesticide/PCBs							
alpha-BHC	0.00135	0.1 (d)	0.0022 U	0.0031 UJ	0.0021 U	0.0023 U	0.002 U
beta-BHC	0.00135	0.35 (d)	0.0022 U	0.0031 UJ	0.0021 U	0.0023 U	0.002 U
delta-BHC	0.001175	--	0.0022 U	0.0031 UJ	0.0021 U	0.0023 U	0.002 U
gamma-BHC	0.001325	0.49 (d)	0.0022 U	0.0031 UJ	0.0021 U	0.0023 U	0.002 U
alpha-Chlordane	0.001175	0.49 (d)	0.112	0.0031 U	0.0021 U	0.00372 PJ	0.00585 PJ
gamma-Chlordane	0.001325	0.49 (d)	0.15 PDJ	0.0031 U	0.0021 U	0.00244 PJ	0.00927 PJ
4,4'-DDD	0.002775	2.7 (d)	0.0043 U	0.0061 UJ	0.0041 U	0.00452 PJ	0.0039 U
4,4'-DDE	0.01065	1.9 (d)	0.00973 PJ	0.0061 UJ	0.0041 U	0.0068 PJ	0.0039 U
4,4'-DDT	0.002875	1.9 (d)	0.0144 PJH	0.0061 U	0.0041 U	0.0045 U	0.0183 PJ
Dieldrin	0.002275	0.04 (d)	0.0043 U	0.0061 UJ	0.0314 PJ	0.00531 PJ	0.0039 U
Endrin	0.002775	23 (d)	0.0043 U	0.0061 UJ	0.0041 U	0.00709 PJ	0.0054 PJ
Endrin Aldehyde	0.002575	--	0.0043 U	0.011	0.00768	0.0045 U	0.00451 PJ
Heptachlor	0.001325	0.14 (d)	0.0087 PJ	0.0031 UJ	0.0021 U	0.0023 U	0.002 U
Heptachlor Epoxide	0.00125	0.07 (d)	0.0129	0.0031 UJ	0.0021 U	0.0023 U	0.002 U

Key at end of table.

Table E-14

SUMMARY OF ORGANIC RESULTS FOR OFF-SITE SUBSURFACE SOIL - 18 TO 24 INCHES
EXPANDED SITE INSPECTION
AGRICULTURE STREET LANDFILL, NEW ORLEANS, LOUISIANA
SEPTEMBER 1993
(mg/kg, dry weight)

Analyte	Background Concentration (a)	TBC (b)	Location Designation/Sample Number				
			ESI69/SS-39	ESI70/SS-42	ESI72/SS-61	ESI73/SS-63	
Volatile Organic Compounds							
Acetone	0.00825	79000 (c)	0.038	0.034	0.011 U	0.011 U	
Carbon Disulfide	0.008	27000 (c)	0.013 U	0.012 U	0.011 U	0.011 U	
Chloroform	0.008	110 (c)	0.013 U	0.002 J	0.011 U	0.011 U	
Methylene Chloride	0.014	85 (c)	0.042	0.039	0.002 JB	0.011 U	
Tetrachloroethene	0.008	13 (c)	0.013 UJ	0.006 J	0.011 UJ	0.011 U	
Toluene	0.008	55000 (c)	0.013 UJ	0.012 UJ	0.011 UJ	0.011 U	
Trichloroethene	0.008	58 (c)	0.013 UJ	0.012 U	0.011 UJ	0.011 U	
Xylene	0.008	550000 (c)	0.013 UJ	0.012 UJ	0.011 UJ	0.011 U	
Semivolatile Organic Compounds							
Acenaphthene	0.265	16000 (c)	0.43 U	0.034 J	0.35 U	0.35 U	
Acenaphthylene	0.265	27000 (c)	0.43 U	0.41 U	0.35 U	0.35 U	
Anthracene	0.265	82000 (c)	0.43 U	0.41 U	0.35 U	0.35 U	
Benzo(a)anthracene	0.265	0.9 (c)	0.43 U	0.19 J	0.35 U	0.35 U	
Benzo(a)pyrene	0.265	0.09 (c)	0.43 U	0.18 J	0.35 U	0.35 U	
Benzo(b)fluoranthene	0.265	0.9 (c)	0.088 J	0.18 J	0.062 J	0.35 U	
Benzo(g,h,i)perylene	0.265	1100 (c)	0.43 U	0.41 U	0.35 U	0.35 U	
Benzo(k)fluoranthene	0.265	0.9 (c)	0.43 U	0.2 J	0.35 U	0.35 U	
Butylbenzylphthalate	0.265	55000 (c)	0.43 U	0.41 U	0.35 U	0.35 U	
Carbazole	0.265	32 (d)	0.43 U	0.41 U	0.35 U	0.35 U	
Chrysene	0.265	9 (c)	0.43 U	0.24 J	0.35 U	0.35 U	
Dibenz(a,h)anthracene	0.265	0.09 (c)	0.43 U	0.41 U	0.35 U	0.35 U	
Dibenzofuran	0.265	--	0.43 U	0.41 U	0.35 U	0.35 U	
Dimethylphthalate	0.265	780000 (d)	0.43 U	0.41 U	0.35 U	0.35 U	
di-n-Butyl Phthalate	0.265	7800 (d)	0.039 J	0.41 U	0.35 U	0.35 U	
Fluoranthene	0.2775	11000 (c)	0.081 J	0.18 J	0.041 J	0.35 U	
Fluorene	0.265	11000 (c)	0.43 U	0.41 U	0.35 U	0.35 U	
Indeno(1,2,3-cd)pyrene	0.265	0.9 (c)	0.43 U	0.094 J	0.35 U	0.35 U	
2-Methylnaphthalene	0.265	--	0.43 U	0.41 U	0.35 U	0.35 U	

Key at end of table.

Table E-14

SUMMARY OF ORGANIC RESULTS FOR OFF-SITE SUBSURFACE SOIL - 18 TO 24 INCHES
EXPANDED SITE INSPECTION
AGRICULTURE STREET LANDFILL, NEW ORLEANS, LOUISIANA
SEPTEMBER 1993
(mg/kg, dry weight)

Analyte	Background Concentration (a)	TBC (b)	Location Designation/Sample Number			
			ESI69/SS-39	ESI70/SS-42	ESI72/SS-61	ESI73/SS-63
Naphthalene	0.265	1100 (c)	0.43 U	0.41 U	0.35 U	0.35 U
Phenanthrene	0.2775	7900 (c)	0.083 J	0.14 J	0.35 U	0.35 U
Pyrene	0.2725	8200 (c)	0.1 J	0.32 J	0.042 J	0.35 U
Pesticide/PCBs						
alpha-BHC	0.00135	0.1 (d)	0.0022 U	0.0021 U	0.0018 U	0.0018 U
beta-BHC	0.00135	0.35 (d)	0.0022 U	0.0021 U	0.0018 U	0.0018 U
delta-BHC	0.001175	--	0.0022 U	0.0021 U	0.0018 U	0.0018 U
gamma-BHC	0.001325	0.49 (d)	0.0022 U	0.0021 U	0.0018 U	0.0018 U
alpha-Chlordane	0.001175	0.49 (d)	0.0201 PJ	0.01	0.0018 U	0.0018 U
gamma-Chlordane	0.001325	0.49 (d)	0.0112	0.00839 PJ	0.0018 U	0.0018 U
4,4'-DDD	0.002775	2.7 (d)	0.00806 PJ	0.0041 U	0.0035 U	0.0035 U
4,4'-DDE	0.01065	1.9 (d)	0.762 D	0.00622	0.0035 U	0.0035 U
4,4'-DDT	0.002875	1.9 (d)	0.203 D	0.00995	0.0035 U	0.0035 U
Dieldrin	0.002275	0.04 (d)	0.0586 EJ	0.00716 PJ	0.0035 U	0.0035 U
Endrin	0.002775	23 (d)	0.00681 PJ	0.0041 U	0.0035 U	0.0035 U
Endrin Aldehyde	0.002575	--	0.0043 U	0.0041 U	0.0035 U	0.0035 U
Heptachlor	0.001325	0.14 (d)	0.0022 U	0.0021 U	0.0018 U	0.0018 U
Heptachlor Epoxide	0.00125	0.07 (d)	0.0022 U	0.0021 U	0.0018 U	0.00994

Key at end of table.

Note:

The to be considered (TBC) value for alpha-chlordane and gamma-chlordane (0.49 mg/kg) is designated for total chlordane, not individual isomers. The TBC criteria were not exceeded in any sample based on the sum of detected isomer concentrations.

Key:

a = Sample concentrations above background levels are shaded. See Sections 4.1.3 and 4.2.1 concerning the determination of median background concentrations for surface and subsurface soil.
b = TBC criteria are provided herein only as a reference against which to compare on-site contaminant concentrations. Sample concentrations exceeding TBC criteria appear in boldface type. Remedial action objectives (RAOs) for site-specific contaminants of concern (COCs) are provided in the Feasibility Study (FS).
c = United States Environmental Protection Agency (EPA) Region 6 risked-based concentration (RBC).
d = EPA Region 3 RBC.
B = Sample result might be biased high due to laboratory or field contamination, but is usable for evaluating site-related contamination. The reported result is above five or ten times concentration in method or field blank.
H = Sample result is biased high due to interference, background contamination, or high spike recovery, but usable for evaluating site-related contamination.
J = Sample result is estimated with unknown bias due to calibration or quality control problems, but is usable for evaluating site-related contamination. This flag is also used if reported results are below the method detection limit, but above the instrument detection limit.
L = Sample result is biased low due to low spike recovery, but usable for evaluating site-related contamination.
mg/kg = Milligrams per kilogram.
N = Qualitative identification of result is questionable due to lack of confirmatory evidence, but data are usable for evaluating site-related contamination.
NA = Not applicable.
R = Sample results are rejected and data are unusable.
T = Qualitative identification of result is questionable due to absence of other commonly co-occurring pesticides, but data are usable for evaluating site-related contamination.
U = Parameter is undetected at reported quantitation limit. For organics, indicates that result is less than five times result in method, rinsate, or trip blank and is attributable to background contamination. For common laboratory contaminants (e.g., methylene chloride, 2-butanone, and bis-2-ethylhexy-phthalate), result is flagged if it is less than 10 times the method blank result.
UC = Parameter is undetected at reported quantitation limit. For inorganics, indicates that result is less than five times result in method or field blank and attributable to background contamination.

Source: Ecology and Environment, Inc., 1995.

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Table E-15

SUMMARY OF INORGANIC RESULTS FOR ON-SITE SUBSURFACE SOIL - 5 TO 6 FEET
EXPANDED SITE INSPECTION
AGRICULTURE STREET LANDFILL, NEW ORLEANS, LOUISIANA
SEPTEMBER 1993
(mg/kg, dry weight)

Analyte	Background Concentration (a)	TBC (b)	Location Designation/Sample Number				
			ESI13/SS-64	ESI24/SS-66	ESI25/SS-78	ESI33/SS-76	ESI40/SS-77
Aluminum	8825	79000 (c)	6538	5047.106	3941	4057	8309
Antimony	4.275	110 (c)	34.4 BJH	14.371 U	21.7 BJL	37 JL	44.5 JL
Arsenic	5.3	0.37 (c)	34.5	32.236 JH	14.5	50.5	98.3
Barium	147	14000 (c)	1677 JH	578.004	517 JL	670 JL	1281 JL
Beryllium	0.574995	0.15 (c)	1.1 JL	0.798 U	0.27 U	0.27 U	0.32 U
Cadmium	0.725	140 (c)	14 J	1.198 U	3.21 JL	11.9 JL	28.5 JL
Calcium	4036	NA	45006	37238.323	49658 J	37531 J	43696 J
Chromium	13.55	1400 (c)	102	87.413	21.7 JL	75.9 JL	107 JL
Cobalt	8.45	2.7 (c)	14.2	14.419	4.72	9.62	20.3
Copper	20.75	10000 (c)	552 J	254.958	116 J	947 J	686 J
Iron	15484.5	NA	101679 J	161157.685	37436	99628	158885
Lead	19.2	400 (c)	2608	1520	1207	1376	2754
Magnesium	4306	NA	6100 J	2829.182	2100	2663	3103
Manganese	205	27000 (c)	828	766.188	272	590	895
Mercury	0.075	82 (c)	1.6	0.988	0.64 J	1.09 J	0.33 J
Nickel	17.1	5500 (c)	62.2	244.842	28	74.2	71.8
Potassium	1633	NA	1265	518.962	565	720	1391
Selenium	0.4825	820 (c)	R	0.798 U	1.07 U	1.1	1.98
Silver	0.91	820 (c)	11.3	R	3.32 BJL	11.7 JL	7.27 JL
Sodium	136.5	NA	778 J	583.274	480	433	569
Thallium	0.37	19 (c)	0.43 BJH	3.214 JL	1.07 U	1.06 U	1.28 U
Vanadium	22.7	1800 (c)	20.8	4.79 U	11.2	26.2	37
Zinc	64.2	55000 (c)	5334	985.629	993 J	1738 J	4192 J

Key at end of table.

Note:

The to be considered (TBC) value for alpha-chlordane and gamma-chlordane (0.49 mg/kg) is designated for total chlordane, not individual isomers. The TBC criteria were not exceeded in any sample based on the sum of detected isomer concentrations.

Key:

a = Sample concentrations above background levels are shaded. See Sections 4.1.3 and 4.2.1 concerning the determination of median background concentrations for surface and subsurface soil.
b = TBC criteria are provided herein only as a reference against which to compare on-site contaminant concentrations. Sample concentrations exceeding TBC criteria appear in boldface type. Remedial action objectives (RAOs) for site-specific contaminants of concern (COCs) are provided in the Feasibility Study (FS).
c = United States Environmental Protection Agency (EPA) Region 6 risked-based concentration (RBC).
d = EPA Region 3 RBC.
B = Sample result might be biased high due to laboratory or field contamination, but is usable for evaluating site-related contamination. The reported result is above five or ten times concentration in method or field blank.
H = Sample result is biased high due to interference, background contamination, or high spike recovery, but usable for evaluating site-related contamination.
J = Sample result is estimated with unknown bias due to calibration or quality control problems, but is usable for evaluating site-related contamination. This flag is also used if reported results are below the method detection limit, but above the instrument detection limit.
L = Sample result is biased low due to low spike recovery, but usable for evaluating site-related contamination.
mg/kg = Milligrams per kilogram.
N = Qualitative identification of result is questionable due to lack of confirmatory evidence, but data are usable for evaluating site-related contamination.
NA = Not applicable.
R = Sample results are rejected and data are unusable.
T = Qualitative identification of result is questionable due to absence of other commonly co-occurring pesticides, but data are usable for evaluating site-related contamination.
U = Parameter is undetected at reported quantitation limit. For organics, indicates that result is less than five times result in method, rinsate, or trip blank and is attributable to background contamination. For common laboratory contaminants (e.g., methylene chloride, 2-butanone, and bis-2-ethylhexy-phthalate), result is flagged if it is less than 10 times the method blank result.
UC = Parameter is undetected at reported quantitation limit. For inorganics, indicates that result is less than five times result in method or field blank and attributable to background contamination.

Source: Ecology and Environment, Inc., 1995.

06:WPUZD:ZT2061_DFW1007-KEY_SOILS_RESULTS-03/08/95-D1

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Table E-16

SUMMARY OF ORGANIC RESULTS FOR ON-SITE SUBSURFACE SOIL - 5 TO 6 FEET
EXPANDED SITE INSPECTION
AGRICULTURE STREET LANDFILL, NEW ORLEANS, LOUISIANA
SEPTEMBER 1993
(mg/kg, dry weight)

Analyte	Background Concentration (a)	TBC (b)	Location Designation/Sample Number				
			ESI13/SS-64	ESI24/SS-66	ESI25/SS-78	ESI33/SS-76	ESI40/SS-77
Volatile Organic Compounds							
Acetone	0.01275	79000 (c)	1.4 J	0.58	3.6 EJ	1.1	0.93
2-Butanone	0.0075	47000 (d)	0.078 U	0.12 J	0.47 J	0.07 U	0.086 U
Carbon Disulfide	0.0075	27000 (c)	0.078 U	0.013 J	0.01 J	0.009 J	0.009 J
Chlorobenzene	0.0075	5500 (c)	0.078 U	0.018 J	0.029 UJ	0.07 U	0.086 U
Chloroform	0.0075	110 (c)	0.078 U	0.005 J	0.029 UJ	0.007 JB	0.01 JB
Methylene Chloride	0.0165	85 (c)	0.21 B	0.016 J	0.041 BJ	0.066 JB	0.09 B
Tetrachloroethene	0.0075	13 (c)	0.01 J	0.011 J	0.004 J	0.014 J	0.014 J
Toluene	0.0075	55000 (c)	0.078 U	0.007 J	0.004 J	0.01 J	0.019 J
Xylene	0.0075	550000 (c)	0.078 U	0.043 UJ	0.006 J	0.07 U	0.01 J
Semivolatile Organic Compounds							
Acenaphthene	0.255	16000 (c)	0.28 J	0.18 J	0.76 UD	0.3 JD	0.09 J
Acenaphthylene	0.255	27000 (c)	0.24 J	0.57 U	0.76 UD	0.93 UD	0.57 U
Anthracene	0.255	82000 (c)	0.4 J	0.16 J	0.079 JD	0.19 JD	0.073 J
Benzo(a)anthracene	0.255	0.9 (c)	1.2	0.49 J	0.76 UD	0.26 JD	0.28 J
Benzo(a)pyrene	0.255	0.09 (c)	1.1	0.35 J	0.3 JD	0.48 JD	0.41 J
Benzo(b)fluoranthene	0.255	0.9 (c)	2.5 J	0.59 J	0.42 JD	0.43 JD	0.42 J
Benzo(g,h,i)perylene	0.255	1100 (c)	0.63	0.28 J	0.16 JD	0.3 JD	0.27 J
Benzo(k)fluoranthene	0.255	0.9 (c)	0.52 UJ	0.57 UJ	0.76 UDJ	0.52 JD	0.42 J
Carbazole	0.255	32 (d)	0.52 U	0.042 J	0.76 UD	0.93 UD	0.57 U
Chrysene	0.255	9 (c)	1.3	0.55 J	0.76 UD	0.38 JD	0.43 J
Dibenz(a,h)anthracene	0.255	0.09 (c)	0.52 U	**0.093 J**	**0.12 JD**	**0.12 JD**	**0.13 J**
Dibenzofuran	0.255	--	0.52 U	0.047 J	0.76 UD	0.93 UD	0.032 J
1,4-Dichlorobenzene	0.255	27 (c)	0.028 J	0.2 J	0.76 UD	0.93 UD	0.042 J
Diethylphthalate	0.255	220000 (c)	0.52 U	0.05 J	0.76 UD	0.86 JD	0.57 U
di-n-Butyl Phthalate	0.255	7800 (d)	0.081 J	0.57 U	0.76 UD	0.099 JD	0.57 U
Fluoranthene	0.255	11000 (c)	2.3	0.62	0.2 JD	1 D	0.43 J
Fluorene	0.255	11000 (c)	0.19 J	0.14 J	0.075 JD	0.13 JD	0.05 J
Indeno(1,2,3-cd)pyrene	0.255	0.9 (c)	0.63	0.22 J	0.14 JD	0.27 JD	0.23 J
2-Methylnaphthalene	0.255	--	0.041 J	0.062 J	0.087 JD	0.048 JD	0.04 J

Key at end of table.

Table E-16

SUMMARY OF ORGANIC RESULTS FOR ON-SITE SUBSURFACE SOIL - 5 TO 6 FEET
EXPANDED SITE INSPECTION
AGRICULTURE STREET LANDFILL, NEW ORLEANS, LOUISIANA
SEPTEMBER 1993
(mg/kg, dry weight)

Analyte	Background Concentration (a)	TBC (b)	Location Designation/Sample Number				
			ESI13/SS-64	ESI24/SS-66	ESI25/SS-78	ESI33/SS-76	ESI40/SS-77
4-Methylphenol	0.255	14000 (c)	0.52 U	0.57 U	0.16 JD	0.23 JD	0.57 U
Naphthalene	0.255	1100 (c)	0.15 J	0.12 J	0.11 JD	0.11 JD	0.19 J
N-Nitrosodiphenylamine	0.255	130 (c)	0.27 J	0.39 J	0.76 UD	0.93 UD	0.062 J
Pentachlorophenol	0.625	5.3 (c)	1.2 U	1.4 U	0.46 JD	2.2 UD	1.4 U
Phenanthrene	0.255	7900 (c)	0.72	0.6	0.26 JD	0.51 JD	0.2 J
Pyrene	0.255	8200 (c)	2.1 D	0.93 J	0.76 UD	1.2 D	0.58
Pesticides/PCBs							
Aldrin	0.001175	0.038 (d)	0.0027 U	0.00393 PJ	0.002 U	0.0024 U	0.0029 U
gamma-BHC	0.001325	0.49 (d)	0.0027 U	0.000425 JP	0.002 U	0.0024 U	0.0029 U
alpha-Chlordane	0.001475	0.49 (d)	0.0027 U	0.00437 PJ	0.002 U	0.0033 PJ	0.00634 PJ
gamma-Chlordane	0.00135	0.49 (d)	0.0027 U	0.00455 PJ	0.00357	0.00244 PJ	0.00503 PJ
4,4'-DDD	0.002925	2.7 (d)	0.0052 U	0.0086	0.00486 PJ	0.00718 PJ	0.0309 PJ
4,4'-DDE	0.0116	1.9 (d)	0.0052 U	0.034 PJ	0.0126 PJ	0.0572	0.0201 PJ
4,4'-DDT	0.01145	1.9 (d)	0.0052 U	0.0118	0.00522 PJ	0.00961 PJ	0.0057 U
Endrin Aldehyde	0.0028	--	0.0052 U	0.00713	0.0038 U	0.0046 U	0.0057 U
Endrin Ketone	0.0028	--	0.0052 U	0.0057 U	0.0038 U	0.0102 PJ	0.0057 U
Heptachlor Epoxide	0.001275	0.07 (d)	0.0027 U	0.0048	0.002 U	0.0024 U	0.0029 U

Key at end of table.

Note:

The to be considered (TBC) value for alpha-chlordane and gamma-chlordane (0.49 mg/kg) is designated for total chlordane, not individual isomers. The TBC criteria were not exceeded in any sample based on the sum of detected isomer concentrations.

Key:

a = Sample concentrations above background levels are shaded. See Sections 4.1.3 and 4.2.1 concerning the determination of median background concentrations for surface and subsurface soil.
b = TBC criteria are provided herein only as a reference against which to compare on-site contaminant concentrations. Sample concentrations exceeding TBC criteria appear in boldface type. Remedial action objectives (RAOs) for site-specific contaminants of concern (COCs) are provided in the Feasibility Study (FS).
c = United States Environmental Protection Agency (EPA) Region 6 risked-based concentration (RBC).
d = EPA Region 3 RBC.
B = Sample result might be biased high due to laboratory or field contamination, but is usable for evaluating site-related contamination. The reported result is above five or ten times concentration in method or field blank.
H = Sample result is biased high due to interference, background contamination, or high spike recovery, but usable for evaluating site-related contamination.
J = Sample result is estimated with unknown bias due to calibration or quality control problems, but is usable for evaluating site-related contamination. This flag is also used if reported results are below the method detection limit, but above the instrument detection limit.
L = Sample result is biased low due to low spike recovery, but usable for evaluating site-related contamination.
mg/kg = Milligrams per kilogram.
N = Qualitative identification of result is questionable due to lack of confirmatory evidence, but data are usable for evaluating site-related contamination.
NA = Not applicable.
R = Sample results are rejected and data are unusable.
T = Qualitative identification of result is questionable due to absence of other commonly co-occurring pesticides, but data are usable for evaluating site-related contamination.
U = Parameter is undetected at reported quantitation limit. For organics, indicates that result is less than five times result in method, rinsate, or trip blank and is attributable to background contamination. For common laboratory contaminants (e.g., methylene chloride, 2-butanone, and bis-2-ethylhexy-phthalate), result is flagged if it is less than 10 times the method blank result.
UC = Parameter is undetected at reported quantitation limit. For inorganics, indicates that result is less than five times result in method or field blank and attributable to background contamination.

Source: Ecology and Environment, Inc., 1995.

06:WPUZD:ZT2061_DFW1007-KEY_SOILS_RESULTS-03/08/95-D1

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APPENDIX F

GEOPHYSICAL INVESTIGATION

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F. GEOPHYSICAL INVESTIGATION

F.1 INTRODUCTION

Surface magnetic and electromagnetic (EM) surveys were performed at the Agriculture Street Landfill (ASL) site from April 4 to April 11, 1994. Due to concerns over significant interference from cultural features (e.g., buildings, buried utilities, powerlines, steel-reinforced concrete streets, etc.), a test grid was established over the Mugrauer Playground to test the applicability of the instruments designated in the work plan at the site. Following the preliminary in-field analysis of the test grid data, magnetometer (MAG) and EM31 surveys were performed on the undeveloped portion of the landfill site, and MAG, EM31, and EM34-3 surveys were performed on the developed portion of the landfill site. The methodologies used to perform these surveys are described below. All references cited in this appendix are presented in Section 9 of the Remedial Removal Integrated Investigation (RRII) report.

F.2 THEORY AND GENERAL PROCEDURES

F.2.1 Magnetometer

All magnetometer surveys were performed using an EG&G Geometrics Model G-856 proton precession magnetometer to record the earth's total magnetic field in gammas, the magnetic unit of measure. Variations in magnetic field readings may result from the natural distribution of iron minerals in the soil and rock or the presence of ferrous metals on the surface or in the subsurface. The intensity of the earth's magnetic field fluctuates daily as a result of sunspots and ionospheric conditions, and these daily fluctuations are known as diurnal drift. The drift must be recorded at a base station and plotted throughout the day to calculate correction factors for the survey data. Magnetic readings were recorded periodically at an established ASL base station determined to be free from cultural interferences to

evaluate the extent of drift. Because the magnetic surveys were not performed continuously throughout each day, base station readings were recorded immediately before and after each survey and at approximately 30-minute intervals during each individual survey.

When determining the presence of a buried object, the signal response of the magnetometer is influenced by several factors, including:

- The ferrous mass of the buried target. The mass of a buried ferrous object is a significant factor in the magnetometer's response, and the response is directly proportional to the amount of ferrous material present;

- The depth of the target. The depth of the target is also significant because the magnetometer's response varies by 1 over the distance cubed ($1/d^3$), resulting in a decrease by a factor of eight whenever the distance between the target and the magnetometer is doubled;

- The permanent and induced magnetism of the target. The effect of permanent magnetism is much greater than the induced magnetism from the earth's field. It can greatly increase or reduce the resulting anomaly (Benson *et al.* 1982);

- The shape and orientation of the target. The shape and orientation of the buried target has a direct effect on the profile of the magnetic anomaly, and the interpretation of the anomaly's shape determines the shape and orientation of the source or target (Telford *et al.* 1976); and

- The amount of deterioration of the target. Target mass is lost by deterioration mass resulting in a decreased instrument response (Benson *et al.* 1982).

Based on these studies, a direct relationship appears to exist between the distance between signal peaks (h) and the target depth (z), where z is defined as the top of the source as measured from the magnetic surface or instrument height. This relationship can be written in an empirical equation $z = Kh$, where K varies from 0.5 to 0.7. The application of this formula may not be appropriate for all sites, however, because of various interferences.

All magnetic data associated with the ASL site were recorded electronically in the field and stored by the instrument. Data were downloaded using MAGPAC® , Version 4.1.5 software and processed using Surfer®, Version 4.15 software and Geosoft®, Version 3.04.00 software. Corrections for diurnal drift were performed using MAGPAC® prior to processing.

F.2.2 Electromagnetic Instruments

The EM survey on the undeveloped landfill was performed using the Geonics, Ltd. EM31, and both the EM31 and EM34-3 were used on the developed landfill. The EM31 and EM34-3 record bulk terrain conductivity in millimhos per meter (mmhos/m), the conductivity unit of measure. Terrain conductivity is influenced naturally by soil and rock type, thickness, and porosity, soil moisture, specific conductance of groundwater, the presence of artificial features on the surface or in the subsurface (e.g., fences, pipelines, drums, and tanks). Unlike the magnetometer, which measures the earth's total magnetic field and is sensitive only to the presence of ferrous metals, EM instruments create or induce a primary magnetic field with a transmitter coil. The transmitter coil creates a secondary magnetic field in subsurface materials, including contaminants, that is detected with the primary field by a receiver coil. The ratio of the secondary magnetic field to the primary magnetic field is linearly proportional to the terrain conductivity.

The depth of penetration of the instrument signal is a function of the orientation of the transmitter and receiver coils and the distance between the coils (intercoil spacing). The orientation of the coils determines the position of the dipole of the magnetic field. The dipole runs through the center of the coils; therefore, by rotating the coils, the dipole is changed from vertical to horizontal (or vice versa). The effective depth of penetration in the vertical dipole mode is calculated by multiplying the intercoil spacing by 1.5, and the effective depth of penetration in the horizontal dipole mode is determined by multiplying the intercoil spacing by 0.75. However, the maximum contribution to the secondary magnetic field is at a depth of 0.4 times the intercoil spacing in the vertical dipole mode and near-surface in the horizontal dipole mode (McNeill 1980). Actual penetration depths are affected by electrical properties of the subsurface. Both the EM31 and EM34-3 operate under the same principles, but the capabilities of each instrument vary slightly.

EM31

The EM31 has a fixed intercoil spacing of 3.7 meters (12 feet), yielding an effective depth of penetration of approximately 5.6 meters (18 feet) in the vertical dipole mode and approximately 2.8 meters (9 feet) in the horizontal dipole mode. Vertical dipole readings are recorded with the instrument in the normal operating position, and horizontal dipole readings are recorded by rotating the instrument on its side. Two sets of readings can be recorded in

each dipole mode at each survey station: one with the instrument oriented north-south (orientation 1), and the other with the instrument oriented east-west (orientation 2). The instrument is laterally rotated to determine whether the subsurface material beneath the survey station is homogeneous. If no significant meter fluctuations are detected during the rotation, then the subsurface is homogeneous. If fluctuations are detected, then the change is caused by a buried object. The fluctuations are caused by the orientation of that object with respect to the plane between the instrument coils. Therefore, four readings (where possible) can be collected at each station: vertical dipole/north-south (V1), vertical dipole/east-west (V2), horizontal dipole/north-south (H1), and horizontal dipole/east-west (H2). Because of significant interference in the vertical dipole mode by the steel-reinforced concrete-paved streets, only horizontal dipole (H1 or H2) readings were recorded along profile lines in the streets (see Section 2.3).

All data were recorded electronically and stored by an Omnidata International, Inc. Polycorder Model D2720®. Data were downloaded using DAT31®, Version 3.2 software (Geonics Ltd. 1991) and processed using Surfer®, Version 4.15 software (Golden Software, Inc. 1990) and Geosoft®, Version 3.04.00 software.

EM34-3

The EM34-3 has a variable intercoil spacing of 10, 20, and 40 meters (33, 66, and 131 feet), yielding an effective depth of penetration of approximately 15 to 60 meters (49 to 197 feet) in the vertical dipole mode and approximately 7.5 to 30 meters (25 to 98 feet) in the horizontal dipole mode. Because the area of concern at the ASL site is generally less than 40 feet BGS, only the 10-meter spacing interval was utilized during the geophysical investigation.

Readings from the EM34-3 were recorded manually in the field logbook and entered directly into Surfer®, Version 4.15 software and Geosoft®, Version 3.04.00 software for processing.

F.3 SURVEY-SPECIFIC PROCEDURES

F.3.1 TEST GRID SURVEY

The test grid was established over the Mugrauer Playground, located south of the school and north of the project command post (see Figure 2-1 in the RRII report). This area

F.3.2 UNDEVELOPED AREA SURVEY

MAG and EM31 readings were initially collected at all accessible 200-foot site survey nodes in the undeveloped area of the landfill where no major surficial cultural interference were present (e.g., powerlines, fences, junked cars, etc.). The geophysical survey grid was generally "L-shaped" as seen Figure 2-1 in the RRII report. The geophysical survey area extended 1,600 feet from east to west, node line E4 to node line W4; and 2,400 feet to the north to south, node line N9 to node line S3 and 2,400 feet to the north to south, node lines NJ9 to node line S3. Survey nodes where instrument readings were recorded are indicated on the contour maps by solid red symbols.

One set of MAG readings was electrically recorded at each survey node and later corrected for diurnal drift. Four EM31 ground conductivity readings were manually recorded at each survey node. In addition to the readings collected at each node, continuous visual observance of EM31 readings was performed while traversing between nodes. MAG readings could not be continuously observed due to the limitations of the instrument. Ground conductivity relatively was generally constant along most of the traversal, but two areas were observed to have elevated ground conductivities which were not related to observable cultural features (e.g., light poles, power poles, streets). These areas were located in the southern portion of the geophysical survey grid 44 feet south of grid node E1S1; and in the southwest portion of the geophysical survey grid, 40 feet east and 27 feet south of grid node W3NO. One additional reading was recorded at those locations as part of the initial survey.

Once the initial survey was complete, the data was processed using aforementioned methods and evaluated in the field. Detailed surveys were then performed in both of the above-mentioned areas. A 40-foot by 40-foot grid with a 20-foot station and line spacing was set up 20 feet south of E1S1; and a 200 (east-west) by 75-foot (north-south) grid with a 25-foot station and line spacing was set up between W3N0 and W2N0. These grids were established to better define the detected anomalies by decreasing the station spacing and increasing the instrument signal resolution.

F.3.3 DEVELOPED AREA SURVEY

Due to the limited access and abundant interferences caused by cultural features in the developed portion of the landfill site, geophysical survey readings were not collected at the 200-foot site survey nodes. However, in an attempt to identify the northernmost and

was selected because it is a flat-lying grass field allowing easy instrument access, and it is believed to be underlain by landfill materials based on a review of historic aerial photographs.

The test grid was established by placing pin-flags at 25-foot station spacings along lines spaced 25 feet apart in 300-foot (east-west) by 125-foot (north-south) area. The origin of the grid (grid coordinate 0,0) was located 21 feet east and 75 feet north of the northwest corner of the command post. The orientation of the north-south lines in the grid was 12 degrees east of north (N12E). MAG and EM31 readings were recorded at each grid station throughout the entire test grid.

One set of MAG readings was electronically recorded at each survey node, and later corrected for diurnal drift using daily base station readings. The base station for all surveys is 300 feet east of 0,0 on the test grid at test grid location 300,0. Base station readings were recorded before and after the test survey due to the short duration of the survey. The base station was chosen to be an area free from cultural interferences.

Four EM31 ground conductivity readings were electronically recorded at each survey node. The four readings consisted of horizontal and vertical dipole readings with the instrument oriented north-south (H1 and V1) and horizontal and vertical dipole readings with the instrument oriented east-west (H2 and V2). In general, a typical magnetic and EM31 signature were identified; therefore, the instruments would be used to survey the remaining portions of the undeveloped area. However, the effects from cultural interference in the developed portion of the landfill were still of concern. In order to determine whether the instruments would provide valid magnetic and EM readings from the developed portion of the landfill, the preliminary survey was continued by running profile lines along Industry Street (see Section F.3.3).

The test grid was also used to obtain a signal signature for the EM34-3 using the 10-meter (33-foot) intercoil spacing. Due to the large intercoil spacing, readings were recorded at 50-foot station spacings (by skipping a 25-foot node) along each line. The lines were still spaced 25-feet apart, but only the western half of the original grid was surveyed. Two readings were manually recorded at each 50-foot station. These readings consisted of horizontal (H1) and vertical (V1) dipole modes with the coils oriented north-south. The preliminary survey for this instrument was also continued along Industry Street to determine the effects from cultural interference (see Section F.3.3).

easternmost boundaries of the landfill, profile lines were run on north-south and east-west trending streets and boulevards crossing or parallelling the former 1952 landfill boundary (i.e., Industry, Feliciana, Abundance, Treasure, Benefit, Montegut, Humanity, Pleasure, and Higgins). These lines initially consisted of 25-foot station spacings marked with fluorescent paint along the center line of the street, and on the northern and southern portion of the Higgins Boulevard median. The lines originated on and traversed several hundred feet across the known landfill, and extended several hundred feet past the 1952 boundary. The 1952 landfill boundary was determined based on historic aerial photographs, and a demarcation of this boundary was visible in the field as marked by fences and/or vegetation between the older homes and the newer homes in the neighborhood. This demarcation was prominent throughout most of the surveyed area.

A preliminary survey was performed along Industry Street with the MAG and EM31 to determine the effects from the steel-reinforced concrete pavement. The data from this initial profile line was downloaded and evaluated in the field. The results from the MAG were inconclusive as to whether there was significant interference from the steel-reinforced pavement. The results from the EM31 indicated that readings taken in the vertical dipole mode displayed too much interference; however, horizontal dipole readings appeared to show minimal interference. Therefore, the surveying of the remaining profile lines in the streets was continued with the MAG and EM31 in the horizontal dipole mode. One set of MAG readings was electronically recorded at each profile station and later corrected for diurnal drift using daily base station readings. Two EM31 readings were electronically recorded at each profile station. The two readings consisted of horizontal dipole readings with the instrument oriented north-south (H1) and east-west (H2). Upon completion of the remaining profile lines along the streets, the data was downloaded, processed, and evaluated in the field.

Based on these results, the EM34-3 with the 10-meter (33-foot) intercoil spacing was used to supplement the MAG and EM31 surveys. EM34-3 readings of ground conductivity were manually recorded at every other station (e.g., 50-foot spacings) along each of the profile lines. As with the EM31, the EM34-3 also experienced significant interference in the vertical dipole mode from the steel-reinforced pavement; therefore, only horizontal dipole readings were collected. Due to the large intercoil spacing and limited width of the streets, readings were only recorded with the instrument coils parallel to the center line of the street (i.g., north-south [H1] along Feliciana and Montegut Streets, and east-west [H2] along

Industry, Abundance, Treasure, Benefit, Humanity and Pleasure streets, and Higgins Boulevard). Upon completion of the EM34-3 survey profiles, the data was processed and evaluated in the field. Data from the MAG, EM31, and EM34-3 were reviewed for their effectiveness in determining the landfill boundary. Review of the MAG results indicated that this instrument did not depict the landfill boundary due to cultural interference and the nature of the landfill material (i.e., generally nonmetallic). However, the landfill boundary appeared to be visible in some EM31 and EM34-3 profiles. To verify the boundary and increase the spacial resolution, the portion of the profile lines crossing the former 1952 landfill boundary was resurveyed with the EM31 and EM34-3 and a reduced station spacing of one half of the original spacing (i.e., 12.5 feet for the EM31, and 25 feet for the EM34-3). Only those orientations (H1 or H2) which appeared to show the boundary in the original profile results were used during the repeated survey. Data from the resurveyed profile lines were also downloaded and evaluated in the field.

In addition to the profile lines, a small 100-foot (east-west) by 75-foot (north-south) grid was set up from the centerline of Feliciana Street and extended eastward onto a vacant lot. The (0,0) coordinates of this small grid were located at node E3N2. This grid was established to provide information for a perimeter well proposed for the area. The grid was surveyed with the EM31 and EM34-3 with 10-meter (33-foot) intercoil spacing.

F.4 RESULTS

F.4.1 Test Grid

Magnetometer

The magnetometer survey conducted over the test grid attempted to establish the base magnetic signature of the former landfill. The eastern half of the test grid showed a relatively flat magnetic signature with values from approximately 49,300 gammas to 51,500 gammas, with the highest values along the northern border (see Figure F-1). The western portion of the test grid shows more variation in the magnetic contours. A negative anomaly with an approximate value of approximately 47,000 gammas was identified at test grid node 75,50, and two small positive anomalies were located at test grid nodes 25,50 (approximately 54,900 gammas) and 100,50 (approximately 53,700 gammas). These positive anomalies may be complementary to larger negative anomalies and can be used to calculate the possible depth of the buried object. Using the equation from F.2.1 and a spacing between the anomalies of 25

feet, the depth of the object appears to be 12.5 to 17.5 feet. The range in the depth of this object corresponds to the thickness of the fill in this area. The linear anomaly trending east-west long the 125-foot grid line from 0 to 150 may be associated with a buried utility cable in the area.

The base station for the magnetometer survey was located at test grid node 300,0. The values recorded during the geophysical study ranged from approximately 49,300 gammas to approximately 50,000 gammas. This information and data from the northern part of the undeveloped landfill suggest that the base magnetic signature of the landfill where significant anomalies are not present ranges from approximately 49,000 to 50,500 gammas. Similar baseline values were found along the street profiles (see Section F.4.3).

EM31

From the test grid at Mugrauer Playground, ground conductivity using the EM31 ranged from 75 to 275 millimhos/meter and was relatively consistent with varying intensities, between each contour plots (see Figures F-2, F-3, F-4 and F-5) EM31. In general, the highest conductivities occurred in the northwest portion of the grid and corresponded with the magnetic anomaly, and the lowest conductivities occurred in the central portion of the grid. The response of the instrument in the vertical dipole mode was approximately 50 millimhos/ meter higher than in the horizontal dipole mode, however, the magnitude of the changes was relatively the same. Therefore, the fill materials appear to occur at shallower depths. The point source anomaly detected by the magnetometer at 50,75 was not evident in any of the conductivity plots. Although the magnetometer is only sensitive to ferrous metal objects and the EM31 is sensitive to all objects which may cause a conductivity change, the object may be too small and shallow for the EM31 sensitivity. The undulating conductivities are believed to be the result of variations in the non-ferrous content (e.g., ash, glass, cans, tires, etc.) of the landfill materials.

EM34-3

The range of horizontal dipole (H1) ground conductivity values of the landfill identified by the EM34-3 from the test grid on the Mugrauer Playground (see Figure F-6) was relatively similar to the EM31 horizontal dipole readings. A large point source anomaly was detected in the vertical dipole (V1) contour plot (see Figure F-7) at grid station 100,100. The

source of this deeper anomaly is unknown, but it can be estimated to be at a depth of between 13 and 50 feet BGS. The anomaly it was not clearly detected in the horizontal dipole mode, which has the capability of penetrating 24 feet BGS, but due to the intensity of the anomaly and the relative thickness of landfill materials at the site (i.e., generally less than 40 feet BGS), the anomaly is suspected to originate in the shallower portion of the above-mentioned range (13 to 30 feet BGS).

Summary

The constituents of the landfill beneath the Mugrauer Playground appear to be primarily nonferro-metallic materials based on the overall even response of magnetometer and undulating response of the EM31. The fill material is estimated to be 13 to 30 feet thick. All three instruments (MAG, EM31, and EM34-3) functioned well in the test grid, and were believed to be adequate for determining landfill contents (ferro-metallic versus nonferro-metallic) and extent.

F.4.2 Undeveloped Area

Magnetometer

A large-scale, massive anomaly was detected by the magnetometer in proximity of site grid nodes W4 to W1 and N2 to N5 (see Figure F-8). The lowest value in this anomaly was approximately 12,000 gammas. Portions of this anomaly were caused by surface interference (e.g., powerlines along grid line N4 and at grid node W4N1; powerlines and metallic debris at W4N2; and metallic debris at W2N3). However, subsurface metallic debris is suspected in this area due to the size of the anomaly. According to the 1967 aerial photograph, autos, trucks and other metallic objects were stored in this area. A detailed grid with tighter station spacings was not surveyed across this area due to the size of the area (600 by 800 feet), and limitations caused by dense vegetation and surficial interference.

During the initial survey, elevated ground conductivity was detected by the EM31 in the southern portion of the undeveloped area 44 feet south of E1S1, and in the southwestern portion 40 feet east and 25 feet south of W3N0. Based on these readings, tighter grids were surveyed using the MAG and EM31. The magnetic readings in the grid established in proximity of the E1S1 grid node detected a small anomaly with a maximum difference of approximately 750 gammas in the magnetic field (see Figure F-9). This change is not

particularly high, therefore, the buried object was believed to be of low mass. Magnetic readings in the grid established south of grid lines 1 between W2 and W3 detected a major anomaly with variations up to 42,000 gammas or approximately 85% of the total earth's field (see Figure F-10). The anomaly is "L-shaped," generally trending east-west centered 25 feet south of the NO line from grid line W2 to 100 feet west of grid line W2 where it bends to the south extending outside the survey grid. An anomaly of such magnitude is indicative of a linear mass of buried ferrous material.

EM31

As with the magnetometer, a large-scale anomaly was detected by the EM31 between grid lines W4 to W1 and N1 to N5. The EM31 HI and H2 conductivity plots show a significant EM high at grid node W4N3 (See figures F-11 and F-12). Another high is mapped east of grid line E3 and north of grid line N0 which is the result of cultural feature interference. The overall contour pattern between the HI and H2 plots is similar. The absence of significant response in the EM31 V1 and V2 in the vertical dipole mode (see Figures F-13 and F-14) indicates that the anomaly is shallow or within 9 feet BGS. Both the H1 and H2 plots were very similar, with conductivities ranging 44 millimhos/meter to 702 millimhos/meter; however, the V1 and V2 plots had less variability in the range of conductivities, -171 millimhos/meter to 28 millimhos/meter. This variability is believed to be caused by the orientation of the instrument with respect to surficial interference.

Several smaller anomalies were identified from the conductivity contour plots for the undeveloped landfill. The sources of these anomalies include the power line tower in proximity of grid node W4N1, the powerline pole in proximity of W2N4, and a street lamp in proximity of E1N0. The two anomalies resurveyed by the magnetometer discussion were also addressed by the EM survey. The anomaly south of grid node E1S1 was resurveyed using a smaller grid spacing of 20 feet to enhance the resolution. The conductivity values range from 67 millimhos/meter to 166 millimhos/meter (see Figures F-15, F-16, F-17 and F-18), and it was most prominent in the V2 plot (see Figure F-18). Since the magnetic and conductivity variation was relatively minor with a stronger variation from the EM31 oriented east-west, the anomaly was believed to be a linear feature oriented approximately north-south at a depth of approximately 5 feet BGS or slightly greater.

The repeated survey of the anomaly in the proximity of grid line N0 between grid line W2 and W3 of the undeveloped area indicated variable conductivity throughout the entire grid in all of the plots (see Figures F-19, F-20, F-21, and F-22). These variations appeared to be caused by localized point sources with the highest conductivity at W3-150, N0-25. Due to the relative uniformity between both the horizontal dipole and vertical dipole plots, the objects are believed to be between 5 and 15 feet BGS. The anomalies do not seem to be significantly affected or related to the power lines which run along grid line N0. The shapes of anomalies appear much different from the magnetometer response, possibly due to surface interference from scattered metallic debris and steel-reinforced concrete debris. The linearity, location, and L-shaped configuration of the magnetometer contours indicate that interference from the power lines is not the cause of the observed magnetic anomaly.

Summary

Except for a few localized areas, most of the undeveloped area of the landfill contains very little large-scale metallic debris. Test pit excavations performed to characterize the nature of the more prominent, unexplainable anomalies (i.e., those not caused by surficial interference), revealed that most of these anomalies were caused by disseminated metallic debris consisting mainly of sheet metal and car parts. Therefore, the anomalies do not represent the presence of large buried ferrous objects (e.g., 55-gallon drums or tanks).

F.4.3 Developed Area

The developed area of the landfill was surveyed by running profile lines along the streets which intersected or paralleled the former 1952 landfill boundary. Due to interference from cultural features and the nature of the landfill materials (i.e., low ferrous metal content) the magnetometer did not provide a clear demarcation of the landfill boundary. However, some of the orientations of the EM31 and EM34-3 appeared to provide a distinct determination of the landfill boundary. In general, the northernmost and easternmost landfill boundary appeared to coincide ($\pm$25 - 50 feet) with the 1952 landfill boundary depicted in historic aerial photographs. This was determined by a general baseline shift or increase in ground conductivity as the EM31 and EM34-3 passed from the compacted ash and other landfill debris onto the natural silts and clays off of the former landfill. Due to the varying thickness of the landfill debris, the baseline shift was not always a prominent feature, however, the

overall results appear to support the aerial photography documentation. EM34-3 profiles provided the clearest distinction of the landfill boundary due to its increased signal strength and depth of penetration resulting in a reduced susceptibility to surface interference.

The following summary presents the various profiles noted along the surveyed streets.

Industry Street

- There was a slight baseline shift (~ 300-400 gammas) as the magnetometer passed over from blacktop to steel-reinforced concrete pavement, followed by a few minor fluctuations and a significant spike at the end of the profile line near the intersection of Industry and Metropolitan streets (see Figure F-23). The landfill boundary was undefined in this profile;

- There was a significant baseline shift (~ 200 millimhos/meter) in the EM31 H1 and H2 plots (see Figures F-24 and F25) as the instrument passed over from blacktop to concrete pavement. Fluctuations in the conductivity throughout the remaining portion of the profile did not clearly indicate the landfill boundary; and

- There was only a minor baseline shift in the EM34 (10M) H2 plots as the instrument passed from blacktop to concrete; however, conductivity significantly increased (>60 millimhos)to the east of the former 1952 landfill boundary in both the initial survey and detailed survey (see Figures F-26 and F-27). The smaller grid spacing provided better resolution of the boundary.

Feliciana Street

- Several magnetic spikes (200 to 400 gammas) were detected by the magnetometer that can be attributed to buried utilities along this profile line. The major spike near the intersection of Feliciana and Treasure streets is due to a sewer line (see Figure F-28). The landfill boundary was undefined in this profile;

- A significant baseline shift was detected in the EM31 H1 (approximately 85-90 millimhos/meter), and EM34 (10M) H1 plots which coincide with the 1952 landfill boundary (see Figures F-29 and F-31). Although there were numerous conductivity spikes throughout the profile line, overall conductivity increased east of the former landfill in the EM31 H1 and EM34-3 HI plots; and

- In addition to the profile line along Feliciana Street, a small 100-foot (east-west) by 75-foot (north-south) grid was set up from the center-line of Feliciana Street that extended east to a vacant lot near the south end of the street. The grid origin, 0,0 as established at grid node E3N1. EM31 H1 and H2 and EM34 (10M) H2 readings were collected in this grid (see Figures F-32, F-33, and F-34). There were no significant anomalous features in this grid in any of the plots, except for increased conductivity along the western half of the grids caused by the steel-reinforced concrete pavement of Feliciana Street, and a small anomaly between Station 50,25 and 75,25 in the EM34 (10M) H2 plot. The source of this anomaly is unknown.

Abundance Street

- A baseline shift of approximately 1,000 gammas occurred in the magnetometer plot at the 1952 landfill boundary (see Figure F-35). It is possible that this is representative of the former landfill boundary; and

- There was an increase in conductivity approximately 50 feet east of the 1952 landfill boundary in the EM31 H1, H2, H1 detail, H2 detail, and EM34 (10M) H2 and H2 detail plots (see Figures F-36 through F-41). This is believed to represent the landfill boundary.

Treasure Street

- Two magnetic spikes were detected in the vicinity of the 1952 landfill boundary (see Figure F-42). The first spike coincides with a sewer grate, and the second spike coincides with a parked truck. Therefore, this profile is inconclusive in depicting the landfill boundary; and

- The EM31 H1 and H2 plots (see Figures F-43 and F-44) do not clearly depict the landfill boundary, possibly due to interference from a parked truck at the 1952 landfill boundary. However, a repeated survey of the area with a tighter station spacing was performed after the truck had been removed and it indicated an a small increase of 2-50 millimhos/meter in conductivity (30-40 millimhos/meter) in the EM31 H1 Detail, H2 Detail, and EM34 (10M) H2 and H2 Detail plots (see pages Figures F-45 through F-48) at the 1952 landfill boundary.

Montegut Street

- Numerous magnetic fluctuations occurred along this profile with no depiction of the landfill boundary (see Figure F-49); and

- A baseline shift was detected in the EM31 H1 and H2, and in EM34 (10M) H1 plots as the instruments passed from the grassy area of the Press Park Community Center to the steel-reinforced concrete street (see Figures F-50, F-51, and F-52). Conductivity steadily increased from the former 1952 landfill boundary to the north, away from the landfill in all three plots and may be related to the extensive residential development in proximity to the street. It is not possible to define a change which is related to the landfill boundary.

Benefit Street

- Numerous magnetic fluctuations occurred along this profile with no depiction of the landfill boundary (see Figure F-53); and

- There were numerous conductivity fluctuations along this profile in the EM31 H1, H1 Detail, and H2 plots (see Figures F-54, F-55 and F-56) with no depiction of the landfill boundary. However, the EM34 (10M) H2, H2 Detail, and EM34 (10M) plot 50 feet south of Benefit Street indicated a slight increase of 10-20 millimhos/meter in ground conductivity at the 1952 landfill boundary which continued to the east (see Figures F-57, F-58, and F-59) . These trends are not totally conclusive in the demarcation of the boundary.

Humanity and Pleasure Streets

- There were no distinct depictions of the landfill material from any of the profiles along these streets (see Figures F-60 through F-67). Since the 1952 landfill boundary was located to the west of these streets, it appears that the anomalies detected in the profiles were from buried utilities or the instrument moving from grass to steel-reinforced pavement at the intersection of Pleasure Street and Higgins Boulevard.

Higgins Boulevard

- Both magnetic profile lines along the Higgins Boulevard median showed relatively constant magnetic fields, except for large variances at the beginning and middle of each profile (see Figures F-68 and F-69). A review of historic aerial photographs of the area indicated the presence of a large concrete culvert beneath the west end of the

Higgins Boulevard median. The variance in the central portion of the profile corresponds to crossover bisecting the median. The steel-reinforcement in the pavement, and possibly buried utilities in conjunction with overhead power lines, are accountable for the magnetic fluctuation. There was no depiction of landfill materials beneath the median;

- Ground conductivity fluctuated throughout all of the profile lines in both the horizontal and vertical dipole modes for the EM31 (see Figures 70 through F-77) and the horizontal dipole for the EM34-3 (see Figures F-78 and F-79). These fluctuations were caused by the buried culvert mentioned above, the bisecting streets (St. Ferdinand, Press, and Montegut streets), and buried utilities. There was no clear depiction of landfill materials beneath the median; and

- Results of a profile line oriented perpendicular to the median originating from the landfill and extending across the eastbound Higgins Boulevard lane onto the median indicated a relative increase in ground conductivity as the instrument moved off the landfill (see Figures F-80 and F-81). Although the northernmost extent of the landfill could not be determined by the profile due to interference from the steel-reinforced concrete pavement and the buried sewer line beneath the median, it appears that the boundary is within 25 feet of the eastbound lane. The EM34-3 did not clearly depict the landfill boundary, possibly due to the deeper penetration capabilities of the instrument and shallowness of the fill materials.

Summary

Based on the above interpretations of the profile lines, the 1952 landfill boundary appeared to be confirmed at the northernmost and easternmost extent of the landfill ($\pm$ 25-50 feet). The surveys did not indicate any landfill materials beyond the 1952 boundary of the ASL site.

GEOPHYSICAL SURVEY ILLUSTRATIONS

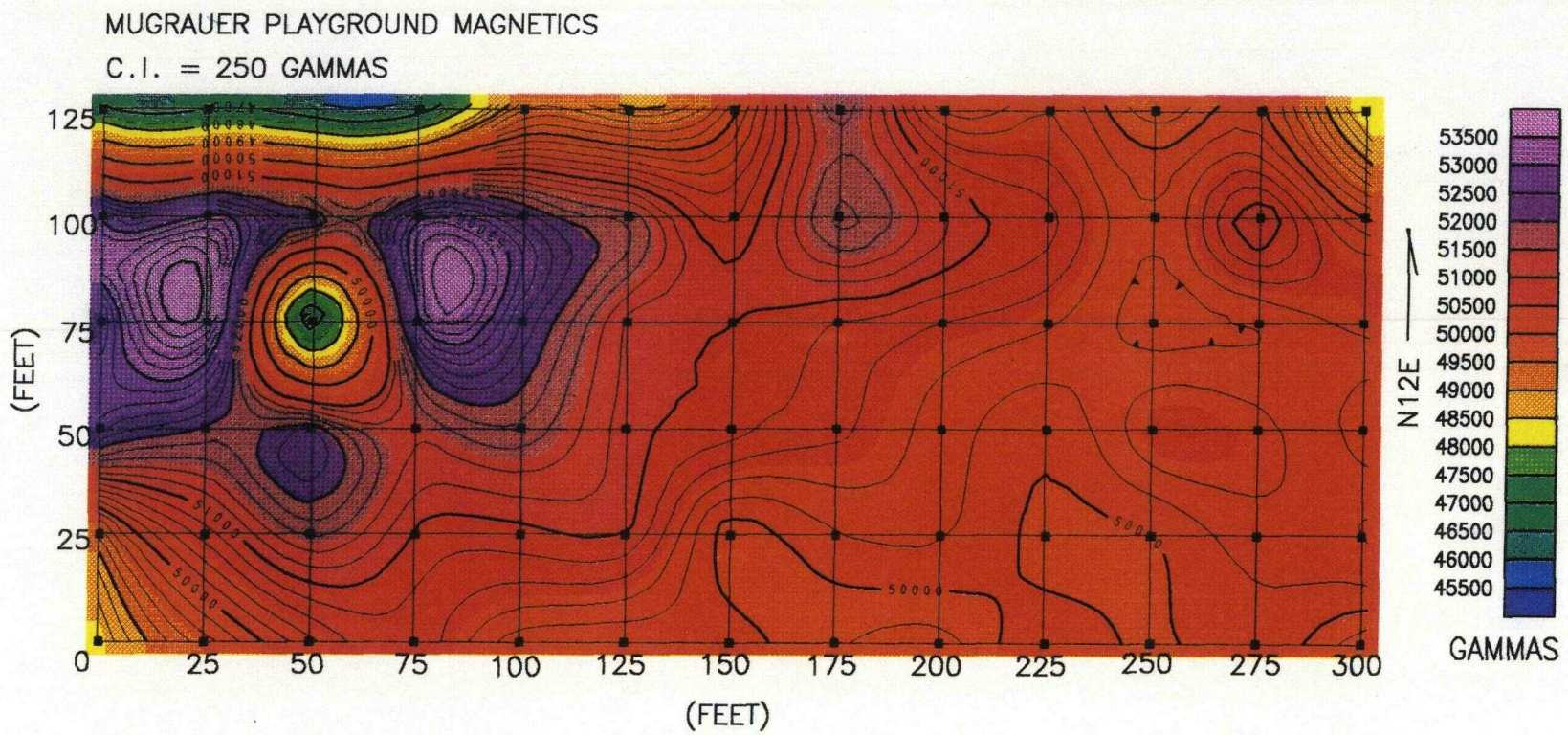

MUGRAUER PLAYGROUND MAGNETICS
C.I. = 250 GAMMAS
125
100
75
50
25
0
(FEET)
25
50
75
100
125
150
175
200
225
250
275
300
(FEET)
N12E
53500
53000
52500
52000
51500
51000
50500
50000
49500
49000
48500
48000
47500
47000
46500
46000
45500
GAMMAS

Figure F-1

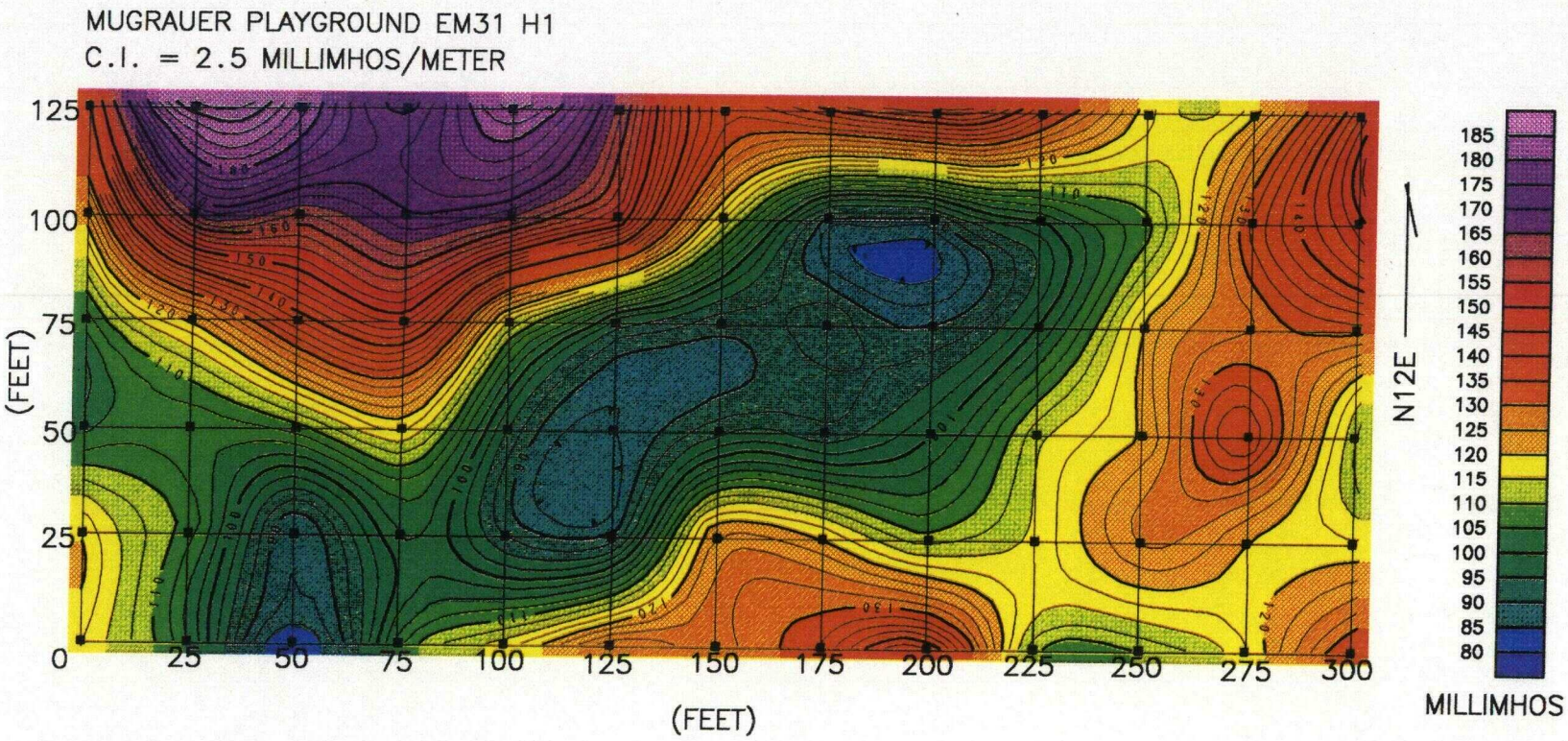

MUGRAUER PLAYGROUND EM31 H1
C.I. = 2.5 MILLIMHOS/METER
125
100
75
50
25
0
(FEET)
25
50
75
100
125
150
175
200
225
250
275
300
(FEET)
N12E
185
180
175
170
165
160
155
150
145
140
135
130
125
120
115
110
105
100
95
90
85
80
MILLIMHOS

Figure F-2

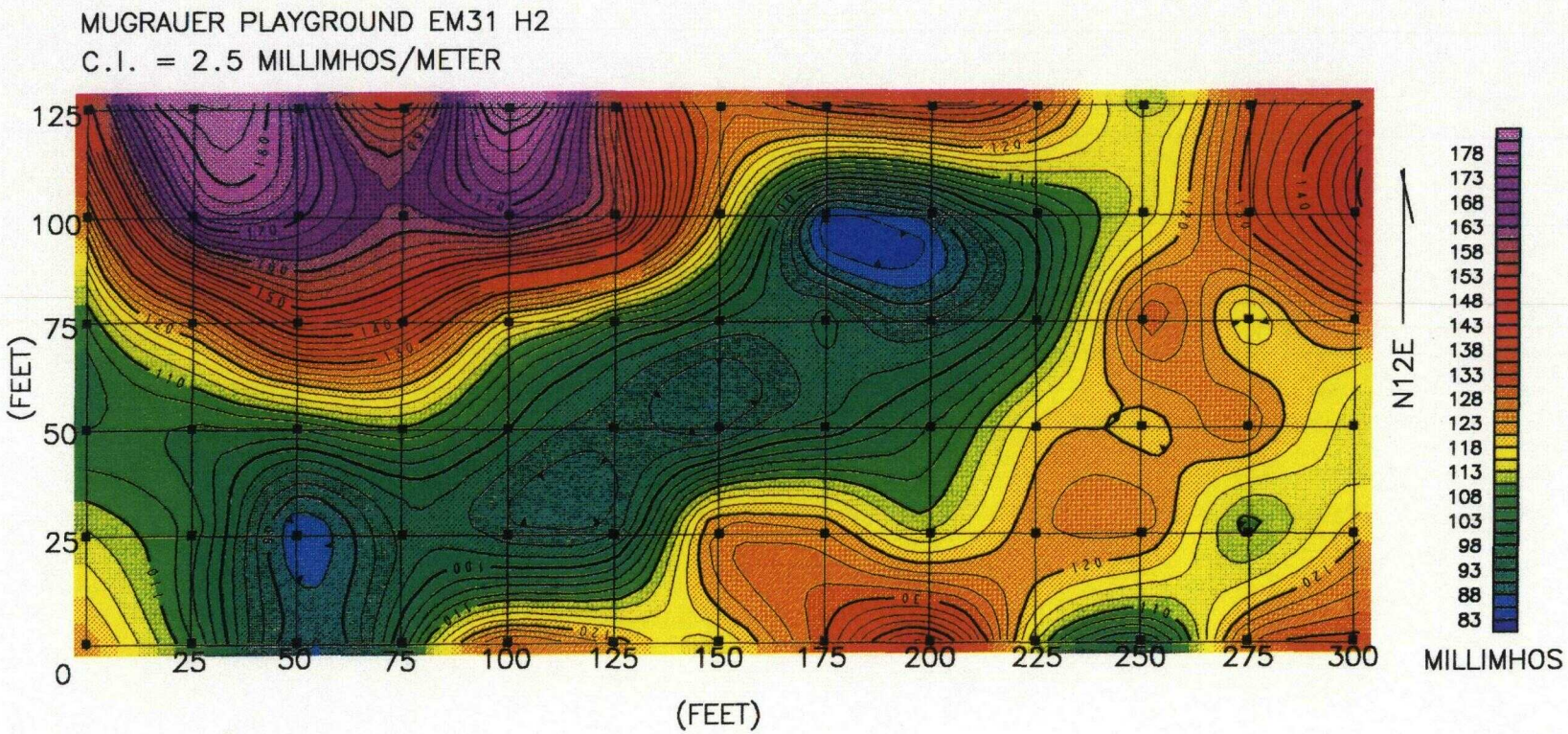

MUGRAUER PLAYGROUND EM31 H2
C.I. = 2.5 MILLIMHOS/METER
125
100
75
50
25
0
(FEET)
25
50
75
100
125
150
175
200
225
250
275
300
(FEET)
N12E
178
173
168
163
158
153
148
143
138
133
128
123
118
113
108
103
98
93
88
83
MILLIMHOS

Figure F-3

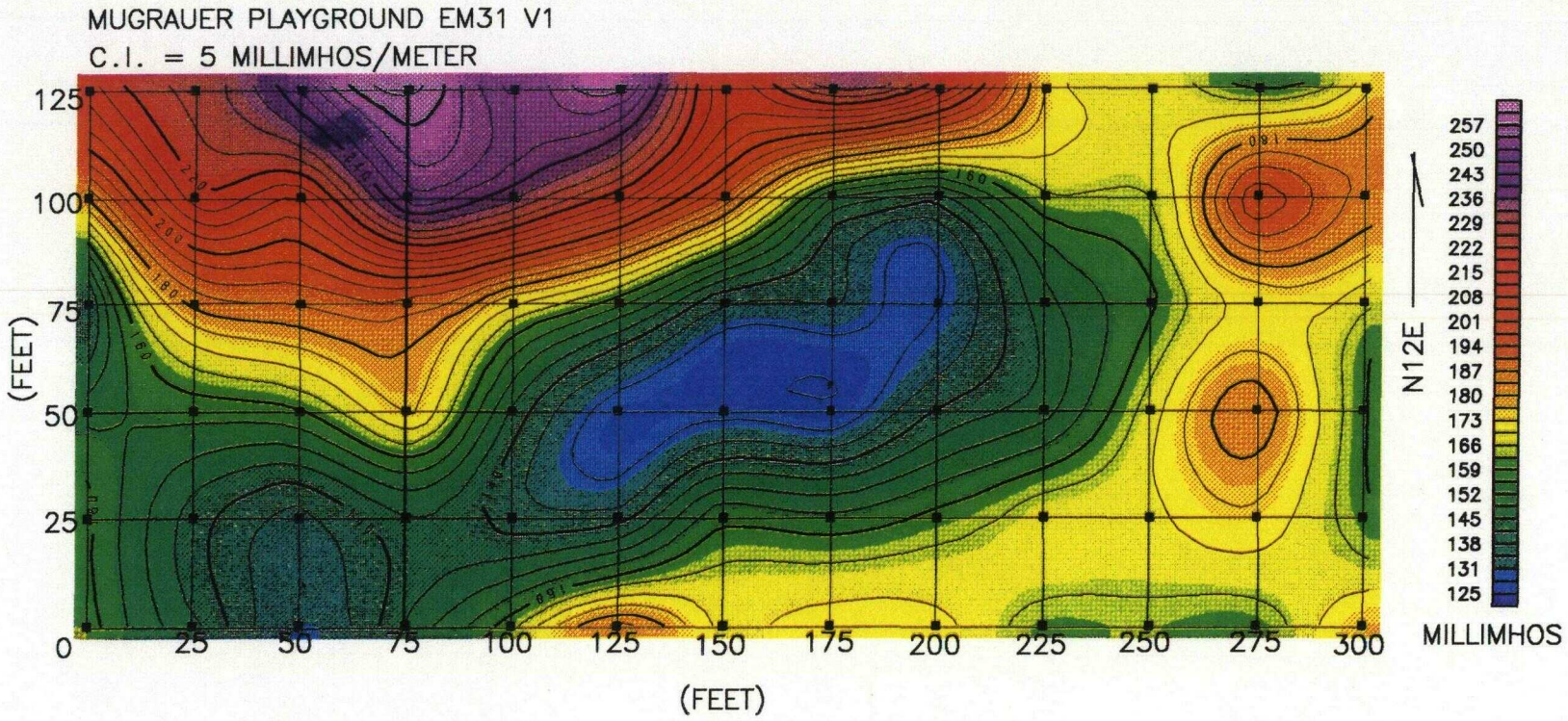

MUGRAUER PLAYGROUND EM31 V1
C.I. = 5 MILLIMHOS/METER
125
100
75
50
25
0
(FEET)
25
50
75
100
125
150
175
200
225
250
275
300
(FEET)
N12E
257
250
243
236
229
222
215
208
201
194
187
180
173
166
159
152
145
138
131
125
MILLIMHOS

Figure F-4

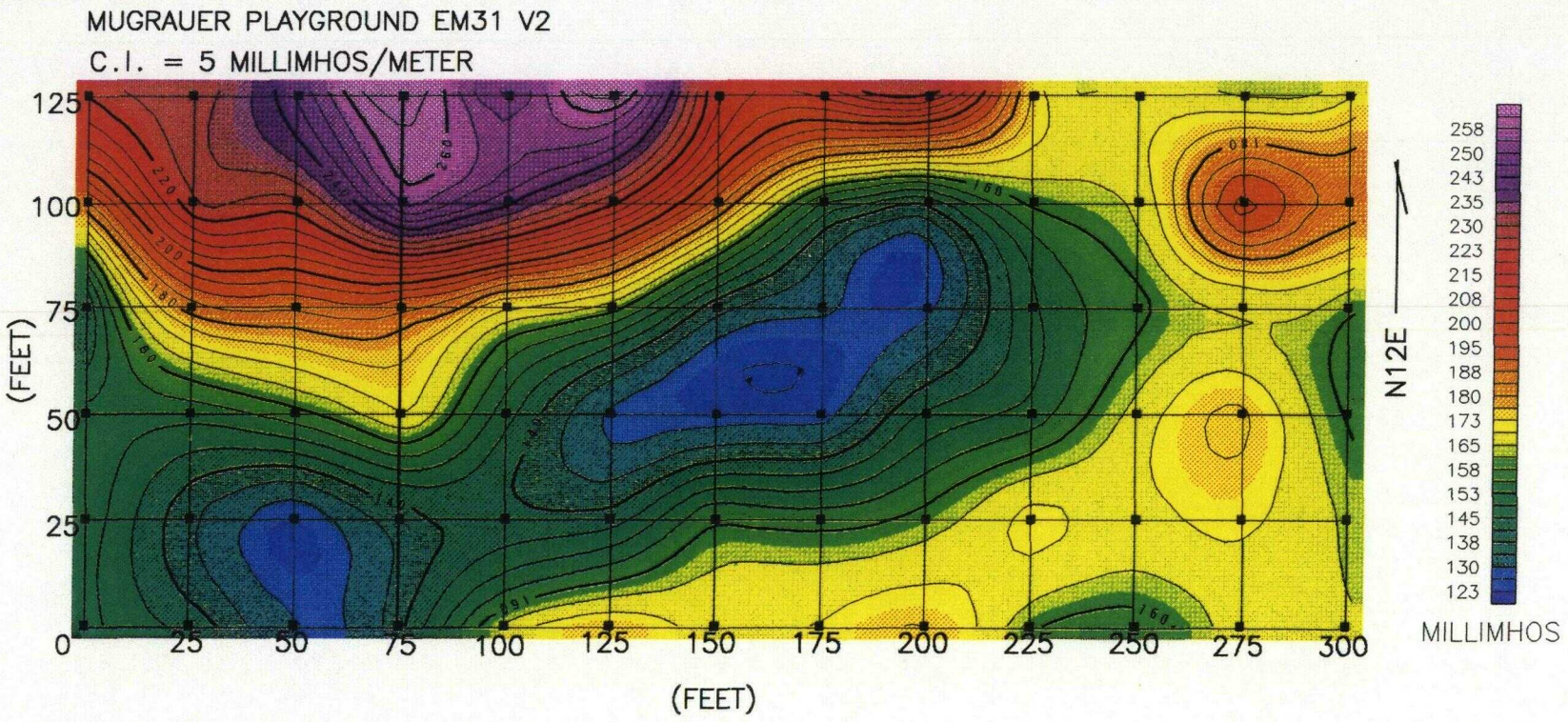

MUGRAUER PLAYGROUND EM31 V2
C.I. = 5 MILLIMHOS/METER
125
100
75
50
25
0
(FEET)
25
50
75
100
125
150
175
200
225
250
275
300
(FEET)
N12E
258
250
243
235
230
223
215
208
200
195
188
180
173
165
158
153
145
138
130
123
MILLIMHOS

Figure F-5

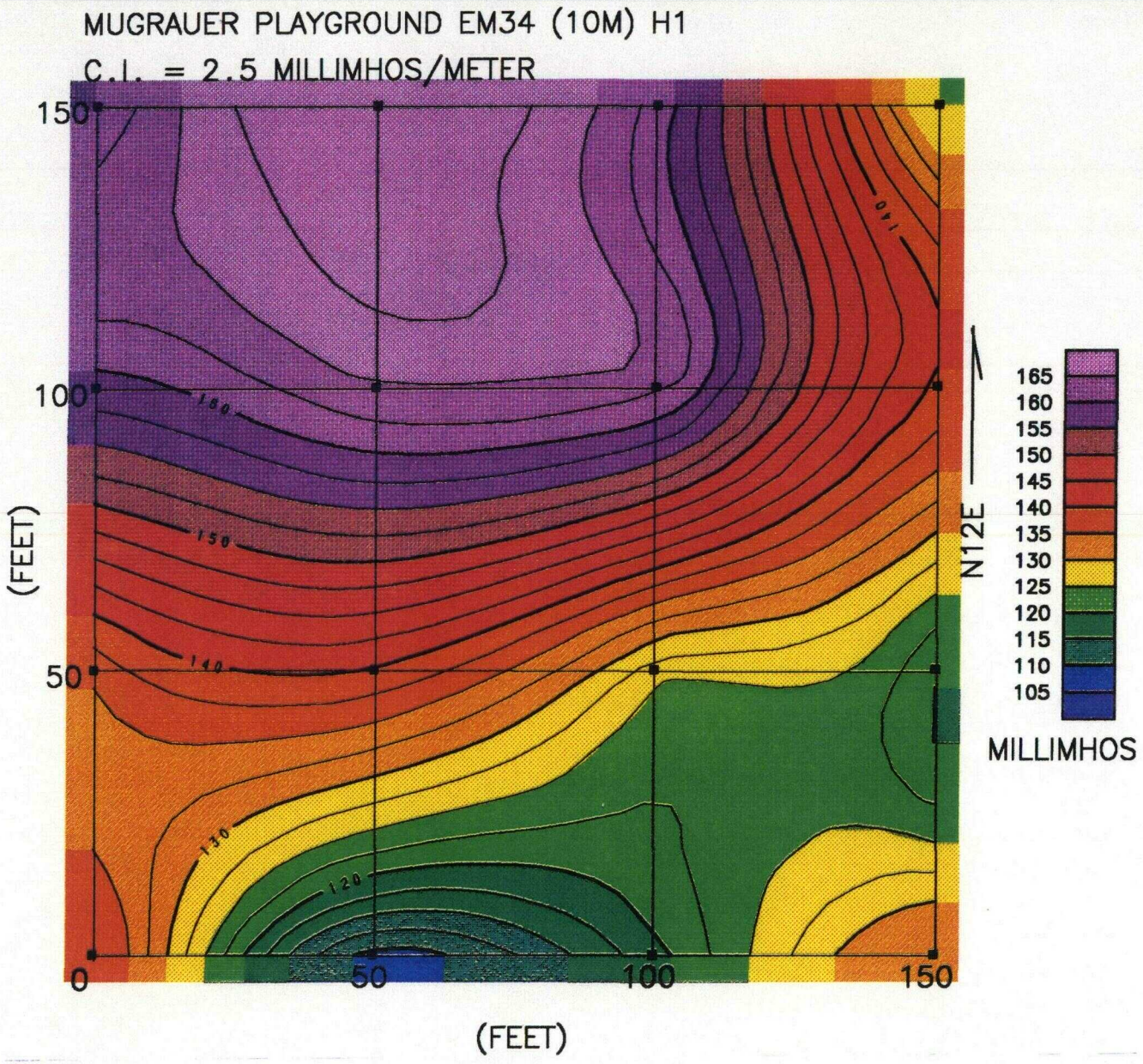

MUGRAUER PLAYGROUND EM34 (10M) H1
C.I. = 2.5 MILLIMHOS/METER
150
100
50
0
50
100
150
(FEET)
(FEET)
N12E
165
160
155
150
145
140
135
130
125
120
115
110
105
MILLIMHOS

Figure F-6

MUGRAUER PLAYGROUND EM34 (10M) V1
C.I. = 5 MILLIMHOS/METER

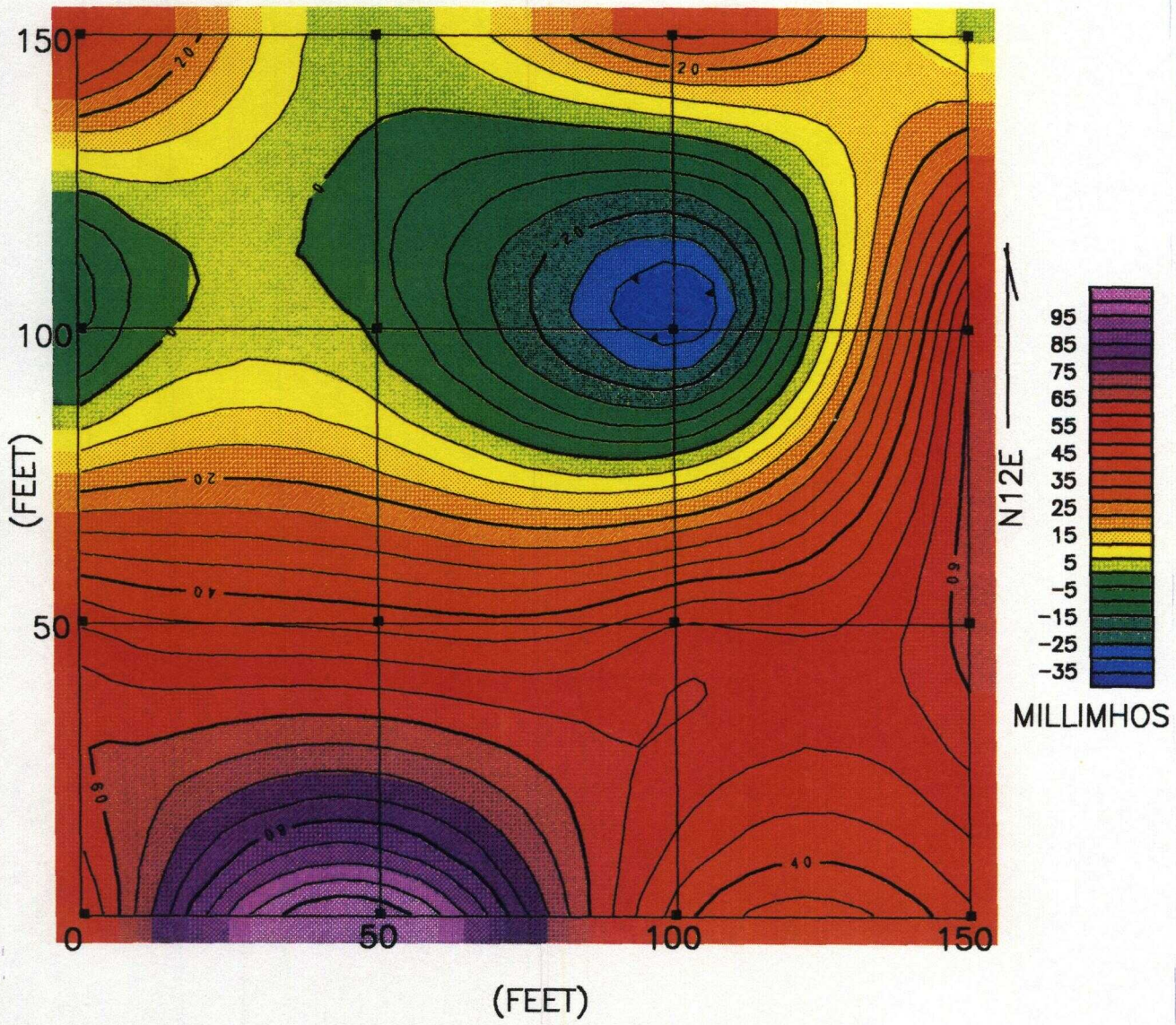


Figure F-7

00159.0204.007

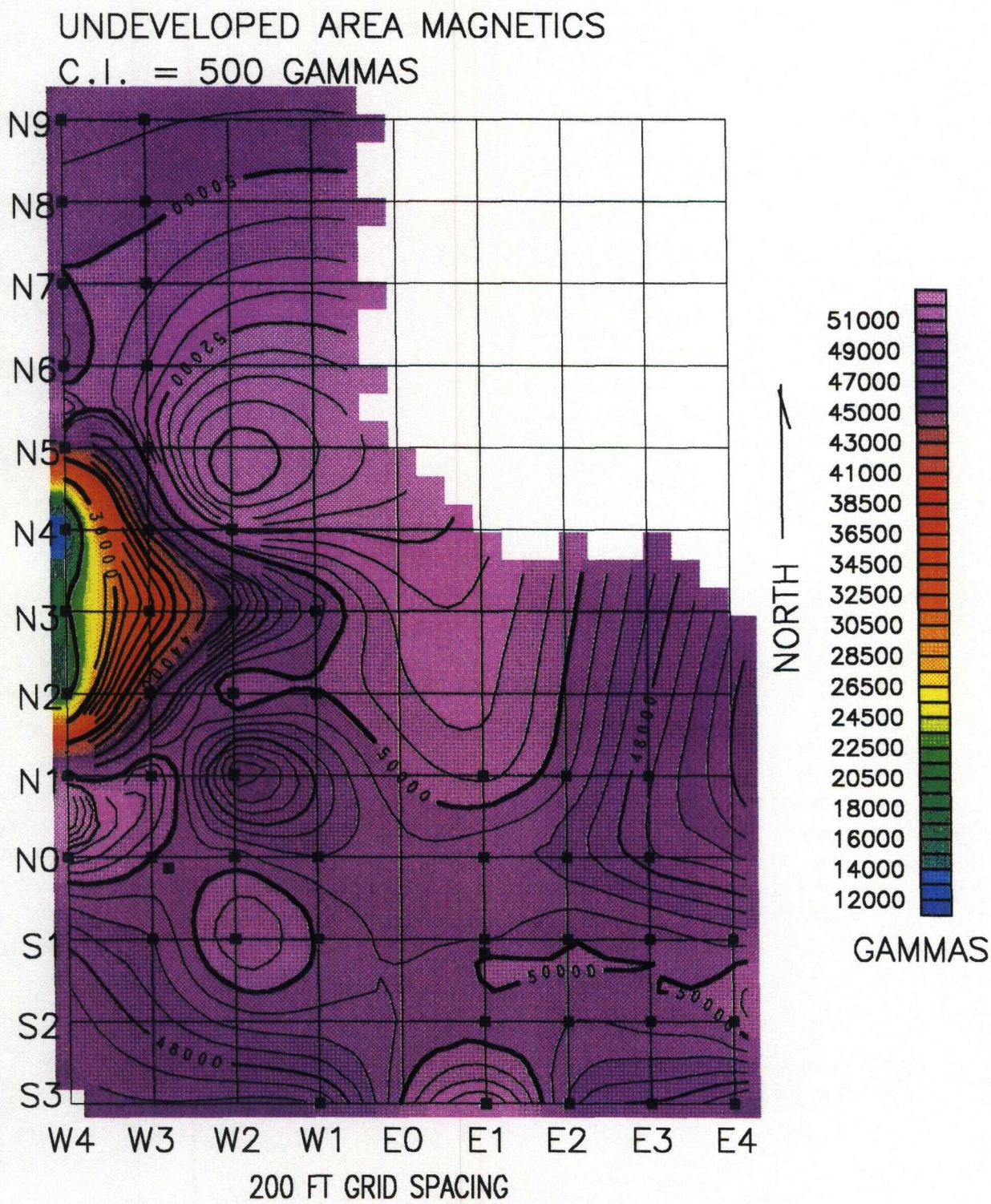
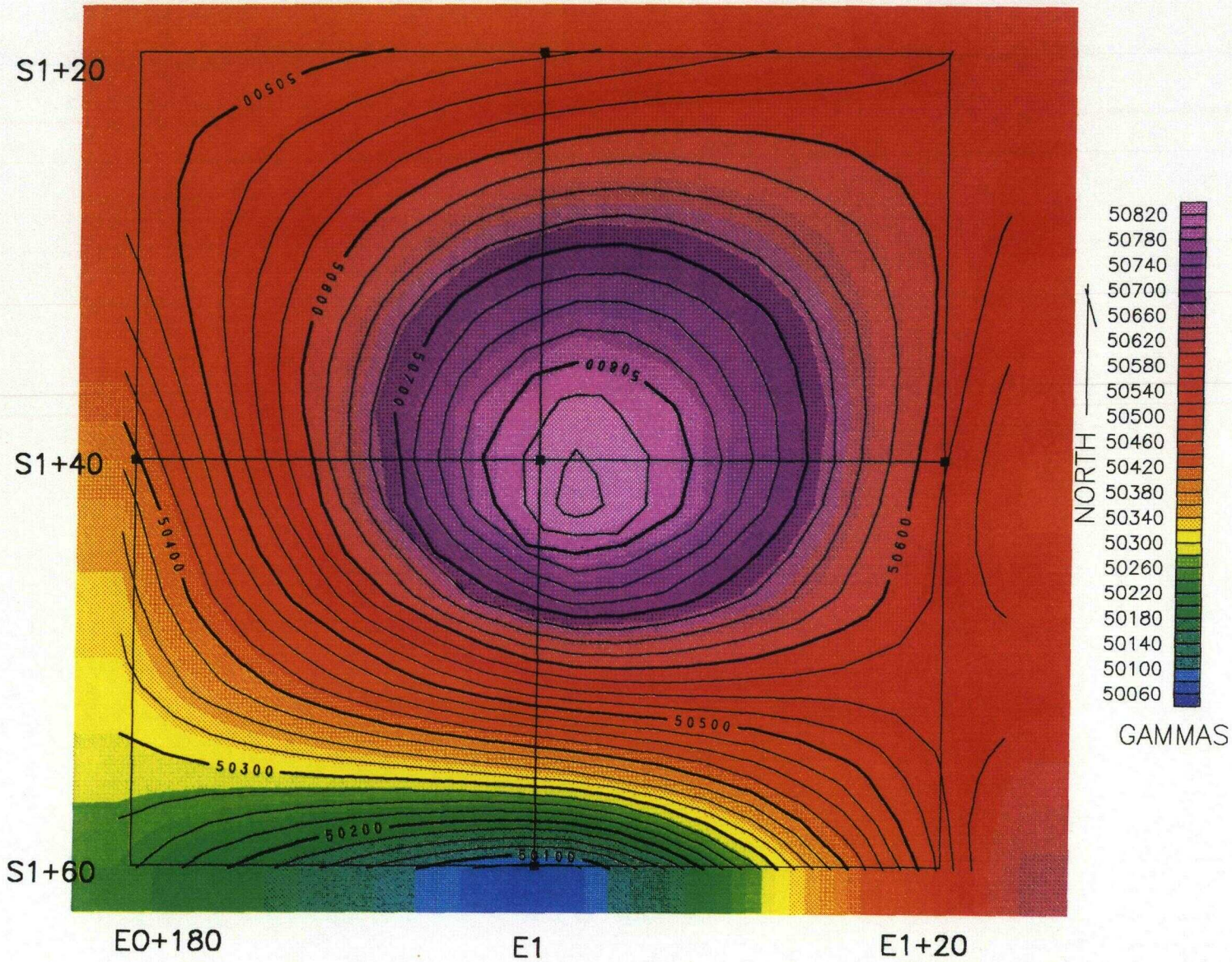


Figure F-8

00159.0204.008

UNDEVELOPED AREA SOUTH MAGNETICS DETAIL
C.I. = 25 GAMMAS



GRID SPACING = 20 FEET

Figure F-9

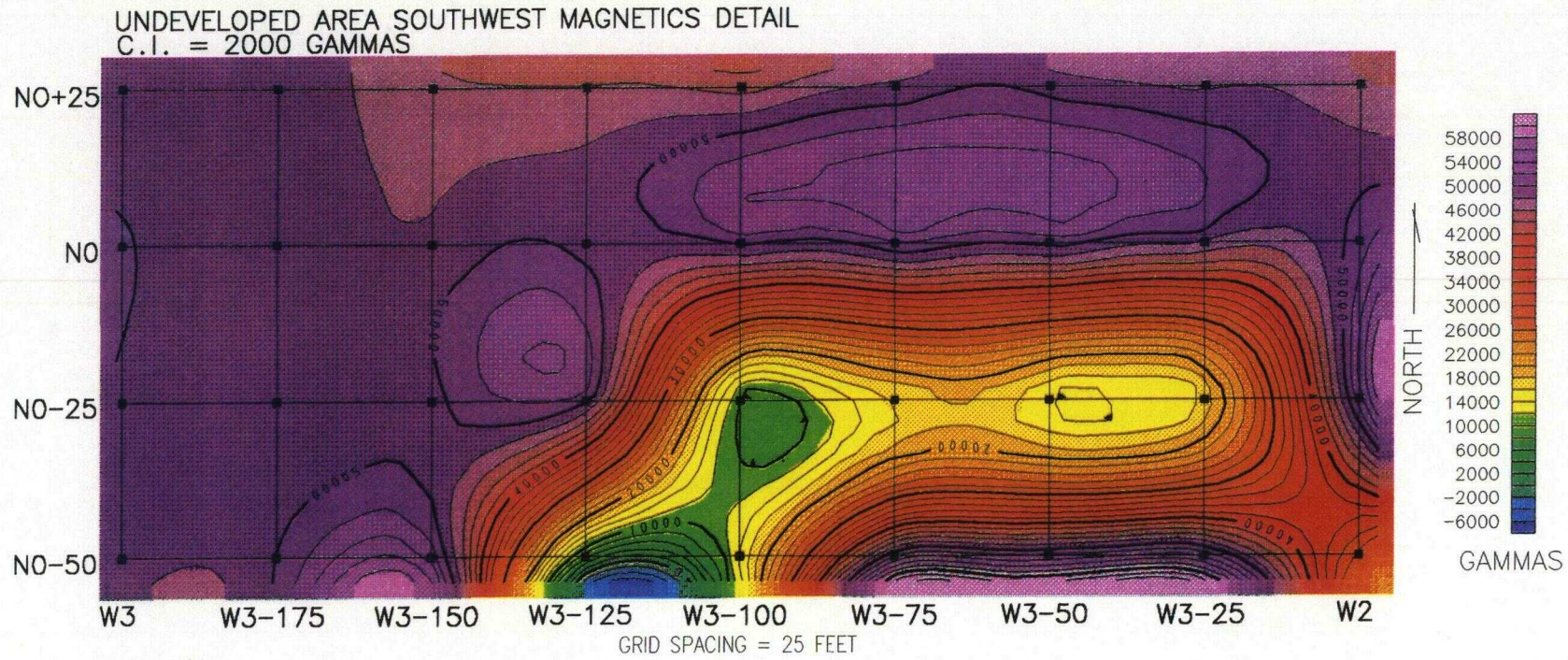

UNDEVELOPED AREA SOUTHWEST MAGNETICS DETAIL
C.I. = 2000 GAMMAS
N0+25
N0
N0-25
N0-50
W3
W3-175
W3-150
W3-125
W3-100
W3-75
W3-50
W3-25
W2
GRID SPACING = 25 FEET
NORTH
58000
54000
50000
46000
42000
38000
34000
30000
26000
22000
18000
14000
10000
6000
2000
-2000
-6000
GAMMAS

Figure F-10

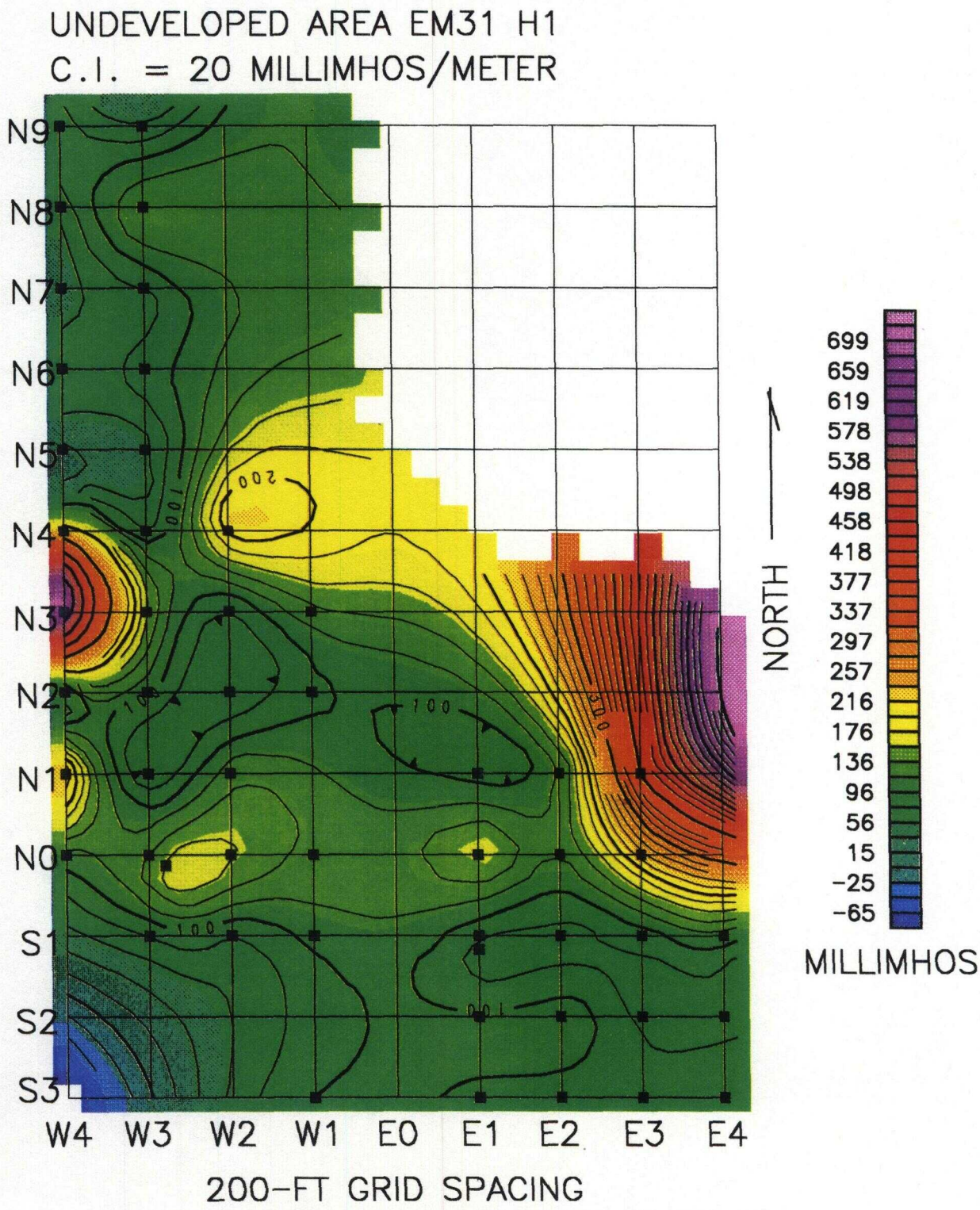


Figure F-11

00159.0204.011

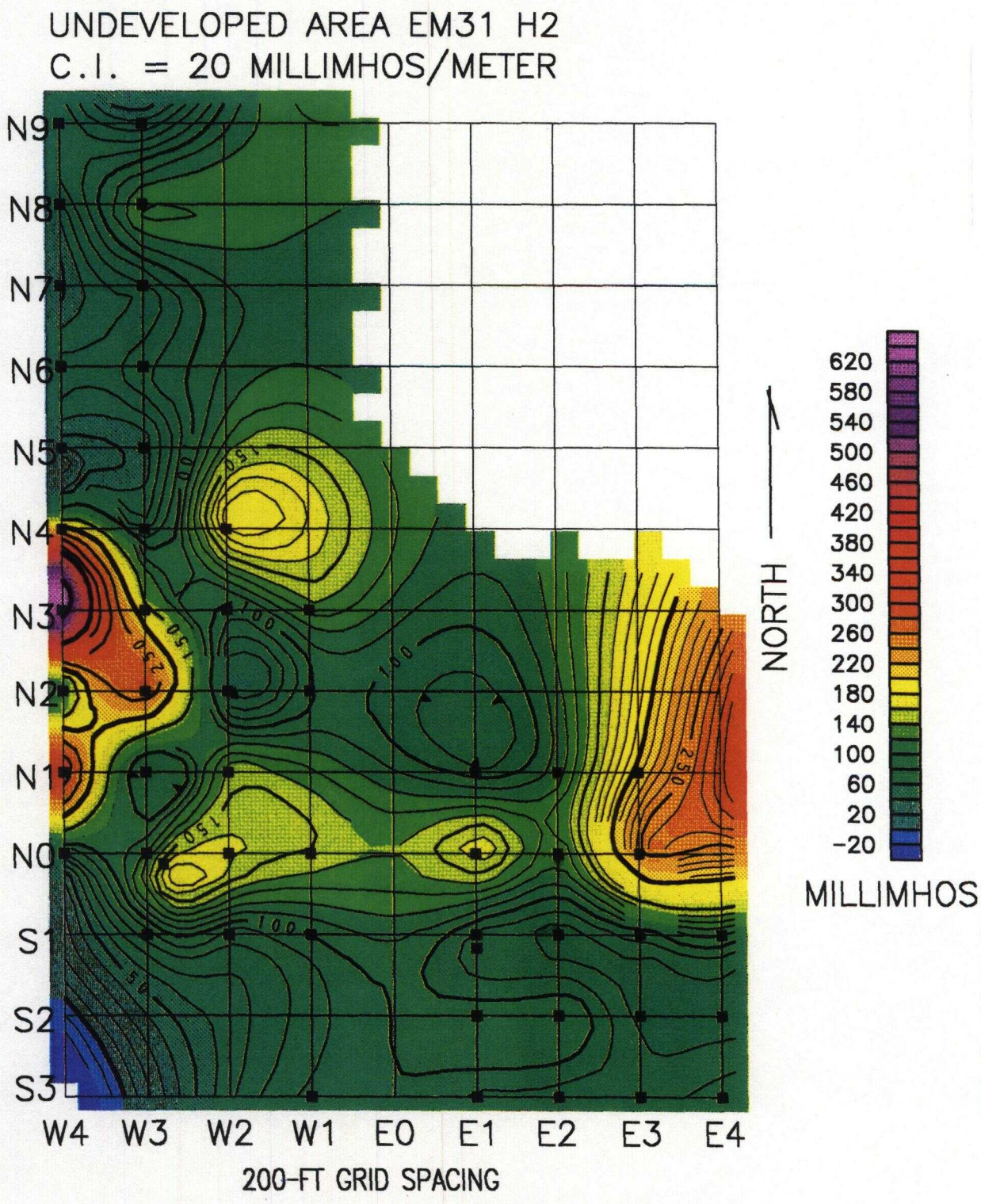


Figure F-12

00159.0204.012

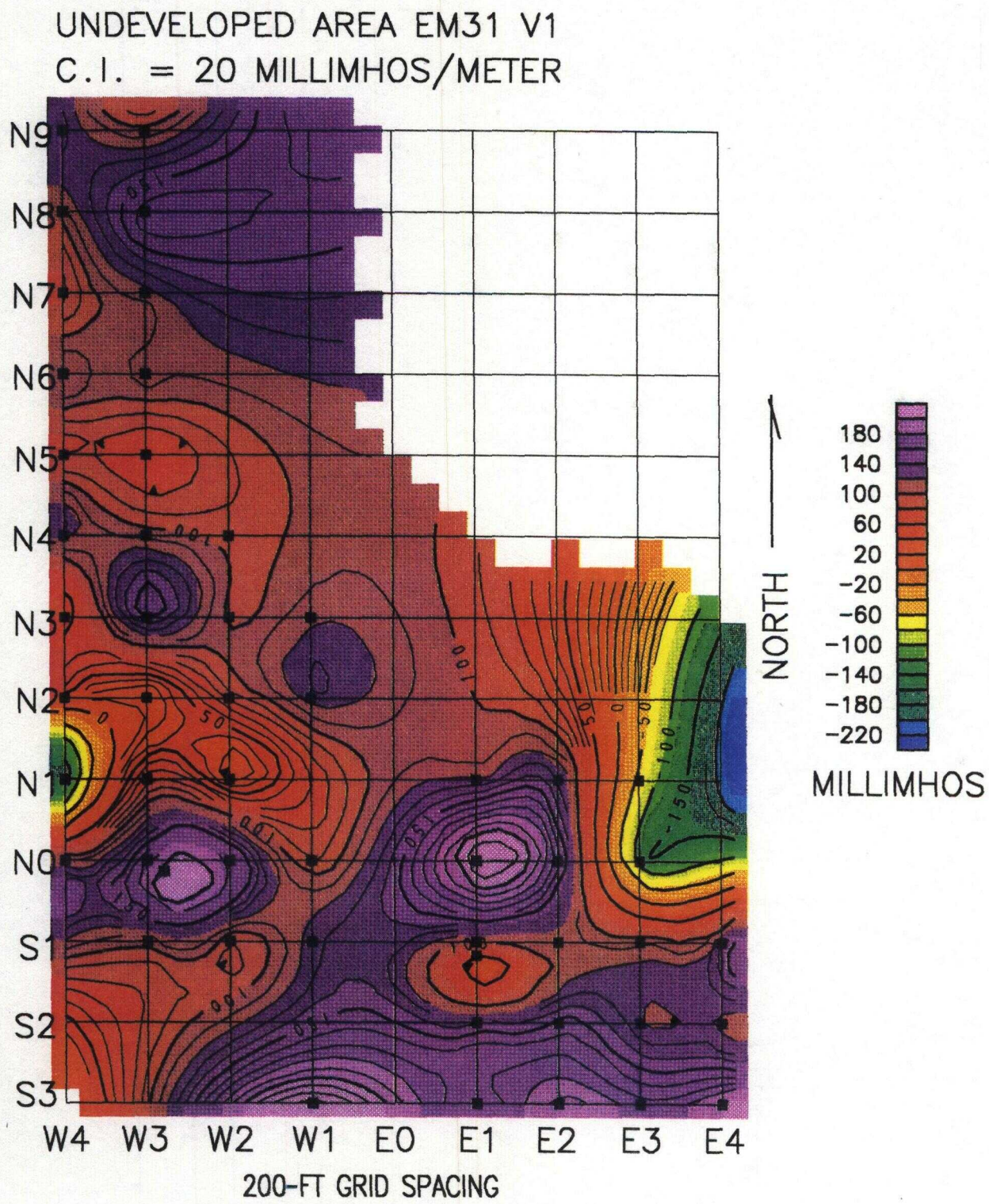


Figure F-13

00159.0204.013

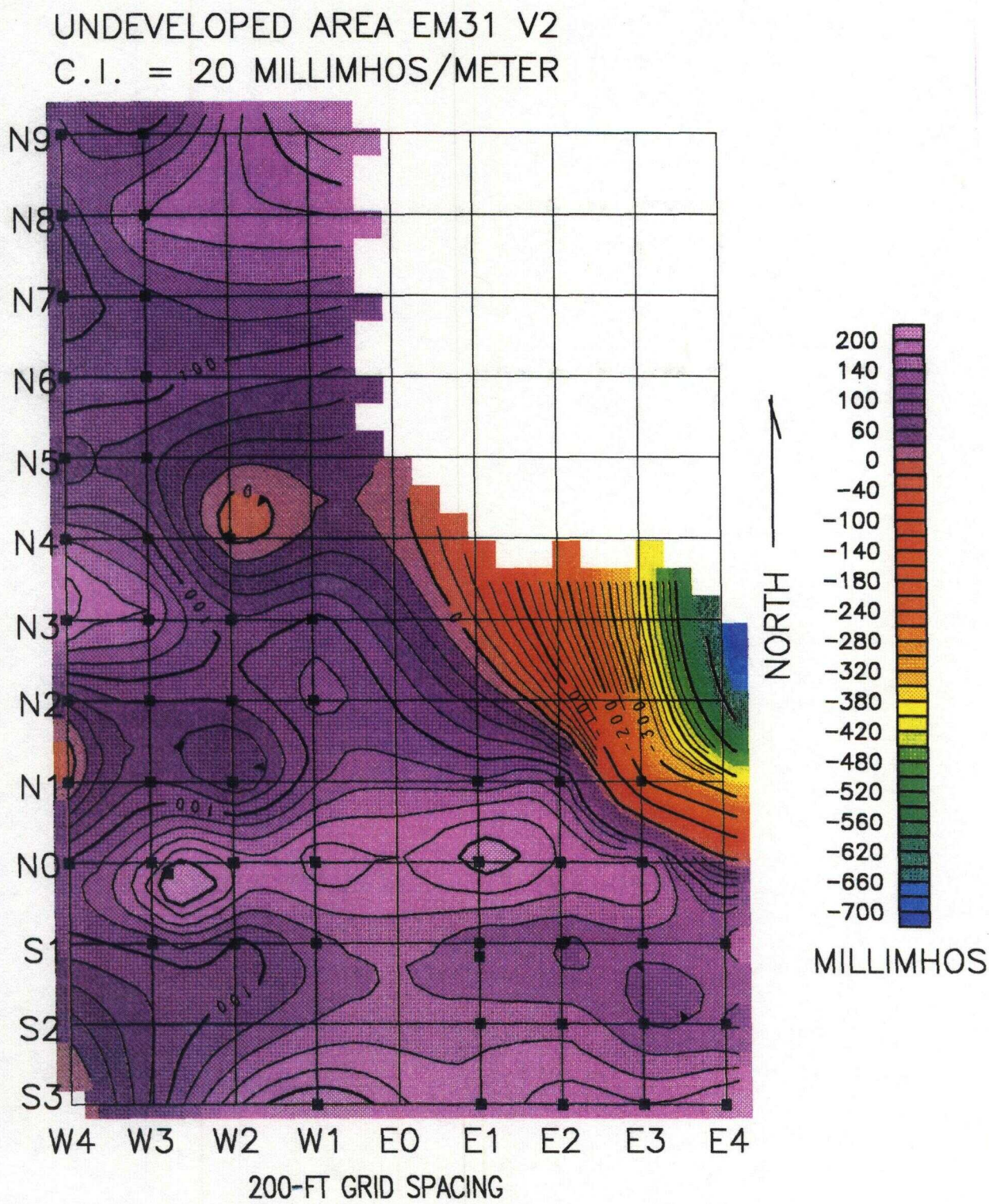
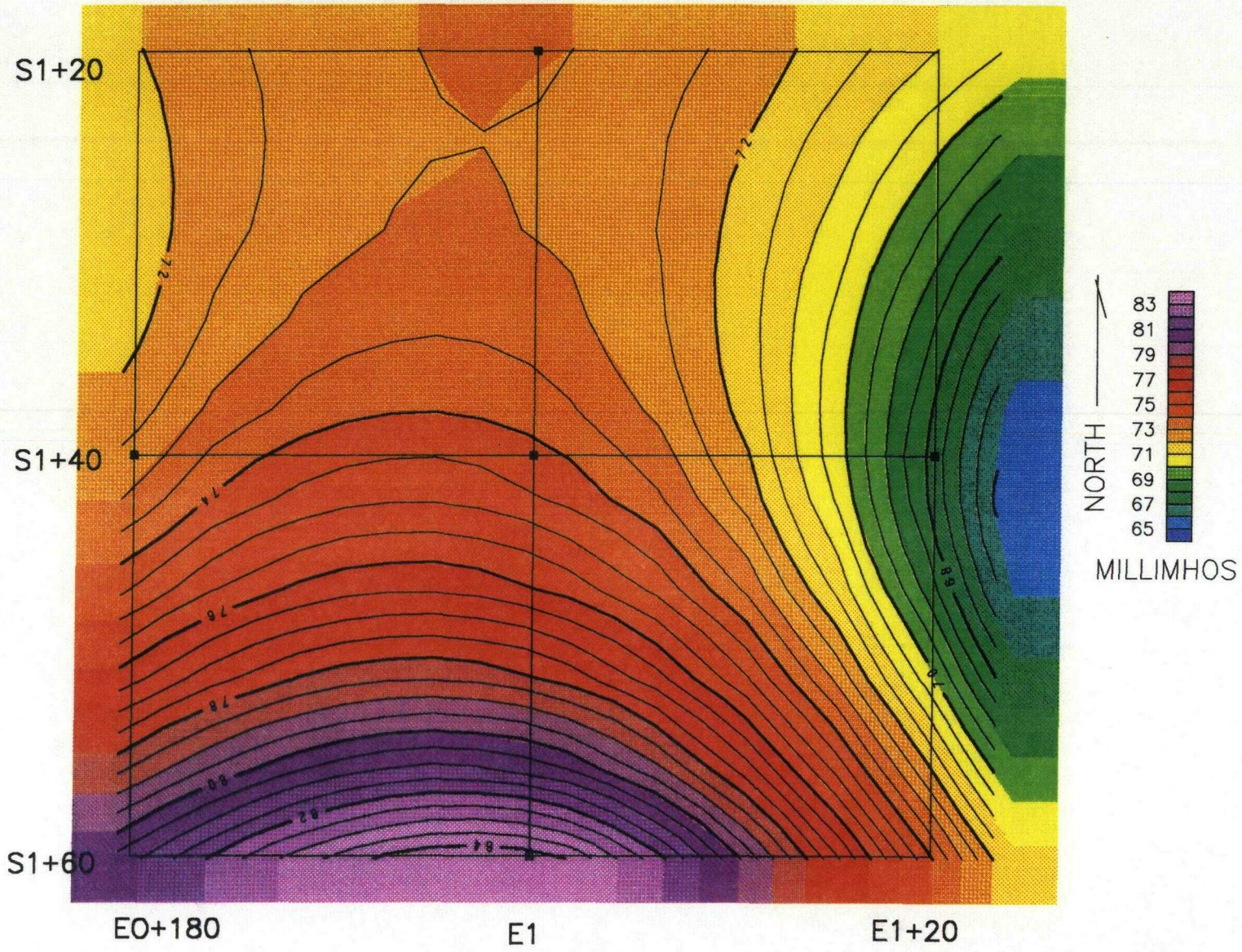


Figure F-14

00159.0204.014

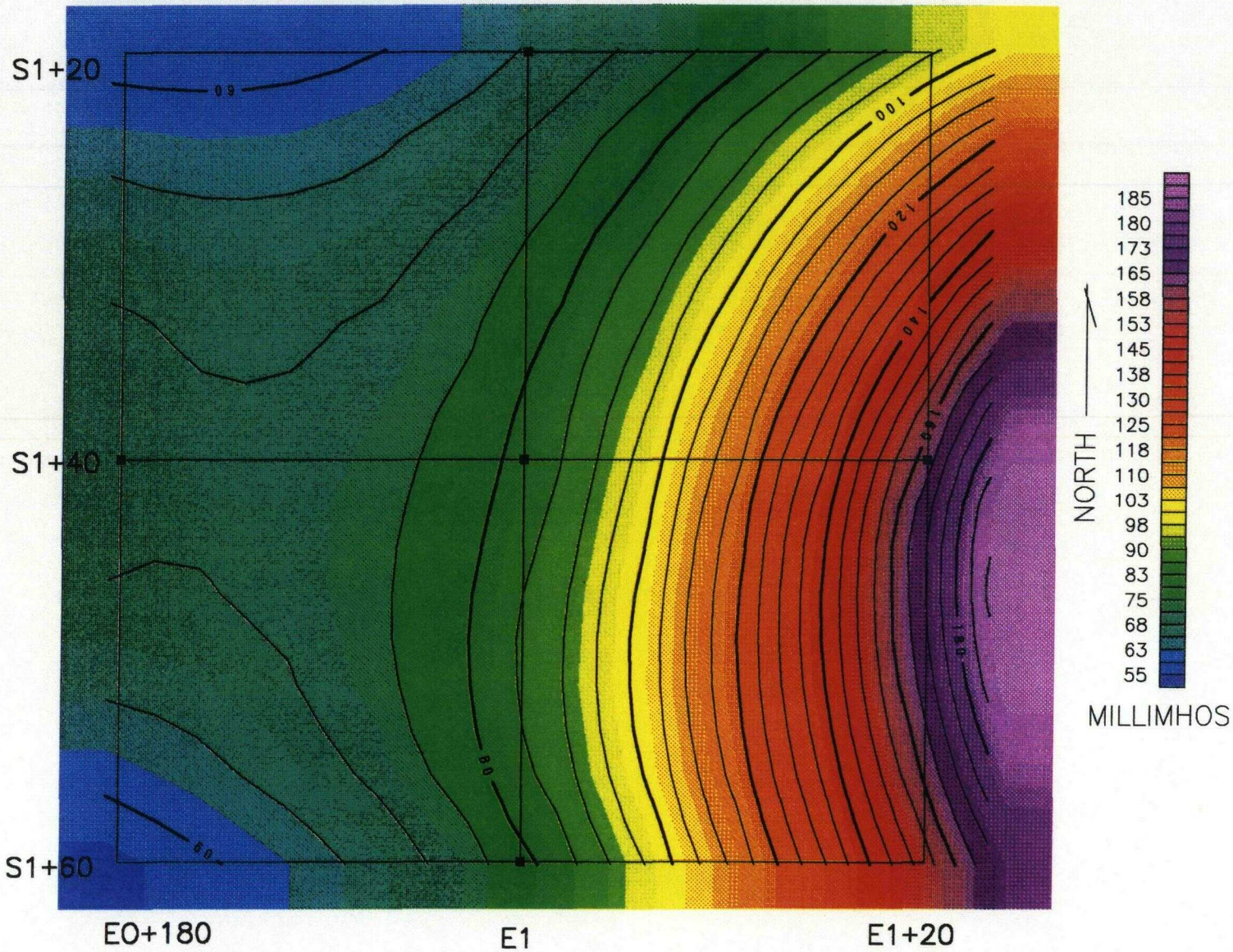
UNDEVELOPED AREA SOUTH EM31 H1 DETAIL
C.I. = 0.5 MILLIMHOS/METER



GRID SPACING = 20 FEET

Figure F-15

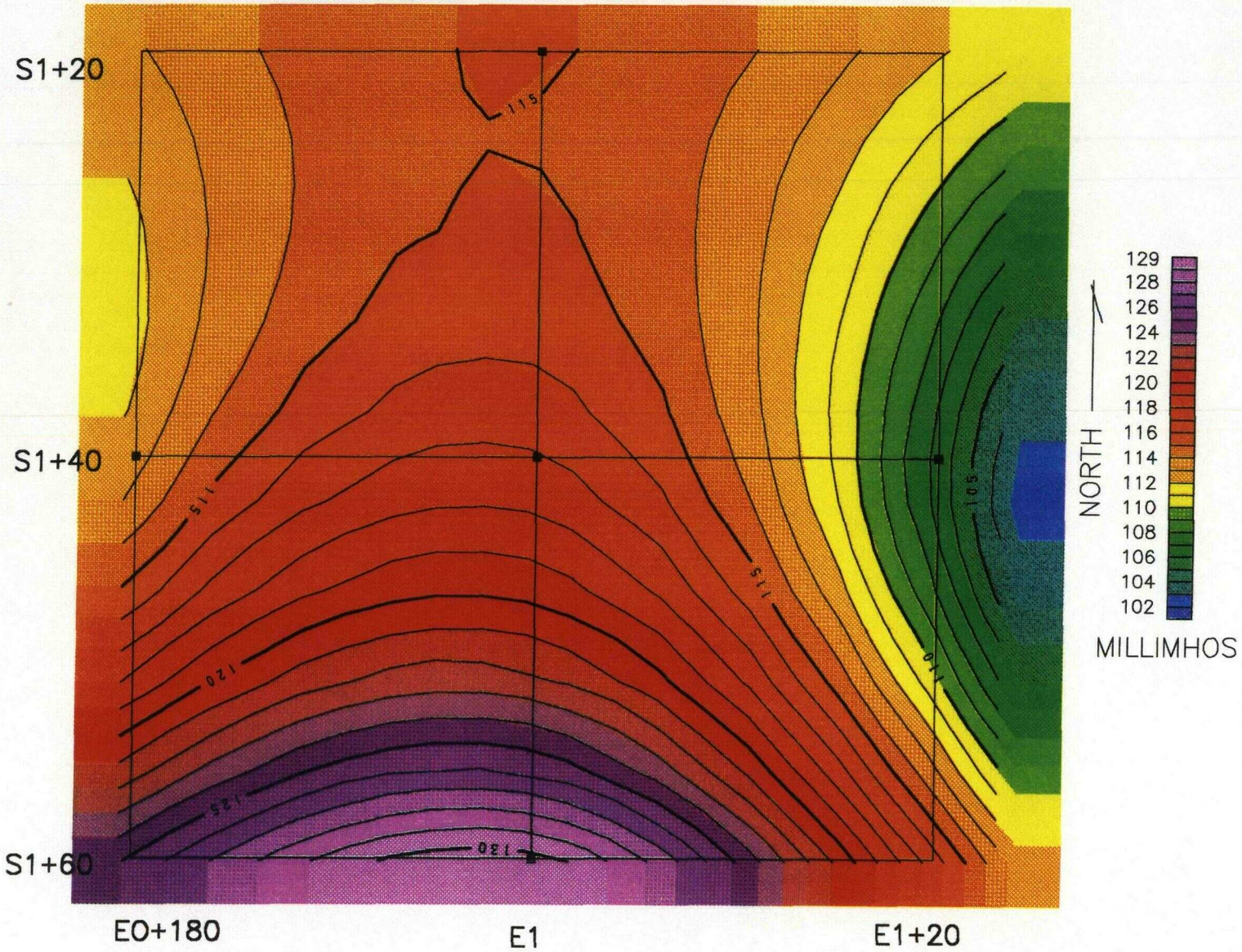
UNDEVELOPED AREA SOUTH EM31 H2 DETAIL
C.I. = 2.5 MILLIMHOS/METER



GRID SPACING = 20 FEET

Figure F-16

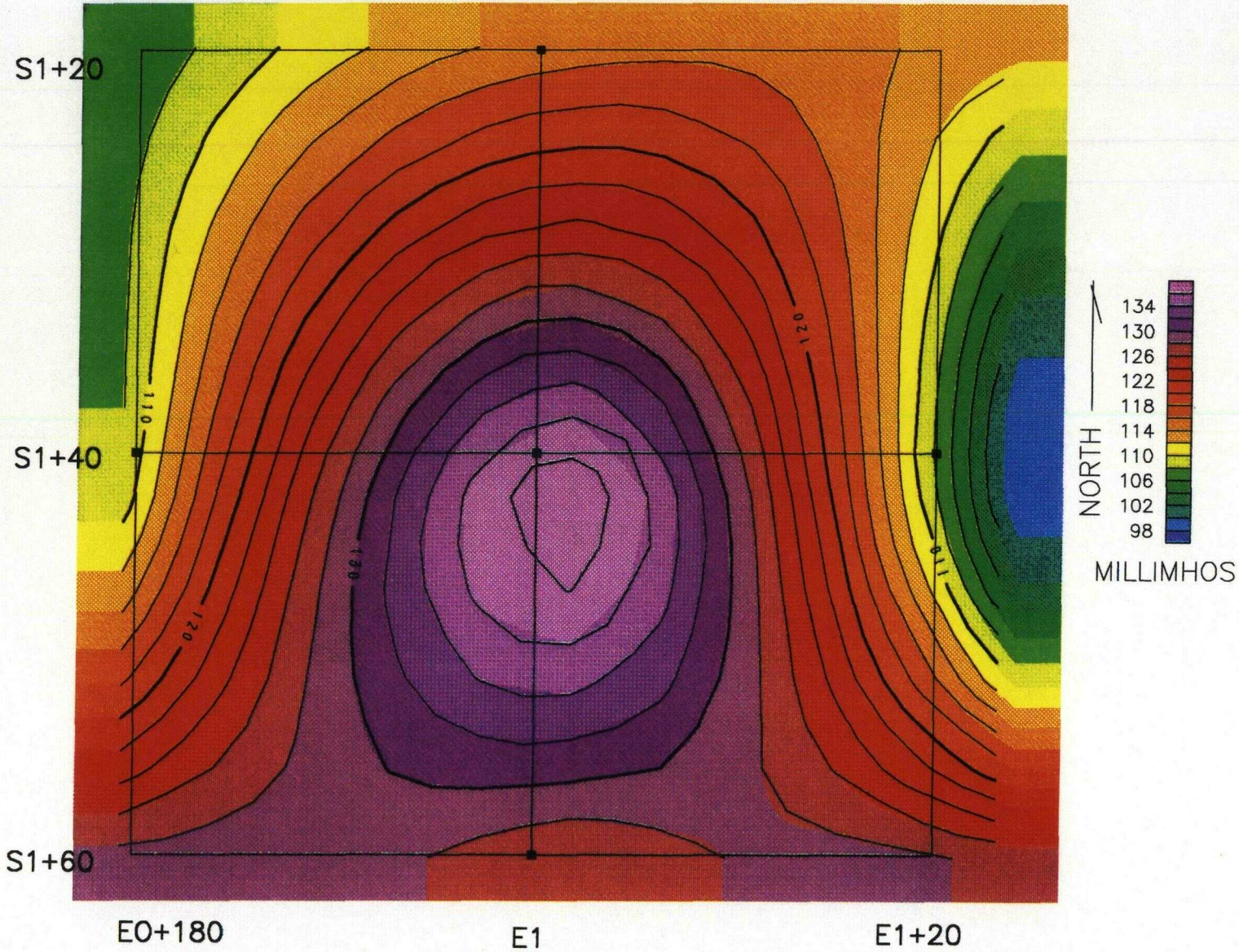
UNDEVELOPED AREA SOUTH EM31 V1 DETAIL
C.I. = 1 MILLIMHOS/METER



GRID SPACING = 20 FEET

Figure F-17

UNDEVELOPED AREA SOUTH EM31 V2 DETAIL
C.I. = 2 MILLIMHOS/METER



GRID SPACING = 20 FEET

Figure F-18

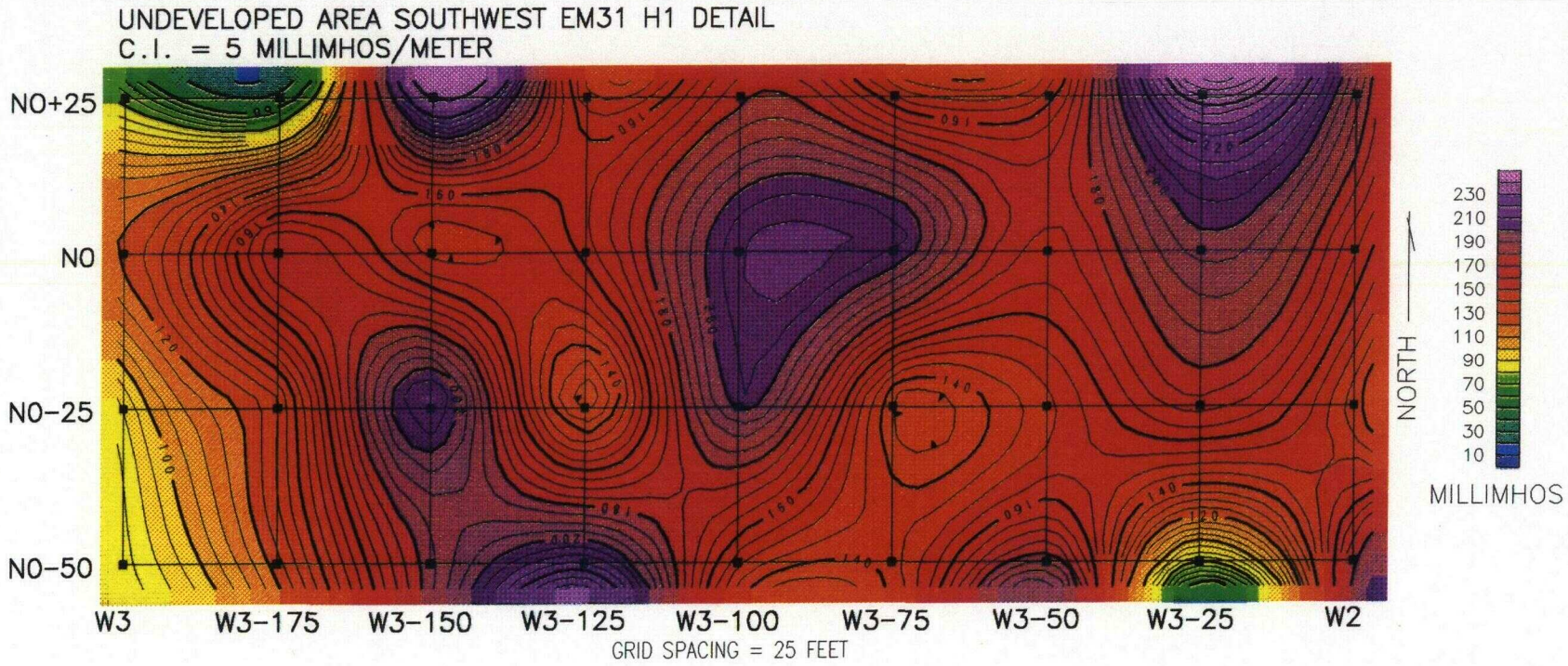

UNDEVELOPED AREA SOUTHWEST EM31 H1 DETAIL
C.I. = 5 MILLIMHOS/METER
N0+25
N0
N0-25
N0-50
W3
W3-175
W3-150
W3-125
W3-100
W3-75
W3-50
W3-25
W2
GRID SPACING = 25 FEET
NORTH
230
210
190
170
150
130
110
90
70
50
30
10
MILLIMHOS

Figure F-19

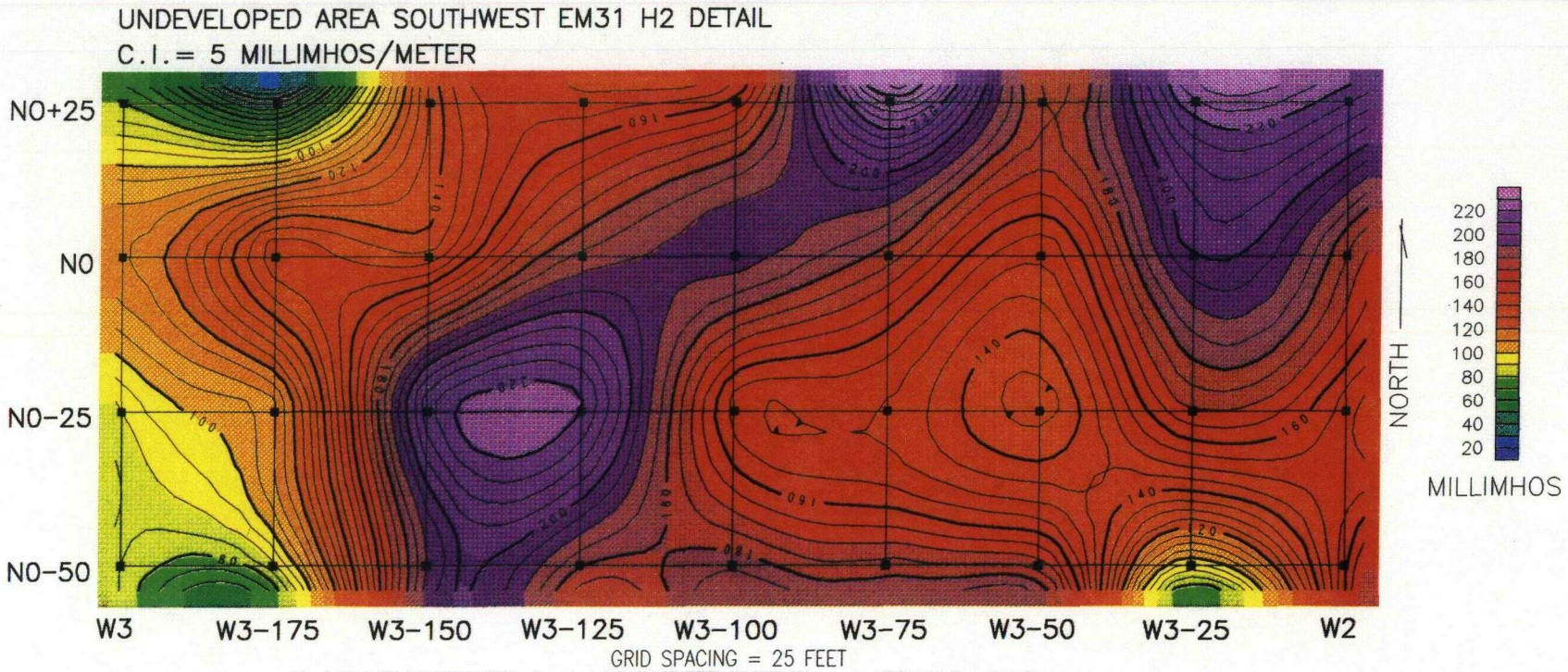

UNDEVELOPED AREA SOUTHWEST EM31 H2 DETAIL
C.I.= 5 MILLIMHOS/METER
N0+25
N0
N0-25
N0-50
W3
W3-175
W3-150
W3-125
W3-100
W3-75
W3-50
W3-25
W2
GRID SPACING = 25 FEET
NORTH
220
200
180
160
140
120
100
80
60
40
20
MILLIMHOS

Figure F-20

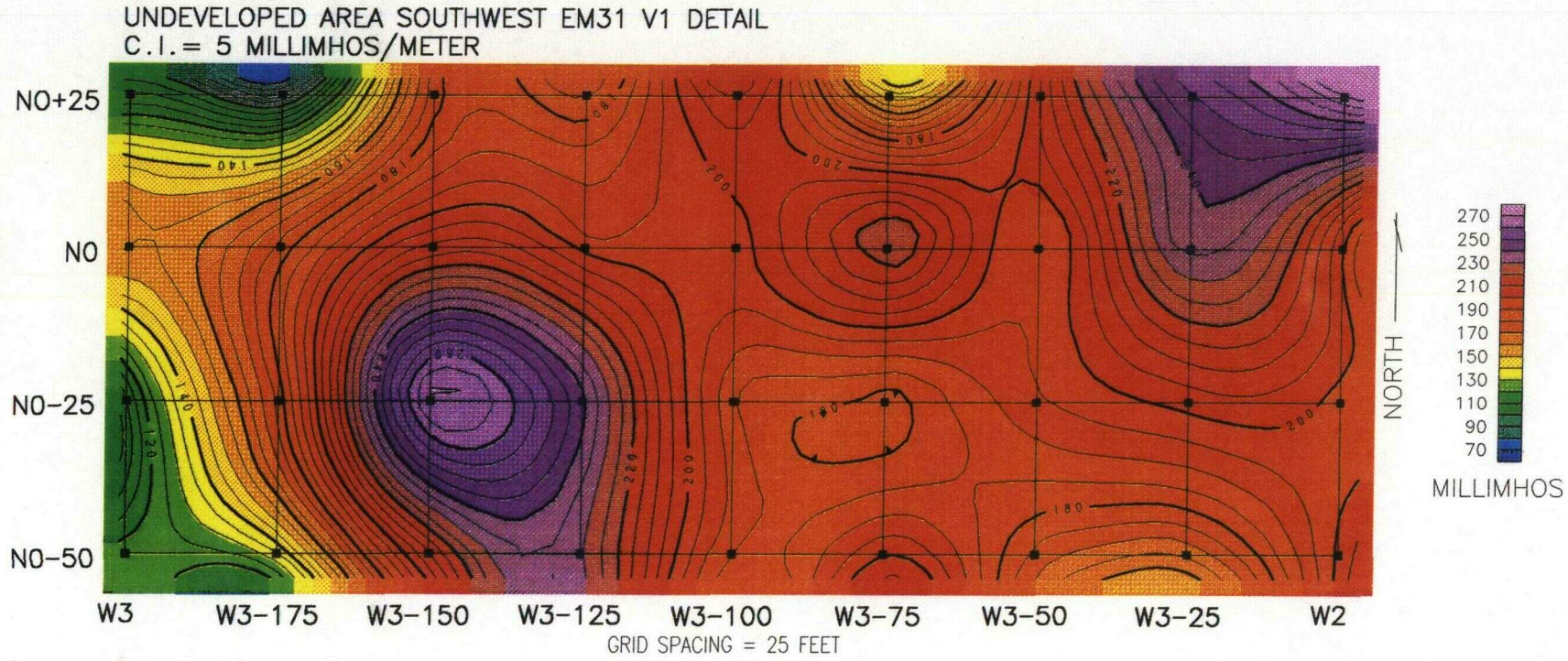

UNDEVELOPED AREA SOUTHWEST EM31 V1 DETAIL
C.I.= 5 MILLIMHOS/METER
N0+25
N0
N0-25
N0-50
W3
W3-175
W3-150
W3-125
W3-100
W3-75
W3-50
W3-25
W2
GRID SPACING = 25 FEET
NORTH
270
250
230
210
190
170
150
130
110
90
70
MILLIMHOS

Figure F-21

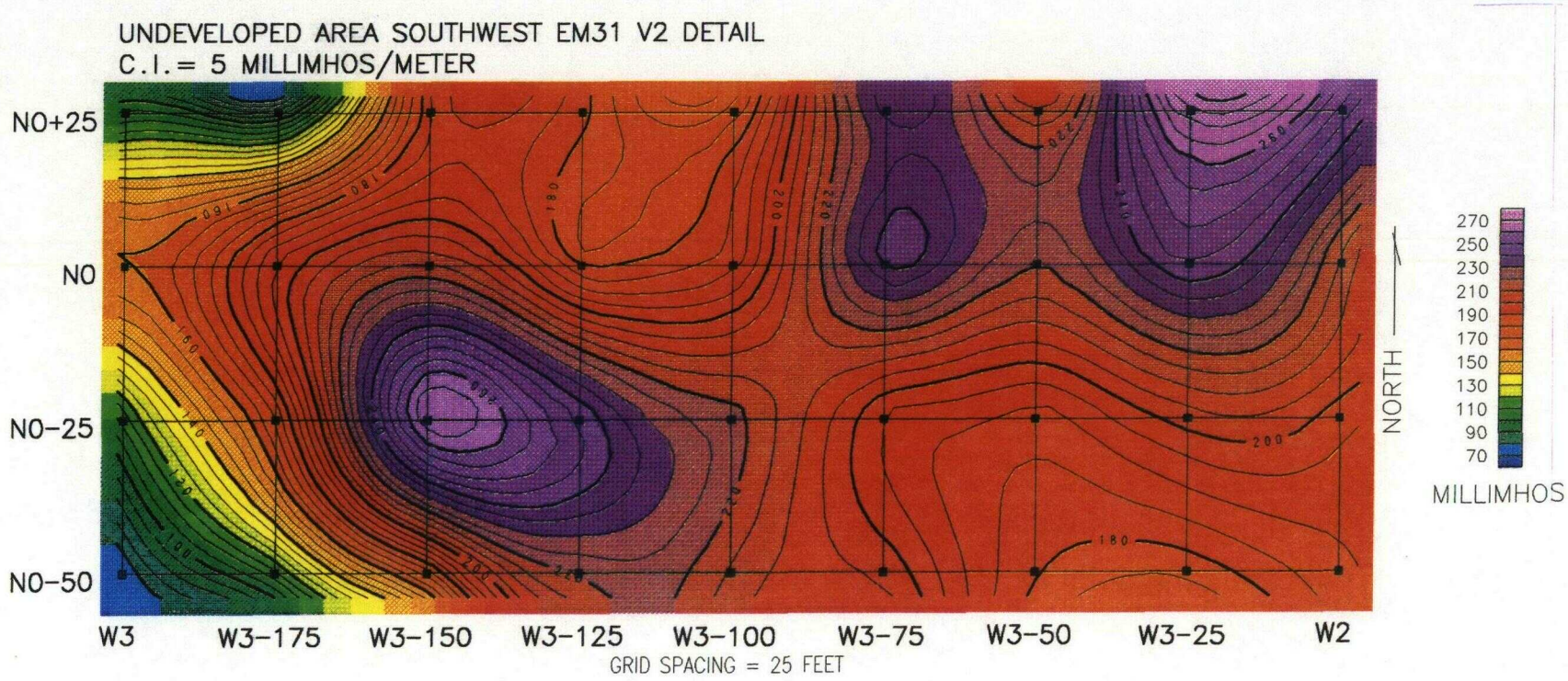

UNDEVELOPED AREA SOUTHWEST EM31 V2 DETAIL
C.I.= 5 MILLIMHOS/METER
N0+25
N0
N0-25
N0-50
W3
W3-175
W3-150
W3-125
W3-100
W3-75
W3-50
W3-25
W2
GRID SPACING = 25 FEET
NORTH
270
250
230
210
190
170
150
130
110
90
70
MILLIMHOS

Figure F-22

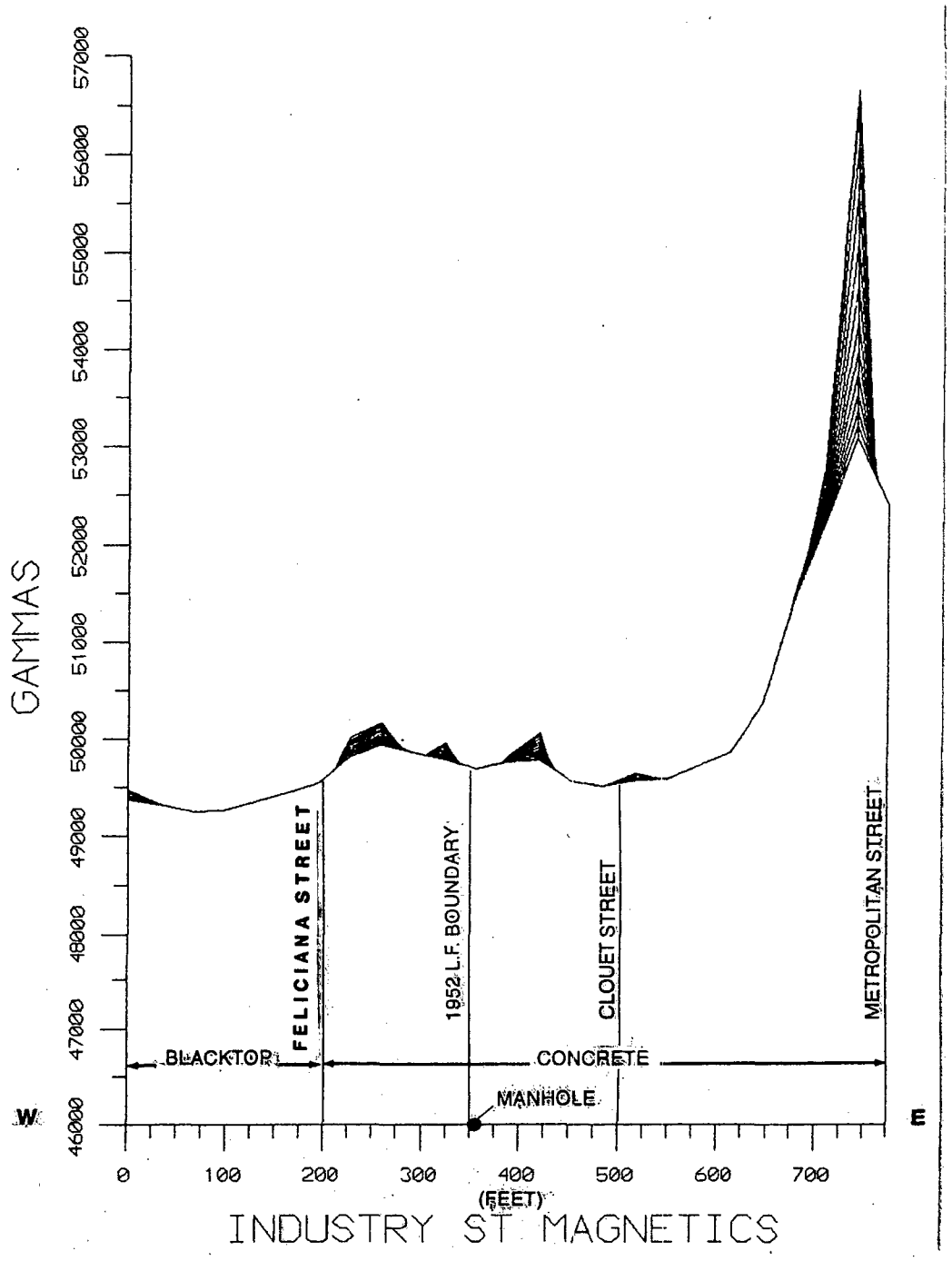

GAMMAS
46000
47000
48000
49000
50000
51000
52000
53000
54000
55000
56000
57000
W
E
BLACKTOP
FELICIANA STREET
1952 L.F. BOUNDARY
CLOUET STREET
METROPOLITAN STREET
CONCRETE
MANHOLE
0
100
200
300
400
500
600
700
(FEET)
INDUSTRY ST MAGNETICS

Figure F-23

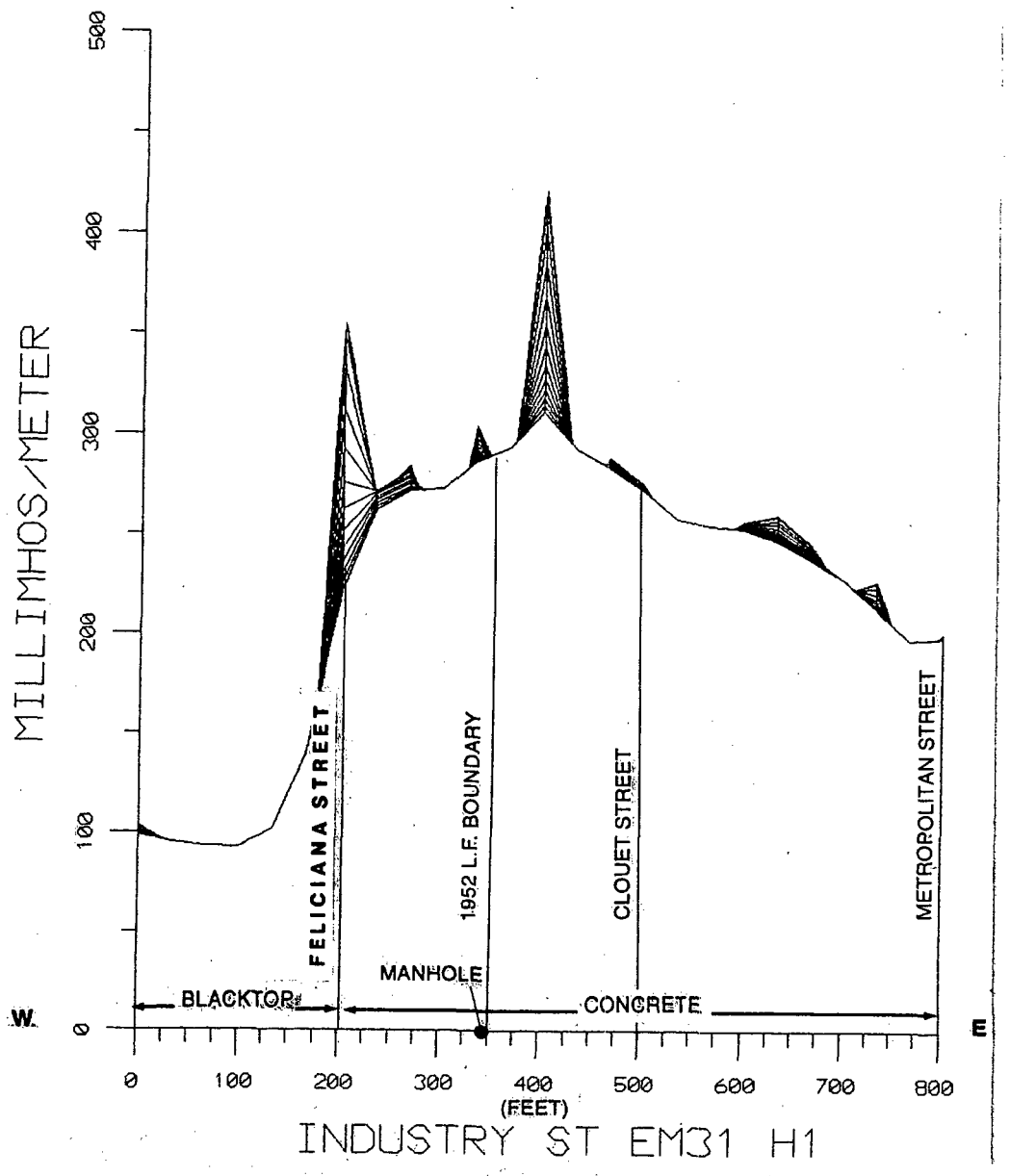

MILLIMHOS/METER
500
400
300
200
100
0
W.
E
FELICIANA STREET
1952 L.F. BOUNDARY
CLOUET STREET
METROPOLITAN STREET
MANHOLE
BLACKTOP
CONCRETE
0
100
200
300
400
500
600
700
800
(FEET)
INDUSTRY ST EM31 H1

Figure F-24

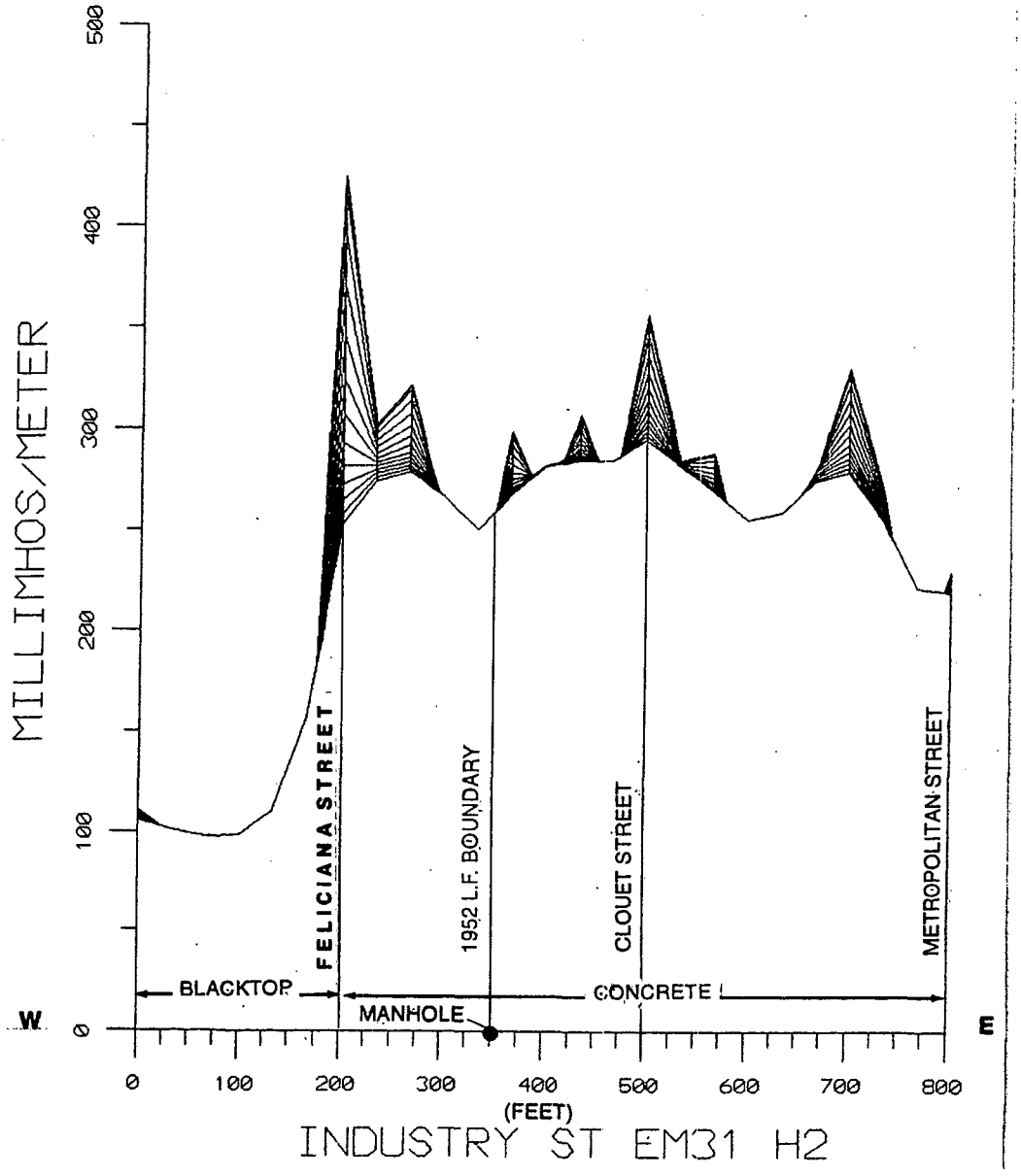

MILLIMHOS/METER
500
400
300
200
100
0
W
E
BLACKTOP
FELICIANA STREET
MANHOLE
1952 L.F. BOUNDARY
CLOUET STREET
CONCRETE
METROPOLITAN STREET
0
100
200
300
400
500
600
700
800
(FEET)
INDUSTRY ST EM31 H2

Figure F-25

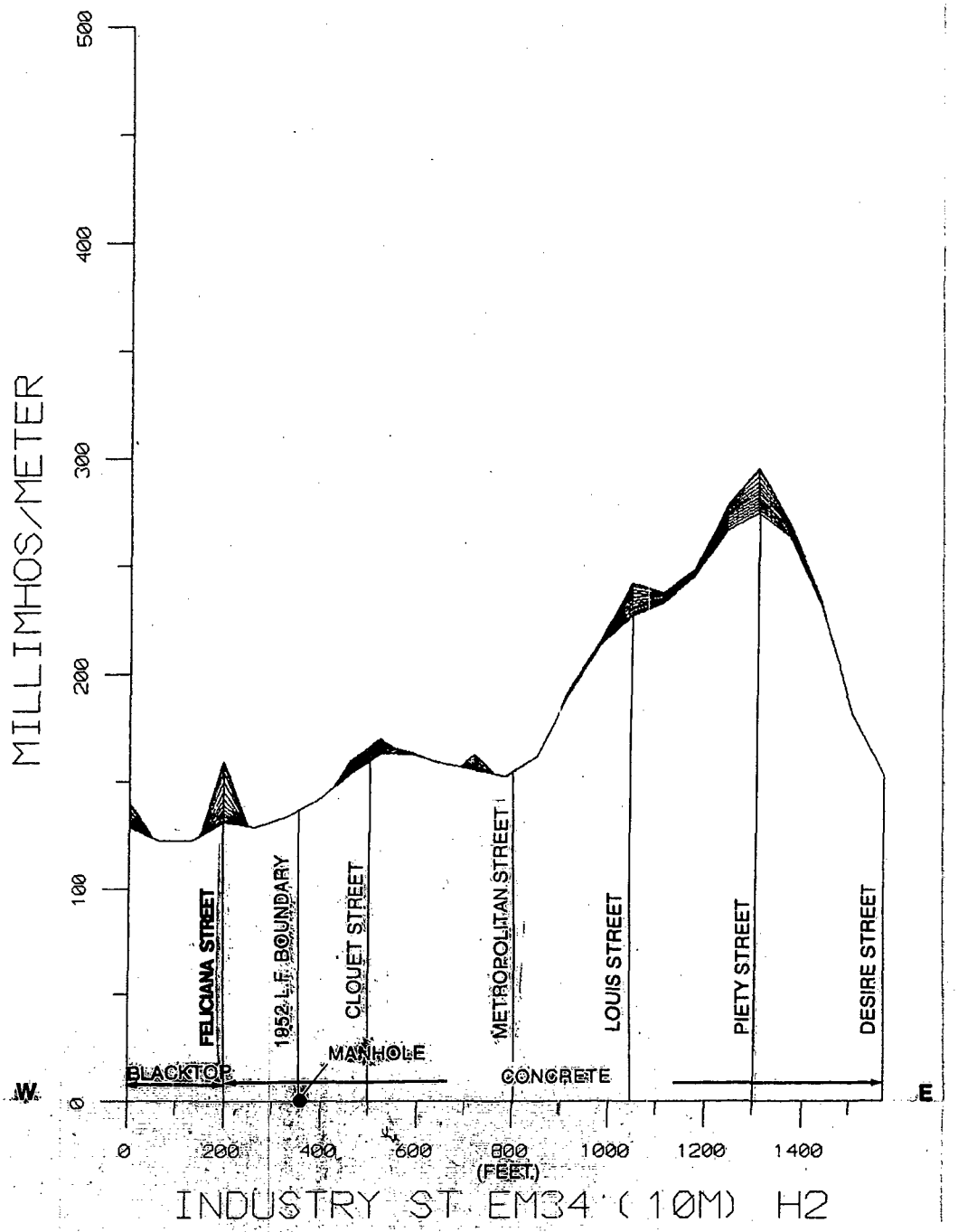

MILLIMHOS/METER
500
400
300
200
100
0
W
E
BLACKTOP
FELICIANA STREET
1852 L.F. BOUNDARY
MANHOLE
CLOUET STREET
METROPOLITAN STREET
CONCRETE
LOUIS STREET
PIETY STREET
DESIRE STREET
0
200
400
600
800
1000
1200
1400
(FEET)
INDUSTRY ST EM34 (10M) H2

Figure F-26

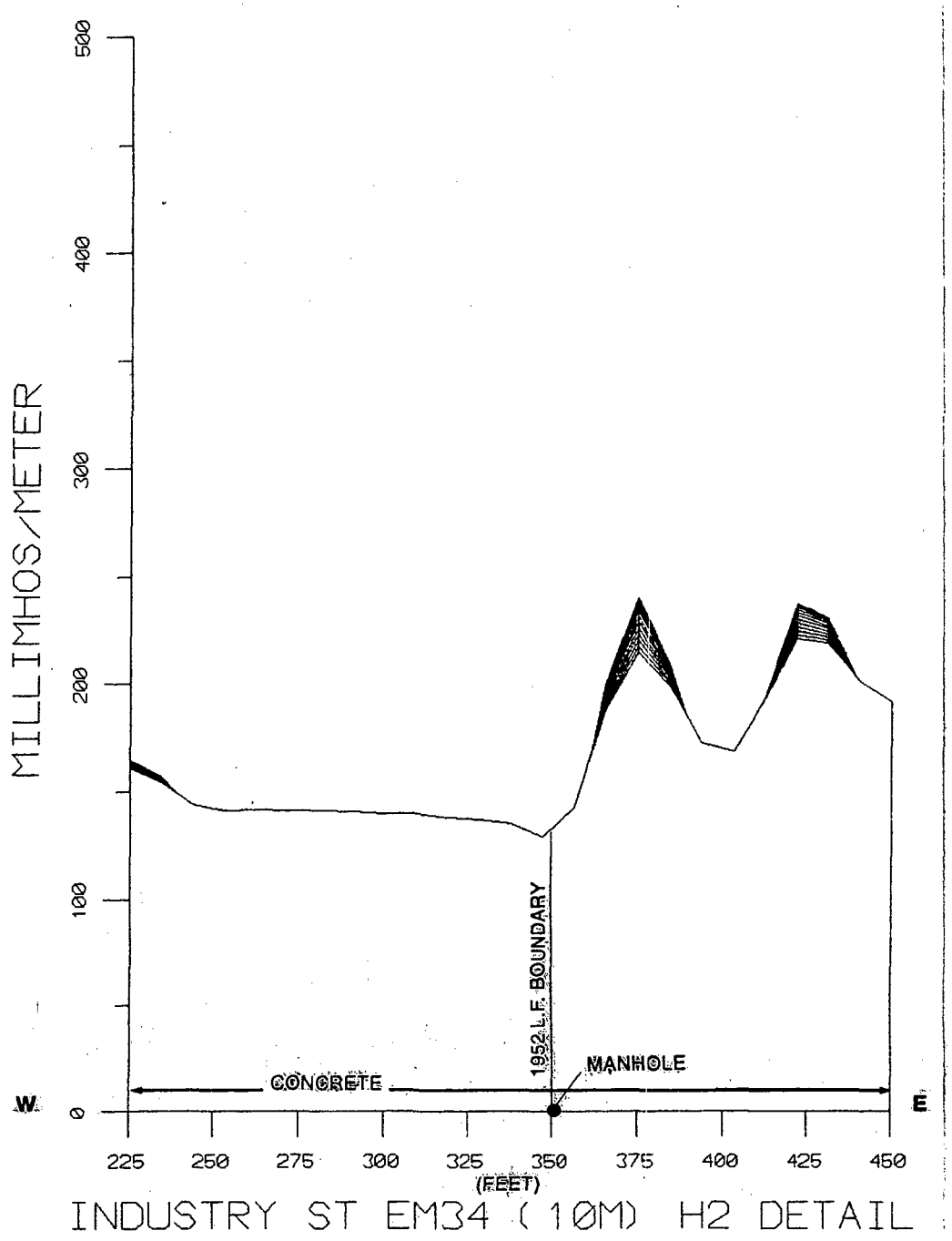
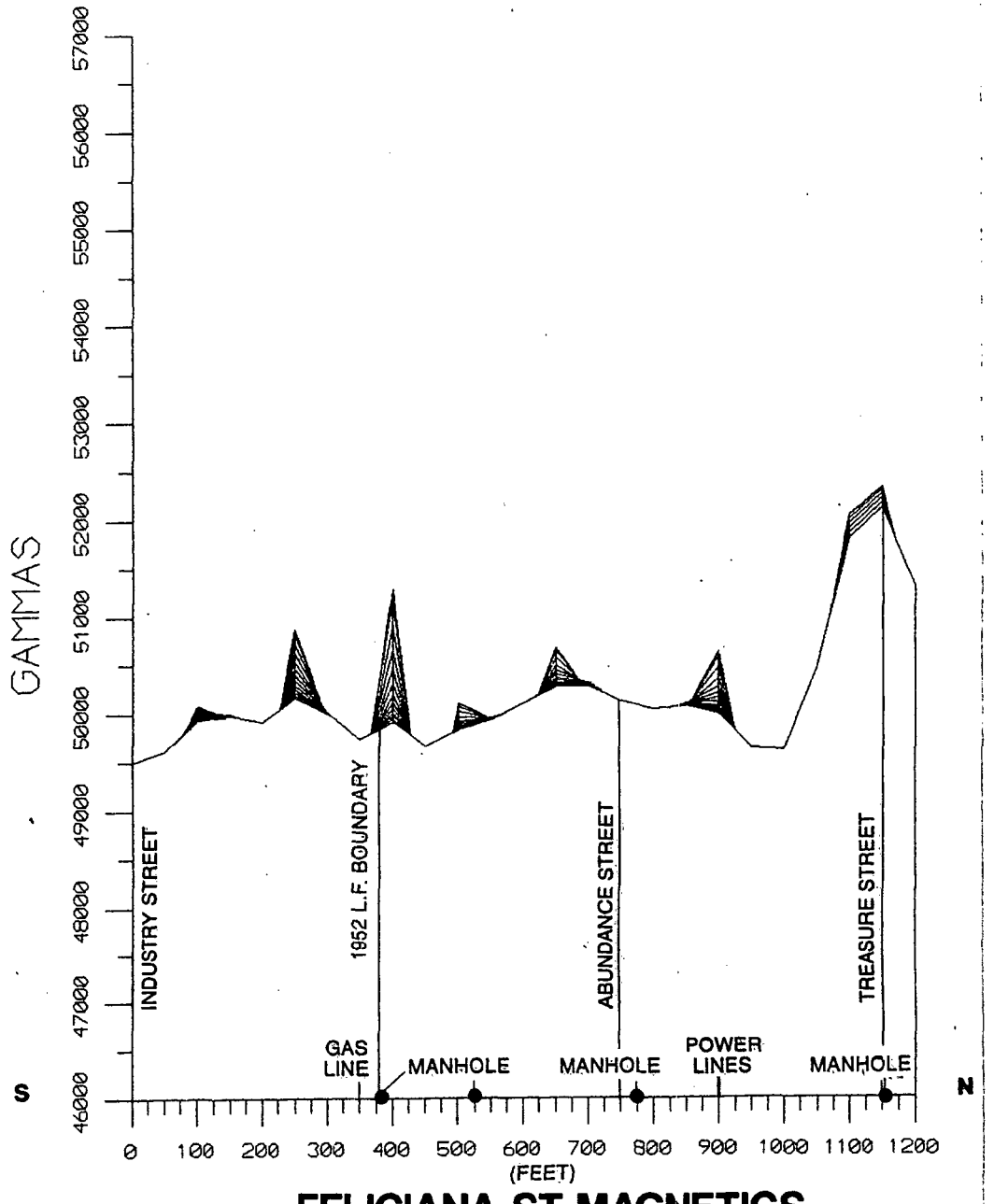

MILLIMHOS/METER
500
400
300
200
100
0
W
E
CONCRETE
1952 L.F. BOUNDARY
MANHOLE
225
250
275
300
325
350
375
400
425
450
(FEET)
INDUSTRY ST EM34 (10M) H2 DETAIL

Figure F-27



FELICIANA ST MAGNETICS

Figure F-28

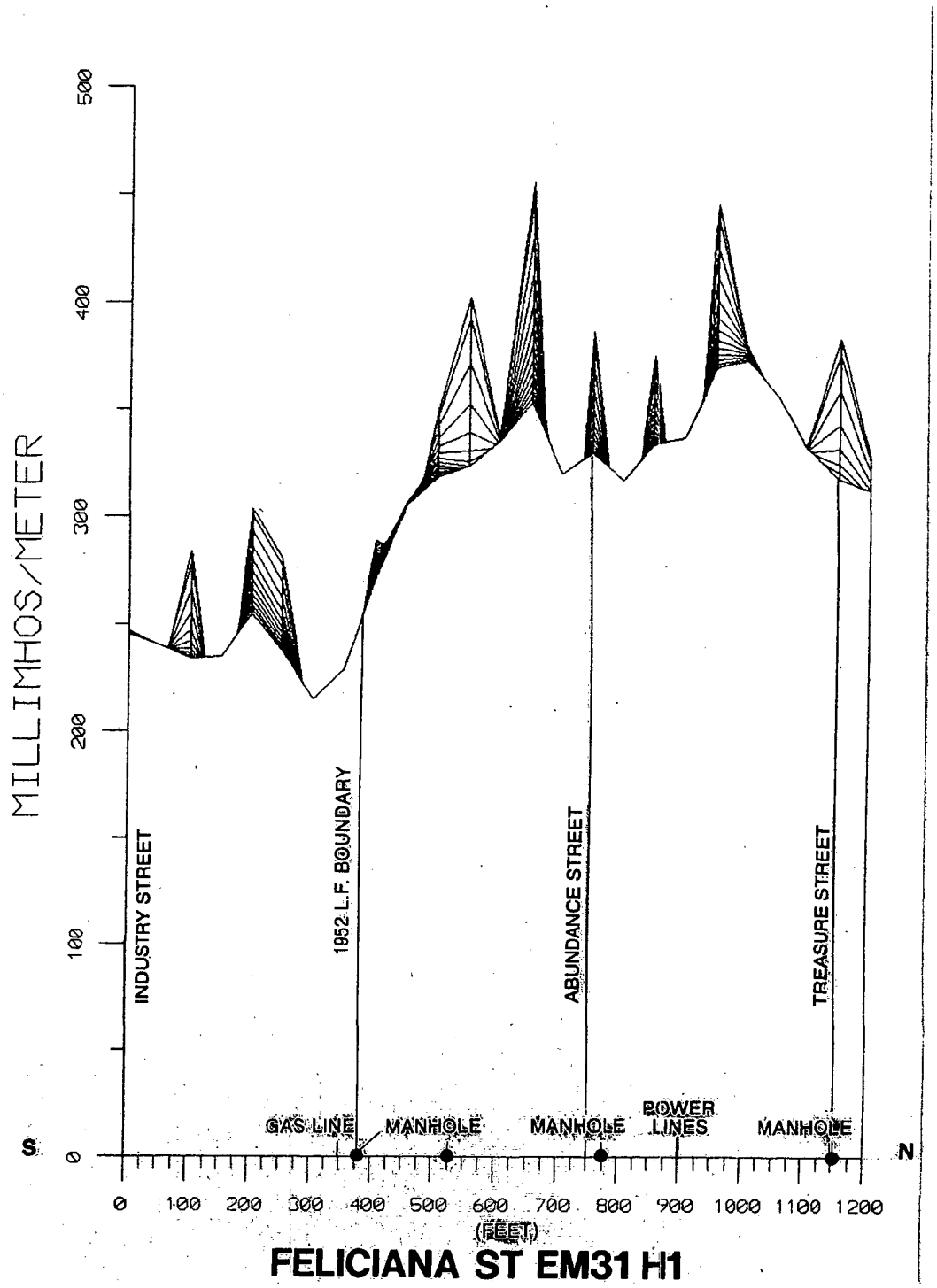

MILLIMHOS/METER
500
400
300
200
100
0
S
N
INDUSTRY STREET
1952 L.F. BOUNDARY
ABUNDANCE STREET
TREASURE STREET
GAS LINE
MANHOLE
MANHOLE
POWER LINES
MANHOLE
0 100 200 300 400 500 600 700 800 900 1000 1100 1200
(FEET)
FELICIANA ST EM31 H1

Figure F-29

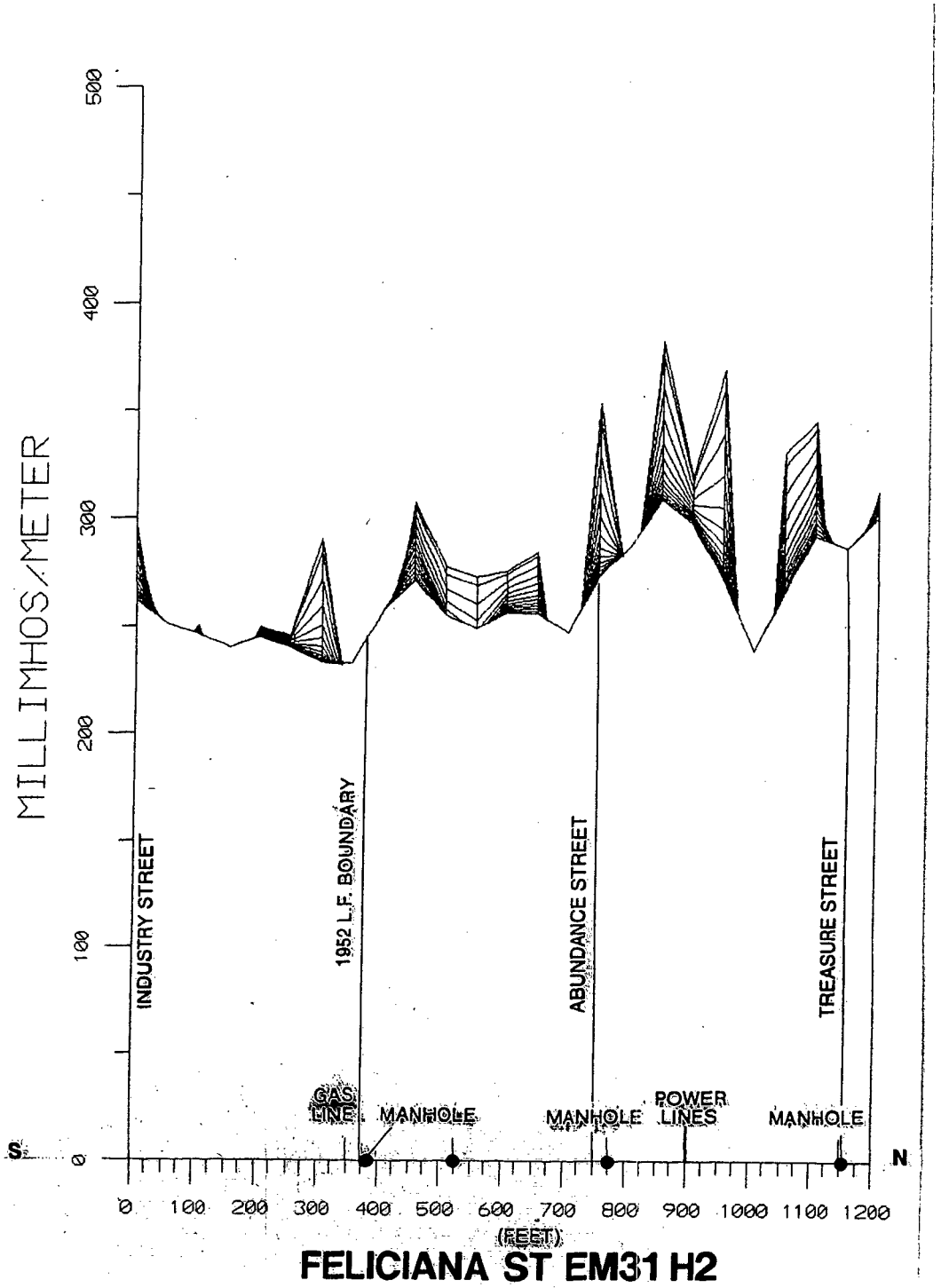
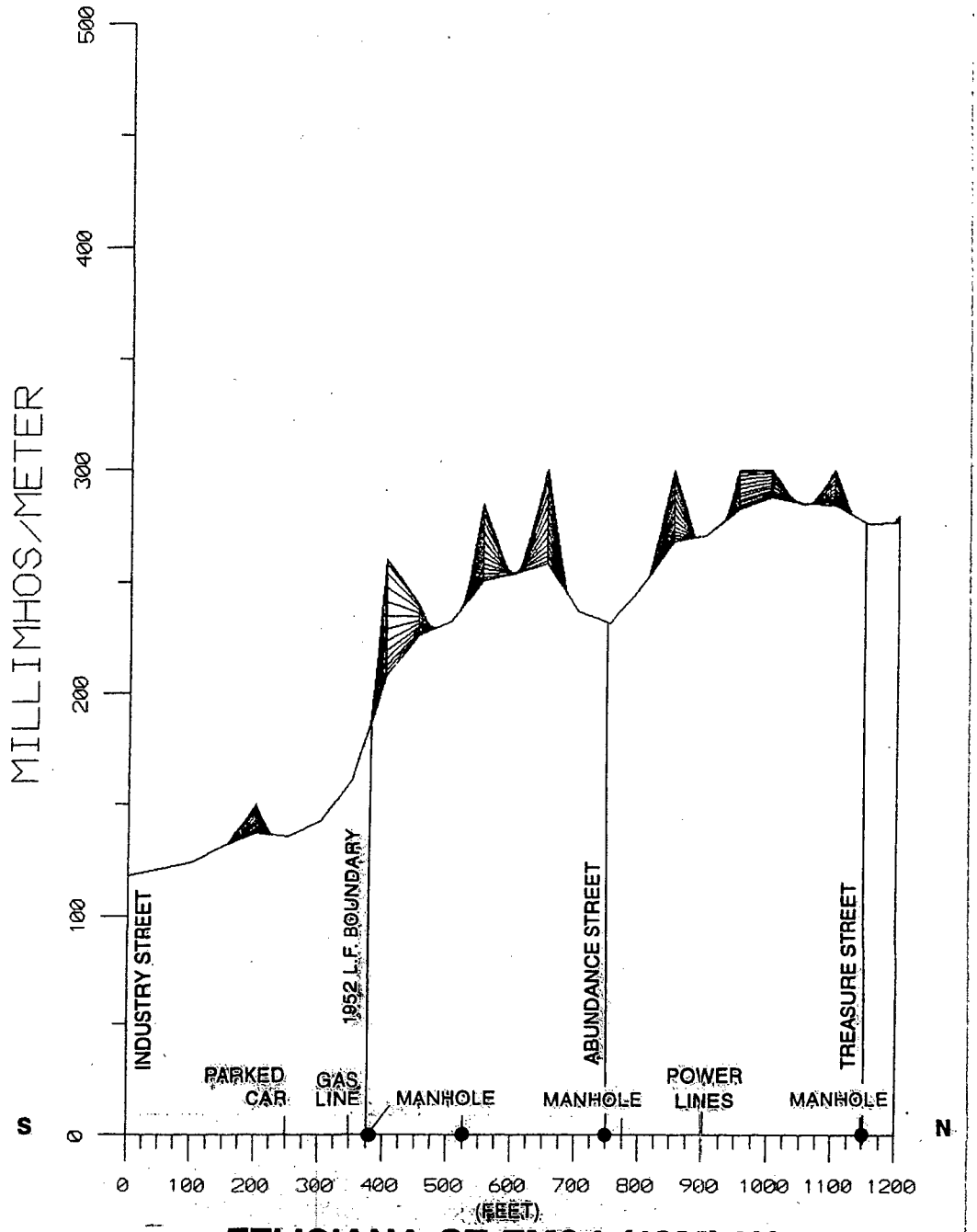

MILLIMHOS/METER
500
400
300
200
100
0
INDUSTRY STREET
1952 L.F. BOUNDARY
ABUNDANCE STREET
TREASURE STREET
GAS LINE
MANHOLE
MANHOLE
POWER LINES
MANHOLE
S
N
0 100 200 300 400 500 600 700 800 900 1000 1100 1200
(FEET)
FELICIANA ST EM31 H2

Figure F-30



FELICIANA ST EM34 (10M) H1

Figure F-31

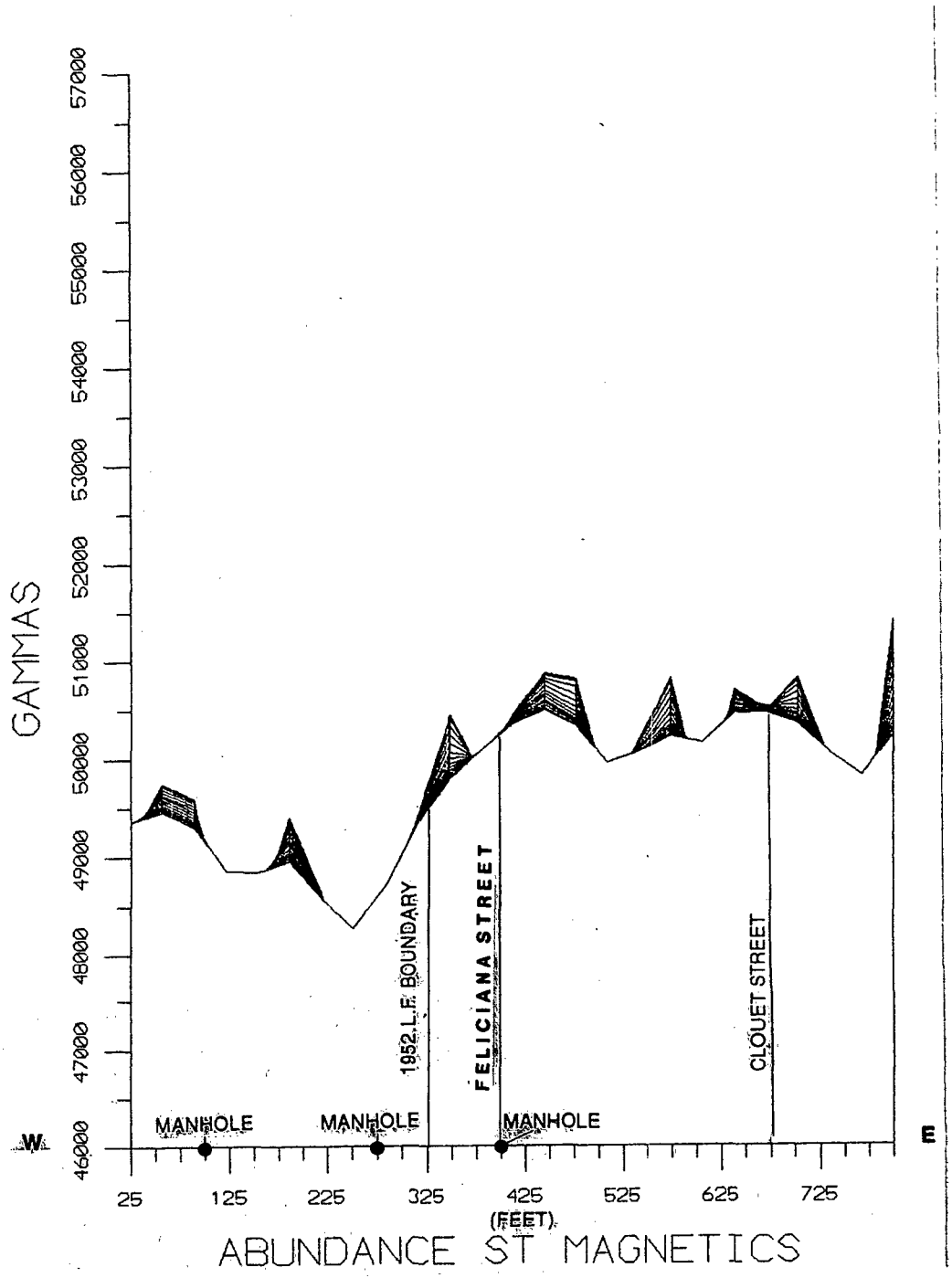

GAMMAS
46000
47000
48000
49000
50000
51000
52000
53000
54000
55000
56000
57000
W
E
MANHOLE
MANHOLE
MANHOLE
1952 L.F. BOUNDARY
FELICIANA STREET
CLOUET STREET
25
125
225
325
425
525
625
725
(FEET)
ABUNDANCE ST MAGNETICS

Figure F-35

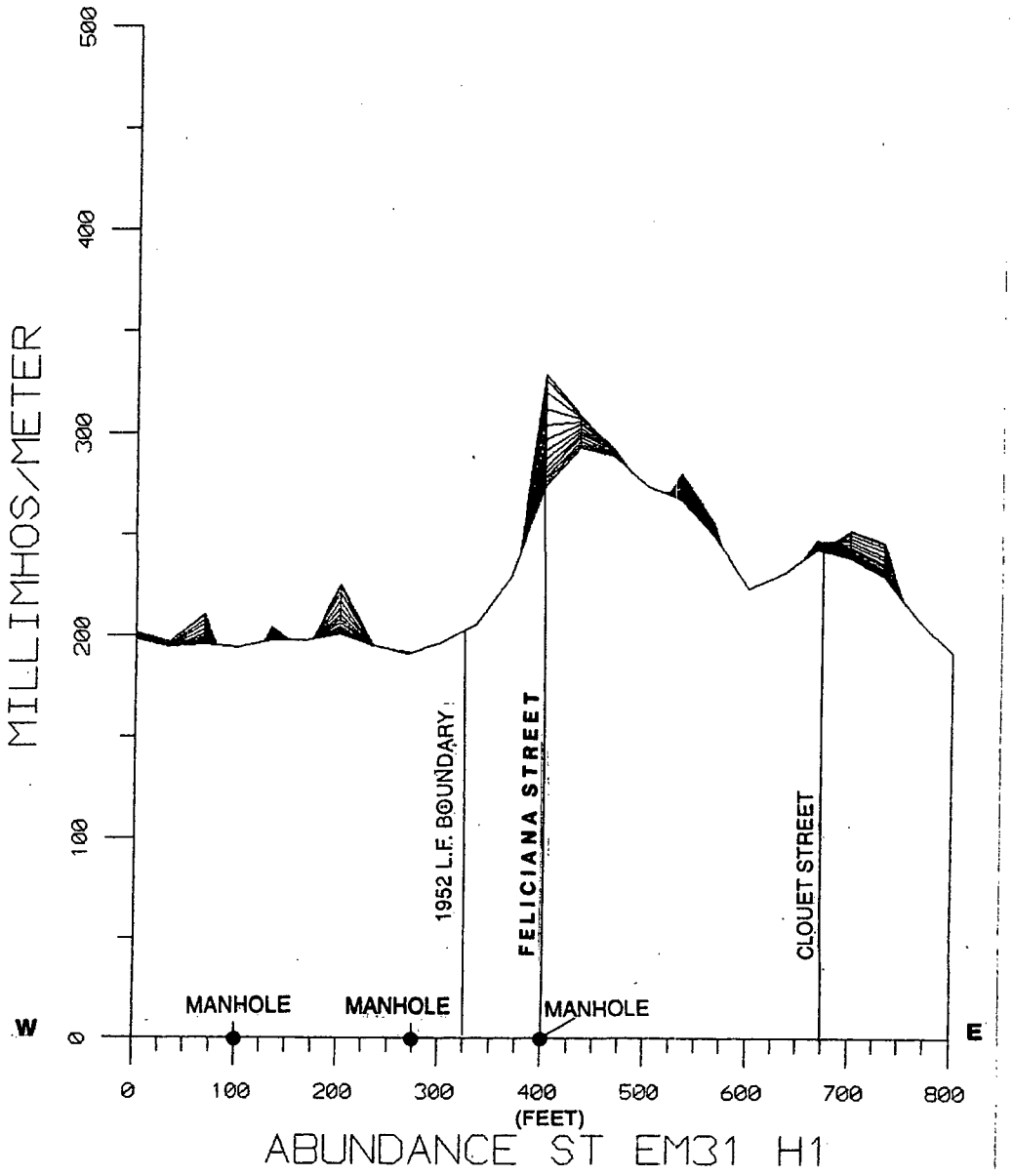

MILLIMHOS/METER
500
400
300
200
100
0
W
E
MANHOLE
MANHOLE
MANHOLE
1952 L.F. BOUNDARY
FELICIANA STREET
CLOUET STREET
0
100
200
300
400
500
600
700
800
(FEET)
ABUNDANCE ST EM31 H1

Figure F-36

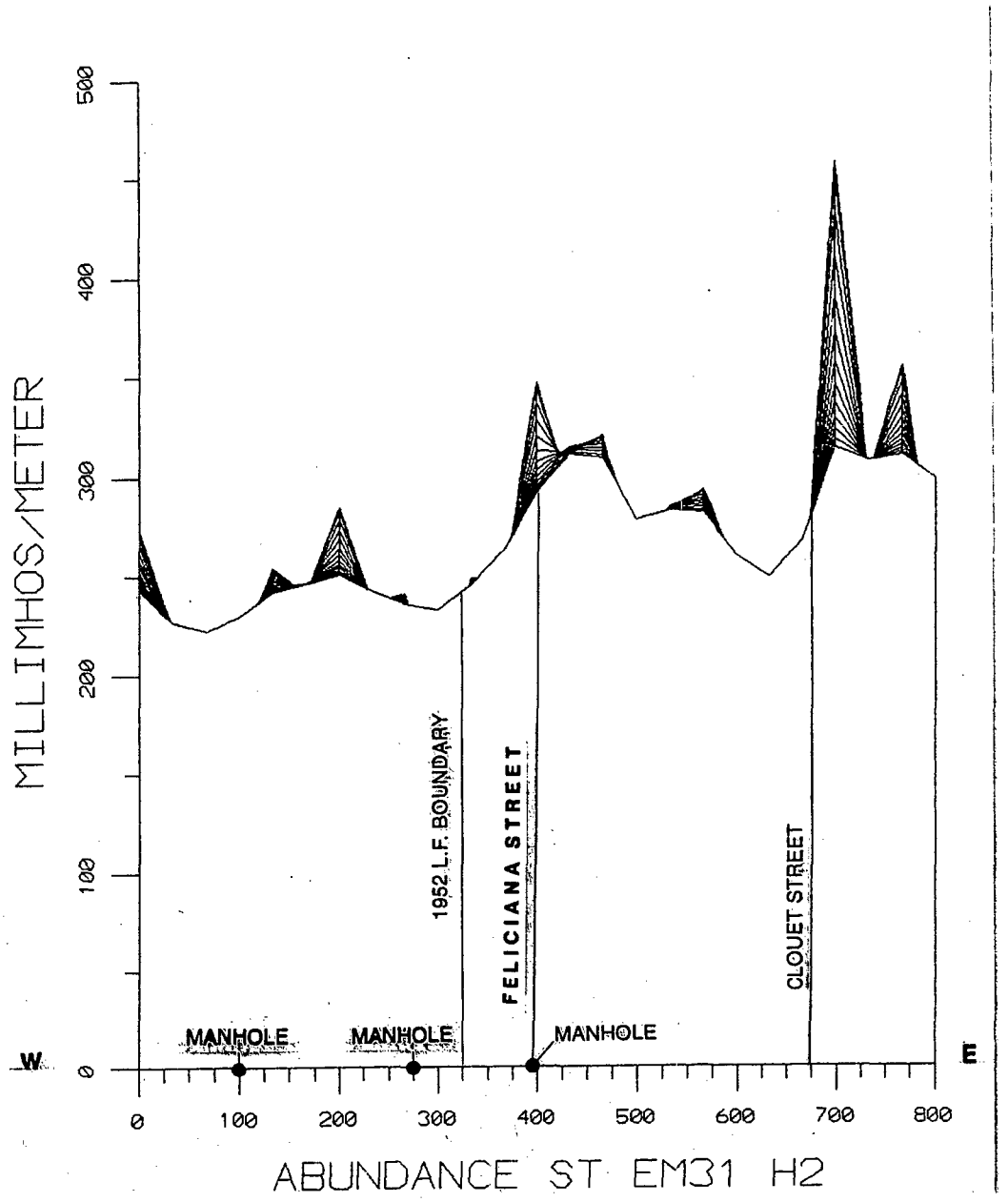

MILLIMHOS/METER
500
400
300
200
100
0
W
E
MANHOLE
MANHOLE
MANHOLE
1952 L.F. BOUNDARY
FELICIANA STREET
CLOUET STREET
0
100
200
300
400
500
600
700
800
ABUNDANCE ST EM31 H2

Figure F-37

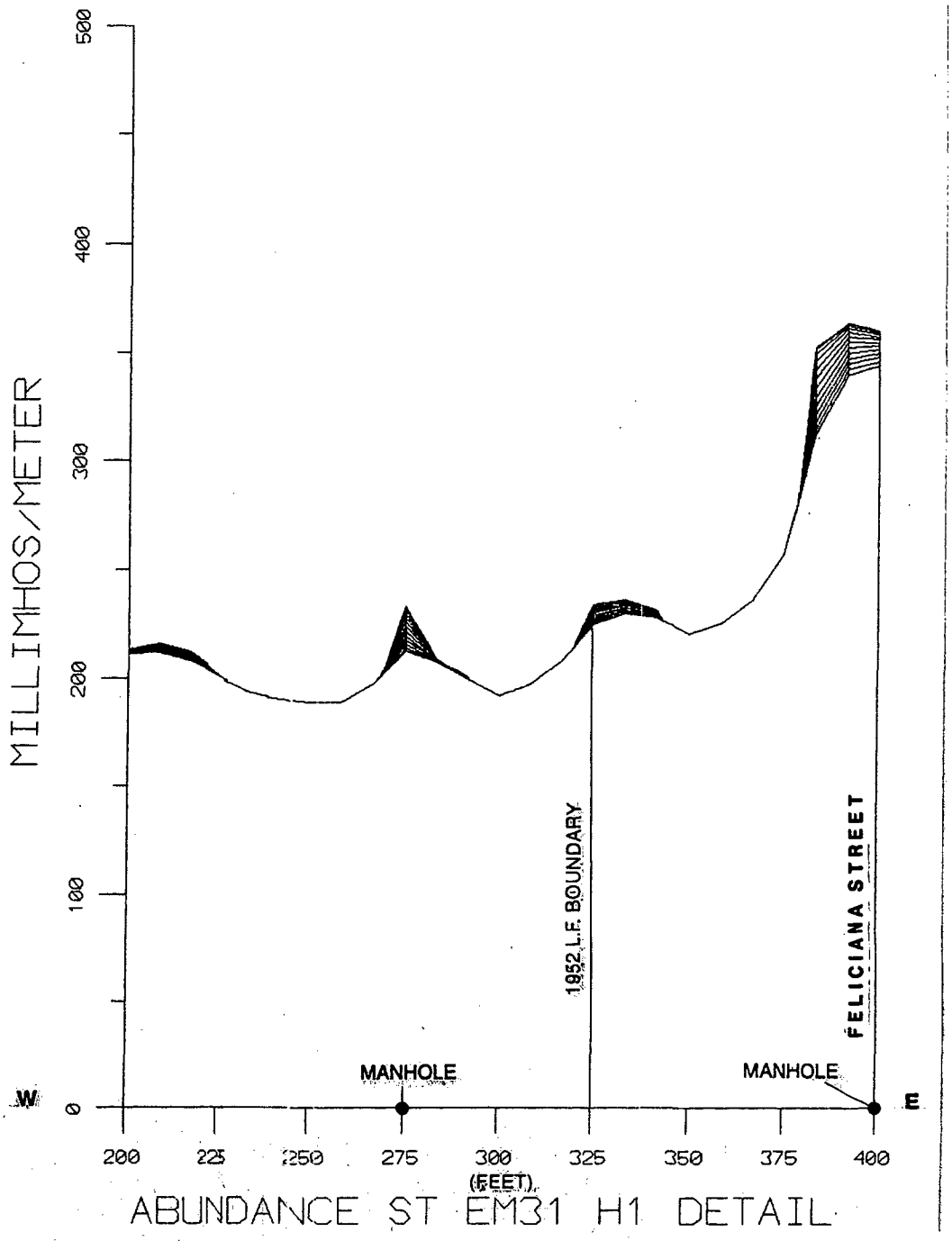

MILLIMHOS/METER
500
400
300
200
100
0
W
E
MANHOLE
MANHOLE
1952 L.F. BOUNDARY
FELICIANA STREET
200
225
250
275
300
325
350
375
400
(FEET)
ABUNDANCE ST EM31 H1 DETAIL

Figure F-38

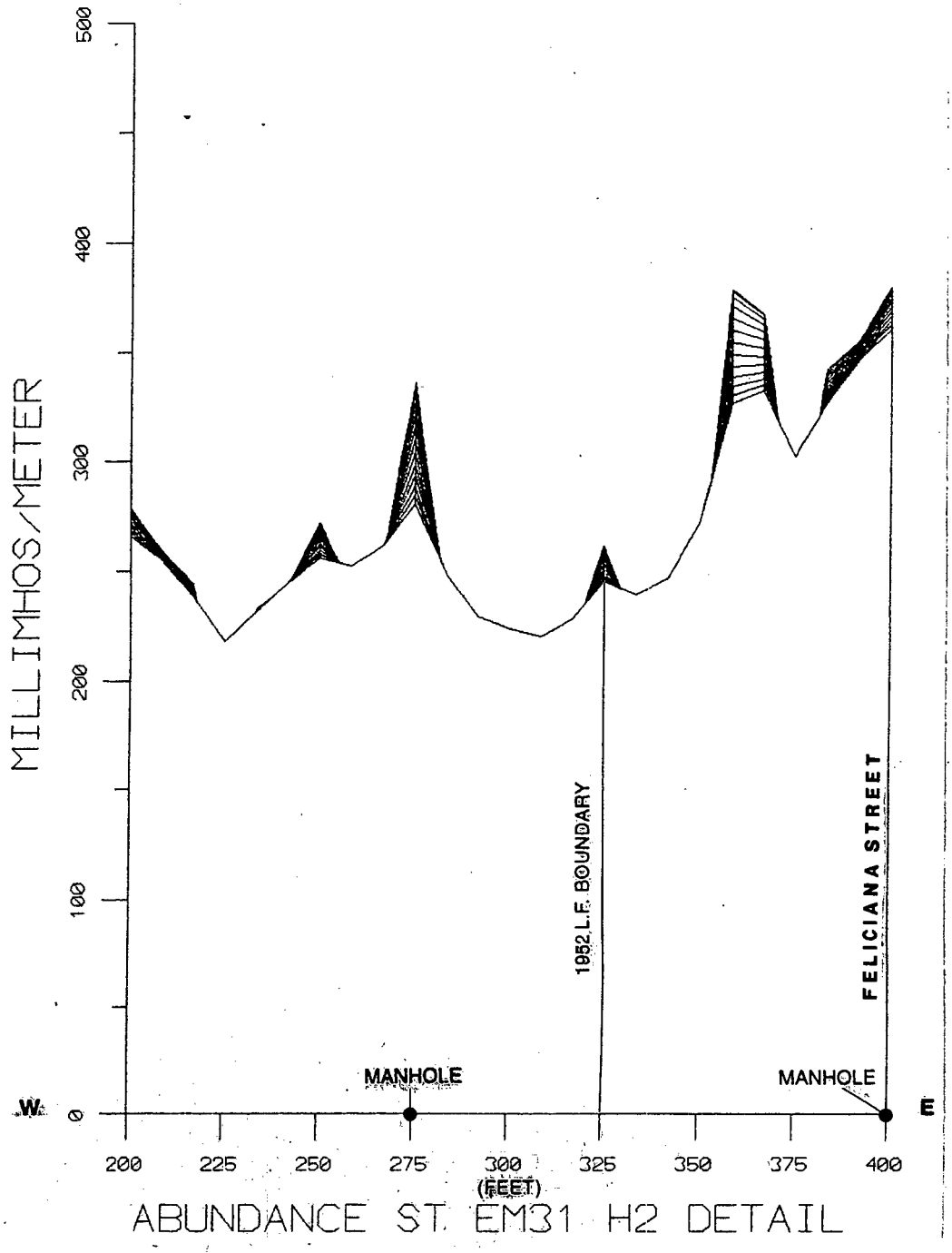

MILLIMHOS/METER
500
400
300
200
100
0
W
E
MANHOLE
MANHOLE
1952 L.F. BOUNDARY
FELICIANA STREET
200
225
250
275
300
325
350
375
400
(FEET)
ABUNDANCE ST. EM31 H2 DETAIL

Figure F-39

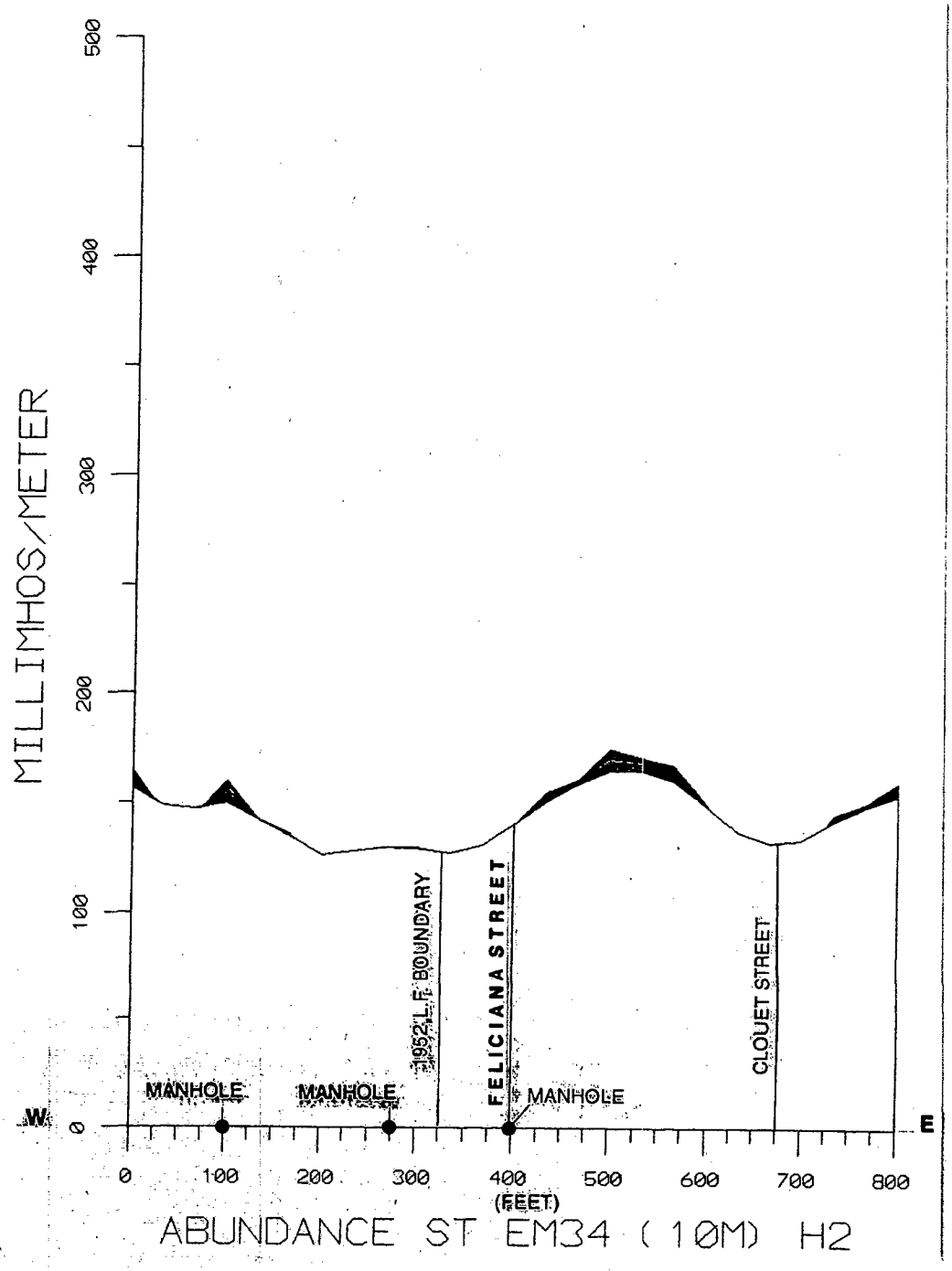

MILLIMHOS/METER
500
400
300
200
100
0
W
E
MANHOLE
MANHOLE
MANHOLE
1952 L.F. BOUNDARY
FELICIANA STREET
CLOUET STREET
0
100
200
300
400
500
600
700
800
(FEET)
ABUNDANCE ST EM34 (10M) H2

Figure F-40

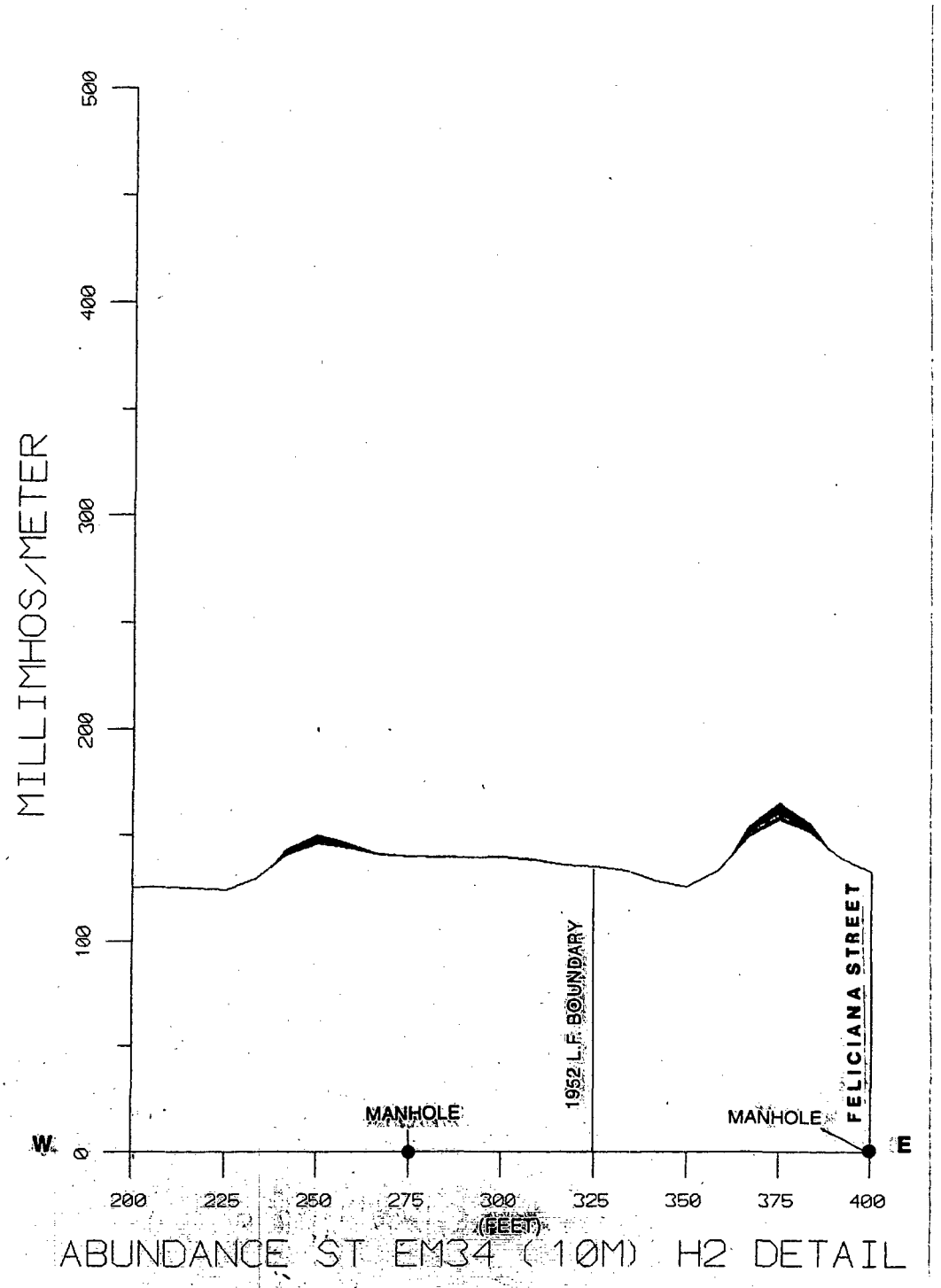

MILLIMHOS/METER
500
400
300
200
100
0
W
E
MANHOLE
MANHOLE
1952 L.F. BOUNDARY
FELICIANA STREET
200
225
250
275
300
325
350
375
400
(FEET)
ABUNDANCE ST EM34 (10M) H2 DETAIL

Figure F-41

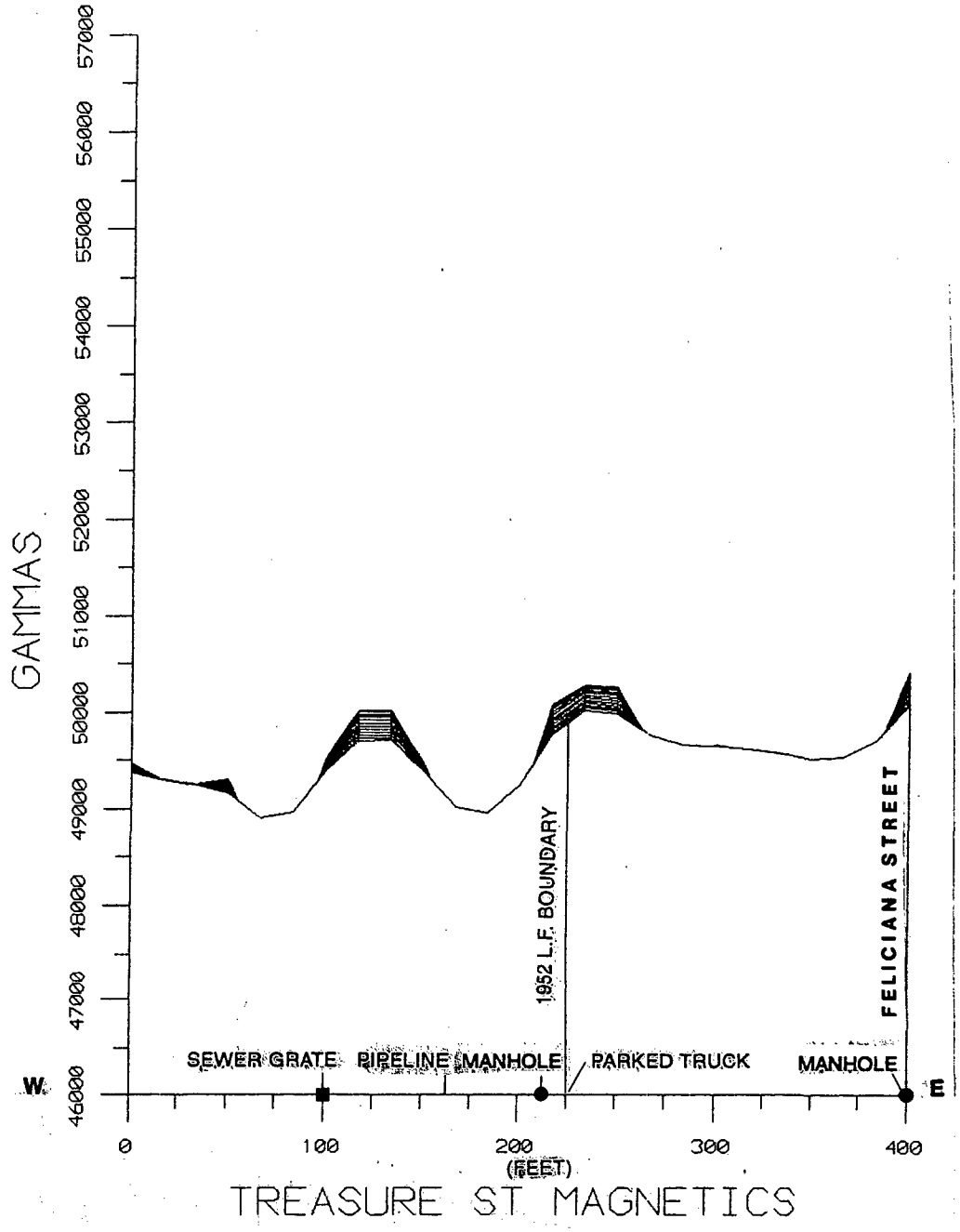

GAMMAS
46000
47000
48000
49000
50000
51000
52000
53000
54000
55000
56000
57000
W
E
SEWER GRATE
PIPELINE
MANHOLE
PARKED TRUCK
MANHOLE
1952 L.F. BOUNDARY
FELICIANA STREET
0
100
200
300
400
(FEET)
TREASURE ST MAGNETICS

Figure F-42

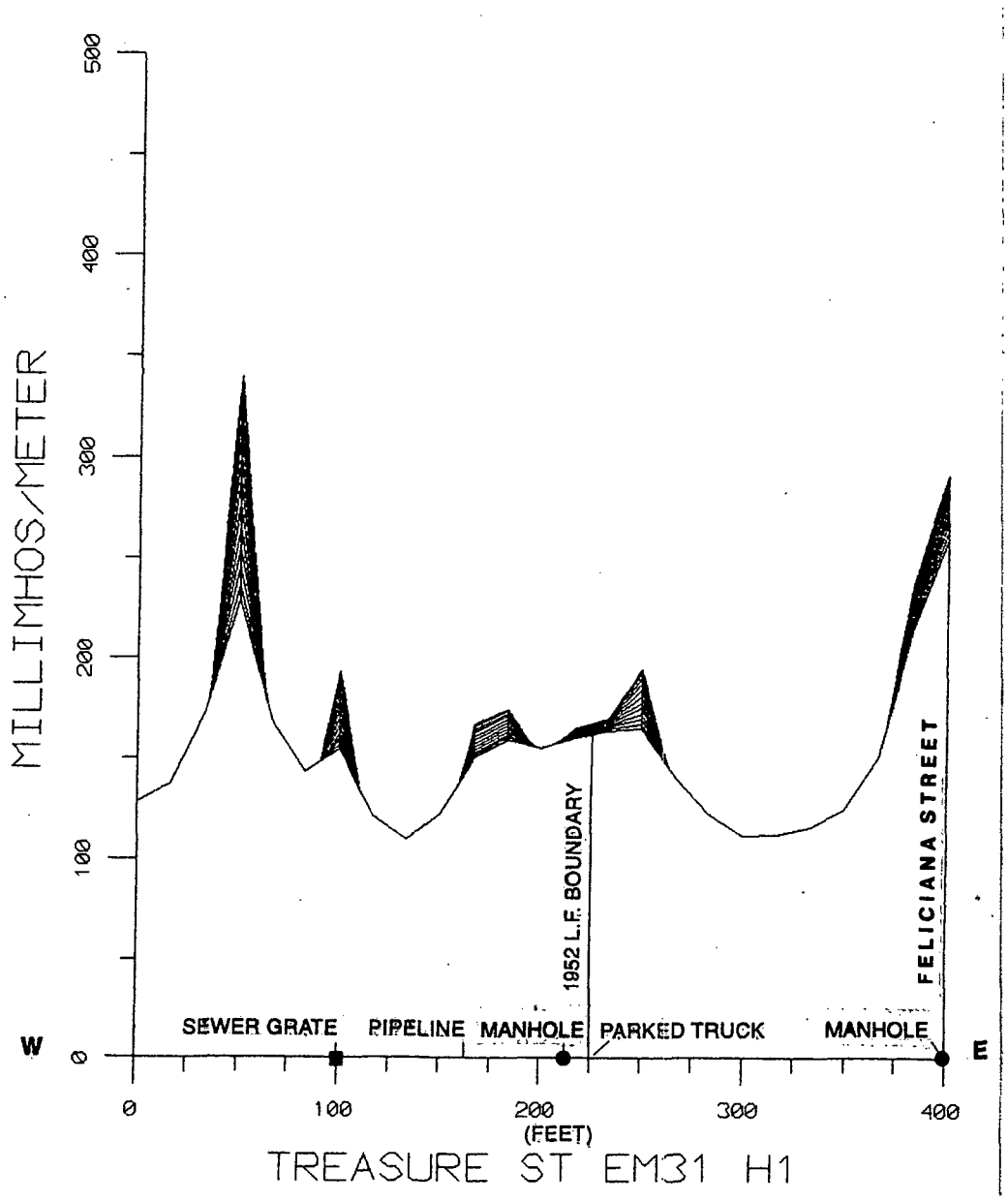

MILLIMHOS/METER
500
400
300
200
100
0
W
E
SEWER GRATE
PIPELINE
MANHOLE
PARKED TRUCK
MANHOLE
1952 L.F. BOUNDARY
FELICIANA STREET
0
100
200
300
400
(FEET)
TREASURE ST EM31 H1

Figure F-43

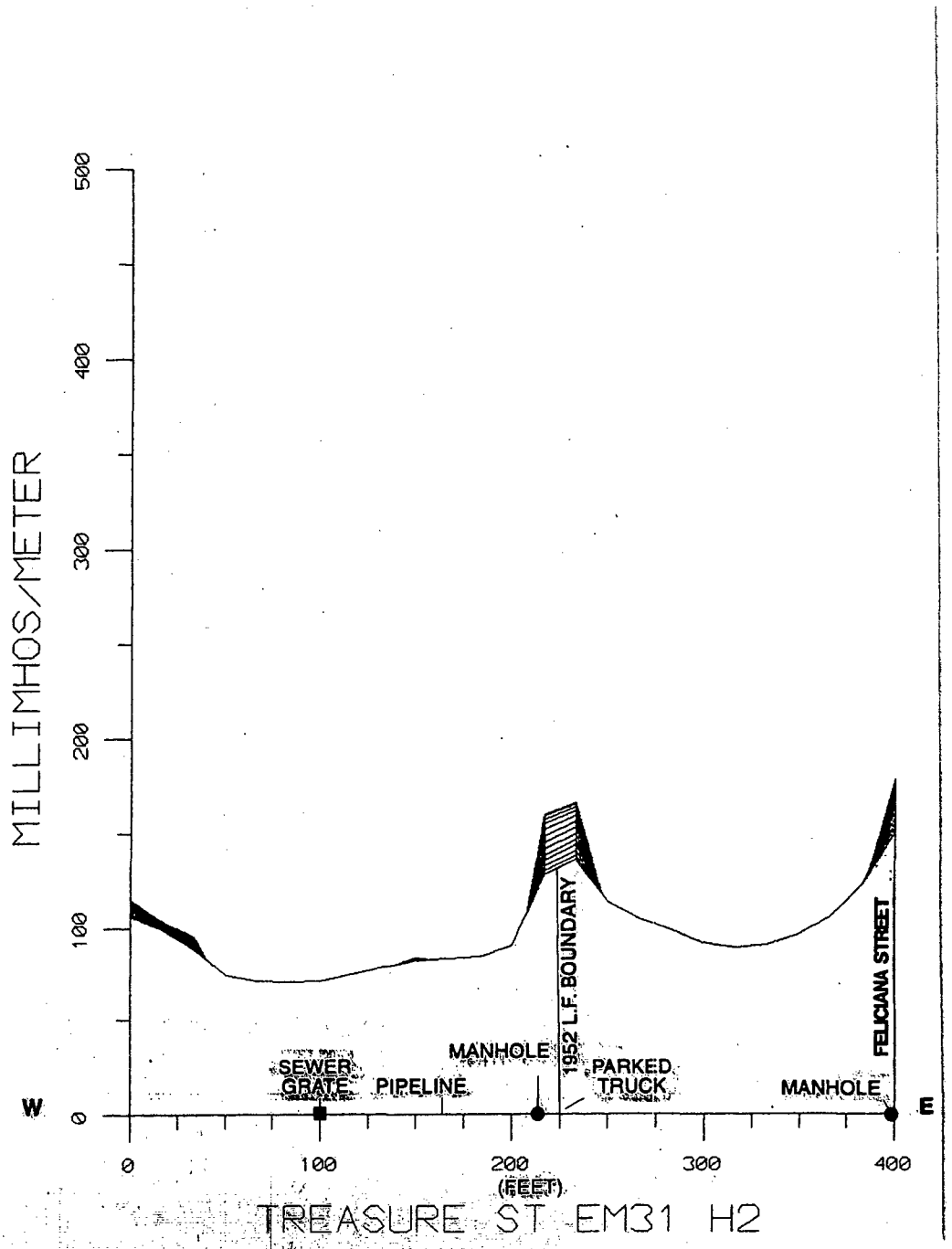

MILLIMHOS/METER
500
400
300
200
100
0
W
E
SEWER GRATE
PIPELINE
MANHOLE
1952 L.F. BOUNDARY
PARKED TRUCK
MANHOLE
FELICIANA STREET
0
100
200
300
400
(FEET)
TREASURE ST EM31 H2

Figure F-44

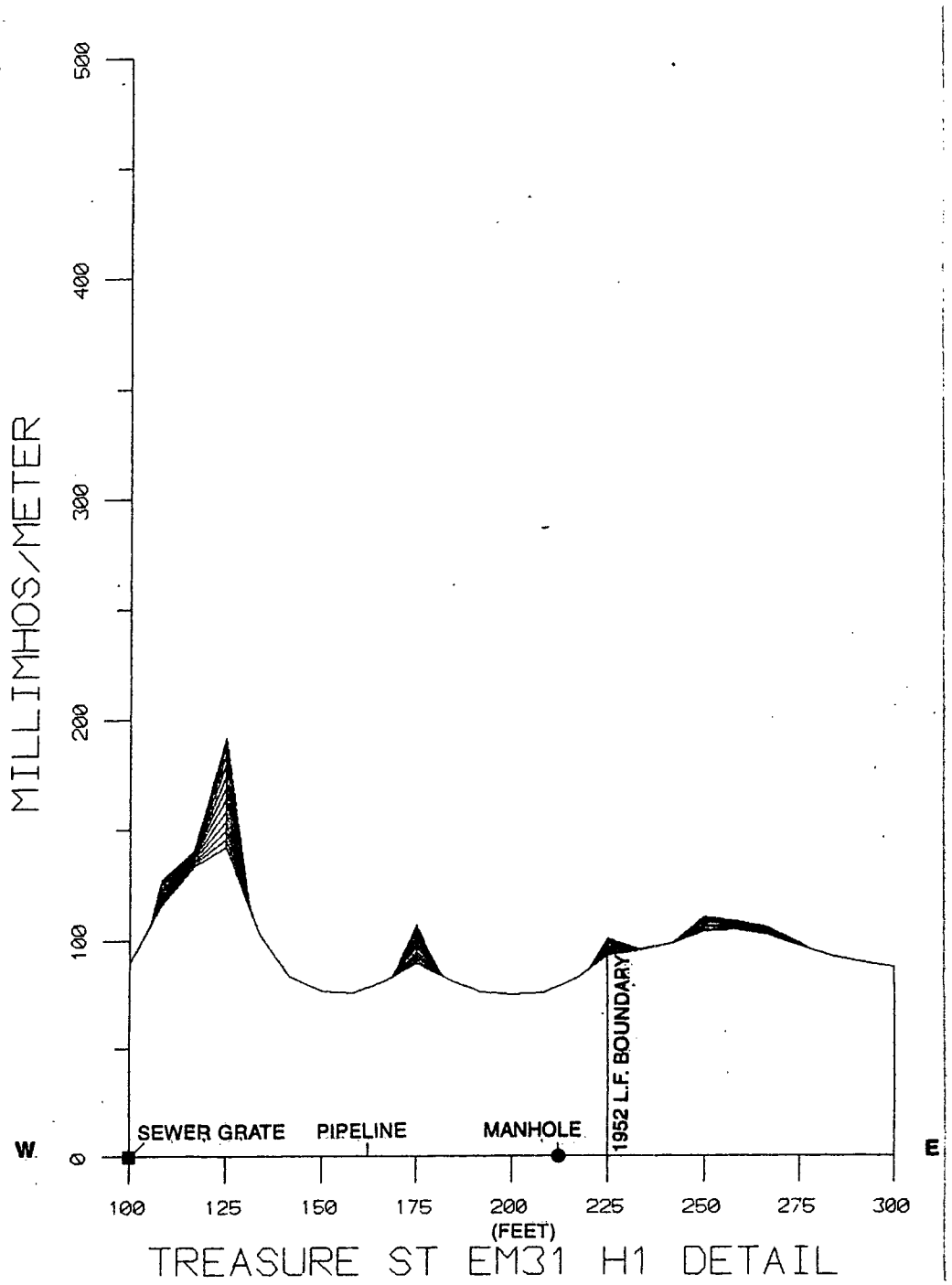

MILLIMHOS/METER
500
400
300
200
100
0
W
E
SEWER GRATE
PIPELINE
MANHOLE
1952 L.F. BOUNDARY
100
125
150
175
200
225
250
275
300
(FEET)
TREASURE ST EM31 H1 DETAIL

Figure F-45

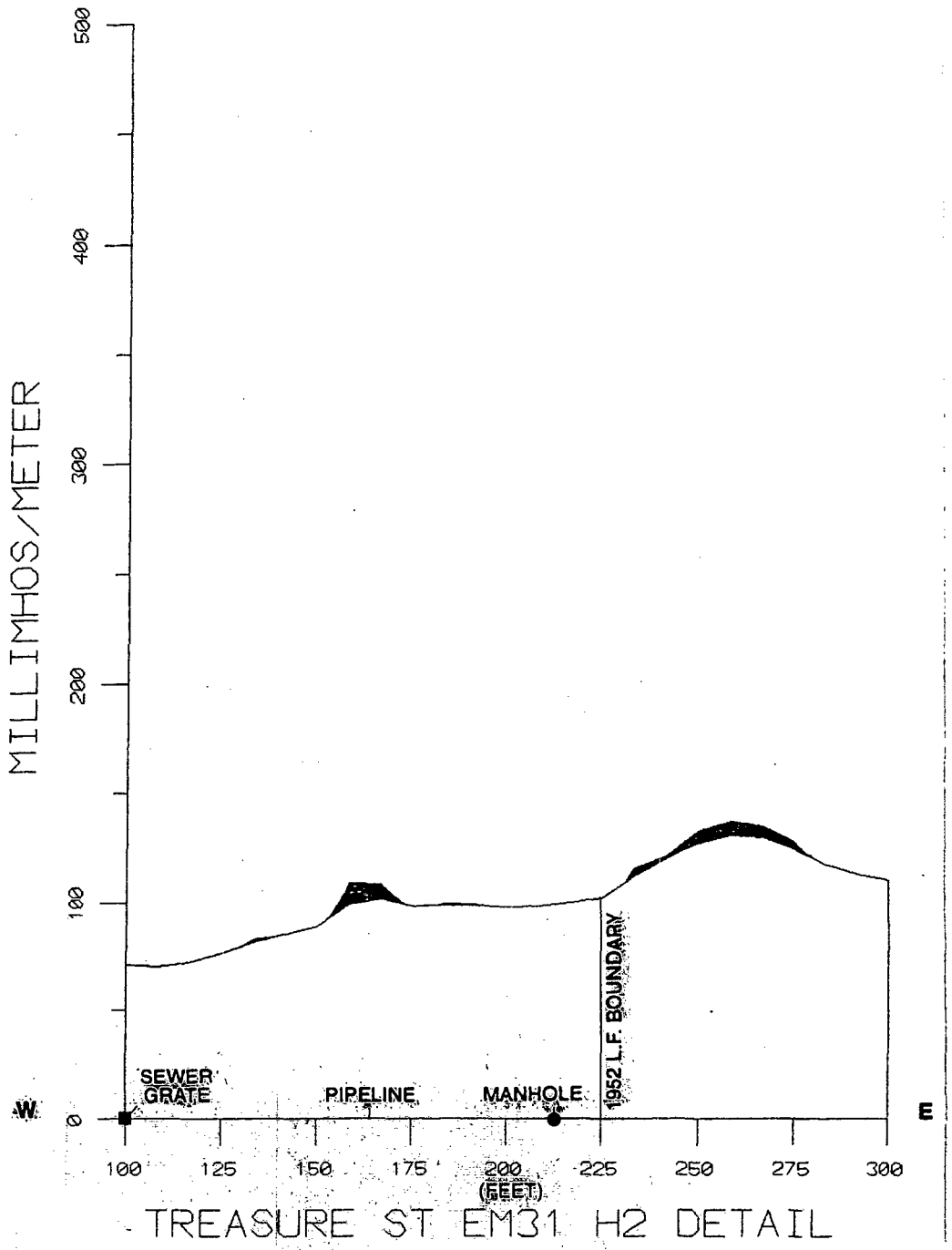

MILLIMHOS/METER
500
400
300
200
100
0
W
E
SEWER GRATE
PIPELINE
MANHOLE
1952 L.F. BOUNDARY
100
125
150
175
200
225
250
275
300
(FEET)
TREASURE ST EM31 H2 DETAIL

Figure F-46

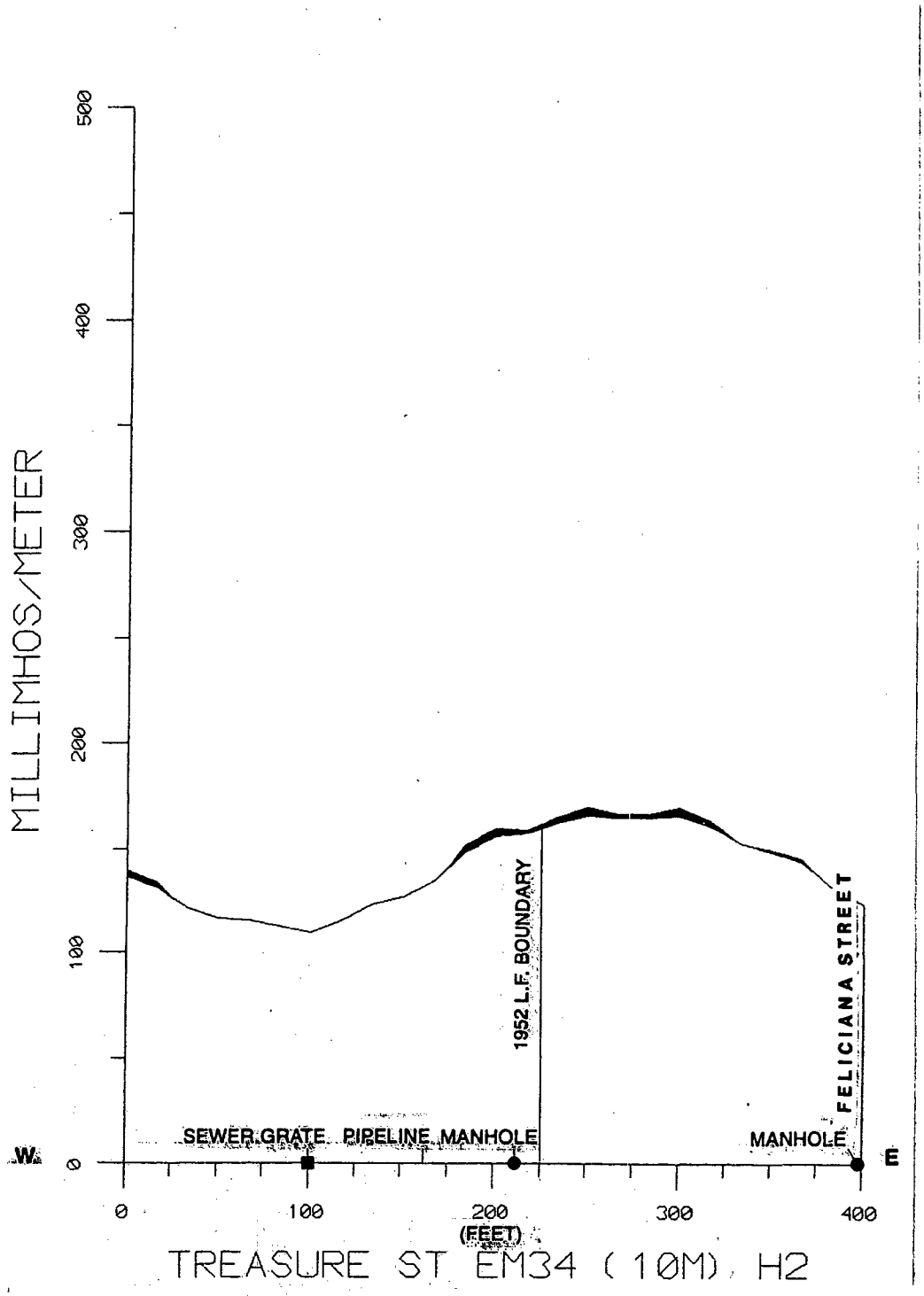

MILLIMHOS/METER
500
400
300
200
100
0
W
E
SEWER GRATE
PIPELINE
MANHOLE
1952 L.F. BOUNDARY
FELICIANA STREET
MANHOLE
0
100
200
300
400
(FEET)
TREASURE ST EM34 (10M), H2

Figure F-47

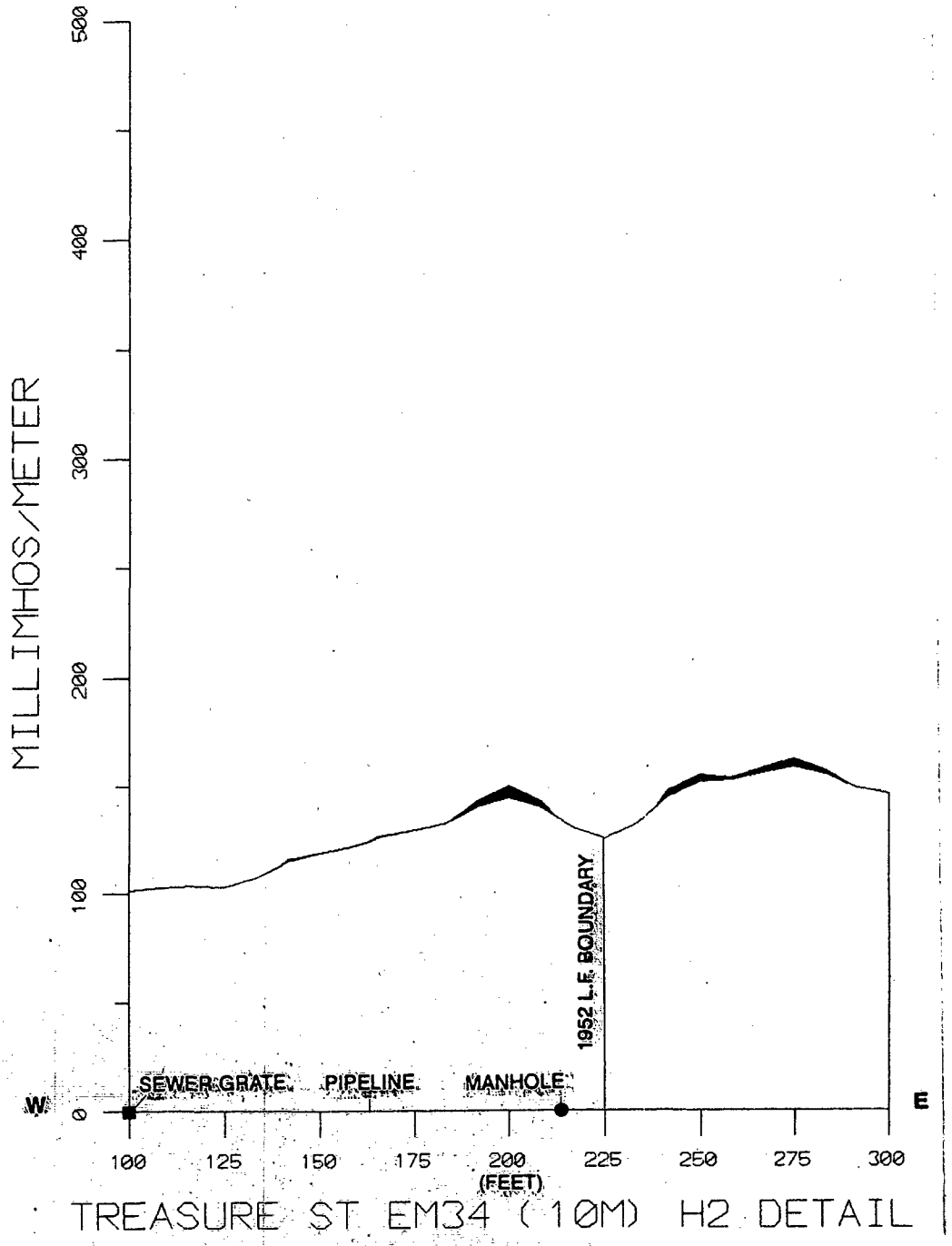

MILLIMHOS/METER
500
400
300
200
100
0
W
E
SEWER GRATE
PIPELINE
MANHOLE
1952 L.E. BOUNDARY
100
125
150
175
200
225
250
275
300
(FEET)
TREASURE ST EM34 (10M) H2 DETAIL

Figure F-48

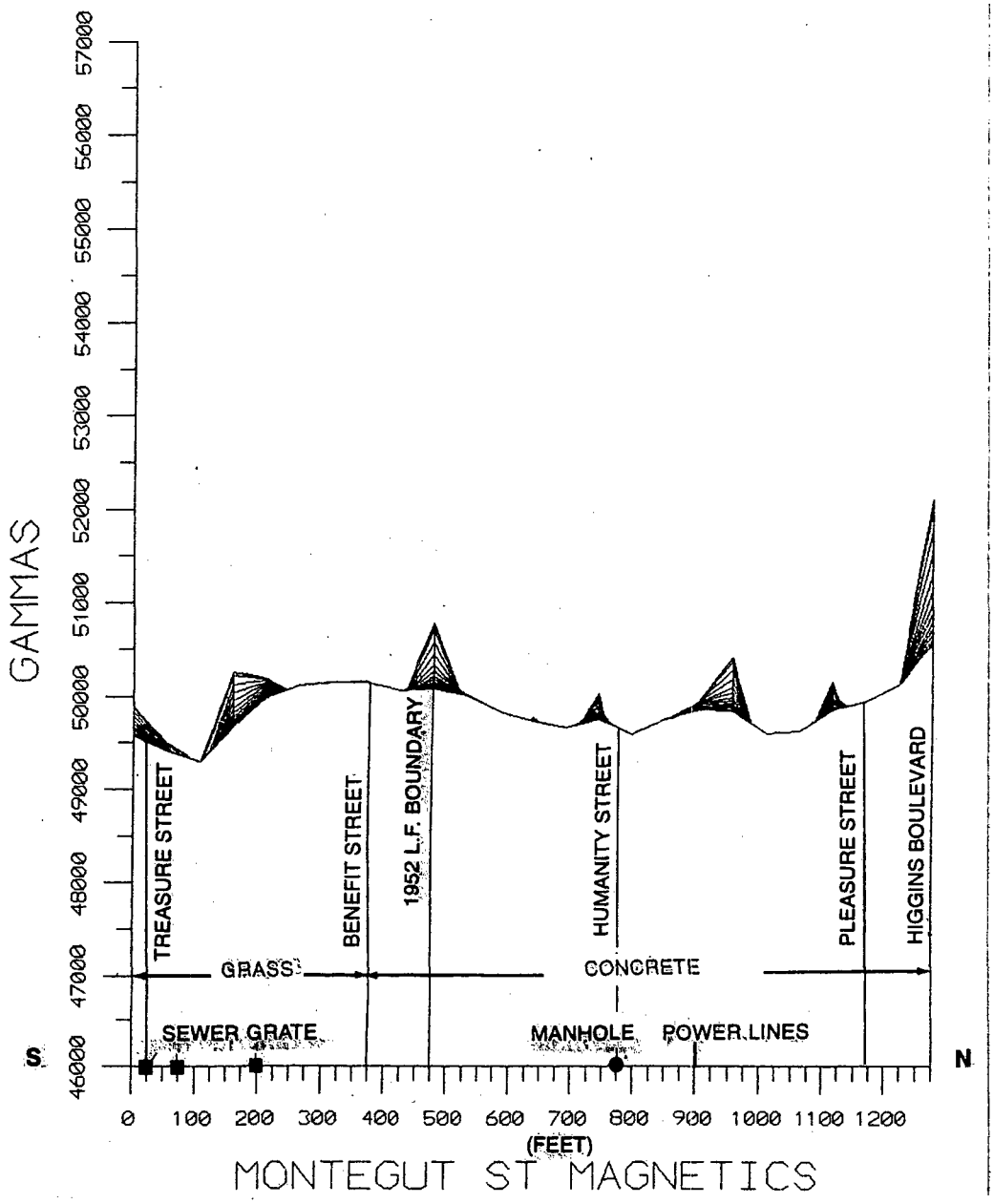

GAMMAS
46000
47000
48000
49000
50000
51000
52000
53000
54000
55000
56000
57000
TREASURE STREET
BENEFIT STREET
1952 L.F. BOUNDARY
HUMANITY STREET
PLEASURE STREET
HIGGINS BOULEVARD
GRASS
CONCRETE
SEWER GRATE
MANHOLE
POWER LINES
S
N
0 100 200 300 400 500 600 700 800 900 1000 1100 1200
(FEET)
MONTEGUT ST MAGNETICS

Figure F-49

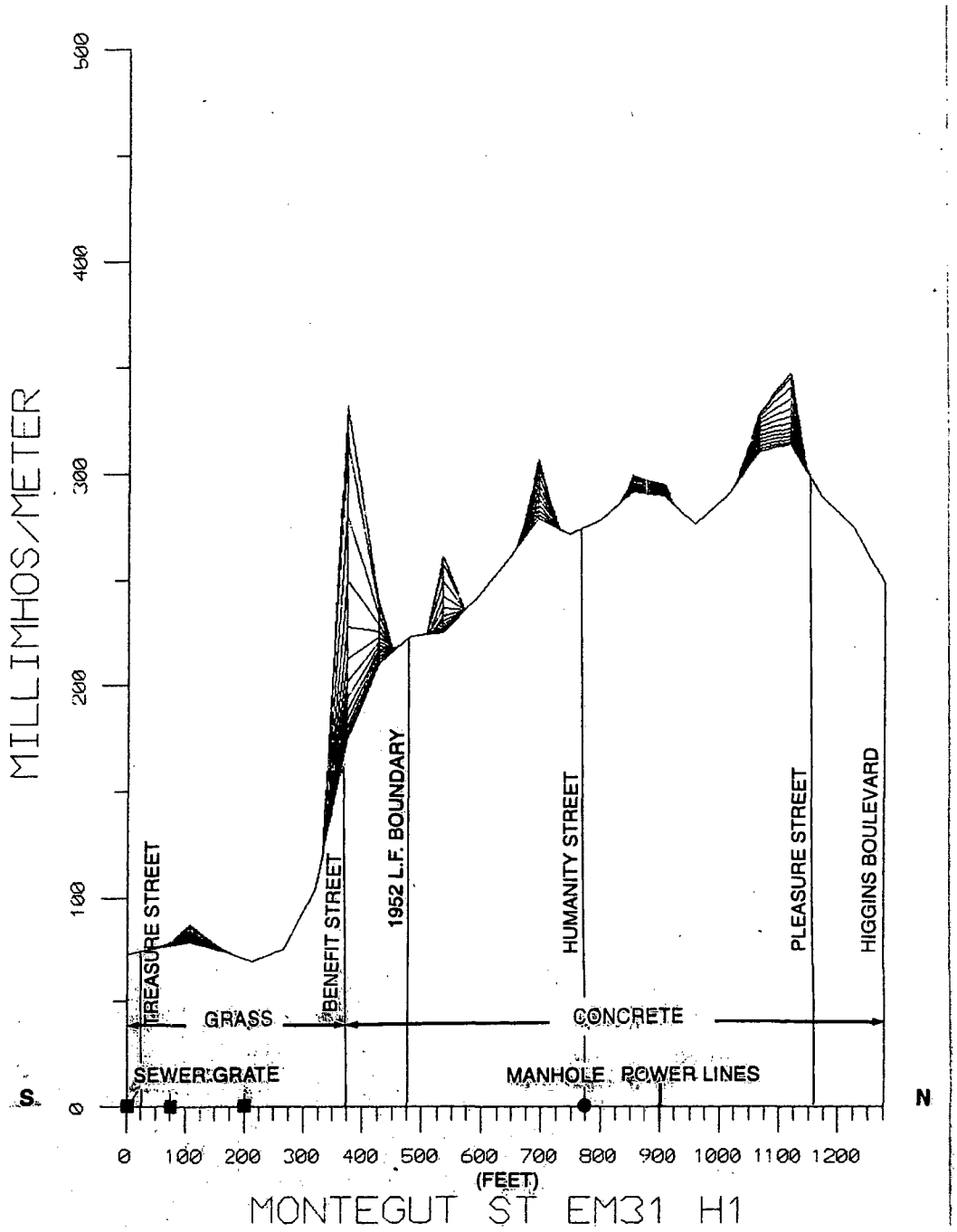

MILLIMHOS/METER
500
400
300
200
100
0
TREASURE STREET
BENEFIT STREET
1952 L.F. BOUNDARY
HUMANITY STREET
PLEASURE STREET
HIGGINS BOULEVARD
GRASS
CONCRETE
SEWER GRATE
MANHOLE
POWER LINES
S
N
0 100 200 300 400 500 600 700 800 900 1000 1100 1200
(FEET)
MONTEGUT ST EM31 H1

Figure F-50

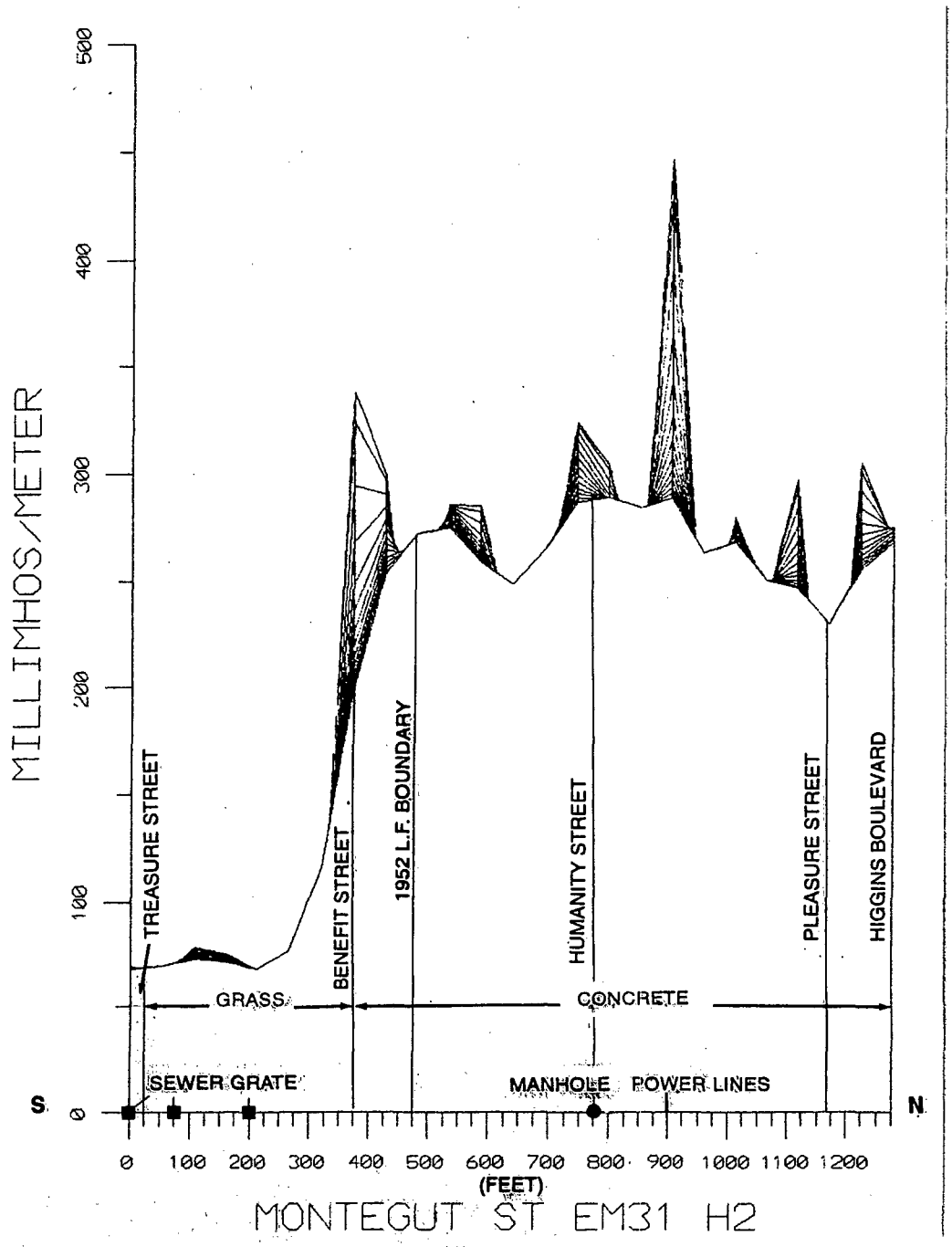

MILLIMHOS/METER
500
400
300
200
100
0
TREASURE STREET
BENEFIT STREET
1952 L.F. BOUNDARY
HUMANITY STREET
PLEASURE STREET
HIGGINS BOULEVARD
GRASS
CONCRETE
SEWER GRATE
MANHOLE
POWER LINES
S
N
0 100 200 300 400 500 600 700 800 900 1000 1100 1200
(FEET)
MONTEGUT ST EM31 H2

Figure F-51

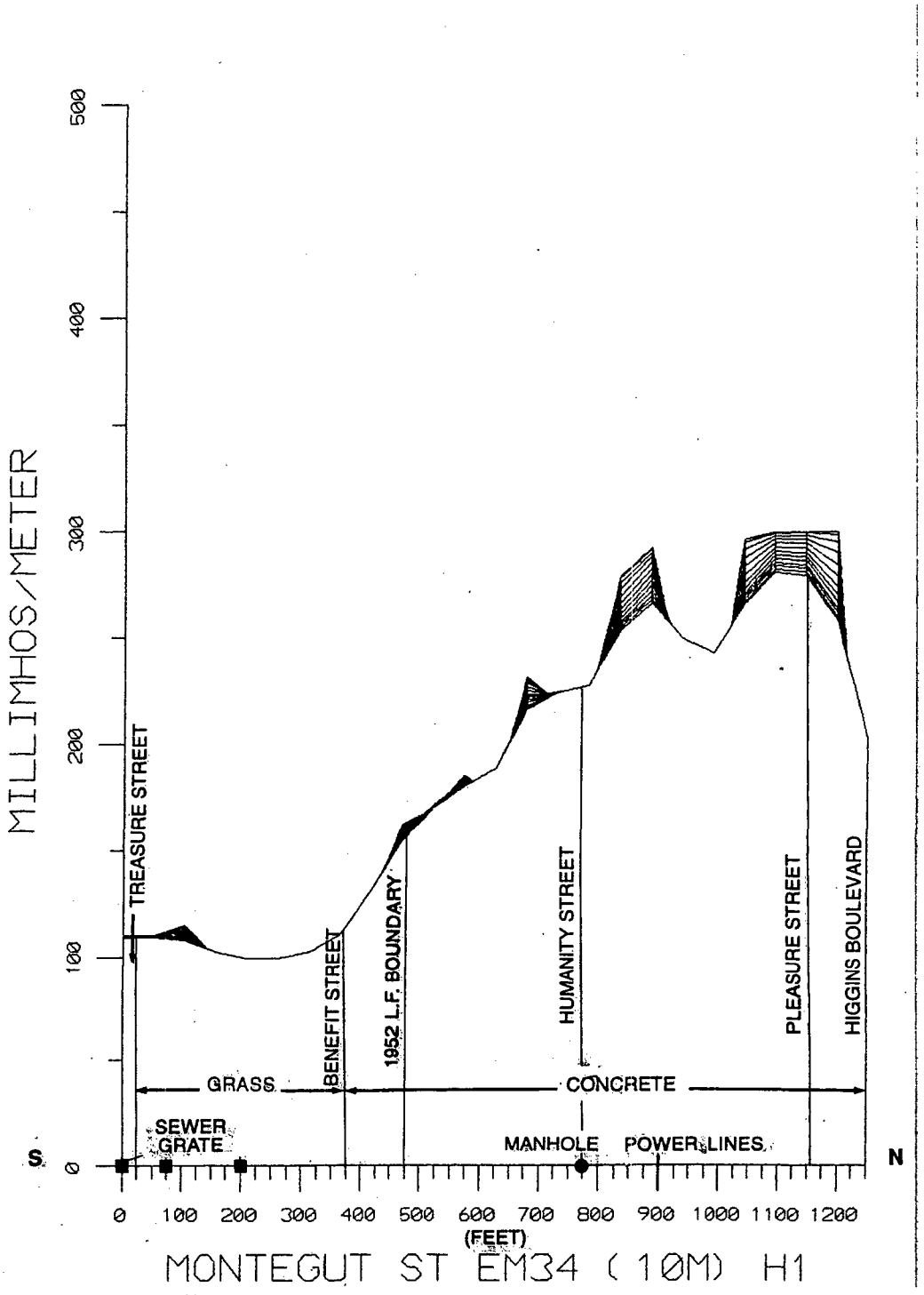

MILLIMHOS/METER
500
400
300
200
100
0
TREASURE STREET
BENEFIT STREET
1952 L.F. BOUNDARY
HUMANITY STREET
PLEASURE STREET
HIGGINS BOULEVARD
GRASS
CONCRETE
SEWER GRATE
MANHOLE
POWER LINES
S
N
0 100 200 300 400 500 600 700 800 900 1000 1100 1200
(FEET)
MONTEGUT ST EM34 (10M) H1

Figure F-52

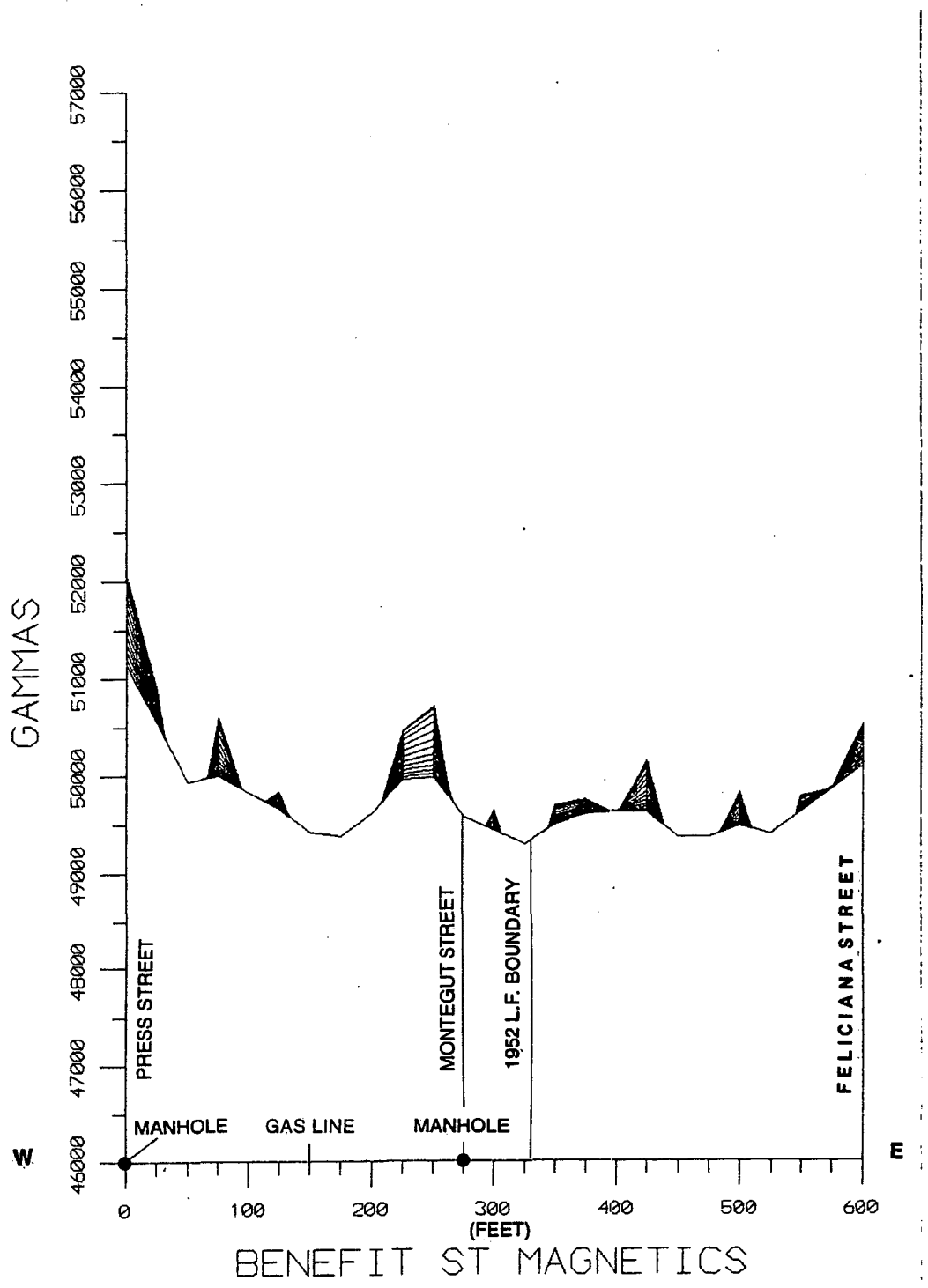

GAMMAS
46000
47000
48000
49000
50000
51000
52000
53000
54000
55000
56000
57000
W
E
PRESS STREET
MANHOLE
GAS LINE
MONTEGUT STREET
MANHOLE
1952 L.F. BOUNDARY
FELICIANA STREET
0
100
200
300
400
500
600
(FEET)
BENEFIT ST MAGNETICS

Figure F-53

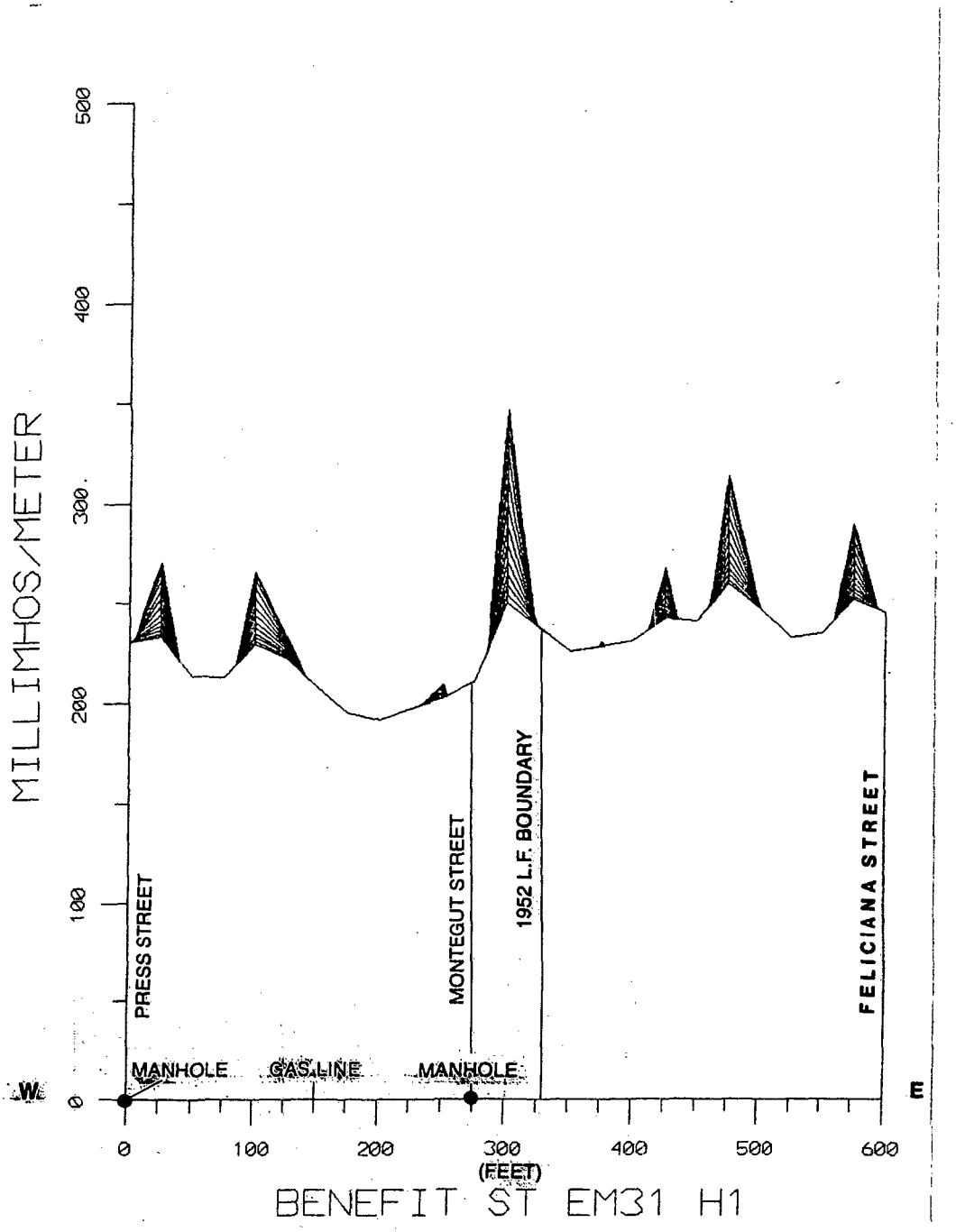

MILLIMHOS/METER
500
400
300
200
100
0
W
E
PRESS STREET
MONTEGUT STREET
1952 L.F. BOUNDARY
FELICIANA STREET
MANHOLE
GAS LINE
MANHOLE
0
100
200
300
400
500
600
(FEET)
BENEFIT ST EM31 H1

Figure F-54

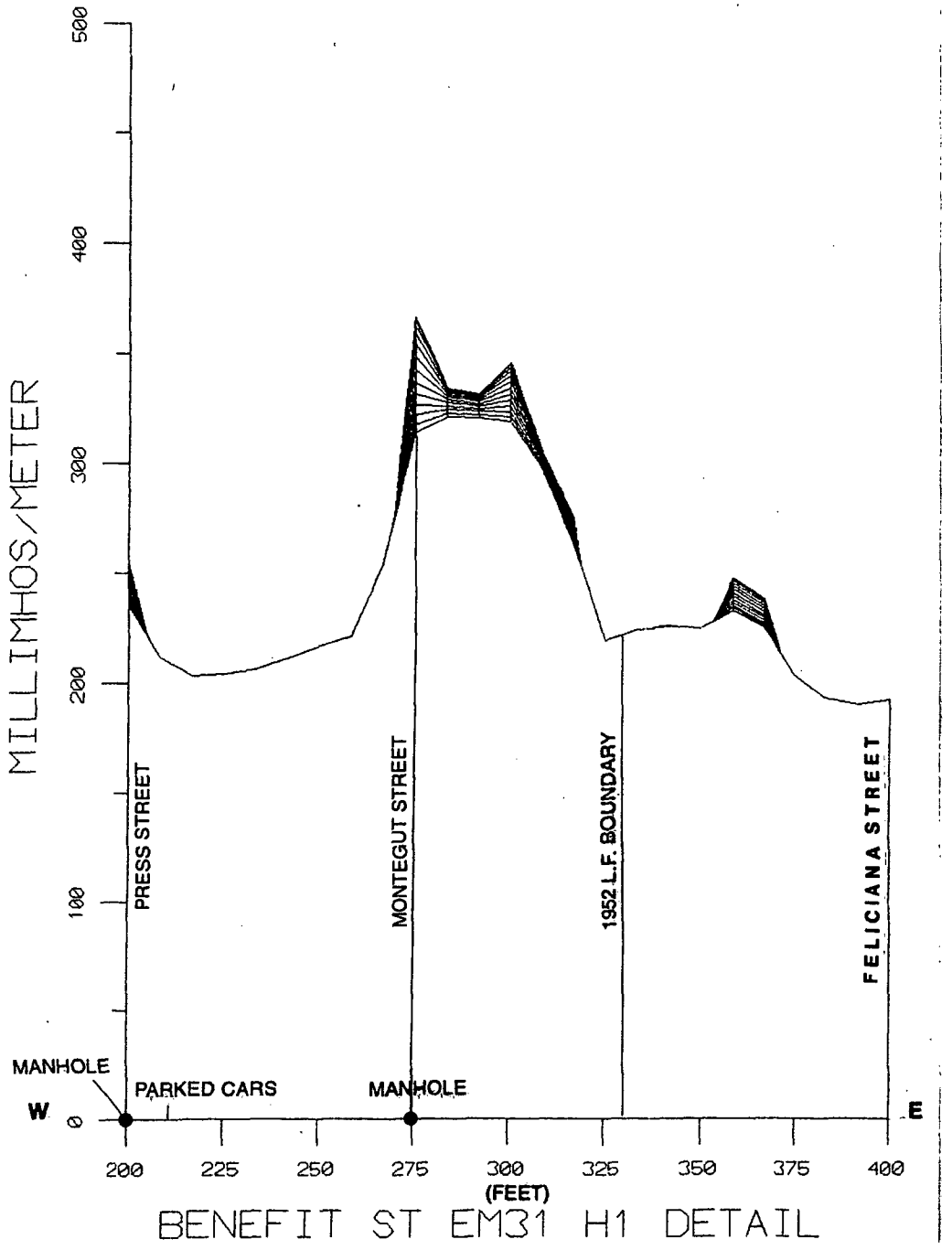


Figure F-55

00159.0234

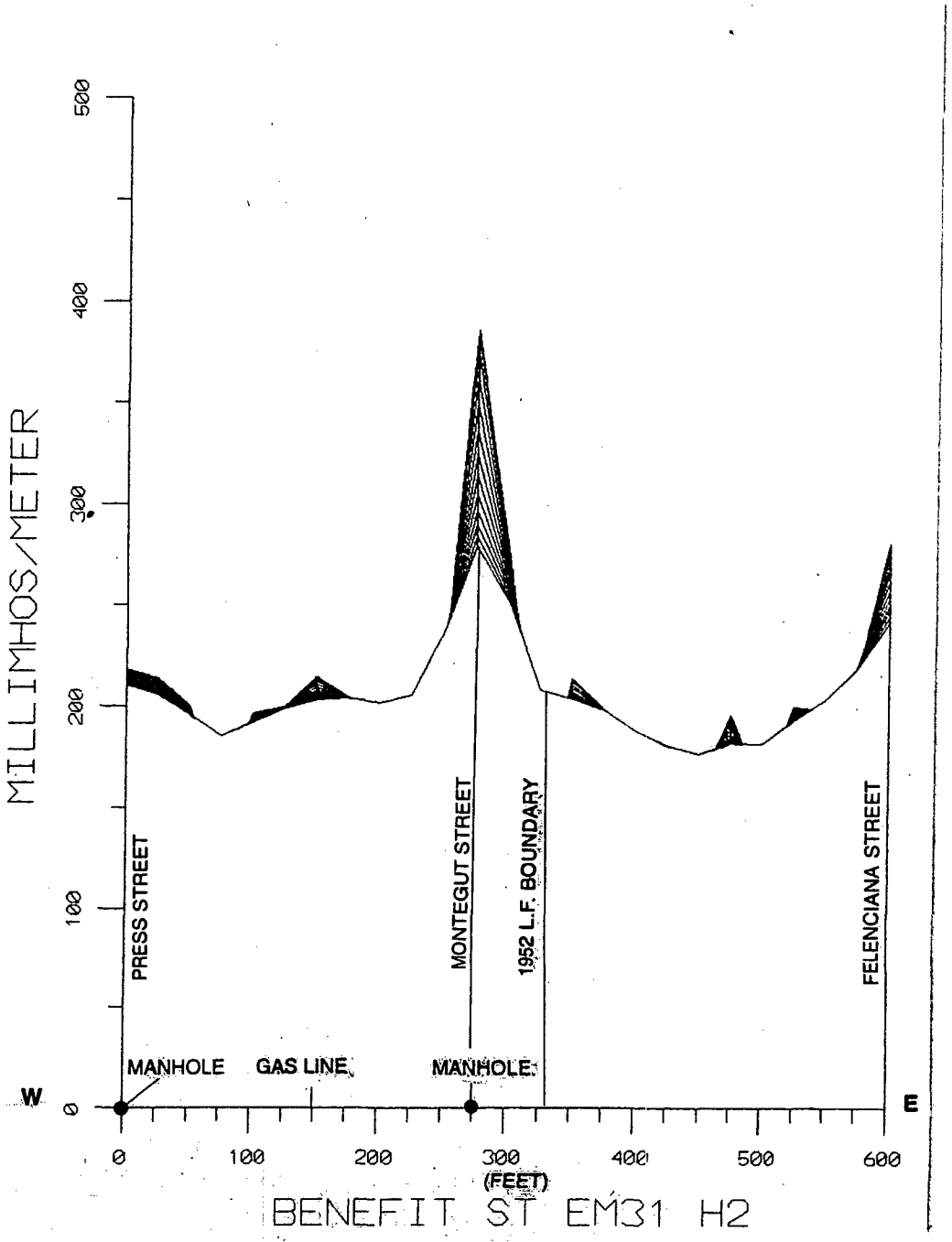

MILLIMHOS/METER
500
400
300
200
100
0
PRESS STREET
MONTEGUT STREET
1952 L.F. BOUNDARY
FELENCIANA STREET
MANHOLE
GAS LINE
MANHOLE
W
E
0
100
200
300
400
500
600
(FEET)
BENEFIT ST EM31 H2

Figure F-56

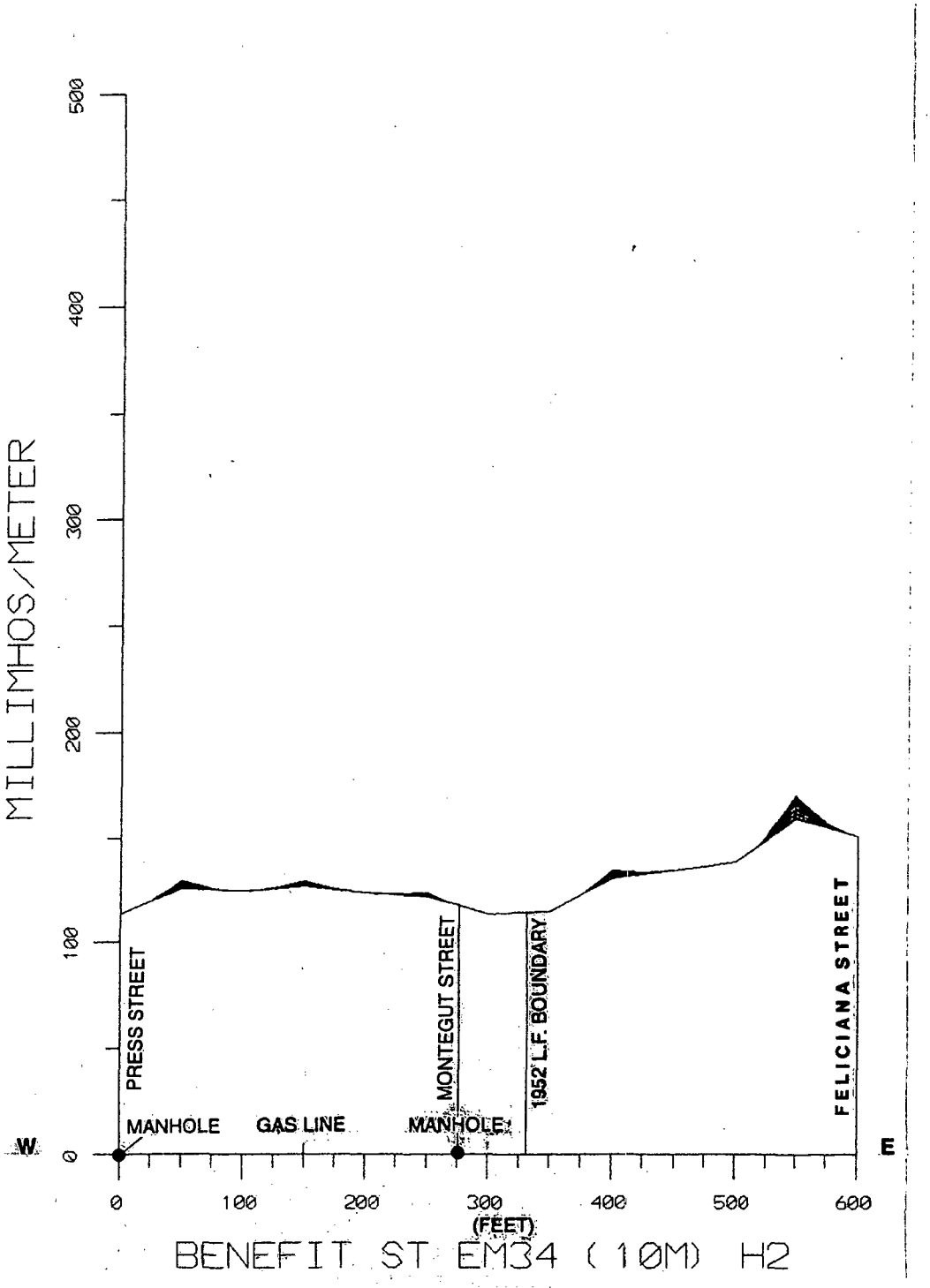

MILLIMHOS/METER
500
400
300
200
100
0
W
E
PRESS STREET
MONTEGUT STREET
1952 L.F. BOUNDARY
FELICIANA STREET
MANHOLE
GAS LINE
MANHOLE
0
100
200
300
400
500
600
(FEET)
BENEFIT ST EM34 (10M) H2

Figure F-57

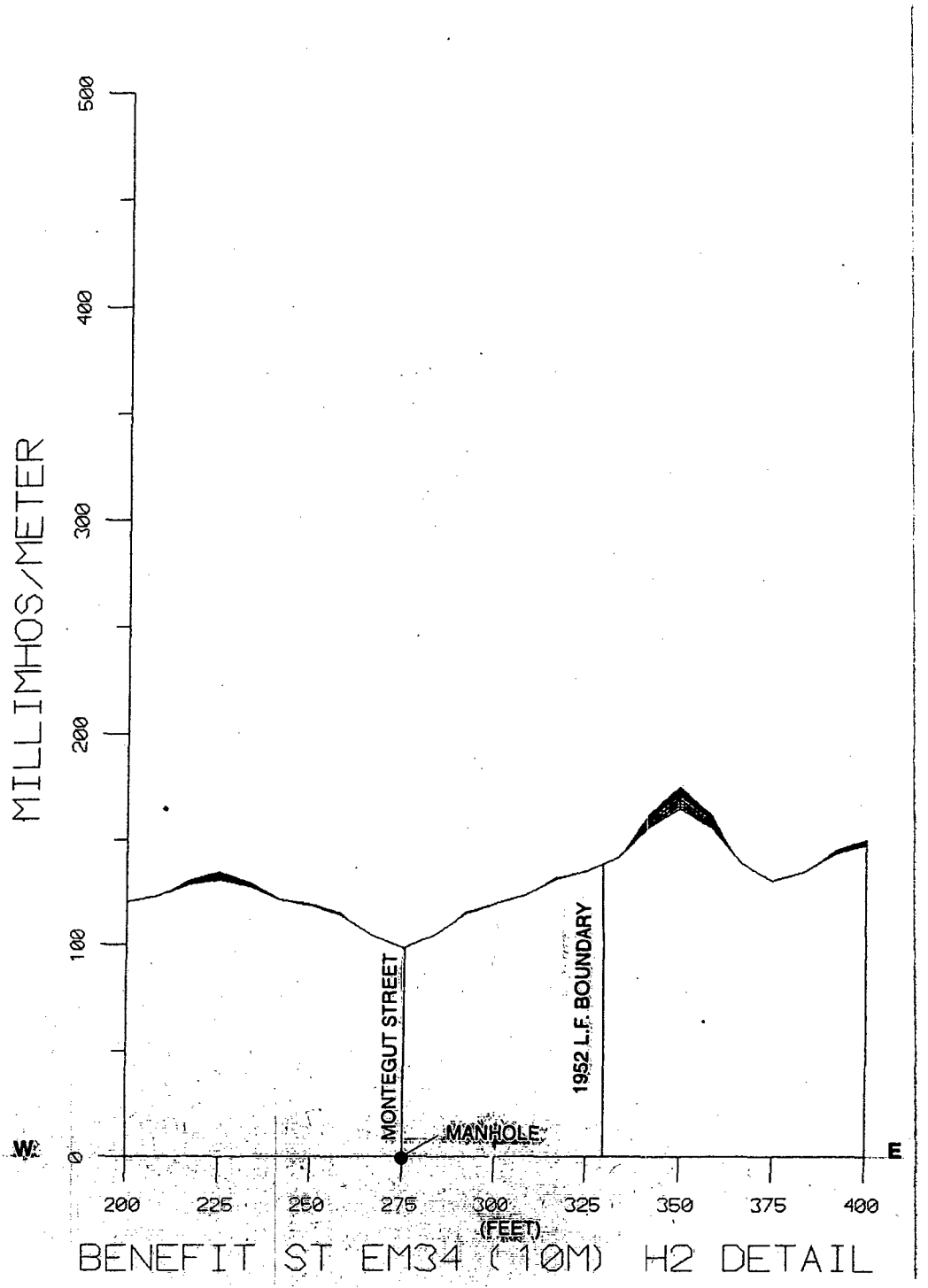

MILLIMHOS/METER
500
400
300
200
100
0
W
E
MONTEGUT STREET
1952 L.F. BOUNDARY
MANHOLE
200
225
250
275
300
325
350
375
400
(FEET)
BENEFIT ST EM34 (10M) H2 DETAIL

Figure F-58

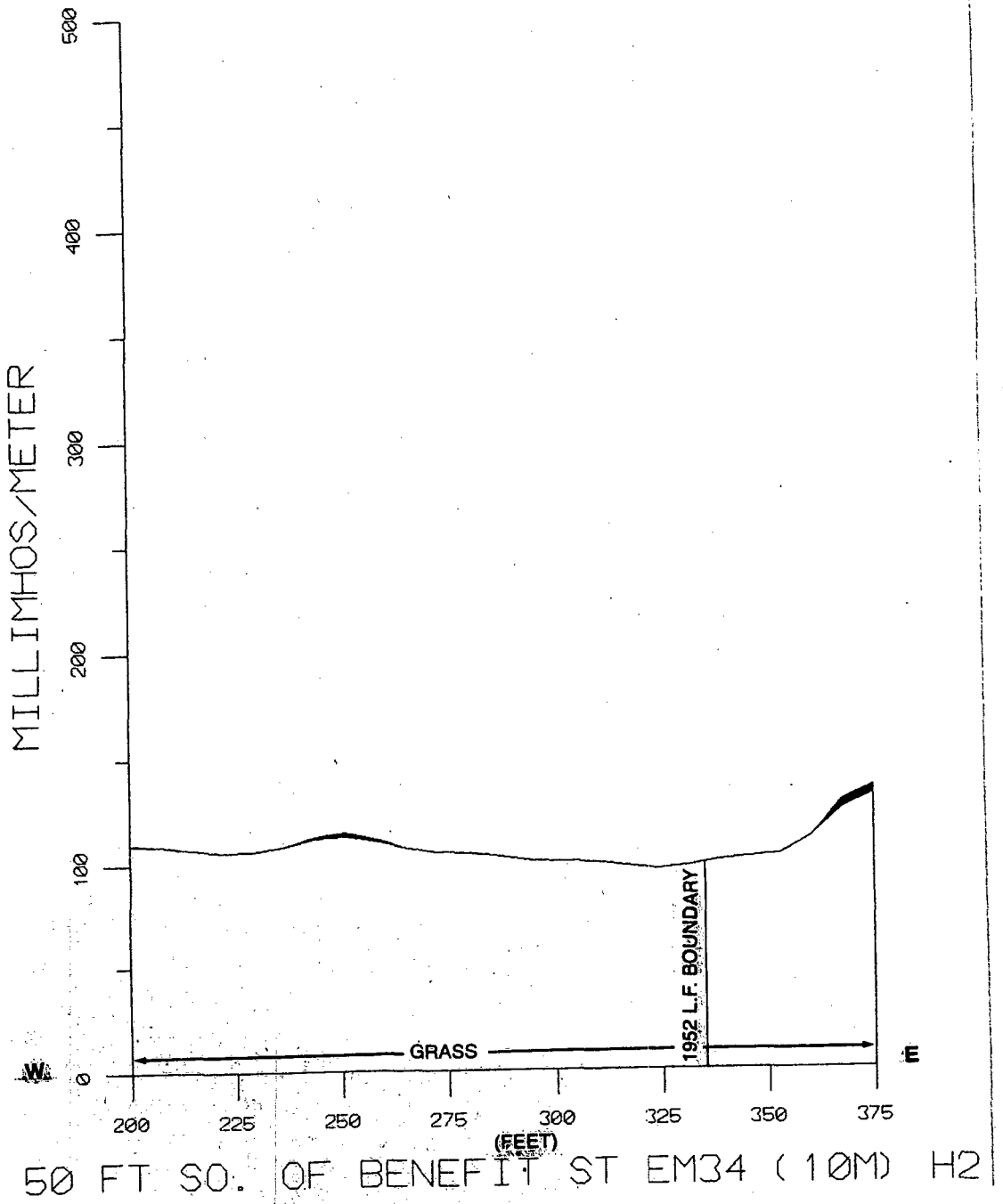

MILLIMHOS/METER
500
400
300
200
100
0
W
E
GRASS
1952 L.F. BOUNDARY
200
225
250
275
300
325
350
375
(FEET)
50 FT SO. OF BENEFIT ST EM34 (10M) H2

Figure F-59

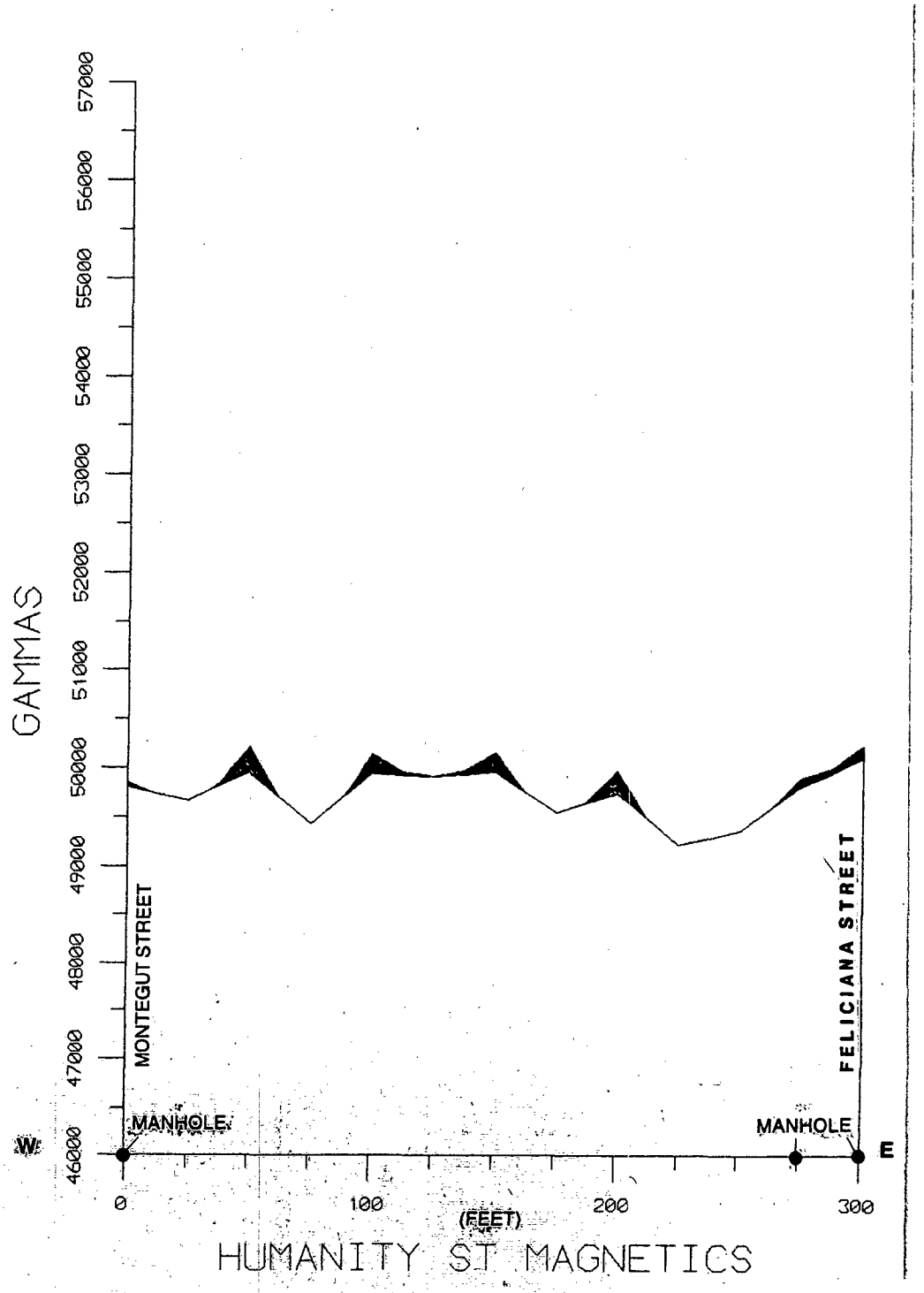

GAMMAS
46000
47000
48000
49000
50000
51000
52000
53000
54000
55000
56000
57000
W
E
MANHOLE
MANHOLE
MONTEGUT STREET
FELICIANA STREET
0
100
200
300
(FEET)
HUMANITY ST MAGNETICS

Figure F-60

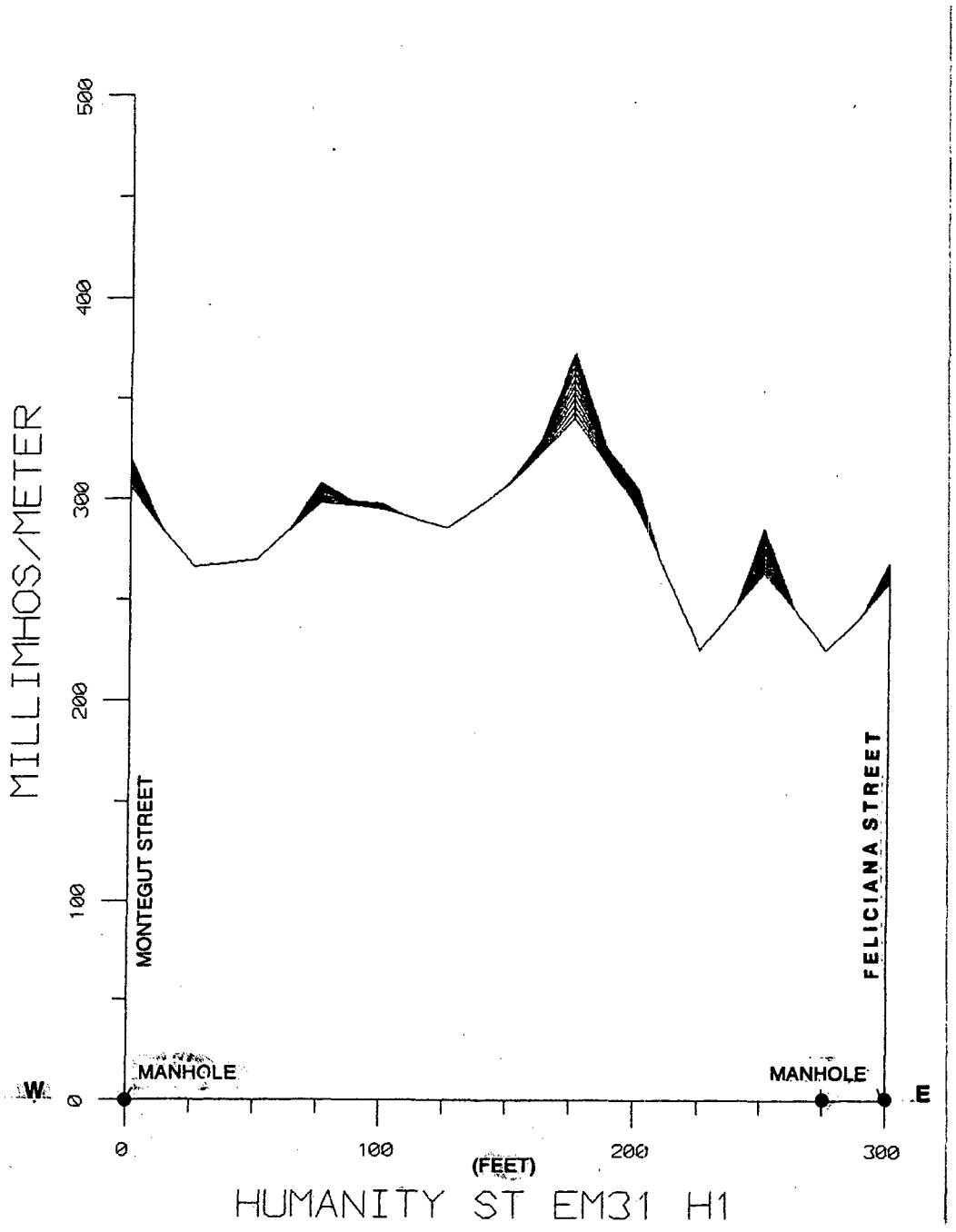

MILLIMHOS/METER
500
400
300
200
100
0
MONTEGUT STREET
FELICIANA STREET
MANHOLE
MANHOLE
W
E
0
100
200
300
(FEET)
HUMANITY ST EM31 H1

Figure F-61

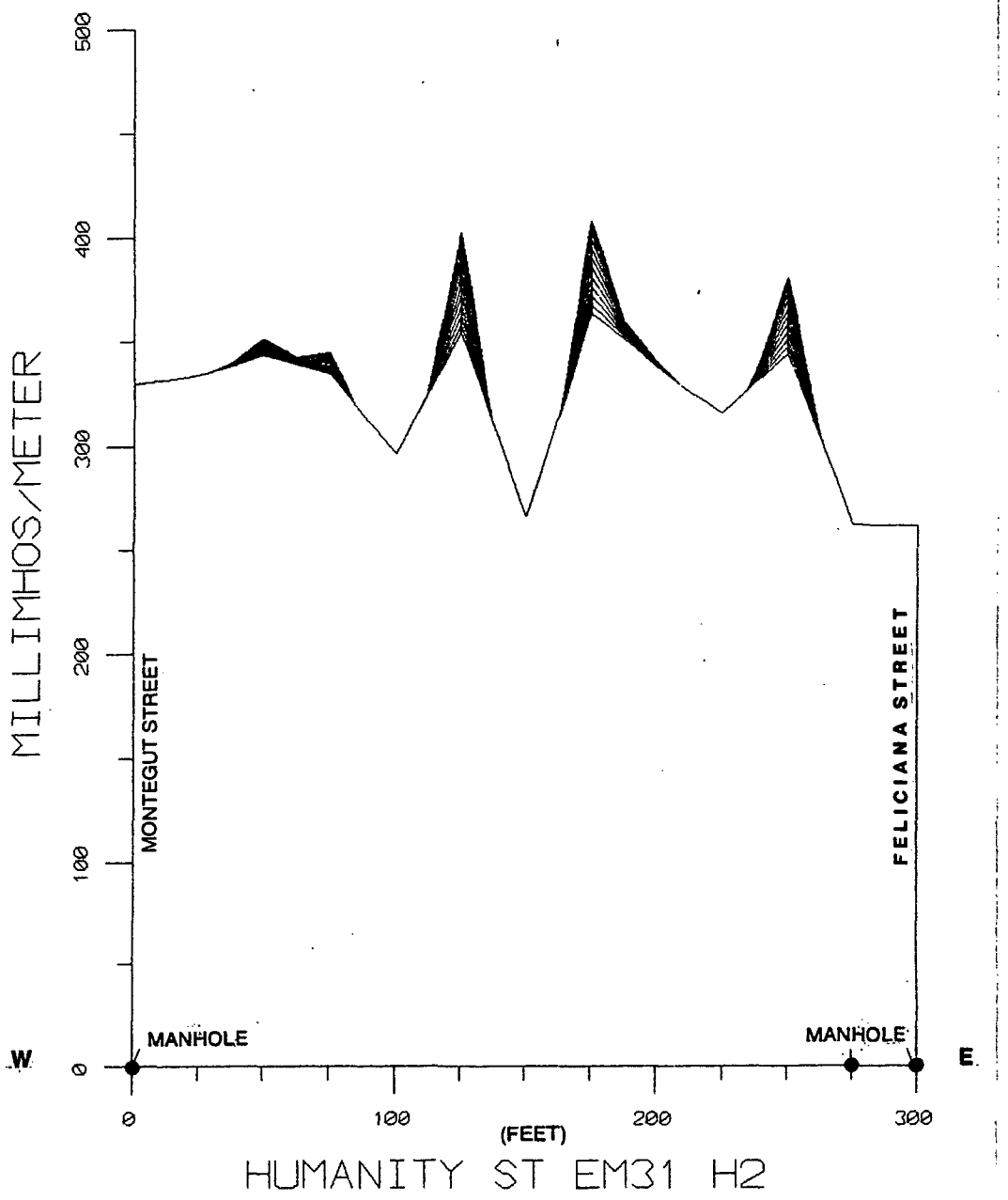

MILLIMHOS/METER
500
400
300
200
100
0
MONTEGUT STREET
FELICIANA STREET
MANHOLE
MANHOLE
W
E
0
100
200
300
(FEET)
HUMANITY ST EM31 H2

Figure F-62

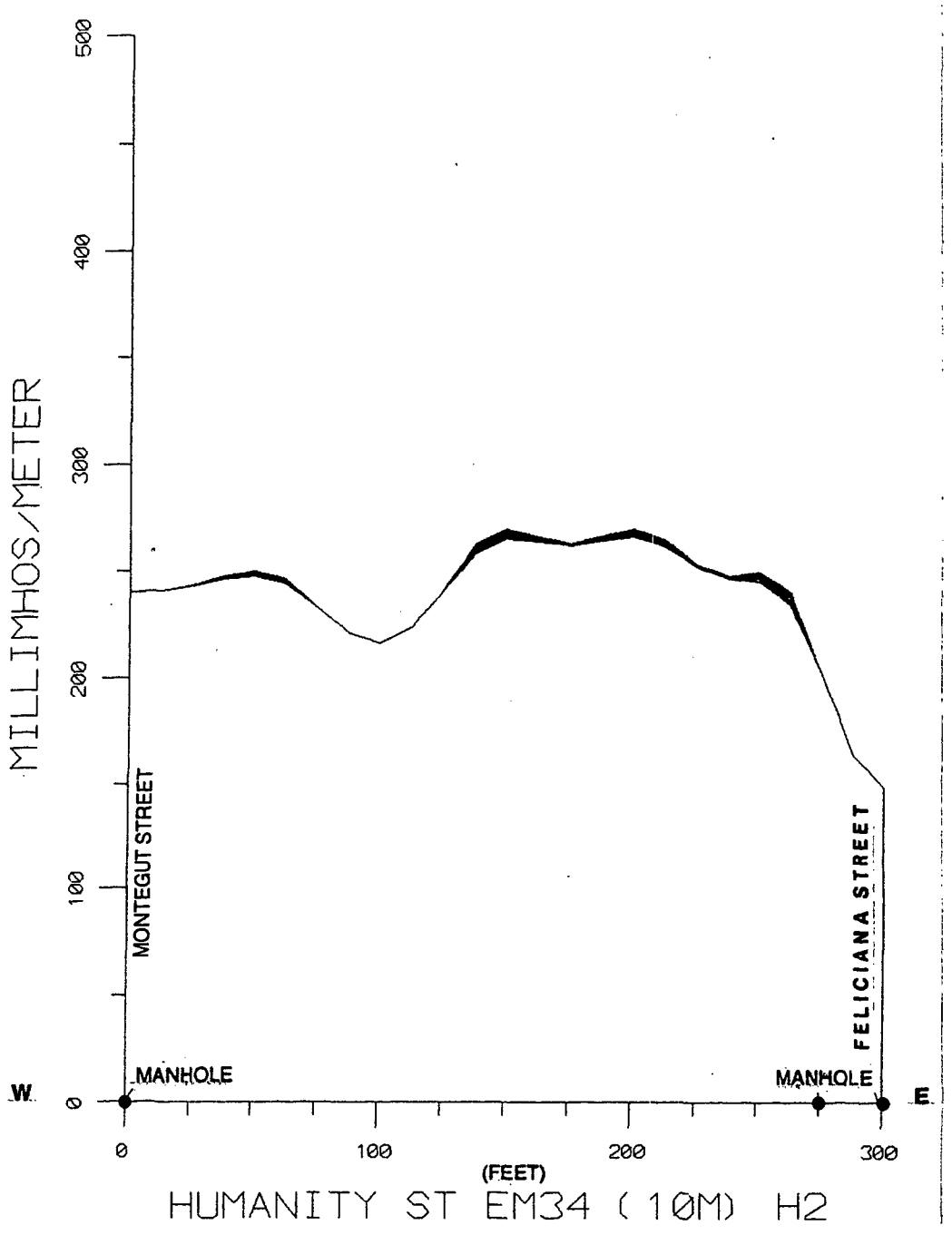

MILLIMHOS/METER
500
400
300
200
100
0
MONTEGUT STREET
FELICIANA STREET
MANHOLE
MANHOLE
W.
E.
0
100
200
300
(FEET)
HUMANITY ST EM34 (10M) H2

Figure F-63

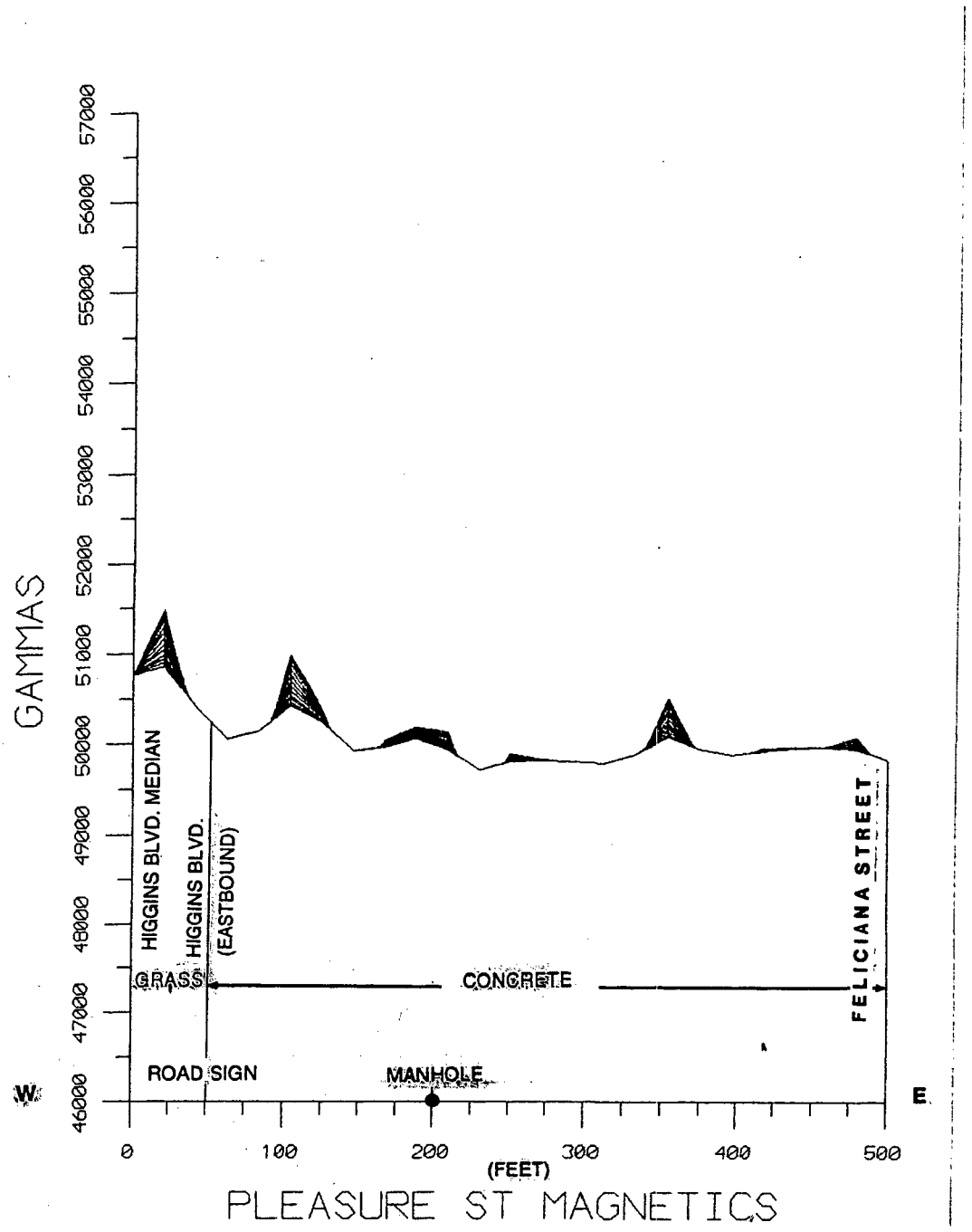

GAMMAS
57000
56000
55000
54000
53000
52000
51000
50000
49000
48000
47000
46000
HIGGINS BLVD. MEDIAN
HIGGINS BLVD.
(EASTBOUND)
GRASS
CONCRETE
FELICIANA STREET
ROAD SIGN
MANHOLE
W
E
0
100
200
300
400
500
(FEET)
PLEASURE ST MAGNETICS

Figure F-64

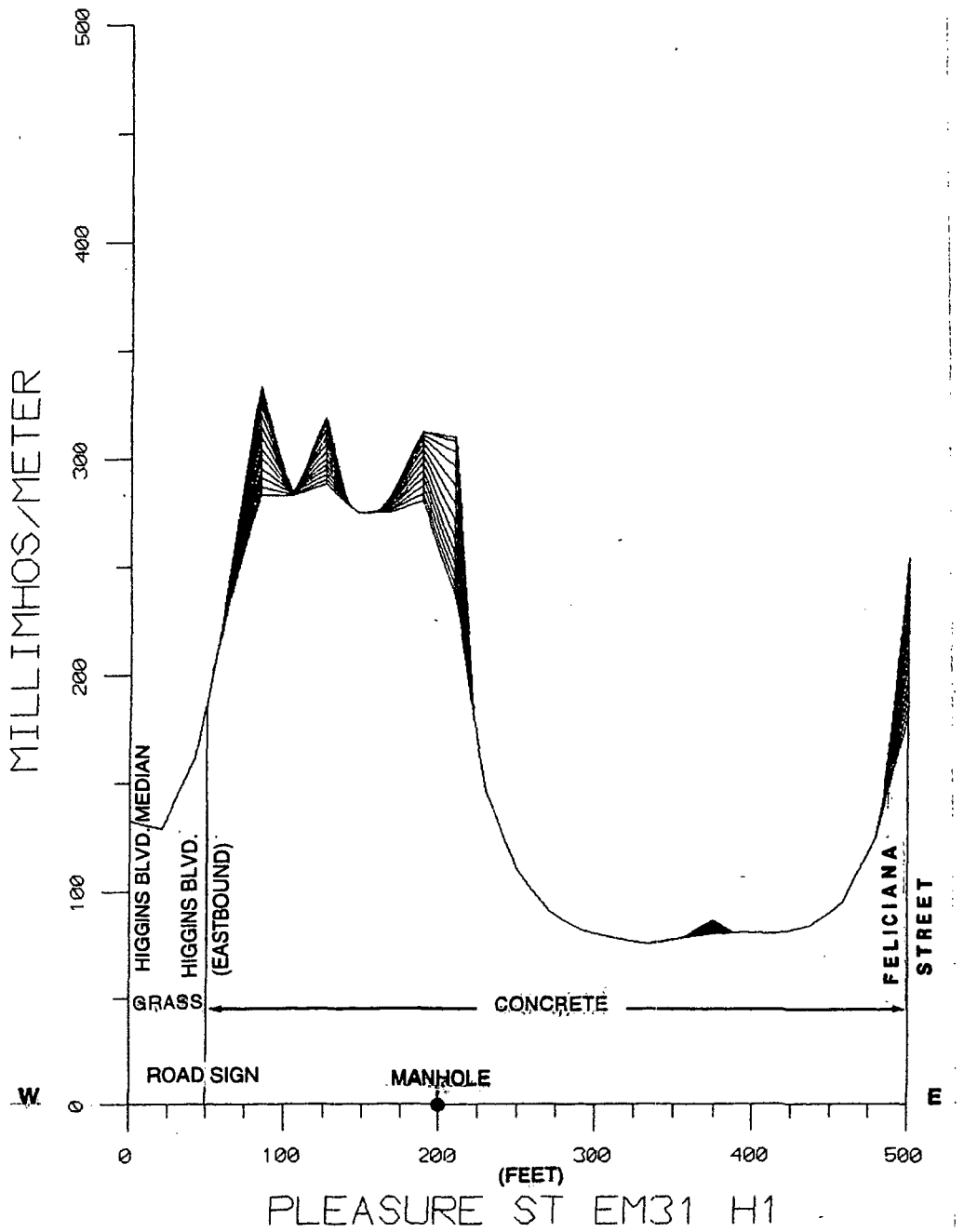

MILLIMHOS/METER
500
400
300
200
100
0
HIGGINS BLVD./MEDIAN
HIGGINS BLVD.
(EASTBOUND)
GRASS
CONCRETE
FELICIANA
STREET
ROAD SIGN
MANHOLE
W
E
0
100
200
300
400
500
(FEET)
PLEASURE ST EM31 H1

Figure F-65

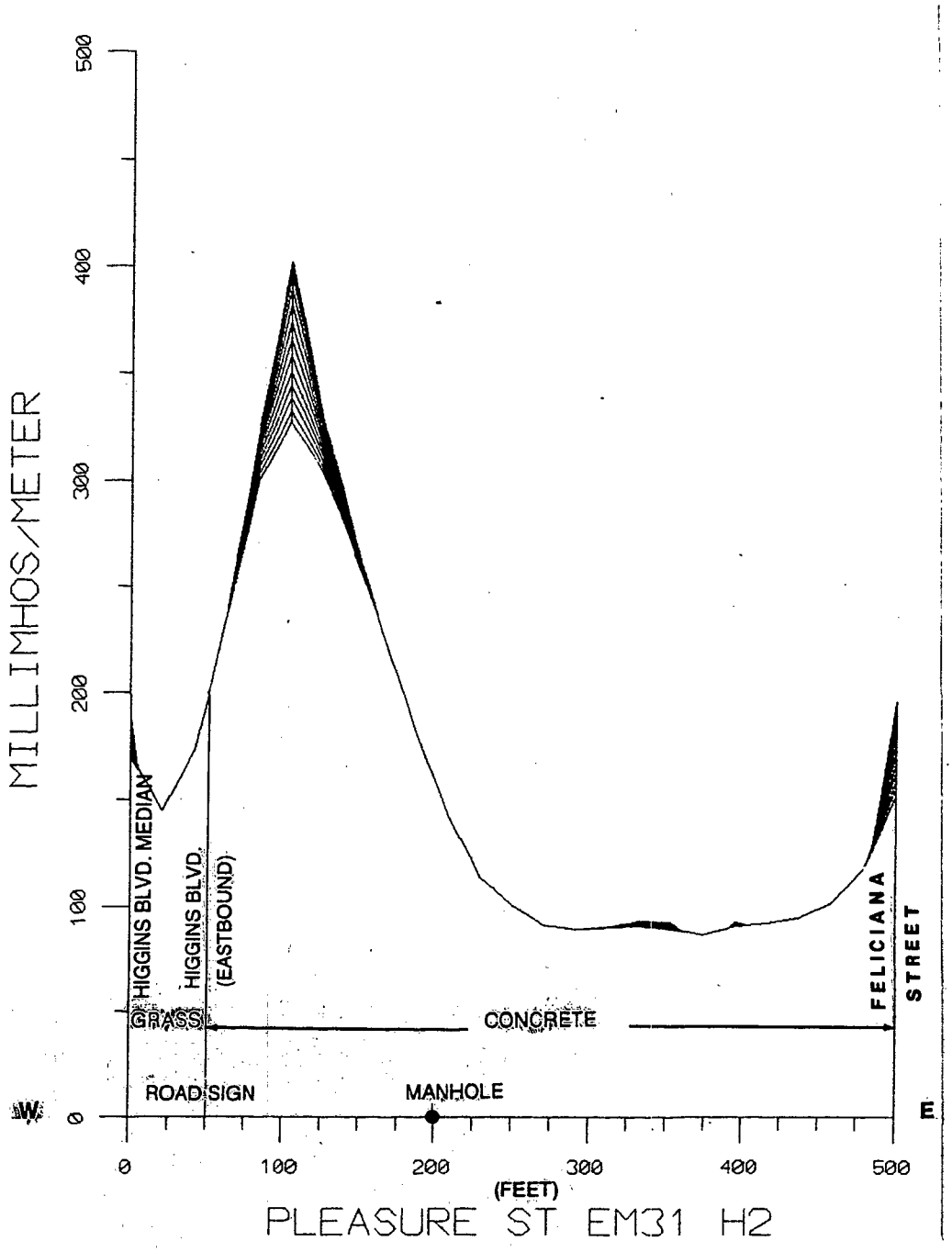

MILLIMHOS/METER
500
400
300
200
100
0
HIGGINS BLVD. MEDIAN
HIGGINS BLVD.
(EASTBOUND)
GRASS
CONCRETE
FELICIANA
STREET
ROAD SIGN
MANHOLE
W
E
0
100
200
300
400
500
(FEET)
PLEASURE ST EM31 H2

Figure F-66

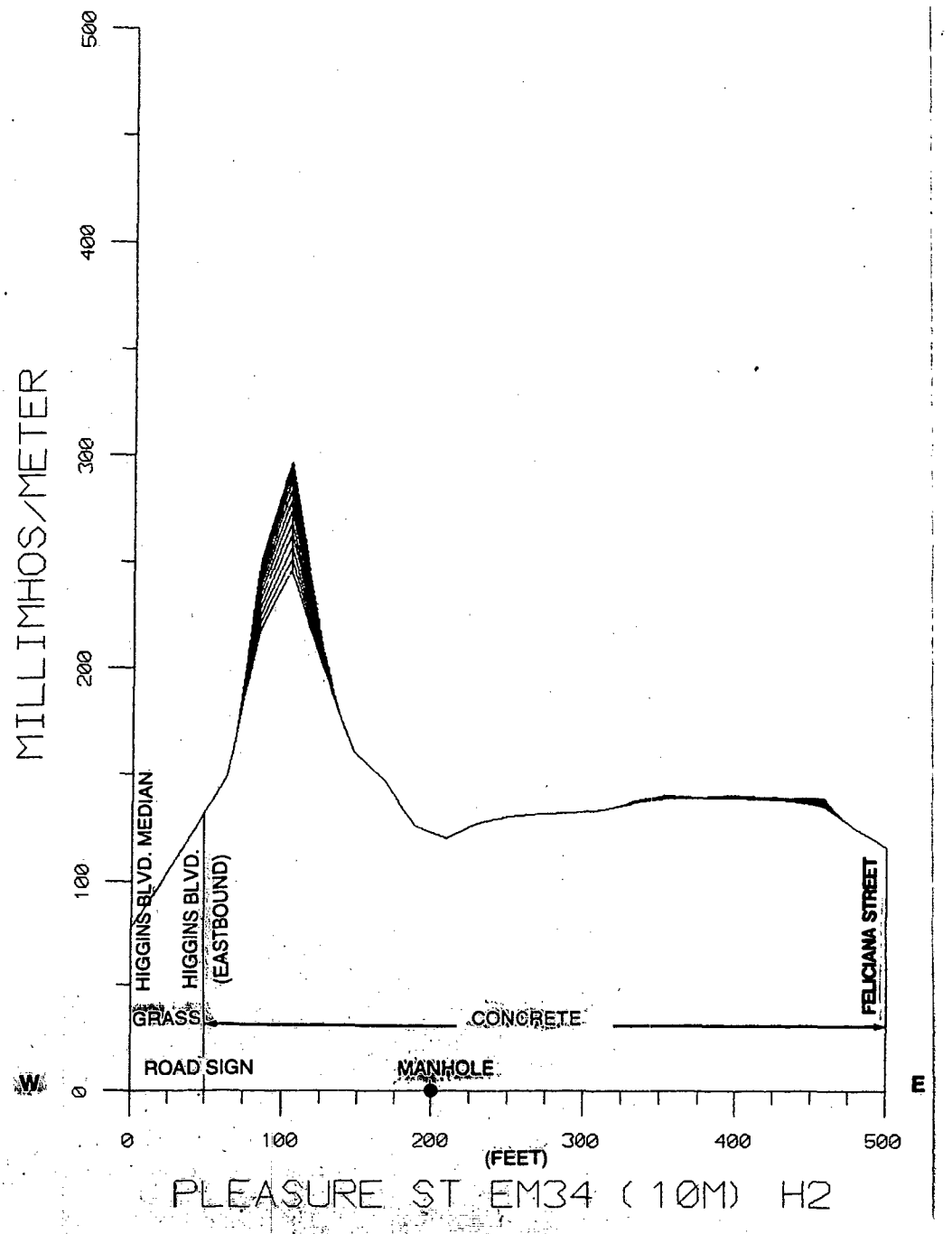

MILLIMHOS/METER
500
400
300
200
100
0
HIGGINS BLVD. MEDIAN
HIGGINS BLVD.
(EASTBOUND)
FELICIANA STREET
GRASS
CONCRETE
ROAD SIGN
MANHOLE
W
E
0
100
200
300
400
500
(FEET)
PLEASURE ST EM34 (10M) H2

Figure F-67

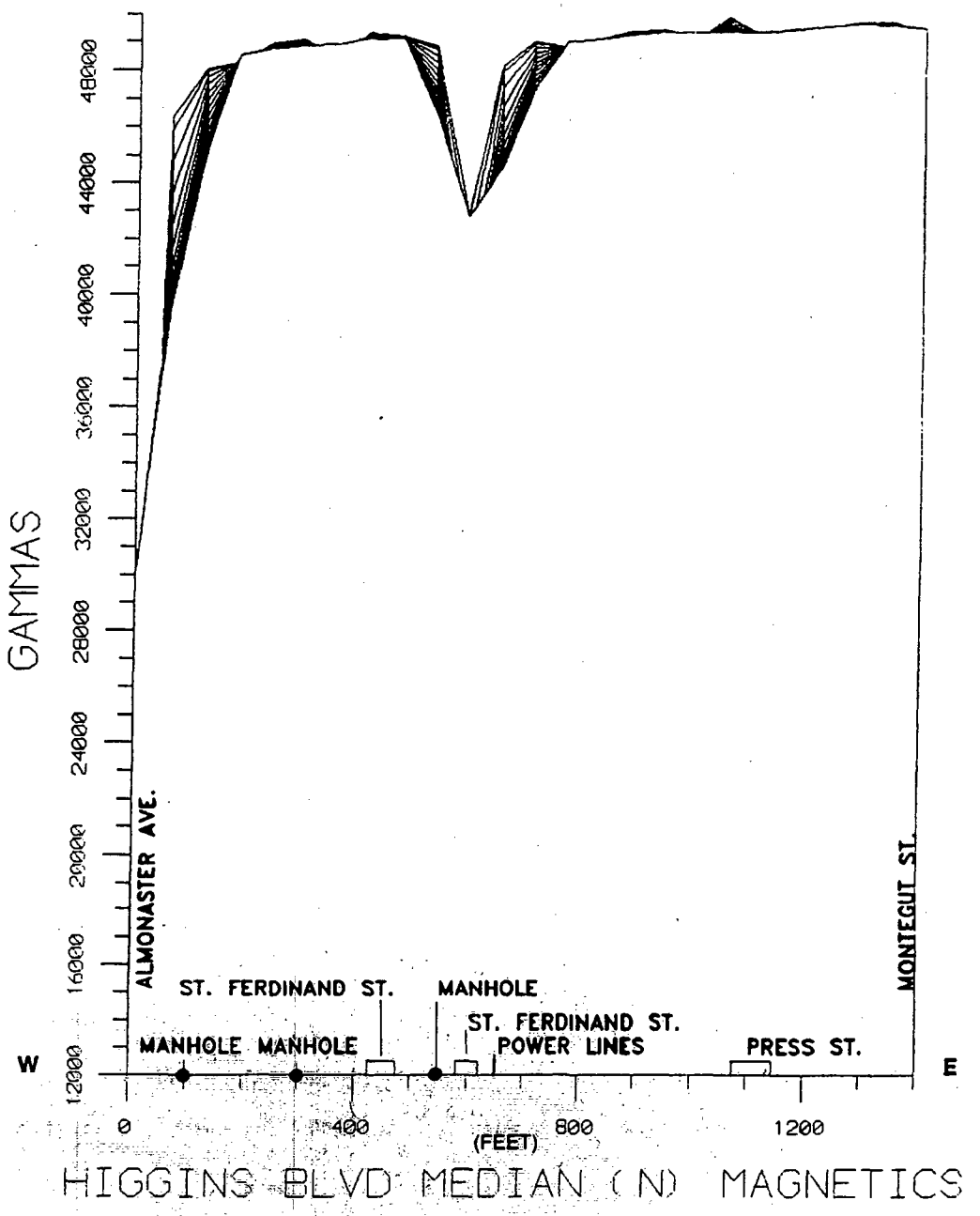

GAMMAS
48000
44000
40000
36000
32000
28000
24000
20000
16000
12000
W
E
ALMONASTER AVE.
MONTEGUT ST.
ST. FERDINAND ST.
MANHOLE
ST. FERDINAND ST.
POWER LINES
MANHOLE
MANHOLE
PRESS ST.
0
400
800
1200
(FEET)
HIGGINS BLVD MEDIAN (N) MAGNETICS

Figure F-68

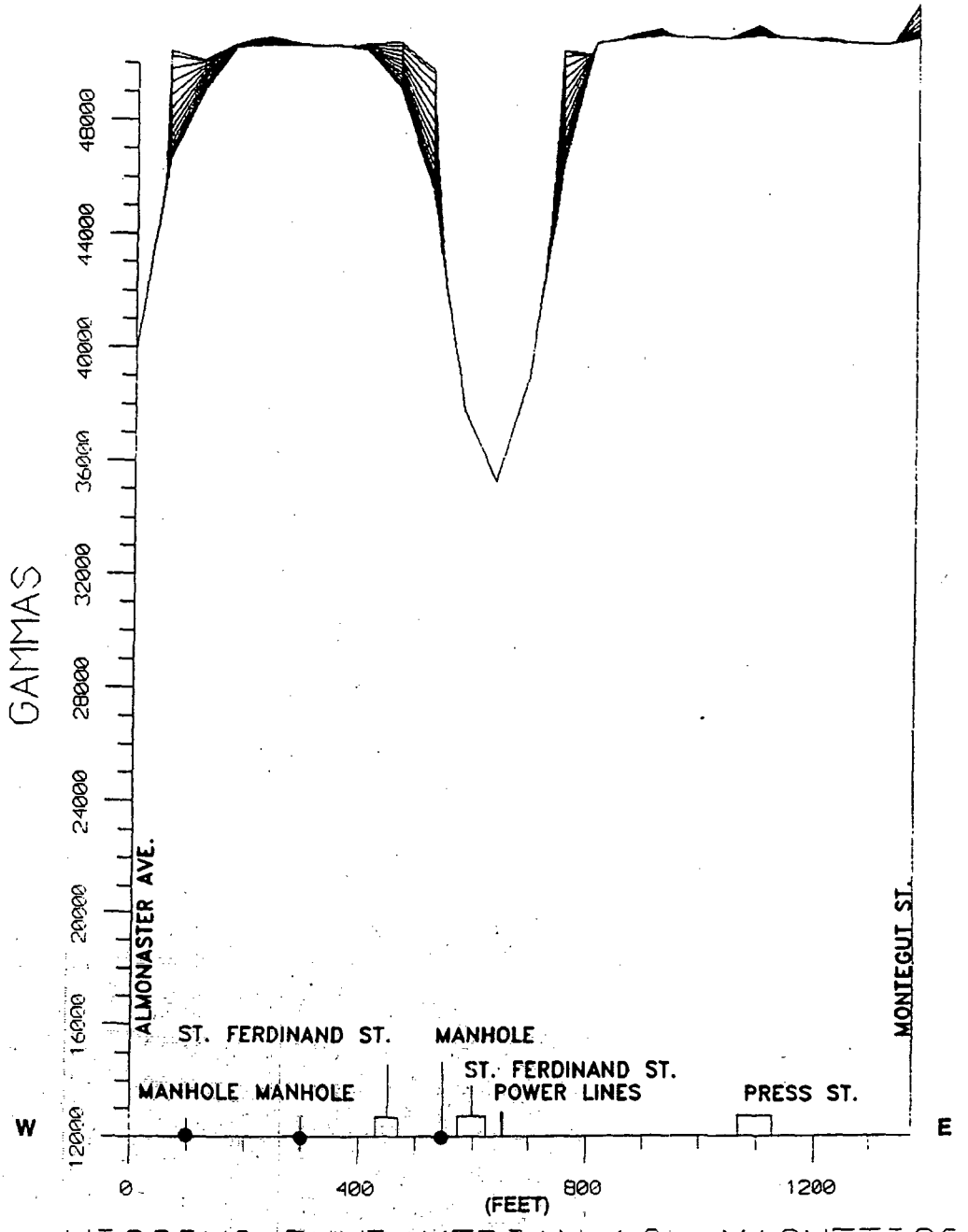

GAMMAS
48000
44000
40000
36000
32000
28000
24000
20000
16000
12000
ALMONASTER AVE.
ST. FERDINAND ST.
MANHOLE
MANHOLE MANHOLE
ST. FERDINAND ST.
POWER LINES
PRESS ST.
MONTEGUT ST.
W
E
0
400
800
1200
(FEET)
HIGGINS BLVD MEDIAN (S) MAGNETICS

Figure F-69

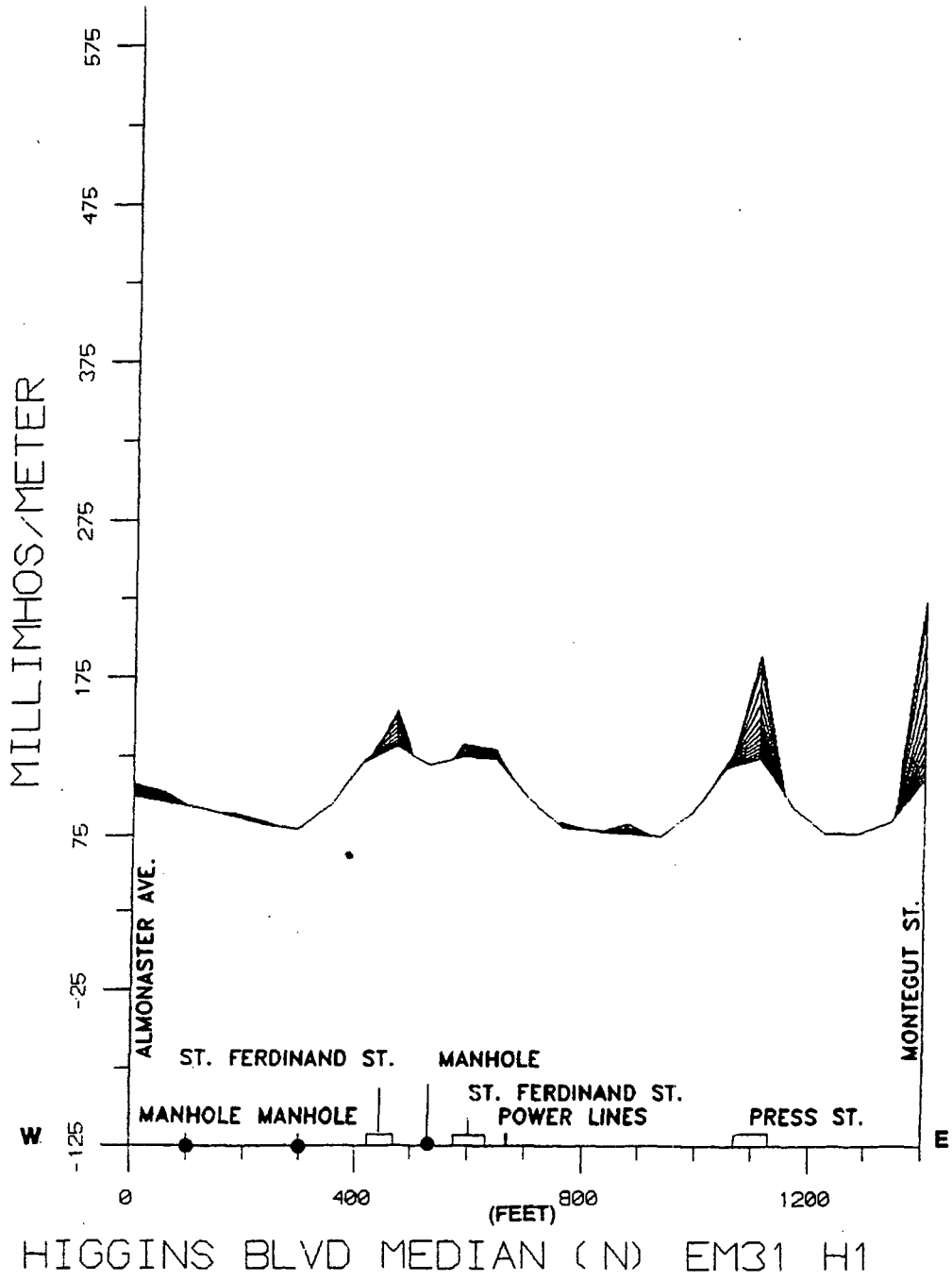

MILLIMHOS/METER
575
475
375
275
175
75
-25
-125
ALMONASTER AVE.
MONTEGUT ST.
ST. FERDINAND ST.
MANHOLE
ST. FERDINAND ST.
POWER LINES
MANHOLE
MANHOLE
PRESS ST.
W
E
0
400
800
1200
(FEET)
HIGGINS BLVD MEDIAN (N) EM31 H1

Figure F-70

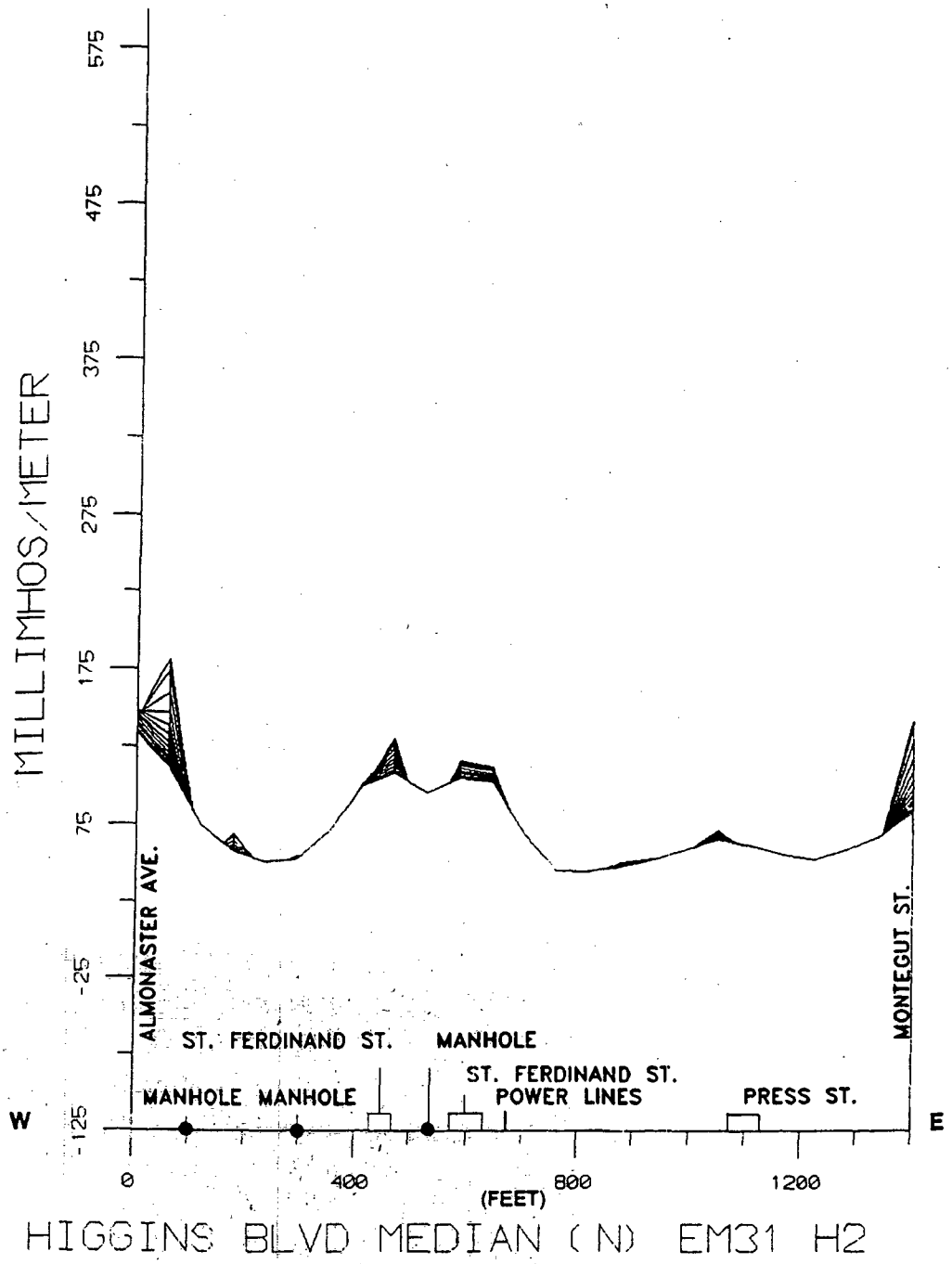

MILLIMHOS/METER
575
475
375
275
175
75
-25
-125
ALMONASTER AVE.
MONTEGUT ST.
ST. FERDINAND ST.
MANHOLE
ST. FERDINAND ST.
POWER LINES
MANHOLE
MANHOLE
PRESS ST.
W
E
0
400
800
1200
(FEET)
HIGGINS BLVD MEDIAN (N) EM31 H2

Figure F-71

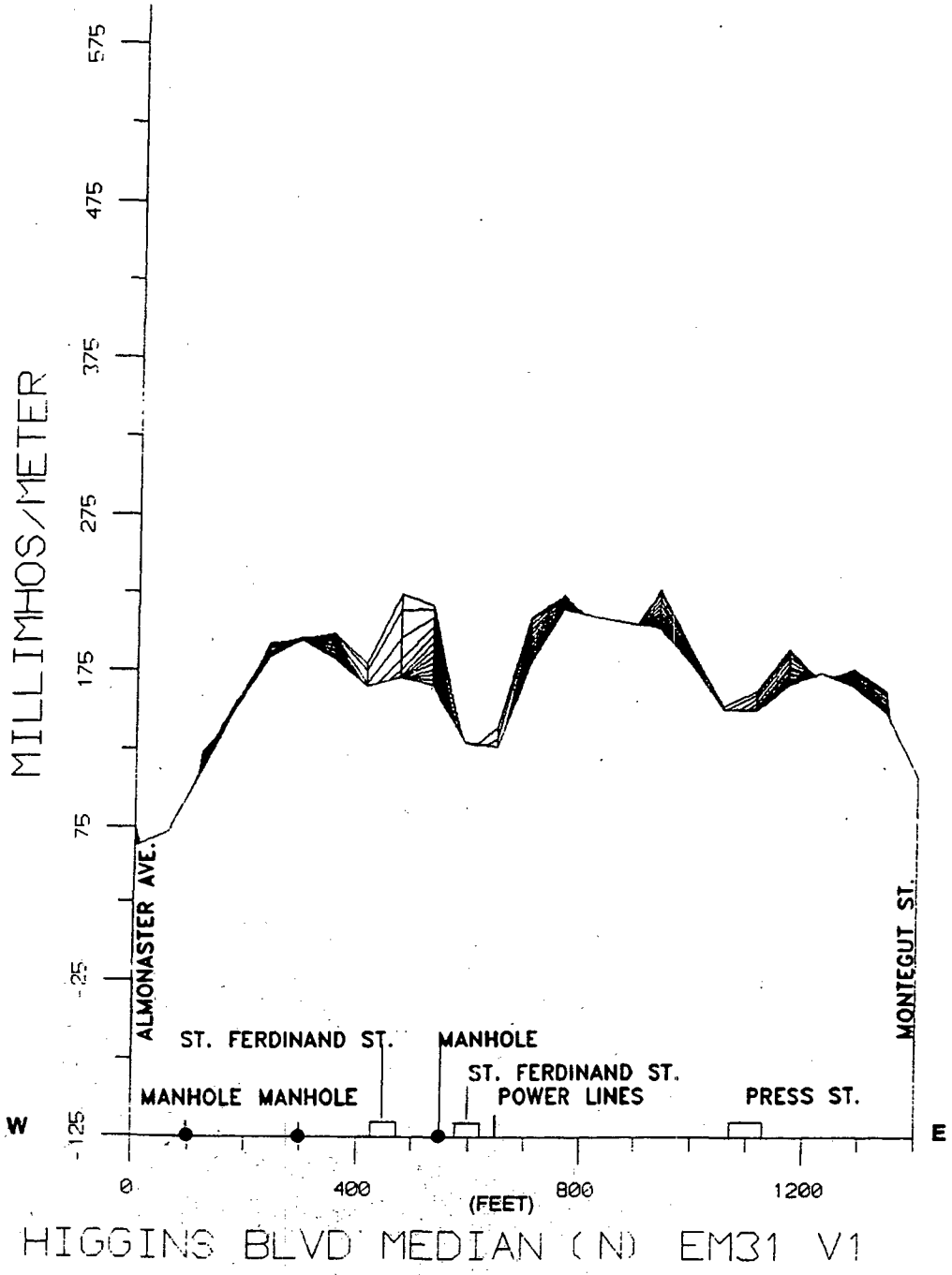

MILLIMHOS/METER
575
475
375
275
175
75
-25
-125
W
E
ALMONASTER AVE.
MONTEGUT ST.
ST. FERDINAND ST.
MANHOLE
ST. FERDINAND ST.
POWER LINES
MANHOLE
MANHOLE
PRESS ST.
0
400
800
1200
(FEET)
HIGGINS BLVD MEDIAN (N) EM31 V1

Figure F-72

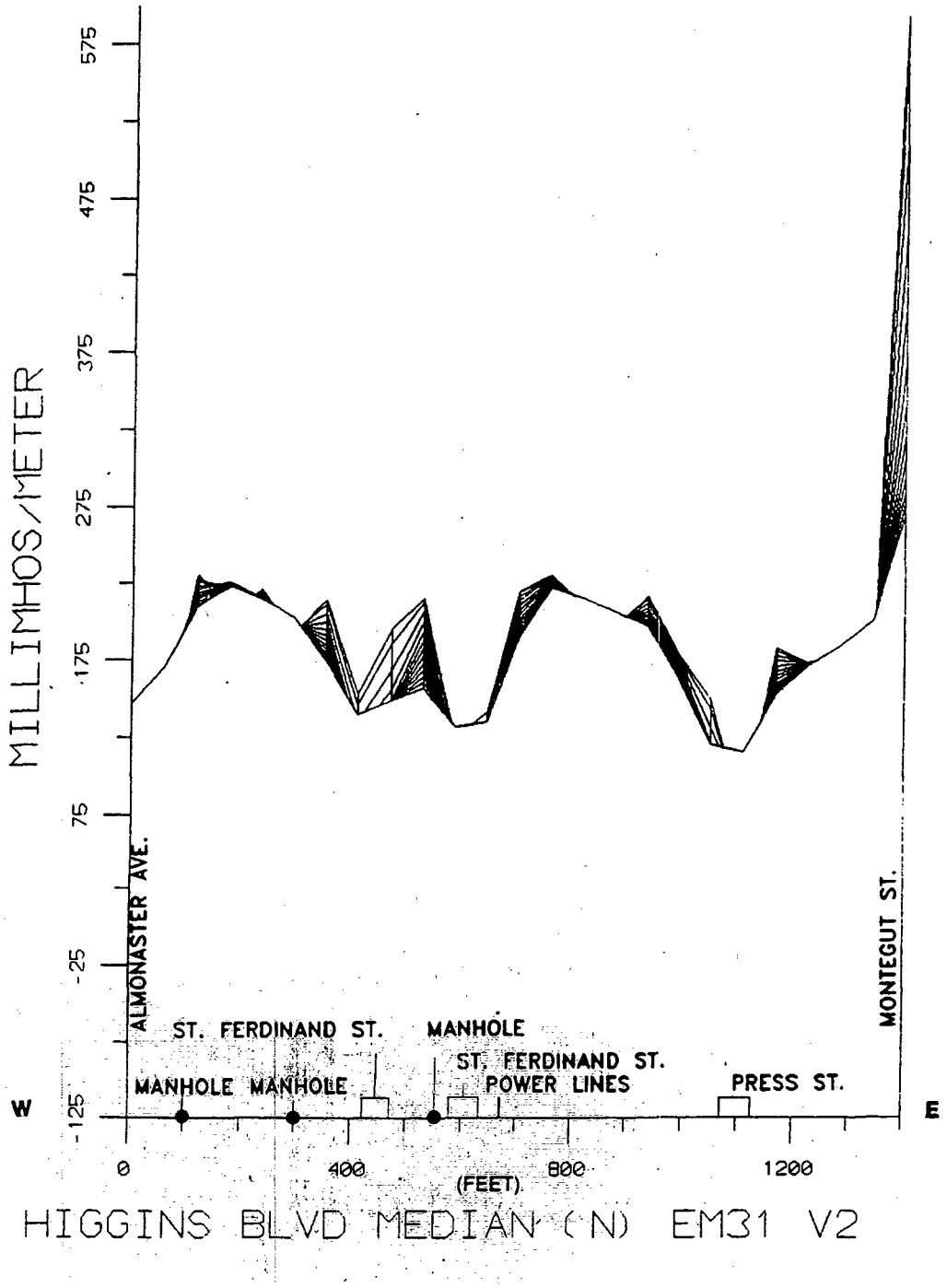


Figure F-73

00159.0252

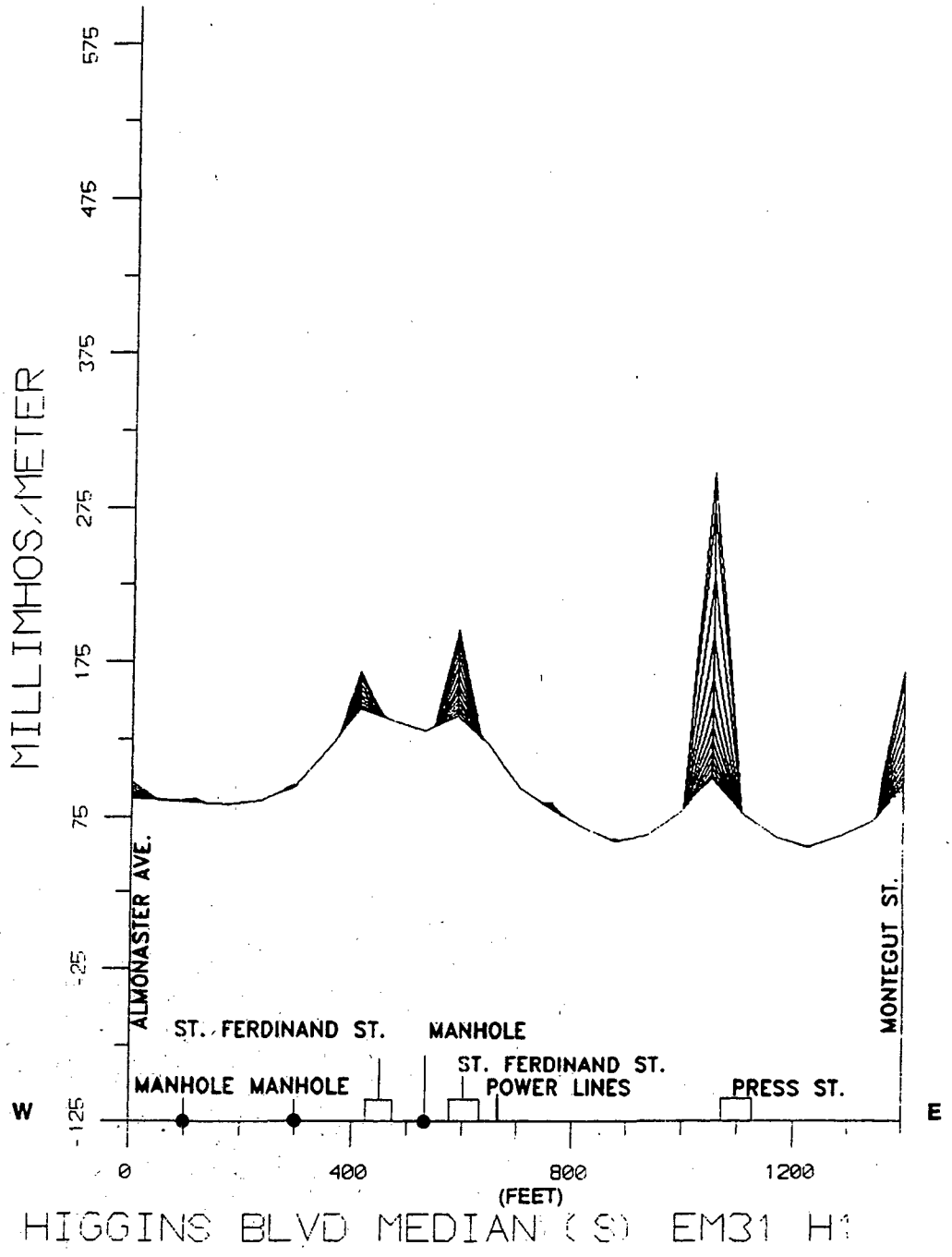


Figure F-74

00159.0253

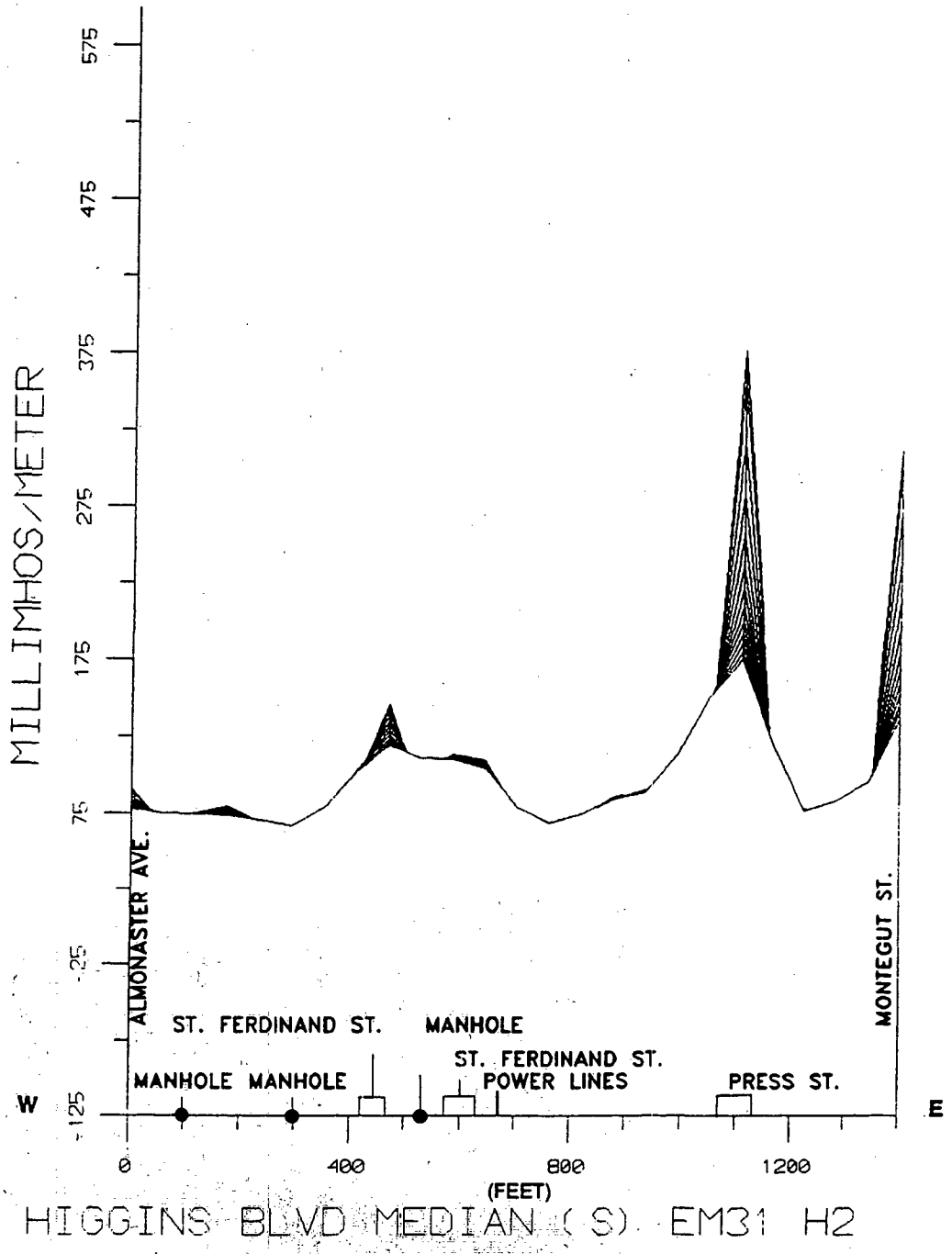


Figure F-75

00159.0254

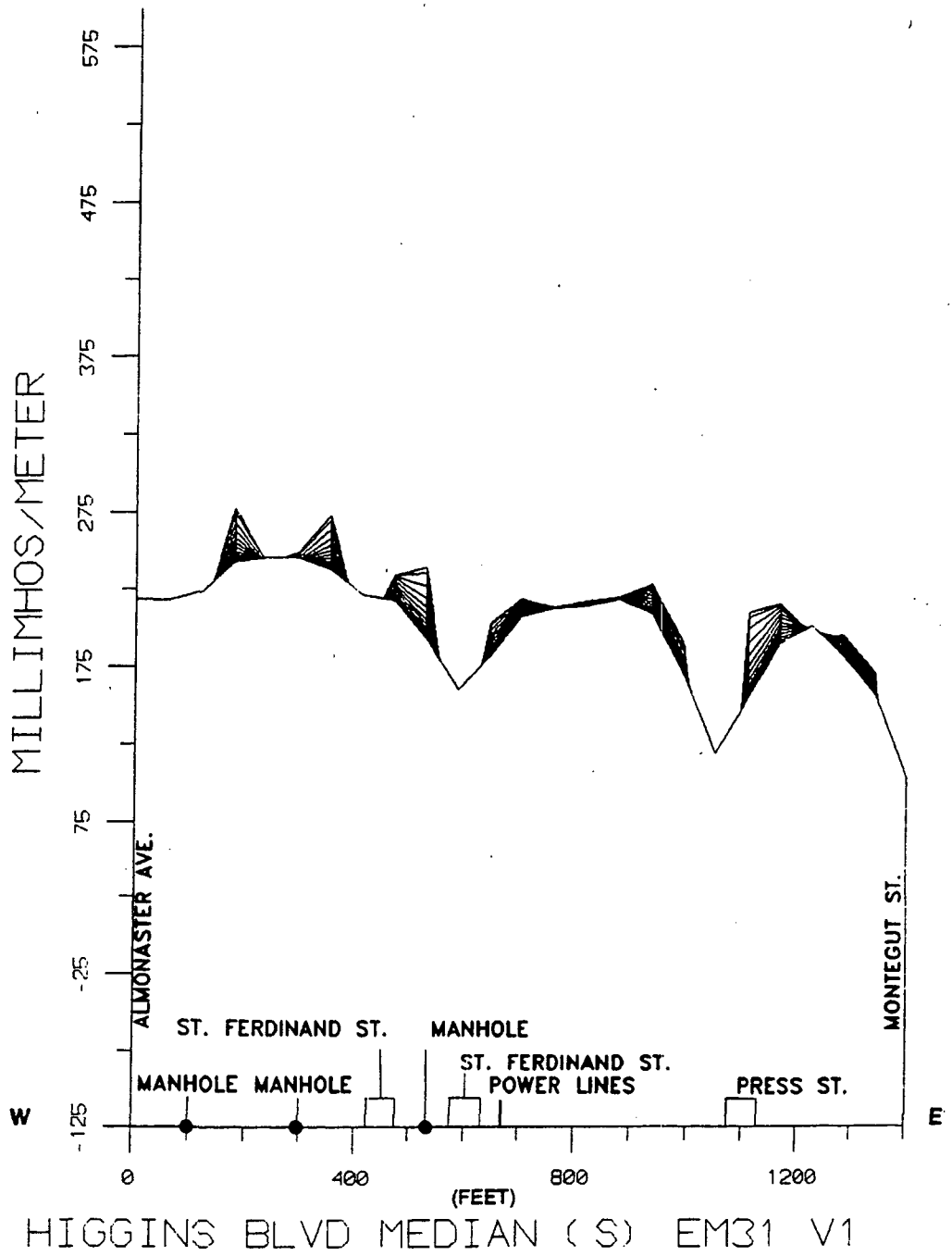

MILLIMHOS/METER
575
475
375
275
175
75
-25
-125
W
E
ALMONASTER AVE.
MONTEGUT ST.
ST. FERDINAND ST.
MANHOLE
ST. FERDINAND ST.
POWER LINES
MANHOLE
MANHOLE
PRESS ST.
0
400
800
1200
(FEET)
HIGGINS BLVD MEDIAN (S) EM31 V1

Figure F-76

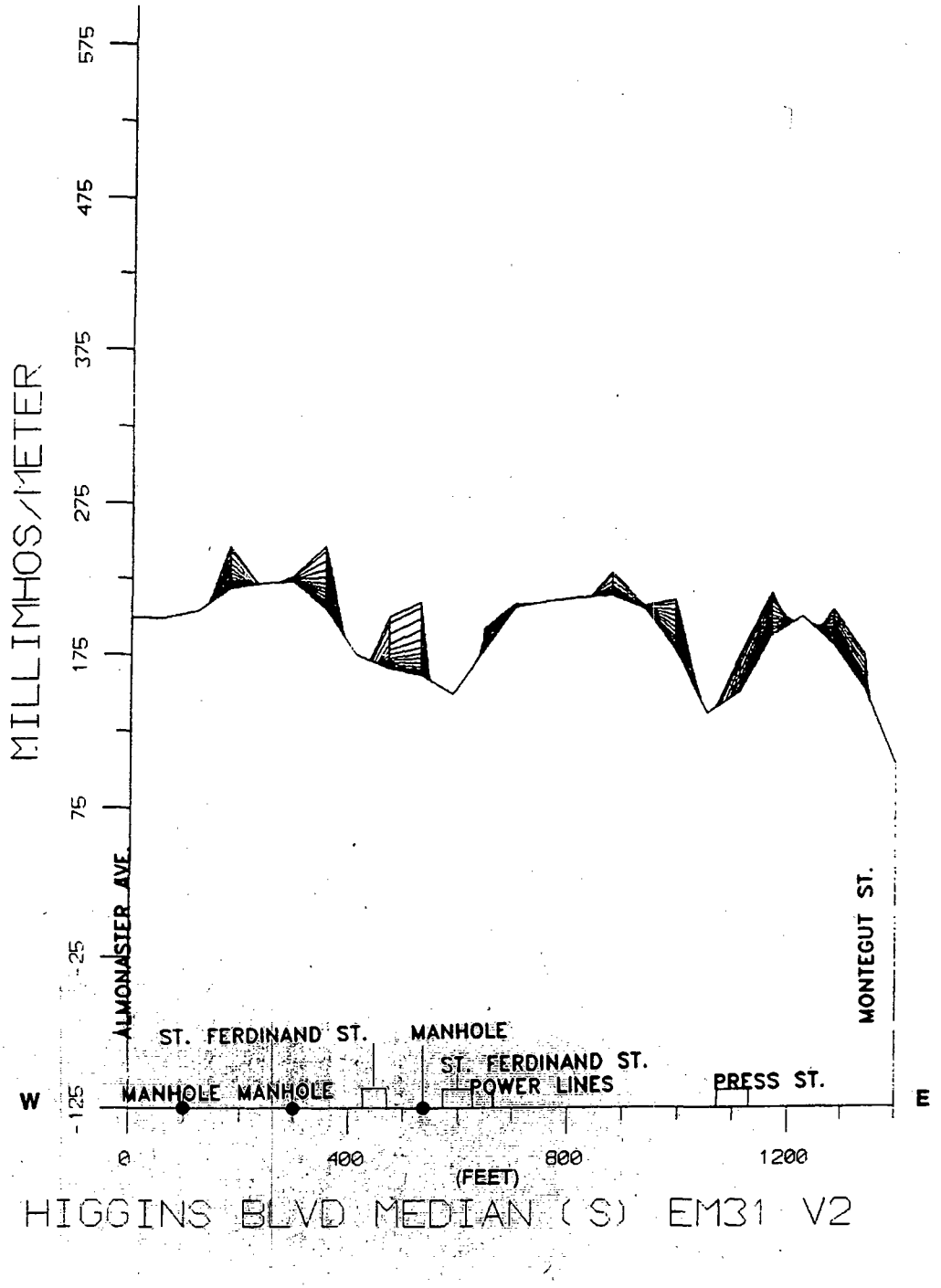

MILLIMHOS/METER
575
475
375
275
175
75
-25
-125
W
E
ALMONASTER AVE.
ST. FERDINAND ST.
MANHOLE
MANHOLE
MANHOLE
ST. FERDINAND ST.
POWER LINES
PRESS ST.
MONTEGUT ST.
0
400
800
1200
(FEET)
HIGGINS BLVD MEDIAN (S) EM31 V2

Figure F-77

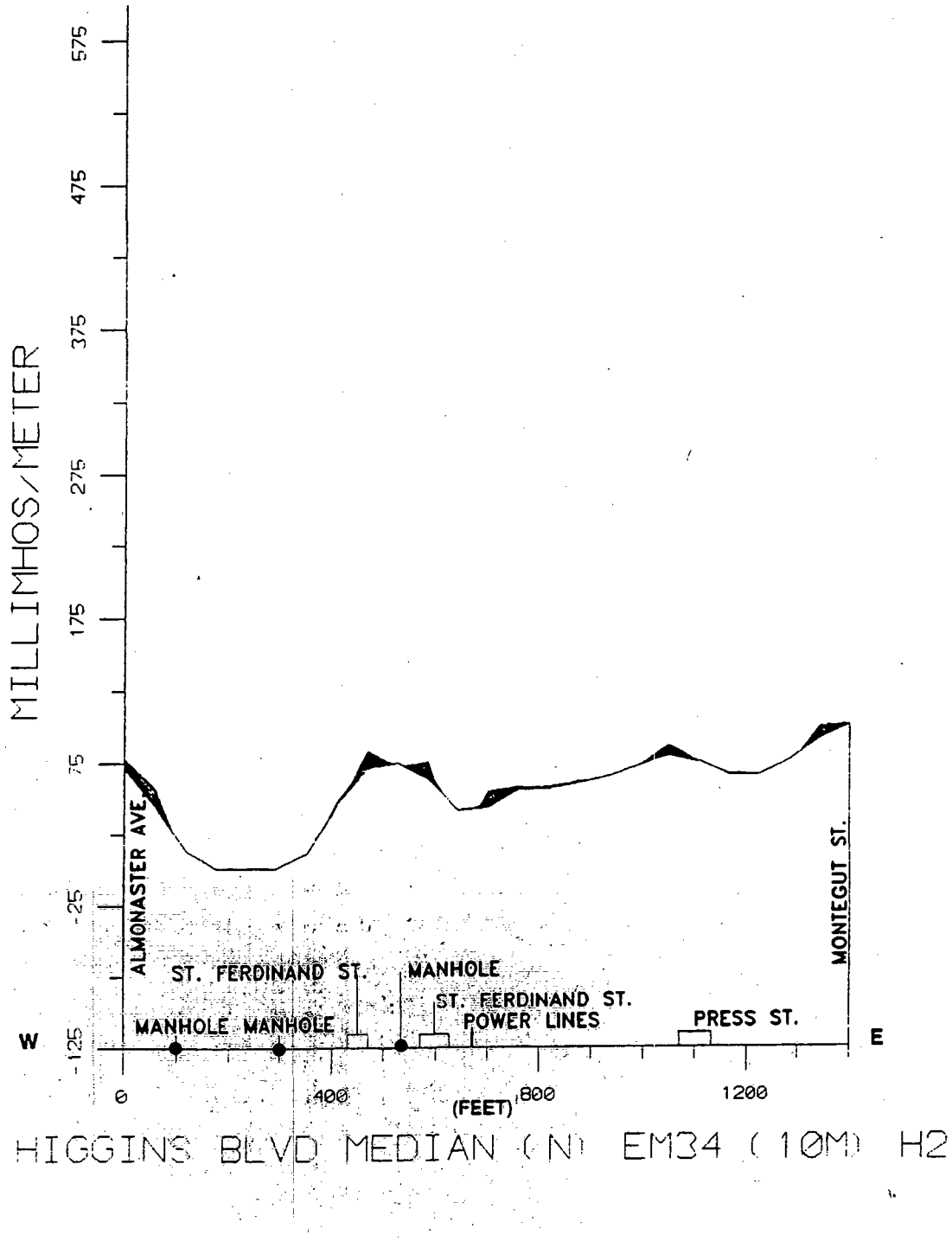

MILLIMHOS/METER
575
475
375
275
175
75
-25
-125
ALMONASTER AVE.
ST. FERDINAND ST.
MANHOLE
ST. FERDINAND ST.
POWER LINES
PRESS ST.
MONTEGUT ST.
MANHOLE
MANHOLE
W
E
0
400
800
1200
(FEET)
HIGGINS BLVD MEDIAN (N) EM34 (10M) H2

Figure F-78

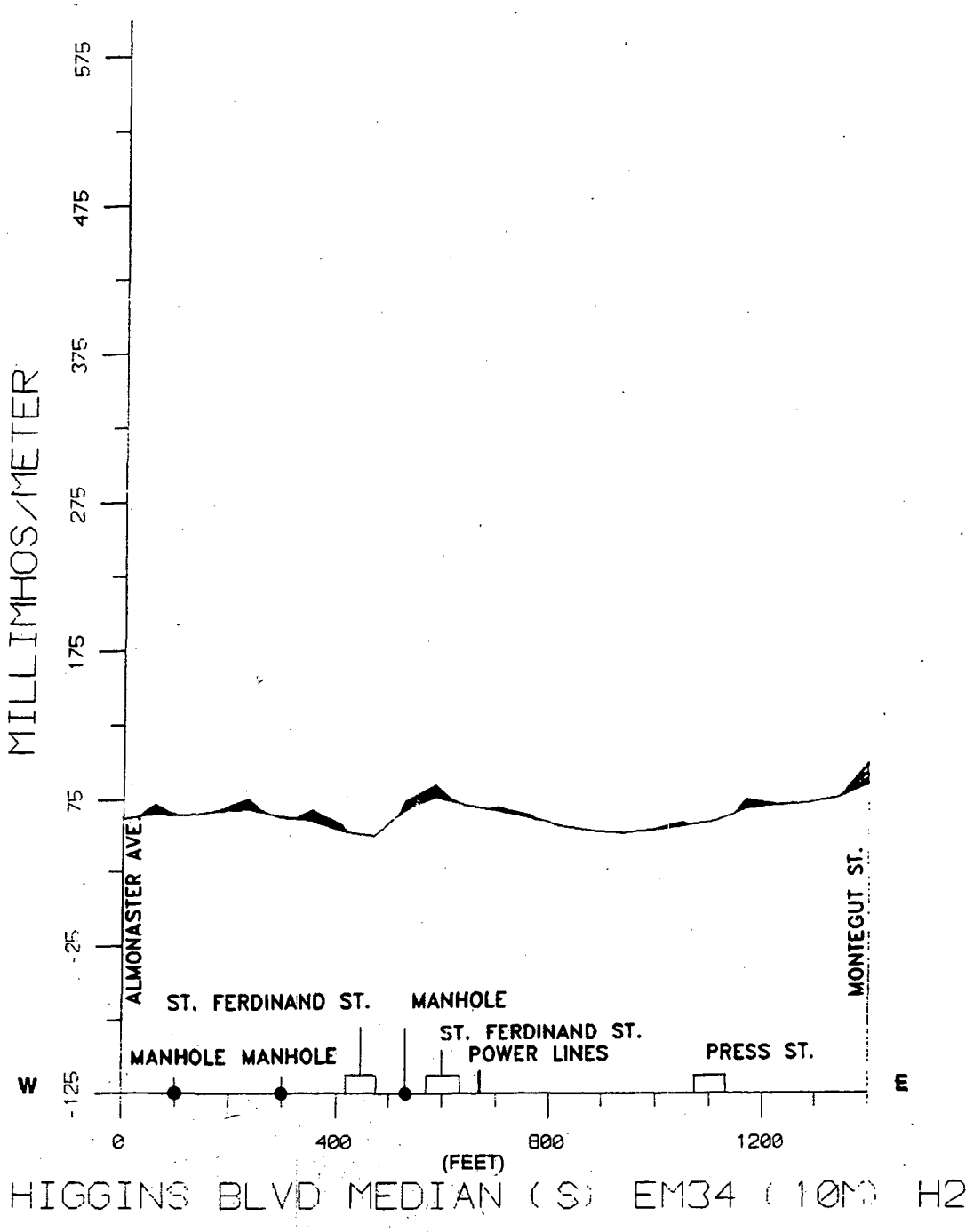

MILLIMHOS/METER
575
475
375
275
175
75
-25
-125
W
E
ALMONASTER AVE.
MONTEGUT ST.
ST. FERDINAND ST.
MANHOLE
ST. FERDINAND ST.
POWER LINES
MANHOLE
MANHOLE
PRESS ST.
0
400
800
1200
(FEET)
HIGGINS BLVD MEDIAN (S) EM34 (10M) H2

Figure F-79

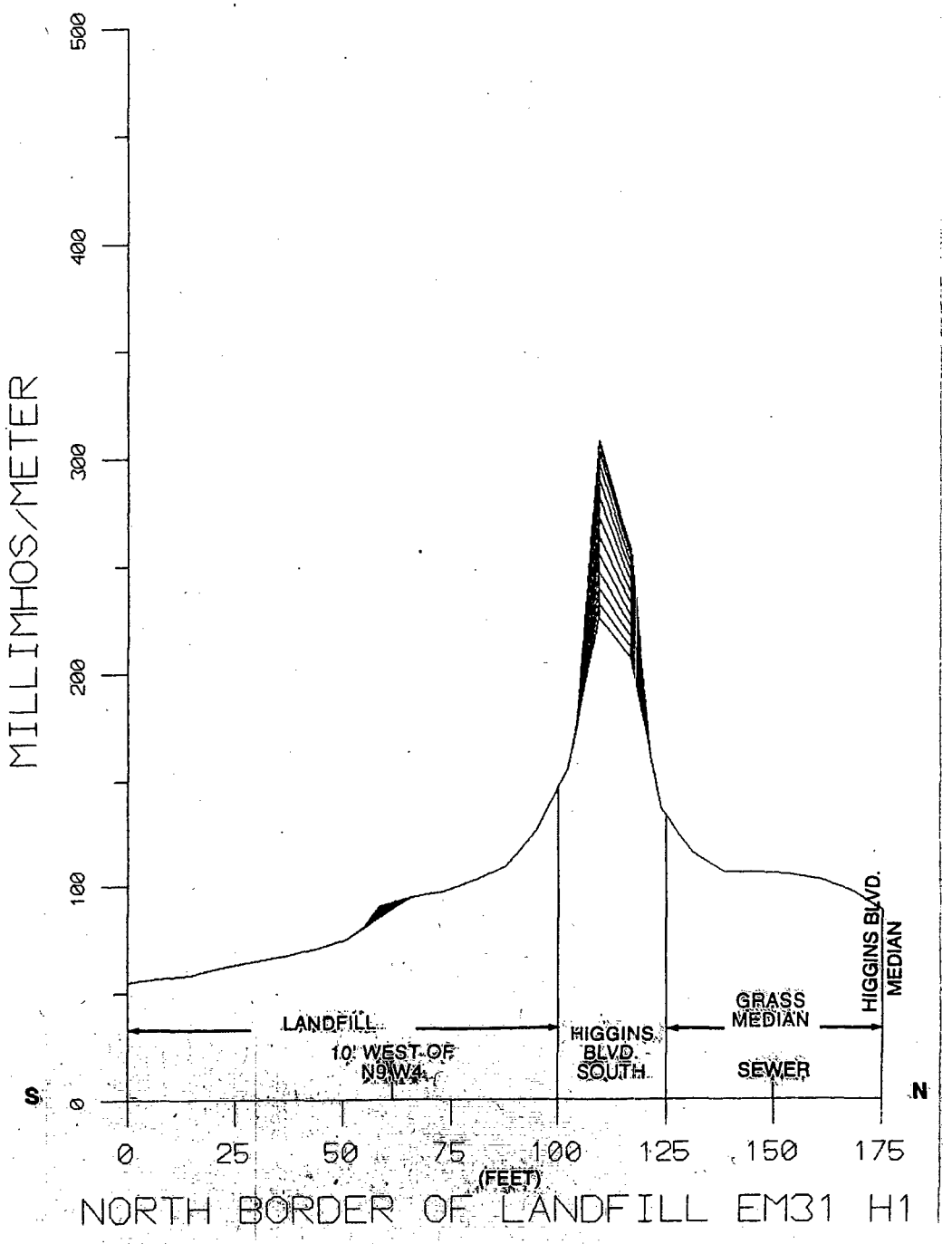

MILLIMHOS/METER
500
400
300
200
100
0
S
N
LANDFILL
10' WEST OF
N9W4
HIGGINS
BLVD.
SOUTH
GRASS
MEDIAN
SEWER
HIGGINS BLVD.
MEDIAN
0
25
50
75
100
125
150
175
(FEET)
NORTH BORDER OF LANDFILL EM31 H1

Figure F-80

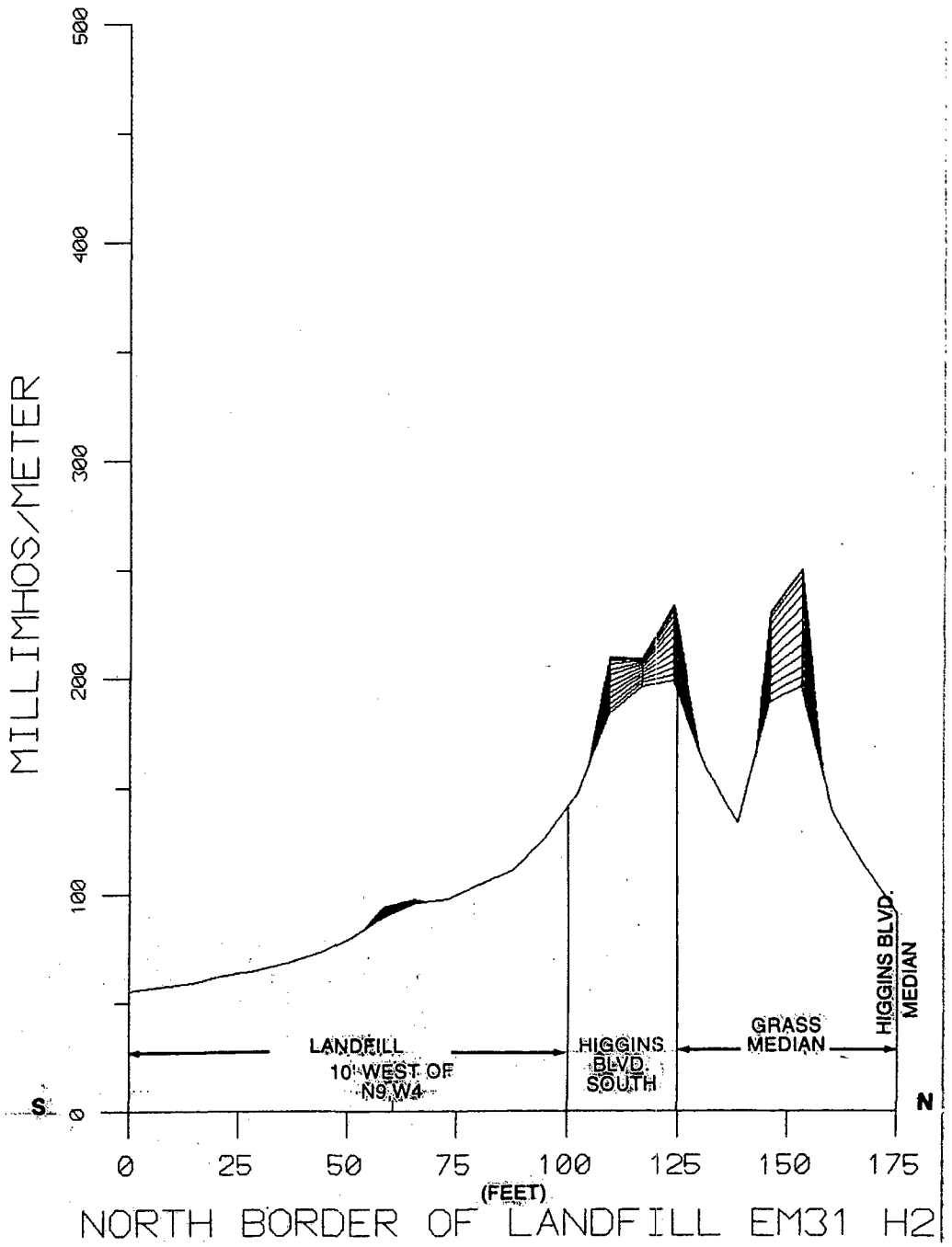

MILLIMHOS/METER
500
400
300
200
100
0
S
N
LANDFILL
10' WEST OF
N9 W4
HIGGINS
BLVD.
SOUTH
GRASS
MEDIAN
HIGGINS BLVD.
MEDIAN
0
25
50
75
100
125
150
175
(FEET)
NORTH BORDER OF LANDFILL EM31 H2

Figure F-81

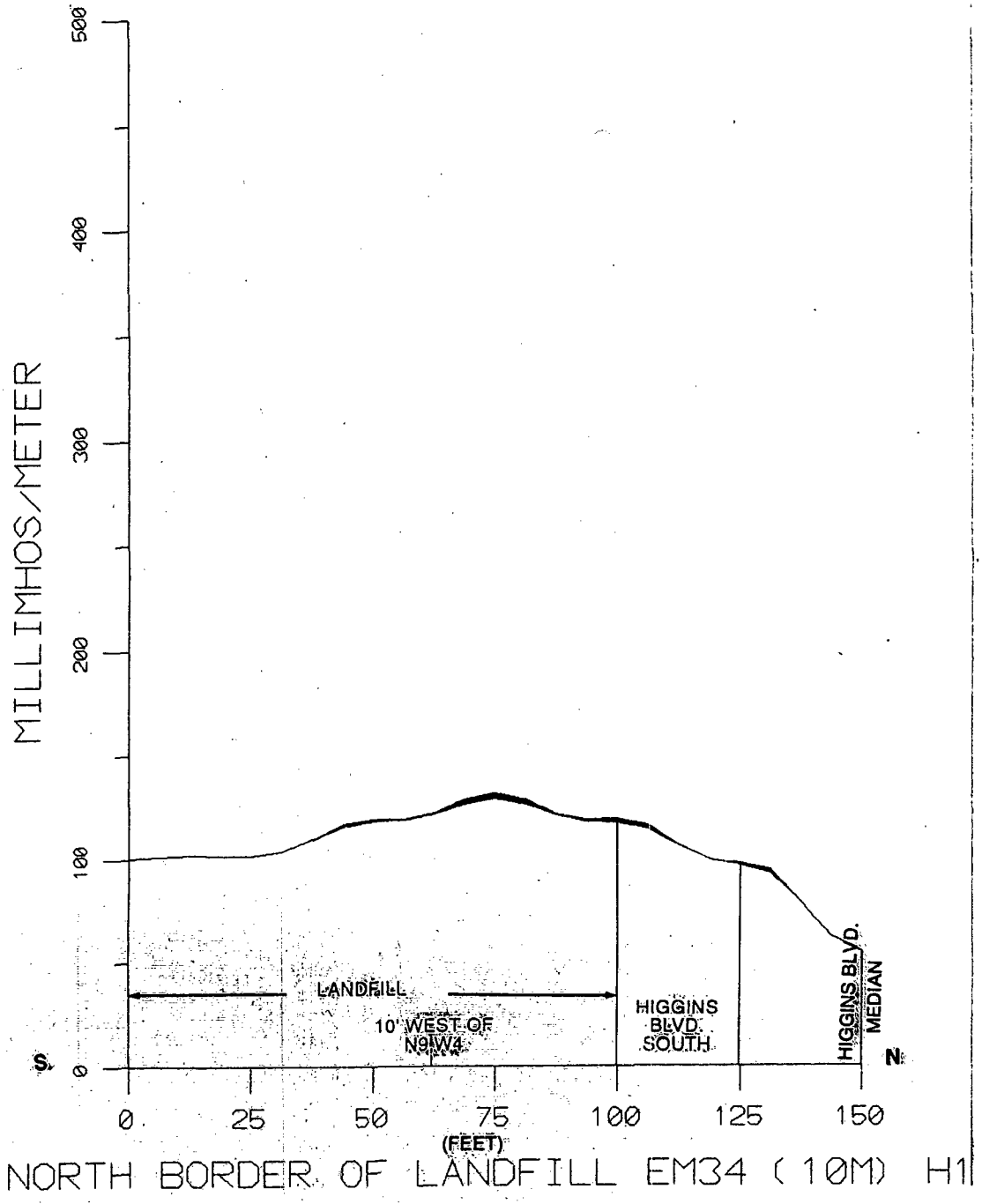

MILLIMHOS/METER
500
400
300
200
100
0
LANDFILL
10' WEST OF
N9W4
HIGGINS
BLVD.
SOUTH
HIGGINS BLVD.
MEDIAN
S
N
0
25
50
75
100
125
150
(FEET)
NORTH BORDER OF LANDFILL EM34 (10M) H1

Figure F-82

APPENDIX G

SAMPLE DESIGNATIONS AND LOCATION DATA

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00159.0264

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TABLE G-1

SURFACE SOILS - UNDEVELOPED LANDFILL
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Location Designation	Sample No.	Depth (feet BGS)	General Location	Total VOC (ppm)	Comments
GL001	SS-01	0-0.25	Undeveloped	0.54	Dioxin sample collected
GL002	SS-01	0-0.25	Undeveloped	0.16	
GL003	SS-01	0-0.25	Undeveloped	4.16	Dioxin sample collected
GL004	SS-01	0-0.25	Undeveloped	0.24	
GL005	SS-01	0-0.25	Undeveloped	0.20	
GL006	SS-01	0-0.25	Undeveloped	2.50	Dioxin sample collected
GL007	SS-01	0-0.25	Undeveloped	ND	
GL007	SS-02	0-2.00	Undeveloped	ND	Dioxin sample collected
GL008	SS-01	0-0.25	Undeveloped	ND	
GL008	SS-02	0-2.00	Undeveloped	ND	Dioxin sample collected
GL009	SS-01	0-0.25	Undeveloped	0.00	Dioxin sample collected
GL009	SS-02	0-2.00	Undeveloped	0.00	Dioxin sample collected
GL010	SS-01	0-0.25	Undeveloped	1.00	Dioxin sample collected
GL010	SS-02	0-2.00	Undeveloped	0.00	Dioxin sample collected
GL010	SS-03	0-0.25	Undeveloped	0.00	RCRA sample collected
GL011	SS-01	0-0.25	Undeveloped	0.20	
GL011	SS-02	0-2.00	Undeveloped	1.00	Dioxin sample collected
GL012	SS-01	0-0.25	Undeveloped	ND	

00159.0266

TABLE G-1

SURFACE SOILS - UNDEVELOPED LANDFILL
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Location Designation	Sample No.	Depth (feet BGS)	General Location	Total VOC (ppm)	Comments
GL012	SS-02	0-2.00	Undeveloped	ND	Dioxin sample collected
GL012	SS-03	0-0.25	Undeveloped	ND	RCRA sample collected
GL013	SS-01	0-0.25	Undeveloped	ND	Dioxin sample collected
GL013	SS-02	0-2.00	Undeveloped	ND	Dioxin sample collected
GL013	SS-03	0-0.25	Undeveloped	ND	RCRA sample collected
GL014	SS-01	0-0.25	Undeveloped	ND	
GL014	SS-02	0-2.00	Undeveloped	ND	Dioxin sample collected
GL021	SS-01	0-0.25	Undeveloped	0.00	
GL021	SS-02	0-0.25	Undeveloped	0.00	RCRA sample collected
GL022	SS-01	0-0.25	Undeveloped	0.00	Dioxin sample collected
GL023	SS-01	0-0.25	Undeveloped	3.05	
GL023	SS-02	0-2.00	Undeveloped	3.05	Dioxin sample collected
GL028	SS-01	0-0.25	Undeveloped	2.50	Dioxin sample collected
GL029	SS-01	0-0.25	Undeveloped	3.20	
GL029	SS-02	0-0.25	Undeveloped	3.20	Duplicate of AL-GL029-SS-01
GL030	SS-01	0-0.25	Undeveloped	3.25	Dioxin sample collected
GL030	SS-02	0-2.00	Undeveloped	3.25	Dioxin sample collected
GL035	SS-01	0-0.25	Undeveloped	0.00	Dioxin sample collected

00159.0267

TABLE G-1

SURFACE SOILS - UNDEVELOPED LANDFILL
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Location Designation	Sample No.	Depth (feet BGS)	General Location	Total VOC (ppm)	Comments
GL036	SS-01	0-0.25	Undeveloped	3.34	
GL036	SS-02	0-0.25	Undeveloped	3.34	Duplicate of AL-GL036-SS-01
GL037	SS-01	0-0.25	Undeveloped	0.00	Dioxin sample collected
GL038	SS-01	0-0.25	Undeveloped	3.38	
GL038	SS-02	0-2.00	Undeveloped	3.38	Dioxin sample collected
GL040	SS-01	0-0.25	Undeveloped	0.00	
GL040	SS-02	0-0.25	Undeveloped	0.00	Duplicate of AL-GL040-SS-01
GL043	SS-01	0-0.25	Undeveloped	0.00	
GL044	SS-01	0-0.25	Undeveloped	3.60	Dioxin sample collected
GL045	SS-01	0-0.25	Undeveloped	3.25	Dioxin sample collected
GL046	SS-01	0-0.25	Undeveloped	ND	
GL046	SS-02	0-2.00	Undeveloped	ND	Dioxin sample collected
GL047	SS-01	0-0.25	Undeveloped	0.00	Dioxin sample collected
GL047	SS-02	0-0.25	Undeveloped	0.00	Duplicate of AL-GL047-SS-01
GL053	SS-01	0-0.25	Undeveloped	ND	Dioxin sample collected
GL053	SS-02	0-0.25	Undeveloped	ND	Dioxin sample collected
GL054	SS-01	0-0.25	Undeveloped	2.50	
GL054	SS-02	0-2.00	Undeveloped	2.50	Dioxin sample collected

TABLE G-1

SURFACE SOILS - UNDEVELOPED LANDFILL
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Location Designation	Sample No.	Depth (feet BGS)	General Location	Total VOC (ppm)	Comments
GL055	SS-01	0-0.25	Undeveloped	3.10	
GL061	SS-01	0-0.25	Undeveloped	3.41	
GL062	SS-01	0-0.25	Undeveloped	2.50	Dioxin sample collected
GL062	SS-02	0-2.00	Undeveloped	2.50	Dioxin sample collected
GL063	SS-01	0-0.25	Undeveloped	3.20	
GL069	SS-01	0-0.25	Undeveloped	1.16	Dioxin sample collected
GL070	SS-01	0-0.25	Undeveloped	2.20	
GL070	SS-02	0-2.00	Undeveloped	2.20	Dioxin sample collected
GL070	SS-03	0-0.25	Undeveloped	0.00	RCRA sample collected
GL071	SS-01	0-0.25	Undeveloped	0.00	Dioxin sample collected
GL072	SS-01	0-0.25	Undeveloped	0.00	Dioxin sample collected
GL078	SS-01	0-0.25	Undeveloped	2.00	Dioxin sample collected
GL079	SS-01	0-0.25	Undeveloped	2.74	
GL079	SS-02	0-2.00	Undeveloped	2.74	Dioxin sample collected
GL079	SS-03	0-0.25	Undeveloped	2.74	Duplicate of AL-GL079-SS-01
GL080	SS-01	0-0.25	Undeveloped	ND	
GL081	SS-01	0-0.25	Undeveloped	0.00	Dioxin sample collected
GL086	SS-01	0-0.25	Undeveloped	1.01	Dioxin sample collected

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TABLE G-1

SURFACE SOILS - UNDEVELOPED LANDFILL
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Location Designation	Sample No.	Depth (feet BGS)	General Location	Total VOC (ppm)	Comments
GL087	SS-01	0-0.25	Undeveloped	0.00	
GL087	SS-02	0-2.00	Undeveloped	0.00	Dioxin sample collected
GL087	SS-03	0-2.00	Undeveloped	0.00	Duplicate of AL-GL087-SS-02
GL088	SS-01	0-0.25	Undeveloped	ND	Dioxin sample collected
GL089	SS-01	0-0.25	Undeveloped	0.00	
GL090	SS-01	0-0.25	Undeveloped	0.00	
GL095	SS-01	0-0.25	Undeveloped	3.36	
GL096	SS-01	0-0.25	Undeveloped	1.21	Dioxin sample collected
GL096	SS-02	0-2.00	Undeveloped	1.21	Dioxin sample collected
GL097	SS-01	0-0.25	Undeveloped	3.25	

Key:

BGS = Below ground surface
ND = No data
VOC = Volatile organic compounds
ppm = Parts per million above background, unfiltered

Source: Ecology and Environment, Inc., 1994

Figure 4.2-28 4,4'-DDT CONCENTRATIONS: SUBSURFACE SOIL, 1.5- TO 2.5-FOOT INTERVAL EXPANDED OFF-SITE VIEW, RRII AND ESI SAMPLE LOCATIONS (EXCLUDING BACKGROUND) AGRICULTURE STREET LANDFILL SITE, NEW ORLEANS, LOUISIANA

SOURCE: Ecology and Environment, Inc., 1994

TABLE G-2

SURFACE SOILS - DEVELOPED LANDFILL
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Location Designation	Sample No.	Depth (feet BGS)	General Location	Total VOC (ppm)	Comments
GL015	SS-01	0-0.25	Developed	0.00	Off-site
GL016	SS-01	0-0.25	Developed	5.00	
GL017	SS-01	0-0.25	Developed	2.20	
GL018	SS-01	0-0.25	Developed	0.89	
GL019	SS-01	0-0.25	Developed	2.60	Dioxin sample collected
GL019	SS-01	0-0.25	Developed	1.30	
GL020	SS-01	0-0.25	Developed	3.63	
GL024	SS-01	0-0.25	Developed	0.00	
GL025	SS-01	0-0.25	Developed	0.00	
GL026	SS-01	0-0.25	Developed	ND	
GL027	SS-01	0-0.25	Developed	0.74	
GL031	SS-01	0-0.25	Developed	0.00	
GL032	SS-01	0-0.25	Developed	2.55	
GL033	SS-01	0-0.25	Developed	2.75	
GL033	SS-02	0-0.25	Developed	2.75	Duplicate of AL-GL033-SS-01
GL034	SS-01	0-0.25	Developed	0.00	

TABLE G-2

SURFACE SOILS - DEVELOPED LANDFILL
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Location Designation	Sample No.	Depth (feet BGS)	General Location	Total VOC (ppm)	Comments
GL039	SS-01	0-0.25	Developed	0.00	
GL041	SS-01	0-0.25	Developed	3.75	
GL042	SS-01	0-0.25	Developed	0.00	
GL048	SS-01	0-0.25	Developed	3.30	
GL049	SS-01	0-0.25	Developed	2.80	
GL050	SS-01	0-0.25	Developed	0.00	
GL051	SS-01	0-0.25	Developed	2.31	
GL052	SS-01	0-0.25	Developed	2.16	
GL056	SS-01	0-0.25	Developed	0.20	
GL057	SS-01	0-0.25	Developed	0.00	
GL058	SS-01	0-0.25	Developed	0.00	
GL059	SS-01	0-0.25	Developed	0.00	
GL060	SS-01	0-0.25	Developed	0.00	
GL064	SS-01	0-0.25	Developed	2.90	
GL065	SS-01	0-0.25	Developed	1.39	
GL066	SS-01	0-0.25	Developed	0.00	

TABLE G-2

SURFACE SOILS - DEVELOPED LANDFILL
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Location Designation	Sample No.	Depth (feet BGS)	General Location	Total VOC (ppm)	Comments
GL067	SS-01	0-0.25	Developed	ND	
GL068	SS-01	0-0.25	Developed	0.00	
GL073	SS-01	0-0.25	Developed	2.80	
GL074	SS-01	0-0.25	Developed	2.50	
GL075	SS-01	0-0.25	Developed	0.00	
GL076	SS-01	0-0.25	Developed	0.00	
GL077	SS-01	0-0.25	Developed	0.00	
GL082	SS-01	0-0.25	Developed	1.80	
GL083	SS-01	0-0.25	Developed	4.16	
GL084	SS-01	0-0.25	Developed	1.40	
GL085	SS-01	0-0.25	Developed	0.00	
GL091	SS-01	0-0.25	Developed	0.50	
GL092	SS-01	0-0.25	Developed	0.00	
GL093	SS-01	0-0.25	Developed	0.00	
GL094	SS-01	0-0.25	Developed	0.00	
GL098	SS-01	0-0.25	Developed	ND	

TABLE G-2

SURFACE SOILS - DEVELOPED LANDFILL
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Location Designation	Sample No.	Depth (feet BGS)	General Location	Total VOC (ppm)	Comments
GL099	SS-01	0-0.25	Developed	0.00	
GL100	SS-01	0-0.25	Developed	ND	
GL101	SS-01	0-0.25	Developed	2.63	
GL102	SS-01	0-0.25	Developed	0.00	
GL103	SS-01	0-0.25	Developed	0.00	
GL104	SS-01	0-0.25	Developed	0.60	

Key:

BGS = Below ground surface
ND = No data
VOC = Volatile organic compounds
ppm = Parts per million above background, unfiltered

Source: Ecology and Environment, Inc.,

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TABLE G-3

SURFACE SOILS - STUDY GROUP RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Map Location	Location Designation	Sample No.	Depth (feet BGS)	General Location	Specific Location	Total VOC (ppm)
RES-01	SG001	SS-01	0-0.25	Front yard	33 ft. E of N corner of house and 33 ft. N of utility box.	ND
RES-01	SG001	SS-02	0-0.25	Back yard	56 ft. NW of S corner of house and 29 ft. W of W corner of house.	ND
RES-01	SG001	SS-03	0-0.25	Drip line	2 ft. S of S corner of house.	ND
RES-01	SG001	SS-04	0-1.00	Garden	80 ft. W of S corner of house and 73 ft. SW of W corner of house.	ND
RES-02	SG002	SS-01	0-0.25	Front yard	21 ft. SE of SE corner of garage, on the line connecting SE corner of garage and utility pole.	0.00
RES-02	SG002	SS-02	0-0.25	Back yard	27 ft. NE of NW corner of house and 16.3 ft. NW of NE corner of house.	0.39
RES-02	SG002	SS-03	0-1.00	Garden	8 ft. 3 in. W and 5 ft. 3 in. S of SE corner of house.	0.16
RES-02	SG002	SS-04	0-0.25	Drip line	Composite of 5 locations, 1 by downspout at SE corner of house and each on N and E sides of	ND

TABLE G-3

SURFACE SOILS - STUDY GROUP RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Map Location	Location Designation	Sample No.	Depth (feet BGS)	General Location	Specific Location	Total VOC (ppm)
					house.	
RES-03	SG003	SS-01	0-0.25	Front yard	15 ft. 9 in. E of NE corner of house and 13 ft. 4 in. NE of SE corner of drainage gutter.	0.00
RES-03	SG003	SS-02	0-0.25	Back yard	36 ft. 8 in. SW of NW corner of house and 38 ft. 6 in. NW of SW corner of house.	ND
RES-03	SG003	SS-03	0-0.25	Drip line	Composite of 5 locations, 1 by downspout at NE corner of house and 2 each on N and S sides of house.	ND
RES-04	SG004	SS-01 (b)	0-0.25	Front yard	14 ft. 10 in. SE of SE corner of house and 49 ft. 5 in. NW of utility pole.	0.00
RES-04	SG004	SS-02 (b)	0-0.25	Back yard	23 ft. NW of NE corner of house and 25 ft. E of telephone cable box.	0.00
RES-04	SG004	SS-03 (b)	0-1.00	Garden	Between birdhouses.	0.00
RES-04	SG004	SS-04 (b)	0-0.25	Play area	NE of NE corner of house	0.00
RES-04	SG004	SS-05 (b)	0-0.25	Drip line	Composite of 5 locations,	ND

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TABLE G-3

SURFACE SOILS - STUDY GROUP RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Map Location	Location Designation	Sample No.	Depth (feet BGS)	General Location	Specific Location	Total VOC (ppm)
					1 by downspout at SE corner of house and 2 each on W and E sides of house.	
RES-05	SG005	SS-01	0-0.25	Front yard	12 ft. NW of NW corner of house and 16 ft. 6 in. NE of NW fence post.	ND
RES-05	SG005	SS-02	0-0.25	Back yard	36 ft. 6 in. SW of SW corner of house and 27 ft. SSW of SW corner of shed.	0.00
RES-05	SG005	SS-03	0-1.00	Garden	9 ft. W of SE fence post and 16 ft. 10 in. SE of NE corner of roofed concrete area.	0.00
RES-05	SG005	SS-04	0-0.25	Drip line	Composite of 5 locations on all sides of house, including downspouts on NW, NE, and SE corners.	ND
RES-06	SG006	SS-01	0-0.25	Front yard	36 ft. 5 in. SSE of NE corner of Building 3236 and 46 ft. 9 in. SSW of utility pole.	0.14
RES-06	SG006	SS-02	0-0.25	Back yard	2 ft. 5 in. WSW of tree.	0.00
RES-06	SG006	SS-03	0-1.00	Garden	SW corner of back yard,	0.10

TABLE G-3

SURFACE SOILS - STUDY GROUP RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Map Location	Location Designation	Sample No.	Depth (feet BGS)	General Location	Specific Location	Total VOC (ppm)
					garden area.	
RES-06	SG006	SS-04	0-0.25	Drip line	Composite of 4 locations in front and rear of house.	ND
RES-07	SG007	SS-01	0-0.25	Front yard	9 ft. 2 in. NNE of NW corner of house and 22 ft. 10 in. SW of utility pole.	0.10
RES-07	SG007	SS-02	0-0.25	Back yard	20 ft. 2 in. SE of SW corner of house and 15 ft. 10 in. SW of SE corner of house.	0.25
RES-07	SG007	SS-03	0-0.25	Drip line	Composite of 4 locations in front and rear of house.	ND
RES-07	SG007	SS-04	0-0.25	Drip line duplicate	Duplicate of SG007-SS-03.	ND
RES-08	SG008	SS-01	0-0.25	Front yard	4 ft. N of NE corner of house and 24 ft. S of utility pole.	0.00
RES-08	SG008	SS-02	0-0.25	Back yard	7 ft. SE of SW corner of house and 13 ft. 9 in. SW of SE corner of house.	ND
RES-08	SG008	SS-03	0-0.25	Drip line	Composite of 5 locations,	ND

TABLE G-3

SURFACE SOILS - STUDY GROUP RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Map Location	Location Designation	Sample No.	Depth (feet BGS)	General Location	Specific Location	Total VOC (ppm)
					1 at downspout and 4 at front and rear of house.	
RES-09	SG009	SS-01	0-0.25	Front yard	17 ft. NW of NE corner of house and 33 ft. 8 in. SE of utility pole.	0.00
RES-09	SG009	SS-02	0-0.25	West yard	11 ft. 5 in. S of NW corner of house and 26 ft. SE of utility pole.	ND
RES-09	SG009	SS-02	0	West yard	11 ft. 5 in. S of NW corner of house and 26 ft. SE of utility pole.	0.00
RES-09	SG009	SS-03	0-0.25	Drip line	Composite of 4 locations, 3 (2 downspouts) on N side of house and 1 on W side of house.	0.00
RES-10	SG010	SS-01	0-0.25	Front yard	10 ft. ENE of SE corner of house and 16 ft. 7 in. SE of NE corner of house.	ND
RES-10	SG010	SS-02	0-0.25	Back yard	4 ft. 10 in. NW of SSW corner of house and 14 ft. 4 in. SSW of NW corner of house.	ND
RES-10	SG010	SS-03	0-0.25	Drip line	Composite of 4 locations, 2 on W side of house and 2 on E side of house.	ND

TABLE G-3

SURFACE SOILS - STUDY GROUP RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Map Location	Location Designation	Sample No.	Depth (feet BGS)	General Location	Specific Location	Total VOC (ppm)
RES-11	SG011	SS-01 (a)	0-0.25	North yard	10 ft. 5 in. NNW of NE corner of Building 3271 and 18 ft. 11 in. NW of utility pole.	0.00
RES-11	SG011	SS-02	0-0.25	Back yard	44 ft. 6 in. SE of NE corner of Building 3221, 14 ft. 5 in. NE of SE corner of Building 3221.	ND
RES-11	SG011	SS-03 (a)	0-0.25	Drip line	Composite of 6 locations (4 at downspouts) on N side of Buildings 3251, 3261 and 3271.	ND
RES-12	SG012	SS-01	0-0.25	Front yard	18 ft. 8 in. NW of SW corner of house and 53 ft. SSE of utility pole.	0.00
RES-12	SG012	SS-02	0-0.25	Courtyard	60 ft. NW of SW corner of E building and 68 ft. NW of NE corner of S building	ND
RES-12	SG012	SS-03	0-0.25	Front yard	Duplicate of SG012-SS-01	0.00
RES-12	SG012	SS-04	0-0.25	Drip line	Composite of 6 locations, 1 at downspout and 5 along W side of house.	ND
RES-13	SG013	SS-01	0-0.25	Front yard	27 ft. 8 in. E of water tap on S side of house	0.00

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TABLE G-3

SURFACE SOILS - STUDY GROUP RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Map Location	Location Designation	Sample No.	Depth (feet BGS)	General Location	Specific Location	Total VOC (ppm)
					and 4 ft. 7 in. SE of SE corner of house.	
RES-13	SG013	SS-02	0-0.25	East yard	23 ft. 7 in. ESE of NE corner of house and 26 ft. 9 in. SE of SE corner of building to N.	0.00
RES-13	SG013	SS-03	0-1.00	Garden	10 ft. 9 in. SE of NE corner of house and 19 ft. 9 in. of SE corner of building to N.	0.00
RES-13	SG013	SS-04	0-0.25	Drip line	Composite of 6 locations, 1 by downspout at Building 3201 and 5 on S side of Buildings 3201, 3211, and 3221.	ND
RES-14	SG014	SS-01 (b)	0-0.25	Front yard	13 ft. SW of NW corner of house and 19 ft. NW of SW corner of house.	ND
RES-14	SG014	SS-02 (b)	0-0.25	Back yard	15 ft. SE of NE corner of house and 19 ft. NE of SE corner of house.	ND
RES-14	SG014	SS-03	0-0.25	Drip line	Composite of 2 locations, (1 downspout) on E side of house and 2 locations on W side of house.	ND

TABLE G-3

SURFACE SOILS - STUDY GROUP RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Map Location	Location Designation	Sample No.	Depth (feet BGS)	General Location	Specific Location	Total VOC (ppm)
RES-15	SG015	SS-01	0-0.25	Front yard	21 ft. 6 in. NE of SE corner of house and 28 ft. SE of NE corner of house.	ND
RES-15	SG015	SS-02	0-0.25	Back yard	27 ft. 3 in. SW of middle corner and 47 ft. SW corner of house.	ND
RES-15	SG015	SS-03	0-1.00	Garden	36 ft. NW of middle corner of house and 41 ft. W of NW corner of house.	ND
RES-15	SG015	SS-04	0-0.25	Drip line	Composite of 4 locations, 2 (1 downspout) on E side of house and 2 (1 downspout) on N side of house.	ND
RES-16	SG016	SS-01	0-0.25	Front yard	16 ft. 4 in. SE of SW corner of house and 25 ft. 7 in. SW of SE corner of doorbay.	1.00
RES-16	SG016	SS-02	0-0.25	Back yard	32 ft. 2 in. NE of NW corner of house and 26 ft. 3 in. NW of middle corner of house.	ND
RES-16	SG016	SS-03	0-1.00	Garden	29 ft. 4 in. NE of middle	ND

TABLE G-3

SURFACE SOILS - STUDY GROUP RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Map Location	Location Designation	Sample No.	Depth (feet BGS)	General Location	Specific Location	Total VOC (ppm)
					corner of house and 24 ft. 8 in. NNE of NE corner of house.	
RES-16	SG016	SS-04	0-0.25	Play area	15 ft. 9 in. N of NW corner of house and 17 ft. 5 in. NW of middle corner of house.	ND
RES-16	SG016	SS-05	0-0.25	Drip line	Composite of 3 locations, 2 (1 downspout) on E side of house and 1 (downspout) on W side of house.	ND
RES-17	SG017	SS-01	0-0.25	Front yard	45 ft. SE of SW corner of house and 46 ft. 10 in. SSW of SE corner of house.	1.00
RES-17	SG017	SS-02	0-0.25	Back yard	17 ft. 6 in. NE of NW corner of house and 30 ft. 3 in. NW of NE corner of house.	ND
RES-17	SG017	SS-03	0-0.25	Drip line	Composite of 4 locations, (1 downspout) on S side of house and 2 (1 downspout, NE corner) on E side of house.	ND

TABLE G-3

SURFACE SOILS - STUDY GROUP RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Map Location	Location Designation	Sample No.	Depth (feet BGS)	General Location	Specific Location	Total VOC (ppm)
RES-18	SG018	SS-01	0-0.25	Front yard	22 ft. 2 in. NW of NE corner of Building 3119 and 15 ft. 6 in. NE of NW corner of house.	ND
RES-18	SG018	SS-02	0-0.25	Back yard	33 ft. SSW of SE corner of house and 35 ft. SE of SW corner of house.	ND
RES-18	SG018	SS-03	0-0.25	Drip line	Composite of 4 locations, 2 (1 downspout) on N side of house and 2 on S side of house.	ND
RES-19	SG019	SS-01	0-0.25	Front yard	7 ft. 2 in. SE of SW corner of house and 16 ft. 10 in. SW of SE corner of house.	0.00
RES-19	SG019	SS-02	0-0.25	Back yard	11 ft. NE of NW corner of house and 8 ft. 11 in. NW of NE corner of house.	ND
RES-19	SG019	SS-03	0-0.25	Drip line	Composite of 4 locations, 1 by downspout at SW corner of house, 2 on W side of house and 1 by drain on S side of house.	ND
RES-20	SG020	SS-01	0-0.25	Front yard	13 ft. 11 in. NW of NE corner of house and 5 ft.	ND

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TABLE G-3

SURFACE SOILS - STUDY GROUP RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Map Location	Location Designation	Sample No.	Depth (feet BGS)	General Location	Specific Location	Total VOC (ppm)
					10 in. NE of NW corner of house.	
RES-20	SG020	SS-02	0-0.25	Back yard	29 ft. 7 in. SW of SE corner of house and 39 ft. SE of SW corner of house.	ND
RES-20	SG020	SS-03	0-0.25	Drip line	Composite of 2 locations, 1 by drain at NW corner of house and 1 on N side of house.	ND
RES-21	SG021	SS-01 (b)	0-0.25	Back yard	30 ft. 7 in. NW of SW corner of house and 23 ft. 7 in. SW of NW corner of house.	ND
RES-21	SG021	SS-02 (b)	0-0.25	Front yard	25 ft. 10 in. NE of SE corner of house and 22 ft. SE of NE corner of house.	ND
RES-21	SG021	SS-03	0-0.25	Drip line	Composite of 4 locations, 1 by downspout at NE corner of house, 2 along N side of house, and 1 on S side of house.	ND
RES-22	SG022	SS-01	0-0.25	Front yard	22 ft. SW of SE corner of house and 35 ft. 10 in.	ND

TABLE G-3

SURFACE SOILS - STUDY GROUP RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Map Location	Location Designation	Sample No.	Depth (feet BGS)	General Location	Specific Location	Total VOC (ppm)
					SE of SW corner of house.	
RES-22	SG022	SS-01	0-0.25	Front yard	22 ft. SW of SE corner of house and 35 ft. 10 in. SE of SW corner of house.	0.00
RES-22	SG022	SS-02	0-0.25	Back yard	28 ft. 10 in. NE of NW corner of house and 25 ft. NW of NE corner of house.	ND
RES-22	SG022	SS-03	0-0.25	Drip line	Composite of 5 locations along house, 2 on N side (downspouts at NE and NW corner), 2 on S side (downspouts, front door & SE corner) and 1 on E side of house.	ND
RES-23	SG023	SS-01 (b)	0-0.25	Front yard	20 ft. 10 in. NW of NE corner of house and 16 ft. 4 in. NE of NW corner of house.	ND
RES-23	SG023	SS-02 (b)	0-0.25	Back yard	E side of house.	ND
RES-23	SG023	SS-03 (b)	0-1.00	Garden	Composite of 5 locations along S and E sides of house.	ND
RES-23	SG023	SS-04 (b)	0-0.25	Play area	19 ft. 7 in. SE of SE corner of house and 32	ND

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TABLE G-3

SURFACE SOILS - STUDY GROUP RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Map Location	Location Designation	Sample No.	Depth (feet BGS)	General Location	Specific Location	Total VOC (ppm)
					ft. 8 in. SE of NE corner of house.	
RES-23	SG023	SS-05	0-0.25	Drip line	Composite of 4 locations, 1 by downspout at NE corner of house, 2 near roof drains, and 1 on N side of house.	ND
RES-24	SG024	SS-01 (b)	0-0.25	Front yard	8 ft. NNW of NE corner of house and 14 ft. NE of NW corner of house.	ND
RES-24	SG024	SS-02 (b)	0-0.25	Back yard	27 ft. 4 in. SW of SE corner of house and 27 ft. 4 in. SE of SW corner of house.	ND
RES-24	SG024	SS-03	0-0.25	Drip line	Composite of 2 locations, 1 by drain at NE corner of house and 1 on N side of house.	ND
RES-25	SG025	SS-01	0-0.25	Front yard	56 ft. 9 in. SE of SW corner of house and 37 ft. 9 in. SE of SE corner of house.	ND
RES-25	SG025	SS-02	0-0.25	Back yard	35 ft. NE of NW corner of house and 18 ft. NW of NE corner of house.	ND

TABLE G-3

SURFACE SOILS - STUDY GROUP RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Map Location	Location Designation	Sample No.	Depth (feet BGS)	General Location	Specific Location	Total VOC (ppm)
RES-25	SG025	SS-03	0-0.25	Drip line	Composite of 3 locations, 1 by downspout on E side of house, 1 by downspout on W side of house and 1 on S side of house.	ND
RES-27	SG027	SS-01	0-0.25	Front yard	27 ft. 9 in. SE of SW corner of house and 25 ft. 2 in. SW of SE corner of house.	ND
RES-27	SG027	SS-02	0-0.25	Back yard	26 ft. NE of NW corner of house and 25 ft. NW of NE corner of house.	ND
RES-27	SG027	SS-03	0-0.25	Drip line	Composite of 3 locations, 1 by drain at SW corner of house, 1 on N side of house and 1 on S side of house.	ND
RES-28	SG028	SS-01 (b)	0-0.25	Front yard	20 ft. 4 in. NW of NE corner of house and 25 ft. 6 in. NE of NW corner of house.	0.00
RES-28	SG028	SS-02 (b)	0-0.25	Front yard	10 ft. 9 in. NNW of NW corner of house and 14 ft. SE of intersection of foot paths; area of stressed vegetation.	ND

TABLE G-3

SURFACE SOILS - STUDY GROUP RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Map Location	Location Designation	Sample No.	Depth (feet BGS)	General Location	Specific Location	Total VOC (ppm)
RES-28	SG028	SS-03 (b)	0-0.25	Clothesline area	16 ft. 6 in. SSW of NW corner of house and 21 ft. 10 in. NNW of SW corner of house.	ND
RES-28	SG028	SS-04	0-0.25	Drip line	Composite of 3 locations, 1 by downspout at NE corner of house and 1 each on N and W sides of house.	ND
RES-28	SG028	SS-05	0-0.25	Drip line	Duplicate of sample SG028-SS-04.	ND
RES-29	SG029	SS-01	0-0.25	Front yard	20 ft. 6 in. SW of SE corner of house and 38 ft. W of utility pole.	ND
RES-29	SG029	SS-02	0-0.25	Back yard	16 ft. 6 in. N of NW corner of house and 24 ft. 9 in. NW of NE corner of house.	ND
RES-29	SG029	SS-03	0-0.25	Drip line	Composite of 3 locations, 2 (1 downspout) on N side of house and 1 on S side of house.	ND
RES-30	SG030	SS-01	0-1.50	Front yard	30 ft. 10 in. SE of SW corner of house and 22 ft. SSW of SE corner of	ND

TABLE G-3

SURFACE SOILS - STUDY GROUP RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Map Location	Location Designation	Sample No.	Depth (feet BGS)	General Location	Specific Location	Total VOC (ppm)
					house.	
RES-30	SG030	SS-02	0-0.25	Back yard	32 ft. 6 in. NW of NW corner of house and 52 ft. 4 in. NW of NE corner of house.	ND
RES-30	SG030	SS-03	0-1.00	Cleared area (former garden)	36 ft. 9 in. SW of NW corner of house and 13 ft. 3 in. NW of SW corner of house.	ND
RES-30	SG030	SS-04	0-0.25	Drip line	Composite of 5 locations on all sides of house, including downspouts near front door and on NW and SE corners.	ND
RES-30	SG030	SS-05	0-0.25	Drip line	Duplicate of SG030-SS-04.	ND
RES-31	SG031	SS-01	0-0.25	Front yard	15 ft. SE of front door of house and 30 ft. NW of utility pole.	ND
RES-31	SG031	SS-02	0-0.25	Back yard	37 ft. NE of NW corner of house and 38 ft. 9 in. NW of NE corner of house.	ND
RES-31	SG031	SS-03	0-0.25	Back yard	Duplicate of SG031-SS-02.	ND
RES-31	SG031	SS-04	0-0.25	Drip line	S side of house, near SE corner.	0.00

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TABLE G-3

SURFACE SOILS - STUDY GROUP RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Map Location	Location Designation	Sample No.	Depth (feet BGS)	General Location	Specific Location	Total VOC (ppm)
RES-32	SG032	SS-01 (b)	0-0.25	Front yard	27 ft. 2 in. SE of SW corner of house and 26 ft. 4 in. S of SE corner of house.	ND
RES-32	SG032	SS-02 (b)	0-0.25	Back yard	15 ft. 8 in. NE of NW corner of house and 15 ft. 6 in. NW of NE corner of house.	ND
RES-32	SG032	SS-03	0-0.25	Drip line	Composite of 2 locations on S side of house.	ND
RES-33	SG033	SS-01	0-0.25	Front yard	19 ft. 6 in. NW of front door of house and 22 ft. 9 in. SW of utility pole.	ND
RES-33	SG033	SS-02	0-0.25	Back yard	34 ft. 6 in. SE of SW corner of house and 33 ft. SW of SE corner of house.	ND
RES-33	SG033	SS-03	0-0.25	Front yard	Duplicate of SG033-SS-01.	ND
RES-33	SG033	SS-04	0-0.25	Drip line	4 ft. from S side of house.	0.00
RES-34	SG034	SS-01	0-0.25	Front yard	16 ft. NE of front door of house and 96 ft. 3 in. SW of utility pole.	ND
RES-34	SG034	SS-02	0-0.25	Back yard	30 ft. 3 in. SE of SW	ND

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TABLE G-3

SURFACE SOILS - STUDY GROUP RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Map Location	Location Designation	Sample No.	Depth (feet BGS)	General Location	Specific Location	Total VOC (ppm)
					corner of house and 33 ft. 2 in. SW of SE corner of house.	
RES-34	SG034	SS-03	0-0.25	Front yard	Duplicate of SG034-SS-01.	ND
RES-34	SG034	SS-04	0-0.25	Back yard	Duplicate of SG034-SS-02.	ND
RES-34	SG034	SS-05	0-0.25	Drip line	5 ft. NE of NW corner of house and 139 ft. SW of utility pole.	ND
RES-34	SG034	SS-06	0-1.00	Garden	16 ft. SE of SW corner of house and 7 ft. SSW of SE corner of house.	ND

Key:

BGS = Below ground surface
ft. = Feet
in. = Inches
ND = No data
VOC = Volatile organic compounds
ppm = Parts per million above background, unfiltered
(a) = Near 55-gallon drum, oil stain, and stressed vegetation
(b) = Split samples collected for resident
(c) = Owner reported presence of 2 ft. clean fill

Source: Ecology and Environment, Inc., 1994

00159.0295

TABLE G-4

SURFACE SOILS - MOTON SCHOOL
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Location Designation	Sample No.	Depth (feet BGS)	General Location	Specific Location	Total VOC (ppm)
MS003	SS-01	0-0.25	North play set	Under tire swing.	0.00
MS004	SS-01	0-0.25	North play set	Under tire ladder.	0.00
MS005	SS-01	0-0.25	South play set	59 ft. N and 1 ft. W of SW corner of asphalt pad.	0.00
MS006	SS-01	0-0.25	South play set	36 ft. E and 1 ft. S of SW corner of asphalt pad.	0.00
MS007	SS-01	0-0.25	South side	47 ft. E and 27 ft. S of SW corner of S parking lot.	0.00
MS008	SS-01	0-0.25	West side	13 ft. W and 2 ft. S of SW corner of school building.	0.00
MS009	SS-01	0-0.25	West side	84 ft. W and 2 ft. S of SW corner of S play set.	0.00
MS010	SS-01	0-0.25	West side	140 ft. W and 15 ft. S of SW corner of S play set.	0.00
MS011	SS-01	0-0.25	West side	N of tree near NE corner of N play set.	0.00
MS011	SS-02	0-0.25	North side	Duplicate of MS011-SS-01	0.00

Key:

BGS = Below ground surface
ft. = Feet
VOC = Volatile organic compounds
ppm = Parts per million above background, unfiltered

Source: Ecology and Environment, Inc., 1994

00159.0296

TABLE G-5

SURFACE SOILS - PRESS PARK COMMUNITY CENTER
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Location Designation	Sample No.	Depth (feet BGS)	General Location	Specific Location	Total VOC (ppm)
PP013	SS-01	0-0.25	East side	Under tire swing in jungle gym, 108 ft. E of SE corner of building and 63 ft. N of street light.	2.00
PP014	SS-01	0-0.25	East side	83 ft. SE of SE corner of building and 80 ft. NE of parking lot light.	2.20
PP015	SS-01	0-0.25	East side	63 ft. NNE of street light and 71 ft. S of Benefit St. sidewalk.	2.16
PP016	SS-01	0-0.25	East side	77 ft. ENE of NE corner of building and 32 ft. S of Benefit St. sidewalk.	2.18
PP017	SS-01	0-0.25	North side	Under tree, 45 ft. NE of NW corner of building and 60 ft. NW of NE corner of building.	2.15

Key:

BGS = Below ground surface
VOC = Volatile organic compounds
ppm = Parts per million above background, unfiltered
ft. = Feet

Source: Ecology and Environment, Inc., 1994

TABLE G-6

SURFACE SOILS - OPEN BACKGROUND
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Location Designation	Sample No.	Depth (feet BGS)	General Location	Specific Location	Total VOC (ppm)
OF001	SS-01	0-0.25	Johnson Lockett Public School	31 ft. SW of SW corner of school and 54 ft. SW of SE corner of school.	ND
OF002	SS-01	0-0.25	Carver Middle School	102 ft. 3 in. SW of NE corner of fenceline and 100 ft. 11 in. SE of NW corner of fence line E of baseball field.	ND
OF003	SS-01	0-0.25	Kohn Middle School	65 ft. 5 in. N of NW corner of school and 37 ft. 2 in. SW of pole outside northern fence line.	ND
OF004	SS-01	0-0.25	John Shaw Elementary School	155 ft. 5 in. S of SW corner of playground area and 58 ft. 5 in. E of pole on W side of Music St.	ND
OF004	SS-02	0-0.25	John Shaw Elementary School	Duplicate of OF004-SS-01.	ND
OF005	SS-01	0-0.25	Capdau Jr. High School	109 ft. 6 in. SE of SE corner of play area and 93 ft. 3 in. SE of NE corner of play area, on dirt area just N of dumpster.	ND
OF006	SS-01	0-0.25	New Orleans Port Authority	16 ft. SE of N side of gate and 12 ft. NE of S side of gate (entrance gate on Alvar St.).	ND
OF007	SS-01	0-0.25	Gentilly Terrace School	65 ft. 9 in. N of green light pole and 75 SW of fence pole N of playground basketball courts.	ND

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TABLE G-6

SURFACE SOILS - OPEN BACKGROUND
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Location Designation	Sample No.	Depth (feet BGS)	General Location	Specific Location	Total VOC (ppm)
OF008	SS-01	0-0.25	Bradley Elementary School	111 ft. 3 in. N of school and 74 ft. NE of NE corner of small building N of W end of school.	ND
OF009	SS-01	0-0.25	Claiborne Elementary School	100 ft. 8 in. ENE of N corner of southernmost building (closest to Piety St.) and 25 ft. 9 in. S of pole located E of E corner of basketball courts.	ND
OF010	SS-01	0-0.25	New Orleans Sewer and Water Board	87 ft. NNW of utility pole E of Florida Ave./W of Almonaster Ave. and 230 ft. S of large concrete pipes crossing Florida Ave. Canal.	ND

Key:

BGS = Below ground surface
ft. = Feet
in. = Inches
ND = No data
VOC = Volatile organic compounds
ppm = Parts per million above background, unfiltered

Source: Ecology and Environment, Inc., 1994

TABLE G-7

SURFACE SOILS - BACKGROUND RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residenc No.	Location Designation	Sample No.	Depth (feet BGS)	General Location	Specific Location	Total VOC (ppm)
RES-26	SG026	SS-01	0-0.25	Back yard	28 ft. 2 in. NW of SW corner of house and 26 ft. 2 in. SW of NE corner of patio.	ND
RES-26	SG026	SS-02	0-0.25	Drip line	Composite of 5 locations, on N side of house, near rear section.	ND
RES-26	SG026	SS-03	0-0.25	Front yard	19 ft. E of SE corner of house and 36 ft. SE of NE corner of house.	ND
RES-26	SG026	SS-04	0-0.25	Front yard	28 ft. NE of SE corner of house and 24 ft. 9 in. SE of NE corner of house.	ND
RES-35	SG035	SS-01	0-0.25	Front yard	32 ft. 6 in. NNW of E corner of house and 20 ft. 5 in. NNE of N corner of house.	ND
RES-35	SG035	SS-02	0-0.25	Back yard	22 ft. 7 in. WSW of gate hinge and 16 ft. 6 in. N of W corner of house.	ND
RES-35	SG035	SS-03	0-0.25	Drip line	Composite of 5 locations along SE edge of house, SW of wood fence.	ND
RES-35	SG035	SS-04	0-0.25	Play area	10 ft. 8 in. NW of W corner of house and 9 ft. 6 in. N of E corner of woodshed.	ND
RES-36	SG036	SS-01	0-0.25	Front yard	20 ft. NE of N corner of house and 17 ft. 9 in. NNE of middle (NNW) corner of house.	ND

TABLE G-7

SURFACE SOILS - BACKGROUND RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residenc No.	Location Designation	Sample No.	Depth (feet BGS)	General Location	Specific Location	Total VOC (ppm)
RES-36	SG036	SS-02	0-0.25	Front yard	11 ft. 5 in. NW of middle (NNW) corner of house and 10 ft. 1 in. N of W corner of house.	ND
RES-36	SG036	SS-03	0-0.25	Back yard	12 ft. 6 in. WNW of E corner of yard and 33 ft. NE of S corner of yard.	ND
RES-36	SG036	SS-04	0-0.25	Drip line	Composite of 4 locations, one on each side of house.	ND
RES-36	SG036	SS-05	0-0.25	Drip line	Duplicate of SG036-SS-04.	ND
RES-37	SG037	SS-01	0-0.25	Front yard	19 ft. NW of W corner of house and 60 ft. 2 in. N of utility pole on S side of Warrington Drive.	ND
RES-37	SG037	SS-02	0-0.25	Side yard	30 ft. 5 in. N of W corner of house and 96 ft. 5 in. N of utility pole on S side of Warrington Drive.	ND
RES-37	SG037	SS-03	0-0.25	Drip line	E corner of house, 6 in. from wall.	ND
RES-37	SG037	SS-04	0-0.25	Back yard	25 ft. E of N corner of house and 12 ft. N of E corner of house.	ND
RES-38	SG038	SS-01	0-0.25	Front yard	22 ft. 6 in. ENE of E corner of house and 29 ft. SSW of N corner of house.	ND
RES-38	SG038	SS-02	0-0.25	Front yard	22 ft. NNE of N corner of house and 20 ft. 11 in. SSE of fire hydrant on	ND

TABLE G-7

SURFACE SOILS - BACKGROUND RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residenc No.	Location Designation	Sample No.	Depth (feet BGS)	General Location	Specific Location	Total VOC (ppm)
					corner of Fillmore and Marigny.	
RES-38	SG038	SS-03	0-0.25	Back yard	15 ft. 3 in. S of S corner of house and 39 ft. 4 in. SSE of W corner of house.	ND
RES-38	SG038	SS-04	0-0.25	Drip line	Composite of 4 locations on NW and NE sides of house.	ND

Key:

BGS = Below ground surface
ft. = Feet
in. = Inches
ND = No data
VOC = Volatile organic compounds
ppm = Parts per million above background, unfiltered

Source: Ecology and Environment, Inc., 1994

TABLE G-8

SURFACE SOILS - ADJACENT OFF-SITE AREAS
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Location Designation	Sample No.	Depth (feet)	General Location	Specific Location	Total VOC (ppm)
GL201	SS-01	0-0.25	East-southeast boundary	E side of Clouet St., 24 ft. 7 in. SSW of SW corner of 2709 Clouet St. and 62 ft. 8 in. E of fire hydrant on W side of Clouet St. Approximately 63 ft. E of landfill boundary.	0.00
GL201	SS-02	0-2.00	East-southeast boundary	Same location as GL201-SS-01.	0.00
GL202	SS-01	0-0.25	East-southeast boundary	E side of Feliciana St., 12 ft. 8 in. SSE of monitoring well MW011 and 12 ft. NE of monitoring well MW012; approximately 40 ft. E of landfill boundary.	0.00
GL202	SS-02	0-2.00	East-southeast boundary	Same location as GL202-SS-01.	0.00
GL203	SS-01	0-0.25	East-central boundary	48 ft. 9 in. NW of SW corner of 3026 Feliciana St. and 28 ft. 6 in. S of SW corner of 3032B Feliciana St.; approximately 40 ft. E of landfill boundary.	ND
GL203	SS-02	0-2.00	East-central boundary	Same location as GL203-SS-01.	ND
GL204	SS-01	0-0.25	East-central boundary	S side of Benefit St., N of Montegut St., 69 ft. 2 in. E of light pole at SW corner of Benefit and Montegut Sts.; approximately 40 ft. E of landfill boundary.	ND
GL204	SS-02	0-2.00	East-central boundary	Same location as GL204-SS-01.	ND

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TABLE G-8

SURFACE SOILS - ADJACENT OFF-SITE AREAS
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Location Designation	Sample No.	Depth (feet)	General Location	Specific Location	Total VOC (ppm)
GL205	SS-01	0-0.25	East-northeast boundary	Wooded area between Press and Montegut Sts., N of Humanity St., 39 ft. ENE of signal N of 3345 Press St. and 90 ft. SE of signal behind 3415 Press St., approximately 40 ft. E of landfill boundary.	ND
GL205	SS-02	0-2.00	East-northeast boundary	Same location as GL205-SS-01.	ND
GL205	SS-03	0-2.00	East-northeast boundary	Duplicate of GL205-SS-02.	ND
GL206	SS-01	0-0.25	North-northeast boundary	Median of Higgins Blvd., W of Press St., 75 ft. NW of 2916 Higgins Blvd. and 56 ft. N of monitoring well MW003; approximately 40 ft. N of landfill boundary.	ND
GL206	SS-02	0-2.00	North-northeast boundary	Same location as GL206-SS-01.	ND

Key:

BGS = Below ground surface
ft. = Feet
in. = Inches
ND = No data
VOC = Volatile organic compounds
ppm = Parts per million above background, unfiltered

Source: Ecology and Environment, Inc., 1994

00159.0307

TABLE G-9

SUBSURFACE SOILS - BOUNDARY WELLS
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Location Designation	Sample No.	Depth (feet BGS)	General Location	Total VOC (ppm)	Analyses
MW001	SB-01	10.0-12.0	North-central boundary	21.00	Grain size
MW002	SB-01	4.00-6.00	North-central boundary	ND	TAL
MW002	SB-02	62.0-64.0	North-central boundary	25.00	Grain size
MW003	SB-01	9.00-11.5	North-northeast boundary	50.00	Grain size
MW004	SB-01	0-5.00	North-northeast boundary	2.00	TAL
MW004	SB-02	63.0-65.0	North-northeast boundary	40.00	Grain size
MW004	SB-03	0-5.00	North-northeast boundary	0.00	EP
MW005	SB-01	9.00-11.5	East-northeast boundary	25.00	Grain size
MW006	SB-01	0-2.50	East-northeast boundary	1.00	TAL
MW006	SB-02	63.0-65.0	East-northeast boundary	50.00	Grain size
MW007	SB-01	10.0-12.5	East-northeast boundary	60.00	Grain size
MW008	SB-01	2.50-5.00	East-northeast boundary	100.00	TAL
MW008	SB-02	2.50-5.00	East-northeast boundary	100.00	TAL
MW008	SB-03	65.0-67.0	East-northeast boundary	0.00	Grain size
MW009	SB-01	9.00-11.5	East-central boundary	100.00	Grain size
MW010	SB-01	7.50-10.0	East-central boundary	ND	TAL
MW010	SB-02	57.5-59.5	East-central boundary	550.00	Grain size

00159.0308

TABLE G-9

SUBSURFACE SOILS - BOUNDARY WELLS
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Location Designation	Sample No.	Depth (feet BGS)	General Location	Total VOC (ppm)	Analyses
MW011	SB-01	9.00-11.5	East-southeast boundary	400.00	Grain size
MW012	SB-01	5.00-7.50	East-southeast boundary	60.00	TAL
MW012	SB-02	60.0-62.5	East-southeast boundary	200.00	Grain size
MW013	SB-01	11.0-13.0	East-southeast boundary	10.00	Grain size
MW014	SB-01	4.00-6.50	East-southeast boundary	90.00	TAL
MW014	SB-02	60.0-62.0	East-southeast boundary	100.00	Grain size
MW015	SB-01	9.00-11.5	South-southeast boundary	3.00	Grain size
MW016	SB-01	5.00-7.50	South-southeast boundary	1.00	TAL
MW016	SB-02	60.0-62.0	South-southeast boundary	ND	Grain size
MW017	SB-01	9.00-11.5	South-central boundary	10.00	Grain size
MW018	SB-01	11.5-14.0	South-central boundary	200.00	TAL
MW018	SB-02	55.0-57.5	South-central boundary	150.00	Grain size
MW019	SB-01	13.0-14.0	Southwest boundary	20.00	Grain size
MW020	SB-01	4.00-6.00	Southwest boundary	0.00	TAL
MW020	SB-02	60.0-62.5	Southwest boundary	12.00	Grain size
MW021	SB-01	9.00-11.0	West-southwest boundary	ND	Grain size
MW022	SB-01	0-2.50	West-southwest boundary	0.00	TAL

00159.0309

TABLE G-9

SUBSURFACE SOILS - BOUNDARY WELLS
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Location Designation	Sample No.	Depth (feet BGS)	General Location	Total VOC (ppm)	Analyses
MW022	SB-02	65.0-67.0	West-southwest boundary	100.00	Grain size
MW023	SB-01	10.0-12.5	West-central boundary	100.00	Grain size
MW024	SB-01	6.00-8.00	West-central boundary	ND	TAL
MW024	SB-02	72.0-74.0	West-central boundary	10.00	Grain size, EP
MW025	SB-01	9.00-11.5	West-northwest boundary	0.00	Grain size
MW026	SB-01	2.00-4.00	West-northwest boundary	0.00	TAL
MW026	SB-02	70.0-72.5	West-northwest boundary	350.00	Grain size

Key:

BGS = Below ground surface
EP = Engineering parameters
TAL = Target Analyte List inorganics
TP = Triaxial permeability
ND = No data
VOC = Volatile organic compounds
ppm = Parts per million above background, unfiltered
Note: See Appendix Q for XRF metals sampling depths

Source: Ecology and Environment, Inc., 1994

00159.0311

TABLE G-10

SUBSURFACE SOILS - TEST PITS
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Location Designation	Sample No.	Depth (feet BGS)	General Location	Total VOC (ppm)	Redox Potential (mV)	Comments
TP001	TS-01	4.00	Undeveloped landfill	0.00	242.00	Fill materials (to 6 ft. BGS).
TP001	TS-02	7.00	Undeveloped landfill	0.00	226.00	Gray clay with some ash; groundwater at about 6 ft. BGS.
TP002	TS-01	4.00	Undeveloped landfill	0.00	205.00	Fill materials.
TP002	TS-02	7.00	Undeveloped landfill	40.00	190.00	Black ash with strong diesel odor; OVA = 50 ppm in excavation (groundwater at about 8 ft. BGS).
TP003	TS-01	6.00	Undeveloped landfill	0.00	195.00	Fill materials with tar-like clumps emitting hydrocarbon odor.
TP003	TS-02	15.0	Undeveloped landfill	50.00	171.00	Fill materials in black layer, OVA = 10 ppm from excavation; no groundwater encountered.
TP004	TS-01	4.00	Undeveloped landfill	500.00	163.00	Compact layer of cinder and ash.
TP004	TS-02	8.50	Undeveloped landfill	0.00	173.00	Fill materials, wet brown soil covered with black liquid; groundwater at about 8.5 ft. BGS.

TABLE G-10

SUBSURFACE SOILS - TEST PITS
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Location Designation	Sample No.	Depth (feet BGS)	General Location	Total VOC (ppm)	Redox Potential (mV)	Comments
TP005	TS-01	9.00	Undeveloped landfill	0.00	282.00	Fill materials, black ash.
TP005	TS-02	13.0	Undeveloped landfill	10.00	234.00	Black ash; groundwater at about 12 ft. BGS.

Key:

BGS = Below ground surface
mV = Millivolts
ft. = Feet
VOC = Volatile organic compounds
ppm = Parts per million above background, unfiltered

Source: Ecology and Environment, Inc., 1994

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TABLE G-11

SUBSURFACE SOILS - INTERIOR BORINGS AND MONITORING WELLS
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Location Designation	Sample No.	Depth (feet BGS)	General Location	Total VOC (ppm)	Analyses
BL004	SB-01	0-5.00	Northern interior	ND	TAL, TCL, Dioxin
BL004	SB-02	17.5-20.0	Northern interior	ND	TAL, TCL, Dioxin
BL005	SB-01	2.50-5.00	Northwestern interior (median of Almonaster Ave.)	20.00	TAL, TCL, Dioxin
BL005	SB-02	17.5-20.0	Northwestern interior (median of Almonaster Ave.)	100.00	TAL, TCL, Dioxin
BL006	SB-01	6.00-10.0	West-central interior near former recycling building	30.00	TAL, TCL, Dioxin, EP
BL006	SB-02	20.0-22.5	West-central interior near former recycling building	5.00	TAL, TCL, Dioxin
BL007	SB-01	7.5-10.0	West-central interior near former recycling building	40.00	TAL, TCL, Dioxin, EP
BL007	SB-02	20.0-22.5	West-central interior near former recycling building	100.00	TAL, TCL, Dioxin, EP
MW027	SB-01	0-3.00	Northern interior	1.00	EP
MW027	SB-02	5.00-6.00	Northern interior	ND	EP
MW027	SB-03	10.0-12.0	Northern interior	220.00	EP
MW027	SB-04	10.0-12.0	Northern interior	220.00	Grain size
MW028	SB-01	0-2.50	Northern interior	0.00	TAL, TCL, Dioxin
MW028	SB-02	10.0-12.5	Northern interior	100.00	TAL, TCL, Dioxin

TABLE G-11

SUBSURFACE SOILS - INTERIOR BORINGS AND MONITORING WELLS
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Location Designation	Sample No.	Depth (feet BGS)	General Location	Total VOC (ppm)	Analyses
MW028	SB-03	2.50-5.00	Northern interior	0.00	RCRA
MW028	SB-04	65.0-67.0	Northern interior	10.00	Grain size
MW028	SB-06	32.5-35.0	Northern interior	100.00	EP
MW029	SB-01	12.5-15.0	Northeastern interior; south of Press Park Community Center	100.00	Grain size
MW030	SB-01	2.50-7.50	Northeastern interior; south of Press Park Community Center	0.00	TAL, TCL, Dioxin
MW030	SB-02	22.5-25.0	Northeastern interior; south of Press Park Community Center	0.00	TAL, TCL, Dioxin
MW030	SB-03	2.50-7.50	Northeastern interior; south of Press Park Community Center	0.00	RCRA
MW030	SB-04	62.5-65.0	Northeastern interior; south of Press Park Community Center	200.00	Grain size
MW030	SB-05	22.5-25.0	Northeastern interior; south of Press Park Community Center	0.00	TAL, TCL, Dioxin
MW031	SB-01	5.00-7.50	Central interior; south side of Abundance St.	10.00	EP, RCRA
MW031	SB-02	5.00-7.50	Central interior; south side of Abundance St.	10.00	Grain size
MW032	SB-01	0-5.00	Central interior; south side of Abundance St.	1.00	TAL, TCL, Dioxin

TABLE G-11

SUBSURFACE SOILS - INTERIOR BORINGS AND MONITORING WELLS
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Location Designation	Sample No.	Depth (feet BGS)	General Location	Total VOC (ppm)	Analyses
MW032	SB-02	14.0-16.0	Central interior; south side of Abundance St.	70.00	TAL, TCL, Dioxin
MW032	SB-03	32.0-34.0	Central interior; south side of Abundance St.	ND	EP
MW032	SB-05	62.0-64.0	Central interior; south side of Abundance St.	180.00	Grain size
MW033	SB-02	12.5-15.0	Southeastern interior; north side of Industry St.	30.00	Grain size
MW034	SB-01	2.50-5.00	Southeastern interior; north side of Industry St.	0.00	TAL, TCL, Dioxin
MW034	SB-02	20.0-22.5	Southeastern interior; north side of Industry St.	10.00	TAL, TCL, Dioxin
MW034	SB-03	2.50-5.00	Southeastern interior; north side of Industry St.	0.00	RCRA
MW034	SB-04	65.0-67.5	Southeastern interior; north side of Industry St.	5.00	Grain size
MW034	SB-05	20.0-22.5	Southeastern interior; north side of Industry St.	5.00	EP
MW036	SB-01	4.00-6.50	Southeastern interior; south of Moton Elementary School (suspected lagoon)	1000.00	TAL, TCL, Dioxin
MW036	SB-02	6.50-9.00	Southeastern interior; south of Moton Elementary School	1000.00	TAL, TCL, Dioxin

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TABLE G-11

SUBSURFACE SOILS - INTERIOR BORINGS AND MONITORING WELLS
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Location Designation	Sample No.	Depth (feet BGS)	General Location	Total VOC (ppm)	Analyses
			(suspected lagoon)		
MW036	SB-03	4.00-6.50	Southeastern interior; south of Moton Elementary School (suspected lagoon)	1000.00	RCRA
MW036	SB-04	0-9.00	Southeastern interior; south of Moton Elementary School (suspected lagoon)	1000.00	EP, Grain size
MW038	SB-01	0-5.00	West-central interior (suspected lagoon)	100.00	TAL, TCL, Dioxin
MW038	SB-02	6.00-7.00	West-central interior (suspected lagoon)	1000.00	TAL, TCL, Dioxin
MW038	SB-03	0-5.00	West-central interior (suspected lagoon)	100.00	RCRA
MW038	SB-04	0-6.00	West-central interior (suspected lagoon)	100.00	EP
MW038	SB-05	10.0-12.0	West-central interior (suspected lagoon)	48.00	Grain size
MW040	SB-01	0-5.00	Southwestern interior (suspected lagoon)	ND	TAL, TCL, Dioxin
MW040	SB-02	7.00-9.00	Southwestern interior (suspected lagoon)	ND	TAL, TCL, Dioxin
MW040	SB-03	0-5.00	Southwestern interior (suspected lagoon)	ND	RCRA

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TABLE G-11

SUBSURFACE SOILS - INTERIOR BORINGS AND MONITORING WELLS
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Location Designation	Sample No.	Depth (feet BGS)	General Location	Total VOC (ppm)	Analyses
MW040	SB-05	10.0-15.0	Southwestern interior (suspected lagoon)	ND	Grain size
MW046	SB-01	0-2.00	West-central interior; near former recycling building (suspected lagoon)	150.00	TAL, TCL, Dioxin
MW046	SB-02	8.00-9.00	West-central interior; near former recycling building (suspected lagoon)	140.00	TAL, TCL, Dioxin
MW046	SB-03	4.00-8.00	West-central interior; near former recycling building (suspected lagoon)	60.00	RCRA
MW046	SB-05	8.00-9.00	West-central interior; near former recycling building (suspected lagoon)	140.00	Grain size

Key:

BGS = Below ground surface
ND = No data
EP = Engineering parameters; TP = Triaxial permeability; RCRA = RCRA characteristics
VOC = Volatile organic compounds
ppm = Parts per million above background, unfiltered
TAL = Target Analyte List inorganics; TCL = Target compound list organics

Source: Ecology and Environment, Inc., 1994

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TABLE G-12

SUBSURFACE SOILS - STUDY GROUP RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Sample No.	Depth (feet BGS)	General Location	Specific Location	Total VOC (ppm)
RES-01	SG001	SB-01	0.25-2.00	Back yard	56 ft. NW of SW corner and 29 ft. W of SE corner of house.	3.00
RES-01	SG001	SB-02	2.00-4.00	Back yard	56 ft. NW of SW corner and 29 ft. W of SE corner of house.	3.00
RES-01	SG001	SB-10	2.00	Front yard	28 ft. 9 in. E of NE corner of house and 25 ft. 10 in. NE of middle corner on E side of house.	2.00
RES-01	SG001	SB-11	5.00	Front yard	Same as SG001-SB-10.	400.00
RES-02	SG002	SB-01	2.00	Front yard	21 ft. SE of SE corner of garage, on the line connecting SE corner of garage and utility pole.	0.85
RES-02	SG002	SB-02	2.00-3.00	Front yard	Same as SG002-SB-01.	1.50
RES-03	SG003	SB-01	2.00	Front yard	15 ft. 9 in. E of NE corner of house and 13 ft. 4 in. NE of SE corner of drainage gutter.	2.86
RES-03	SG003	SB-02	5.00	Front yard	Same as SG003-SB-01.	6.30
RES-04	SG004	SB-01 (b)	2.00	Front yard	14 ft. 10 in. SE of SE corner of house and 49 ft. 5 in. NW of utility pole.	0.00
RES-04	SG004	SB-02 (b)	5.00	Front yard	Same as SG004-SB-01.	0.00
RES-05	SG005	SB-01	2.00	Front yard	12 ft. NW of NW corner of house and 16 ft. 6 in. NE of NW fence post.	0.76

TABLE G-12

SUBSURFACE SOILS - STUDY GROUP RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Sample No.	Depth (feet BGS)	General Location	Specific Location	Total VOC (ppm)
RES-05	SG005	SB-02	5.00	Front yard	Same as SG005-SB-01.	0.76
RES-06	SG006	SB-01	2.00	Front yard	36 ft. 5 in. SSE of NE corner of Building 3236 and 46 ft. 9 in. SSW of utility pole.	0.16
RES-06	SG006	SB-02	5.00	Front yard	Same as SG006-SB-01.	0.00
RES-07	SG007	SB-01	2.00	Front yard	9 ft. 2 in. NNE of NW corner of house and 22 ft. 10 in. SW of utility pole.	0.20
RES-07	SG007	SB-02	5.00	Front yard	Same as SG007-SB-01.	0.30
RES-08	SG008	SB-01	2.00	Front yard	4 ft. N of NE corner of house and 24 ft. S of utility pole.	6.12
RES-08	SG008	SB-02	5.00	Front yard	Same as SG008-SB-01.	5.62
RES-08	SG008	SB-03	5.00	Front yard	Duplicate of SG008-SB-02	5.62
RES-09	SG009	SB-01	2.00	Front yard	17 ft. NW of NE corner of house and 33 ft. 8 in. SE of utility pole.	1.00
RES-09	SG009	SB-02	5.00	Front yard	Same as SG009-SB-01.	1.00
RES-10	SG010	SB-01	2.00	Front yard	10 ft. ENE of SE corner of house and 16 ft. 7 in. SE of NE corner of house.	ND
RES-10	SG010	SB-02	5.00	Front yard	Same as SG010-SB-01.	ND

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TABLE G-12

SUBSURFACE SOILS - STUDY GROUP RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Sample No.	Depth (feet BGS)	General Location	Specific Location	Total VOC (ppm)
RES-11	SG011	SB-01 (a)	2.00	North yard	10 ft. 5 in. NNW of NE corner of Building 3271 and 18 ft. 11 in. NW of utility pole.	1.00
RES-11	SG011	SB-02 (a)	2.00-3.58	North yard	Same as SG011-SB-01.	1000.00
RES-12	SG012	SB-01	2.00	Front yard	18 ft. 8 in. NW of SW corner of house and 53 ft. SSE of utility pole.	1.00
RES-12	SG012	SB-02	5.00	Front yard	Same as SG012-SB-01.	6.00
RES-13	SG013	SB-01	2.00	Front yard	27 ft. 8 in. E of water tap on S side of house and 4 ft. 7 in. SE of NW corner of house.	60.00
RES-13	SG013	SB-02	5.00	Front yard	Same as SG013-SB-01.	ND
RES-14	SG014	SB-01 (b)	2.00	Front yard	13 ft. SW of NW corner of house and 19 ft. NW of SW corner of house.	10.00
RES-14	SG014	SB-02 (b)	5.00	Front yard	Same as SG014-SB-01.	50.00
RES-15	SG015	SB-01	2.00	Front yard	21 ft. 6 in. NE of SE corner of house and 28 ft. SE of NE corner of house.	0.10
RES-15	SG015	SB-02	5.00	Front yard	Same as SG015-SB-01.	82.79
RES-15	SG015	SB-03	5.00	Front yard	Duplicate of SG015-SB-02.	82.79
RES-16	SG016	SB-01	2.00	Front yard	16 ft. 4 in. SE of SW corner of	1.00

TABLE G-12

SUBSURFACE SOILS - STUDY GROUP RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Sample No.	Depth (feet BGS)	General Location	Specific Location	Total VOC (ppm)
					house and 25 ft. 7 in. SW of SE corner of doorbay.	
RES-16	SG016	SB-02	5.00	Front yard	Same as SG016-SB-01.	600.00
RES-17	SG017	SB-01	2.00	Front yard	45 ft. SE of SW corner of house and 46 ft. 10 in. SSW of SE corner of house.	0.00
RES-17	SG017	SB-02	5.00	Front yard	Same as SG017-SB-01.	7.00
RES-18	SG018	SB-01	2.00	Front yard	22 ft. 2 in. NW of NE corner of Building 3119 and 15 ft. 6 in. NE of NW corner of house.	10.00
RES-18	SG018	SB-02	5.00	Front yard	Same as SG018-SB-01.	800.00
RES-19	SG019	SB-01	2.00	Front yard	7 ft. 2 in. SE of SW corner of house and 16 ft. 10 in. SW of SE corner of house.	0.00
RES-19	SG019	SB-02	5.00	Front yard	Same as SG019-SB-01.	500.00
RES-20	SG020	SB-01	2.00	Front yard	13 ft. 11 in. NW of NE corner of house and 5 ft. 10 in. NE of NW corner of house.	6.00
RES-20	SG020	SB-02	5.00	Front yard	Same as SG020-SB-01.	8.00
RES-20	SG020	SB-03	5.00	Front yard	Duplicate of SG020-SB-02.	8.00
RES-21	SG021	SB-01 (b)	2.00	Front yard	25 ft. 10 in. NE of SE corner of house and 22 ft. SE of NE corner	1.00

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TABLE G-12

SUBSURFACE SOILS - STUDY GROUP RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Sample No.	Depth (feet BGS)	General Location	Specific Location	Total VOC (ppm)
					of house.	
RES-21	SG021	SB-02 (b)	5.00	Front yard	Same as SG021-SB-01.	8.00
RES-22	SG022	SB-01	2.00	Front yard	22 ft. SW of SE corner of house and 35 ft. 10 in. SE of SW corner of house.	2.00
RES-22	SG022	SB-02	5.00	Front yard	Same as SG022-SB-01.	600.00
RES-23	SG023	SB-01 (b)	2.00	Front yard	20 ft. 10 in. NW of NE corner of house and 16 ft. 4 in. NE of NW corner of house.	0.00
RES-23	SG023	SB-02 (b)	5.00	Front yard	Same as SG023-SB-01.	1000.00
RES-24	SG024	SB-01 (b)	2.00	Front yard	8 ft. NNW of NE corner of house and 14 ft. NE of NW corner.	0.00
RES-24	SG024	SB-02 (b)	5.00	Front yard	Same as SG024-SB-01.	0.00
RES-25	SG025	SB-01	2.00	Front yard	56 ft. 9 in. SE of SW corner of house and 37 ft. 9 in. SE of SE corner of house.	0.00
RES-25	SG025	SB-02	5.00	Front yard	Same as SG025-SB-01.	30.00
RES-25	SG025	SB-03	2.00	Front yard	Duplicate of SG025-SB-02.	30.00
RES-27	SG027	SB-01	2.00	Front yard	27 ft. 9 in. SE of SW corner of house and 25 ft. 2 in. SW of SE corner of house.	2.00

TABLE G-12

SUBSURFACE SOILS - STUDY GROUP RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Sample No.	Depth (feet BGS)	General Location	Specific Location	Total VOC (ppm)
RES-27	SG027	SB-02	5.00	Front yard	Same as SG027-SB-01.	0.00
RES-28	SG028	SB-01 (b)	2.00	Front yard	20 ft. 4 in. NW of NE corner of house and 25 ft. 6 in. NE of NW corner of house.	0.00
RES-28	SG028	SB-02 (b)	2.00-3.42	Front yard	Same as SG028-SB-01.	170.00
RES-29	SG029	SB-01	2.00	Front yard	20 ft. 6 in. SW of SE corner of house and 38 ft. W of utility pole.	3.00
RES-29	SG029	SB-02	5.00	Front yard	Same as SG029-SB-01.	30.00
RES-29	SG029	SB-03	5.00	Front yard	Duplicate of SG029-SB-02.	30.00
RES-30	SG030	SB-01	2.00	Front yard	30 ft. 10 in. SE of SW corner of house and 22 ft. SSW of SE corner.	9.00
RES-30	SG030	SB-02	5.00	Front yard	Same as SG030-SB-01.	15.00
RES-31	SG031	SB-01	2.00	Front yard	15 ft. SE of front door of house and 30 ft. NW of utility pole.	5.00
RES-31	SG031	SB-02	5.00	Front yard	Same as SG031-SB-01.	45.00
RES-31	SG031	SB-03	5.00	Front yard	Duplicate of SG031-SB-02.	45.00
RES-32	SG032	SB-01 (b)	2.00	Front yard	27 ft. 2 in. SE of SW corner of house and 26 ft. 4 in. of SE corner.	0.00
RES-32	SG032	SB-02 (b)	5.00	Front yard	Same as SG032-SB-01.	3.00

TABLE G-12

SUBSURFACE SOILS - STUDY GROUP RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Sample No.	Depth (feet BGS)	General Location	Specific Location	Total VOC (ppm)
RES-33	SG033	SB-01	2.00	Front yard	19 ft. 6 in. NW of front door of house and 22 ft. 9 in. SW of utility pole.	20.00
RES-33	SG033	SB-02	5.00	Front yard	Same as SG033-SB-01.	45.00
RES-33	SG033	SB-03	5.00	Front yard	Duplicate of SG033-SB-02.	45.00
RES-34	SG034	SB-01	2.00	Front yard	16 ft. NE of front door of house and 96 ft. 3 in. SW of utility pole.	10.00
RES-34	SG034	SB-02	5.00	Front yard	Same as SG034-SB-01.	1000.00

Key:

BGS = Below ground surface
ft. = Feet
in. = Inches
VOC = Volatile organic compounds
ppm = Parts per million above background, unfiltered
ND = No data
(a) = Near 55-gallon drum, oil stain, and stressed vegetation
(b) = Split samples collected at request of resident

Source: Ecology and Environment, Inc., 1994

TABLE G-13

SUBSURFACE SOILS - MOTON ELEMENTARY SCHOOL
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Location Designation	Sample No.	Depth (feet BGS)	General Location	Specific Location	Total VOC (ppm)
MS013	SB-01	2.00	North side	33 ft. NE of telephone pole W of front steps and 52 ft. S of pillar.	ND
MS013	SB-02	5.00	North side	Same as MS013-SB-01.	ND
MS014	SB-01	2.00	South side	South yard fence in line with speaker on school building.	ND
MS014	SB-02	5.00	South side	Same as MS014-SB-01.	ND
MS015	SB-01	2.00	East side	31 ft. ESE of SE corner of building.	ND
MS015	SB-02	5.00	East side	Same as MS015-SB-01.	ND
MS016	SB-01	2.00	West side	73 ft. W of light and 60 ft. S of N play set.	ND
MS016	SB-02	2.00-5.00	West side	Same as MS016-SB-01.	ND

Key:

BGS = Below ground surface
VOC = Volatile organic compounds
ppm = Parts per million above background, unfiltered
ND = No data

Source: Ecology and Environment, Inc., 1994

TABLE G-14

SUBSURFACE SOILS - OPEN LAND BACKGROUND
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Location Designation	Sample No.	Depth (feet)	General Location	Specific Location	Total VOC (ppm)
OF001	SB-01	2.00	Johnson Lockett Public School	31 ft. SW of SW corner of school and 54 ft. SW of SE corner of school.	5.00
OF001	SB-02	5.00	Johnson Lockett Public School	Same as OF001-SB-01.	6.00
OF002	SB-01	2.00	Carver Middle School	102 ft. 3 in. SW of NE corner of fenceline and 100 ft. 11 in. SE of NW corner of fence line E of baseball field.	0.00
OF002	SB-02	5.00	Carver Middle School	Same as OF002-SB-01.	3.00
OF003	SB-01	2.00	Kohn Middle School	65 ft. 5 in. N of the NW corner of school and 37 ft. 2 in. SW of the pole outside northern fence line.	0.00
OF003	SB-02	5.00	Kohn Middle School	Same as OF003-SB-01.	0.00
OF004	SB-01	2.00	John Shaw Elementary School	155 ft. 5 in. S of SW corner of playground area and 58 ft. 5 in. E of pole on W side of Music St..	0.00
OF004	SB-02	2.00	John Shaw Elementary School	Same as OF004-SB-01.	0.00
OF005	SB-01	2.00	Capdau Jr. High School	109 ft. 6 in. SE of SE corner of play area and 93 ft. 3 in. SE of NE corner of play area, on dirt area just N of dumpster.	0.00

TABLE G-14

SUBSURFACE SOILS - OPEN LAND BACKGROUND
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Location Designation	Sample No.	Depth (feet)	General Location	Specific Location	Total VOC (ppm)
OF005	SB-02	5.00	Capdau Jr. High School	Same as OF005-SB-01.	0.00
OF005	SB-03	5.00	Capdau Jr. High School	Duplicate of OF005-SB-02.	0.00
OF006	SB-01	2.00	New Orleans Port Authority	16 ft. SE of N side of gate and 12 ft. NE of S side of gate entrance (gate on Alvar St.).	0.00
OF006	SB-02	5.00	New Orleans Port Authority	Same as OF006-SB-01.	0.00
OF006	SB-04	5.00	New Orleans Port Authority	Duplicate of OF006-SB-02.	0.00
OF007	SB-01	2.00	Gentilly Terrace School	65 ft. 9 in. N of green light pole and 75 SW of fence pole N of playground basketball courts.	0.00
OF007	SB-02	5.00	Gentilly Terrace School	Same as OF007-SB-01.	0.00
OF008	SB-01	2.00	Bradley Elementary School	111 ft. 3 in. N of school and 74 ft. NE of NE corner of small building N of W end of school.	0.00
OF008	SB-02	5.00	Bradley Elementary School	Same as OF008-SB-01.	0.00
OF009	SB-01	2.00	Claiborne Elementary School	100 ft. 8 in. ENE of N corner of southernmost building (closest to Piety	0.00

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TABLE G-14

SUBSURFACE SOILS - OPEN LAND BACKGROUND
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Location Designation	Sample No.	Depth (feet)	General Location	Specific Location	Total VOC (ppm)
				St.) and 25 ft. 9 in. S of pole located E of E corner of basketball courts.	
OF009	SB-02	2.00-3.50	Claiborne Elementary School	Same as OF009-SB-01.	2.00
OF010	SB-01	2.00	New Orleans Sewer and Water Board	87 ft. NNW of utility pole E of Florida Ave./W of Almonaster Ave. and 230 ft. S of large concrete pipes crossing Florida Ave. Canal.	0.00
OF010	SB-02	5.00	New Orleans Sewer and Water Board	Same as OF010-SB-01.	0.00

Key:

BGS = below ground surface
ft. = Feet
in. = Inches
VOC = Volatile organic compounds
ppm = Parts per million above background, unfiltered

Source: Ecology and Environment, Inc., 1994

00159.0332

TABLE G-15

SUBSURFACE SOILS - BACKGROUND RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Sample No.	Depth (feet BGS)	General Location	Specific Location	Total VOC (ppm)
RES-26	SG026	SB-01	1.50-2.50	Front yard	19 ft. E of SE corner of house and 36 ft. SE of NE corner of house.	0.00
RES-26	SG026	SB-02	4.50-5.50	Front yard	Same as SG026-SB-01.	0.00
RES-26	SG026	SB-03	2.00	Front yard	28 ft. NE of SE corner of house and 24 ft. 9 in. SE of NE corner of house.	0.00
RES-26	SG026	SB-04	5.00	Front yard	Same as SG026-SB-03.	0.60
RES-35	SG035	SB-01	2.00	Front yard	32 ft. 6 in. NNW of E corner of house and 20 ft. 3 in. NNE of N corner of house.	0.00
RES-35	SG035	SB-02	5.00	Front yard	Same as SG035-SB-01.	1.50
RES-35	SG035	SB-03	2.00	Front yard	22 ft. 7 in. WSW of gate hinge and 16 ft. 6 in. N of W corner of house.	6.00
RES-35	SG035	SB-04	5.00	Front yard	Same as SG035-SB-03.	50.00
RES-36	SG036	SB-01	2.00	Front yard	20 ft. N and N corner of house and 17 ft. 9 in. NNE of middle (NNW) corner of house.	0.00
RES-36	SG036	SB-02	5.00	Front yard	Same as SG036-SB-01.	6.00

TABLE G-15

SUBSURFACE SOILS - BACKGROUND RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Sample No.	Depth (feet BGS)	General Location	Specific Location	Total VOC (ppm)
RES-36	SG036	SB-03	2.00	Front yard	11 ft. 5 in. NW of middle (NNW) corner of house and 10 ft. 1 in. N of W corner of house.	0.00
RES-36	SG036	SB-04	5.00	Front yard	Same as SG036-SB-03.	4.00
RES-37	SG037	SB-01	2.00	Front yard	19 ft. NW of W corner of house and 60 ft. 2 in. N of utility pole on S side of Warrington Drive.	0.00
RES-37	SG037	SB-02	5.00	Front yard	Same as SG037-SB-01.	0.00
RES-37	SG037	SB-03	2.00	Side yard	30 ft. 5 in. N of W corner of house and 96 ft. 5 in. N of utility pole on S side of Warrington Drive.	0.00
RES-37	SG037	SB-04	5.00	Side yard	Same as SG037-SB-03.	0.00
RES-38	SG038	SB-01	2.00	Front yard	22 ft. 6 in. ENE of E corner of house and 29 ft. SSW of N corner of house.	0.00
RES-38	SG038	SB-02	5.00	Front yard	Same as SG038-SB-01.	0.00
RES-38	SG038	SB-03	2.00	Front yard	22 ft. NNE of N corner of house and 20 ft. 11 in. SSE of fire hydrant on corner of Fillmore and Marigny.	0.00

00159.0335

TABLE G-15

SUBSURFACE SOILS - BACKGROUND RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Sample No.	Depth (feet BGS)	General Location	Specific Location	Total VOC (ppm)
RES-38	SG038	SB-04	5.00	Front yard	Same as SG038-SB-03.	0.00

Key:

BGS = Below ground surface
ft. = Feet
in. = Inches
VOC = Volatile organic compounds
ppm = Parts per million above background, unfiltered

Source: Ecology and Environment, Inc., 1994

TABLE G-16

SUBSURFACE SOILS - BACKGROUND WELLS
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Location Designation	Sample No.	Depth (feet BGS)	General Location	Total VOC (ppm)	Analyses
MW041	SB-01	9.00-11.5	W of Peoples Ave. Canal	0	Grain size
MW042	SB-01	4.00-6.50	W of Peoples Ave. Canal	0	TAL
MW042	SB-02	60.0-62.5	W of Peoples Ave. Canal	0	Grain size
MW043	SB-01	9.00-11.5	S of Florida Ave. Canal	0	Grain size
MW044	SB-01	9.00-11.5	S of Florida Ave. Canal	0	TAL
MW044	SB-02	57.5-60.0	S of Florida Ave. Canal	200.000	Grain size

Key:

BGS = Below ground surface
VOC = Volatile organic compounds
ppm = Parts per million above background, unfiltered
TAL = Target Analyte List inorganics
Note: See Appendix Q for XRF metals sampling depths

Source: Ecology and Environment, Inc., 1994

00159.0338

TABLE G-17

SUBSURFACE SOILS - ALMONASTER/HIGGINS BORINGS
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Location Designation	Sample No.	Depth (feet BGS)	General Location	Specific Location	Total VOC (ppm)	Analyses
BL001	SB-01	4.00-5.00	Almonaster/Higgins	Empty lot next to 104 Liberty Terrace.	0.00	TAL, TCL, Dioxin
BL002	SB-01	0-5.00	Almonaster/Higgins	Field N of Almonaster/Higgins housing development and S of new sewer lines.	0.00	TAL, TCL, Dioxin
BL003	SB-01	0-5.00	Almonaster/Higgins	Field N of Almonaster/Higgins housing development and S of new sewer lines.	0.00	TAL, TCL, Dioxin

Key:

BGS = Below ground surface
VOC = Volatile organic compounds
ppm = Parts per million above background, unfiltered
TAL = Target analyte list inorganics
TCL = Target compound list organics

Note: See Appendix Q for XRF metals sampling depths

Source: Ecology and Environment, Inc., 1994

00159.0341

TABLE G-18

GROUNDWATER - SHALLOW ZONE WELLS
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Location Designation	Sample No.	Depth (feet BGS) (a)	General Location	Total VOC (ppm)	Metals Filtered/ Unfiltered
MW001	GW-01	6-16 (16.5)	North-central boundary	100.00	Unfiltered
MW001	GW-02	6-16 (16.5)	North-central boundary	100.00	Filtered
MW003	GW-01	5-15 (15.5)	North-northeast boundary	0.00	Unfiltered
MW003	GW-02	5-15 (15.5)	North-northeast boundary	0.00	Filtered
MW005	GW-01	5-15 (15.5)	East-northeast boundary	0.00	Unfiltered
MW005	GW-02	5-15 (15.5)	East-northeast boundary	0.00	Filtered
MW007	GW-01	5-15 (15.4)	East-northeast boundary	3.00	Unfiltered
MW007	GW-02	5-15 (15.4)	East-northeast boundary	3.00	Filtered
MW009	GW-01	5-15 (15.5)	East-central boundary	15.00	Unfiltered
MW009	GW-02	5-15 (15.5)	East-central boundary	15.00	Filtered
MW011	GW-01	5-15 (15.6)	East-southeast boundary	6.00	Unfiltered
MW011	GW-02	5-15 (15.6)	East-southeast boundary	6.00	Filtered
MW013	GW-01	7-17 (17.5)	East-southeast boundary	5.00	Unfiltered
MW013	GW-02	7-17 (17.5)	East-southeast boundary	5.00	Filtered
MW015	GW-01	5-15 (15.5)	South-southeast boundary	0.00	Unfiltered
MW015	GW-02	5-15 (15.5)	South-southeast boundary	0.00	Filtered
MW017	GW-01	5-15 (15.5)	South-central boundary	0.00	Unfiltered
MW017	GW-02	5-15 (15.5)	South-central boundary	0.00	Filtered
MW019	GW-01	4-14 (15)	Southwest boundary	1000.00	Unfiltered

00159.0342

TABLE G-18

GROUNDWATER - SHALLOW ZONE WELLS
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Location Designation	Sample No.	Depth (feet BGS) (a)	General Location	Total VOC (ppm)	Metals Filtered/ Unfiltered
MW019	GW-02	4-14 (15)	Southwest boundary	1000.00	Filtered
MW021	GW-01	4-14 (14.5)	West-southwest boundary	300.00	Unfiltered
MW021	GW-02	4-14 (14.5)	West-southwest boundary	300.00	Filtered
MW023	GW-01	5-15 (15.5)	West-central boundary	0.00	Unfiltered
MW023	GW-02	5-15 (15.5)	West-central boundary	0.00	Filtered
MW025	GW-01	5-15 (15.5)	West-northwest boundary	1000.00	Unfiltered
MW025	GW-02	5-15 (15.5)	West-northwest boundary	1000.00	Filtered
MW027	GW-01	4-14 (15)	Northern interior	0.00	Unfiltered
MW027	GW-02	4-14 (15)	Northern interior	0.00	Filtered
MW029	GW-01	5-15 (15.5)	North-eastern interior; south of Press Park Community Center	1000.00	Unfiltered
MW029	GW-02	5-15 (15.5)	North-eastern interior; south of Press Park Community Center	1000.00	Filtered
MW031	GW-01	5-15 (15.5)	Central interior; south side of Abundance St.	0.00	Unfiltered
MW031	GW-02	5-15 (15.5)	Central interior; south side of Abundance St.	0.00	Filtered
MW033	GW-01	5-15 (15.5)	South-eastern interior; north side of Industry St.	2.00	Unfiltered

00159.0343

TABLE G-18

GROUNDWATER - SHALLOW ZONE WELLS
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Location Designation	Sample No.	Depth (feet BGS) (a)	General Location	Total VOC (ppm)	Metals Filtered/ Unfiltered
MW033	GW-02	5-15 (15.5)	South-eastern interior; north side of Industry St.	2.00	Filtered
MW036	GW-01	4-14 (18)	South-eastern interior; south of Moton Elementary School	1000.00	Unfiltered
MW036	GW-02	4-14 (18)	South-eastern interior; south of Moton Elementary School	1000.00	Filtered
MW036	GW-03	4-14 (18)	South-eastern interior; south of Moton Elementary School	1000.00	Duplicate of MW036-GW-01
MW036	GW-04	4-14 (18)	South-eastern interior; south of Moton Elementary School	1000.00	Duplicate of MW036-GW-02
MW038	GW-01	5-15 (15.5)	West-central interior	2.00	Unfiltered
MW038	GW-02	5-15 (15.5)	West-central interior	2.00	Filtered
MW038	GW-03	5-15 (15.5)	West-central interior	2.00	Duplicate of MW038-GW-01
MW038	GW-04	5-15 (15.5)	West-central interior	2.00	Duplicate of MW038-GW-02
MW040	GW-01	5-15 (15.5)	South-western interior	0.00	Unfiltered
MW040	GW-02	5-15 (15.5)	South-western interior	0.00	Filtered
MW041	GW-01	4-14 (14.5)	West background	0.00	Unfiltered

00159.0344

TABLE G-18

GROUNDWATER - SHALLOW ZONE WELLS
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Location Designation	Sample No.	Depth (feet BGS) (a)	General Location	Total VOC (ppm)	Metals Filtered/ Unfiltered
MW041	GW-02	4-14 (14.5)	West background	0.00	Filtered
MW043	GW-01	4-14 (14.5)	South background	0.00	Unfiltered
MW043	GW-02	4-14 (14.5)	South background	500.00	Filtered
MW046	GW-01	4-14 (14.5)	West-central interior; near former recycling building	0.00	Unfiltered
MW046	GW-02	4-14 (14.5)	West-central interior; near former recycling building	0.00	Filtered
MW046	GW-03	4-14 (14.5)	West-central interior; near former recycling building	0.00	Duplicate of MW046-GW-01
MW046	GW-04	4-14 (14.5)	West-central interior; near former recycling building	0.00	Duplicate of MW046-GW-02

Key:

BGS = Below ground surface
VOC = Volatile organic compounds
ppm = Parts per million above background, unfiltered
(a) = Screened interval and, in parentheses, total depth of well borehole; some wells screened across water table

Source: Ecology and Environment, Inc., 1994

00159.0345

TABLE G-19

GROUNDWATER - SAND UNIT WELLS
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Location Designation	Sample No.	Depth (feet BGS) (a)	General Location	Total VOC (ppm)	Filtered/ Unfiltered
MW002	GW-01	58-68 (68.5)	North-central boundary	150.00	Unfiltered
MW002	GW-02	58-68 (68.5)	North-central boundary	150.00	Filtered
MW004	GW-01	57-67 (67.5)	North-northeast boundary	30.00	Unfiltered
MW004	GW-02	57-67 (67.5)	North-northeast boundary	30.00	Filtered
MW006	GW-01	57-67 (67.5)	East-northeast boundary	30.00	Unfiltered
MW006	GW-02	57-67 (67.5)	East-northeast boundary	30.00	Filtered
MW008	GW-01	62-72 (72.5)	East-northeast boundary	50.00	Unfiltered
MW008	GW-02	62-72 (72.5)	East-northeast boundary	50.00	Filtered
MW010	GW-01	57-67 (67.5)	East-central boundary	300.00	Unfiltered
MW010	GW-02	57-67 (67.5)	East-central boundary	300.00	Filtered
MW012	GW-01	58-63 (63.5)	East-southeast boundary	1000.00	Unfiltered
MW012	GW-02	58-63 (63.5)	East-southeast boundary	1000.00	Filtered
MW014	GW-01	59-64 (64.5)	East-southeast boundary	60.00	Unfiltered
MW014	GW-02	59-64 (64.5)	East-southeast boundary	60.00	Filtered
MW016	GW-01	59-69 (69.5)	South-southeast boundary	0.00	Unfiltered
MW016	GW-02	59-69 (69.5)	South-southeast boundary	0.00	Filtered
MW018	GW-01	54-64 (64.5)	South-central boundary	150.00	Unfiltered

00159.0346

TABLE G-19

GROUNDWATER - SAND UNIT WELLS
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Location Designation	Sample No.	Depth (feet BGS) (a)	General Location	Total VOC (ppm)	Filtered/ Unfiltered
MW018	GW-02	54-64 (64.5)	South-central boundary	150.00	Filtered
MW020	GW-01	57-67 (67.5)	Southwest boundary	0.00	Unfiltered
MW020	GW-02	57-67 (67.5)	Southwest boundary	0.00	Filtered
MW022	GW-01	64-74 (74.5)	West-southwest boundary	200.00	Unfiltered
MW022	GW-02	64-74 (74.5)	West-southwest boundary	200.00	Filtered
MW024	GW-01	72-82 (82.5)	West-central boundary	-100.00	Unfiltered
MW024	GW-02	72-82 (82.5)	West-central boundary	-100.00	Filtered
MW026	GW-01	66-76 (76.5)	West-northwest boundary	0.00	Unfiltered
MW026	GW-02	66-76 (76.5)	West-northwest boundary	0.00	Filtered
MW028	GW-01	64-74 (74.5)	Northern interior	0.00	Unfiltered
MW028	GW-02	64-74 (74.5)	Northern interior	0.00	Filtered
MW030	GW-01	62-72 (72.5)	North-eastern interior; south of Press Park Community Center	1000.00	Unfiltered
MW030	GW-02	62-72 (72.5)	North-eastern interior; south of Press Park Community Center	1000.00	Filtered
MW032	GW-01	62-67 (67.5)	Central interior; south side of Abundance St.	0.00	Unfiltered
[illegible]2	GW-02	62-67 (67.5)	Centr[illegible] interior; south	0.00	Filtered

00159.0347

TABLE G-19

GROUNDWATER - SAND UNIT WELLS
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Location Designation	Sample No.	Depth (feet BGS) (a)	General Location	Total VOC (ppm)	Filtered/ Unfiltered
			side of Abundance St.		
MW034	GW-01	63-73 (73.5)	South-eastern interior; north side of Industry St.	22.00	Unfiltered
MW034	GW-02	63-73 (73.5)	South-eastern interior; north side of Industry St.	220.00	Filtered
MW042	GW-01	50-60 (60.5)	South background	0.00	Unfiltered
MW042	GW-02	50-60 (60.5)	South background	0.00	Filtered
MW044	GW-01	57-67 (67.5)	West background	300.00	Unfiltered
MW044	GW-02	57-67 (67.5)	West background	300.00	Filtered

Key:

BGS = Below ground surface
VOC = Volatile organic compounds
ppm = Parts per million
(a) = screened interval and, in parentheses, total depth of well borehole

Source: Ecology and Environment, Inc., 1994

TABLE G-20

GROUNDWATER - SUPPLY WELLS
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL

Location Designation	Sample No.	Depth (feet BGS) (a)	General Location	Total VOC (ppm)	Metals Filtered/ Unfiltered
WS001	GW-01	592-667	Schwegmann's, 5300 Old Gentilly	ND	Unfiltered
WS001	GW-02	592-667	Schwegmann's, 5300 Old Gentilly	ND	Filtered

Key:

BGS = Below ground surface
VOC = Volatile organic compounds
ppm = Parts per million above background, unfiltered
(a) = Screened interval
ND = No data

Source: Ecology and Environment, Inc., 1994

TABLE G-21

GROUNDWATER - TEST PITS
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Location Designation	Sample No.	Depth (feet BGS)	General Location	Total VOC (ppm)	Tempera-ture (C)	Specific Conductance (umho/cm)	pH (units)	Comments
TP001	TW-01	6.00-8.00	Undeveloped landfill	0.00	27	2350	7.2	
TP002	TW-01	8.00	Undeveloped landfill	0.00	24	1300	7.0	Oily sheen, faint diesel odor
TP004	TW-01	8.50-9.00	Undeveloped landfill	10.00	24	1600	7.3	Oily sheen, strong diesel odor
TP004	TW-02	8.50-9.00	Duplicate of TP004-TW-01	10.00	24	1600	7.3	Oily sheen, strong diesel odor
TP005	TW-01	12.0-15.0	Undeveloped landfill	10.00	23	2330	7.3	Oily sheen, hydrocarbon odor

Key:

BGS = Below ground surface
C = Degrees Celsius
umhos/cm = micromhos per centimeter
VOC = Volatile organic compounds
ppm = Parts per million above background, unfiltered

Source: Ecology and Environment, Inc., 1994

TABLE G-22

SOIL GAS EMISSIONS - UNDEVELOPED LANDFILL
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Location Designation	Sample No.	Depth (feet BGS)	General Location	Specific Location
LF001	AF-01	0.083	West-central undeveloped landfill	Near Almonaster Ave., 118 ft. SE of telephone pole and 180 ft. NW of electric pole.
LF002	AF-01	0.083	Central portion undeveloped landfill	Between Almonaster Ave. and Gordon Plaza Subdivision.
LF003	AF-01	0.083	Eastern portion undeveloped landfill	W of Marcus Christian St.
LF003	AF-02	0.083	Eastern portion undeveloped landfill	W of Marcus Christian St.; collocated with LF003-AF-010.
LF003	AF-03	0.083	Blank sample	E & E command post

Key:

BGS = Below ground surface
ft. = Feet

Source: Ecology and Environment, Inc., 1994

TABLE G-23

SOIL GAS EMISSIONS - STUDY GROUP RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Sample No.	Depth (feet BGS)	General Location	Specific Location
RES-14	SG013	AF-01	0.083	Back yard	11 ft. NW of SW corner of house and 14 ft. 8 in. SE of NE corner of shed.
RES-16	SG015	AF-01	0.083	Back yard	10 ft. 6 in. NE of NE corner of deck SW of NE corner of yard.
RES-18	SG017	AF-01	0.083	Back yard	9 ft. NW of SW corner of house and 13 ft. SW of NW corner of house.
RES-18	SG017	AF-02	0.083	Exterior - blank	ASL - command post.
RES-20	SG020	AF-01	0.083	Back yard	18 ft. 6 in. SE of SW corner of house and 23 ft. 6 in. SW of SE corner of house.
RES-23	SG021	AF-01	0.083	Back yard	13 ft. SE of SE corner of house and 18 ft. 9 in. NW of SE corner of yard.
RES-25	SG025	AF-01	0.083	Front yard	37 ft. SSW of SE corner of house and 49 ft. 3 in. ESE of SW corner of house.
RES-29	SG029	AF-01	0.083	Back yard	28 ft. NNE of NW corner of house and 30 ft. NW of NE corner of house.
RES-30	SG030	AF-01	0.083	Back yard	Near W fence, NW of house.
RES-31	SG031	AF-01	0.083	Back yard	38 ft. 9 in. SE of SW corner

00159.0356

TABLE G-23

SOIL GAS EMISSIONS - STUDY GROUP RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Sample No.	Depth (feet BGS)	General Location	Specific Location
					of house and 39 ft. 8 in. SW of SE corner of house.
RES-31	SG031	AF-02	0.083	Exterior - blank	ASL - command post.
RES-33	SG033	AF-01	0.083	Back yard	34 ft. 9 in. SSE of SW corner of house and 36 ft. SW of SE corner of house.
RES-33	SG033	AF-02	0.083	Exterior - blank	ASL - command post.

Key:

BGS = Below ground surface
ft. = Feet
in. = Inches

Source: Ecology and Environment, Inc., 1994

00159.0357

TABLE G-24

SOIL GAS EMISSIONS - MOTON ELEMENTARY SCHOOL
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Location Designation	Sample No.	Depth (feet BGS)	General Location	Specific Location
MS003	AF-01	0.083	South side of school	7 ft. 10 in. S of southern boundary fence and 8 ft. 1 in. E of the center light pole.
MS003	AF-02	0.083	South side of school	9 ft. S of southern boundary fence and 11 ft. SW of corner of northern fence "jig" along S fence line.

Key:

BGS = Below ground surface
ft. = Feet
in. = Inches

Source: Ecology and Environment, Inc., 1994

00159.0359

TABLE G-25

SOIL GAS EMISSIONS - BACKGROUND RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Sample No.	Depth (feet BGS)	General Location	Specific Location
RES-26	SG026	AF-01	0.083	Back yard	12 ft. 6 in. from corner of house and 5 ft. 3 in. from shed.
RES-35	SG035	AF-01	0.083	Side yard	28 ft. from corner of house closest to driveway and 21 ft. 6 in. from the corner of fence.
RES-36	SG036	AF-01	0.083	Back yard	37 ft. 6 in. NW of S corner of fence and 24 ft. 6 in. SW of N corner of fence.
RES-37	SG037	AF-01	0.083	Back yard	13 ft., 2 in. from left corner of house and 20 ft., 5 in. from right corner of house.
RES-38	SG038	AF-01	0.083	Back yard	2 ft. 2 in. from fence along side of house and 4 ft. from corner of fence in back of house.

Key:

BGS = Below ground surface
ft. = Feet
in. = Inches

Source: Ecology and Environment, Inc., 1994

TABLE G-26

AMBIENT AIR - STUDY GROUP RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Sample No.	General Location	Specific Location	Smokers at Res.	No. of Adults	No. of Children	Age of Youngest	Years at Res.	Nat. Gas Enduser
RES-01	SG001	AS-01	Exterior	5 ft. 10 in. from NE corner of house and 15 ft. from the telephone cable marker.	0	2	1	18 Mo.	13.00	No
RES-01	SG001	AS-02	Interior	Back bedroom, end of hall where baby sleeps with mother.						
RES-02	SG002	AS-01	Exterior	Back yard, 9 ft. 6 in. from E property line and 11 ft. 8 in. from corner of house.	0	4	0	18.00	13.00	No
RES-02	SG002	AS-02	Interior	Daughter's bedroom.						
RES-03	SG003	AS-01	Exterior	Back yard in SE corner of property, away from driveway.	2(Quit)	2	3	15.00	Unknown	No
RES-03	SG003	AS-02	Interior	Children's room.						
RES-04	SG004	AS-01	Exterior	Back yard, 8 ft. from NE corner of house and 16 ft. from back shed.	0	2	1	2.00	13.00	No
RES-04	SG004	AS-02	Interior	Children's room, furthest from entrance.						

TABLE G-26

AMBIENT AIR - STUDY GROUP RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Sample No.	General Location	Specific Location	Smokers at Res.	No. of Adults	No. of Children	Age of Youngest	Years at Res.	Nat. Gas Enduser
RES-05	SG005	AS-01	Exterior	8 ft. 6 in. from SE corner of house and 18 ft. from SE corner of fence.	1	4	0	N/A	13.00	No
RES-05	SG005	AS-02	Interior	Guest bedroom.						
RES-06	SG006	AS-01	Exterior	Back yard, NW of backdoor.	2	3	3	9.00	24.00	Yes
RES-06	SG006	AS-02	Interior	Baby's room.						
RES-07	SG007	AS-01	Exterior	Center of back yard.	0	1	0	N/A	19.00	Yes
RES-07	SG007	AS-02	Interior	Living room.						
RES-08	SG008	AS-01	Exterior	Back yard.	0	1	2	6.00	Unknown	Yes
RES-08	SG008	AS-02	Interior	Child's bedroom on second floor.						
RES-09	SG009	AS-01	Exterior	Front porch.	0	2	3	2.00	2.00	Yes
RES-09	SG009	AS-02	Interior	Bedroom.						
RES-10	SG010	AS-01	Exterior	Back yard.	1	1	2	9.00	16.00	Yes
RES-10	SG010	AS-02	Interior	Second floor bedroom at top of stairs.						
RES-12	SG011	AS-01	Exterior	Court yard.	1	1	0	N/A	13.00	No
RES-12	SG011	AS-02	Interior	Master bedroom.						

00159.0363

TABLE G-26

AMBIENT AIR - STUDY GROUP RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Sample No.	General Location	Specific Location	Smokers at Res.	No. of Adults	No. of Children	Age of Youngest	Years at Res.	Nat. Gas Enduser
RES-13	SG012	AS-01	Exterior	Court yard.	0	1	0	N/A	14.00	No
RES-13	SG012	AS-02	Interior	Master bedroom.						
RES-14	SG013	AS-01	Exterior	Back yard.	1	2	2	Unknown	16.00	Yes
RES-14	SG013	AS-02	Interior	Bedroom at top of stairs, second floor.						
RES-15	SG014	AS-01	Exterior	Back yard.	0	2	0	N/A	2.00	No
RES-15	SG014	AS-02	Interior	Bedroom next to main entrance.						
RES-16	SG015	AS-01	Exterior	Back yard.	0	3	2	6.00	13.00	No
RES-16	SG015	AS-02	Interior	Child's bedroom next to entrance.						
RES-17	SG016	AS-01	Exterior	Backyard.	1	2	0	N/A	13.00	No
RES-17	SG016	AS-02	Interior	Master bedroom.						
RES-18	SG017	AS-01	Exterior	Back yard.	1	2	3	9.00	8.00	Yes
RES-18	SG017	AS-02	Interior	Bedroom at top of stairs, second floor.						
RES-19	SG018	AS-01	Exterior	Backyard.	2	2	2	4.00	1.00	Yes
RES-19	SG018	AS-02	Interior	Smaller bedroom on second floor.						

TABLE G-26

AMBIENT AIR - STUDY GROUP RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Sample No.	General Location	Specific Location	Smokers at Res.	No. of Adults	No. of Children	Age of Youngest	Years at Res.	Nat. Gas Enduser
RES-11	SG019	AS-01	Exterior	Court yard.	0	2	0	N/A	1.50	No
RES-11	SG019	AS-02	Interior	Master bedroom.						
RES-20	SG020	AS-01	Exterior	Back yard.	1(Quit)	2	1	17.00	14.00	Yes
RES-20	SG020	AS-02	Interior	Bedroom at top of stairs, second floor.						
RES-23	SG021	AS-01	Exterior	Backyard.	0	3	1	3.00	7.00	No
RES-23	SG021	AS-02	Interior	Master bedroom.						
RES-22	SG022	AS-01	Exterior	West side yard.	1	2	3	4.00	13.00	No
RES-22	SG022	AS-02	Interior	Master bedroom.						
RES-21	SG023	AS-01	Exterior	Back yard.	1	2	4	6.00	4.00	No
RES-21	SG023	AS-02	Interior	Child's bedroom on N side of residence.						
RES-24	SG024	AS-01	Exterior	Back yard, S of back door.	1	3	1	1.00	5.00	Yes
RES-24	SG024	AS-02	Interior	Second floor S bedroom, adjacent to bathroom.						
RES-25	SG025	AS-01	Exterior	Back yard, N of house.	1	3	3	2.00	13.00	No
RES-25	SG025	AS-02	Interior	Bedroom next to						

00159.0365

TABLE G-26

AMBIENT AIR - STUDY GROUP RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Sample No.	General Location	Specific Location	Smokers at Res.	No. of Adults	No. of Children	Age of Youngest	Years at Res.	Nat. Gas Enduser
				dining room.						
RES-25	SG025	AS-03	Exterior	Same as SG025-AS-01. (Duplicate)						
RES-27	SG027	AS-01	Exterior	Back yard.	0	5	3	2.00	10.00	Yes
RES-27	SG027	AS-02	Interior	Second floor S bedroom at top of stairs.						
RES-28	SG028	AS-01	Exterior	Deck near entrance.	0	1	3	3.00	3.00	Yes
RES-28	SG028	AS-02	Interior	Master bedroom.						
RES-29	SG029	AS-01	Exterior	Back yard, N of house.	2	2	8	11 Mo.	8.00	Yes
RES-29	SG029	AS-02	Interior	South bedroom, next to master bedroom.						
RES-29	SG029	AS-03	Blank	ASL - command post						
RES-30	SG030	AS-01	Exterior	Back yard.	0	4	2	16 Mo.	13.00	No
RES-30	SG030	AS-02	Interior	Back corner bedroom						
RES-30	SG030	AS-03	Exterior	Back yard.						
RES-31	SG031	AS-01	Exterior	Back yard, S of house.	1	4	1	7 Mo.	21.00	Yes
RES-31	SG031	AS-02	Interior	Master bedroom						

00159.0366

TABLE G-26

AMBIENT AIR - STUDY GROUP RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Sample No.	General Location	Specific Location	Smokers at Res.	No. of Adults	No. of Children	Age of Youngest	Years at Res.	Nat. Gas Enduser
RES-32	SG032	AS-01	Exterior	Back yard, N of house.	0	4	3	4.00	8.00	Yes
RES-32	SG032	AS-02	Interior	NW bedroom on second floor						
RES-32	SG032	AS-03	Exterior	Back yard, N of house.						
RES-33	SG033	AS-01	Exterior	Back yard, S of house.	0	1	3	7.00	6 Mo.	Yes
RES-33	SG033	AS-02	Interior	SW bedroom on second floor.						
RES-33	SG033	AS-03	Blank	ASL - command post						
RES-34	SG034	AS-01	Exterior	Back yard.	1	3	0	N/A	14.00	Yes
RES-34	SG034	AS-02	Interior	NW bedroom on second floor.						
RES-34	SG034	AS-03	Exterior	Back yard.						

Key:

Mo. = Months
N/A = Not applicable

Source: Ecology and Environment, Inc., 1994

00159.0367

TABLE G-27

MOTON ELEMENTARY SCHOOL - AMBIENT AIR
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Location Designation	Sample No.	General Location	Specific Location
MS001	AS-01	First floor	Cafeteria, E side of school.
MS002	AS-01	Second floor	Near elevators.
MS003	AS-01	School yard	Just S of fence on the southern boundary of school.

Source: Ecology and Environment, Inc., 1994

000159.0368

TABLE G-28

AMBIENT AIR - BACKGROUND RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Sample No.	General Location	Specific Location	Smokers at Res.	No. of Adults	No. of Children	Age of Youngest	Years at Res.	Nat. Gas Enduser
RES-26	SG026	AS-01	Exterior	Back yard.	1	3	0	N/A	15.0	Yes
RES-26	SG026	AS-02	Interior	Bedroom adjacent to living room.						
RES-35	SG035	AS-01	Exterior	Back yard	0	2	1	3.5	6.00	Yes
RES-35	SG035	AS-02	Interior	Back bedroom.						
RES-36	SG036	AS-01	Exterior	Back yard	0	1	0	N/A	42.0	Yes
RES-36	SG036	AS-02	Interior	Master bedroom.						
RES-37	SG037	AS-01	Exterior	Back yard	0	2	2	9 Mo.	3.00	Yes
RES-37	SG037	AS-02	Interior	Back bedroom next to living room.						
RES-38	SG038	AS-01	Exterior	Back yard	0	2	0	N/A	1.00	Yes
RES-38	SG038	AS-02	Interior	Master bedroom.						

Key:

Mo. = Months
N/A = Not applicable

Note: RES-26 and RES-38 both have lead-based indoor plumbing.

Source: Ecology and Environment, Inc., 1994

TABLE G-29

AIR INTRUSION - VOC SURVEY - STUDY GROUP RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Nat. Gas Enduser	General Location	Specific Location	Total VOC (ppm)	Methane (ppm)
RES-01	SG001	No	Inside along baseboards	SE corner of living room.	0.00	0.00
RES-01	SG001	No	Inside along baseboards	E wall of living room	0.00	0.00
RES-01	SG001	No	Inside along baseboards	N wall of living room.	0.00	0.00
RES-01	SG001	No	Inside along baseboards	W wall of living room near entrance to garage.	0.00	0.00
RES-01	SG001	No	Inside along baseboards	W wall of living room near kithchen entrance.	0.00	0.00
RES-01	SG001	No	Inside along baseboards	S wall of kitchen.	0.00	0.00
RES-01	SG001	No	Inside along baseboards	W wall of kitchen	0.00	0.00
RES-01	SG001	No	Inside along baseboards	W wall of kitchen near hallway.	0.00	0.00
RES-01	SG001	No	Inside along baseboards	Near N door entrance.	0.00	0.00
RES-01	SG001	No	Inside along baseboards	E wall of hallway across from guest bedroom entrance.	0.00	0.00
RES-01	SG001	No	Inside along baseboards	E wall of hallway near master bedroom entrance.	0.00	0.00

00159.0372

TABLE G-29

AIR INTRUSION - VOC SURVEY - STUDY GROUP RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Nat. Gas Enduser	General Location	Specific Location	Total VOC (ppm)	Methane (ppm)
RES-01	SG001	No	Inside along baseboards	E wall of master bedroom.	0.00	0.00
RES-01	SG001	No	Inside along baseboards	S wall of master bedroom.	0.00	0.00
RES-01	SG001	No	Inside along baseboards	W wall of master bedroom.	0.00	0.00
RES-01	SG001	No	Inside along baseboards	E wall of guest bedroom.	0.00	0.00
RES-01	SG001	No	Inside along baseboards	S wall of guest bedroom.	0.00	0.00
RES-01	SG001	No	Inside along baseboards	N wall of guest bedroom.	0.00	0.00
RES-01	SG001	No	Outside along foundation	NE corner of garage.	0.00	0.00
RES-01	SG001	No	Outside along foundation	SE corner of garage.	0.00	0.00
RES-01	SG001	No	Outside along foundation	S side of garage.	0.00	0.00
RES-01	SG001	No	Outside along foundation	S side close to center of house.	0.00	0.00
RES-01	SG001	No	Outside along foundation	S side of house outside master bedroom.	0.00	0.00

00159.0373

TABLE G-29

AIR INTRUSION - VOC SURVEY - STUDY GROUP RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Nat. Gas Enduser	General Location	Specific Location	Total VOC (ppm)	Methane (ppm)
RES-01	SG001	No	Outside along foundation	W side of house outside master bedroom.	0.00	0.00
RES-01	SG001	No	Outside along foundation	W side of house outside guest bedroom.	0.00	0.00
RES-01	SG001	No	Outside along foundation	W side of house outside bathroom.	0.00	0.00
RES-01	SG001	No	Outside along foundation	N side of house outside bathroom.	0.00	0.00
RES-01	SG001	No	Outside along foundation	N side close to center of house.	0.00	0.00
RES-01	SG001	No	Outside along foundation	N side of house outside living room.	0.00	0.00
RES-01	SG001	No	Outside along foundation	E side of house outside living room.	0.00	0.00
RES-01	SG001	No	Outside along foundation	E side of house outside living room.	0.00	0.00
RES-02	SG002	No	Inside along baseboards	S wall of den.	0.00	0.00
RES-02	SG002	No	Inside along baseboards	N wall of kitchen.	0.00	0.00
RES-02	SG002	No	Inside along baseboards	S wall of kitchen.	0.00	0.00

TABLE G-29

AIR INTRUSION - VOC SURVEY - STUDY GROUP RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Nat. Gas Enduser	General Location	Specific Location	Total VOC (ppm)	Methane (ppm)
RES-02	SG002	No	Inside along baseboards	SW corner of living room.	0.00	0.00
RES-02	SG002	No	Inside along baseboards	N wall of living room.	0.00	0.00
RES-02	SG002	No	Inside along baseboards	E wall of SE guest bedroom.	0.00	0.00
RES-02	SG002	No	Inside along baseboards	E wall of hallway leading to bedrooms.	0.00	0.00
RES-02	SG002	No	Inside along baseboards	NE corner of NE guest bedroom.	0.00	0.00
RES-02	SG002	No	Inside along baseboards	E wall of main bathroom.	0.00	0.00
RES-02	SG002	No	Inside along baseboards	S wall of NW guest bedroom.	0.00	0.00
RES-02	SG002	No	Inside along baseboards	W wall of master bedroom adjacent to master bedroom bathroom.	0.00	0.00
RES-02	SG002	No	Outside along foundation	E side near NE corner of house.	0.60	0.60
RES-02	SG002	No	Outside along foundation	Near center on E side of house.	0.60	0.00
RES-02	SG002	No	Outside along foundation	N side of house outside main bathroom.	0.00	0.00

00159.0375

TABLE G-29

AIR INTRUSION - VOC SURVEY - STUDY GROUP RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Nat. Gas Enduser	General Location	Specific Location	Total VOC (ppm)	Methane (ppm)
RES-02	SG002	No	Outside along foundation	NW corner of house.	0.00	0.00
RES-02	SG002	No	Outside along foundation	W side of house outside NW guest bedroom.	0.00	0.00
RES-02	SG002	No	Outside along foundation	W side of house outside living room.	0.00	0.00
RES-02	SG002	No	Outside along foundation	S side of house outside living room.	0.00	0.00
RES-02	SG002	No	Outside along foundation	SE corner of house.	0.00	0.00
RES-02	SG002	No	Outside along foundation	W side close to center of house.	0.00	0.00
RES-02	SG002	No	Outside along foundation	E side of house outside den.	0.00	0.00
RES-02	SG002	No	Outside along foundation	E side of house outside living room.	0.00	0.00
RES-02	SG002	No	Outside along foundation	Outside along foundation	0.00	0.00
RES-02	SG002	No	Outside along foundation	N side near NE corner of house	0.10	0.10
RES-03	SG003	No	Inside along baseboards	S wall of kitchen.	0.00	0.00

TABLE G-29

AIR INTRUSION - VOC SURVEY - STUDY GROUP RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Nat. Gas Enduser	General Location	Specific Location	Total VOC (ppm)	Methane (ppm)
RES-03	SG003	No	Inside along baseboards	S wall NW guest bedroom.	0.00	0.00
RES-03	SG003	No	Inside along baseboards	S wall of child's bedroom.	0.00	0.00
RES-03	SG003	No	Inside along baseboards	W wall of dining room adjacent to main bathroom.	18.00	9.80
RES-03	SG003	No	Inside along baseboards	S wall of master bedroom.	0.00	0.00
RES-03	SG003	No	Inside along baseboards	E wall of living room.	0.00	0.00
RES-03	SG003	No	Inside along baseboards	N wall of living room.	0.00	0.00
RES-03	SG003	No	Outside along foundation	W side near NW corner of house.	0.00	0.00
RES-03	SG003	No	Outside along foundation	N side near NW corner of house.	0.00	0.00
RES-03	SG003	No	Outside along foundation	N side of house outside main bathroom.	0.00	0.00
RES-03	SG003	No	Outside along foundation	N side of house outside living room.	0.00	0.00
RES-03	SG003	No	Outside along foundation	E side of house outside living room.	0.00	0.00

00159.0377

TABLE G-29

AIR INTRUSION - VOC SURVEY - STUDY GROUP RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Nat. Gas Enduser	General Location	Specific Location	Total VOC (ppm)	Methane (ppm)
RES-03	SG003	No	Outside along foundation	E side of house adjacent to garage.	0.00	0.00
RES-03	SG003	No	Outside along foundation	S side of house adjacent to garage.	0.00	0.00
RES-03	SG003	No	Outside along foundation	S side near center of house.	0.00	0.00
RES-03	SG003	No	Outside along foundation	W side of house adacent to master bedroom.	0.00	0.00
RES-04	SG004	No	Inside along baseboards	NE corner of NW bedroom.	0.00	0.00
RES-04	SG004	No	Inside along baseboards	NW corner of NE bedroom.	0.00	0.00
RES-04	SG004	No	Inside along baseboards	Center of kitchen.	0.00	0.00
RES-04	SG004	No	Inside along baseboards	NE corner of living room.	0.00	0.00
RES-04	SG004	No	Inside along baseboards	NE corner of living room.	0.00	0.00
RES-04	SG004	No	Inside along baseboards	SE corner of easternmost bedroom.	0.00	0.00
RES-04	SG004	No	Inside along baseboards	E wall of garage.	26.75	26.75

TABLE G-29

AIR INTRUSION - VOC SURVEY - STUDY GROUP RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Nat. Gas Enduser	General Location	Specific Location	Total VOC (ppm)	Methane (ppm)
RES-04	SG004	No	Outside along foundation	S side of house.	0.00	0.00
RES-04	SG004	No	Outside along foundation	E side near SE corner of house.	2.05	2.05
RES-04	SG004	No	Outside along foundation	NE corner of house.	0.00	0.00
RES-04	SG004	No	Outside along foundation	S side near SE corner of house.	91.75	91.75
RES-04	SG004	No	Outside along foundation	E side of near center of house.	0.00	0.00
RES-04	SG004	No	Outside along foundation	N side near center of house.	27.05	27.05
RES-04	SG004	No	Outside along foundation	NW corner of house.	0.25	0.00
RES-04	SG004	No	Outside along foundation	W side near center of house.	2.75	2.25
RES-04	SG004	No	Outside along foundation	W side adjacent to garage.	1.25	1.25
RES-05	SG005	No	Inside along baseboards	SE corner of bathroom.	0.00	0.00
RES-05	SG005	No	Inside along baseboards	W wall of living room.	5.10	5.10

00159.0379

TABLE G-29

AIR INTRUSION - VOC SURVEY - STUDY GROUP RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Nat. Gas Enduser	General Location	Specific Location	Total VOC (ppm)	Methane (ppm)
RES-05	SG005	No	Inside along baseboards	N wall of kitchen.	5.40	5.40
RES-05	SG005	No	Inside along baseboards	SE corner of living room.	0.00	0.00
RES-05	SG005	No	Inside along baseboards	W side near SW corner of house.	0.00	0.00
RES-05	SG005	No	Outside along foundation	W side of house adjacent to kitchen.	0.00	0.00
RES-05	SG005	No	Outside along foundation	N side near NW corner of house.	0.00	0.00
RES-05	SG005	No	Outside along foundation	S side near southwest corner of house.	0.00	0.00
RES-05	SG005	No	Outside along foundation	N side near center of house.	0.00	0.00
RES-05	SG005	No	Outside along foundation	NE corner of house.	0.00	0.00
RES-05	SG005	No	Outside along foundation	E side near center of house.	0.10	0.00
RES-05	SG005	No	Outside along foundation	SE corner of house.	0.00	0.00
RES-06	SG006	Yes	Inside along baseboards	NW corner of living room.	0.00	0.00

TABLE G-29

AIR INTRUSION - VOC SURVEY - STUDY GROUP RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Nat. Gas Enduser	General Location	Specific Location	Total VOC (ppm)	Methane (ppm)
RES-06	SG006	Yes	Inside along baseboards	S wall of kitchen.	0.00	0.00
RES-06	SG006	Yes	Inside along baseboards	W wall of kitchen.	0.00	0.00
RES-06	SG006	Yes	Inside along baseboards	N wall at top of stair way.	0.00	0.00
RES-06	SG006	Yes	Inside along baseboards	W wall of children's bedroom.	0.00	0.00
RES-06	SG006	Yes	Inside along baseboards	S wall of 2nd floor bathroom.	0.00	0.00
RES-06	SG006	Yes	Inside along baseboards	E wall of master bedroom.	0.00	0.00
RES-06	SG006	Yes	Outside along foundation	SE corner of house.	0.00	0.00
RES-06	SG006	Yes	Outside along foundation	E side of house near walkway leading to E door.	0.00	0.00
RES-06	SG006	Yes	Outside along foundation	W side of house.	0.00	0.00
RES-07	SG007	Yes	Inside along baseboards	N wall of living room near main entrance.	1.25	1.25
RES-07	SG007	Yes	Inside along baseboards	N wall of living room near main entrance.	1.01	1.01

00159.0381

TABLE G-29

AIR INTRUSION - VOC SURVEY - STUDY GROUP RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Nat. Gas Enduser	General Location	Specific Location	Total VOC (ppm)	Methane (ppm)
RES-07	SG007	Yes	Inside along baseboards	S wall near SE corner of living room.	1.45	1.15
RES-07	SG007	Yes	Inside along baseboards	N wall of master bedroom on 2nd floor.	2.44	1.74
RES-07	SG007	Yes	Inside along baseboards	E wall at top of stairs.	1.95	1.05
RES-07	SG007	Yes	Inside along baseboards	SW corner of guest bedroom on 2nd floor.	2.60	1.99
RES-07	SG007	Yes	Inside along baseboards	S wall of bathroom on 2nd floor.	0.00	0.00
RES-07	SG007	Yes	Outside along foundation	N side of house near main entrance.	0.30	0.00
RES-07	SG007	Yes	Outside along foundation	S side near SE corner of house.	0.00	0.00
RES-07	SG007	Yes	Outside along foundation	S side near SW corner of house.	0.00	0.00
RES-08	SG008	Yes	Inside along baseboards	NW corner of living room.	0.66	0.66
RES-08	SG008	Yes	Inside along baseboards	SE corner of living room.	0.75	0.55
RES-08	SG008	Yes	Inside along baseboards	SW corner of kitchen.	0.75	0.00

TABLE G-29

AIR INTRUSION - VOC SURVEY - STUDY GROUP RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Nat. Gas Enduser	General Location	Specific Location	Total VOC (ppm)	Methane (ppm)
RES-08	SG008	Yes	Inside along baseboards	N wall of children's bedroom.	1.42	1.06
RES-08	SG008	Yes	Inside along baseboards	S wall of upstairs bedroom.	0.96	0.61
RES-08	SG008	Yes	Inside along baseboards	S wall of SE bedroom on 2nd floor.	1.40	1.40
RES-08	SG008	Yes	Outside along foundation	S side near SE corner of house.	0.00	0.00
RES-08	SG008	Yes	Outside along foundation	N side of house near main entrance.	0.00	0.00
RES-08	SG008	Yes	Outside along foundation	S side near SW corner of house.	0.00	0.00
RES-09	SG009	Yes	Inside along baseboards	W wall of living room near main entrance.	0.00	0.00
RES-09	SG009	Yes	Inside along baseboards	S wall of kitchen.	0.00	0.00
RES-09	SG009	Yes	Inside along baseboards	S wall of bathroom.	0.00	0.00
RES-09	SG009	Yes	Inside along baseboards	E wall of NE bedroom.	0.00	0.00
RES-10	SG010	Yes	Inside along baseboards	SW corner of kitchen.	0.00	0.00

00159.0383

TABLE G-29

AIR INTRUSION - VOC SURVEY - STUDY GROUP RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Nat. Gas Enduser	General Location	Specific Location	Total VOC (ppm)	Methane (ppm)
RES-10	SG010	Yes	Inside along baseboards	NE corner of kitchen.	0.00	0.00
RES-10	SG010	Yes	Inside along baseboards	N wall of master bedroom.	0.00	0.00
RES-10	SG010	Yes	Inside along baseboards	W wall of SW bedroom on 2nd floor.	0.00	0.00
RES-10	SG010	Yes	Inside along baseboards	W wall of NW bedroom on 2nd floor.	0.00	0.00
RES-10	SG010	Yes	Outside along foundation	E side near main entrance.	7.00	7.00
RES-10	SG010	Yes	Outside along foundation	SE corner of house.	0.00	0.00
RES-10	SG010	Yes	Outside along foundation	W side near SW corner of house.	0.00	0.00
RES-10	SG010	Yes	Outside along foundation	W side near NW corner of house.	0.00	0.00
RES-12	SG011	No	Inside along baseboards	E wall of kitchen.	0.00	0.00
RES-12	SG011	No	Inside along baseboards	W wall of bathroom.	0.00	0.00
RES-12	SG011	No	Inside along baseboards	S wall of master bedroom.	0.00	0.00

00159.0384

TABLE G-29

AIR INTRUSION - VOC SURVEY - STUDY GROUP RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Nat. Gas Enduser	General Location	Specific Location	Total VOC (ppm)	Methane (ppm)
RES-12	SG011	No	Inside along baseboards	E wall of living room.	0.00	0.00
RES-12	SG011	No	Outside along foundation	W side of house outside master bedroom.	0.00	0.00
RES-12	SG011	No	Outside along foundation	S side near center of house.	0.00	0.00
RES-13	SG012	No	Inside along baseboards	N wall of living room.	0.00	0.00
RES-13	SG012	No	Inside along baseboards	N wall of master bedroom.	0.00	0.00
RES-13	SG012	No	Inside along baseboards	E wall of guest bedroom.	0.00	0.00
RES-13	SG012	No	Inside along baseboards	S wall of living room and E of kitchen entrance.	0.00	0.00
RES-14	SG013	Yes	Inside along baseboards	N wall of living room near kitchen entrance.	0.00	0.60
RES-14	SG013	Yes	Inside along baseboards	N wall of kitchen.	0.00	0.00
RES-14	SG013	Yes	Inside along baseboards	S wall of kitchen.	0.00	0.00
RES-14	SG013	Yes	Inside along baseboards	SW corner of kitchen.	0.00	0.00

00159.0385

TABLE G-29

AIR INTRUSION - VOC SURVEY - STUDY GROUP RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Nat. Gas Enduser	General Location	Specific Location	Total VOC (ppm)	Methane (ppm)
RES-14	SG013	Yes	Inside along baseboards	N wall of master bedroom.	0.00	0.00
RES-14	SG013	Yes	Inside along baseboards	N wall of NE bedroom.	0.00	0.00
RES-14	SG013	Yes	Inside along baseboards	S wall of SE bedroom.	0.00	0.00
RES-14	SG013	Yes	Outside along foundation	E side of house near entrance to kitchen.	0.00	0.00
RES-14	SG013	Yes	Outside along foundation	W side of house near main entrance.	0.00	0.00
RES-14	SG013	Yes	Outside along foundation	W side near NW corner of house.	0.00	0.00
RES-15	SG014	No	Inside along baseboards	N wall of kitchen.	0.00	0.00
RES-15	SG014	No	Inside along baseboards	S wall of living room.	0.00	0.00
RES-15	SG014	No	Inside along baseboards	N wall of foyer.	0.00	0.00
RES-15	SG014	No	Inside along baseboards	E wall of foyer and S of main entrance.	0.00	0.00
RES-15	SG014	No	Inside along baseboards	E wall of bathroom.	0.00	0.00

00159.0386

TABLE G-29

AIR INTRUSION - VOC SURVEY - STUDY GROUP RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Nat. Gas Enduser	General Location	Specific Location	Total VOC (ppm)	Methane (ppm)
RES-15	SG014	No	Inside along baseboards	S wall of easternmost guest bedroom.	0.30	0.30
RES-15	SG014	No	Inside along baseboards	W wall of guest bedroom adjacent to bathroom.	0.40	0.30
RES-15	SG014	No	Inside along baseboards	NW corner of master bedroom.	0.00	0.00
RES-15	SG014	No	Outside along foundation	S side of house outside eaternmost guest bedroom.	0.00	0.00
RES-15	SG014	No	Outside along foundation	S side of house near SW corner of house.	0.00	0.00
RES-15	SG014	No	Outside along foundation	W side of house near NW corner of house.	0.00	0.00
RES-15	SG014	No	Outside along foundation	E side of house in NW corner of main entrance alcove.	0.00	0.00
RES-16	SG015	No	Inside along baseboards	S wall of kitchen.	3.20	3.20
RES-16	SG015	No	Inside along baseboards	NE corner of kitchen.	3.50	3.20
RES-16	SG015	No	Inside along baseboards	N wall of dining room.	3.50	3.20
RES-16	SG015	No	Inside along baseboards	E wall of foyer.	3.60	3.20

00159.0387

TABLE G-29

AIR INTRUSION - VOC SURVEY - STUDY GROUP RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Nat. Gas Enduser	General Location	Specific Location	Total VOC (ppm)	Methane (ppm)
RES-16	SG015	No	Inside along baseboards	N wall of SW guest bedroom.	4.60	4.40
RES-16	SG015	No	Inside along baseboards	S wall of bathroom.	4.00	3.80
RES-16	SG015	No	Inside along baseboards	N wall of master bedroom near NW corner.	4.60	4.20
RES-16	SG015	No	Outside along foundation	SE corner of house.	0.00	0.00
RES-16	SG015	No	Outside along foundation	E wall of main entrance alcove.	0.00	0.00
RES-16	SG015	No	Outside along foundation	W side of house outside central guest bedroom.	0.00	0.00
RES-16	SG015	No	Outside along foundation	W side near center of house.	0.00	0.00
RES-16	SG015	No	Outside along foundation	W side near NW corner of house.	15.20	19.20
RES-16	SG015	No	Outside along foundation	W side of house outside master bedroom.	0.00	0.00
RES-16	SG015	No	Outside along foundation	N side of house outside kitchen.	0.00	0.00
RES-16	SG015	No	Outside along foundation	E wall near center of house.	0.60	0.00

TABLE G-29

AIR INTRUSION - VOC SURVEY - STUDY GROUP RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Nat. Gas Enduser	General Location	Specific Location	Total VOC (ppm)	Methane (ppm)
RES-17	SG016	No	Inside along baseboards	SW corner of kitchen.	0.00	0.00
RES-17	SG016	No	Inside along baseboards	S wall near SE corner of living room.	0.00	0.00
RES-17	SG016	No	Inside along baseboards	SE corner of bathroom.	0.00	0.00
RES-17	SG016	No	Inside along baseboards	N wall of easternmost guest bedroom.	0.00	0.00
RES-17	SG016	No	Inside along baseboards	W wall of guest bedroom adjacent to master bedroom.	0.60	0.00
RES-17	SG016	No	Inside along baseboards	W wall of master bedroom.	1.00	1.20
RES-17	SG016	No	Outside along foundation	NE corner of house.	0.00	0.00
RES-17	SG016	No	Outside along foundation	E side near center of house.	0.00	0.00
RES-17	SG016	No	Outside along foundation	S side of house and east of main entrance.	0.00	0.00
RES-17	SG016	No	Outside along foundation	SW corner of house.	0.00	0.00
RES-17	SG016	No	Outside along foundation	W side near center of house.	0.00	0.00

00159.0389

TABLE G-29

AIR INTRUSION - VOC SURVEY - STUDY GROUP RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Nat. Gas Enduser	General Location	Specific Location	Total VOC (ppm)	Methane (ppm)
RES-17	SG016	No	Outside along foundation	N side of house and outside master bedroom.	0.00	0.00
RES-18	SG017	Yes	Inside along baseboards	SE corner of dining room.	0.00	0.00
RES-18	SG017	Yes	Inside along baseboards	E wall near SE corner of living room.	0.00	0.00
RES-18	SG017	Yes	Inside along baseboards	W wall of stairway about half distance to 2nd floor.	0.00	0.00
RES-18	SG017	Yes	Inside along baseboards	S wall near SW corner of 1st floor bathroom.	1.00	0.80
RES-18	SG017	Yes	Inside along baseboards	N wall of NW guest bedroom.	0.00	0.00
RES-18	SG017	Yes	Inside along baseboards	W wall of SW guest bedroom.	0.00	0.00
RES-18	SG017	Yes	Inside along baseboards	W wall of SE guest bedroom.	0.00	0.00
RES-18	SG017	Yes	Inside along baseboards	E wall of master bedroom.	0.00	0.00
RES-18	SG017	Yes	Outside along foundation	N side near NE corner of house.	0.00	0.00
RES-18	SG017	Yes	Outside along foundation	N side of house and W of main entrance.	0.00	0.00

TABLE G-29

AIR INTRUSION - VOC SURVEY - STUDY GROUP RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Nat. Gas Enduser	General Location	Specific Location	Total VOC (ppm)	Methane (ppm)
RES-18	SG017	Yes	Outside along foundation	S side near SW corner of house.	0.00	0.00
RES-18	SG017	Yes	Outside along foundation	S side near center of house.	1.40	1.20
RES-19	SG018	Yes	Inside along baseboards	W wall near bottom of stairway.	4.40	3.40
RES-19	SG018	Yes	Inside along baseboards	SW corner of living room.	1.60	1.60
RES-19	SG018	Yes	Inside along baseboards	E wall of dining room.	3.60	2.60
RES-19	SG018	Yes	Inside along baseboards	W wall of 2nd floor bathroom.	3.40	3.40
RES-19	SG018	Yes	Inside along baseboards	S wall of 2nd floor guest bedroom.	1.60	1.60
RES-19	SG018	Yes	Outside along foundation	S side of house and W of kitchen entrance.	0.00	0.00
RES-19	SG018	Yes	Outside along foundation	S side near SE corner of house.	0.00	0.00
RES-11	SG019	No	Inside along baseboards	S wall of living room.	0.00	0.00
RES-11	SG019	No	Inside along baseboards	W wall of living room.	0.00	0.00

00159.0391

TABLE G-29

AIR INTRUSION - VOC SURVEY - STUDY GROUP RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Nat. Gas Enduser	General Location	Specific Location	Total VOC (ppm)	Methane (ppm)
RES-11	SG019	No	Inside along baseboards	N wall of master bedroom.	0.00	1.00
RES-11	SG019	No	Inside along baseboards	NW corner of bathroom.	0.00	0.00
RES-11	SG019	No	Inside along baseboards	W wall of guest bedroom.	0.00	0.00
RES-11	SG019	No	Outside along foundation	N side near NW corner of house.	0.00	0.00
RES-11	SG019	No	Outside along foundation	N side of house and adjacent to master bedroom.	0.00	0.00
RES-11	SG019	No	Outside along foundation	E side near center of house.	0.00	0.00
RES-20	SG020	Yes	Inside along baseboards	W wall of living room.	9.40	5.20
RES-20	SG020	Yes	Inside along baseboards	SE corner of living room near wash room.	8.60	5.00
RES-20	SG020	Yes	Inside along baseboards	N wall of master bedroom.	10.20	0.80
RES-20	SG020	Yes	Inside along baseboards	E wall of 2nd floor stairway landing.	10.00	8.60
RES-20	SG020	Yes	Inside along baseboards	NW corner of 2nd floor bathroom.	10.00	4.00

TABLE G-29

AIR INTRUSION - VOC SURVEY - STUDY GROUP RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Nat. Gas Enduser	General Location	Specific Location	Total VOC (ppm)	Methane (ppm)
RES-20	SG020	Yes	Inside along baseboards	W wall of SW guest bedroom.	10.20	7.40
RES-20	SG020	Yes	Inside along baseboards	SE corner of SE guest bedroom.	8.00	10.20
RES-20	SG020	Yes	Outside along foundation	SE corner of house.	0.00	0.00
RES-20	SG020	Yes	Outside along foundation	S side near SW corner of house.	0.00	0.00
RES-20	SG020	Yes	Outside along foundation	N side of house and W of main entrance.	0.00	0.00
RES-23	SG021	No	Inside along baseboards	W wall of foyer.	7.20	4.60
RES-23	SG021	No	Inside along baseboards	N wall of living room.	7.20	5.00
RES-23	SG021	No	Inside along baseboards	Center of kitchen.	4.00	3.40
RES-23	SG021	No	Inside along baseboards	NW corner of bathroom.	28.20	16.00
RES-23	SG021	No	Inside along baseboards	E wall of SE guest bedroom.	41.20	18.00
RES-23	SG021	No	Inside along baseboards	E wall of master bedroom.	39.20	16.00

00159.0393

TABLE G-29

AIR INTRUSION - VOC SURVEY - STUDY GROUP RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Nat. Gas Enduser	General Location	Specific Location	Total VOC (ppm)	Methane (ppm)
RES-23	SG021	No	Inside along baseboards	SW corner of dining room.	7.20	4.20
RES-23	SG021	No	Outside along foundation	SW corner of house.	0.00	0.00
RES-23	SG021	No	Outside along foundation	W side near center of house.	0.00	0.00
RES-23	SG021	No	Outside along foundation	W side near NW corner of house.	0.00	0.00
RES-23	SG021	No	Outside along foundation	N side of house and E of main entrance.	0.00	0.00
RES-23	SG021	No	Outside along foundation	S side near SE corner of house.	0.00	0.00
RES-22	SG022	No	Inside along baseboards	E wall of living room.	0.00	0.00
RES-22	SG022	No	Inside along baseboards	E wall of bathroom	0.00	0.00
RES-22	SG022	No	Inside along baseboards	N wall of NE guest bedroom.	0.00	0.00
RES-22	SG022	No	Inside along baseboards	NE corner of guest bedroom adjacent to master bedroom.	0.00	0.00
RES-22	SG022	No	Inside along baseboards	W wall of kitchen.	0.00	0.00

TABLE G-29

AIR INTRUSION - VOC SURVEY - STUDY GROUP RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Nat. Gas Enduser	General Location	Specific Location	Total VOC (ppm)	Methane (ppm)
RES-22	SG022	No	Inside along baseboards	W wall near NW corner of master bedroom.	0.00	0.00
RES-22	SG022	No	Inside along baseboards	S wall of garage/family room.	0.00	0.00
RES-22	SG022	No	Outside along foundation	E side near center of house.	0.00	0.00
RES-22	SG022	No	Outside along foundation	N side near NE corner of house.	0.00	0.00
RES-22	SG022	No	Outside along foundation	W side of house outside master bedroom.	0.00	0.00
RES-22	SG022	No	Outside along foundation	S side of house and E of main entrance.	0.00	0.00
RES-21	SG023	No	Inside along baseboards	E wall of master bedroom.	0.00	0.00
RES-21	SG023	No	Inside along baseboards	N wall of bathroom.	0.00	0.00
RES-21	SG023	No	Inside along baseboards	W wall of NW guest bedroom.	0.00	0.00
RES-21	SG023	No	Inside along baseboards	SE corner of southernmost guest bedroom.	0.00	0.00
RES-21	SG023	No	Inside along baseboards	NW corner of dining room.	0.00	0.00

00159.0395

TABLE G-29

AIR INTRUSION - VOC SURVEY - STUDY GROUP RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Nat. Gas Enduser	General Location	Specific Location	Total VOC (ppm)	Methane (ppm)
RES-21	SG023	No	Inside along baseboards	E wall of kitchen.	0.00	0.00
RES-21	SG023	No	Inside along baseboards	S wall near SE corner of living room.	0.00	0.00
RES-21	SG023	No	Outside along foundation	E side of house and S of main entrance.	0.00	0.00
RES-21	SG023	No	Outside along foundation	W side of house and S of back entrance.	0.00	0.00
RES-21	SG023	No	Outside along foundation	S side near SW corner of house.	0.00	0.00
RES-21	SG023	No	Outside along foundation	S side near center of house.	0.00	0.00
RES-21	SG023	No	Outside along foundation	E side of house and N of main entrance.	0.00	0.00
RES-21	SG023	No	Outside along foundation	N side of house outside bathroom.	0.00	0.00
RES-21	SG023	No	Outside along foundation	N side near NW corner of house.	0.00	0.00
RES-24	SG024	Yes	Inside along baseboards	W wall near SW corner of living room.	4.00	3.20
RES-24	SG024	Yes	Inside along baseboards	N wall near NE corner of dining room.	7.00	4.00

00159.0396

TABLE G-29

AIR INTRUSION - VOC SURVEY - STUDY GROUP RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Nat. Gas Enduser	General Location	Specific Location	Total VOC (ppm)	Methane (ppm)
RES-24	SG024	Yes	Inside along baseboards	E wall of NE guest bedroom.	5.20	4.80
RES-24	SG024	Yes	Inside along base of tub	Inside of 2nd floor bathroom along W side of tub.	5.80	5.00
RES-24	SG024	Yes	Inside along baseboards	W wall of SW bedroom.	5.60	5.20
RES-24	SG024	Yes	Outside along foundation	N side of house and W of main entrance.	0.00	0.00
RES-24	SG024	Yes	Outside along foundation	N side of house and N of main entrance.	0.00	0.00
RES-24	SG024	Yes	Outside along foundation	S side near center of house.	0.00	0.00
RES-25	SG025	No	Inside along baseboards	NE corner of master bedroom.	1.00	1.00
RES-25	SG025	No	Inside along baseboards	E wall of bathroom.	1.00	1.00
RES-25	SG025	No	Inside along baseboards	N wall of bathroom.	1.00	1.00
RES-25	SG025	No	Inside along baseboards	E wall of NE guest bedroom.	1.00	1.00
RES-25	SG025	No	Inside along baseboards	E wall of living room.	0.00	0.00

00159.0397

TABLE G-29

AIR INTRUSION - VOC SURVEY - STUDY GROUP RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Nat. Gas Enduser	General Location	Specific Location	Total VOC (ppm)	Methane (ppm)
RES-25	SG025	No	Inside along baseboards	W wall of NE guest bedroom.	1.00	1.00
RES-25	SG025	No	Inside along baseboards	N wall of central guest bedroom.	1.00	1.00
RES-25	SG025	No	Inside along baseboards	E wall of dining room.	1.00	1.00
RES-25	SG025	No	Inside along baseboards	N wall of dining room.	1.00	1.00
RES-25	SG025	No	Inside along baseboards	S wall of kitchen.	1.00	1.00
RES-25	SG025	No	Inside along baseboards	W wall of dining room.	1.00	1.00
RES-25	SG025	No	Inside along baseboards	S wall of living room.	0.00	0.00
RES-25	SG025	No	Inside along baseboards	NE corner of living room and adjacent to hallway.	0.00	0.00
RES-25	SG025	No	Outside along foundation	S side of house and W of main entrance.	0.00	0.00
RES-25	SG025	No	Outside along foundation	S side of house and E of main entrance.	0.00	0.00
RES-25	SG025	No	Outside along foundation	S side of house outside master bedroom.	0.00	0.00

TABLE G-29

AIR INTRUSION - VOC SURVEY - STUDY GROUP RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Nat. Gas Enduser	General Location	Specific Location	Total VOC (ppm)	Methane (ppm)
RES-25	SG025	No	Outside along foundation	E side of house outside master bedroom.	0.00	0.00
RES-25	SG025	No	Outside along foundation	E side of house outside bathroom.	0.00	0.00
RES-25	SG025	No	Outside along foundation	N side of house outside NE guest bedroom.	0.00	0.00
RES-25	SG025	No	Outside along foundation	W side near NW corner of house.	0.00	0.00
RES-25	SG025	No	Outside along foundation	W side near center of house.	0.00	0.00
RES-25	SG025	No	Outside along foundation	W side of house outside garage.	0.00	0.00
RES-27	SG027	Yes	Inside along baseboards	E wall of living room.	0.00	0.00
RES-27	SG027	Yes	Inside along baseboards	W wall of living room.	0.00	0.00
RES-27	SG027	Yes	Inside along baseboards	N wall of kitchen.	0.00	0.00
RES-27	SG027	Yes	Inside along baseboards	N wall of kitchen near stairway landing.	0.00	0.00
RES-27	SG027	Yes	Inside along baseboards	W wall of house near 2nd floor stairway landing.	5.29	3.49

00159.0399

TABLE G-29

AIR INTRUSION - VOC SURVEY - STUDY GROUP RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Nat. Gas Enduser	General Location	Specific Location	Total VOC (ppm)	Methane (ppm)
RES-27	SG027	Yes	Inside along baseboards	W wall of NW guest bedroom.	1.69	0.00
RES-27	SG027	Yes	Inside along baseboards	NE corner of NE guest bedroom.	3.19	1.39
RES-27	SG027	Yes	Inside along baseboards	S wall of bathroom.	6.79	4.89
RES-27	SG027	Yes	Inside along baseboards	E wall of master bedroom.	1.39	0.00
RES-27	SG027	Yes	Outside along foundation	S side near SE corner of house.	0.00	0.00
RES-27	SG027	Yes	Outside along foundation	SW corner of house.	0.00	0.00
RES-28	SG028	Yes	Inside along baseboards	W wall near NW corner of living room.	0.00	0.00
RES-28	SG028	Yes	Inside along baseboards	N wall of living room.	0.00	0.00
RES-28	SG028	Yes	Inside along baseboards	N wall of master bedroom.	1.00	1.00
RES-28	SG028	Yes	Inside along baseboards	NE corner of master bedroom	2.00	2.00
RES-28	SG028	Yes	Inside along baseboards	SE corner of guest bedroom.	2.00	2.00

TABLE G-29

AIR INTRUSION - VOC SURVEY - STUDY GROUP RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Nat. Gas Enduser	General Location	Specific Location	Total VOC (ppm)	Methane (ppm)
RES-28	SG028	Yes	Inside along baseboards	W wall near SW corner of bathroom.	3.50	3.50
RES-28	SG028	Yes	Inside along baseboards	W wall near NW corner of bathroom.	1.00	1.00
RES-28	SG028	Yes	Inside along baseboards	W wall of kitchen.	0.00	0.00
RES-29	SG029	Yes	Inside along baseboards	E wall of living room.	0.00	0.00
RES-29	SG029	Yes	Inside along baseboards	S wall of kitchen.	0.00	0.00
RES-29	SG029	Yes	Inside along baseboards	W wall of dining room.	0.00	0.00
RES-29	SG029	Yes	Inside along baseboards	S wall of SE guest bedroom.	0.00	0.00
RES-29	SG029	Yes	Inside along baseboards	E wall of NE guest bedroom.	0.00	0.00
RES-29	SG029	Yes	Inside along baseboards	N wall of NW guest bedroom.	0.00	0.00
RES-29	SG029	Yes	Inside along baseboards	W wall of 2nd floor bathroom.	0.00	0.00
RES-29	SG029	Yes	Inside along baseboards	W wall of master bedroom.	0.00	0.00

TABLE G-29

AIR INTRUSION - VOC SURVEY - STUDY GROUP RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Nat. Gas Enduser	General Location	Specific Location	Total VOC (ppm)	Methane (ppm)
RES-29	SG029	Yes	Outside along foundation	S side of house and W of main entrance.	0.00	0.00
RES-30	SG030	No	Inside along baseboards	E wall of living room.	0.00	0.00
RES-30	SG030	No	Inside along baseboards	W wall of kitchen.	0.00	0.00
RES-30	SG030	No	Inside along baseboards	E wall of dining room.	0.00	0.00
RES-30	SG030	No	Inside along baseboards	E wall near SE corner of bathroom.	0.00	0.00
RES-30	SG030	No	Inside along baseboards	N wall of NE guest bedroom.	0.00	0.00
RES-30	SG030	No	Inside along baseboards	N wall of guest bedroom adjacent to master bedroom.	0.00	0.00
RES-30	SG030	No	Inside along baseboards	NW corner of hallway leading to master bedroom.	0.00	0.00
RES-30	SG030	No	Outside along foundation	N side of house outside master bedroom.	0.00	0.00
RES-30	SG030	No	Outside along foundation	W side of house outside master bedroom.	0.00	0.00
RES-30	SG030	No	Outside along foundation	W side near center of house.	0.00	0.00

TABLE G-29

AIR INTRUSION - VOC SURVEY - STUDY GROUP RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Nat. Gas Enduser	General Location	Specific Location	Total VOC (ppm)	Methane (ppm)
RES-30	SG030	No	Outside along foundation	S side of house outside living room.	0.00	0.00
RES-30	SG030	No	Outside along foundation	E side near SE corner of house.	0.00	0.00
RES-30	SG030	No	Outside along foundation	E side of house outside bathroom.	0.00	0.00
RES-30	SG030	No	Outside along foundation	E side near NE corner of house.	0.00	0.00
RES-30	SG030	No	Outside along foundation	N side of house.	0.00	0.00
RES-30	SG030	No	Outside along foundation	W side near NW corner of house.	0.00	0.00
RES-31	SG031	Yes	Inside along baseboards	W wall of entrance way.	4.50	4.50
RES-31	SG031	Yes	Inside along baseboards	W wall of 1st floor bathroom.	4.50	4.50
RES-31	SG031	Yes	Inside along baseboards	SW corner of dining room.	2.50	1.90
RES-31	SG031	Yes	Inside along baseboards	E wall of 2nd floor bathroom.	6.50	6.50
RES-31	SG031	Yes	Inside along baseboards	N wall of master bedroom.	10.50	6.50

TABLE G-29

AIR INTRUSION - VOC SURVEY - STUDY GROUP RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Nat. Gas Enduser	General Location	Specific Location	Total VOC (ppm)	Methane (ppm)
RES-31	SG031	Yes	Inside along baseboards	N wall of SW guest bedroom.	6.50	6.50
RES-31	SG031	Yes	Inside along baseboards	NE corner of NW guest bedroom.	8.50	6.50
RES-31	SG031	Yes	Outside along foundation	N side of house and E of rear entrance.	0.00	0.00
RES-31	SG031	Yes	Outside along foundation	S side of house and W of main entrance.	2.50	2.50
RES-32	SG032	Yes	Inside along baseboards	E wall of living room.	0.00	0.00
RES-32	SG032	Yes	Inside along baseboards	W wall of kitchen.	0.00	0.00
RES-32	SG032	Yes	Inside along baseboards	W wall of master bedroom.	0.00	0.00
RES-32	SG032	Yes	Inside along baseboards	SE corner of 2nd floor bathroom.	0.00	0.00
RES-32	SG032	Yes	Inside along baseboards	E wall of NE guest bedroom.	0.00	0.00
RES-32	SG032	Yes	Inside along baseboards	SW corner of NW guest bedroom.	0.00	0.00
RES-32	SG032	Yes	Inside along baseboards	W wall of SW guest bedroom.	0.00	0.00

00159.0404

TABLE G-29

AIR INTRUSION - VOC SURVEY - STUDY GROUP RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Nat. Gas Enduser	General Location	Specific Location	Total VOC (ppm)	Methane (ppm)
RES-32	SG032	Yes	Outside along foundation	S side of house and E of main entrance.	0.00	0.00
RES-32	SG032	Yes	Outside along foundation	S side of house and W of main entrance.	0.00	0.00
RES-32	SG032	Yes	Outside along foundation	N side near NE corner of house.	0.00	0.00
RES-33	SG033	Yes	Inside along baseboards	N wall of living room and W of main entrance.	56.80	56.80
RES-33	SG033	Yes	Inside along baseboards	SE corner of living room.	59.80	59.80
RES-33	SG033	Yes	Inside along baseboards	W wall of dining room.	54.80	54.80
RES-33	SG033	Yes	Inside along baseboards	N wall near NW corner of master bedroom.	5.80	5.80
RES-33	SG033	Yes	Inside along baseboards	W wall of 2nd floor bathroom.	6.80	6.80
RES-33	SG033	Yes	Inside along baseboards	W wall near NW corner of SW guest bedroom.	3.00	3.00
RES-33	SG033	Yes	Inside along baseboards	S wall of SE guest bedroom.	2.20	2.20
RES-33	SG033	Yes	Outside along foundation	S side of house and W of kitchen entrance.	0.00	0.00

00159.0405

TABLE G-29

AIR INTRUSION - VOC SURVEY - STUDY GROUP RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Nat. Gas Enduser	General Location	Specific Location	Total VOC (ppm)	Methane (ppm)
RES-34	SG034	Yes	Inside along baseboards	E wall of living room.	0.00	0.00
RES-34	SG034	Yes	Inside along baseboards	S wall of SE guest bedroom.	0.00	0.00
RES-34	SG034	Yes	Inside along baseboards	W wall of dining room.	3.10	1.60
RES-34	SG034	Yes	Inside along baseboards	NE corner of 1st floor bathroom.	0.00	0.00
RES-34	SG034	Yes	Inside along baseboards	N wall N of 2nd floor stairway landing.	0.00	0.00
RES-34	SG034	Yes	Inside along baseboards	NE corner of master bedroom.	0.00	0.00
RES-34	SG034	Yes	Inside along baseboards	NW corner of 2nd floor bathroom.	0.00	0.00
RES-34	SG034	Yes	Outside along foundation	N side near center of house.	0.00	0.00

Key:

VOC = Volatile organic compounds
ppm = Parts per million above background

Source: Ecology and Environment, Inc., 1994

00159.0407

TABLE G-30

AIR INTRUSION - VOC SURVEY - BACKGROUND RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Nat. Gas Enduser	General Location	Specific Location	Total VOC (ppm)	Methane (ppm)
RES-26	SG026	Yes	Inside along baseboards	N wall of kitchen.	0.00	0.00
RES-26	SG026	Yes	Inside along baseboards	N wall of dining room.	0.60	0.60
RES-26	SG026	Yes	Inside along baseboards	S wall of living room.	1.00	1.00
RES-26	SG026	Yes	Inside along baseboards	E wall of SE guest bedroom.	1.00	1.00
RES-26	SG026	Yes	Inside along baseboards	E wall of study.	0.80	0.80
RES-26	SG026	Yes	Inside along baseboards	W wall of master bedroom.	0.60	0.60
RES-26	SG026	Yes	Inside along baseboards	S wall of guest bedroom adjacent to kitchen.	0.60	0.60
RES-26	SG026	Yes	Inside along baseboards	N wall of bathroom adjacent to kitchen.	0.80	0.80
RES-26	SG026	Yes	Outside along foundation	E side of house and N of main entrance.	0.00	0.00
RES-26	SG026	Yes	Outside along foundation	E side of house outside living room.	0.00	0.00
RES-26	SG026	Yes	Outside along foundation	S side of house outside study.	0.00	0.00

00159.0408

TABLE G-30

AIR INTRUSION - VOC SURVEY - BACKGROUND RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Nat. Gas Enduser	General Location	Specific Location	Total VOC (ppm)	Methane (ppm)
RES-26	SG026	Yes	Outside along foundation	S side of house outside southernmost bathroom.	0.00	0.00
RES-26	SG026	Yes	Outside along foundation	N side of house outside master bedroom.	0.00	0.00
RES-26	SG026	Yes	Outside along foundation	W side of house and N of back entrance.	0.00	0.00
RES-35	SG035	Yes	Inside along baseboards	E wall of NE guest bedroom.	34.50	34.50
RES-35	SG035	Yes	Inside along baseboards	S wall of NE guest bedroom.	36.50	36.50
RES-35	SG035	Yes	Inside along baseboards	N wall of living room.	40.50	46.50
RES-35	SG035	Yes	Inside along baseboards	W wall of bathroom	44.50	44.50
RES-35	SG035	Yes	Inside along baseboards	S wall of master bedroom.	48.50	48.50
RES-35	SG035	Yes	Inside along baseboards	S wall near master bedroom.	40.50	40.50
RES-35	SG035	Yes	Outside along foundation	NE corner of house.	0.00	0.00
RES-35	SG035	Yes	Outside along foundation	E side near center of house.	0.00	0.00

00159.0409

TABLE G-30

AIR INTRUSION - VOC SURVEY - BACKGROUND RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Nat. Gas Enduser	General Location	Specific Location	Total VOC (ppm)	Methane (ppm)
RES-35	SG035	Yes	Outside along foundation	S side near center of house.	0.00	0.00
RES-35	SG035	Yes	Outside along foundation	W side of house outside kitchen.	0.00	0.00
RES-35	SG035	Yes	Outside along foundation	W side of house outside foyer.	0.00	0.00
RES-35	SG035	Yes	Outside along foundation	W side of house and E of main entrance.	0.00	0.00
RES-36	SG036	Yes	Inside along baseboards	N wall of living room and E of main entrance.	0.00	0.00
RES-36	SG036	Yes	Inside along baseboards	E wall of living room.	0.00	0.00
RES-36	SG036	Yes	Inside along baseboards	E wall of master bedroom.	0.00	0.00
RES-36	SG036	Yes	Inside along baseboards	E wall of SE guest bedroom.	0.00	0.00
RES-36	SG036	Yes	Inside along baseboards	E wall of study.	0.00	0.00
RES-36	SG036	Yes	Inside along baseboards	SE corner of study.	0.00	0.00
RES-36	SG036	Yes	Inside along baseboards	W wall of bathroom.	0.00	0.00

TABLE G-30

AIR INTRUSION - VOC SURVEY - BACKGROUND RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Nat. Gas Enduser	General Location	Specific Location	Total VOC (ppm)	Methane (ppm)
RES-36	SG036	Yes	Inside along baseboards	S wall of kitchen.	0.00	0.00
RES-36	SG036	Yes	Inside along baseboards	N wall of kitchen.	0.00	0.00
RES-36	SG036	Yes	Outside along foundation	N side and W of main entrance to house.	0.00	0.00
RES-36	SG036	Yes	Outside along foundation	W side of house outside garage.	0.00	0.00
RES-36	SG036	Yes	Outside along foundation	W side of house outside kitchen.	0.00	0.00
RES-36	SG036	Yes	Outside along foundation	W side of house and S of kitchen entrance.	0.00	0.00
RES-36	SG036	Yes	Outside along foundation	W side of house outside study.	0.00	0.00
RES-36	SG036	Yes	Outside along foundation	SW corner of house.	0.00	0.00
RES-36	SG036	Yes	Outside along foundation	S side of house and E of entrance to study.	0.00	0.00
RES-36	SG036	Yes	Outside along foundation	S side near SE corner of house.	0.00	0.00
RES-36	SG036	Yes	Outside along foundation	W side of house outside SE guest bedroom.	0.00	0.00

00159.0411

TABLE G-30

AIR INTRUSION - VOC SURVEY - BACKGROUND RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Nat. Gas Enduser	General Location	Specific Location	Total VOC (ppm)	Methane (ppm)
RES-36	SG036	Yes	Outside along foundation	W side of house outside living room.	0.00	0.00
RES-37	SG037	Yes	Inside along baseboards	N wall of kitchen.	0.00	0.00
RES-37	SG037	Yes	Inside along baseboards	N wall of NE guest bedroom.	0.00	0.00
RES-37	SG037	Yes	Inside along baseboards	E wall and near NE corner of living room.	0.00	0.00
RES-37	SG037	Yes	Outside along foundation	E side of house outside NE guest bedroom.	0.00	0.00
RES-37	SG037	Yes	Outside along foundation	E side of house outside Florida room.	0.00	0.00
RES-37	SG037	Yes	Outside along foundation	S side of house and E of main entrance.	0.00	0.00
RES-37	SG037	Yes	Outside along foundation	S side and near SE corner of house.	0.00	0.00
RES-37	SG037	Yes	Outside along foundation	W side of house outside living room.	0.00	0.00
RES-38	SG038	Yes	Inside along baseboards	SE corner of master bedroom.	0.00	0.00
RES-38	SG038	Yes	Inside along baseboards	NW corner of bathroom adjacent to master bedroom.	0.00	0.00

TABLE G-30

AIR INTRUSION - VOC SURVEY - BACKGROUND RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Nat. Gas Enduser	General Location	Specific Location	Total VOC (ppm)	Methane (ppm)
RES-38	SG038	Yes	Inside along baseboards	N wall of kitchen.	0.00	0.00
RES-38	SG038	Yes	Inside along baseboards	S wall of SE bathroom.	0.00	0.00
RES-38	SG038	Yes	Inside along baseboards	N wall of study.	0.00	0.00
RES-38	SG038	Yes	Inside along baseboards	W wall of living room.	0.00	0.00
RES-38	SG038	Yes	Outside along foundation	E side of house and outside SE bathroom.	0.00	0.00
RES-38	SG038	Yes	Outside along foundation	E side of house and outside master bedroom.	0.00	0.00
RES-38	SG038	Yes	Outside along foundation	N side of house and E of main entrance.	0.70	0.70
RES-38	SG038	Yes	Outside along foundation	S side of house and E of back entrance.	0.00	0.00

Key:

VOC = Volatile organic compounds
ppm = Parts per million above background

Source: Ecology and Environment, Inc., 1994

00159.0413

TABLE G-31

AIR INTRUSION - VOC SURVEY - MOTON SCHOOL
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Location Designation	General Location	Specific Location	Total VOC (ppm)	Methane (ppm)
MS	First floor	S wall of hallway and E of room 186.	0.00	NM
MS	First floor	Wash basin at E wall of cafeteria.	0.00	NM
MS	First floor	S wall of hallway and E of room 178.	0.40	NM
MS	First floor	N wall of hallway and E of room 178.	0.40	NM
MS	First floor	E wall of boy's bathroom.	0.40	NM
MS	First floor	S wall of faculty lounge.	0.60	NM
MS	First floor	E wall of auditorium.	0.00	NM
MS	First floor	N entrance near main stairway.	0.60	NM
MS	First floor	N wall of room 144.	0.60	NM
MS	First floor	Elevator shaft.	0.00	NM
MS	First floor	S entrance near cafeteria.	0.00	NM
MS	First floor	N wall of room 177.	0.40	NM
MS	First floor	S wall of room 94.	0.30	NM
MS	First floor	Main stairway landing.	0.00	NM
MS	First floor	N wall of hallway and W of room 144.	0.60	NM
MS	Second floor	S wall of room 227, under sink.	0.00	NM
MS	Second floor	S wall of southernmost hallway, SW of room 217.	0.00	NM

TABLE G-31

AIR INTRUSION - VOC SURVEY - MOTON SCHOOL
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Location Designation	General Location	Specific Location	Total VOC (ppm)	Methane (ppm)
MS	Second floor	N wall of southernmost hallway, SW of room 217.	0.00	NM
MS	Second floor	N wall of southernmost hallway and S of boys bathroom.	0.00	NM
MS	Second floor	N wall of hallway and W of room 237.	0.00	NM
MS	Second floor	W wall of room 232.	0.00	NM
MS	Second floor	E wall of room 232.	0.00	NM
MS	Second floor	E wall of boy's bathroom.	0.00	NM
MS	Second floor	E wall of counselor's office.	0.00	NM
MS	Second floor	Elevator shaft.	0.00	NM
MS	Second floor	N wall of northernmost hallway and W of room 205.	0.00	NM
MS	Second floor	W wall of room 205.	0.00	NM
MS	Second floor	N wall of room 205.	0.00	NM
MS	Second floor	N wall of room 209, under sink.	0.00	NM
MS	Second floor	W end of northernmost hallway near room 211.	0.00	NM
MS	Outside along foundation	NE corner of building.	1.00	0.00
MS	Outside along	N side near NE corner of building.	0.00	0.00

00159.0415

TABLE G-31

AIR INTRUSION - VOC SURVEY - MOTON SCHOOL
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Location Designation	General Location	Specific Location	Total VOC (ppm)	Methane (ppm)
	foundation			
MS	Outside along foundation	N side near center of building.	0.00	0.00
MS	Outside along foundation	N side of building.	0.00	0.00
MS	Outside along foundation	NW cornner of building.	0.00	0.00
MS	Outside along foundation	N side near NW corner of building.	0.00	0.00
MS	Outside along foundation	W side near NW corner of building.	0.00	0.00
MS	Outside along foundation	SW corner of building.	0.00	0.00
MS	Outside along foundation	S side near SW corner of building.	0.00	0.00
MS	Outside along foundation	S side near center of building.	0.00	0.00
MS	Outside along foundation	S side near SE corner of building.	0.00	0.00
MS	Outside along foundation	SE corner of building.	0.00	0.00
MS	Outside along	E side near SE corner of building.	0.00	0.00

TABLE G-31

AIR INTRUSION - VOC SURVEY - MOTON SCHOOL
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Location Designation	General Location	Specific Location	Total VOC (ppm)	Methane (ppm)
	foundation			
MS	Outside along foundation	E side near center of building.	0.00	0.00
MS	Outside along foundation	E side near NE corner of building.	0.00	0.00
MS	Second floor	Stairway landing.	0.00	0.00

Key:

VOC = Volatile organic compounds
ppm = Parts per million above background
NM = Not measured

Source: Ecology and Environment, Inc., 1994

TABLE G-32

AIR INTRUSION - STORM DRAINS
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Location Designation	Specific Location	Total VOC (ppm)
SD-01	Corner of Press & Industry Sts.	0.00
SD-02	Across from 8 Marcus Christian Drive.	0.00
SD-03	Southern-most drain on corner of Agriculture & Press Sts.	0.00
SD-04	Corner of Abundance & Press Sts.	2.00
SD-05	Corner of Abundance & St. Ferdinand Sts.	0.00
SD-06	Intersection of Benefit & St. Ferdinand Sts.	0.00
SD-08	S.E. corner of Almonaster Ave. & Higgins Blvd.	0.00
SD-09	Press St. approx. 100 ft. S of Higgins Blvd.	45.00
SD-10	Intersection of Benefit & Press Sts.	3.00
SD-11	Corner of Vision & Press Sts.	6.00
SD-12	W side of Gordon Plaza, about 50 ft. from Benefit St.	0.00
SD-13	Intersection of Montegut & Humanity Sts.	2.00
SD-14	Intersection of Montegut & Humanity Sts.	0.50
SD-15	Intersection of Montegut and Benefit Sts.	0.50
SD-16	Intersection of Treasure & Benefit Sts.	0.50
SD-17	Intersection of Abundance and Feliciana Sts.	3.50
SD-18	On Feliciana between Abundance and Industry Sts.	10.00
SD-19	On Industry between Feliciana & Clouet Sts.	0.00
SD-20	S end of Clouet St.	0.00

Key:

ft. = feet
VOC = Volatile organic compounds
ppm = Parts per million above background, unfiltered

Source: Ecology and Environment, Inc., 1994

TABLE G-33

AIR INTRUSION - SEWER
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Location Designation	Specific Location	Total VOC (ppm)
MHS-01	Corner of Press & Industry Sts.	0.00
MHS-02	End of Marcus Christian Drive.	30.00
MHS-03	Southern Corner of Agriculture and Press Sts.	200.00
MHS-04	Corner of Abundance & Press Sts.	400.00
MHS-05	Corner of Abundance and St. Ferdinand Sts.	0.00
MHS-06	Intersection of St. Ferdinand & Benefit Sts.	100.00
MHS-07	E side of the N bound lane of Almonaster Ave.	0.00
MHS-08	St. Ferdinand St. between Higgins Blvd. and Benefit St.	0.00
MHS-09	Press St. 100 ft. S of Higgins Blvd.	0.00
MHS-10	Press St., closest to Benefit St.	1.00
MHS-11	Corner of Vision and Press Sts.	40.00
MHS-12	E. side of Gordon Plaza, about 50 ft. from Benefit St.	8.00
MHS-13	N. side of Gordon Plaza, about 50 ft. from Press St.	1.00
MHS-14	Intersection of Montegut & Humanity Sts..	>1000
MHS-15	Intersection of Montegut and Benefit Sts..	>1000
MHS-16	On Treasure St. between Press and Feliciana Sts.	>1000
MHS-17	Intersection of Abundance and Feliciana Sts.	80.00
MHS-18	On Feliciana between Abundance and Industry Sts..	100.00
MHS-19	Intersection of Industry and Clouet Sts..	70.00
MHS-20	S. end of Clouet.	100.00

Key:

ft. = Feet
VOC = Volatile organic compounds
ppm = Parts per million above background, unfiltered

Source: Ecology and Environment, Inc., 1994

TABLE G-34

AIR INTRUSION - CATCH BASINS
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Location Designation	Specific Location	Total VOC (ppm)
CB-01	NW Corner of Industry & Press Sts.	0.00
CB-02	NW corner, Marcus Christian Drive.	0.00
CB-03	E side of Press, south of Agriculture St.	0.00
CB-04	E side of Press, south of Agriculture St.	0.00
CB-06	S side of Benefit, between St. Ferdinand & Press Sts.	0.00
CB-08	SE corner of Almonaster Ave, & Higgins Blvd.	0.00
CB-09	Approximately 100 ft. S of Higgins on Press St.	40.00
CB-10	SE corner of Benefit & Press Sts.	10.00
CB-11	NW Corner of Vision and Press Sts.	8.00
CB-12	W side of Gordon Plaza, about 50 ft. from Benefit St.	0.00
CB-13	S side of Gordon Plaza, about 50 ft. from Press St.	0.00
CB-14	Intersection of Montegut & Humanity Sts.	0.00
CB-15	S side of Benefit and W of Montegut St.	0.00
CB-16	On Treasure St. between Press and Feliciana Sts.	0.00
CB-17	Intersection of Abundance and Feliciana Sts.	0.00
CB-18	On Feliciana between Abundance and Industry Sts.	0.00
CB-19	On Industry between Feliciana & Clouet Sts.	1.00
CB-20	S end of Clouet.	2.00

Key:

ft. = Feet
VOC = Volatile organic compounds
ppm = Parts per million above background, unfiltered

Source: Ecology and Environment, Inc., 1994

TABLE G-35

GARDEN PRODUCE - STUDY GROUP RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Sample No.	Location of Garden	Type of Sample
RES-04	SG004	GP-05	Garden located on NW corner of property.	Carrots
RES-04	SG004	GP-06	Garden located on NW corner of property.	Parsley
RES-34	SG034	GP-01	Garden located on S side of house along E fence.	Garlic
RES-34	SG034	GP-02	Garden located on S side of house along E fence.	Cabbage

Source: Ecology and Environment, Inc., 1994

00159.0424

00159.0425

TABLE G-36

DRINKING WATER - STUDY GROUP RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Sample No.	General Location	Type of Sample	Age of Home (yr.)	Lead-based Plumbing
RES-01	SG001	DW-01	Kitchen sink	3 minute purge	13.00	No
RES-01	SG001	DW-02	Kitchen sink	First draw		
RES-02	SG002	DW-01	Kitchen sink	3 minute purge	13.00	No
RES-02	SG002	DW-02	Kitchen sink	First draw		
RES-03	SG003	DW-01	Kitchen sink	3 minute purge	13.00	No
RES-03	SG003	DW-02	Kitchen sink	First draw		
RES-04	SG004	DW-01	Kitchen sink	3 minute purge	13.00	No
RES-04	SG004	DW-02	Kitchen sink	First draw		
RES-05	SG005	DW-01	Kitchen sink	3 minute purge	13.00	No
RES-05	SG005	DW-02	Kitchen sink	First draw		
RES-06	SG006	DW-01	Kitchen sink	3 minute purge	24.00	No
RES-06	SG006	DW-02	Kitchen sink	First draw		
RES-07	SG007	DW-01	Kitchen sink	3 minute purge	22.00	No
RES-07	SG007	DW-02	Kitchen sink	First draw		
RES-08	SG008	DW-01	Kitchen sink	3 minute purge	22.00	No

TABLE G-36

DRINKING WATER - STUDY GROUP RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Sample No.	General Location	Type of Sample	Age of Home (yr.)	Lead-based Plumbing
RES-08	SG008	DW-02	Kitchen sink	First draw		
RES-09	SG009	DW-01	Kitchen sink	3 minute purge	23.00	No
RES-09	SG009	DW-02	Kitchen sink	First draw		
RES-10	SG010	DW-01	Kitchen sink	3 minute purge	24.00	No
RES-10	SG010	DW-02	Kitchen sink	First draw		
RES-10	SG010	DW-03	Kitchen sink	(Duplicate) 3 minute purge		
RES-12	SG011	DW-01	Kitchen sink	3 minute purge	14+	No
RES-12	SG011	DW-02	Kitchen sink	First draw		
RES-13	SG012	DW-01	Kitchen sink	3 minute purge	14+	No
RES-13	SG012	DW-02	Kitchen sink	First draw		
RES-14	SG013	DW-01	Kitchen sink	3 minute purge	22.00	No
RES-14	SG013	DW-02	Kitchen sink	First draw		
RES-15	SG014	DW-01	Kitchen sink	3 minute purge	Unknown	No
RES-15	SG014	DW-02	Kitchen sink	First draw		
RES-16	SG015	DW-01	Kitchen sink	3 minute purge	13.00	No

00159.0427

TABLE G-36

DRINKING WATER - STUDY GROUP RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Sample No.	General Location	Type of Sample	Age of Home (yr.)	Lead-based Plumbing
RES-16	SG015	DW-02	Kitchen sink	First draw		
RES-17	SG016	DW-01	Kitchen sink	3 minute purge	13.00	No
RES-17	SG016	DW-02	Kitchen sink	First draw		
RES-18	SG017	DW-01	Kitchen sink	3 minute purge	22.00	No
RES-18	SG017	DW-02	Kitchen sink	First draw		
RES-19	SG018	DW-01	Kitchen sink	3 minute purge	26.00	No
RES-19	SG018	DW-02	Kitchen sink	3 minute purge		
RES-11	SG019	DW-01	Kitchen sink	3 minute purge	14+	No
RES-11	SG019	DW-02	Kitchen sink	First draw		
RES-11	SG019	DW-03	Kitchen sink	(Duplicate) 3 minute purge		
RES-20	SG020	DW-01	Kitchen sink	3 minute purge	26.00	No
RES-20	SG020	DW-02	Kitchen sink	First draw		
RES-23	SG021	DW-01	Kitchen sink	3 minute purge	7+	No
RES-23	SG021	DW-02	Kitchen sink	First draw		
RES-22	SG022	DW-01	Kitchen sink	3 minute purge	13.00	No

TABLE G-36

DRINKING WATER - STUDY GROUP RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Sample No.	General Location	Type of Sample	Age of Home (yr.)	Lead-based Plumbing
RES-22	SG022	DW-02	Kitchen sink	First draw		
RES-21	SG023	DW-01	Kitchen sink	3 minute purge	13.00	No
RES-21	SG023	DW-02	Kitchen sink	First draw		
RES-24	SG024	DW-01	Kitchen sink	3 minute purge	26.00	No
RES-24	SG024	DW-02	Kitchen sink	First draw		
RES-25	SG025	DW-01	Kitchen sink	3 minute purge	13.00	No
RES-25	SG025	DW-02	Kitchen sink	First draw		
RES-27	SG027	DW-01	Kitchen sink	3 minute purge	12+	No
RES-27	SG027	DW-02	Kitchen sink	First draw		
RES-28	SG028	DW-01	Kitchen sink	3 minute purge	23.00	No
RES-28	SG028	DW-02	Kitchen sink	First draw		
RES-28	SG028	DW-03	Kitchen sink	(Duplicate) 3 minute purge		
RES-29	SG029	DW-01	Kitchen sink	3 minute purge	8+	No
RES-29	SG029	DW-02	Kitchen sink	First draw		
RES-30	SG030	DW-01	Kitchen sink	3 minute purge	13.00	No

00159.0429

TABLE G-36

DRINKING WATER - STUDY GROUP RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Sample No.	General Location	Type of Sample	Age of Home (yr.)	Lead-based Plumbing
RES-30	SG030	DW-02	Kitchen sink	First draw		
RES-30	SG030	DW-03	Kitchen sink	(Duplicate) First draw		
RES-31	SG031	DW-01	Kitchen sink	3 minute purge	26.00	No
RES-31	SG031	DW-02	Kitchen sink	First draw		
RES-32	SG032	DW-01	Kitchen sink	3 minute purge	12+	No
RES-32	SG032	DW-02	Kitchen sink	First draw		
RES-33	SG033	DW-01	Kitchen sink	3 minute purge	22.00	No
RES-33	SG033	DW-02	Kitchen sink	First draw		
RES-34	SG034	DW-01	Kitchen sink	3 minute purge	22.00	No
RES-34	SG034	DW-02	Kitchen sink	First draw		

Key:

yr. = Years

Source: Ecology and Environment, Inc., 1994

TABLE G-37

TAP WATER - MOTON ELEMENTARY SCHOOL
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Location Designation	Sample No.	Specific Location	Type of Sample
MS001	DW-01	Drinking fountain, E side of library room.	3 minute purge
MS001	DW-02	Drinking fountain, E side of library room.	First draw
MS001	DW-03	Kitchen sink.	3 minute purge
MS001	DW-04	Kitchen sink.	First draw
MS002	DW-01	Drinking fountain, across hall from room 207.	3 minute purge
MS002	DW-02	Drinking fountain, across hall from room 207.	First draw
MS002	DW-03	Drinking fountain, across hall from room 234.	3 minute purge
MS002	DW-04	Drinking fountain, across hall from room 234.	First draw

Source: Ecology and Environment, Inc., 1994

TABLE G-38

DRINKING WATER - BACKGROUND RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Sample No.	General Location	Type of Sample	Age of Home (yr.)	Lead-based Plumbing
RES-26	SG026	DW-01	Kitchen sink	3 minute purge	40.00	Yes
RES-26	SG026	DW-02	Kitchen sink	First draw		
RES-35	SG035	DW-01	Kitchen sink	3 minute purge	6.00	No
RES-35	SG035	DW-02	Kitchen sink	First draw		
RES-36	SG036	DW-01	Kitchen sink	3 minute purge	42.00	No
RES-36	SG036	DW-02	Kitchen sink	First draw		
RES-37	SG037	DW-01	Kitchen sink	3 minute purge	34.00	No
RES-37	SG037	DW-02	Kitchen sink	First draw		
RES-38	SG038	DW-01	Kitchen sink	3 minute purge	34.00	Yes
RES-38	SG038	DW-02	Kitchen sink	First draw		

Key:

yr. = Years

Source: Ecology and Environment, Inc., 1994

TABLE G-39

INDOOR DUST - STUDY GROUP RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Sample No.	General Location	Floor Type	Smokers at Res.	No. of Adults	No. of Children	Age of Youngest	Years at Res.	Nat. Gas Enduser
RES-01	SG001	FD-01	Living room	Linoleum	0	2	1	18 Mo.	13.0	No
RES-01	SG001	FD-02	Bedroom	Carpet						
RES-01	SG001	FD-03	Master bedroom	Carpet						
RES-02	SG002	FD-01	Main entrance	Linoleum	0	4	0	18.00	13.0	No
RES-02	SG002	FD-02	Master bedroom	Carpet						
RES-02	SG002	FD-03	Second bedroom	Carpet						
RES-03	SG003	FD-01	Main entrance	Carpet	2(Quit)	2	3	15.00	Unknown	No
RES-03	SG003	FD-02	Master bedroom	Linoleum						
RES-03	SG003	FD-03	Outside child's bedroom							
RES-04	SG004	FD-01	Main entrance	Linoleum	0	2	1	2.00	13.0	No
RES-04	SG004	FD-02	Bedroom	Carpet						
RES-04	SG004	FD-03	Master bedroom	Carpet						
RES-05	SG005	FD-01	Main entrance	Carpet	1	4	0	N/A	13.0	No
RES-05	SG005	FD-02	Bedroom	Carpet						
RES-05	SG005	FD-03	Bedroom	Carpet						
RES-06	SG006	FD-01	Main entrance	Carpet	2	3	3	9.00	24.0	Yes

TABLE G-39

INDOOR DUST - STUDY GROUP RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Sample No.	General Location	Floor Type	Smokers at Res.	No. of Adults	No. of Children	Age of Youngest	Years at Res.	Nat. Gas Enduser
RES-06	SG006	FD-02	Master bedroom.	Linoleum						
RES-06	SG006	FD-03	Baby's bedroom	Linoleum						
RES-07	SG007	FD-01	Main entrance	Carpet	0	1	0	N/A	19.0	Yes
RES-07	SG007	FD-02	Master bedroom	Carpet						
RES-07	SG007	FD-03	Guest bedroom	Carpet						
RES-08	SG008	FD-01	Main entrance	Linoleum	0	1	2	6.00	Unknown	Yes
RES-08	SG008	FD-02	Bedroom	Linoleum						
RES-08	SG008	FD-03	Bedroom							
RES-09	SG009	FD-01	Main entrance	Linoleum	0	2	3	2.00	2.00	Yes
RES-09	SG009	FD-02	Bedroom	Linoleum						
RES-09	SG009	FD-03	Bedroom	Linoleum						
RES-10	SG010	FD-01	Main entrance	Carpet	1	1	2	9.00	16.0	Yes
RES-10	SG010	FD-02	Master bedroom	Linoleum						
RES-10	SG010	FD-03	Bedroom	Linoleum						
RES-12	SG011	FD-01	Main entrance	Linoleum	1	1	0	N/A	13.0	No
RES-12	SG011	FD-02	Master bedroom	Carpet						

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TABLE G-39

INDOOR DUST - STUDY GROUP RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Sample No.	General Location	Floor Type	Smokers at Res.	No. of Adults	No. of Children	Age of Youngest	Years at Res.	Nat. Gas Enduser
RES-12	SG011	FD-03	Hall	Linoleum						
RES-13	SG012	FD-01	Main entrance	Linoleum	0	1	0	N/A	14.0	No
RES-13	SG012	FD-02	Master bedroom	Carpet						
RES-13	SG012	FD-03	Bedroom	Carpet						
RES-14	SG013	FD-01	Main entrance	Linoleum	1	2	2	Unknown	16.0	Yes
RES-14	SG013	FD-02	Master bedroom	Linoleum						
RES-14	SG013	FD-03	Bedroom	Linoleum						
RES-15	SG014	FD-01	Main entrance	Linoleum	0	2	0	N/A	2.00	No
RES-15	SG014	FD-02	Master bedroom	Carpet						
RES-15	SG014	FD-03	Bedroom	Carpet						
RES-15	SG014	FD-04		Blank						
RES-16	SG015	FD-01	Main entrance	Linoleum	0	3	2	6.00	13.0	No
RES-16	SG015	FD-02	Bedroom	Carpet						
RES-16	SG015	FD-03	Master bedroom	Linoleum						
RES-17	SG016	FD-01	Main entrance	Wood	1	2	0	N/A	13.0	No
RES-17	SG016	FD-02	Bedroom	Carpet						

TABLE G-39

INDOOR DUST - STUDY GROUP RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Sample No.	General Location	Floor Type	Smokers at Res.	No. of Adults	No. of Children	Age of Youngest	Years at Res.	Nat. Gas Enduser
RES-17	SG016	FD-03	Master bedroom	Carpet						
RES-18	SG017	FD-01	Main entrance	Linoleum	1	2	3	9.00	8.00	Yes
RES-18	SG017	FD-02	Bedroom	Linoleum						
RES-18	SG017	FD-03	Bedroom	Linoleum						
RES-19	SG018	FD-01	Main entrance	Linoleum	2	2	2	4.00	1.00	Yes
RES-19	SG018	FD-02	Bedroom	Linoleum						
RES-19	SG018	FD-03	Bathroom	Linoleum						
RES-11	SG019	FD-01	Main entrance	Linoleum	0	2	0	N/A	1.50	No
RES-11	SG019	FD-02	Bedroom	Carpet						
RES-11	SG019	FD-03	Master bedroom	Carpet						
RES-20	SG020	FD-01	Main entrance	Carpet	1(Quit)	2	1	17.00	14.0	Yes
RES-20	SG020	FD-02	Master bedroom	Linoleum						
RES-20	SG020	FD-03	Bedroom	Linoleum						
RES-23	SG021	FD-01	Main entrance	Carpet	0	3	1	3.00	7.00	No
RES-23	SG021	FD-02	Master bedroom	Linoleum						
RES-23	SG021	FD-03	Bedroom	Linoleum						

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TABLE G-39

INDOOR DUST - STUDY GROUP RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Sample No.	General Location	Floor Type	Smokers at Res.	No. of Adults	No. of Children	Age of Youngest	Years at Res.	Nat. Gas Enduser
RES-22	SG022	FD-01	Main entrance	Linoleum	1	2	3	4.00	13.0	No
RES-22	SG022	FD-02	Bedroom	Carpet						
RES-22	SG022	FD-03	Master bedroom	Carpet						
RES-21	SG023	FD-01	Main entrance	Linoleum	1	2	4	6.00	4.00	No
RES-21	SG023	FD-02	Master bedroom	Carpet						
RES-21	SG023	FD-03	Bedroom	Linoleum						
RES-21	SG023	FD-04		Blank						
RES-24	SG024	FD-01	Main entrance	Linoleum	1	3	1	1.00	5.00	Yes
RES-24	SG024	FD-02	Bedroom	Carpet						
RES-24	SG024	FD-03	Bedroom	Carpet						
RES-25	SG025	FD-01	Main entrance	Linoleum	1	3	3	2.00	13.0	No
RES-25	SG025	FD-02	Master bedroom	Carpet						
RES-25	SG025	FD-03	Bedroom	Carpet						
RES-25	SG025	FD-04		Blank						
RES-27	SG027	FD-01	Main entrance	Carpet	0	5	3	2.00	10.0	Yes
RES-27	SG027	FD-02	Master bedroom	Linoleum						

TABLE G-39

INDOOR DUST - STUDY GROUP RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Sample No.	General Location	Floor Type	Smokers at Res.	No. of Adults	No. of Children	Age of Youngest	Years at Res.	Nat. Gas Enduser
RES-27	SG027	FD-03	Bedroom	Linoleum						
RES-28	SG028	FD-01	Main entrance	Linoleum	0	1	3	3.00	3.00	Yes
RES-28	SG028	FD-02	Bedroom	Linoleum						
RES-28	SG028	FD-03	Bedroom	Linoleum						
RES-28	SG028	FD-04		Blank						
RES-29	SG029	FD-01	Main entrance	Linoleum	2	2	8	11 Mo.	8.00	Yes
RES-29	SG029	FD-02	Bedroom	Linoleum						
RES-29	SG029	FD-03	Bedroom	Linoleum						
RES-29	SG029	FD-04		Blank						
RES-30	SG030	FD-01	Main entrance	Carpet	0	4	2	16 Mo.	13.0	No
RES-30	SG030	FD-02	Bedroom	Carpet						
RES-30	SG030	FD-03	Master bedroom	Carpet						
RES-31	SG031	FD-01	Main entrance	Carpet	1	4	1	7 Mo.	21.0	Yes
RES-31	SG031	FD-02	Bedroom	Linoleum						
RES-31	SG031	FD-03	Master bedroom	Linoleum						
RES-32	SG032	FD-01	Main entrance	Linoleum	0	4	3	4.00	8.00	Yes

TABLE G-39

INDOOR DUST - STUDY GROUP RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Sample No.	General Location	Floor Type	Smokers at Res.	No. of Adults	No. of Children	Age of Youngest	Years at Res.	Nat. Gas Enduser
RES-32	SG032	FD-02	Master bedroom	Linoleum						
RES-32	SG032	FD-03	Bedroom	Linoleum						
RES-33	SG033	FD-01	Main entrance	Linoleum	0	1	3	7.00	6 Mo	Yes
RES-33	SG033	FD-02	Bedroom	Linoleum						
RES-33	SG033	FD-03	Master bedroom	Linoleum						
RES-34	SG034	FD-01	Main entrance	Linoleum	1	3	0	N/A	14.0	Yes
RES-34	SG034	FD-02	Master bedroom	Linoleum						
RES-34	SG034	FD-03	Bedroom	Linoleum						

Key:

Mo. = Months
N/A = Not applicable

Source: Ecology and Environment, Inc., 1994

00159.0443

TABLE G-40

INDOOR DUST - BACKGROUND RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Sample No.	General Location	Floor Type	Smokers at Res.	No. of Adults	No. of Children	Age of Youngest	Years at Res.	Nat. Gas Enduser
RES-26	SG026	FD-01	Main entrance	Linoleum	1	3	0	N/A	15.0	Yes
RES-26	SG026	FD-02	Master bedroom	Linoleum						
RES-26	SG026	FD-03	Bedroom	Linoleum						
RES-26	SG026	FD-04		Blank						
RES-35	SG035	FD-01	Main entrance	Linoleum	0	2	1	3.5	6.00	Yes
RES-35	SG035	FD-02	Bedroom	Carpet						
RES-35	SG035	FD-03	Study	Carpet						
RES-36	SG036	FD-01	Main entrance	Carpet	0	1	0	N/A	42.0	Yes
RES-36	SG036	FD-02	Master bedroom	Carpet						
RES-36	SG036	FD-03	Bedroom	Carpet						
RES-37	SG037	FD-01	Main entrance	Carpet	0	2	2	9 Mo.	3.00	Yes
RES-37	SG037	FD-02	Bedroom	Carpet						
RES-37	SG037	FD-03	Master bedroom	Carpet						
RES-38	SG038	FD-01	Main entrance	Wood	0	2	0	N/A	1.00	Yes

TABLE G-40

INDOOR DUST - BACKGROUND RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Sample No.	General Location	Floor Type	Smokers at Res.	No. of Adults	No. of Children	Age of Youngest	Years at Res.	Nat. Gas Enduser
RES-38	SG038	FD-02	Master bedroom	Carpet						
RES-38	SG038	FD-03	Study	Carpet						

Key:

Mo. = Months
N/A = Not applicable

Source: Ecology and Environment, Inc., 1994

TABLE G-41

RESIDENTIAL PAINT - STUDY GROUP RESIDENCES - XRF
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Sample No.	General Location	Specific Location	Substrate	Paint Color
RES-01	SG001	XP-01	Outside	Garage door	Wood	
RES-01	SG001	XP-02	Living/dining room	North wall	Wallboard	White paint
RES-01	SG001	XP-03	Kitchen	West wall	Wallboard	White paint
RES-01	SG001	XP-04	Master bedroom/Child's room	East wall	Wallboard	White paint
RES-01	SG001	XP-05	Outside wood siding	North side	Wood	White paint
RES-01	SG001	XP-06	Outside porch ceiling	East side	Wood	White paint
RES-02	SG002	XP-01	Living/dining room	West wall	Wallboard	Off-white paint
RES-02	SG002	XP-02	Kitchen	East wall	Wallboard	Off-white paint
RES-02	SG002	XP-03	Outside kitchen door	East side	Wood	White paint
RES-02	SG002	XP-04	Outside wood shutters	South side	Wood	White paint
RES-02	SG002	XP-05	Outside wood trim	South side	Wood	White paint
RES-02	SG002	XP-06	Master bedroom	North wall	Wallboard	Off-white paint
RES-03	SG003	XP-01	Outside garage door	East side	Wood	White paint
RES-03	SG003	XP-02	Living/dining room	North wall	Wallboard	Beige paint
RES-03	SG003	XP-03	Child's bedroom	North wall	Wallboard	Pink paint
RES-03	SG003	XP-04	Outside wood siding	North wall	Wood	Beige paint

TABLE G-41

RESIDENTIAL PAINT - STUDY GROUP RESIDENCES - XRF
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Sample No.	General Location	Specific Location	Substrate	Paint Color
RES-03	SG003	XP-05	Outside wood trim	East side	Wood	Beige paint
RES-03	SG003	XP-06	Inside	East wall	Wallboard	Blue paint
RES-04	SG004	XP-01	Child's bedroom	West wall	Wallboard	Pink paint
RES-04	SG004	XP-02	Bedroom	Northeast corner	Wallboard	Blue paint
RES-04	SG004	XP-03	Bedroom	North wall	Wallboard	White paint spray painted on blue paint
RES-04	SG004	XP-04	Kitchen	East wall	Wallboard	Yellow-green paint
RES-04	SG004	XP-05	Outside kitchen door	East side	Wood	Beige paint
RES-04	SG004	XP-06	Outside front porch ceiling	South side	Wood	Beige paint
RES-04	SG004	XP-07	Front porch wood trim	South side	Wood	Beige paint
RES-05	SG005	XP-01	Kitchen	North wall	Wallboard	Beige paint
RES-05	SG005	XP-02	Dining/living room	West wall	Wallboard	Beige paint
RES-05	SG005	XP-03	Southwest bedroom	West wall	Wallboard	Beige paint
RES-05	SG005	XP-04	Outside front door	North side	Wood	Dark beige paint
RES-05	SG005	XP-05	Outside wood trim	Northwest corner	Wood	Beige paint
RES-05	SG005	XP-06	Outside fiberglass gutter	Northwest corner	Fiberglass	Dark brown paint

00159.0447

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RESIDENTIAL PAINT - STUDY GROUP RESIDENCES - XRF
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Sample No.	General Location	Specific Location	Substrate	Paint Color
RES-06	SG006	XP-01	Southwest child's bedroom door	North wall	Wood	Dark brown paint over yellow paint
RES-06	SG006	XP-02	Southwest child's bedroom wood trim	East wall	Wood	Olive green paint
RES-06	SG006	XP-03	Kitchen wood trim next to back	West wall	Wood	Dark brown paint
RES-06	SG006	XP-04	Kitchen window sill	West wall	Wood	Green paint
RES-06	SG006	XP-05	Living room wood trim	East wall	Wood	Dark brown paint
RES-06	SG006	XP-06	Outside back door	West side	Wood	Dark brown paint
RES-06	SG006	XP-07	Outside siding	East side	Particle board	Rust paint
RES-06	SG006	XP-08	Outside siding	West side	Particle board	Green paint
RES-07	SG007	XP-01	Upstairs master bedroom window	North wall	Wood	Beige paint
RES-07	SG007	XP-02	Upstairs master bedroom	South wall	Wallboard	White paint
RES-07	SG007	XP-03	Kitchen wood trim and closet door	East wall	Wood	Beige paint
RES-07	SG007	XP-04	Kitchen	East wall	Wallboard	White paint
RES-07	SG007	XP-05	Outside back door - kitchen entrance	South side	Wood	White paint

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RESIDENTIAL PAINT - STUDY GROUP RESIDENCES - XRF
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Sample No.	General Location	Specific Location	Substrate	Paint Color
RES-07	SG007	XP-06	Inside back door and dining room	South wall	Wood	Dark beige paint
RES-07	SG007	XP-07	Dining room	West wall	Wallboard	Light beige paint
RES-07	SG007	XP-08	Outside siding	North side	Wood	Yellow paint
RES-08	SG008	XP-01	Inside back door - two layers	South wall	Wood	Beige paint
RES-08	SG008	XP-02	Outside back door - kitchen entrance	South side	Wood	Light beige paint
RES-08	SG008	XP-03	Kitchen/dining room	East wall	Cinder block	Beige paint
RES-08	SG008	XP-04	Living room	South wall	Wallboard	Beige paint
RES-08	SG008	XP-05	Outside front door	North side	Wood	Beige paint
RES-08	SG008	XP-06	Living room wood trim by front	North wall	Wood	Beige paint
RES-08	SG008	XP-07	North child's room	North wall	Wallboard	White paint
RES-08	SG008	XP-08	North child's room window sill	North wall	Wood	White paint
RES-08	SG008	XP-09	North child's room door	South wall	Wood	White paint over tan paint
RES-09	SG009	XP-01	Southeast child's bedroom window sill	East wall	Wood	Off-white paint

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RESIDENTIAL PAINT - STUDY GROUP RESIDENCES - XRF
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Sample No.	General Location	Specific Location	Substrate	Paint Color
RES-09	SG009	XP-02	Southeast child's bedroom	South wall	Wallboard	Tan paint
RES-09	SG009	XP-03	Living room	South wall	Wallboard	Tan paint
RES-09	SG009	XP-04	Kitchen - closet door	West wall	Wood	Tan paint
RES-09	SG009	XP-05	Kitchen	West wall	Wallboard	Tan paint
RES-09	SG009	XP-06	Living/dining room trim	North wall	Wood	Tan paint
RES-09	SG009	XP-07	Outside front door	West side	Wood	Tan paint
RES-09	SG009	XP-08	Outside trim above front door	West side	Wood	White paint
RES-10	SG010	XP-01	Inside kitchen back door	West side	Wood	White paint
RES-10	SG010	XP-02	Kitchen	West wall	Wallboard	Beige paint
RES-10	SG010	XP-03	Kitchen trim and sill	West wall	Wood	Green paint
RES-10	SG010	XP-04	Living room	West wall	Wallboard	Gray paint
RES-10	SG010	XP-05	Living room trim	West wall	Wood	Green paint
RES-10	SG010	XP-06	Living room window sill	East wall	Wood	White paint
RES-10	SG010	XP-07	Outside front door	East side	Wood	White paint
RES-10	SG010	XP-08	Upstairs hallway wood trim	South wall	Wood	Blue paint
RES-10	SG010	XP-09	Upstairs southwest child's room	North wall	Wood	Tan paint on beige paint

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RESIDENTIAL PAINT - STUDY GROUP RESIDENCES - XRF
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Sample No.	General Location	Specific Location	Substrate	Paint Color
RES-10	SG010	XP-10	Upstairs southwest child's room	North wall	Wallboard	Tan paint
RES-10	SG010	XP-11	Upstairs southwest child's room	West wall	Wood	Tan paint on green paint
RES-10	SG010	XP-12	Outside second story siding	East side	Wood	Gold paint
RES-12	SG011	XP-01	Kitchen	South wall	Wallboard	Beige paint
RES-12	SG011	XP-02	Kitchen wood trim	East wall	Wood	Beige paint
RES-12	SG011	XP-03	Outside front door	South side	Wood	Gold paint
RES-12	SG011	XP-04	Outside wood siding	South side	Wood	Dark gold paint
RES-12	SG011	XP-05	Bedroom	East wall	Wallboard	White paint
RES-12	SG011	XP-06	Bedroom window sill	North wall	Wood	White paint
RES-12	SG011	XP-07	Living room window sill	North wall	Wood	Beige paint
RES-12	SG011	XP-08	Living room	East wall	Wallboard	White paint
RES-12	SG011	XP-09	Outside wood siding	North side	Wood	Tan paint
RES-13	SG012	XP-01	Southeast bedroom wood trim	West wall	Wood	Beige paint
RES-13	SG012	XP-02	Southeast bedroom	East wall	Wallboard	Beige paint
RES-13	SG012	XP-03	Dining/living room	East wall	Wallboard	Beige paint

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RESIDENTIAL PAINT - STUDY GROUP RESIDENCES - XRF
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Sample No.	General Location	Specific Location	Substrate	Paint Color
RES-13	SG012	XP-04	Dining/living room window sill	North wall	Wood	Beige paint
RES-13	SG012	XP-05	Kitchen	East wall	Wallboard	Beige paint
RES-13	SG012	XP-06	Kitchen wood trim	South wall	Wood	Beige paint
RES-13	SG012	XP-07	Outside front door	West side	Wood	Gold paint
RES-13	SG012	XP-08	Outside wood siding	West side	Wood	Gold paint
RES-14	SG013	XP-01	Outside kitchen door	East side	Wood	Dark brown paint
RES-14	SG013	XP-02	Inside kitchen window sill	East wall	Wood	White paint
RES-14	SG013	XP-03	Kitchen	North wall	Wallboard	Green paint
RES-14	SG013	XP-04	Living room	South wall	Wallboard	Dark pink paint
RES-14	SG013	XP-05	Living room inside front door	East wall	Wood	White paint
RES-14	SG013	XP-06	Outside front door	East side	Wood	Dark brown paint
RES-14	SG013	XP-07	Upstairs northeast child's room	South wall	Wallboard	Dark blue paint
RES-14	SG013	XP-08	Upstairs northeast child's room	South wall	Wood	White paint on tan paint

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RESIDENTIAL PAINT - STUDY GROUP RESIDENCES - XRF
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Sample No.	General Location	Specific Location	Substrate	Paint Color
RES-14	SG013	XP-09	Upstairs hallway	South wall	Wallboard	Turquoise paint
RES-14	SG013	XP-10	Outside siding	East side	Particle board	Gold paint
RES-15	SG014	XP-01	Living/dining room	South wall	Wallboard	Beige paint
RES-15	SG014	XP-02	Kitchen	East wall	Wallboard	White paint
RES-15	SG014	XP-03	Dining room	West wall	Wallboard	Pink paint
RES-15	SG014	XP-04	Outside back door	West side	Wood	White paint
RES-15	SG014	XP-05	Southeast child's room	West wall	Wallboard	Green paint
RES-15	SG014	XP-06	Outside front door	East side	Wood	White paint
RES-15	SG014	XP-07	Outside trim	East side	Fiberglass	White paint
RES-16	SG015	XP-01	Kitchen	South wall	Wallboard	Yellow paint
RES-16	SG015	XP-02	Outside back door	North side	Wood	Beige paint
RES-16	SG015	XP-03	Living room	East wall	Wallboard	Beige paint
RES-16	SG015	XP-04	Child's bedroom, next to bath	South wall	Wallboard	Pink paint
RES-16	SG015	XP-05	Southwest child's bedroom	East wall	Wallboard	Blue paint
RES-16	SG015	XP-06	Outside garage door	South side	Wood	Beige paint
RES-16	SG015	XP-07	Outside wood trim	North side	Wood	Beige paint
RES-17	SG016	XP-01	Master bedroom	West wall	Wallboard	White paint

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RESIDENTIAL PAINT - STUDY GROUP RESIDENCES - XRF
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Sample No.	General Location	Specific Location	Substrate	Paint Color
RES-17	SG016	XP-02	Kitchen	North wall	Wallboard	White paint
RES-17	SG016	XP-03	Living room	South wall	Wallboard	White paint
RES-17	SG016	XP-04	Outside wood trim next to metal	South side	Wood	White paint
RES-17	SG016	XP-05	Outside ceiling on front porch	South side	Wood	White paint
RES-18	SG017	XP-01	Outside back door	South side	Wood	Green paint
RES-18	SG017	XP-02	Kitchen inside back door	South wall	Wood	White paint
RES-18	SG017	XP-03	Kitchen window sill	South wall	Wood	White paint
RES-18	SG017	XP-04	Kitchen	West wall	Cinder block	Green paint
RES-18	SG017	XP-05	Living room/hall	West wall	Wallboard	Light blue paint
RES-18	SG017	XP-06	Living room window sill	North wall	Wood	White paint
RES-18	SG017	XP-07	Living room	West wall	Wallboard	White paint
RES-18	SG017	XP-08	Outside front door	North side	Wood	White paint
RES-18	SG017	XP-09	Upstairs south child's room window sill	South wall	Wood	Beige paint
RES-18	SG017	XP-10	Upstairs south child's room	North wall	Wood	Dark brown paint
RES-18	SG017	XP-11	Upstairs south child's room	South wall	Wallboard	Beige paint

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RESIDENTIAL PAINT - STUDY GROUP RESIDENCES - XRF
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Sample No.	General Location	Specific Location	Substrate	Paint Color
RES-18	SG017	XP-12	Upstairs south child's room door	North wall	Wood	Beige paint
RES-18	SG017	XP-13	Outside siding	North side	Particle board	Gold paint
RES-19	SG018	XP-01	Outside kitchen door	North side	Wood	Tan paint
RES-19	SG018	XP-02	Inside kitchen door	North side	Wood	Tan paint
RES-19	SG018	XP-03	Kitchen	North wall	Wallboard	Tan paint
RES-19	SG018	XP-04	Kitchen window sill	North wall	Wood	Tan paint
RES-19	SG018	XP-05	Dining/living room	West wall	Wallboard	Tan paint
RES-19	SG018	XP-06	Dining/living room wood trim	West wall	Wood	Tan paint
RES-19	SG018	XP-07	Outside front door	South wall	Wood	Tan paint
RES-19	SG018	XP-08	Upstairs child's room window sill	North wall	Wood	Tan paint
RES-19	SG018	XP-09	Upstairs child's room	South wall	Wallboard	Tan paint
RES-19	SG018	XP-10	Outside siding, second story	South side	Particle board	Light green paint
RES-11	SG019	XP-01	Living room	South wall	Wallboard	Beige paint
RES-11	SG019	XP-02	Living room window sill	West wall	Wood	Beige paint
RES-11	SG019	XP-03	Northeast bedroom	North wall	Wallboard	Beige paint
RES-11	SG019	XP-04	Northeast bedroom window	North wall	Wood	Beige paint

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RESIDENTIAL PAINT - STUDY GROUP RESIDENCES - XRF
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Sample No.	General Location	Specific Location	Substrate	Paint Color
			sill			
RES-11	SG019	XP-05	Kitchen	East wall	Wallboard	Beige paint
RES-11	SG019	XP-06	Kitchen wood trim	North wall	Wood	Beige paint
RES-11	SG019	XP-07	Outside front door	East side	Wood	Dark gold paint
RES-11	SG019	XP-08	Outside siding	East side	Wood	Dark gold paint
RES-11	SG019	XP-09	Outside wood trim	East side	Wood	Rust paint
RES-20	SG020	XP-01	Upstairs south child's bedroom	South wall	Wood	Tan paint
RES-20	SG020	XP-02	Upstairs south child's bedroom	South wall	Wallboard	Tan paint
RES-20	SG020	XP-03	Upstairs south child's bedroom	North wall	Wallboard	Tan paint
RES-20	SG020	XP-04	First floor steps	East side	Wood	Dark brown paint
RES-20	SG020	XP-05	Outside front door	North side	Wood	Beige paint
RES-20	SG020	XP-06	Living room	East wall	Wallboard	Beige paint
RES-20	SG020	XP-07	Living room window sill	North wall	Wood	Beige paint
RES-20	SG020	XP-08	Outside back door	South side	Wood	Beige paint
RES-20	SG020	XP-09	Kitchen	South wall	Wallboard	Beige paint

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RESIDENTIAL PAINT - STUDY GROUP RESIDENCES - XRF
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Sample No.	General Location	Specific Location	Substrate	Paint Color
RES-20	SG020	XP-10	Kitchen window sill	South wall	Wood	Beige paint
RES-20	SG020	XP-11	Outside siding	South side	Particle board	Light green paint
RES-23	SG021	XP-01	Outside front door	North side	Wood	White paint
RES-23	SG021	XP-02	Living room front door	North wall	Wood	Brown paint
RES-23	SG021	XP-03	Kitchen inside back door	South wall	Wood	Brown paint
RES-23	SG021	XP-04	Outside kitchen door	South wall	Wood	White paint
RES-23	SG021	XP-05	Northeast child's bedroom	North wall	Wallboard	Pink paint
RES-23	SG021	XP-06	Outside garage door	North side	Wood	White paint
RES-22	SG022	XP-01	Child's bedroom	South wall	Wallboard	Green paint
RES-22	SG022	XP-02	Kitchen	South wall	Wallboard	White paint
RES-22	SG022	XP-03	Dining room	North wall	Wallboard	Pink paint
RES-22	SG022	XP-04	Outside front door	South side	Wood	Brown paint
RES-22	SG022	XP-05	Outside wood siding	South side	Wood	Rust paint
RES-22	SG022	XP-06	Outside front porch	South side	Concrete	Rust paint
RES-21	SG023	XP-01	Northwest child's bedroom	South wall	Wallboard	Beige paint
RES-21	SG023	XP-02	Kitchen	West wall	Wallboard	Beige paint
RES-21	SG023	XP-03	Living room	North wall	Wallboard	Beige paint
RES-21	SG023	XP-04	Outside garage door	East side	Wood	Beige paint

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RESIDENTIAL PAINT - STUDY GROUP RESIDENCES - XRF
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Sample No.	General Location	Specific Location	Substrate	Paint Color
RES-21	SG023	XP-05	Outside wood trim	East side	Wood	White paint
RES-21	SG023	XP-06	Outside siding	South side	Wood	
RES-24	SG024	XP-01	Upstairs southeast child's bedroom	South wall	Wood	Tan paint
RES-24	SG024	XP-02	Upstairs southeast child's bedroom	North wall	Wallboard	Tan paint
RES-24	SG024	XP-03	Upstairs southeast child's bedroom	North wall	Wood	Tan paint
RES-24	SG024	XP-04	Outside back kitchen door	South side	Wood	White paint
RES-24	SG024	XP-05	Inside kitchen door	South wall	Wood	White paint
RES-24	SG024	XP-06	Kitchen window sill	South wall	Wood	White paint
RES-24	SG024	XP-07	Kitchen	East wall	Cinder block	White paint
RES-24	SG024	XP-08	Living room	West wall	Wallboard	White paint
RES-24	SG024	XP-09	Living room window sill	North wall	Wood	White paint
RES-24	SG024	XP-10	Outside front door	North side	Wood	White paint
RES-24	SG024	XP-11	Outside front step	North side	Concrete	Gray paint
RES-25	SG025	XP-01	Child's bedroom	East wall	Wallboard	Cream paint
RES-25	SG025	XP-02	Kitchen	South wall	Wallboard	White paint
RES-25	SG025	XP-03	Living room	West wall	Wallboard	White paint

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RESIDENTIAL PAINT - STUDY GROUP RESIDENCES - XRF
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Sample No.	General Location	Specific Location	Substrate	Paint Color
RES-25	SG025	XP-04	Outside door jam	South side	Wood	Salmon paint
RES-25	SG025	XP-05	Outside garage door	South side	Wood	Salmon paint
RES-25	SG025	XP-06	Outside porch railing	South side	Wood	White paint
RES-27	SG027	XP-01	Upstairs northeast child's bedroom	North wall	Wood	Beige paint
RES-27	SG027	XP-02	Upstairs northeast child's bedroom	South wall	Wallboard	Beige paint
RES-27	SG027	XP-03	Upstairs northeast child's bedroom	South wall	Wood	Beige paint
RES-27	SG027	XP-04	Living room window sill	South wall	Wood	Beige paint
RES-27	SG027	XP-05	Living room	North wall	Wallboard	Beige paint
RES-27	SG027	XP-06	Living room	West wall	Paneling	Beige paint
RES-27	SG027	XP-07	Outside front door and trim	South side	Wood	Beige paint
RES-27	SG027	XP-08	Kitchen	East wall	Cinder block	Beige paint
RES-27	SG027	XP-09	Kitchen back door	North wall	Wood	Beige paint
RES-27	SG027	XP-10	Kitchen window sill	North wall	Wood	Beige paint
RES-27	SG027	XP-11	Outside kitchen door	North side	Wood	Beige paint
RES-27	SG027	XP-12	Outside second story siding	South side	Concrete	Gray paint

00159.0459

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RESIDENTIAL PAINT - STUDY GROUP RESIDENCES - XRF
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Sample No.	General Location	Specific Location	Substrate	Paint Color
RES-28	SG028	XP-01	Child's bedroom window sill	East wall	Wood	Beige paint
RES-28	SG028	XP-02	Child's bedroom	South wall	Wallboard	Beige paint
RES-28	SG028	XP-03	Kitchen	North wall	Wallboard	Beige paint
RES-28	SG028	XP-04	Kitchen window sill	West wall	Wood	Beige paint
RES-28	SG028	XP-05	Living room	West wall	Wallboard	Beige paint
RES-28	SG028	XP-06	Living room closet door	North wall	Wood	Beige paint
RES-28	SG028	XP-07	Living room door	West wall	Wood	Beige paint
RES-28	SG028	XP-08	Outside front door	West side	Wood	Beige paint
RES-29	SG029	XP-01	Upstairs south child's bedroom	South wall	Wood	Blue paint
RES-29	SG029	XP-02	Upstairs south child's bedroom	East wall	Cinder block	Blue paint
RES-29	SG029	XP-03	Upstairs south child's bedroom	North wall	Wood	Beige paint
RES-29	SG029	XP-04	Kitchen window sill	North wall	Wood	Dark brown paint
RES-29	SG029	XP-05	Kitchen back door	North wall	Wood	Dark brown paint
RES-29	SG029	XP-06	Outside kitchen back door	North side	Wood	Dark brown paint

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RESIDENTIAL PAINT - STUDY GROUP RESIDENCES - XRF
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Sample No.	General Location	Specific Location	Substrate	Paint Color
RES-29	SG029	XP-07	Outside back door jam	West side	Wood	Green paint
RES-29	SG029	XP-08	Kitchen	West wall	Cinder block	Yellow paint
RES-29	SG029	XP-09	Living room	South wall	Wallboard	Blue paint
RES-29	SG029	XP-10	Living room window sill	South wall	Wood	Dark brown paint
RES-29	SG029	XP-11	Outside front door	South side	Wood	Beige paint
RES-30	SG030	XP-01	Child's bedroom	North wall	Wallboard	Green paint
RES-30	SG030	XP-02	Dining room - outside of door	East wall	Wood	Beige paint
RES-30	SG030	XP-03	Living room	South wall	Wallboard	Pink paint
RES-30	SG030	XP-04	Outside front porch	South side	Concrete	Blue-gray paint
RES-30	SG030	XP-05	Outside wood trim next to garage	South side	Wood	Brown paint
RES-30	SG030	XP-06	Outside garage door	South side	Wood	Beige paint
RES-31	SG031	XP-01	Kitchen window sill	North wall	Wood	White paint
RES-31	SG031	XP-02	Kitchen	North wall	Wallboard	White paint
RES-31	SG031	XP-03	Kitchen back door	North wall	Wood	White paint
RES-31	SG031	XP-04	Outside back door	North side	Wood	White paint
RES-31	SG031	XP-05	Living room front door	South wall	Wood	White paint

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RESIDENTIAL PAINT - STUDY GROUP RESIDENCES - XRF
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Sample No.	General Location	Specific Location	Substrate	Paint Color
RES-31	SG031	XP-06	Outside living room front door	South side	Wood	White paint over cream paint
RES-31	SG031	XP-07	Living room window sill	South wall	Wood	White paint
RES-31	SG031	XP-08	Living room	North wall	Wallboard	White paint
RES-31	SG031	XP-09	Upstairs southeast child's bedroom	North wall	Wallboard	White paint
RES-31	SG031	XP-10	Upstairs southeast child's bedroom	North wall	Wood	White paint
RES-31	SG031	XP-11	Outside second story siding	North wall	Wood	White paint
RES-32	SG032	XP-01	Upstairs north child's bedroom	North wall	Wood	White paint
RES-32	SG032	XP-02	Upstairs north child's bedroom	East wall	Wallboard	White paint
RES-32	SG032	XP-03	Upstairs north child's bedroom	South wall	Wood	White paint
RES-32	SG032	XP-04	Kitchen window sill	North wall	Wood	White paint
RES-32	SG032	XP-05	Kitchen closet door	West wall	Wood	Blue paint
RES-32	SG032	XP-06	Kitchen inside back door	North wall	Panelling	Blue paint
RES-32	SG032	XP-07	Outside back door	North side	Wood	White paint

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RESIDENTIAL PAINT - STUDY GROUP RESIDENCES - XRF
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Sample No.	General Location	Specific Location	Substrate	Paint Color
RES-32	SG032	XP-08	Living room	West wall	Wallboard	White paint
RES-32	SG032	XP-09	Living room closet door	West wall	Wood	Blue paint
RES-32	SG032	XP-10	Living room window sill	South wall	Wood	White paint
RES-32	SG032	XP-11	Living room inside front door	South wall	Wood	White paint
RES-32	SG032	XP-12	Outside front door	South side	Wood	White paint
RES-32	SG032	XP-13	Outside screen door	South side	Wood	White paint
RES-33	SG033	XP-01	Kitchen	South wall	Wallboard	Pink paint
RES-33	SG033	XP-02	Kitchen window sill	South wall	Wood	Pink paint
RES-33	SG033	XP-03	Kitchen back door	South wall	Wood	Pink paint
RES-33	SG033	XP-04	Outside back door	South side	Wood	Pink paint
RES-33	SG033	XP-05	Living room	South wall	Wallboard	Green paint
RES-33	SG033	XP-06	Living room inside front door	North wall	Wood	Green paint
RES-33	SG033	XP-07	Outside living room front door	North side	Wood	Beige paint
RES-33	SG033	XP-08	Upstairs southeast child's bedroom	South wall	Wood	Beige paint
RES-33	SG033	XP-09	Upstairs southeast child's bedroom	West wall	Wallboard	Beige paint

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RESIDENTIAL PAINT - STUDY GROUP RESIDENCES - XRF
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Sample No.	General Location	Specific Location	Substrate	Paint Color
RES-33	SG033	XP-10	Upstairs southeast child's bedroom	North wall	Wood	Beige paint
RES-34	SG034	XP-01	Upstairs northwest child's bedroom	North wall	Wood	Blue paint
RES-34	SG034	XP-02	Upstairs northwest child's bedroom	North wall	Wallboard	Blue paint
RES-34	SG034	XP-03	Upstairs northwest child's bedroom	South wall	Wood	Beige paint
RES-34	SG034	XP-04	Kitchen	South wall	Wallboard	Beige paint
RES-34	SG034	XP-05	Kitchen window sill	South wall		Black paint
RES-34	SG034	XP-06	Kitchen door	South wall	Wood	White paint
RES-34	SG034	XP-07	Outside kitchen door	South side	Wood	White paint
RES-34	SG034	XP-08	Living room	West wall	Wallboard	White paint
RES-34	SG034	XP-09	Living room inside front door	North wall	Wood	White paint
RES-34	SG034	XP-10	Outside front door	North side	Wood	White paint
RES-34	SG034	XP-11	Living room window sill	North side	Wood	White paint
RES-34	SG034	XP-12	Outside siding	North wall	Particle board	Yellow paint

Source: Ecology and Environment, Inc., 1994.

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TABLE G-42

RESIDENTIAL PAINT - BACKGROUND RESIDENCES - XRF
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Sample No.	General Location	Specific Location	Substrate	Paint Color
RES-26	SG026	XP-01	Southeast child's bedroom window	South wall	Wood	White paint
RES-26	SG026	XP-02	Southeast child's bedroom	North wall	Wallboard	Beige paint
RES-26	SG026	XP-03	Kitchen wood trim	South wall	Wood	White paint
RES-26	SG026	XP-04	Den wood trim	East wall	Wood	Orange paint
RES-26	SG026	XP-05	Den window sill	North wall	Wood	Orange paint
RES-26	SG026	XP-06	Den back door	West wall	Wood	Orange paint
RES-26	SG026	XP-07	Outside wood trim	East side	Wood	Green paint
RES-26	SG026	XP-08	Outside wood trim	East side	Wood	White paint
RES-26	SG026	XP-09	Outside siding	North side	Wood	White paint
RES-35	SG035	XP-01	Living room window sill	North wall	Wood	Cream paint
RES-35	SG035	XP-02	Living room	West wall	Wallboard	Pink paint
RES-35	SG035	XP-03	Kitchen wood trim	West wall	Wood	White paint
RES-35	SG035	XP-04	Inside kitchen back door	North wall	Wood	White paint
RES-35	SG035	XP-05	Child's bedroom	North wall	Wallboard	Beige paint
RES-35	SG035	XP-06	Child's bedroom window sill	West wall	Wood	Beige paint
RES-35	SG035	XP-07	Outside wood fence	East side	Wood	White paint
RES-35	SG035	XP-08	Outside siding	East side	Wood	Blue paint

TABLE G-42

RESIDENTIAL PAINT - BACKGROUND RESIDENCES - XRF
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Sample No.	General Location	Specific Location	Substrate	Paint Color
RES-35	SG035	XP-09	Outside wood trim	East side	Wood	White paint
RES-36	SG036	XP-01	Outside window sill	West side	Wood	White paint
RES-36	SG036	XP-02	Outside garage door	South side	Wood	White paint
RES-36	SG036	XP-03	Outside back door	East side	Wood	White paint
RES-37	SG037	XP-01	Outside wood trim	North side	Wood	Cream paint
RES-37	SG037	XP-02	Outside wood siding	North side	Wood	Teal paint
RES-37	SG037	XP-03	Outside front door	West side	Wood	Maroon paint
RES-37	SG037	XP-04	Living room	North wall	Plaster	Cream paint
RES-37	SG037	XP-05	Living room wood trim	North wall	Wood	White paint
RES-37	SG037	XP-06	Living room door to hallway	North wall	Wood	White paint
RES-37	SG037	XP-07	Child's bedroom door	North wall	Wood	White paint
RES-37	SG037	XP-08	Child's bedroom	West wall	Plaster	Cream paint
RES-37	SG037	XP-09	Child's bedroom wood trim	South wall	Wood	White paint
RES-38	SG038	XP-01	Living room	North wall	Wallboard	Beige paint
RES-38	SG038	XP-02	Living room wood trim	North wall	Wood	White paint
RES-38	SG038	XP-03	Bedroom wood trim	West wall	Wood	Maroon paint
RES-38	SG038	XP-04	Bedroom window	South wall	Wood	White paint
RES-38	SG038	XP-05	Bedroom	North wall	Wallboard	Cream paint

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TABLE G-42

RESIDENTIAL PAINT - BACKGROUND RESIDENCES - XRF
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Sample No.	General Location	Specific Location	Substrate	Paint Color
RES-38	SG038	XP-06	Kitchen window sill	South wall	Wood	White paint
RES-38	SG038	XP-07	Kitchen wood trim	West wall	Wood	White paint
RES-38	SG038	XP-08	Outside siding - vertical	West side	Wood	White paint
RES-38	SG038	XP-09	Outside siding - horizontal	East side	Wood	White paint
RES-38	SG038	XP-10	Outside window sill	East side	Wood	White paint

Source: Ecology and Environment, Inc., 1994

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TABLE G-43

PAINT CHIP SAMPLES - STUDY GROUP RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Sample No.	General Location	Specific Location	Comments
RES-01	SG001	PC-01	Exterior	Wood garage door on E side.	Same location as SG001-XP-01
RES-04	SG004	PC-01	Exterior	Wooden back door on E side.	Same location as SG004-XP-05
RES-05	SG005	PC-01	Exterior	Outdoor wood trim on NW corner of house.	Same location as SG005-XP-05
RES-05	SG005	PC-02	Exterior	Fiberglass gutter on N side of house.	Same location as SG005-XP-06
RES-06	SG006	PC-01	Interior	Child's room on second floor.	Same location as SG006-XP-01
RES-07	SG007	PC-01	Exterior	South side of wood back door.	Same location as SG007-XP05
RES-08	SG008	PC-01	Exterior	Wood back door, S side.	Same location as SG008-XP-02
RES-08	SG008	PC-02	Interior	Child's bedroom wood door, S wall.	Same location as SG008-XP-09
RES-09	SG009	PC-01	Exterior	Wood front door on W side.	Same locattion as SG009-XP-07
RES-09	SG009	PC-02	Exterior	Metal staircase.	No XRF screening
RES-10	SG010	PC-01	Interior	Child's bedroom, wood door, N wall.	Same location as SG010-XP-09

TABLE G-43

PAINT CHIP SAMPLES - STUDY GROUP RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Sample No.	General Location	Specific Location	Comments
RES-12	SG011	PC-01	Exterior	North side wood trim.	No XRF screening
RES-14	SG013	PC-01	Exterior	Wood back door on E side.	Same location as SG013-XP-01
RES-14	SG013	PC-02	Interior	Wood door of child's bedroom, S wall.	Same location as SG013-XP-08
RES-14	SG013	PC-03	Interior	Wood door of child's bedroom, S wall.	Duplicate of SG013-PC-02
RES-16	SG015	PC-01	Exterior	Wood garage door, S side.	Same location as SG015-XP-06
RES-18	SG017	PC-01	Exterior	Front wood door.	Same location as SG017-XP-08
RES-18	SG017	PC-02	Interior	Wallboard of child's bedroom, S wall.	Same location as SG017-XP-11
RES-11	SG019	PC-01	Interior	NW bedroom wallboard, N wall.	Same location as SG019-XP-03
RES-20	SG020	PC-01	Exterior	Wood back door, S side.	Same location as SG020-XP-08
RES-21	SG023	PC-01	Exterior	South side wood trim.	No XRF screening
RES-24	SG024	PC-01	Interior	South wall of child's bedroom, wood window sill.	Same location as SG024-XP-01
RES-27	SG027	PC-01	Exterior	Wood trim, front door, S side.	Same location as

TABLE G-43

PAINT CHIP SAMPLES - STUDY GROUP RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Sample No.	General Location	Specific Location	Comments
					SG027-XP-07
RES-27	SG027	PC-02	Interior	Wood back door, N wall.	Same location as SG027-XP-09
RES-27	SG027	PC-03	Interior	Wood back door, N wall.	Duplicate of SG027-PC-02
RES-28	SG028	PC-01	Interior	Wood window sill, E wall child's bedroom.	Same location as SG028-XP-01
RES-28	SG028	PC-02	Exterior	Metal staircase.	No XRF screening
RES-29	SG029	PC-01	Exterior	Wood front door, S side.	Same location as SG029-XP-11
RES-30	SG030	PC-01	Exterior	Wood trim on S side.	Same location as SG030-XP-06
RES-31	SG031	PC-01	Interior	Living room, wallboard at bottom of stairs.	No XRF screening
RES-31	SG031	PC-02	Exterior	Wood front door on S side.	Same location as SG031-XP-06

Source: Ecology and Environment, Inc., 1994

TABLE G-44

PAINT CHIP SAMPLES - BACKGROUND RESIDENCES
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Residence No.	Location Designation	Sample No.	General Location	Specific Location	Comments
RES-35	SG035	PC-01	Exterior	Wood fence on E side.	Same location as SG035-XP-07
RES-36	SG036	PC-01	Exterior	Wood trim on W side.	No XRF screening
RES-37	SG037	PC-01	Interior	Plaster wall on S wall in child's bedroom.	Same location as SG037-XP-08
RES-38	SG038	PC-01	Exterior	Metal gutter on W side.	No XRF screening

Source: Ecology and Environment, Inc., 1994

TABLE G-45

SURFACE WATER - CANALS
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Location Designation	Sample No.	General Location	Specific Location
CL001	SW-01	Florida Ave. Canal	200 ft. E of E side of Louisa St. Bridge.
CL002	SW-01	Florida Ave. Canal	100 ft. E of E side of Louisa St. Bridge.
CL003	SW-01	Florida Ave. Canal	45 ft. W of W side of Louisa St. bridge.
CL004	SW-01	Florida Ave. Canal	Beneath first railroad bridge W of Louisa St. Bridge. Approx. 200 ft. W of Louisa St. Bridge.
CL005	SW-01	Florida Ave. Canal	105' W of confluence of Florida Ave. Canal and inlet to SWB pump station.
CL006	SW-01	Florida Ave. Canal	165 ft. W of confluence of Florida Ave Canal and inlet to SWB pump station. Beneath Almonaster St. Bridge.
CL007	SW-01	Peoples Ave Canal	100 ft. N of abandoned crossing at S end of canal
CL007	SW-02	Peoples Ave Canal	Duplicate of SG007-SW-01.
CL008	SW-01	Peoples Ave Canal	1323 ft. N of abandoned crossing and 200 ft. S of pipe crossing

TABLE G-45

SURFACE WATER - CANALS
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Location Designation	Sample No.	General Location	Specific Location
CL009	SW-01	Peoples Ave Canal	100 ft. N of large outfall, W of Higgins Ave.
CL010	SW-01	Peoples Ave Canal	125 ft. N of large outfall, W of Higgins Ave.

Key:

ft. = Feet

Source: Ecology and Environment, Inc., 1994

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TABLE G-46

SEDIMENTS - CANALS
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Location Designation	Sample No.	General Location	Specific Location
CL001	SD-01	Florida Ave. Canal	200 ft. E of E side of Louisa Street Bridge.
CL002	SD-01	Florida Ave. Canal	100 ft. E of E side of Louisa St. Bridge.
CL003	SD-01	Florida Ave. Canal	45 ft. W of W side of Louisa Street Bridge.
CL003	SD-01	Florida Ave. Canal	45 ft. W of W side of Louisa Street Bridge.
CL003	SD-01	Florida Ave. Canal	45 ft. W of W side of Louisa Street Bridge.
CL004	SD-01	Florida Ave. Canal	Beneath first railroad bridge (approx 2000 ft) W of Louisa St bridge
CL005	SD-01	Florida Ave. Canal	105 ft. W of confluence of Florida Ave. Canal and inlet to SWB pump station.
CL006	SD-01	Florida Ave. Canal	165 ft. W of confluence of Florida Ave Canal and inlet to SWB pump station. Beneath Almonaster St. Bridge.
CL007	SD-01	Peoples Ave Canal	100 ft. N of abandoned crossing at S end of canal

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TABLE G-46

SEDIMENTS - CANALS
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Location Designation	Sample No.	General Location	Specific Location
CL007	SD-02	Peoples Ave Canal	Duplicate of SG007-SD-01.
CL008	SD-01	Peoples Ave Canal	1323 ft. N of abandoned crossing and 200 ft. S of pipe crossing
CL009	SD-01	Peoples Ave Canal	100 ft. N of large outfall, W of Higgins Ave.
CL009	SD-01	Peoples Ave Canal	100 ft. N of large outfall, W of Higgins Ave.
CL010	SD-01	Peoples Ave Canal	125 ft. N of large outfall, W of Higgins Ave.

Key:

ft. = Feet

Source: Ecology and Environment, Inc., 1994

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APPENDIX H

X-RAY FLUORESCENCE PROTOCOL

H.1 X-RAY FLUORESCENCE SOIL ANALYSIS PROTOCOL

X-ray fluorescence (XRF) was performed on approximately 400 surface and subsurface soil samples to determine metals concentrations, with lead as the primary metal of concern. The Spectrace 9000 XRF spectrometer was used to survey soil samples and report select metals, including chromium, manganese, iron, cobalt, nickel, copper, zinc, arsenic, selenium, strontium, zirconium, molybdenum, mercury, lead, and rubidium concentrations in soils. Additional elements were concurrently analyzed to calculate inter-elemental interferences, including potassium, calcium, titanium, cadmium, tin, antimony, barium, uranium, and thorium. While these elements are reported in the raw data, they are not included in the Remedial Removal Integrated Investigation (RRII) results.

The Spectrace 9000 was operated in an on-site mobile laboratory. A minimum of 4 ounces of soil was collected in labeled zip-lock bags and submitted to the laboratory manager for analysis. Samples were tracked upon receipt by recording them in a sample receipt logbook. An aliquot from each sample was homogenized and was then placed on a labeled paper plate and dried in an oven at 120°C for 15 to 30 minutes. The aliquot was then crushed to a fine powder with an agate mortar and pestle before being placed in an XRF sample cup and sealed with 0.2 micrometer (μm) Mylar film. Sample preparation equipment was decontaminated before and between sample preparations with a soap and water solution, triple rinsed with deionized water, and dried with a paper towel. The prepared sample was irradiated for 200 seconds for the cadmium-109 source, and 100 seconds for each the iron-55 and americium-241 sources. Samples were analyzed for the above-mentioned elements.

Mechanical failure and lack of availability required that four instruments (serial numbers Q024, Q028, Q037, and Q045) be used throughout the analyses to ensure continuity of operations. Instrument detection limits (IDLs) were determined for each instrument and for each element. Values reported as less than the IDL are bracketed. Undetected values are reported as the IDL flagged with a "U." All values are reported in parts per million (ppm).

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All sample collection, preparation, quality assurance/quality control (QA/QC) and analysis was conducted according to United States Environmental Protection Agency's (EPA's) Environmental Response Team (ERT) Standard Operating Procedure (SOP) for the Spectrace 9000 XRF (see page H-7). QA/QC procedures and results are presented in Appendix J.

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H.2 XRF PAINT ANALYSIS PROTOCOL

Screening for lead in paint from study group and background residences was conducted with the Spectrace 9000 XRF. The Spectrace 9000 XRF was used for *in situ* paint measurements (i.e., on walls) of lead and reported concentrations in painted surfaces in milligrams per square centimeter (mg/cm^2).

The Spectrace 9000 XRF spectrometer generates and focuses X-rays on the paint surface, causing lead in the paint, if present, to fluoresce at characteristic X-ray wavelengths, the intensity of which is measured by the instrument and related to the amount of lead in the paint. The Spectrace 9000 measures a complete fluorescence spectrum, which is analyzed by the instrument's software.

Two lead wavelengths are used, the K-alpha and L-alpha, which are emitted from the K and L electron shells. The K-alpha line (Pb K) is a penetrative high-energy wavelength and is used to measure multiple layers of paint; however, the K-alpha line has poor reproducibility, producing high standard deviations and elevated instrument detection limits. The L-alpha (Pb L) is less penetrating and may provide false negative data; however, it is useful for confirming the presence of lead-based paint on the exposed layer. Therefore, E & E used both levels, designated as Pb L and Pb K, to provide a complete assessment of the results.

The three most frequently occupied rooms or areas of the residence were screened. Up to four surfaces (painted woodwork and walls) were evaluated in three separate rooms. The subject areas were the kitchen, the room next most utilized by the child, and the child's bedroom. If these rooms were unpainted or overlapped in function, or if no children were present in the home, other rooms were selected. Three 60-second readings were taken from each screened material.

Unpainted surfaces such as paneling, wallpaper, and unpainted woodwork were not screened. Materials with metal substrates were not analyzed due to possible lead contribution. When painted woodwork was screened, three separate readings were taken at three different

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locations on the woodwork. When screening the painted walls, one reading was taken on each of three separate wall areas, either on the same wall or on different walls within a room. For exterior paint, three separate areas on the outside of the structure were screened for lead. As with interior screening, unpainted surfaces were not considered. The selection of area to be screened for interior and exterior areas was based on the apparent differences in the color and/or age of paint, the apparent condition of paint, and the differences in surfaces (for example, siding versus trim).

Daily instrument detection limits (IDLs) for both the Pb L and PB K results were determined by calculating three times the standard deviation of the mid-range National Institutes of Standards and Technology (NIST) standard results. Values reported as less than the IDL are bracketed. Undetected values are reported as the IDL flagged with a "U." All values are reported in mg/cm^2.

All sample collection, preparation, QA/QC, and analysis were conducted according to EPA's ERT SOP for the Spectrace 9000 XRF (see page H-7). QA/QC procedures and results are presented in Appendix J.

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1.0 SCOPE AND APPLICATION

The purpose of this Standard Operating Procedure (SOP) is to serve as a guide to the start-up, check-out, operation, calibration, and routine use of the Spectrace 9000 instrument for field use in screening hazardous or potentially hazardous inorganics. It is not intended to replace or diminish the use of the Spectrace 9000 Operating Instructions. The Operating Instructions contain additional information for optimizing instrument performance and for utilizing its for different applications.

The procedures contained herein are general operating procedures which may be changed as required, depending on site conditions, equipment limitations, limitations imposed by the Quality Assurance\Quality Control (QA\QC) procedure or other protocol limitations. In all instances, the procedures finally employed should be documented and included in any or all final reports.

1.1 Principles of Operation

X-Ray Fluorescence (XRF) Spectroscopy is a non-destructive qualitative and quantitative analytical technique used to determine the chemical composition of samples. In a source excited XRF analysis, primary X-rays emitted from a sealed radioisotope source are utilized to irradiate samples. During interaction of the source X-rays with samples, the source X-rays may either undergo scattering (dominating process) or absorption by sample atoms in a process known as the photoelectric effect. This most useful analytical phenomenon originates when incident radiation knocks out an electron from the innermost shell of an atom. The atom is excited and releases its surplus energy almost instantly by filling the created vacancy with an electron from one of the higher energy shells. This rearrangement of electrons is associated with the emission of X-rays characteristic (in terms of energy) of the given atom. This process is referred to as emission of fluorescent X-rays (fluorescent yield). The overall efficiency of the process described is referred to as excitation efficiency and is proportional to the product of the absorption coefficient and the fluorescent yield.

The Spectrace 9000 utilizes characteristic X-ray lines originating from the innermost shells of the atoms K, L, and occasionally M. The characteristic X-ray lines of the K series are the most energetic lines for any element and, therefore, are the preferred analytical lines. The K lines are always accompanied by the L and M lines of the same element. However, being of much lower energy than the K lines, they can usually be neglected for those elements for which the K lines are analytically useful. For heavy elements (such as cerium (Ce), atomic number (Z)=58, to uranium (U), Z=92), the L lines are the preferred lines for analysis. The L_α and L_β lines have almost equal intensities, and the choice of one or the other depends on what interfering lines might be present. A source just energetic enough to excite the L lines will not excite the K lines of the same element. The M lines will appear together with the L lines.

The Spectrace 9000 Operating instructions contain a table that identifies the X-rays (K or L) and elements measured for each excitation source.

An X-ray source can excite characteristic X-rays from an element only if the source energy is greater than the absorption edge energy for the particular line group (e.g., K absorption edge, L absorption edge, M absorpuon edge) of the element. The absorption edge energy is somewhat greater than the corresponding line energy. Actually, the K absorption edge energy is approximately the sum of the K, L, and M line energies, and the L absorption edge energy is approximately the sum of the L and M line energies of the particular element.

Energies of the characteristic fluorescent X-rays are converted (within the detector) into a train of electric pulses, the amplitudes of which are linearly proportional to the energy. An electronic multichannel analyzer (electronic unit) measures the pulse amplitudes, which is the basis of a qualitative X-ray analysis. The number of counts at a given energy is representative of element concentration in a sample and is the basis for quantitative analysis.

1.1.1 Scattered X-rays

The source radiation is scattered from the sample by two physical processes: coherent or elastic scattering (no energy loss), and Compton or inelastic scattering (small energy loss). Thus, the backscatter (background signal) actually consists of two components with X-ray lines close together. The higher energy line is equal to the source energy. Since the whole sample takes part in scattering, the scattered X-rays usually yield the most intense lines in the spectrum. Since the scattered X-rays have the highest energies in the spectrum, they contribute most of the total measured intensity signal.

1.2 Sample Types

Solid and liquid samples can be analyzed for elements aluminum (Al) through uranium (U) with proper X-ray source selection and instrument calibration. Typical environmental applications are:

- Heavy metals in soil (in-situ or samples collected from the surface or from bore hole drillings, etc.), sludges, and liquids (e.g., lead (Pb) in gasoline)
- Light elements in liquids (e.g., phosphorus (P), sulphur (S), and chlorine (Cl) in organic solutions)
- Heavy metals in industrial waste stream effluents

- PCB in transformer oil by CI analysis
- Heavy metal air particulates collected on membrane filters, either from personnel samplers or from high volume samplers.
- Lead in paint

2.0 METHOD SUMMARY

The Spectrace 9000 Portable XRF Analyzer employs the radioactive isotope sources iron-55 (Fe-55), cadmium-109 (Cd-109), and americium-241 (Am-241) for the production of primary X-rays. Each source emits a specific energy range of primary X-rays that cause a corresponding range of elements in a sample to produce fluorescent X-rays. When more than one source can excite the element of interest, the appropriate source(s) is selected according to its excitation efficiency for the element of interest. See page 1-2 of the Spectrace 9000 Operating Instructions for a chart of source type versus element range.

The sample is positioned in front of the source-detector window, and sample measurement is initiated which exposes the sample to primary radiation from the source. Fluorescent and backscattered X-rays from the sample enter through the beryllium (Be) detector window and are counted in the high resolution mercuric iodide (HgI_2) detector.

Elemental concentrations are computed using a Fundamental Parameter (FP) algorithm of the form:

$$\text{Concentration} = R \times S \times (1 + \text{SUM}\{A_n \times C_n\})$$

"R" is the measured analyte X-ray intensity relative to the pure element; "S" is a calculated sensitivity coefficient. The quantity SUM{} is a summation of "n"-element absorption-enhancement terms containing calculated alpha-coefficients and iteratively computed element concentrations. The Spectrace 9000 utilizes FP XRF calibrations derived from theoretical considerations (as opposed to empirical data). The menu-driven software in the Spectrace 9000 supports multiple XRF calibrations called "Applications." Each Application is a complete analysis configuration including elements to be measured, interfering elements in the sample, and a set of FP calibration coefficients.

The measurement time of each source is user-selectable. The shorter source measurement times (15 - 30s) are generally used for initial screening and hot spot delineation, while longer measurement times (30 - 500s) are typically used for higher precision and accuracy requirements.

3.0 SAMPLE PRESERVATION, CONTAINERS, HANDLING AND STORAGE

This SOP specifically describes equipment operating procedures for the Spectrace 9000; hence, this section is not applicable to this SOP.

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4.0 INTERFERENCES AND POTENTIAL PROBLEMS

The total method error for XRF analysis is defined as the square root of the sum of squares of both instrument precision and user or application related error. Generally, the instrument precision is the least significant source of error in XRF analysis. User or application related error is generally more significant and will vary with each site and method used. The components of the user or application related error are the following.

4.1 Sample Placement

This is a potential source of error because the X-ray signal decreases as the distance from the radioactive source is increased. However, this error is minimized by maintaining the same distance for each sample.

4.2 Sample Representivity

This can be a major source of error if the sample does not represent the site. Representivity is affected by the soil macro- and micro-heterogeneity. For example, a site contaminated with pieces of slag dumped by a smelting operation will be more heterogenous than a site contaminated by liquid plating waste. This error can be minimized by either mixing a large volume of sample prior to analyzing an aliquot, or by analyzing several locations (in-situ) at each sampling point and averaging the results.

4.3 Reference Analysis

Soil chemical and physical matrix effects may be corrected by using Inductively-Coupled Plasma (ICP) or Atomic Absorption (AA) spectroscopy analyzed site-specific soil samples as calibration samples. A major source of error can result if the samples analyzed are not representative of the site and/or if the analytical error is large. Additionally, when comparing XRF results with reference analyses results, the efficiency of the sample digestion reference analysis should be considered. Some digestion methods may breakdown different sample matrices more efficiently than others.

4.4 Chemical Matrix Effects (Due to the Chemical Composition of the Sample)

Chemical matrix effects result from differences in concentrations of interfering elements. These effects appear as either spectral interferences (peak overlaps) or as X-ray absorption/enhancement phenomena. Both effects are common in soils contaminated with heavy metals. For example, Fe tends to absorb copper (Cu) X-rays, reducing the intensity of Cu measured by the detector. This effect can be corrected mathematically through the use of FP coefficients.

4.5 Physical Matrix Effects (Due to Sample Morphology)

Physical matrix effects are the result of variations in the physical character of the sample. They may include such parameters as particle size, uniformity, homogeneity, and surface condition. For example, consider a sample in which the analyte exists in the form of very fine particles within a matrix composed of much courser material. If two separate aliquots of the sample are prepared in such a way that the matrix particles in one are much larger than in the other, then the relative volume of analyte occupied by the analyte-containing particles will be different in each. When measured, a larger amount of the analyte will be exposed to the source X-rays in the sample containing finer matrix particles; this results in a higher intensity reading for that sample and, consequently, an apparently higher measured concentration for that element.

4.6 Application Error

Generally, the error in the application calibration is insignificant (relative to the other sources of error) IF the instrument's application operating instructions are followed correctly. However, if the sample matrix varies significantly from the design of the application (e.g., using the soils application to analyze a 50% iron mine tailing sample) the application error may become significant.

4.7 Moisture Content

Sample moisture content will affect the analytical accuracy of soils or sludges. The overall error may be a secondary when the moisture range is small (5-20%), or it may be a major source of error when measuring the surface of soils that are saturated with water.

4.8 Cases of Severe X-ray Spectrum Overlaps

When present in the sample, certain X-ray lines from different elements can be very close in energy and, therefore, interfere by producing a severely overlapped spectrum.

The typical spectral overlaps are caused by the K_β line of element Z-1 (or as with heavier elements, Z-2 or Z-3) overlapping with the K_α line of element Z. This is the so-called K_α/K_β interference. Since the K_α:K_β intensity ratio for the given element usually varies from 5:1 to 7:1, the interfering element, Z-1, must be present in large concentrations in order to disturb the measurement of analyte Z. The presence of large concentrations of vanadium (V) could disturb the measurement of chromium (Cr). The V K_α and K_β energies are 4.951 and 5.427 Kev, respectively. The Cr K_α energy is 5.41 Kev. The resolution of the detector is approximately 270 eV. Therefore, large amounts of V in a sample will result in spectral overlap of the V K_β with the Cr K_α peak. The Spectrace 9000 uses overlap factors to correct for K_α/K_β spectral overlaps for the elements of interest for a given application.

Other interferences are K/L, K/M, and L/M. While these are less common, the following are examples of a severe overlap:

As K_α/Pb L_α, S K_α/Pb M_α

In the arsenic (As)/lead case, Pb can be measured from the Pb L_β line, and arsenic from either the As K_α or the As K_β line; this way the unwanted interference can be corrected. However, due to the limits of mathematical corrections, measurement sensitivity is reduced. Generally, As concentrations in samples with Pb:As ratios of 10:1 or more can not be efficiently calculated. This may result in zero As being reported regardless of what the actual As concentration is.

5.0 EQUIPMENT / APPARATUS

5.1 Description of the Spectrace 9000 System

The analyzer utilizes the method of Energy Dispersive X-Ray Fluorescence (EDXRF) spectrometry to determine the elemental composition of soils, sludges, aqueous solutions, oils, and other waste materials.

The Spectrace 9000 analyzer includes three compact, sealed radiation sources contained in a measuring probe. The three excitation sources provided are Fe-55, Cd-109 and Am-241. The analyzer software automatically selects which sources to use and the measurement time for each source based on stored information for each application. The probe is equipped with a high resolution HgI_2 detector. This probe is connected by cable to an environmentally sealed electronic module.

The electronic unit provides internal non-volatile memory for storage of 120 spectra and 300 multi-element analytical reports. An RS-232 serial port is provided for downloading data and spectra to a peripheral device. The multi-element analytical reports and the 2000-channel spectra can be displayed on the instrument's LCD panel. The replaceable and rechargeable internal battery provides for field-portable operation.

The Spectrace 9000 is supplied with three factory-installed FP-based applications (calibrations). A "Soil Samples" application is provided for analysis of soils where the balance of the sample, or that portion not directly measured by the instrument is silica (SiO_2). A "Thin Film" application is provided for analysis of thin films such as air monitoring filters or wipes. A "PbK in Paint" application is provided for analysis of Pb in paint and is reasonably independent of the type of substrate. Additionally, Spectrace will develop calibrations to meet new user applications (e.g., adding elements to the present "Soil Samples" application).

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The Spectrace 9000 can be powered from a 115-volt (or 220-volt) wall outlet or from its four-hour capacity battery. It can be operated in temperatures ranging from 32 to 120° Fahrenheit (F).
The probe and electronic unit may be exposed to a light rain. However, additional protection is provided when the system (electronic unit and probe) is contained in the optional water repellant carrying case.

5.2 Equipment and Apparatus List

5.2.1 Spectrace 9000 Analyzer System

The complete Spectrace 9000 Analyzer System includes:

- Analyzer unit for data acquisition, processing and display
- Hand-held probe including:
  - High-resolution HgI_2 detector
  - Three excitation sources (^{55}Fe, ^{109}Cd, ^{241}Am)
  - Safety cover
- Probe laboratory stand with the following:
  - Base for table top use
  - Safety shield over sample
  - Positioning fixtures for standard 30mm and 40mm X-ray sample cups
- Interconnecting cable
- RS-232C Interface cable
- Two blank check samples
- Pure element check samples
- Battery charger
- Battery pack
- System carrying/shipping case
- Spectrace 9000 Operating Instructions, application software and utilities software. The application software is specific to each unit and cannot be interchanged between different units. The software is identified by the serial number of the unit.

5.2.2 Optional Items

- 31-millimeter (mm) diameter sample cups
- XRF polypropylene film, 0.2 mil thick
- Field carrying case
- Peripheral devices such as a printer or IBM compatible Personal Computer (PC)
- Spare probe window assembly

Spare battery pack, charger and charger adaptor (required to charge spare battery outside of data unit)

See the Spectrace 9000 Accessories Price List for additional options.

For mobile lab or laboratory X-ray sample preparation accessories, such as drying ovens, grinders, sieves, etc., consult general laboratory equipment suppliers.

5.2.3. Limits and Precautions

The probes should be handled in accordance with the following radiological control practices:

1. The probe should always be in contact with the surface of the material being analyzed and the analyzed material should completely cover the probe opening (aperture) when the sources are exposed. Do not remove a sample or move the probe while the indicators show SOURCE ON.

   SOURCE ON indicators are:

   - the message on the screen "SOURCE ON"
   - the flashing light at the base of the probe.

2. When the sources are exposed, under no circumstances should the probe be pointed at the operator or surrounding personnel.

3. Do not place any part of the operator's or co-worker's body in line of exposure when the sources are exposed or partially covered.

4. The probe must be covered with the safety cover or laboratory safety shield when not in use.

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5. Spectrace Instruments must be notified immediately of any condition or concern relative to the probe's structural integrity, source shielding, source switching condition, or operability.

6. The appropriate state agency or the Nuclear Regulatory Commission (NRC) office must be notified (see factory supplied data on radiological safety) immediately of any damage to the radioactive source, or any loss or theft of the device.

7. Labels or instructions on the probe(s) must not be altered or removed.

8. The user must not attempt to open the probe.

9. The source(s) in the probe must be leak-tested every six months as described in the Spectrace 9000 Operating Instructions. The leak test Certificates must be kept on file, and a copy must accompany the instrument at all times.

10. The probe laboratory safety shield assembly must be used when the probe is inverted for measuring samples contained in cups.

11. During operation, the probe must be kept at least 10 feet from computer monitors and any other source of radio frequency (RF). Some monitors have very poor RF shielding and will affect measurement results.

12. The Spectrace 9000 should not be dropped or exposed to conditions of excessive shock or vibration.

Additional precautions include:

1. The probe cable must never be pulled while unplugging the probe. The probe plug should be grasped at the ribbed metal connector and squeezed and pulled gently while unplugging the connector. The connector must never be forced when plugging in the connector.

2. The handle of the electronic unit must not be rotated unless the release buttons on each side of the handle are depressed.

3. The Spectrace 9000 should not be stored at an ambient temperature below -4°F or above 110° F.

4. The battery charging unit should only be used indoors in dry conditions.

5. Battery packs should be changed only in dry conditions.

5.3 Peripheral Devices

The Spectrace 9000 may be used with a wide range of peripheral devices for electronic data capture or printed readout as long as they are compatible with the RS-232 serial I/O protocol. Such devices include terminals, printers, electronic data loggers, personal computers, etc.

5.3.1 Communication Cable Connection

Plug the 25-pin connector of the RS-232 Serial I/O cable into the Spectrace 9000 25-pin D connector (the connection just below the display screen on the electronic unit) and the 9-pin connector of the cable into the serial port of the receiving device.

5.3.2 Communication Port Setup

To communicate with an external device, the Spectrace 9000 MUST be set at the same baud rate, word length, and parity as the receiving device. The Spectrace 9000 allows you to select various configurations for these parameters in the communication (Comm.) port setup portion of the More submenu (accessed from the main menu). The default COM setup for application and utilities software is 9600,N,8,1.

5.3.3 User Software

Refer to your PC software manual for details on additional settings that may be required for proper interfacing between the Spectrace 9000 and your particular software.

5.4 Instrument Maintenance

5.4.1 Probe Window

Should the probe window become damaged or punctured, it should be replaced as soon as possible to prevent dust and moisture from entering the probe. Replacement window assemblies can be ordered from Spectrace Instruments. Note the location of the window aperture; it is closer to one end of the window plate. Simply unscrew the old window plate, press any corner of it and remove. Stretch the O-ring for 10 seconds, and lay it back in the groove. The O-ring must lie flat in the groove in order for the new window plate to be installed. Install the new window assembly in the same orientation as the old. If the surface of the window plat is not flush with the face of the probe, the O-ring has probably come out of the grove. Remove the assembly, and try the same procedure again.

5.4.2 Further Information and Troubleshooting

Refer to the Spectrace 9000 Operating Instructions for additional detailed operational and/or maintenance and troubleshooting instructions. If no solution is found in the manual, contact Spectrace Instruments for assistance.

An instrument log should be maintained to document specific corrective actions taken to alleviate any instrumental problems, or for recording any service that has been performed.

6.0 REAGENTS

Generally, calibration standards are not necessary for site screening and extent of contamination analyses. Optionally, an application (only the Soil Sample application will be discussed here) can be optimized or verified to be 1:1 proportional to another analytical (reference) method. This can be done by analyzing a set of Site-Specific Calibration Standards (SSCS) and performing a regression analysis on the reference (dependent) and the Spectrace 9000 results (independent) for each element of concern. In an application, any element's calibration can be adjusted by entering the desired slope and offset (intercept) in the Adjust Calibration menu. If any element's calibration has been adjusted in an application, "adj" will appear on the results screen. An adjusted element calibration can be changed back to the initial slope and offset values of 1 and 0, respectively, in the application.

6.1 Site-Specific Calibration Standards (SSCS)

SSCS must be representative of the matrix to be analyzed by XRF. The concentration of the target elements in the SSCS should be determined by independent AA or ICP analyses that meet acceptable quality levels for referee data.

6.1.1 SSCS Sampling

See Section 4.2 on sample representivity. The SSCS samples must be representative of the matrix to be analyzed by XRF. It does not make sense to collect SSCS samples in the site containment area if you are interested in investigating off-site contaminant migration. The matrices may be different and could affect the accuracy of the XRF results. If there are two different matrices on site, collect two sets of SSCS samples.

A full range of target element concentrations is needed to provide a representative calibration curve. Mixing high and low concentration soils to provide a full range of target element concentrations is not recommended due to heterogeneity problems. Unlike liquid samples, soil samples cannot be diluted and re-analyzed.

Additionally, collect several SSCS samples in the concentration range of interest. If the action level of the site is 500 mg/kg, providing several SSCS samples will tend to improve the XRF analytical accuracy in this concentration range.

Generally, a minimum of seven appropriate SSCS samples should be taken. A minimum sample size of 4 oz. is recommended. A larger size sample should be taken to compensate for sites with greater content of non-representative material such as rocks and/or organic debris. Standard glass sampling jars should be used.

6.1.2 SSCS Preparation

The SSCS samples should be either by air dried overnight, or oven dried at less than 105° C. Aluminum drying pans or large plastic weighing boats for air drying may be used. After drying, remove all large organic debris and non-representative material (twigs, leaves, roots, insects, asphalt, rocks, etc.).

The sample should be sieved through a 10-mesh stainless steel sieve. Clumps of soil and sludge should be broken up against the sieve using a stainless steel spoon. Pebbles and organic matter remaining in the sieve should be discarded. The under-sieve fraction of the material constitutes the sample.

Although a maximum final particle size of 10-mesh is normally recommended, a smaller particle size may be desired. The sample should be mixed by dividing the sieved soil into quarters and physically mixing opposite quarters with a clean stainless steel spoon. Re-combine and repeat the quartering and mixing procedure three times. Place the sieved sample in a clean glass sample jar and label it with both the site name and sample identification information.

The stainless steel sieves should be decontaminated using soap and water. They should be dried between samples.

One or more plastic XRF sample cups should be filled with the sieved soil for each SSCS sample. A piece of 0.2-mil polypropylene film should be cut and stretched until it is wrinkle-free over the top of the X-ray sample cup and then sealed using the plastic securing ring. The cup should be labeled using both the site name and specimen identification information.

Either the XRF sample cup or the balance of the prepared sample is submitted to the approved laboratory for analysis of the requested element(s) by AA or ICP.

7.0 PROCEDURE

7.1 Prerequisites

If the Spectrace 9000 will be used in a location where AC power outlets are conveniently accessible, connect the battery charger to the electronic unit and plug the charger cord into the outlet. The probe cable must be connected before the power is switched on. Plugging and unplugging this cable with the power on can damage the detector.

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To connect the battery, set the electronics unit on its face and use a flat blade screwdriver to loosen the two one-quarter turn fasteners on the back. Remove the battery pack. Inside, find the cord with the red cap covering the three-pronged plug. Remove the cap and plug it into the battery pack. Put the battery pack into the unit and tighten the fasteners.

Apply power to the Spectrace 9000 by pressing the <ON> button. The electronic unit may not come on with the battery charger hooked up if the battery has been totally drained. The drained battery may require a 10 minute charge prior to startup. In a few seconds the display shows the version of software. If necessary, adjust the contrast knob located on the underside of the front display. This knob can be turned so far that the display appears blank.

The initial screen displays for about 10 seconds and then a prompt will ask if the time and date are set correctly. The date MUST be set correctly otherwise serious errors in the source-decay compensation can result. Additionally, the results tables include the time and date of analysis. The main menu appears after the time and date screens.

If a "battery low" message appears, recharge or change the battery before proceeding, or operate the unit using line voltage.

Allow the Spectrace 9000 to warm up for approximately 30 minutes after it has been turned on before performing analysis.

7.1.1 Gain Control

Automatic gain compensation is a feature of both the Soil and Thin Samples applications that allow operation of the instrument over a wide range of ambient temperatures and from one day to another without standardization. To maintain this gain control compensation, it is necessary to operate it occasionally with a minimum acquisition time of 50 seconds on the Cd-109 source. If the automatic gain control fails or is out of range, an error message will appear on the screen. If the error message continues to appear after repeat analyses, then the Cd-109 measurement time should be checked and/or an energy calibration should be performed. If the problem continues, contact Spectrace Instruments for help.

7.1.2 Setting Data and Spectrum Store/Send Mode

The *Set store/send modes* option is located in the More screen of the main menu. Data and/or Spectrum storage must be enabled for automatic on-board storing to occur. Sufficient memory is available to store up to 300 sets of analytical results and up to 120 spectra (spectra for 40 samples since each sample has three spectra). When the available spectra or results memory is full, the spectra or results storage mode is disabled. The filled spectra or results memory must be cleared (deleted) and the respective store mode enabled before results and/or spectra will be stored again.

7.2 General Keys and Menu Software

This section outlines the general keys and basic menu software. Flow charts which describe the menu structure in detail are located in pages 4-13 through 4-17 of the Spectrace 9000 Operating Instructions.

7.2.1 The Keyboard

The row of numeric keys under the LCD screen performs functions defined by labels that the software writes (a menu) to the bottom line of the display. As you move through the various menus, the keys are redefined to provide an efficient user interface.

The keypad to the right of the screen is used for numeric entry. The <CONT/PAUSE> key (referred to as the <CONT>) is used:

- to enter information as an <ENTER> key
- to begin an analysis
- to pause an analysis in progress

The <-> (left arrow) key is used to edit entries before pressing <CONT>.

7.2.2 The Measure (Ready) Screen

This main menu selection displays the application name, revision date and the count times for each of the three sources, and accesses other options (see flow diagrams in Spectrace 9000 Operating Instructions).

7.2.3 The Choose an Application Screen

This main menu selection lists the applications currently loaded in the unit. Applications are selected and source measurement times may be modified in this screen (see flow diagrams in Spectrace 9000 Operating Instructions).

7.2.4 The Review Stored Results Screen

This main menu selection lists the stored results. *Up* and *Down* scroll are used on many screens. When *Up* and *Down* are displayed, pressing the <0> (zero) key will toggle to *PgUP* and *PgDN* for rapid movement through long lists. Stored results may be reviewed, deleted, or sent out the COM port (see flow diagrams in Spectrace 9000 Operating Instructions).

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7.2.5 The Review Stored Spectra Screen

This main menu selection lists the stored spectra which may be deleted or transmitted to the COM port (see flow diagrams in Spectrace 9000 Operating Instructions). You cannot review spectra under this screen. Spectra may be reviewed in the *Examine Spectrum* portion of the More screen (accessed from the main menu) or in the *Examine Spectrum* portion of the Results screen under the *More Options* menu selection.

7.2.6 The More (Other Functions) Screen

This main menu selection lists the following functions:

- *Set clock/calendar*
- *Comm. port setup*
- *Set store/send modes*
- *Application maintenance*
- *Examine spectrum*

7.2.7 The Results Screen

At the end of the analysis the Results screen is displayed. If the automatic *Store Results* mode is enabled, you will be prompted for sample identification (*ID*) before the Results screen is displayed. *Up* or *DOWN* scrolls the screen to see more results. When *Up* and *Down* are displayed, pressing the <0> key will toggle to *PgUP* and *PgDN* for rapid movement through long lists. *Send* transmits the results report to the COM port. *Store* prompts you to enter an ID and then stores the results in the memory. *Measr* will immediately begin another analysis cycle. *Opts* will bring up the first of two screens (the second screen is located under *More Opts* of the first screen) of special options under the Results screen (see flow diagrams in Spectrace 9000 Operating Instructions). The most frequently used functions are the *Examine Spectrum* and *Enable/Disable Display Thresholds* located on the second screen of options.

7.3 Preoperational Checks

7.3.1 Energy Calibration Check

The energy calibration check is performed daily in the field to verify proper energy calibration. To do this, place the safety cover on the probe. Select the Soil Samples application and measure the safety shield using a minimum acquisition time of 60 seconds for each source. Save the results and spectra for documentation. Select *Examine Spectrum* under the More Options selection of the Results screen. Examine the

spectrum of each source. Locate and record the centroid KeV (using the x12 horizontal magnification) for each of the following peaks:

Source	Peak	Theoretical (KeV)	Specification (KeV)
Cd-109	Pb L-alpha	10.54	+/- 0.040
	Pb L-beta	12.61	+/- 0.040
	Pb L-gamma	14.76	+/- 0.040
	Emission peak	22.10	+/- 0.040
Fe-55	S K-alpha	2.31	+/- 0.010
	Emission peak	5.89	+/- 0.010
Am-241	Pb L-alpha	10.54	+/- 0.050
	Pb L-beta	12.61	+/- 0.050
	Emission peak	59.5	+/- 0.20

Perform an *Energy calibration* (see Spectrace 9000 Operating Instructions) and then do another if any of the peaks fail to meet specification. The energy calibration check should be performed once at the beginning of the day, after an energy calibration, after loading an application, and whenever the instrument exhibits a persistent drift.

7.3.2 Resolution Check

The resolution check examines the detector's ability to resolve X-ray energies. This should be performed once at the beginning of the day. Select the Soil Samples application, and measure a sample of iron using a minimum acquisition time of 60 seconds for the Cd-109 source. Save the results and spectra for documentation. Select *Examine spectrum* under the More Options screen of the Results screen. Examine the Cd-109 spectrum. Locate and record the maximum peak counts (must be >1000 counts) of the iron K-alpha peak (6.4 KeV) using the x12 horizontal magnification. Divide the maximum peak counts by two. Examine the right side of the peak and record the counts and KeV of the channel just above one-half the maximum peak count value. Examine the left side of the peak and record the counts and KeV of the channel just below one-half the maximum peak count value. Subtract the left-side KeV from the right-side KeV. The difference should be less than 0.300 KeV. If the unit fails to meet this specification, call Spectrace Instruments for assistance.

7.3.3 Blank (Zero) Sample Check

The blank (Zero) sample check is performed to monitor the instrument's zero drift. This should be done once at the beginning of the day, after an energy calibration, after loading an application, and whenever the instrument exhibits a persistent drift on a blank or low level sample.

Mount the probe in the laboratory stand and select the Soil Samples application. Disable the display thresholds. This will permit results less then one standard deviation (STD) to be displayed (even negatives). Measure the Teflon™ blank provided with the unit using a minimum acquisition time of 60 seconds for each source. Review the results table. Most (95%) of the elemental results should be 0 ±(2 x STD) (their respective standard deviation), and all of them (99%) should be 0 ±(3 x STD) (their respective standard deviation). Repeat the measurement if the unit fails to meet these specifications. If several elements continue to be significantly out of these specifications, check the probe window and the blank sample for contamination or perform the *Acquire background data* operation located in the Measure (Ready) screen option. Perform the blank (Zero) sample check again. Save the results and spectra for documentation. Enable the display thresholds prior to sample analysis after the blank sample check procedure is completed.

7.3.4 Target Element Response Check

The purpose of the target element response check is to ensure that the instrument and the selected application are working properly prior to performing sample analysis. This check should be performed at the beginning of the day. Use low, mid, and high samples, or standards with known concentrations for some or all of the target elements to be checked. Select a low sample near the quantitation limit of the target elements. Select a mid sample near the site action level and a high sample near the maximum concentration of the target elements expected on site.

These samples should be measured using the same source acquisition times that will be used for sample analysis. Save the sample check results and spectra for documentation.

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7.4 Selecting Source Measuring Time

The source measuring time may be modified under the Measure screen. Zero (seconds) measuring time should never be selected for any source for any application. Generally, for source measurements up to 1000 seconds, the element detection limit will be reduced by 50% for every four-fold (x4) increase in source measuring time. The elements are grouped together according to the radioisotope used for their excitation with typical minimum detection limits shown in Sections 7.4.2 and 7.4.3.

Automatic gain compensation is a feature of both the Soil and Thin Samples applications which allows operation of the instrument over a wide range of ambient temperatures and from one day to another without standardization. To maintain this gain control compensation, it is necessary occasionally to operate with a minimum acquisition time of 50 seconds on the Cd-109 source.

The *Real/live* option toggles between real time (true clock time) and live time (total time the instrument is counting). The latter adds time to the analysis to make up for the time the system is busy processing pulses.

7.4.1 Minimum Source Measuring Times

A minimum measuring time (real or live) of 20 seconds for the Fe-55 source, 30 seconds for the Cd-109 source, and 10 seconds for the Am-241 source is recommended when using the Soil Samples application. Measuring times for a source that excites a target element can be increased if lower detection limits are required.

When using the Thin Samples application, the measuring time for any source may be reduced to 10 seconds if the source does not excite a target element since this application does not correct for interelement effects. If a source excites a target element, a minimum measuring time (real or live) of 60 seconds for the Fe-55 source, 60 seconds for the Cd-109 source, and 120 seconds for the Am-241 source is recommended.

A minimum of 60 seconds is recommended for the Cd-109 source when using the PbK in Paint application.

7.4.2 Typical Minimum Detection Limits (MDLs) for the Soil Samples Application

For source measuring times of 60 seconds, the typical element milligram per kilogram (mg/kg) MDLs for the Soil Samples application are:

Source	Element	mg/kg MDL
Fe-55	Potassium (K)	325
	Calcium (Ca)	150
	Titanium (Ti)	110
	Chromium (CrLo)	180
Cd-109	Chromium (CrHi)	525
	Manganese (Mn)	410
	Iron (Fe)	225
	Cobalt (Co)	205
	Nickel (Ni)	125
	Copper (Cu)	90
	Zinc (Zn)	70
	Mercury (Hg)	60
	Arsenic (As)	50
	Selenium (Se)	35
	Lead (Pb)	30
	Rubidium (Rb)	10
	Strontium (Sr)	10
	Zirconium (Zr)	10
	Molybdenum (Mo)	10
Am-241	Cadmium (Cd)	180
	Tin (Sn)	100
	Antimony (Sb)	65
	Barium (Ba)	20

Generally, for source measurements up to 1000 seconds, the element detection limit will be reduced by 50% for every four-fold (x4) increase in source measuring time. Additionally, more elements may be added to the Soil Samples application. Contact Spectrace Instruments for information about modifications to applications.

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7.4.3 Typical Minimum Detection Limits (MDLs) for the Thin Samples Application

For source measuring times of 200 seconds for the Fe-55 and Cd-109 sources, and 800 seconds for the Am-241 source, the typical element microgram per square centimeter (cm^2) MDLs for the Thin Samples application are:

Source	Element	microgram/cm^2 MDL
Fe-55	Potassium (K)	0.40
	Calcium (Ca)	0.20
	Titanium (Ti)	0.15
	Chromium (CrLo)	0.40
Cd-109	Chromium (CrHi)	0.90
	Manganese (Mn)	0.65
	Iron (Fe)	0.65
	Cobalt (Co)	0.50
	Nickel (Ni)	0.30
	Copper (Cu)	0.65
	Zinc (Zn)	0.40
	Mercury (Hg)	0.45
	Arsenic (As)	0.40
	Selenium (Se)	0.15
	Lead (Pb)	0.50
	Rubidium (Rb)	0.10
	Strontium (Sr)	0.10
	Zirconium (Zr)	0.15
	Molybdenum (Mo)	0.10
Am-241	Cadmium (Cd)	2.5
	Tin (Sn)	2.5
	Antimony (Sb)	1.5
	Barium (Ba)	0.70

Generally, for source measurements up to 1000 seconds, the element detection limit will be reduced by 50% for every four-fold (x4) increase in source measuring time. Use of thick filters, filters with high background or contamination will result in higher MDLs and require a background subtraction. Additionally, more elements may be added to the Thin Samples application. Contact Spectrace Instruments for information about modifications to applications.

7.5 Sample Handling and Presentation

When making XRF measurements, be sure to maintain constant measurement geometry in order to minimize variations in analysis results. Document any anomalies in measurement geometry, sample surface morphology, moisture content, sample grain size, and matrix (see Section 4.0).

7.5.1 Soil Samples

Soil samples may be analyzed either in-situ or in prepared X-ray sample cups. The Soil Samples application assumes the sample to be infinitely thick. For in-situ measurements this is almost always the case but for sample cup measurements it is advisable to fill the cup nearly full and tap it on the bench to compact the soil. This ensures that the sample is as uniformly thick as possible from sample to sample. The Spectrace 9000 laboratory stand and safety shield should be used when analyzing sample cups.

An area for in-situ analysis should be prepared by removing large rocks and debris. The soil surface should be rendered flat and compact prior to analysis. The Spectrace 9000 probe should be held firmly on the ground to maximize instrument contact with the ground. The probe should not be moved during analysis. Analysis of water saturated soils should be avoided. A thin layer of 0.2-mil polypropylene XRF film may be mounted on the surface probe to minimize contamination. Use of varying thicknesses of plastic (bags) have been shown to interfere in the light element measurement and may affect the FP calibration of the other element concentrations. Additionally, plastic may contain significant levels of target element contamination.

Course-grained soils conditions or nuggets of contaminated material may not permit a truly representative sample and may adversely affect the analysis results (typically by under reporting the target element). Such samples should be prepared before analysis. Preparation consistency is important to minimize variation in analytical results.

This application is specifically designed for soil with the assumption that the balance of the material is silica. If samples with a much lighter balance are analyzed, the results will typically be elevated by a factor of two to four. Contact Spectrace Instruments for help in analysis of different matrices.

7.5.2 Thin (Filter) Samples

The Thin Samples application is for analysis of thin samples such as filters or wipes. The detection limits are affected by the thickness of the substrate. Best results are obtained on the thinnest substrates. Always use the probe safety cover when measuring thin samples. This is not only for user safety, it also ensures a controlled background environment and provides a reference signal for the automatic gain control. Probe safety covers should never be interchanged between instruments.

Filters and wipes should be prescreened before use. This will establish the background and contamination levels of the filters or wipes. Care should be used to prevent zinc oxide contamination from disposable gloves. Small 37-mm filters can

be mounted between two layers of 0.2-mil thick polypropylene XRF film on 40-mm XRF cups for analysis. Larger filters can be placed on the probe with a sheet of 0.2-mil thick polypropylene XRF film between the filter and probe to prevent the window from being contaminated. Then the probe safety cover may be placed over the filter prior to analysis. Filters should be presented loaded side down and wrinkle free.

7.5.3 Lead in Paint

The area selected for analysis should be smooth and representative. The Spectrace 9000 probe should be firmly on the surface to maximize instrument contact. The probe should not be moved during analysis.

When used for specimen application, e.g., on paint chips or non-backed films, remember to use the probe safety cover. In the PbK Application, you should also position a thick neutral sample, such as the quartz disk (blank), behind the specimen before closing the safety lid. Otherwise, the PbK X-rays excited in the safety cover will be sensed by the detector. In this application, do not perform the *Acquire background data* option from the list of options under the Ready screen.

8.0 CALCULATIONS

The Spectrace 9000 is a direct readout instrument that does not require any calculations.

9.0 QUALITY ASSURANCE/QUALITY CONTROL

9.1 Precision

The precision of the method is monitored by reading the low or mid SSCS selected as described in Sections 6.1 at the start and end of sample analysis and after approximately every tenth sample (a daily total of seven measurements is recommended). Determining the precision around the site action level can be extremely important if the XRF results are to be used in an enforcement action. Therefore, selection of an SSCS at or near the site action level or level of concern is recommended. The sample is analyzed by the instrument for the normal field analysis time, and the results are recorded. The standard deviation for each dependent element is calculated. The relative standard deviation (RSD) of the sample mean can be used
to calculate precision. The RSD should be within ± 20% for the data to be considered adequately precise.

9.1.1 Preliminary Detection Limit (DL) and Quantitation Limit (QL)

A preliminary DL and QL is needed to give the operator an indication of the

instrument's capability out in the field. A low or blank SSCS sample is selected as described in Section 6.1. More than one standard may be needed to obtain low or blank concentration values for each element. Alternatively, the Teflon™ blank may be used if a blank soil or sediment sample is unavailable. Disable the display thresholds to permit display of low or negative results.

The sample is measured ten times without moving it using the anticipated field analysis measuring time. The standard deviation of the mean for each target element is calculated (using the N-1 formula).

If the standard deviation has a fractional component, round up to the next whole number prior to calculating the DL and QL.

The definition of the DL is three times the calculated standard deviation value.

The definition of the QL is 10 times the calculated standard deviation value.

9.1.2 The Method Minimum Detection Limit (MMDL) and Method Quantitation Limit (MQL)

The MMDL and MQL may be calculated from the measurement of either a low or blank SSCS, selected as described in Section 6.1, at the start and end of sample analysis, and after approximately every tenth sample (a daily total of seven measurements is recommended).

Disable the display thresholds. This will permit results less then one standard deviation (STD) to be displayed (even negatives). Measure the SSCS using the same analysis, measuring time used for the samples. Enable the display thresholds prior to analyzing the next sample.

The standard deviation of the mean for each target element is calculated. If the standard deviation has a fractional component, round up to the next whole number prior to calculating the MMDL and MQL.

The definition of the MMDL is three times the calculated standard deviation value.

The definition of the MQL is 10 times the calculated standard deviation value.

9.2 Reporting Results

All raw XRF data should be reported including the individual results of multiple analyses of samples and sampling points. The average and concentration range of each multiple analysis should also be reported.

A "reported" value for each analysis or average of multiple analyses should be processed in the following manner.

1. Round the value to the same degree of significance contained in the SSCS sample assay values (usually two) if the element's calibration has been adjusted (see Section 6.0).

2. Report all values less than or equal to the MMDL as not detected (ND).

3. Flag and note all values greater than the MMDL and less than or equal to the MQL are flagged (usually with a "J" next to the reported value).

4. Report all values above the MQL and within the linear calibration range (if the element's calibration has been adjusted (see Section 6.0)).

5. Flag and note all values above the linear calibration range (greater than the highest SSCS used in the calibration adjustment procedure) with a "*" next to the reported value.

9.3 Accuracy

Accuracy, relative to a specific digestion method and elemental analysis procedure, is determined by sending an XRF analyzed sample (prepared sample cups may be submitted) out for AA or ICP analysis at a laboratory.

To do a total accuracy check, confirmation samples should be collected throughout the entire sampling effort. A minimum of 10% of the samples should be collected including a number of samples at or near the critical level. The results of the metal analysis (dependent) and the XRF analysis (independent) are evaluated with a regression analysis. The correlation coefficient (R^2) should be 0.7 or greater. All XRF results are multiplied by the slope prior to substitution for metal analysis results in contouring, kriging programs, or removal volume estimates.

Another very important source of potential difference between XRF and AA or ICP results is incomplete digestion of the leaching technique. Since XRF is a total elemental technique, any comparison with referee results must account for the possibility of variable extraction depending upon the extraction method used and its ability to dissolve the mineral form in question.

9.3.1 Matrix Considerations

Other types of QA/QC verification should include verification that the instrument calibration is appropriate for the specific site to be assessed. This includes verification of potential multiple soil matrix types that may exist at a site. Matrix variations that affect the XRF measurement include large variations in calcium

content, such as may be encountered when going from siliceous to calcareous soils, as well as variations in iron content.

10.0 DATA VALIDATION

10.1 Confirmation Samples

Confirmation samples are recommended at a minimum rate of 10%. Confirmation samples are required if QA2 data objectives have been established for site activities. Ideally, the sample cup that was analyzed by XRF should be the same sample that is sent for AA/ICP analysis. When confirming an in-situ analysis, collect a sample from a 6 inch by 6 inch area for both an XRF measurement and confirmation analysis.

The XRF and metals results are analyzed with a regression analysis using either SAS™ or Statgraphics™ software with the intercept forced through zero. The correlation factor between XRF and AA/ICP data should be 0.7 or greater.

10.2 Recording Results

Record all results and monitoring activities in a laboratory or field notebook. Alternatively, record results electronically on a hard drive or floppy disk.

10.3 Downloading Stored Results and Spectra

Results (analytical reports) and spectra which have been stored in the Spectrace 9000 internal memory should be downloaded and captured in disk files on a PC (see Section 5). Spectrace Instruments provides software for this purpose. Additionally, they provide software to prepare results or spectra for importing into a spreadsheet. Refer to the instructions provided with the programs for details on their operation.

Alternatively, other software with terminal data logging capabilities may be used to capture results and spectra to disk files.

After capturing results to a file, print a copy and save both the disk files and the printout for future reference and documentation purposes.

11.0 HEALTH AND SAFETY

When working with potentially hazardous materials, follow USEPA, OSHA, corporate and/or any other applicable health and safety practices.

12.0 REFERENCES

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Date: _____

Site: _____

Spectrace Serial Number: _____

ENERGY CALIBRATION CHECK RESULTS (PbK in Paint Application)

Source		Measurement (KeV)	Theoretical (KeV)	Specifications (KeV)
Cd 109	Pb L-alpha	_____	10.54	+/- 0.040
	Pb L-beta	_____	12.61	+/- 0.040
	Pb K-alpha 1	_____	74.96	+/- 0.10
	Pb K-alpha 2	_____	72.79	+/- 0.10

RESOLUTION CHECK RESULTS (PbK in Paint Application)

Fe maximum height counts = _____ (minimum 1000 counts)

1/2 maximum counts = _____

L KeV at _____ = _____

KeV at _____ = _____

R KeV at _____ = _____

KeV at _____ = _____

Calculated Fe FWHM = _____KeV (Specification <0.300KeV)

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Spectrace 9000

Standard Operating Procedure for the Measurement of Lead in Paint

Spectrace 9000
Standard Operating Procedure
for the Pb-IN-PAINT Application

I. Introduction

Purpose

The purpose of this document is to describe the operation of TN Technologies' ***Spectrace 9000*** in order to measure the amount of lead in paint. See the Spectrace 9000 instruction manual for details on unpacking the instrument, general accessories, using other applications, maintenance and radiation safety etc.

Description of Instrument

The ***Spectrace 9000*** is an X-ray fluorescence analyzer containing radioisotope sources to provide necessary excitation and a high-resolution X-ray detector for the resulting elemental fluorescence. It consists of two main components: a probe and an electronics unit.

Caution: **The probe contains radioactive material. Before using this instrument it is essential that you review the radiation safety procedures and information in the chapter on radiation safety in the Spectrace 9000 main manual.**

Probe

The probe consists of a sealed aluminum enclosure containing a high resolution mercuric iodide (HgI_2) detector and three radioisotope X-ray excitation sources. The probe aperture, through which the analysis is performed, is sealed with a thin, replaceable plastic film. The probe also contains a preamplifier and bias supply for the detector and a mechanism to move the radioisotope sources from their shielded location during an analysis.

Electronics Unit

The electronics unit provides data acquisition, processing, and display capabilities. Sufficient memory is available to store up to 600 sets of analysis results and up to 100 spectra. An RS-232 port allows stored data to be transferred to another computer. The graphics display allows direct viewing and qualitative analysis of the X-ray spectra. The replaceable and rechargeable internal battery provides for field-portable operation.

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II. Operating the Instrument to Measure Lead in Paint

Overview

This section will tell you how to measure lead in paint. The basic steps are:

1. Ready the instrument
2. Turn on the instrument
3. Verify or set the date and time
4. Select the Pb-in-Paint application
5. Turn automatic results storage on or off
6. Select MEASURE from the main menu
7. Verify or set the time to be used for the measurement
8. Run the check procedure if the unit has been off for more than an hour or has been subjected to a significant temperature change. Calibrate at this point if necessary and then perform another check.
9. Press the button on the probe or "CONT" on the analyzer to start a measurement. When the measurement is done, results for the Lead K X-rays and Lead L X-rays will appear on the screen.

Step 9 may now be repeated for further measurements.

These steps will now be described in detail.

Readying the Instrument

Note: The unit is shipped with the battery disconnected.

To connect the battery, set the electronics unit on its face and use the flat blade screwdriver provided to loosen the two ¼-turn fasteners on the back. Remove the battery pack. Inside find the cord with the red cap (it covers a three-pronged plug). Remove the cap and plug it into the battery pack. Put the pack back into the unit—it can only fit one way. Tighten the fasteners. Note; it is a quarter turn do not rotate more than necessary.

Set the electronics up with the handle latched in the bench-top position. Carefully plug the right angle end of the probe cable into the electronics unit and the other end into the probe handle. Look for the red marks on the connectors to assure proper alignment.

If the unit is to be used on the bench for an extended period, use the battery charger provided. (It plugs in right next to the probe cable on the electronics unit.)

Start Up

Press the ON key. In two or three seconds, the display announces the version number of the software. If necessary, adjust the contrast knob located on the underside of the front bezel. This knob can be turned so far that the display appears blank.

The initial screen will display for about ten seconds and then the unit will ask if the time and date are set correctly.

Note: The date must be set correctly otherwise large errors in source-decay compensation can result. Furthermore, reports include time and date of analysis; incorrect settings may cause administrative confusion.

After the time and date screens, the Main Menu will appear.

Enabling or Disabling Automatic Storage of Results

```
                MAIN MENU
        1 Measure
        2 Choose an application
        3 Review stored results
        4 Review stored spectra
        5 More

1       2       3       4       5
```

From the Main Menu screen press 5 (MORE) to bring up the other functions menu. Press 3 (SET STORE/SEND MODES) to bring up the automatic print screen. Press 4 (STORE) to bring up the automatic store screen.

Press 1 (UP) and 2 (DOWN) to position the ">" at the "Results:" line and press 3 (MOD) to toggle storing OFF or ON as is desired.

Press 6 (DONE) and you will return to the Other Functions Menu.

Press 6 again (RETURN TO MAIN MENU) and you will return to the MAIN MENU.

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Selecting the Pb-IN-PAINT Application

Press 2 (CHOOSE AN APPLICATION) while the MAIN MENU is showing.

```
Application library index.

  >   Pb-IN-PAINT
      SOIL ANALYSIS w/U, Th, Ag
      THIN FILMS

UP   DOWN    OK   EXPND     QUIT
1    2       3    4    5     6
```

This brings up the application library index screen that lists the applications in your analyzer.

UP and DOWN scrolls the application list past the " > " pointer (on the left side of the screen).

When the " > " pointer is at the application named "Pb-IN-PAINT" press OK. This will select the lead in paint application.

A question will appear asking if you want to make "Pb-IN-PAINT" the current application. Press YES.

This will bring up the measurement READY SCREEN.

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Options from the Ready Screen

```
Pb-IN-PAINT

-----------------------------------------
Analysis Time        R
      Cd
      60          ------------------------
Modify  |  Cal    | Check|  |Options |
Quit
 1       2        3    4   5        6
```

Analysis Time

Note the analysis time. The number under Cd is the time in seconds that the source will be exposed. The default measurement time will be set by the factory. This measurement time will achieve an acceptable precision based on the source activity. If the words "Analysis Time" are followed by the letter R. this is real time. that is actual time as measured by your watch. If the words "Analysis Time" are followed by a the letter L it indicates that the time is live time, which can be significantly longer than real time.

If you want to change the Analysis Time or switch from live time to real time (or vice versa) press 1 (MODIFY). This will bring up the modify analysis time screen. To change the Analysis Time. press 3 (MOD), enter the desired time in seconds. and push CONT. If you want to switch from live time to real time, press 4 (REAL), or to go from real to live time. press LIVE. Then press EXIT. This will take you back to the ready screen.

Instrument Check

You should check the instrument;(a) at the beginning of each working day, (b) if it has been off for more than an hour or has been subjected to a significant temperature change. Also, it is recommended that the instrument be checked every two hours of operating time. The check procedure assures that the instrument calibration is valid. The section below titled **Checking the Instrument** will take you in detail through the check procedure.

If the check indicates that a calibration should be done, press 2 (CAL). This will take you through a sequence of standards described below under **Calibrating the Pb-IN-PAINT Application. After each calibration repeat the check procedure.**

Press 6 (QUIT) to return to the Main Menu.

Performing a Measurement

Place the probe face flat against the surface that is to be measured. The monopod should be used to hold the probe still against the wall.

Press "CONT" key or the button on the probe to turn the radiation on and perform a measurement. The amount of time left in the measurement will be displayed on the screen.

If the analyzer stops counting down the seconds of the measurement and basically freezes in the count down, press the continue button to abort the measurement. When the measurement is done the results will be displayed.

Results are calculated for both the Lead L X-rays, which are not very penetrating, and for the Lead K X-ray which are much more penetrating.

The Pb-L results mainly indicate the lead content of the surface paint layers, whereas the Pb-K results are a measure of the total lead to a much greater depth.

Usually the Pb-K results are larger than the Pb-L results. As stated above the K x-rays indicate lead to a greater depth.

If the Pb-L results are greater than or equal to the Pb-K results it indicates most of the lead is at the surface. Having both results match gives greater confidence in the result of lead content at the surface.

The results may be displayed with or without the standard deviation in the result shown in the units (mg/cm^2). To switch from one to the other press "OPTS", then 3 (SHOW UNITS OR SHOW STD DEVS).

You may store the results by pressing "STORE". The store option will bring up a screen that allows you to assign a label to the results. If the label starts with a number, this number will automatically be incremented with each successive store. This will also happen if automatic storage is on. In this case, you may press CONT to accept the incremented label, or you may enter a new label in place of it. If the label does not begin with a number, no automatic incrementing takes place and you will need to enter a new label every time results are stored.

You may return to the ready screen by pressing "OPTS" and then pressing 8 (RDY SCREEN). (This is useful if you want to change the analysis time, or run a check on the instrument.)

Many other options are available under the "OPTS" button, and the user is referred to the instruction manual for details.

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Starting the Next Measurement

The next measurement may be started by simply pressing "CONT" or by pressing the button on the probe while viewing previous results or from the ready screen.

III. Checking the Instrument

The check procedure will measure a known set of standards and compare the results to verify the existing calibration.

The instrument should be checked when it is first turned on for a series of measurements and when the temperature of the environment changes significantly. It is also, a good quality control practice to check the instrument every 2 hours or so during a working day.

To initiate the check procedure, press "CHECK" from the ready screen. You will be instructed to place the lead safety cover (the one without a large hole in it) firmly on the probe. Press 1 (PROCEED). A measurement will be taken. (An energy calibration is always performed on this sample.)

If the lead checks out okay, you will be instructed to place the aluminum sample (provided with your analyzer) on the probe. Place the probe on the aluminum sample and press 1 (PROCEED). A measurement will be taken.

If the aluminum checks out okay, you will be instructed to place the NIST 1.02 mg/cm^2 sample on the probe. Place it on the probe, colored side against the probe face backed by the aluminum sample. Press 1 (PROCEED). A measurement will be taken.

If the instrument is working properly the screen will show "UNIT IS OK" and you may press any key to continue.

All of the results of the check measurements are automatically stored. You can download them onto your computer and print them as part of your record for the job performed. If any of the measurement results are out of limits, you will be instructed to perform a calibration.

IV. Calibrating the Pb-IN-PAINT Application

The calibration procedure measures and updates backgrounds and sensitivities. It should be performed whenever the check procedure so indicates.

The procedure consists of measuring three samples: Aluminum, Steel and the Lead safety cover. Always perform the check procedure before conducting a calibration.

To initiate the calibration procedure, press 2 (CAL) from the ready screen.

You will be instructed to place the aluminum sample on the probe. Do so, and press 1 (PROCEED). A measurement will be taken.

You will then be instructed to place the Steel sample (provided with your analyzer) on the probe. Do so, and press 1 (PROCEED). A measurement will be taken.

You will then be instructed to place the lead safety cover sample on the probe and press 1 (PROCEED). Make sure the flat safety cover is fully seated onto the probe. A measurement will be taken and you will return to the ready screen.

The application is now calibrated. You should now run the check procedure to verify instrument calibration.

APPENDIX I

AIR DISPERSION MODEL

I. FUGITIVE DUST MODELING

I.1 METHOD

The Fugitive Dust Model (FDM) is an approved air quality model designed specifically to model concentration and deposition impacts from fugitive dust sources (EPA 1988c). FDM was used to model deposition impacts of fugitive dust or particulate matter associated with the historical operation of the Agriculture Street Landfill (ASL) as summarized in the following discussion. Figures associated with this discussion are presented in Section 5 of the *Remedial Removal Integrated Investigation (RRII) Report for the Agriculture Street Landfill Site*, and references are presented in Section 9 of the RRII.

FDM is designed to work with either pre-processed meteorological data or with meteorological data in the stability array (STAR) format. Meteorological data in the STAR format were used for each modeling scenario examined in this analysis and presented in Figures 5-1 through 5-4 of the RRII. The STAR format classifies wind speeds into 16 wind direction and six stability-class categories. For this analysis, meteorological data from the New Orleans airport (station 12916) were used for the period from 1985 to 1989. This period was determined to be representative of historical meteorological conditions by a comparison of wind conditions from this period to wind conditions during the periods from 1930 to 1938 and from 1958 to 1959. Wind conditions from these two periods proved to be similar to wind conditions from 1985 to 1989, as shown by their respective wind roses (refer to Figures 2-13, 2-14, and 2-15 of the RRII report). Based upon this similarity, STAR data from these five representative meteorological years were averaged and the resulting STAR data file was used for FDM.

FDM can calculate dispersion patterns for a maximum of 121 separate sources, but it cannot perform calculations for nonrectangular sources; therefore, the modeled areas of the landfill were approximated by rectangles to simulate the actual areas to be modeled.

Emissions for each source were classified according to four separate particle-size classes presented in Table I-1. A particle density of approximately 1.6 grams/centimeter^3 was used to model the former landfill site. This value was taken from the *Standard Handbook for Civil Engineering* (1983) for sand and loose gravel. Gravitational settling velocity and deposition velocity were calculated internally by FDM for each particle class.

Table I-1

PARTICLE SIZE AND MASS FRACTION DISTRIBUTION FOR FDM ANALYSIS
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL SITE
NEW ORLEANS, LOUISIANA

	Class 1	Class 2	Class 3	Class 4
Average Particle Diameter	1.25 μm	4.25 μm	8 μm	20 μm
Mass Fraction	0.02	0.02	0.04	0.92

Source: EPA, 1990, *Air Emission Species Manual, Volume II, Particulate Matter Species Profiles*.

Emission factors for the landfill were calculated for three different types of activities. These activities included work performed on the active landfill, wind erosion associated with the exposed areas of the landfill, and building construction performed on the former landfill site after closure. Work performed on the active landfill was assumed to be dumping and bulldozing activities. The emission factor associated with dozing activity on the active landfill was calculated according to the following equation presented in EPA's *Fugitive Dust Background Document and Technical Information Document for Best Available Control Measures* (EPA 1992c). The emission factor was:

$$E = \frac{0.45(s)^{1.5}}{M^{1.4}}$$

where

E = particulate emission rate in kilogram/hour,

s = silt content of soil in percent, or
= 18.6% (average of measured values on site), and

M = moisture content of surface material in percent is 7.9% (default value).

Inserting the values for these variables produces an emission rate for areas of active landfill of 3.0 kilograms/hour, 1.6 tons/month, or 0.83 grams/second.

The emission factor for exposed areas of the landfill was calculated using another equation from EPA's *Fugitive Dust Background Document and Technical Information Document for Best Available Control Measures* (EPA 1992c). This equation is frequently used to calculate emissions from loose piles of particulate and was used in this analysis as an adequate method of determining emission rates from exposed soil. This equation is expressed as follows:

$$E = 1.7\left(\frac{s}{1.5}\right)\left(\frac{365 - p}{235}\right)\left(\frac{f}{15}\right)$$

where

E = particulate emission factor in lbs./day/acre,

s = silt content of soil in percent
= 18.6% (average of measured values on site),

p = number of days with $\geq$ 0.01 inches of precipitation
= 114 (Climates 88), and

f = % of time wind speed > 5.4 meters/second, or
= 20% (1985-1989 meteorological data).

Inserting these values into the equation yields an emission rate of 30 lbs/day/acre, 0.46 tons/month/acre, or 3.98×10^{-5} grams/second/meter^2. This emission rate was used for exposed areas of the landfill.

The emission factor for the areas of building construction were taken from EPA's *Compilation of Air Pollutant Emission Factors, Volume 1: Stationary Point and Area Sources* (EPA 1985). EPA does not provide an equation for this type of activity, but it provides a general emission factor based upon field measurements. The approximate emission factor for general construction work is 1.2 tons/month/acre or 1.04×10^{-4} grams/second/ meter^2. This value applies to construction operation of medium activity levels and moderate silt content. Therefore, this emission factor was deemed applicable for construction activity on the landfill and was used in FDM for modeled areas of construction.

To determine particulate impacts from a specific source or sources, FDM allows for a maximum of 1,200 receptor points to be input to the model. A total of 841 receptors was used in this analysis to accurately determine off-site deposition values from the landfill. These 841 receptors were comprised of three nested receptor grids. The first grid was a near, dense grid extending 1,000 feet from the boundary of the landfill in all directions. Within this grid, receptors were located at 250-foot intervals. The second grid was located 1,000 feet to 2,500 feet from the landfill boundary. This grid was spaced with receptors located every 500 feet. The third and final grid extended from 2,500 to 1,0000 feet, with a receptor spacing of 1,000 feet. The grids were set up in this fashion because it was expected that impacts from the landfill would not extend far beyond its boundary. All emissions were ground level releases that had no associated plume, and typically, the large particle sizes comprising dust tend to settle out quickly. This proved to be the case and FDM calculated negligible deposition impacts on the farthest receptors located 10,000 feet from the landfill.

APPENDIX J

QUALITY ASSURANCE/QUALITY CONTROL (QA/QC)

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LIST OF ACRONYMS

The following list represents many of the acronyms appearing frequently in the text of the quality assurance/quality control results summary (Appendix J) of the Agriculture Street Landfill Remedial Removal Integrated Investigation reorted. All acronyms are defined within the text; this list is provided as a reference guide for the reader.

ASL	Agriculture Street Landfill
BEHP	Bis(2-ethylhexyl)phthalate
BL	Boring location
BNA	Base/neutral acid-extractable
CLP	Contract Laboratory Program
COC	Chain of custody
COD	Chemical oxygen demand
CRQL	Contract-required detection limit
DCB	Decachlorobyphenyl
DL	Detection limit
DQO	Data quality objective
E & E	Ecology and Environment, Inc.
EPA	United States Environmental Protection Agency
ERT	Emergency Response Team
ESAT	Environmental Services and Assistance Team
FID	Flame Ionization Detector
GC	Gas chromatograph
GL	Grid location
HUD	United States Department of Housing and Urban Development
ICP	Inductively coupled argon plasma
IDL	Instrument detection limit
MS/MSD	Matrix spike/matrix spike duplicate
NIST	National Institute of Standards and Technology
OF	Open field (open land background)
OVA	Organic vapor analyzer
PAHs	Polynuclear aromatic hydrocarbons
PbK	K-alpha line
PbL	L-alpha line
PCDD	Polychlorinated dibenzodioxin
PCDF	Polychlorinated dibenzofuran
PID	Photoionization detector
QA/QC	Quality Assurance/Quality Control

QAPjP	Quality Assurance Project Plan
QL	Quantitation limit
RAS	Routine analytical services
RCRA	Research Conservation and Recovery Act
RPD	Relative percent difference
RRF	Relative response factor
RRII	Remedial Removal Integrated Investigation
RSCC	Regional Sample Control Center
RSD	Relative standard deviation
SAP	Sampling and Analysis Plan
SAS	Special analytical services
SDG	Sample Delivery Group
SMO	Sample Management Office
SOP	Standard Operating Procedure
SOW	Statement of Work
TAL	Target analyte list
TAT	Technical Assistance Team
TCL	Target compound list
TCX	Tetrachloro-xylene
TOC	Total organic carbon
TP	Test pit
TR	Traffic report
TSP	Trisodium phosphate
USDA	United States Department of Agriculture
VOA	Volatile organic analysis
VOC	Volatile organic compound
WP	Work Plan
XRF	X-ray fluorescence or X-ray fluorometer
%D	Percent difference

J.1 QUALITY ASSURANCE/QUALITY CONTROL PROCEDURES

The Quality Assurance/Quality Control (QA/QC) procedures governing field and laboratory activities during the Remedial Removal Integrated Investigation (RRII) of the Agriculture Street Landfill (ASL) site are fully described in the Quality Assurance Project Plan (QAPjP). These procedures were used to meet project Data Quality Objectives (DQOs). Deviations from the QAPjP were anticipated in response to actual versus anticipated field conditions (e.g., actual versus expected depth of waste or matrix interferences which precluded meeting QAPjP targets). Deviations from the QAPjP and their potential impact on the reliability and quality of the sample results are noted in the following sections.

J.1.1 Field QA/QC

The QA/QC procedures that were followed maintained the integrity of all sampling activities during the RRII of the ASL site. Particular efforts were made to provide appropriate field QC samples for each sampling task. These field QC samples provided a means of estimating the quality of the analytical data. Also, rigorous documentation procedures, including combined inorganic/organic/dioxin Traffic Reports (TR)/Chain of Custody (COC) records, and daily sample receipt logs were used to ensure that environmental samples were tracked from time of sampling to time of shipment to the appropriate Environmental Protection Agency (EPA) Contract Laboratory Program (CLP) approved laboratory or the EPA regional laboratory.

The QA/QC procedures were followed to ensure that the project requirements for precision, accuracy, reproducibility comparability, and completeness (PARCC) were met.

QC samples collected and submitted from the field were analyzed in CLP laboratories together with the submitted field (test) samples. Field QC sample data were used to evaluate sampling, decontamination, and transport procedures as they related to possible sources of sample contamination, and to determine overall sampling and analytical precision. Summa® canister laboratory blanks, used in place of field canister blanks, did not impact data quality useability.

The field QC samples that were collected include: field duplicate samples, trip blank samples, equipment or rinsate blank samples, field blanks, and split samples (when requested

by the client). In addition, field QC samples were preserved, documented, and transported in the same manner as the samples they represent.

Quality assurance consisted of daily review of sample receipt logs and TR/COC records for consistency, field audits, and a daily check of intended field activities with the ASL RRII site Sampling and Analysis Plan (SAP).

J.1.1.1 Documentation

Thorough documentation of all field sampling activities ensured that sample integrity was maintained during collection, storage and transportation to assigned laboratories. Sample identification and tracking documents were carefully prepared so that sample identification and COC was maintained and sample disposition controlled. The sample identification and tracking system included use of the following documents to maintain sample integrity:

- Field activities/observations were logged on a continuous basis in field notebooks for all field work and on-site laboratory sample screening;
- Sample labels. There were two sample labels affixed to each sample container prior to sample collection. One label contained the unique sample number provided by the EPA sample management office (SMO). The other label contained a unique station location which was used by E & E for sample identification;
- Combined TR/COC records were completed for samples shipped from the ASL site, and copies were sent to the laboratory with the samples the Regional Sample Control Center (RSCC), SMO, and the E & E ASL RRII project office in Dallas, Texas;
- Sample receipt logs were filled out as samples arrived at the on-site sample receipt area from the field. The sample custodian would use the daily receipt logs to inventory samples for shipment; and
- Custody Seals were used to seal every container, to ensure the integrity of the sample during shipment and handling. Custody seals were also used to seal shipping containers containing the samples.

J.1.1.2 Field QC Samples

Field QC samples were analyzed in assigned laboratories along with the other field samples. The purpose of the field QC samples was to assess the sampling and transport

procedures as possible sources of sample contamination, and to determine overall sampling and analytical precision. A summary and evaluation of field QC sample results and potential impact on the data usability are described in Section J.2. A general description of field QC samples collected is provided below.

Trip Blanks are field blanks that were not exposed to field conditions. Their analytical results provided an estimate of the overall level of volatile organic compound (VOC) contamination from all potential sources, including field, transport, and laboratory, that could impact a sample (except ambient field conditions). Trip blanks were prepared in the on-site laboratory by adding organic-free deionized water to 40 ml volatile organic analysis (VOA) vials. One trip blank was included with every sample cooler containing samples to be analyzed for Target Compound List (TCL) VOCs.

Equipment/Rinsate Blanks are field blank samples designed to demonstrate that sampling equipment was properly prepared or decontaminated before field use or that cleaning procedures between sample collection events were sufficient to minimize cross-contamination. Most rinsate blanks were collected by passing organic-free deionized water over sampling equipment and treating the water as a sample in terms of handling and analysis. Rinsate blank samples were analyzed for all applicable parameters. Rinsate blanks for dioxin analysis were prepared by passing Nanograde isopropyl alcohol over sampling equipment and collecting the solution. These samples were then sent for dioxin analysis. At least one rinsate blank per 20 samples for each test and per matrix was collected and analyzed.

Field blanks or bottle blanks are blank samples prepared in the field to assess ambient field conditions. They were prepared by filling empty sample containers at the site with organic-free deionized water. They were handled like environmental samples and were shipped to assigned laboratories. A minimum of one field blank per week for each parameter group and matrix was collected and analyzed.

Dust Filter Blanks were prepared by EPA-assigned laboratories and were handled in the same manner as sample filters. Blanks were preweighed in zip-lock bags, transported to the

field, placed in the dust sampling apparatus, and immediately removed after exposure to ambient field conditions. They were handled as samples and shipped to assigned laboratories for analysis. Three blanks were submitted for Target Analyte List (TAL) metals for all dust (filter) samples.

Summa® Canister Blanks were prepared and analyzed in and by the laboratory that analyzed all samples. This has not impacted the data quality or useability for the ASL site investigation.

Field Duplicates consist of a set of two samples collected independently at a sampling location during a single sampling event. Field duplicates assess the precision of the overall sampling and analytical system and were collected at a rate of one per 20 samples for each matrix and parameter group. The relative percent difference (RPD) between the two sample results provides a measure of the overall sampling and analysis precision. The RPDs were calculated as follows:

$$RPD = \left[\frac{(ORIGINAL - DUPLICATE)}{(ORIGINAL + DUPLICATE)/2}\right] X\ 100$$

Duplicate samples were collected by first homogenizing, then splitting individual samples into aliquots for analysis, with the following exceptions. VOC duplicate samples were not homogenized but were sequentially collected. Variability as displayed by the RPD are expected to be higher than for homogenized samples. The technique required in collection of both ambient air and flux chamber Summa® canisters yielded concurrently collected, collocated samples whose RPDs are expected to exceed homogenized samples.

Split Samples are samples collected in the same manner as the environmental sample except that extra volume was collected so that an aliquot of the sample could be shipped to an independent laboratory. The results of the two laboratories provides a measure of inter-laboratory precision.

J.1.1.3 Decontamination Procedures

Sampling methods and the use of dedicated or disposable sampling equipment were selected to minimize decontamination requirements and the possibility of cross-contamination. Equipment that was not easily or effectively decontaminated was disposed of after sampling. Field sampling equipment was cleaned at the site prior to use, between sampling locations, as specified in the ASL Work Plan (WP) and QAPjP, and prior to demobilization. Decontamination of field equipment was noted in the field logbooks and was conducted as follows:

- Steam clean (drilling equipment only) or clean water rinse immediately after use;
- Soap (trisodium phosphate (TSP) scrub with brushes;
- Clean water rinse (with a steam cleaner for drilling equipment);
- Deionized water rinse;
- Nanograde isopropyl alcohol rinse;
- Air drying and/or deionized water rinse; and
- Aluminum foil wrap (if equipment was not in use immediately).

Water level indicators, tape measures, and other downhole instruments, as well as pH electrodes and conductivity cells were decontaminated by:

- Clean water rinse immediately after use;
- Detergent wipe or scrub (for down hole instruments only);
- Clean water wipe or rinse;
- Deionized water wipe or rinse; and
- Air drying.

Submersible pumps and interior/exterior surfaces of pump hoses for all pumps used to purge groundwater wells were decontaminated by the following procedures:

- Clean water rinse immediately after use;
- Detergent and clean water wash and flush;
- Clean water rinse and flush;
- Deionized water rinse and flush; and
- Air drying.

Tygon tubing used for filtering groundwater samples with peristaltic pumps was decontaminated between each use by immersing the tube in precleaned containers filled with one liter of deionized water, and flushing the entire volume through the tubing. Teflon tubing used for the collection of air samples was purged with clean air prior to sampling.

Two permanent decontamination pads or stations were constructed on site. The purpose of one of the stations was to contain and collect decontamination fluids and site derived wastes from personnel and sampling equipment. The other decontamination station was for decontamination of heavy equipment (e.g., augers, Shelby tubes, and split-spoon samplers). Two pads were required to prevent cross-contamination between personnel, equipment, and samples as well as to segregate wastes. The construction of these stations is fully described in the QAPjP and WP.

J.1.1.4 Organic Vapor Analyzers

The calibration and operation of organic vapor analyzers (OVAs) followed the guidance established in the QAPjP Section 7.1.4. Three types of OVAs were used, the Foxboro OVA 128 (GC), the Foxboro OVA 108, and the Foxboro TVA 1000. The OVA 108 and 128 both use flame-ionization-detectors (FIDs) which measure total VOCs. To measure the methane-only fraction, a charcoal filter was attached to the probe which absorbed all VOC compounds except methane. The TVA 1000 incorporates two types of instruments, an FID and a photo-ionization-detector (PID). These three instruments were used interchangeably.

Calibration and response checks of these instruments were performed daily and weekly. The weekly calibration was to determine the instrument's response to a known calibration gas (100 ppm of 99.99% pure methane). Daily response checks were used to zero

the instrument by introducing zero air calibration gas and adjusting the response and introducing a VOC vapor source and verifying the response. Calibration and response check records for each instrument were included in the instrument's log and daily health and safety log.

A field check of instrument function was performed prior to its use in a VOC survey. First, the instrument was checked to ensure that it was functioning properly by confirming that the zero reading had not drifted from its calibration point and ensuring the instrument responded to a VOC source. Because these instruments can be affected by substantial changes in temperature and humidity during the day, the zero calibration and instrument response were rechecked routinely during operation. If the instrument did not respond correctly, it was removed from the field for maintenance and recalibration.

Following the instrument field checkout, background measurements were made for total VOC and the methane-only fraction, prior to beginning the VOC survey. VOC was measured with the OVA 108 and 128 instruments by first obtaining a reading without an activated carbon filter attached to the probe and then repeating the reading with the filter attached. Total VOC concentration was determined from the first reading (without filter attached). The methane-only fraction was determined from the second reading (with filter attached). For the TVA 1000, these measurements were obtained in a different manner. FID and PID measurements were recorded. Total VOC was measured directly using the FID. The methane-only fraction was estimated (assuming the absence of other VOCs with ignition potentials greater then 10.1 electron volts) by subtracting the PID reading (which does not detect methane) from the FID reading. Measurements of total VOC and methane were recorded in field logbooks with calibration records and the type of instrument used in the survey and field.

J.1.2 Off-Site Laboratory QA/QC

Samples collected during ASL RRII field operations were analyzed by laboratories using approved EPA guidelines, statements-of-work (SOWs) and/or methodologies. The majority of samples were analyzed through the EPA CLP under Routine Analytical Service (RAS) or Special Analytical Service (SAS) requests for the most rapid-turn-around time practicable. Laboratory QA/QC requirements are specified in EPA CLP SOWs and/or ASL

site-specific SAS requests. QA/QC for samples analyzed by the EPA Region VI Laboratory in Houston, Texas, was internal to the laboratory.

Due to timing or scope of work, a small number of samples were shipped for analyses outside the CLP or EPA Houston Laboratory systems. Some dioxin samples, although not formally CLP, were analyzed at the same laboratory and under the exact same protocol and deliverable requirements as the samples submitted under CLP. Similarly, some filter samples were analyzed outside CLP, but under the exact same protocol as the remaining filter samples. Produce samples were analyzed by EPA-approved laboratories and methods supplied either by the United States Department of Agriculture (USDA) Texas Department of Agriculture Laboratory or Armstrong Forensics Laboratory. Laboratory services utilized outside of the CLP or EPA Houston Laboratory systems were procured under the Technical Assistance Team (TAT) contract following all relevant federal procurement procedures and the requirements of the analytical project Technical Direction Document (TDD). Method/matrix/analyte specific QA procedures and sample results were scrutinized under QA review/data validation. QA data for engineering parameters (e.g., grain size), while not formally a component of the ASL QA/QC program, were evaluated to determine the reasonableness of the results.

J.1.2.1 Sample Analysis

Under the EPA Region 6 Houston Laboratory and RAS/SAS, analyses were conducted for the TCL organics (volatiles, semivolatiles, pesticide polychlorinated biphenys (PCBs), TAL inorganics (23 metals and cyanide), and dioxins/furans according to the CLP SOW method noted in Table J-1. All other analyses (physicochemical parameters [e.g., alkalinity, cation exchange], water quality parameters [e.g., total dissolved solids, total suspended solids] engineering parameters [e.g., density, ash] and Resource Conservation and Recovery Act (RCRA) parameters) were conducted under the CLP SAS with the exception of five sets of analyses procured outside the SAS program due to scheduling difficulties. These analyses included 44 air samples for volatiles and methane analysis, 16 cellulose filter samples for lead analysis, and four vegetable samples for metals (arsenic, cadmium, lead, and

mercury) and pesticide (chlorinated, organic, carbamate, and phosphate) analysis. The EPA approved methods for samples analyzed under CLP SAS and outside the CLP are also listed in Table J-1.

Analytical methods utilized for the samples are referenced in EPA's *Contract Laboratory Program (CLP) - Organic Analysis, Statement of Work (SOW), Contract Laboratory Program (CLP), Dioxin Analysis, Statement of Work (SOW), and Inorganic Analysis, Statement of Work (SOW).* Additional EPA references include "Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater," Appendix A to Part 136 (40 CFR Part 136; October 1984); *Test Methods for Evaluating Solid Waste (Physical/Chemical Methods)*," SW-846, Third Edition (September 1986); and *Methods for Chemical Analysis of Water and Wastes*," EPA600/4-79-020 (Revised March 1983).

J.1.2.2 Laboratory QC Samples

QC samples were an integral component of all analytical methodologies used for ASL testing to ensure that project requirements in terms of RARCC were met. All QC samples are not applicable to all methods. Analytical methods specified in the QAPjP identify all necessary QC samples. General types of laboratory QA/QC samples include the following:

Laboratory Blanks

Three types of blanks were routinely analyzed in the laboratories; methods blanks, reagent blanks, and calibration blanks. Method blanks and reagent blanks were used to assess laboratory procedures as possible sources of sample contamination. Calibration blanks established the analytical baseline against which all other blanks were measured.

Method blanks for water and soil samples consisted of deionized water that was subjected to the entire procedure as appropriate for the analytical method being used. If a method blank revealed significant contamination, reagent blanks were prepared and analyzed to identify the source of contamination. Calibration blanks consisting of pure sample matrix were used to zero the instrument's response to the pure reagent matrix.

Calibration Standards

Calibration standards were prepared in the laboratory by dissolving a known amount of each analyte in an appropriate matrix. The final concentration calculated from the known quantities is the true value of the standard. Results obtained from these standards were used to generate standard curves and thereby quantitate analytes in the environmental sample. In general, a minimum of five calibration standards were used to generate calibration curves for organic analyses and three were used for inorganics, except for metals by Inductively Coupled Argon Plasma (ICP) which used two calibration standards.

Reference Standards

Reference standards were either obtained from EPA or prepared in the same manner as calibration standards. The important difference in a reference standard is that it is not carried through the same process used for environmental samples, but is analyzed without digestion or extraction. A reference standard is used to validate an existing calibration curve and provide information on the accuracy of the analytical method independent of sample matrix.

Matrix Spike

Sample matrix spikes were prepared by adding known amounts of target analytes to environmental samples. These spikes were added prior to extraction or digestion and are subject to the matrix interferences and analytical errors found in actual samples. Percent recovery of the spike was taken as a measure of the accuracy of the analytical method and was calculated as follows:

$$\%\ RECOVERY = \frac{(SPIKED\ RESULT - ORIGINAL\ RESULT)}{AMOUNT\ SPIKED} \times 100$$

Surrogate Standard

For organic analyses, surrogate spikes were prepared by adding known amounts of non-target compounds to environmental samples prior to extraction. Compounds added are not expected to be found in samples, but are chemically and physically similar in nature to

target compounds. The percent recovery was taken as a measure of the recovery of the analytes and thus, the efficiency of the method. Percent surrogate recovery was calculated as given above for matrix spike recovery.

Internal Standard

For gas chromatograph mass spectrometer (GC/MS) and GC analyses, internal standards were prepared by adding known amounts of non-target compounds to the extracted environmental sample prior to instrumental analysis. The compounds selected are not expected to be found in the sample, but are similar to the compounds of interest and different from the surrogate spike compounds. Internal standards were used for calculation of sample concentrations.

Laboratory Duplicate or Matrix Spike Duplicate

Aliquots of individual samples were prepared in the laboratories and submitted for the same analytical procedures. The RPD between analyte concentrations in the aliquots or between a matrix spike and matrix spike duplicate for organics, was taken as a measure of the precision of the analytical method. RPDs were calculated as described in Section J.1.1.2.

QC Check Samples

Control check samples (e.g., standard paint chip samples) were used to evaluate analytical techniques. Control check samples were subjected to the entire sample procedure as appropriate for the method utilized.

Performance Evaluation Samples

Performance evaluation samples were soil samples containing known amounts of dioxins/furans. They were provided by EPA, and submitted to laboratories performing dioxin analyses.

J.1.3 X-Ray Fluorescence Field Laboratory QA/QC Procedures

Field screening was performed with a Spectrace 9000 X-ray fluorescence (XRF) spectrometer on approximately 400 soil samples, including 104 surficial grid samples

collected from the developed and undeveloped landfill, 10 surficial test pit samples, 60 subsurface interior boring and well samples, 178 subsurface perimeter and background well samples, and 25 subsurface Almonaster/Higgins boring samples. In addition to soil, approximately 1,000 residential paints were screened for lead using the Spectrace 9000 XRF. Initial and daily QA/QC was conducted throughout the analyses in accordance with manufacturer's guidelines and the EPA Environmental Response Team (ERT) Standard Operating Procedures (SOP) for the Spectrace 9000 XRF. XRF protocol for soils and paint screening analysis, as well as the ERT SOP, are presented in Appendix H.

J.1.3.1 XRF Soils QA/QC

Daily QA/QC procedures for soils analyses included initial and continuing calibration verification, and laboratory and field duplicate analyses. In addition, split samples were submitted to CLP for confirmation of XRF results.

One each high, medium, and low-range National Institute of Standards and Technology (NIST) QC check sample was analyzed daily for initial calibration verification. The mid-range NIST standard was analyzed for continuing calibration verification throughout all analyses at a frequency of 10% (once per ten samples). Percent differences (%D) between the known and measured values for both initial and continuing calibrations were calculated for iron, zinc, and lead results. If %D for any of these analytes was less than 75% or greater than 125%, results were flagged "J" (estimated concentration). Percent differences (%D) were calculated where: %D = (sample result/certified result) x 100%. For values less than three times the instrument detection limit (IDL), the above QA/QC procedures were not be applied due to the increased instrument variability.

Laboratory duplicate samples were prepared by splitting every twentieth sample into two samples after homogenizing and drying. Sample preparation is described in Appendix H.1. RPDs were calculated for iron, zinc, and lead results. Any samples analyzed for which the associated initial or continuing calibration RPD were greater than plus or minus 35% were flagged "J". For values less than three times the IDL, the above QA/QC procedures were not applied due to the increased instrument variability. Field duplicate samples were collected by splitting the sample in the field, assigning a unique sample number, and submitting the sample to the field laboratory as a separate sample. Samples were then prepared and analyzed as

described in Appendix H.1. Field duplicate samples were collected only from surface soil locations because boring and well subsurface sampling methodology did not produce sufficient sample volume for a duplicate. All associated values for which RPD was greater than plus or minus 35% were flagged "J". For values less than three times the IDL, the above QA/QC procedures were not applied due to the increased instrument variability.

Four instruments (serial numbers Q024, Q028, Q037, and Q045) were used throughout the analyses. IDLs for each element and for each instrument were determined by analyzing the low-range NIST standard a minimum of seven times for each instrument and calculating three times the standard deviation of the low-range NIST standard result. All values reported as less than the calculated IDL are bracketed. All undetected values were reported as the IDL flagged with a "u".

Split samples were submitted to the CLP laboratory for confirmation of the analytical results at a minimum frequency of 10%. Since XRF analyzes for total metal content, and CLP methods reflect leachate concentrations, a linear regression was performed for iron, zinc, and lead rather than a direct comparison of paired sample results. Correlation coefficients were calculated to show the relationship between XRF and CLP results (see Section J.2.3.1).

J.1.3.2 XRF Paint QA/QC

Daily QA/QC procedures for paint analysis included initial and continuing calibration verification, initial and continuing blank verification, and duplicate analysis. In addition, split samples were submitted to CLP for confirmation of XRF results. For values less than three times the IDL, QA/QC procedures were not applied due to the increased instrument variability. QA/QC procedures also were not applied to the lead K-alpha values due to their high variability and standard deviations (see Appendix H.2).

Four NIST-certified lead in paint standards were analyzed at the beginning of each day. One mid-range NIST standard was analyzed at the beginning of each set of analyses, after every 10 samples, and at a minimum of a total of seven times per sampling day. Percent differences (%D) between the known and measured values for both initial and continuing calibrations were calculated, where: %D = (sample result/certified result) x 100%. When %D was less than 75% or greater than 125%, corresponding results were flagged "J".

Blanks were analyzed at the beginning of each day and after every 10 samples. If blank results were greater than the instrument detection limit, all affected positive results up to 10 times the blank value were flagged "B".

Duplicate XRF readings were taken at a frequency of 10% of the XRF sample locations. The reading was collected by re-irradiating a sample location without moving the probe from the original sample location. RPDs were calculated where: RPD = (sample result minus duplicate result)/([sample result plus duplicate result] ÷ 2) x 100%. All associated values for which RPD was greater than plus or minus 35% were flagged "J".

Daily IDLs for both the L-alpha line (Pb L) and K-alpha line (Pb K) results (see Appendix H.2) were determined by analyzing the mid-range NIST standard a minimum of seven times for each day of sampling and by calculating three times the standard deviation of the mid-range NIST standard results. Values reported as less than the IDL are bracketed. Undetected values are reported as the IDL flagged with a "u".

Paint chip samples, collected from painted areas screened with the XRF, were submitted to the EPA Houston Laboratory for analysis of total lead in paint. These samples were collected to verify the XRF lead in paint screening results. A total of 35 paint chip samples were collected. A comparison of paint chip sample results to XRF results is presented in Section 4.5.4 of the RRII.

J.1.4 Quality Assurance (Data Validation)

Data generated under CLP RAS/SAS, with exceptions noted below, were validated by personnel at EPA's Region 6 Environmental Services Assistance Team (ESAT) in Houston, Texas, according to EPA *Laboratory Data Validation Functional Guidelines for Evaluating Organic Analyses* (February 1988) and *Laboratory Data Validation Functional Guidelines for Evaluating Inorganic Analyses* (June 1988). All SAS analyses were evaluated by ESAT under the contractual requirements specified in the EPA Region 6 SAS request for each type of SAS analysis.

E & E conducted a 10% review of all ESAT data validation reports, which entailed verification of the appropriateness and accuracy of the assigned data qualifiers. A memorandum was attached to the ESAT report which listed any discrepancies found and subsequent

action by Ecology and Environment, Inc., (E & E). The symbols used to indicate high or low bias were changed to letter codes for ease in database entry.

The five sets of analyses procured outside the CLP were validated by qualified E & E personnel, utilizing the EPA functional guidelines referenced above and the EPA-approved methods. All dioxin/furan data were validated by E & E dioxin data validators according to the CLP SOW for analysis of polychlorinated dibenzo dioxins (PCDDs) and polychlorinated dibenzo furans (PCDFs). E & E performed 100% review of all results for these analyses, produced a data validation memorandum discussing any problems, and applied appropriate data qualifiers. The EPA Region 6 laboratory in Houston, Texas, analyzed water samples with QA/QC internal to the laboratory (i.e., no additional data validation was required.

All validated data were entered into a database and data qualifiers added as indicated in the data summary tables in the data validation memoranda, with minor modifications. The actual data memoranda produced by ESAT and E & E will be available from EPA Region 6. The data qualifiers used in the database to indicate data usability are described as follows:

U Parameter is undetected at the reported quantitation limit. For organics, this qualifier is used to indicate that a sample result is less than five times the result in the associated method, rinsate, or trip blank and should be considered not site-related but attributable to background contamination. For common laboratory contaminants (e.g., methylene chloride, 2-butanone, and bis-(2)-ethylhexylphthalate), the result is flagged if it is less than 10 times the method blank.

UC Parameter is undetected at the reported quantitation limit. For inorganics, this qualifier is used to indicate that a sample result is less than five times the result in the associated method or field blank and should be considered not site-related but attributable to background contamination.

J Sample result is estimated with unknown bias due to calibration or QC problems, but is usable for evaluating site-related contamination. The estimated flag is also used if results are reported below the method detection limit, but above the instrument detection limit.

R Sample result is rejected, and data are unusable for evaluating site-related contamination.

H Sample result is biased high due to interference, background contamination, or high spike recovery, but usable for evaluating site-related contamination.

L Sample result is biased low due to low spike recovery, but usable for evaluating site-related contamination.

B Sample result may be high biased due to laboratory or field contamination. The reported result is above five or ten times the concentration in the method or field blank, and usable for evaluating site-related contamination.

N Qualitative identification of the result is questionable due to lack of confirmatory evidence, although data still are usable for evaluating site-related contamination.

T Qualitative identification of the result is questionable due to absence of other commonly coexisting pesticides, although data still are unusable for evaluating site-related contamination.

J.2 QA/QC RESULTS

In the following sections field and laboratory QA/QC results are discussed insofar as they impact sample data. Explanations for any rejected data are provided, as well as a summary of positive results considered as not detected due to laboratory contamination or field contamination. General explanations are given for any sample data considered estimated with either low, high, or unknown bias and isolated or unusual analytical problems are discussed.

J.2.1 Field QC Samples

J.2.1.1 Surface Soils/Subsurface Soils/Sediments

During the RRII of the ASL, five types of QC samples were collected for surface soils, subsurface soils, and sediments, which include rinsate blanks, field blanks, trip blanks, split samples, and field duplicates. A total of 26 rinsate blanks were collected for TCL VOC, TCL BNA, TCL pesticide/PCBs, and TAL metal analyses, representing 5.5% of all surface soils, subsurface soils, and sediment samples (472 samples). The rinsate blanks collected, analyses conducted, and the types of equipment from which the blanks were collected are listed in Table J-2. In addition, 14 rinsates were prepared for the 278 dioxin samples collected representing 5% of all samples. Rinsate blanks for dioxin analysis were obtained by passing nanograde isopropanol over either stainless steel spoons, stainless steel bowls, or stainless steel bucket augers and collecting the solution. One field blank was collected per Case during surface soil, subsurface soil, and sediment sampling. The following five field

blanks were collected during the RRII of the ASL site: AL-21852-FB-01, AL-21915-FB-01, AL-21947-FB-01, AL-22016-FB-01, and AL-22053-FB-01. At least one trip blank was sent for VOC analysis per shipment of surface soil, subsurface soil, or sediment samples. A total of 30 trip blanks were collected to monitor potential contamination of samples during handling and analysis. Split samples were collected only if requested by the residents in the vicinity of the ASL site. Rinsate blank results are presented in Table J-3, field blank results are listed in Table J-4, and trip blank results are listed in Table J-5.

Overall rinsate blank results indicated that decontamination procedures were adequate to prevent contamination of surface soil, subsurface soil, and sediment samples. Only a few TAL metals were found at trace levels, below concentrations requiring qualification of data. The only TCL organics found and their frequencies of detection in the rinsate blank samples were: bis(2-ethylhexyl)phtalate (4), did-(N)-butylphthalate (2), diethylphthalate (1), 2-butanone (5), acetone (17), methylene chloride (11), toluene (4), 1,1,2,2-tetrachoroethane (1), 1,1,2-trichloroethane (1), 1,2-dichloroethane (1), 1,2-dichloropropane (1), 2-hexanone (1), bromoform (1), 4-methyl-2-pentanone (1), and beta-(BHC) 1. The majority of TCL organics detected are considered common laboratory contaminants (2-butanone, methylene chloride, acetone, toluene, and phthalate esters). If these compounds were found in any associated samples at concentrations less than 10 times the blank level, the Contract Required Quantitation Limit (CRQL), was elevated to the blank concentration and the data were flagged with a "U". In sample AL-SG017-SB-01, bis(2-ethylhexyl) phthalate was detected at 1,300 μg/Kg. This concentration was considered elevated due to the rinsate blank, AL-21947-RB-02, and was flagged with a "B" because it was at least 10 times the blank level. The other TCL organics are possibly due to laboratory contamination although they are not considered common laboratory contaminants. In addition, all of these compounds were detected below 8 μg/L. The action level for qualification for all these TCL organics was five times the level found in the blank. Field scheduling problems, caused by delays in obtaining a laboratory, assignment for dioxin analysis prevented shipping a unique rinsate blank for each sample delivery group (SDG). Therefore, the data validators did not address rinsate blank contamination, but on review of the rinsate blank results it was determined that the rinsate blank with the highest dioxin concentration should have been used to qualify all dioxin data. Rinsate sample AL-F8356-RB-03, had a dioxin concentration of 0.0098 ng/L (action

level = 0.0049 μg/kg); based on this result, 44 samples should have been qualified as present due to blank contamination and flagged with a "UJ."

For the 279 surface soil samples collected, 21 field duplicates of surface soil samples were also collected which represents 7.5 percent of all surface soil samples. Eleven subsurface soil field duplicates were collected in addition to 155 subsurface soil samples (145 soil borings plus 10 test pits soils) representing 7.1 percent of all subsurface soil samples. One sediment field duplicate was collected in addition to 10 sediment samples representing 10 percent of all sediment samples. All field duplicate samples collected and associated results are listed in Table J-6. The analyses for field duplicates included TAL metals, TCL organics, PCDDs and PCDFs, sieved lead, and physicochemical parameters.

EPA's CLP guidance document, *Laboratory Data Validation Functional Guidelines for Evaluating Inorganic Analyses* (June 1988) and *Laboratory Data Validation Guidelines for Evaluating Organic Analyses* (February 1988) do not require qualifying field duplicate results for analytical and sampling precision. However, ESAT chose to qualify some of the field duplicate results. Field duplicate results for dioxin/furans were validated according to the CLP SOW for analysis of PCDDs and PCDFs. Duplicate pair results were qualified as estimated and flagged with a "J" when the RPD was elevated above normal analytical limits.

RPDs for field duplicates of surface soil samples indicated good overall precision except for copper in the duplicate pairs AL-GL036-SS-01 and -02, and AL-GL205-SS-02 and -03 (169 and 104 percent, respectively), lead and antimony in AL-GL040-SS-01 and -02 (172 percent and 181 percent, respectively), mercury in AL-GL079-SS-01 and -03 (186 percent), zinc in AL-GL053-SS-01 and -02 (117 percent), and chromium in AL-GL205-SS-02 and -03 (131 percent). Lead also had an RPD of 173 percent between the duplicate pair AL-SG028-SS-04 and -05 but the concentration was not qualified as estimated in either sample. The elevated RPDs were most likely due to sample inhomogeneity and cannot be attributed to sampling procedures.

Alpha-Chlordane had an RPD of 186 percent between sample AL-GL040-SS-01 and AL-GL040-SS-02, but its identity was considered questionable in sample AL-GL040-SS-01 and was flagged with a "JT". Due to the questionable identification of alpha-chlordane, this RPD cannot reliably be used as an estimate of sampling precision. The pesticide 4,4'-DDD in the duplicate pair AL-GL047-SS-01 and -02 had an RPD of 195 percent. The results for

this pair were 18,000 μg/kg and 25 μg/kg, respectively, and the elevated concentration was probably due to column carryover or some laboratory artifact and cannot be attributed to sampling procedures. Field duplicate results for dioxins indicated good precision, and no qualification was necessary. Field duplicate results for sieved lead analysis indicated good precision except between AL-CL007-SS-03 and AL-CL007-SS04 (RPD = 109%). The data for these samples should be considered estimated and flagged with a "J." The precision for physicochemical parameters as indicated by the RPD's was excellent, therefore no qualification was necessary.

The field duplicates results for subsurface soil samples indicated very good overall precision except for copper, lead, and zinc in the duplicate pair AL-SG015-SB-02 and -03 (RPD = 119, 143, and 127 percent, respectively). All results are considered estimated and all results were flagged with a "J" except the lead concentration for AL-SG015-SS-02. The elevated RPDs were probably due to sample inhomogeneity since all other duplicate sample pairs indicated good precision. The RPDs for 4,4'-DDD and 4,4'-DDT in the duplicate pair AL-SG029-SS-02 and -03 were 124 and 186 percent, respectively. The elevated RPDs are most likely a laboratory artifact and cannot be attributed to field sampling procedures. The RPDs for three subsurface duplicate pairs for dioxin analysis were high, but the concentrations of the individual congeners were too close to the CRQL for a meaningful assessment of precision.

The results for the sediment field duplicate pair AL-CL007-SD-01 and -02 indicated excellent sampling precision for TAL metals, TCL organics, and dioxins as evidenced by the low RPD values. Therefore, no data were qualified based on field duplicate results except for sulfate, which was qualified as estimated and flagged "J" for AL-CL007-SD-01 and AL-CL007-SD-02 (RPD = 92.4%).

The following list provides the number and type of split samples collected and then provided to the requestor from the study group residences (SG):

SG004 - two subsurface soils for TCL organics, TAL metals, and dioxin; five surface soils for TAL metals and sieved lead; and two garden produce samples (carrots and parsley) for TCL pesticide/PCBs and TAL metals.

SG014 - two subsurface soils for TCL organics, TAL metals, and dioxin; and two surface soils for TAL metals and sieved lead.

SG024 - two subsurface soils for TCL organics, TAL metals, and dioxin; and two surface soils for TAL metals and sieved lead.

SG023 - two subsurface soils for TCL organics, TAL metals, and dioxin; and four surface soils for TAL metals and sieved lead.

SG021 - two subsurface soils for TCL organics, TAL metals, and dioxin; and two surface soils for TAL metals and sieved lead.

SG032 - two subsurface soils for TCL organics, TAL metals, and dioxin; and two surface soils for TAL metals and sieved lead.

The residents did not provide the analytical results from the split samples to E & E; therefore, a correlation between the EPA CLP generated data provided in the RRII and the split sample data was not possible.

J.2.1.2 Groundwater

There were four types of field QC samples collected during the groundwater sampling event, which include equipment blanks (rinsate blanks), field blanks, trip blanks, and field duplicates. Equipment blanks were obtained by passing analyte-free deionized water through new Teflon bailers and collecting the water. There were three field blanks collected: AL-22121-FB-01, AL-22121-FB-02 (inorganics only), and AL-22177-FB-01. There were six equipment blanks collected for 85 groundwater samples representing 7.1 percent of the total groundwater samples. The equipment blanks were designated as follows: AL-22121-EB-01, AL-22121-EB-02 (filtered, inorganics only), AL-22121-EB-03 (inorganics only), AL-22121-EB-04 (filtered, inorganics only), AL-22177-EB-01, and AL-22177-EB-02 (filtered, inorganics only). In addition, at least one trip blank was sent per groundwater sample shipment for VOC analysis. A total of 18 trip blanks were collected.

It was determined that the use of disposable, dedicated Teflon bailers was adequate to prevent contamination of groundwater samples. This was evidenced by the presence of trace levels of magnesium and potassium in the unfiltered equipment blank, AL-22121-EB-01 and calcium in the filtered equipment blank, AL-22121-EB-02. These TAL metals were found at concentrations that did not warrant qualification of groundwater data. The presence of

antimony in AL-22121-EB-02 at 12 μg/L caused the following samples to be qualified as present due to the blank and were flagged with a "UC": AL-MW038-GW-02, AL-MW038-GW-04, AL-MW007-GW-02, AL-MW014-GW-02, AL-MW033-GW-02, and AL-MW044-GW-02. Also, lead was found in AL-22121-EB-01 at 3.4 μg/L and the following samples were qualified as present due to the blank and were flagged with a "UC": AL-MW005-GW-02, AL-MW006-GW-02, AL-MW017-GW-02, AL-MW018-GW-02, and AL-MW023-GW-02. The source of these trace amounts of antimony and lead is unknown.

TCL organics found in the equipment blanks, trip blanks, and field blanks were acetone, 2-butanone, trichloroethene, 1,1-dichloroethene, naphthalene, and 1,2-dichloropropane. In cases where acetone or 2-butanone were detected in any of the associated samples below 10 times the level found in the blank qualification, the CRQL was elevated to the trip blank and the analyte was considered not detected. The presence of acetone and 2-butanone can be attributed to laboratory contamination, but the origin of other analytes cannot be identified. Although, the other TCL organics were detected at 1 μg/L, their concentrations were too low for qualification of the data. The only exception was naphthalene, which was found at 1 μg/L in the field blank AL-22177-FB-01, but was also found in AL-MW022-GW-01 at 1 μg/L and AL-MW029-GW-01, at 2 μg/L. The data for these two samples were qualified with a "J", but should be considered present due to the blank and flagged with a "U".

The equipment and field blank results for water quality parameters showed that the decontamination procedures were adequate, but the equipment and field blanks for Case 22121 exhibited a few water quality parameters that caused qualification of the data. On further review it was determined that the field blank AL-22121-FB-01 and the sample AL-MW031-GW-01 were improperly preserved for the following parameters: alkalinity, chloride, TDS, TSS and sulfate. The affected parameters were qualified as rejected and flagged with an "R." Due to the preservation problem the equipment blank, AL-22121-EB-01, was used to qualify the data for these parameters for sample delivery group SFB907, and the data usability qualifiers are as listed in Table J-8.

It was also discovered that the groundwater from monitoring well 34 had a pH of 12.3 and was probably a result of well construction and incomplete well development. The alkalinity data for this well may be biased high.

There were three unfiltered and three filtered field duplicates of groundwater samples collected, representing 8.1 percent and 7.7 percent, respectively, of the total unfiltered and filtered groundwater samples. Unfiltered field duplicates pairs collected were AL-MW036-GW-01 and -03, AL-MW038-GW-01 and -03, and AL-MW046-GW-01 and -03. The filtered duplicate pairs were AL-MW036-GW-02 and -04, AL-MW038-GW-02 and -04, and AL-MW046-GW-02 and -04. Filtered samples were analyzed for TAL metals and cyanide only. Table J-6 provides a listing of field duplicate samples and their associated results.

After review of the field duplicate results for groundwater samples, it was determined that the overall precision was good as evidenced by the low RPDs. The only exceptions were aluminum, barium, chromium, iron, lead, manganese, mercury, zinc, total phosphate, total organic carbon (TOC), and TSS in AL-MW036-GW-01 and -03; aluminum, iron, zinc and sulfate in AL-MW038-GW-01 and -03; and aluminum, copper, iron, lead, zinc, chemical oxygen demand (COD) and TOC in AL-MW046-01 and -03. The concentration of these metals and water quality parameters in these samples were all considered estimated and flagged with a "J". All of these samples were unfiltered and the results suggest the presence of varying amounts of suspended solids, which tend to cause decreased reproducibility. This is especially evident for AL-MWO38-GW-01 (total suspended solids = 100 μg/L UJ) and its duplicate, AL-MW038-GW-03 (TSS = 360,000 μg/L). The RPDs for the filtered groundwater duplicate samples were excellent except for zinc between AL-MW038-GW-02 and -04 (RPD = 49.6 percent), iron between AL-MW046-GW-02 and -04 (RPD = 73.8 percent), and iron between AL0-MW036-GW-02 and -04 (RPD = 87.3 percent). The concentration of these metals in these samples were considered estimated and flagged with a "J". Considering that the zinc concentrations in the samples AL-MW038-GW-02 and -04 were 103 μg/L and 171 μg/L respectively, the RPD is not unreasonable, because these values are close to the detection limit for this element. The elevated RPDs for iron in the other two filtered duplicates could be due to the increased or decreased retention of colloidal $Fe(H_20)_{6-x}(OH)_x^{(3-1x)}$, by the 0.45 micron disposable membrane during filtration, caused by slight changes in pH.

J.2.1.3 Air

There were two types of field QC samples collected for air samples, which include Summa® canister blanks and field duplicates. There were two blanks for 24 flux chamber

samples representing 8.3 percent of the total, and there were two blanks for 84 Summa® canister air samples representing 2.4 percent of the total. There were four field duplicates of Summa® canister air samples collected, representing 4.9 percent of the total, and there were no field duplicates for the flux chamber samples.

The blank sample results indicated no TCL VOCs or methane above the detection limit. Therefore no data were qualified based on the blank results.

The RPDs for the field duplicate samples indicated good precision and no data were qualified based on the field duplicate results. Benzene exhibited elevated RPDs of 70.8 percent, 57.1 percent, and 61.9 percent, however, the associated benzene concentrations were less than 5 times the CRQL and therefore data were not qualified.

J.2.1.4 Garden Produce

There were no field QC samples associated with the garden produce samples.

J.2.1.5 Test Pit Water

There were four water samples collected during the excavation of the five test pits at the ASL. One test pit did not yield water for collection. There was one field duplicate sample collected, representing 25 percent of the total samples. The field duplicate pair was designated, AL-TP004-TW-01 and -02. Only cyanide and naphthalene exhibited elevated RPDs but their respective concentrations were less than five times the CRQL and therefore the data were not qualified.

One rinsate blank was collected for four test pit water samples. The rinsate blank was designated AL-22053-RB-01. There were no TCL organics found in the rinsate blank, and levels of TAL metals were so low that qualification of the data was not necessary.

J.2.1.6 Surface Water

One field duplicate (10 percent of total surface water samples), seven trip blanks (at least one trip blank per shipment), and no rinsate blanks were collected for the 10 surface water samples collected from the canals surrounding the ASL. Rinsate blanks were not collected because field sampling equipment was not used to collect the samples. The surface water was collected by immersing the sample bottles in the canals.

There were no TCL organics found in any of the trip blank samples except for acetone at 13 μg/L in AL-XO422-TB-01. The affected samples were AL-CL001-SW-01 (5 μg/L, qualified "U") and AL-CL002-SW-02 (57.1 μg/L, not qualified). The sample, AL-CL002-SW-02 should have been considered not detected due to blank contamination because the concentration was below 10 times the blank level. The presence of acetone was most likely due to laboratory contamination.

The field duplicate results indicated excellent overall precision as evidenced by the low RPDs; therefore, no data were qualified.

J.2.1.7 Indoor Dust

Three dust filter blanks were collected for lead and particle size analysis for the 117 dust samples collected, which represents 2.6 percent of the total samples. Lead was not detected in any of the blanks or samples.

J.2.2 Laboratory QA/QC Samples

In the following sections, laboratory QA/QC results are discussed insofar as they impact sample data. Explanations for any rejected data are provided, as well as a summary of positive results considered as not detected due to laboratory contamination. General explanations are given for any sample data considered estimated with either low, high, or unknown bias and isolated or unusual analytical problems are discussed.

J.2.2.1 Surface Soils

RCRA Characteristics

Reactivity detection limits for both cyanide and sulfide were rejected in the five surface soil grid locations (GL) based on excessive holding times of 14 to 27 days from sample collection. The samples were rejected because of the possibility of false negatives, since the method states that the analysis should be performed as soon as possible.

TAL Inorganics

The cyanide detection limit for sample SG030-SS-03 was rejected because the required 14 day holding time had been exceeded by eight days. Any low level cyanide present may have been lost during this time period.

Antimony results were rejected for seven positive results and 35 detection limits from the study group residences (SG), 11 detection limits from the GL, and three detection limit from the open land background locations (OF). The reasons for rejection were matrix spike recoveries of less than 30% and, for the positive results noted, matrix interference from a high iron content.

Thallium positive results were rejected for 15 surface soil samples, four from location SG and 11 from location GL, because it was detected at low level in the preparation blank and the matrix spike recovery was 0%. Thallium detection limits were rejected in 14 surface soil samples from location GL and three from the Moton School (MS) due to spike recoveries of less than 30%.

In addition, the following detection limit values were rejected due to very low spike recoveries:

- One cadmium value in a surface soil sample from location SG;
- Four mercury values in two surface soil samples each from locations OF and SG; and
- Seven selenium values, four surface soil samples, from location GL and three from monitoring wells (MW).

The following positive results were considered as not detected based on levels detected in the calibration and/or preparation blanks:

- Beryllium in 60 surface soil samples from location SG and 17 from location GL;
- Thallium in 39 surface soil samples from location SG, 18 from location GL, seven from location OF, and four from the Press Park Community Center (PP);
- Sodium in 10 surface soil samples from location SG and 11 from location GL;
- Silver in nine surface soil samples from location SG and nine from location GL;

- Antimony in two surface soil samples from location SG and four from location GL;
- Selenium in four surface soil samples from location SG;
- Copper in one surface soil sample from location GL and two from location MS; and
- Nickel in one surface soil sample from location GL.

The thallium results listed above include those which were rejected due to both 0% spike recovery and preparation blank contamination.

TCL Organics

In the semi-volatile continuing calibration check, 4,6-dinitro-2-methylphenol failed the minimum relative response factor (RRF) criterion of 0.05. The quantitation limit for this compound was rejected in associated sample GL078-SS-01, since the possibility of a false negative exists.

Low levels of methylene chloride and acetone, common laboratory contaminants, were detected in some of the volatile method blanks. Detected in some of the semi-volatile method blanks were low levels of phthalate esters, such as did-n-butylphthalate and bis(2-ethylhexyl)phthalate (BEHP), common contaminants from the plastic gloves used in handling the samples. Whenever these common contaminants were detected in the associated samples at levels up to 10 times the blank level, they were considered as not detected.
A few pesticide method blanks contained elevated levels of such pesticides as aldrin, heptachlor, and methoxychlor, probably caused by either carryover contamination or insufficient glassware cleaning. When these compounds were detected in the associated samples up to five times the blank level, the results were considered as not detected.

Higher levels of either the common contaminants or the pesticide contaminants were considered as elevated values.

Physicochemical Parameters

There were no significant QC issues.

Dioxin

There were no significant QC issues.

Grain Size

There were no significant QC issues.

J.2.2.2 Subsurface Soils

RCRA Characteristics

Reactivity detection limits for both cyanide and sulfide were rejected in three subsurface soil samples from location MW based on excessive holding times of 14 to 27 days from sample collection. The possibility of false negatives exists, since the method states that analysis should be performed as soon as possible.

TAL Inorganics

Antimony results were rejected for two positive results and 12 detection limits from location SG, nine detection limits from location MW, and six detection limits from location OF. The reasons for rejection were matrix spike recoveries of less than 30% and also, for the positive results noted, interference from a high iron content.

The following detection limits were rejected due to matrix spike recoveries of less than 30%:

- Five thallium values, four subsurface soil samples from location SG and one from location MW;
- Four selenium values, three subsurface soil samples from the test pits (TP) and one from location MW;
- Five mercury values, three subsurface soil samples from location SG and two from location OF;
- One arsenic value in a subsurface soil sample from location SG; and
- One cadmium value in a subsurface soil sample from a boring location (BL).

The following positive results were considered as not detected based on levels detected in the calibration and/or preparation blanks:

- Thallium in 25 subsurface soil samples from location SG, 11 from location OF, 11 from location MW, eight from location MS, three from location BL, and one from location TP;
- Beryllium in 33 subsurface soil samples from location SG, 15 from location MW, two from location TP, and one from location BL;
- Selenium in three subsurface soil samples from location SG, two each from locations MW and MS, and one from location TP;
- Silver in five subsurface soil samples from location SG and two from location BL;
- Antimony in three subsurface soil samples from location SG and two from location BL;
- Copper in four subsurface soil samples from location MS;
- Sodium in two SBs subsurface soil samples location MW and one from location TP; and
- Nickel in one subsurface soil sample from location SG.

TCL Organics

No data were rejected for subsurface soil samples due to laboratory QA/QC problems. Several subsurface soil sample results were considered as either not detected or elevated based on low level method blank contamination, similar to that described above for surface soil samples. In addition, low levels of two polycyclic aromatic hydrocarbons (PAHs), benzo(g,h,i)perylene and indeno(1,2,3-cd)pyrene, were detected in one method blank. This occurrence was most likely the result of carryover contamination or insufficient glassware cleaning as PAHs were detected in many of the surface soil and subsurface soil samples from this site.

Engineering Parameters

There were no significant QC issues.

Physicochemical Parameters

There were no significant QC issues.

Dioxin

There were no significant QC issues.

Grain Size

There were no significant QC issues.

J.2.2.3 Groundwater

TAL Inorganics

No TAL inorganic data for groundwater samples were rejected or considered as not detected, with the exception of some TP water data. The TP samples are considered groundwater rather than surface water based on the depth of sampling.

Selenium detection limits in four TP samples were rejected because of a matrix spike recovery of less than 30%. Silver and thallium results in two TP samples were considered as not detected based on the levels detected in the calibration and/or preparation blanks.

TCL Organics

Several groundwater results were considered as not detected or elevated based on low level method blank contamination similar to that described above for surface soil samples. In addition, phenol was detected in a semi-volatile method blank; phenol results up to five times the blank level were considered not detected in the associated groundwater samples. Another semi-volatile method blank had extremely low surrogate recoveries, indicating the possibility of false negatives in the blank itself. Because of this possibility, positive results for dimethylphthalate and phenol were considered as not detected in the associated groundwater sample MW024-GW-01.

There were two instances of groundwater and TP results being rejected for laboratory QA/QC problems. In sample MW016-GW-01, a large sulfur peak interfered with pesticide analysis and sulfur cleanup was not performed. As a result, the aldrin quantitation limit (QL) was rejected in this sample and the heptachlor quantitation limit was considered estimated with

a low bias. High sulfur content also interfered with pesticide determination in samples MW012-GW-01 and MW032-GW-01 where several pesticide quantitation limits were considered as biased low. The laboratory has been requested to reanalyze these samples with sulfur cleanup.

Aldrin, dieldrin, endrin, heptachlor, and gamma-BHC quantitation limits in two TP samples were rejected based on very low matrix spike/matrix spike duplicate (MS/MSD) recoveries. The laboratory blank spiked sample gave acceptable recoveries, indicating a severe matrix problem.

Water Quality Parameters

No data were rejected based on laboratory QA/QC problems. Total phosphate results in seven groundwater samples were considered as not detected due to the presence of phosphate in the method blank.

J.2.2.4 Air

No data were rejected or considered as not detected due to method blank contamination for any of the air samples analyzed for volatile organics and methane.

J.2.2.5 Garden Produce

Metals

Lead was detected in the method blank for the analysis of the produce samples. The lead results in the cabbage and garlic samples were considered as not detected and the lead result for parsley was considered as biased high due to the method blank contamination. Lead was not detected in the remaining carrot sample.

Pesticides

Two phosphate pesticides, acephate and methamidophos, could not be quantitated in the cabbage and garlic samples due to matrix interference. Therefore, the quantitation limits for the compounds were rejected in these two samples.

J.2.2.6 Tap Water

No data were rejected or considered as not detected due to method blank contamination for any of the tap water samples.

J.2.2.7 Indoor Dust

No data were rejected or considered as not detected due to method blank contamination for any of the indoor dust samples.

J.2.2.8 Paint

No data were rejected or considered as not detected due to method blank contamination for any of the paint samples.

J.2.2.9 Sediment and Surface Water

TAL Inorganics

No data were rejected for sediment or surface water samples due to laboratory QA/QC problems. No surface water results were considered as not detected based on laboratory blank contamination.

The following sediment results were considered as not detected based on levels found in the calibration and/or preparation blanks:

- Thallium in nine sediment samples from canal locations and one associated rinsate blank;
- Beryllium in one sediment sample from a canal location; and
- Iron and lead in four rinsate blanks and zinc in one rinsate blank associated with sediment samples.

TCL Organics

No TCL organic results were rejected for sediment or surface water samples based on laboratory QA/QC problems and no results were considered as not detected based on method blank contamination. However, BEHP results in two sediment samples from cancel locations were considered elevated values based on its presence in the method blank.

J.2.2.10 Low Bias

TAL Inorganics

For arsenic, selenium, thallium, and mercury, positive results were considered estimated low in the associated samples due to matrix spike recoveries of less than 30%. The following analytes were detected in one of the calibration/preparation blanks at a negative value greater than the absolute value of the instrument detection limit (IDL); antimony, beryllium, cadmium, cobalt, copper, sodium, vanadium, and cyanide. Positive results and detection limits for these analytes were considered low estimates in the associated samples.

TCL Organics

Positive results and quantitation limits were considered biased low in the associated samples for one of the following reasons:

- Instrument responses were low for internal standards in the volatile and semi-volatile analyses;
- Surrogate recoveries were low for tetrachloro-xylene (TCX) and/or decachlorobiphenyl (DCB) in the pesticide/PCB analysis;
- Interference from high background and/or pesticide peaks in the determination of Aroclor 1260 and toxaphene;
- alpha-Chlordane and gamma-chlordane results in corresponding MS/MSD analysis of one surface soil sample gave 22 times higher levels;
- Surrogate recovery was low for one surrogate in the semi-volatile analysis of one groundwater sample; and
- MS/MSD recovery was 0% for heptachlor in the pesticide analysis of one subsurface soil sample, affecting both it and its field duplicate.

J.2.2.11 High Bias

TAL Inorganics

Antimony results in several surface soil and subsurface soil samples and a few TP waters were considered biased high due to interference from the high iron content of the sample. Arsenic, beryllium, cobalt, copper, nickel, silver, and sodium results were consid-

ered high estimates in several surface soil and subsurface soil samples where the results were greater than five times the level detected in the calibration/preparation blank.

TCL Organics

Some pesticide results in several surface soil and subsurface soil sample, including TP soils, were considered as high estimates based on matrix interference from Aroclor 1260 and, in some instances, toxaphene. Benzo(b)fluoranthene and benzo(k)fluoranthene results in several soils were considered biased high due to coelution and the laboratory's reporting the same peak for both isomers. The heptachlor result in one groundwater sample was considered as a high estimate due to 370% recovery of TCX. Pesticide results in a few soils were biased high due to a high DCB recovery.

J.2.2.12 Unknown Bias

TAL Inorganics

There were several reasons for considering inorganic results as estimated including:

- Matrix spike or analytical spike recoveries slightly above or below QC limits;
- Laboratory duplicate results exceeding the QC limit;
- Correlation coefficients below 0.995 for standard addition analysis; and
- Serial dilution results exceeding the QC limit.

TCL Organics

There were several reasons for considering organic results as estimated including;

- Some volatile and semi-volatile compounds failed to meet technical percent relative standard deviation (%RSD) and/or %D calibration criteria;
- Quantitation of pesticide results on the two columns differed by more than 25%;
- The concentration exceeded the calibration range and dilution analysis or sufficient dilution was not performed; and

- Sample result was greater than the instrument detection limit, but less than the contract required quantitation limit.

J.2.2.13 Isolated/Unusual Problems

Positive results in several samples for the following pesticides were considered of questionable identity due to the absence of commonly coexisting pesticides:

- 4,4'-DDD and 4,4'-DDE where no 4,4'-DDT was detected;
- Endrin aldehyde and endrin ketone where no endrin was detected;
- alpha-Chlordane where no gamma-chlordane was detected; and
- Either alpha-BHC, beta-BHC, or delta-BHC where no other BHC isomer was detected.

In three subsurface soil samples, quantitation limits for 4,4'-DDT, endosulfan-II, and endrin aldehyde were considered tentatively identified due to interference from Aroclor 1260. In three surface soil samples, results for indeno(1,2,3-cd)pyrene and dibenz(a,h)anthracene were estimated due to the laboratory's failure to resolve these compounds in the daily calibration standard.

A review of logbook information entered during field work resulted in the identification of an error in emission isolation flux chamber (soil gas) field sampling procedures. This flow in sample collection allowed intrusion of ambient air into the flux chambers. Neither the analytes detected nor their concentrations may be attributed solely to soil gas emissions. VOCs found in the samples do not accurately represent contaminants or their fluxes (emission rates) from soil. Soil gas emission data were not adequate and did not meet data quality objectives for their intended purposes; therefore, these data have not been utilized in the RRII or FS. The data gap has been partially filled by OVA soil gas readings collected during boring and monitoring well installation activities.

J.2.3 XRF QA/QC Sample Results

J.2.3.1 Surface and Subsurface Soil

All initial and continuing calibration, and duplicate samples were within the QA/QC criteria described in Section J.1.3.1. Therefore no qualifiers were applied to the XRF soil results. XRF soil results are presented in Appendix Q, Tables Q-1 through Q-6.

A linear regression was performed for iron, zinc, and lead on 142 corresponding soil XRF and CLP samples. Correlation coefficients were calculated to show the relationship between XRF and CLP results. For lead, zinc, and iron correlation coefficients were 0.95667, 0.91523, and 0.89048, respectively, indicating a strong linear relationship between soil XRF and CLP results. In general, XRF results were higher than CLP results, which was expected since XRF reflects total metal content and CLP methods employ acid digests and reflect digestible or leachate concentrations.

Seven XRF/CLP soil samples pairs were not included in the regression because values varied by more than an order of magnitude. All of these samples were subsurface monitoring well samples. Split spoons were used to collect these samples and did not provide sufficient sample to allow corresponding XRF and CLP samples to be homogenized. CLP confirmation samples were collected immediately below XRF sample locations. Therefore, this variability is probably due to sample heterogeneity. However, since XRF results showed a strong correlation to CLP based on all other corresponding samples, XRF results from the subsurface well and boring locations can be used to indicate metal concentrations with a high degree of confidence.

J.2.3.2 XRF Paint QA/QC Sample Results

All initial and continuing calibration, initial and continuing blank samples, and duplicate samples were within the QA/QC criteria described in Section J.1.2.2. Therefore no qualifiers were applied to the XRF paint results. XRF paint results are presented in Appendix Q, Tables Q-6 and Q-7. A comparison of paint chip sample results to XRF lead in paint screening results and the U.S. Department of Housing and Urban Development (HUD), *Lead-Based Paint: Interim Guidelines for Hazard Identification and Abatement in Public and Indian Housing,* (HUD 1990), are presented in Section 4.5.4.

J.2.4 DATA USABILITY

Analysis of ASL site samples was performed directly by the EPA, through the EPA CLP, or, for a small number of samples, laboratories outside the CLP but using CLP or CLP equivalent methodologies. Analyses included, TCL VOCs (air, soil, water), base-neural acid extractable (BNAs) (soil, water, garden produce), Pesticide/PCBs (soil, water), TAL metals (soil, water, dust, paint, garden produce, air), dioxin (soil, sediment), physicochemical parameters (soil, sediment), water quality parameters (water), and RCRA characteristics (soil). In the field, sample information was entered into a database. At the laboratory level, analytical data were generated, and the data were transmitted to ESAT for qualification. These data were then sent to E & E for 10 % review. In addition, some data were 100% reviewed by E & E. Qualified sample results were entered into another database with minor modifications. The actual data memoranda produced by ESAT and E & E are available from the EPA upon request. The data qualifiers used in the database to indicate data usability are described as follows:

U — Parameter is undetected at the reported quantitation limit. For organics, this qualifier is used to indicate that a sample result is less than five times the result in the associated method, rinsate, or trip blank and should be considered not site-related but attributable to background contamination. For common laboratory contaminants (e.g., methylene chloride, 2-butanone, and bis-(2)-ethylhexylphthalate), the result is flagged if it is less than 10 times the method blank.

UC — Parameter is undetected at the reported quantitation limit. For inorganics, this qualifier is used to indicate that a sample result is less than five times the result in the associated method or field blank and should be considered not site-related but attributable to background contamination.

J — Sample result is estimated with unknown bias due to calibration or QC problems, but is usable for evaluating site-related contamination. The estimated flag is also used if results are reported below the method detection limit, but above the instrument detection limit.

R — Sample result is rejected, and data are unusable for evaluating site-related contamination.

H — Sample result is biased high due to interference, background contamination, or high spike recovery, but usable for evaluating site-related contamination.

L Sample result is biased low due to low spike recovery, but usable for evaluating site-related contamination.

B Sample result may be high biased due to laboratory or field contamination. The reported result is above five or ten times the concentration in the method or field blank, and usable for evaluating site-related contamination.

N Qualitative identification of the result is questionable due to lack of confirmatory evidence, although data still are usable for evaluating site-related contamination.

T Qualitative identification of the result is questionable due to absence of other commonly coexisting pesticides, although data still are unusable for evaluating site-related contamination.

Documented analytical precision and accuracy clearly validates the statement that nearly all target analyte data were acceptable. The combination of grid and random sampling provided sufficient data to statistically describe analytes in media of concern at the site. EPA sampling and analytical methods utilized were professionally accepted standard methods and the data generated may be reproduced and/or readily compared with data generated by other investigators. Finally, the goal of 90% completeness was met. In fact, more than 97% of the data generated was determined to be usable for its intended purpose. In summary, all PARCC parameter goals were achieved for the ASL RRII field investigation.

Table J-1

ANALYTICAL METHODS SUMMARY
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Parameter	Method	Detection Limits
I. Groundwater/Surface Water		
A. Metals/Cyanide	CLP SOW ILM02.3	0.002 - 5 mg/L
B. Volatile Organics	CLP SOW OLM01.8	0.01 mg/L
C. Semivolatile Organics	CLP SOW OLM01.8	0.01 - 0.025 mg/L
D. Pesticides/PCBs	CLP SOW OLM01.8	0.05 - 5 μg/L
E. Dioxin	CLP SOW DFLM1.0	10 - 50 μg/L
F. Water Quality Parameters:		
Alkalinity (bicarbonate)	EPA 310.1	10 mg/L as $CaCO_3$
Alkalinity (carbonate)	EPA 310.1	10 mg/L as $CaCO_3$
Ammonia	EPA 350.2	0.01 mg/L
Chloride	EPA 325.3	1 mg/L
Conductivity	EPA 120.1	All ranges
Dissolved Oxygen	EPA 360.1	0.1 mg/L
Fluoride	EPA 340.2	0.05 mg/L
Hardness	EPA 130	10 mg/L
Nitrate	EPA 353.3	0.1 mg/L
pH	EPA 150.1	All ranges
Phosphate	EPA 365.3	0.01 mg/L
Sulfate	EPA 375.4	0.5 mg/L
Total Organic Carbon	EPA 415.1	All ranges
Temperature	EPA 170.1	All ranges
Total Dissolved Solids	EPA 160.1	10 mg/L
Total Suspended Solids	EPA 160.2	10 mg/L
Turbidity	EPA 180.1	0 NTU
II. Soil/Sediment/Garden Produce/Dust/Paint Chips		
A. Metals/Cyanide	CLP SOW ILMO2.3	0.4 - 1,000 mg/kg
B. Volatile Organics	CLP SOW OLM01.8	0.01 mg/kg
C. Semivolatile Organics	CLP SOW OLM01.8	0.330 - 0.800 mg/kg
D. Pesticides/PCBs	CLP SOW OLM01.8	1.7 - 170 μg/kg
E. Dioxin	CLP SOW DLM01.0	1.0 - 5.0 μg/kg
G. RCRA Characteristics:		
Reactivity		
Corrosivity	EPA 1110	NA
Ignitability	EPA 1010	NA
H. TCLP	EPA 1311	0.05 - 5 mg/L
I. TCLP (Metals Only)	EPA 1311	0.002 - 5 mg/L

Key at end of table.

Table J-1

ANALYTICAL METHODS SUMMARY
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Parameter		Method	Detection Limits
Physicochemical Parameters			
J.	Redox Potential	ASTM D2974	NA
K.	Cation Exchange Capacity	EPA 9081	All ranges
L.	Alkalinity	EPA 310.1	All ranges
M.	pH	EPA 9045	NA
N.	Percent Moisture	ASTM D 2216-80	NA
O.	Grain Size	ASTM D4220-63	NA
P.	Total Organic Carbon	EPA 9060	NA
Q.	Fluoride	EPA 340.2	0.05 mg/L
R.	Sulfate	EPA 375.4	0.5 mg/L
S.	Nitrate	EPA 353.3	0.1 mg/L
T.	Phosphate	EPA 365.3	0.01 mg/L
Engineering Parameters			
U.	% Organic Matter	EPA 1604	NA
V.	Atterburg Limits	ASTM 423,424,427	NA
W.	Chlorine	ASTM D808	NA
X.	Sulfur	ASTM D129	NA
Y.	Ash	ASTM D482	NA
Z.	BTU	ASTM D2015	NA
AA.	Dry Density	ASTM	NA
BB.	Compressibility	ASTM D2435	NA
CC.	Cohesion	ASTM D2850	NA
DD.	Void Space	ASTM	NA
EE.	Grain Size	ASTM D4220-63	NA
FF.	TOC	EPA 9060	NA
GG.	Percent Moisture	CLP SOW ILM02.3	NA
HH.	Lead Only (% 250 micron sieve) (% moisture)	CLP SOW ILM02.3	0.6 mg/kg

Key at end of table.

Table J-1

ANALYTICAL METHODS SUMMARY
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Parameter	Method	Detection Limits
Field Laboratory		
II. XRF Metals	Field Screening Methodologies	All ranges
III. Air/Soil Gas/Storm Sewer Gas		
Summa™ Canisters		
- Methane	EPA TO-14	10 ppb
- Volatile Organics in Air	EPA TO-14	1 - 10 ppb
- Flux Methane	EPA TO-14	10 ppb
- Flux Volatile Organic Vapors	EPA TO-14	1 - 10 ppb
Field Screening OVA		
- Total Volatile Organic Vapors	Field Screening Methodologies	1 ppm

Key:

ASTM = American Society for Testing and Materials Standard Methods.
CLP - SOW = USEPA Contract Laboratory Program Statement-of-Work.
EPA = USEPA "Test Methods for Evaluating Solid Wastes"- SW-846.
EPA TO-14 = USEPA "Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air."
mg/kg = milligrams per kilogram
mg/L = milligrams per liter
NA = not applicable
NTU = Nephelometric turbidity units
OVA = Organic vapor analyzer
PCBs = Polychorinated biphenyls
ppb = Parts per billion
ppm = Parts per million
TCLP = Toxicity characteristic leaching procedure
TOC = Total organic carbon
μ/Kg = micrograms per kilogram
μg/L = micrograms per liter
XRF = X-ray fluorescence

Source: Ecology and Environment, Inc., 199433415

Table J-2

RINSATE BLANKS
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Location Designation	Decontaminated Equipment	Analyses
AL-21852-RB-01	SS spoon	TAL, TCL
AL-21852-RB-02	SS spoon	TAL, TCL
AL-21852-RB-03	SS bucket auger, SS bowl	TAL, TCL
AL-21852-RB-04	SS bowl, spoon	TAL, TCL
AL-21852-RB-05	SS bucket auger, bowl	TAL, TCL
AL-21915-RB-01	SS spoon	TAL, TCL
AL-21915-RB-02	SS bucket auger, bowl	TAL, TCL
AL-21915-RB-03	SS spoon	TAL, TCL
AL-21915-RB-04	SS spoon	TAL, TCL
AL-21915-RB-05	SS bucket auger	TCL
AL-21947-RB-01	SS bucket auger	TAL, TCL
AL-21947-RB-02	SS bowl	TAL, TCL
AL-21947-RB-03	SS spoon	TAL, TCL
AL-21947-RB-04	SS bucket auger	TAL
AL-21947-RB-05	SS bowl	TAL
AL-22016-RB-01	SS spoon	TAL, TCL
AL-22016-RB-02	SS bucket auger	TAL, TCL
AL-22016-RB-03	SS bowl, spoon, bucket auger	TAL, TCL

Key at end of table.

Table J-2

RINSATE BLANKS
REMEDIAL REMOVAL INTEGRATED INVESTIGATION
AGRICULTURE STREET LANDFILL
NEW ORLEANS, LOUISIANA

Location Designation	Decontaminated Equipment	Analyses
AL-22016-RB-04	SS bowl	TAL
AL-22053-RB-01	SS cup	TAL, TCL
AL-22097-RB-01	SS spoon	TAL, TCL
AL-22097-RB-02	SS bowl	TAL
AL-22097-RB-03	SS bucket auger	TAL

Key:

SS = Stainless steel
TAL = Target analyte list - metals, cyanide
TCL = Target compound list - volatile organic compounds, base neutral-acid extractables, pesticides/PCBs.

Source: Ecology and Environment, Inc., 1994

TABLE J-3 - RINSATE BLANK RESULTS - UNITS: ug/L - ASL, 1994

ANALYTE	AL-21852-RB-01	AL-21852-RB-02	AL-21852-RB-03	AL-21852-RB-04	AL-21852-RB-05
1,1,1-TRICHLOROETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
1,1,2,2-TETRACHLOROETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
1,1,2-TRICHLOROETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
1,1-DICHLOROETHENE	10.000U	10.000U	10.000U	10.000U	10.000U
1,2,4-TRICHLOROBENZENE	10.000U	10.000U	10.000U	10.000U	10.000U
1,2-DICHLOROBENZENE	10.000U	10.000U	10.000U	10.000U	10.000U
1,2-DICHLOROETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
1,2-DICHLOROETHENE (total)	10.000U	10.000U	10.000U	10.000U	10.000U
1,2-DICHLOROPROPANE	10.000U	10.000U	10.000U	10.000U	10.000U
1,3-DICHLOROBENZENE	10.000U	10.000U	10.000U	10.000U	10.000U
1,4-DICHLOROBENZENE	10.000U	10.000U	10.000U	10.000U	10.000U
2,2'-oxybis(1-CHLOROPROPANE)	10.000U	10.000U	10.000U	10.000U	10.000U
2,4,5-TRICHLOROPHENOL	25.000U	25.000U	25.000U	25.000U	25.000U
2,4,6-TRICHLOROPHENOL	10.000U	10.000U	10.000U	10.000U	10.000U
2,4-DICHLOROPHENOL	10.000U	10.000U	10.000U	10.000U	10.000U
2,4-DIMETHYLPHENOL	10.000U	10.000U	10.000U	10.000U	10.000U
2,4-DINITROPHENOL	25.000U	25.000U	25.000U	25.000U	25.000U
2,4-DINITROTOLUENE	10.000U	10.000U	10.000U	10.000U	10.000U
2,6-DINITROTOLUENE	10.000U	10.000U	10.000U	10.000U	10.000U
2-BUTANONE	10.000U	10.000U	10.000U	5.000J	4.000J
2-CHLORONAPHTHALENE	10.000U	10.000U	10.000U	10.000U	10.000U
2-CHLOROPHENOL	10.000U	10.000U	10.000U	10.000U	10.000U
2-HEXANONE	10.000U	10.000U	10.000U	10.000U	10.000U
2-METHYLNAPHTHALENE	10.000U	10.000U	10.000U	10.000U	10.000U
2-METHYLPHENOL	10.000U	10.000U	10.000U	10.000U	10.000U
2-NITROANILINE	25.000U	25.000U	25.000U	25.000U	25.000U
2-NITROPHENOL	10.000U	10.000U	10.000U	10.000U	10.000U
3,3'-DICHLOROBENZIDINE	10.000U	10.000U	10.000U	10.000U	10.000U
3-NITROANILINE	25.000U	25.000U	25.000U	25.000U	25.000U
4,4'-DDD			0.100UJL	0.100U	0.100U
4,4'-DDE			0.100U	0.100U	0.100U
4,4'-DDT			0.100UJL	0.100U	0.100U
4,6-DINITRO-2-METHYLPHENOL	25.000U	25.000U	25.000U	25.000U	25.000U
4-BROMOPHENYL-PHENYLETHER	10.000U	10.000U	10.000U	10.000U	10.000U
4-CHLORO-3-METHYLPHENOL	10.000U	10.000U	10.000U	10.000U	10.000U
4-CHLOROANILINE	10.000U	10.000U	10.000U	10.000U	10.000U
4-CHLOROPHENYL-PHENYLETHER	10.000U	10.000U	10.000U	10.000U	10.000U
4-METHYL-2-PENTANONE	10.000U	10.000U	10.000U	10.000U	10.000U
4-METHYLPHENOL	10.000U	10.000U	10.000U	10.000U	10.000U
4-NITROANILINE	25.000U	25.000U	25.000U	25.000U	25.000U
4-NITROPHENOL	25.000U	25.000U	25.000U	25.000U	25.000U

TABLE J-3 - RINSATE BLANK RESULTS - UNITS: ug/L - ASL, 1994

ANALYTE	AL-21852-RB-01	AL-21852-RB-02	AL-21852-RB-03	AL-21852-RB-04	AL-21852-RB-05
ACENAPHTHENE	10.000U	10.000U	10.000U	10.000U	10.000U
ACENAPHTHYLENE	10.000U	10.000U	10.000U	10.000U	10.000U
ACETONE	10.000U	10.000U	10.000U	58.000	9.000J
ALDRIN			0.050U	0.050U	0.050U
ALPHA-CHLORDANE			0.050U	0.050U	0.050U
ANTHRACENE	10.000U	10.000U	10.000U	10.000U	10.000U
AROCHLOR-1016			1.000U	1.000U	1.000U
AROCHLOR-1221			2.000U	2.000U	2.000U
AROCHLOR-1232			1.000U	1.000U	1.000U
AROCHLOR-1242			1.000U	1.000U	1.000U
AROCHLOR-1248			1.000U	1.000U	1.000U
AROCLOR-1254			1.000U	1.000U	1.000U
AROCLOR-1260			1.000UJL	1.000U	1.000U
BENZENE	10.000U	10.000U	10.000U	10.000U	10.000U
BENZO(a)ANTHRACENE	10.000U	10.000U	10.000U	10.000U	10.000U
BENZO(a)PYRENE	10.000U	10.000U	10.000U	10.000U	10.000U
BENZO(b)FLUORANTHENE	10.000U	10.000U	10.000U	10.000U	10.000U
BENZO(g,h,i)PERYLENE	10.000U	10.000U	10.000U	10.000U	10.000U
BENZO(k)FLUORANTHENE	10.000U	10.000U	10.000U	10.000U	10.000U
BROMETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
BROMODICHLOROMETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
BROMOFORM	10.000U	10.000U	10.000U	10.000U	10.000U
BROMOMETHANE					
BUTYLBENZYLPHTHALATE	10.000U	10.000U	10.000U	10.000U	10.000U
CARBAZOLE	10.000U	10.000U	10.000U	10.000U	10.000U
CARBON-DISULFIDE	10.000U	10.000U	10.000U	10.000U	10.000U
CARBON-TETRACHLORIDE	10.000U	10.000U	10.000U	10.000U	10.000U
CHLOROBENZENE	10.000U	10.000U	10.000U	10.000U	10.000U
CHLOROETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
CHLOROFORM	10.000U	10.000U	10.000U	10.000U	10.000U
CHLOROMETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
CHRYSENE	10.000U	10.000U	10.000U	10.000U	10.000U
DI-N-BUTYLPHTHALATE	10.000U	10.000U	0.900J	10.000U	10.000U
DI-N-OCTYLPHTHALATE	10.000U	10.000U	10.000U	10.000U	10.000U
DIBENZ(a,h)ANTHRACENE	10.000U	10.000U	10.000U	10.000U	10.000U
DIBENZOFURAN	10.000U	10.000U	10.000U	10.000U	10.000U
DIBROMOCHLOROMETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
DIELDRIN			0.100U	0.100U	0.100U
DIETHYLPHTHALATE	10.000U	10.000U	0.800J	10.000U	10.000U
DIMETHYLPHTHALATE	10.000U	10.000U	10.000U	10.000U	10.000U
ENDOSULFAN-I			0.050U	0.050U	0.050U

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TABLE J-3 - RINSATE BLANK RESULTS - UNITS: ug/L - ASL, 1994

ANALYTE	AL-21852-RB-01	AL-21852-RB-02	AL-21852-RB-03	AL-21852-RB-04	AL-21852-RB-05
ENDOSULFAN-II			0.100UJL	0.100U	0.100U
ENDOSULFAN-SULFATE			0.100UJL	0.100U	0.100U
ENDRIN			0.100UJL	0.100U	0.100U
ENDRIN-ALDEHYDE			0.100UJL	0.100U	0.100U
ENDRIN-KETONE			0.100UJL	0.100U	0.100U
ETHYLBENZENE	10.000U	10.000U	10.000U	10.000U	10.000U
FLUORANTHENE	10.000U	10.000U	10.000U	10.000U	10.000U
FLUORENE	10.000U	10.000U	10.000U	10.000U	10.000U
GAMMA-CHLORDANE			0.050U	0.050U	0.050U
HEPTACHLOR			0.050U	0.050U	0.050U
HEPTACHLOR-EPOXIDE			0.050U	0.050U	0.050U
HEXACHLOROBENZENE	10.000U	10.000U	10.000U	10.000U	10.000U
HEXACHLOROBUTADIENE	10.000U	10.000U	10.000U	10.000U	10.000U
HEXACHLOROCYCLOPENTADIENE	10.000U	10.000U	10.000U	10.000U	10.000U
HEXACHLOROETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
INDENO(1,2,3-cd)PYRENE	10.000U	10.000U	10.000U	10.000U	10.000U
ISOPHORONE	10.000U	10.000U	10.000U	10.000U	10.000U
METHOXYCHLOR			0.500UJL	0.500U	0.500U
METHYLENE-CHLORIDE	10.000U	10.000U	10.000U	10.000U	10.000U
N-NITROSO-DI-N-PROPYLAMINE	10.000U	10.000U	10.000U	10.000U	10.000U
N-NITROSODIPHENYLAMINE	10.000U	10.000U	10.000U	10.000U	10.000U
NAPTHALENE	10.000U	10.000U	10.000U	10.000U	10.000U
NITROBENZENE	10.000U	10.000U	10.000U	10.000U	10.000U
PENTACHLOROPHENOL	25.000U	25.000U	25.000U	25.000U	25.000U
PHENANTHRENE	10.000U	10.000U	10.000U	10.000U	10.000U
PHENOL	10.000U	10.000U	10.000UC	10.000U	10.000U
PYRENE	10.000U	10.000U	10.000U	10.000U	10.000U
SET1,1-DICHLOROETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
STYRENE	10.000U	10.000U	10.000U	10.000U	10.000U
TETRACHLOROETHENE	10.000U	10.000U	10.000U	10.000U	10.000U
TOLUENE	3.000J	3.000J	2.000J	10.000U	1.000J
TOXAPHENE			5.000UJL	5.000U	5.000U
TRICHLOROETHENE	10.000U	10.000U	10.000U	10.000U	10.000U
VINYL-CHLORIDE	10.000U	10.000U	10.000U	10.000U	10.000U
XYLENE	10.000U	10.000U	10.000U	10.000U	10.000U
alpha-BHC			0.050U	0.050U	0.050U
beta-BHC			0.050U	0.054J	0.050U
bis(2-CHLOROETHOXY)METHANE	10.000U	10.000U	10.000U	10.000U	10.000U
bis(2-CHLOROETHYL)ETHER	10.000U	10.000U	10.000U	10.000U	10.000U
bis(2-ETHYLHEXYL)PHTHALATE	10.000U	10.000U	10.000UC	10.000U	10.000U
cis-1,3-DICHLOROPROPENE	10.000U	10.000U	10.000U	10.000U	10.000U

TABLE J-3 - RINSATE BLANK RESULTS - UNITS: ug/L - ASL, 1994

ANALYTE	AL-21852-RB-01	AL-21852-RB-02	AL-21852-RB-03	AL-21852-RB-04	AL-21852-RB-05
delta-BHC			0.050U	0.050U	0.050U
gama-BHC			0.050U	0.050U	0.050U
trans-1,3-DICHLOROPROPENE	10.000U	10.000U	10.000U	10.000U	10.000U

TABLE J-3 - RINSATE BLANK RESULTS - UNITS: ug/L - ASL, 1994

ANALYTE	AL-21915-RB-01	AL-21915-RB-02	AL-21915-RB-03	AL-21915-RB-04	AL-21915-RB-05
1,1,1-TRICHLOROETHANE	10.000U	10.000U	10.000U	20.000U	20.000U
1,1,2,2-TETRACHLOROETHANE	10.000U	10.000U	10.000U	20.000U	20.000U
1,1,2-TRICHLOROETHANE	10.000U	10.000U	10.000U	20.000U	20.000U
1,1-DICHLOROETHENE	10.000U	10.000U	10.000U	20.000U	20.000U
1,2,4-TRICHLOROBENZENE	10.000U	10.000U	10.000U	10.000U	10.000U
1,2-DICHLOROBENZENE	10.000U	10.000U	10.000U	10.000U	10.000U
1,2-DICHLOROETHANE	10.000U	10.000U	10.000U	20.000U	20.000U
1,2-DICHLOROETHENE (total)	10.000U	10.000U	10.000U	20.000U	20.000U
1,2-DICHLOROPROPANE	10.000U	10.000U	10.000U	20.000U	20.000U
1,3-DICHLOROBENZENE	10.000U	10.000U	10.000U	10.000U	10.000U
1,4-DICHLOROBENZENE	10.000U	10.000U	10.000U	10.000U	10.000U
2,2'-oxybis(1-CHLOROPROPANE)	10.000U	10.000U	10.000U	10.000U	10.000U
2,4,5-TRICHLOROPHENOL	25.000U	25.000U	25.000U	25.000UJL	25.000U
2,4,6-TRICHLOROPHENOL	10.000U	10.000U	10.000U	10.000UJL	10.000U
2,4-DICHLOROPHENOL	10.000U	10.000U	10.000U	10.000U	10.000U
2,4-DIMETHYLPHENOL	10.000U	10.000U	10.000U	10.000U	10.000U
2,4-DINITROPHENOL	25.000U	25.000U	25.000U	25.000UJL	25.000U
2,4-DINITROTOLUENE	10.000U	10.000U	10.000U	10.000UJL	10.000U
2,6-DINITROTOLUENE	10.000U	10.000U	10.000U	10.000UJL	10.000U
2-BUTANONE	10.000U	10.000U	10.000	20.000U	20.000U
2-CHLORONAPHTHALENE	10.000U	10.000U	10.000U	10.000UJL	10.000U
2-CHLOROPHENOL	10.000U	10.000U	10.000U	10.000U	10.000U
2-HEXANONE	10.000U	10.000U	10.000U	20.000U	20.000U
2-METHYLNAPHTHALENE	10.000U	10.000U	10.000U	10.000U	10.000U
2-METHYLPHENOL	10.000U	10.000U	10.000U	10.000U	10.000U
2-NITROANILINE	25.000U	25.000U	25.000U	25.000UJL	25.000U
2-NITROPHENOL	10.000U	10.000U	10.000U	10.000U	10.000U
3,3'-DICHLOROBENZIDINE	10.000U	10.000U	10.000U	10.000UJL	10.000U
3-NITROANILINE	25.000U	25.000U	25.000U	25.000UJL	25.000U
4,4'-DDD	0.100U	0.100U	0.100U	0.100U	0.000R
4,4'-DDE	0.100U	0.100U	0.100U	0.100U	0.100U
4,4'-DDT	0.100U	0.100U	0.100U	0.100U	0.000R
4,6-DINITRO-2-METHYLPHENOL	25.000U	25.000U	25.000U	25.000UJL	25.000U
4-BROMOPHENYL-PHENYLETHER	10.000U	10.000U	10.000U	10.000UJL	10.000U
4-CHLORO-3-METHYLPHENOL	10.000U	10.000U	10.000U	10.000U	10.000U
4-CHLOROANILINE	10.000U	10.000U	10.000U	10.000U	10.000U
4-CHLOROPHENYL-PHENYLETHER	10.000U	10.000U	10.000U	10.000UJL	10.000U
4-METHYL-2-PENTANONE	10.000U	10.000U	10.000U	20.000U	20.000U
4-METHYLPHENOL	10.000U	10.000U	10.000U	10.000U	10.000U
4-NITROANILINE	25.000U	25.000U	25.000U	25.000UJL	25.000U
4-NITROPHENOL	25.000U	25.000U	25.000U	25.000UJL	25.000U

TABLE J-3 - RINSATE BLANK RESULTS - UNITS: ug/L - ASL, 1994

ANALYTE	AL-21915-RB-01	AL-21915-RB-02	AL-21915-RB-03	AL-21915-RB-04	AL-21915-RB-05
ACENAPHTHENE	10.000U	10.000U	10.000U	10.000UJL	10.000U
ACENAPHTHYLENE	10.000U	10.000U	10.000U	10.000UJL	10.000U
ACETONE	81.000J	56.000J	72.000J	220.000	140.000
ALDRIN	0.050U	0.050U	0.050U	0.050U	0.050U
ALPHA-CHLORDANE	0.050U	0.050U	0.050U	0.050U	0.050U
ANTHRACENE	10.000U	10.000U	10.000U	10.000UJL	10.000U
AROCHLOR-1016	1.000U	1.000U	1.000U	1.000U	1.000U
AROCHLOR-1221	2.000U	2.000U	2.000U	2.000U	2.000U
AROCHLOR-1232	1.000U	1.000U	1.000U	1.000U	1.000U
AROCHLOR-1242	1.000U	1.000U	1.000U	1.000U	1.000U
AROCHLOR-1248	1.000U	1.000U	1.000U	1.000U	1.000U
AROCLOR-1254	1.000U	1.000U	1.000U	1.000U	0.000R
AROCLOR-1260	1.000U	1.000U	1.000U	1.000U	0.000R
BENZENE	10.000U	10.000U	10.000U	20.000U	20.000U
BENZO(a)ANTHRACENE	10.000U	10.000U	10.000U	10.000UJL	10.000U
BENZO(a)PYRENE	10.000U	10.000U	10.000U	10.000UJL	10.000U
BENZO(b)FLUORANTHENE	10.000U	10.000U	10.000U	10.000UJL	10.000U
BENZO(g,h,i)PERYLENE	10.000U	10.000U	10.000U	10.000UJL	10.000U
BENZO(k)FLUORANTHENE	10.000U	10.000U	10.000U	10.000UJL	10.000U
BROMETHANE	10.000U	10.000U	10.000U	20.000U	20.000U
BROMODICHLOROMETHANE	10.000U	10.000U	10.000U	20.000U	20.000U
BROMOFORM	10.000U	10.000U	10.000U	20.000U	20.000U
BROMOMETHANE					
BUTYLBENZYLPHTHALATE	10.000U	10.000U	10.000U	10.000UJL	10.000U
CARBAZOLE	10.000U	10.000U	10.000U	10.000UJL	10.000U
CARBON-DISULFIDE	10.000U	10.000U	10.000U	20.000U	20.000U
CARBON-TETRACHLORIDE	10.000U	10.000U	10.000U	20.000U	20.000U
CHLOROBENZENE	10.000U	10.000U	10.000U	20.000U	20.000U
CHLOROETHANE	10.000U	10.000U	10.000U	20.000U	20.000U
CHLOROFORM	10.000U	10.000U	10.000U	20.000U	20.000U
CHLOROMETHANE	10.000U	10.000U	10.000U	20.000U	20.000U
CHRYSENE	10.000U	10.000U	10.000U	10.000UJL	10.000U
DI-N-BUTYLPHTHALATE	10.000U	10.000U	10.000U	10.000UJL	10.000U
DI-N-OCTYLPHTHALATE	10.000U	10.000U	10.000U	10.000UJL	10.000U
DIBENZ(a,h)ANTHRACENE	10.000U	10.000U	10.000U	10.000UJL	10.000U
DIBENZOFURAN	10.000U	10.000U	10.000U	10.000UJL	10.000U
DIBROMOCHLOROMETHANE	10.000U	10.000U	10.000U	20.000U	20.000U
DIELDRIN	0.100U	0.100U	0.100U	0.100U	0.100U
DIETHYLPHTHALATE	10.000U	10.000U	10.000U	10.000UJL	10.000U
DIMETHYLPHTHALATE	10.000U	10.000U	10.000U	10.000UJL	10.000U
ENDOSULFAN-I	0.050U	0.050U	0.050U	0.050U	0.050U

TABLE J-3 - RINSATE BLANK RESULTS - UNITS: ug/L - ASL, 1994

ANALYTE	AL-21915-RB-01	AL-21915-RB-02	AL-21915-RB-03	AL-21915-RB-04	AL-21915-RB-05
ENDOSULFAN-II	0.100U	0.100U	0.100U	0.100U	0.000R
ENDOSULFAN-SULFATE	0.100U	0.100U	0.100U	0.100U	0.000R
ENDRIN	0.100U	0.100U	0.100U	0.100U	0.000R
ENDRIN-ALDEHYDE	0.100U	0.100U	0.100U	0.100U	0.000R
ENDRIN-KETONE	0.100U	0.100U	0.100U	0.100U	0.000R
ETHYLBENZENE	10.000U	10.000U	10.000U	20.000U	20.000U
FLUORANTHENE	10.000U	10.000U	10.000U	10.000UJL	10.000U
FLUORENE	10.000U	10.000U	10.000U	10.000UJL	10.000U
GAMMA-CHLORDANE	0.050U	0.050U	0.050U	0.050U	0.050U
HEPTACHLOR	0.050U	0.050U	0.050U	0.050U	0.050U
HEPTACHLOR-EPOXIDE	0.050U	0.050U	0.050U	0.050U	0.050U
HEXACHLOROBENZENE	10.000U	10.000U	10.000U	10.000UJL	10.000U
HEXACHLOROBUTADIENE	10.000U	10.000U	10.000U	10.000U	10.000U
HEXACHLOROCYCLOPENTADIENE	10.000U	10.000U	10.000U	10.000UJL	10.000U
HEXACHLOROETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
INDENO(1,2,3-cd)PYRENE	10.000U	10.000U	10.000U	10.000UJL	10.000U
ISOPHORONE	10.000U	10.000U	10.000U	10.000U	10.000U
METHOXYCHLOR	0.500U	0.500U	0.500U	0.500U	0.000R
METHYLENE-CHLORIDE	8.000J	1.000J	10.000U	15.000J	21.000
N-NITROSO-DI-N-PROPYLAMINE	10.000U	10.000U	10.000U	10.000U	10.000U
N-NITROSODIPHENYLAMINE	10.000U	10.000U	10.000U	10.000UJL	10.000U
NAPTHALENE	10.000U	10.000U	10.000U	10.000U	10.000U
NITROBENZENE	10.000U	10.000U	10.000U	10.000U	10.000U
PENTACHLOROPHENOL	25.000U	25.000U	25.000U	25.000UJL	25.000U
PHENANTHRENE	10.000U	10.000U	10.000U	10.000UJL	10.000U
PHENOL	10.000U	10.000U	10.000U	10.000U	10.000U
PYRENE	10.000U	10.000U	10.000U	10.000UJL	10.000U
SET1,1-DICHLOROETHANE	10.000U	10.000U	10.000U	20.000U	20.000U
STYRENE	10.000U	10.000U	10.000U	20.000U	20.000U
TETRACHLOROETHENE	10.000U	10.000U	10.000U	20.000U	20.000U
TOLUENE	10.000U	10.000U	10.000U	20.000U	20.000U
TOXAPHENE	5.000U	5.000U	5.000U	5.000U	0.000R
TRICHLOROETHENE	10.000U	10.000U	10.000U	20.000U	20.000U
VINYL-CHLORIDE	10.000U	10.000U	10.000U	20.000U	20.000U
XYLENE	10.000U	10.000U	10.000U	20.000U	20.000U
alpha-BHC	0.050U	0.050U	0.050U	0.050U	0.050U
beta-BHC	0.050U	0.050U	0.050U	0.050U	0.050U
bis(2-CHLOROETHOXY)METHANE	10.000U	10.000U	10.000U	10.000U	10.000U
bis(2-CHLOROETHYL)ETHER	10.000U	10.000U	10.000U	10.000U	10.000U
bis(2-ETHYLHEXYL)PHTHALATE	10.000U	10.000U	10.000U	10.000UJL	10.000U
cis-1,3-DICHLOROPROPENE	10.000U	10.000U	10.000U	20.000U	20.000U

00159.0594

TABLE J-3 - RINSATE BLANK RESULTS - UNITS: ug/L - ASL, 1994

ANALYTE	AL-21915-RB-01	AL-21915-RB-02	AL-21915-RB-03	AL-21915-RB-04	AL-21915-RB-05
delta-BHC	0.050U	0.050U	0.050U	0.050U	0.050U
gama-BHC	0.050U	0.050U	0.050U	0.050U	0.050U
trans-1,3-DICHLOROPROPENE	10.000U	10.000U	10.000U	20.000U	20.000U

00159.0595

TABLE J-3 - RINSATE BLANK RESULTS - UNITS: ug/L - ASL, 1994

ANALYTE	AL-21947-RB-01	AL-21947-RB-02	AL-21947-RB-03	AL-21947-RB-04	AL-21947-RB-05
1,1,1-TRICHLOROETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
1,1,2,2-TETRACHLOROETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
1,1,2-TRICHLOROETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
1,1-DICHLOROETHENE	10.000U	10.000U	10.000U	10.000U	10.000U
1,2,4-TRICHLOROBENZENE	10.000U	10.000U	10.000U	10.000U	10.000U
1,2-DICHLOROBENZENE	10.000U	10.000U	10.000U	10.000U	10.000U
1,2-DICHLOROETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
1,2-DICHLOROETHENE (total)	10.000U	10.000U	10.000U	10.000U	10.000U
1,2-DICHLOROPROPANE	10.000U	10.000U	10.000U	10.000U	10.000U
1,3-DICHLOROBENZENE	10.000U	10.000U	10.000U	10.000U	10.000U
1,4-DICHLOROBENZENE	10.000U	10.000U	10.000U	10.000U	10.000U
2,2'-oxybis(1-CHLOROPROPANE)	10.000U	10.000U	10.000U	10.000U	10.000U
2,4,5-TRICHLOROPHENOL	25.000U	25.000U	25.000U	25.000U	25.000U
2,4,6-TRICHLOROPHENOL	10.000U	10.000U	10.000U	10.000U	10.000U
2,4-DICHLOROPHENOL	10.000U	10.000U	10.000U	10.000U	10.000U
2,4-DIMETHYLPHENOL	10.000U	10.000U	10.000U	10.000U	10.000U
2,4-DINITROPHENOL	25.000U	25.000U	25.000U	25.000U	25.000U
2,4-DINITROTOLUENE	10.000U	10.000U	10.000U	10.000U	10.000U
2,6-DINITROTOLUENE	10.000U	10.000U	10.000U	10.000U	10.000U
2-BUTANONE	10.000U	10.000U	10.000U	7.000J	10.000U
2-CHLORONAPHTHALENE	10.000U	10.000U	10.000U	10.000U	10.000U
2-CHLOROPHENOL	10.000U	10.000U	10.000U	10.000U	10.000U
2-HEXANONE	10.000U	10.000U	10.000U	10.000U	10.000U
2-METHYLNAPHTHALENE	10.000U	10.000U	10.000U	10.000U	10.000U
2-METHYLPHENOL	10.000U	10.000U	10.000U	10.000U	10.000U
2-NITROANILINE	25.000U	25.000U	25.000U	25.000U	25.000U
2-NITROPHENOL	10.000U	10.000U	10.000U	10.000U	10.000U
3,3'-DICHLOROBENZIDINE	10.000U	10.000U	10.000U	10.000U	10.000U
3-NITROANILINE	25.000U	25.000U	25.000U	25.000U	25.000U
4,4'-DDD	0.100U	0.100U	0.100UJL	0.100U	0.100U
4,4'-DDE	0.100U	0.100U	0.100UJL	0.100U	0.100U
4,4'-DDT	0.100U	0.100U	0.100UJL	0.100U	0.100U
4,6-DINITRO-2-METHYLPHENOL	25.000U	25.000U	25.000U	25.000U	25.000U
4-BROMOPHENYL-PHENYLETHER	10.000U	10.000U	10.000U	10.000U	10.000U
4-CHLORO-3-METHYLPHENOL	10.000U	10.000U	10.000U	10.000U	10.000U
4-CHLOROANILINE	10.000U	10.000U	10.000U	10.000U	10.000U
4-CHLOROPHENYL-PHENYLETHER	10.000U	10.000U	10.000U	10.000U	10.000U
4-METHYL-2-PENTANONE	10.000U	10.000U	10.000U	10.000U	10.000U
4-METHYLPHENOL	10.000U	10.000U	10.000U	10.000U	10.000U
4-NITROANILINE	25.000U	25.000U	25.000U	25.000U	25.000U
4-NITROPHENOL	25.000U	25.000U	25.000U	25.000U	25.000U

TABLE J-3 - RINSATE BLANK RESULTS - UNITS: ug/L - ASL, 1994

ANALYTE	AL-21947-RB-01	AL-21947-RB-02	AL-21947-RB-03	AL-21947-RB-04	AL-21947-RB-05
ACENAPHTHENE	10.000U	10.000U	10.000U	10.000U	10.000U
ACENAPHTHYLENE	10.000U	10.000U	10.000U	10.000U	10.000U
ACETONE	83.000	48.000	62.000J	84.000	65.000
ALDRIN	0.050U	0.050U	0.050U	0.050U	0.050U
ALPHA-CHLORDANE	0.050U	0.050U	0.050UJL	0.050U	0.050U
ANTHRACENE	10.000U	10.000U	10.000U	10.000U	10.000U
AROCHLOR-1016	1.000U	1.000U	1.000U	1.000U	1.000U
AROCHLOR-1221	2.000U	2.000U	2.000U	2.000U	2.000U
AROCHLOR-1232	1.000U	1.000U	1.000U	1.000U	1.000U
AROCHLOR-1242	1.000U	1.000U	1.000U	1.000U	1.000U
AROCHLOR-1248	1.000U	1.000U	1.000U	1.000U	1.000U
AROCLOR-1254	1.000U	1.000U	1.000U	1.000U	1.000U
AROCLOR-1260	1.000U	1.000U	1.000U	1.000U	1.000U
BENZENE	10.000U	10.000U	10.000U	10.000U	10.000U
BENZO(a)ANTHRACENE	10.000U	10.000U	10.000U	10.000U	10.000U
BENZO(a)PYRENE	10.000U	10.000U	10.000U	10.000U	10.000U
BENZO(b)FLUORANTHENE	10.000U	10.000U	10.000U	10.000U	10.000U
BENZO(g,h,i)PERYLENE	10.000U	10.000U	10.000U	10.000U	10.000U
BENZO(k)FLUORANTHENE	10.000U	10.000U	10.000U	10.000U	10.000U
BROMETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
BROMODICHLOROMETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
BROMOFORM	10.000U	10.000U	10.000U	10.000U	10.000U
BROMOMETHANE					
BUTYLBENZYLPHTHALATE	10.000U	10.000U	10.000U	10.000U	10.000U
CARBAZOLE	10.000U	10.000U	10.000U	10.000U	10.000U
CARBON-DISULFIDE	10.000U	10.000U	10.000U	10.000U	10.000U
CARBON-TETRACHLORIDE	10.000U	10.000U	10.000U	10.000U	10.000U
CHLOROBENZENE	10.000U	10.000U	10.000U	10.000U	10.000U
CHLOROETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
CHLOROFORM	10.000U	10.000U	10.000U	10.000U	10.000U
CHLOROMETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
CHRYSENE	10.000U	10.000U	10.000U	10.000U	10.000U
DI-N-BUTYLPHTHALATE	10.000U	10.000U	10.000U	10.000U	10.000U
DI-N-OCTYLPHTHALATE	10.000U	10.000U	10.000U	10.000U	10.000U
DIBENZ(a,h)ANTHRACENE	10.000U	10.000U	10.000U	10.000U	10.000U
DIBENZOFURAN	10.000U	10.000U	10.000U	10.000U	10.000U
DIBROMOCHLOROMETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
DIELDRIN	0.100U	0.100U	0.100UJL	0.100U	0.100U
DIETHYLPHTHALATE	10.000U	10.000U	10.000U	10.000U	10.000U
DIMETHYLPHTHALATE	10.000U	10.000U	10.000U	10.000U	10.000U
[illegible]OSULFAN-I	0.050U	0.050U	[illegible].050U	0.050U	0.050U

00159.0597

TABLE J-3 - RINSATE BLANK RESULTS - UNITS: ug/L - ASL, 1994

ANALYTE	AL-21947-RB-01	AL-21947-RB-02	AL-21947-RB-03	AL-21947-RB-04	AL-21947-RB-05
ENDOSULFAN-II	0.100U	0.100U	0.100UJL	0.100U	0.100U
ENDOSULFAN-SULFATE	0.100U	0.100U	0.100UJL	0.100U	0.100U
ENDRIN	0.100U	0.100U	0.100UJL	0.100U	0.100U
ENDRIN-ALDEHYDE	0.100U	0.100U	0.100UJL	0.100U	0.100U
ENDRIN-KETONE	0.100U	0.100U	0.100UJL	0.100U	0.100U
ETHYLBENZENE	10.000U	10.000U	10.000U	10.000U	10.000U
FLUORANTHENE	10.000U	10.000U	10.000U	10.000U	10.000U
FLUORENE	10.000U	10.000U	10.000U	10.000U	10.000U
GAMMA-CHLORDANE	0.050U	0.050U	0.050UJL	0.050U	0.050U
HEPTACHLOR	0.050U	0.050U	0.050U	0.050U	0.050U
HEPTACHLOR-EPOXIDE	0.050U	0.050U	0.050U	0.050U	0.050U
HEXACHLOROBENZENE	10.000U	10.000U	10.000U	10.000U	10.000U
HEXACHLOROBUTADIENE	10.000U	10.000U	10.000U	10.000U	10.000U
HEXACHLOROCYCLOPENTADIENE	10.000U	10.000U	10.000U	10.000U	10.000U
HEXACHLOROETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
INDENO(1,2,3-cd)PYRENE	10.000U	10.000U	10.000U	10.000U	10.000U
ISOPHORONE	10.000U	10.000U	10.000U	10.000U	10.000U
METHOXYCHLOR	0.500U	0.500U	0.500UJL	0.500U	0.500U
METHYLENE-CHLORIDE	2.000J	3.000J	1.000J	2.000J	2.000J
N-NITROSO-DI-N-PROPYLAMINE	10.000U	10.000U	10.000U	10.000U	10.000U
N-NITROSODIPHENYLAMINE	10.000U	10.000U	10.000U	10.000U	10.000U
NAPTHALENE	10.000U	10.000U	10.000U	10.000U	10.000U
NITROBENZENE	10.000U	10.000U	10.000U	10.000U	10.000U
PENTACHLOROPHENOL	25.000U	25.000U	25.000U	25.000U	25.000U
PHENANTHRENE	10.000U	10.000U	10.000U	10.000U	10.000U
PHENOL	10.000U	10.000U	10.000U	10.000U	10.000U
PYRENE	10.000U	10.000U	10.000U	10.000U	10.000U
SET1,1-DICHLOROETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
STYRENE	10.000U	10.000U	10.000U	10.000U	10.000U
TETRACHLOROETHENE	10.000U	10.000U	10.000U	10.000U	10.000U
TOLUENE	10.000U	10.000U	10.000U	10.000U	10.000U
TOXAPHENE	5.000U	5.000U	5.000U	5.000U	5.000U
TRICHLOROETHENE	10.000U	10.000U	10.000U	10.000U	10.000U
VINYL-CHLORIDE	10.000U	10.000U	10.000U	10.000U	10.000U
XYLENE	10.000U	10.000U	10.000U	10.000U	10.000U
alpha-BHC	0.050U	0.050U	0.050U	0.050U	0.050U
beta-BHC	0.050U	0.050U	0.050U	0.050U	0.050U
bis(2-CHLOROETHOXY)METHANE	10.000U	10.000U	10.000U	10.000U	10.000U
bis(2-CHLOROETHYL)ETHER	10.000U	10.000U	10.000U	10.000U	10.000U
bis(2-ETHYLHEXYL)PHTHALATE	10.000U	6.000J	10.000U	10.000U	10.000U
cis-1,3-DICHLOROPROPENE	10.000U	10.000U	10.000U	10.000U	10.000U

TABLE J-3 - RINSATE BLANK RESULTS - UNITS: ug/L - ASL, 1994

ANALYTE	AL-21947-RB-01	AL-21947-RB-02	AL-21947-RB-03	AL-21947-RB-04	AL-21947-RB-05
delta-BHC	0.050U	0.050U	0.050U	0.050U	0.050U
gama-BHC	0.050U	0.050U	0.050U	0.050U	0.050U
trans-1,3-DICHLOROPROPENE	10.000U	10.000U	10.000U	10.000U	10.000U

00159.0599

TABLE J-3 - RINSATE BLANK RESULTS - UNITS: ug/L - ASL, 1994

ANALYTE	AL-22016-RB-01	AL-22016-RB-02	AL-22016-RB-03	AL-22053-RB-01	AL-22097-RB-01
1,1,1-TRICHLOROETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
1,1,2,2-TETRACHLOROETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
1,1,2-TRICHLOROETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
1,1-DICHLOROETHENE	10.000U	10.000U	10.000U	10.000U	10.000U
1,2,4-TRICHLOROBENZENE	10.000U	10.000U	10.000U	10.000U	10.000U
1,2-DICHLOROBENZENE	10.000U	10.000U	10.000U	10.000U	10.000U
1,2-DICHLOROETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
1,2-DICHLOROETHENE (total)	10.000U	10.000U	10.000U	10.000U	10.000U
1,2-DICHLOROPROPANE	10.000U	10.000U	10.000U	10.000U	10.000U
1,3-DICHLOROBENZENE	10.000U	10.000U	10.000U	10.000U	10.000U
1,4-DICHLOROBENZENE	10.000U	10.000U	10.000U	10.000U	10.000U
2,2'-oxybis(1-CHLOROPROPANE)	10.000U	10.000U	10.000U	10.000U	10.000U
2,4,5-TRICHLOROPHENOL	25.000U	25.000U	25.000U	25.000U	25.000U
2,4,6-TRICHLOROPHENOL	10.000U	10.000U	10.000U	10.000U	10.000U
2,4-DICHLOROPHENOL	10.000U	10.000U	10.000U	10.000U	10.000U
2,4-DIMETHYLPHENOL	10.000U	10.000U	10.000U	10.000U	10.000U
2,4-DINITROPHENOL	25.000U	25.000U	25.000U	25.000U	25.000U
2,4-DINITROTOLUENE	10.000U	10.000U	10.000U	10.000U	10.000U
2,6-DINITROTOLUENE	10.000U	10.000U	10.000U	10.000U	10.000U
2-BUTANONE	10.000U	10.000U	10.000U	10.000U	10.000U
2-CHLORONAPHTHALENE	10.000U	10.000U	10.000U	10.000U	10.000U
2-CHLOROPHENOL	10.000U	10.000U	10.000U	10.000U	10.000U
2-HEXANONE	10.000U	10.000U	10.000U	10.000U	10.000U
2-METHYLNAPHTHALENE	10.000U	10.000U	10.000U	10.000U	10.000U
2-METHYLPHENOL	10.000U	10.000U	10.000U	10.000U	10.000U
2-NITROANILINE	25.000U	25.000U	25.000U	25.000U	25.000U
2-NITROPHENOL	10.000U	10.000U	10.000U	10.000U	10.000U
3,3'-DICHLOROBENZIDINE	10.000U	10.000U	10.000U	10.000U	10.000U
3-NITROANILINE	25.000U	25.000U	25.000U	25.000U	25.000U
4,4'-DDD	0.100UJL	0.100UJL	0.100UJL	0.100UJL	0.100U
4,4'-DDE	0.100U	0.100U	0.100U	0.100U	0.100U
4,4'-DDT	0.100UJL	0.100UJL	0.100UJL	0.100UJL	0.100U
4,6-DINITRO-2-METHYLPHENOL	25.000U	25.000U	25.000U	25.000U	25.000U
4-BROMOPHENYL-PHENYLETHER	10.000U	10.000U	10.000U	10.000U	10.000U
4-CHLORO-3-METHYLPHENOL	10.000U	10.000U	10.000U	10.000U	10.000U
4-CHLOROANILINE	10.000U	10.000U	10.000U	10.000U	10.000U
4-CHLOROPHENYL-PHENYLETHER	10.000U	10.000U	10.000U	10.000U	10.000U
4-METHYL-2-PENTANONE	10.000U	10.000U	10.000U	10.000U	10.000U
4-METHYLPHENOL	10.000U	10.000U	10.000U	10.000U	10.000U
4-NITROANILINE	25.000U	25.000U	25.000U	25.000U	25.000U
4-NITROPHENOL	25.000U	25.000U	25.000U	25.000U	25.000U

TABLE J-3 - RINSATE BLANK RESULTS - UNITS: ug/L - ASL, 1994

ANALYTE	AL-22016-RB-01	AL-22016-RB-02	AL-22016-RB-03	AL-22053-RB-01	AL-22097-RB-01
ACENAPHTHENE	10.000U	10.000U	10.000U	10.000U	10.000U
ACENAPHTHYLENE	10.000U	10.000U	10.000U	10.000U	10.000U
ACETONE	69.000J	54.000J	44.000	32.000J	10.000U
ALDRIN	0.050U	0.050U	0.050U	0.050U	0.050U
ALPHA-CHLORDANE	0.050U	0.050U	0.050U	0.050U	0.050U
ANTHRACENE	10.000U	10.000U	10.000U	10.000U	10.000U
AROCHLOR-1016	1.000U	1.000U	1.000U	1.000U	1.000U
AROCHLOR-1221	2.000U	2.000U	2.000U	2.000U	2.000U
AROCHLOR-1232	1.000U	1.000U	1.000U	1.000U	1.000U
AROCHLOR-1242	1.000U	1.000U	1.000U	1.000U	1.000U
AROCHLOR-1248	1.000U	1.000U	1.000U	1.000U	1.000U
AROCLOR-1254	1.000U	1.000U	1.000UJL	1.000UJL	1.000U
AROCLOR-1260	1.000U	1.000U	1.000UJL	1.000UJL	1.000U
BENZENE	10.000U	10.000U	10.000U	10.000U	10.000U
BENZO(a)ANTHRACENE	10.000U	10.000U	10.000U	10.000U	10.000U
BENZO(a)PYRENE	10.000U	10.000U	10.000U	10.000U	10.000U
BENZO(b)FLUORANTHENE	10.000U	10.000U	10.000U	10.000U	10.000U
BENZO(g,h,i)PERYLENE	10.000U	10.000U	10.000U	10.000U	10.000U
BENZO(k)FLUORANTHENE	10.000U	10.000U	10.000U	10.000U	10.000U
BROMETHANE	10.000U	10.000U	10.000U	10.000U	
BROMODICHLOROMETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
BROMOFORM	10.000U	10.000U	10.000U	10.000U	10.000U
BROMOMETHANE					10.000U
BUTYLBENZYLPHTHALATE	10.000U	10.000U	10.000U	10.000U	10.000U
CARBAZOLE	10.000U	10.000U	10.000U	10.000U	10.000U
CARBON-DISULFIDE	10.000U	10.000U	10.000U	10.000U	10.000U
CARBON-TETRACHLORIDE	10.000U	10.000U	10.000U	10.000U	10.000U
CHLOROBENZENE	10.000U	10.000U	10.000U	10.000U	10.000U
CHLOROETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
CHLOROFORM	10.000U	10.000U	10.000U	10.000U	10.000U
CHLOROMETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
CHRYSENE	10.000U	10.000U	10.000U	10.000U	10.000U
DI-N-BUTYLPHTHALATE	10.000U	10.000U	10.000U	2.000J	10.000U
DI-N-OCTYLPHTHALATE	10.000U	10.000U	10.000U	10.000U	10.000U
DIBENZ(a,h)ANTHRACENE	10.000U	10.000U	10.000U	10.000U	10.000U
DIBENZOFURAN	10.000U	10.000U	10.000U	10.000U	10.000U
DIBROMOCHLOROMETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
DIELDRIN	0.100UJL	0.100UJL	0.100UJL	0.100UJL	0.100U
DIETHYLPHTHALATE	10.000U	10.000U	10.000U	10.000U	10.000U
DIMETHYLPHTHALATE	10.000U	10.000U	10.000U	10.000U	10.000U
ENDOSULFAN-I	0.050U	0.050U	0.050U	0.050U	0.050U

TABLE J-3 - RINSATE BLANK RESULTS - UNITS: ug/L - ASL, 1994

ANALYTE	AL-22016-RB-01	AL-22016-RB-02	AL-22016-RB-03	AL-22053-RB-01	AL-22097-RB-01
ENDOSULFAN-II	0.100UJL	0.100UJL	0.100UJL	0.100UJL	0.100U
ENDOSULFAN-SULFATE	0.100UJL	0.100UJL	0.100UJL	0.100UJL	0.100U
ENDRIN	0.100UJL	0.100UJL	0.100UJL	0.100UJL	0.100U
ENDRIN-ALDEHYDE	0.100UJL	0.100UJL	0.100UJL	0.100UJL	
ENDRIN-KETONE	0.100UJL	0.100UJL	0.100UJL	0.100UJL	0.100U
ETHYLBENZENE	10.000U	10.000U	10.000U	10.000U	10.000U
FLUORANTHENE	10.000U	10.000U	10.000U	10.000U	10.000U
FLUORENE	10.000U	10.000U	10.000U	10.000U	10.000U
GAMMA-CHLORDANE	0.050U	0.050U	0.050U	0.050U	0.050U
HEPTACHLOR	0.050U	0.050U	0.050U	0.050U	0.050U
HEPTACHLOR-EPOXIDE	0.050U	0.050U	0.050U	0.050U	0.050U
HEXACHLOROBENZENE	10.000U	10.000U	10.000U	10.000U	10.000U
HEXACHLOROBUTADIENE	10.000U	10.000U	10.000U	10.000U	10.000U
HEXACHLOROCYCLOPENTADIENE	10.000U	10.000U	10.000U	10.000U	10.000U
HEXACHLOROETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
INDENO(1,2,3-cd)PYRENE	10.000U	10.000U	10.000U	10.000U	10.000U
ISOPHORONE	10.000U	10.000U	10.000U	10.000U	10.000U
METHOXYCHLOR	0.500UJL	0.032UJL	0.500UJL	0.500UJL	0.500U
METHYLENE-CHLORIDE	10.000U	10.000U	40.000	2.000J	10.000U
N-NITROSO-DI-N-PROPYLAMINE	10.000U	10.000U	10.000U	10.000U	10.000U
N-NITROSODIPHENYLAMINE	10.000U	10.000U	10.000U	10.000U	10.000U
NAPTHALENE	10.000U	10.000U	10.000U	10.000U	10.000U
NITROBENZENE	10.000U	10.000U	10.000U	10.000U	10.000U
PENTACHLOROPHENOL	25.000U	25.000U	25.000U	25.000U	25.000U
PHENANTHRENE	10.000U	10.000U	10.000U	10.000U	10.000U
PHENOL	10.000U	10.000U	10.000U	10.000U	10.000U
PYRENE	10.000U	10.000U	10.000U	10.000U	10.000U
SET1,1-DICHLOROETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
STYRENE	10.000U	10.000U	10.000U	10.000U	10.000U
TETRACHLOROETHENE	10.000U	10.000U	10.000U	10.000U	10.000U
TOLUENE	10.000U	10.000U	10.000U	10.000U	10.000U
TOXAPHENE	5.000U	5.000U	5.000UJL	5.000UJL	5.000U
TRICHLOROETHENE	10.000U	10.000U	10.000U	10.000U	10.000U
VINYL-CHLORIDE	10.000U	10.000U	10.000U	10.000U	10.000U
XYLENE	10.000U	10.000U	10.000U	10.000U	10.000U
alpha-BHC	0.050U	0.050U	0.050U	0.050U	0.050U
beta-BHC	0.050U	0.050U	0.050U	0.050U	0.050U
bis(2-CHLOROETHOXY)METHANE	10.000U	10.000U	10.000U	10.000U	10.000U
bis(2-CHLOROETHYL)ETHER	10.000U	10.000U	10.000U	10.000U	10.000U
bis(2-ETHYLHEXYL)PHTHALATE	10.000U	2.000J	10.000U	1.000J	10.000U
cis-1,3-DICHLOROPROPENE	10.000U	10.000U	10.000U	10.000U	10.000U

TABLE J-3 - RINSATE BLANK RESULTS - UNITS: ug/L - ASL, 1994

ANALYTE	AL-22016-RB-01	AL-22016-RB-02	AL-22016-RB-03	AL-22053-RB-01	AL-22097-RB-01
delta-BHC	0.050U	0.050U	0.050U	0.050U	0.050U
gama-BHC	0.050U	0.050U	0.050U	0.050U	0.050U
trans-1,3-DICHLOROPROPENE	10.000U	10.000U	10.000U	10.000U	10.000U

TABLE J-3 - RINSATE BLANK RESULTS - UNITS: ug/L - ASL, 1994

ANALYTE	AL-22097-RB-02	AL-22121-EB-01	AL-22177-EB-01
1,1,1-TRICHLOROETHANE	10.000U	10.000U	10.000U
1,1,2,2-TETRACHLOROETHANE	4.000J	10.000U	10.000U
1,1,2-TRICHLOROETHANE	3.000J	10.000U	10.000U
1,1-DICHLOROETHENE	10.000U	10.000U	10.000U
1,2,4-TRICHLOROBENZENE	10.000U	10.000U	10.000U
1,2-DICHLOROBENZENE	10.000U	10.000U	10.000U
1,2-DICHLOROETHANE	2.000J	10.000U	10.000U
1,2-DICHLOROETHENE (total)	10.000U	10.000U	10.000U
1,2-DICHLOROPROPANE	1.000J	1.000J	10.000U
1,3-DICHLOROBENZENE	10.000U	10.000U	10.000U
1,4-DICHLOROBENZENE	10.000U	10.000U	10.000U
2,2'-oxybis(1-CHLOROPROPANE)	10.000U	10.000U	10.000U
2,4,5-TRICHLOROPHENOL	25.000U	25.000U	25.000U
2,4,6-TRICHLOROPHENOL	10.000U	10.000U	10.000U
2,4-DICHLOROPHENOL	10.000U	10.000U	10.000U
2,4-DIMETHYLPHENOL	10.000U	10.000U	10.000U
2,4-DINITROPHENOL	25.000U	25.000U	25.000U
2,4-DINITROTOLUENE	10.000U	10.000U	10.000U
2,6-DINITROTOLUENE	10.000U	10.000U	10.000U
2-BUTANONE	9.000J	10.000U	10.000U
2-CHLORONAPHTHALENE	10.000U	10.000U	10.000U
2-CHLOROPHENOL	10.000U	10.000U	10.000U
2-HEXANONE	7.000J	10.000U	10.000U
2-METHYLNAPHTHALENE	10.000U	10.000U	10.000U
2-METHYLPHENOL	10.000U	10.000U	10.000U
2-NITROANILINE	25.000U	25.000U	25.000U
2-NITROPHENOL	10.000U	10.000U	10.000U
3,3'-DICHLOROBENZIDINE	10.000U	10.000U	10.000U
3-NITROANILINE	25.000U	25.000U	25.000U
4,4'-DDD	0.100U	0.100UJL	0.100U
4,4'-DDE	0.100U	0.100U	0.100U
4,4'-DDT	0.100U	0.100UJL	0.100U
4,6-DINITRO-2-METHYLPHENOL	25.000U	25.000U	25.000U
4-BROMOPHENYL-PHENYLETHER	10.000U	10.000U	10.000U
4-CHLORO-3-METHYLPHENOL	10.000U	10.000U	10.000U
4-CHLOROANILINE	10.000U	10.000U	10.000U
4-CHLOROPHENYL-PHENYLETHER	10.000U	10.000U	10.000U
4-METHYL-2-PENTANONE	7.000J	10.000U	10.000U
4-METHYLPHENOL	10.000U	10.000U	10.000U
4-NITROANILINE	25.000U	25.000U	25.000U
4-NITROPHENOL	25.000U	25.000U	25.000U

TABLE J-3 - RINSATE BLANK RESULTS - UNITS: ug/L - ASL, 1994

ANALYTE	AL-22097-RB-02	AL-22121-EB-01	AL-22177-EB-01
ACENAPHTHENE	10.000U	10.000U	10.000U
ACENAPHTHYLENE	10.000U	10.000U	10.000U
ACETONE	18.000J	16.000	31.000
ALDRIN	0.050U	0.050U	0.050U
ALPHA-CHLORDANE	0.050U	0.050U	0.050U
ANTHRACENE	10.000U	10.000U	10.000U
AROCHLOR-1016	1.000U	1.000U	1.000U
AROCHLOR-1221	2.000U	2.000U	2.000U
AROCHLOR-1232	1.000U	1.000U	1.000U
AROCHLOR-1242	1.000U	1.000U	1.000U
AROCHLOR-1248	1.000U	1.000U	1.000U
AROCLOR-1254	1.000U	1.000UJL	1.000U
AROCLOR-1260	1.000U	1.000UJL	1.000U
BENZENE	10.000U	10.000U	10.000U
BENZO(a)ANTHRACENE	10.000U	10.000U	10.000U
BENZO(a)PYRENE	10.000U	10.000U	10.000U
BENZO(b)FLUORANTHENE	10.000U	10.000U	10.000U
BENZO(g,h,i)PERYLENE	10.000U	10.000U	10.000U
BENZO(k)FLUORANTHENE	10.000U	10.000U	10.000U
BROMETHANE	10.000U	10.000U	10.000U
BROMODICHLOROMETHANE	10.000U	10.000U	10.000U
BROMOFORM	2.000J	10.000U	10.000U
BROMOMETHANE			
BUTYLBENZYLPHTHALATE	10.000U	10.000U	10.000U
CARBAZOLE	10.000U	10.000U	10.000U
CARBON-DISULFIDE	10.000U	10.000U	10.000U
CARBON-TETRACHLORIDE	10.000U	10.000U	10.000U
CHLOROBENZENE	10.000U	10.000U	10.000U
CHLOROETHANE	10.000U	10.000U	10.000U
CHLOROFORM	10.000U	10.000U	10.000U
CHLOROMETHANE	10.000U	10.000U	10.000U
CHRYSENE	10.000U	10.000U	10.000U
DI-N-BUTYLPHTHALATE	10.000U	10.000U	10.000U
DI-N-OCTYLPHTHALATE	10.000U	10.000U	10.000U
DIBENZ(a,h)ANTHRACENE	10.000U	10.000U	10.000U
DIBENZOFURAN	10.000U	10.000U	10.000U
DIBROMOCHLOROMETHANE	10.000U	10.000U	10.000U
DIELDRIN	0.100U	0.100U	0.100U
DIETHYLPHTHALATE	10.000U	10.000U	10.000U
DIMETHYLPHTHALATE	10.000U	10.000U	10.000U
ENDOSULFAN-I	0.050U	0.050U	0.050U

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TABLE J-3 - RINSATE BLANK RESULTS - UNITS: ug/L - ASL, 1994

ANALYTE	AL-22097-RB-02	AL-22121-EB-01	AL-22177-EB-01
ENDOSULFAN-II	0.100U	0.100UJL	0.100U
ENDOSULFAN-SULFATE	0.100U	0.100UJL	0.100U
ENDRIN	0.100U	0.100UJL	0.100U
ENDRIN-ALDEHYDE	0.100U	0.100UJL	0.100U
ENDRIN-KETONE	0.100U	0.100UJL	0.100U
ETHYLBENZENE	10.000U	10.000U	10.000U
FLUORANTHENE	10.000U	10.000U	10.000U
FLUORENE	10.000U	10.000U	10.000U
GAMMA-CHLORDANE	0.050U	0.050U	0.050U
HEPTACHLOR	0.050U	0.050U	0.050U
HEPTACHLOR-EPOXIDE	0.050U	0.050U	0.050U
HEXACHLOROBENZENE	10.000U	10.000U	10.000U
HEXACHLOROBUTADIENE	10.000U	10.000U	10.000U
HEXACHLOROCYCLOPENTADIENE	10.000U	10.000U	10.000U
HEXACHLOROETHANE	10.000U	10.000U	10.000U
INDENO(1,2,3-cd)PYRENE	10.000U	10.000U	10.000U
ISOPHORONE	10.000U	10.000U	10.000U
METHOXYCHLOR	0.500U	0.500UJL	0.100U
METHYLENE-CHLORIDE	10.000U	20.000U	14.000UJ
N-NITROSO-DI-N-PROPYLAMINE	10.000U	10.000U	10.000U
N-NITROSODIPHENYLAMINE	10.000U	10.000U	10.000U
NAPTHALENE	10.000U	10.000U	10.000U
NITROBENZENE	10.000U	10.000U	10.000U
PENTACHLOROPHENOL	25.000U	25.000U	25.000U
PHENANTHRENE	10.000U	10.000U	10.000U
PHENOL	10.000U	10.000U	10.000U
PYRENE	10.000U	10.000U	10.000U
SET1,1-DICHLOROETHANE	10.000U	10.000U	10.000U
STYRENE	10.000U	10.000U	10.000U
TETRACHLOROETHENE	10.000U	10.000U	10.000U
TOLUENE	10.000U	10.000U	10.000U
TOXAPHENE	5.000U	5.000U	5.000U
TRICHLOROETHENE	10.000U	10.000U	10.000U
VINYL-CHLORIDE	10.000U	10.000U	10.000U
XYLENE	10.000U	10.000U	10.000U
alpha-BHC	0.050U	0.050U	0.050U
beta-BHC	0.050U	0.050U	0.050U
bis(2-CHLOROETHOXY)METHANE	10.000U	10.000U	10.000U
bis(2-CHLOROETHYL)ETHER	10.000U	10.000U	10.000U
bis(2-ETHYLHEXYL)PHTHALATE	1.000J	10.000U	10.000U
cis-1,3-DICHLOROPROPENE	10.000U	10.000U	10.000U

TABLE J-3 - RINSATE BLANK RESULTS - UNITS: ug/L - ASL, 1994

ANALYTE	AL-22097-RB-02	AL-22121-EB-01	AL-22177-EB-01
delta-BHC	0.050U	0.050U	0.050U
gama-BHC	0.050U	0.050U	0.050U
trans-1,3-DICHLOROPROPENE	10.000U	10.000U	10.000U

00159.0607

TABLE J-3 - RINSATE BLANK RESULTS - UNITS: ug/L - ASL, 1994

ANALYTE	AL-21852-RB-01	AL-21852-RB-02	AL-21852-RB-03	AL-21852-RB-04	AL-21852-RB-05
ALUMINUM	33.000U	33.000U	33.000U	21.900UC	38.300UC
ANTIMONY	28.000U	28.000U	28.000U	24.600U	24.600U
ARSENIC	1.000UC	1.500UC	1.000U	1.200U	1.200U
BARIUM	1.300UC	1.000U	1.900UC	2.700	7.800
BERYLLIUM	1.000U	1.000U	1.000U	0.300U	0.300U
CADMIUM	2.000U	2.000U	2.000U	3.900U	3.900U
CALCIUM	37.000U	37.000U	57.500	31.500UC	63.000UC
CHROMIUM	3.000U	3.000U	3.000U	1.800U	1.800U
COBALT	11.000U	11.000U	11.000U	3.100U	3.100U
COPPER	4.000U	4.000U	4.000U	2.900U	2.900U
CYANIDE	1.500U	1.500U	1.500U	10.000U	10.000U
IRON	10.000U	12.700UC	10.000U	21.500UC	28.700UC
LEAD	2.000U	2.000UJ	2.000U	0.550	0.500U
MAGNESIUM	33.000U	33.000U	33.000U	25.700U	25.700U
MANGANESE	1.000U	1.000U	1.000U	1.700U	1.700U
MERCURY	0.100U	0.100U	0.100U	0.200U	0.200U
NICKEL	10.000U	10.000U	10.000U	9.700U	9.700U
POTASSIUM	64.000U	64.000U	64.000U	411.000U	411.000U
SELENIUM	1.000U	1.000U	1.000U	0.900U	0.900U
SILVER	2.000U	2.000U	2.000U	2.800U	2.800U
SODIUM	14.000U	14.000U	14.000U	32.500U	49.500
THALLIUM	2.000UJ	2.000UJ	2.000U	1.100UC	1.200UC
VANADIUM	2.000U	2.000U	2.000U	2.300U	2.300U
ZINC	3.000U	3.000U	5.600	76.500	8.400UC

TABLE J-3 - RINSATE BLANK RESULTS - UNITS: ug/L - ASL, 1994

ANALYTE	AL-21915-RB-01	AL-21915-RB-02	AL-21915-RB-03	AL-21915-RB-04	AL-21947-RB-01
ALUMINUM	62.000U	37.900UC	22.000UC	15.000U	15.700U
ANTIMONY	52.000U	13.000U	13.000U	13.000U	24.600U
ARSENIC	4.000U	4.000U	4.000U	5.790	1.200U
BARIUM	2.000U	7.060UC	5.600UC	5.340UC	0.500U
BERYLLIUM	1.000U	1.000U	1.000U	1.000U	0.300U
CADMIUM	3.000U	3.000U	3.000U	3.000U	3.900U
CALCIUM	15.000U	295.000UC	212.000UC	132.000UC	26.200U
CHROMIUM	8.000U	4.000U	4.000U	4.000U	1.800U
COBALT	5.000U	5.000U	5.000U	5.000U	3.100U
COPPER	34.250JL	5.000U	5.000U	5.000U	2.900U
CYANIDE	10.000U	10.000U	10.000U	10.000U	10.000U
IRON	40.590JL	44.300JL	4.000U	4.000U	60.400UC
LEAD	2.000U	4.770	4.750	3.120	0.710UC
MAGNESIUM	20.000U	16.000U	16.000U	16.000U	25.700U
MANGANESE	4.000U	2.660	2.000U	2.000U	1.700U
MERCURY	0.200U	0.200U	0.200U	0.200U	0.200U
NICKEL	14.420	11.000U	11.000U	11.000U	9.700U
POTASSIUM	200.000U	354.000U	354.000U	354.000U	411.000U
SELENIUM	3.000U	5.000UJ	5.000UJ	5.000UJ	0.900U
SILVER	9.000U	2.000U	2.000U	2.000U	2.800U
SODIUM	89.000U	189.000UC	344.000JL	126.000UC	32.500U
THALLIUM	7.870UC	7.000U	7.000U	7.000U	0.800U
VANADIUM	11.000U	4.000U	4.000U	4.000U	2.300U
ZINC	79.850	10.400	5.300	3.000U	6.100UC

00159.0609

TABLE J-3 - RINSATE BLANK RESULTS - UNITS: ug/L - ASL, 1994

ANALYTE	AL-21947-RB-02	AL-21947-RB-03	AL-21947-RB-04	AL-21947-RB-05	AL-22016-RB-01
ALUMINUM	15.700U	15.700UF	15.700U	15.700U	62.200U
ANTIMONY	24.600U	24.600U	24.600U	24.600U	55.300U
ARSENIC	1.200U	1.200UF	1.200U	0.900U	2.600U
BARIUM	0.500U	0.570UC	0.790	0.620	0.600U
BERYLLIUM	0.300U	0.300U	0.300U	0.300U	0.300U
CADMIUM	3.900U	3.900U	4.600	3.900U	4.500U
CALCIUM	26.200U	26.200U	26.200U	26.200U	103.000U
CHROMIUM	1.800U	1.800U	1.800U	1.800U	6.000U
COBALT	3.100U	3.100U	3.100U	3.100U	9.000U
COPPER	2.900U	2.900U	2.900U	2.900U	1.500U
CYANIDE	10.000U	10.000U	10.000U	10.000U	10.000U
IRON	98.800UC	77.200UC	56.100UC	41.600UC	57.000
LEAD	1.000UC	0.500UF	1.100UC	0.680UC	1.800U
MAGNESIUM	25.700U	25.700U	25.700U	25.700U	62.400
MANGANESE	1.700U	1.700U	1.700U	1.700U	1.200U
MERCURY	0.200U	0.200U	0.200U	0.200U	0.200U
NICKEL	9.700U	9.700UF	9.700U	9.700U	16.600U
POTASSIUM	411.000U	411.000U	411.000U	411.000U	714.000U
SELENIUM	0.900U	0.900U	0.900U	0.900U	3.400U
SILVER	2.800U	2.800U	2.800U	2.800U	3.400U
SODIUM	32.500U	32.500U	32.500U	34.900	232.000U
THALLIUM	0.800U	0.960UC	0.800UJ	1.400UC	2.600U
VANADIUM	2.300U	2.300U	2.300U	2.300U	3.500U
ZINC	2.800U	3.800UC	2.800U	2.800U	4.200

TABLE J-3 - RINSATE BLANK RESULTS - UNITS: ug/L - ASL, 1994

ANALYTE	AL-22016-RB-02	AL-22016-RB-03	AL-22016-RB-04	AL-22053-RB-01	AL-22097-RB-01
ALUMINUM	62.200U	62.200U	62.200U	15.700U	95.600
ANTIMONY	55.300U	55.300U	55.300U	24.600UJ	33.300U
ARSENIC	2.600U	2.600U	2.600U	0.000R	2.600U
BARIUM	2.100	0.600U	0.600U	2.100J	1.200U
BERYLLIUM	0.300U	0.300U	0.300U	0.300U	0.700U
CADMIUM	4.500U	4.500U	4.500U	3.900U	4.700U
CALCIUM	103.000U	103.000U	103.000U	26.200U	35.600U
CHROMIUM	6.000U	6.000U	6.000U	1.800UJ	6.600U
COBALT	9.000U	9.000U	9.000U	3.100U	6.300U
COPPER	1.700UC	1.500U	1.500U	2.900U	10.600U
CYANIDE	10.000U	10.000U	10.000U	10.000U	10.000U
IRON	31.600	24.400U	24.400U	35.400UC	27.700U
LEAD	1.800U	1.800U	1.800U	0.940	4.000UCJ
MAGNESIUM	32.900U	32.900U	32.900U	25.700U	106.000U
MANGANESE	1.200U	1.200U	1.200U	1.700U	6.300U
MERCURY	0.200U	0.200U	0.200U	0.200U	0.200U
NICKEL	16.600U	16.600U	16.600U	9.700U	38.800U
POTASSIUM	714.000U	714.000U	714.000U	411.000U	2310.000U
SELENIUM	3.400U	3.400U	3.400U	0.000R	3.400U
SILVER	3.400U	3.400U	3.400U	2.800U	5.900U
SODIUM	239.000	232.000U	232.000U	33.800	349.000UC
THALLIUM	2.600U	2.600U	2.600U	0.800UJ	2.600U
VANADIUM	3.500U	3.500U	3.500U	2.300U	5.300U
ZINC	4.100U	12.500	5.600	3.200	8.500

00159.0611

TABLE J-3 - RINSATE BLANK RESULTS - UNITS: ug/L - ASL, 1994

ANALYTE	AL-22097-RB-02	AL-22097-RB-03
ALUMINUM	84.700U	108.000
ANTIMONY	33.300U	33.300U
ARSENIC	2.600U	2.600U
BARIUM	1.200U	1.200U
BERYLLIUM	0.700U	0.700U
CADMIUM	4.700U	4.700U
CALCIUM	35.600U	121.000JH
CHROMIUM	6.600U	6.600U
COBALT	6.300U	6.300U
COPPER	10.600U	10.600U
CYANIDE	20.000U	10.000U
IRON	27.700U	80.100
LEAD	1.800U	1.800U
MAGNESIUM	106.000U	106.000U
MANGANESE	6.300U	6.300U
MERCURY	0.200U	0.200U
NICKEL	38.800U	38.800U
POTASSIUM	2310.000U	2310.000U
SELENIUM	3.400U	3.400U
SILVER	5.900U	5.900U
SODIUM	268.000U	486.000UC
THALLIUM	2.600U	2.600U
VANADIUM	5.300U	5.300U
ZINC	12.600	6.100

TABLE J-3 - EQUIPMENT BLANK RESULTS - UNITS:ug/L - ASL, 1994

ANALYTE	AL-22121-EB-01	AL-22121-EB-02
ALUMINUM	33.000U	33.000U
ANTIMONY	2.000U	12.000
ARSENIC	2.000U	2.000U
BARIUM	1.400UC	1.000U
BERYLLIUM	1.000U	1.000U
CADMIUM	1.000U	1.000U
CALCIUM	433.000UC	128.000
CHROMIUM	1.000U	1.000U
COBALT	11.000U	11.000U
COPPER	4.000U	4.000U
CYANIDE	1.500U	1.500U
IRON	30.300UC	10.000U
LEAD	1.000U	3.400
MAGNESIUM	40.100	33.000U
MANGANESE	1.800UC	1.100UC
MERCURY	0.100U	0.100U
NICKEL	10.000U	10.000U
POTASSIUM	74.800	64.000U
SELENIUM	3.000U	3.000U
SILVER	2.000U	2.500UC
SODIUM	786.000UC	151.000UC
THALLIUM	4.000U	4.000U
VANADIUM	3.400UC	2.600UC
ZINC	10.100UC	3.000UJ

00159.0613

TABLE J-3 EQUIPMENT BLANK RESULTS - UNITS: ug/L - ASL, 1994

ANALYTE	AL-22121-EB-01	AL-22177-EB-01
ALKALINITY	239000.00	2000.000UJ
CHLORIDE	260000.00J	2000.000U
COD	4660.000U	5530.000
FLUORIDE	0.100U	0.100U
HARDNESS	5.000U	5.000U
NH3	40.600U	1000.000U
NOX	5.100U	100.000U
SULFATE	1980.000	2000.000UJ
T PHOS	11.500U	100.000U
TDS	347000.00	10000.000U
TOC	1060.000	1200.000J
TSS	4000.000	100.000UJ

00159.0615

TABLE J-4 - FIELD BLANK RESULTS - UNITS: ug/L - ASL, 1994

ANALYTE	AL-21852-FB-01	AL-21915-FB-01	AL-21947-FB-01	AL-22016-FB-01	AL-22053-FB-01
1,1,1-TRICHLOROETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
1,1,2,2-TETRACHLOROETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
1,1,2-TRICHLOROETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
1,1-DICHLOROETHENE	10.000U	10.000U	10.000U	10.000U	10.000U
1,2,4-TRICHLOROBENZENE	10.000U	10.000UJL	10.000U	10.000U	10.000U
1,2-DICHLOROBENZENE	10.000U	10.000UJL	10.000U	10.000U	10.000U
1,2-DICHLOROETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
1,2-DICHLOROETHENE (total)	10.000U	10.000U	10.000U	10.000U	10.000U
1,2-DICHLOROPROPANE	10.000U	10.000U	10.000U	10.000U	10.000U
1,3-DICHLOROBENZENE	10.000U	10.000UJL	10.000U	10.000U	10.000U
1,4-DICHLOROBENZENE	10.000U	10.000UJL	10.000U	10.000U	10.000U
2,2'-oxybis(1-CHLOROPROPANE)	10.000U	10.000UJL	10.000U	10.000U	10.000U
2,4,5-TRICHLOROPHENOL	25.000U	25.000UJL	25.000U	25.000U	25.000U
2,4,6-TRICHLOROPHENOL	10.000U	10.000UJL	10.000U	10.000U	10.000U
2,4-DICHLOROPHENOL	10.000U	10.000UJL	10.000U	10.000U	10.000U
2,4-DIMETHYLPHENOL	10.000U	10.000UJL	10.000U	10.000U	10.000U
2,4-DINITROPHENOL	25.000U	25.000UJL	25.000U	25.000U	25.000U
2,4-DINITROTOLUENE	10.000U	10.000UJL	10.000U	10.000U	10.000U
2,6-DINITROTOLUENE	10.000U	10.000UJL	10.000U	10.000U	10.000U
2-BUTANONE	10.000U	32.000J	10.000U	10.000U	10.000U
2-CHLORONAPHTHALENE	10.000U	10.000UJL	10.000U	10.000U	10.000U
2-CHLOROPHENOL	10.000U	10.000UJL	10.000U	10.000U	10.000U
2-HEXANONE	10.000U	10.000U	10.000U	10.000U	10.000U
2-METHYLNAPHTHALENE	10.000U	10.000UJL	10.000U	10.000U	10.000U
2-METHYLPHENOL	10.000U	10.000UJL	10.000U	10.000U	10.000U
2-NITROANILINE	25.000U	25.000UJL	25.000U	25.000U	25.000U
2-NITROPHENOL	10.000U	10.000UJL	10.000U	10.000U	10.000U
3,3'-DICHLOROBENZIDINE	10.000U	10.000UJL	10.000U	10.000U	10.000U
3-NITROANILINE	25.000U	25.000UJL	25.000U	25.000U	25.000U
4,4'-DDD	0.100U	0.100U	0.100U	0.100UJL	0.100U
4,4'-DDE	0.100U	0.100U	0.100U	0.100U	0.100U
4,4'-DDT	0.100U	0.100U	0.100U	0.100UJL	0.100U
4,6-DINITRO-2-METHYLPHENOL	25.000U	25.000UJL	25.000U	25.000U	25.000U
4-BROMOPHENYL-PHENYLETHER	10.000U	10.000UJL	10.000U	10.000U	10.000U
4-CHLORO-3-METHYLPHENOL	10.000U	10.000UJL	10.000U	10.000U	10.000U
4-CHLOROANILINE	10.000U	10.000UJL	10.000U	10.000U	10.000U
4-CHLOROPHENYL-PHENYLETHER	10.000U	10.000UJL	10.000U	10.000U	10.000U
4-METHYL-2-PENTANONE	10.000U	10.000U	10.000U	10.000U	10.000U
4-METHYLPHENOL	10.000U	10.000UJL	10.000U	10.000U	10.000U
4-NITROANILINE	25.000U	25.000UJL	25.000U	25.000U	25.000U
4-NITROPHENOL	25.000U	25.000UJL	25.000U	25.000U	25.000U

TABLE J-4 - FIELD BLANK RESULTS - UNITS: ug/L - ASL, 1994

ANALYTE	AL-21852-FB-01	AL-21915-FB-01	AL-21947-FB-01	AL-22016-FB-01	AL-22053-FB-01
ACENAPHTHENE	10.000U	10.000UJL	10.000U	10.000U	10.000U
ACENAPHTHYLENE	10.000U	10.000UJL	10.000U	10.000U	10.000U
ACETONE	10.000U	160.000	160.000J	33.000	51.000J
ALDRIN	0.050U	0.050U	0.050U	0.050U	0.050U
ALPHA-CHLORDANE	0.050U	0.050U	0.050U	0.050U	0.050U
ANTHRACENE	10.000U	10.000UJL	10.000U	10.000U	10.000U
AROCHLOR-1016	1.000U	1.000U	1.000U	1.000U	1.000U
AROCHLOR-1221	2.000U	2.000U	2.000U	2.000U	2.000U
AROCHLOR-1232	1.000U	1.000U	1.000U	1.000U	1.000U
AROCHLOR-1242	1.000U	1.000U	1.000U	1.000U	1.000U
AROCHLOR-1248	1.000U	1.000U	1.000U	1.000U	1.000U
AROCLOR-1254	1.000U	1.000U	1.000U	1.000U	1.000U
AROCLOR-1260	1.000U	1.000U	1.000U	1.000U	1.000U
BENZENE	10.000U	10.000U	10.000U	10.000U	10.000U
BENZO(a)ANTHRACENE	10.000U	10.000UJL	10.000U	10.000U	10.000U
BENZO(a)PYRENE	10.000U	10.000UJL	10.000U	10.000U	10.000U
BENZO(b)FLUORANTHENE	10.000U	10.000UJL	10.000U	10.000U	10.000U
BENZO(g,h,i)PERYLENE	10.000U	10.000UJL	10.000U	10.000U	10.000U
BENZO(k)FLUORANTHENE	10.000U	10.000UJL	10.000U	10.000U	10.000U
BROMETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
BROMODICHLOROMETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
BROMOFORM	10.000U	10.000U	10.000U	10.000U	10.000U
BUTYLBENZYLPHTHALATE	10.000U	10.000UJL	10.000U	10.000U	10.000U
CARBAZOLE	10.000U	10.000UJL	10.000U	10.000U	10.000U
CARBON-DISULFIDE	10.000U	10.000U	10.000U	10.000U	10.000U
CARBON-TETRACHLORIDE	10.000U	10.000U	10.000U	10.000U	10.000U
CHLOROBENZENE	10.000U	10.000U	10.000U	10.000U	10.000U
CHLOROETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
CHLOROFORM	10.000U	10.000U	10.000U	10.000U	10.000U
CHLOROMETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
CHRYSENE	10.000U	10.000UJL	10.000U	10.000U	10.000U
DI-N-BUTYLPHTHALATE	10.000U	10.000UJL	10.000U	10.000U	10.000U
DI-N-OCTYLPHTHALATE	10.000U	10.000UJL	10.000U	10.000U	10.000U
DIBENZ(a,h)ANTHRACENE	10.000U	10.000UJL	10.000U	10.000U	10.000U
DIBENZOFURAN	10.000U	10.000UJL	10.000U	10.000U	10.000U
DIBROMOCHLOROMETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
DIELDRIN	0.100U	0.100U	0.100U	0.100UJL	0.100U
DIETHYLPHTHALATE	10.000U	10.000UJL	10.000U	10.000U	10.000U
DIMETHYLPHTHALATE	10.000U	10.000UJL	10.000U	10.000U	10.000U
ENDOSULFAN-I	0.050U	0.050U	0.050U	0.050U	0.050U
ENDOSULFAN-II	0.100U	0.100U	0.100U	0.100UJL	0.100U

00159.0617

TABLE J-4 - FIELD BLANK RESULTS - UNITS: ug/L - ASL, 1994

ANALYTE	AL-21852-FB-01	AL-21915-FB-01	AL-21947-FB-01	AL-22016-FB-01	AL-22053-FB-01
ENDOSULFAN-SULFATE	0.100U	0.100U	0.100U	0.100UJL	0.100U
ENDRIN	0.100U	0.100U	0.100U	0.100UJL	0.100U
ENDRIN-ALDEHYDE	0.100U	0.100U	0.100U	0.100UJL	0.100U
ENDRIN-KETONE	0.100U	0.100U	0.100U	0.100UJL	0.100U
ETHYLBENZENE	10.000U	10.000U	10.000U	10.000U	10.000U
FLUORANTHENE	10.000U	10.000UJL	10.000U	10.000U	10.000U
FLUORENE	10.000U	10.000UJL	10.000U	10.000U	10.000U
GAMMA-CHLORDANE	0.050U	0.050U	0.050U	0.050U	0.050U
HEPTACHLOR	0.050U	0.050U	0.050U	0.050U	0.050U
HEPTACHLOR-EPOXIDE	0.050U	0.050U	0.050U	0.050U	0.050U
HEXACHLOROBENZENE	10.000U	10.000UJL	10.000U	10.000U	10.000U
HEXACHLOROBUTADIENE	10.000U	10.000UJL	10.000U	10.000U	10.000U
HEXACHLOROCYCLOPENTADIENE	10.000U	10.000UJL	10.000U	10.000U	10.000U
HEXACHLOROETHANE	10.000U	10.000UJL	10.000U	10.000U	10.000U
INDENO(1,2,3-cd)PYRENE	10.000U	10.000UJL	10.000U	10.000U	10.000U
ISOPHORONE	10.000U	10.000UJL	10.000U	10.000U	10.000U
METHOXYCHLOR	0.500U	0.500U	0.500U	0.500UJL	0.500U
METHYLENE-CHLORIDE	10.000U	5.000J	1.000J	15.000	10.000U
N-NITROSO-DI-N-PROPYLAMINE	10.000U	10.000UJL	10.000U	10.000U	10.000U
N-NITROSODIPHENYLAMINE	10.000U	10.000UJL	10.000U	10.000U	10.000U
NAPTHALENE	10.000U	10.000UJL	10.000U	10.000U	10.000U
NITROBENZENE	10.000U	10.000UJL	10.000U	10.000U	10.000U
PENTACHLOROPHENOL	25.000U	25.000UJL	25.000U	25.000U	25.000U
PHENANTHRENE	10.000U	10.000UJL	10.000U	10.000U	10.000U
PHENOL	10.000U	10.000UJL	10.000U	10.000U	10.000U
PYRENE	10.000U	10.000UJL	10.000U	10.000U	10.000U
SET1,1-DICHLOROETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
STYRENE	10.000U	10.000U	10.000U	10.000U	10.000U
TETRACHLOROETHENE	10.000U	10.000U	10.000U	10.000U	10.000U
TOLUENE	2.000J	10.000U	10.000U	10.000U	10.000U
TOXAPHENE	5.000U	5.000U	5.000U	5.000U	5.000U
TRICHLOROETHENE	10.000U	10.000U	10.000U	10.000U	10.000U
VINYL-CHLORIDE	10.000U	10.000U	10.000U	10.000U	10.000U
XYLENE	10.000U	10.000U	10.000U	10.000U	10.000U
alpha-BHC	0.050U	0.050U	0.050U	0.050U	0.050U
beta-BHC	0.050U	0.050U	0.050U	0.050U	0.050U
bis(2-CHLOROETHOXY)METHANE	10.000U	10.000UJL	10.000U	10.000U	10.000U
bis(2-CHLOROETHYL)ETHER	10.000U	10.000UJL	10.000U	10.000U	10.000U
bis(2-ETHYLHEXYL)PHTHALATE	10.000U	10.000UJL	10.000U	1.000J	10.000U
cis-1,3-DICHLOROPROPENE	10.000U	10.000U	10.000U	10.000U	10.000U
delta-BHC	0.050U	0.050U	0.050U	0.050U	0.050U

00159.0618

TABLE J-4 - FIELD BLANK RESULTS - UNITS: ug/L - ASL, 1994

ANALYTE	AL-21852-FB-01	AL-21915-FB-01	AL-21947-FB-01	AL-22016-FB-01	AL-22053-FB-01
gama-BHC	0.050U	0.050U	0.050U	0.050U	0.050U
trans-1,3-DICHLOROPROPENE	10.000U	10.000U	10.000U	10.000U	10.000U

00159.0619

TABLE J-4 - FIELD BLANK RESULTS - UNITS: ug/L - ASL, 1994

ANALYTE	AL-22121-FB-01	AL-22177-FB-01
1,1,1-TRICHLOROETHANE	10.000U	10.000U
1,1,2,2-TETRACHLOROETHANE	10.000U	10.000U
1,1,2-TRICHLOROETHANE	10.000U	10.000U
1,1-DICHLOROETHENE	10.000U	10.000U
1,2,4-TRICHLOROBENZENE	10.000U	10.000U
1,2-DICHLOROBENZENE	10.000U	10.000U
1,2-DICHLOROETHANE	10.000U	10.000U
1,2-DICHLOROETHENE (total)	10.000U	10.000U
1,2-DICHLOROPROPANE	10.000U	10.000U
1,3-DICHLOROBENZENE	10.000U	10.000U
1,4-DICHLOROBENZENE	10.000U	10.000U
2,2'-oxybis(1-CHLOROPROPANE)	10.000U	10.000U
2,4,5-TRICHLOROPHENOL	25.000U	25.000U
2,4,6-TRICHLOROPHENOL	10.000U	10.000U
2,4-DICHLOROPHENOL	10.000U	10.000U
2,4-DIMETHYLPHENOL	10.000U	10.000U
2,4-DINITROPHENOL	25.000U	25.000U
2,4-DINITROTOLUENE	10.000U	10.000U
2,6-DINITROTOLUENE	10.000U	10.000U
2-BUTANONE	10.000U	8.000J
2-CHLORONAPHTHALENE	10.000U	10.000U
2-CHLOROPHENOL	10.000U	10.000U
2-HEXANONE	10.000U	10.000U
2-METHYLNAPHTHALENE	10.000U	10.000U
2-METHYLPHENOL	10.000U	10.000U
2-NITROANILINE	25.000U	25.000U
2-NITROPHENOL	10.000U	10.000U
3,3'-DICHLOROBENZIDINE	10.000U	10.000U
3-NITROANILINE	25.000U	25.000U
4,4'-DDD	0.100UJL	0.100U
4,4'-DDE	0.100U	0.100U
4,4'-DDT	0.100UJL	0.100U
4,6-DINITRO-2-METHYLPHENOL	25.000U	25.000U
4-BROMOPHENYL-PHENYLETHER	10.000U	10.000U
4-CHLORO-3-METHYLPHENOL	10.000U	10.000U
4-CHLOROANILINE	10.000U	10.000U
4-CHLOROPHENYL-PHENYLETHER	10.000U	10.000U
4-METHYL-2-PENTANONE	10.000U	10.000U
4-METHYLPHENOL	10.000U	10.000U
4-NITROANILINE	25.000U	25.000U
4-NITROPHENOL	25.000U	25.000U

TABLE J-4 - FIELD BLANK RESULTS - UNITS: ug/L - ASL, 1994

ANALYTE	AL-22121-FB-01	AL-22177-FB-01
ACENAPHTHENE	10.000U	10.000U
ACENAPHTHYLENE	10.000U	10.000U
ACETONE	40.000	58.000
ALDRIN	0.050U	0.050U
ALPHA-CHLORDANE	0.050U	0.050U
ANTHRACENE	10.000U	10.000U
AROCHLOR-1016	1.000U	1.000U
AROCHLOR-1221	2.000U	2.000U
AROCHLOR-1232	1.000U	1.000U
AROCHLOR-1242	1.000U	1.000U
AROCHLOR-1248	1.000U	1.000U
AROCLOR-1254	1.000UJL	1.000U
AROCLOR-1260	1.000UJL	1.000U
BENZENE	10.000U	10.000U
BENZO(a)ANTHRACENE	10.000U	10.000U
BENZO(a)PYRENE	10.000U	10.000U
BENZO(b)FLUORANTHENE	10.000U	10.000U
BENZO(g,h,i)PERYLENE	10.000U	10.000U
BENZO(k)FLUORANTHENE	10.000U	10.000U
BROMETHANE	10.000U	10.000U
BROMODICHLOROMETHANE	10.000U	10.000U
BROMOFORM	10.000U	10.000U
BUTYLBENZYLPHTHALATE	10.000U	10.000U
CARBAZOLE	10.000U	10.000U
CARBON-DISULFIDE	10.000U	10.000U
CARBON-TETRACHLORIDE	10.000U	10.000U
CHLOROBENZENE	10.000U	10.000U
CHLOROETHANE	10.000U	10.000U
CHLOROFORM	10.000U	10.000U
CHLOROMETHANE	10.000U	10.000U
CHRYSENE	10.000U	10.000U
DI-N-BUTYLPHTHALATE	10.000U	10.000U
DI-N-OCTYLPHTHALATE	10.000U	10.000U
DIBENZ(a,h)ANTHRACENE	10.000U	10.000U
DIBENZOFURAN	10.000U	10.000U
DIBROMOCHLOROMETHANE	10.000U	10.000U
DIELDRIN	0.100U	0.100U
DIETHYLPHTHALATE	10.000U	10.000U
DIMETHYLPHTHALATE	10.000U	10.000U
ENDOSULFAN-I	0.050U	0.050U
ENDOSULFAN-II	0.100UJL	0.100U

00159.0621

TABLE J-4 - FIELD BLANK RESULTS - UNITS: ug/L - ASL, 1994

ANALYTE	AL-22121-FB-01	AL-22177-FB-01
ENDOSULFAN-SULFATE	0.100UJL	0.100U
ENDRIN	0.100UJL	0.100U
ENDRIN-ALDEHYDE	0.100UJL	0.100U
ENDRIN-KETONE	0.100UJL	0.100U
ETHYLBENZENE	10.000U	10.000U
FLUORANTHENE	10.000U	10.000U
FLUORENE	10.000U	10.000U
GAMMA-CHLORDANE	0.050U	0.050U
HEPTACHLOR	0.050U	0.050U
HEPTACHLOR-EPOXIDE	0.050U	0.050U
HEXACHLOROBENZENE	10.000U	10.000U
HEXACHLOROBUTADIENE	10.000U	10.000U
HEXACHLOROCYCLOPENTADIENE	10.000U	10.000U
HEXACHLOROETHANE	10.000U	10.000U
INDENO(1,2,3-cd)PYRENE	10.000U	10.000U
ISOPHORONE	10.000U	10.000U
METHOXYCHLOR	0.500UJL	0.500U
METHYLENE-CHLORIDE	17.000U	10.000U
N-NITROSO-DI-N-PROPYLAMINE	10.000U	10.000U
N-NITROSODIPHENYLAMINE	10.000U	10.000U
NAPTHALENE	10.000U	1.000J
NITROBENZENE	10.000U	10.000U
PENTACHLOROPHENOL	25.000U	25.000U
PHENANTHRENE	10.000U	10.000U
PHENOL	10.000U	10.000U
PYRENE	10.000U	10.000U
SET1,1-DICHLOROETHANE	10.000U	10.000U
STYRENE	10.000U	10.000U
TETRACHLOROETHENE	10.000U	10.000U
TOLUENE	10.000U	10.000U
TOXAPHENE	5.000U	5.000U
TRICHLOROETHENE	10.000U	10.000U
VINYL-CHLORIDE	10.000U	10.000U
XYLENE	10.000U	10.000U
alpha-BHC	0.050U	0.050U
beta-BHC	0.050U	0.050U
bis(2-CHLOROETHOXY)METHANE	10.000U	10.000U
bis(2-CHLOROETHYL)ETHER	10.000U	10.000U
bis(2-ETHYLHEXYL)PHTHALATE	10.000U	10.000U
cis-1,3-DICHLOROPROPENE	10.000U	10.000U
delta-BHC	0.050U	0.050U

TABLE J-4 - FIELD BLANK RESULTS - UNITS: ug/L - ASL, 1994

ANALYTE	AL-22121-FB-01	AL-22177-FB-01
gama-BHC	0.050U	0.050U
trans-1,3-DICHLOROPROPENE	10.000U	10.000U

00159.0623

TABLE J-4 - FIELD BLANK RESULTS - UNITS: ug/L - ASL, 1994

ANALYTE	AL-21852-FB-01	AL-21915-FB-01	AL-21947-FB-01	AL-22016-FB-01	AL-22053-FB-01
ALUMINUM	33.000U	25.500UC	19.100UC	62.200U	18.000UC
ANTIMONY	28.000U	13.000U	24.600U	55.300U	24.600U
ARSENIC	1.000U	4.000U	0.900U	2.600UJ	1.800UCJL
BARIUM	1.100UC	5.050UC	0.500U	0.600U	0.500U
BERYLLIUM	1.000U	1.000U	0.300U	0.300U	0.300U
CADMIUM	2.000U	3.000U	3.900U	4.500U	3.900U
CALCIUM	37.000U	188.000UC	32.300	103.000U	26.200U
CHROMIUM	3.000U	4.000U	1.800U	6.000U	1.800U
COBALT	11.000U	5.000U	3.100U	9.000U	3.100U
COPPER	4.500	5.000U	2.900U	1.500U	2.900U
CYANIDE	3.000U	10.000U	10.000U	10.000U	10.000U
IRON	10.000U	4.000U	20.800UC	24.400U	14.800UC
LEAD	2.000U	3.000U	1.400UC	1.800U	1.900UC
MAGNESIUM	33.000U	16.000U	25.700U	32.900U	25.700U
MANGANESE	1.000U	2.000U	1.700U	1.200U	1.700U
MERCURY	0.100U	0.200U	0.200U	0.200U	0.200U
NICKEL	10.000U	11.000U	9.700U	16.600U	9.700U
POTASSIUM	64.000U	354.000U	411.000U	714.000U	411.000U
SELENIUM	1.000U	5.000UJ	1.500UC	3.400U	0.000R
SILVER	2.000U	2.000U	2.800U	3.400U	2.800U
SODIUM	14.000U	219.000UC	32.500U	232.000U	34.900
THALLIUM	2.000U	7.000U	1.200UC	2.600U	0.800U
VANADIUM	2.000U	4.000U	2.300U	3.500U	2.300U
ZINC	3.000U	3.010UC	2.800U	4.100U	3.300

TABLE J-4 - FIELD BLANK RESULTS - UNITS: ug/L - ASL, 1994

ANALYTE	AL-22121-FB-01
ALUMINUM	33.000U
ANTIMONY	2.000U
ARSENIC	2.000U
BARIUM	1.300UC
BERYLLIUM	1.000U
CADMIUM	1.000U
CALCIUM	402.000UC
CHROMIUM	1.000U
COBALT	11.000U
COPPER	4.000U
CYANIDE	1.500U
IRON	26.900UC
LEAD	1.000U
MAGNESIUM	33.000U
MANGANESE	1.800UC
MERCURY	0.100U
NICKEL	10.000U
POTASSIUM	64.000U
SELENIUM	3.000U
SILVER	2.000U
SODIUM	290.000UC
THALLIUM	4.000U
VANADIUM	7.100UC
ZINC	18.400UC

00159.0625

TABLE J-4 FIELD BLANK RESULTS - UNITS: ug/L - ASL, 1994

ANALYTE	AL-22121-FB-01	AL-22177-FB-01
ALKALINITY	1350.000R	2000.000J
CHLORIDE	1540.000R	2000.000U
COD	4660.000U	7650.000
FLUORIDE		0.100U
HARDNESS		5.000U
NH3	5450.000	1000.000U
NOX	5.100U	100.000U
SULFATE	2060000.0R	2000.000UJ
T PHOS	118.000	100.000U
TDS	168000.00R	30000.000
TOC	1180.000UC	1000.000UJ
TSS	15000.000R	100.000UJ

TABLE J-5 - TRIP BLANK RESULTS - UNITS: ug/L - ASL, 1994

	AL-04060-TB-01	AL-X0405-TB-01	AL-X0406-TB-01	AL-X0407-TB-01	AL-X0407-TB-02
1,1,1-TRICHLOROETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
1,1,2,2-TETRACHLOROETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
1,1,2-TRICHLOROETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
1,1-DICHLOROETHENE	10.000U	10.000U	10.000U	10.000U	10.000U
1,2-DICHLOROETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
1,2-DICHLOROETHENE (total)	10.000U	10.000U	10.000U	10.000U	10.000U
1,2-DICHLOROPROPANE	10.000U	10.000U	10.000U	10.000U	10.000U
2-BUTANONE	10.000U	10.000U	10.000U	10.000U	10.000U
2-HEXANONE	10.000U	10.000U	10.000U	10.000U	10.000U
4-METHYL-2-PENTANONE	10.000U	10.000U	10.000U	10.000U	10.000U
ACETONE	10.000U	18.000	11.000J	8.000J	10.000U
BENZENE	10.000U	10.000U	10.000U	10.000U	10.000U
BROMETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
BROMODICHLOROMETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
BROMOFORM	10.000U	10.000U	10.000U	10.000U	10.000U
BROMOMETHANE					
CARBON-DISULFIDE	10.000U	10.000U	10.000U	10.000U	10.000U
CARBON-TETRACHLORIDE	10.000U	10.000U	10.000U	10.000U	10.000U
CHLOROBENZENE	10.000U	10.000U	10.000U	10.000U	10.000U
CHLOROETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
CHLOROFORM	10.000U	10.000U	10.000U	10.000U	10.000U
CHLOROMETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
DIBROMOCHLOROMETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
ETHYLBENZENE	10.000U	10.000U	10.000U	10.000U	10.000U
METHYLENE-CHLORIDE	10.000U	6.000J	10.000U	10.000U	10.000U
SET1,1-DICHLOROETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
STYRENE	10.000U	10.000U	10.000U	10.000U	10.000U
TETRACHLOROETHENE	10.000U	10.000U	10.000U	10.000U	10.000U
TOLUENE	2.000J	4.000J	4.000J	3.000J	2.000J
TRICHLOROETHENE	10.000U	10.000U	10.000U	10.000U	10.000U
VINYL-CHLORIDE	10.000U	10.000U	10.000U	10.000U	10.000U
XYLENE	10.000U	10.000U	10.000U	10.000U	10.000U
cis-1,3-DICHLOROPROPENE	10.000U	10.000U	10.000U	10.000U	10.000U
trans-1,3-DICHLOROPROPENE	10.000U	10.000U	10.000U	10.000U	10.000U

TABLE J-5 - TRIP BLANK RESULTS - UNITS: ug/L - ASL, 1994

	AL-X0408-TB-01	AL-X0408-TB-02	AL-X0411-TB-01	AL-X0411-TB-02	AL-X0411-TB-03
1,1,1-TRICHLOROETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
1,1,2,2-TETRACHLOROETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
1,1,2-TRICHLOROETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
1,1-DICHLOROETHENE	10.000U	10.000U	10.000U	10.000U	10.000U
1,2-DICHLOROETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
1,2-DICHLOROETHENE (total)	10.000U	10.000U	10.000U	10.000U	10.000U
1,2-DICHLOROPROPANE	10.000U	10.000U	10.000U	10.000U	10.000U
2-BUTANONE	10.000U	5.000J	7.000J	10.000U	10.000U
2-HEXANONE	10.000U	10.000U	10.000U	10.000U	10.000U
4-METHYL-2-PENTANONE	10.000U	10.000U	10.000U	10.000U	10.000U
ACETONE	10.000U	7.000J	9.000J	8.000J	8.000J
BENZENE	10.000U	10.000U	10.000U	10.000U	10.000U
BROMETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
BROMODICHLOROMETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
BROMOFORM	10.000U	10.000U	10.000U	10.000U	10.000U
BROMOMETHANE					
CARBON-DISULFIDE	10.000U	10.000U	10.000U	10.000U	10.000U
CARBON-TETRACHLORIDE	10.000U	10.000U	10.000U	10.000U	10.000U
CHLOROBENZENE	10.000U	10.000U	10.000U	10.000U	10.000U
CHLOROETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
CHLOROFORM	10.000U	10.000U	10.000U	10.000U	10.000U
CHLOROMETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
DIBROMOCHLOROMETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
ETHYLBENZENE	10.000U	10.000U	10.000U	10.000U	10.000U
METHYLENE-CHLORIDE	10.000U	10.000U	10.000U	4.000J	5.000J
SET1,1-DICHLOROETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
STYRENE	10.000U	10.000U	10.000U	10.000U	10.000U
TETRACHLOROETHENE	10.000U	10.000U	10.000U	10.000U	10.000U
TOLUENE	2.000J	2.000J	1.000J	10.000U	10.000U
TRICHLOROETHENE	10.000U	10.000U	10.000U	10.000U	10.000U
VINYL-CHLORIDE	10.000U	10.000U	10.000U	10.000U	10.000U
XYLENE	10.000U	10.000U	10.000U	10.000U	10.000U
cis-1,3-DICHLOROPROPENE	10.000U	10.000U	10.000U	10.000U	10.000U
trans-1,3-DICHLOROPROPENE	10.000U	10.000U	10.000U	10.000U	10.000U

00159.0629

TABLE J-5 - TRIP BLANK RESULTS - UNITS: ug/L - ASL, 1994

	AL-X0412-TB-01	AL-X0412-TB-02	AL-X0413-TB-01	AL-X0413-TB-02	AL-X0414-TB-01
1,1,1-TRICHLOROETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
1,1,2,2-TETRACHLOROETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
1,1,2-TRICHLOROETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
1,1-DICHLOROETHENE	10.000U	10.000U	10.000U	10.000U	10.000U
1,2-DICHLOROETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
1,2-DICHLOROETHENE (total)	10.000U	10.000U	10.000U	10.000U	10.000U
1,2-DICHLOROPROPANE	10.000U	10.000U	10.000U	10.000U	10.000U
2-BUTANONE	10.000U	10.000U	10.000U	10.000U	10.000U
2-HEXANONE	10.000U	10.000U	10.000U	10.000U	10.000U
4-METHYL-2-PENTANONE	10.000U	10.000U	10.000U	10.000U	10.000U
ACETONE	20.000J	13.000J	5.000J	10.000U	10.000U
BENZENE	10.000U	10.000U	10.000U	10.000U	10.000U
BROMETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
BROMODICHLOROMETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
BROMOFORM	10.000U	10.000U	10.000U	10.000U	10.000U
BROMOMETHANE					
CARBON-DISULFIDE	10.000U	10.000U	10.000U	10.000U	10.000U
CARBON-TETRACHLORIDE	10.000U	10.000U	10.000U	10.000U	10.000U
CHLOROBENZENE	10.000U	10.000U	10.000U	10.000U	10.000U
CHLOROETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
CHLOROFORM	10.000U	10.000U	10.000U	10.000U	10.000U
CHLOROMETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
DIBROMOCHLOROMETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
ETHYLBENZENE	10.000U	10.000U	10.000U	10.000U	10.000U
METHYLENE-CHLORIDE	7.000J	9.000J	8.000J	8.000J	10.000UF
SET1,1-DICHLOROETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
STYRENE	10.000U	10.000U	10.000U	10.000U	10.000U
TETRACHLOROETHENE	10.000U	10.000U	10.000U	10.000U	10.000U
TOLUENE	10.000U	10.000U	10.000U	10.000U	10.000U
TRICHLOROETHENE	10.000U	10.000U	10.000U	10.000U	10.000U
VINYL-CHLORIDE	10.000U	10.000U	10.000U	10.000U	10.000U
XYLENE	10.000U	10.000U	10.000U	10.000U	10.000U
cis-1,3-DICHLOROPROPENE	10.000U	10.000U	10.000U	10.000U	10.000U
trans-1,3-DICHLOROPROPENE	10.000U	10.000U	10.000U	10.000U	10.000U

TABLE J-5 - TRIP BLANK RESULTS - UNITS: ug/L - ASL, 1994

	AL-X0415-TB-01	AL-X0415-TB-02	AL-X0418-TB-01	AL-X0418-TB-02	AL-X0419-TB-01
1,1,1-TRICHLOROETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
1,1,2,2-TETRACHLOROETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
1,1,2-TRICHLOROETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
1,1-DICHLOROETHENE	10.000U	10.000U	10.000U	10.000U	10.000U
1,2-DICHLOROETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
1,2-DICHLOROETHENE (total)	10.000U	10.000U	10.000U	10.000U	10.000U
1,2-DICHLOROPROPANE	10.000U	10.000U	10.000U	10.000U	10.000U
2-BUTANONE	10.000U	10.000U	10.000U	10.000U	10.000U
2-HEXANONE	10.000U	10.000U	10.000U	6.000J	10.000U
4-METHYL-2-PENTANONE	10.000U	10.000U	10.000U	10.000U	10.000U
ACETONE	27.000J	23.000J	10.000U	32.000J	21.000
BENZENE	10.000U	10.000U	10.000U	10.000U	10.000U
BROMETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
BROMODICHLOROMETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
BROMOFORM	10.000U	10.000U	10.000U	10.000U	10.000U
BROMOMETHANE					
CARBON-DISULFIDE	10.000U	10.000U	10.000U	10.000U	10.000U
CARBON-TETRACHLORIDE	10.000U	10.000U	10.000U	10.000U	10.000U
CHLOROBENZENE	10.000U	10.000U	10.000U	10.000U	10.000U
CHLOROETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
CHLOROFORM	10.000U	10.000U	10.000U	10.000U	10.000U
CHLOROMETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
DIBROMOCHLOROMETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
ETHYLBENZENE	10.000U	10.000U	10.000U	10.000U	10.000U
METHYLENE-CHLORIDE	3.000J	4.000J	10.000U	4.000J	10.000U
SET1,1-DICHLOROETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
STYRENE	10.000U	10.000U	10.000U	10.000U	10.000U
TETRACHLOROETHENE	10.000U	10.000U	10.000U	10.000U	10.000U
TOLUENE	10.000U	10.000U	10.000U	10.000U	10.000U
TRICHLOROETHENE	10.000U	10.000U	10.000U	10.000U	10.000U
VINYL-CHLORIDE	10.000U	10.000U	10.000U	10.000U	10.000U
XYLENE	10.000U	10.000U	10.000U	10.000U	10.000U
cis-1,3-DICHLOROPROPENE	10.000U	10.000U	10.000U	10.000U	10.000U
trans-1,3-DICHLOROPROPENE	10.000U	10.000U	10.000U	10.000U	10.000U

TABLE J-5 - TRIP BLANK RESULTS - UNITS: ug/L - ASL, 1994

	AL-X0419-TB-02	AL-X0420-TB-01	AL-X0421-TB-01	AL-X0422-TB-01	AL-X0423-TB-01
1,1,1-TRICHLOROETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
1,1,2,2-TETRACHLOROETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
1,1,2-TRICHLOROETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
1,1-DICHLOROETHENE	10.000U	10.000U	10.000U	10.000U	10.000U
1,2-DICHLOROETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
1,2-DICHLOROETHENE (total)	10.000U	10.000U	10.000U	10.000U	10.000U
1,2-DICHLOROPROPANE	10.000U	10.000U	10.000U	10.000U	10.000U
2-BUTANONE	10.000U	10.000U	10.000U	10.000U	10.000U
2-HEXANONE	10.000U	10.000U	10.000U	10.000U	10.000U
4-METHYL-2-PENTANONE	10.000U	10.000U	10.000U	10.000U	10.000U
ACETONE	19.000	12.000J	12.000J	13.000J	10.000U
BENZENE	10.000U	10.000U	10.000U	10.000U	10.000U
BROMETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
BROMODICHLOROMETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
BROMOFORM	10.000U	10.000U	10.000U	10.000U	10.000U
BROMOMETHANE					
CARBON-DISULFIDE	10.000U	10.000U	10.000U	10.000U	10.000U
CARBON-TETRACHLORIDE	10.000U	10.000U	10.000U	10.000U	10.000U
CHLOROBENZENE	10.000U	10.000U	10.000U	10.000U	10.000U
CHLOROETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
CHLOROFORM	10.000U	10.000U	10.000U	10.000U	10.000U
CHLOROMETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
DIBROMOCHLOROMETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
ETHYLBENZENE	10.000U	10.000U	10.000U	10.000U	10.000U
METHYLENE-CHLORIDE	10.000U	10.000U	10.000U	10.000U	10.000U
SET1,1-DICHLOROETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
STYRENE	10.000U	10.000U	10.000U	10.000U	10.000U
TETRACHLOROETHENE	10.000U	10.000U	10.000U	10.000U	10.000U
TOLUENE	10.000U	10.000U	10.000U	10.000U	10.000U
TRICHLOROETHENE	10.000U	10.000U	10.000U	10.000U	10.000U
VINYL-CHLORIDE	10.000U	10.000U	10.000U	10.000U	10.000U
XYLENE	10.000U	10.000U	10.000U	10.000U	10.000U
cis-1,3-DICHLOROPROPENE	10.000U	10.000U	10.000U	10.000U	10.000U
trans-1,3-DICHLOROPROPENE	10.000U	10.000U	10.000U	10.000U	10.000U

00159.0632

TABLE J-5 - TRIP BLANK RESULTS - UNITS: ug/L - ASL, 1994

	AL-X0426-TB-01	AL-X0427-TB-01	AL-X0428-TB-01	AL-X0502-TB-01	AL-X0503-TB-01
1,1,1-TRICHLOROETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
1,1,2,2-TETRACHLOROETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
1,1,2-TRICHLOROETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
1,1-DICHLOROETHENE	10.000U	10.000U	10.000U	10.000U	10.000U
1,2-DICHLOROETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
1,2-DICHLOROETHENE (total)	10.000U	10.000U	10.000U	10.000U	10.000U
1,2-DICHLOROPROPANE	10.000U	10.000U	10.000U	10.000U	10.000U
2-BUTANONE	10.000U	10.000U	10.000U	10.000U	10.000U
2-HEXANONE	10.000U	10.000U	10.000U	10.000U	10.000U
4-METHYL-2-PENTANONE	10.000U	10.000U	10.000U	10.000U	10.000U
ACETONE	10.000U	10.000U	7.000J	10.000U	10.000U
BENZENE	10.000U	10.000U	10.000U	10.000U	10.000U
BROMETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
BROMODICHLOROMETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
BROMOFORM	10.000U	10.000U	10.000U	10.000U	10.000U
BROMOMETHANE					
CARBON-DISULFIDE	10.000U	10.000U	10.000U	10.000U	10.000U
CARBON-TETRACHLORIDE	10.000U	10.000U	10.000U	10.000U	10.000U
CHLOROBENZENE	10.000U	10.000U	10.000U	10.000U	10.000U
CHLOROETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
CHLOROFORM	10.000U	10.000U	10.000U	10.000U	10.000U
CHLOROMETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
DIBROMOCHLOROMETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
ETHYLBENZENE	10.000U	10.000U	10.000U	10.000U	10.000U
METHYLENE-CHLORIDE	10.000U	10.000U	26.000	10.000U	10.000U
SET1,1-DICHLOROETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
STYRENE	10.000U	10.000U	10.000U	10.000U	10.000U
TETRACHLOROETHENE	10.000U	10.000U	10.000U	10.000U	10.000U
TOLUENE	10.000U	10.000U	10.000U	1.000J	10.000U
TRICHLOROETHENE	10.000U	10.000U	10.000U	10.000U	10.000U
VINYL-CHLORIDE	10.000U	10.000U	10.000U	10.000U	10.000U
XYLENE	10.000U	10.000U	10.000U	10.000U	10.000U
cis-1,3-DICHLOROPROPENE	10.000U	10.000U	10.000U	10.000U	10.000U
trans-1,3-DICHLOROPROPENE	10.000U	10.000U	10.000U	10.000U	10.000U

00159.0633

TABLE J-5 - TRIP BLANK RESULTS - UNITS: ug/L - ASL, 1994

	AL-X0504-TB-01	AL-X0504-TB-02	AL-X0505-TB-01	AL-X0506-TB-01	AL-X0510-TB-01
1,1,1-TRICHLOROETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
1,1,2,2-TETRACHLOROETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
1,1,2-TRICHLOROETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
1,1-DICHLOROETHENE	10.000U	10.000U	10.000U	10.000U	10.000U
1,2-DICHLOROETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
1,2-DICHLOROETHENE (total)	10.000U	10.000U	10.000U	10.000U	10.000U
1,2-DICHLOROPROPANE	10.000U	10.000U	10.000U	10.000U	10.000U
2-BUTANONE	10.000U	10.000U	10.000U	10.000U	10.000U
2-HEXANONE	10.000U	10.000U	10.000U	10.000U	10.000U
4-METHYL-2-PENTANONE	10.000U	10.000U	10.000U	10.000U	10.000U
ACETONE	10.000U	10.000U	10.000U	7.000J	5.000J
BENZENE	10.000U	10.000U	10.000U	10.000U	10.000U
BROMETHANE	10.000U	10.000U	10.000U	10.000U	
BROMODICHLOROMETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
BROMOFORM	10.000U	10.000U	10.000U	10.000U	10.000U
BROMOMETHANE					10.000U
CARBON-DISULFIDE	10.000U	10.000U	10.000U	10.000U	10.000U
CARBON-TETRACHLORIDE	10.000U	10.000U	10.000U	10.000U	10.000U
CHLOROBENZENE	10.000U	10.000U	10.000U	10.000U	10.000U
CHLOROETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
CHLOROFORM	10.000U	10.000U	10.000U	10.000U	10.000U
CHLOROMETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
DIBROMOCHLOROMETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
ETHYLBENZENE	10.000U	10.000U	10.000U	10.000U	10.000U
METHYLENE-CHLORIDE	10.000U	10.000U	14.000	10.000U	10.000U
SET1,1-DICHLOROETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
STYRENE	10.000U	10.000U	10.000U	10.000U	10.000U
TETRACHLOROETHENE	10.000U	10.000U	10.000U	10.000U	10.000U
TOLUENE	10.000U	10.000U	10.000U	10.000U	10.000U
TRICHLOROETHENE	10.000U	10.000U	10.000U	10.000U	10.000U
VINYL-CHLORIDE	10.000U	10.000U	10.000U	10.000U	10.000U
XYLENE	10.000U	10.000U	10.000U	10.000U	10.000U
cis-1,3-DICHLOROPROPENE	10.000U	10.000U	10.000U	10.000U	10.000U
trans-1,3-DICHLOROPROPENE	10.000U	10.000U	10.000U	10.000U	10.000U

TABLE J-5 - TRIP BLANK RESULTS - UNITS: ug/L - ASL, 1994

	AL-X0511-TB-01	AL-X0513-TB-01	AL-X0516-TB-01	AL-X0516-TB-02	AL-X0517-TB-01
1,1,1-TRICHLOROETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
1,1,2,2-TETRACHLOROETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
1,1,2-TRICHLOROETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
1,1-DICHLOROETHENE	10.000U	10.000U	10.000U	10.000U	10.000U
1,2-DICHLOROETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
1,2-DICHLOROETHENE (total)	10.000U	10.000U	10.000U	10.000U	10.000U
1,2-DICHLOROPROPANE	10.000U	10.000U	10.000U	10.000U	10.000U
2-BUTANONE	10.000U	10.000U	10.000U	10.000U	10.000U
2-HEXANONE	10.000U	10.000U	10.000U	10.000U	10.000U
4-METHYL-2-PENTANONE	10.000U	10.000U	10.000U	10.000U	10.000U
ACETONE	4.000J	10.000U	10.000U	10.000U	10.000U
BENZENE	10.000U	10.000U	10.000U	10.000U	10.000U
BROMETHANE		10.000U	10.000U	10.000U	10.000U
BROMODICHLOROMETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
BROMOFORM	10.000U	10.000U	10.000U	10.000U	10.000U
BROMOMETHANE	10.000U				
CARBON-DISULFIDE	10.000U	10.000U	10.000U	10.000U	10.000U
CARBON-TETRACHLORIDE	10.000U	10.000U	10.000U	10.000U	10.000U
CHLOROBENZENE	10.000U	10.000U	10.000U	10.000U	10.000U
CHLOROETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
CHLOROFORM	10.000U	10.000U	10.000U	10.000U	10.000U
CHLOROMETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
DIBROMOCHLOROMETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
ETHYLBENZENE	10.000U	10.000U	10.000U	10.000U	10.000U
METHYLENE-CHLORIDE	10.000U	10.000U	10.000U	10.000U	10.000U
SET1,1-DICHLOROETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
STYRENE	10.000U	10.000U	10.000U	10.000U	10.000U
TETRACHLOROETHENE	10.000U	10.000U	10.000U	10.000U	10.000U
TOLUENE	10.000U	10.000U	10.000U	10.000U	10.000U
TRICHLOROETHENE	10.000U	10.000U	10.000U	10.000U	10.000U
VINYL-CHLORIDE	10.000U	10.000U	10.000U	10.000U	10.000U
XYLENE	10.000U	10.000U	10.000U	10.000U	10.000U
cis-1,3-DICHLOROPROPENE	10.000U	10.000U	10.000U	10.000U	10.000U
trans-1,3-DICHLOROPROPENE	10.000U	10.000U	10.000U	10.000U	10.000U

TABLE J-5 - TRIP BLANK RESULTS - UNITS: ug/L - ASL, 1994

	AL-X0518-TB-01	AL-X0518-TB-02	AL-X0518-TB-03	AL-X0519-TB-01	AL-X0519-TB-02
1,1,1-TRICHLOROETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
1,1,2,2-TETRACHLOROETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
1,1,2-TRICHLOROETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
1,1-DICHLOROETHENE	10.000U	10.000U	10.000U	10.000U	1.000J
1,2-DICHLOROETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
1,2-DICHLOROETHENE (total)	10.000U	10.000U	10.000U	10.000U	10.000U
1,2-DICHLOROPROPANE	10.000U	10.000U	10.000U	10.000U	10.000U
2-BUTANONE	10.000U	10.000U	10.000U	10.000U	10.000U
2-HEXANONE	10.000U	10.000U	10.000U	10.000U	10.000U
4-METHYL-2-PENTANONE	10.000U	10.000U	10.000U	10.000U	10.000U
ACETONE	10.000U	10.000U	10.000U	19.000	12.000
BENZENE	10.000U	10.000U	10.000U	10.000U	10.000U
BROMETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
BROMODICHLOROMETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
BROMOFORM	10.000U	10.000U	10.000U	10.000U	10.000U
BROMOMETHANE					
CARBON-DISULFIDE	10.000U	10.000U	10.000U	10.000U	10.000U
CARBON-TETRACHLORIDE	10.000U	10.000U	10.000U	10.000U	10.000U
CHLOROBENZENE	10.000U	10.000U	10.000U	10.000U	10.000U
CHLOROETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
CHLOROFORM	10.000U	10.000U	10.000U	10.000U	10.000U
CHLOROMETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
DIBROMOCHLOROMETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
ETHYLBENZENE	10.000U	10.000U	10.000U	10.000U	10.000U
METHYLENE-CHLORIDE	10.000U	10.000U	10.000U	16.000U	10.000U
SET1,1-DICHLOROETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
STYRENE	10.000U	10.000U	10.000U	10.000U	10.000U
TETRACHLOROETHENE	10.000U	10.000U	10.000U	10.000U	10.000U
TOLUENE	10.000U	10.000U	10.000U	10.000U	10.000U
TRICHLOROETHENE	10.000U	10.000U	10.000U	10.000U	1.000J
VINYL-CHLORIDE	10.000U	10.000U	10.000U	10.000U	10.000U
XYLENE	10.000U	10.000U	10.000U	10.000U	10.000U
cis-1,3-DICHLOROPROPENE	10.000U	10.000U	10.000U	10.000U	10.000U
trans-1,3-DICHLOROPROPENE	10.000U	10.000U	10.000U	10.000U	10.000U

TABLE J-5 - TRIP BLANK RESULTS - UNITS: ug/L - ASL, 1994

	AL-X0519-TB-03	AL-X0520-TB-01	AL-X0520-TB-02	AL-X0520-TB-03	AL-X0523-TB-01
1,1,1-TRICHLOROETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
1,1,2,2-TETRACHLOROETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
1,1,2-TRICHLOROETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
1,1-DICHLOROETHENE	10.000U	10.000U	10.000U	10.000U	10.000U
1,2-DICHLOROETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
1,2-DICHLOROETHENE (total)	10.000U	10.000U	10.000U	10.000U	10.000U
1,2-DICHLOROPROPANE	10.000U	10.000U	10.000U	10.000U	10.000U
2-BUTANONE	10.000U	10.000U	10.000U	10.000U	10.000U
2-HEXANONE	10.000U	10.000U	10.000U	10.000U	10.000U
4-METHYL-2-PENTANONE	10.000U	10.000U	10.000U	10.000U	10.000U
ACETONE	10.000	11.000	10.000U	9.000J	9.000J
BENZENE	10.000U	10.000U	10.000U	10.000U	10.000U
BROMETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
BROMODICHLOROMETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
BROMOFORM	10.000U	10.000U	10.000U	10.000U	10.000U
BROMOMETHANE					
CARBON-DISULFIDE	10.000U	10.000U	10.000U	10.000U	10.000U
CARBON-TETRACHLORIDE	10.000U	10.000U	10.000U	10.000U	10.000U
CHLOROBENZENE	10.000U	10.000U	10.000U	10.000U	10.000U
CHLOROETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
CHLOROFORM	10.000U	10.000U	10.000U	10.000U	10.000U
CHLOROMETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
DIBROMOCHLOROMETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
ETHYLBENZENE	10.000U	10.000U	10.000U	10.000U	10.000U
METHYLENE-CHLORIDE	19.000U	10.000U	14.000U	11.000U	10.000U
SET1,1-DICHLOROETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
STYRENE	10.000U	10.000U	10.000U	10.000U	10.000U
TETRACHLOROETHENE	10.000U	10.000U	10.000U	10.000U	10.000U
TOLUENE	10.000U	10.000U	10.000U	10.000U	10.000U
TRICHLOROETHENE	10.000U	10.000U	10.000U	10.000U	10.000U
VINYL-CHLORIDE	10.000U	10.000U	10.000U	10.000U	10.000U
XYLENE	10.000U	10.000U	10.000U	10.000U	10.000U
cis-1,3-DICHLOROPROPENE	10.000U	10.000U	10.000U	10.000U	10.000U
trans-1,3-DICHLOROPROPENE	10.000U	10.000U	10.000U	10.000U	10.000U

TABLE J-5 - TRIP BLANK RESULTS - UNITS: ug/L - ASL, 1994

	AL-X0523-TB-02	AL-X0523-TB-03	AL-X0523-TB-04	AL-X0524-TB-01	AL-X0524-TB-02
1,1,1-TRICHLOROETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
1,1,2,2-TETRACHLOROETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
1,1,2-TRICHLOROETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
1,1-DICHLOROETHENE	10.000U	10.000U	10.000U	10.000U	10.000U
1,2-DICHLOROETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
1,2-DICHLOROETHENE (total)	10.000U	10.000U	10.000U	10.000U	10.000U
1,2-DICHLOROPROPANE	10.000U	10.000U	10.000U	10.000U	10.000U
2-BUTANONE	10.000U	10.000U	10.000U	6.000J	10.000U
2-HEXANONE	10.000U	10.000U	10.000U	10.000U	10.000U
4-METHYL-2-PENTANONE	10.000U	10.000U	10.000U	10.000U	10.000U
ACETONE	11.000	10.000	10.000U	10.000U	10.000U
BENZENE	10.000U	10.000U	10.000U	10.000U	10.000U
BROMETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
BROMODICHLOROMETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
BROMOFORM	10.000U	10.000U	10.000U	10.000U	10.000U
BROMOMETHANE					
CARBON-DISULFIDE	10.000U	10.000U	10.000U	10.000U	10.000U
CARBON-TETRACHLORIDE	10.000U	10.000U	10.000U	10.000U	10.000U
CHLOROBENZENE	10.000U	10.000U	10.000U	10.000U	10.000U
CHLOROETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
CHLOROFORM	10.000U	10.000U	10.000U	10.000U	10.000U
CHLOROMETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
DIBROMOCHLOROMETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
ETHYLBENZENE	10.000U	10.000U	10.000U	10.000U	10.000U
METHYLENE-CHLORIDE	14.000UJ	12.000UJ	10.000U	10.000U	10.000U
SET1,1-DICHLOROETHANE	10.000U	10.000U	10.000U	10.000U	10.000U
STYRENE	10.000U	10.000U	10.000U	10.000U	10.000U
TETRACHLOROETHENE	10.000U	10.000U	10.000U	10.000U	10.000U
TOLUENE	10.000U	10.000U	10.000U	10.000U	10.000U
TRICHLOROETHENE	10.000U	10.000U	10.000U	10.000U	10.000U
VINYL-CHLORIDE	10.000U	10.000U	10.000U	10.000U	10.000U
XYLENE	10.000U	10.000U	10.000U	10.000U	10.000U
cis-1,3-DICHLOROPROPENE	10.000U	10.000U	10.000U	10.000U	10.000U
trans-1,3-DICHLOROPROPENE	10.000U	10.000U	10.000U	10.000U	10.000U

TABLE J-5 - TRIP BLANK RESULTS - UNITS: ug/L - ASL, 1994

AL-X0425-TB-01

1,1,1-TRICHLOROETHANE	10.000U
1,1,2,2-TETRACHLOROETHANE	10.000U
1,1,2-TRICHLOROETHANE	10.000U
1,1-DICHLOROETHENE	10.000U
1,2-DICHLOROETHANE	10.000U
1,2-DICHLOROETHENE (total)	10.000U
1,2-DICHLOROPROPANE	10.000U
2-BUTANONE	10.000U
2-HEXANONE	10.000U
4-METHYL-2-PENTANONE	10.000U
ACETONE	10.000U
BENZENE	10.000U
BROMETHANE	10.000U
BROMODICHLOROMETHANE	10.000U
BROMOFORM	10.000U
BROMOMETHANE	
CARBON-DISULFIDE	10.000U
CARBON-TETRACHLORIDE	10.000U
CHLOROBENZENE	10.000U
CHLOROETHANE	10.000U
CHLOROFORM	10.000U
CHLOROMETHANE	10.000U
DIBROMOCHLOROMETHANE	10.000U
ETHYLBENZENE	10.000U
METHYLENE-CHLORIDE	10.000U
SET1,1-DICHLOROETHANE	10.000U
STYRENE	10.000U
TETRACHLOROETHENE	10.000U
TOLUENE	10.000U
TRICHLOROETHENE	10.000U
VINYL-CHLORIDE	10.000U
XYLENE	10.000U
cis-1,3-DICHLOROPROPENE	10.000U
trans-1,3-DICHLOROPROPENE	10.000U

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TABLE J-6 - FIELD DUPLICATE RESULTS - UNITS:ug/kg - ASL,1994

ANALYTE	AL-CL007-SD-01	AL-CL007-SD-02	RPD
1,1,1-TRICHLOROETHANE	14.00U	15.00U	NC
1,1,2,2-TETRACHLOROETH	14.00UJL	15.00UJL	NC
1,1,2-TRICHLOROETHANE	14.00U	15.00U	NC
1,1-DICHLOROETHANE			
1,1-DICHLOROETHENE	14.00U	15.00U	NC
1,2,4-TRICHLOROBENZENE	960.00U	490.00U	NC
1,2-DICHLOROBENZENE	960.00U	490.00U	NC
1,2-DICHLOROETHANE	14.00U	15.00U	NC
1,2-DICHLOROETHENE (to	14.00U	15.00U	NC
1,2-DICHLOROPROPANE	14.00U	15.00U	NC
1,3-DICHLOROBENZENE	960.00U	490.00U	NC
1,4-DICHLOROBENZENE	960.00U	490.00U	NC
2,2'-oxybis(1-CHLOROPR	960.00U	490.00U	NC
2,4,5-TRICHLOROPHENOL	2300.00U	1200.00U	NC
2,4,6-TRICHLOROPHENOL	960.00U	490.00U	NC
2,4-DICHLOROPHENOL	960.00U	490.00U	NC
2,4-DIMETHYLPHENOL	960.00U	490.00U	NC
2,4-DINITROPHENOL	2300.00U	1200.00U	NC
2,4-DINITROTOLUENE	960.00U	490.00U	NC
2,6-DINITROTOLUENE	960.00U	490.00U	NC
2-BUTANONE	33.00J	15.00U	NC
2-CHLORONAPHTHALENE	960.00U	490.00U	NC
2-CHLOROPHENOL	960.00U	490.00U	NC
2-HEXANONE	14.00UJL	15.00UJL	NC
2-METHYLNAPHTHALENE	110.00J	80.00J	31.6
2-METHYLPHENOL	960.00U	490.00U	NC
2-NITROANILINE	2300.00U	1200.00U	NC
2-NITROPHENOL	960.00U	490.00U	NC
3,3'-DICHLOROBENZIDINE	960.00U	490.00UJL	NC
3-NITROANILINE	2300.00U	1200.00U	NC
4,4'-DDD	11.40	14.90	26.6
4,4'-DDE	9.90J	14.50J	37.7
4,4'-DDT	5.92J	14.70J	85.2
4,6-DINITRO-2-METHYLPH	2300.00U	1200.00U	NC
4-BROMOPHENYL-PHENYLET	960.00U	490.00U	NC
4-CHLORO-3-METHYLPHENO	960.00U	490.00U	NC
4-CHLOROANILINE	960.00U	550.00	NC
4-CHLOROPHENYL-PHENYLE	960.00U	490.00U	NC
4-METHYL-2-PENTANONE	14.00UJL	15.00UJL	NC
4-METHYLPHENOL	960.00U	25.00J	NC
4-NITROANILINE	2300.00U	1200.00U	NC

TABLE J-6 - FIELD DUPLICATE RESULTS - UNITS:ug/kg - ASL,1994

ANALYTE	AL-CL007-SD-01	AL-CL007-SD-02	RPD
4-NITROPHENOL	2300.00U	1200.00U	NC
ACENAPHTHENE	120.00J	150.00J	22.2
ACENAPHTHYLENE	960.00U	38.00J	NC
ACETONE	170.00UJ	210.00J	NC
ALDRIN	5.12J	2.50U	NC
ALPHA-CHLORDANE	48.00J	60.00	22.2
ANTHRACENE	220.00J	310.00J	34.0
AROCHLOR-1016	480.00U	49.00U	NC
AROCHLOR-1221	97.00U	100.00U	NC
AROCHLOR-1232	480.00U	49.00U	NC
AROCHLOR-1242	480.00U	49.00U	NC
AROCHLOR-1248	480.00U	49.00U	NC
AROCLOR-1254	480.00U	49.00U	NC
AROCLOR-1260	480.00U	49.00UJL	NC
Acrolein			
Acrylonitrile			
BENZENE	14.00U	15.00U	NC
BENZO(a)ANTHRACENE	890.00J	1200.00J	29.7
BENZO(a)PYRENE	880.00J	1000.00	12.8
BENZO(b)FLUORANTHENE	970.00	1100.00	12.6
BENZO(g,h,i)PERYLENE	710.00J	840.00	16.8
BENZO(k)FLUORANTHENE	860.00J	850.00	1.2
BROMETHANE	14.00U	15.00U	NC
BROMODICHLOROMETHANE	14.00U	15.00U	NC
BROMOFORM	14.00U	15.00U	NC
BROMOMETHANE			
BUTYLBENZYLPHTHALATE	290.00J	420.00J	36.6
Benzoic Acid			
Benzyl Alcohol			
CARBAZOLE	210.00J	220.00J	4.7
CARBON TETRACHLORIDE			
CARBON-DISULFIDE	2.00J	2.00J	0.0
CARBON-TETRACHLORIDE	14.00U	15.00U	NC
CHLOROBENZENE	14.00UJL	15.00UJL	NC
CHLOROETHANE	14.00U	15.00U	NC
CHLOROFORM	14.00U	15.00U	NC
CHLOROMETHANE	6.00J	23.00J	117
CHRYSENE	1300.00	1400.00J	7.4
CIS-1,2-DICHLOROETHENE			
DI-N-BUTYLPHTHALATE	150.00J	180.00J	18.2
DI-N-OCTYLPHTHALATE	280.00J	420.00J	40.0

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TABLE J-6 - FIELD DUPLICATE RESULTS - UNITS:ug/kg - ASL,1994

ANALYTE	AL-CL007-SD-01	AL-CL007-SD-02	RPD
DIBENZ(a,h)ANTHRACENE	960.00U	490.00U	NC
DIBENZOFURAN	960.00U	70.00J	NC
DIBROMOCHLOROMETHANE	14.00U	15.00U	NC
DIELDRIN	22.00J	36.70	50.1
DIETHYLPHTHALATE	960.00U	490.00U	NC
DIMETHYLPHTHALATE	960.00U	490.00U	NC
ENDOSULFAN-I	25.00U	25.00U	NC
ENDOSULFAN-II	4.80U	4.90U	NC
ENDOSULFAN-SULFATE	4.80U	4.90U	NC
ENDRIN	20.00J	26.20J	26.8
ENDRIN-ALDEHYDE	5.02J	4.90U	NC
ENDRIN-KETONE	4.80U	4.90U	NC
ETHYLBENZENE	14.00UJL	15.00UJL	NC
FLUORANTHENE	2400.00	2500.00	4.1
FLUORENE	960.00U	180.00J	NC
GAMMA-CHLORDANE	62.00J	60.00J	3.3
HEPTACHLOR	5.67J	7.30J	25.1
HEPTACHLOR-EPOXIDE	5.48	9.58	54.4
HEXACHLOROBENZENE	960.00U	490.00U	NC
HEXACHLOROBUTADIENE	960.00U	490.00U	NC
HEXACHLOROCYCLOPENTADI	960.00U	490.00U	NC
HEXACHLOROETHANE	960.00U	490.00U	NC
INDENO(1,2,3-cd)PYRENE	560.00J	790.00	34.1
ISOPHORONE	960.00U	490.00U	NC
M,P-XYLENE (106-42-3)			
METHOXYCHLOR	25.00U	25.00U	NC
METHYLENE CHLORIDE			
METHYLENE-CHLORIDE	57.00U	8.00J	NC
N-NITROSO-DI-N-PROPYLA	960.00U	490.00U	NC
N-NITROSODIPHENYLAMINE	960.00U	490.00U	NC
NAPTHALENE	960.00U	490.00U	NC
NITROBENZENE	960.00U	490.00U	NC
O-XYLENE			
PENTACHLOROPHENOL	2300.00U	1200.00U	NC
PHENANTHRENE	1100.00	1300.00	16.7
PHENOL	960.00U	490.00U	NC
PYRENE	2100.00	2600.00	21.3
SET1,1-DICHLOROETHANE	14.00U	15.00U	NC
STYRENE	14.00UJL	15.00UJL	NC
TETRACHLOROETHENE	14.00UJL	15.00UJL	NC
TOLUENE	2.00J	3.00J	40.0

TABLE J-6 - FIELD DUPLICATE RESULTS - UNITS:ug/kg - ASL,1994

ANALYTE	AL-CL007-SD-01	AL-CL007-SD-02	RPD
TOXAPHENE	2500.00U	250.00U	NC
TRANS-1,3-DICHLOROPROP			
TRICHLOROETHENE	14.00U	15.00U	NC
VINYL CHLORIDE			
VINYL-CHLORIDE	14.00U	15.00U	NC
XYLENE	5.00J	3.00J	50.0
alpha-BHC	2.50U	2.50U	NC
beta-BHC	2.50U	2.50U	NC
bis(2-CHLOROETHOXY)MET	960.00U	490.00U	NC
bis(2-CHLOROETHYL)ETHE	960.00U	490.00U	NC
bis(2-ETHYLHEXYL)PHTHA	5300.00	20000.00	116
bis(2-chloroisopropyl)			
cis-1,3-DICHLOROPROPEN	14.00U	15.00U	NC
cis-Permethrin			
delta-BHC	2.50U	2.50U	NC
gama-BHC	2.50U	2.50U	NC
trans-1,3-DICHLOROPROP	14.00U	15.00U	NC
trans-Permethrin			

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TABLE J-6 - FIELD DUPLICATE RESULTS - UNITS:ug/kg - ASL,1994

ANALYTE	AL-GL029-SS-01	AL-GL029-SS-02	RPD	AL-GL033-SS-01	AL-GL033-SS-02	RPD
1,1,1-TRICHLOROETHANE	2.00J	13.00U	NC	12.00U	11.00U	NC
1,1,2,2-TETRACHLOROETH	14.00UJ	13.00U	NC	12.00UJL	11.00UJL	NC
1,1,2-TRICHLOROETHANE	14.00UJ	13.00U	NC	12.00U	11.00U	NC
1,1-DICHLOROETHANE						
1,1-DICHLOROETHENE	14.00U	3.00J	NC	12.00U	11.00U	NC
1,2,4-TRICHLOROBENZENE	450.00U	440.00U	NC	400.00U	370.00U	NC
1,2-DICHLOROBENZENE	450.00U	440.00U	NC	400.00U	370.00U	NC
1,2-DICHLOROETHANE	14.00U	13.00U	NC	12.00U	11.00U	NC
1,2-DICHLOROETHENE (to	14.00U	13.00U	NC	12.00U	11.00U	NC
1,2-DICHLOROPROPANE	14.00UJ	13.00U	NC	12.00U	11.00U	NC
1,3-DICHLOROBENZENE	450.00U	440.00U	NC	400.00U	370.00U	NC
1,4-DICHLOROBENZENE	450.00U	440.00U	NC	400.00U	370.00U	NC
2,2'-oxybis(1-CHLOROPR	450.00U	440.00U	NC	400.00U	370.00U	NC
2,4,5-TRICHLOROPHENOL	1100.00U	1100.00U	NC	960.00U	900.00U	NC
2,4,6-TRICHLOROPHENOL	450.00U	440.00U	NC	400.00U	370.00U	NC
2,4-DICHLOROPHENOL	450.00U	440.00U	NC	400.00U	370.00U	NC
2,4-DIMETHYLPHENOL	450.00U	440.00U	NC	400.00U	370.00U	NC
2,4-DINITROPHENOL	1100.00U	1100.00U	NC	960.00U	900.00U	NC
2,4-DINITROTOLUENE	450.00U	440.00U	NC	400.00U	370.00U	NC
2,6-DINITROTOLUENE	450.00U	440.00U	NC	400.00U	370.00U	NC
2-BUTANONE	14.00U	13.00U	NC	12.00U	11.00U	NC
2-CHLORONAPHTHALENE	450.00U	440.00U	NC	400.00U	370.00U	NC
2-CHLOROPHENOL	450.00U	440.00U	NC	400.00U	370.00U	NC
2-HEXANONE	14.00UJ	13.00U	NC	12.00UJL	11.00UJL	NC
2-METHYLNAPHTHALENE	450.00U	440.00U	NC	400.00U	370.00U	NC
2-METHYLPHENOL	450.00U	440.00U	NC	400.00U	370.00U	NC
2-NITROANILINE	1100.00U	1100.00U	NC	960.00U	900.00U	NC
2-NITROPHENOL	450.00U	440.00U	NC	400.00U	370.00U	NC
3,3'-DICHLOROBENZIDINE	450.00U	440.00U	NC	400.00U	370.00U	NC
3-NITROANILINE	1100.00U	1100.00U	NC	960.00U	900.00U	NC
4,4'-DDD	4.50UJL	9.80J	NC	4.00U	3.70U	NC
4,4'-DDE	64.00	65.00	1.6	4.00U	3.70U	NC
4,4'-DDT	140.00JL	78.00J	56.9	4.00U	3.70U	NC
4,6-DINITRO-2-METHYLPH	1100.00U	1100.00U	NC	960.00U	900.00U	NC
4-BROMOPHENYL-PHENYLET	450.00U	440.00U	NC	400.00U	370.00U	NC
4-CHLORO-3-METHYLPHENO	450.00U	440.00U	NC	400.00U	370.00U	NC
4-CHLOROANILINE	450.00U	440.00U	NC	400.00U	370.00U	NC
4-CHLOROPHENYL-PHENYLE	450.00U	440.00U	NC	400.00U	370.00U	NC
4-METHYL-2-PENTANONE	14.00UJ	13.00U	NC	12.00UJL	11.00UJL	NC
4-METHYLPHENOL	450.00U	440.00U	NC	400.00U	370.00U	NC
4-NITROANILINE	1100.00U	1100.00U	NC	960.00U	900.00U	NC

TABLE J-6 - FIELD DUPLICATE RESULTS - UNITS:ug/kg - ASL,1994

ANALYTE	AL-GL029-SS-01	AL-GL029-SS-02	RPD	AL-GL033-SS-01	AL-GL033-SS-02	RPD
4-NITROPHENOL	1100.00U	1100.00U	NC	960.00U	900.00U	NC
ACENAPHTHENE	450.00U	440.00U	NC	400.00U	370.00U	NC
ACENAPHTHYLENE	450.00U	440.00U	NC	400.00U	370.00U	NC
ACETONE	41.00UJ	13.00UJ	NC	13.00UJ	10.00U	NC
ALDRIN	2.30U	2.30U	NC	2.00UJ	1.90U	NC
ALPHA-CHLORDANE	2.30U	5.30J	NC	2.00UJ	1.90U	NC
ANTHRACENE	450.00U	440.00U	NC	400.00U	370.00U	NC
AROCHLOR-1016	45.00U	44.00U	NC	40.00U	37.00U	NC
AROCHLOR-1221	92.00U	89.00U	NC	81.00U	75.00U	NC
AROCHLOR-1232	45.00U	44.00U	NC	40.00U	37.00U	NC
AROCHLOR-1242	45.00U	44.00U	NC	40.00U	37.00U	NC
AROCHLOR-1248	45.00U	44.00U	NC	40.00U	37.00U	NC
AROCLOR-1254	45.00U	44.00U	NC	40.00U	37.00U	NC
AROCLOR-1260	45.00U	44.00U	NC	40.00U	37.00U	NC
Acrolein						
Acrylonitrile						
BENZENE	14.00UJ	13.00U	NC	12.00U	11.00U	NC
BENZO(a)ANTHRACENE	40.00J	55.00J	31.6	52.00J	30.00J	53.7
BENZO(a)PYRENE	38.00J	55.00J	36.6	54.00J	31.00J	54.1
BENZO(b)FLUORANTHENE	38.00J	53.00J	33.0	88.00J	56.00J	44.4
BENZO(g,h,i)PERYLENE	32.00J	57.00J	56.2	50.00J	32.00J	43.9
BENZO(k)FLUORANTHENE	34.00J	57.00J	50.5	400.00U	370.00U	NC
BROMETHANE	14.00U	13.00U	NC	12.00U	11.00U	NC
BROMODICHLOROMETHANE	14.00UJ	13.00U	NC	12.00U	11.00U	NC
BROMOFORM	14.00UJ	13.00U	NC	12.00U	11.00U	NC
BROMOMETHANE						
BUTYLBENZYLPHTHALATE	450.00U	440.00U	NC	30.00J	34.00J	12.5
Benzoic Acid						
Benzyl Alcohol						
CARBAZOLE	450.00U	440.00U	NC	400.00U	370.00U	NC
CARBON TETRACHLORIDE						
CARBON-DISULFIDE	14.00U	13.00U	NC	12.00U	11.00U	NC
CARBON-TETRACHLORIDE	14.00UJ	13.00U	NC	12.00U	11.00U	NC
CHLOROBENZENE	14.00UJ	13.00U	NC	12.00UJL	11.00UJL	NC
CHLOROETHANE	14.00U	13.00U	NC	12.00U	11.00U	NC
CHLOROFORM	14.00U	13.00U	NC	12.00U	11.00U	NC
CHLOROMETHANE	14.00U	13.00U	NC	12.00U	11.00U	NC
CHRYSENE	48.00J	64.00J	28.6	66.00J	37.00J	56.3
CIS-1,2-DICHLOROETHENE						
DI-N-BUTYLPHTHALATE	450.00U	440.00U	NC	320.00J	370.00U	NC
DI-N-OCTYLPHTHALATE	450.00U	440.00U	NC	48.00J	21.00J	78.3

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TABLE J-6 - FIELD DUPLICATE RESULTS - UNITS:ug/kg - ASL,1994

ANALYTE	AL-GL029-SS-01	AL-GL029-SS-02	RPD	AL-GL033-SS-01	AL-GL033-SS-02	RPD
DIBENZ(a,h)ANTHRACENE	450.00U	440.00U	NC	400.00U	370.00U	NC
DIBENZOFURAN	450.00U	440.00U	NC	400.00U	370.00U	NC
DIBROMOCHLOROMETHANE	14.00UJ	13.00U	NC	12.00U	11.00U	NC
DIELDRIN	4.50U	4.40U	NC	4.00UJ	3.70U	NC
DIETHYLPHTHALATE	450.00U	440.00U	NC	400.00U	370.00U	NC
DIMETHYLPHTHALATE	450.00U	440.00U	NC	400.00U	370.00U	NC
ENDOSULFAN-I	2.30U	2.30U	NC	2.00UJ	1.90U	NC
ENDOSULFAN-II	5.68J	6.70J	16.5	4.00U	3.70U	NC
ENDOSULFAN-SULFATE	4.50UJL	4.40U	NC	4.00U	3.70U	NC
ENDRIN	4.50UJL	4.40U	NC	4.00U	3.70U	NC
ENDRIN-ALDEHYDE	11.40JTL	22.00J	63.5	4.00U	3.70U	NC
ENDRIN-KETONE	4.50UJL	4.40U	NC	4.00U	3.70U	NC
ETHYLBENZENE	14.00UJ	13.00U	NC	12.00UJL	11.00UJL	NC
FLUORANTHENE	70.00J	110.00J	44.4	77.00	39.00J	65.5
FLUORENE	450.00U	440.00U	NC	400.00U	370.00U	NC
GAMMA-CHLORDANE	2.30U	4.80J	NC	2.00UJ	1.90U	NC
HEPTACHLOR	2.30U	2.30U	NC	2.00UJ	1.90U	NC
HEPTACHLOR-EPOXIDE	2.30U	2.30U	NC	2.00UJ	1.90U	NC
HEXACHLOROBENZENE	450.00U	440.00U	NC	400.00U	370.00U	NC
HEXACHLOROBUTADIENE	450.00U	440.00U	NC	400.00U	370.00U	NC
HEXACHLOROCYCLOPENTADI	450,00U	440.00U	NC	400.00U	370.00U	NC
HEXACHLOROETHANE	450.00U	440.00U	NC	400.00U	370.00U	NC
INDENO(1,2,3-cd)PYRENE	29.00J	40.00J	31.9	43.00J	27.00J	45.7
ISOPHORONE	450.00U	440.00U	NC	400.00U	370.00U	NC
M,P-XYLENE (106-42-3)						
METHOXYCHLOR	23.00UJL	23.00U	NC	20.00U	19.00U	NC
METHYLENE CHLORIDE						
METHYLENE-CHLORIDE	14.00U	2.00J	NC	12.00U	48.00J	NC
N-NITROSO-DI-N-PROPYLA	450.00U	440.00U	NC	400.00U	370.00U	NC
N-NITROSODIPHENYLAMINE	450.00U	440.00U	NC	400.00U	370.00U	NC
NAPTHALENE	450.00U	440.00U	NC	400.00U	370.00U	NC
NITROBENZENE	450.00U	440.00U	NC	400.00U	370.00U	NC
O-XYLENE						
PENTACHLOROPHENOL	1100.00U	1100.00U	NC	960.00U	900.00U	NC
PHENANTHRENE	33.00J	54.00J	48.3	58.00J	370.00U	NC
PHENOL	450.00U	440.00U	NC	400.00U	370.00U	NC
PYRENE	80.00J	100.00J	22.2	120.00J	38.00J	104
SET1,1-DICHLOROETHANE	14.00U	13.00U	NC	12.00U	11.00U	NC
STYRENE	14.00UJ	13.00U	NC	12.00UJL	11.00UJL	NC
TETRACHLOROETHENE	14.00UJ	13.00U	NC	12.00UJL	11.00UJL	NC
TOLUENE	14.00UJ	13.00U	NC	12.00UJL	11.00UJL	NC

TABLE J-6 - FIELD DUPLICATE RESULTS - UNITS:ug/kg - ASL,1994

ANALYTE	AL-GL029-SS-01	AL-GL029-SS-02	RPD	AL-GL033-SS-01	AL-GL033-SS-02	RPD
TOXAPHENE	230.00U	230.00U	NC	200.00U	190.00U	NC
TRANS-1,3-DICHLOROPROP						
TRICHLOROETHENE	14.00UJ	13.00U	NC	12.00U	11.00U	NC
VINYL CHLORIDE						
VINYL-CHLORIDE	14.00U	13.00U	NC	12.00U	11.00U	NC
XYLENE	14.00UJ	13.00U	NC	12.00UJL	11.00UJL	NC
alpha-BHC	2.30U	2.30U	NC	2.00UJ	1.90U	NC
beta-BHC	2.30U	2.30U	NC	2.00UJ	1.90U	NC
bis(2-CHLOROETHOXY)MET	450.00U	440.00U	NC	400.00U	370.00U	NC
bis(2-CHLOROETHYL)ETHE	450.00U	440.00U	NC	400.00U	370.00U	NC
bis(2-ETHYLHEXYL)PHTHA	75.00J	78.00J	3.9	1400.00	960.00	37.3
bis(2-chloroisopropyl)						
cis-1,3-DICHLOROPROPEN	14.00UJ	13.00U	NC	12.00U	11.00U	NC
cis-Permethrin						
delta-BHC	2.30U	2.30U	NC	2.00UJ	1.90U	NC
gama-BHC	2.30U	2.30U	NC	2.00UJ	1.90U	NC
trans-1,3-DICHLOROPROP	14.00UJ	13.00U	NC	12.00U	11.00U	NC
trans-Permethrin						

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TABLE J-6 - FIELD DUPLICATE RESULTS - UNITS:ug/kg - ASL,1994

ANALYTE	AL-GL036-SS-01	AL-GL036-SS-02	RPD	AL-GL040-SS-01	AL-GL040-SS-02	RPD
1,1,1-TRICHLOROETHANE	11.00U	11.00U	NC	11.00U	12.00U	NC
1,1,2,2-TETRACHLOROETH	11.00U	11.00U	NC	11.00UJL	12.00UJL	NC
1,1,2-TRICHLOROETHANE	11.00U	11.00U	NC	11.00U	12.00U	NC
1,1-DICHLOROETHANE						
1,1-DICHLOROETHENE	1.00J	11.00U	NC	11.00U	12.00UJL	NC
1,2,4-TRICHLOROBENZENE	360.00U	350.00U	NC	380.00U	380.00U	NC
1,2-DICHLOROBENZENE	360.00U	350.00U	NC	380.00U	380.00U	NC
1,2-DICHLOROETHANE	11.00U	11.00U	NC	11.00U	12.00UJL	NC
1,2-DICHLOROETHENE (to	11.00U	11.00U	NC	11.00U	12.00UJL	NC
1,2-DICHLOROPROPANE	11.00U	11.00U	NC	11.00U	12.00U	NC
1,3-DICHLOROBENZENE	360.00U	350.00U	NC	380.00U	380.00U	NC
1,4-DICHLOROBENZENE	360.00U	350.00U	NC	380.00U	380.00U	NC
2,2'-oxybis(1-CHLOROPR	360.00U	350.00U	NC	380.00U	380.00U	NC
2,4,5-TRICHLOROPHENOL	870.00U	860.00U	NC	920.00U	930.00U	NC
2,4,6-TRICHLOROPHENOL	360.00U	350.00U	NC	380.00U	380.00U	NC
2,4-DICHLOROPHENOL	360.00U	350.00U	NC	380.00U	380.00U	NC
2,4-DIMETHYLPHENOL	360.00U	350.00U	NC	380.00U	380.00U	NC
2,4-DINITROPHENOL	870.00U	860.00U	NC	920.00U	930.00U	NC
2,4-DINITROTOLUENE	360.00U	350.00U	NC	380.00U	380.00U	NC
2,6-DINITROTOLUENE	360.00U	350.00U	NC	380.00U	380.00U	NC
2-BUTANONE	11.00U	11.00U	NC	11.00U	12.00UJL	NC
2-CHLORONAPHTHALENE	360.00U	350.00U	NC	380.00U	380.00U	NC
2-CHLOROPHENOL	360.00U	350.00U	NC	380.00U	380.00U	NC
2-HEXANONE	11.00U	11.00U	NC	11.00UJL	12.00UJL	NC
2-METHYLNAPHTHALENE	22.00J	350.00U	NC	57.00J	100.00J	54.8
2-METHYLPHENOL	360.00U	350.00U	NC	380.00U	380.00U	NC
2-NITROANILINE	870.00U	860.00U	NC	920.00U	930.00U	NC
2-NITROPHENOL	360.00U	350.00U	NC	380.00U	380.00U	NC
3,3'-DICHLOROBENZIDINE	360.00U	350.00U	NC	380.00U	380.00U	NC
3-NITROANILINE	870.00U	860.00U	NC	920.00U	930.00U	NC
4,4'-DDD	7.85	7.40	5.9	113.00J	3.80U	NC
4,4'-DDE	11.40	12.00	5.1	35.90J	38.00U	NC
4,4'-DDT	34.20J	45.00JH	27.3	41.60J	46.00J	10.0
4,6-DINITRO-2-METHYLPH	870.00U	860.00U	NC	920.00U	930.00U	NC
4-BROMOPHENYL-PHENYLET	360.00U	350.00U	NC	380.00U	380.00U	NC
4-CHLORO-3-METHYLPHENO	360.00U	350.00U	NC	380.00U	380.00U	NC
4-CHLOROANILINE	360.00U	350.00U	NC	380.00U	380.00U	NC
4-CHLOROPHENYL-PHENYLE	360.00U	350.00U	NC	380.00U	380.00U	NC
4-METHYL-2-PENTANONE	11.00U	11.00U	NC	11.00UJL	12.00UJL	NC
4-METHYLPHENOL	360.00U	350.00U	NC	380.00U	380.00U	NC
4-NITROANILINE	870.00U	860.00U	NC	920.00U	930.00U	NC

TABLE J-6 - FIELD DUPLICATE RESULTS - UNITS:ug/kg - ASL,1994

ANALYTE	AL-GL036-SS-01	AL-GL036-SS-02	RPD	AL-GL040-SS-01	AL-GL040-SS-02	RPD
4-NITROPHENOL	870.00U	860.00U	NC	920.00U	930.00U	NC
ACENAPHTHENE	140.00J	42.00J	108	150.00J	360.00J	82.4
ACENAPHTHYLENE	360.00U	350.00U	NC	300.00J	330.00J	9.5
ACETONE	11.00U	11.00U	NC	11.00U	12.00UJL	NC
ALDRIN	1.80U	1.80U	NC	20.00U	2.00U	NC
ALPHA-CHLORDANE	6.23J	5.10J	19.9	1300.00JT	48.10J	186
ANTHRACENE	290.00J	110.00J	90.0	560.00	1200.00	72.7
AROCHLOR-1016	36.00U	35.00U	NC	3800.00UJ	380.00UJ	NC
AROCHLOR-1221	73.00U	72.00U	NC	7700.00UJ	780.00UJ	NC
AROCHLOR-1232	36.00U	35.00U	NC	3800.00UJ	380.00UJ	NC
AROCHLOR-1242	36.00U	35.00U	NC	3800.00UJ	380.00UJ	NC
AROCHLOR-1248	36.00U	35.00U	NC	3800.00UJ	380.00UJ	NC
AROCLOR-1254	36.00U	35.00U	NC	3800.00UJ	380.00UJ	NC
AROCLOR-1260	250.00J	400.00	46.2	3800.00UJ	380.00UJ	NC
Acrolein						
Acrylonitrile						
BENZENE	11.00U	11.00U	NC	11.00U	12.00U	NC
BENZO(a)ANTHRACENE	790.00	380.00	70.1	2800.00	2800.00	0.0
BENZO(a)PYRENE	880.00	390.00	77.2	2800.00	2800.00	0.0
BENZO(b)FLUORANTHENE	860.00	340.00J	86.7	380.00U	3200.00	NC
BENZO(g,h,i)PERYLENE	610.00	300.00J	68.1	1800.00	2600.00	36.4
BENZO(k)FLUORANTHENE	770.00	470.00	48.4	5600.00j	2400.00	80.0
BROMETHANE	11.00U	11.00U	NC	11.00U	12.00UJL	NC
BROMODICHLOROMETHANE	11.00U	11.00U	NC	11.00U	12.00U	NC
BROMOFORM	11.00U	11.00U	NC	11.00U	12.00U	NC
BROMOMETHANE						
BUTYLBENZYLPHTHALATE	220.00J	170.00J	25.6	380.00U	380.00U	NC
Benzoic Acid						
Benzyl Alcohol						
CARBAZOLE	210.00J	86.00J	83.8	290.00J	94.00J	102
CARBON TETRACHLORIDE						
CARBON-DISULFIDE	11.00U	11.00U	NC	11.00U	12.00UJL	NC
CARBON-TETRACHLORIDE	11.00U	11.00U	NC	11.00U	12.00U	NC
CHLOROBENZENE	11.00U	11.00U	NC	11.00UJL	12.00UJL	NC
CHLOROETHANE	11.00U	11.00U	NC	11.00U	12.00UJL	NC
CHLOROFORM	11.00U	11.00U	NC	11.00U	12.00UJL	NC
CHLOROMETHANE	11.00U	11.00U	NC	11.00U	12.00UJL	NC
CHRYSENE	890.00	410.00	73.8	2700.00	2900.00	7.1
CIS-1,2-DICHLOROETHENE						
DI-N-BUTYLPHTHALATE	53.00J	30.00J	55.4	95.00J	380.00U	NC
DI-N-OCTYLPHTHALATE	360.00U	350.00U	NC	380.00U	380.00U	NC

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TABLE J-6 - FIELD DUPLICATE RESULTS - UNITS:ug/kg - ASL,1994

ANALYTE	AL-GL036-SS-01	AL-GL036-SS-02	RPD	AL-GL040-SS-01	AL-GL040-SS-02	RPD
DIBENZ(a,h)ANTHRACENE	360.00U	350.00U	NC	380.00UJ	1200.00J	NC
DIBENZOFURAN	59.00J	25.00J	81.0	78.00J	200.00J	87.8
DIBROMOCHLOROMETHANE	11.00U	11.00U	NC	11.00U	12.00U	NC
DIELDRIN	9.51J	7.50J	23.6	2400.00J	38.00J	194
DIETHYLPHTHALATE	360.00U	350.00U	NC	380.00U	380.00U	NC
DIMETHYLPHTHALATE	360.00U	350.00U	NC	380.00U	380.00U	NC
ENDOSULFAN-I	1.80U	1.80U	NC	20.00U	2.00U	NC
ENDOSULFAN-II	3.60U	4.80J	NC	260.00J	15.00J	178
ENDOSULFAN-SULFATE	5.47J	12.00J	74.8	38.00U	10.00J	NC
ENDRIN	13.50J	14.00J	3.6	33.80J	160.00J	130
ENDRIN-ALDEHYDE	89.00J	58.00JH	42.2	6.31J	16.00J	86.9
ENDRIN-KETONE	7.58J	5.00J	41.0	131.00J	19.00J	149
ETHYLBENZENE	11.00U	11.00U	NC	11.00UJL	12.00UJL	NC
FLUORANTHENE	1900.00	850.00	76.4	3700.00	3800.00	2.7
FLUORENE	92.00J	36.00J	87.5	160.00J	350.00J	74.5
GAMMA-CHLORDANE	5.21J	3.40J	42.0	20.00U	8.40J	NC
HEPTACHLOR	1.80U	1.80U	NC	20.00U	5.90J	NC
HEPTACHLOR-EPOXIDE	1.80U	1.80U	NC	52.50J	4.80J	166
HEXACHLOROBENZENE	360.00U	350.00U	NC	380.00U	380.00U	NC
HEXACHLOROBUTADIENE	360.00U	350.00U	NC	380.00U	380.00U	NC
HEXACHLOROCYCLOPENTADI	360.00U	350.00U	NC	380.00U	380.00U	NC
HEXACHLOROETHANE	360.00U	350.00U	NC	380.00U	380.00U	NC
INDENO(1,2,3-cd)PYRENE	530.00	290.00J	58.5	1600.00	2200.00	31.6
ISOPHORONE	360.00U	350.00U	NC	380.00U	380.00U	NC
M,P-XYLENE (106-42-3)						
METHOXYCHLOR	18.00U	18.00U	NC	200.00U	20.00U	NC
METHYLENE CHLORIDE						
METHYLENE-CHLORIDE	2.00J	14.00UJ	NC	19.00U	37.00JB	NC
N-NITROSO-DI-N-PROPYLA	360.00U	350.00U	NC	380.00U	380.00U	NC
N-NITROSODIPHENYLAMINE	360.00U	350.00U	NC	380.00U	380.00U	NC
NAPTHALENE	48.00J	23.00J	70.4	78.00J	150.00J	63.2
NITROBENZENE	360.00U	350.00U	NC	380.00U	380.00U	NC
O-XYLENE						
PENTACHLOROPHENOL	870.00U	860.00U	NC	920.00U	930.00U	NC
PHENANTHRENE	1200.00	500.00	82.4	2100.00	2500.00	17.4
PHENOL	360.00U	350.00U	NC	380.00U	380.00U	NC
PYRENE	1400.00	620.00	77.2	4900.00	4800.00	2.1
SET1,1-DICHLOROETHANE	11.00U	11.00U	NC	11.00U	12.00UJL	NC
STYRENE	11.00U	11.00U	NC	11.00UJL	12.00UJL	NC
TETRACHLOROETHENE	11.00U	11.00U	NC	11.00UJL	12.00UJL	NC
TOLUENE	11.00U	11.00U	NC	2.00J	12.00UJL	NC

TABLE J-6 - FIELD DUPLICATE RESULTS - UNITS:ug/kg - ASL,1994

ANALYTE	AL-GL036-SS-01	AL-GL036-SS-02	RPD	AL-GL040-SS-01	AL-GL040-SS-02	RPD
TOXAPHENE	180.00U	180.00U	NC	20000.00U	2000.00U	NC
TRANS-1,3-DICHLOROPROP						
TRICHLOROETHENE	11.00U	11.00U	NC	11.00U	12.00U	NC
VINYL CHLORIDE						
VINYL-CHLORIDE	11.00U	11.00U	NC	11.00U	12.00UJL	NC
XYLENE	11.00U	11.00U	NC	11.00UJL	12.00UJL	NC
alpha-BHC	1.80U	1.80U	NC	20.00U	4.40JT	NC
beta-BHC	1.80U	1.80U	NC	20.00U	2.00U	NC
bis(2-CHLOROETHOXY)MET	360.00U	350.00U	NC	380.00U	380.00U	NC
bis(2-CHLOROETHYL)ETHE	360.00U	350.00U	NC	380.00U	380.00U	NC
bis(2-ETHYLHEXYL)PHTHA	330.00J	130.00J	87.0	380.00u	380.00U	NC
bis(2-chloroisopropyl)						
cis-1,3-DICHLOROPROPEN	11.00U	11.00U	NC	11.00U	12.00U	NC
cis-Permethrin						
delta-BHC	1.80U	1.80U	NC	20.00U	2.00U	NC
gama-BHC	1.80U	1.80U	NC	20.00U	2.00U	NC
trans-1,3-DICHLOROPROP	11.00U	11.00U	NC	11.00U	12.00U	NC
trans-Permethrin						

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TABLE J-6 - FIELD DUPLICATE RESULTS - UNITS:ug/kg - ASL,1994

ANALYTE	AL-GL047-SS-01	AL-GL047-SS-02	RPD	AL-GL053-SS-01	AL-GL053-SS-02	RPD
1,1,1-TRICHLOROETHANE	11.00U	11.00U	NC	12.00U	11.00U	NC
1,1,2,2-TETRACHLOROETH	11.00U	11.00U	NC	12.00UJL	11.00UJL	NC
1,1,2-TRICHLOROETHANE	11.00U	11.00U	NC	12.00U	11.00U	NC
1,1-DICHLOROETHANE						
1,1-DICHLOROETHENE	11.00U	11.00U	NC	12.00U	11.00U	NC
1,2,4-TRICHLOROBENZENE	370.00U	370.00U	NC	400.00U	380.00U	NC
1,2-DICHLOROBENZENE	370.00U	370.00U	NC	400.00U	380.00U	NC
1,2-DICHLOROETHANE	11.00U	11.00U	NC	12.00U	11.00U	NC
1,2-DICHLOROETHENE (to	11.00U	11.00U	NC	12.00U	11.00U	NC
1,2-DICHLOROPROPANE	11.00U	11.00U	NC	12.00U	11.00U	NC
1,3-DICHLOROBENZENE	370.00U	370.00U	NC	400.00U	380.00U	NC
1,4-DICHLOROBENZENE	370.00U	370.00U	NC	400.00U	380.00U	NC
2,2'-oxybis(1-CHLOROPR	370.00U	370.00U	NC	400.00U	380.00U	NC
2,4,5-TRICHLOROPHENOL	910.00U	910.00U	NC	980.00U	920.00U	NC
2,4,6-TRICHLOROPHENOL	370.00U	370.00U	NC	400.00U	380.00U	NC
2,4-DICHLOROPHENOL	370.00U	370.00U	NC	400.00U	380.00U	NC
2,4-DIMETHYLPHENOL	370.00U	370.00U	NC	400.00U	380.00U	NC
2,4-DINITROPHENOL	910.00U	910.00U	NC	980.00U	920.00U	NC
2,4-DINITROTOLUENE	370.00U	370.00U	NC	400.00U	380.00U	NC
2,6-DINITROTOLUENE	370.00U	370.00U	NC	400.00U	380.00U	NC
2-BUTANONE	11.00U	11.00U	NC	12.00U	11.00U	NC
2-CHLORONAPHTHALENE	370.00U	370.00U	NC	400.00U	380.00U	NC
2-CHLOROPHENOL	370.00U	370.00U	NC	400.00U	380.00U	NC
2-HEXANONE	11.00U	11.00U	NC	12.00UJL	11.00UJL	NC
2-METHYLNAPHTHALENE	370.00U	370.00U	NC	400.00U	380.00U	NC
2-METHYLPHENOL	370.00U	370.00U	NC	400.00U	380.00U	NC
2-NITROANILINE	910.00U	910.00U	NC	980.00U	920.00U	NC
2-NITROPHENOL	370.00U	370.00U	NC	400.00U	380.00U	NC
3,3'-DICHLOROBENZIDINE	370.00U	370.00U	NC	400.00U	380.00U	NC
3-NITROANILINE	910.00U	910.00U	NC	980.00U	920.00U	NC
4,4'-DDD	18000.00J	250.00J	195	5.79	3.27U	NC
4,4'-DDE	820.00	680.00U	NC	19.50	15.50U	NC
4,4'-DDT	1200.00J	910.00J	27.5	24.90JH	15.50JH	46.5
4,6-DINITRO-2-METHYLPH	910.00U	910.00U	NC	980.00U	920.00U	NC
4-BROMOPHENYL-PHENYLET	370.00U	370.00U	NC	400.00U	380.00U	NC
4-CHLORO-3-METHYLPHENO	370.00U	370.00U	NC	400.00U	380.00U	NC
4-CHLOROANILINE	370.00U	370.00U	NC	400.00U	380.00U	NC
4-CHLOROPHENYL-PHENYLE	370.00U	370.00U	NC	400.00U	380.00U	NC
4-METHYL-2-PENTANONE	11.00U	11.00U	NC	12.00UJL	11.00UJL	NC
4-METHYLPHENOL	370.00U	370.00U	NC	400.00U	380.00U	NC
4-NITROANILINE	910.00U	910.00U	NC	980.00U	920.00U	NC

TABLE J-6 - FIELD DUPLICATE RESULTS - UNITS:ug/kg - ASL,1994

ANALYTE	AL-GL047-SS-01	AL-GL047-SS-02	RPD	AL-GL053-SS-01	AL-GL053-SS-02	RPD
4-NITROPHENOL	910.00U	910.00U	NC	980.00U	920.00U	NC
ACENAPHTHENE	33.00J	370.00U	NC	41.00J	380.00U	NC
ACENAPHTHYLENE	370.00U	370.00U	NC	27.00J	380.00U	NC
ACETONE	11.00U	11.00U	NC	12.00U	11.00U	NC
ALDRIN	190.00U	1.90U	NC	2.64J	1.99J	28.1
ALPHA-CHLORDANE	190.00U	5.13U	NC	12.10	10.80U	NC
ANTHRACENE	63.00J	24.00J	89.7	190.00J	52.00J	114
AROCHLOR-1016	3700.00U	37.00U	NC	40.00U	38.00U	NC
AROCHLOR-1221	7600.00U	76.00U	NC	82.00U	77.00U	NC
AROCHLOR-1232	3700.00U	37.00U	NC	40.00U	38.00U	NC
AROCHLOR-1242	3700.00U	37.00U	NC	40.00U	38.00U	NC
AROCHLOR-1248	3700.00U	37.00U	NC	40.00U	38.00U	NC
AROCLOR-1254	3700.00U	37.00U	NC	40.00U	38.00U	NC
AROCLOR-1260	3700.00U	37.00U	NC	120.00J	110.00J	8.7
Acrolein						
Acrylonitrile						
BENZENE	11.00U	11.00U	NC	12.00U	11.00U	NC
BENZO(a)ANTHRACENE	300.00J	150.00J	66.7	1100.00J	340.00J	106
BENZO(a)PYRENE	340.00J	160.00J	72.0	1300.00J	340.00J	117
BENZO(b)FLUORANTHENE	620.00J	330.00J	61.1	2100.00J	650.00J	105
BENZO(g,h,i)PERYLENE	390.00J	180.00J	73.7	1100.00J	350.00J	103
BENZO(k)FLUORANTHENE	370.00U	370.00U	NC	400.00U	380.00U	NC
BROMETHANE	11.00U	11.00U	NC	12.00U	11.00U	NC
BROMODICHLOROMETHANE	11.00U	11.00U	NC	12.00U	11.00U	NC
BROMOFORM	11.00U	11.00U	NC	12.00U	11.00U	NC
BROMOMETHANE						
BUTYLBENZYLPHTHALATE	140.00J	97.00J	36.3	960.00J	200.00J	131
Benzoic Acid						
Benzyl Alcohol						
CARBAZOLE	140.00J	46.00J	101	160.00J	61.00J	89.6
CARBON TETRACHLORIDE						
CARBON-DISULFIDE	11.00U	11.00U	NC	12.00U	11.00U	NC
CARBON-TETRACHLORIDE	11.00U	11.00U	NC	12.00U	11.00U	NC
CHLOROBENZENE	11.00U	11.00U	NC	12.00UJL	11.00UJL	NC
CHLOROETHANE	11.00U	11.00U	NC	12.00U	11.00U	NC
CHLOROFORM	11.00U	11.00U	NC	12.00U	11.00U	NC
CHLOROMETHANE	11.00U	11.00U	NC	12.00U	11.00U	NC
CHRYSENE	310.00J	170.00J	58.3	1100.00J	310.00J	112
CIS-1,2-DICHLOROETHENE						
DI-N-BUTYLPHTHALATE	26.00J	370.00U	NC	310.00J	150.00J	69.6
DI-N-OCTYLPHTHALATE	370.00U	370.00U	NC	130.00J	380.00U	NC

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TABLE J-6 - FIELD DUPLICATE RESULTS - UNITS:ug/kg - ASL,1994

ANALYTE	AL-GL047-SS-01	AL-GL047-SS-02	RPD	AL-GL053-SS-01	AL-GL053-SS-02	RPD
DIBENZ(a,h)ANTHRACENE	140.00J	370.00U	NC	480.00J	160.00J	100
DIBENZOFURAN	20.00J	370.00U	NC	22.00J	380.00U	NC
DIBROMOCHLOROMETHANE	11.00U	11.00U	NC	12.00U	11.00U	NC
DIELDRIN	370.00U	3.70U	NC	7.30	6.12U	NC
DIETHYLPHTHALATE	370.00U	370.00U	NC	400.00U	380.00U	NC
DIMETHYLPHTHALATE	370.00U	370.00U	NC	400.00U	380.00U	NC
ENDOSULFAN-I	190.00U	1.90U	NC	2.10U	2.00U	NC
ENDOSULFAN-II	370.00JL	3.70U	NC	4.00U	3.80U	NC
ENDOSULFAN-SULFATE	370.00U	3.70U	NC	4.00UJL	3.80UJL	NC
ENDRIN	540.00JH	6.16J	195	4.00U	5.23J	NC
ENDRIN-ALDEHYDE	370.00U	7.47J	NC	12.20J	3.80UJL	NC
ENDRIN-KETONE	370.00U	3.70U	NC	4.28	3.80U	NC
ETHYLBENZENE	11.00U	11.00U	NC	12.00UJL	11.00UJL	NC
FLUORANTHENE	580.00	280.00J	69.8	1900.00J	570.00	108
FLUORENE	31.00J	370.00U	NC	40.00J	380.00U	NC
GAMMA-CHLORDANE	190.00U	5.16U	NC	11.70	10.70U	NC
HEPTACHLOR	190.00U	1.90U	NC	2.10U	2.00U	NC
HEPTACHLOR-EPOXIDE	190.00U	1.90U	NC	2.10U	2.00U	NC
HEXACHLOROBENZENE	370.00U	370.00U	NC	400.00U	380.00U	NC
HEXACHLOROBUTADIENE	370.00U	370.00U	NC	400.00U	380.00U	NC
HEXACHLOROCYCLOPENTADI	370.00U	370.00U	NC	400.00U	380.00U	NC
HEXACHLOROETHANE	370.00U	370.00U	NC	400.00U	380.00U	NC
INDENO(1,2,3-cd)PYRENE	390.00J	190.00J	69.0	1400.00J	320.00J	126
ISOPHORONE	370.00U	370.00U	NC	400.00U	380.00U	NC
M,P-XYLENE (106-42-3)						
METHOXYCHLOR	1900.00U	19.00U	NC	21.00U	20.00U	NC
METHYLENE CHLORIDE						
METHYLENE-CHLORIDE	13.00UJ	21.00U	NC	57.00U	36.00U	NC
N-NITROSO-DI-N-PROPYLA	370.00U	370.00U	NC	400.00U	380.00U	NC
N-NITROSODIPHENYLAMINE	370.00U	370.00U	NC	400.00U	380.00U	NC
NAPTHALENE	21.00J	370.00U	NC	29.00J	380.00U	NC
NITROBENZENE	370.00U	370.00U	NC	400.00U	380.00U	NC
O-XYLENE						
PENTACHLOROPHENOL	910.00U	910.00U	NC	980.00U	920.00U	NC
PHENANTHRENE	380.00J	130.00J	98.0	760.00J	240.00J	104
PHENOL	370.00U	370.00U	NC	400.00U	380.00U	NC
PYRENE	360.00J	180.00J	66.7	1100.00J	350.00J	103
SET1,1-DICHLOROETHANE	11.00U	11.00U	NC	12.00U	11.00U	NC
STYRENE	11.00U	11.00U	NC	12.00UJL	11.00UJL	NC
TETRACHLOROETHENE	11.00U	11.00U	NC	12.00UJL	11.00UJL	NC
TOLUENE	11.00U	11.00U	NC	12.00UJL	11.00UJL	NC

TABLE J-6 - FIELD DUPLICATE RESULTS - UNITS:ug/kg - ASL,1994

ANALYTE	AL-GL047-SS-01	AL-GL047-SS-02	RPD	AL-GL053-SS-01	AL-GL053-SS-02	RPD
TOXAPHENE	19000.00U	190.00U	NC	210.00U	200.00U	NC
TRANS-1,3-DICHLOROPROP						
TRICHLOROETHENE	11.00U	11.00U	NC	12.00U	11.00U	NC
VINYL CHLORIDE						
VINYL-CHLORIDE	11.00U	11.00U	NC	12.00U	11.00U	NC
XYLENE	11.00U	11.00U	NC	12.00UJL	11.00UJL	NC
alpha-BHC	190.00U	1.90U	NC	2.10U	2.00U	NC
beta-BHC	190.00U	1.90U	NC	3.13J	2.58J	19.3
bis(2-CHLOROETHOXY)MET	370.00U	370.00U	NC	400.00U	380.00U	NC
bis(2-CHLOROETHYL)ETHE	370.00U	370.00U	NC	400.00U	380.00U	NC
bis(2-ETHYLHEXYL)PHTHA	370.00U	370.00U	NC	470.00U	370.00UJ	NC
bis(2-chloroisopropyl)						
cis-1,3-DICHLOROPROPEN	11.00U	11.00U	NC	12.00U	11.00U	NC
cis-Permethrin						
delta-BHC	190.00U	1.90U	NC	2.10U	2.02J	NC
gama-BHC	190.00U	1.90U	NC	2.51J	2.88J	13.7
trans-1,3-DICHLOROPROP	11.00U	11.00U	NC	12.00U	11.00U	NC
trans-Permethrin						

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TABLE J-6 - FIELD DUPLICATE RESULTS - UNITS:ug/kg - ASL,1994

ANALYTE	AL-GL079-SS-01	AL-GL079-SS-03	RPD	AL-GL087-SS-02	AL-GL087-SS-03	RPD
1,1,1-TRICHLOROETHANE	13.00UJL	12.00UJL	NC	1.00J	12.00U	NC
1,1,2,2-TETRACHLOROETH	13.00UJL	12.00UJL	NC	12.00UJL	12.00U	NC
1,1,2-TRICHLOROETHANE	13.00UJL	12.00UJL	NC	12.00U	12.00U	NC
1,1-DICHLOROETHANE						
1,1-DICHLOROETHENE	13.00U	12.00U	NC	12.00U	12.00U	NC
1,2,4-TRICHLOROBENZENE	420.00U	410.00U	NC	400.00U	410.00U	NC
1,2-DICHLOROBENZENE	420.00U	410.00U	NC	400.00U	410.00U	NC
1,2-DICHLOROETHANE	13.00U	12.00U	NC	12.00U	12.00U	NC
1,2-DICHLOROETHENE (to	13.00U	12.00U	NC	12.00U	12.00U	NC
1,2-DICHLOROPROPANE	13.00UJL	12.00UJL	NC	12.00U	12.00U	NC
1,3-DICHLOROBENZENE	420.00U	410.00U	NC	400.00U	410.00U	NC
1,4-DICHLOROBENZENE	420.00U	410.00U	NC	400.00U	410.00U	NC
2,2'-oxybis(1-CHLOROPR	420.00U	410.00U	NC	400.00U	410.00U	NC
2,4,5-TRICHLOROPHENOL	1000.00U	1000.00U	NC	980.00U	990.00U	NC
2,4,6-TRICHLOROPHENOL	420.00U	410.00U	NC	400.00U	410.00U	NC
2,4-DICHLOROPHENOL	420.00U	410.00U	NC	400.00U	410.00U	NC
2,4-DIMETHYLPHENOL	420.00U	410.00U	NC	400.00U	410.00U	NC
2,4-DINITROPHENOL	1000.00U	1000.00U	NC	980.00U	990.00U	NC
2,4-DINITROTOLUENE	420.00U	410.00U	NC	400.00U	410.00U	NC
2,6-DINITROTOLUENE	420.00U	410.00U	NC	400.00U	410.00U	NC
2-BUTANONE	13.00U	12.00U	NC	12.00U	12.00U	NC
2-CHLORONAPHTHALENE	420.00U	410.00U	NC	400.00U	410.00U	NC
2-CHLOROPHENOL	420.00U	410.00U	NC	400.00U	410.00U	NC
2-HEXANONE	13.00UJL	12.00UJL	NC	12.00UJL	12.00U	NC
2-METHYLNAPHTHALENE	34.00J	38.00J	11.1	400.00U	410.00U	NC
2-METHYLPHENOL	420.00U	410.00U	NC	400.00U	410.00U	NC
2-NITROANILINE	1000.00U	1000.00U	NC	980.00U	990.00U	NC
2-NITROPHENOL	420.00U	410.00U	NC	400.00U	410.00U	NC
3,3'-DICHLOROBENZIDINE	420.00U	410.00U	NC	400.00U	410.00U	NC
3-NITROANILINE	1000.00U	1000.00U	NC	980.00U	990.00U	NC
4,4'-DDD	19.00JH	18.00JH	5.4	4.00U	4.10U	NC
4,4'-DDE	44.00	47.00	6.6	4.00U	4.10U	NC
4,4'-DDT	110.00J	93.00J	16.7	15.00J	6.30JL	81.7
4,6-DINITRO-2-METHYLPH	1000.00U	1000.00U	NC	980.00U	990.00U	NC
4-BROMOPHENYL-PHENYLET	420.00U	410.00U	NC	400.00U	410.00U	NC
4-CHLORO-3-METHYLPHENO	420.00U	410.00U	NC	400.00U	410.00U	NC
4-CHLOROANILINE	420.00U	410.00U	NC	400.00U	410.00U	NC
4-CHLOROPHENYL-PHENYLE	420.00U	410.00U	NC	400.00U	410.00U	NC
4-METHYL-2-PENTANONE	13.00UJL	12.00UJL	NC	12.00UJL	12.00U	NC
4-METHYLPHENOL	420.00U	410.00U	NC	400.00U	410.00U	NC
4-NITROANILINE	1000.00U	1000.00U	NC	980.00U	990.00U	NC

TABLE J-6 - FIELD DUPLICATE RESULTS - UNITS:ug/kg - ASL,1994

ANALYTE	AL-GL079-SS-01	AL-GL079-SS-03	RPD	AL-GL087-SS-02	AL-GL087-SS-03	RPD
4-NITROPHENOL	1000.00U	1000.00U	NC	980.00U	990.00U	NC
ACENAPHTHENE	56.00J	30.00J	60.5	400.00U	410.00U	NC
ACENAPHTHYLENE	56.00J	45.00J	21.8	400.00U	410.00U	NC
ACETONE	13.00U	12.00U	NC	12.00U	12.00U	NC
ALDRIN	6.20J	2.10U	NC	2.10U	2.10U	NC
ALPHA-CHLORDANE	65.00J	61.20J	6.0	2.80J	2.10U	NC
ANTHRACENE	160.00J	120.00J	28.6	400.00U	410.00U	NC
AROCHLOR-1016	42.00U	41.00U	NC	40.00U	41.00U	NC
AROCHLOR-1221	86.00U	84.00U	NC	82.00U	83.00U	NC
AROCHLOR-1232	42.00U	41.00U	NC	40.00U	41.00U	NC
AROCHLOR-1242	42.00U	41.00U	NC	40.00U	41.00U	NC
AROCHLOR-1248	42.00U	41.00U	NC	40.00U	41.00U	NC
AROCLOR-1254	42.00U	41.00U	NC	40.00U	41.00U	NC
AROCLOR-1260	42.00U	41.00U	NC	40.00U	41.00U	NC
Acrolein						
Acrylonitrile						
BENZENE	13.00UJL	12.00UJL	NC	12.00U	12.00U	NC
BENZO(a)ANTHRACENE	1100.00	590.00	60.4	24.00J	26.00J	8.0
BENZO(a)PYRENE	1200.00	590.00	68.2	400.00U	46.00J	NC
BENZO(b)FLUORANTHENE	1700.00	980.00	53.7	28.00J	37.00J	27.7
BENZO(g,h,i)PERYLENE	1300.00	630.00	69.4	41.00J	60.00J	37.6
BENZO(k)FLUORANTHENE	420.00U	410.00U	NC	23.00J	37.00J	46.7
BROMETHANE	13.00U	12.00U	NC	12.00U	12.00U	NC
BROMODICHLOROMETHANE	13.00UJL	12.00UJL	NC	12.00U	12.00U	NC
BROMOFORM	13.00UJL	12.00UJL	NC	12.00U	12.00U	NC
BROMOMETHANE						
BUTYLBENZYLPHTHALATE	420.00U	54.00J	NC	400.00U	410.00U	NC
Benzoic Acid						
Benzyl Alcohol						
CARBAZOLE	72.00J	62.00J	14.9	400.00U	410.00U	NC
CARBON TETRACHLORIDE						
CARBON-DISULFIDE	13.00U	12.00U	NC	12.00U	12.00U	NC
CARBON-TETRACHLORIDE	13.00UJL	12.00UJL	NC	12.00U	12.00U	NC
CHLOROBENZENE	13.00UJL	12.00UJL	NC	12.00UJL	12.00U	NC
CHLOROETHANE	13.00U	12.00U	NC	12.00U	12.00U	NC
CHLOROFORM	13.00U	12.00U	NC	12.00U	12.00U	NC
CHLOROMETHANE	13.00U	12.00U	NC	12.00U	12.00U	NC
CHRYSENE	1100.00	610.00	57.3	26.00J	32.00J	20.7
CIS-1,2-DICHLOROETHENE						
DI-N-BUTYLPHTHALATE	84.00J	82.00J	2.4	400.00U	410.00U	NC
DI-N-OCTYLPHTHALATE	420.00U	410.00U	NC	400.00U	410.00U	NC

TABLE J-6 - FIELD DUPLICATE RESULTS - UNITS:ug/kg - ASL,1994

ANALYTE	AL-GL079-SS-01	AL-GL079-SS-03	RPD	AL-GL087-SS-02	AL-GL087-SS-03	RPD
DIBENZ(a,h)ANTHRACENE	420.00U	410.00U	NC	400.00U	410.00U	NC
DIBENZOFURAN	24.00J	26.00J	8.0	400.00U	410.00U	NC
DIBROMOCHLOROMETHANE	13.00UJL	12.00UJL	NC	12.00U	12.00U	NC
DIELDRIN	14.00JH	12.00JH	15.4	4.00U	4.10U	NC
DIETHYLPHTHALATE	420.00U	410.00U	NC	400.00U	410.00U	NC
DIMETHYLPHTHALATE	420.00U	410.00U	NC	400.00U	410.00U	NC
ENDOSULFAN-I	2.20U	2.10J	NC	2.10U	2.10U	NC
ENDOSULFAN-II	12.00JH	8.00J	40.0	4.00U	4.10U	NC
ENDOSULFAN-SULFATE	12.00JH	4.10U	NC	6.50J	4.10U	NC
ENDRIN	40.00JH	28.00J	35.3	4.50	4.10U	NC
ENDRIN-ALDEHYDE	52.00JH	24.00JH	73.7	14.00	4.10U	NC
ENDRIN-KETONE	4.20U	4.10U	NC	4.00U	4.10U	NC
ETHYLBENZENE	13.00UJL	12.00UJL	NC	12.00UJL	12.00U	NC
FLUORANTHENE	1200.00	910.00	27.5	37.00J	30.00J	20.9
FLUORENE	46.00J	41.00J	11.5	400.00U	410.00U	NC
GAMMA-CHLORDANE	31.00J	32.00J	3.2	2.10J	2.10U	NC
HEPTACHLOR	2.90J	2.10U	NC	2.10U	2.10U	NC
HEPTACHLOR-EPOXIDE	5.00J	5.30J	5.8	2.10U	2.10U	NC
HEXACHLOROBENZENE	420.00U	410.00U	NC	400.00U	410.00U	NC
HEXACHLOROBUTADIENE	420.00U	410.00U	NC	400.00U	410.00U	NC
HEXACHLOROCYCLOPENTADI	420.00U	410.00U	NC	400.00U	410.00U	NC
HEXACHLOROETHANE	420.00U	410.00U	NC	400.00U	410.00U	NC
INDENO(1,2,3-cd)PYRENE	1100.00	500.00	75.0	35.00J	53.00J	40.9
ISOPHORONE	420.00U	410.00U	NC	400.00U	410.00U	NC
M,P-XYLENE (106-42-3)						
METHOXYCHLOR	37.00JH	25.00JH	38.7	21.00U	21.00U	NC
METHYLENE CHLORIDE						
METHYLENE-CHLORIDE	20.00UJ	12.00U	NC	4.00J	15.00UJ	NC
N-NITROSO-DI-N-PROPYLA	420.00U	410.00U	NC	400.00U	410.00U	NC
N-NITROSODIPHENYLAMINE	420.00U	410.00U	NC	400.00U	410.00U	NC
NAPTHALENE	78.00J	85.00J	8.6	400.00U	410.00U	NC
NITROBENZENE	420.00U	410.00U	NC	400.00U	410.00U	NC
O-XYLENE						
PENTACHLOROPHENOL	1000.00U	1000.00U	NC	980.00U	990.00U	NC
PHENANTHRENE	470.00	440.00	6.6	400.00U	410.00U	NC
PHENOL	420.00U	410.00U	NC	400.00U	410.00U	NC
PYRENE	800.00	670.00	17.7	32.00J	29.00J	9.8
SET1,1-DICHLOROETHANE	13.00U	12.00U	NC	12.00U	12.00U	NC
STYRENE	13.00UJL	12.00UJL	NC	12.00UJL	12.00U	NC
TETRACHLOROETHENE	13.00UJL	12.00UJL	NC	12.00UJL	12.00U	NC
TOLUENE	13.00UJL	12.00UJL	NC	12.00UJL	1.00J	NC

TABLE J-6 - FIELD DUPLICATE RESULTS - UNITS:ug/kg - ASL,1994

ANALYTE	AL-GL079-SS-01	AL-GL079-SS-03	RPD	AL-GL087-SS-02	AL-GL087-SS-03	RPD
TOXAPHENE	220.00U	210.00U	NC	210.00U	210.00U	NC
TRANS-1,3-DICHLOROPROP						
TRICHLOROETHENE	13.00UJL	12.00UJL	NC	12.00U	12.00U	NC
VINYL CHLORIDE						
VINYL-CHLORIDE	13.00U	12.00U	NC	12.00U	12.00U	NC
XYLENE	13.00UJL	12.00UJL	NC	12.00UJL	12.00U	NC
alpha-BHC	2.20U	2.10U	NC	2.10U	2.10U	NC
beta-BHC	2.20U	2.10U	NC	2.10U	2.10U	NC
bis(2-CHLOROETHOXY)MET	420.00U	410.00U	NC	400.00U	410.00U	NC
bis(2-CHLOROETHYL)ETHE	420.00U	410.00U	NC	400.00U	410.00U	NC
bis(2-ETHYLHEXYL)PHTHA	430.00B	420.00B	2.4	400.00U	410.00U	NC
bis(2-chloroisopropyl)						
cis-1,3-DICHLOROPROPEN	13.00UJL	12.00UJL	NC	12.00U	12.00U	NC
cis-Permethrin						
delta-BHC	2.20U	2.10U	NC	2.10U	2.10U	NC
gama-BHC	2.20U	2.10U	NC	2.10U	2.10U	NC
trans-1,3-DICHLOROPROP	13.00UJL	12.00UJL	NC	12.00U	12.00U	NC
trans-Permethrin						

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TABLE J-6 - FIELD DUPLICATE RESULTS - UNITS:ug/kg - ASL,1994

ANALYTE	AL-GL205-SS-02	AL-GL205-SS-03	RPD	AL-SG036-SS-04	AL-SG036-SS-05	RPD
1,1,1-TRICHLOROETHANE	16.00U	16.00U	NC	13.00U	13.00U	NC
1,1,2,2-TETRACHLOROETH	16.00U	16.00U	NC	13.00UJ	13.00U	NC
1,1,2-TRICHLOROETHANE	16.00U	16.00U	NC	13.00U	13.00U	NC
1,1-DICHLOROETHANE						
1,1-DICHLOROETHENE	16.00U	16.00U	NC	13.00U	13.00U	NC
1,2,4-TRICHLOROBENZENE	520.00U	520.00U	NC	860.00U	870.00U	NC
1,2-DICHLOROBENZENE	520.00U	520.00U	NC	860.00U	870.00U	NC
1,2-DICHLOROETHANE	16.00U	16.00U	NC	13.00U	13.00U	NC
1,2-DICHLOROETHENE (to	16.00U	16.00U	NC	13.00U	13.00U	NC
1,2-DICHLOROPROPANE	16.00U	16.00U	NC	13.00U	13.00U	NC
1,3-DICHLOROBENZENE	520.00U	520.00U	NC	860.00U	870.00U	NC
1,4-DICHLOROBENZENE	520.00U	520.00U	NC	860.00U	870.00U	NC
2,2'-oxybis(1-CHLOROPR	520.00U	520.00U	NC	860.00U	870.00U	NC
2,4,5-TRICHLOROPHENOL	1300.00U	1200.00U	NC	2100.00U	2100.00U	NC
2,4,6-TRICHLOROPHENOL	520.00U	520.00U	NC	860.00U	870.00U	NC
2,4-DICHLOROPHENOL	520.00U	520.00U	NC	860.00U	870.00U	NC
2,4-DIMETHYLPHENOL	520.00U	520.00U	NC	860.00U	870.00U	NC
2,4-DINITROPHENOL	1300.00U	1200.00U	NC	2100.00U	2100.00U	NC
2,4-DINITROTOLUENE	520.00U	520.00U	NC	860.00U	870.00U	NC
2,6-DINITROTOLUENE	520.00U	520.00U	NC	860.00U	870.00U	NC
2-BUTANONE	16.00U	16.00U	NC	13.00U	13.00U	NC
2-CHLORONAPHTHALENE	520.00U	520.00U	NC	860.00U	870.00U	NC
2-CHLOROPHENOL	520.00U	520.00U	NC	860.00U	870.00U	NC
2-HEXANONE	16.00U	16.00U	NC	13.00UJ	13.00U	NC
2-METHYLNAPHTHALENE	520.00U	520.00U	NC	63.00J	870.00U	NC
2-METHYLPHENOL	520.00U	520.00U	NC	860.00U	870.00U	NC
2-NITROANILINE	1300.00U	1200.00U	NC	2100.00U	2100.00U	NC
2-NITROPHENOL	520.00U	520.00U	NC	860.00U	870.00U	NC
3,3'-DICHLOROBENZIDINE	520.00U	520.00UJL	NC	860.00U	870.00U	NC
3-NITROANILINE	1300.00U	1200.00U	NC	2100.00U	2100.00U	NC
4,4'-DDD	100.00U	100.00U	NC	357.00J	230.00J	43.3
4,4'-DDE	147.00	119.00J	21.1	4400.00	3200.00	31.6
4,4'-DDT	457.00J	870.00J	62.2	6400.00	3700.00	53.5
4,6-DINITRO-2-METHYLPH	1300.00U	1200.00U	NC	2100.00U	2100.00U	NC
4-BROMOPHENYL-PHENYLET	520.00U	520.00U	NC	860.00U	870.00U	NC
4-CHLORO-3-METHYLPHENO	520.00U	520.00U	NC	860.00U	870.00U	NC
4-CHLOROANILINE	520.00U	520.00U	NC	860.00U	870.00U	NC
4-CHLOROPHENYL-PHENYLE	520.00U	520.00U	NC	860.00U	870.00U	NC
4-METHYL-2-PENTANONE	16.00U	16.00U	NC	13.00UJ	13.00U	NC
4-METHYLPHENOL	520.00U	520.00U	NC	860.00U	870.00U	NC
4-NITROANILINE	1300.00U	1200.00U	NC	2100.00U	2100.00U	NC

TABLE J-6 - FIELD DUPLICATE RESULTS - UNITS:ug/kg - ASL,1994

ANALYTE	AL-GL205-SS-02	AL-GL205-SS-03	RPD	AL-SG036-SS-04	AL-SG036-SS-05	RPD
4-NITROPHENOL	1300.00U	1200.00U	NC	2100.00U	2100.00U	NC
ACENAPHTHENE	520.00U	520.00U	NC	190.00J	160.00J	17.1
ACENAPHTHYLENE	520.00U	520.00U	NC	390.00J	290.00J	29.4
ACETONE	16.00U	16.00U	NC	13.00U	13.00U	NC
ALDRIN	54.00U	53.00U	NC	22.00U	22.00U	NC
ALPHA-CHLORDANE	3400.00	4400.00	25.6	2600.00	1800.00	36.4
ANTHRACENE	520.00U	520.00U	NC	760.00J	650.00J	15.6
AROCHLOR-1016	1000.00U	1000.00U	NC	8600.00U	4300.00U	NC
AROCHLOR-1221	21000.00U	2100.00U	NC	17000.00U	8800.00U	NC
AROCHLOR-1232	1000.00U	1000.00U	NC	8600.00U	4300.00U	NC
AROCHLOR-1242	1000.00U	1000.00U	NC	8600.00U	4300.00U	NC
AROCHLOR-1248	1000.00U	1000.00U	NC	8600.00U	4300.00U	NC
AROCLOR-1254	1000.00U	1000.00U	NC	8600.00U	4300.00U	NC
AROCLOR-1260	1000.00U	1000.00U	NC	8600.00U	4300.00U	NC
Acrolein						
Acrylonitrile						
BENZENE	16.00U	16.00U	NC	13.00U	13.00U	NC
BENZO(a)ANTHRACENE	170.00J	180.00J	5.7	5200.00	3600.00	36.4
BENZO(a)PYRENE	110.00J	120.00J	8.7	4900.00	3500.00	33.3
BENZO(b)FLUORANTHENE	260.00J	290.00J	10.9	10000.00	5900.00	51.6
BENZO(g,h,i)PERYLENE	160.00J	240.00J	40.0	1000.00	1400.00J	33.3
BENZO(k)FLUORANTHENE	520.00U	520.00U	NC	860.00U	2200.00U	NC
BROMETHANE	16.00U	16.00U	NC			
BROMODICHLOROMETHANE	16.00U	16.00U	NC	13.00U	13.00U	NC
BROMOFORM	16.00U	16.00U	NC	13.00U	13.00U	NC
BROMOMETHANE				13.00U	13.00U	NC
BUTYLBENZYLPHTHALATE	520.00U	520.00UJL	NC	380.00J	420.00J	10.0
Benzoic Acid						
Benzyl Alcohol						
CARBAZOLE	520.00U	520.00U	NC	130.00J	94.00J	32.1
CARBON TETRACHLORIDE						
CARBON-DISULFIDE	16.00U	16.00U	NC	13.00U	13.00U	NC
CARBON-TETRACHLORIDE	16.00U	16.00U	NC	13.00U	13.00U	NC
CHLOROBENZENE	16.00U	16.00U	NC	13.00UJ	13.00U	NC
CHLOROETHANE	16.00U	16.00U	NC	13.00U	13.00U	NC
CHLOROFORM	16.00U	16.00U	NC	13.00U	13.00U	NC
CHLOROMETHANE	16.00U	16.00U	NC	13.00U	13.00U	NC
CHRYSENE	210.00J	240.00J	13.3	4400.00	4400.00	0.0
CIS-1,2-DICHLOROETHENE						
DI-N-BUTYLPHTHALATE	82.00J	74.00J	10.3	860.00U	870.00U	NC
DI-N-OCTYLPHTHALATE	520.00U	520.00U	NC	49.00J	2200.00U	NC

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TABLE J-6 - FIELD DUPLICATE RESULTS - UNITS:ug/kg - ASL,1994

ANALYTE	AL-GL205-SS-02	AL-GL205-SS-03	RPD	AL-SG036-SS-04	AL-SG036-SS-05	RPD
DIBENZ(a,h)ANTHRACENE	520.00U	520.00U	NC	410.00J	710.00J	53.6
DIBENZOFURAN	520.00U	520.00U	NC	92.00J	63.00J	37.4
DIBROMOCHLOROMETHANE	16.00U	16.00U	NC	13.00U	13.00U	NC
DIELDRIN	220.00J	197.00J	11.0	1800.00J	1300.00J	32.3
DIETHYLPHTHALATE	520.00U	520.00U	NC	200.00J	870.00U	NC
DIMETHYLPHTHALATE	35.00J	520.00U	NC	55.00J	870.00U	NC
ENDOSULFAN-I	53.90J	53.00U	NC	53.20J	42.60J	22.1
ENDOSULFAN-II	100.00U	100.00U	NC	43.00U	43.00U	NC
ENDOSULFAN-SULFATE	100.00U	100.00U	NC	43.00U	43.00U	NC
ENDRIN	100.00UJ	177.00J	NC	142.00J	88.20J	46.7
ENDRIN-ALDEHYDE	100.00U	100.00U	NC			
ENDRIN-KETONE	100.00U	100.00U	NC	43.00U	43.00U	NC
ETHYLBENZENE	16.00U	16.00U	NC	13.00UJ	13.00U	NC
FLUORANTHENE	140.00J	160.00J	13.3	12000.00	11000.00	8.7
FLUORENE	520.00U	520.00U	NC	310.00J	260.00J	17.5
GAMMA-CHLORDANE	5700.00	7600.00	28.6	2800.00	1900.00	38.3
HEPTACHLOR	745.00	870.00	15.5	61.70	39.70	43.4
HEPTACHLOR-EPOXIDE	1800.00	2000.00	10.5	1100.00	760.00	36.6
HEXACHLOROBENZENE	520.00U	520.00U	NC	860.00U	870.00U	NC
HEXACHLOROBUTADIENE	520.00U	520.00U	NC	860.00U	870.00U	NC
HEXACHLOROCYCLOPENTADI	520.00U	520.00U	NC	860.00U	870.00U	NC
HEXACHLOROETHANE	520.00U	520.00U	NC	860.00U	870.00U	NC
INDENO(1,2,3-cd)PYRENE	120.00J	160.00J	28.6	1000.00	1400.00	33.3
ISOPHORONE	520.00U	520.00U	NC	860.00U	870.00U	NC
M,P-XYLENE (106-42-3)						
METHOXYCHLOR	540.00U	530.00U	NC	220.00U	220.00U	NC
METHYLENE CHLORIDE						
METHYLENE-CHLORIDE	16.00U	16.00U	NC	36.00U	29.00U	NC
N-NITROSO-DI-N-PROPYLA	520.00U	520.00U	NC	860.00U	870.00U	NC
N-NITROSODIPHENYLAMINE	520.00U	520.00U	NC	860.00U	870.00U	NC
NAPTHALENE	520.00U	520.00U	NC	46.00J	870.00U	NC
NITROBENZENE	520.00U	520.00U	NC	860.00U	870.00U	NC
O-XYLENE						
PENTACHLOROPHENOL	1300.00U	1200.00U	NC	2100.00U	2100.00U	NC
PHENANTHRENE	37.00J	56.00J	40.9	4100.00	4300.00	4.8
PHENOL	520.00U	520.00U	NC	860.00U	870.00U	NC
PYRENE	260.00J	230.00J	12.2	11000.00	8900.00	21.1
SET1,1-DICHLOROETHANE	16.00U	16.00U	NC	13.00U	13.00U	NC
STYRENE	16.00U	16.00U	NC	13.00UJ	13.00U	NC
TETRACHLOROETHENE	16.00U	16.00U	NC	13.00UJ	13.00U	NC
TOLUENE	16.00U	16.00U	NC	13.00UJ	13.00U	NC

TABLE J-6 - FIELD DUPLICATE RESULTS - UNITS:ug/kg - ASL,1994

ANALYTE	AL-GL205-SS-02	AL-GL205-SS-03	RPD	AL-SG036-SS-04	AL-SG036-SS-05	RPD
TOXAPHENE	5400.00U	5300.00U	NC	44000.00U	22000.00U	NC
TRANS-1,3-DICHLOROPROP						
TRICHLOROETHENE	16.00U	16.00U	NC	13.00U	13.00U	NC
VINYL CHLORIDE						
VINYL-CHLORIDE	16.00U	16.00U	NC	13.00U	13.00U	NC
XYLENE	16.00U	16.00U	NC	13.00UJ	13.00U	NC
alpha-BHC	54.00U	53.00U	NC	22.00U	22.00U	NC
beta-BHC	54.00U	53.00U	NC	22.00U	22.00U	NC
bis(2-CHLOROETHOXY)MET	520.00U	520.00U	NC	860.00U	870.00U	NC
bis(2-CHLOROETHYL)ETHE	520.00U	520.00U	NC	860.00U	870.00U	NC
bis(2-ETHYLHEXYL)PHTHA	200.00J	190.00J	5.1	2300.00U	870.00U	NC
bis(2-chloroisopropyl)						
cis-1,3-DICHLOROPROPEN	16.00U	16.00U	NC	13.00U	13.00U	NC
cis-Permethrin						
delta-BHC	54.00U	53.00U	NC	22.00U	22.00U	NC
gama-BHC	54.00U	53.00U	NC	22.00U	22.00U	NC
trans-1,3-DICHLOROPROP	16.00U	16.00U	NC	13.00U	13.00U	NC
trans-Permethrin						

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TABLE J-6 - FIELD DUPLICATE RESULTS - UNITS:ug/kg - ASL,1994

ANALYTE	AL-MW030-SB-02	AL-MW030-SB-05	RPD	AL-OF005-SB-02	AL-OF005-SB-03	RPD
1,1,1-TRICHLOROETHANE	17.00U	16.00U	NC	13.00U	14.00U	NC
1,1,2,2-TETRACHLOROETH	17.00U	16.00U	NC	13.00U	14.00U	NC
1,1,2-TRICHLOROETHANE	17.00U	16.00U	NC	13.00U	14.00U	NC
1,1-DICHLOROETHANE						
1,1-DICHLOROETHENE	17.00U	16.00U	NC	13.00U	14.00U	NC
1,2,4-TRICHLOROBENZENE	550.00U	520.00U	NC	440.00U	440.00U	NC
1,2-DICHLOROBENZENE	550.00U	520.00U	NC	440.00U	440.00U	NC
1,2-DICHLOROETHANE	17.00U	16.00U	NC	13.00U	14.00U	NC
1,2-DICHLOROETHENE (to	17.00U	16.00U	NC	13.00U	14.00U	NC
1,2-DICHLOROPROPANE	17.00U	16.00U	NC	13.00U	14.00U	NC
1,3-DICHLOROBENZENE	550.00U	520.00U	NC	440.00U	440.00U	NC
1,4-DICHLOROBENZENE	550.00U	520.00U	NC	440.00U	440.00U	NC
2,2'-oxybis(1-CHLOROPR	550.00U	520.00U	NC	440.00U	440.00U	NC
2,4,5-TRICHLOROPHENOL	1300.00U	1300.00U	NC	1100.00U	1100.00U	NC
2,4,6-TRICHLOROPHENOL	550.00U	520.00U	NC	440.00U	440.00U	NC
2,4-DICHLOROPHENOL	550.00U	520.00U	NC	440.00U	440.00U	NC
2,4-DIMETHYLPHENOL	550.00U	520.00U	NC	440.00U	440.00U	NC
2,4-DINITROPHENOL	1300.00U	1300.00U	NC	1100.00U	1100.00U	NC
2,4-DINITROTOLUENE	550.00U	520.00U	NC	440.00U	440.00U	NC
2,6-DINITROTOLUENE	550.00U	520.00U	NC	440.00U	440.00U	NC
2-BUTANONE	5.00J	4.00J	22.2	13.00U	14.00U	NC
2-CHLORONAPHTHALENE	550.00U	520.00U	NC	440.00U	440.00U	NC
2-CHLOROPHENOL	550.00U	520.00U	NC	440.00U	440.00U	NC
2-HEXANONE	17.00U	16.00U	NC	13.00U	14.00U	NC
2-METHYLNAPHTHALENE	550.00U	520.00U	NC	440.00U	440.00U	NC
2-METHYLPHENOL	550.00U	520.00U	NC	440.00U	440.00U	NC
2-NITROANILINE	1300.00U	1300.00U	NC	1100.00U	1100.00U	NC
2-NITROPHENOL	550.00U	520.00U	NC	440.00U	440.00U	NC
3,3'-DICHLOROBENZIDINE	550.00U	520.00U	NC	440.00U	440.00U	NC
3-NITROANILINE	1300.00U	1300.00U	NC	1100.00U	1100.00U	NC
4,4'-DDD	5.50U	5.20U	NC	4.40U	4.50U	NC
4,4'-DDE	5.50U	5.20U	NC	4.40U	4.50U	NC
4,4'-DDT	5.50U	5.20U	NC	4.40U	4.50U	NC
4,6-DINITRO-2-METHYLPH	1300.00U	1300.00U	NC	1100.00U	1100.00U	NC
4-BROMOPHENYL-PHENYLET	550.00U	520.00U	NC	440.00U	440.00U	NC
4-CHLORO-3-METHYLPHENO	550.00U	520.00U	NC	440.00U	440.00U	NC
4-CHLOROANILINE	550.00U	520.00U	NC	440.00U	440.00U	NC
4-CHLOROPHENYL-PHENYLE	550.00U	520.00U	NC	440.00U	440.00U	NC
4-METHYL-2-PENTANONE	17.00U	16.00U	NC	13.00U	14.00U	NC
4-METHYLPHENOL	550.00U	520.00U	NC	440.00U	440.00U	NC
4-NITROANILINE	1300.00U	1300.00U	NC	1100.00U	1100.00U	NC

TABLE J-6 - FIELD DUPLICATE RESULTS - UNITS:ug/kg - ASL,1994

ANALYTE	AL-MW030-SB-02	AL-MW030-SB-05	RPD	AL-OF005-SB-02	AL-OF005-SB-03	RPD
4-NITROPHENOL	1300.00U	1300.00U	NC	1100.00U	1100.00U	NC
ACENAPHTHENE	550.00U	520.00U	NC	440.00U	440.00U	NC
ACENAPHTHYLENE	550.00U	520.00U	NC	440.00U	440.00U	NC
ACETONE	63.00UJ	37.00UJ	NC	40.00J	71.00J	55.9
ALDRIN	2.80U	2.70U	NC	2.30U	2.30U	NC
ALPHA-CHLORDANE	2.80U	2.70U	NC	3.65J	2.30U	NC
ANTHRACENE	550.00U	520.00U	NC	440.00U	440.00U	NC
AROCHLOR-1016	55.00U	52.00U	NC	44.00U	45.00U	NC
AROCHLOR-1221	110.00U	110.00U	NC	89.00U	91.00U	NC
AROCHLOR-1232	55.00U	52.00U	NC	44.00U	45.00U	NC
AROCHLOR-1242	55.00U	52.00U	NC	44.00U	45.00U	NC
AROCHLOR-1248	55.00U	52.00U	NC	44.00U	45.00U	NC
AROCLOR-1254	55.00U	52.00U	NC	44.00U	45.00U	NC
AROCLOR-1260	55.00U	52.00U	NC	44.00U	45.00U	NC
Acrolein						
Acrylonitrile						
BENZENE	17.00U	16.00U	NC	13.00U	14.00U	NC
BENZO(a)ANTHRACENE	550.00U	520.00U	NC	440.00U	26.00J	NC
BENZO(a)PYRENE	56.00J	520.00U	NC	35.00J	31.00J	12.1
BENZO(b)FLUORANTHENE	550.00U	520.00U	NC	440.00U	38.00J	NC
BENZO(g,h,i)PERYLENE	550.00U	520.00U	NC	440.00U	440.00U	NC
BENZO(k)FLUORANTHENE	550.00U	520.00U	NC	440.00U	44.00J	NC
BROMETHANE	17.00U	16.00U	NC	13.00U	14.00U	NC
BROMODICHLOROMETHANE	17.00U	16.00U	NC	13.00U	14.00U	NC
BROMOFORM	17.00U	16.00U	NC	13.00U	14.00U	NC
BROMOMETHANE						
BUTYLBENZYLPHTHALATE	550.00U	520.00U	NC	440.00U	440.00U	NC
Benzoic Acid						
Benzyl Alcohol						
CARBAZOLE	550.00U	520.00U	NC	440.00U	440.00U	NC
CARBON TETRACHLORIDE						
CARBON-DISULFIDE	17.00U	16.00U	NC	13.00U	14.00U	NC
CARBON-TETRACHLORIDE	17.00U	16.00U	NC	13.00U	14.00U	NC
CHLOROBENZENE	17.00U	16.00U	NC	13.00U	14.00U	NC
CHLOROETHANE	17.00U	16.00U	NC	13.00U	14.00U	NC
CHLOROFORM	17.00U	16.00U	NC	13.00U	1.00J	NC
CHLOROMETHANE	17.00U	16.00U	NC	13.00U	14.00U	NC
CHRYSENE	550.00U	520.00U	NC	440.00U	39.00J	NC
CIS-1,2-DICHLOROETHENE						
DI-N-BUTYLPHTHALATE	550.00U	520.00U	NC	440.00U	440.00U	NC
DI-N-OCTYLPHTHALATE	550.00U	520.00U	NC	440.00U	31.00J	NC

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TABLE J-6 - FIELD DUPLICATE RESULTS - UNITS:ug/kg - ASL,1994

ANALYTE	AL-MW030-SB-02	AL-MW030-SB-05	RPD	AL-OF005-SB-02	AL-OF005-SB-03	RPD
DIBENZ(a,h)ANTHRACENE	550.00U	520.00U	NC	440.00U	440.00U	NC
DIBENZOFURAN	550.00U	520.00U	NC	440.00U	440.00U	NC
DIBROMOCHLOROMETHANE	17.00U	16.00U	NC	13.00U	14.00U	NC
DIELDRIN	5.50U	5.20U	NC	64.80	23.90J	92.2
DIETHYLPHTHALATE	550.00U	520.00U	NC	440.00U	440.00U	NC
DIMETHYLPHTHALATE	550.00U	520.00U	NC	440.00U	440.00U	NC
ENDOSULFAN-I	2.80U	2.70U	NC	2.30U	2.30U	NC
ENDOSULFAN-II	5.50U	5.20U	NC	4.40U	4.50U	NC
ENDOSULFAN-SULFATE	5.50U	5.20U	NC	4.40U	4.50U	NC
ENDRIN	5.50U	5.20U	NC	4.40U	4.50U	NC
ENDRIN-ALDEHYDE	5.50U	5.20U	NC	9.92J	4.50U	NC
ENDRIN-KETONE	5.50U	5.20U	NC	4.40U	4.50U	NC
ETHYLBENZENE	17.00U	16.00U	NC	13.00U	14.00U	NC
FLUORANTHENE	550.00U	520.00U	NC	440.00U	66.00J	NC
FLUORENE	550.00U	520.00U	NC	440.00U	440.00U	NC
GAMMA-CHLORDANE	2.80U	2.70U	NC	5.65J	2.30U	NC
HEPTACHLOR	2.80U	2.70U	NC	2.30U	2.30U	NC
HEPTACHLOR-EPOXIDE	2.80U	2.70U	NC	2.30U	2.30U	NC
HEXACHLOROBENZENE	550.00U	520.00U	NC	440.00U	440.00U	NC
HEXACHLOROBUTADIENE	550.00U	520.00U	NC	440.00U	440.00U	NC
HEXACHLOROCYCLOPENTADI	550.00U	520.00U	NC	440.00U	440.00U	NC
HEXACHLOROETHANE	550.00U	520.00U	NC	440.00U	440.00U	NC
INDENO(1,2,3-cd)PYRENE	550.00U	520.00U	NC	440.00U	440.00U	NC
ISOPHORONE	550.00U	520.00U	NC	440.00U	440.00U	NC
M,P-XYLENE (106-42-3)						
METHOXYCHLOR	28.00U	27.00U	NC	23.00U	23.00U	NC
METHYLENE CHLORIDE						
METHYLENE-CHLORIDE	35.00UJ	33.00UJ	NC	18.00	17.00	5.7
N-NITROSO-DI-N-PROPYLA	550.00U	520.00U	NC	440.00U	440.00U	NC
N-NITROSODIPHENYLAMINE	550.00U	520.00U	NC	440.00U	440.00U	NC
NAPTHALENE	550.00U	520.00U	NC	440.00U	440.00U	NC
NITROBENZENE	550.00U	520.00U	NC	440.00U	440.00U	NC
O-XYLENE						
PENTACHLOROPHENOL	1300.00U	1300.00U	NC	1100.00U	1100.00U	NC
PHENANTHRENE	550.00U	520.00U	NC	440.00U	25.00J	NC
PHENOL	550.00U	520.00U	NC	440.00U	440.00U	NC
PYRENE	550.00U	520.00U	NC	440.00U	54.00J	NC
SET1,1-DICHLOROETHANE	17.00U	16.00U	NC	13.00U	14.00U	NC
STYRENE	17.00U	16.00U	NC	13.00U	14.00U	NC
TETRACHLOROETHENE	17.00U	16.00U	NC	13.00U	14.00U	NC
TOLUENE	17.00U	16.00U	NC	13.00U	14.00U	NC

TABLE J-6 - FIELD DUPLICATE RESULTS - UNITS:ug/kg - ASL,1994

ANALYTE	AL-MW030-SB-02	AL-MW030-SB-05	RPD	AL-OF005-SB-02	AL-OF005-SB-03	RPD
TOXAPHENE	280.00U	270.00U	NC	230.00U	230.00U	NC
TRANS-1,3-DICHLOROPROP						
TRICHLOROETHENE	17.00U	16.00U	NC	13.00U	14.00U	NC
VINYL CHLORIDE						
VINYL-CHLORIDE	17.00U	16.00U	NC	13.00U	14.00U	NC
XYLENE	17.00U	16.00U	NC	13.00U	14.00U	NC
alpha-BHC	2.80U	2.70U	NC	2.30U	2.30U	NC
beta-BHC	2.80U	2.70U	NC	2.30U	2.30U	NC
bis(2-CHLOROETHOXY)MET	550.00U	520.00U	NC	440.00U	440.00U	NC
bis(2-CHLOROETHYL)ETHE	550.00U	520.00U	NC	440.00U	440.00U	NC
bis(2-ETHYLHEXYL)PHTHA	58.00J	74.00J	24.2	180.00J	760.00U	NC
bis(2-chloroisopropyl)						
cis-1,3-DICHLOROPROPEN	17.00U	16.00U	NC	13.00U	14.00U	NC
cis-Permethrin						
delta-BHC	2.80U	2.70U	NC	2.30U	2.30U	NC
gama-BHC	2.80U	2.70U	NC	2.30U	2.30U	NC
trans-1,3-DICHLOROPROP	17.00U	16.00U	NC	13.00U	14.00U	NC
trans-Permethrin						

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TABLE J-6 - FIELD DUPLICATE RESULTS - UNITS:ug/kg - ASL,1994

ANALYTE	AL-OF006-SB-02	AL-OF006-SB-04	RPD	AL-SG008-SB-02	AL-SG008-SB-03	RPD
1,1,1-TRICHLOROETHANE	16.00U	14.00U	NC	40.00U	2.00J	NC
1,1,2,2-TETRACHLOROETH	16.00U	14.00U	NC	16.00UJL	15.00U	NC
1,1,2-TRICHLOROETHANE	16.00U	14.00U	NC	40.00U	15.00U	NC
1,1-DICHLOROETHANE						
1,1-DICHLOROETHENE	16.00U	14.00U	NC	16.00U	15.00U	NC
1,2,4-TRICHLOROBENZENE	520.00U	480.00U	NC	5200.00U	1000.00U	NC
1,2-DICHLOROBENZENE	520.00U	480.00U	NC	5200.00U	1000.00U	NC
1,2-DICHLOROETHANE	16.00U	14.00U	NC	16.00U	15.00U	NC
1,2-DICHLOROETHENE (to	16.00U	14.00U	NC	16.00U	15.00U	NC
1,2-DICHLOROPROPANE	16.00U	14.00U	NC	40.00U	15.00U	NC
1,3-DICHLOROBENZENE	520.00U	480.00U	NC	5200.00U	1000.00U	NC
1,4-DICHLOROBENZENE	520.00U	480.00U	NC	5200.00U	1000.00U	NC
2,2'-oxybis(1-CHLOROPR	520.00U	480.00U	NC	5200.00U	1000.00U	NC
2,4,5-TRICHLOROPHENOL	1200.00U	1200.00U	NC	13000.00U	2500.00U	NC
2,4,6-TRICHLOROPHENOL	520.00U	480.00U	NC	5200.00U	1000.00U	NC
2,4-DICHLOROPHENOL	520.00U	480.00U	NC	5200.00U	1000.00U	NC
2,4-DIMETHYLPHENOL	520.00U	480.00U	NC	5200.00U	1000.00U	NC
2,4-DINITROPHENOL	1200.00U	1200.00U	NC	13000.00U	2500.00U	NC
2,4-DINITROTOLUENE	520.00U	480.00U	NC	5200.00U	1000.00U	NC
2,6-DINITROTOLUENE	520.00U	480.00U	NC	5200.00U	1000.00U	NC
2-BUTANONE	16.00U	14.00U	NC	45.00	15.00U	NC
2-CHLORONAPHTHALENE	520.00U	480.00U	NC	5200.00U	1000.00U	NC
2-CHLOROPHENOL	520.00U	480.00U	NC	5200.00U	1000.00U	NC
2-HEXANONE	16.00U	14.00U	NC	16.00UJL	15.00U	NC
2-METHYLNAPHTHALENE	60.00J	480.00U	NC	5200.00U	1000.00U	NC
2-METHYLPHENOL	520.00U	480.00U	NC	5200.00U	1000.00U	NC
2-NITROANILINE	1200.00U	1200.00U	NC	13000.00U	2500.00U	NC
2-NITROPHENOL	520.00U	480.00U	NC	5200.00U	1000.00U	NC
3,3'-DICHLOROBENZIDINE	520.00U	480.00U	NC	5200.00U	1000.00U	NC
3-NITROANILINE	1200.00U	1200.00U	NC	13000.00U	2500.00U	NC
4,4'-DDD	5.20UJL	4.80U	NC	16.00J	18.00JH	11.8
4,4'-DDE	5.20U	4.80U	NC	64.40J	61.00J	5.4
4,4'-DDT	5.20UJL	4.80U	NC	62.00J	200.00J	105
4,6-DINITRO-2-METHYLPH	1200.00U	1200.00U	NC	13000.00U	2500.00U	NC
4-BROMOPHENYL-PHENYLET	520.00U	480.00U	NC	5200.00U	1000.00U	NC
4-CHLORO-3-METHYLPHENO	520.00U	480.00U	NC	5200.00U	1000.00U	NC
4-CHLOROANILINE	520.00U	480.00U	NC	5200.00U	1000.00U	NC
4-CHLOROPHENYL-PHENYLE	520.00U	480.00U	NC	5200.00U	1000.00U	NC
4-METHYL-2-PENTANONE	16.00U	14.00U	NC	16.00UJL	15.00U	NC
4-METHYLPHENOL	520.00U	480.00U	NC	5200.00U	1000.00U	NC
4-NITROANILINE	1200.00U	1200.00U	NC	13000.00U	2500.00U	NC

TABLE J-6 - FIELD DUPLICATE RESULTS - UNITS:ug/kg - ASL,1994

ANALYTE	AL-OF006-SB-02	AL-OF006-SB-04	RPD	AL-SG008-SB-02	AL-SG008-SB-03	RPD
4-NITROPHENOL	1200.00U	1200.00U	NC	13000.00U	2500.00U	NC
ACENAPHTHENE	86.00J	140.00J	47.8	5200.00U	52.00J	NC
ACENAPHTHYLENE	520.00U	480.00U	NC	5200.00U	1000.00U	NC
ACETONE	16.00U	14.00U	NC	270.00J	21.00J	171
ALDRIN	2.70U	2.50U	NC	27.00U	26.00U	NC
ALPHA-CHLORDANE	2.70U	2.50U	NC	40.30J	46.00J	13.2
ANTHRACENE	170.00J	410.00J	82.8	5200.00U	58.00J	NC
AROCHLOR-1016	52.00U	48.00U	NC	520.00U	510.00U	NC
AROCHLOR-1221	100.00U	97.00U	NC	1100.00U	1000.00U	NC
AROCHLOR-1232	52.00U	48.00U	NC	520.00U	510.00U	NC
AROCHLOR-1242	52.00U	48.00U	NC	520.00U	510.00U	NC
AROCHLOR-1248	52.00U	48.00U	NC	520.00U	510.00U	NC
AROCLOR-1254	52.00U	48.00U	NC	520.00U	510.00U	NC
AROCLOR-1260	52.00U	48.00U	NC	520.00U	510.00U	NC
Acrolein						
Acrylonitrile						
BENZENE	16.00U	14.00U	NC	40.00U	15.00U	NC
BENZO(a)ANTHRACENE	290.00J	660.00	77.9	400.00J	450.00J	11.8
BENZO(a)PYRENE	510.00J	530.00	3.8	460.00J	510.00J	10.3
BENZO(b)FLUORANTHENE	520.00U	490.00	NC	710.00J	760.00J	6.8
BENZO(g,h,i)PERYLENE	260.00J	250.00J	3.9	620.00J	1000.00J	46.9
BENZO(k)FLUORANTHENE	880.00	670.00	27.1	5200.00U	1000.00U	NC
BROMETHANE	16.00U	14.00U	NC	16.00U	15.00U	NC
BROMODICHLOROMETHANE	16.00U	14.00U	NC	40.00U	15.00U	NC
BROMOFORM	16.00U	14.00U	NC	40.00U	15.00U	NC
BROMOMETHANE						
BUTYLBENZYLPHTHALATE	520.00U	480.00U	NC	5200.00U	1000.00U	NC
Benzoic Acid						
Benzyl Alcohol						
CARBAZOLE	120.00J	310.00J	88.4	5200.00U	1000.00U	NC
CARBON TETRACHLORIDE						
CARBON-DISULFIDE	16.00U	14.00U	NC	2.00J	15.00U	NC
CARBON-TETRACHLORIDE	16.00U	14.00U	NC	40.00U	15.00U	NC
CHLOROBENZENE	16.00U	14.00U	NC	16.00UJL	15.00U	NC
CHLOROETHANE	16.00U	14.00U	NC	16.00U	15.00U	NC
CHLOROFORM	16.00U	14.00U	NC	16.00U	15.00U	NC
CHLOROMETHANE	16.00U	14.00U	NC	16.00U	15.00U	NC
CHRYSENE	500.00J	770.00	42.5	450.00J	430.00J	4.5
CIS-1,2-DICHLOROETHENE						
DI-N-BUTYLPHTHALATE	170.00J	34.00J	133	470.00J	280.00J	50.7
DI-N-OCTYLPHTHALATE	520.00U	46.00J	NC	5200.00U	1000.00U	NC

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TABLE J-6 - FIELD DUPLICATE RESULTS - UNITS:ug/kg - ASL,1994

ANALYTE	AL-OF006-SB-02	AL-OF006-SB-04	RPD	AL-SG008-SB-02	AL-SG008-SB-03	RPD
DIBENZ(a,h)ANTHRACENE	150.00J	130.00J	14.3	5200.00U	1000.00U	NC
DIBENZOFURAN	41.00J	92.00J	76.7	5200.00U	1000.00U	NC
DIBROMOCHLOROMETHANE	16.00U	14.00U	NC	40.00U	15.00U	NC
DIELDRIN	5.20UJL	4.80U	NC	52.00UJ	60.00J	NC
DIETHYLPHTHALATE	520.00U	480.00U	NC	5200.00U	1600.00	NC
DIMETHYLPHTHALATE	520.00U	480.00U	NC	5200.00U	1000.00U	NC
ENDOSULFAN-I	2.70U	2.50U	NC	27.00U	26.00U	NC
ENDOSULFAN-II	5.20UJL	4.80U	NC	72.00J	30.00JH	82.4
ENDOSULFAN-SULFATE	5.20UJL	4.80U	NC	11.00J	5.10U	NC
ENDRIN	5.20UJL	4.80U	NC	17.20J	32.00JH	60.2
ENDRIN-ALDEHYDE	5.20UJL	4.80U	NC	70.00J	180.00J	88.0
ENDRIN-KETONE	5.20UJL	4.80U	NC	5.20U	5.10U	NC
ETHYLBENZENE	16.00U	14.00U	NC	16.00UJL	15.00U	NC
FLUORANTHENE	740.00J	1800.00	83.5	640.00J	520.00J	20.7
FLUORENE	83.00J	180.00J	73.8	5200.00U	72.00J	NC
GAMMA-CHLORDANE	2.70U	2.50U	NC	45.30J	36.00	22.9
HEPTACHLOR	2.70U	2.50U	NC	27.00UJL	26.00UJL	NC
HEPTACHLOR-EPOXIDE	2.70U	2.50U	NC	32.50J	29.00	11.4
HEXACHLOROBENZENE	520.00U	480.00U	NC	5200.00U	1000.00U	NC
HEXACHLOROBUTADIENE	520.00U	480.00U	NC	5200.00U	1000.00U	NC
HEXACHLOROCYCLOPENTADI	520.00U	480.00U	NC	5200.00U	1000.00U	NC
HEXACHLOROETHANE	520.00U	480.00U	NC	5200.00U	1000.00U	NC
INDENO(1,2,3-cd)PYRENE	230.00J	270.00J	16.0	5200.00U	620.00J	NC
ISOPHORONE	520.00U	480.00U	NC	5200.00U	1000.00U	NC
M,P-XYLENE (106-42-3)						
METHOXYCHLOR	27.00UJL	25.00U	NC	78.00J	62.00JH	22.9
METHYLENE CHLORIDE						
METHYLENE-CHLORIDE	19.00	24.00	23.3	46.00B	15.00U	NC
N-NITROSO-DI-N-PROPYLA	520.00U	480.00U	NC	5200.00U	1000.00U	NC
N-NITROSODIPHENYLAMINE	520.00U	480.00U	NC	5200.00U	1000.00U	NC
NAPTHALENE	66.00J	480.00U	NC	5200.00U	200.00J	NC
NITROBENZENE	520.00U	480.00U	NC	5200.00U	1000.00U	NC
O-XYLENE						
PENTACHLOROPHENOL	1200.00U	1200.00U	NC	13000.00U	2500.00U	NC
PHENANTHRENE	830.00	1700.00	68.8	330.00J	240.00J	31.6
PHENOL	82.00J	480.00U	NC	5200.00U	1000.00U	NC
PYRENE	880.00	1500.00	52.1	650.00J	490.00J	28.1
SET1,1-DICHLOROETHANE	16.00U	14.00U	NC	16.00U	15.00U	NC
STYRENE	16.00U	14.00U	NC	16.00UJL	15.00U	NC
TETRACHLOROETHENE	16.00U	14.00U	NC	16.00UJL	15.00U	NC
TOLUENE	16.00U	14.00U	NC	14.00J	15.00J	6.9

TABLE J-6 - FIELD DUPLICATE RESULTS - UNITS:ug/kg - ASL,1994

ANALYTE	AL-OF006-SB-02	AL-OF006-SB-04	RPD	AL-SG008-SB-02	AL-SG008-SB-03	RPD
TOXAPHENE	270.00U	250.00U	NC	2700.00U	2600.00U	NC
TRANS-1,3-DICHLOROPROP						
TRICHLOROETHENE	16.00U	14.00U	NC	40.00U	15.00U	NC
VINYL CHLORIDE						
VINYL-CHLORIDE	16.00U	14.00U	NC	16.00U	15.00U	NC
XYLENE	16.00U	14.00U	NC	16.00UJL	15.00U	NC
alpha-BHC	2.70U	2.50U	NC	27.00U	4.00JN	NC
beta-BHC	2.70U	2.50U	NC	27.00U	26.00U	NC
bis(2-CHLOROETHOXY)MET	520.00U	480.00U	NC	5200.00U	1000.00U	NC
bis(2-CHLOROETHYL)ETHE	520.00U	480.00U	NC	5200.00U	1000.00U	NC
bis(2-ETHYLHEXYL)PHTHA	810.00U	1200.00U	NC	15000.00	23000.00	42.1
bis(2-chloroisopropyl)						
cis-1,3-DICHLOROPROPEN	16.00U	14.00U	NC	40.00U	15.00U	NC
cis-Permethrin						
delta-BHC	2.70U	2.50U	NC	27.00U	2.60U	NC
gama-BHC	2.70U	2.50U	NC	27.00U	26.00U	NC
trans-1,3-DICHLOROPROP	16.00U	14.00U	NC	40.00U	15.00U	NC
trans-Permethrin						

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TABLE J-6 - FIELD DUPLICATE RESULTS - UNITS:ug/kg - ASL,1994

ANALYTE	AL-SG015-SB-02	AL-SG015-SB-03	RPD	AL-SG020-SB-02	AL-SG020-SB-03	RPD
1,1,1-TRICHLOROETHANE	15.00UJ	12.00U	NC	14.00U	15.00U	NC
1,1,2,2-TETRACHLOROETH	15.00U	12.00U	NC	14.00U	15.00UJL	NC
1,1,2-TRICHLOROETHANE	15.00U	12.00U	NC	14.00U	15.00U	NC
1,1-DICHLOROETHANE						
1,1-DICHLOROETHENE	15.00U	12.00U	NC	14.00U	15.00U	NC
1,2,4-TRICHLOROBENZENE	500.00U	400.00U	NC	470.00U	490.00U	NC
1,2-DICHLOROBENZENE	500.00U	400.00U	NC	470.00U	490.00U	NC
1,2-DICHLOROETHANE	15.00U	12.00U	NC	14.00U	15.00U	NC
1,2-DICHLOROETHENE (to	15.00U	12.00U	NC	2.00J	4.00J	66.7
1,2-DICHLOROPROPANE	15.00U	12.00U	NC	14.00U	15.00U	NC
1,3-DICHLOROBENZENE	500.00U	400.00U	NC	470.00U	490.00U	NC
1,4-DICHLOROBENZENE	500.00U	400.00U	NC	470.00U	490.00U	NC
2,2'-oxybis(1-CHLOROPR	500.00U	400.00U	NC	470.00U	490.00U	NC
2,4,5-TRICHLOROPHENOL	1200.00U	960.00U	NC	1100.00U	1200.00U	NC
2,4,6-TRICHLOROPHENOL	500.00U	400.00U	NC	470.00U	490.00U	NC
2,4-DICHLOROPHENOL	500.00U	400.00U	NC	470.00U	490.00U	NC
2,4-DIMETHYLPHENOL	500.00U	400.00U	NC	470.00U	490.00U	NC
2,4-DINITROPHENOL	1200.00U	960.00U	NC	1100.00U	1200.00U	NC
2,4-DINITROTOLUENE	500.00U	400.00U	NC	470.00U	490.00U	NC
2,6-DINITROTOLUENE	500.00U	400.00U	NC	470.00U	490.00U	NC
2-BUTANONE	27.00UJ	12.00U	NC	14.00U	15.00U	NC
2-CHLORONAPHTHALENE	500.00U	400.00U	NC	470.00U	490.00U	NC
2-CHLOROPHENOL	500.00U	400.00U	NC	470.00U	490.00U	NC
2-HEXANONE	15.00U	12.00U	NC	14.00U	15.00UJL	NC
2-METHYLNAPHTHALENE	26.00J	400.00U	NC	470.00U	490.00U	NC
2-METHYLPHENOL	500.00U	400.00U	NC	470.00U	490.00U	NC
2-NITROANILINE	1200.00U	960.00U	NC	1100.00U	1200.00U	NC
2-NITROPHENOL	500.00U	400.00U	NC	470.00U	490.00U	NC
3,3'-DICHLOROBENZIDINE	500.00U	400.00U	NC	470.00U	490.00U	NC
3-NITROANILINE	1200.00U	960.00U	NC	1100.00U	1200.00U	NC
4,4'-DDD	13.00J	4.00U	NC	14.60J	23.90	48.3
4,4'-DDE	46.00J	4.00U	NC	70.60	66.60	5.8
4,4'-DDT	31.30J	4.00UJ	NC	10.50J	17.10J	47.8
4,6-DINITRO-2-METHYLPH	1200.00U	960.00U	NC	1100.00U	1200.00U	NC
4-BROMOPHENYL-PHENYLET	500.00U	400.00U	NC	470.00U	490.00U	NC
4-CHLORO-3-METHYLPHENO	500.00U	400.00U	NC	470.00U	490.00U	NC
4-CHLOROANILINE	500.00U	400.00U	NC	470.00U	490.00U	NC
4-CHLOROPHENYL-PHENYLE	500.00U	400.00U	NC	470.00U	490.00U	NC
4-METHYL-2-PENTANONE	15.00U	12.00U	NC	14.00U	15.00UJL	NC
4-METHYLPHENOL	500.00U	400.00U	NC	470.00U	490.00U	NC
4-NITROANILINE	1200.00U	960.00U	NC	1100.00U	1200.00U	NC

TABLE J-6 - FIELD DUPLICATE RESULTS - UNITS:ug/kg - ASL,1994

ANALYTE	AL-SG015-SB-02	AL-SG015-SB-03	RPD	AL-SG020-SB-02	AL-SG020-SB-03	RPD
4-NITROPHENOL	1200.00U	960.00U	NC	1100.00U	1200.00U	NC
ACENAPHTHENE	75.00J	400.00U	NC	470.00U	490.00U	NC
ACENAPHTHYLENE	500.00U	400.00U	NC	470.00U	490.00U	NC
ACETONE	290.00UJ	110.00UJ	NC	260.00UJ	170.00UJ	NC
ALDRIN	26.00U	2.00U	NC	2.40U	2.50U	NC
ALPHA-CHLORDANE	20.00J	2.00U	NC	27.40J	29.90	8.7
ANTHRACENE	34.00J	400.00U	NC	72.00J	31.00J	79.6
AROCHLOR-1016	500.00U	40.00U	NC	47.00U	49.00U	NC
AROCHLOR-1221	100.00U	81.00U	NC	96.00U	100.00U	NC
AROCHLOR-1232	50.00U	40.00U	NC	47.00U	49.00U	NC
AROCHLOR-1242	500.00U	40.00U	NC	47.00U	49.00U	NC
AROCHLOR-1248	500.00U	40.00U	NC	47.00U	49.00U	NC
AROCLOR-1254	500.00U	40.00U	NC	47.00U	49.00U	NC
AROCLOR-1260	50.00U	40.00U	NC	47.00U	49.00U	NC
Acrolein						
Acrylonitrile						
BENZENE	15.00U	12.00U	NC	14.00U	15.00U	NC
BENZO(a)ANTHRACENE	97.00J	26.00J	115	370.00J	180.00J	69.1
BENZO(a)PYRENE	95.00J	69.00J	31.7	340.00J	180.00J	61.5
BENZO(b)FLUORANTHENE	170.00J	16.00J	166	560.00	160.00J	111
BENZO(g,h,i)PERYLENE	100.00J	400.00U	NC	290.00J	160.00J	57.8
BENZO(k)FLUORANTHENE	500.00U	14.00J	NC	470.00U	160.00J	NC
BROMETHANE	15.00U	12.00U	NC	14.00U	15.00U	NC
BROMODICHLOROMETHANE	15.00U	12.00U	NC	14.00U	15.00U	NC
BROMOFORM	15.00U	12.00U	NC	14.00U	15.00U	NC
BROMOMETHANE						
BUTYLBENZYLPHTHALATE	500.00U	400.00U	NC	470.00U	490.00U	NC
Benzoic Acid						
Benzyl Alcohol						
CARBAZOLE	500.00U	400.00U	NC	34.00J	490.00U	NC
CARBON TETRACHLORIDE						
CARBON-DISULFIDE	15.00U	12.00U	NC	14.00U	2.00J	NC
CARBON-TETRACHLORIDE	15.00U	12.00U	NC	14.00U	15.00U	NC
CHLOROBENZENE	15.00U	12.00U	NC	14.00U	15.00UJL	NC
CHLOROETHANE	15.00U	12.00U	NC	14.00U	15.00U	NC
CHLOROFORM	15.00U	12.00U	NC	2.00J	2.00J	0.0
CHLOROMETHANE	15.00U	12.00U	NC	14.00U	15.00U	NC
CHRYSENE	150.00J	25.00J	143	340.00J	180.00J	61.5
CIS-1,2-DICHLOROETHENE						
DI-N-BUTYLPHTHALATE	500.00U	400.00U	NC	56.00J	43.00J	26.3
DI-N-OCTYLPHTHALATE	32.00J	400.00U	NC	470.00U	490.00U	NC

TABLE J-6 - FIELD DUPLICATE RESULTS - UNITS:ug/kg - ASL,1994

ANALYTE	AL-SG015-SB-02	AL-SG015-SB-03	RPD	AL-SG020-SB-02	AL-SG020-SB-03	RPD
DIBENZ(a,h)ANTHRACENE	500.00U	400.00U	NC	470.00U	490.00U	NC
DIBENZOFURAN	500.00U	400.00U	NC	470.00U	490.00U	NC
DIBROMOCHLOROMETHANE	15.00U	12.00U	NC	14.00U	15.00U	NC
DIELDRIN	50.00U	4.00U	NC	4.70U	4.90U	NC
DIETHYLPHTHALATE	500.00U	400.00U	NC	470.00U	33.00J	NC
DIMETHYLPHTHALATE	500.00U	400.00U	NC	470.00U	490.00U	NC
ENDOSULFAN-I	26.00U	2.00U	NC	2.40U	2.50U	NC
ENDOSULFAN-II	9.70J	4.00U	NC	4.70U	4.90U	NC
ENDOSULFAN-SULFATE	5.00U	4.00U	NC	4.70U	4.90U	NC
ENDRIN	16.00J	4.00U	NC	4.70UJ	9.71J	NC
ENDRIN-ALDEHYDE	22.00J	4.00U	NC	4.70UJ	5.66J	NC
ENDRIN-KETONE	12.10J	4.00U	NC	4.70U	4.90U	NC
ETHYLBENZENE	15.00U	12.00U	NC	3.00J	9.00J	100
FLUORANTHENE	180.00J	27.00J	148	640.00	280.00J	78.3
FLUORENE	82.00J	400.00U	NC	42.00J	490.00U	NC
GAMMA-CHLORDANE	26.00J	2.00U	NC	26.80	33.20J	21.3
HEPTACHLOR	2.60U	2.00U	NC	2.40U	2.77J	NC
HEPTACHLOR-EPOXIDE	18.00J	2.00U	NC	3.98	4.11J	3.2
HEXACHLOROBENZENE	500.00U	400.00U	NC	470.00U	490.00U	NC
HEXACHLOROBUTADIENE	500.00U	400.00U	NC	470.00U	490.00U	NC
HEXACHLOROCYCLOPENTADI	500.00U	400.00U	NC	470.00U	490.00U	NC
HEXACHLOROETHANE	500.00U	400.00U	NC	470.00U	490.00U	NC
INDENO(1,2,3-cd)PYRENE	66.00J	400.00U	NC	240.00J	120.00J	66.7
ISOPHORONE	500.00U	400.00U	NC	470.00U	490.00U	NC
M,P-XYLENE (106-42-3)						
METHOXYCHLOR	26.00U	20.00U	NC	24.00U	25.00U	NC
METHYLENE CHLORIDE						
METHYLENE-CHLORIDE	37.00U	12.00U	NC	68.00U	81.00U	NC
N-NITROSO-DI-N-PROPYLA	500.00U	400.00U	NC	470.00U	490.00U	NC
N-NITROSODIPHENYLAMINE	63.00J	400.00U	NC	470.00U	490.00U	NC
NAPTHALENE	500.00U	400.00U	NC	81.00J	58.00J	33.1
NITROBENZENE	500.00U	400.00U	NC	470.00U	490.00U	NC
O-XYLENE						
PENTACHLOROPHENOL	1200.00U	960.00U	NC	1100.00U	1200.00U	NC
PHENANTHRENE	200.00J	400.00U	NC	300.00J	120.00J	85.7
PHENOL	500.00U	400.00U	NC	470.00U	490.00U	NC
PYRENE	190.00J	48.00J	119	510.00	240.00J	72.0
SET1,1-DICHLOROETHANE	15.00U	12.00U	NC	14.00U	15.00U	NC
STYRENE	15.00U	12.00U	NC	14.00U	15.00UJL	NC
TETRACHLOROETHENE	3.00J	12.00U	NC	10.00J	29.00J	97.4
TOLUENE	8.00J	4.00J	66.7	9.00J	38.00J	123

TABLE J-6 - FIELD DUPLICATE RESULTS - UNITS:ug/kg - ASL,1994

ANALYTE	AL-SG015-SB-02	AL-SG015-SB-03	RPD	AL-SG020-SB-02	AL-SG020-SB-03	RPD
TOXAPHENE	260.00U	200.00U	NC	240.00U	250.00U	NC
TRANS-1,3-DICHLOROPROP						
TRICHLOROETHENE	15.00U	12.00U	NC	14.00U	15.00U	NC
VINYL CHLORIDE						
VINYL-CHLORIDE	15.00U	12.00U	NC	14.00U	15.00U	NC
XYLENE	8.00J	5.00J	46.2	14.00J	42.00J	100
alpha-BHC	2.60U	2.00U	NC	2.40U	2.50U	NC
beta-BHC	2.60U	2.00U	NC	2.40U	2.50U	NC
bis(2-CHLOROETHOXY)MET	500.00U	400.00U	NC	470.00U	490.00U	NC
bis(2-CHLOROETHYL)ETHE	500.00U	400.00U	NC	470.00U	490.00U	NC
bis(2-ETHYLHEXYL)PHTHA	2600.00	400.00U	NC	520.00B	490.00U	NC
bis(2-chloroisopropyl)						
cis-1,3-DICHLOROPROPEN	15.00U	12.00U	NC	14.00U	15.00U	NC
cis-Permethrin						
delta-BHC	26.00U	2.00U	NC	2.40U	2.50U	NC
gama-BHC	2.60U	2.00U	NC	2.40U	2.50U	NC
trans-1,3-DICHLOROPROP	15.00U	12.00U	NC	14.00U	15.00U	NC
trans-Permethrin						

TABLE J-6 - FIELD DUPLICATE RESULTS - UNITS:ug/kg - ASL,1994

ANALYTE	AL-SG025-SB-01	AL-SG025-SB-03	RPD	AL-SG029-SB-02	AL-SG029-SB-03	RPD
1,1,1-TRICHLOROETHANE	12.00U	13.00U	NC	12.00U	12.00U	NC
1,1,2,2-TETRACHLOROETH	12.00U	13.00U	NC	12.00U	12.00U	NC
1,1,2-TRICHLOROETHANE	12.00U	13.00U	NC	12.00U	12.00U	NC
1,1-DICHLOROETHANE						
1,1-DICHLOROETHENE	12.00U	13.00U	NC	12.00U	12.00U	NC
1,2,4-TRICHLOROBENZENE	1200.00U	1300.00U	NC	410.00U	400.00U	NC
1,2-DICHLOROBENZENE	1200.00U	1300.00U	NC	410.00U	400.00U	NC
1,2-DICHLOROETHANE	12.00U	13.00U	NC	12.00U	12.00U	NC
1,2-DICHLOROETHENE (to	12.00U	13.00U	NC	12.00U	12.00U	NC
1,2-DICHLOROPROPANE	12.00U	13.00U	NC	12.00U	12.00U	NC
1,3-DICHLOROBENZENE	1200.00U	1300.00U	NC	410.00U	400.00U	NC
1,4-DICHLOROBENZENE	1200.00U	1300.00U	NC	410.00U	400.00U	NC
2,2'-oxybis(1-CHLOROPR	1200.00U	1300.00U	NC	410.00U	400.00U	NC
2,4,5-TRICHLOROPHENOL	3000.00U	3100.00U	NC	990.00U	970.00U	NC
2,4,6-TRICHLOROPHENOL	1200.00U	1300.00U	NC	410.00U	400.00U	NC
2,4-DICHLOROPHENOL	1200.00U	1300.00U	NC	410.00U	400.00U	NC
2,4-DIMETHYLPHENOL	1200.00U	1300.00U	NC	410.00U	400.00U	NC
2,4-DINITROPHENOL	3000.00U	3100.00U	NC	990.00U	970.00U	NC
2,4-DINITROTOLUENE	1200.00U	1300.00U	NC	410.00U	400.00U	NC
2,6-DINITROTOLUENE	1200.00U	1300.00U	NC	410.00U	400.00U	NC
2-BUTANONE	12.00U	13.00U	NC	12.00U	12.00U	NC
2-CHLORONAPHTHALENE	1200.00U	1300.00U	NC	410.00U	400.00U	NC
2-CHLOROPHENOL	1200.00U	1300.00U	NC	51.00J	400.00U	NC
2-HEXANONE	12.00U	13.00U	NC	12.00U	12.00U	NC
2-METHYLNAPHTHALENE	1200.00U	1300.00U	NC	410.00U	400.00U	NC
2-METHYLPHENOL	1200.00U	1300.00U	NC	410.00U	400.00U	NC
2-NITROANILINE	3000.00U	3100.00U	NC	990.00U	970.00U	NC
2-NITROPHENOL	1200.00U	1300.00U	NC	410.00U	400.00U	NC
3,3'-DICHLOROBENZIDINE	1200.00U	1300.00U	NC	410.00U	400.00U	NC
3-NITROANILINE	3000.00U	3100.00U	NC	990.00U	970.00U	NC
4,4'-DDD	4.10U	4.20U	NC	1.60J	6.80J	124
4,4'-DDE	33.00J	24.00J	31.6	8.50J	3.90J	74.2
4,4'-DDT	9.10U	6.40U	NC	3.00J	85.00J	186
4,6-DINITRO-2-METHYLPH	3000.00U	3100.00U	NC	990.00U	970.00U	NC
4-BROMOPHENYL-PHENYLET	1200.00U	1300.00U	NC	410.00U	400.00U	NC
4-CHLORO-3-METHYLPHENO	1200.00U	1300.00U	NC	50.00J	400.00U	NC
4-CHLOROANILINE	1200.00U	1300.00U	NC	410.00U	400.00U	NC
4-CHLOROPHENYL-PHENYLE	1200.00U	1300.00U	NC	410.00U	400.00U	NC
4-METHYL-2-PENTANONE	12.00U	13.00U	NC	12.00U	12.00U	NC
4-METHYLPHENOL	1200.00U	1300.00U	NC	410.00U	400.00U	NC
4-NITROANILINE	3000.00U	3100.00U	NC	990.00U	970.00U	NC

TABLE J-6 - FIELD DUPLICATE RESULTS - UNITS:ug/kg - ASL,1994

ANALYTE	AL-SG025-SB-01	AL-SG025-SB-03	RPD	AL-SG029-SB-02	AL-SG029-SB-03	RPD
4-NITROPHENOL	3000.00U	3100.00U	NC	990.00U	970.00U	NC
ACENAPHTHENE	1200.00U	1300.00U	NC	79.00J	400.00U	NC
ACENAPHTHYLENE	1200.00U	1300.00U	NC	410.00U	400.00U	NC
ACETONE	12.00U	43.00UJ	NC	12.00U	22.00UJ	NC
ALDRIN	2.10U	0.49J	NC	0.50J	0.26J	63.2
ALPHA-CHLORDANE	19.00J	14.00J	30.3	5.50J	3.30	50.0
ANTHRACENE	1200.00U	150.00J	NC	97.00J	100.00J	3.0
AROCHLOR-1016	41.00U	42.00U	NC	40.00U	40.00U	NC
AROCHLOR-1221	83.00U	85.00U	NC	82.00U	81.00U	NC
AROCHLOR-1232	41.00U	42.00U	NC	40.00U	40.00U	NC
AROCHLOR-1242	41.00U	42.00U	NC	40.00U	40.00U	NC
AROCHLOR-1248	41.00U	42.00U	NC	40.00U	40.00U	NC
AROCLOR-1254	41.00U	42.00U	NC	40.00U	40.00U	NC
AROCLOR-1260	190.00J	130.00J	37.5	35.00J	41.00	15.8
Acrolein						
Acrylonitrile						
BENZENE	12.00U	13.00U	NC	12.00U	12.00U	NC
BENZO(a)ANTHRACENE	370.00J	620.00J	50.5	620.00	580.00	6.7
BENZO(a)PYRENE	290.00J	410.00J	34.3	500.00	440.00	12.8
BENZO(b)FLUORANTHENE	560.00JH	900.00JH	46.6	700.00	970.00JH	32.3
BENZO(g,h,i)PERYLENE	1200.00U	170.00J	NC	170.00J	100.00J	51.9
BENZO(k)FLUORANTHENE	690.00JH	1100.00JH	45.8	360.00J	1300.00JH	113
BROMETHANE	12.00U	13.00U	NC	12.00U	12.00U	NC
BROMODICHLOROMETHANE	12.00U	13.00U	NC	12.00U	12.00U	NC
BROMOFORM	12.00U	13.00U	NC	12.00U	12.00U	NC
BROMOMETHANE						
BUTYLBENZYLPHTHALATE	1200.00U	93000.00J	NC	410.00U	400.00U	NC
Benzoic Acid						
Benzyl Alcohol						
CARBAZOLE	1200.00U	1300.00U	NC	51.00J	400.00U	NC
CARBON TETRACHLORIDE						
CARBON-DISULFIDE	12.00U	13.00U	NC	12.00U	12.00U	NC
CARBON-TETRACHLORIDE	12.00U	13.00U	NC	12.00U	12.00U	NC
CHLOROBENZENE	12.00U	13.00U	NC	12.00U	12.00U	NC
CHLOROETHANE	12.00U	13.00U	NC	12.00U	12.00U	NC
CHLOROFORM	12.00U	13.00U	NC	12.00U	12.00U	NC
CHLOROMETHANE	12.00U	13.00U	NC	12.00U	12.00U	NC
CHRYSENE	350.00J	620.00J	55.7	540.00	530.00	1.9
CIS-1,2-DICHLOROETHENE						
DI-N-BUTYLPHTHALATE	1200.00U	1300.00U	NC	410.00U	400.00U	NC
DI-N-OCTYLPHTHALATE	1200.00U	700.00J	NC	410.00U	400.00U	NC

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TABLE J-6 - FIELD DUPLICATE RESULTS - UNITS:ug/kg - ASL,1994

ANALYTE	AL-SG025-SB-01	AL-SG025-SB-03	RPD	AL-SG029-SB-02	AL-SG029-SB-03	RPD
DIBENZ(a,h)ANTHRACENE	1200.00U	1300.00U	NC	66.00J	400.00U	NC
DIBENZOFURAN	1100.00J	1800.00	48.3	410.00U	400.00U	NC
DIBROMOCHLOROMETHANE	12.00U	13.00U	NC	12.00U	12.00U	NC
DIELDRIN	5.90J	5.20J	12.6	1.20J	1.80J	40.0
DIETHYLPHTHALATE	1200.00U	1300.00U	NC	410.00U	400.00U	NC
DIMETHYLPHTHALATE	1200.00U	1300.00U	NC	410.00U	400.00U	NC
ENDOSULFAN-I	2.10U	2.20U	NC	2.10U	2.10U	NC
ENDOSULFAN-II	4.10U	4.20U	NC	4.00U	4.00U	NC
ENDOSULFAN-SULFATE	12.00J	0.58J	182	4.00U	0.25J	NC
ENDRIN	4.10U	4.20U	NC	4.00U	1.90J	NC
ENDRIN-ALDEHYDE	12.00	7.50	46.2	2.10J	4.00U	NC
ENDRIN-KETONE	1.80J	1.30J	32.3	4.00U	4.00U	NC
ETHYLBENZENE	12.00U	13.00U	NC	12.00U	12.00U	NC
FLUORANTHENE	430.00J	660.00J	42.2	690.00	670.00	2.9
FLUORENE	1200.00U	1300.00U	NC	57.00J	41.00J	32.7
GAMMA-CHLORDANE	26,00	20.00	26.1	8.30J	3.80J	74.4
HEPTACHLOR	2.10U	2.20U	NC	2.10U	0.06J	NC
HEPTACHLOR-EPOXIDE	2.20J	1.50J	37.8	2.10U	0.78J	NC
HEXACHLOROBENZENE	1200.00U	1300.00U	NC	410.00U	400.00U	NC
HEXACHLOROBUTADIENE	1200.00U	1300.00U	NC	410.00U	400.00U	NC
HEXACHLOROCYCLOPENTADI	1200.00U	1300.00U	NC	410.00U	400.00U	NC
HEXACHLOROETHANE	1200.00U	1300.00U	NC	410.00U	400.00U	NC
INDENO(1,2,3-cd)PYRENE	1200.00U	150.00J	NC	170.00J	110.00J	42.9
ISOPHORONE	1200.00U	1300.00U	NC	410.00U	400.00U	NC
M,P-XYLENE (106-42-3)						
METHOXYCHLOR	2.90J	2.70J	7.1	21.00U	21.00U	NC
METHYLENE CHLORIDE						
METHYLENE-CHLORIDE	28.00UJ	40.00UJ	NC	16.00UJ	12.00UJ	NC
N-NITROSO-DI-N-PROPYLA	1200.00U	1300.00U	NC	410.00U	400.00U	NC
N-NITROSODIPHENYLAMINE	1200.00U	1300.00U	NC	410.00U	400.00U	NC
NAPTHALENE	1200.00U	1300.00U	NC	55.00J	400.00U	NC
NITROBENZENE	1200.00U	1300.00U	NC	410.00U	400.00U	NC
O-XYLENE						
PENTACHLOROPHENOL	3000.00U	3100.00U	NC	990.00U	970.00U	NC
PHENANTHRENE	250.00J	420.00J	50.7	480.00	450.00	6.5
PHENOL	1200.00U	1300.00U	NC	66.00J	400.00U	NC
PYRENE	340.00J	680.00J	66.7	850.00	700.00	19.4
SET1,1-DICHLOROETHANE	12.00U	13.00U	NC	12.00U	12.00U	NC
STYRENE	12.00U	13.00U	NC	12.00U	12.00U	NC
TETRACHLOROETHENE	12.00U	13.00U	NC	12.00U	12.00U	NC
TOLUENE	12.00U	13.00U	NC	1.00J	12.00U	NC

TABLE J-6 - FIELD DUPLICATE RESULTS - UNITS:ug/kg - ASL,1994

ANALYTE	AL-SG025-SB-01	AL-SG025-SB-03	RPD	AL-SG029-SB-02	AL-SG029-SB-03	RPD
TOXAPHENE	210.00U	220.00U	NC	210.00U	210.00U	NC
TRANS-1,3-DICHLOROPROP						
TRICHLOROETHENE	12.00U	13.00U	NC	12.00U	12.00U	NC
VINYL CHLORIDE						
VINYL-CHLORIDE	12.00U	13.00U	NC	12.00U	12.00U	NC
XYLENE	12.00U	13.00U	NC	12.00U	12.00U	NC
alpha-BHC	2.10U	2.20U	NC	2.10U	0.19J	NC
beta-BHC	2.10U	2.20U	NC	2.10U	2.10U	NC
bis(2-CHLOROETHOXY)MET	1200.00U	1300.00U	NC	410.00U	400.00U	NC
bis(2-CHLOROETHYL)ETHE	1200.00U	1300.00U	NC	410.00U	400.00U	NC
bis(2-ETHYLHEXYL)PHTHA	1200.00UJ	2100.00BJ	NC	410.00U	400.00U	NC
bis(2-chloroisopropyl)						
cis-1,3-DICHLOROPROPEN	12.00U	13.00U	NC	12.00U	12.00U	NC
cis-Permethrin						
delta-BHC	1.00J	1.10J	9.5	0.45J	2.10U	NC
gama-BHC	0.31J	0.27J	13.8	2.10U	0.24J	NC
trans-1,3-DICHLOROPROP	12.00U	13.00U	NC	12.00U	12.00U	NC
trans-Permethrin						

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TABLE J-6 - FIELD DUPLICATE RESULTS - UNITS:ug/kg - ASL,1994

ANALYTE	AL-SG031-SB-02	AL-SG031-SB-03	RPD
1,1,1-TRICHLOROETHANE	19.00U	20.00U	NC
1,1,2,2-TETRACHLOROETH	19.00U	20.00U	NC
1,1,2-TRICHLOROETHANE	19.00U	20.00U	NC
1,1-DICHLOROETHANE			
1,1-DICHLOROETHENE	19.00U	20.00U	NC
1,2,4-TRICHLOROBENZENE	620.00U	660.00U	NC
1,2-DICHLOROBENZENE	620.00U	660.00U	NC
1,2-DICHLOROETHANE	19.00U	20.00U	NC
1,2-DICHLOROETHENE (to	19.00U	20.00U	NC
1,2-DICHLOROPROPANE	19.00U	20.00U	NC
1,3-DICHLOROBENZENE	620.00U	660.00U	NC
1,4-DICHLOROBENZENE	620.00U	660.00U	NC
2,2'-oxybis(1-CHLOROPR	620.00U	660.00U	NC
2,4,5-TRICHLOROPHENOL	1500.00U	1600.00U	NC
2,4,6-TRICHLOROPHENOL	620.00U	660.00U	NC
2,4-DICHLOROPHENOL	620.00U	660.00U	NC
2,4-DIMETHYLPHENOL	620.00U	660.00U	NC
2,4-DINITROPHENOL	1500.00U	1600.00U	NC
2,4-DINITROTOLUENE	620.00U	660.00U	NC
2,6-DINITROTOLUENE	620.00U	660.00U	NC
2-BUTANONE	19.00U	20.00U	NC
2-CHLORONAPHTHALENE	620.00U	660.00U	NC
2-CHLOROPHENOL	620.00U	660.00U	NC
2-HEXANONE	19.00U	20.00U	NC
2-METHYLNAPHTHALENE	620.00U	660.00U	NC
2-METHYLPHENOL	620.00U	660.00U	NC
2-NITROANILINE	1500.00U	1600.00U	NC
2-NITROPHENOL	620.00U	660.00U	NC
3,3'-DICHLOROBENZIDINE	620.00U	660.00U	NC
3-NITROANILINE	1500.00U	1600.00U	NC
4,4'-DDD	28.00J	15.00J	60.5
4,4'-DDE	24.00J	24.00J	0.0
4,4'-DDT	6.20U	6.60U	NC
4,6-DINITRO-2-METHYLPH	1500.00U	1600.00U	NC
4-BROMOPHENYL-PHENYLET	620.00U	660.00U	NC
4-CHLORO-3-METHYLPHENO	620.00U	660.00U	NC
4-CHLOROANILINE	620.00U	660.00U	NC
4-CHLOROPHENYL-PHENYLE	620.00U	660.00U	NC
4-METHYL-2-PENTANONE	19.00U	20.00U	NC
4-METHYLPHENOL	620.00U	660.00U	NC
4-NITROANILINE	1500.00U	1600.00U	NC

TABLE J-6 - FIELD DUPLICATE RESULTS - UNITS:ug/kg - ASL,1994

ANALYTE	AL-SG031-SB-02	AL-SG031-SB-03	RPD
4-NITROPHENOL	1500.00U	1600.00U	NC
ACENAPHTHENE	84.00J	660.00U	NC
ACENAPHTHYLENE	620.00U	660.00U	NC
ACETONE	19.00UJ	150.00UJ	NC
ALDRIN	3.20U	3.40U	NC
ALPHA-CHLORDANE	32.00	26.00	20.7
ANTHRACENE	110.00J	660.00U	NC
AROCHLOR-1016	62.00U	66.00U	NC
AROCHLOR-1221	130.00U	130.00U	NC
AROCHLOR-1232	62.00U	66.00U	NC
AROCHLOR-1242	62.00U	66.00U	NC
AROCHLOR-1248	62.00U	66.00U	NC
AROCLOR-1254	62.00U	66.00U	NC
AROCLOR-1260	62.00UJ	260.00J	NC
Acrolein			
Acrylonitrile			
BENZENE	19.00U	20.00U	NC
BENZO(a)ANTHRACENE	620.00	220.00J	95.2
BENZO(a)PYRENE	620.00U	660.00U	NC
BENZO(b)FLUORANTHENE	820.00JH	390.00JH	71.1
BENZO(g,h,i)PERYLENE	150.00J	660.00U	NC
BENZO(k)FLUORANTHENE	1200.00JH	560.00JH	72.7
BROMETHANE	19.00U	20.00U	NC
BROMODICHLOROMETHANE	19.00U	20.00U	NC
BROMOFORM	19.00U	20.00U	NC
BROMOMETHANE			
BUTYLBENZYLPHTHALATE	620.00U	660.00U	NC
Benzoic Acid			
Benzyl Alcohol			
CARBAZOLE	620.00U	660.00U	NC
CARBON TETRACHLORIDE			
CARBON-DISULFIDE	19.00U	20.00U	NC
CARBON-TETRACHLORIDE	19.00U	20.00U	NC
CHLOROBENZENE	19.00U	20.00U	NC
CHLOROETHANE	19.00U	20.00U	NC
CHLOROFORM	19.00U	20.00U	NC
CHLOROMETHANE	19.00U	20.00U	NC
CHRYSENE	550.00J	210.00J	89.5
CIS-1,2-DICHLOROETHENE			
DI-N-BUTYLPHTHALATE	260.00J	1100.00J	124
DI-N-OCTYLPHTHALATE	620.00U	660.00U	NC

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TABLE J-6 - FIELD DUPLICATE RESULTS - UNITS:ug/kg - ASL,1994

ANALYTE	AL-SG031-SB-02	AL-SG031-SB-03	RPD
DIBENZ(a,h)ANTHRACENE	620.00U	660.00U	NC
DIBENZOFURAN	620.00U	660.00U	NC
DIBROMOCHLOROMETHANE	19.00U	20.00U	NC
DIELDRIN	1.20J	6.60U	NC
DIETHYLPHTHALATE	620.00U	660.00U	NC
DIMETHYLPHTHALATE	620.00U	660.00U	NC
ENDOSULFAN-I	3.20U	3.40U	NC
ENDOSULFAN-II	6.20U	6.60U	NC
ENDOSULFAN-SULFATE	1.50J	1.90J	23.5
ENDRIN	4.60J	6.60U	NC
ENDRIN-ALDEHYDE	7.30J	6.40J	13.1
ENDRIN-KETONE	0.94J	6.60U	NC
ETHYLBENZENE	19.00U	20.00U	NC
FLUORANTHENE	640.00	270.00J	81.3
FLUORENE	77.00J	660.00U	NC
GAMMA-CHLORDANE	34.00	26.00	26.7
HEPTACHLOR	3.20U	3.40U	NC
HEPTACHLOR-EPOXIDE	3.20U	3.40U	NC
HEXACHLOROBENZENE	620.00U	660.00U	NC
HEXACHLOROBUTADIENE	620.00U	660.00U	NC
HEXACHLOROCYCLOPENTADI	620.00U	660.00U	NC
HEXACHLOROETHANE	620.00U	660.00U	NC
INDENO(1,2,3-cd)PYRENE	120.00J	660.00U	NC
ISOPHORONE	620.00U	660.00U	NC
M,P-XYLENE (106-42-3)			
METHOXYCHLOR	32.00J	12.00J	90.9
METHYLENE CHLORIDE			
METHYLENE-CHLORIDE	44.00UJ	59.00UJ	NC
N-NITROSO-DI-N-PROPYLA	620.00U	660.00U	NC
N-NITROSODIPHENYLAMINE	620.00U	660.00U	NC
NAPTHALENE	620.00U	660.00U	NC
NITROBENZENE	620.00U	660.00U	NC
O-XYLENE			
PENTACHLOROPHENOL	1500.00U	1600.00U	NC
PHENANTHRENE	660.00J	160.00J	122
PHENOL	620.00U	660.00U	NC
PYRENE	710.00J	250.00J	95.8
SET1,1-DICHLOROETHANE	19.00U	20.00U	NC
STYRENE	19.00U	20.00U	NC
TETRACHLOROETHENE	19.00U	20.00U	NC
TOLUENE	2.00J	20.00U	NC

TABLE J-6 - FIELD DUPLICATE RESULTS - UNITS:ug/kg - ASL,1994

ANALYTE	AL-SG031-SB-02	AL-SG031-SB-03	RPD
TOXAPHENE	320.00U	340.00U	NC
TRANS-1,3-DICHLOROPROP			
TRICHLOROETHENE	19.00U	20.00U	NC
VINYL CHLORIDE			
VINYL-CHLORIDE	19.00U	20.00U	NC
XYLENE	19.00U	20.00U	NC
alpha-BHC	3.20U	3.40U	NC
beta-BHC	3.20U	3.40U	NC
bis(2-CHLOROETHOXY)MET	620.00U	660.00U	NC
bis(2-CHLOROETHYL)ETHE	620.00U	660.00U	NC
bis(2-ETHYLHEXYL)PHTHA	760.00	370.00J	69.0
bis(2-chloroisopropyl)			
cis-1,3-DICHLOROPROPEN	19.00U	20.00U	NC
cis-Permethrin			
delta-BHC	3.20U	3.40U	NC
gama-BHC	3.20U	3.40U	NC
trans-1,3-DICHLOROPROP	19.00U	20.00U	NC
trans-Permethrin			

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TABLE J-6 FIELD DUPLICATE RESULTS - UNITS:ug/kg - ASL, 1994

ANALYTE	AL-CL007-SD-01	AL-CL007-SD-02	RPD	AL-GL047-SS-01	AL-GL047-SS-02	RPD
TEF	0.00380	0.00220	53.3	0.01730	0.01000	53.5

TABLE J-6 FIELD DUPLICATE RESULTS - UNITS:ug/kg - ASL, 1994

ANALYTE	AL-GL053-SS-01	AL-GL053-SS-02	RPD	AL-GL087-SS-02	AL-GL087-SS-03	RPD
TEF	0.03620	0.04000	10.0	0.00950	0.00000	NC

TABLE J-6 FIELD DUPLICATE RESULTS - UNITS:ug/kg - ASL, 1994

ANALYTE	AL-GL205-SS-02	AL-GL205-SS-03	RPD	AL-MS011-SS-01	AL-MS011-SS-02	RPD
TEF	0.00000	0.00000	NC	0.00020	0.00040	66.7

TABLE J-6 FIELD DUPLICATE RESULTS - UNITS:ug/kg - ASL, 1994

ANALYTE	AL-MW030-SB-02	AL-MW030-SB-05	RPD	AL-OF005-SB-02	AL-OF005-SB-03	RPD
TEF	0.00000	0.00000	NC	0.00002	0.00010	133

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TABLE J-6 FIELD DUPLICATE RESULTS - UNITS:ug/kg - ASL, 1994

ANALYTE	AL-SG008-SB-02	AL-SG008-SB-03	RPD	AL-SG015-SB-02	AL-SG015-SB-03	RPD
TEF	0.16000	0.17000	6.1	0.17000	0.00135	197

TABLE J-6 FIELD DUPLICATE RESULTS - UNITS:ug/kg - ASL, 1994

ANALYTE	AL-SG020-SB-02	AL-SG020-SB-03	RPD	AL-SG025-SB-01	AL-SG025-SB-03	RPD
TEF	0.08030	0.04000	67.0	0.20000	0.19000	5.1

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TABLE J-6 FIELD DUPLICATE RESULTS - UNITS:ug/kg - ASL, 1994

ANALYTE	AL-SG029-SB-02	AL-SG029-SB-03	RPD	AL-SG031-SB-02	AL-SG031-SB-03	RPD
TEF	0.14000	0.05000	94.7	0.06350	0.04550	33.0

TABLE J-6 FIELD DUPLICATE RESULTS - UNITS:ug/kg - ASL, 1994

ANALYTE	AL-SG033-SB-02	AL-SG033-SB-03	RPD	AL-SG036-SS-04	AL-SG036-SS-05	RPD
TEF	0.06130	0.05130	17.8	0.01000	0.00000	NC

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TABLE J-6 - FIELD DUPLICATE RESULTS - UNITS:mg/kg - ASL,1994

ANALYTE	AL-CL007-SD-01	AL-CL007-SD-02	RPD
ALUMINUM	3963.00	3620.00	9.0
ANTIMONY	7.40U	7.80U	NC
ARSENIC	4.10J	7.20J	54.9
BARIUM	388.00J	404.00J	4.0
BERYLLIUM	0.32	0.30	6.5
CADMIUM	1.20	2.00	50.0
CALCIUM	29116.00	27970.00	4.0
CHROMIUM	17.50J	17.60J	0.6
COBALT	5.20	5.90	12.6
COPPER	55.60	57.60	3.5
CYANIDE	0.76U	0.80U	NC
IRON	10212.00	9827.00	3.8
LEAD	199.00J	202.00J	1.5
MAGNESIUM	3279.00	3105.00	5.5
MANGANESE	139.00	136.00	2.2
MERCURY	0.38	0.28	30.3
NICKEL	17.00	17.40	2.3
POTASSIUM	689.00	782.00	12.6
SELENIUM	0.27UJ	0.29UJ	NC
SILVER	0.92	1.50	47.9
SODIUM	503.00	566.00	11.8
THALLIUM	0.47UC	0.45UC	NC
VANADIUM	11.80	11.90	0.8
ZINC	336.00	377.00	11.5

TABLE J-6 - FIELD DUPLICATE RESULTS - UNITS:mg/kg - ASL,1994

ANALYTE	AL-GL029-SS-01	AL-GL029-SS-02	RPD	AL-GL033-SS-01	AL-GL033-SS-02	RPD
ALUMINUM	13748.00J	11554.00	17.3	4717.00	4487.00	5.0
ANTIMONY	5.10UJ	5.00UR	NC	4.40UJ	4.30UJ	NC
ARSENIC	9.00	7.30	20.9	5.10J	5.10J	0.0
BARIUM	277.00	209.00	28.0	105.00	102.00	2.9
BERYLLIUM	0.83J	0.89	7.0	0.16U	0.15U	NC
CADMIUM	1.00JL	1.00J	0.0	0.31UJ	0.31UJ	NC
CALCIUM	10345.00J	8835.00	15.7	4477.00J	4475.00J	0.0
CHROMIUM	16.50J	13.50	20.0	9.40J	10.60J	12.0
COBALT	5.70	8.00	33.6	5.10	6.50	24.1
COPPER	44.50J	37.50J	17.1	10.00	11.20	11.3
CYANIDE	0.23	0.20U	NC	0.17U	0.18	NC
IRON	18917.00J	13825.00	31.1	8901.00J	8879.00J	0.2
LEAD	131.00J	85.70	41.8	17.20	19.60J	13.0
MAGNESIUM	3398.00J	3460.00	1.8	2278.00	2314.00	1.6
MANGANESE	134.00J	132.00	1.5	212.00	216.00	1.9
MERCURY	0.28	0.22	24.0	0.06U	0.05U	NC
NICKEL	24.30J	19.80	20.4	12.60	13.30	5.4
POTASSIUM	2432.00	2095.00	14.9	767.00	748.00	2.5
SELENIUM	0.54J	0.64JL	16.9	0.22UJ	0.27J	NC
SILVER	0.36U	0.36U	NC	0.31U	0.31U	NC
SODIUM	104.00JH	40.30JL	88.3	67.80JH	64.90JH	4.4
THALLIUM	0.74UC	0.51U	NC	0.44UJ	0.46UJ	NC
VANADIUM	33.20J	23.20	35.5	12.80	11.90	7.3
ZINC	209.00J	163.00J	24.7	54.20J	53.40	1.5

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TABLE J-6 - FIELD DUPLICATE RESULTS - UNITS:mg/kg - ASL,1994

ANALYTE	AL-GL036-SS-01	AL-GL036-SS-02	RPD	AL-GL040-SS-01	AL-GL040-SS-02	RPD
ALUMINUM	3075.00J	2665.00	14.3	7263.00	11708.00	46.9
ANTIMONY	87.50J	204.00J	79.9	18.50J	373.00J	181
ARSENIC	5.30	5.60	5.5	58.20J	116.00	66.4
BARIUM	456.00	424.00	7.3	1081.00	2284.00J	71.5
BERYLLIUM	1.30J	0.15U	NC	0.23U	0.96	NC
CADMIUM	16.90	12.30J	31.5	12.70J	17.50J	31.8
CALCIUM	15844.00J	17951.00	12.5	25430.00	48341.00	62.1
CHROMIUM	129.00J	73.00	55.4	99.20	107.00J	7.6
COBALT	26.20	23.60	10.4	8.50	15.20	56.5
COPPER	764.00J	8985.00J	169	693.00J	1947.00J	95.0
CYANIDE	1.30	0.50	88.9	1.60	1.36J	16.2
IRON	221653.00J	231210.00	4.2	174988.00	159904.00	9.0
LEAD	843.00J	1565.00	60.0	3965.00J	51970.00J	172
MAGNESIUM	1173.00J	1159.00	1.2	2549.00	5365.00	71.2
MANGANESE	1546.00J	1461.00	5.7	893.00J	1023.00	13.6
MERCURY	0.90	0.40	76.9	1.52J	1.13	29.4
NICKEL	191.00J	189.00	1.1	123.00	74.40J	49.2
POTASSIUM	333.00	336.00	0.9	1158.00	1954.00	51.2
SELENIUM	0.21J	0.22UJ	NC	1.17U	1.16U	NC
SILVER	0.77UC	2.60	NC	8.90	13.70J	42.5
SODIUM	117.00	75.30JL	43.4	394.00	636.00J	47.0
THALLIUM	0.47UJC	0.44UJ	NC	1.64U	1.63U	NC
VANADIUM	25.40J	23.90	6.1	9.43	19.80	71.0
ZINC	2028.00J	6066.00J	99.8	2577.00	4035.00J	44.1

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TABLE J-6 - FIELD DUPLICATE RESULTS - UNITS:mg/kg - ASL,1994

ANALYTE	AL-GL047-SS-01	AL-GL047-SS-02	RPD	AL-GL053-SS-01	AL-GL053-SS-02	RPD
ALUMINUM	6253.00	7255.00	14.8	9122.00	11695.00	24.7
ANTIMONY	5.40UJ	6.80J	NC	41.00J	29.20JL	33.6
ARSENIC	18.40J	16.10J	13.3	60.40J	23.30J	88.6
BARIUM	497.00J	498.00J	0.2	1018.00J	926.00J	9.5
BERYLLIUM	0.33UC	0.40UC	NC	0.18U	0.18U	NC
CADMIUM	2.90	5.80	66.7	8.70	9.50	8.8
CALCIUM	11252.00	12580.00	11.1	22818.00	31539.00	32.1
CHROMIUM	28.30	33.10	15.6	99.00	102.00	3.0
COBALT	9.80	10.00	2.0	27.00	32.20	17.6
COPPER	216.00	216.00	0.0	787.00J	1036.00J	27.3
CYANIDE	0.55U	0.66	NC	1.60	1.40	13.3
IRON	42438.00J	40750.00J	4.1	242691.00	256000.00	5.3
LEAD	672.00	646.00	3.9	2375.00	2553.00	7.2
MAGNESIUM	2740.00	2859.00	4.3	1745.00	1952.00	11.2
MANGANESE	424.00	406.00	4.3	1248.00J	1610.00J	25.3
MERCURY	0.40J	0.33J	19.2	1.90	2.80	38.3
NICKEL	31.20J	29.80J	4.6	103.00	115.00	11.0
POTASSIUM	1159.00	1382.00	17.6	716.00	830.00	14.7
SELENIUM	0.56J	0.20UJ	NC	2.00J	0.53J	116
SILVER	4.60	5.40	16.0	16.40J	17.40J	5.9
SODIUM	181.00	167.00	8.0	456.00	963.00	71.5
THALLIUM	0.00R	0.00R	NC	2.80J	2.97J	5.7
VANADIUM	14.50	16.60	13.5	11.20	13.00	14.9
ZINC	923.00	928.00	0.5	4163.00J	15909.00J	117

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TABLE J-6 - FIELD DUPLICATE RESULTS - UNITS:mg/kg - ASL,1994

ANALYTE	AL-GL079-SS-01	AL-GL079-SS-03	RPD	AL-GL087-SS-02	AL-GL087-SS-03	RPD
ALUMINUM	6793.00	7317.00	7.4	10115.36	8122.56	21.9
ANTIMONY	4.42UCJ	10.30UCJ	NC	13.42U	13.56U	NC
ARSENIC	57.70J	55.80J	3.3	66.39	62.21	6.5
BARIUM	1385.00	1189.00	15.2	1099.54	1051.71	4.4
BERYLLIUM	0.25U	0.25U	NC	0.38JL	0.38JL	1.1
CADMIUM	13.80J	13.30J	3.7	11.53	11.30	2.0
CALCIUM	39722.00	63933.00	46.7	45393.55	40237.29	12.0
CHROMIUM	213.00	100.00	72.2	91.05	75.43	18.8
COBALT	12.10	13.70	12.4	25.01	23.36	6.8
COPPER	920.00J	747.00J	20.8	1460.13	910.04	46.4
CYANIDE	4.30	1.72	85.7	1.29U	1.30U	NC
IRON	184637.00	154023.00	18.1	178214.19	161486.31	9.8
LEAD	3607.00J	2764.00J	26.5	2858.07	2932.99	2.6
MAGNESIUM	2329.00	2450.00	5.1	2379.17	2150.74	10.1
MANGANESE	1199.00J	949.00J	23.3	1356.47	1246.02	8.5
MERCURY	2.77J	75.50J	186	2.75	2.21	21.7
NICKEL	91.60	85.20	7.2	104.56	94.69	9.9
POTASSIUM	994.00	1146.00	14.2	746.35	812.75	8.5
SELENIUM	1.27U	1.27U	NC	0.77U	0.78U	NC
SILVER	11.60	10.50	10.0	19.14	19.43	1.5
SODIUM	309.00	564.00	58.4	318.35JL	318.46JL	0.0
THALLIUM	1.78U	1.78U	NC	1.03U	1.04U	NC
VANADIUM	2.23	5.89	90.1	44.09	37.14	17.1
ZINC	2775.00	2917.00	5.0	3381.94	2658.93	23.9

00159.0696

TABLE J-6 - FIELD DUPLICATE RESULTS - UNITS:mg/kg - ASL,1994

ANALYTE	AL-GL205-SS-02	AL-GL205-SS-03	RPD	AL-OF004-SS-01	AL-OF004-SS-02	RPD
ALUMINUM	19328.00J	11207.00J	53.2	11357.00J	11424.00	0.6
ANTIMONY	11.70UJ	10.40UJ	NC	6.00U	5.90UJ	NC
ARSENIC	7.40	6.50	12.9	6.10JH	5.70J	6.8
BARIUM	384.00	356.00	7.6	216.00	218.00	0.9
BERYLLIUM	1.00UC	0.79UC	NC	0.54	0.59UJ	NC
CADMIUM	1.70U	1.50U	NC	0.95U	0.94U	NC
CALCIUM	22620.00	9878.00	78.4	4908.00	5387.00	9.3
CHROMIUM	126.00J	26.40J	131	18.20	18.20	0.0
COBALT	10.20	5.70	56.6	8.60	7.70	11.0
COPPER	71.80J	22.60J	104	23.50	46.60	65.9
CYANIDE	0.88U	0.78U	NC	0.61U	0.60U	NC
IRON	21486.00	13279.00	47.2	15482.00J	15482.00J	0.0
LEAD	137.00J	51.10J	91.3	75.30J	112.00	39.2
MAGNESIUM	4595.00	4163.00	9.9	3632.00J	4178.00	14.0
MANGANESE	368.00J	102.00J	113	409.00J	419.00J	2.4
MERCURY	1.20	1.00	18.2	0.00R	0.12U	NC
NICKEL	26.90	12.30	74.5	18.10	17.60	2.8
POTASSIUM	2854.00	2221.00	24.9	1913.00	1840.00	3.9
SELENIUM	1.20UJ	10.60UJ	NC	0.26	0.22U	NC
SILVER	2.10U	1.80U	NC	0.68U	0.80	NC
SODIUM	483.00UC	345.00UC	NC	122.00	111.00	9.4
THALLIUM	0.92U	0.81U	NC	0.23UC	0.22J	NC
VANADIUM	45.60	22.90	66.3	29.10	27.50	5.7
ZINC	381.00J	217.00J	54.8	218.00J	188.00	14.8

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TABLE J-6 - FIELD DUPLICATE RESULTS - UNITS:mg/kg - ASL,1994

ANALYTE	AL-SG007-SS-03	AL-SG007-SS-04	RPD	AL-SG012-SS-01	AL-SG012-SS-03	RPD
ALUMINUM	4555.00	4907.00	7.4	5616.00	4047.00	32.5
ANTIMONY	11.90R	13.60R	NC	2.82UJ	2.80UJ	NC
ARSENIC	20.00J	23.80J	17.4	6.11	14.60	82.0
BARIUM	360.00	409.00	12.7	168.00J	154.00J	8.7
BERYLLIUM	0.41UC	0.47UC	NC	0.39	0.41	5.0
CADMIUM	4.10	4.10	0.0	0.98J	1.09J	10.6
CALCIUM	9105.00	8816.00	3.2	4792.00	4008.00	17.8
CHROMIUM	46.00	36.60	22.8	16.80J	19.50J	14.9
COBALT	13.20	12.00	9.5	5.62	5.81	3.3
COPPER	285.00	238.00	18.0	61.30J	63.10J	2.9
CYANIDE	1.10	1.20	8.7	0.54U	0.54U	NC
IRON	64525.00	61178.00	5.3	16312.00	17458.00	6.8
LEAD	840.00	991.00	16.5	178.00J	165.00J	7.6
MAGNESIUM	1858.00	1572.00	16.7	2467.00	2174.00	12.6
MANGANESE	455.00	505.00	10.4	209.00	200.00	4.4
MERCURY	1.00J	1.40J	33.3	0.11U	0.11	NC
NICKEL	51.50	40.50	23.9	17.60J	17.90J	1.7
POTASSIUM	756.00	578.00U	NC	1150.00	909.00	23.4
SELENIUM	0.85U	0.85U	NC	1.08U	1.08U	NC
SILVER	1.70	1.70	0.0	1.17J	1.13J	3.5
SODIUM	230.00	280.00	19.6	227.00J	167.00J	30.5
THALLIUM	0.65UJ	0.65UJ	NC	1.52U	1.51U	NC
VANADIUM	15.50	18.10	15.5	15.20	10.70	34.7
ZINC	1056.00	1116.00	5.5	282.00J	307.00J	8.5

TABLE J-6 - FIELD DUPLICATE RESULTS - UNITS:mg/kg - ASL,1994

ANALYTE	AL-SG015-SS-01	AL-SG015-SS-03	RPD	AL-SG028-SS-04	AL-SG028-SS-05	RPD
ALUMINUM	4634.00	7519.00	47.5	3357.00	4235.00	23.1
ANTIMONY	2.98U	3.28UC	NC	15.00JH	11.50JH	26.4
ARSENIC	8.14	6.25	26.3	13.30J	17.70J	28.4
BARIUM	182.00	150.00	19.3	302.00	819.00	92.2
BERYLLIUM	0.23U	0.35	NC	0.18UC	0.26UC	NC
CADMIUM	1.14J	1.32J	14.6	2.20	1.70	25.6
CALCIUM	5891.00J	6173.00J	4.7	6145.00	13230.00	73.1
CHROMIUM	18.20	17.90	1.7	35.10J	23.00J	41.7
COBALT	5.10	6.76	28.0	12.40	10.10	20.4
COPPER	87.00J	44.30J	65.0	222.00J	242.00J	8.6
CYANIDE	0.57U	0.57U	NC	0.65	0.63	3.1
IRON	21388.00	13976.00	41.9	76361.00	48276.00	45.1
LEAD	226.00	82.20	93.3	698.00	9614.00	173
MAGNESIUM	2903.00	3520.00	19.2	1284.00	1520.00	16.8
MANGANESE	216.00	273.00	23.3	467.00	394.00	17.0
MERCURY	0.33J	0.12J	93.3	1.00J	0.53J	61.4
NICKEL	22.50	20.00	11.8	44.70J	28.50J	44.3
POTASSIUM	917.00	1474.00	46.6	549.00U	613.00	NC
SELENIUM	1.15U	1.14U	NC	0.81UJ	0.80UJ	NC
SILVER	1.90UC	1.29UC	NC	1.40U	1.40U	NC
SODIUM	207.00J	217.00J	4.7	223.00	279.00	22.3
THALLIUM	1.60U	1.59U	NC	0.62U	0.61U	NC
VANADIUM	10.80	20.00	59.7	13.10	14.20	8.1
ZINC	298.00J	137.00J	74.0	944.00	1272.00	29.6

TABLE J-6 - FIELD DUPLICATE RESULTS - UNITS:mg/kg - ASL,1994

ANALYTE	AL-SG030-SS-04	AL-SG030-SS-05	RPD	AL-SG031-SS-02	AL-SG031-SS-03	RPD
ALUMINUM	6268.00	5301.00	16.7	1681.00J	2304.00J	31.3
ANTIMONY	8.30UJ	8.20UJ	NC	7.00UJ	6.90UJ	NC
ARSENIC	5.30J	7.90J	39.4			
BARIUM	175.00	177.00	1.1	142.00	142.00	0.0
BERYLLIUM	0.53UC	0.74UC	NC	0.32UC	0.59UC	NC
CADMIUM	2.30	1.80	24.4	1.40	1.40	0.0
CALCIUM	3793.00	3713.00	2.1	3268.00	3551.00	8.3
CHROMIUM	18.30J	15.50J	16.6	10.20	12.20	17.9
COBALT	8.50	7.20	16.6	5.10	6.80	28.6
COPPER	76.90J	46.10J	50.1	58.50	66.40	12.7
CYANIDE	0.62U	0.62U	NC	0.53U	0.52U	NC
IRON	25399.00	13967.00	58.1	13175.00	26558.00	67.4
LEAD	207.00	151.00	31.3	225.00	243.00	7.7
MAGNESIUM	2047.00	1967.00	4.0	871.00	1062.00	19.8
MANGANESE	284.00	246.00	14.3	153.00J	183.00J	17.9
MERCURY	0.27J	0.47J	54.1	0.38	0.40	5.1
NICKEL	22.10J	23.80J	7.4	14.00	16.40	15.8
POTASSIUM	610.00	683.00	11.3	485.00U	572.00	NC
SELENIUM	0.85UJ	0.84UJ	NC	0.71UJ	0.71UJ	NC
SILVER	1.50U	1.50U	NC	1.20U	1.20U	NC
SODIUM	150.00	165.00	9.5	57.20	63.90	11.1
THALLIUM	0.65U	0.64U	NC	0.55UJ	0.54UJ	NC
VANADIUM	19.70	16.80	15.9	7.40	10.40	33.7
ZINC	358.00	288.00	21.7	426.00	467.00	9.2

TABLE J-6 - FIELD DUPLICATE RESULTS - UNITS:mg/kg - ASL,1994

ANALYTE	AL-SG036-SS-04	AL-SG036-SS-05	RPD
ALUMINUM	9850.00	10923.00	10.3
ANTIMONY	8.50UR	9.10JH	NC
ARSENIC			
BARIUM	667.00	902.00	30.0
BERYLLIUM	0.53UC	1.10	NC
CADMIUM	2.50	3.40	30.5
CALCIUM	11773.00	14932.00	23.7
CHROMIUM	25.90	35.90J	32.4
COBALT	7.10	8.80	21.4
COPPER	66.10	70.90J	7.0
CYANIDE	2.00	2.00	0.0
IRON	18233.00	20144.00	10.0
LEAD	1274.00	1968.00	42.8
MAGNESIUM	2936.00	3073.00	4.6
MANGANESE	281.00	332.00	16.6
MERCURY	1.10J	1.70J	42.9
NICKEL	16.60	18.10J	8.6
POTASSIUM	1863.00	2041.00	9.1
SELENIUM	0.87U	0.89UJ	NC
SILVER	1.50U	1.50U	NC
SODIUM	204.00	236.00	14.5
THALLIUM	0.67UJ	0.68UJ	NC
VANADIUM	23.90	27.30	13.3
ZINC	1267.00	1598.00	23.1

00159.0701

TABLE J-6 FIELD DUPLICATE RESULTS - UNITS: mg/kg - ASL, 1994

ANALYTE	AL-MS011-SS-01	AL-MS011-SS-02	RPD	AL-OF004-SS-01	AL-OF004-SS-02	RPD
<250MICRONS	4.05000	36.30000	160	25.20000	22.50000	11.3
LEAD	8.40000	10.90000	25.9	96.70000	70.30000	31.6

Note: <250 Microns' results are expressed as a percentage below 250 micrometers.

TABLE J-6 FIELD DUPLICATE RESULTS - UNITS: mg/kg - ASL, 1994

ANALYTE	AL-SG007-SS-03	AL-SG007-SS-04	RPD	AL-SG012-SS-01	AL-SG012-SS-03	RPD
<250MICRONS	67.10000	68.00000	1.3			
LEAD	574.00000	634.00000	9.9	102.00000	107.00000	4.8

Note: <250 Microns' results are expressed as a percentage below 250 micrometers.

TABLE J-6 FIELD DUPLICATE RESULTS - UNITS: mg/kg - ASL, 1994

ANALYTE	AL-SG015-SS-01	AL-SG015-SS-03	RPD	AL-SG030-SS-04	AL-SG030-SS-05	RPD
<250MICRONS				47.40000	53.00000	11.2
LEAD	143.00000	42.40000	109	151.00000	163.00000	7.6

Note: <250 Microns' results are expressed as a percentage below 250 micrometers.

TABLE J-6 FIELD DUPLICATE RESULTS - UNITS: mg/kg - ASL, 1994

ANALYTE	AL-SG031-SS-02	AL-SG031-SS-03	RPD	AL-SG033-SS-01	AL-SG033-SS-03	RPD
<250MICRONS	70.90000	69.10000	2.6	48.00000	47.00000	2.1
LEAD	233.00000	250.00000	7.0	136.00000	136.00000	0.0

Note: <250 Microns' results are expressed as a percentage below 250 micrometers.

TABLE J-6 FIELD DUPLICATE RESULTS - UNITS: mg/kg - ASL, 1994

ANALYTE	AL-SG034-SS-01	AL-SG034-SS-03	RPD	AL-SG034-SS-02	AL-SG034-SS-04	RPD
<250MICRONS	57.20000	54.10000	5.6	67.90000	68.60000	1.0
LEAD	217.00000	239.00000	9.6	170.00000	193.00000	12.7

Note: <250 Microns' results are expressed as a percentage below 250 micrometers.

TABLE J-6 - FIELD DUPLICATE RESULTS - UNITS:mg/kg - ASL,1994

ANALYTE	AL-MW008-SB-01	AL-MW008-SB-02	RPD	AL-MW030-SB-02	AL-MW030-SB-05	RPD
ALUMINUM	5139.00	10935.00	72.1	13515.00	19833.00	37.9
ANTIMONY	6.70J	10.80J	46.9	7.00UJ	8.30UJ	NC
ARSENIC	11.30	12.60	10.9	4.10	5.40	27.4
BARIUM	300.00	410.00	31.0	178.00	179.00	0.6
BERYLLIUM	0.38JH	0.63	49.5	0.85	1.20	34.1
CADMIUM	2.10	3.20	41.5	1.10U	1.30U	NC
CALCIUM	35742.00J	41835.00J	15.7	14090.00J	18413.00J	26.6
CHROMIUM	22.70J	35.00J	42.6	17.60J	24.10J	31.2
COBALT	9.10	10.70	16.2	8.80	12.20	32.4
COPPER	174.00	220.00	23.4	20.30	29.10	35.6
CYANIDE	0.60U	0.82	NC	0.72U	0.84U	NC
IRON	36296.00	36095.00	0.6	17325.00	27796.00	46.4
LEAD	547.00J	634.00J	14.7	14.80J	20.60J	32.8
MAGNESIUM	2075.00J	3189.00J	42.3	7774.00J	9532.00J	20.3
MANGANESE	402.00J	340.00J	16.7	549.00J	1019.00J	59.9
MERCURY	0.59J	0.69J	15.6	0.14U	0.17U	NC
NICKEL	23.60	35.10	39.2	19.80	28.40	35.7
POTASSIUM	891.00	1814.00	68.2	3173.00	4738.00	39.6
SELENIUM	0.00R	0.63JL	NC	0.36JL	0.66JL	58.8
SILVER	4.00	4.20	4.9	1.60	2.00	22.2
SODIUM	222.00	453.00	68.4	2336.00	3504.00	40.0
THALLIUM	0.35UCJ	0.41UCJ	NC	0.35UCJ	0.49UCJ	NC
VANADIUM	16.40	27.40	50.2	33.60	49.20	37.7
ZINC	1050.00J	926.00J	12.6	69.60J	95.70J	31.6

00159.0707

TABLE J-6 - FIELD DUPLICATE RESULTS - UNITS:mg/kg - ASL,1994

ANALYTE	AL-OF005-SB-02	AL-OF005-SB-03	RPD	AL-OF006-SB-02	AL-OF006-SB-04	RPD
ALUMINUM	11034.00	11458.00	3.8	15252.00	19748.00J	25.7
ANTIMONY	6.60UJ	7.20U	NC	7.60UJ	7.50U	NC
ARSENIC	5.20J	6.70J	25.2	8.10J	3.60	76.9
BARIUM	261.00	241.00	8.0	248.00	247.00	0.4
BERYLLIUM	0.76	0.69	9.7	1.20	1.10	8.7
CADMIUM	1.00U	2.10	NC	1.80	1.20U	NC
CALCIUM	11561.00	5201.00	75.9	9231.00	11242.00	19.6
CHROMIUM	18.90	16.40	14.2	19.50	23.00	16.5
COBALT	7.60	9.50	22.2	12.20	14.20	15.2
COPPER	22.80	17.60	25.7	28.90	31.20	7.7
CYANIDE	0.67U	0.73U	NC	0.78U	0.76U	NC
IRON	16209.00J	17925.00J	10.1	23044.00J	23422.00J	1.6
LEAD				33.50	36.90J	9.7
MAGNESIUM	3936.00	4305.00	9.0	7301.00	7344.00J	0.6
MANGANESE	246.00J	208.00J	16.7	424.00J	742.00J	54.5
MERCURY	0.13U	0.15U	NC	0.16U	0.17JL	NC
NICKEL	20.10	22.60	11.7	30.40	25.50	17.5
POTASSIUM	1782.00	1789.00	0.4	2946.00	3557.00	18.8
SELENIUM	0.24U	0.40	NC	1.30	0.58J	76.6
SILVER	0.97	0.95	2.1	0.87U	1.80	NC
SODIUM	195.00	262.00	29.3	558.00	784.00	33.7
THALLIUM	0.21UJ	0.49UC	NC	0.60UC	0.37UC	NC
VANADIUM	26.50	26.50	0.0	35.60	48.40	30.5
ZINC	177.00	88.90	66.3	100.00	95.90J	4.2

00159.0708

TABLE J-6 - FIELD DUPLICATE RESULTS - UNITS:mg/kg - ASL,1994

ANALYTE	AL-SG008-SB-02	AL-SG008-SB-03	RPD	AL-SG015-SB-02	AL-SG015-SB-03	RPD
ALUMINUM	5060.00	4392.99	14.1	9130.00	7927.00	14.1
ANTIMONY	17.31U	17.36U	NC	4.54UC	3.20UJ	NC
ARSENIC	63.90	103.40	47.2	16.90	8.15	69.9
BARIUM	726.82	687.61	5.5	235.00	143.00J	48.7
BERYLLIUM	0.33U	0.33U	NC	0.33U	0.47	NC
CADMIUM	1.00U	1.00U	NC	2.79J	1.23J	77.6
CALCIUM	33100.00	28331.22	15.5	16257.00J	8226.00	65.6
CHROMIUM	80.47	113.08	33.7	55.80	21.40J	89.1
COBALT	14.38JL	23.04	46.3	10.70	7.48	35.4
COPPER	541.93	534.56	1.4	177.00J	44.90J	119
CYANIDE	1.66U	1.67U	NC	0.83U	0.94J	NC
IRON	145000.00	186053.42	24.8	46528.00	20171.00	79.0
LEAD	1155.01	1512.72	26.8	356.00	59.30J	143
MAGNESIUM	1470.00	1899.50	25.5	4409.00	4568.00	3.5
MANGANESE	795.81	1082.04	30.5	429.00	289.00	39.0
MERCURY	2.55	2.25	12.5	1.06J	0.14	153
NICKEL	70.68	89.30	23.3	38.00	22.30J	52.1
POTASSIUM	479.00	515.33B	7.3	1466.00	1392.00	5.2
SELENIUM	1.00U	1.00U	NC	1.66U	1.23U	NC
SILVER	14.61	19.95	30.9	3.00UC	0.96J	NC
SODIUM	289.00	364.01JL	23.0	331.00J	243.00J	30.7
THALLIUM	1.33U	1.34U	NC	2.33U	1.72U	NC
VANADIUM	29.87	41.72	33.1	20.30	23.20	13.3
ZINC	1735.77	2153.22	21.5	603.00J	135.00J	127

00159.0709

TABLE J-6 - FIELD DUPLICATE RESULTS - UNITS:mg/kg - ASL,1994

ANALYTE	AL-SG020-SB-02	AL-SG020-SB-03	RPD	AL-SG025-SB-01	AL-SG025-SB-03	RPD
ALUMINUM	7393.00	11918.00	46.9	6270.00J	5835.00J	7.2
ANTIMONY	24.10	16.10	39.8	19.60J	20.30J	3.5
ARSENIC	27.90J	0.37UJ	NC	58.10J	33.30J	54.3
BARIUM	1046.00J	755.00J	32.3	695.00J	748.00J	7.3
BERYLLIUM	0.29	0.38	26.9	0.57UC	0.51UC	NC
CADMIUM	20.40J	5.90J	110	6.40J	5.70J	11.6
CALCIUM	53517.00	38262.00	33.2	17500.00J	45881.00J	89.6
CHROMIUM	145.00J	113.00J	24.8	106.00J	113.00J	6.4
COBALT	30.70	19.50	44.6	26.40JH	24.50JH	7.5
COPPER	702.00	457.00	42.3	372.00J	412.00J	10.2
CYANIDE	6.70	3.20	70.7	5.00	4.40	12.8
IRON	214503.00	106586.00	67.2	162198.00	121863.00	28.4
LEAD	2507.00J	1498.00J	50.4	1454.00J	1397.00J	4.0
MAGNESIUM	2224.00	2949.00	28.0	2086.00	2030.00	2.7
MANGANESE	1982.00J	689.00J	96.8	898.00	844.00J	6.2
MERCURY	1.80	1.60	11.8	3.80	4.20	10.0
NICKEL	115.00	73.30	44.3	57.50	65.80	13.5
POTASSIUM	890.00	1443.00	47.4	576.00	585.00U	NC
SELENIUM	0.41J	0.35J	15.8	0.84UJ	0.86UJ	NC
SILVER	13.40	11.80	12.7	2.80	3.40	19.4
SODIUM	412.00	215.00	62.8	173.00	453.00	89.5
THALLIUM	0.80UC	0.46UCJ	NC	0.64UJ	0.66UJ	NC
VANADIUM	9.40	17.30	59.2	25.50	20.70	20.8
ZINC	4739.00	2160.00	74.8	1830.00	1887.00	3.1

00159.0710

TABLE J-6 - FIELD DUPLICATE RESULTS - UNITS:mg/kg - ASL,1994

ANALYTE	AL-SG029-SB-02	AL-SG029-SB-03	RPD	AL-SG031-SB-02	AL-SG031-SB-03	RPD
ALUMINUM	3710.00J	3408.00J	8.5	9221.00J	6909.00J	28.7
ANTIMONY	8.20J	8.10UJ	NC	53.80J	24.60J	74.5
ARSENIC	15.70J	8.00J	65.0	13.40	30.30	77.3
BARIUM	461.00J	300.00J	42.3	1027.00	1082.00	5.2
BERYLLIUM	0.86UC	0.31UC	NC	0.89UC	0.60UC	NC
CADMIUM	5.10J	3.40J	40.0	12.50	13.60	8.4
CALCIUM	13303.00J	10648.00J	22.2	30800.00	36342.00	16.5
CHROMIUM	32.80J	31.00J	5.6	129.00	140.00	8.2
COBALT	8.90	8.50	4.6	25.20	28.60	12.6
COPPER	224.00J	187.00J	18.0	1270.00	774.00	48.5
CYANIDE	0.62U	0.61U	NC	4.30	0.94UJ	NC
IRON	32400.00	38590.00	17.4	142672.00	163388.00	13.5
LEAD	602.00J	539.00J	11.0	2863.00	3022.00	5.4
MAGNESIUM	1966.00	1537.00	24.5	2315.00	2141.00	7.8
MANGANESE	203.00J	253.00J	21.9	866.00J	977.00J	12.0
MERCURY	0.24	0.40	50.0	2.70J	13.00J	131
NICKEL	29.70	31.80	6.8	118.00	119.00	0.8
POTASSIUM	571.00U	563.00U	NC	1287.00	873.00U	NC
SELENIUM	0.84UJ	0.83UJ	NC	1.40U	1.30U	NC
SILVER	1.50U	1.60	NC	8.10	11.70	36.4
SODIUM	172.00	137.00	22.7	314.00	253.00	21.5
THALLIUM	0.64UJ	0.63UC	NC	1.00UJ	0.98UJ	NC
VANADIUM	15.30	16.20	5.7	32.70	28.20	14.8
ZINC	710.00	663.00	6.8	3828.00	3292.00	15.1

00159.0711

TABLE J-6 FIELD DUPLICATE RESULTS - UNITS: ug/L - ASL,1994

ANALYTE	AL-CL007-SD-01	AL-CL007-SD-02	RPD	AL-GL087-SS-02	AL-GL087-SS-03	RPD
ALKALINITY	36000.000	60000.000	50.0	28000.000	24000.000	15.4
FLUORIDE	93.90000	145.00000	42.8	339.00000	231.00000	37.9
NITRATE-N	100.00000U	100.00000U	NC	687.00000	1030.0000	40.0
PH	7.70000	8.60000	11.0	8.40000	8.40000	0.0
PHOSPHATE	156.00000	93.10000	50.5	309.00000	242.00000	24.3
SULFATE	7580.0000J	20600.000J	92.4	1330.0000	1700.0000	24.4
TOC	3600.0000	4640.0000	25.2	1060.0000	1550.0000	37.5

Note: Units for pH are s.u.

TABLE J-6 - FIELD DUPLICATE RESULTS - UNITS:ug/L - ASL, 1994

ANALYTE	AL-CL007-SW-01	AL-CL007-SW-02	RPD
1,1,1-TRICHLOROETHANE	2.00U	2.00U	NC
1,1,2,2-TETRACHLOROETH	2.00U	2.00U	NC
1,1,2-TRICHLOROETHANE	2.00U	2.00U	NC
1,1-DICHLOROETHANE	2.00U	2.00U	NC
1,1-DICHLOROETHENE	2.00U	2.00U	NC
1,2,4-TRICHLOROBENZENE	20.00U	20.00U	NC
1,2-DICHLOROBENZENE	3.00U	3.00U	NC
1,2-DICHLOROETHANE	2.00U	2.00U	NC
1,2-DICHLOROETHENE (to			
1,2-DICHLOROPROPANE			
1,3-DICHLOROBENZENE	3.00U	3.00U	NC
1,4-DICHLOROBENZENE	3.00U	3.00U	NC
2,2'-oxybis(1-CHLOROPR			
2,4,5-TRICHLOROPHENOL	3.00U	3.00U	NC
2,4,6-TRICHLOROPHENOL	6.00U	6.00U	NC
2,4-DICHLOROPHENOL	6.00U	6.00U	NC
2,4-DIMETHYLPHENOL	6.00U	6.00U	NC
2,4-DINITROPHENOL	30.00U	30.00U	NC
2,4-DINITROTOLUENE	6.00U	6.00U	NC
2,6-DINITROTOLUENE	6.00U	6.00U	NC
2-BUTANONE	5.00U	5.00U	NC
2-CHLORONAPHTHALENE	2.00U	2.00U	NC
2-CHLOROPHENOL	4.00U	4.00U	NC
2-HEXANONE	5.00U	5.00U	NC
2-METHYLNAPHTHALENE	2.00U	2.00U	NC
2-METHYLPHENOL	6.00U	6.00U	NC
2-NITROANILINE	8.00U	8.00U	NC
2-NITROPHENOL	10.00U	10.00U	NC
3,3'-DICHLOROBENZIDINE	10.00U	10.00U	NC
3-NITROANILINE	8.00U	8.00U	NC
4,4'-DDD	0.05U	0.05U	NC
4,4'-DDE	0.05U	0.05U	NC
4,4'-DDT	0.10U	0.10U	NC
4,6-DINITRO-2-METHYLPH	20.00U	20.00U	NC
4-BROMOPHENYL-PHENYLET	8.00U	8.00U	NC
4-CHLORO-3-METHYLPHENO	8.00U	8.00U	NC
4-CHLOROANILINE	4.00U	4.00U	NC
4-CHLOROPHENYL-PHENYLE	8.00U	8.00U	NC
4-METHYL-2-PENTANONE	5.00U	5.00U	NC
4-METHYLPHENOL	6.00U	6.00U	NC
4-NITROANILINE	8.00U	8.00U	NC

00159.0713

TABLE J-6 - FIELD DUPLICATE RESULTS - UNITS:ug/L - ASL, 1994.

ANALYTE	AL-CL007-SW-01	AL-CL007-SW-02	RPD
4-NITROPHENOL	13.00U	13.00U	NC
ACENAPHTHENE	2.00U	2.00U	NC
ACENAPHTHYLENE	2.00U	2.00U	NC
ACETONE	5.00U	6.20	NC
ALDRIN	0.05U	0.05U	NC
ALPHA-CHLORDANE	0.05U	0.05U	NC
ANTHRACENE	2.00U	2.00U	NC
AROCHLOR-1016	1.00U	1.00U	NC
AROCHLOR-1221	2.00U	2.00U	NC
AROCHLOR-1232	1.00U	1.00U	NC
AROCHLOR-1242	1.00U	1.00U	NC
AROCHLOR-1248	1.00U	1.00U	NC
AROCLOR-1254	1.00U	1.00U	NC
AROCLOR-1260	1.00U	1.00U	NC
Acrolein	100.00U	100.00U	NC
Acrylonitrile	100.00U	100.00U	NC
BENZENE	2.00U	2.00U	NC
BENZO(a)ANTHRACENE	8.00U	8.00U	NC
BENZO(a)PYRENE	8.00U	8.00U	NC
BENZO(b)FLUORANTHENE	8.00U	8.00U	NC
BENZO(g,h,i)PERYLENE	8.00U	8.00U	NC
BENZO(k)FLUORANTHENE	8.00U	8.00U	NC
BROMETHANE			
BROMODICHLOROMETHANE	2.00U	2.00U	NC
BROMOFORM	2.00U	2.00U	NC
BROMOMETHANE	5.00U	5.00U	NC
BUTYLBENZYLPHTHALATE	4.00U	4.00U	NC
Benzoic Acid	10.00U	10.00U	NC
Benzyl Alcohol	4.00U	4.00U	NC
CARBAZOLE	10.00U	10.00U	NC
CARBON TETRACHLORIDE	2.00U	2.00U	NC
CARBON-DISULFIDE	5.00U	5.00U	NC
CARBON-TETRACHLORIDE			
CHLOROBENZENE	2.00U	2.00U	NC
CHLOROETHANE	5.00U	5.00U	NC
CHLOROFORM	2.10	2.30	9.1
CHLOROMETHANE	5.00U	5.00U	NC
CHRYSENE	8.00U	8.00U	NC
CIS-1,2-DICHLOROETHENE	2.00U	2.00U	NC
DI-N-BUTYLPHTHALATE	2.00U	2.00U	NC
DI-N-OCTYLPHTHALATE	4.00U	4.00U	NC

TABLE J-6 - FIELD DUPLICATE RESULTS - UNITS:ug/L - ASL, 1994

ANALYTE	AL-CL007-SW-01	AL-CL007-SW-02	RPD
DIBENZ(a,h)ANTHRACENE	8.00U	8.00U	NC
DIBENZOFURAN	2.00U	2.00U	NC
DIBROMOCHLOROMETHANE	2.00U	2.00U	NC
DIELDRIN	0.05U	0.05U	NC
DIETHYLPHTHALATE	2.00U	2.00U	NC
DIMETHYLPHTHALATE	2.00U	2.00U	NC
ENDOSULFAN-I	0.05U	0.05U	NC
ENDOSULFAN-II	0.05U	0.05U	NC
ENDOSULFAN-SULFATE	0.10U	0.10U	NC
ENDRIN	0.05U	0.05U	NC
ENDRIN-ALDEHYDE	0.10U	0.10U	NC
ENDRIN-KETONE	0.10U	0.10U	NC
ETHYLBENZENE	5.00U	5.00U	NC
FLUORANTHENE	2.00U	2.00U	NC
FLUORENE	2.00U	2.00U	NC
GAMMA-CHLORDANE	0.05U	0.05U	NC
HEPTACHLOR	0.05U	0.05U	NC
HEPTACHLOR-EPOXIDE	0.05U	0.05U	NC
HEXACHLOROBENZENE	2.00U	2.00U	NC
HEXACHLOROBUTADIENE	5.00U	5.00U	NC
HEXACHLOROCYCLOPENTADI	10.00U	10.00U	NC
HEXACHLOROETHANE	3.00U	3.00U	NC
INDENO(1,2,3-cd)PYRENE	8.00U	8.00U	NC
ISOPHORONE	4.00U	4.00U	NC
M,P-XYLENE (106-42-3)	5.00U	5.00U	NC
METHOXYCHLOR	0.20U	0.20U	NC
METHYLENE CHLORIDE	5.00U	5.00U	NC
METHYLENE-CHLORIDE			
N-NITROSO-DI-N-PROPYLA	6.00U	6.00U	NC
N-NITROSODIPHENYLAMINE	4.00U	4.00U	NC
NAPTHALENE	2.00U	2.00U	NC
NITROBENZENE	2.00U	2.00U	NC
O-XYLENE	5.00U	5.00U	NC
PENTACHLOROPHENOL	15.00U	15.00U	NC
PHENANTHRENE	2.00U	2.00U	NC
PHENOL	4.00U	4.00U	NC
PYRENE	2.00U	2.00U	NC
SET1,1-DICHLOROETHANE			
STYRENE	5.00U	5.00U	NC
TETRACHLOROETHENE	2.00U	2.00U	NC
TOLUENE	5.00U	5.00U	NC

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TABLE J-6 - FIELD DUPLICATE RESULTS - UNITS:ug/L - ASL, 1994

ANALYTE	AL-CL007-SW-01	AL-CL007-SW-02	RPD
TOXAPHENE	2.00U	2.00U	NC
TRANS-1,3-DICHLOROPROP	2.00U	2.00U	NC
TRICHLOROETHENE	2.00U	2.00U	NC
VINYL CHLORIDE	5.00U	5.00U	NC
VINYL-CHLORIDE			
XYLENE			
alpha-BHC	0.05U	0.05U	NC
beta-BHC	0.05U	0.05U	NC
bis(2-CHLOROETHOXY)MET	2.00U	2.00U	NC
bis(2-CHLOROETHYL)ETHE	2.00U	2.00U	NC
bis(2-ETHYLHEXYL)PHTHA	4.00U	4.00U	NC
bis(2-chloroisopropyl)	2.00U	2.00U	NC
cis-1,3-DICHLOROPROPEN			
cis-Permethrin	0.00	0.20U	NC
delta-BHC	0.05U	0.05U	NC
gama-BHC	0.05U	0.05U	NC
trans-1,3-DICHLOROPROP			
trans-Permethrin	0.00	0.30U	NC

TABLE J-6 - FIELD DUPLICATE RESULTS - UNITS:ug/L - ASL, 1994

ANALYTE	AL-CL007-SW-01	AL-CL007-SW-02	RPD
ALUMINUM	110.00	127.00	14.3
ANTIMONY	60.00U	60.00U	NC
ARSENIC	3.00U	3.40	NC
BARIUM	74.00	78.00	5.3
BERYLLIUM	5.00U	5.00U	NC
CADMIUM	5.00U	5.00U	NC
CALCIUM	40800.00	41000.00	0.5
CHROMIUM	10.00U	10.00U	NC
COBALT	20.00U	20.00U	NC
COPPER	20.00U	20.00U	NC
CYANIDE	0.02U	0.02U	NC
IRON	838.00	902.00	7.4
LEAD	4.10	7.70	61.0
MAGNESIUM	13100.00	13400.00	2.3
MANGANESE	125.00	134.00	6.9
MERCURY	0.20U	0.20U	NC
NICKEL	20.00U	20.00U	NC
POTASSIUM	4320.00	4300.00	0.5
SELENIUM	3.00U	3.00U	NC
SILVER	10.00U	10.00U	NC
SODIUM	78300.00	84000.00	7.0
THALLIUM	40.00U	40.00U	NC
VANADIUM	30.00U	30.00U	NC
ZINC	20.00U	20.00U	NC

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TABLE J-6 FIELD DUPLICATE RESULTS - UNITS: ug/L - ASL, 1994

ANALYTE	AL-CL007-SW-01	AL-CL007-SW-02	RPD
ALKALINITY	201.00	197.00	2.0
CHLORIDE	83.00	82.00	1.2
FLUORIDE	1.30	1.20	8.0
HARDNESS	156.00	158.00	1.3
NH3-N	1.63	1.70	4.2
NO2	0.06	0.06	0.0
NO3	0.33	0.37	11.4
O PO4	0.50	0.51	2.0
SULFATE	44.00	43.00	2.3
T PHOS	0.72	0.83	14.2
TDS	484.00	486.00	0.4
TOC	10.00	10.00	0.0
TSS	6.00	5.00	18.2

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TABLE J-6 - FIELD DUPLICATE RESULTS - UNITS:ug/L - ASL, 1994

ANALYTE	AL-MW036-GW-01	AL-MW036-GW-03	RPD	AL-MW038-GW-01	AL-MW038-GW-03	RPD
1,1,1-TRICHLOROETHANE	10.00U	10.00U	NC	10.00U	10.00U	NC
1,1,2,2-TETRACHLOROETH	10.00U	10.00U	NC	10.00U	10.00U	NC
1,1,2-TRICHLOROETHANE	10.00U	10.00U	NC	10.00U	10.00U	NC
1,1-DICHLOROETHANE						
1,1-DICHLOROETHENE	10.00U	10.00U	NC	10.00U	10.00U	NC
1,2,4-TRICHLOROBENZENE	10.00U	10.00U	NC	10.00U	10.00U	NC
1,2-DICHLOROBENZENE	10.00U	10.00U	NC	10.00U	10.00U	NC
1,2-DICHLOROETHANE	10.00U	10.00U	NC	10.00U	10.00U	NC
1,2-DICHLOROETHENE (to	10.00U	10.00U	NC	10.00U	10.00U	NC
1,2-DICHLOROPROPANE	10.00U	10.00U	NC	10.00U	10.00U	NC
1,3-DICHLOROBENZENE	10.00U	10.00U	NC	10.00U	10.00U	NC
1,4-DICHLOROBENZENE	10.00U	10.00U	NC	10.00U	10.00U	NC
2,2'-oxybis(1-CHLOROPR	10.00U	10.00U	NC	10.00U	10.00U	NC
2,4,5-TRICHLOROPHENOL	25.00U	25.00U	NC	25.00U	25.00U	NC
2,4,6-TRICHLOROPHENOL	10.00U	10.00U	NC	10.00U	10.00U	NC
2,4-DICHLOROPHENOL	10.00U	10.00U	NC	10.00U	10.00U	NC
2,4-DIMETHYLPHENOL	10.00U	10.00U	NC	10.00U	10.00U	NC
2,4-DINITROPHENOL	25.00U	25.00U	NC	25.00U	25.00U	NC
2,4-DINITROTOLUENE	10.00U	10.00U	NC	10.00U	10.00U	NC
2,6-DINITROTOLUENE	10.00U	10.00U	NC	10.00U	10.00U	NC
2-BUTANONE	10.00U	10.00U	NC	10.00U	10.00U	NC
2-CHLORONAPHTHALENE	10.00U	10.00U	NC	10.00U	10.00U	NC
2-CHLOROPHENOL	10.00U	10.00U	NC	10.00U	10.00U	NC
2-HEXANONE	10.00U	10.00U	NC	10.00U	10.00U	NC
2-METHYLNAPHTHALENE	10.00U	10.00U	NC	10.00U	10.00U	NC
2-METHYLPHENOL	10.00U	10.00U	NC	10.00U	10.00U	NC
2-NITROANILINE	25.00U	25.00U	NC	25.00U	25.00U	NC
2-NITROPHENOL	10.00U	10.00U	NC	10.00U	10.00U	NC
3,3'-DICHLOROBENZIDINE	10.00U	10.00U	NC	10.00U	10.00U	NC
3-NITROANILINE	25.00U	25.00U	NC	25.00U	25.00U	NC
4,4'-DDD	0.10UJL	0.10UJL	NC	0.10U	0.10U	NC
4,4'-DDE	0.10U	0.10U	NC	0.10U	0.10U	NC
4,4'-DDT	0.10UJL	0.10UJL	NC	0.10U	0.10U	NC
4,6-DINITRO-2-METHYLPH	25.00U	25.00U	NC	25.00U	25.00U	NC
4-BROMOPHENYL-PHENYLET	10.00U	10.00U	NC	10.00U	10.00U	NC
4-CHLORO-3-METHYLPHENO	10.00U	10.00U	NC	10.00U	10.00U	NC
4-CHLOROANILINE	10.00U	10.00U	NC	10.00U	10.00U	NC
4-CHLOROPHENYL-PHENYLE	10.00U	10.00U	NC	10.00U	10.00U	NC
4-METHYL-2-PENTANONE	10.00U	10.00U	NC	10.00U	10.00U	NC
4-METHYLPHENOL	10.00U	10.00U	NC	10.00U	10.00U	NC
4-NITROANILINE	25.00U	25.00U	NC	25.00U	25.00U	NC

TABLE J-6 - FIELD DUPLICATE RESULTS - UNITS:ug/L - ASL, 1994

ANALYTE	AL-MW036-GW-01	AL-MW036-GW-03	RPD	AL-MW038-GW-01	AL-MW038-GW-03	RPD
4-NITROPHENOL	25.00U	25.00U	NC	25.00U	25.00U	NC
ACENAPHTHENE	10.00U	10.00U	NC	10.00U	10.00U	NC
ACENAPHTHYLENE	10.00U	10.00U	NC	10.00U	10.00U	NC
ACETONE	10.00U	10.00U	NC	10.00U	10.00U	NC
ALDRIN	0.05U	0.05U	NC	0.05U	0.05U	NC
ALPHA-CHLORDANE	0.05U	0.05U	NC	0.05U	0.05U	NC
ANTHRACENE	10.00U	10.00U	NC	10.00U	10.00U	NC
AROCHLOR-1016	1.00U	1.00U	NC	1.00U	1.00U	NC
AROCHLOR-1221	2.00U	2.00U	NC	2.00U	2.00U	NC
AROCHLOR-1232	1.00U	1.00U	NC	1.00U	1.00U	NC
AROCHLOR-1242	1.00U	1.00U	NC	1.00U	1.00U	NC
AROCHLOR-1248	1.00U	1.00U	NC	1.00U	1.00U	NC
AROCLOR-1254	1.00UJL	1.00UJL	NC	1.00U	1.00U	NC
AROCLOR-1260	1.00UJL	1.00UJL	NC	1.00U	1.00U	NC
Acrolein						
Acrylonitrile						
BENZENE	10.00U	10.00U	NC	10.00U	10.00U	NC
BENZO(a)ANTHRACENE	10.00U	10.00U	NC	10.00U	10.00U	NC
BENZO(a)PYRENE	10.00U	10.00U	NC	10.00U	10.00U	NC
BENZO(b)FLUORANTHENE	10.00U	10.00U	NC	10.00U	10.00U	NC
BENZO(g,h,i)PERYLENE	10.00U	10.00U	NC	10.00U	10.00U	NC
BENZO(k)FLUORANTHENE	10.00U	10.00U	NC	10.00U	10.00U	NC
BROMETHANE	10.00U	10.00U	NC	10.00U	10.00U	NC
BROMODICHLOROMETHANE	10.00U	10.00U	NC	10.00U	10.00U	NC
BROMOFORM	10.00U	10.00U	NC	10.00U	10.00U	NC
BROMOMETHANE						
BUTYLBENZYLPHTHALATE	10.00U	10.00U	NC	10.00U	10.00U	NC
Benzoic Acid						
Benzyl Alcohol						
CARBAZOLE	10.00U	10.00U	NC	10.00U	10.00U	NC
CARBON TETRACHLORIDE						
CARBON-DISULFIDE	10.00U	10.00U	NC	10.00U	10.00U	NC
CARBON-TETRACHLORIDE	10.00U	10.00U	NC	10.00U	10.00U	NC
CHLOROBENZENE	10.00U	10.00U	NC	10.00U	10.00U	NC
CHLOROETHANE	10.00U	10.00U	NC	10.00U	10.00U	NC
CHLOROFORM	10.00U	10.00U	NC	10.00U	10.00U	NC
CHLOROMETHANE	10.00U	10.00U	NC	10.00U	10.00U	NC
CHRYSENE	10.00U	10.00U	NC	10.00U	10.00U	NC
CIS-1,2-DICHLOROETHENE						
DI-N-BUTYLPHTHALATE	10.00U	10.00U	NC	10.00U	10.00U	NC
DI-N-OCTYLPHTHALATE	10.00U	10.00U	NC	10.00U	10.00U	NC

TABLE J-6 - FIELD DUPLICATE RESULTS - UNITS:ug/L - ASL, 1994

ANALYTE	AL-MW036-GW-01	AL-MW036-GW-03	RPD	AL-MW038-GW-01	AL-MW038-GW-03	RPD
DIBENZ(a,h)ANTHRACENE	10.00U	10.00U	NC	10.00U	10.00U	NC
DIBENZOFURAN	10.00U	10.00U	NC	10.00U	10.00U	NC
DIBROMOCHLOROMETHANE	10.00U	10.00U	NC	10.00U	10.00U	NC
DIELDRIN	0.10U	0.10U	NC	0.10U	0.10U	NC
DIETHYLPHTHALATE	10.00U	10.00U	NC	10.00U	10.00U	NC
DIMETHYLPHTHALATE	10.00U	10.00U	NC	10.00U	10.00U	NC
ENDOSULFAN-I	0.05U	0.05U	NC	0.05U	0.05U	NC
ENDOSULFAN-II	0.10UJL	0.10UJL	NC	0.10U	0.10U	NC
ENDOSULFAN-SULFATE	0.10UJL	0.10UJL	NC	0.10U	0.10U	NC
ENDRIN	0.10UJL	0.10UJL	NC	0.10U	0.10U	NC
ENDRIN-ALDEHYDE	0.10UJL	0.10UJL	NC	0.10U	0.10U	NC
ENDRIN-KETONE	0.10UJL	0.10UJL	NC	0.10U	0.10U	NC
ETHYLBENZENE	10.00U	10.00U	NC	10.00U	10.00U	NC
FLUORANTHENE	10.00U	10.00U	NC	10.00U	10.00U	NC
FLUORENE	10.00U	10.00U	NC	10.00U	10.00U	NC
GAMMA-CHLORDANE	0.05U	0.05U	NC	0.05U	0.05U	NC
HEPTACHLOR	0.05U	0.05U	NC	0.05U	0.05U	NC
HEPTACHLOR-EPOXIDE	0.05U	0.05U	NC	0.05U	0.05U	NC
HEXACHLOROBENZENE	10.00U	10.00U	NC	10.00U	10.00U	NC
HEXACHLOROBUTADIENE	10.00U	10.00U	NC	10.00U	10.00U	NC
HEXACHLOROCYCLOPENTADI	10.00U	10.00U	NC	10.00U	10.00U	NC
HEXACHLOROETHANE	10.00U	10.00U	NC	10.00U	10.00U	NC
INDENO(1,2,3-cd)PYRENE	10.00U	10.00U	NC	10.00U	10.00U	NC
ISOPHORONE	10.00U	10.00U	NC	10.00U	10.00U	NC
M,P-XYLENE (106-42-3)						
METHOXYCHLOR	0.50UJL	0.50UJL	NC	0.50U	0.50U	NC
METHYLENE CHLORIDE						
METHYLENE-CHLORIDE	10.00U	10.00U	NC	10.00U	10.00U	NC
N-NITROSO-DI-N-PROPYLA	10.00U	10.00U	NC	10.00U	10.00U	NC
N-NITROSODIPHENYLAMINE	10.00U	10.00U	NC	10.00U	10.00U	NC
NAPTHALENE	10.00U	10.00U	NC	10.00U	10.00U	NC
NITROBENZENE	10.00U	10.00U	NC	10.00U	10.00U	NC
O-XYLENE						
PENTACHLOROPHENOL	25.00U	25.00U	NC	25.00U	25.00U	NC
PHENANTHRENE	10.00U	10.00U	NC	10.00U	10.00U	NC
PHENOL	10.00U	10.00U	NC	10.00U	10.00U	NC
PYRENE	10.00U	10.00U	NC	10.00U	10.00U	NC
SET1,1-DICHLOROETHANE	10.00U	10.00U	NC	10.00U	10.00U	NC
STYRENE	10.00U	10.00U	NC	10.00U	10.00U	NC
TETRACHLOROETHENE	10.00U	10.00U	NC	10.00U	10.00U	NC
TOLUENE	10.00U	10.00U	NC	10.00U	10.00U	NC

TABLE J-6 - FIELD DUPLICATE RESULTS - UNITS:ug/L - ASL, 1994

ANALYTE	AL-MW036-GW-01	AL-MW036-GW-03	RPD	AL-MW038-GW-01	AL-MW038-GW-03	RPD
TOXAPHENE	5.00U	5.00U	NC	5.00U	5.00U	NC
TRANS-1,3-DICHLOROPROP						
TRICHLOROETHENE	10.00U	10.00U	NC	10.00U	10.00U	NC
VINYL CHLORIDE						
VINYL-CHLORIDE	10.00U	10.00U	NC	10.00U	10.00U	NC
XYLENE	10.00U	10.00U	NC	10.00U	10.00U	NC
alpha-BHC	0.05U	0.05U	NC	0.05U	0.05U	NC
beta-BHC	0.05U	0.05U	NC	0.05U	0.05U	NC
bis(2-CHLOROETHOXY)MET	10.00U	10.00U	NC	10.00U	10.00U	NC
bis(2-CHLOROETHYL)ETHE	10.00U	10.00U	NC	10.00U	10.00U	NC
bis(2-ETHYLHEXYL)PHTHA	10.00U	2.00J	NC	10.00U	10.00U	NC
bis(2-chloroisopropyl)						
cis-1,3-DICHLOROPROPEN	10.00U	10.00U	NC	10.00U	10.00U	NC
cis-Permethrin						
delta-BHC	0.05U	0.05U	NC	0.05U	0.05U	NC
gama-BHC	0.05U	0.05U	NC	0.05U	0.05U	NC
trans-1,3-DICHLOROPROP	10.00U	10.00U	NC	10.00U	10.00U	NC
trans-Permethrin						

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TABLE J-6 - FIELD DUPLICATE RESULTS - UNITS:ug/L - ASL, 1994

ANALYTE	AL-MW046-GW-01	AL-MW046-GW-03	RPD
1,1,1-TRICHLOROETHANE	10.00U	10.00U	NC
1,1,2,2-TETRACHLOROETH	10.00U	10.00U	NC
1,1,2-TRICHLOROETHANE	10.00U	10.00U	NC
1,1-DICHLOROETHANE			
1,1-DICHLOROETHENE	10.00U	10.00U	NC
1,2,4-TRICHLOROBENZENE	10.00U	10.00U	NC
1,2-DICHLOROBENZENE	10.00U	10.00U	NC
1,2-DICHLOROETHANE	10.00U	10.00U	NC
1,2-DICHLOROETHENE (to	10.00U	10.00U	NC
1,2-DICHLOROPROPANE	10.00U	10.00U	NC
1,3-DICHLOROBENZENE	10.00U	10.00U	NC
1,4-DICHLOROBENZENE	10.00U	10.00U	NC
2,2'-oxybis(1-CHLOROPR	10.00U	10.00U	NC
2,4,5-TRICHLOROPHENOL	25.00U	25.00U	NC
2,4,6-TRICHLOROPHENOL	10.00U	10.00U	NC
2,4-DICHLOROPHENOL	10.00U	10.00U	NC
2,4-DIMETHYLPHENOL	10.00U	10.00U	NC
2,4-DINITROPHENOL	25.00U	25.00U	NC
2,4-DINITROTOLUENE	10.00U	10.00U	NC
2,6-DINITROTOLUENE	10.00U	10.00U	NC
2-BUTANONE	10.00U	10.00U	NC
2-CHLORONAPHTHALENE	10.00U	10.00U	NC
2-CHLOROPHENOL	10.00U	10.00U	NC
2-HEXANONE	10.00U	10.00U	NC
2-METHYLNAPHTHALENE	10.00U	10.00U	NC
2-METHYLPHENOL	10.00U	10.00U	NC
2-NITROANILINE	25.00U	25.00U	NC
2-NITROPHENOL	10.00U	10.00U	NC
3,3'-DICHLOROBENZIDINE	10.00U	10.00U	NC
3-NITROANILINE	25.00U	25.00U	NC
4,4'-DDD	0.10UJL	0.10UJL	NC
4,4'-DDE	0.10UJL	0.10UJL	NC
4,4'-DDT	0.10UJL	0.10UJL	NC
4,6-DINITRO-2-METHYLPH	25.00U	25.00U	NC
4-BROMOPHENYL-PHENYLET	10.00U	10.00U	NC
4-CHLORO-3-METHYLPHENO	10.00U	10.00U	NC
4-CHLOROANILINE	10.00U	10.00U	NC
4-CHLOROPHENYL-PHENYLE	10.00U	10.00U	NC
4-METHYL-2-PENTANONE	10.00U	10.00U	NC
4-METHYLPHENOL	10.00U	10.00U	NC
4-NITROANILINE	25.00U	25.00U	NC

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TABLE J-6 - FIELD DUPLICATE RESULTS - UNITS:ug/L - ASL, 1994

ANALYTE	AL-MW046-GW-01	AL-MW046-GW-03	RPD
4-NITROPHENOL	25.00U	25.00U	NC
ACENAPHTHENE	10.00U	10.00U	NC
ACENAPHTHYLENE	10.00U	10.00U	NC
ACETONE	10.00U	10.00U	NC
ALDRIN	0.05U	0.05U	NC
ALPHA-CHLORDANE	0.05U	0.05U	NC
ANTHRACENE	10.00U	10.00U	NC
AROCHLOR-1016	1.00U	1.00U	NC
AROCHLOR-1221	2.00U	2.00U	NC
AROCHLOR-1232	1.00U	1.00U	NC
AROCHLOR-1242	1.00U	1.00U	NC
AROCHLOR-1248	1.00U	1.00U	NC
AROCLOR-1254	1.00U	1.00U	NC
AROCLOR-1260	1.00U	1.00U	NC
Acrolein			
Acrylonitrile			
BENZENE	10.00U	10.00U	NC
BENZO(a)ANTHRACENE	10.00U	10.00U	NC
BENZO(a)PYRENE	10.00U	10.00U	NC
BENZO(b)FLUORANTHENE	10.00U	10.00U	NC
BENZO(g,h,i)PERYLENE	10.00U	10.00U	NC
BENZO(k)FLUORANTHENE	10.00U	10.00U	NC
BROMETHANE	10.00U	10.00U	NC
BROMODICHLOROMETHANE	10.00U	10.00U	NC
BROMOFORM	10.00U	10.00U	NC
BROMOMETHANE			
BUTYLBENZYLPHTHALATE	10.00U	10.00U	NC
Benzoic Acid			
Benzyl Alcohol			
CARBAZOLE	10.00U	10.00U	NC
CARBON TETRACHLORIDE			
CARBON-DISULFIDE	10.00U	10.00U	NC
CARBON-TETRACHLORIDE	10.00U	10.00U	NC
CHLOROBENZENE	10.00U	10.00U	NC
CHLOROETHANE	10.00U	10.00U	NC
CHLOROFORM	10.00U	10.00U	NC
CHLOROMETHANE	10.00U	10.00U	NC
CHRYSENE	10.00U	10.00U	NC
CIS-1,2-DICHLOROETHENE			
DI-N-BUTYLPHTHALATE	10.00U	10.00U	NC
DI-N-OCTYLPHTHALATE	10.00U	10.00U	NC

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TABLE J-6 - FIELD DUPLICATE RESULTS - UNITS:ug/L - ASL, 1994

ANALYTE	AL-MW046-GW-01	AL-MW046-GW-03	RPD
DIBENZ(a,h)ANTHRACENE	10.00U	10.00U	NC
DIBENZOFURAN	10.00U	10.00U	NC
DIBROMOCHLOROMETHANE	10.00U	10.00U	NC
DIELDRIN	0.10UJL	0.10UJL	NC
DIETHYLPHTHALATE	10.00U	0.90J	NC
DIMETHYLPHTHALATE	10.00U	10.00U	NC
ENDOSULFAN-I	0.05U	0.05U	NC
ENDOSULFAN-II	0.10UJL	0.10UJL	NC
ENDOSULFAN-SULFATE	0.10UJL	0.10UJL	NC
ENDRIN	0.10UJL	0.10UJL	NC
ENDRIN-ALDEHYDE	0.10UJL	0.10UJL	NC
ENDRIN-KETONE	0.10UJL	0.10UJL	NC
ETHYLBENZENE	10.00U	10.00U	NC
FLUORANTHENE	10.00U	10.00U	NC
FLUORENE	10.00U	10.00U	NC
GAMMA-CHLORDANE	0.05U	0.05U	NC
HEPTACHLOR	0.05U	0.05U	NC
HEPTACHLOR-EPOXIDE	0.05U	0.05U	NC
HEXACHLOROBENZENE	10.00U	10.00U	NC
HEXACHLOROBUTADIENE	10.00U	10.00U	NC
HEXACHLOROCYCLOPENTADI	10.00U	10.00U	NC
HEXACHLOROETHANE	10.00U	10.00U	NC
INDENO(1,2,3-cd)PYRENE	10.00U	10.00U	NC
ISOPHORONE	10.00U	10.00U	NC
M,P-XYLENE (106-42-3)			
METHOXYCHLOR	0.50UJL	0.50UJL	NC
METHYLENE CHLORIDE			
METHYLENE-CHLORIDE	10.00U	10.00U	NC
N-NITROSO-DI-N-PROPYLA	10.00U	10.00U	NC
N-NITROSODIPHENYLAMINE	10.00U	10.00U	NC
NAPTHALENE	10.00U	10.00U	NC
NITROBENZENE	10.00U	10.00U	NC
O-XYLENE			
PENTACHLOROPHENOL	25.00U	25.00U	NC
PHENANTHRENE	10.00U	10.00U	NC
PHENOL	10.00U	10.00U	NC
PYRENE	10.00U	10.00U	NC
SET1,1-DICHLOROETHANE	10.00U	10.00U	NC
STYRENE	10.00U	10.00U	NC
TETRACHLOROETHENE	10.00U	10.00U	NC
TOLUENE	10.00U	10.00U	NC

TABLE J-6 - FIELD DUPLICATE RESULTS - UNITS:ug/L - ASL, 1994

ANALYTE	AL-MW046-GW-01	AL-MW046-GW-03	RPD
TOXAPHENE	5.00U	5.00U	NC
TRANS-1,3-DICHLOROPROP			
TRICHLOROETHENE	10.00U	10.00U	NC
VINYL CHLORIDE			
VINYL-CHLORIDE	10.00U	10.00U	NC
XYLENE	10.00U	10.00U	NC
alpha-BHC	0.05U	0.05U	NC
beta-BHC	0.05U	0.05U	NC
bis(2-CHLOROETHOXY)MET	10.00U	10.00U	NC
bis(2-CHLOROETHYL)ETHE	10.00U	10.00U	NC
bis(2-ETHYLHEXYL)PHTHA	10.00U	10.00U	NC
bis(2-chloroisopropyl)			
cis-1,3-DICHLOROPROPEN	10.00U	10.00U	NC
cis-Permethrin			
delta-BHC	0.05U	0.05U	NC
gama-BHC	0.05U	0.05U	NC
trans-1,3-DICHLOROPROP	10.00U	10.00U	NC
trans-Permethrin			

TABLE J-6 - FIELD DUPLICATE RESULTS - UNITS:ug/L - ASL, 1994

ANALYTE	AL-MW036-GW-01	AL-MW036-GW-03	RPD	AL-MW036-GW-02	AL-MW036-GW-04	RPD
ALUMINUM	26547.00JL	5474.30JL	132	0.000R	0.000R	NC
ANTIMONY	52.00U	52.00U	NC	52.00U	52.00U	NC
ARSENIC	56.30J	34.35J	48.4	3.60UCJ	5.25UCJ	NC
BARIUM	3042.00J	1386.40J	74.8	548.02	636.98	15.0
BERYLLIUM	2.10	1.00U	NC	1.00U	1.00U	NC
CADMIUM	12.64	5.57	77.6	4.00U	4.00U	NC
CALCIUM	328850.00	272860.00	18.6	224830.00	226200.00	0.6
CHROMIUM	113.17J	50.03J	77.4	13.92	11.67	17.6
COBALT	17.93	4.48	120	4.00U	4.00U	NC
COPPER	729.34	558.10	26.6	7.20	7.00U	NC
CYANIDE	10.00U	10.00U	NC	10.00U	10.00U	NC
IRON	194870.00J	73829.00J	90.1	3694.50J	9421.50J	87.3
LEAD	7170.00J	2655.00J	91.9	2.00U	4.40	NC
MAGNESIUM	75419.00	61544.00	20.3	53349.00	57992.00	8.3
MANGANESE	2282.40J	1142.20J	66.6	629.32	674.42	6.9
MERCURY	45.70J	7.26J	145	0.20U	0.20U	NC
NICKEL	60.53	19.44	103	8.00U	8.00U	NC
POTASSIUM	67500.00J	69500.00J	2.9	59500.00J	62550.00J	5.0
SELENIUM	2.00UJ	20.00UJ	NC	20.00UJ	20.00UJ	NC
SILVER	18.44	13.74	29.2	7.00U	7.00U	NC
SODIUM	179040.00	144620.00	21.3	140920.00	176830.00	22.6
THALLIUM	20.00UJ	20.00UJ	NC	2.00UJ	2.00UJ	NC
VANADIUM	129.39	34.26	116	10.00U	10.00U	NC
ZINC	10279.00J	3131.00J	107	2.00U	8.69UC	NC

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TABLE J-6 - FIELD DUPLICATE RESULTS - UNITS:ug/L - ASL, 1994

ANALYTE	AL-MW038-GW-01	AL-MW038-GW-03	RPD	AL-MW038-GW-02	AL-MW038-GW-04	RPD
ALUMINUM	42.70	223.00	136	33.00U	33.00U	NC
ANTIMONY	2.00U	2.00U	NC	12.00UC	4.10UC	NC
ARSENIC	2.00U	2.00U	NC	2.00U	2.00U	NC
BARIUM	114.00	181.00	45.4	477.00	466.00	2.3
BERYLLIUM	1.00U	1.00U	NC	1.00U	1.00U	NC
CADMIUM	1.00U	1.00	NC	1.00U	1.00U	NC
CALCIUM	382532.00	375215.00	1.9	290845.00	296509.00	1.9
CHROMIUM	1.20	2.30	62.9	1.00U	1.10	NC
COBALT	11.00U	11.00U	NC	11.00U	11.00U	NC
COPPER	4.00U	27.40	NC	13.50	12.60	6.9
CYANIDE	6.10	6.10	0.0	4.40	4.40	0.0
IRON	1869.00J	2782.00J	39.3	62.10UC	25.40UC	NC
LEAD	6.10UCJ	76.20J	NC	1.00U	1.00U	NC
MAGNESIUM	65233.00	65460.00	0.3	71528.00	72718.00	1.7
MANGANESE	662.00	791.00	17.8	1601.00	1636.00	2.2
MERCURY	0.10U	0.13	NC	0.10U	0.10U	NC
NICKEL	10.00U	10.00U	NC	10.00U	10.00U	NC
POTASSIUM	56534.00	57172.00	1.1	63510.00	66322.00	4.3
SELENIUM	3.00U	3.00U	NC	3.00U	4.10	NC
SILVER	3.20	2.80	13.3	2.00U	2.00UC	NC
SODIUM	103084.00	108609.00	5.2	260890.00	258346.00	1.0
THALLIUM	4.00U	4.40	NC	4.00U	8.40	NC
VANADIUM	2.00U	2.00U	NC	2.00U	2.00U	NC
ZINC	109.00J	227.00J	70.2	103.00J	171.00J	49.6

TABLE J-6 - FIELD DUPLICATE RESULTS - UNITS:ug/L - ASL, 1994

ANALYTE	AL-MW046-GW-01	AL-MW046-GW-03	RPD	AL-MW046-GW-02	AL-MW046-GW-04	RPD
ALUMINUM	6594.00J	13407.00J	68.1	25.80UC	36.60UC	NC
ANTIMONY	14.70	17.00	14.5	13.00U	13.00U	NC
ARSENIC	16.20J	26.40J	47.9	7.95UC	9.32UC	NC
BARIUM	1883.00	2431.00	25.4	747.00	806.00	7.6
BERYLLIUM	1.00U	1.34	NC	1.00U	1.00U	NC
CADMIUM	4.37	7.25	49.6	3.00U	3.00U	NC
CALCIUM	122582.00	135648.00	10.1	97287.00	100651.00	3.4
CHROMIUM	33.70J	61.40J	58.3	4.00U	4.00U	NC
COBALT	8.32	13.00	43.9	5.00U	5.00U	NC
COPPER	298.00J	452.00J	41.1	5.00U	5.00U	NC
CYANIDE	10.00UJ	10.00UJ	NC	10.00UJ	10.00UJ	NC
IRON	39369.00J	70847.00J	57.1	949.00J	2060.00J	73.8
LEAD	3219.00J	5017.00J	43.7	2.00U	2.00U	NC
MAGNESIUM	36201.00	38868.00	7.1	31230.00	30257.00	3.2
MANGANESE	550.00J	813.00J	38.6	253.00	258.00	2.0
MERCURY	0.39	0.78	66.7	0.20UJ	0.20UJ	NC
NICKEL	24.40	40.10	48.7	11.00U	11.00U	NC
POTASSIUM	52120.00J	53053.00J	1.8	53189.00J	50759.00J	4.7
SELENIUM	115.00	115.00	0.0	113.00	117.00	3.5
SILVER	5.22UC	5.38UC	NC	2.00U	2.20	NC
SODIUM	131278.00	131194.00	0.1	140188.00	131704.00	6.2
THALLIUM	2.00U	3.54UC	NC	2.00U	2.00U	NC
VANADIUM	22.20	35.90	47.2	4.00U	4.00U	NC
ZINC	2367.00J	4142.00J	54.5	3.00U	3.00U	NC

TABLE J-6 - FIELD DUPLICATE RESULTS - UNITS:ug/L - ASL, 1994

ANALYTE	AL-MW036-GW-01	AL-MW036-GW-03	RPD	AL-MW038-GW-01	AL-MW038-GW-03	RPD
ALKALINITY	1230000.0	1160000.0	5.9	1050000.0	1020000.0	2.9
CHLORIDE	186000.00	203000.00	8.7	143000.00	127000.00	11.9
COD	46600.000U	46600.000U	NC	46600.000U	46600.000U	NC
FLUORIDE	0.16000	0.12000	28.6	0.30000	0.26000	14.3
HARDNESS	554.00000	1100.0000	66.0	1600.0000	1240.0000	25.4
NH3	45400.000	42200.000	7.3	34400.000	32700.000	5.1
NOX	5.10000U	5.10000U	NC	121.00000	107.00000	12.3
SULFATE	16700.000	14500.000	14.1	648000.00J	296000.00J	74.6
T PHOS	8420.0000J	5020.0000J	50.6	17.80000UC	11.50000U	NC
TDS	1380000.0	1660000.0	18.4	2130000.0	2050000.0	3.8
TOC	85400.000J	56200.000J	41.2	39500.000J	32600.000J	19.1
TSS	94000.000J	149000.00J	45.3	112000.00J	32000.000J	111

TABLE J-6 - FIELD DUPLICATE RESULTS - UNITS:ug/L - ASL, 1994

ANALYTE	AL-MW046-GW-01	AL-MW046-GW-03	RPD
ALKALINITY	687000.00J	695000.00J	1.2
CHLORIDE	2000.0000U	62600.000	NC
COD	7650.0000	968000.00	197
FLUORIDE	0.18000	0.18000	0.0
HARDNESS	803.00000	636.00000	23.2
NH3	19900.000	19400.000	2.5
NOX	100.00000U	100.00000U	NC
SULFATE	2000.0000UJ	2670.0000J	NC
T PHOS	100.00000U	2540.0000	NC
TDS	100.00000U	720000.00	NC
TOC	14100.000J	21700.000J	42.5
TSS	100.00000UJ	360000.00J	NC

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TABLE J-6 - FIELD DUPLICATE RESULTS - UNITS:ppbv - ASL, 1994

ANALYTE	AL-SG025-AS-01	AL-SG025-AS-03	RPD	AL-SG030-AS-01	AL-SG030-AS-03	RPD
1,1,1-TRICHLOROETHANE	0.20	0.21	4.9	0.24U	0.20U	NC
1,1,2,2-TETRACHLOROETH	0.20U	0.20U	NC	0.24U	0.20U	NC
1,1,2-TRICHLOROETHANE	0.20U	0.20U	NC	0.24U	0.20U	NC
1,1-DICHLOROETHANE	0.20U	0.20U	NC	0.24U	0.20U	NC
1,1-DICHLOROETHENE	0.20U	0.20U	NC	0.24U	0.20U	NC
1,2,4-TRICHLOROBENZENE	0.20U	0.20U	NC	0.24U	0.20U	NC
1,2,4-TRIMETHYLBENZENE	0.20U	0.45	NC	0.24U	0.20U	NC
1,2-DICHLOROBENZENE	0.20U	0.20U	NC	0.24U	0.20U	NC
1,2-DICHLOROETHANE	0.20U	0.20U	NC	0.24U	0.20U	NC
1,2-DICHLOROPROPANE	0.20U	0.20U	NC	0.24U	0.20U	NC
1,3,5-TRIMETHYLBENZENE	0.20U	0.20U	NC	0.24U	0.20U	NC
1,3-DICHLOROBENZENE	0.51	0.20U	NC	0.24U	0.20U	NC
1,4-DICHLOROBENZENE	0.20U	0.20U	NC	0.44J	0.20UJ	NC
BENZENE	1.30	0.62	70.8	1.40	0.99	34.3
BROMOMETHANE	0.20U	0.20U	NC	0.24U	0.20U	NC
CARBON TETRACHLORIDE	0.20U	0.20U	NC	0.24U	0.20U	NC
CHLOROBENZENE	0.20U	0.20U	NC	0.24U	0.20U	NC
CHLOROETHANE	0.20U	0.20U	NC	0.24U	0.20U	NC
CHLOROFORM	0.20U	0.20U	NC	1.60	0.54	99.1
CHLOROMETHANE	0.37	0.31	17.6	0.38	0.37	2.7
CHLOROTOLUENE(BENZYL C	0.20U	0.20U	NC	0.24U	0.20U	NC
CIS-1,2-DICHLOROETHENE	0.20U	0.20U	NC	0.24U	0.20U	NC
CIS-1,3-DICHLOROPROPEN	0.20U	0.20U	NC	0.24U	0.20U	NC
ETHYLBENZENE	0.26	0.24	8.0	0.24U	0.20U	NC
ETHYLENE DIBROMIDE(1,2	0.20U	0.20U	NC	0.24U	0.20U	NC
FREON 11	0.33	0.44	28.6	0.35	0.31	12.1
FREON 113	0.20U	0.20U	NC	0.24U	0.20U	NC
FREON 114	0.20U	0.20U	NC	0.24U	0.20U	NC
FREON 12	0.57	0.72	23.3	0.55	0.53	3.7
HEXACHLOROBUTADIENE	0.20U	0.20U	NC	0.24U	0.20U	NC
M,P-XYLENE (106-42-3)	0.86	0.83	3.6	0.50	0.36	32.6
METHANE	5.00U	5.00U	NC	6.00U	5.00U	NC
METHYLENE CHLORIDE	0.20U	0.20U	NC	0.24U	0.20U	NC
O-XYLENE	0.34	0.34	0.0	0.24U	0.20U	NC
STYRENE	0.20U	0.20U	NC	0.24U	0.20U	NC
TETRACHLOROETHENE	0.20U	0.20U	NC	0.24U	0.20U	NC
TOLUENE	1.20	1.50	22.2	0.88	0.61	36.2
TRANS-1,3-DICHLOROPROP	0.20U	0.20U	NC	0.24U	0.20U	NC
TRICHLOROETHENE	0.20U	0.20U	NC	0.43J	0.20UJ	NC
VINYL CHLORIDE	0.20U	0.20U	NC	0.24U	0.20U	NC

TABLE J-6 - FIELD DUPLICATE RESULTS - UNITS:ppbv - ASL, 1994

ANALYTE	AL-SG032-AS-01	AL-SG032-AS-03	RPD	AL-SG034-AS-01	AL-SG034-AS-03	RPD
1,1,1-TRICHLOROETHANE	0.20U	0.20U	NC	0.20U	0.22U	NC
1,1,2,2-TETRACHLOROETH	0.20U	0.20U	NC	0.20U	0.22U	NC
1,1,2-TRICHLOROETHANE	0.20U	0.20U	NC	0.20U	0.22U	NC
1,1-DICHLOROETHANE	0.20U	0.20U	NC	0.20U	0.22U	NC
1,1-DICHLOROETHENE	0.20U	0.20U	NC	0.20U	0.22U	NC
1,2,4-TRICHLOROBENZENE	0.20U	0.20U	NC	0.20U	0.22U	NC
1,2,4-TRIMETHYLBENZENE	0.20U	0.20U	NC	0.20U	0.22U	NC
1,2-DICHLOROBENZENE	0.20U	0.20U	NC	0.20U	0.22U	NC
1,2-DICHLOROETHANE	0.20U	0.20U	NC	0.20U	0.22U	NC
1,2-DICHLOROPROPANE	0.20U	0.20U	NC	0.20U	0.22U	NC
1,3,5-TRIMETHYLBENZENE	0.20U	0.20U	NC	0.20U	0.22U	NC
1,3-DICHLOROBENZENE	0.20U	0.20U	NC	0.20U	0.22U	NC
1,4-DICHLOROBENZENE	0.20U	0.20U	NC	0.20U	0.22U	NC
BENZENE	0.81	0.45	57.1	1.10	0.58	61.9
BROMOMETHANE	0.20U	0.20U	NC	0.20U	0.22U	NC
CARBON TETRACHLORIDE	0.20U	0.20U	NC	0.20U	0.22U	NC
CHLOROBENZENE	0.20U	0.20U	NC	0.20U	0.22U	NC
CHLOROETHANE	0.20U	0.20U	NC	0.20U	0.22U	NC
CHLOROFORM	0.20U	0.20U	NC	0.20U	0.22U	NC
CHLOROMETHANE	0.45	0.33	30.8	0.27	0.32	16.9
CHLOROTOLUENE(BENZYL C	0.20U	0.20U	NC	0.20U	0.22U	NC
CIS-1,2-DICHLOROETHENE	0.20U	0.20U	NC	0.20U	0.22U	NC
CIS-1,3-DICHLOROPROPEN	0.20U	0.20U	NC	0.20U	0.22U	NC
ETHYLBENZENE	0.20U	0.24	NC	0.20U	0.22U	NC
ETHYLENE DIBROMIDE(1,2	0.20U	0.20U	NC	0.20U	0.22U	NC
FREON 11	0.34	0.36	5.7	0.34	0.33	3.0
FREON 113	0.20U	0.20U	NC	0.20U	0.22U	NC
FREON 114	0.20U	0.20U	NC	0.20U	0.22U	NC
FREON 12	0.59	0.64	8.1	0.59	0.60	1.7
HEXACHLOROBUTADIENE	0.20U	0.20U	NC	0.20U	0.22U	NC
M,P-XYLENE (106-42-3)	0.40	0.58	36.7	0.48	0.59	20.6
METHANE	5.00U	5.00U	NC	5.00U	5.50U	NC
METHYLENE CHLORIDE	0.20U	0.20U	NC	0.20U	0.22U	NC
O-XYLENE	0.20U	0.22	NC	0.20U	0.22U	NC
STYRENE	0.20U	0.20U	NC	0.20U	0.22U	NC
TETRACHLOROETHENE	0.20U	0.20U	NC	0.20U	0.22U	NC
TOLUENE	0.69	0.93	29.6	0.96	1.20	22.2
TRANS-1,3-DICHLOROPROP	0.20U	0.20U	NC	0.20U	0.22U	NC
TRICHLOROETHENE	0.20U	0.20U	NC	0.20U	0.22U	NC
VINYL CHLORIDE	0.20U	0.20U	NC	0.20U	0.22U	NC

TABLE J-6 - FIELD DUPLICATE RESULTS - UNITS:ug/L - ASL, 1994

ANALYTE	AL-TP004-TW-01	AL-TP004-TW-02	RPD
1,1,1-TRICHLOROETHANE	10.00U	10.00U	NC
1,1,2,2-TETRACHLOROETH	10.00U	10.00U	NC
1,1,2-TRICHLOROETHANE	10.00U	10.00U	NC
1,1-DICHLOROETHANE			
1,1-DICHLOROETHENE	10.00U	10.00U	NC
1,2,4-TRICHLOROBENZENE	10.00U	10.00U	NC
1,2-DICHLOROBENZENE	10.00U	10.00U	NC
1,2-DICHLOROETHANE	10.00U	10.00U	NC
1,2-DICHLOROETHENE (to	10.00U	10.00U	NC
1,2-DICHLOROPROPANE	10.00U	10.00U	NC
1,3-DICHLOROBENZENE	10.00U	10.00U	NC
1,4-DICHLOROBENZENE	10.00U	10.00U	NC
2,2'-oxybis(1-CHLOROPR	10.00U	10.00U	NC
2,4,5-TRICHLOROPHENOL	25.00U	25.00U	NC
2,4,6-TRICHLOROPHENOL	10.00U	10.00U	NC
2,4-DICHLOROPHENOL	10.00U	10.00U	NC
2,4-DIMETHYLPHENOL	10.00U	10.00U	NC
2,4-DINITROPHENOL	25.00U	25.00U	NC
2,4-DINITROTOLUENE	10.00U	10.00U	NC
2,6-DINITROTOLUENE	10.00U	10.00U	NC
2-BUTANONE	10.00U	10.00U	NC
2-CHLORONAPHTHALENE	10.00U	10.00U	NC
2-CHLOROPHENOL	10.00U	10.00U	NC
2-HEXANONE	10.00U	10.00U	NC
2-METHYLNAPHTHALENE	1.00J	1.00J	0.0
2-METHYLPHENOL	10.00U	10.00U	NC
2-NITROANILINE	25.00U	25.00U	NC
2-NITROPHENOL	10.00U	10.00U	NC
3,3'-DICHLOROBENZIDINE	10.00U	10.00U	NC
3-NITROANILINE	25.00U	25.00U	NC
4,4'-DDD	0.10UJL	0.10UJL	NC
4,4'-DDE	0.03JL	0.02JL	31.1
4,4'-DDT	0.10UJL	0.10UJL	NC
4,6-DINITRO-2-METHYLPH	25.00U	25.00U	NC
4-BROMOPHENYL-PHENYLET	10.00U	10.00U	NC
4-CHLORO-3-METHYLPHENO	10.00U	10.00U	NC
4-CHLOROANILINE	10.00U	10.00U	NC
4-CHLOROPHENYL-PHENYLE	10.00U	10.00U	NC
4-METHYL-2-PENTANONE	10.00U	10.00U	NC
4-METHYLPHENOL	3.00J	4.00J	28.6
4-NITROANILINE	25.00U	25.00U	NC

TABLE J-6 - FIELD DUPLICATE RESULTS - UNITS:ug/L - ASL, 1994

ANALYTE	AL-TP004-TW-01	AL-TP004-TW-02	RPD
4-NITROPHENOL	25.00U	25.00U	NC
ACENAPHTHENE	10.00U	10.00U	NC
ACENAPHTHYLENE	10.00U	10.00U	NC
ACETONE	10.00U	10.00U	NC
ALDRIN	0.000R	0.00R	NC
ALPHA-CHLORDANE	0.05UJL	0.05UJL	NC
ANTHRACENE	10.00U	10.00U	NC
AROCHLOR-1016	1.00UJL	1.00UJL	NC
AROCHLOR-1221	2.00UJL	2.00UJL	NC
AROCHLOR-1232	1.00UJL	1.00UJL	NC
AROCHLOR-1242	1.00UJL	1.00UJL	NC
AROCHLOR-1248	1.00UJL	1.00UJL	NC
AROCLOR-1254	1.00UJL	1.00UJL	NC
AROCLOR-1260	1.00UJL	1.00UJL	NC
Acrolein			
Acrylonitrile			
BENZENE	10.00U	10.00U	NC
BENZO(a)ANTHRACENE	10.00U	10.00U	NC
BENZO(a)PYRENE	10.00U	10.00U	NC
BENZO(b)FLUORANTHENE	10.00U	10.00U	NC
BENZO(g,h,i)PERYLENE	10.00U	10.00U	NC
BENZO(k)FLUORANTHENE	10.00U	10.00U	NC
BROMETHANE	10.00U	10.00U	NC
BROMODICHLOROMETHANE	10.00U	10.00U	NC
BROMOFORM	10.00U	10.00U	NC
BROMOMETHANE			
BUTYLBENZYLPHTHALATE	10.00U	10.00U	NC
Benzoic Acid			
Benzyl Alcohol			
CARBAZOLE	10.00U	10.00U	NC
CARBON TETRACHLORIDE			
CARBON-DISULFIDE	10.00U	10.00U	NC
CARBON-TETRACHLORIDE	10.00U	10.00U	NC
CHLOROBENZENE	10.00U	10.00U	NC
CHLOROETHANE	10.00U	10.00U	NC
CHLOROFORM	10.00U	10.00U	NC
CHLOROMETHANE	10.00U	10.00U	NC
CHRYSENE	10.00U	10.00U	NC
CIS-1,2-DICHLOROETHENE			
DI-N-BUTYLPHTHALATE	10.00U	10.00U	NC
DI-N-OCTYLPHTHALATE	10.00U	10.00U	NC

TABLE J-6 - FIELD DUPLICATE RESULTS - UNITS:ug/L - ASL, 1994

ANALYTE	AL-TP004-TW-01	AL-TP004-TW-02	RPD
DIBENZ(a,h)ANTHRACENE	10.00U	10.00U	NC
DIBENZOFURAN	10.00U	10.00U	NC
DIBROMOCHLOROMETHANE	10.00U	10.00U	NC
DIELDRIN	0.000R	0.00R	NC
DIETHYLPHTHALATE	10.00U	10.00U	NC
DIMETHYLPHTHALATE	10.00U	10.00U	NC
ENDOSULFAN-I	0.05UJL	0.05UJL	NC
ENDOSULFAN-II	0.10UJL	0.10UJL	NC
ENDOSULFAN-SULFATE	0.10UJL	0.10UJL	NC
ENDRIN	0.000R	0.00R	NC
ENDRIN-ALDEHYDE	0.10UJL	0.10UJL	NC
ENDRIN-KETONE	0.10UJL	0.10UJL	NC
ETHYLBENZENE	10.00U	10.00U	NC
FLUORANTHENE	10.00U	10.00U	NC
FLUORENE	10.00U	10.00U	NC
GAMMA-CHLORDANE	0.05UJL	0.05UJL	NC
HEPTACHLOR	0.000R	0.00R	NC
HEPTACHLOR-EPOXIDE	0.05UJL	0.05UJL	NC
HEXACHLOROBENZENE	10.00U	10.00U	NC
HEXACHLOROBUTADIENE	10.00U	10.00U	NC
HEXACHLOROCYCLOPENTADI	10.00U	10.00U	NC
HEXACHLOROETHANE	10.00U	10.00U	NC
INDENO(1,2,3-cd)PYRENE	10.00U	10.00U	NC
ISOPHORONE	10.00U	10.00U	NC
M,P-XYLENE (106-42-3)			
METHOXYCHLOR	0.02JL	0.01JL	42.4
METHYLENE CHLORIDE			
METHYLENE-CHLORIDE	10.00U	10.00U	NC
N-NITROSO-DI-N-PROPYLA	10.00U	10.00U	NC
N-NITROSODIPHENYLAMINE	10.00U	10.00U	NC
NAPTHALENE	1.00J	2.00J	66.7
NITROBENZENE	10.00U	10.00U	NC
O-XYLENE			
PENTACHLOROPHENOL	25.00U	25.00U	NC
PHENANTHRENE	10.00U	10.00U	NC
PHENOL	10.00U	10.00U	NC
PYRENE	10.00U	10.00U	NC
SET1,1-DICHLOROETHANE	10.00U	10.00U	NC
STYRENE	10.00U	10.00U	NC
TETRACHLOROETHENE	10.00U	10.00U	NC
TOLUENE	10.00U	10.00U	NC

TABLE J-6 - FIELD DUPLICATE RESULTS - UNITS:ug/L - ASL, 1994

ANALYTE	AL-TP004-TW-01	AL-TP004-TW-02	RPD
TOXAPHENE	5.00UJL	5.00UJL	NC
TRANS-1,3-DICHLOROPROP			
TRICHLOROETHENE	10.00U	10.00U	NC
VINYL CHLORIDE			
VINYL-CHLORIDE	10.00U	10.00U	NC
XYLENE	10.00U	10.00U	NC
alpha-BHC	0.05UJL	0.05UJL	NC
beta-BHC	0.05UJL	0.05UJL	NC
bis(2-CHLOROETHOXY)MET	10.00U	10.00U	NC
bis(2-CHLOROETHYL)ETHE	10.00U	10.00U	NC
bis(2-ETHYLHEXYL)PHTHA	10.00U	9.00J	NC
bis(2-chloroisopropyl)			
cis-1,3-DICHLOROPROPEN	10.00U	10.00U	NC
cis-Permethrin			
delta-BHC	0.05UJL	0.05UJL	NC
gama-BHC	0.000R	0.00R	NC
trans-1,3-DICHLOROPROP	10.00U	10.00U	NC
trans-Permethrin			

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TABLE J-6 - FIELD DUPLICATE RESULTS - UNITS:ug/L - ASL, 1994

ANALYTE	AL-TP004-TW-01	AL-TP004-TW-02	RPD
ALUMINUM	33891.00	29194.00	14.9
ANTIMONY	105.00JH	126.00JH	18.2
ARSENIC	25.20JL	19.50JL	25.5
BARIUM	5613.00J	4216.00J	28.4
BERYLLIUM	1.90	1.60	17.1
CADMIUM	43.20	33.00	26.8
CALCIUM	242023.00	246421.00	1.8
CHROMIUM	446.00J	390.00J	13.4
COBALT	53.40	45.90	15.1
COPPER	2683.00	2402.00	11.1
CYANIDE	12.30	24.90	67.7
IRON	344330.00	287740.00	17.9
LEAD	19541.00	14958.00	26.6
MAGNESIUM	44762.00	44431.00	0.7
MANGANESE	2710.00	2262.00	18.0
MERCURY	3.40	4.90	36.1
NICKEL	148.00	135.00	9.2
POTASSIUM	61608.00	58540.00	5.1
SELENIUM	0.000R	0.00R	NC
SILVER	40.20	36.80	8.8
SODIUM	122224.00	113616.00	7.3
THALLIUM	1.80J	1.50J	18.2
VANADIUM	80.30	68.70	15.6
ZINC	17433.00	14285.00	19.8

TABLE J-7 - DATA USABILITY - UNITS: ug/L - ASL, 1994

ANALYTE	AL-MW003-GW-01	AL-MW004-GW-01	AL-MW007-GW-01	AL-MW008-GW-01	AL-MW009-GW-01
ALKALINITY	592000.00UC	1080000.0UC	721000.00UC	982000.00UC	1220000.0JH
CHLORIDE	60300.000UCJ	4800000.0J	26100.000UCJ	5890000.0J	3430000.0J
COD	47600.000	241000.00	46600.000U	66900.000	183000.00
NH3	784.000UC	34500.000JH	12200.000UCJ	15400.000UC	7090.000UC
NOX	5.100U	5.100U	13.200J	10.800J	30.200J
SULFATE	1140.000UC	1390.000UC	100000.00	1170.000UC	1080.000UC
T PHOS	1530.000	1370.000	1030.000JH	534.000UC	6260.000
TDS	1060000.0UC	8490000.0	931000.00UC	10400000	4440000.0UC
TOC	45800.000	13400.000	40200.000	20600.000	272000.00
TSS	40000.000	42000.000	203000.00	28000.000JH	45000.000

TABLE J-7 - DATA USABILITY - UNITS: ug/L - ASL, 1994

ANALYTE	AL-MW034-GW-01
ALKALINITY	1120000.0UC
CHLORIDE	7250000.0J
COD	144000.00
NH3	21000.000UC
NOX	128.000
SULFATE	46400.000
T PHOS	11.500U
TDS	12600000
TOC	20400.000
TSS	38000.000

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TABLE J-7 - DATA USABILITY - UNITS: ug/L - ASL, 1994

ANALYTE	AL-MW010-GW-01	AL-MW011-GW-01	AL-MW012-GW-01	AL-MW013-GW-01	AL-MW014-GW-01
ALKALINITY	1220000.0JH	1160000.0UC	1250000.0JH	918000.00UC	1100000.0UC
CHLORIDE	6500000.0J	2500000.0JH	7220000.0J	87300.000UCJ	8240000.0J
COD	241000.00	163000.00	66900.000	46600.000U	46600.000U
NH3	23500.000UC	1890.000UC	30100.000JH	125.000UC	29700.000JH
NOX	16.600J	19.900	8.100	5.300	5.100U
SULFATE	27300.000	1870.000	6740.000UC	271000.00	5330.000
T PHOS	11.500U	3370.000	467.000UC	172.000UC	11.500U
TDS	11800000	5490000.0	13400000	1740000.0JH	14000000
TOC	170000.00	193000.00	88200.000	93100.000	37800.000
TSS	63000.000	212000.00	41000.000	19000.000JH	44000.000

TABLE J-7 - DATA USABILITY - UNITS: ug/L - ASL, 1994

ANALYTE	AL-MW023-GW-01	AL-MW024-GW-01	AL-MW031-GW-01	AL-MW032-GW-01	AL-MW033-GW-01
ALKALINITY	815000.00UC	836000.00UC	1350.000R	1020000.0UC	762000.00UC
CHLORIDE	73800.000UCJ	6570000.0J	177000.00R	6060000.0J	60600.000UCJ
COD	45400.000	46600.000U	46600.000U	183000.00	46600.000U
NH3	22400.000UC	13100.000UC	30200.000JH	23800.000UC	37500.000
NOX	5.100U	5.100U	46.600	10.100	7.800
SULFATE	11600.000JH	9370.000UC	2120.000R	12800.000JH	3460.000UC
T PHOS	1140.000JH	77.000UC	38.000UC	11.500U	863.000JH
TDS	1040000.0UC	11000000	9050000.0R	11200000	820000.00UC
TOC	17900.000	22500.000	361000.00	146000.00	31200.000
TSS	9100000.0	43000.000	8000.000R	59000.000	13000.000UC

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APPENDIX K

DATA MANAGEMENT

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APPENDIX K
DATA MANAGEMENT

A large volume of data was generated for the Agriculture Street Landfill Remedial Removal Integrated Investigation (RRII). This appendix describes the process and systems used to bring the data together in a usable format, as well as the statistical methods used to evaluate the data. Data management includes all the aspects of collating and processing data generated for the RRII report.

K.1 DATA STRUCTURE AND COLLATION

Due to the compressed schedule for field work, analysis, data review, and evaluation, it was decided that all information related to site sample collection and analysis, as well as field observations and measurements made while on site, would be entered into electronic form as early as possible to facilitate sorting of the information, transfer of analytical and other data, and export of data to compatible software programs used for data evaluation and report generation.

Before beginning work on site, programs were established in a data base software package to allow entry of sample information as the work progressed. The program, called SAMPMAN, contained two database files. The first was SAMPINFO and allowed entry of information such as an E & E sample number; matrix; date and time of sample collection; field measurements such as pH, temperature and conductivity; miscellaneous sample identifiers such as duplicate or blank sample; and, other comments. The second database file was LABINFO and recorded information such as Contract Laboratory Program (CLP) sample number, case number, assigned laboratory, date of shipment and other miscellaneous information related to the sample shipment for analysis.

The LABINFO database also contained a field to allow entry of the sample delivery group (SDG) number assigned by the CLP laboratory. This information did not become available until several weeks after the samples were shipped for analysis and so this field was initially left blank during data entry. The SAMPINFO and LABINFO databases were related to one another through the E & E sample number and CLP number. LABINFO was related through the CLP sample number and SDG number to a program entitled DATATRAK.

DATATRAK allowed availability of analytical results to be projected and recorded through data receipt, transfer to review or validation and distribution.

K.1.1 Data Entry

At the start of field work, a personal computer and modem line were established in a trailer on site to allow realtime data entry and also to allow transfer of collected information to E & E's Regional Computer Center (RCC) at the Technical Assistance Team (TAT) office in Dallas. Before field work began, methods of recording field information were standardized to support data entry. The large volume of information collected on site required that the data entry process continue at the RCC immediately following field work.

Data generated from site activities were imported into a database software package, including field analytical results, survey data information and meteorological data recorded by a weather station established on site. Some information not originally specified for inclusion in the database was identified as the project progressed. These data were primarily used to generate tables for the report appendices. In these cases, data were entered into spreadsheets and imported into the database.

Analytical results were received in two ways. CLP Routine Analytical Service (RAS) organic and inorganic results, representing the majority of the analytical data, were downloaded from EPA's CARD system. The text file obtained from CARD was imported into a database program titled VALIDATE. It had been assumed that data obtained through CARD would require application of validation qualifiers only. However, review of data downloaded from CARD revealed that multiple runs of the same sample, representing reanalyses or dilute runs, were included in CARD. In addition, some compounds were missing from the downloaded files or appeared as a result of 0. These data were updated by reference to the hard copy form I reports provided following data validation. Analytical data generated through CLP Special Analytical Service (SAS), dioxin, and commercial labs were received in hard copy only following validation. VALIDATE was then used to generate database files containing sample and analytical information by reference to the form I, annotated with validation qualifiers.

Manual data entry of sample information, including analytical data results and validation qualifiers, was proofread against the source material. Source material included original log books and tables generated from the log books, as well as annotated form I

sheets. Data downloaded from CARD was checked by comparison to the hard copy form I during application of validation qualifiers. A missing sample report was generated to identify samples from a given group (area/type) which did not yet have analytical data recorded as received. In addition, a missing compound report was generated to ensure that for each sample analysis result summary, a value was present for each target compound.

K.1.2 Data Coordination

A short program was generated to use the SDG number from CARD data to update the empty field in LABINFO. For the RAS organic and inorganic data this made it possible to initiate tracking of the pending analytical data earlier than usual by being able to identify to EPA's Regional Sample Control Center (RSCC) the SDG number of the expected data set. SDG numbers for non-RAS data sets were updated by manual entry into LABINFO for each sample (up to 20) in the SDG. An application was generated to scan SAMPMAN, identify new SDGs, and create a record for the SDG in DATATRAK.

Sample results received or generated were initially grouped by SDG. SAMPMAN (containing SAMPINFO and LABINFO) and DATATRAK were used together to track the completeness of various sample groupings. The sample groups typically involved a sample area and/or type. This was accomplished by using the codes contained in the E & E sample number. If a sample was labeled, for example AL-SG001-SS-01, it was known that the sample was a study group residence surface soil sample. The programs generated and updated in the database for each analysis (organic, inorganic, dioxin, SAS, commercial, and EPA Houston) could be queried to determine if a specified sample group contained a complete, validated data set. This was used to provide progress updates to report writers and managers as well as to set priorities during data validation (by E & E), data entry, and review.

Data generated from CARD was labeled with a CLP number only. Processing of the data through the database software and prior to distribution included application of the corresponding E & E sample number, depth interval for soil samples and other information. As a rule, database files sorted by SDG were grouped into larger files by analysis. Files for evaluation and presentation were then sorted as required, into groups by sample area and type.

Primary distribution was accomplished by establishing a file service on the RCC computer network. Sorted and completed files were placed on the file service as database and spreadsheet files for evaluation of data. Two identical sets of files were created, one with blanks and duplicates for quality control evaluation and one without blanks or duplicates to allow statistical and other evaluation of the data. A comma delimited text file was exported for use in the Geographic Information System (GIS). Spreadsheet files containing XRF data were converted to allow statistical information to be generated and evaluated during field work. Additional modified text files were created for use in several statistics packages. Data summary tables were created for use by report writers. The database files were imported into a separate database system for risk assessment evaluation. Data files were exported from this system to word processing packages for generation of report-quality tables.

K.2 STATISTICAL TECHNIQUES AND TOOLS

Several statistical techniques and tools have been applied to the data in this report. The results of some of these techniques, such as the determination of descriptive statistics, have been incorporated into the body of the report. The results of other analyses (such as correlation analysis used to identify and understand relationships within the data) may not be explicitly reported, but are used within discussions in the text. The combination of techniques and tools allow an efficient and comprehensive evaluation of the extensive datasets developed in the course of the field investigation.

The statistical techniques employed in this study can be characterized by their intended use: the description of attributes to groupings or subsets of the data (descriptive statistics, e.g., average, minimum, maximum), the determination of relationships between two or more such groups with one another (e.g., correlation coefficients), and, in the case of lead in the surface soil, quantifying *by location* the uncertainty inherent in the data (geostatistics, threshold indicator kriging).

In addition, two statistical graphicing tools proved to be very useful -- scatterplots and boxplots. A qualitative, visual counterpart to correlation analysis, scatterplots can be use to identify and display relationships between two sets of data, e.g., lead concentrations in surface soil and zinc concentrations. Boxplots are useful in spotting similarities and/or differences in data.

K.2.1 Descriptive Statistics

Descriptive statistics are numbers used to describe a dataset. In this subsection the descriptive statistics used in the analysis of the Agriculture Street Landfill site data are defined and briefly discussed.

Average

The average (measured) concentration of a contaminant in an environmental medium provides information on the level or intensity of contamination in that medium. The average is simply the sum of the values in the dataset divided by the number of values in the data set. The average is also called the arithmetic mean and it often is the single number used to characterize a data set.

Geometric Mean

In some cases it is useful to supplement the average with another statistic, the geometric mean. It is calculated by taking the *nth* root of the product of the values, where *n* is the number of values in the dataset. The geometric mean has the advantage of reducing the impact of extremely low or high values in the data set. This can be important in environmental studies concentration distributions tend to be skewed, that is, with either a tail of high (or low) values.

Median

The median of a dataset can also be a useful indicator of the level of contamination. The median is the midpoint of the data -- 50% of the values lie below it and 50% lie above it. If the distribution of the data are symmetrical, i.e., not skewed to the high or low side, then the values of the average and the median lie close to one another. If the data are skewed, then the median and average are further apart in value. The median is also called the 50% percentile. Two other important percentiles are the 25% and 75% percentiles. Twenty-five percent of the data values lie below the 25% percentile and 75% of the data lie above it. Similarly 75% of the data lie below the 75% percentile and 25% lie above it.

Minimum and Maximum Values

In addition to the intensity or level of contamination in a medium, descriptive statistics can be used to characterize the spread or variability of that concentration. The minimum and maximum values of the concentration, indicate the range or extreme values of the concentration in the medium. While helpful, these two statistics are less than ideal indicators of the data's variability. Environmental datasets often have outliers -- a few values which are exceptionally low or high relative to the rest of the data. When this is the case, the minimum and/or maximum values can be misleading with respect to the variability of the bulk of the data.

Standard Deviation

Another measure of the variability of a dataset is the standard deviation. A more abstract concept than the minimum and maximum values, the standard deviation is a better measure of the variability because it takes into account all of the data available. The standard

deviation is the square root of the variance. Mathematically, the variance is the arithmetic average of the square of the difference between each observed value and the average of all values in the dataset. The use of differences between observed values and the average value is the key conceptual idea behind the definition of the variance, and hence the standard deviation. The squaring of those differences is merely a mathematical device which assures that the contribution of each datapoint is either positive or zero.

Coefficient of Variation

A simple use of the standard deviation is to compare it to the average (arithmetic mean). The greater the ratio of the standard deviation to the average, the greater the variability of the dataset. The ratio of the standard deviation to the arithmetic mean is called the coefficient of variation.

Frequency of Detects

Another statistic which was used in the ASL site analyses is the frequency of detects [nondetects]. This statistic is simply the fraction (or percentage) of detects [nondetects] in a given dataset. By way of example, a dataset containing 36 values in which there were 27 detects and 9 nondetects has 75% detects and 25% nondetects, respectively.

K.2.2 Relational Techniques

Statistical techniques were applied to the data from the field investigation to identify any correlations and implied relationships among different contaminants. The techniques used include descriptive statistics (discussed above) and nonparametric correlation analysis.

The data were analyzed for each analyte-- initially the full suite of 24 metals and 120 organics -- and for several environmental media and locational subgroups. The media included surface soils, subsurface soils, shallow groundwater, and deep groundwater. Locational subgroups included the study group and the grid locations (developed and undeveloped) for the soils and monitoring well locations for the groundwater. Sampling depth intervals were used to define additional soil subgroups for the study group and grid. Similarly, the monitoring wells were grouped by the two hydrogeological units, shallow and deep.

In each subgroup the percentage of detects were determined for each contaminant. Contaminants with less than 50% detects were eliminated from further analysis. Correlation analyses using a nonparametric statistic, the Spearman coefficient, were performed on all possible contaminant pairs -- metal-metal, organic-organic, and metal-organic -- in the reduced datasets. In the later stages of the analyses, additional correlation coefficients were calculated for both the concentrations of metals and organics in the groundwater with several field parameters and water quality parameters (e.g., pH, ammonia, Total Organic Carbon),

The Spearman correlation coefficient was calculated for two compounds and/or analytes at a time. First, the two datasets were paired by sample. Then each set was ranked from low to high. [Note: data were used only when both compounds and/or analytes had been detected in each sample.] Next, the linear correlation coefficient, the correlation coefficient commonly found in linear regressions, was calculated *for the two sets of rankings*.

After a correlation coefficient was determined, it was compared to a critical value. If the calculated coefficient was less than this critical value then it is unlikely that a correlation between the two contaminants exists. If it was greater than the critical value, then a "correlation" exists. The higher the calculated coefficient above the critical value, the more strongly the contaminants are correlated. Critical values depend on the number of data pairs and on the confidence level desired and have been tabulated in the literature. For this analysis, the 95% confidence critical values for the Spearman correlation coefficient were used. They are listed below (Davis 1986).

Samples	Critical Value
5	0.9000
6	0.8286
7	0.7450
8	0.7143
9	0.6833
10	0.6364
11	0.6091
12	0.5804
13	0.5549
14	0.5341
15	0.5179
16	0.5000
17	0.4853
18	0.4716
19	0.4579
20	0.4451

21	0.4351
22	0.4241
23	0.4150
24	0.4061
25	0.3977
26	0.3894
27	0.3822
28	0.3749
29	0.3685
30*	0.3620

*no values listed for number of samples greater than 30
(John C. Davis, *Statistics and Data Analysis in Geology,* 2nd. edition, 1986.)

The comparison with critical values was not paramount for several reasons. The number of nondetects varied significantly from contaminant. In many instances, the number of observations greatly exceeded 30 and the critical value had to be extrapolated. Finally, the tests performed are nonparametric (i.e., are based on data ranks and not data values). Thus, the initial focus was on coefficients significantly greater than the appropriate critical value. This turned out to be very helpful since there are so many "correlations" among the different contaminants with lower critical values. Focussing on the higher values resulted in focussing on "strong" correlations.

Principal component analysis is used to determine whether or not there may be a few factors or influences in the data which lead to groupings with similar behavior within the data. In the case of this investigation, chemical similarities between some of the contaminants were expected to and did lead to several such groupings (e.g., transition metals, sorbing metals, PAHs). Principal component analysis was used to substantiate the findings of the correlation analysis.

Scatterplots were used as a visual check on the results of the correlation analysis. In a scatterplot, the concentration of one component is plotted against the concentration of another. When the two components are correlated, the resulting plot typically appears to lie near an imaginary line drawn through the plotted points. The line may be either straight or curved. If the two components are not well correlated, then the resulting plot appears much more random with no distinguishing trends.

K.2.3 Locational Techniques

Uncertainty in finding lead above a specific concentration at any location in the surface soils was examined using a geostatistical technique -- probability kriging. The fundamental observation which drives this analysis is that the lead concentrations in the surface soils vary from location to location across the site. This variation arises both from underlying trends (i.e., areas of generally high concentrations or generally low concentrations) and from natural random variations.

Typically, concentration data are contoured. That is, lines representing constant concentrations are constructed from the data using either computer or manual techniques and the results are superimposed onto a site map. Such contour maps allow one to quickly spot any trends in the data. These contour maps have been extensively used in the presentation of data for the ASL site RRII. The appearance of a contour map may also disclose some of the random variation in the data, but because the contours are often "smoothed" to facilitate seeing the trends in the data, much of this information can be lost.

The random variation in concentration data can be important when determining the extent of the contamination. The concept of contamination necessarily entails a comparison of the concentration with a threshold or target value -- determined within the context of the site-specific screening values (e.g., Applicable or Relevant and Appropriate Requirements and To Be Considered Values). Exceeding this threshold indicates contamination, while lying below the threshold value indicates no contamination. Because of the random component(s) in the variability, small areas of contamination may be found in portions of larger uncontaminated areas. It is important to predict the likelihood of such occurrences to arrive at reasonable assessments of the extent of the contamination. This, of course, will have a direct bearing on the development of remedial action alternatives and their costs.

Contouring the concentration data provides a convenient visualization of those data, but does not provide any quantitative information on the inherent random variation. Thus, contouring is of little help in estimating the probability of finding contamination at a location outside of the depicted contaminated area. A tool that is useful in this regard is probability indicator kriging.

In probability kriging, the data and sample locations are used to develop a geostatistical model for the probability of exceeding a given threshold value, e.g., 400 ppm lead. This model can be used to predict the probability of exceeding the threshold at any

location on the site, and, in particular, can be used to estimate the probability at each point in a uniform grid that covers the site. The resulting grid of probability estimates can then be contoured and superimposed onto a site map. The contours lie between zero and one. Low values (near zero) indicate a low probability of exceeding the threshold and high values (near one) indicate a high probability of exceeding the threshold.

Probability indicator kriging entails a number of activities including indicator transform, spatial analysis, kriging, and contouring. In the ASL site study, the first three activities were carried out using the EPA's geostatistical package, GEOEAS (Englund and Spanks 1988). This public domain computer package has been in use for several years and is an accepted, stable, and polished set of codes.

In the initial stage, each member of the concentration dataset was transformed into a corresponding value in an indicator dataset. If the concentration was equal to or greater than 400 ppm, then the corresponding indicator was set equal to one (1.0). If the concentration was less than 400 ppm, then the indicator was set equal to zero (0.0). Thus the sample indicator dataset has exactly the same number of elements or values as does the original dataset.

This dataset was the basis for eventually estimating the probability of exceeding 400 ppm lead in the surface soil *at any specified location on the site*. The logic for estimating probabilities is as follows. Consider the entire site and the entire indicator dataset. The sum of the indicators divided by the total number of indicators (i.e., the average value of the indicator lies between zero and one). It represents the fraction of samples where the concentration exceeds 400 ppm and, hence, is an estimate of the *site-wide* probability of the concentration exceeding 400 ppm lead. The greater the total sample number, the better the estimate. Another factor which affects the quality of this estimate is the distribution of the sampling locations across the site. Clustering of samples in contaminated areas or in uncontaminated areas will lead to site-wide probability estimates which are too high or too low, respectively. This effect was reduced in the RRII by use of an overall grid sampling pattern. The same rationale can be applied to smaller areas on the site. That is, the local average of the indicator in such a smaller area provides an estimate of the *local* probability of exceeding the threshold.

With this approach, moving average techniques (mathematical techniques that use the data from nearby data locations to estimate a value at the location of interest) can be used to

estimate local indicator averages, and thus (local) probabilities at locations across the site. Kriging is a moving average technique which is particularly well suited to these calculations. Kriging uses both the local data values and a geostatistical model for the random variability in the data. The model used in kriging is called a semivariogram. A semivariogram is simple in concept. It is a spatial model in that it depicts the variance (see the descriptive statistics discussion above) between pairs of data points as a function of the pair separation distance – the distance between the points in a pair. The data, in this case indicator values, are used to construct an experimental semivariogram. Once this is done, a mathematical curve, the theoretical semivariogram, is fit to the experimental semivariogram. The theoretical model is then used in the kriging equations along with the data (indicator values) to estimate values at locations of interest.

In the final phase of the analysis, the kriging equations, indicator dataset, and semivariogram were used to generate a uniform grid of estimates of the probability of exceeding the 400 ppm threshold. This grid was then contoured and superimposed on a site-map. A shaded area representing areas exceeding 400 ppm was also included on the map for comparison with the probabilities. The areas of exceeding 400 ppm were found by contouring the original concentration data.

K.2.4 Box Plots

A box plot is a graphical representation of the distribution of the values in a sample set. Figure K-1 illustrates the components of a box plot as defined below. In each plot (as shown in Figure K-1) the median of the sample set is marked by the center line in the box, or the 50th percentile. The lower and upper hinges comprise the edges of the central box. The median splits the ordered sample set in half, and the hinges, or edges of the box, split the remaining halves, indicating the 25th and 75th percentiles.

To understand the remainder of a box plot, that is, the whiskers and any asterisks and/or open circles. Hspread is comparable to the interquartile range or the range between the 25th and 75th percentile concentrations, and it is the absolute value of the difference between the values of the two hinges or box edges.

The inner and outer fences are mathematical entities that serve to locate the outside values and far outside values which are then shown on the box plot.

The inner fences are defined as follows:

- Lower inner fence = lower hinge - (1.5 Hspread).
- Upper inner fence = upper hinge + (1.5 Hspread).

The outer fences are defined as follows:

- Lower outer fence = lower hinge - (3 Hspread).
- Upper outer fence = upper hinge + (3 Hspread).

The whiskers show the range of values that fall within 1.5 Hspreads of the hinges. They do not necessarily extend to the inner fences. Values outside the inner fences are called outside values and are plotted with asterisks. Values outside the outer fences are called far outside values and are plotted with empty circles.

In some of the plots, there is no centerline or median present. This will occur if the median value corresponds to either the lower or upper hinge value. In other plots, the median, lower hinge, and upper hinge are the same and the box collapses to a line.

02: NY4398H2.CDR

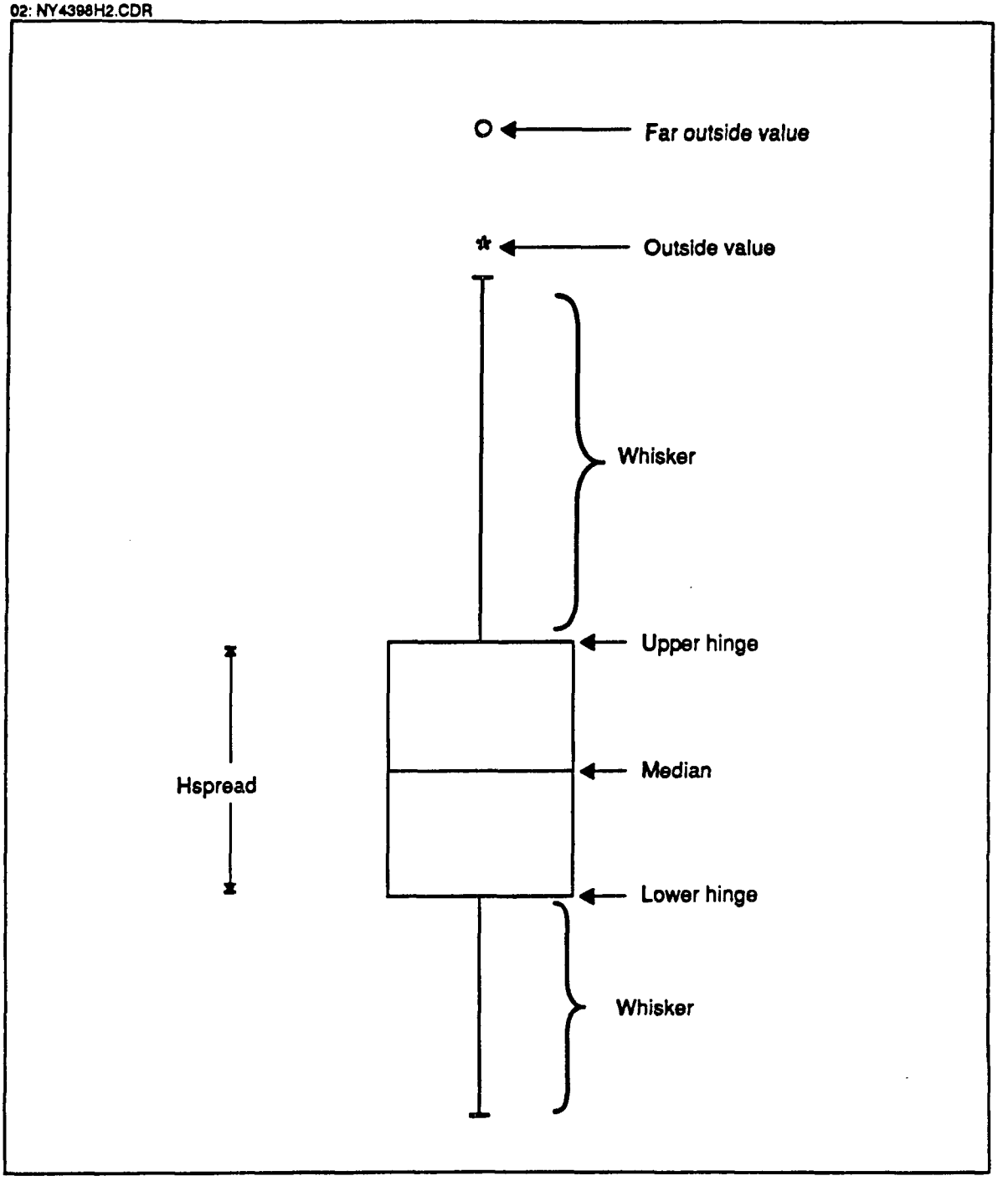

Figure K-1 BOX PLOT COMPONENTS

00159.0766

K.3 REFERENCES

Davis, John C., 1986, *Statistics and Data Analysis in Geology*, second edition.

Englund, E. and Sparks, A., 1988, *GEO-EAS (Geostatistical Environmental Assessment Software): User's Guide*, U.S. Environmental Protection Agency, EPA/600/4-88/033a, September.

Isaaks, E. H. and Srivastava, R. M., 1989, *An Introduction to Applied Geostatistics*, Oxford University Press, New York.

APPENDIX L

LITHOLOGIC LOGS/WELL CONSTRUCTION DIAGRAMS

DRILLING LOG OF BORING NO. BL001

Project: AGRICULTURE STREET LANDFILL
Location: NEW ORLEANS, LOUISIANA
Boring Coordinates/Reference System: N 545382.74 E 3689456.91
Drilling Company: CHURCHILL ENVIRONMENTAL SERVICES, INC.
Driller/Geologist: JOBY BALL / WALTER GRAF

Total Depth of Hole (feet BGS): 14
Ground Elevation (feet above MSL): 4.54
Refusal at (feet BGS): NA
Date Started / Finished: 5-3-94 / 5-3-94
Job#: ZT-2061 / ELA0116SDD

DEPTH	GRAPHIC LOG	OVERBURDEN DESCRIPTION	SAMPLE NUMBER	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
1		0.0-1.5' SILTY SAND: tan, compact, with roots, dry.	ST-1	19 20 23 26	2.0	0	Augered with 4 1/4" ID hollow stem auger.
2		1.5-2.0' SAND: gray, medium grained, with shells.					
3		2.0-4.0' SAND: gray, medium grained, moist.	ST-2				
4		4.0-5.3' SILTY CLAY: dark gray-black.	ST-3		1.7	0	4.0-6.0' Sample collected for CLP and dioxin analyses.
5		5.3-6.0' CLAY: gray, stiff.					
6		6.0-8.0' CLAY: gray, stiff, with some roots, moist.	ST-4		1.0	30	
7							
8		8.0-10.0' SILTY CLAY: gray, moderately plastic, with roots.	ST-5		1.8	30	
9							
10		10.0-12.0' SILTY CLAY: gray, plastic, with roots, 0.3' silt band at 10.9-11.2', wet.	ST-6		1.8		
11							
12		12.0-14.0' SILTY CLAY: gray, moderately plastic, with roots, wet.	ST-7		1.7	7	
13							
14							Boring was grouted to surface upon completion.
15							
16							
17							
18							

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DRILLING LOG OF BORING NO. BL002

Project: AGRICULTURE STREET LANDFILL
Location: NEW ORLEANS, LOUISIANA
Boring Coordinates/Reference System: N 645408.70 E 3889730.44
Drilling Company: CHURCHILL ENVIRONMENTAL SERVICES, INC.
Driller/Geologist: RON SIMMONS / JOHN PECK

Total Depth of Hole (feet BGS): 10
Ground Elevation (feet above MSL): -3.54
Refusal at (feet BGS): NA
Date Started / Finished: 5-13-94 / 5-13-94
Job#: ZT-2061 / ELA0116500

DEPTH	GRAPHIC LOG	OVERBURDEN DESCRIPTION	SAMPLE NUMBER	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
1, 2		0.0-2.5' SAND AND SILT: brown sand, roots, shells, topsoil, compact, (no debris), moist.	SS-1		4.0	350	Augered with 4 1/4" ID hollow stem auger. 0.0-5.0' Sample collected for CLP and dioxin analyses.
3		2.5-3.0' PEAT: brown, roots.					
4		3.0-4.0' SILTY CLAY: gray, dense, cohesive, moist.					
5, 6, 7, 8, 9		5.0-10.0' SILTY CLAY: gray, dense, cohesive, few roots (wood at 7.0'), moist-saturated.	SS-2		4.2	0	
10							Boring was grouted to surface upon completion.
11, 12, 13, 14, 15, 16, 17, 18							

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DRILLING LOG OF BORING NO. BL003

Project: AGRICULTURE STREET LANDFILL
Location: NEW ORLEANS, LOUISIANA
Boring Coordinates/Reference System: N 645719.27 E 3869815.84
Drilling Company: CHURCHILL ENVIRONMENTAL SERVICES, INC.
Driller/Geologist: RON SIMMONS / JOHN PECK

Total Depth of Hole (feet BGS): 10
Ground Elevation (feet above MSL): -3.66
Refusal at (feet BGS): NA
Date Started / Finished: 5-13-94 / 5-13-94
Job#: ZT-2061 / ELA0116S00

DEPTH	GRAPHIC LOG	OVERBURDEN DESCRIPTION	SAMPLE NUMBER	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
1, 2		0.0-2.3' FILL: beige sand, bricks, wood, fill, debris, dry.					Augered with 3 1/4" ID hollow stem auger.
3, 4		2.3-4.0' SILTY SAND: gray, compact, 70% sand, 30% silt, moist-saturated at bottom, (native soil) becoming finer grained.	SS-1		1.0	0	Collected CLP and dioxin sample from 0.0-5.0'.
5, 6, 7, 8		5.0-9.1' SILTY CLAY: gray, dense, cohesive, few roots, wet.	SS-2		0.3	0	Collected XRF sample for each interval.
9		9.1-9.6' PEAT: brown, with roots, wet.					
10		SILTY CLAY: same as 5.0-9.1', wet.					Boring was grouted to surface upon completion.
11, 12			SS-3		0.2		
13, 14			SS-4			5	
15, 16, 17			SS-5		1.5	70	
18					0.1	0	

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DRILLING LOG OF BORING NO. BL004

Project: AGRICULTURE STREET LANDFILL
Location: NEW ORLEANS, LOUISIANA
Boring Coordinates/Reference System: N 644519.15 E 3069601.38
Drilling Company: CHURCHILL ENVIRONMENTAL SERVICES, INC.
Driller/Geologist: RON SIMMONS / JOHN PECK

Total Depth of Hole (feet BGS): 25
Ground Elevation (feet above MSL): -1.84
Refusal at (feet BGS): NA
Date Started / Finished: 4-15-84 / 4-15-84
Job#: ZT-2061 / ELA0118500

DEPTH	GRAPHIC LOG	OVERBURDEN DESCRIPTION	SAMPLE NUMBER	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
1–4		0.0–5.0' FILL: brown-red, wood, roots, glass, slag, iron rich, loose, dry.	SS-1		1.0	0	Augered with 4 1/4" ID hollow stem auger.
5–9		5.0–10.0' FILL: brown-red, wood, roots, glass, slag, sample wet at 9.0'.	SS-2		0.3	0	5.0–10.0' Sample collected for CLP and dioxin analyses.
10–12		10.0–12.5' WOOD: roots, peat, wet.	SS-3		0.2		
13–14		12.5–15.0' CLAY: gray, with roots.	SS-4			5	
15–17		15.0–17.5' CLAY: gray, trace silt, abundant roots 15.0–16.0', few roots 16.0–16.5', wet.	SS-5		1.5	70	15.0–17.5' Collected sample for CLP and dioxin analysis.
18		17.5–20.0' CLAY: as above, 16.0–16.5'.			0.1	0	

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DRILLING LOG OF BORING NO. BL004

Project: AGRICULTURE STREET LANDFILL

Total Depth of Hole (feet BGS): 25

DEPTH	GRAPHIC LOG	OVERBURDEN DESCRIPTION	SAMPLE NUMBER	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
19			SS-6		0.1	0	
20		20.0-22.0' CLAY: as above, few roots, homogeneous, wet.					Boring was grouted to surface upon completion.
21			SS-7		0.5	2	
22		22.0-25.0' CLAY: gray, dense, cohesive, few roots.					
23			SS 8		2.0	80	
24							
25							
26							
27							
28							
29							
30							
31							
32							
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34							
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37							
38							
39							

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DRILLING LOG OF BORING NO. BL005

Project: AGRICULTURE STREET LANDFILL

Location: NEW ORLEANS, LOUISIANA

Boring Coordinates/Reference System: N 544357.73 E 3889084.43

Drilling Company: CHURCHILL ENVIRONMENTAL SERVICES, INC.

Driller/Geologist: RON SIMMONS / JOHN PECK

Total Depth of Hole (feet BGS): 20

Ground Elevation (feet above MSL): -3.89

Refusal at (feet BGS): NA

Date Started / Finished: 4-18-94 / 4-18-94

Job#: ZT-2061 / ELA0116S00

DEPTH	GRAPHIC LOG	OVERBURDEN DESCRIPTION	SAMPLE NUMBER	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
1, 2		0.0-2.5' FILL: brown, loose, debris (bricks gravel), dry.	SS-1		0.3	0	Augered with 4 1/4" ID hollow stem auger.
3, 4		2.5-5.0' FILL: brown, moist, debris (bricks, ash, glass), cohesive.	SS-2		1.4	20	2.5-5.0' Samples collected for CLP and dioxin analyses.
5, 6, 7		5.0-7.5' FILL: brown, sand, wood, roots, moist.	SS-3		0.8	150	
8, 9		7.5-10.0' CLAY: gray, dense, compact, with roots, cohesive, plastic.	SS-4		2.1	100	
10, 11, 12, 13, 14		10.0-15.0' CLAY: gray, dense, with roots, peat layer at bottom 0.5', wet.	SS-5		2.5	400	
15, 16, 17		15.0-17.5' SILTY CLAY: gray, dense, few roots, no peat, cohesive, plastic.	SS-6		1.3	30	15.0-17.5' Samples collected for CLP and dioxin analyses.
18		17.5-20.0' SILTY CLAY: gray, dense, cohesive,			2.5	100	

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DRILLING LOG OF BORING NO. BL005

Project: AGRICULTURE STREET LANDFILL

Total Depth of Hole (feet BGS): 20

DEPTH	GRAPHIC LOG	OVERBURDEN DESCRIPTION	SAMPLE NUMBER	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
19		plastic, no roots, no peat.	SS-7		2.5	100	
20							Boring was grouted to surface upon completion.
21							
22							
23							
24							
25							
26							
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DRILLING LOG OF BORING NO. BL006

Project: AGRICULTURE STREET LANDFILL

Location: NEW ORLEANS, LOUISIANA

Boring Coordinates/Reference System: N 543843.59 E 3689300.43

Drilling Company: CHURCHILL ENVIRONMENTAL SERVICES, INC.

Driller/Geologist: RON SIMMONS / WALTER GRAF

Total Depth of Hole (feet BGS): 24

Ground Elevation (feet above MSL): 0.37

Refusal at (feet BGS): NA

Date Started / Finished: 4-14-94 / 4-14-94

Job#: ZT-2061 / ELA0118S00

DEPTH	GRAPHIC LOG	OVERBURDEN DESCRIPTION	SAMPLE NUMBER	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
1, 2		0.0-2.0' FILL: black, ash with glass and minor sand.					Augered with 4 1/4" ID hollow stem auger.
2, 3, 4		2.0-6.0' ASH: black, with sand.	SS-1	31 10 5 8	0.7	0	Could not sample 0.0-2.0' (concrete), augered to 2.0'.
4, 5			SS-2	5 7 5 8	1.2	0	
6, 7, 8, 9		6.0-10.0' ASH: as above, wet at 9.0'.	SS-3			15	8.0-10.0' Samples collected for CLP, and dioxin analyses, and engineering parameters.
10, 11, 12, 13, 14		10.0-15.0' FILL: black, ash, minimal recovery, sample tube blocked by piece of wood, wet.	SS-4		0.3		
15, 16, 17, 18		15.0-20.0' CLAY: black and gray, fiberous (peat-like), wet.	SS-5		0.2		

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DRILLING LOG OF BORING NO. BL006

Project: AGRICULTURE STREET LANDFILL

Total Depth of Hole (feet BGS): 24

DEPTH	GRAPHIC LOG	OVERBURDEN DESCRIPTION	SAMPLE NUMBER	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
19			SS-5		0.2		
20		20.0-22.0' SILTY CLAY: gray, with minor sand at base, becoming silty at base, (silt with minor sand).	SS-6		1.8	5	20.0-22.0' Collected samples for CLP and dioxin analyses.
21							
22		22.0-24.0' CLAY: as above, increased moisture at 23.5'.	SS-7		1.5		
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
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DRILLING LOG OF BORING NO. BL007-A

Project: AGRICULTURE STREET LANDFILL

Location: NEW ORLEANS, LOUISIANA

Boring Coordinates/Reference System: N 543888.74 E 3889445.82

Drilling Company: CHURCHILL ENVIRONMENTAL SERVICES, INC.

Driller/Geologist: RON SIMMONS / JOHN PECK

Total Depth of Hole (feet BGS): 10

Ground Elevation (feet above MSL): -1.12

Refusal at (feet BGS): 10

Date Started / Finished: 4-15-94 / 4-15-94

Job#: ZT-2061 / ELA0116S00

DEPTH	GRAPHIC LOG	OVERBURDEN DESCRIPTION	SAMPLE NUMBER	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
1, 2, 3, 4		0.0-5.0' No recovery, auger cuttings = fill.	SS-1		0.0	0	Augered with 4 1/4" ID hollow stem auger.
5, 6, 7		5.0-7.5' FILL: brown-red, wood, glass, ash, loose, iron stained, moist.	SS-2		0.8	0	
8, 9		FILL: dark drown, wood, ash, glass, loose to cohesive at bottom 0.5'.	SS-3		1.2	40	Samples collected for CLP, dioxin and geotechnical analysis.
10							Cannot auger past 10.0' due to obstruction.
11, 12, 13, 14, 15, 16, 17, 18							Boring was grouted to surface upon completion.

AGRICULTURE STREET LANDFILL

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E&ESTD81

DRILLING LOG OF BORING NO. BL007-B

Project: AGRICULTURE STREET LANDFILL

Location: NEW ORLEANS, LOUISIANA

Boring Coordinates/Reference System: N 643887.39 E 3889458.78

Drilling Company: CHURCHILL ENVIRONMENTAL SERVICES, INC.

Driller/Geologist: RON SIMMONS / JOHN PECK

Total Depth of Hole (feet BGS): 8

Ground Elevation (feet above MSL): 0.75

Refusal at (feet BGS): 8

Date Started / Finished: 4-15-94 / 4-15-94

Job#: ZT-2061 / ELA0116S00

DEPTH	GRAPHIC LOG	OVERBURDEN DESCRIPTION	SAMPLE NUMBER	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
1		0.0-8.0' No samples taken, auger cuttings = fill, cannot advance due to obstruction.					Augered with 4 1/4" ID hollow stem auger.
2							
3							
4							
5							
6							
7							
8							Boring was grouted to surface upon completion.
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							

AGRICULTURE STREET LANDFILL

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E&ESTDB1

DRILLING LOG OF BORING NO. BL007-C

Project: AGRICULTURE STREET LANDFILL

Location: NEW ORLEANS, LOUISIANA

Boring Coordinates/Reference System: N 543854.42 E 3889457.83

Drilling Company: CHURCHILL ENVIRONMENTAL SERVICES, INC.

Driller/Geologist: RON SIMMONS / JOHN PECK

Total Depth of Hole (feet BGS): 22.5

Ground Elevation (feet above MSL): 1.34

Refusal at (feet BGS): NA

Date Started / Finished: 4-15-94 / 4-15-94

Job#: ZT-2061 / ELA0116SOD

DEPTH	GRAPHIC LOG	OVERBURDEN DESCRIPTION	SAMPLE NUMBER	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
1, 2, 3, 4, 5, 6, 7, 8, 9		0.0-10.0' FILL: No samples taken, auger cuttings = fill, wet at 9.0'					Augered with 4 1/4" ID hollow stem auger. See boring logs for BL007-A&B for samples SS-1, SS-2, & SS-3.
10, 11, 12, 13, 14		10.0-15.0' FILL: No recovery, auger cuttings = fill, wet.	SS-4		0.0	1	Sampled with 5.0' continuous sampler.
15		15.0-15.5' FILL: wood, debris.	SS-5		1.4	80	Sampled with 2.5' Shelby tube.
16, 17		15.5-19.5' CLAY: gray, cohesive, with roots (peat?), and trace sand and silt, moist.					
18					2.0	10	

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DRILLING LOG OF BORING NO. BL007-C

Project: AGRICULTURE STREET LANDFILL

Total Depth of Hole (feet BGS): 22.5

DEPTH	GRAPHIC LOG	OVERBURDEN DESCRIPTION	SAMPLE NUMBER	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
19			SS-6		2.0	10	
20		20.0-22.5' SILTY CLAY: stiff, cohesive, few roots, moist.					Collected sample for chemical analysis.
21			SS-7		2.5	1000	
22							
23							Boring was grouted to surface upon completion.
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							

AGRICULTURE STREET LANDFILL

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EGESTDBI

DRILLING LOG OF BORING NO. BL008-A

Project: AGRICULTURE STREET LANDFILL

Location: NEW ORLEANS, LOUISIANA

Boring Coordinates/Reference System: N E NA

Drilling Company: CHURCHILL ENVIRONMENTAL SERVICES, INC.

Driller/Geologist: JOBY BALL / JOHN R. PASCH

Total Depth of Hole (feet BGS): 10

Ground Elevation (feet above MSL): NA

Refusal at (feet BGS): NA

Date Started / Finished: 4-13-94 / 4-13-94

Job#: ZT-2061 / ELA0116S00

DEPTH	GRAPHIC LOG	OVERBURDEN DESCRIPTION	SAMPLE NUMBER	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
1, 2, 3, 4, 5		0.0-6.0' FILL: dark brown, loose uncompacted debris with broken glass.	SS-1	6 6 6 -	1.5		Augered with 3 1/2" ID hollow stem auger.
			SS-2	4 1 3 -	0.2		Poor recovery due to debris in spoon catcher.
			SS-3	3 4 4 2	0.2		
6, 7, 8, 9, 10		6.0-10.0' SILTY CLAY: dark gray, clean, wet at 8.0'.	SS-4	3 2 2 3	0.8		
			SS-5	1 1 2 1	0.3		
11, 12, 13, 14, 15, 16, 17, 18							

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EGEST081

00159.0791

DRILLING LOG OF BORING NO. BL008-B

Project: AGRICULTURE STREET LANDFILL

Location: NEW ORLEANS, LOUISIANA

Boring Coordinates/Reference System: N E NA

Drilling Company: CHURCHILL ENVIRONMENTAL SERVICES, INC.

Driller/Geologist: JOBY BALL / JOHN R. PASCH

Total Depth of Hole (feet BGS): 8

Ground Elevation (feet above MSL): NA

Refusal at (feet BGS): NA

Date Started / Finished: 4-13-94 / 4-13-94

Job#: ZT-2061/ELA0116SDD

DEPTH	GRAPHIC LOG	OVERBURDEN DESCRIPTION	SAMPLE NUMBER	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
		0.0-0.3' ORGANIC SILT; dark brown to black.					Augered with 3 1/2" ID hollow stem auger.
1		0.3-0.5' FILL and CLAYEY SILT; dark gray brown, some debris.	SS-1	4 5 4 3	0.5		
2		2.0-2.7' CLAYEY SILT; as above with glass.					
3		2.7-3.3' SILTY CLAY; dark brown to gray brown, plastic.	SS-2	3 4 8 8	1.25		
4		No recovery.					
5			SS-3	1 2 1 1	0.0		
6		6.0-8.0' SILTY CLAY; dark brown to gray brown, some course lenses, wet at bottom of spoon.					
7			SS-4	- - - -	1.0		
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							

AGRICULTURE STREET LANDFILL

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DRILLING LOG OF BORING NO. BL008-C

Project: AGRICULTURE STREET LANDFILL

Location: NEW ORLEANS, LOUISIANA

Boring Coordinates/Reference System: N NA E NA

Drilling Company: CHURCHILL ENVIRONMENTAL SERVICES, INC.

Driller/Geologist: JOBY BALL / JOHN R. PASCH

Total Depth of Hole (feet BGS): 10

Ground Elevation (feet above MSL): NA

Refusal at (feet BGS): NA

Date Started / Finished: 4-13-94 / 4-13-94

Job#: ZT-2061/ELA0116SDD

DEPTH	GRAPHIC LOG	OVERBURDEN DESCRIPTION	SAMPLE NUMBER	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
1		0.0-8.0' SANDY SILT with FILL: red brown with red and black lenses, debris throughout (glass, metal).	4 4 4 4		0.5		
2–3			3 3 8 12		0.8		
4–5			2 3 4 2		0.8		
6–7			4 8 11 19		1.0		
8–9		8.0'-10.0' PEAT: dark brown, moist to wet at base.	15 22 13 4		0.8		
10							
11							
12							
13							
14							
15							
16							
17							
18							

AGRICULTURE STREET LANDFILL

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DRILLING LOG OF BORING NO. BL009-A

Project: AGRICULTURE STREET LANDFILL

Location: NEW ORLEANS, LOUISIANA

Boring Coordinates/Reference System: N E NA

Drilling Company: CHURCHILL ENVIRONMENTAL SERVICES, INC.

Driller/Geologist: JOBY BALL / JOHN R. PASCH

Total Depth of Hole (feet BGS): 8

Ground Elevation (feet above MSL): NA

Refusal at (feet BGS): NA

Date Started / Finished: 4-14-94 / 4-14-94

Job#: ZT-2061 / ELA0118SDD

DEPTH	GRAPHIC LOG	OVERBURDEN DESCRIPTION	SAMPLE NUMBER	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
1		0.0-2.0' FILL and SILTY SAND: dark brown with light brown and red brown lenses, some silty clay at bottom of spoon, minor debris (glass).	SS-1	7 2 4 4	1.5		Augered with 3 1/2" ID hollow stem auger.
2		2.0-4.0' FILL and SILTY CLAY: dark gray, very plastic, clean some glass.	SS-2	3 4 5 8	1.0		
3							
4		4.0-5.5' SILTY CLAY: as above with 1" thick wood piece at 4.0'.	SS-3	0	1.2		
5							
6		5.5-6.0' PEAT: black, high organic content.					
7							
8							
9							
10							
11							
12							
13							
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16							
17							
18							

AGRICULTURE STREET LANDFILL

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DRILLING LOG OF BORING NO. BL009-B

Project: AGRICULTURE STREET LANDFILL

Location: NEW ORLEANS, LOUISIANA

Boring Coordinates/Reference System: N E NA

Drilling Company: CHURCHILL ENVIRONMENTAL SREVICES, INC.

Driller/Geologist: JOBY BALL / JOHN R. PASCH

Total Depth of Hole (feet BGS): 10

Ground Elevation (feet above MSL): NA

Refusal at (feet BGS): NA

Date Started / Finished: 4-14-94 / 4-14-94

Job#: ZT2061 / ELA0116S00

DEPTH	GRAPHIC LOG	OVERBURDEN DESCRIPTION	SAMPLE NUMBER	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
1		0.0-5.0' SILTY SAND with FILL; red brown to dark brown, roots near surface.	SS-1	10 13 11 8	1.0	37	Augered with 3 1/2" ID hollow stem auger.
		0.5-1.0' CLAYEY SILT; dark brown to black, debris throughout.					
2 3		2.0-4.0' CLAYEY SILT; as above with subrounded gravel, glass and wood debris throughout.	SS-2	5 7 17 18	1.3		
4 5		4.0-6.0' No recovery, concrete and metal in tip of spoon.	SS-3	4 4 1 1	0.0		
6 7		6.0-8.0' SILTY CLAY; dark brown, glass, wood, metal, and concrete debris throughout, wet.	SS-4	5 4 3 3	0.7		
8 9		8.0-8.4' SILTY CLAY; same as above except black, with debris.	SS-5	1 1 1 0	0.8		
		8.4-8.8' SILTY CLAY; grey, clean.					
10 11 12 13 14 15 16 17 18							

AGRICULTURE STREET LANDFILL

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DRILLING LOG OF BORING NO. BL010-A

Project: AGRICULTURE STREET LANDFILL

Location: NEW ORLEANS, LOUISIANA

Boring Coordinates/Reference System: N E NA

Drilling Company: CHURCHILL ENVIRONMENTAL SERVICES, INC.

Driller/Geologist: JOBY BALL / JOHN R. PASCH

Total Depth of Hole (feet BGS): 8

Ground Elevation (feet above MSL): NA

Refusal at (feet BGS): NA

Date Started / Finished: 4-14-94 / 4-14-94

Job#: ZT-2061 / ELA0116SDD

DEPTH	GRAPHIC LOG	OVERBURDEN DESCRIPTION	SAMPLE NUMBER	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
1		0.0-2.0' FILL and SILTY SAND; dark brown with red brown (iron) staining, debris throughout (glass, bricks, and cloth).	SS-1	4 5 8 10	0.8		Augered with 3 1/2" ID hollow stem auger.
2–3		2.0-2.4' CLAYEY SILT; dark brown, moderately plastic.	SS-2	3 4 8 8	0.8		
		2.4-2.8' PEAT; black, high organic content.					
4–5		4.0-4.7' SILTY CLAY; gray to dark gray, wood layer at 4.5'.	SS-3	1 1 1 0	1.3		
		4.7-5.3' PEAT; wood, wet at 5.0'.					
6–7–8		SILTY CLAY; grey, clean, plastic.	SS-4	1 1 1 2	0.8		
9							
10							
11							
12							
13							
14							
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17							
18							

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DRILLING LOG OF BORING NO. BL010-B

Project: AGRICULTURE STREET LANDFILL

Location: NEW ORLEANS, LOUISIANA

Boring Coordinates/Reference System: N NA / E NA

Drilling Company: CHURCHILL ENVIRONMENTAL SERVICES, INC.

Driller/Geologist: JOBY BALL / JOHN R. PASCH

Total Depth of Hole (feet BGS): 6

Ground Elevation (feet above MSL): NA

Refusal at (feet BGS): NA

Date Started / Finished: 4-14-94 / 4-14-94

Job#: ZT-2081 / ELA0116SDD

DEPTH	GRAPHIC LOG	OVERBURDEN DESCRIPTION	SAMPLE NUMBER	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
1, 2		0.0-2.7' FILL and SILTY SAND; dark brown, roots and grass at surface, debris throughout (glass, brick), iron staining near bottom.	SS-1	7 2 4 4	1.5		Augered with 3 1/2" ID hollow stem auger.
3		2.7-3.0' FILL and SILTY SAND; black, as above with increased debris content and slightly increased clay content near bottom.	SS-2	3 4 5 8	1.0		
4, 5, 6		4.0-6.0' SILTY CLAY; grey, plastic, clean, wet.	SS-3	0	1.2		
7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18							

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DRILLING LOG OF BORING NO. BL011-A

Project: AGRICULTURE STREET LANDFILL

Location: NEW ORLEANS, LOUISIANA

Boring Coordinates/Reference System: N NA / E NA

Drilling Company: CHURCHILL ENVIRONMENTAL SERVICES, INC.

Driller/Geologist: JOBY BALL / JOHN R. PASCH

Total Depth of Hole (feet BGS): 6

Ground Elevation (feet above MSL): NA

Refusal at (feet BGS): NA

Date Started / Finished: 4-15-94 / 4-15-94

Job#: ZT-2061 / ELA0116S00

DEPTH	GRAPHIC LOG	OVERBURDEN DESCRIPTION	SAMPLE NUMBER	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
1		0.0-2.0' FILL and SILTY SAND: dark brown, some roots and grass at surface, concrete debris in spoon tip prevented full recovery.	SS-1	3 7 1 1	0.3		Augered with 3 1/2" ID hollow stem auger.
2		2.0-2.4' FILL and CLAYEY SILT: dark brown to gray brown, moderate to low plasticity, debris throughout.	SS-2	7 5 4 4	0.7		
3		2.4-2.7' FILL and SILTY SAND: red brown, wood and debris throughout.					
4		4.0-4.2' SILTY CLAY: grey, plastic, clean.	SS-3	1 1 1 1	0.8		
5		4.2-4.6' PEAT: gray to black, high organic content, silty clay as above in spoon tip.					
6							
7							
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AGRICULTURE STREET LANDFILL

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EGESTDB1

DRILLING LOG OF BORING NO. BL011-B

Project: AGRICULTURE STREET LANDFILL
Location: NEW ORLEANS, LOUISIANA
Boring Coordinates/Reference System: N E NA
Drilling Company: CHURCHILL ENVIRONMENTAL SERVICES, INC.
Driller/Geologist: JOBY BALL / JOHN R. PASCH

Total Depth of Hole (feet BGS): 6
Ground Elevation (feet above MSL): NA
Refusal at (feet BGS): NA
Date Started / Finished: 4-15-94 / 4-15-94
Job#: ZT-2061 / ELA0116S00

DEPTH	GRAPHIC LOG	OVERBURDEN DESCRIPTION	SAMPLE NUMBER	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
1		0.0-0.4' FILL and SILTY SAND; dark brown, some organic content.	SS-1	4 3 1 3	1.4		Augered with 3 1/2" ID hollow stem auger.
2		0.4-1.0' FILL and SILTY SAND; light brown to medium brown, clean.					
3		1.0-1.4' FILL and CLAYEY SILT; dark brown with red-brown staining (iron), some debris.	SS-2	2 5 10 4	0.7		
4		2.0-4.0' SILTY CLAY; gray, wood and other organic material increase with depth, plastic.					
5		4.0-6.0' SILTY CLAY; gray, plastic.	SS-3 SS-4	2 1 2 1	0.0 2.0		No recovery on first attempt (SS-3), resampled (SS-4).
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AGRICULTURE STREET LANDFILL

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E&ESTDB1

DRILLING LOG OF BORING NO. BL011-C

Project: AGRICULTURE STREET LANDFILL

Location: NEW ORLEANS, LOUISIANA

Boring Coordinates/Reference System: N NA / E NA

Drilling Company: CHURCHILL ENVIRONMENTAL SERVICES, INC.

Driller/Geologist: JOBY BALL / JOHN R. PASCH

Total Depth of Hole (feet BGS): 6

Ground Elevation (feet above MSL): NA

Refusal at (feet BGS): NA

Date Started / Finished: 4-15-94 / 4-15-94

Job#: ZT-2081 / ELA0118S00

DEPTH	GRAPHIC LOG	OVERBURDEN DESCRIPTION	SAMPLE NUMBER	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
1		0.0-0.5' FILL and SILTY SAND; dark brown to light brown, roots near surface..	SS-1	4 5 7 8	1.0		Augered with 3 1/2" ID hollow stem auger.
2		0.5-1.0' CLAYEY SILT; dark brown to red brown, glass, metal, and plastic debris throughout, low plasticity.					
3		2.0-2.4' SILTY CLAY; dark brown, plastic debris throughout.	SS-2	3 4 7 8	0.8		
4		2.4-4.0' SILTY CLAY; gray, black, debris throughout (burned?), plastic.	SS-3	1 2 1 1	0.1		Poor recovery first attempt (SS-3), resampled (SS-4).
5		4.0-6.0' SILTY CLAY; black, plastic, debris throughout (less than above), wood near bottom.	SS-4		1.2		
6							
7							
8							
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11							
12							
13							
14							
15							
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18							

AGRICULTURE STREET LANDFILL

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DRILLING LOG OF BORING NO. BL012-A

Project: AGRICULTURE STREET LANDFILL

Location: NEW ORLEANS, LOUISIANA

Boring Coordinates/Reference System: N NA E

Drilling Company: CHURCHILL ENVIRONMENTAL SERVICES, INC.

Driller/Geologist: JOBY BALL / JOHN R. PASCH

Total Depth of Hole (feet BGS): 8

Ground Elevation (feet above MSL): NA

Refusal at (feet BGS): NA

Date Started / Finished: 4-18-94 / 4-18-94

Job#: ZT-2061 / ELA0116S00

DEPTH	GRAPHIC LOG	OVERBURDEN DESCRIPTION	SAMPLE NUMBER	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
1		0.0-2.0' FILL and CLAYEY SILT: red brown high organics near surface, increased clay content with depth, debris throughout (glass, bricks, and cloth).	SS-1	4 4 4 2	0.8		Augered with 3 1/2" ID hollow stem auger.
2		2.0-4.0' CLAYEY SILT: as above, probably drag, some silty clay with depth.	SS-2	8 8 9 12	0.1		
3							
4							
5		4.0-6.0' No recovery.	SS-3	1 1 2 3	0.0		
6		6.0-8.0' SILTY CLAY: dark grey, high plasticity, high organics throughout, clayey silt layers with roots and other organics at 6.1', 6.5' and 7.3'.	SS-4	1 1 1 2	1.8		
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							

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DRILLING LOG OF BORING NO. BL012-B

Project: AGRICULTURE STREET LANDFILL

Location: NEW ORLEANS, LOUISIANA

Boring Coordinates/Reference System: N E NA

Drilling Company: CHURCHILL ENVIRONMENTAL SERVICES, INC.

Driller/Geologist: JOBY BALL / JOHN R. PASCH

Total Depth of Hole (feet BGS): 8

Ground Elevation (feet above MSL): NA

Refusal at (feet BGS): NA

Date Started / Finished: 4-16-94 / 4-16-94

Job#: ZT-2061 / ELA0116SDD

DEPTH	GRAPHIC LOG	OVERBURDEN DESCRIPTION	SAMPLE NUMBER	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
1, 2		0.0-2.7' FILL and CLAYEY SILT: dark brown high organics throughout, debris throughout, debris throughout (glass, bricks, and cloth).	SS-1	8 8 5 7	0.8		Augered with 3 1/2" ID hollow stem auger.
3		2.7-4.0' SILTY CLAY: dark brown, clean.	SS-2	4 8 12 8	1.7		
4, 5		4.0-8.0' SILTY CLAY: gray, clean.	SS-3	1 1 1 0	0.3		
6, 7			SS-4	NA	0.5		Split-spoon pushed through without hammer.
8							
9, 10, 11, 12, 13, 14, 15, 16, 17, 18							

AGRICULTURE STREET LANDFILL

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E&ESTDB1

DRILLING LOG OF BORING NO. BL013-A

Project: AGRICULTURE STREET LANDFILL
Location: NEW ORLEANS, LOUISIANA
Boring Coordinates/Reference System: N E NA
Drilling Company: CHURCHILL ENVIRONMENTAL SERVICES, INC.
Driller/Geologist: JOBY BALL / JOHN R. PASCH

Total Depth of Hole (feet BGS): 6
Ground Elevation (feet above MSL): NA
Refusal at (feet BGS): NA
Date Started / Finished: 4-15-94 / 4-15-94
Job#: ZT-2081 / ELA0118S00

DEPTH	GRAPHIC LOG	OVERBURDEN DESCRIPTION	SAMPLE NUMBER	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
1		0.0-2.0' CLAYEY SILT: dark brown to black red brown near surface (iron staining), very low plasticity, dense.	SS-1	3 3 3 3	1.2		Augered with 3 1/2" ID hollow stem auger.
2, 3		2.0-4.0' SILTY CLAY: gray brown, wood and organics throughout, plastic.	SS-2	1 1 3 4	0.4		
4, 5, 6		4.0-6.0' SILTY CLAY: gray, wood fiber throughout, high plasticity.	SS-3 SS-4	2 1 1 0	0.2 1.5		Poor recovery on first attempt (SS-3), resampled (SS-4).
7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18							

AGRICULTURE STREET LANDFILL

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DRILLING LOG OF BORING NO. BL013-B

Project: AGRICULTURE STREET LANDFILL

Location: NEW ORLEANS, LOUISIANA

Boring Coordinates/Reference System: N E NA

Drilling Company: CHURCHILL ENVIRONMENTAL SERVICES, INC.

Driller/Geologist: JOBY BALL / JOHN R. PASCH

Total Depth of Hole (feet BGS): 6

Ground Elevation (feet above MSL): NA

Refusal at (feet BGS): NA

Date Started / Finished: 4-15-94 / 4-15-94

Job#: ZT-2061 / ELA0166SDD

DEPTH	GRAPHIC LOG	OVERBURDEN DESCRIPTION	SAMPLE NUMBER	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
1		0.0-2.0' CLAYEY SILT; dark brown and grey brown to black, low plasticity, dense, some iron staining near surface.	SS-1	4 4 3 5	0.9		Augered with 3 1/2" ID hollow stem auger.
2–3		2.0-2.2' SILTY CLAY; gray brown, high organics, high plasticity.	SS-2	1 5 8 8	0.8		
		2.2-2.6' ORGANICS; red brown, wood and other organic material with some silty clay as above.					
4–5		4.0-6.0' SILTY CLAY; gray, some organics, high plasticity.	SS-3 SS-4	1 1 1 1	0.0 1.0		No recovery on first attempt (SS-3), resampled (SS-4).
6							
7							
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12							
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16							
17							
18							

AGRICULTURE STREET LANDFILL

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E&ESTD81

DRILLING LOG OF BORING NO. BL013-C

Project: AGRICULTURE STREET LANDFILL

Location: NEW ORLEANS, LOUISIANA

Boring Coordinates/Reference System: N E NA

Drilling Company: CHURCHILL ENVIRONMENTAL SERVICES, INC.

Driller/Geologist: JOBY BALL / JOHN R. PASCH

Total Depth of Hole (feet BGS): 6

Ground Elevation (feet above MSL): NA

Refusal at (feet BGS): NA

Date Started / Finished: 4-15-94 / 4-15-94

Job#: ZT-2061 / ELA0118S00

DEPTH	GRAPHIC LOG	OVERBURDEN DESCRIPTION	SAMPLE NUMBER	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
1		0.0-2.1' FILL and CLAYEY SILT; red brown to dark brown, low plasticity, metal, glass debris throughout.	SS-1	4 5 3 2	0.4		Augered with 3 1/2" ID hollow stem auger.
2–3		2.1-2.4' SILTY CLAY; gray, high plasticity, wood fibers near bottom.	SS-2	3 7 8 5	0.8		
3–4		2.4-4.0' CLAYEY SILT; dark brown, low plasticity, concrete, gravel, glass, debris throughout.					
4–6		4.0-6.0' SILTY CLAY; grey, high plasticity some organics.	SS-3	1 1 1 0	0.5		
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							

AGRICULTURE STREET LANDFILL

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EGESTD81

DRILLING LOG OF BORING NO. BL014-A

Project: AGRICULTURE STREET LANDFILL

Location: NEW ORLEANS, LOUISIANA

Boring Coordinates/Reference System: N E NA

Drilling Company: CHURCHILL ENVIRONMENTAL SERVICES, INC.

Driller/Geologist: JOBY BALL / JOHN R. PASCH

Total Depth of Hole (feet BGS): 6

Ground Elevation (feet above MSL): NA

Refusal at (feet BGS): NA

Date Started / Finished: 4-15-94 / 4-15-94

Job#: ZT-2061 / ELA0118S00

DEPTH	GRAPHIC LOG	OVERBURDEN DESCRIPTION	SAMPLE NUMBER	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
1		0.0-0.3' FILL and CLAYEY SILT; dark brown to black, high organic content.	SS-1	8 7 7 7	1.4		Augered with 3 1/2" ID hollow stem auger.
		0.3-0.4 FILL and SILTY SAND; medium brown.					
2		0.4-2.0' FILL and CLAYEY SILT; dark brown, low plasticity, concrete, gravel, glass, debris throughout.					
3		2.0-4.0' CLAYEY SILT; dark brown, moderate plasticity less debris than above.	SS-2	8 7 12 11	1.0		
4		4.0-6.0' SILTY CLAY; gray brown to dark gray, high plasticity, roots throughout, increasing wood and roots with depth, wood fiber at 5.4'.	SS-3	2 3 2 4	1.5		
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							

AGRICULTURE STREET LANDFILL

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EGESTDB1

DRILLING LOG OF BORING NO. BL014-B

Project: AGRICULTURE STREET LANDFILL

Location: NEW ORLEANS, LOUISIANA

Boring Coordinates/Reference System: N E NA

Drilling Company: CHURCHILL ENVIRONMENTAL SERVICES, INC.

Driller/Geologist: JOBY BALL / JOHN R. PASCH

Total Depth of Hole (feet BGS): 9

Ground Elevation (feet above MSL): NA

Refusal at (feet BGS): NA

Date Started / Finished: 4-15-94 / 4-15-94

Job#: ZT-2081 / ELA0116S00

DEPTH	GRAPHIC LOG	OVERBURDEN DESCRIPTION	SAMPLE NUMBER	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
1		0.0-2.0' FILL: light gray, sand, silt, gravel, poorly sorted. Black ash layer at 0.4-0.6'.	SS-1	12 12 RFSL	0.8		Augered with 3 1/2" ID hollow stem auger. Split-spoon refusal at 1.2'.
2		2.0-3.0' No sample.					
3		3.0-3.5' SILTY SAND: medium grained.	SS-2	5 3 8 8	1.5		
4		3.5-4.5' SILTY CLAY: dark brown to dark gray-brown. Plastic, with some debris.					
5		4.5-7.0' SILTY CLAY: as above, debris decreasing with depth.	SS-3	2 3 4 3			
6							
7		7.0-9.0' SILTY CLAY: as above, gray brown, minor debris, wet at 8.0'.	SS-4	4 7 9 8			
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							

AGRICULTURE STREET LANDFILL

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E&ESTD81

DRILLING LOG OF WELL NO. AL-MW001

Project: AGRICULTURE STREET LANDFILL
Location: NEW ORLEANS, LOUISIANA
Well Coordinates/Reference System: N 544923.32 E 3889486.00
Date Started/Finished: 4-19-94 / 4-20-94
Drilling Company: CHURCHILL ENVIRONMENTAL SERVICES, INC.
Driller/Geologist: JOBY BARR / WALTER GRAF

Total Depth of Hole (feet BGS): 18
Ground Elevation (feet above MSL): -7.55
Inner Casing Stick-Up (feet above GS): -0.18
Groundwater Depth (feet BTOIC):
At Completion: ~ 7.0
On 20 JUNE 94 : 3.65

ELEVATION / DEPTH	WELL COMPLETION DIAGRAM	GRAPHIC LOG	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
gs elevation -7.55 ft.			*ground surface (gs)*					
2	GROUT		0.0-2.0' SANDY SILT; dark brown, with roots, minor fill, and surface debris.	SS-1	3 4 4 3	0.5	0	Augered with 4 1/4" ID hollow stem auger.
4	BENTONITE SEAL		2.0-3.0' SANDY SILT; same as above without fill.	SS-2	3 6 7 8	0.7		Casing rose due to flowing clay, hole cleaned out with new augers, and wooden plug set in bottom of hole.
6	FILTER PACK		3.0-4.0' SILTY CLAY; gray-brown, more clay at bottom, stiff, moist.					
8			4.0-6.0' SILTY CLAY; dark brown, with roots, dry.	SS-3			0	
10			6.0-7.8' SILTY CLAY; dark brown, same as above.	SS-4			3	
12			7.8-8.0' SILTY CLAY; gray, plastic, very moist.	SS-5			55	
14			8.0-10.0' SILTY CLAY; gray, moderately stiff.					
16			10.0-14.0' SILTY CLAY; plastic, wet.	SS-8			21	Sample collected for grain-size analysis.
18				SS-7			20	
20			14.0-16.0' SILTY CLAY; increasing silt content 15.0-16.0', very tight at 15.9'.				200	

AGRICULTURE STREET LANDFILL

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DRILLING LOG OF WELL NO. AL-MW002

Project: AGRICULTURE STREET LANDFILL
Location: NEW ORLEANS, LOUISIANA
Well Coordinates/Reference System: N 544919.05 E 3889478.00
Date Started/Finished: 4-18-94 / 5-10-94
Drilling Company: CHURCHILL ENVIRONMENTAL SERVICES, INC.
Driller/Geologist: JOBY BARR / JOHN R. PASCH & WALTER GRAF

Total Depth of Hole (feet BGS): 68.5
Ground Elevation (feet above MSL): -7.18
Inner Casing Stick-Up (feet above GS): -0.19
Groundwater Depth (feet BTOIC):
At Completion: 7.2
On 20 JUNE 94 (above TOIC): -2.99

ELEVATION / DEPTH	WELL COMPLETION DIAGRAM	GRAPHIC LOG	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
gs elevation -7.18 ft.			ground surface (gs)					
1	GROUT		0.0-2.0' CLAYEY SILT: gray brown, moderate plasticity, high organic content throughout.	SS-1		0.8		
2–3			2.0-4.0' SILTY CLAY: gray brown, high plasticity, tight, clean, wood at 1.0', loose near bottom.	SS-2		2.0		2.0-4.0' Sample collected for XRF analysis.
4–5			4.0-6.0' SILTY CLAY: same as above with highly decomposed organic material (Peat) from 4.9-5.1', black.	SS-3		1.18		4.0-6.0' Sample AL-MW002-SB-01 collected for metals and cyanide analysis.
6–7			6.0-8.0' PEAT: as above.	SS-4		0.2		
8–9			8.0-10.0' SILTY CLAY: gray, stiff, clean, high plasticity, some organics (wood, roots).	ST-5		2.0		
10–11			10.0-12.0' SILTY CLAY: as above with higher silt content.	SS-6		0.4		10.0-12.0' Sample collected for XRF analysis.
12–13			12.0-30.0' SILTY CLAY: gray, stiff, high plasticty, with trace very fine sand.	SS-7		1.2		
14–15				SS-8		2.0		14.0-16.0' Sample collected for XRF analysis.

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DRILLING LOG OF WELL NO. AL-MW002

Project: AGRICULTURE STREET LANDFILL

Total Depth of Hole (feet BGS): 68.5

ELEVATION / DEPTH	WELL COMPLETION DIAGRAM	GRAPHIC LOG	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
16	GROUT							
17			SILTY CLAY: as above.	ST-9		2.0		
18								18.0-20.0' Sample collected for XRF analysis.
19				ST-10		2.0		
20								
21				ST-11		2.0		
22								
23				ST-12		2.0		
24								24.0-28.0' Sample collected for XRF analysis.
25				ST-13		2.0		
26								
27				ST-14		2.0		
28								28.0-30.0' Sample collected for XRF analysis.
29				ST-15		2.0		
30			30.0-33.0' No recovery, drill and wash out hole.			0.0		
31								
32								
33			33.0-35.0' No recovery, grout only.			0.0		
34								
35			35.0-40.0' SANDY SILT: gray, fine to medium sand, with clay and shells.			2.5	30	
36								

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DRILLING LOG OF WELL NO. AL-MW002

Project: AGRICULTURE STREET LANDFILL

Total Depth of Hole (feet BGS): 88.5

ELEVATION / DEPTH	WELL COMPLETION DIAGRAM	GRAPHIC LOG	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
37	GROUT					2.5	30	
38, 39						2.0	30->1000	
40			40.0-41.0' SILTY CLAY: gray, slightly plastic, loose, with shells, wet.	ST-16		2.3	30-100	
41, 42			41.0-42.5' SILTY CLAY: gray, plastic, with shells, wet.					
43, 44			42.5-45.0' SANDY SILT: gray, some small silty clay bands, moderately loose, with shells.	ST-17		2.5	30-150	
45			45.0-46.0' SANDY SILT: gray, minor clay, without shells, wet.	ST-18		2.5	30-150	
46, 47			46.0-47.5' SILTY CLAY: gray, plastic, stiff.					
48			47.5-49.0' CLAYEY SILT: gray, with sand, slightly plastic, wet.	ST-19		2.5	80-100+	
49			49.0-50.0' SAND: gray, fine-to medium-grained, minor silt, wet.					
50	BENTONITE SEAL		50.0-51.0' SILTY CLAY: gray, stiff, plastic.	ST-20		1.8	80	
51, 52			51.0-52.5' SAND: gray to yellow brown, medium grained, loose, wet.					
53, 54			52.5-55.0' No recovery.	ST-21		0.0		
55	FILTER PACK		55.0-57.0' SAND: gray, fine-to medium-grained, several silt bands, at 55.0-56.0'.	ST-22		1.8	80	
56, 57								

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DRILLING LOG OF WELL NO. AL-MW002

Project: AGRICULTURE STREET LANDFILL

Total Depth of Hole (feet BGS): 88.5

ELEVATION / DEPTH	WELL COMPLETION DIAGRAM	GRAPHIC LOG	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
58	FILTER PACK		57.0-59.0' SAND: gray brown, medium grained, wet.	ST-23		1.2	15-50	
59			59.0-62.0' SAND: as above.					
60								
61								
62			62.0-64.0' SAND: gray, medium grained, wet.	ST-24				62.0-64.0' Sample collected for grainsize analysis.
63								
64			64.0-68.0' SAND: as above.					
65								
66								
67								
68								
69								
70								
71								
72								
73								
74								
75								
76								
77								
78								

AGRICULTURE STREET LANDFILL

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DRILLING LOG OF WELL NO. AL-MW003

Project: AGRICULTURE STREET LANDFILL
Location: NEW ORLEANS, LOUISIANA
Well Coordinates/Reference System: N 545072.92 E 3890212.31
Date Started/Finished: 4-21-94 / 4-22-94
Drilling Company: CHURCHILL ENVIRONMENTAL SERVICES, INC.
Driller/Geologist: RON SIMMONS / JOHN PECK

Total Depth of Hole (feet BGS): 15.5
Ground Elevation (feet above MSL): -5.93
Inner Casing Stick-Up (feet above GS): -0.20
Groundwater Depth (feet BTOIC):
At Completion: 8.4
On 20 JUNE 94 : 1.31

ELEVATION / DEPTH	WELL COMPLETION DIAGRAM	GRAPHIC LOG	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
gs elevation -5.93 ft.			ground surface (gs)					
2, 4, 6, 8	SAND; BENTONITE SEAL; SAND PACK		0.0-9.0' TOPSOIL and SILTY CLAY FILL; glass, metal and wood. Augered to 9.0', no samples taken, observations from cuttings. ~0.0-4.0' topsoil, ~ 4.0-9.0' sitly clay, gray, wet from 5.0' BGS.					Augered with 4 1/4" ID hollow stem auger.
10			9.0-11.5' SILTY CLAY; gray, cohesive, plastic, few roots, moist.	SS-1		1.5'	50	Grainsize and XRF sample collected with 3" ID 2.5' Shelby tube from 9.0-11.5'.
12, 14, 16, 18, 20			11.5'-15.5' SILTY CLAY; as above.					

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DRILLING LOG OF WELL NO. AL-MW004

Project: AGRICULTURE STREET LANDFILL
Location: NEW ORLEANS, LOUISIANA
Well Coordinates/Reference System: N 545087.91 E 3890239.18
Date Started/Finished: 5-7-94 / 5-11-94
Drilling Company: CHURCHILL ENVIRONMENTAL SERVICES, INC.
Driller/Geologist: JOBY BALL / WALTER GRAF

Total Depth of Hole (feet BGS): 67.5
Ground Elevation (feet above MSL): -4.88
Inner Casing Stick-Up (feet above GS): -0.25
Groundwater Depth (feet BTOIC):
At Completion: 5.0
On 20 JUNE 94 (above GS): -2.95

ELEVATION / DEPTH	WELL COMPLETION DIAGRAM	GRAPHIC LOG	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
gs elevation -4.88 ft.			ground surface (gs)					
1–2	GROUT		0.0-2.5' FILL and CLAYEY SILT: dark brown, dense, moderate plasticity, debris throughout (glass, metal).	SS-1		1.0		0.0-5.0' Samples composited for for engineering parameters, Atterberg Limits, and TAL metals.
3–4			2.5-5.0' FILL and CLAYEY SILT: black, low plasticity, debris throughout. (glass, metal, wood).	SS-2		0.2		
5–7			5.0-7.5' FILL and SILTY CLAY: gray, very tight, plastic, silt and organic band (1" thick) at 5.5', wet at 5.0'.	SS-3		1.5		
8–9			7.5-8.9' FILL and SILTY CLAY: gray, plastic, debris throughout (wood, roots).	SS-4		2.2		7.5-10.0' Sample collected for engineering parameters and Atterberg Limits.
			8.9-9.7' PEAT: black, with silty clay, and organic material throughout.					
10–11			10.0-12.5' SILTY CLAY: gray, moderate to high plasticity, silt and fine sand lenses throughout.	SS-5		2.0		
13–14			12.5-15.0' SILTY CLAY: gray, dense, plastic, some silt and fine sand lenses decreasing with depth.	SS-6		2.0		

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DRILLING LOG OF WELL NO. AL-MW004

Project: AGRICULTURE STREET LANDFILL

Total Depth of Hole (feet BGS): 87.5

ELEVATION / DEPTH	WELL COMPLETION DIAGRAM	GRAPHIC LOG	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
16, 17	GROUT		15.0-17.5' SILTY CLAY: gray, with fine sand, low plasticity, clean clay band at 15.3'.	SS-7		2.2		
18, 19			17.5-19.0' SILTY CLAY: gray, loose.	SS-8		2.5		
20, 21, 22			19.0-30.0' SILTY CLAY: as above.	SS-9		2.5		
23, 24				SS-10				
25, 26, 27				SS-11		2.5		
28, 29				SS-12		2.5		
30, 31, 32			SILTY CLAY: as above.					
33, 34			33.0-33.8' SILTY CLAY: gray, moderately plastic, wet.	SS-13		2.5	100-1000	
35			33.8-35.0' CLAY: gray, moderately stiff, plastic.					
36			35.0-37.5' CLAY: as above, sample collected for permeability test.	SS-14				

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DRILLING LOG OF WELL NO. AL-MW004

Project: AGRICULTURE STREET LANDFILL

Total Depth of Hole (feet BGS): 67.5

ELEVATION / DEPTH	WELL COMPLETION DIAGRAM	GRAPHIC LOG	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
37	GROUT			SS-14				
38			37.5-38.5' SILTY CLAY; gray, plastic, wet.	SS-15		2.5	100-800	
39			38.5-40.0' SILTY SAND; gray with shells, increasing clay at 39.5'.					
40			40.0-45.0' CLAYEY SANDY SILT; gray with shells, plastic.	SS-16		2.5		
41								
42								
43				SS-17		2.5		
44								
45			45.0-50.0' No recovery.	SS-18		0.0		
46								
47								
48				SS-19		0.0		
49	BENTONITE SEAL							
50			50.0-54.5' SILTY CLAY; gray, plastic, moderately stiff, minor fine grained sand, wet.	SS-20		2.0	15-25	
51								
52								
53				SS-21		2.5	25-40	
54	FILTER PACK							
55			54.5-55.0' SAND; gray, homogeneous, wet.	SS-22		2.0	50-100	
56			55.0-56.0' SILTY SAND; gray, wet.					
57			56.0-57.5 SAND; gray, medium grained, wet.					

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DRILLING LOG OF WELL NO. AL-MW004

Project: AGRICULTURE STREET LANDFILL

Total Depth of Hole (feet BGS): 67.5

ELEVATION / DEPTH	WELL COMPLETION DIAGRAM	GRAPHIC LOG	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
						2.0		
58			57.5-60.0 SAND: gray, as above.	SS-23		0.7		
59								
60			60.0-63.0' SAND: gray, as above.					
61								
62								
63	FILTER PACK		63.0-65.0' SAND:gray as above.	SS-24		1.0		63.0-65.0' Sample collected for grain size analysis.
64								
65								
66								
67								
68			TD = 67.5 BGS.					
69								
70								
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72								
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78								

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DRILLING LOG OF WELL NO. AL-MW005

Project: AGRICULTURE STREET LANDFILL
Location: NEW ORLEANS, LOUISIANA
Well Coordinates/Reference System: N 545022.95 E 3890501.63
Date Started/Finished: 4-21-94 / 4-21-94
Drilling Company: CHURCHILL ENVIRONMENTAL SERVICES, INC.
Driller/Geologist: RON SIMMONS / JOHN PECK

Total Depth of Hole (feet BGS): 15.5
Ground Elevation (feet above MSL): -4.87
Inner Casing Stick-Up (feet above GS): -0.39
Groundwater Depth (feet BTOIC):
At Completion: 5.
On 20 JUNE 94: 3.15

ELEVATION / DEPTH	WELL COMPLETION DIAGRAM	GRAPHIC LOG	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
gs elevation -4.87 ft.			ground surface (gs)					
2, 4, 6, 8	SAND; GROUT; BENTONITE SEAL; FILTER PACK		0.0-9.0' TOPSOIL, FILL and SILTY CLAY; Augered to 9.0', no samples taken, observations from cuttings. ~0.0-4.0' topsoil with debris (glass, metal), ~4.0-9.0' silty clay, gray, wet from 5.0' BGS.					Augered with 4 1/4" ID hollow stem auger.
10			9.0-11.5' SILTY CLAY; gray, cohesive, plastic, few roots, moist.	SS-1		1.6'	25	Grainsize and XRF sample collected with 3" ID 2.5' Shelby tube from 9.0-11.5'.
12, 14, 16, 18, 20			11.5'-15.5' SILTY CLAY; as above.					

AGRICULTURE STREET LANDFILL

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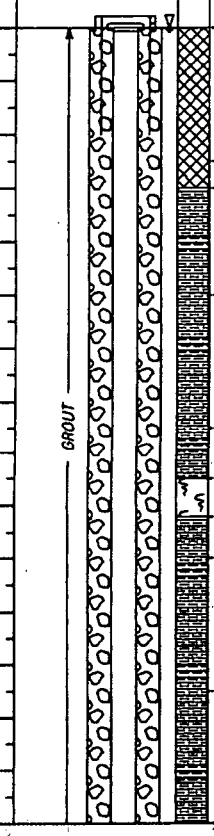
DRILLING LOG OF WELL NO. AL-MW006

Project: AGRICULTURE STREET LANDFILL
Location: NEW ORLEANS, LOUISIANA
Well Coordinates/Reference System: N 545022.51 E 3690492.85
Date Started/Finished: 5-7-94 / 5-11-94
Drilling Company: CHURCHILL ENVIRONMENTAL
Driller/Geologist: JOBY BALL / JOHN PASCH/WALTER GRAF

Total Depth of Hole (feet BGS): 67.5
Ground Elevation (feet above MSL): -4.92
Inner Casing Stick-Up (feet above GS): -0.68
Groundwater Depth (feet BTOIC):
At Completion: 0.0
On 20 JUNE 94 (above TOIC): -3.43

ELEVATION / DEPTH | WELL COMPLETION DIAGRAM | GRAPHIC LOG



SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
gs elevation -4.92 ft. — ground surface (gs)					
0.0-2.5' FILL: dark brown, low plasticity, debris (glass and metal) throughout.	ST-1		0.9	NA	HSA with 8 1/4' ID. TAL METALS sample collected.
2.5-3.0' CLAYEY SILT: with debris, as above.					XRF sample collected.
3.0-4.2' SILTY CLAY: dark brown/gray, plastic, organic material (wood, roots) throughout.	ST-2		1.7	NA	HSA 0-5'.
5.0-7.5' SILTY CLAY: as above, with organic material (wood, roots, peat).	ST-3		0.9	NA	HSA 5-10'. XRF sample collected.
7.5-8.5' SILTY CLAY: as above, with organic material.					
8.5-9.2' PEAT: dark brown-black, organics and silt throughout.	ST-4		2.1	NA	
9.2-9.5' SILTY CLAY: same as 7.5-8.5'.					
10.0-12.5' SILTY CLAY: with fine sand, gray, moderate to low plasticity, less fine sand toward bottom.	ST-5		1.2	NA	HSA 10-15'. XRF sample collected.
12.5-15.0' SILTY CLAY: gray, dense, plastic, silt/fine sand lenses throughout, minor organics.	ST-6		2.5	NA	

AGRICULTURE STREET LANDFILL

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DRILLING LOG OF WELL NO. AL-MW006

Project: AGRICULTURE STREET LANDFILL Total Depth of Hole (feet BGS): 67.5

ELEVATION / DEPTH	WELL COMPLETION DIAGRAM	GRAPHIC LOG	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
16, 17	GROUT		15.0-15.4' SILTY CLAY: as above. 15.4-16.4' SILTY CLAY: with fine sand, low plasticity.	ST-7		1.4	NA	HSA 15-20'. XRF sample collected.
18, 19			17.5-18.3' SILTY CLAY: with fine sand, as above. 18.3-20.0' SILTY CLAY: gra, dense, plastic, fine sand/silt lenses throughout.	ST-8		2.5	NA	
20, 21, 22			20.0-22.5' SILTY CLAY: gray, dense, plastic, minor fine sand and silt lenses.	ST-9		2.5	NA	HSA 20-25'. XRF sample collected.
23, 24			22.5-25.0' SILTY CLAY: as above.	ST-10		2.5	NA	
25, 26, 27			25.0-27.5' SILTY CLAY: as above, clean.	ST-11		2.4	NA	
28, 29			27.5-30.0' SILTY CLAY: as above.	ST-12		2.5	NA	HSA 25-30'. XRF sample collected.
30, 31, 32			30.0-33.0' SILTY CLAY: as above.	DRILL		NA	NA	Drill and wash out hole 30-33'. Push ST 33-35'. Drill to 35'.
33, 34			33.0-34.0' SILTY CLAY: gray, wet, plastic. 34.0-34.8' SILTY CLAY: gray, stiff, plastic.	ST-13		2.0	200	
35, 36			34.8-35.0' SILTY SANDY CLAY: moderately stiff, moderately plastic.	ST-14		2.0	100	Push ST 35-37.5'.

AGRICULTURE STREET LANDFILL

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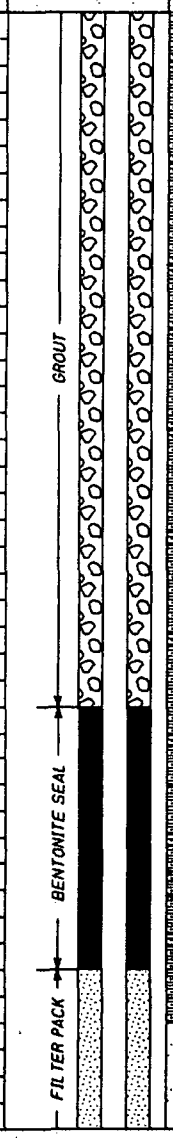
DRILLING LOG OF WELL NO. AL-MW006

Project: AGRICULTURE STREET LANDFILL

Total Depth of Hole (feet BGS): 87.5



ELEVATION / DEPTH	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
37	35.0-37.5' SILTY CLAY: gray, as above.	ST-14		2.0	100	
38, 39	37.5-40.0' SILTY CLAY: gray, as above.	ST-15		2.0	100	Push ST 37.5-40'. Drill to 40'.
40, 41	40.0-41.0' SILTY CLAY: gray, wet, loose from fall in.	ST-16		2.5	15	Push ST 40-42.5'.
42	41.0-42.5' SANDY SILTY CLAY: gray, with shells, moderately stiff, plastic.					
43, 44	42.5-45.0' SILTY CLAY: green-gray, with sand and shells, plastic.	ST-17		2.0	10	Push ST 42.5-45'. Drill to 45'.
45, 46, 47	45.0-47.5' No recovery.	ST-18		0	NA	Push ST 45-47.5'.
48, 49	47.5-50.0' SILTY CLAY: as above.	ST-19		1.5	NA	Push ST 47.5-50'. Drill to 50'.
50, 51, 52	50.0-52.5' No recovery.	ST-20		0	NA	Push ST 50-52.5'.
53, 54	52.5-55.0' No recovery.	ST-21		0	NA	Push ST 52.5-55'. Drill to 55'.
55, 56, 57	55.0-57.5' SAND: gray, wet, medium brown, compact, homogeneous.	ST-22		2.0	NA	Push ST 55-57.5'. Drill to 63'.

AGRICULTURE STREET LANDFILL

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DRILLING LOG OF WELL NO. AL-MW006

Project: AGRICULTURE STREET LANDFILL

Total Depth of Hole (feet BGS): 87.5

ELEVATION / DEPTH	WELL COMPLETION DIAGRAM	GRAPHIC LOG	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
						2.0	NA	
58, 59, 60, 61, 62	FILTER PACK		57.5-63.0' SAND: as above.	DRILL		NA	NA	
63, 64			63.0-67.5' SAND: wet, gray, medium grained, as above.	SS-24		1.0	50	Push split spoon 63-65', Collected sample for grain size analysis.
65, 66				DRILL		NA	NA	
67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78								Drill to 87.5'.

AGRICULTURE STREET LANDFILL

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DRILLING LOG OF WELL NO. AL-MW007

Project: AGRICULTURE STREET LANDFILL
Location: NEW ORLEANS, LOUISIANA
Well Coordinates/Reference System: N 544317.10 E 3890485.72
Date Started/Finished: 4-19-94 / 4-20-94
Drilling Company: CHURCHILL ENVIRONMENTAL
Driller/Geologist: RON SIMMONS / JOHN PECK

Total Depth of Hole (feet BGS): 15.4
Ground Elevation (feet above MSL): -3.82
Inner Casing Stick-Up (feet above GS): -0.35
Groundwater Depth (feet BTOIC):
At Completion: 8
On 20 JUNE 94: 5.59

ELEVATION / DEPTH	WELL COMPLETION DIAGRAM	GRAPHIC LOG	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
gs elevation -3.82 ft.			*ground surface (gs)*					
2	BENTONITE, GROUT		0.0-1.0' SILT, light brown					NOTE: 1)Samples collected with 3" ID 2.5' long Shelby tube.
			1.0-2.5' FILL, dark brown clayey silt w/msw.					2)Depths in feet BGS.
4			2.5-10.0' SILT; brown, clayey, wet at 6.0'.					3)Augered with 4 1/4" ID HSA.
6								Insert 10' of .010 screen and 5' of 2" ID riser.
8	FILTER PACK							Place sandpack to 3.5' while pulling augers.
10			10.0-10.8' PEAT; brown with roots, moist.					Place bentonite to 2' and hydrate with deionized water.
12			10.8-11.6' SILTY CLAY; moist, gray, with some roots.	ST-1		1.8	80	Grout to surface.
14			11.6-15.4' SILTY CLAY; (cuttings) gray, wet, plastic, dense.					Augered to 10'.
								Push Shelby 10-12.5'.
16								
18								Augered to 15.4'.
20								Grain size and XRF sample collected from ST-1.

AGRICULTURE STREET LANDFILL

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DRILLING LOG OF WELL NO. AL-MW008

Project: AGRICULTURE STREET LANDFILL
Location: NEW ORLEANS, LOUISIANA
Well Coordinates/Reference System: N 544332.74 E 3890487.23
Date Started/Finished: 5-3-94 / 5-6-94
Drilling Company: CHURCHILL ENVIRONMENTAL SERVICES, INC.
Driller/Geologist: JOBY BALL / JOHN R. PASCH, WALTER GRAF

Total Depth of Hole (feet BGS): 72.5
Ground Elevation (feet above MSL): -3.56
Inner Casing Stick-Up (feet above GS): -0.40
Groundwater Depth (feet BTOIC):
At Completion: 8.2
On 20 JUNE 94 (above GS): -1.74

ELEVATION / DEPTH	WELL COMPLETION DIAGRAM	GRAPHIC LOG	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
gs elevation -3.56 ft.			*ground surface (gs)*					
1, 2	GROUT		0.0-1.0' SILT; light brown to medium brown, silty sand, minor debris.					Augered with 8 1/4" hollow stem auger.
			1.0-2.5' FILL; dark brown, clayey silt, debris throughout.	ST-1		2.0		
3, 4				ST-2		1.4		3.0-5.0' Sample collected for TAL metals, and duplicate XRF.
5, 6, 7			2.5-7.5' CLAYEY SILT; as above.	ST-3		0.3		
8, 9			7.5-10.0' CLAYEY SILT; brown, with roots.					
10			10.0-10.8' PEAT; brown, moist.					
11			10.8-11.6' SILTY CLAY; gray, moist with minor roots.					
12, 13, 14, 15			11.6-15.0' SILTY CLAY; gray, wet, plastic, dense.					

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DRILLING LOG OF WELL NO. AL-MW008

Project: AGRICULTURE STREET LANDFILL

Total Depth of Hole (feet BGS): 72.5

ELEVATION / DEPTH	WELL COMPLETION DIAGRAM	GRAPHIC LOG	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36	GROUT		15.0-30.0' SILTY CLAY: gray, dense, plastic, some silty lenses throughout.	ST-4		2.5		15.0-17.0' Sample collected for XRF.
				ST-5		2.5		
				ST-6		2.5		20.0-22.0' Sample collected for XRF analysis.
				ST-7		2.5		
				ST-8		2.5		25.0-27.0' Sample collected for XRF analysis.
				ST-9		2.5		
			30.0-33.0' No recovery, drill and washout hole.					
			33.0-35.0' SILTY CLAY: as above.	ST-13		2.5	150	
			35.0-36.0' SILTY CLAY: plastic, wet.	ST-14		2.5	>1000	

AGRICULTURE STREET LANDFILL

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DRILLING LOG OF WELL NO. AL-MW008

Project: AGRICULTURE STREET LANDFILL

Total Depth of Hole (feet BGS): 72.5

ELEVATION / DEPTH	WELL COMPLETION DIAGRAM	GRAPHIC LOG	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
37	GROUT		36.0-37.5' SILTY CLAY: gray, silt content increasing with depth, stiff plastic.	ST-14		2.5	>1000	
38			37.5-39.0' SILTY CLAY: as above with wood fragment at 39.0'.	ST-15		2.5	>1000	
39			39.0-40.0' SILTY SAND: fine grained, compact, muscovite grains present.					
40			40.0-42.0' No recovery.			0.0		
41								
42								
43			42.5-45.0' SANDY CLAY: moderately stiff, plastic, with shells.	ST-16		2.5	150	
44								
45			45.0-47.5' SANDY CLAY: moderately plastic, with shells.	ST-17		2.5		
46								
47								
48			47.5-50.0' SANDY CLAY: as above.	ST-18		2.0	100	
49								
50			50.0-50.5' CLAY: as above.					
51			50.5-52.5' CLAY: gray, stiff, plastic, with some silty sands, and shells.	ST-29		2.0	80	
52								
53			52.5-57.0' CLAY: gray, stiff, plastic, with some shells, minor silt, and several silt bands.	ST-20		2.5	350	
54	BENTONITE SEAL							
55								
56				ST-21		2.2	110	
57								

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DRILLING LOG OF WELL NO. AL-MW008

Project: AGRICULTURE STREET LANDFILL

Total Depth of Hole (feet BGS): 72.5

ELEVATION / DEPTH	WELL COMPLETION DIAGRAM	GRAPHIC LOG	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78	BENTONITE SEAL; FILTER PACK		57.0-60.0' SAND: gray, medium-to fine-grained with minor clay.	ST-22		2.2 / 0.5	110 / 15	
			60.0-62.0' SAND: brown, fine-to medium-grained, loose.	ST-23		0.4	10	
			62.0-65.0' No recovery.					
			65.0-67.0' SAND: as above.	ST-24		0.5		65.0-67.0' Sample collected for grain size analysis.
			67.0'-72.5' SAND: as above.					

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DRILLING LOG OF WELL NO. AL-MW009

Project: AGRICULTURE STREET LANDFILL
Location: NEW ORLEANS, LOUISIANA
Well Coordinates/Reference System: N 543813.48 E 3880533.53
Date Started/Finished: 4-20-94 / 4-21-94
Drilling Company: CHURCHILL ENVIRONMENTAL
Driller/Geologist: RON SIMMONS / JOHN PECK

Total Depth of Hole (feet BGS): 15.5
Ground Elevation (feet above MSL): -5.08
Inner Casing Stick-Up (feet above GS): -0.62
Groundwater Depth (feet BTOIC):
At Completion: 8.0
On 20 JUNE 94 : 2.85

ELEVATION / DEPTH	WELL COMPLETION DIAGRAM	GRAPHIC LOG	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
gs elevation -5.08 ft.			ground surface (gs)					
2, 4, 6, 8, 10, 12, 14, 16, 18, 20	SAND; GROUT; BENTONITE SEAL; FILTER PACK		0.0-3.0' FILL; dark brown, debris (msw) throughout					NOTE: 1)Samples collected with 3" ID 2.5' long Shelby tube. 2)Depths in feet BGS. 3)Augered with 4 1/4" ID HSA. Insert 10' of .010 screen and 5' of 2" ID riser. Place sandpack to 4' while pulling augers.
			3.0-9.0' SILTY CLAY; gray, loose plastic organic debris (wood, roots).					
			9.0-11.5' CLAY; gray, with trace silt, moist, cohesive, plastic.	ST-1		2.3	100	Place bentonite to 2' and hydrate with deionized water. Place .5' of fine sand on top of bentonite to 1.5'.
			11.5-15.0' CLAY as above.					Augered to 8'. Push Shelby 9-11.5'. Augered to 15'. Grain size and XRF sample collected from ST-1.

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DRILLING LOG OF WELL NO. AL-MW010

Project: AGRICULTURE STREET LANDFILL
Location: NEW ORLEANS, LOUISIANA
Well Coordinates/Reference System: N 543797.51 E 3690531.04
Date Started/Finished: 5-5-94 / 5-7-94
Drilling Company: CHURCHILL ENVIRONMENTAL SERVICES, INC.
Driller/Geologist: JOBY BALL / JOHN R. PASCH, WALTER GRAF

Total Depth of Hole (feet BGS): 67.5
Ground Elevation (feet above MSL): -4.86
Inner Casing Stick-Up (feet above GS): -0.25
Groundwater Depth (feet BTOIC):
At Completion: 6.00
On 20 JUNE 94 : -2.71

ELEVATION / DEPTH	WELL COMPLETION DIAGRAM	GRAPHIC LOG	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
gs elevation -4.86 ft.			*ground surface (gs)*					
1–2	GROUT		0.0-3.0' FILL; dark brown, non-plastic, debris throughout.	ST-1		1.2		Augered with 8 1/4" hollow stem auger. 0.0-2.5' Sample collected for EP-waste analysis.
3–4			3.0'-5.0' SILTY CLAY; gray, loose, plastic, organic debris throughout (wood, roots).	ST-2		1.0		2.5-5.0' Sample collected for XRF.
5–6			5.0'-7.5' SILTY CLAY; as above with organic debris, 1/2" organic layer without clay at bottom.	ST-3		1.3		
7–8			7.5'-10.0' SILTY CLAY; as above, with organic debris (peat).	ST-4		1.9		7.5-10.0' Samples collected for TAL metals, dioxin, and XRF analysis.
9–11			10.0'-30.0' SILTY CLAY; gray, plastic, loose, some silt and fine sand lenses.	ST-5		2.1		
12–14				ST-6		2.5		12.5-15.0' Sample collected for XRF analysis.
15								

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DRILLING LOG OF WELL NO. AL-MW010

Project: AGRICULTURE STREET LANDFILL

Total Depth of Hole (feet BGS): 87.5

ELEVATION / DEPTH	WELL COMPLETION DIAGRAM	GRAPHIC LOG	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
16–17	GROUT		SILTY CLAY	ST-7		0.7		
18–19				ST-8		2.5		
20–22				ST-9		2.5		20.0–22.5' Sample collected for XRF analysis.
23–24				ST-10		2.5		
25–27				ST-11		2.5		25.5–27.5' Sample collected for engineering parameters.
28–29				ST-12		1.8		27.5–30.0' Sample collected for XRF analysis.
30–32			30.0'–33.0' No recovery, drill and washout grout.					
33–34			33.0'–35.0' No description.	ST-13				33.0–35.0' Shelby tube sample collected for permeability testing.
35–36			35.0'–37.5' SILTY CLAY: dark gray, moderately stiff, moderately plastic.	ST-14		2.5	> 1000	

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DRILLING LOG OF WELL NO. AL-MW010

Project: AGRICULTURE STREET LANDFILL

Total Depth of Hole (feet BGS): 87.5

ELEVATION / DEPTH	WELL COMPLETION DIAGRAM	GRAPHIC LOG	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
37				ST-14		2.5	> 1000	
38, 39			37.0'-39.5' SILTY CLAY: as above, slight moisture increase.	ST-15		2.5	> 1000	
40, 41, 42, 43, 44	GROUT		39.5'-45.0' SILTY SAND: gray, with shells, increasing clay content below 42.5', wet.	ST-16		2.5	< 1000	
				ST-17		2.5	100	
45, 46, 47, 48, 49			45.0'-50.0' SANDY CLAY: with shells. 70% C, 20% MD, 10% FN.	ST-18		2.5	300	
				ST-19		2.5	100	
50, 51, 52, 53	BENTONITE SEAL		50.0'-54.0' SILTY CLAY: dense, stiff, plastic.	ST-20		1.0	100	
54			54.0'-59.5' SAND: red-brown, medium grained, with roots, compact, homogeneous.	ST-21		2.5	< 1000	
55, 56, 57	FILTER PACK			ST-22		2.5	< 1000	

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DRILLING LOG OF WELL NO. AL-MW010

Project: AGRICULTURE STREET LANDFILL

Total Depth of Hole (feet BGS): 67.5

ELEVATION / DEPTH	WELL COMPLETION DIAGRAM	GRAPHIC LOG	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
						2.5		
58			57.5-59.5' SAND: as above.	ST-23		1.5	550	57.5-59.5' Sample collected for grain size analysis.
59								
60			59.5'-67.5' SAND as above					
61								
62	FILTER PACK							
63								
64								
65								
66								
67								
68								
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AGRICULTURE STREET LANDFILL

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DRILLING LOG OF WELL NO. AL-MW011

Project: AGRICULTURE STREET LANDFILL
Location: NEW ORLEANS, LOUISIANA
Well Coordinates/Reference System: N 543015.38 E 3890537.78
Date Started/Finished: 4-20-94 / 4-21-94
Drilling Company: CHURCHILL ENVIRONMENTAL
Driller/Geologist: JOBY BALL / JOHN PECK

Total Depth of Hole (feet BGS): 15.8
Ground Elevation (feet above MSL): -5.26
Inner Casing Stick-Up (feet above GS): -0.68
Groundwater Depth (feet BTOIC):
At Completion: 6.4
On 20 JUNE 94 : 2.55

ELEVATION / DEPTH	WELL COMPLETION DIAGRAM	GRAPHIC LOG	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
gs elevation -5.26 ft.			ground surface (gs)					
2	SAND, GROUT		0.0-5.0' FILL; brown topsoil, msw debris (brick, glass, and ceramics)dry					Samples collected with 3" ID 2.5' long Shelby tube. Depths in feet BGS. Augered with 4 1/4" ID HSA. Insert 10' of .010 screen and 5' of 2" ID riser. Place sandpack to 3.5' while pulling augers. Place bentonite to 2' and hydrate with deionized water.
4	BENTONITE SEAL							
6			5.0-6.0' SILTY CLAY; gray.					
			6.0-6.4' peat, brown roots and wood					
8	FILTER PACK		6.4-9.0' clay, gray, wet, plastic, few roots, peat interval 8.0'-8.5'					
10			9.0-11.5' SILTY SAND; gray, cohesive, plastic, moist-saturated, few roots.	ST-1		2.5	400	Place 1' of fine sand on top of bentonite to 2.3'.
12			11.5-15.8' SILTY CLAY gray, plastic, silt zone 14.0'-14.5'.					Augered to 8'. Push Shelby 8-11.5'.
14								Augered to 15.8'.
16								Grain size sample collected from ST-1.
18								
20								

AGRICULTURE STREET LANDFILL

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DRILLING LOG OF WELL NO. AL-MW012

Project: AGRICULTURE STREET LANDFILL
Location: NEW ORLEANS, LOUISIANA
Well Coordinates/Reference System: N 543008.92 E 3890539.44
Date Started/Finished: 4-19-94 / 4-22-94
Drilling Company: CHURCHILL ENVIRONMENTAL
Driller/Geologist: JOBY BALL / WALTER GRAF & JOHN PASCH

Total Depth of Hole (feet BGS): 63.5
Ground Elevation (feet above MSL): -5.33
Inner Casing Stick-Up (feet above GS): -0.45
Groundwater Depth (feet BTOIC):
At Completion: 7.5
On 20 JUNE 94 (above TOC): -3.19

ELEVATION / DEPTH	WELL COMPLETION DIAGRAM	GRAPHIC LOG	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
gs elevation -5.33 ft.			*ground surface (gs)*					
1–2	GROUT		0.0-2.5' FILL: brown, brick, gravel, topsoil, compact, dry.	ST-1		1.1	0	NOTE: 1)Samples collected with 2" x 2' split spoon, 3" x 5' split spoons, and 2.5' Shelby tubes. 2)Depths in feet BGS.
3–4			2.5-5.0' FILL: brown, brick, gravel, topsoil, compact, moist, wood.	ST-2		0.5	0	3)Chemical sample collected from 4-8.5' for TAL Metals. 4)Collecting XRF samples at 5' intervals.
5–6			5.0-6.0' CLAY: gray, moist, plastic, few roots.	ST-3		1.4	60	Push Shelby 0-2'. Push Shelby 2-4'. Auger to 5'. Push Shelby 5-7.5'.
6			6.0-6.4' PEAT: brown, roots.					
7–8			7.5-10.0' CLAY: gray, wet, plastic, few roots, with peat interval from 8-8.5'.	ST-4		2.5	150	Push Shelby 7.5-10'. Auger to 10'.
9–10			10.0-12.5' SILTY CLAY: gray, wet, plastic, cohesive, with few roots.	ST-5		2.5	500	Push Shelby 10-12.5'.
11–13			12.5-15.0' SILTY CLAY: as above; silty zone from 14-14.5' highly saturated.	ST-6		2.5	750	Push Shelby 12.5-15'. Auger to 15'.
14–15								

AGRICULTURE STREET LANDFILL

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00159.0856

DRILLING LOG OF WELL NO. AL-MW012

Project: AGRICULTURE STREET LANDFILL

Total Depth of Hole (feet BGS): 63.5

ELEVATION / DEPTH	WELL COMPLETION DIAGRAM	GRAPHIC LOG	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
16, 17, 18, 19	GROUT		15.0-20.0' SILTY CLAY: gray, wet, plastic, dense, no roots; siltier zone from 18-18.5'.	SS-7		3.8	100	Push 3" x 5' split spoon 15-20'. Auger to 20'.
20, 21, 22			20.0-22.5' SILTY CLAY: as above.	ST-8		2.5	90	Push Shelby 20-22.5'. Push Shelby 22.5-25'. Auger to 25'.
23, 24			22.5-25.0' SILTY CLAY: as above.	ST-9		2.5	70	
25, 26, 27			25.0-27.5' SILTY CLAY: as above.	ST-10		2.5	70	Push Shelby 25-27.5'.
28, 29			27.5-30.0' CLAY: gray, with trace silt, moist, compact, plastic, no roots.	ST-11		2.5	70	Push Shelby 27.5-30'. Auger to 30'. Insert 8" PVC surface casing to 30'.
30, 31, 32			30.0-32.5' CLAY: as above.	ST-12		2.5	150	Pull 10' of augers. Insert tremie tube and place grout to 15'. Pull remaining augers. Grout surface casing to surface.
33, 34			32.5-35.0' CLAY: gray, dense, plastic, clean.	ST-13		2.0	180	Drill through grout (20-30').
35, 36			35.0-37.5' CLAY: as above.	ST-14		2.5	>1000	Push Shelby 33-35'. Drill to 35'.

AGRICULTURE STREET LANDFILL

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DRILLING LOG OF WELL NO. AL-MW012

Project: AGRICULTURE STREET LANDFILL Total Depth of Hole (feet BGS): 63.5

ELEVATION / DEPTH	WELL COMPLETION DIAGRAM	GRAPHIC LOG	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
37	GROUT			ST-14		2.5	>1000	Push Shelby 35-37.5'.
38, 39			37.5-40.0' SILTY CLAY: as above, with sandy layers near bottom - up to 3/4" thick.	ST-15		2.5	>1000	Push Shelby 37.5-40'. Drill to 40'.
40, 41, 42			40.0-42.5' SANDY CLAY: gray, dense, low plasticity, sand and shell fragments increasing with depth.	ST-16		2.5	48	Push Shelby 40-42.5'.
43, 44			42.5-45.0' SANDY CLAY: gray, moderately plastic, some shell fragments throughout.	ST-17		2.5	80	Push Shelby 42.5-45'. Drill to 45'.
45, 46, 47			45.0-47.5' SILTY CLAY WITH SAND: gray, dense, plastic, minor shell fragments.	ST-18		2.5	64	Push Shelby 45-47.5'.
48, 49			47.5-50.0' SILTY CLAY WITH SAND: as above.	ST-19		2.5	67	Push Shelby 47.5-50'. Drill to 50'.
50, 51, 52	BENTONITE SEAL		50.0-54.5' SILTY CLAY: gray, dense, plastic, very little sand.	ST-20		2.5	98	Push Shelby 50-52.5'.
53, 54				ST-21		2.5	NA	Push Shelby 52.5-55'. Drill to 55'.
55	FILTER PACK		54.5-55.0' SILTY SAND: dark brown, non-plastic, reddish staining.					Push Shelby 55-57.5'.
56, 57			55.0-57.5' SILTY SAND: dark brown, more plastic, reddish staining.	ST-22		2.5	>1000	

AGRICULTURE STREET LANDFILL

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DRILLING LOG OF WELL NO. AL-MW012

Project: AGRICULTURE STREET LANDFILL Total Depth of Hole (feet BGS): 83.5

ELEVATION / DEPTH	WELL COMPLETION DIAGRAM	GRAPHIC LOG	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
						2.5	>1000	Push Shelby 57.5-60'.
58								
59			58.5-59.5' SILTY SAND: dark brown, non-plastic, dark reddish staining.	ST-23		2.0	NA	
60	FILTER PACK		60.0-63.0' SILTY SAND: as above.					Drive split spoon 60-62', collected sample for grain size analysis.
61				SS-24	28 32 42 50	1.8	NA	
62								Drill to 83.5'.
63								
64								
65								
66								
67								
68								
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77								
78								

AGRICULTURE STREET LANDFILL

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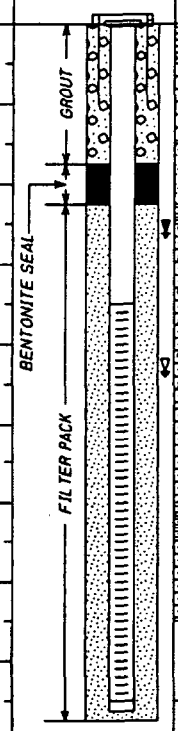
DRILLING LOG OF WELL NO. AL-MW013

Project: AGRICULTURE STREET LANDFILL
Location: NEW ORLEANS, LOUISIANA
Well Coordinates/Reference System: N 542360.47 E 3890534.38
Date Started/Finished: 4-19-94 / 4-20-94
Drilling Company: CHURCHILL ENVIRONMENTAL
Driller/Geologist: JOBY BALL / WALTER GRAF

Total Depth of Hole (feet BGS): 17.5
Ground Elevation (feet above MSL): -3.87
Inner Casing Stick-Up (feet above GS): -0.28
Groundwater Depth (feet BTOIC):
At Completion: 8.7
On 20 JUNE 94 : 5.23



ELEVATION / DEPTH	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
gs elevation -3.87 ft.	*ground surface (gs)*					
	0.0-1.0' No recovery.	SS-1	10	0		Samples collected with 3" ID 2.5' long Shelby tube and 2" x 2' split spoon.
2	1.0-3.0' CLAY; black-brown, with minor silt, msw (shells, brick, cement) present, moist.	SS-2	2 3 4 5	0.7	0	Augered with 4 1/4" ID HSA.
4	3.0-4.5' SAND; moist, banded gray and black, fine grained.	SS-3	7 10 11 10	0.8	>1000	Deeprock 1000 rig.
	4.5-5.0' SILTY CLAY; black-brown, moist.					Drive split spoon 0-2'.
6	5.0-7.0' CLAY/PEAT; gray-brown, moist, minor fine grained sand.	ST-4		NA	500	No recovery. Move rig 2' south.
8	7.0-9.0' CLAY/PEAT; as above; wet, brownish-gray from 7.0-7.2'.	ST-5		NA	NA	Auger 0-1'. Drive split spoon 1-3'.
10	9.0'-9.6' CLAY/PEAT; dark brown, gray, wet.	ST-6		NA	15	Drive split spoon 3-5'.
	9.6-11.0' CLAY; gray, plastic, wet.					Auger to 5'.
12	11.0-12.0' CLAY; plastic, wet, gray, with plant material.	ST-7		NA	NA	Push Shelby 5-7'. Push Shelby 7-9'.
	12.0-13.0' SILTY CLAY; gray, wet, with minor plant material.					Auger to 9'.
14	13.0-15.0' CLAY; gray clay banded with silty clay, plastic, wet; .5" band of tan clay at ~15.9'.	SS-8		NA	80	Water at ~9'. Push Shelby 9-11'.
16						Push Shelby 11-13'. Shelby couldn't hold sample.
18						Auger to 17'. 11.0-13.0' Sample collected for grain size analysis.
20						

AGRICULTURE STREET LANDFILL

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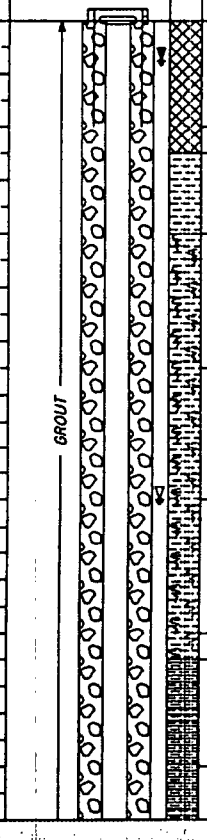
DRILLING LOG OF WELL NO. AL-MW014

Project: AGRICULTURE STREET LANDFILL
Location: NEW ORLEANS, LOUISIANA
Well Coordinates/Reference System: N 542374.15 E 3890538.12
Date Started/Finished: 4-18-94 / 4-23-94
Drilling Company: CHURCHILL ENVIRONMENTAL
Driller/Geologist: JOBY BALL / WALTER GRAF

Total Depth of Hole (feet BGS): 64.5
Ground Elevation (feet above MSL): -3.70
Inner Casing Stick-Up (feet above GS): -0.34
Groundwater Depth (feet BTOIC):
At Completion: 9
On 20 JUNE 94 (Above TOIC): 0.76



ELEVATION / DEPTH	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
gs elevation -3.70 ft.	*ground surface (gs)*					
1–2	0.0–2.0' No recovery.	SS-1		0	0	NOTE: 1)Samples collected with 2" x 2' split spoon and 2.5' Shelby tubes.
2–3	2.0–2.5' FILL: debris, dry.					
3–4	2.5–3.2' CLAY: gray, few roots and debris, moist.	SS-2		1.2	20	2)Auger to 30' with 8 1/4" ID HSA.
4–6	4.0–6.5' CLAY/PEAT: brown, with roots and organic material (peat), dense, cohesive, moist.	ST-3		2.0	80	3)Sample collected from 4–6.5' for TAL Metals. 4)Collecting XRF samples at 5' intervals.
6–9	6.0–9.0' CLAY PEAT: as above.	ST-4		0	NA	Push 2" split spoon 0–2'. Push 2" split spoon 2–4'. Auger to 4'. Push Shelby 4–6.5'.
9–11	9.0–11.5' CLAY/PEAT: brown, with roots and oganics (peat), dense, cohesive, moist	ST-6		1.0	NA	Push Shelby 6.5–9'. Auger to 9'. Push Shelby 9–11.5'. Push Shelby 11.5–14'.
12–13	11.5–12.0' CLAY/PEAT: as above. 12.0–14.0' SILTY CLAY: gray, with some roots, dense, cohesive, plastic.	ST-8		2.5	NA	Auger to 14'.
14–15	14.0–16.5' SILTY CLAY: gray, few roots, dense, moist, cohesive, plastic. (peat).	ST-7		2.5	750	Push Shelby 14–16.5'.

AGRICULTURE STREET LANDFILL

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DRILLING LOG OF WELL NO. AL-MW014

Project: AGRICULTURE STREET LANDFILL

Total Depth of Hole (feet BGS): 84.5

ELEVATION / DEPTH	WELL COMPLETION DIAGRAM	GRAPHIC LOG	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
16	GROUT			ST-7		2.5	750	
17, 18			16.5-19.0' SILTY CLAY: as above.	ST-8		2.5	100	Push Shelby 16.5-19'. Auger to 19'.
19, 20, 21			19.0-21.5' SILTY CLAY: as above, no roots.	ST-9		2.5	100	Push Shelby 19-21.5'.
22, 23			21.5-24.0' SILTY CLAY: as above.	ST-10		2.5	NA	Push Shelby 21.5-24'. Auger to 24'.
24, 25, 26			24.0-26.5' SILTY CLAY: gray, moist, dense, cohesive, plastic, homogeneous, no roots.	ST-11		2.5	85	Push Shelby 24-26.5'.
27, 28			26.5-29.0' SILTY CLAY: as above.	ST-12		2.5	100	Push Shelby 26.5-29'. Auger to 30'. Pull 10' of augers. Tremie grout to 15'.
29			29.0-30.0' Silty Clay as above.			0		Pull remaining augers. Grout casing to surface.
30, 31, 32			30.0-33.0' Drill and wash hole. (Silty Clay as above)			0		Drill out bottom 30-33'.
33, 34			33.0-35.0' SILTY CLAY: gray, moist, dense, cohesive, moderately stiff, silty clay bands at 34.5'.	ST-13		2.0	52	Push Shelby 33-35'. Drill to 35'.
35, 36			35.0-37.5' SILTY CLAY: as above, no silt banding.	ST-14		2.5	78	Push Shelby 35-37.5'.

AGRICULTURE STREET LANDFILL

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DRILLING LOG OF WELL NO. AL-MW014

Project: AGRICULTURE STREET LANDFILL

Total Depth of Hole (feet BGS): 84.5

ELEVATION / DEPTH	WELL COMPLETION DIAGRAM	GRAPHIC LOG	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
37				ST-14		2.5	76	
38			37.5-38.5' SILTY CLAY: as above.					Push Shelby 37.5-40'. Drill to 40'.
39			38.5-39.7' CLAY: less silt, plastic, wet.	ST-15		2.5	220	
40			39.7-40.0' SANDY SILT: gray, some shell fragments.					Push Shelby 40-42.5'.
41			40.0-42.5' SILTY CLAY: gray, moist, plastic, with sandy silt banding.	ST-16		2.5	210	
42								
43	GROUT		42.5-43.5' SILTY CLAY: as above.					Push Shelby 42.5-45'. Drill to 45'.
44			43.5-45.0' SANDY SILT: with shell fragments, loose, gray, wet.	ST-17		2.5	380	
45			45.0-46.0' SANDY SILT: as above.					Push Shelby 45-47.5'.
46			46.0-47.5' SILTY CLAY: with shells. gray, plastic, cohesive, very moist.	ST-18		2.5	68	
47								
48			47.5-50.0' SANDY SILTY CLAY: with shell fragments. Sand/silt/clay = 10/20/70% Sand is medium to fine grained.	ST-19		2.5	NA	
49								
50			50.0-52.5' SILTY CLAY: gray, moist, with shells and shell fragments, plastic, cohesive. minor silt bands.					Push Shelby 50-52.5'.
51				ST-20		2.5	48	
52								
53	BENTONITE SEAL		52.5-55.0' SILTY CLAY: with shells, very plastic, very wet.	ST-21		NA	32	Push Shelby 52.5-55'. Drill to 55'.
54								
55			55.0-56.8' SILTY CLAY: as above.					Push Shelby 55-57.5'.
56	FILTER PACK		56.8-57.5' SAND: wet, fine to medium grained sand, wet, red-brown stains.	ST-22		2.5	NA	
57								

AGRICULTURE STREET LANDFILL

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DRILLING LOG OF WELL NO. AL-MW014

Project: AGRICULTURE STREET LANDFILL

Total Depth of Hole (feet BGS): 64.5

ELEVATION / DEPTH	WELL COMPLETION DIAGRAM	GRAPHIC LOG	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
						2.5	NA	
58, 59	FILTER PACK		57.5-60.0' SAND: medium grained, as above.	ST-23		NA	880	Push Shelby 57.5-60'. Drill to 60'.
60, 61			60.0-62.0' SAND: wet, fine grained (30%) to medium grained (70%), loose.	SS-24	10 21 34 44	0.8	100	Drive split spoon 60-62', sample collected for grain size analysis.
62, 63, 64			62.0-64.0' SAND as above.					Drill to 64'. Screen will set 59-64' BGS. TD = 64'
65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78								

AGRICULTURE STREET LANDFILL

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DRILLING LOG OF WELL NO. AL-MW015

Project: AGRICULTURE STREET LANDFILL
Location: NEW ORLEANS, LOUISIANA
Well Coordinates/Reference System: N 542408.73 E 3890283.03
Date Started/Finished: 4-21-94 / 4-22-94
Drilling Company: CHURCHILL ENVIRONMENTAL
Driller/Geologist: RON SIMMONS / JOHN PECK

Total Depth of Hole (feet BGS): 15.5
Ground Elevation (feet above MSL): -2.49
Inner Casing Stick-Up (feet above GS): -0.26
Groundwater Depth (feet BTOIC):
At Completion: 5
On 20 JUNE 94 : 5.61

ELEVATION / DEPTH	WELL COMPLETION DIAGRAM	GRAPHIC LOG	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
gs elevation -2.49 ft.			*ground surface (gs)*					
2, 4, 6, 8, 10, 12, 14, 16, 18, 20	SAND; GROUT; BENTONITE SEAL; FILTER PACK		0.0-7.5' FILL; dark brown, LF MAT (brick, glass, ceramic)					NOTE: 1)Samples collected with 3" ID, 2.5' long Shelby tube. 2)Augered with 4 1/4" ID HSA. Insert 10' of .010 screen and 5' of 2" ID riser. Place sandpack to 4' while pulling augers. Place bentonite to 2' and hydrate with deionized water.
			7.5-9.0' SILTY CLAY; dark brown, dense, organic debris (wood, roots).					
			9.0-11.5' SILTY CLAY; gray, moist, cohesive, plastic; with intervals of peat, brown, roots, less cohesive, moist.	ST-1		1.8	3	Place 5' of fine sand on top of bentonite to 1.5'.
			11.5-12.0' Dark brown organic layer with silt, wood and roots.					Augered to 9'. Push Shelby 9-11.5'.
			12.0-15.5' SILTY CLAY; gray, dark brown silt and organic rich band at 13.3-13.9'.					Augered to 15'. Grain size and XRF sample collected from ST-1.

AGRICULTURE STREET LANDFILL

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DRILLING LOG OF WELL NO. AL-MW016

Project: AGRICULTURE STREET LANDFILL
Location: NEW ORLEANS, LOUISIANA
Well Coordinates/Reference System: N 542410.75 E 3690270.88
Date Started/Finished: 5-5-94 / 5-7-94
Drilling Company: CHURCHILL ENVIRONMENTAL SERVICES, INC.
Driller/Geologist: JOBY BALL / JOHN R. PASCH, WALTER GRAF

Total Depth of Hole (feet BGS): 69.6
Ground Elevation (feet above MSL): -2.20
Inner Casing Stick-Up (feet above GS): -0.32
Groundwater Depth (feet BTOIC):
At Completion: 9.0
On 20 JUNE 94: 0.04

ELEVATION / DEPTH	WELL COMPLETION DIAGRAM	GRAPHIC LOG	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
gs elevation -2.20 ft.			ground surface (gs)					
1–2	GROUT		0.0-5.0' FILL: dark brown, dense, low plasticity, debris throughout.	ST-1		0.3		Augered with 8 1/4" hollow stem auger to 30'. 5 7/8" mud rotary 30' to TD. 0.0-2.5' Sample collected for XRF analysis.
3–4								
5–7			5.0-7.5' FILL: dark brown, dense, moderate plasticity, minor debris.	ST-2		2.0		2.5-5.0' Samples collected for XRF, TAL, and metals analysis.
8–9			7.5-10.0' SILTY CLAY: dark brown, dense, moderate plasticity, organic debris (wood, roots).	ST-3		2.5		
10–11			10.0-12.5' SILTY CLAY: gray, dense, high plasticity, dark brown organic layer with silt and organic debris from 11.0-12.0'.	ST-4		2.5		
12–13			12.5-15.0' SILTY CLAY: gray, as above with dark brown silt and organic rich band at 13.3-13.9'.	ST-5		2.5		12.5-15.0' Sample collected for XRF analysis.
14–15								

AGRICULTURE STREET LANDFILL

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DRILLING LOG OF WELL NO. AL-MW016

Project: AGRICULTURE STREET LANDFILL

Total Depth of Hole (feet BGS): 89.6

ELEVATION / DEPTH	WELL COMPLETION DIAGRAM	GRAPHIC LOG	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
16, 17	GROUT		15.0-30.0' SILTY CLAY: gray, dense, plastic, silty lens near bottom.	ST-6		1.1		
18, 19				ST-7		2.0		17.5-20.0' Sample collected for XRF analysis.
20, 21, 22			1" thick silt lens at 21.3'.	ST-8		2.5		
23, 24				ST-9		2.5		22.5-25.0' Sample collected for XRF analysis.
25, 26, 27				ST-10		2.5		
28, 29				ST-11		2.1		27.5-30.0' Sample collected for XRF analysis.
30, 31, 32			30.0-33.0' SILTY CLAY: as above.					
33, 34, 35, 36			33.0-37.5' CLAY: gray, stiff, cohesive.					

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DRILLING LOG OF WELL NO. AL-MW016

Project: AGRICULTURE STREET LANDFILL Total Depth of Hole (feet BGS): 69.6

ELEVATION / DEPTH	WELL COMPLETION DIAGRAM	GRAPHIC LOG	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
37–38	GROUT		37.5- 38.0' SILTY CLAY: plastic, wet. 38.0-40.5' CLAY: stiff, plastic, with minor silt.	ST-13		2.5	25	
38–41	GROUT		40.5-42.5 SILTY CLAY: grey, slightly plastic.	ST-14		2.5	250	
41–44	GROUT		42.5-45 SILTY CLAY: plastic, with sand.	ST-15		2.3	>1000	
44–47	GROUT		45.0-47.0' SANDY CLAY: moderately plastic with shells.	ST-16		2.5	50	
47–49	GROUT		47.0-47.5' SILTY CLAY: grey, stiff, plastic. 47.5-48.0' CLAY: as above. 48.0-50.0' SILTY CLAY: stiff, plastic, with sand and shells.	ST-17		2.5	100	
49–52	GROUT		50.-52.0' No recovery.	ST-18		0		
52–55	BENTONITE SEAL		52.5-55.0' No recovery.	ST-19		0		
55–57	BENTONITE SEAL		55.7-57.3' SILTY CLAY: gray, stiff, moderately plastic, with sand and silt lenses.	ST-20		2.0	50	

AGRICULTURE STREET LANDFILL

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DRILLING LOG OF WELL NO. AL-MW016

Project: AGRICULTURE STREET LANDFILL

Total Depth of Hole (feet BGS): 89.6

ELEVATION / DEPTH	WELL COMPLETION DIAGRAM	GRAPHIC LOG	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
58	FILTER PACK		57.3-59.0' SAND: brown, medium grained, compact, homogeneous, wet.	ST-21		0.3		
59			59.0-60.0' SAND: as above.					
60			60.0-62.0' SAND: brown, as above.	ST-22		0.1		
61								
62			62.0-65.0' SAND: as above.					
63								
64								
65			65.0-69.6' SAND: brown, as above.	ST-23		0.2		65.0-67.0' Sample collected for grain size analysis.
66								
67								
68								
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AGRICULTURE STREET LANDFILL

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DRILLING LOG OF WELL NO. AL-MW017

Project: AGRICULTURE STREET LANDFILL
Location: NEW ORLEANS, LOUISIANA
Well Coordinates/Reference System: N 642549.85 E 3889747.00
Date Started/Finished: 4-21-94 / 4-22-94
Drilling Company: CHURCHILL ENVIRONMENTAL
Driller/Geologist: RON SIMMONS / JOHN PECK

Total Depth of Hole (feet BGS): 15.5
Ground Elevation (feet above MSL): -5.20
Inner Casing Stick-Up (feet above GS): -0.87
Groundwater Depth (feet BTOIC):
At Completion: 5
On 20 JUNE 94 : 1.67

ELEVATION / DEPTH	WELL COMPLETION DIAGRAM	GRAPHIC LOG	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
gs elevation -5.20 ft.			*ground surface (gs)*					
2, 4, 6, 8, 10, 12, 14, 16, 18, 20	SAND; GROUT; BENTONITE SEAL; FILTER PACK		0.0-9.0' FILL: (cuttings) debris.					Samples collected with 3" ID 2.5' long Shelby tube. Depths in feet BGS. Augered with 4 1/4" ID HSA. Insert 10' of .010 screen and 5' of 2" ID riser. Place sandpack to 4' while pulling augers.
			9.0-9.4' FILL: debris, wood.					Place bentonite to 2' and hydrate with deionized water.
			9.4-10.3' SILTY CLAY: moist, gray, cohesive, plastic, few roots.	ST-1		1.3	10	Place 0.5' of fine sand on top of bentonite to 1.5'.
			11.5-15.5' *No description.*					Augered to 9'. Push Shelby 9-11.5'. Augered to 15'. Grain size and XRF sample collected from ST-1.

AGRICULTURE STREET LANDFILL

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DRILLING LOG OF WELL NO. AL-MW018

Project: AGRICULTURE STREET LANDFILL
Location: NEW ORLEANS, LOUISIANA
Well Coordinates/Reference System: N 542541.39 E 3689735.96
Date Started/Finished: 5-9-94 / 5-17-94
Drilling Company: CHURCHILL ENVIRONMENTAL SERVICES, INC.
Driller/Geologist: JOBY BALL / WALTER GRAF

Total Depth of Hole (feet BGS): 64.5
Ground Elevation (feet above MSL): -4.87
Inner Casing Stick-Up (feet above GS): -0.24
Groundwater Depth (feet BTOIC):
At Completion: 2.5
On 20 JUNE 94 : 2.59

ELEVATION / DEPTH	WELL COMPLETION DIAGRAM	GRAPHIC LOG	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
gs elevation -4.87 ft.			ground surface (gs)					
1–2	GROUT		0.0-2.5' FILL and CLAYEY SILT; dark brown, dense, moderate plasticity, debris throughout (glass, metal).	ST-1		1.4		0.0-2.5' Sample collected for engineering parameters.
3–8			2.5-9.1' FILL and SILTY CLAY; dark brown to black, plastic, high organics, shells.	ST-2		0.5		
9–10			9.1-9.7' PEAT; black, high organics, some silt.	ST-3		2.5		9.0-11.5' Sample collected for engineering parameters.
10–11			9.7-11.5' SANDY CLAY; gray, dense, clean, moderately plastic.					
12			11.5-12.1' SANDY CLAY; as above.	ST-4		2.5		11.5-14.0' Sample collected for TAL metals.
13			12.1-13.3' SILTY CLAY; gray, loose, plastic.					
14–15			13.3-14.0' SANDY CLAY; gray, dense, clean, moderately plastic. Some pieces of wood and glass.	ST-5		2.0		

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DRILLING LOG OF WELL NO: AL-MW018

Project: AGRICULTURE STREET LANDFILL

Total Depth of Hole (feet BGS): 84.5

ELEVATION / DEPTH	WELL COMPLETION DIAGRAM	GRAPHIC LOG	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
16	GROUT		14.0-16.5' SILTY CLAY: gray, dense, plastic, some silt and fine sand lenses.	ST-5		2.0		
17, 18			16.5-19.0' SILTY CLAY: with silt and fine sand lenses as above.	ST-6		2.5		
19, 20, 21			19.0-21.5' SILTY CLAY: as above, clean.	ST-7		2.5		19.0-21.5' Sample collected for engineering parameters.
22, 23			21.5-24.0' SILTY CLAY: as above.	ST-8		2.5		
24, 25, 26			24.0-26.5' SILTY CLAY: as above.	ST-9		2.5		
27, 28			26.5-29.0' SILTY CLAY: as above.	ST-10		2.5		
29, 30			29.0-30.5' SILTY CLAY: as above.	ST-11		2.0		
31			30.5-31.5' CLAYEY SILT: gray, dense, nonplastic.					
32, 33, 34			31.5-35.0' No recovery.			-		
35, 36			35.0-37.5' CLAY: Shelby tube sealed for permeability test.	ST-13		-		

AGRICULTURE STREET LANDFILL

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DRILLING LOG OF WELL NO. AL-MW018

Project: AGRICULTURE STREET LANDFILL

Total Depth of Hole (feet BGS): 64.5

ELEVATION / DEPTH	WELL COMPLETION DIAGRAM	GRAPHIC LOG	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
37	GROUT			ST-13		1		
38			37.5-39.0' CLAY: plastic, stiff, gray.	ST-14		2.4		Collected Shelby tube for triaxial permeability test.
39			39.0-39.7' SILTY CLAY: moderately plastic, very wet, gray.					
40			39.7-40.0' SILTY SAND: with clay, gray.					
41			40.0-42.5' SILTY SAND CLAY: gray, with shells, moderately stiff, moderately plastic.	ST-15		1.8	70-140	
42								
43			42.5-45.0' SILTY SAND: as above.	ST-16		1.5	220	
44								
45			45.0-47.5 SILTY SAND: as above.	ST-17		2.5	80	
46	BENTONITE SEAL							
47								
48			47.5-50.0 SILTY SAND: as above.	ST-18		2.0	25	
49								
50			50.0-52.5' SAND: brown, medium grained sand, loose, strong odor.	ST-19		2.5	8	
51								
52								
53	FILTER PACK		52.5-55.0' Brown sand as above.	ST-20		2.0	150	
54								
55			55.0-57.5' Brown sand as above.	ST-21		0.5	150	55.0-57.0' Collected sample for grain size analysis.
56								
57								

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DRILLING LOG OF WELL NO. AL-MW018

Project: AGRICULTURE STREET LANDFILL Total Depth of Hole (feet BGS): 64.5

ELEVATION / DEPTH	WELL COMPLETION DIAGRAM	GRAPHIC LOG	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
						0.5	150	
58			57.5-64.0' SAND: as above.					
59								
60	FILTER PACK							
61								
62								
63								
64			TD=64.5'.					
65								
66								
67								
68								
69								
70								
71								
72								
73								
74								
75								
76								
77								
78								

AGRICULTURE STREET LANDFILL

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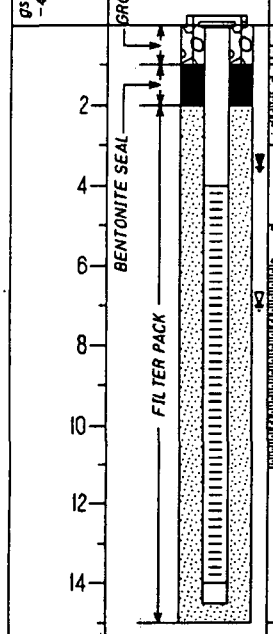
00159.0877

DRILLING LOG OF WELL NO. MW0019

Project: AGRICULTURE STREET LANDFILL
Location: NEW ORLEANS, LOUISIANA
Well Coordinates/Reference System: N 542885.48 E 3889122.00
Date Started/Finished: 5-7-94 / 5-8-94
Drilling Company: CHURCHILL ENVIRONMENTAL SERVICES, INC.
Driller/Geologist: KEN GIPSON / GENE FLORENTINO

Total Depth of Hole (feet BGS): 15
Ground Elevation (feet above MSL): -4.48
Inner Casing Stick-Up (feet above GS): -0.25
Groundwater Depth (feet BTOIC):
At Completion: 7
On 19 JUNE 94 : 3.56



ELEVATION / DEPTH	WELL COMPLETION DIAGRAM	GRAPHIC LOG	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
			ground surface (gs)					
			0.0-0.5' SAND; brown, tan, medium grained, well sorted, with root traces.	SS-1		3.0	20	Augered with 4 1/4" ID hollow stem auger.
			0.0-1.0' CLAY; brown, orange, mottled organic clay, medium plasticity, moist.					5.0' split-spoon sampling.
			1.0-1.3' SAND; same as above, angular to subangular.					
			1.3-1.7' WOOD; layer of wood (natural, very dense and solid).					No man made fill encountered.
			1.7-2.4' SILTY CLAY; green/gray, semi-plastic.	SS-2		2.0	0	OVA = 20 ppm from sample, and 1000 ppm in auger both with and without the carbon filter.
			2.4-3.0' WOOD; layer of wood, dense, moist.					
			5.0-6.0' WOOD; dense.					
			6.0-7.0' SILTY CLAY; green/gray, organic, semi-plastic to plastic, moist to wet.					OVA = 0 ppm from sample, and 80 ppm in auger with and without carbon filter.
			10.0-11.1' SILTY CLAY; green/gray, semi-plastic to plastic, very soft, wet.	SS-3		1.1	20	Sample collected for grainsize analysis.
								OVA = 20 ppm from sample, and 4 ppm from auger both with and without carbon filter.

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DRILLING LOG OF WELL NO. MW020

Project: AGRICULTURE STREET LANDFILL
Location: NEW ORLEANS, LOUISIANA
Well Coordinates/Reference System: N 542889.36 E 3889138.40
Date Started/Finished: 5-10-94 / 5-14-94
Drilling Company: CHURCHILL ENVIRONMENTAL SERVICES, INC.
Driller/Geologist: JOBY BARR / WALTER GRAF

Total Depth of Hole (feet BGS): 67.5
Ground Elevation (feet above MSL): -4.47
Inner Casing Stick-Up (feet above GS): -0.24
Groundwater Depth (feet BTOIC):
At Completion: 8.0
On 20 JUNE 94: 1.78

ELEVATION / DEPTH	WELL COMPLETION DIAGRAM	GRAPHIC LOG	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
gs elevation -4.47 ft.			ground surface (gs)					
1–2	GROUT		0.0-0.5' SILTY CLAY gray, brown; with fine sand, minor organics landfill debris; med. plasticity.	ST-2		1.0		
			0.5-1.0' SILTY CLAY; gray, brown, some organic debris (roots/wood).					
3			1.0-3.5' No recovery.					
4			3.5-4.1' SILTY CLAY; gray, brown, dense, some organic debris (roots/wood).	ST-1		1.0		Sample collected for TAL metals.
5			4.1-4.5' SILTY CLAY; gray, brown, black, some organic debris (roots/wood).					
6			4.5-6.0' PEAT; fiberous, roots, with silt.					
7–13			6.0-14.0' SILTY CLAY; gray-green, soft, wet.					
14–15			14.0-16.5 SILTY CLAY; gray, dense, plastic, silt/fine sand bands up to 1/2"	ST-3		2.5		

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DRILLING LOG OF WELL NO. MW020

Project: AGRICULTURE STREET LANDFILL

Total Depth of Hole (feet BGS): 87.5

ELEVATION / DEPTH	WELL COMPLETION DIAGRAM	GRAPHIC LOG	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
16	GROUT		thick; minor organic material.	ST-3		2.5		
17–18			16.5–19.0' SILTY CLAY: as above, minor silt/fine sand bands.	ST-4		2.5		
19–21			19.0–21.5' SILY CLAY: as above.	ST-5		2.5		
22–24			21.5–24.0' SILTY CLAY: as above.	ST-6		2.5		
25–26			24.0–26.5' SILTY CLAY: as above.	ST-7		2.5		
27–29			26.5–29.0' SILTY CLAY: as above.	ST-8		2.5		
30–32			30.0–35.0' SILTY CLAY: as above. Drilled to 33.0'.					
33–34				ST-13		0		
35–36			35.0–37.5' CLAY gray, stiff, plastic, cohesive.	ST-14		2.5	100–450	

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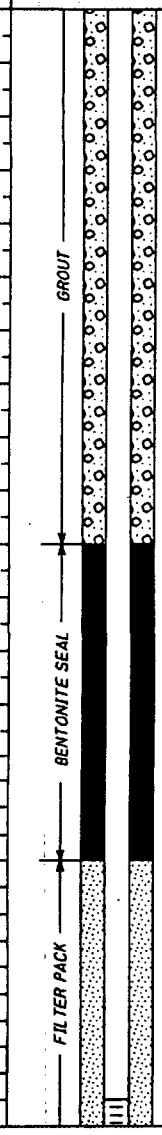
DRILLING LOG OF WELL NO. MW020

Project: AGRICULTURE STREET LANDFILL

Total Depth of Hole (feet BGS): 67.5



ELEVATION / DEPTH	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
37		ST-14		2.5	100-450	
38	37.5-38.5' CLAY: as above.					
39	38.5-39.8' SILTY CLAY:gray plastic, moderately stiff.	ST-15		2.5	150-1000	
40	39.8-40.0' SILTY SAND with shells.					
41	40.0-42.2' SILTY CLAY gray, plastic moderately stiff.	ST-16		1.0	40-250	
42	42.2-42.5' SILTY SAND: gray.					
43	42.5-45.0' No recovery.	ST-17		0		
44						
45	45.0-46.8' CLAYEY SANDY SILT wet, gray, with minor shells.	ST-18		2.5	200-450	
46						
47	46.8-47.5' SILTY SAND gray, wet.					
48	47.5-50.0' SILTY SAND as above. no shells, brown sand banding from 49.5-50.0', medium grained sand, wet, tan.	ST-19		2.5	50-300	
49						
50	50.0-52.5' No recovery.	ST-20		0		
51						
52						
53	52.5-55.0' wet, brown, medium grained sand, homogeneous.	ST-21		0.5	30	
54						
55	55.0-57.5' 100% medium grained sand, wet homogeneous light tan to off white.	ST-22		?	50	
56						
57						

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DRILLING LOG OF WELL NO. MW020

Project: AGRICULTURE STREET LANDFILL

Total Depth of Hole (feet BGS): 67.5

ELEVATION / DEPTH	WELL COMPLETION DIAGRAM	GRAPHIC LOG	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
						?	50	
58, 59			57.5-60.0' Drill to 60.0'. No samples collected.					
60, 61, 62	FILTER PACK		60.0-62.5' Light tan wet homogeneous medium/fine sand.	ST-23		1.5	8-12	Sample collected for grain size analysis.
63, 64, 65, 66, 67			62.5-67.5' SAND: as above. TD=67.5'					
68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78								

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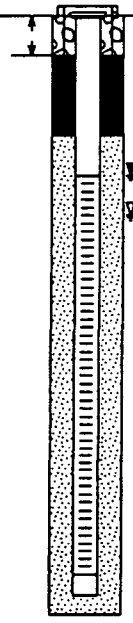
00159.0883

DRILLING LOG OF WELL NO. MW0021

Project: AGRICULTURE STREET LANDFILL
Location: NEW ORLEANS, LOUISIANA
Well Coordinates/Reference System: N 543194.80 E 3889078.56
Date Started/Finished: 5-6-94 / 5-7-94
Drilling Company: CHURCHILL ENVIRONMENTAL SERVICES, INC.
Driller/Geologist: KEN GIPSON / GENE FLORENTINO

Total Depth of Hole (feet BGS): 15
Ground Elevation (feet above MSL): 0.86
Inner Casing Stick-Up (feet above GS): -0.29
Groundwater Depth (feet BTOIC):
At Completion: 5
On 20 JUNE 94: 4.00

ELEVATION / DEPTH	WELL COMPLETION DIAGRAM	GRAPHIC LOG	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
gs elevation 0.86 ft.			ground surface (gs)					
			0.0-1.0' SAND; light brown, medium to fine grained, angular, quartz, well sorted and graded, gravelly (ceramic fragments).					No sample collected 0.0-1.0'.
2			1.0-5.0' FILL; dark brown/orange fill top 0.8', hard, compact, wood and glass debris, sandy medium to fine grained, followed by backfill (wood and glass debris) and some shell fragments.	SS-1		1.4	0/0	
4				SS-2	5 11 7	1.0	0/100	OVA = 800 ppm in auger with and without carbon filter.
6			5.0-7.0' SAND and PEAT; dark brown, black, sand (medium-to fine-grained) and peat (abundant wood fragments in large chunks), soft, saturated, silty.	SS-3	2 8 7 3	0.5	0/0	Water at ~4.0-5.0' BGS. OVA malfunctioning, reading for spoon not available.
8			7.0-9.0' No recovery.	SS-4	3 3 8 7	0.0	0/0	OVA readings with PID.
10			9.0-11.0' SILTY CLAY; greenish/gray, organic (root traces), soft, plastic, saturated.	SS-5	1 1 1 2	1.0	0/0	Sample collected for grain size analysis.
12			11.0-15.0' CLAY; greenish/gray, organic (abundant root fragments), soft, very plastic, wet.	SS-6	5 6 5 7	1.8	0/0	
14				SS-7	3 2 1 1	1.8	0/0	
16								
18								
20								

AGRICULTURE STREET LANDFILL

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DRILLING LOG OF WELL NO. AL-MW022

Project: AGRICULTURE STREET LANDFILL
Location: NEW ORLEANS, LOUISIANA
Well Coordinates/Reference System: N 543258.1 E 3689112.28
Date Started/Finished: 5-9-94 / 5-11-94
Drilling Company: CHURCHILL ENVIRONMENTAL SERVICES, INC.
Driller/Geologist: JOBY BARR / JOHN R PASCH

Total Depth of Hole (feet BGS): 78
Ground Elevation (feet above MSL): 0.51
Inner Casing Stick-Up (feet above GS): -0.39
Groundwater Depth (feet BTOIC):
At Completion: 4
On 20 JUNE 94: 2.83

ELEVATION / DEPTH	WELL COMPLETION DIAGRAM	GRAPHIC LOG	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
gs elevation 0.51 ft.			ground surface (gs)					
1–2	GROUT		0.0–0.5' FILL and SILTY SAND: light brown, clean, loose.	ST-1				Sample collected for TAL metals.
2–5			0.5–5.0' FILL and CLAYEY SILT: dark brown, low plasticity, debris throughout, LFW.					
5–7			5.0–7.5' SILTY CLAY: with high organics.					
7–14			7.5–14.0' Cuttings – black silty clay, plastic, organic debris, loose.					
14–15			14.0–15.0' SILTY CLAY: brown-gray, fewer organics, loose, plastic.					

AGRICULTURE STREET LANDFILL

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DRILLING LOG OF WELL NO. AL-MW022

Project: AGRICULTURE STREET LANDFILL

Total Depth of Hole (feet BGS): 76

ELEVATION / DEPTH	WELL COMPLETION DIAGRAM	GRAPHIC LOG	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
16, 17	GROUT		15.0-15.6' SILTY CLAY: gray, plastic, minor organic debris. 15.6-16.3' PEAT WITH SILTY CLAY: black, organic debris throughout. 16.3-17.5' No description.	ST-2		1.3		
18, 19			17.5-18.3' PEAT WITH SILTY CLAY: as above, wood from 17.8-18.3'. 18.3-19.1' SILTY CLAY: gray, minor organic debris, silty band at 19.1'.	ST-3		1.8		
20, 21, 22			19.1-22.5' CLAYEY SILT: gray, non-plastic, 3" thick clay band at 20.8', minor organic debris.	ST-4		2.3		
23, 24			22.5-25.0' CLAYEY SILT: as above, slightly increased clay content, silty clay bands from 23.4-24.1'.	ST-5		2.5		
25, 26, 27			25.0-27.5' SILTY CLAY: gray, dense, clean, 1/4" silt lens at 25.8'.	ST-8		1.4		
28, 29			27.5-30.0' SILTY CLAY: as above, some silt lenses throughout.	ST-7		2.5		
30, 31, 32			30.0-33.0' SILTY CLAY: as above.					
33, 34			33.0-35.0' CLAY: gray, wet, plastic, moderately stiff.	ST-13		0.4	N/A	
35, 36			35.0-37.5' CLAY: as above.	ST-14		1.0	N/A	

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DRILLING LOG OF WELL NO. AL-MW022

Project: AGRICULTURE STREET LANDFILL

Total Depth of Hole (feet BGS): 76

ELEVATION / DEPTH	WELL COMPLETION DIAGRAM	GRAPHIC LOG	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
37				ST-14		1.0	N/A	
38, 39			37.5-40.0' CLAY with silt, charcoal gray, plastic, stiff, cohesive, plant matter (roots at 40.0').	ST-15		2.5	N/A	
40, 41, 42			40.0-40.2' CLAY: as above. 40.2-42.5' SILTY CLAY: gray, stiff, plastic, cohesive.	ST-16		2.5	250-500	
43, 44			42.5-45.0' CLAY: as above.	ST-17		1.0	5-25	
45, 46, 47	GROUT		45.0-45.5 SILTY CLAY: gray, plastic, moderately stiff, increased wetness. 45.5-47.0 SILTY SAND with clay, wet, shells and sand.	ST-18		2.0	150-300	
48, 49			47.5-50.0' SILTY SAND: as above.	ST-19		2.0		
50, 51, 52			50.0-52.5' SILTY SAND: with shells, gray, compact, wet, less clay than above.	ST-20		2.5	80-1000	
53, 54			52.5-54.1' SAND: as above, shells decreasing. 54.1-55.0' SAND medium/fine grained with wood. gray, compact, no shells, silt.	ST-21		1.5	200-700	
55, 56, 57	BENTONITE SEAL		55.0-57.5' No recovery	ST-22		0.0		

AGRICULTURE STREET LANDFILL

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00159.0888

DRILLING LOG OF WELL NO. AL-MW022

Project: AGRICULTURE STREET LANDFILL

Total Depth of Hole (feet BGS): 76

ELEVATION / DEPTH	WELL COMPLETION DIAGRAM	GRAPHIC LOG	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
						0.0		
58, 59	BENTONITE SEAL		57.5-60.0' SAND: wet, medium-fine grained sand, gray.	ST-23		0.7	80-200	
60, 61, 62	FILTER PACK		60.0-61.0' SAND and interbedded silty clay, brown, medium grained, plastic, moderately stiff.	ST-24		1.8	60-90	
			61.0-64.0' SANDY SILT: brown, fine grained, banded with SILTY CLAY: tan with root material.					
63, 64				ST-25		2.0	25-100	
65			64.0-65.0' SAND: medium grained, gray-brown, wet, homogeneous. 20% F, 80% M.					Sample collected for grain size analysis.
66			65.0-67.0' SAND: as above.	ST-26		0.8	15-100	
67, 68, 69, 70, 71, 72, 73, 74			67.0-76.0' SAND: as above.					
75, 76, 77, 78			TD=74.5'					

AGRICULTURE STREET LANDFILL

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DRILLING LOG OF WELL NO. AL-MW023

Project: AGRICULTURE STREET LANDFILL
Location: NEW ORLEANS, LOUISIANA
Well Coordinates/Reference System: N 544230.09 E 3889058.78
Date Started/Finished: 4-20-94 / 4-21-94
Drilling Company: CHURCHILL ENVIRONMENTAL
Driller/Geologist: RON SIMMONS / JOHN PECK

Total Depth of Hole (feet BGS): 15.5
Ground Elevation (feet above MSL): -2.83
Inner Casing Stick-Up (feet above GS): -.066
Groundwater Depth (feet BTOIC):
At Completion: 7.0
On 20 JUNE 94: 4.29

ELEVATION / DEPTH	WELL COMPLETION DIAGRAM	GRAPHIC LOG	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
gs elevation -2.83 ft.			*ground surface (gs)*					
2, 4, 6, 8, 10, 12, 14, 16, 18, 20	SAND; GROUT; BENTONITE SEAL; FILTER PACK		0.0-0.1' Grass.					NOTE: 1)Samples collected with 3" ID 2.5' long Shelby tube.
			0.1-7.5' SILT: dark brown, msw (glass, brick etc...).					2)Augered with 4 1/4" ID HSA. Insert 10' of .010 screen and 5' of 2" ID riser. Place sandpack to 4' while pulling augers.
			7.5-8.5' clay, gray with peat and wood.					
			9.0-11.5' CLAY: gray, with trace silt, moist, cohesive, plastic, some roots.	ST-1		2.0	100	Place bentonite to 2' and hydrate with deionized water.
			11.5-15.0' CLAY: (cuttings) as above.					Place 5' of fine sand on top of bentonite to 1.5'. Augered to 9'. Push Shelby 9-11.5'. Augered to 15'. Grain size and XRF sample collected from ST-1.

AGRICULTURE STREET LANDFILL

ecology and environment, inc.

DRILLING LOG OF WELL NO. MW0024

Project: AGRICULTURE STREET LANDFILL
Location: NEW ORLEANS, LOUISIANA
Well Coordinates/Reference System: N 544199.22 E 3889036.91
Date Started/Finished: 5-2-94 / 5-5-94
Drilling Company: CHURCHILL ENVIRONMENTAL SERVICES, INC.
Driller/Geologist: JOBY BALL / WALTER GRAF

Total Depth of Hole (feet BGS): 82.5
Ground Elevation (feet above MSL): -2.94
Inner Casing Stick-Up (feet above GS): -0.25
Groundwater Depth (feet BTOIC):
At Completion: ~ 4.0
On 20 JUNE 94 : 0.66

ELEVATION / DEPTH	WELL COMPLETION DIAGRAM	GRAPHIC LOG	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
gs elevation -2.94 ft.			ground surface (gs)					
			0.0-0.1' Grass.					
1			0.1-7.5' SILT; dark brown, dry, debris (glass, bricks), roots; dry.	SS-1		1.5	0	
2								
3				SS-2		0.5	0	
4								Samples collected for engineering parameters and Atterberg limits.
5				SS-3		0.7	0	
6								Samples collected for TAL metals, and engineering parameters.
7	GROUT			SS-4		2.0		
8			7.5-8.5' CLAY; gray, with peat, wood.					Samples collected for engineering parameters and Atterberg limits.
9			8.5-10.0' CLAY; grey, with minor wood, plastic, cohesive, wet.	SS-5		1.5		
10			10.0-12.5' CLAY; as above.					
11				SS-6		2.0		
12								
13			12.5-15.0' CLAY; gray, with plant material (<10%), cohesive, plastic, wet.	SS-7		2.0		
14								
15								

AGRICULTURE STREET LANDFILL

ecology and environment, inc.

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DRILLING LOG OF WELL NO. MW0024

Project: AGRICULTURE STREET LANDFILL Total Depth of Hole (feet BGS): 82.5

ELEVATION / DEPTH	WELL COMPLETION DIAGRAM	GRAPHIC LOG	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
16, 17	GROUT		15.0-17.5' CLAY: as above.	SS-8		2.0	2	
18, 19			17.5-20.0' CLAY: gray, plastic, cohesive.	SS-9				Shelby tube sealed for permeability test.
20, 21, 22			20.0-22.5' CLAY: gray, with minor silt, plastic, cohesive, wet.	22-10		2.5	5	
23, 24			22.5-25.0' SILTY CLAY: gray, plastic, cohesive, very moist.	SS-11		2.5	1	
25, 26, 27			25.0-27.5' CLAY: as above.	SS-12		2.5	2	
28, 29			27.5-30.0' CLAY: as above, slight increase in moisture content.	SS-13		2.5	2	
30, 31, 32			30.0-33.0' Drill and Wash hole, no sample.					
33, 34			33.0-35.0' SILTY CLAY: gray, plastic, stiff, wet.	SS-14		2.0	10	
35, 36			35.0-37.5' CLAY: gray, plastic, stiff, wet.	SS-15		2.5	100	

AGRICULTURE STREET LANDFILL

ecology and environment, inc.

DRILLING LOG OF WELL NO. MW0024

Project: AGRICULTURE STREET LANDFILL

Total Depth of Hole (feet BGS): 82.5

ELEVATION / DEPTH	WELL COMPLETION DIAGRAM	GRAPHIC LOG	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
37	GROUT			SS-15		2.5	100	
38, 39			37.5–40.0' SILTY CLAY: several silt bands <0.1', clay stiff, plastic, cohesive.	SS-18		2.5		
40, 41, 42			40.0–42.5' No recovery.	SS-17		0.0		
43, 44, 45			42.5–46.0' SILTY CLAY: gray, moderately stiff, plastic, wet.	SS-18		2.5	90	
46, 47			46.0–51.5 SILTY and SANDY CLAY: gray, with shells, compact, wet.	SS-19		2.0		
48, 49, 50				SS-20		2.5	290	
51, 52			51.5–52.5' SILTY CLAY: gray, plastic, cohesive, stiff.	SS-21		2.5	55	
53			52.5–53.5' SILTY CLAY: gray, with sand and shells.	SS-22		2.5		
54			53.5–54.9' SILTY CLAY: gray, moderately stiff, plastic.					
55			54.9–55.0' SAND: medium grained, homogeneous.	SS-23		1.0	100	
56, 57			55.0–57.0' SILTY CLAY: gray, becoming medium grained sand at bottom, with clay and silt.					

AGRICULTURE STREET LANDFILL

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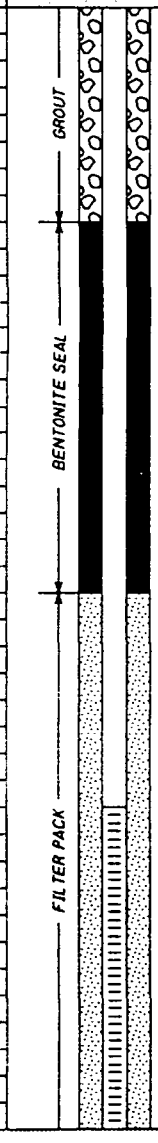
DRILLING LOG OF WELL NO. MW0024

Project: AGRICULTURE STREET LANDFILL

Total Depth of Hole (feet BGS): 82.5



ELEVATION / DEPTH	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
58	57.0-57.5' SAND: brown, with clay bands.					
	57.5-58.0' SAND: blue gray, medium grained, with silt.	SS-24		1.0	700	
59	58.0-59.0' SAND: green gray, fine-to medium-grained.					
60	59.0-60.0' No sample.					
61	60.0-62.0' SILTY SAND: gray, fine-to medium-grained, with clay, wet.			2.0	35	
62	62.0-64.0' SAND: blue gray, fine-to medium-grained, dense stiff, wet.	SS-26		2.0	10	
63						
64	64.0-65.0' No sample.					
65	65.0-65.5' SILTY CLAY: blue gray, wet.					
66	65.5-67.0' CLAY: brown gray, plastic, stiff, cohesive, minor silt.	SS-27		2.5	> 100	
67	67.0-67.5' SAND: gray, medium grained, moderately stiff.					
68	67.5-68.0' SILT: brown gray, with sand and clay, moderately plastic.	SS-28		2.5	100	
69	68.0-70.0' SAND: medium grained, moderately stiff.					
70	70.0-72.0' SAND: gray, medium grained, with wood fragments, wet.	SS-29		1.0		
71						
72	72.0-82.5' SAND: brown with gray bands, medium grained, no wood fragments.	SS-30		1.0		Sample collected for grain size analysis.
73						
74						
75						
76						
77						
78						

AGRICULTURE STREET LANDFILL

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DRILLING LOG OF WELL NO. MW0024

Project: AGRICULTURE STREET LANDFILL

Total Depth of Hole (feet BGS): 82.5

ELEVATION / DEPTH	WELL COMPLETION DIAGRAM	GRAPHIC LOG	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
79	FILTER PACK							
80								
81								
82								
83								
84								
85								
86								
87								
88								
89								
90								
91								
92								
93								
94								
95								
96								
97								
98								
99								

AGRICULTURE STREET LANDFILL

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DRILLING LOG OF WELL NO. AL-MW025

Project: AGRICULTURE STREET LANDFILL
Location: NEW ORLEANS, LOUISIANA
Well Coordinates/Reference System: N 544724.87 E 3688982.83
Date Started/Finished: 5-13-94 / 5-13-94
Drilling Company: CHURCHILL ENVIRONMENTAL
Driller/Geologist: RON SIMMONS / JOHN PECK

Total Depth of Hole (feet BGS): 15.5
Ground Elevation (feet above MSL): -5.40
Inner Casing Stick-Up (feet above GS): 0.24
Groundwater Depth (feet BTOIC):
At Completion: 5.0
On 20 JUNE 94: 4.71

ELEVATION / DEPTH	WELL COMPLETION DIAGRAM	GRAPHIC LOG	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
gs elevation -5.40 ft.			*ground surface (gs)*					
2	GROUT		0.0-2.0' FILL; with shells.					Samples collected with 3" ID 2.5' long Shelby tube.
4	BENTONITE SEAL		2.0-4.0' SILTY CLAY; gray-brown, dense, plastic, with organic debris (roots, wood).					2)Augered with 4 1/4" ID HSA.
6	FILTER PACK		4.0-6.5' SILTY CLAY; gray, dense, plastic, minor organic debris.					Insert 10' of .010 screen and 5' of 2" ID riser.
8			6.5-9.0' SILTY CLAY; as above.					Place sandpack to 4' while pulling augers.
10			9.0-10.0' SILTY CLAY; gray, moderately plastic, minor organic debris.					Place bentonite to 2' and hydrate with deionized water.
12			10.0-15.0' SILTY CLAY; gray, cohesive, no roots, with sand intervals at 11.0-11.5' and 12.6-13.0', wet.	SS-1		3.5	0	Place 5' of fine sand on top of bentonite to 1.5'. Augered to 9'. Push Shelby 9-11.5'. Augered to 15'.
14								
16			TD=15.5'					Grain size and XRF sample collected from ST-1.
18								
20								

AGRICULTURE STREET LANDFILL

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DRILLING LOG OF WELL NO. AL-MW0026

Project: AGRICULTURE STREET LANDFILL
Location: NEW ORLEANS, LOUISIANA
Well Coordinates/Reference System: N 544888.43 E 3888922.86
Date Started/Finished: 5-10-94 / 5-12-94
Drilling Company: CHURCHILL ENVIRONMENTAL SERVICES, INC.
Driller/Geologist: JOBY BALL / WALTER GRAF

Total Depth of Hole (feet BGS): 76.5
Ground Elevation (feet above MSL): 999.99
Inner Casing Stick-Up (feet above GS): 0.00
Groundwater Depth (feet BTOIC):
At Completion: 4.0
On 20 JUNE 94 (above TOIC): 3.28

ELEVATION / DEPTH	WELL COMPLETION DIAGRAM	GRAPHIC LOG	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
gs elevation 999.99 ft.			*ground surface (gs)*					
1–2	GROUT		0.0-2.0' FILL: with shells.					
2–4			2.0-4.0' SILTY CLAY: gray brown, dense, plastic, with organic debris (roots, wood).	SS-1		0.8		Samples collected for TAL metals.
4–6.5			4.0-6.5' SILTY CLAY: gray, dense, plastic, minor organic debris, wood layer at 4.8'.	SS-2		1.2		
6.5–9			6.5-9.0' SILTY CLAY: as above with organic debris (roots, wood) throughout.	SS-3		1.0		
9–11.5			9.0-11.5' SILTY CLAY: gray, moderate plasticity, with fine sand and minor organic debris.	SS-4		1.2		
11.5–14			11.5-14.0' SILTY CLAY: gray, plastic, loose, with fine sand and silt lenses.	SS-5		2.0		
14–16.5			14.0-16.5' SILTY CLAY: as above with predominant tight silt and fine sand	SS-6		2.5		

AGRICULTURE STREET LANDFILL

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DRILLING LOG OF WELL NO. AL-MW0026

Project: AGRICULTURE STREET LANDFILL Total Depth of Hole (feet BGS): 76.5

ELEVATION / DEPTH	WELL COMPLETION DIAGRAM	GRAPHIC LOG	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
16	GROUT		bands at 14.0-14.6' and 16-16.5'.	SS-6		2.5		
17, 18			16.5-19.0' SILTY CLAY: as above with silt and fine sand bands, up to 1/4" thick, throughout.	SS-7		2.5		
19, 20, 21			19.0-21.5' SILTY CLAY: as above, clean.	SS-8		2.5		
22, 23			21.5-24.0' SILTY CLAY: as above.	22-9		2.5		
24, 25, 26			24.0-26.5' SILTY CLAY: gray, dense, tight, plastic, clean.	SS-10		2.5		
27, 28			26.5-29.0' SILTY CLAY: as above.	SS-11		2.5		
29, 30, 31, 32			29.0-33.0' No recovery.					
33, 34			33.0-35.0' SILTY CLAY: gray, plastic, moderately stiff, coehesive, wet.	SS-13		2.0	250-950	
35, 36			35.0-37.4' SILTY CLAY: as above.	SS-14		2.5	200-1000	

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DRILLING LOG OF WELL NO. AL-MW0026

Project: AGRICULTURE STREET LANDFILL Total Depth of Hole (feet BGS): 76.5

ELEVATION / DEPTH	WELL COMPLETION DIAGRAM	GRAPHIC LOG	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
37	GROUT			SS-14		2.5	200-1000	
38			37.4-37.5' SANDY SILT: with shell fragments.					
39			37.5-40.0' SILTY CLAY: gray, plastic, moderately stiff, cohesive.	SS-15		2.5	100-800	
40								
41			40.0-42.5' SANDY SILTY CLAY: slightly stiff, moderately plastic, with some shells.	SS-16		2.5	30-200	
42								
43			42.5-47.5' No recovery.	SS-17		0.0		
44								
45								
46				SS-18		0.0		
47								
48			47.5-49.5' SANDY CLAYEY SILT: gray, with shells, wet to 49.5'.	SS-19		2.5	100-300	
49								
50			49.5-50.0' CLAY: gray, stiff, plastic, cohesive.					
51			50.0-52.0' SILTY CLAY: plastic, slightly stiff, with shells.	SS-20		1.5	50-250	
52			52.0-52.5' SILTY CLAY: gray, stiff, plastic.					
53			52.5-54.0' SILTY CLAY: as above.	SS-21			40-200	
54			54.0-55.0' SANDY SILT: gray & green silt, fine grained sand, dense, minor clay.					
55			55.0-56.5' SANDY SILT: as above.	SS-22		2.0	100-450	
56								
57			56.5-57.5' SANDY SILT: as above with					

AGRICULTURE STREET LANDFILL

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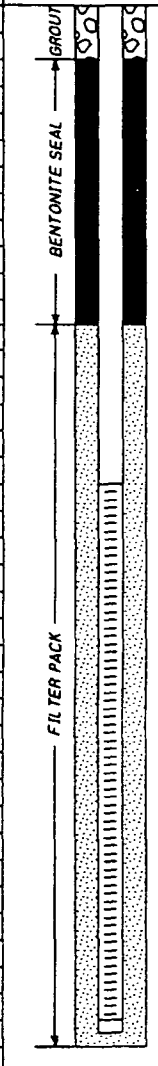
DRILLING LOG OF WELL NO. AL-MW0026

Project: AGRICULTURE STREET LANDFILL

Total Depth of Hole (feet BGS): 76.5



ELEVATION / DEPTH	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
	roots.			2.0		
58, 59	57.5-60.0'	SS-23		0.0		
60, 61	60.0-61.5' SILTY CLAY: blue green with grey, stiff, plastic, mottled.	SS-24		2.5		
62	61.5-63.5' SILTY CLAY: blue green, stiff, plastic.					
63, 64	63.5-65.0' SILTY SAND: gray, medium-to fine-grained, moderately loose.	SS-25		2.5	50-350	
65, 66, 67	65.0-67.5' SAND: gray, medium grained, wet.	SS-26		1.5	80-500	
68, 69	67.5-70.0' No recovery.					
70, 71, 72	SAND: gray, as above, root material at 72.4-72.5'.	SS-27		2.0	40-350	Sample collected for grain size analysis.
73, 74, 75, 76, 77, 78	TD=76.5'					

AGRICULTURE STREET LANDFILL

ecology and environment, inc.

DRILLING LOG OF WELL NO. MW0027

Project: AGRICULTURE STREET LANDFILL
Location: NEW ORLEANS, LOUISIANA
Well Coordinates/Reference System: N 544582.51 E 3889414.83
Date Started/Finished: 5-7-94 / 5-8-94
Drilling Company: CHURCHILL ENVIRONMENTAL SERVICES, INC.
Driller/Geologist: KEN GIPSON / GENE FLORENTINO

Total Depth of Hole (feet BGS): 15
Ground Elevation (feet above MSL): -3.88
Inner Casing Stick-Up (feet above GS): -0.24
Groundwater Depth (feet BTOIC):
At Completion: 5.2
On 20 JUNE 94: 5.98

ELEVATION / DEPTH	WELL COMPLETION DIAGRAM	GRAPHIC LOG	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
gs elevation -3.88 ft.			ground surface (gs)					
2, 4	GROUT; BENTONITE SEAL; SAND PACK		0.0-5.0' FILL: red brown, medium-fine sand, fill consists of glass, gravel, and wood.	SS-1		2.0	1	Augered with 4 1/4" ID hollow stem auger. 5.0' split-spoon sampling. Sample collected for Atterberg limits, and engineering parameters.
6, 8			5.0-10.0' SILTY CLAY: gray/green, water at approximately 5.0'.	SS-2		0.1	2	Sample collected for engineering parameters. Augers veered off center due to large chunks of wood, moved north 2.0' and re-drilled to 10.0'
10, 12, 14			10.0-15.0' SILTY CLAY: wood debris, sand, and glass fill followed by 1.5' of gray/green organic silty clay, soft, saturated, plastic.	SS-3		2.5	100	Sample collected for grain size analysis, and Atterberg limits.
16, 18, 20								

AGRICULTURE STREET LANDFILL

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DRILLING LOG OF WELL NO. MW0028

Project: AGRICULTURE STREET LANDFILL
Location: NEW ORLEANS, LOUISIANA
Well Coordinates/Reference System: N 544588.34 E 3889405.70
Date Started/Finished: 5-6-94 / 5-8-94
Drilling Company: CHURCHILL ENVIRONMENTAL SERVICES, INC.
Driller/Geologist: JOBY BALL / WALTER GRAF

Total Depth of Hole (feet BGS): 74.5
Ground Elevation (feet above MSL): -4.18
Inner Casing Stick-Up (feet above GS): -0.35
Groundwater Depth (feet BTOIC):
At Completion: ~ 10.0
On 20 JUNE 94 (above TOC): 1.91

ELEVATION / DEPTH	WELL COMPLETION DIAGRAM	GRAPHIC LOG	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
gs elevation -4.18 ft.			ground surface (gs)					
1–2	GROUT		0.0-2.5' SANDY SILT: Red-brown, non-plastic, loose, debris (glass, metal) throughout (landfill waste).	ST-1		1.0		NOTE: 1) Samples collected with 3" ID 2.5' long Shelby tube.
3–4			2.5-5.0' SANDY SILT: as above, slight increase in fines, debris throughout (landfill waste).	ST-2		0.9		2) Augered with 8.25" ID HSA. TAL/TCL samples collected from 0.0'-2.5'.
5–7			5.0-7.5' CLAYEY SILT: red-brown, low plasticity, debris throughout (landfill waste). Silty clay- grey, plastic, dense at bottom.	ST-3		1.1		TCLP/XRF samples collected from 2.5'-5.0'.
8–9			7.5-10.0' SANDY SILT: red-brown with debris as from 0.0-5.0'. Large wood fragment at bottom 2" preventing recovery.	ST-4		0.8		XRF samples collected.
10–12			10.0-12.5' SILTY CLAY with PEAT: grey-brown, moderate plasticity, high organics, wood and roots throughout.	ST-5		1.7		TAL/TCL samples collected.
13–15			12.5-15.0' SILTY CLAY with PEAT: as above with more clay, some roots.	ST-6		1.2		XRF samples collected.

AGRICULTURE STREET LANDFILL

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DRILLING LOG OF WELL NO. MW0028

Project: AGRICULTURE STREET LANDFILL Total Depth of Hole (feet BGS): 74.5

ELEVATION	DEPTH	WELL COMPLETION DIAGRAM	GRAPHIC LOG	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
	16, 17	GROUT		15.0-17.5' SILTY CLAY: grey, plastic, dense, clean, few silt and fine sand lenses.	ST-7				
	18, 19			17.5-20.0' SILTY CLAY: as above, some silt and fine sand lenses.	ST-8				XRF samples collected.
	20, 21, 22			20.0-22.5' SILTY CLAY: as above, minor silt and fine sand lenses.	ST-9				
	23, 24			22.5-25.0' SILTY CLAY: as above, no silt or fine sand.	ST-10				XRF samples collected.
	25, 26, 27			25.0-27.5' SILTY CLAY: as above, 0.25" thick fine lens at 27.5'.	ST-11				
	28, 29			27.5-30.0' SILTY CLAY: as above minor silt and fine sand lenses.	ST-12				
	30, 31, 32			No recovery. Drill and wash hole.					
	33, 34			33.0-35.0' CLAY: gray, plastic, moderately stiff.	ST-13		2.0	50-100	Sample collected for engineering parameters.
	35, 36			35.0-37.5' CLAY: stiff.	ST-14		0.0		Sample collected for permeability test.

AGRICULTURE STREET LANDFILL

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DRILLING LOG OF WELL NO. MW0028

Project: AGRICULTURE STREET LANDFILL Total Depth of Hole (feet BGS): 74.5

ELEVATION / DEPTH	WELL COMPLETION DIAGRAM	GRAPHIC LOG	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
37				ST-14		0.0		
38–39			37.5–39.5' CLAY: as above.	ST-15		2.5	50–1000	
40–42			39.5–42.5' SILTY SAND: gray, medium–fine grained sand, with clay and shells, wet.	ST-16		1.9		
43–44			No recovery.	ST-17		0.0		
45–47	GROUT		45.0–47.5' CLAYEY SAND: gray, slightly plastic, fewer shells than above.	ST-18		2.2	150	
48–49			47.5–48.0' SILTY CLAY: grey, plastic, and stiff. 48.0–50.8' CLAYEY SAND: medium–fine grained sand with brown silt lens at 49.5–49.6'.	ST-19		2.5		
50–51			50.8–52.5' SAND: medium–fine grained sand with silt, compact.	ST-20		2.5	30	
52–54			52.5–57.0' SAND and CLAY: as above, banded with blue grey silty clay, and medium grained brown sand with silt, compact and slightly wet.	ST-21		2.5	80	
55–56	BENTONITE SEAL			ST-22			1000	
57								

AGRICULTURE STREET LANDFILL

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eGestdwl

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DRILLING LOG OF WELL NO. MW0028

Project: AGRICULTURE STREET LANDFILL

Total Depth of Hole (feet BGS): 74.5

ELEVATION / DEPTH	WELL COMPLETION DIAGRAM	GRAPHIC LOG	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78	BENTONITE SEAL; SAND PACK		57.0–59.0' CLAY: blue-gray, very stiff, plastic.				1000	
			59.0–61.0' SANDY CLAY: gray, fine-medium grained sand, slightly plastic, with roots.	ST-23		1.5	25	
			61.0–63.0' SAND: medium grained, with silt bands, and some plant material, wet.	ST-24		2.5		
			63.0–63.3' SILTY CLAY: with wood.					
			63.3–74.5' SAND: gray, medium grained, no banding.	ST-25		2.5	90	
				ST-26 ST-27		0.0 2.0		Sample collected for grain size analysis.

AGRICULTURE STREET LANDFILL

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DRILLING LOG OF WELL NO. AL-MW029

Project: AGRICULTURE STREET LANDFILL
Location: NEW ORLEANS, LOUISIANA
Well Coordinates/Reference System: N 544215.33 E 3890207.83
Date Started/Finished: 4-22-94 / 4-23-94
Drilling Company: CHURCHILL ENVIRONMENTAL
Driller/Geologist: RON SIMMONS / JOHN PECK

Total Depth of Hole (feet BGS): 15.5
Ground Elevation (feet above MSL): -0.99
Inner Casing Stick-Up (feet above GS): -0.32
Groundwater Depth (feet BTOIC):
At Completion: 7.0
On 20 JUNE 94: 5.08

ELEVATION / DEPTH	WELL COMPLETION DIAGRAM	GRAPHIC LOG	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
gs elevation -0.99 ft.			ground surface (gs)					
2, 4, 6, 8, 10, 12, 14, 16, 18, 20	SAND; GROUT; BENTONITE SEAL; SANDPACK		0.0-11.5' FILL and SILTY SAND: (cuttings) dark brown, coarse, minor clay, ash, debris throughout, 20% F, 60% M, 20% C.					Samples collected with 3" ID 2.5' long Shelby tube. Augered with 4 1/4" ID HSA. Insert 10' of .010 screen and 5' of 2" ID riser into augers. Place sandpack to 4' while pulling augers. Auger to 9'.
				ST-1		0	NA	Push Shelby 9-11.5'. No recovery in ST-1 due to wood in tip.
			12.5-15.0' SILTY CLAY: gray, moist, cohesive, plastic, roots, with interval of peat (?); brown, roots, less cohesive 12.5-13.0' and 13.5-14', moist.	ST-2		1.5	80	Push Shelby 12.5-15'. Grain size and XRF sample collected from ST-2. Auger to 15'.

AGRICULTURE STREET LANDFILL

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DRILLING LOG OF WELL NO. MW0030

Project: AGRICULTURE STREET LANDFILL
Location: NEW ORLEANS, LOUISIANA
Well Coordinates/Reference System: N 544209.87 E 3690220.98
Date Started/Finished: 5-3-94 / 5-6-94
Drilling Company: CHURCHILL ENVIRONMENTAL SERVICES, INC.
Driller/Geologist: JOBY BALL / WALTER GRAF

Total Depth of Hole (feet BGS): 72.5
Ground Elevation (feet above MSL): -0.73
Inner Casing Stick-Up (feet above GS): -0.29
Groundwater Depth (feet BTOIC):
At Completion: ~7.0
On 20 JUNE 94: 1.28

ELEVATION / DEPTH	WELL COMPLETION DIAGRAM	GRAPHIC LOG	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
gs elevation -0.73 ft.			ground surface (gs)					
1–2	GROUT		0.0-2.5' FILL and SILTY SAND: dark brown, coarse, minor clay, debris throughout.	SS-1		1.2		
3–4			2.5-5.0' SILTY SAND: as above.	SS-2		0.8		2.5-7.5' Composite sample collected for TCLP analysis.
5–7			5.0-7.5' SILTY SAND: as above, ash layer 2" thick near bottom.	SS-3		0.7		
8–9			7.5-10.0' SILTY SAND: as above.	SS-4		1.1		
10–12			10.0-10.5' SILTY CLAY: as above with debris, probably drag. 10.5-12.5' SILTY CLAY: gray, plastic, organics throughout (roots, wood, ect.).	SS-5		1.5		
13–15			12.5-15.0' SILTY CLAY: as above with high organics, debris dragged.	SS-6		1.7		

AGRICULTURE STREET LANDFILL

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DRILLING LOG OF WELL NO. MW0030

Project: AGRICULTURE STREET LANDFILL Total Depth of Hole (feet BGS): 72.5

ELEVATION / DEPTH	WELL COMPLETION DIAGRAM	GRAPHIC LOG	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
16, 17	GROUT		15.0-17.5' SILTY CLAY: gray, dense, plastic, some silt and fine sand lenses 80% VF, 20% F.	SS-7		2.5		
18, 19			17.5-20.0' SILTY CLAY: as above.	SS-8		2.5		
20, 21, 22			20.0-22.5' SILTY CLAY: as above.	SS-9		2.5		
23, 24			22.5-25.0' SILTY SAND: as above, fine sand and silt band at 23.5-23.8'.	SS-10		2.5		
25, 26, 27			25.0-27.5' SILTY SAND: as above.	SS-11		2.5		
28, 29			27.5-30.0' SILTY SAND: as above.	SS-12		2.5		
30, 31, 32			30.0-33.0' SILTY SAND: as above.	SS-13				
33, 34			33.0-34.5' CLAY: gray, dense, plastic, cohesive, wet.	SS-13		3.0		
35			34.5-35.0' CLAY: moderately plastic, slight silt.	SS-14		2.5	80	
36			35.0-37.5' CLAY: gray, plastic,					

AGRICULTURE STREET LANDFILL

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00159.0913

DRILLING LOG OF WELL NO. MW0030

Project: AGRICULTURE STREET LANDFILL Total Depth of Hole (feet BGS): 72.5

ELEVATION / DEPTH	WELL COMPLETION DIAGRAM	GRAPHIC LOG	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
37	GROUT		cohesive.	SS-14		2.5	80	
38, 39			37.5-40.0' CLAY: as above.	SS-15		2.5	350	
40, 41			40.0-42.0' CLAY: as above.	SS-16		1.0	95-100	
42			42.0-43.0' SAND: gray, medium grained, loose, homogeneous.					
43, 44			43.0-45.0' SILTY CLAY: gray, moderately plastic, with small silt bands.	SS-17		1.0	100	
45, 46, 47			45.0-47.5' No recovery. Cuttings are sandy silty clay, gray with shells.	SS-18		0.0		
48, 49			47.5-50.0' SANDY SILTY CLAY: gray, slightly plastic, with shells.	SS-19		2.0	350-750	
50, 51			50.0-52.0' SILT CLAY: gray, plastic, moderately stiff, with shells.	SS-20		2.0	100	
52, 53, 54			52.0-55.0' SILTY CLAY: gray, plastic, with minor fine grained sand, and few shells.	SS-21		2.0	80	
55	BENTONITE SEAL		55.0-56.0' SILTY CLAY: gray, slightly plastic, wet.	SS-22		2.0	85	
56, 57			56.0-60.0' SILTY CLAY: gray, compact, plastic, cohesive.					

AGRICULTURE STREET LANDFILL

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00159.0914

DRILLING LOG OF WELL NO. MW0030

Project: AGRICULTURE STREET LANDFILL

Total Depth of Hole (feet BGS): 72.5

ELEVATION / DEPTH	WELL COMPLETION DIAGRAM	GRAPHIC LOG	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
						2.0	85	
58, 59	BENTONITE SEAL			SS-23		2.0	100	
60			60.0-61.0' SANDY SILT: gray, with clay.					
61, 62	FILTER PACK		61.0-65.0' SAND: brown, medium grained, homogeneous, wet.	SS-24		2.5	80-200	
63, 64				SS-25		2.5	80-200	
65, 66, 67			65.0-67.5' SAND: as above with dark brown stains.	SS-26		1.5	100-1000	Sample collected for grain size analysis.
68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78								

AGRICULTURE STREET LANDFILL

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00159.0915

DRILLING LOG OF WELL NO. AL-MW031

Project: AGRICULTURE STREET LANDFILL
Location: NEW ORLEANS, LOUISIANA
Well Coordinates/Reference System: N 543884.78 E 3689791.22
Date Started/Finished: 4-22-94 / 4-23-94
Drilling Company: CHURCHILL ENVIRONMENTAL
Driller/Geologist: RON SIMMONS / WALTER GRAF

Total Depth of Hole (feet BGS): 15.5
Ground Elevation (feet above MSL): 0.15
Inner Casing Stick-Up (feet above GS): -0.35
Groundwater Depth (feet BTOIC):
At Completion: ~8.0
On 20 JUNE 94: 7.812

ELEVATION / DEPTH	WELL COMPLETION DIAGRAM	GRAPHIC LOG	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
gs elevation 0.15 ft.			ground surface (gs)					
2, 4, 6, 8, 10, 12, 14, 16, 18, 20	GROUT; BENTONITE SEAL; SAND; FILTER PACK		0.0-5.0' FILL: brown-black, debris, ash, glass, wood, moist, loose.					Samples collected with 3" ID 2.5' long Shelby tube. Augered with 4 1/4" ID HSA. Insert 10' of 2" ID .010 screen and 5' of 2" ID riser into augers.
			5.0'-7.5' FILL: black, moist-wet, ash, wood, glass, loose.	ST-1		1.5	10	Samples collected for RCRA characteristics, grain size analysis, and engineering parameters.
			7.5-14.0' FILL: as above.					Set sand while pulling augers to 4' BGS. Set bentonite to 2' BGS. Hydrate with deionized water.
			14.0-15.5' CLAY: grey, moist, plastic, roots.					Place 3/4' of sand on top of bentonite. Auger to 15.5'.

AGRICULTURE STREET LANDFILL

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00159.0916

DRILLING LOG OF WELL NO. AL-MW032

Project: AGRICULTURE STREET LANDFILL
Location: NEW ORLEANS, LOUISIANA
Well Coordinates/Reference System: N 543895.86 E 3889794.09
Date Started/Finished: 4-18-94 / 4-21-94
Drilling Company: CHURCHILL ENVIRONMENTAL
Driller/Geologist: JOBY BALL / WALTER GRAF & JOHN PASCH

Total Depth of Hole (feet BGS): 67.5
Ground Elevation (feet above MSL): 0.20
Inner Casing Stick-Up (feet above GS): -0.78
Groundwater Depth (feet BTOIC):
At Completion: 8.0
On 20 JUNE 94 : 2.10

ELEVATION / DEPTH	WELL COMPLETION DIAGRAM	GRAPHIC LOG	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
gs elevation 0.20 ft.			ground surface (gs)					
1	GROUT		0.0-2.0' FILL: brown-red, brick, concrete, glass, loose, moist.	SS-1	7 7 9 10	0.5	0	NOTE: 1)Samples collected with 5-Foot continuous sampler, 2" x 2' split spoon, and 2.5' Shelby tubes.
2			2.0-4.0' No recovery. Brick in end of spoon.	SS-2	17 9 8 7	0	NA	2)No geotechnical samples collected.
3			4.0-6.0' FILL: black, tile, glass, ash, moist, loose.	SS-3	5 1 3 4	0.3	0	Sample 2-4' collected from auger cuttings, due to poor recovery with spoons.
4			6.0-8.0' FILL: black, wire, ash, wet, loose.	SS-4	10 8 9 13	0.1	NA	Drove 2x 0-2'. Auger 0-2'. Drove 2x 2-4'.
5			8.0-10.0' FILL: as above.	SS-5	4 4 4 4	0.1	0	Drove 2x 4-6'. Drove 2x 6-8'. Auger to 8'.
6			10.0-12.0' FILL: black, wood, glass, wet, cohesive.	SS-6	3 3 5 5	0.5	1	Drove 2x 8-10'. Drove 2x 10-12'. Drove 2x 12-14'. Auger to 14'.
7			12.0-14.0' FILL: wood, soil, wet, cohesive, black.	SS-7	5 8 8 5	1.2	10	
8			14.0-16.5' CLAY: gray, moist, cohesive, plastic, with roots and wood throughout	ST-8		1.8	70	Push Shelby 14-16.5'.

AGRICULTURE STREET LANDFILL

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DRILLING LOG OF WELL NO. AL-MW032

Project: AGRICULTURE STREET LANDFILL Total Depth of Hole (feet BGS): 87.5

ELEVATION / DEPTH	WELL COMPLETION DIAGRAM	GRAPHIC LOG	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
16	GROUT		(peat).	ST-8		1.8	70	
17, 18			16.5-19.0' CLAY: as above, dense, cohesive.	ST-9		2.5	10	Push Shelby 16.5-19'. Auger to 19'.
19, 20, 21			19.0-21.5' SILTY CLAY: gray, dense, cohesive, some roots, moist.	ST-10		2.5	NA	Push Shelby 19-21.5'. Auger to 21.5'.
22, 23			21.5-24.0' CLAY: with silt, gray, dense, moist to wet, few roots.	ST-11		2.4	85	Push Shelby 21.5-24'. Auger to 24'.
24, 25, 26			24.0-26.5' CLAY: gray, with silt lenses, dense. moist, cohesive, plastic, plastic, very few roots.	ST-12		2.5	20	Push Shelby 24-26.5'.
27, 28			26.5-29.0' CLAY: as above, with silt lenses.	ST-13		2.5	20	Push Shelby 26.5-29'. Auger to 30'. Pull rods. Insert 30' of 6" PVC casing. Pull augers. Grout 6" PVC casing. Resume with 5 7/8" rotary on 4/20. Drill to 32' and wash prior to collecting Shelby tube.
29			29.0-30.0' CLAY: as above.				NA	
30, 31			30.0-32.0' CLAY: as above.				NA	
32, 33			32.0-34.0' CLAY: with silt lenses from 33.5-34'; increasing silt content.	ST-14		2.0	28	Drive Shelby 32-34'. Samples collected for Atterberg limits, and engineering parameters.
34, 35, 36			34.0-36.0' CLAY: as above.	ST-15		2.0	NA	Drive Shelby 34-38'. Sample collected for permeability test.

AGRICULTURE STREET LANDFILL

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DRILLING LOG OF WELL NO. AL-MW032

Project: AGRICULTURE STREET LANDFILL Total Depth of Hole (feet BGS): 87.5

ELEVATION / DEPTH	WELL COMPLETION DIAGRAM	GRAPHIC LOG	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
37	GROUT		36.0-38.0' CLAY: slightly stiff, cohesive, gray, little silt.	ST-16		2.0	7	Drill to 37'.
38								Push Shelby 38'.
39			38.0-40.0' CLAY: as above.	ST-17		2.0	5	
40								Push Shelby 40'. Drill to 40'.
41			40.0-42.5' CLAY: as above.	ST-18		NA	3	
42								
43			42.5-43.0' CLAY: as above.					Push Shelby 42.5'.
44			43.0-44.9' SILTY CLAY: gray, plastic.	ST-19		NA	NA	
45			44.9-46.0' SILTY CLAY: as above.					Push Shelby 45'. Drill to 45'.
46			46.0-47.5' CLAYEY SAND: gray, broken shells present.	ST-20		2.5	NA	
47								
48			47.5-50.0' CLAYEY SAND: as above, finer grained near bottom.	ST-21		2.5	NA	Push Shelby 45-47.5'.
49								
50			50.0-51.0' SILTY CLAY: as at 45', with minor sand.					Push Shelby 47.5-50'. Drill to 50.
51			51.0-52.5' CLAYEY SAND: clean, few shell fragments.	ST-22		2.5	NA	
52								
53			52.5-55.0' CLAYEY SAND: as above, stiff, some shell fragments.	ST-23		1.0	NA	Push Shelby 50-52.5'.
54	BENTONITE							
55			55.0-57.5' No recovery.					Push Shelby 52.5-55'. Drill to 55'.
56				ST-24		0	NA	
57								

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00159.0920

DRILLING LOG OF WELL NO. AL-MW032

Project: AGRICULTURE STREET LANDFILL

Total Depth of Hole (feet BGS): 87.5

ELEVATION	DEPTH	WELL COMPLETION DIAGRAM	GRAPHIC LOG	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
							0	NA	
	58–59	BENTONITE		57.5–60.0' No recovery.	ST-25		0	NA	Push Shelby 55–57.5'.
	60–61	BENTONITE		60.0–62.0' SILTY SAND: tan to red-brown; clean.	SS-26	8 24 35 33	1.0	NA	Push Shelby 57.5–60'. Drill to 60'.
	62–63	SAND PACK		62.0–64.0' SILTY SAND: as above, dark brown, silty lens (organics) at 62.7'.	SS-27	13 30 50 –	1.5	NA	Hammer split spoon 60–62'. XRF sample collected.
	64–65	SAND PACK		64.0–67.5' SAND: as above.				NA	Hammer split spoon 62–64'. Grain size sample collected.
	67	SAND PACK							Drill to 67.5'.
	68–78								

AGRICULTURE STREET LANDFILL

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DRILLING LOG OF WELL NO. AL-MW033

Project: AGRICULTURE STREET LANDFILL
Location: NEW ORLEANS, LOUISIANA
Well Coordinates/Reference System: N 542883.04 E 3890181.86
Date Started/Finished: 4-20-94 / 4-21-94
Drilling Company: CHURCHILL ENVIRONMENTAL
Driller/Geologist: JOBY BALL / WALTER GRAF

Total Depth of Hole (feet BGS): 15.5
Ground Elevation (feet above MSL): -2.01
Inner Casing Stick-Up (feet above GS): -0.54
Groundwater Depth (feet BTOIC):
At Completion: -5.00
On 20 JUNE 94 : 3.21

ELEVATION / DEPTH	WELL COMPLETION DIAGRAM	GRAPHIC LOG	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
gs elevation -2.01 ft.			ground surface (gs)					
2, 4, 6, 8, 10, 12, 14, 16, 18, 20	SAND; GROUT; BENTONITE SEAL; FILTER PACK		0.0-10.0' FILL: (cuttings) wet at ~7'.					Samples collected with 3" ID 2.5' long Shelby tube. Augered with 4 1/4" ID HSA. Insert 10' of .010 screen and 5' of 2" ID riser. Place sandpack to 4' while pulling augers. Place bentonite to 2' and hydrate with deionized water.
			10.0'-12.5' PEAT: wet.	ST-1		1.2	100	Place 5' of fine sand on top of bentonite to 1.5'.
			12.5-15.57' SILTY CLAY: gray, wet, plastic, some roots.	ST-2		1.5	30	Augered to 10'. Push Shelby 10-12.5'. Augered to 12.5'. Push Shelby 12.5-15'. 2nd sample collected due to wood in ST-1. Grain size and XRF sample collected from second tube. Augered to 15.57'.

AGRICULTURE STREET LANDFILL

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DRILLING LOG OF WELL NO. AL-MW034

Project: AGRICULTURE STREET LANDFILL
Location: NEW ORLEANS, LOUISIANA
Well Coordinates/Reference System: N 542885.12 E 3890173.84
Date Started/Finished: 5-2-94 / 5-4-94
Drilling Company: CHURCHILL ENVIRONMENTAL
Driller/Geologist: JOBY BALL / WALTER GRAF

Total Depth of Hole (feet BGS): 73.5
Ground Elevation (feet above MSL): -1.85
Inner Casing Stick-Up (feet above GS): -0.26
Groundwater Depth (feet BTOIC):
At Completion: 8.0
On 20 JUNE 94 : 2.31

ELEVATION / DEPTH	WELL COMPLETION DIAGRAM	GRAPHIC LOG	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
gs elevation -1.85 ft.			ground surface (gs)					
1–2	GROUT		0.0-1.5' SILTY SAND: medium brown to light brown, clean, fill, loose.	ST-1		2.5	0	HSA with 8 1/4" ID. HSA 0-5'. Collected TCLP/TAL METALS/DIOXIN/XRF and Atterberg limits samples.
			1.5'-2.5' CLAYEY SILT: red-brown, debris throughout - landfill waste.					
3–4			2.5-5.0' CLAYEY SILT: red-brown to orange-brown, debris throughout - landfill waste, black at bottom, ash and wood.	ST-2		1.7	0	
5–7			5.0-7.5' CLAYEY SILT: as above, large piece of wood 3" thick at bottom.	ST-3		0.7	40	HSA 5-10'. XRF sample collected.
8–9			7.5-10.0' SILTY CLAY: dark gray to black, stiff, plastic, some debris near top, large piece of wood 4" thick at bottom.	ST-4		2.1	100	
10–12			10.0-12.5' SILTY CLAY: gray, stiff, plastic, clean, wood pieces and fibers from 10.5-11.0'.	ST-5		1.0	NA	HSA 10-15'. XRF sample collected.
13–15			12.5-15.0' SILTY CLAY: gray, stiff, plastic, some siltier lenses and organic debris, clean near bottom.	ST-6		1.8	NA	

AGRICULTURE STREET LANDFILL

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DRILLING LOG OF WELL NO. AL-MW034

Project: AGRICULTURE STREET LANDFILL Total Depth of Hole (feet BGS): 73.5

ELEVATION / DEPTH	WELL COMPLETION DIAGRAM	GRAPHIC LOG	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
16, 17	GROUT		15.0-17.5' SILTY CLAY: gray, dense, plastic, clean.	ST-7		2.5	NA	HSA 15-20'. XRF sample collected.
18, 19			17.5-20.0' SILTY CLAY: gray, plastic, some silt and fine sand lenses.	ST-8		2.5	NA	
20, 21, 22			20.0-22.5' SILTY CLAY: with silt and fine sand lenses as above.	ST-9		2.5	NA	TAL METALS/DIOXIN/ENGINEERI samples collected.
23, 24			22.5-25.0' SILTY CLAY: as above.	ST-10		2.5	NA	HSA 20-25'.
25, 26, 27			25.0-27.5' SILTY CLAY: gray, stiff, plastic.	ST-11		2.4	NA	
28, 29			27.5-30.0' SILTY CLAY: as above.	ST-12		2.5	NA	HSA 25-30'. XRF sample collected.
30, 31, 32			30.0-33.0' No recovery. Drill and wash hole.	DRILL		NA	NA	Drill 30-33'. Push ST 33-35'. No ST 30-33'.
33, 34			33.0-35.0' CLAY: gray, stiff, plastic, cohesive, homogeneous.	ST-13		2.0	80	
35, 36			35.0-37.5' CLAY: clay as above, slightly siltier lens at 36'.	ST-14		2.5	800	Push ST 35-37.5'.

AGRICULTURE STREET LANDFILL

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DRILLING LOG OF WELL NO. AL-MW034

Project: AGRICULTURE STREET LANDFILL Total Depth of Hole (feet BGS): 73.5

ELEVATION / DEPTH	WELL COMPLETION DIAGRAM	GRAPHIC LOG	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
37				ST-14		2.5	800	
38, 39			37.5-40.0' SILTY CLAY: clay as above.	ST-15		2.5	100	Push ST 37.5-40'. Drill to 40'.
40, 41, 42			40.0-42.5' SILTY CLAY: very silty clay, wet, gray 40-41'; silty clay, stiff, homogeneous 41-42.5'.	ST-16		2.5	100	Push ST 40-42.5'.
43, 44			42.5-45.0' SILTY CLAY: as above, with silt lenses - gray, moderately cohesive, wet.	ST-17		2.5	300	Push ST 42.5-45'. Drill to 45'.
45, 46, 47	GROUT		45.0-47.5' SAND: gray, fine to medium sand with shells.	ST-18		2.0	40	Push ST 45-47.5'.
48			47.5-48.0' SILTY CLAY: gray, moderately cohesive.					Push ST 47.5-50'. Drill to 50'.
49			48.0-50.0' CLAYEY SAND: gray, fine to medium sand with shells, wet, numerous shells, slightly cohesive.	ST-19		2.0	200	
50			50.0-51.0' SAND: fine grained sand with shells as above.					Push ST 50-52.5'.
51, 52			51.0-52.5' SILTY CLAY: gray, stiff, plastic, cohesive.	ST-20		2.0	400	
53, 54			52.5-55.0' SILTY CLAY: with silt lenses, wet, moderately cohesive silt, homogeneous, no shells.	ST-21		2.0	40	Push ST 52.5-55'. Drill to 55'.
55, 56, 57	BENTONITE SEAL		55.0-57.5' No recovery.	ST-22		0	NA	Push ST 55-57.5'. No recovery.

AGRICULTURE STREET LANDFILL

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DRILLING LOG OF WELL NO. AL-MW034

Project: AGRICULTURE STREET LANDFILL

Total Depth of Hole (feet BGS): 73.5

ELEVATION / DEPTH	WELL COMPLETION DIAGRAM	GRAPHIC LOG	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
						0	NA	
58, 59	BENTONITE SEAL		57.5-60.0' SILTY CLAY: very plastic, wet, gray 57.5-58.5; stiff, plastic, cohesive 58.5-60'.	ST-23		2.0	100	Push ST 57.5-60'. Drill to 60'.
60			60.0-61.0' SILTY CLAY: wet, plastic.					Push ST 60-62.5'. Drill to 65'.
61, 62			61.0-62.5' SAND: brown, wet, medium grained, clean.	ST-24		2.5	NA	
63, 64			62.5-65.0' SAND: as above.	DRILL		NA	NA	
65, 66, 67	FILTER PACK		65.0-73.5' SAND: brown, as above.	ST-25		0.5	NA	Push ST 65-67.5'. Collected sample for grain size analysis.
68, 69, 70, 71, 72, 73				DRILL		NA	NA	
74, 75, 76, 77, 78			TD = 73.5'.					Drill to 73.5'.

AGRICULTURE STREET LANDFILL

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DRILLING LOG OF WELL NO. AL-MW036

Project: AGRICULTURE STREET LANDFILL
Location: NEW ORLEANS, LOUISIANA
Well Coordinates/Reference System: N 543311.85 E 3890234.87
Date Started/Finished: 5-12-94 / 5-13-94
Drilling Company: CHURCHILL ENVIRONMENTAL SERVICES, INC.
Driller/Geologist: JOBY BARR / JOHN R PASCH

Total Depth of Hole (feet BGS): 18
Ground Elevation (feet above MSL): 1.18
Inner Casing Stick-Up (feet above GS): -0.53
Groundwater Depth (feet BTOIC):
At Completion: 5
On 20 JUNE 94 : 5.75

ELEVATION / DEPTH	WELL COMPLETION DIAGRAM	GRAPHIC LOG	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
gs elevation 1.18 ft.			*ground surface (gs)*					
2	GROUT		0.0-1.5' SILTY SAND; light brown to medium brown, loose, clean, shell fragments from 0.3-0.8'.	ST-1		1.5		
			1.5-3.0' SILTY SAND; as above.	ST-2		1.0		
4	BENTONITE SEAL		3.0-4.0' CLAYEY SILT dark brown to black, moderate plasticity, ash from 3.0-3.8', landfill debris (glass and metal) throughout.			1.0		4.0-6.5' Samples collected for TAL organics, TAL metals, TCLP.
6			4.0-6.5' CLAYEY SILT; with debris as above, 1" thick clay bands at 5.3', ash and burnt wood from 5.3-6.1'.	ST-4		2.1		Samples collected for engineering parameters, TCLP, TCL organics, TAL inorganics, Atterberg limits, and grain size.
8	FILTER PACK		6.5-9.0' CLAYEY SILT; with ash, black, dense, low plasticity, melted debris (glass and metal) throughout.	ST-5		2.5		
10			9.0-11.5 ASH AND DEBRIS loose, wet, plastic, black.	SS-6		0.5		
12			11.5-14.0' NO RECOVERY, wood fragments in basket.	SS-7		0.0		
14			14.0-18.0' SILTY CLAY; gray, dense, plastic, wood and other organic debris throughout.	SS-8		2.0		
16								
18								
20								

AGRICULTURE STREET LANDFILL

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DRILLING LOG OF WELL NO. AL-MW038

Project: AGRICULTURE STREET LANDFILL
Location: NEW ORLEANS, LOUISIANA
Well Coordinates/Reference System: N 544005.42 E 3889450.80
Date Started/Finished: 5-9-94 / 5-10-94
Drilling Company: CHURCHILL ENVIRONMENTAL SERVICES, INC.
Driller/Geologist: JOBY BALL / JOHN PECK

Total Depth of Hole (feet BGS): 17
Ground Elevation (feet above MSL): -0.92
Inner Casing Stick-Up (feet above GS): -0.30
Groundwater Depth (feet BTOIC):
At Completion: 4.0
On 20 JUNE 94: 5.82

ELEVATION / DEPTH	WELL COMPLETION DIAGRAM	GRAPHIC LOG	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
gs elevation -0.92 ft.			*ground surface (gs)*					
2, 4	GROUT; BENTONITE SEAL		0.0-5.0' FILL: soil, glass, roots, reddish-brown, loose, dry, spoon, wet at approximately 4.0'.	SS-1		2.0	100	
6, 8	FILTER PACK		5.0-5.5' FILL: as above. 5.5-5.8' FILL: gray, ash, slag, wet. 5.8-6.8' FILL: black, wet, glass and wood debris, sand.	SS-2		1.8	1000	Samples collected for TCL organic, TAL metals, TCLP, dioxin, engineering parameters, Atterberg limits, and grain size analysis.
10			10.0-12.0' SILTY CLAY: moist, cohesive with some roots, gray.	SS-3		0.4	200	
12, 14, 16			12.0-17.0' SILTY CLAY moist, dense, cohesive, few roots.	SS-4		4.0		
18, 20			TD=15.0' with augers. TD=17.0' with sampler.					

AGRICULTURE STREET LANDFILL

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DRILLING LOG OF WELL NO. AL-MW040

Project: AGRICULTURE STREET LANDFILL
Location: NEW ORLEANS, LOUISIANA
Well Coordinates/Reference System: N 543210.40 E 3889471.03
Date Started/Finished: 5-9-94 / 5-10-94
Drilling Company: CHURCHILL ENVIRONMENTAL SERVICES, INC.
Driller/Geologist: JOBY BALL / JOHN R PASCH

Total Depth of Hole (feet BGS): 20
Ground Elevation (feet above MSL): 2.19
Inner Casing Stick-Up (feet above GS): -0.20
Groundwater Depth (feet BTOIC):
At Completion: 9.00
On 20 JUNE 94: 8.00

ELEVATION / DEPTH	WELL COMPLETION DIAGRAM	GRAPHIC LOG	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
gs elevation 2.19 ft.			ground surface (gs)					
1–4	GROUT; BENTONITE SEAL; FILTER PACK		0.0-5.0' FILL: brown-red, glass, brick, roots, ash, slag, loose, dry	SS-1		2.5	10	Samples collected for TAL/TCL.
5–9			5.0-10.0' FILL: black, ash, glass, slag, wet, slightly cohesive.	SS-2		2.0	500	Samples collected for TAL/TCL, engineering parameters, Atterberg limits, and grain size analysis.
10–15			10.0'-15.0' FILL: black, ash, glass, wood, wet, loose.	SS-3		1.4	100	

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DRILLING LOG OF WELL NO. AL-MW040

Project: AGRICULTURE STREET LANDFILL

Total Depth of Hole (feet BGS): 20

ELEVATION	DEPTH	WELL COMPLETION DIAGRAM	GRAPHIC LOG	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
	16	FILTER PACK		15.0-17.0' NO RECOVERY: gray, silty clay on auger center plug at 15.0'.	SS-4		0.0	-	
	17			17.0-20.0' Wood and gray silty clay in spoon tip.	SS-5		0.2	-	
	18								
	19								
	20			TD=15.0' with auger. TD=20.0' with split spoon.					
	21								
	22								
	23								
	24								
	25								
	26								
	27								
	28								
	29								
	30								
	31								
	32								
	33								
	34								
	35								
	36								

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DRILLING LOG OF WELL NO. AL-MW041

Project: AGRICULTURE STREET LANDFILL
Location: NEW ORLEANS, LOUISIANA
Well Coordinates/Reference System: N 544039.42 E 3888492.54
Date Started/Finished: 5-12-94 / 5-13-94
Drilling Company: CHURCHILL ENVIRONMENTAL SERVICES, INC.
Driller/Geologist: JOBY BALL / JOHN R PASCH

Total Depth of Hole (feet BGS): 14.5
Ground Elevation (feet above MSL): -7.52
Inner Casing Stick-Up (feet above GS): -0.25
Groundwater Depth (feet BTOIC):
At Completion: 4.00
On 20 JUNE 94 : 3.32

ELEVATION / DEPTH	WELL COMPLETION DIAGRAM	GRAPHIC LOG	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
gs elevation -7.52 ft.			ground surface (gs)					
1–15	GROUT; BENTONITE SEAL; FILTER PACK		0.0-0.2' FILL AND SILTY SAND: light brown to medium brown, nonplastic, seashells throughout.					
			0.2-0.7' CLAYEY SILT: with sand, dark brown to medium green, very low plasticity, dense.					
			0.7-4.0' SILTY CLAY: light brown to olive brown, stiff, plastic, some silt/ sand layers, (iron stains).					
			4.0-6.5' SILTY CLAY: gray, dense, plastic, organic debris (wood/rocks) throughout, new layer with higher soil and organic content from 4.2-5.5'.					
			6.5-9.0' SILTY CLAY: with organic debris as above, large wood fragments and peat from 7.0-7.5'.					
			9.0-11.5' CLAYEY SILT: with fine sand, gray, dense, low plasticity.	ST-1		1.1		Sample collected for grain size analysis.
			11.5-12.7' CLAYEY SILT: with fine sand as above, clay lenses from 12.3-12.7'.	ST-2		2.5		
			12.7-14.0' SILTY CLAY: gray, dense, plastic, silt and fine sand lenses.					
			TD=14.5'					

AGRICULTURE STREET LANDFILL

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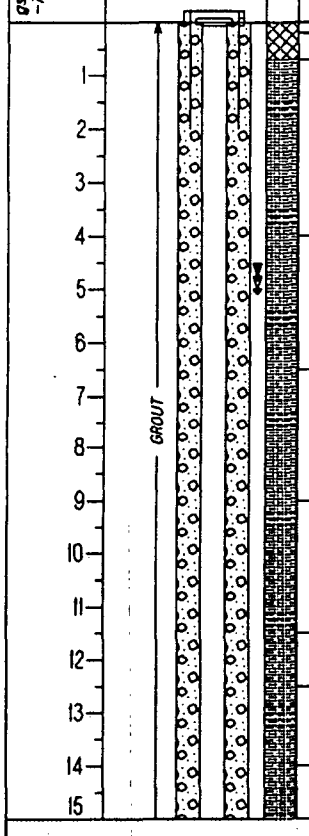
DRILLING LOG OF WELL NO. AL-MW042

Project: AGRICULTURE STREET LANDFILL
Location: NEW ORLEANS, LOUISIANA
Well Coordinates/Reference System: N 54408924 E 3688519.74
Date Started/Finished: 5-14-94 / 5-14-94
Drilling Company: CHURCHILL ENVIRONMENTAL SERVICES, INC.
Driller/Geologist: JOBY BALL / JOHN R PASCH

Total Depth of Hole (feet BGS): 64
Ground Elevation (feet above MSL): -7.31
Inner Casing Stick-Up (feet above GS): -0.29
Groundwater Depth (feet BTOIC):
At Completion: 5.00
On 20 JUNE 94 (Above TOIC): 4.78



ELEVATION / DEPTH	WELL COMPLETION DIAGRAM	GRAPHIC LOG	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
gs elevation -7.31 ft.			*ground surface (gs)*					
1			0.0-0.2' FILL AND SILTY SAND: light brown to medium brown, nonplastic, seashells throughout. 60% F, 40% M.	ST-1		0.7		Sample collected for TAL metals.
2			0.2-0.7' CLAYEY SILT: with sand, dark brown to medium green, very low plasticity, dense.					
3			0.7-4.0' SILTY CLAY: light brown to olive brown, stiff, plastic, some silt/ sand layers, (iron stains).	ST-2		1.0		
4			4.0-6.5' SILTY CLAY: gray, dense, plastic, organic debris (wood/roots) throughout, new layer with higher soil and organic content from 4.2-5.5'.	ST-3		1.5		
5								
6								
7			6.5-9.0' SILTY CLAY: with organic debris as above, large wood fragments and peat from 7.0-7.5'.	ST-4		1.0		
8								
9			9.0-11.5' SILTY CLAY: loose, wet.	ST-5		0.0		
10								
11								
12			11.5-12.5' CLAYEY SILT: with fine sand, gray, loose, low plasticity.	ST-6		2.5		
13			12.5-14.0' SILTY CLAY: gray, dense, plastic, silt and fine sand lenses throughtout (up to 3/4" thick)					
14				ST-7		2.2		
15								

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DRILLING LOG OF WELL NO. AL-MW042

Project: AGRICULTURE STREET LANDFILL

Total Depth of Hole (feet BGS): 84

ELEVATION / DEPTH	WELL COMPLETION DIAGRAM	GRAPHIC LOG	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
16	GROUT		14.0-16.5' SILTY CLAY: gray, dense, plastic, clean.	ST-7		2.2		
17, 18			16.5-19.0' SILTY CLAY: as above, minor silt/fine sand lenses.	ST-8		2.5		
19, 20, 21			19.0-21.5' SILTY CLAY: as above, clean.	ST-9		2.5		
22, 23			21.5=24.0' SILTY CLAY: as above, clean.	ST-10		2.5		
24, 25, 26			24.0-26.5' SILTY CLAY: as above, silt/fine sand band approximately 1/2" thick at bottom of sample.	ST-11		1.0		
27, 28			26.5-29.0' SILTY CLAY: as above, some silt/fine sand bands up to 3/4" thick.	ST-12		2.5		
29, 30, 31			29.0-31.5' SILTY CLAY: as above, some silt/fine sand bands up to 1/2" thick.	ST-13		1.8		
32			31.5-33.0' CLAY: gray, stiff.					
33, 34			33.0-35.0' CLAY: gray, stiff, cohesive.					
35, 36			35.0-37.5' SILTY CLAY: gray.	ST-14		2.5	65-400	

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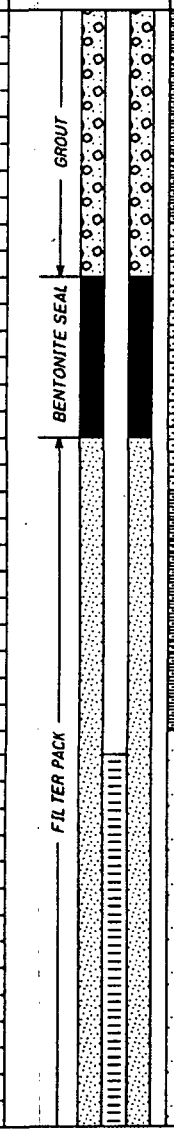
DRILLING LOG OF WELL NO. AL-MW042

Project: AGRICULTURE STREET LANDFILL

Total Depth of Hole (feet BGS): 64



ELEVATION / DEPTH	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
37	stiff, plastic, cohesive, brown silty sand, gray at 37.3-37.4'.	ST-14		2.5	85-400	
38	37.5-39.0' CLAY: as above.	ST-15		2.5	100-1000	
39	39.0-40.0' CLAYEY SILTY SAND: gray, with shells and clay bands, wet.					
40	40.0-42.5' CLAYEY SAND: as above.	ST-16		2.5	100>1000	
41						
42						
43	42.5-44.0' SAND as above.	ST-17		2.5	80	
44	44.0-45.0' CLAY: gray, stiff, plastic.					
45	45.0-47.5' SILTY CLAY: gray, stiff, plastic, cohesive.	ST-18		2.5	80-250	
46						
47						
48	47.5-49.5' CLAY: as above.	ST-19		1.0	80-400	
49						
50	49.5-50.0' SAND WITH SILT: brown, medium/fine, organic material.					
51	50.0-52.0' Blue-green SILTY SAND WITH CLAY: moderately stiff, slightly plastic.	ST-20		1.0	25-200	
52	52.0-52.5' SILTY SAND: light gray.					
53	52.5-55.0' SAND: tan, wood chips at 54.0', wet.	ST-21		1.0	28-100	
54						
55	55.0-57.5' SAND: tan, fine grained.					
56						
57						

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DRILLING LOG OF WELL NO. AL-MW042

Project: AGRICULTURE STREET LANDFILL

Total Depth of Hole (feet BGS): 64

ELEVATION / DEPTH	WELL COMPLETION DIAGRAM	GRAPHIC LOG	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78	FILTER PACK		57.5-60.0' SAND: as above.					
			60.0-64.0' SAND: as above.	ST-22		-		Sample collected for grain size analysis.
			TD=64.0'					

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DRILLING LOG OF WELL NO. AL-MW043

Project: AGRICULTURE STREET LANDFILL
Location: NEW ORLEANS, LOUISIANA
Well Coordinates/Reference System: N 541958.80 E 3890616.46
Date Started/Finished: 5-12-94 / 5-13-94
Drilling Company: CHURCHILL ENVIRONMENTAL SERVICES, INC.
Driller/Geologist: JOBY BARR / JOHN R PASCH

Total Depth of Hole (feet BGS): 14.5
Ground Elevation (feet above MSL): -3.62
Inner Casing Stick-Up (feet above GS): -0.58
Groundwater Depth (feet BTOIC):
At Completion: 4
On 20 JUNE 94 : 3.63

ELEVATION / DEPTH	WELL COMPLETION DIAGRAM	GRAPHIC LOG	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
gs elevation -3.62 ft.			*ground surface (gs)*					
2, 4, 6, 8, 10, 12, 14, 16, 18, 20	GROUT; BENTONITE SEAL; FILTER PACK		0.0-4.0' FILL and clayey silt; parking lot, shells, gravel, concrete.					
			4.0-6.5' No recovery, fuel oil smell and sheen on outside of tube.					
			6.5-9.0' No recovery, fuel oil smell and sheen as above.					
			9.0-9.5' PEAT WITH SILTY CLAY; dark brown to black, moderate plasticity, high organics (wood/rocks).	ST-1		2.0		Sample collected for grain size analysis.
			9.5-11.5' SILTY CLAY; gray, dense, plastic, minor organics.					
			11.5-14.0' SILTY CLAY; gray, dense, plastic, minor organics.	ST-2		2.5		

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DRILLING LOG OF WELL NO. AL-MW044

Project: AGRICULTURE STREET LANDFILL
Location: NEW ORLEANS, LOUISIANA
Well Coordinates/Reference System: N 542023.39 E 3890657.49
Date Started/Finished: 5-11-94 / 5-14-94
Drilling Company: CHURCHILL ENVIRONMENTAL SERVICES, INC.
Driller/Geologist: JOBY BALL / JOHN R PASCH

Total Depth of Hole (feet BGS): 67.5
Ground Elevation (feet above MSL): -3.32
Inner Casing Stick-Up (feet above GS): -0.16
Groundwater Depth (feet BTOIC):
At Completion: 0.00
On 20 JUNE 94 : 0.00

ELEVATION / DEPTH	WELL COMPLETION DIAGRAM	GRAPHIC LOG	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
gs elevation -3.32 ft.			ground surface (gs)					
1–2	GROUT		0.0–2.5' FILL: parking lot fill with concrete shellsand clayey silt.	ST-1		0.7		
3–4			2.5–9.0' No recovery, fuel oil smell and oilly sheen on outside of tube.	ST-2		0.0		
5–8				ST-3		0.0		
9–11			9.0–11.5' SILTY CLAY: gray, plastic, organics throughout.	ST-4		2.5		
12–13			11.5–14.0' SILTY CLAY: gray, dense, plastic, organic debris (wood,roots) throughout.	ST-5		2.5		
14–15			14.0–19.0' SILTY CLAY: gray, dense, moderate to high plasticity, silt and fine sand lenses throughout.	ST-6		2.5		

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DRILLING LOG OF WELL NO. AL-MW044

Project: AGRICULTURE STREET LANDFILL

Total Depth of Hole (feet BGS): 87.5

ELEVATION / DEPTH	WELL COMPLETION DIAGRAM	GRAPHIC LOG	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
16	GROUT			ST-6		2.5		
17								
18				ST-7		2.5		
19			19.0-33.0' SILTY CLAY: gray, dense, plastic, minor silt with fine sand lenses.					
20				ST-8		2.5		
21								
22				ST-9		2.5		
23								
24								
25				ST-10		2.5		
26								
27				ST-11		2.5		
28								
29								
30						2.5		
31								
32				ST-12				
33			33.0-39.5 CLAY: gray, plastic, moderately stiff.					
34				ST-13		2.5	100-1000	
35								
36				ST-14		1.0	100 35-200	

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DRILLING LOG OF WELL NO. AL-MW044

Project: AGRICULTURE STREET LANDFILL Total Depth of Hole (feet BGS): 87.5

ELEVATION / DEPTH	WELL COMPLETION DIAGRAM	GRAPHIC LOG	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
37	GROUT			ST-14		1.0	100 35-200	
38				ST-15		1.5		
39								
40			39.5-42.5 SANDY SILTY CLAY: gray, wet.					
41				ST-16		1.0	300 >1000	
42								
43			42.5-44.0' SILTY CLAY: gray, moderately plastic, moderately stiff, wet.	ST-17			800-1000	
44			44.0-45.0' CLAYEY SILTY SAND: with shells, wet.					
45			45.0-48.5' SILTY CLAY with sand <5%, shells (coral), moderately plastic, moderately stiff.	ST-18			100-350	
46								
47								
48				ST-19			100-800	
49			48.5-50.0' SILTY CLAY: gray, stiff, plastic, cohesive.					
50	BENTONITE SEAL		50.0-53.5' SILTY CLAY: gray, stiff, plastic, with shells.	ST-20			50-100	
51								
52								
53				ST-21			10-20	
54			53.5-56.0' SILTY CLAY: gray, stiff, plastic, cohesive.					
55	FILTER PACK							
56			56.0-57.0' SANDY SILTY CLAY: moderately stiff, moderately plastic.	ST-22		2.0	20-100	
57								

AGRICULTURE STREET LANDFILL

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DRILLING LOG OF WELL NO. AL-MW044

Project: AGRICULTURE STREET LANDFILL

Total Depth of Hole (feet BGS): 87.5

ELEVATION / DEPTH	WELL COMPLETION DIAGRAM	GRAPHIC LOG	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
			57.0-87.5' SAND: brown to medium gray, homogeneous wet.			2.0		
58				ST-23		1.8	150-200	Sample collected for grain size analysis.
59								
60								
61								
62	FILTER PACK							
63								
64								
65								
66								
67			TD = 87.5'					
68								
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AGRICULTURE STREET LANDFILL

ecology and environment, inc.

eGestdwl

DRILLING LOG OF WELL NO. AL-MW046

Project: AGRICULTURE STREET LANDFILL
Location: NEW ORLEANS, LOUISIANA
Well Coordinates/Reference System: N 543749.04 E 3889209.20
Date Started/Finished: 5-12-94 / 5-13-94
Drilling Company: CHURCHILL ENVIRONMENTAL SERVICES, INC.
Driller/Geologist: JOBY BARR / JOHN R PASCH

Total Depth of Hole (feet BGS): 14.5
Ground Elevation (feet above MSL): -0.10
Inner Casing Stick-Up (feet above GS): -0.24
Groundwater Depth (feet BTOIC):
At Completion: 5
On 20 JUNE 94: 8.28

ELEVATION / DEPTH	WELL COMPLETION DIAGRAM	GRAPHIC LOG	SOIL DESCRIPTION	SAMPLE NO.	BLOW COUNT	SAMPLE RECOVERY (feet)	OVA (ppm)	COMMENTS
gs elevation -0.10 ft.			*ground surface (gs)*					
	GROUT		0.0-1.5' FILL AND SANDY SILT; debris (glass and metal), minor clay, non plastic, dark brown. 20% F, 50% M, 30% C.	SS-1		2.0		Sample collected for TAL metals analysis.
2			1.5-2.0' FILL and SANDY SILT; as above, increasing ash.	SS-2		0.5		
4	BENTONITE SEAL		2.0-4.0' FILL AND SANDY SILT; with ash and debris as above.					
			4.0-6.5' CLAYEY SILT; dark gray to black, low plasticity, ash and debris throughtout.	SS-3		1.4		4.0-8.0' Composite sample collected for TCLP, Atterberg limits, and engineering parameters.
6			6.5-8.0' CLAYEY SILT; with ash and debris as above.	SS-4		0.7		
8	FILTER PACK		8.0-9.0' CLAYEY SILT; with ash and debris as above.			0.8		8.0-9.0' Sample collected for grain size analysis.
10			9.0-9.6' CLAYEY SILT; with ash and debris as above.	ST-6		2.1		
12			9.6-11.1' SILTY CLAY; dark brown to gray brown, organic debris (roots and wood) throughout, moderate plasticity.					
			11.1-14.0' SILTY CLAY; dark brown to gray brown, dense, plastic, organic debris (roots and wood) throughout.	ST-7		2.0		
14			TD=14.5'					
16								
18								
20								

AGRICULTURE STREET LANDFILL

ecology and environment, inc.

00159.0946

APPENDIX M

GRAIN SIZE ANALYSES

APPENDIX M

Appendix M contains laboratory data generated from the physical testing of soil samples and sample cores. Soil samples collected from the screen interval of 44 monitoring well were submitted for grain-size analysis of Twin City Testing Corporation of St. Paul, Minnesota (a subsidiary of Huntingdon Environmental).

In addition to these 44 samples, an additional 25 disturbed and six undisturbed samples were submitted Henley Johnston & Associates, Inc., of Dallas, Texas. The six undisturbed samples underwent triaxial permeability tests, unconsolidated-undrained triaxial compression tests, and consolidation tests. Atterberg limits were determined on 23 of the 25 disturbed samples, and a grain-size analysis was performed on 20 of the 25 samples submitted to the laboratory.

Huntingdon
Consulting Engineers Environmental Scientists

Twin City Testing Corporation
662 Cromwell Avenue
St. Paul, Minnesota 55114-1776
(612) 645-3601

TO: Data Receiver
U.S. EPA - Region 6
10625 Fallstone Road
Houston, TX 77099

PROJECT: EPA-SAS-8356-F-08

DATE: May 31, 1994

PROJECT NO: 4122 94-157

COPY TO: 1-Sample Mgmt Office
Attn: Rhonda Holder

REPORT OF: Soil Grain Size Analysis

INTRODUCTION:

This report presents the results of grain size analysis determination of soil samples for Project EPA-SAS-8356-F-08. A total of twenty-three samples were received by Twin City Testing on May 17, 1994. The sample analyses were completed on May 28, 1994.

LABORATORY TESTING PROCEDURE:

The test procedures were conducted in general accordance with ASTM:D422-63, "Standard Test Method for Particle-Size Analysis of Soils" on all samples received.

Deviation:

No deviation was required.

Duplicate Samples:

Two duplicate samples were received.

RESULTS:

The particle size distribution data is included in the package data summary sheets.

REMARKS:

The test samples will be retained by our laboratory for a period of thirty days after the date of this report. Unless further instructions are received by that time, the samples will be disposed of properly.

AS A MUTUAL PROTECTION TO CLIENTS, THE PUBLIC AND OURSELVES, ALL TWIN CITY TESTING CORPORATION REPORTS ARE SUBMITTED AS THE CONFIDENTIAL PROPERTY OF CLIENTS AND AUTHORIZATION FOR PUBLICATION OR STATEMENTS, CONCLUSIONS OR EXTRACTIONS FROM OR REGARDING OUR REPORTS IS RESERVED PENDING OUR PRIOR WRITTEN APPROVAL

00159.0952

REPORT OF: Soil Grain Size Analysis

Thank you for the opportunity to provide testing services on this project. Please do not hesitate to contact me at (612) 659-7413 if you have any questions about this report or if we may be of further service to you.

HUNTINGDON ENGINEERING & ENVIRONMENTAL

Donald F. Voigt
Supervisor
Construction Services

DFV/sal

geofiles/dv/r157a

2

SAMPLE LOG SUMMARY SHEET

Job No.:	4122 94-0157	Sample Delivery Group:	2
Project:	EPA-SAS	Date Samples Received:	5-17-94
SAS No.:	08356-F-08	Date Tests Completed:	5-28-94

Test No.	EPA-SAS Sample No.	Sta Loc. Identification No.	USCS Class	Group Symbol	% Finer #200	% Silt	% Clay
1	SF 9885	AL-MW009-SB-01	FAT CLAY	CH	100.0	32.8	67.2
2	SF 9675	AL-MW003-SB-01	FAT CLAY	CH	100.0	59.9	40.1
3	SF 9676	AL-MW005-SB-01	FAT CLAY	CH	100.0	67.2	32.8
4	SF 9677	AL-MW012-SB-02	SAND WITH SILT	SP-SM	9.4	8.9	0.5
5	SF 9678	AL-MW014-SB-02	SAND WITH SILT	SP-SM	5.7	5.7	0.0
6	SF 9598	AL-MW031-SB-02	SILTY SAND	SM	25.7	25.7	0.0
7	SF 9599	AL-MW008-SB-02	SAND WITH SILT	SP-SM	10.8	8.5	2.3
8	SFB 898	AL-MW024-SB-02	SILTY SAND	SM	20.6	15.6	5.0
9	SFB 899	AL-MW030-SB-04	SAND WITH SILT	SP-SM	6.3	4.5	1.8
10	SFB 899 DUP.	AL-MW030-SB-04	SAND WITH SILT	SP-SM	5.9	4.1	1.8
11	SFB 870	AL-MW020-SB-02	SAND	SP	4.9	4.9	0.0
12	SFB 844	AL-MW044-SB-02	SAND WITH SILT	SP-SM	5.6	4.7	0.9
13	SFB 886	AL-MW046-SB-05	SILTY SAND	SM	37.1	30.5	6.6
14	SFB 876	AL-MW026-SB-02	SAND WITH SILT	SP-SM	11.4	7.7	3.7
15	SFB 843	AL-MW043-SB-01	FAT CLAY	CH	100.0	47.5	52.5
16	SFB 800	AL-MW040-SB-05	SILTY SAND	SM	18.6	15.0	3.6
17	SFB 860	AL-MW036-SB-04	LEAN CLAY	CL	51.9	35.9	16.0
18	SFB 894	AL-MW016-SB-02	CLAYEY SAND	SC	23.2	10.7	12.5
19	SFB 841	AL-MW041-SB-01	LEAN CLAY	CL	93.0	77.0	16.0
20	SFB 875	AL-MW025-SB-01	LEAN CLAY	CL	98.7	62.5	36.2
1	SFB 872	AL-MW022-SB-02	SAND WITH CLAY	SP-SC	10.1	4.9	5.2
2	SFB 856	AL-MW006-SB-02	CLAYEY SAND	SC	13.1	6.1	7.0
3	SFB 842	AL-MW042-SB-02	SAND WITH CLAY	SP-SC	7.1	3.4	3.7
4	SFB 878	AL-MW018-SB-02	SAND WITH CLAY	SP-SC	9.7	4.1	5.6
5	SFB 878 DUP.	AL-MW018-SB-02	SAND WITH CLAY	SP-SC	9.5	3.9	5.6

3

GRAIN SIZE DISTRIBUTION TEST DATA

Test No.: 1

Date: 3-31-94
Project No.: 4122 94-0157
Project: EPA-SAS 08356-F-08

Sample Data

Location of Sample: Perimeter Well 9
Sample Description: FAT CLAY
USCS: CH LL:
AASHTO: A-4(0.0) PI:

Notes

Remarks: SAS Sample Number: SF 9885
Tag Number: 6-015866
Station Location ID No.: AL-MW009-SB-01
Fig. No.: 21

Mechanical Analysis Data

Sieve	Size, mm	Percent finer
# 200	0.074	100.0

Hydrometer Analysis Data

Size, mm	Percent finer
0.0254	91.3
0.0170	82.4
0.0100	78.8
0.0073	73.4
0.0053	68.0
0.0027	59.0
0.0012	44.7

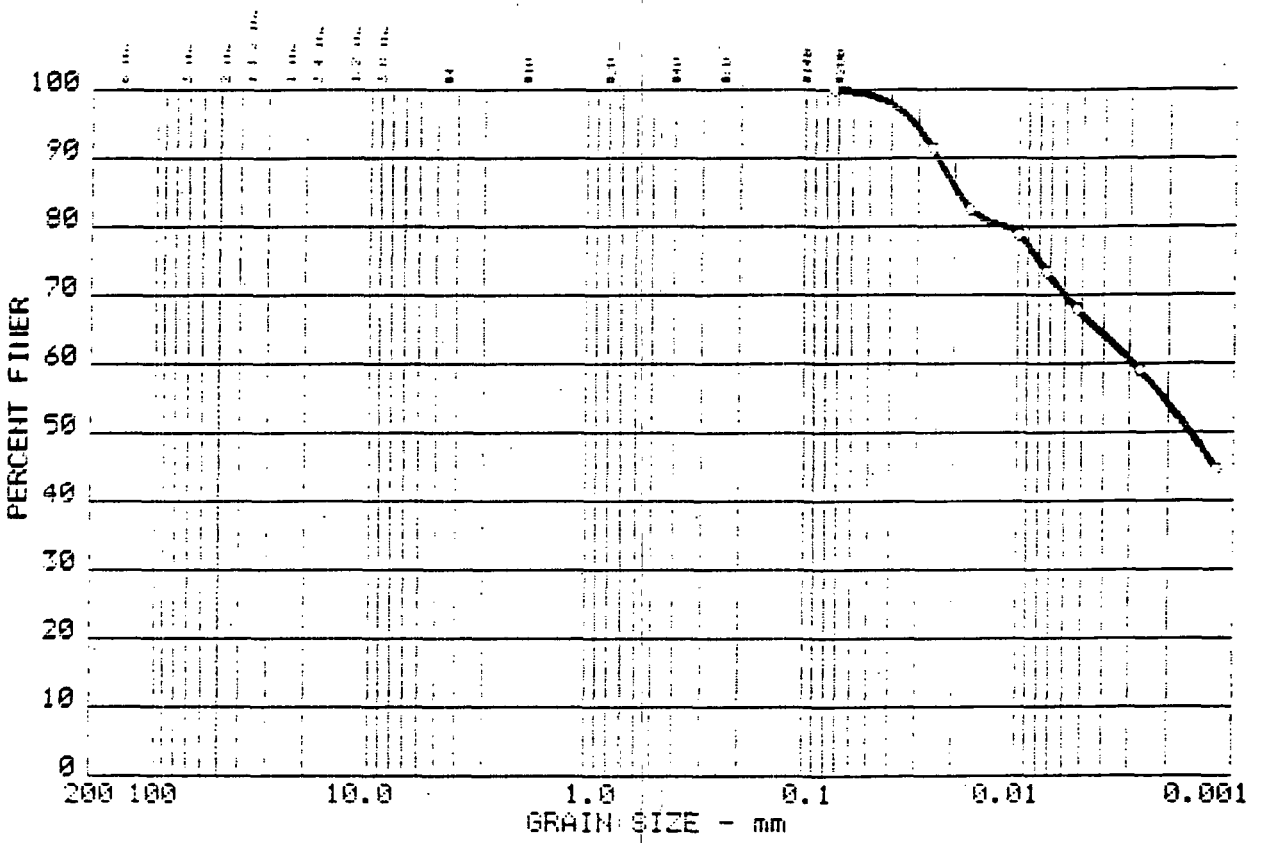
Remarks:

Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 0.0 % SAND = 0.0
% SILT = 32.8 % CLAY = 67.2

D85= 0.02 D60= 0.003 D50= 0.002

GRAIN SIZE DISTRIBUTION TEST REPORT



Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
○ 1	0.0	0.0	0.0	32.8	67.2

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○					0.00					

MATERIAL DESCRIPTION	USCS	AASHTO
○ FAT CLAY	CH	A-4(0.0)

Project No.: 4122 94-0157
Project: EPA-SAS 08356-F-08
○ Location: Perimeter Well 9

Date: 5-31-94

Remarks:
SAS Sample Number:
SF 9885
Tag Number:
6-015866

GRAIN SIZE DISTRIBUTION TEST REPORT
TWIN CITY TESTING CORPORATION

Figure No.21

5

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GRAIN SIZE DISTRIBUTION TEST DATA

Test No.: 2

Date: 5-31-94
Project No.: 4122 94-0157
Project: EPA-SAS 08356-F-08

Sample Data

Location of Sample: Perimeter Well 3
Sample Description: FAT CLAY
USCS: CH LL:
AASHTO: A-4(0.0) PI:

Notes

Remarks: SAS Sample Number: SF 9675
Tag Number: 6-015873
Station Location ID No.: AL-MW003-SB-01
Fig. No.: 22

Mechanical Analysis Data

Sieve	Size, mm	Percent finer
# 200	0.074	100.0

Hydrometer Analysis Data

Size, mm	Percent finer
0.0271	78.7
0.0179	71.7
0.0111	57.7
0.0081	50.7
0.0059	43.7
0.0030	31.4
0.0013	26.1

Remarks:

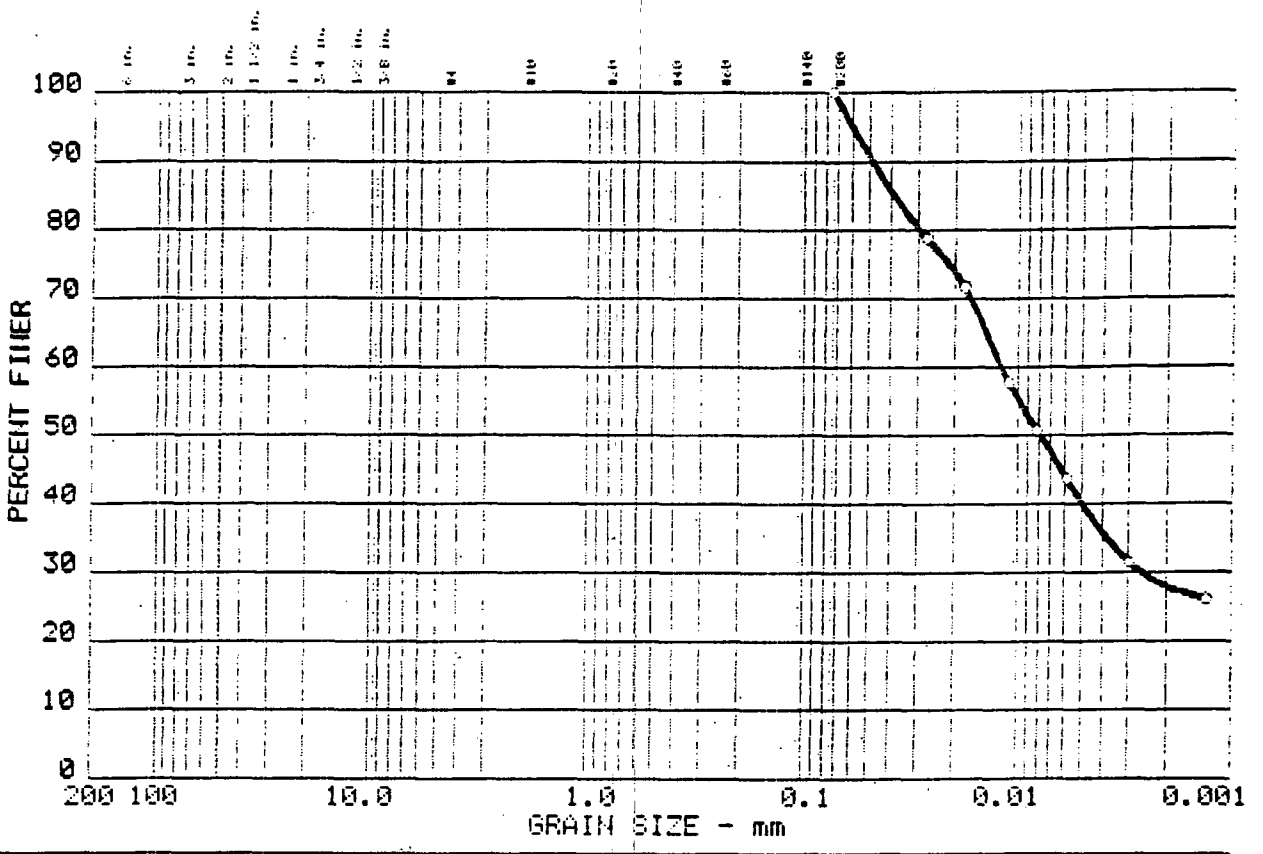
Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 0.0 % SAND = 0.0
% SILT = 59.9 % CLAY = 40.1

D85= 0.04 D60= 0.012 D50= 0.008
D30= 0.0026

6

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
o	2	0.0	0.0	0.0	59.9	40.1

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
o					0.01	0.003				

MATERIAL DESCRIPTION	USCS	AASHTO
o FAT CLAY	CH	A-4(0.0)

Project No.: 4122 94-0157
Project: EPA-SAS 08356-F-08
o Location: Perimeter Well 3

Date: 5-31-94

Remarks:
SAS Sample Number:
SF 9675
Tag Number:
6-015873

GRAIN SIZE DISTRIBUTION TEST REPORT
TWIN CITY TESTING CORPORATION

Figure No.22

7

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GRAIN SIZE DISTRIBUTION TEST DATA

Test No.: 3

Date: 5-31-94
Project No.: 4122 94-0157
Project: EPA-SAS 08356-F-08

Sample Data

Location of Sample: Perimeter Well 5
Sample Description: FAT CLAY
USCS: CH LL:
AASHTO: A-4(0.0) PI:

Notes

Remarks: SAS Sample Number: SF 9676
Tag Number: 6-015874
Station Location ID No.: AL-MW005-SB-01
Fig. No.: 23

Mechanical Analysis Data

Sieve	Size, mm	Percent finer
# 200	0.074	100.0

Hydrometer Analysis Data

Size, mm	Percent finer
0.0285	70.0
0.0187	62.9
0.0114	50.7
0.0084	40.2
0.0061	34.9
0.0031	27.9
0.0013	19.1

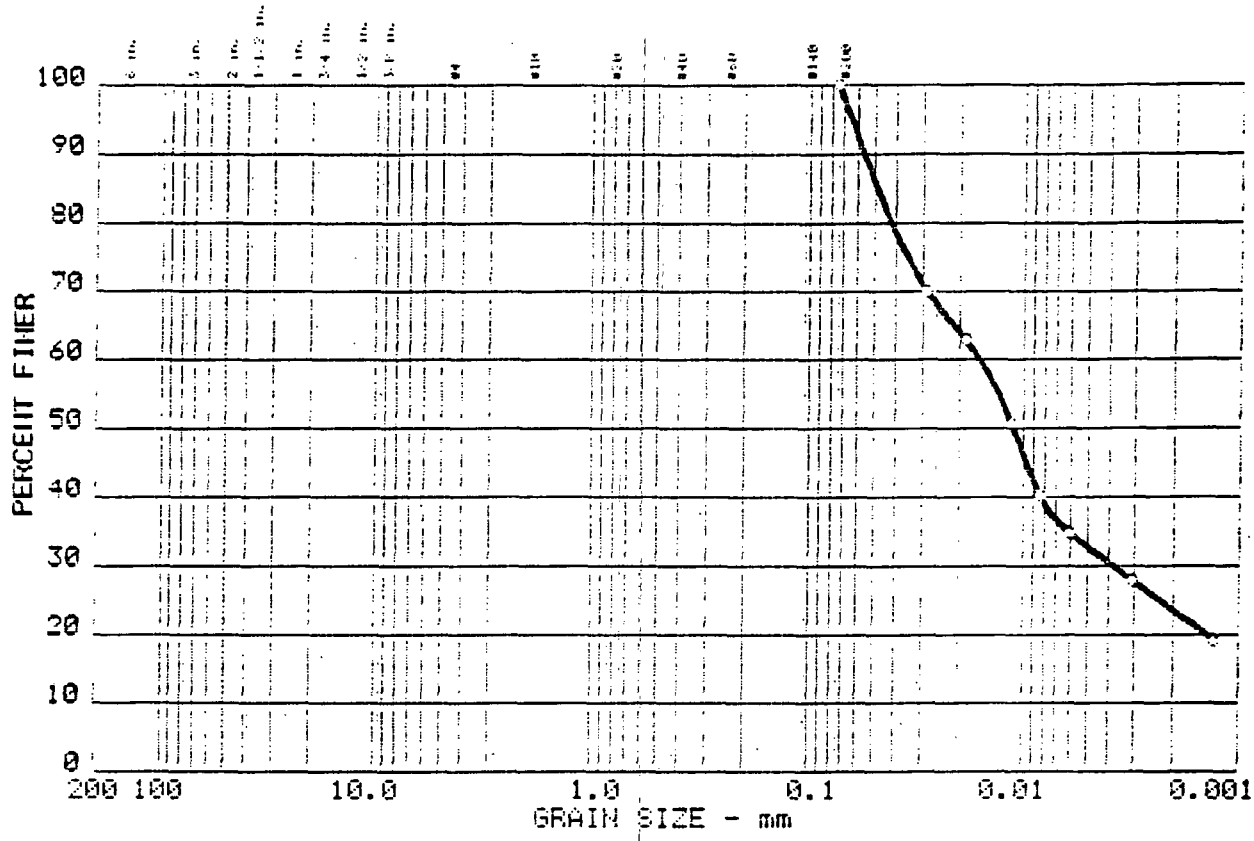
Remarks:

Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 0.0 % SAND = 0.0
% SILT = 67.2 % CLAY = 32.8

D85= 0.05 D60= 0.016 D50= 0.011
D30= 0.0038

GRAIN SIZE DISTRIBUTION TEST REPORT



Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
○ 3	0.0	0.0	0.0	67.2	32.8

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○					0.01	0.004				

MATERIAL DESCRIPTION	USCS	AASHTO
○ FAT CLAY	CH	A-4(0.0)

Project No.: 4122 94-0157
Project: EPA-SAS 09356-F-06
○ Location: Perimeter Well 5

Date: 5-31-94

Remarks:
SAS Sample Number:
SF 9676
Tag Number:
6-015874

GRAIN SIZE DISTRIBUTION TEST REPORT
TWIN CITY TESTING CORPORATION

Figure No.23

9

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GRAIN SIZE DISTRIBUTION TEST DATA

Test No.: 4

Date: 5-31-94
Project No.: 4122 94-0157
Project: EPA-SAS 08356-F-08

Sample Data

Location of Sample: Perimeter Well 12
Sample Description: SAND WITH SILT
USCS: SP-SM LL:
AASHTO: A-3 PI:

Notes

Remarks: SAS Sample Number: SF 9677
Tag Number: 6-015875
Station Location ID No.: AL-MW012-SB-02
Fig. No.: 24

Mechanical Analysis Data

Sieve	Size, mm	Percent finer
# 20	0.840	100.0
# 40	0.420	96.0
# 60	0.250	71.9
# 100	0.149	34.2
# 200	0.074	9.4

Hydrometer Analysis Data

Size, mm	Percent finer
0.0366	4.7
0.0232	3.7
0.0135	2.8
0.0096	1.8
0.0068	0.9
0.0034	0.0
0.0014	0.0

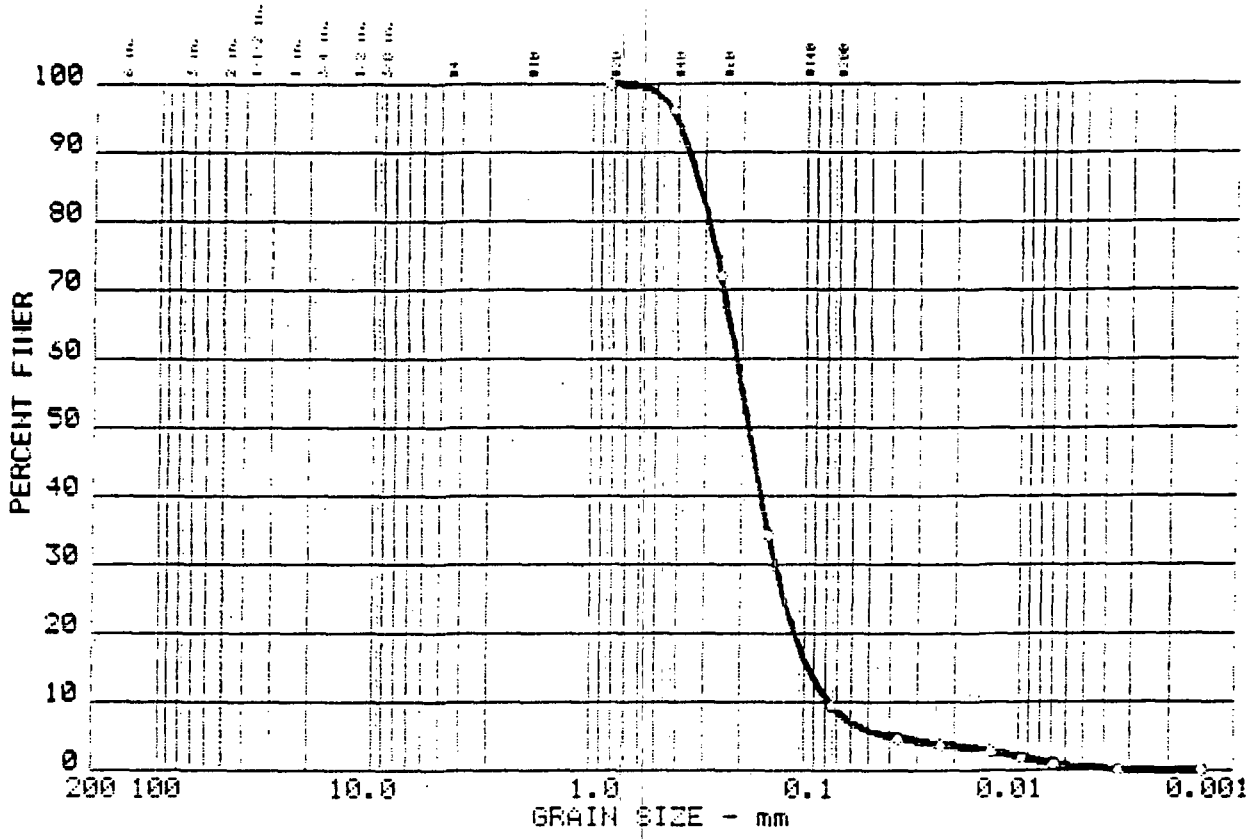
Remarks:

Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 0.0 % SAND = 90.6
% SILT = 8.9 % CLAY = 0.5

D85= 0.32 D60= 0.212 D50= 0.186
D30= 0.1387 D15= 0.09594 D10= 0.07621
Cc = 1.1899 Cu = 2.7829

GRAIN SIZE DISTRIBUTION TEST REPORT



Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
○ 4	0.0	0.0	90.6	8.9	0.5

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			0.32	0.21	0.19	0.139	0.0959	0.0762	1.19	2.8

MATERIAL DESCRIPTION	USCS	AASHTO
○ SAND WITH SILT	SP-SM	A-3

Project No.: 4122 94-0157
Project: EPA-SAS 08356-F-08
○ Location: Perimeter Well 12

Date: 5-31-94

Remarks:
SAS Sample Number:
SF 9677
Tag Number:
6-015875

GRAIN SIZE DISTRIBUTION TEST REPORT
TWIN CITY TESTING CORPORATION

Figure No.24

00159.0962

GRAIN SIZE DISTRIBUTION TEST DATA

Test No.: 5

Date: 5-31-94
Project No.: 4122 94-0157
Project: EPA-SAS 08356-F-08

Sample Data

Location of Sample: Perimeter Well 14
Sample Description: SAND WITH SILT
USCS: SP-SM LL:
AASHTO: A-3 PI:

Notes

Remarks: SAS Sample Number: SF 9678
Tag Number: 6-015876
Station Location ID No.: AL-MW014-SB-02
Fig. No.: 25

Mechanical Analysis Data

Sieve	Size, mm	Percent finer
# 20	0.840	100.0
# 40	0.420	90.0
# 60	0.250	47.2
# 100	0.149	16.8
# 200	0.074	5.7

Hydrometer Analysis Data

Size, mm	Percent finer
0.0373	0.8
0.0283	0.0
0.0137	0.0
0.0097	0.0
0.0069	0.0
0.0034	0.0
0.0014	0.0

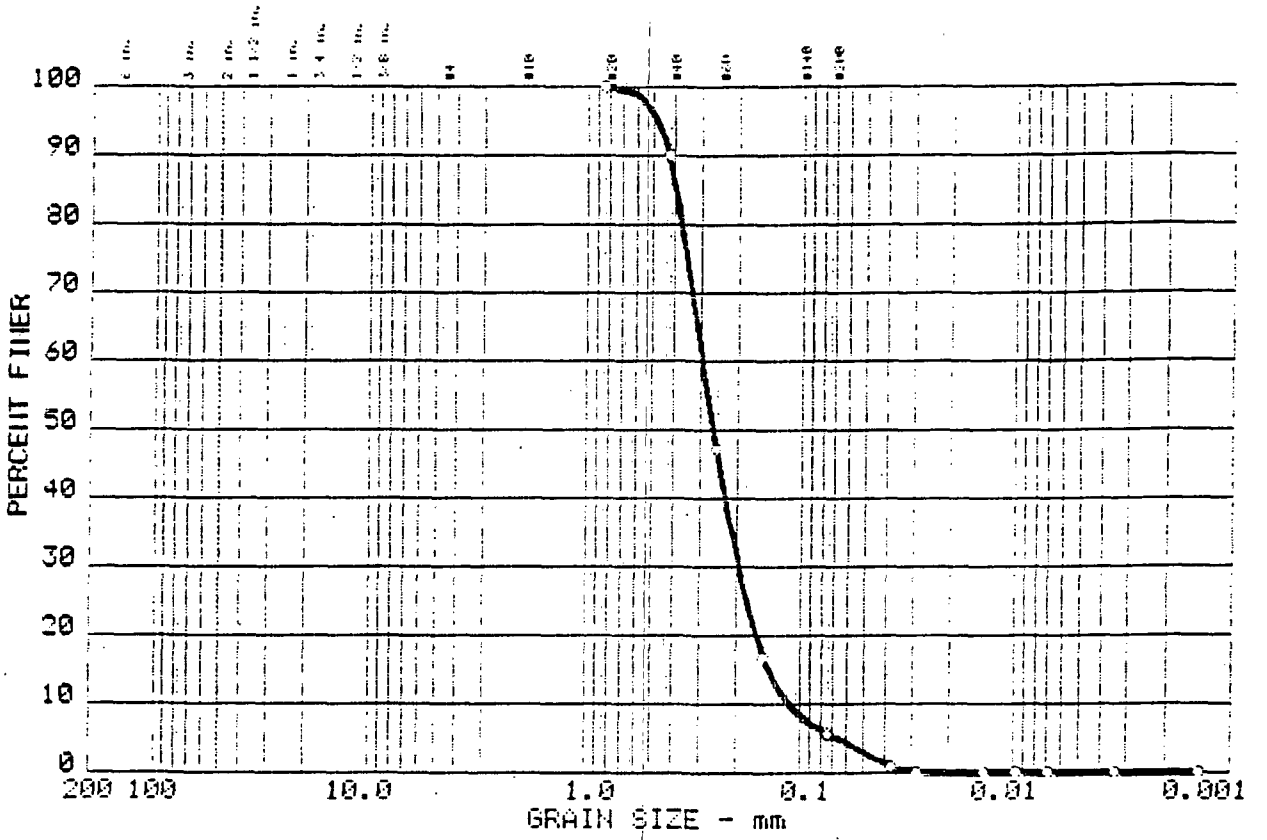
Remarks:

Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 0.0 % SAND = 94.3
% FINES = 5.7

D85= 0.39 D60= 0.293 D50= 0.259
D30= 0.1963 D15= 0.14060 D10= 0.11298
Cc = 1.1641 Cu = 2.5942

GRAIN SIZE DISTRIBUTION TEST REPORT



Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
○ 5	0.0	0.0	94.3	5.7	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			0.39	0.29	0.26	0.196	0.1406	0.1130	1.16	2.6

MATERIAL DESCRIPTION	USCS	AASHTO
○ SAND WITH SILT	SP-SM	A-3

Project No.: 4122 94-0157
Project: EPA-SAS 08356-F-08
○ Location: Perimeter Well 14

Date: 5-31-94

Remarks:
SAS Sample Number:
SF 9678
Tag Number:
6-015876

GRAIN SIZE DISTRIBUTION TEST REPORT
TWIN CITY TESTING CORPORATION

Figure No.25

13

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GRAIN SIZE DISTRIBUTION TEST DATA

Test No.: 6

Date: 5-31-94
Project No.: 4122 94-0157
Project: EPA-SAS 08356-F-08

Sample Data

Location of Sample: Interior Well 31
Sample Description: SILTY SAND
USCS: SM LL:
AASHTO: A-2-4(0.0) PI:

Notes

Remarks: SAS Sample Number: SF 9598
Tag Number: 6-015877
Station Location ID No.: AL-MW031-SB-02
Fig. No.: 26

Mechanical Analysis Data

Sieve	Size, mm	Percent finer
# 10	2.000	100.0
# 20	0.840	82.9
# 40	0.420	65.7
# 60	0.250	48.0
# 100	0.149	37.1
# 200	0.074	25.7

Hydrometer Analysis Data

Size, mm	Percent finer
0.0371	4.7
0.0236	2.2
0.0137	0.0
0.0097	0.0
0.0069	0.0
0.0034	0.0
0.0014	0.0

Remarks:

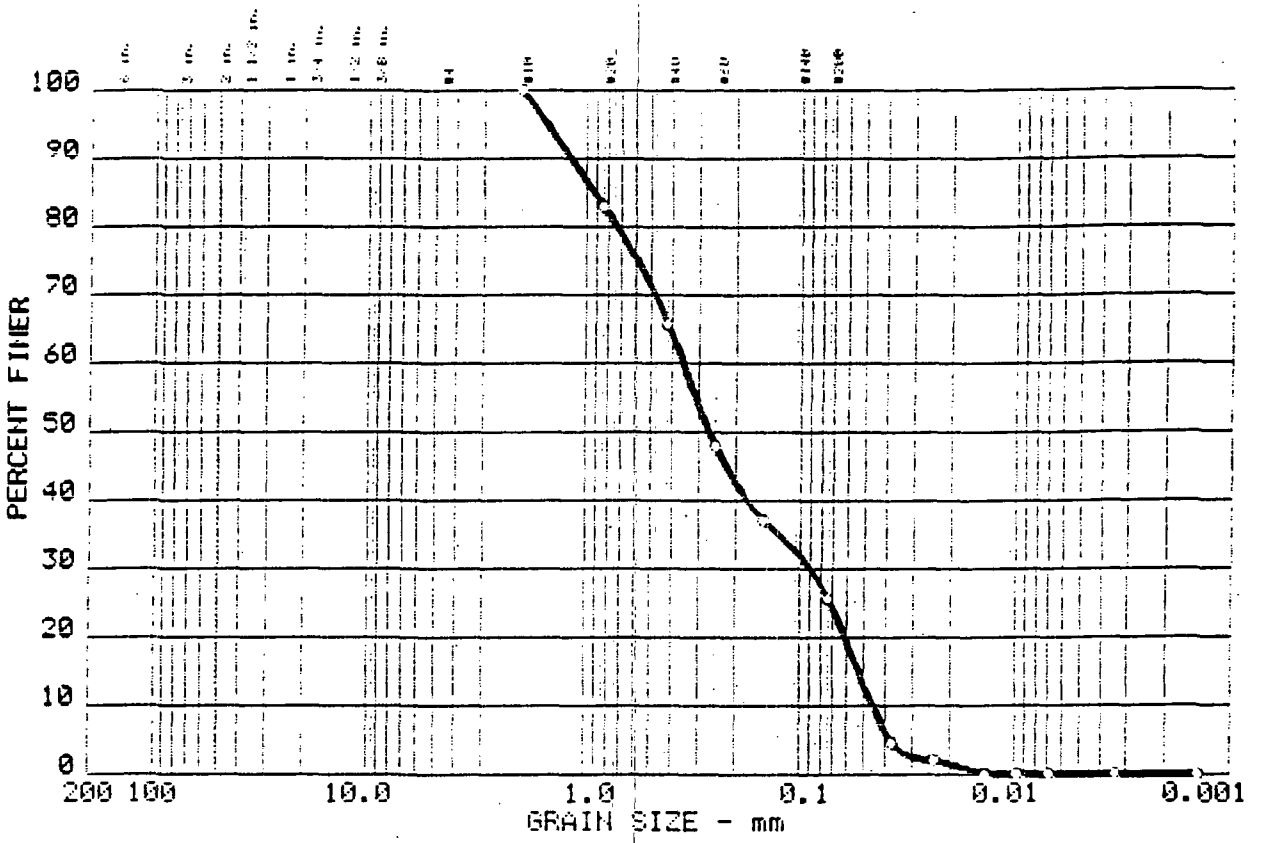
Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 0.0 % SAND = 74.3
% FINES = 25.7

D85= 0.92 D60= 0.355 D50= 0.266
D30= 0.0891 D15= 0.05339 D10= 0.04597
Cc = 0.4870 Cu = 7.7179

14

GRAIN SIZE DISTRIBUTION TEST REPORT



Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
○ 6	0.0	0.0	74.3	25.7	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			0.92	0.35	0.27	0.089	0.0534	0.0460	0.49	7.7

MATERIAL DESCRIPTION	USCS	AASHTO
○ SILTY SAND	SM	A-2-4(0.0)

Project No.: 4122 94-0157
Project: EPA-SAS 08356-F-08
○ Location: Interior Well 31

Date: 5-31-94

Remarks:
SAS Sample Number:
SF 9598
Tag Number:
6-015877

GRAIN SIZE DISTRIBUTION TEST REPORT
TWIN CITY TESTING CORPORATION

Figure No.26

15

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GRAIN SIZE DISTRIBUTION TEST DATA

Test No.: 7

Date: 5-31-94
Project No.: 4122 94-0157
Project: EPA-SAS 08356-F-08

Sample Data

Location of Sample: Perimeter Well 8
Sample Description: SAND WITH SILT
USCS: SP-SM LL:
AASHTO: A-2-4(0.0) PI:

Notes

Remarks: SAS Sample Number: SF 9599
Tag Number: 6-015878
Station Location ID No.: AL-MW008-SB-02
Fig. No.: 27

Mechanical Analysis Data

Sieve	Size, mm	Percent finer
# 20	0.840	100.0
# 40	0.420	93.5
# 60	0.250	63.2
# 100	0.149	21.7
# 200	0.074	10.8

Hydrometer Analysis Data

Size, mm	Percent finer
0.0361	6.5
0.0230	5.6
0.0134	4.6
0.0095	3.7
0.0067	2.7
0.0033	1.8
0.0014	1.8

Remarks:

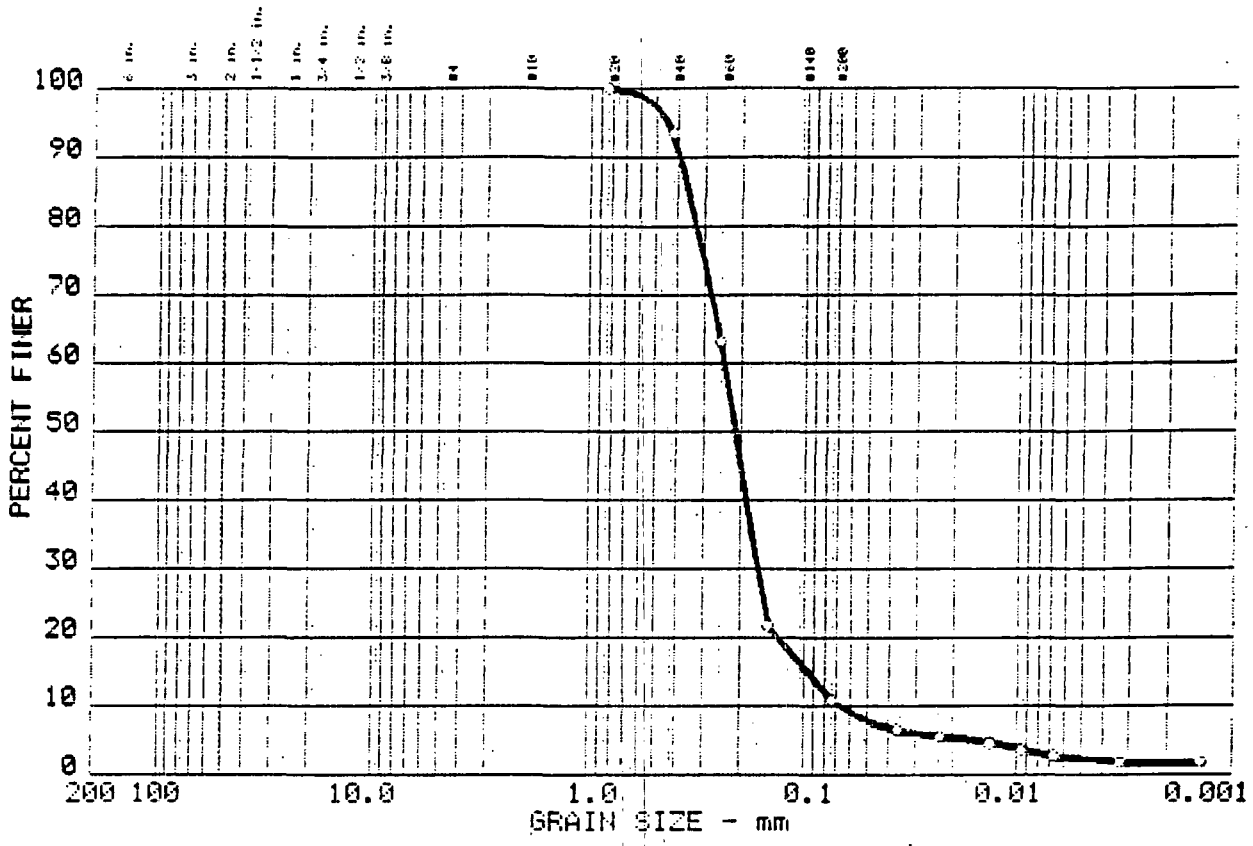
Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 0.0 % SAND = 89.2
% SILT = 8.5 % CLAY = 2.3

D85= 0.36 D60= 0.240 D50= 0.212
D30= 0.1652 D15= 0.09616 D10= 0.06577
Cc = 1.7278 Cu = 3.6517

16

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
○	7	0.0	0.0	89.2	8.5	2.3

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			0.36	0.24	0.21	0.165	0.0962	0.0658	1.73	3.7

MATERIAL DESCRIPTION	USCS	AASHTO
○ SAND WITH SILT	SP-SM	A-2-4(0.0)

Project No.: 4122 94-0157
Project: EPA-SAS 08356-F-08
○ Location: Perimeter Well 8

Date: 5-31-94

Remarks:
SAS Sample Number:
SF 9599
Tag Number:
6-015978

GRAIN SIZE DISTRIBUTION TEST REPORT
TWIN CITY TESTING CORPORATION

Figure No.27

17

00159.0968

GRAIN SIZE DISTRIBUTION TEST DATA

Test No.: 8

Date: 5-31-94
Project No.: 4122 94-0157
Project: EPA-SAS 08356-F-08

Sample Data

Location of Sample: Perimeter Well 24
Sample Description: SILTY SAND
USCS: SM LL:
AASHTO: A-2-4(0.0) PI:

Notes

Remarks: SAS Sample Number: SFB 898
Tag Number: 6-015880
Station Location ID No.: AL-MW024-SB-02
Fig. No.: 28

Mechanical Analysis Data

Sieve	Size, mm	Percent finer
# 40	0.420	100.0
# 60	0.250	88.5
# 100	0.149	41.2
# 200	0.074	20.6

Hydrometer Analysis Data

Size, mm	Percent finer
0.0348	11.9
0.0223	10.1
0.0131	7.3
0.0093	6.4
0.0066	5.5
0.0033	4.5
0.0014	3.6

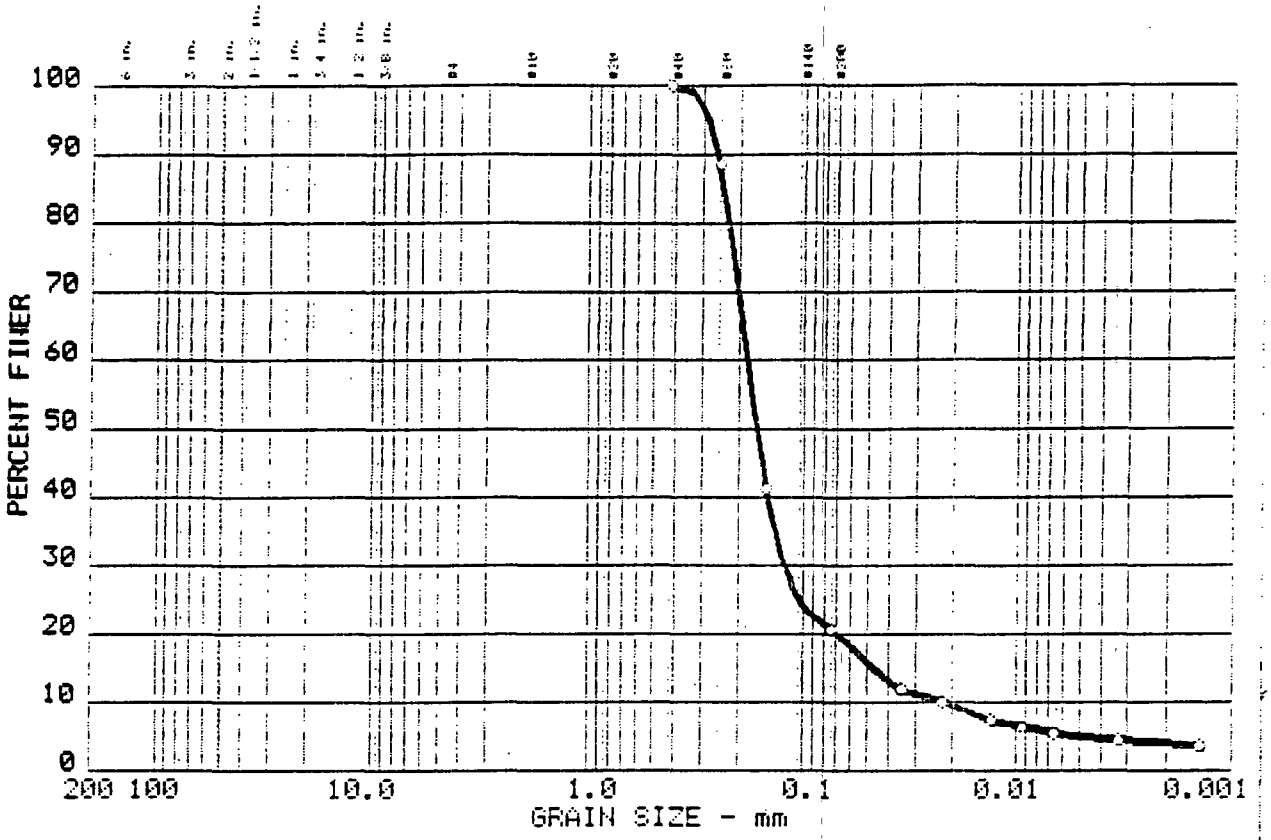
Remarks:

Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 0.0 % SAND = 79.4
% SILT = 15.6 % CLAY = 5.0

D85= 0.24 D60= 0.183 D50= 0.165
D30= 0.1223 D15= 0.04651 D10= 0.02175
Cc = 3.7670 Cu = 8.3946

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
o	8	0.0	0.0	79.4	15.6	5.0

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
o			0.24	0.18	0.17	0.122	0.0465	0.0218	3.77	8.4

MATERIAL DESCRIPTION	USCS	AASHTO
o SILTY SAND	SM	A-2-4(0.0)

Project No.: 4122 94-0157
Project: EPA-SAS 08356-F-08
o Location: Perimeter Well 24

Date: 5-31-94

Remarks:
SAS Sample Number:
SFB 898
Tag Number:
6-015880

GRAIN SIZE DISTRIBUTION TEST REPORT
TWIN CITY TESTING CORPORATION

Figure No.28

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00159.0970

GRAIN SIZE DISTRIBUTION TEST DATA

Test No.: 9

Date: 5-31-94
Project No.: 4122 94-0157
Project: EPA-SAS 08356-F-08

Sample Data

Location of Sample: Interior Well 30
Sample Description: SAND WITH SILT
USCS: SP-SM LL:
AASHTO: A-3 PI:

Notes

Remarks: SAS Sample Number: SFB 899
Tag Number: 6-015881
Station Location ID No.: AL-MW030-SB-04
Fig. No.: 29

Mechanical Analysis Data

Sieve	Size, mm	Percent finer
# 10	2.000	100.0
# 20	0.840	99.0
# 40	0.420	77.0
# 60	0.250	27.4
# 100	0.149	9.7
# 200	0.074	6.3

Hydrometer Analysis Data

Size, mm	Percent finer
0.0366	4.6
0.0232	3.7
0.0135	2.7
0.0096	1.8
0.0068	1.8
0.0033	1.8
0.0014	1.8

Remarks:

Fractional Components

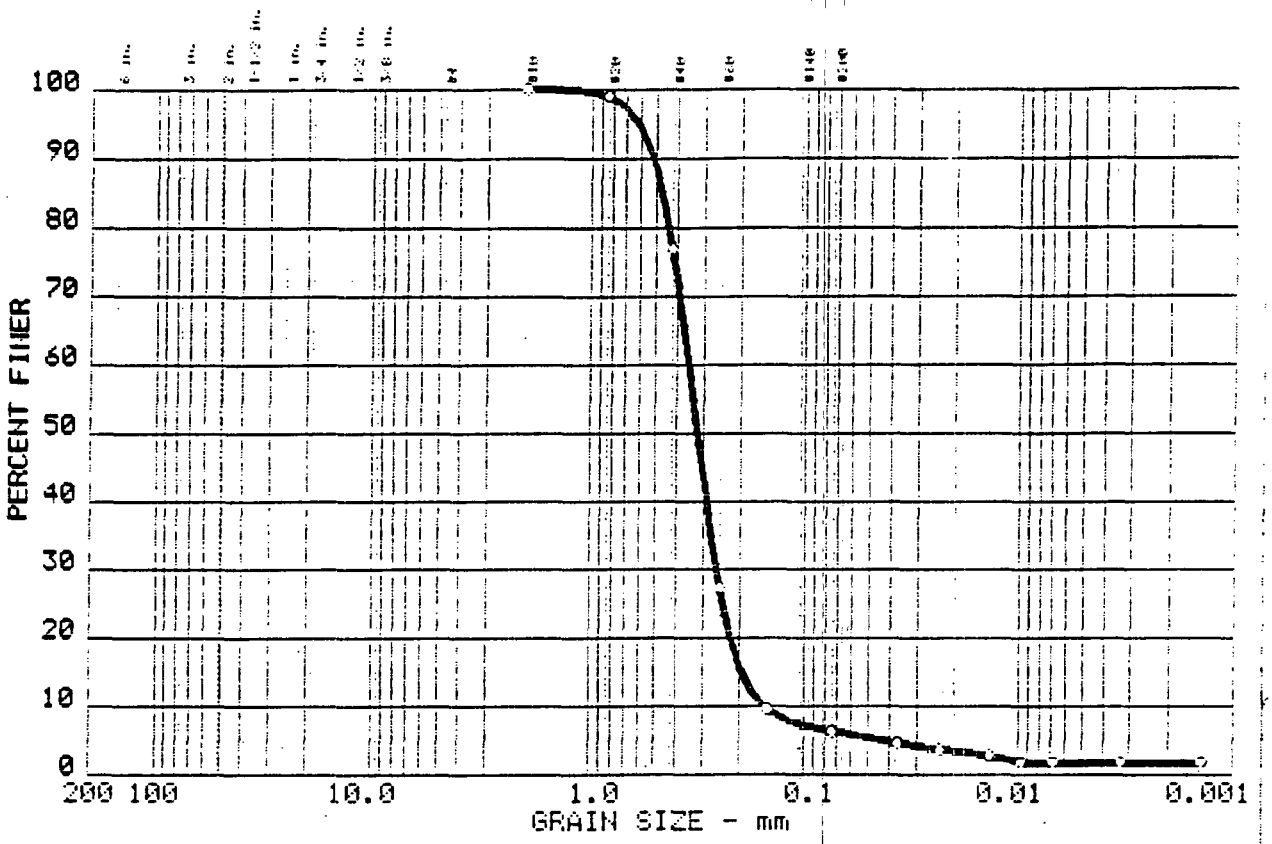
Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 0.0 % SAND = 93.7
% SILT = 4.5 % CLAY = 1.8

D85= 0.47 D60= 0.350 D50= 0.318
D30= 0.2582 D15= 0.19588 D10= 0.15205
Cc = 1.2531 Cu = 2.3014

20

00159.0971

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
○	9	0.0	0.0	93.7	4.5	1.8

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			0.47	0.35	0.32	0.258	0.1959	0.1521	1.25	2.3

MATERIAL DESCRIPTION	USCS	AASHTO
○ SAND WITH SILT	SP-SM	A-3

Project No.: 4122 94-0157
Project: EPA-SAS 08356-F-08
○ Location: Interior Well 30

Date: 5-31-94

Remarks:
SAS Sample Number:
SFB 899
Tag Number:
6-015881

GRAIN SIZE DISTRIBUTION TEST REPORT
TWIN CITY TESTING CORPORATION

Figure No.29 21

GRAIN SIZE DISTRIBUTION TEST DATA

Test No.: 10

Date: 5-31-94
Project No.: 4122 94-0157
Project: EPA-SAS 08356-F-08

Sample Data

Location of Sample: Interior Well 30
Sample Description: SAND WITH SILT
USCS: SP-SM LL:
AASHTO: A-3 PI:

Notes

Remarks: SAS Sample Number: SFB 899 DUPLICATE
Tag Number: 6-015881
Station Location ID No.: AL-MW030-SB-04
Fig. No.: 30

Mechanical Analysis Data

Sieve	Size, mm	Percent finer
# 10	2.000	100.0
# 20	0.840	99.1
# 40	0.420	78.0
# 60	0.250	27.6
# 100	0.149	9.4
# 200	0.074	5.9

Hydrometer Analysis Data

Size, mm	Percent finer
0.0366	4.6
0.0232	3.7
0.0135	2.7
0.0096	1.8
0.0068	1.8
0.0033	1.8
0.0014	1.8

Remarks:

Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 0.0 % SAND = 94.1
% SILT = 4.1 % CLAY = 1.8

D85= 0.46 D60= 0.348 D50= 0.316
D30= 0.2570 D15= 0.19724 D10= 0.15488
Cc = 1.2274 Cu = 2.2439

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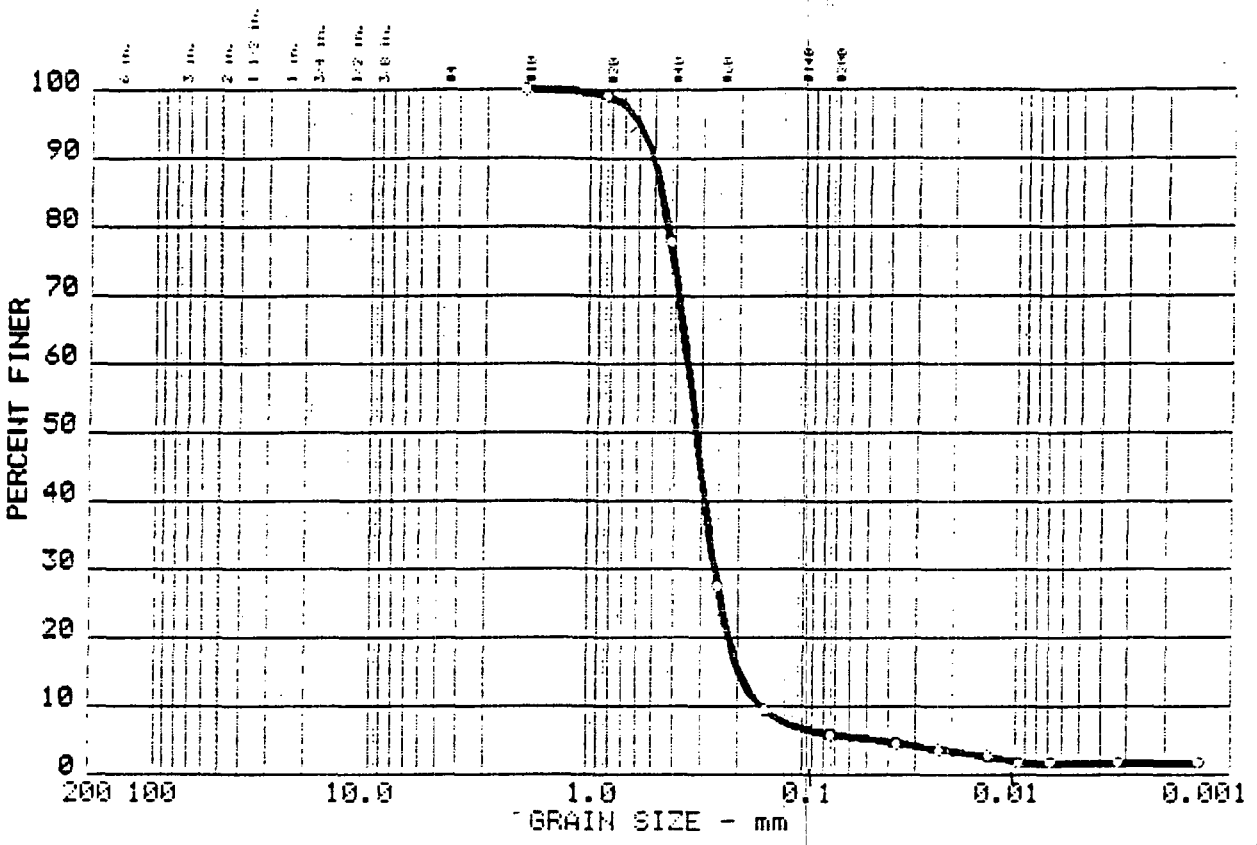
00159.0973

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
o	10	0.0	0.0	94.1	4.1	1.8

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
o			0.46	0.35	0.32	0.257	0.1972	0.1549	1.23	2.2

MATERIAL DESCRIPTION	USCS	AASHTO
o SAND WITH SILT	SP-SM	A-3

Project No.: 4122 94-0157
Project: EPA-SAS 08356-F-09
o Location: Interior Well 30

Date: 5-31-94

Remarks:
SAS Sample Number:
SFB 899 DUPLICATE
Tag Number:
6-015881

GRAIN SIZE DISTRIBUTION TEST REPORT
TWIN CITY TESTING CORPORATION

Figure No.30 23

GRAIN SIZE DISTRIBUTION TEST DATA

Test No.: 11

Date: 5-31-94
Project No.: 4122 94-0157
Project: EPA-SAS 08356-F-08

Sample Data

Location of Sample: Perimeter Well 20 60'-62.5 bgs
Sample Description: SAND
USCS: SP LL:
AASHTO: A-3 PI:

Notes

Remarks: SAS Sample Number: SFB 870
Tag Number: 6-016342
Station Location ID No.: AL-MW020-SB-02
Fig. No.: 31

Mechanical Analysis Data

Sieve	Size, mm	Percent finer
# 20	0.840	100.0
# 40	0.420	94.5
# 60	0.250	46.0
# 100	0.149	11.6
# 200	0.074	4.9

Hydrometer Analysis Data

Size, mm	Percent finer
0.0378	0.8
0.0238	0.0
0.0137	0.0
0.0097	0.0
0.0069	0.0
0.0034	0.0
0.0014	0.0

Remarks:

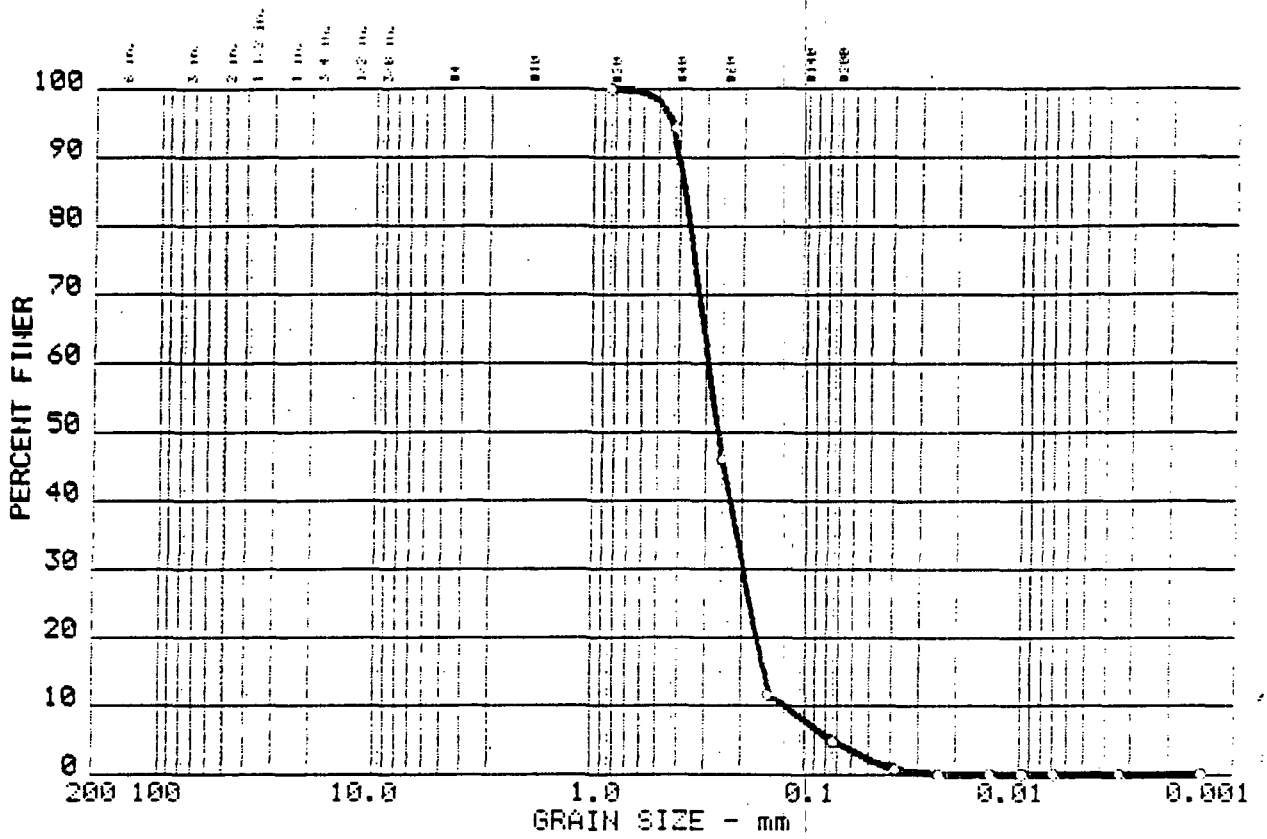
Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 0.0 % SAND = 95.1
% FINES = 4.9

D85= 0.38 D60= 0.290 D50= 0.261
D30= 0.1963 D15= 0.15668 D10= 0.12589
Cc = 1.0556 Cu = 2.3041

24

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
o	11	0.0	0.0	95.1	4.9	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
o			0.38	0.29	0.26	0.196	0.1567	0.1259	1.06	2.3

	MATERIAL DESCRIPTION	USCS	AASHTO
o	SAND	SP	A-3

Project No.: 4122 94-0157
Project: EPA-SAS 08356-F-08
o Location: Perimeter Well 20 60'-62.5 bgs

Date: 5-31-94

Remarks:
SAS Sample Number:
SFB 870
Tag Number:
6-016342

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GRAIN SIZE DISTRIBUTION TEST REPORT
TWIN CITY TESTING CORPORATION

Figure No.31

00159.0976

GRAIN SIZE DISTRIBUTION TEST DATA

Test No.: 12

Date: 5-31-94
Project No.: 4122 94-0157
Project: EPA-SAS 08356-F-08

Sample Data

Location of Sample: Background Well 44 57.5'-60' bgs
Sample Description: SAND WITH SILT
USCS: SP-SM LL:
AASHTO: A-3 PI:

Notes

Remarks: SAS Sample Number: SFB 844
Tag Number: 6-016432
Station Location ID No.: AL-MW044-SB-02
Fig. No.: 32

Mechanical Analysis Data

Sieve	Size, mm	Percent finer
# 40	0.420	100.0
# 60	0.250	93.8
# 100	0.149	43.6
# 200	0.074	5.6

Hydrometer Analysis Data

Size, mm	Percent finer
0.0369	2.8
0.0234	1.8
0.0135	1.8
0.0096	1.8
0.0068	0.9
0.0033	0.9
0.0014	0.9

Remarks:

Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 0.0 % SAND = 94.4
% SILT = 4.7 % CLAY = 0.9

D85= 0.23 D60= 0.176 D50= 0.159
D30= 0.1159 D15= 0.08790 D10= 0.08017
Cc = 0.9495 Cu = 2.2004

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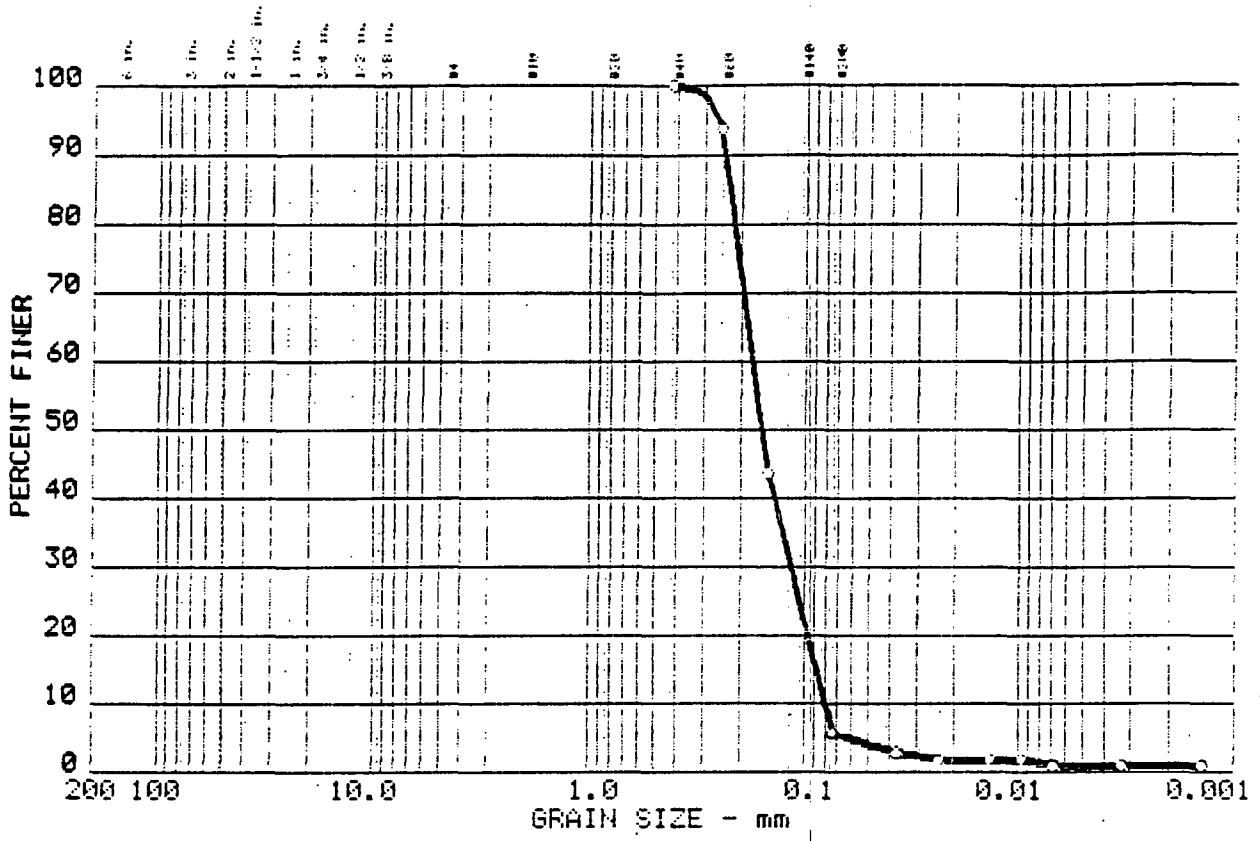
GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
○	12	0.0	0.0	94.4	4.7	0.9

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			0.23	0.18	0.16	0.116	0.0879	0.0802	0.95	2.2

MATERIAL DESCRIPTION	USCS	AASHTO
○ SAND WITH SILT	SP-SM	A-3

Project No.: 4122 94-0157
Project: EPA-SAS 08356-F-08
○ Location: Background Well 44 57.5'-60' bgs

Date: 5-31-94

Remarks:
SAS Sample Number:
SFB 844
Tag Number:
6-016432

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GRAIN SIZE DISTRIBUTION TEST REPORT
TWIN CITY TESTING CORPORATION

Figure No.32

00159.0978

GRAIN SIZE DISTRIBUTION TEST DATA

Test No.: 13

Date: 5-31-94
Project No.: 4122 94-0157
Project: EPA-SAS 08356-F-08

Sample Data

Location of Sample: Perimeter Well 46
Sample Description: SILTY SAND
USCS: SM LL:
AASHTO: A-4(0.0) PI:

Notes

Remarks: SAS Sample Number: SFB 886
Tag Number: 6-016348
Station Location ID No.: AL-MW046-SB-05
Fig. No.: 33

Mechanical Analysis Data

Sieve	Size, mm	Percent finer
# 10	2.000	100.0
# 20	0.840	81.6
# 40	0.420	67.0
# 60	0.250	54.6
# 100	0.149	46.1
# 200	0.074	37.1

Hydrometer Analysis Data

Size, mm	Percent finer
0.0344	25.2
0.0224	16.8
0.0130	15.1
0.0093	13.4
0.0066	10.0
0.0033	1.5
0.0014	0.0

Remarks:

Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 Fin. = 0.0 % GRAVEL = 0.0 % SAND = 62.9
% SILT = 30.5 % CLAY = 6.6

D85= 0.99 D60= 0.316 D50= 0.193
D30= 0.0441 D15= 0.01243 D10= 0.00660
Cc = 0.9333 Cu = 47.8630

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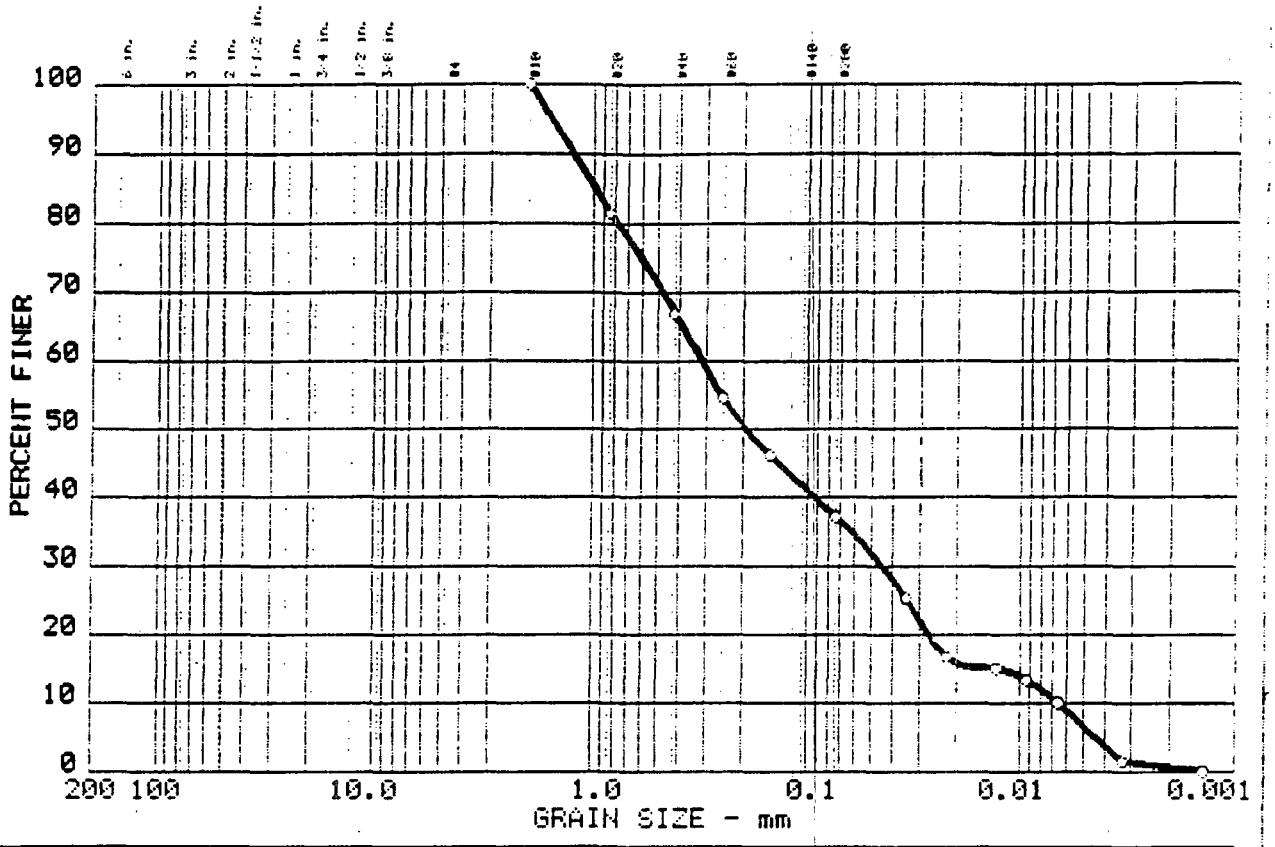
GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
o	13	0.0	0.0	62.9	30.5	6.6

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
o			0.99	0.32	0.19	0.044	0.0124	0.0066	0.93	47.9

MATERIAL DESCRIPTION	USCS	AASHTO
o SILTY SAND	SM	A-4(0.0)

Project No.: 4122 94-0157
Project: EPA-SAS 08356-F-08
o Location: Perimeter Well 46

Date: 5-31-94

Remarks:
SAS Sample Number:
SFB 886
Tag Number:
6-016348

GRAIN SIZE DISTRIBUTION TEST REPORT
TWIN CITY TESTING CORPORATION

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Figure No.33

GRAIN SIZE DISTRIBUTION TEST DATA Test No.: 14

Date: 5-31-94
Project No.: 4122 94-0157
Project: EPA-SAS 08356-F-08

Sample Data

Location of Sample: Perimeter Well 26 70'-72.5' bgs
Sample Description: SAND WITH SILT
USCS: SP-SM LL:
AASHTO: A-2-4(0.4) PI:

Notes

Remarks: SAS Sample Number: SFB 876
Tag Number: 6-016343
Station Location ID No.: AL-MW026-SB-02
Fig. No.: 34

Mechanical Analysis Data

Sieve	Size, mm	Percent finer
# 40	0.420	100.0
# 60	0.250	85.8
# 100	0.149	38.2
# 200	0.074	11.4

Hydrometer Analysis Data

Size, mm	Percent finer
0.0361	6.5
0.0230	5.6
0.0134	4.6
0.0095	3.7
0.0067	3.7
0.0033	3.7
0.0014	3.7

Remarks:

Fractional Components

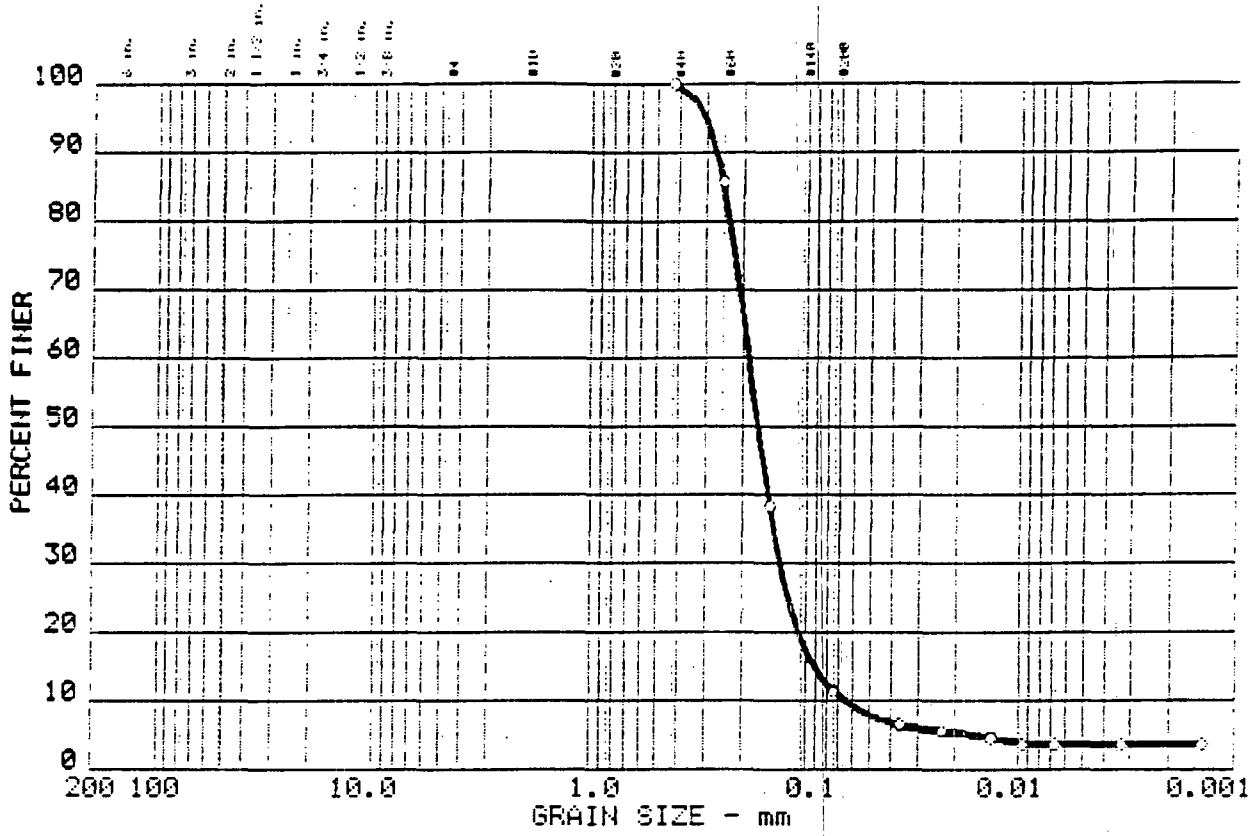
Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 0.0 % SAND = 88.6
% SILT = 7.7 % CLAY = 3.7

D85= 0.25 D60= 0.187 D50= 0.170
D30= 0.1329 D15= 0.09089 D10= 0.06509
Cc = 1.4488 Cu = 2.8774

30

00159.0981

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
○	14	0.0	0.0	88.6	7.7	3.7

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			0.25	0.19	0.17	0.133	0.0909	0.0651	1.45	2.9

MATERIAL DESCRIPTION	USCS	AASHTO
○ SAND WITH SILT	SP-SM	A-2-4(0.4)

Project No.: 4122 94-0157
Project: EPA-SAS 08356-F-08
○ Location: Perimeter Well 26 70'-72.5' bgs

Date: 5-31-94

Remarks:
SAS Sample Number:
SFB 876
Tag Number:
6-016343

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GRAIN SIZE DISTRIBUTION TEST REPORT
TWIN CITY TESTING CORPORATION

Figure No.34

GRAIN SIZE DISTRIBUTION TEST DATA Test No.: 15

Date: 5-31-94
Project No.: 4122 94-0157
Project: EPA-SAS 08356-F-08

Sample Data

Location of Sample: Background Well 43 9'-11.5'
Sample Description: FAT CLAY
USCS: CH LL:
AASHTO: A-4(0.0) PI:

Notes

Remarks: SAS Sample Number: SFB 843
Tag Number: 6-016436
Station Location ID No.: AL-MW043-SB-01
Fig. No.: 35

Mechanical Analysis Data

Sieve	Size, mm	Percent finer
# 200	0.074	100.0

Hydrometer Analysis Data

Size, mm	Percent finer
0.0271	83.9
0.0177	78.3
0.0106	70.8
0.0077	65.2
0.0057	55.9
0.0029	44.6
0.0013	35.3

Remarks:

Fractional Components

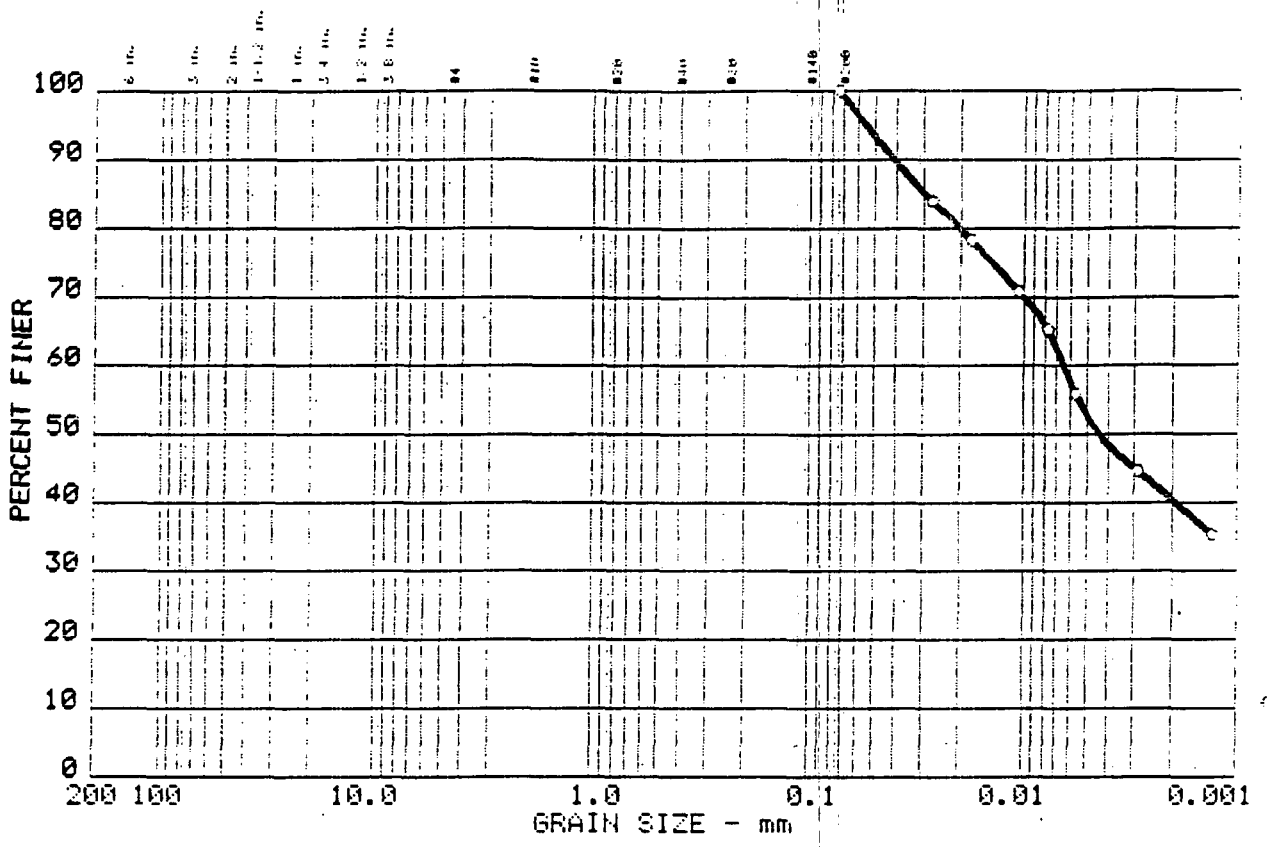
Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 0.0 % SAND = 0.0
% SILT = 47.5 % CLAY = 52.5

D85= 0.03 D60= 0.006 D50= 0.004

32

00159.0983

GRAIN SIZE DISTRIBUTION TEST REPORT



Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
○ 15	0.0	0.0	0.0	47.5	52.5

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○					0.00					

MATERIAL DESCRIPTION	USCS	AASHTO
○ FAT CLAY	CH	A-4(0.0)

Project No.: 4122 94-0157
Project: EPA-SAS 08356-F-08
○ Location: Background Well 43 9'-11.5'

Date: 5-31-94

Remarks:
SAS Sample Number:
SFB 843
Tag Number:
6-016436

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GRAIN SIZE DISTRIBUTION TEST REPORT
TWIN CITY TESTING CORPORATION

Figure No.35

00159.0984

GRAIN SIZE DISTRIBUTION TEST DATA

Test No.: 16

Date: 5-31-94
Project No.: 4122 94-0157
Project: EPA-SAS 08356-F-08

Sample Data

Location of Sample: Interior Well 40
Sample Description: SILTY SAND
USCS: SM LL:
AASHTO: A-2-4(0.0) PI:

Notes

Remarks: SAS Sample Number: SFB 800
Tag Number: 6-015899
Station Location ID No.: AL-MW040-SB-05
Fig. No.: 36

Mechanical Analysis Data

Sieve	Size, mm	Percent finer
# 10	2.000	100.0
# 20	0.840	77.4
# 40	0.420	55.9
# 60	0.250	37.9
# 100	0.149	28.5
# 200	0.074	18.6

Hydrometer Analysis Data

Size, mm	Percent finer
0.0350	11.5
0.0223	10.5
0.0130	8.6
0.0093	6.7
0.0067	4.7
0.0033	2.8
0.0014	0.9

Remarks:

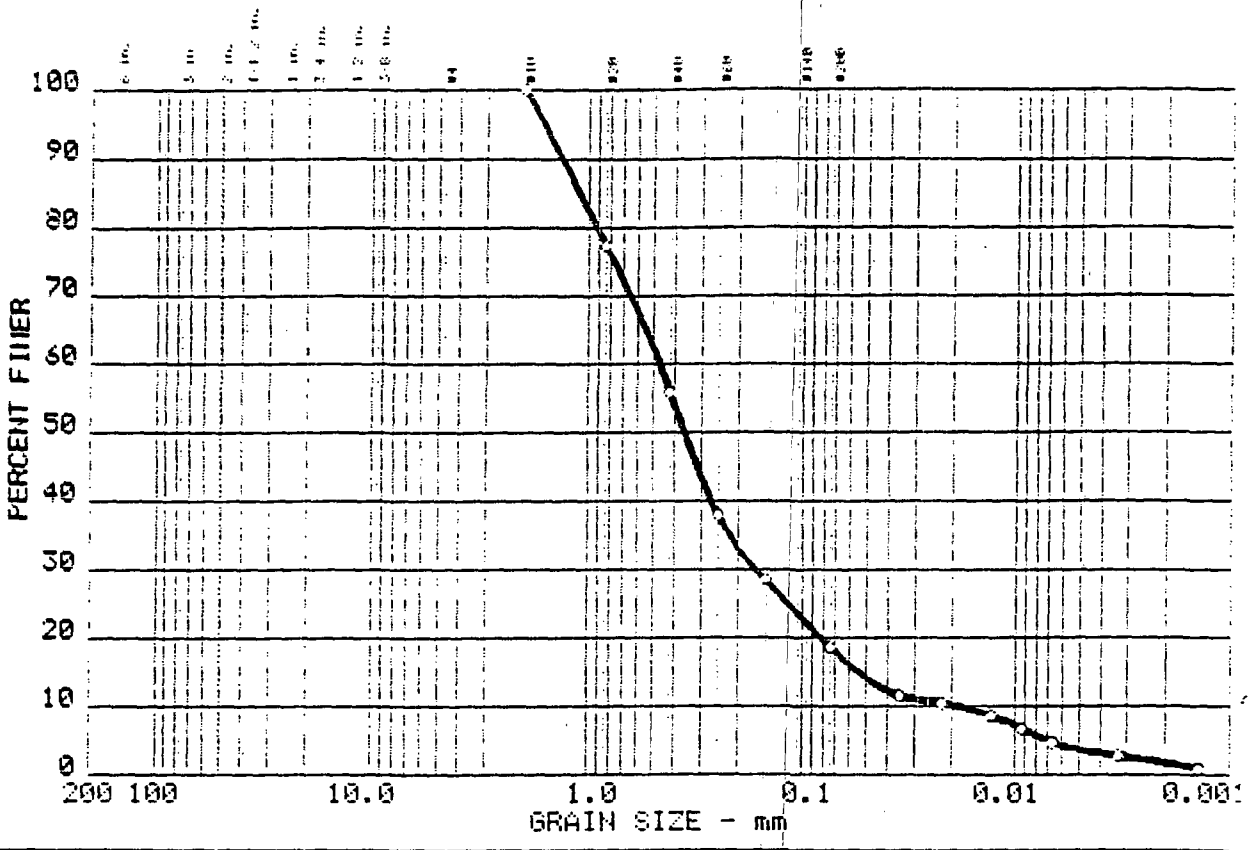
Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 0.0 % SAND = 81.4
% SILT = 15.0 % CLAY = 3.6

D85= 1.11 D60= 0.472 D50= 0.358
D30= 0.1654 D15= 0.05476 D10= 0.01752
Cc = 3.3075 Cu = 26.9464

34

GRAIN SIZE DISTRIBUTION TEST REPORT



Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
○ 16	0.0	0.0	81.4	15.0	3.6

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			1.11	0.47	0.36	0.165	0.0548	0.0175	3.31	26.9

MATERIAL DESCRIPTION	USCS	AASHTO
○ SILTY SAND	SM	A-2-4(0.0)

Project No.: 4122 94-0157
Project: EPA-SAS 08356-F-08
○ Location: Interior Well 40

Date: 5-31-94

Remarks:
SAS Sample Number:
SFB 800
Tag Number:
6-015899

GRAIN SIZE DISTRIBUTION TEST REPORT
TWIN CITY TESTING CORPORATION

Figure No.36

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GRAIN SIZE DISTRIBUTION TEST DATA

Test No.: 17

Date: 5-31-94
Project No.: 4122 94-0157
Project: EPA-SAS 08356-F-08

Sample Data

Location of Sample: Monitoring Well 36
Sample Description: LEAN CLAY
USCS: CL LL:
AASHTO: A-4(0.0) PI:

Notes

Remarks: SAS Sample Number: SFB 860
Tag Number: 6-016437
Station Location ID No.: AL-MW036-SB-04
Fig. No.: 37

Mechanical Analysis Data

Sieve	Size, mm	Percent finer
# 10	2.000	100.0
# 20	0.840	91.4
# 40	0.420	82.1
# 60	0.250	72.1
# 100	0.149	63.9
# 200	0.074	51.9

Hydrometer Analysis Data

Size, mm	Percent finer
0.0330	38.8
0.0217	29.5
0.0127	25.8
0.0090	22.1
0.0065	18.4
0.0032	12.8
0.0014	7.2

Remarks:

Fractional Components

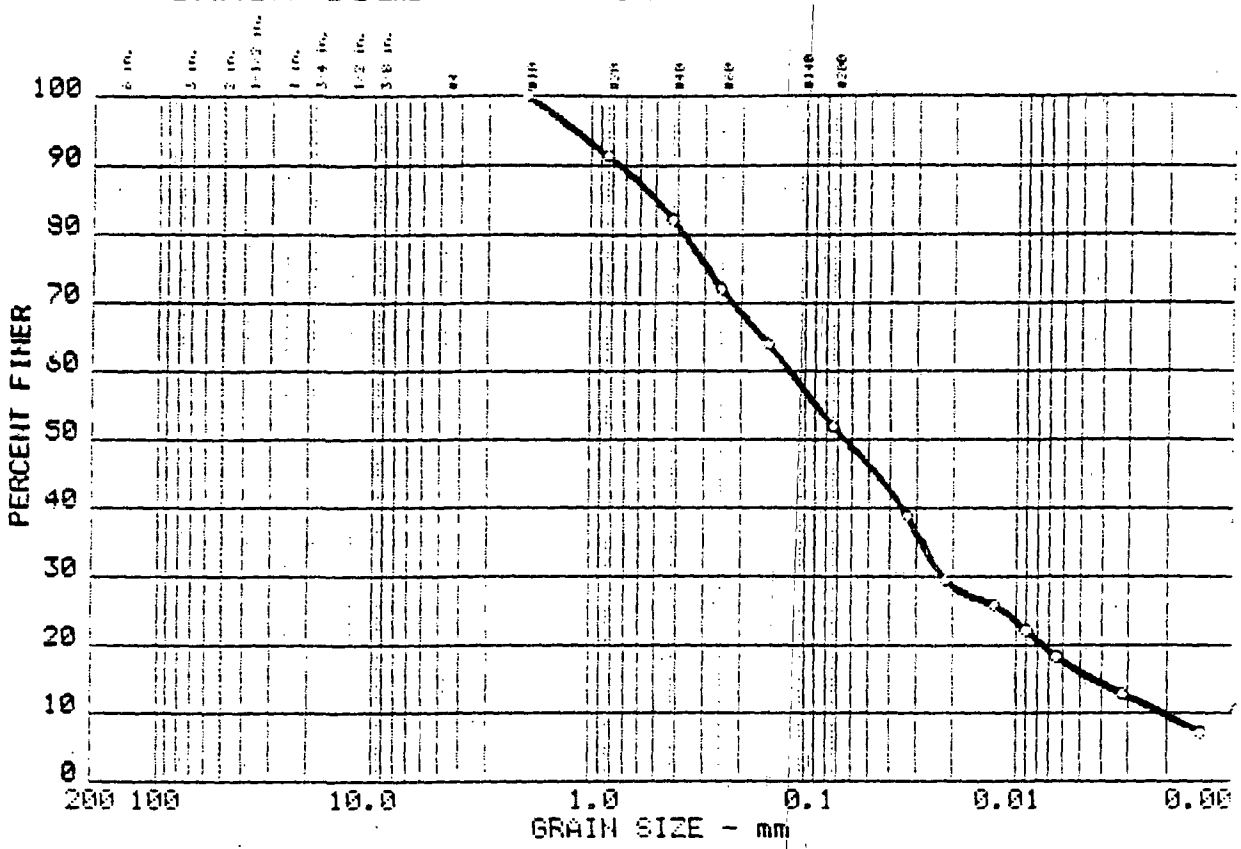
Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 0.0 % SAND = 48.1
% SILT = 35.9 % CLAY = 16.0

D85= 0.50 D60= 0.117 D50= 0.065
D30= 0.0221 D15= 0.00437 D10= 0.00211
Cc = 1.9724 Cu = 55.5904

36

00159.0987

GRAIN SIZE DISTRIBUTION TEST REPORT



Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
○ 17	0.0	0.0	48.1	35.9	16.0

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			0.50	0.12	0.06	0.022	0.0044	0.0021	1.97	55.6

MATERIAL DESCRIPTION	USCS	AASHTO
○ LEAN CLAY	CL	A-4(0.0)

Project No.: 4122 94-0157
Project: EPA-SAS 08356-F-08
○ Location: Monitoring Well 36

Date: 5-31-94

Remarks:
SAS Sample Number:
SFB 860
Tag Number:
6-016437

37

GRAIN SIZE DISTRIBUTION TEST REPORT
TWIN CITY TESTING CORPORATION

Figure No.37

00159.0988

GRAIN SIZE DISTRIBUTION TEST DATA

Test No.: 18

Date: 5-31-94
Project No.: 4122 94-0157
Project: EPA-SAS 08356-F-08

Sample Data

Location of Sample: Perimeter Well 16
Sample Description: CLAYEY SAND
USCS: SC LL:
AASHTO: A-2-4(0.0) PI:

Notes

Remarks: SAS Sample Number: SFB 894
Tag Number: 6-015700
Station Location ID No.: AL-MW016-SB-02
Fig. No.: 38

Mechanical Analysis Data

Sieve	Size, mm	Percent finer
# 40	0.420	100.0
# 60	0.250	92.0
# 100	0.149	61.2
# 200	0.074	23.2

Hydrometer Analysis Data

Size, mm	Percent finer
0.0348	19.1
0.0222	17.7
0.0129	16.2
0.0091	14.7
0.0065	13.2
0.0032	11.7
0.0014	8.8

Remarks:

Fractional Components

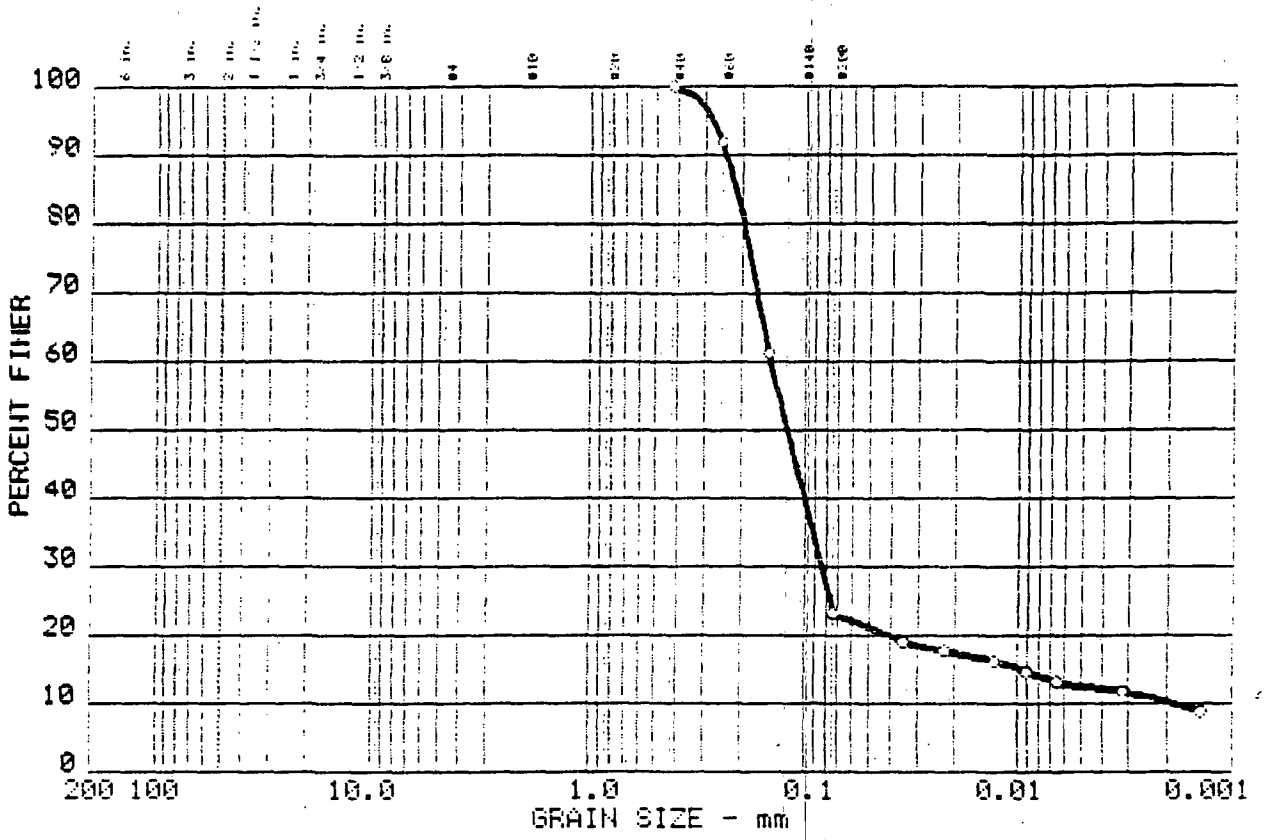
Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 0.0 % SAND = 76.8
% SILT = 10.7 % CLAY = 12.5

D85= 0.21 D60= 0.145 D50= 0.121
D30= 0.0838 D15= 0.00963 D10= 0.00179
Cc = 27.0085 Cu = 81.0028

38

00159.0989

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
o	18	0.0	0.0	76.8	10.7	12.5

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
o			0.21	0.15	0.12	0.084	0.0096	0.0018	27.01	81.0

MATERIAL DESCRIPTION	USCS	AASHTO
o CLAYEY SAND	SC	A-2-4(0.0)

Project No.: 4122 94-0157
Project: EPA-SAS 08356-F-08
o Location: Perimeter Well 16

Date: 5-31-94

Remarks:
SAS Sample Number:
SFB 894
Tag Number:
6-015700

GRAIN SIZE DISTRIBUTION TEST REPORT
TWIN CITY TESTING CORPORATION

Figure No.38

39

GRAIN SIZE DISTRIBUTION TEST DATA

Test No.: 19

Date: 5-31-94
Project No.: 4122 94-0157
Project: EPA-SAS 08356-F-08

Sample Data

Location of Sample: Background Well 41
Sample Description: LEAN CLAY
USCS: CL LL:
AASHTO: A-4(0.0) PI:

Notes

Remarks: SAS Sample Number: SFB 841
Tag Number: 6-016435
Station Location ID No.: AL-MW041-SB-01
Fig. No.: 39

Mechanical Analysis Data

Sieve	Size, mm	Percent finer
# 100	0.149	100.0
# 200	0.074	93.0

Hydrometer Analysis Data

Size, mm	Percent finer
0.0315	50.1
0.0211	35.7
0.0127	25.0
0.0091	19.6
0.0065	17.8
0.0032	12.4
0.0014	10.6

Remarks:

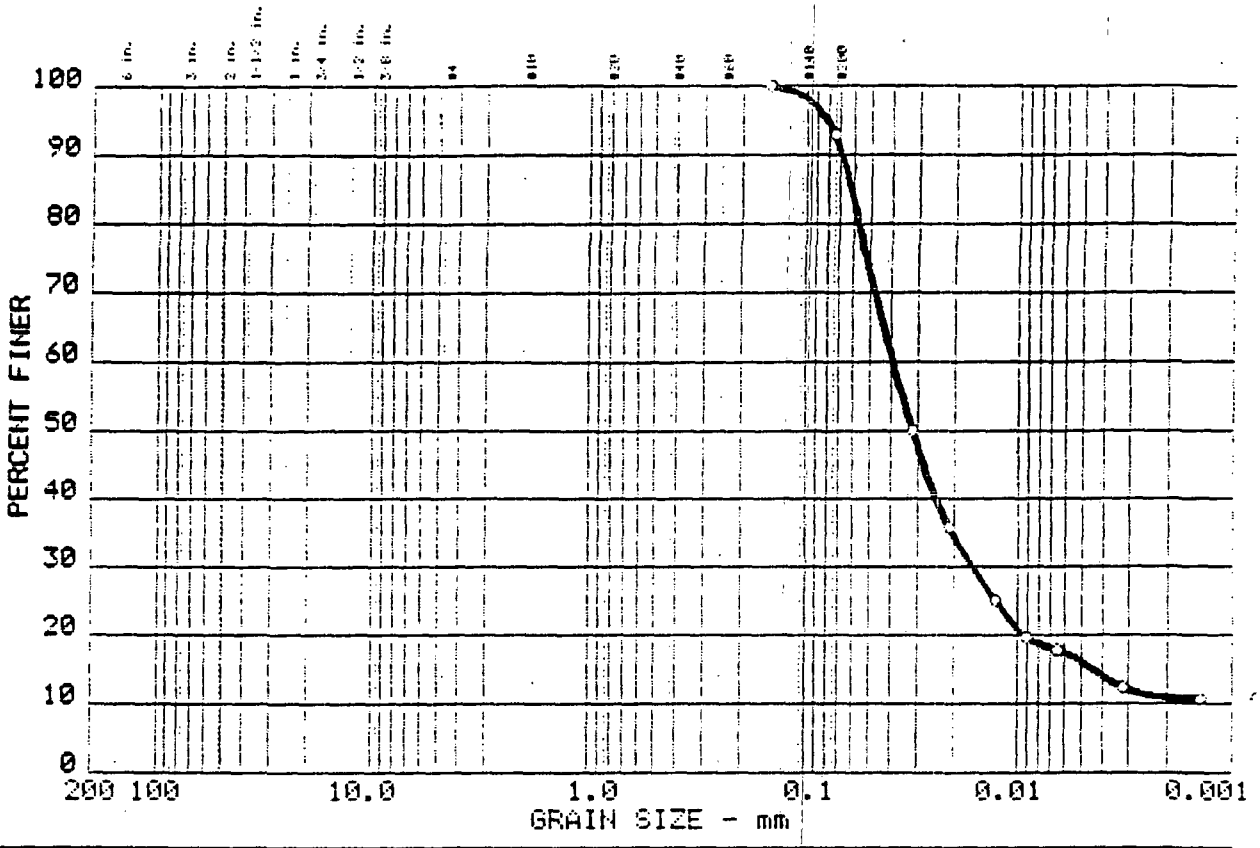
Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 0.0 % SAND = 7.0
% SILT = 77.0 % CLAY = 16.0

D85= 0.06 D60= 0.039 D50= 0.031
D30= 0.0165 D15= 0.00439

40

GRAIN SIZE DISTRIBUTION TEST REPORT



Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
○ 19	0.0	0.0	7.0	77.0	16.0

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○					0.03	0.016	0.0044			

MATERIAL DESCRIPTION	USCS	AASHTO
○ LEAN CLAY	CL	A-4(0.0)

Project No.: 4122 94-0157
Project: EPA-SAS 08356-F-08
○ Location: Background Well 41

Date: 5-31-94

Remarks:
SAS Sample Number:
SFB 841
Tag Number:
6-016435

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GRAIN SIZE DISTRIBUTION TEST REPORT
TWIN CITY TESTING CORPORATION

Figure No.39

00159.0992

GRAIN SIZE DISTRIBUTION TEST DATA

Test No.: 20

Date: 5-31-94
Project No.: 4122 94-0157
Project: EPA-SAS 08356-F-08

Sample Data

Location of Sample: Perimeter Well 25
Sample Description: LEAN CLAY
USCS: CL LL:
AASHTO: A-4(0.0) PI:

Notes

Remarks: SAS Sample Number: SFB 875
Tag Number: 6-016433
Station Location ID No.: AL-MW025-SB-01
Fig. No.: 40

Mechanical Analysis Data

Sieve	Size, mm	Percent finer
# 100	0.149	100.0
# 200	0.074	98.7

Hydrometer Analysis Data

Size, mm	Percent finer
0.0289	71.1
0.0188	65.5
0.0114	54.2
0.0083	46.7
0.0060	39.2
0.0030	31.7
0.0013	26.1

Remarks:

Fractional Components

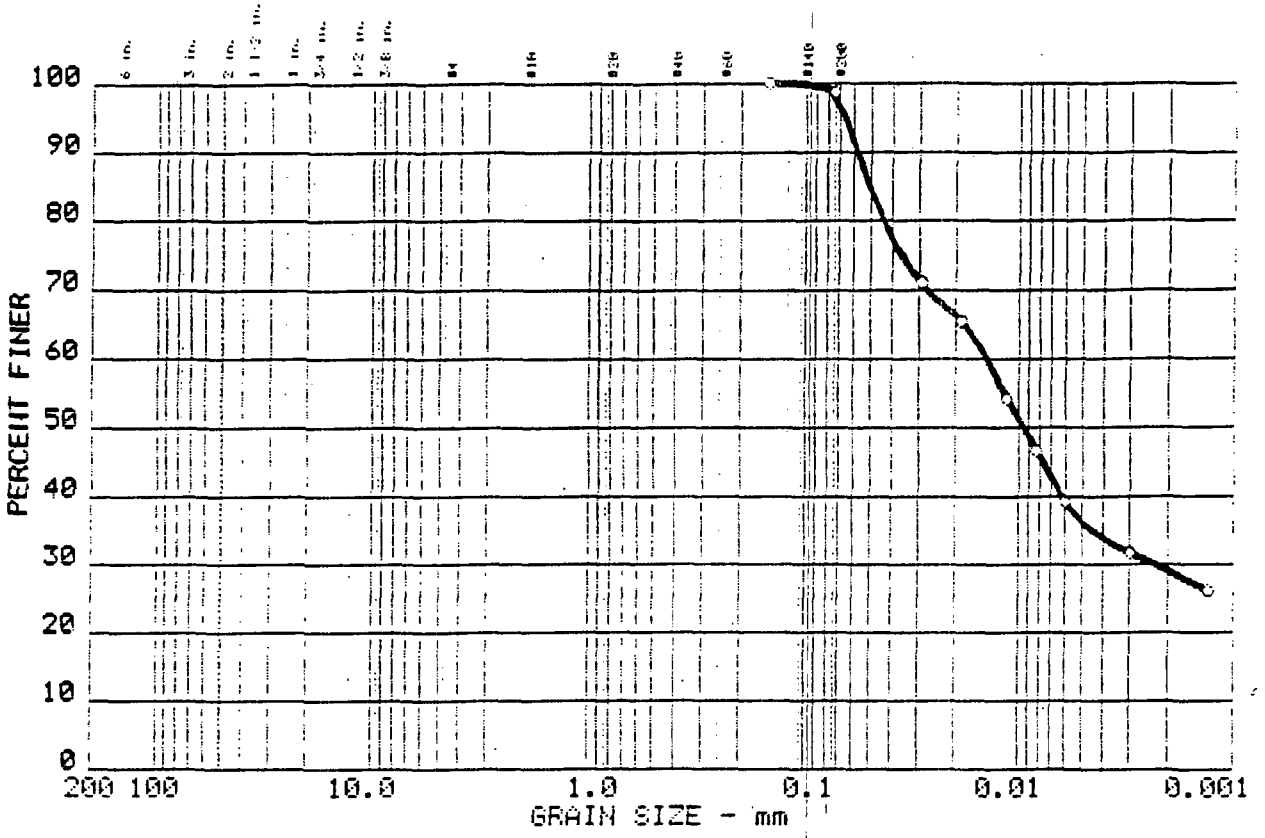
Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 0.0 % SAND = 1.3
% SILT = 62.5 % CLAY = 36.2

D85= 0.05 D60= 0.014 D50= 0.009
D30= 0.0023

42

00159.0993

GRAIN SIZE DISTRIBUTION TEST REPORT



Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
○ 20	0.0	0.0	1.3	62.5	36.2

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○					0.01	0.002				

MATERIAL DESCRIPTION	USCS	AASHTO
○ LEAN CLAY	CL	A-4(0.0)

Project No.: 4122 94-0157
Project: EPA-SAS 08356-F-08
○ Location: Perimeter Well 25

Date: 5-31-94

Remarks:
SAS Sample Number:
SFB 875
Tag Number:
6-016433

GRAIN SIZE DISTRIBUTION TEST REPORT
TWIN CITY TESTING CORPORATION

Figure No.40

43

GRAIN SIZE DISTRIBUTION TEST DATA

Test No.: 1

Date: 5-31-94
Project No.: 4122 94-0157
Project: EPA-SAS 08356-F-08

Sample Data

Location of Sample: Perimeter Well 22 65'-67' bgs
Sample Description: SAND WITH CLAY
USCS: SP-SC LL:
AASHTO: A-3 PI:

Notes

Remarks: SAS Sample Number: SFB 872
Tag Number: 6-016340
Station Location ID No.: AL-MW022-SB-02
Fig. No.: 41

Mechanical Analysis Data

Sieve	Size, mm	Percent finer
# 20	0.840	100.0
# 40	0.420	81.8
# 60	0.250	29.1
# 100	0.149	16.3
# 200	0.074	10.1

Hydrometer Analysis Data

Size, mm	Percent finer
0.0354	9.4
0.0226	8.4
0.0131	7.5
0.0093	6.5
0.0066	5.6
0.0033	4.6
0.0014	4.6

Remarks:

Fractional Components

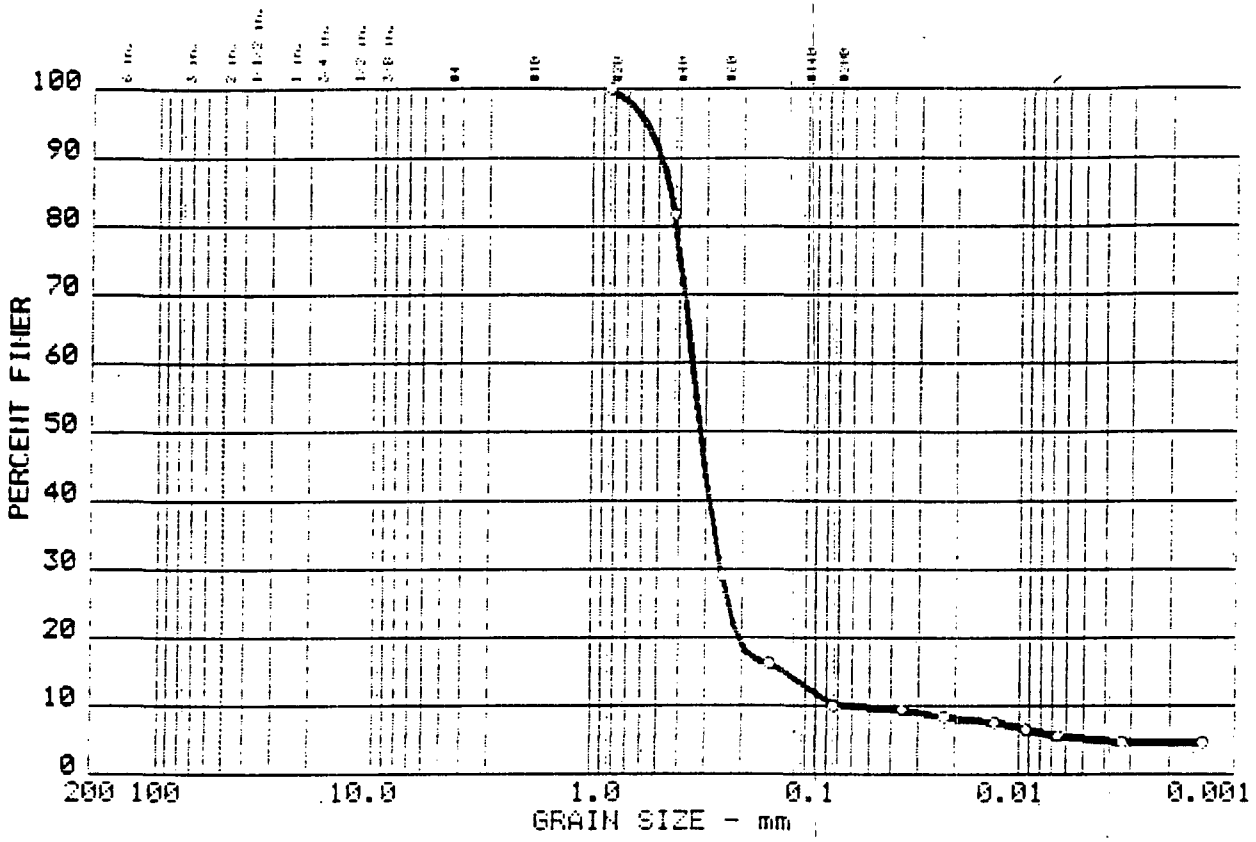
Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 0.0 % SAND = 89.9
% SILT = 4.9 % CLAY = 5.2

D85= 0.44 D60= 0.346 D50= 0.316
D30= 0.2535 D15= 0.12853 D10= 0.06592
Cc = 2.8184 Cu = 5.2481

44

00159.0995

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
○	1	0.0	0.0	89.9	4.9	5.2

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			0.44	0.35	0.32	0.254	0.1285	0.0659	2.82	5.2

MATERIAL DESCRIPTION	USCS	AASHTO
○ SAND WITH CLAY	SP-SC	A-3

Project No.: 4122 94-0157
Project: EPA-SAS 08356-F-08
○ Location: Perimeter Well 22 65'-67' bgs

Date: 5-31-94

Remarks:
SAS Sample Number:
SFB 872
Tag Number:
6-016340

GRAIN SIZE DISTRIBUTION TEST REPORT
TWIN CITY TESTING CORPORATION

Figure No.41

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00159.0996

GRAIN SIZE DISTRIBUTION TEST DATA

Test No.: 2

Date: 5-31-94
Project No.: 4122 94-0157
Project: EPA-SAS 08356-F-08

Sample Data

Location of Sample: Perimeter Well 6
Sample Description: CLAYEY SAND
USCS: SC LL:
AASHTO: A-2-4(0.2) PI:

Notes

Remarks: SAS Sample Number: SFB 856
Tag Number: 6-015766
Station Location ID No.: AL-MW006-SB-02
Fig. No.: 42

Mechanical Analysis Data

Sieve	Size, mm	Percent finer
# 40	0.420	100.0
# 60	0.250	97.9
# 100	0.149	55.6
# 200	0.074	13.1

Hydrometer Analysis Data

Size, mm	Percent finer
0.0350	11.4
0.0223	10.4
0.0129	9.4
0.0092	8.5
0.0066	7.5
0.0032	6.6
0.0014	5.6

Remarks:

Fractional Components

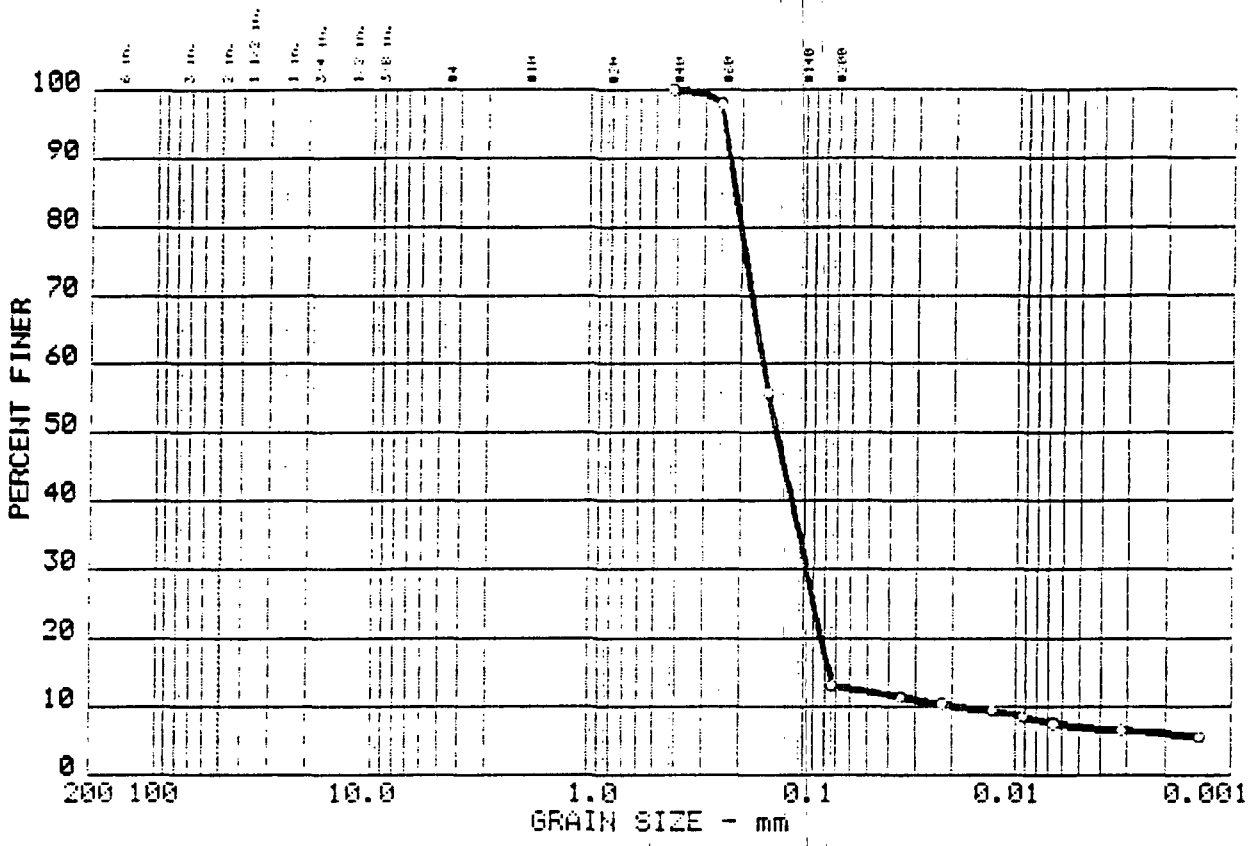
Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 0.0 % SAND = 86.9
% SILT = 6.1 % CLAY = 7.0

D85= 0.21 D60= 0.157 D50= 0.136
D30= 0.0977 D15= 0.07030 D10= 0.01768
Cc = 3.4316 Cu = 8.9023

46

00159.0997

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
o	2	0.0	0.0	86.9	6.1	7.0

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
o			0.21	0.16	0.14	0.098	0.0763	0.0177	3.43	8.9

MATERIAL DESCRIPTION	USCS	AASHTO
o CLAYEY SAND	SC	A-2-4(0.2)

Project No.: 4122 94-0157
Project: EPA-SAS 08356-F-08
o Location: Perimeter Well 6

Date: 5-31-94

Remarks:
SAS Sample Number:
SFB 856
Tag Number:
6-015766

GRAIN SIZE DISTRIBUTION TEST REPORT
TWIN CITY TESTING CORPORATION

Figure No.42

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00159.0998

GRAIN SIZE DISTRIBUTION TEST DATA

Test No.: 3

Date: 5-31-94
Project No.: 4122 94-0157
Project: EPA-SAS 08356-F-08

Sample Data

Location of Sample: Monitoring Well 42
Sample Description: SAND WITH CLAY
USCS: SP-SC LL:
AASHTO: A-3 PI:

Notes

Remarks: SAS Sample Number: SFB 842
Tag Number: 6-015500
Station Location ID No.: AL-MW042-SB-02
Fig. No.: 43

Mechanical Analysis Data

Sieve	Size, mm	Percent finer
# 40	0.420	100.0
# 60	0.250	84.2
# 100	0.149	30.7
# 200	0.074	7.1

Hydrometer Analysis Data

Size, mm	Percent finer
0.0361	6.5
0.0230	5.6
0.0134	4.6
0.0095	3.7
0.0067	3.7
0.0033	3.7
0.0014	3.7

Remarks:

Fractional Components

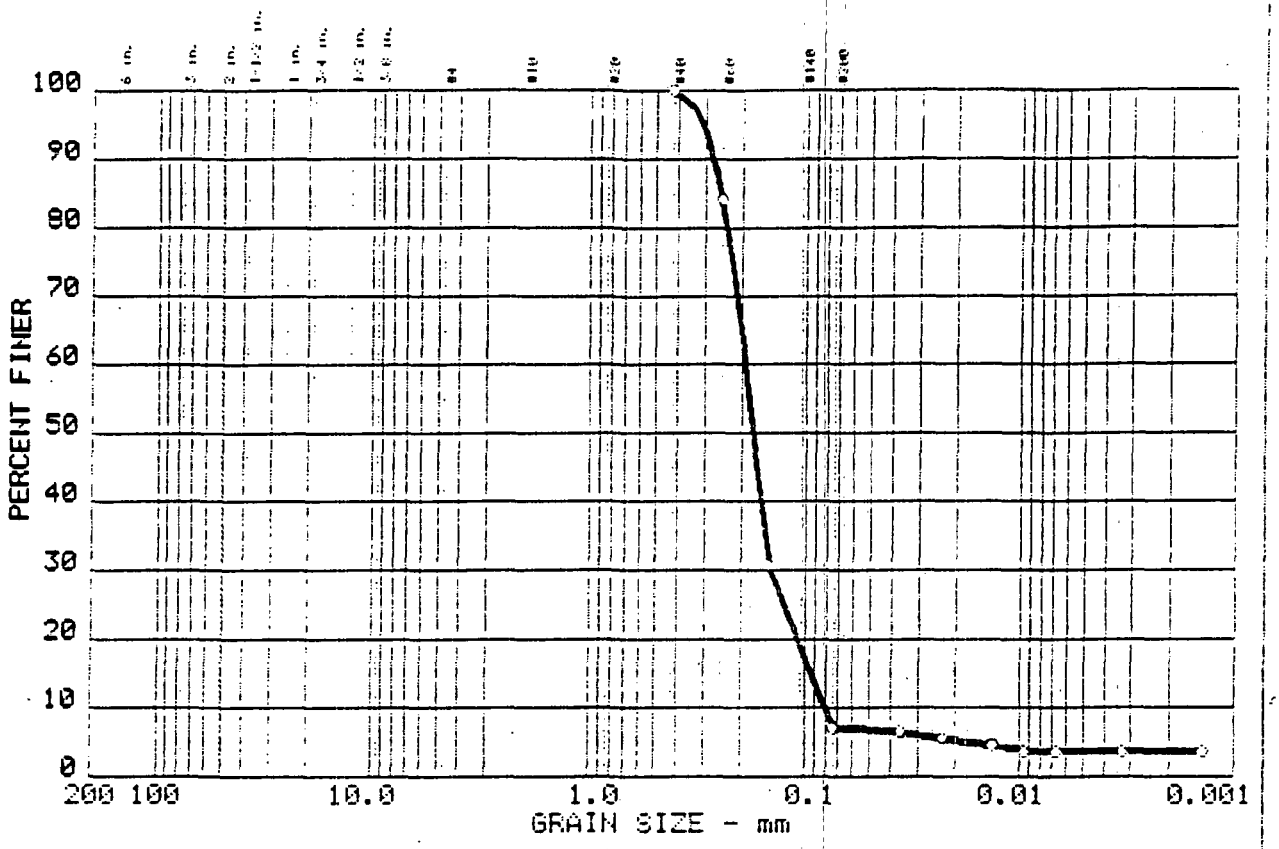
Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 0.0 % SAND = 92.9
% SILT = 3.4 % CLAY = 3.7

D85= 0.25 D60= 0.192 D50= 0.176
D30= 0.1459 D15= 0.09311 D10= 0.08063
Cc = 1.3772 Cu = 2.3768

48

00159.0999

GRAIN SIZE DISTRIBUTION TEST REPORT



Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
○ 3	0.0	0.0	92.9	3.4	3.7

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			0.25	0.19	0.18	0.146	0.0931	0.0806	1.38	2.4

MATERIAL DESCRIPTION	USCS	AASHTO
○ SAND WITH CLAY	SP-SC	A-3

Project No.: 4122 94-0157
Project: EPA-SAS 08356-F-08
○ Location: Monitoring Well 42

Date: 5-31-94

Remarks:
SAS Sample Number:
SFB 842
Tag Number:
6-015500

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GRAIN SIZE DISTRIBUTION TEST REPORT
TWIN CITY TESTING CORPORATION

Figure No.43

GRAIN SIZE DISTRIBUTION TEST DATA

Test No.: 4

Date: 5-31-94
Project No.: 4122 94-0157
Project: EPA-SAS 08356-F-08

Sample Data

Location of Sample: Monitoring Well 18
Sample Description: SAND WITH CLAY
USCS: SP-SC LL:
AASHTO: A-3 PI:

Notes

Remarks: SAS Sample Number: SFB 878
Tag Number: 6-016499
Station Location ID No.: AL-MW018-SB-02
Fig. No.: 44

Mechanical Analysis Data

Sieve	Size, mm	Percent finer
# 40	0.420	100.0
# 60	0.250	84.8
# 100	0.149	49.0
# 200	0.074	9.7

Hydrometer Analysis Data

Size, mm	Percent finer
0.0354	9.4
0.0226	8.5
0.0131	7.5
0.0093	6.6
0.0066	5.6
0.0032	5.6
0.0014	5.6

Remarks:

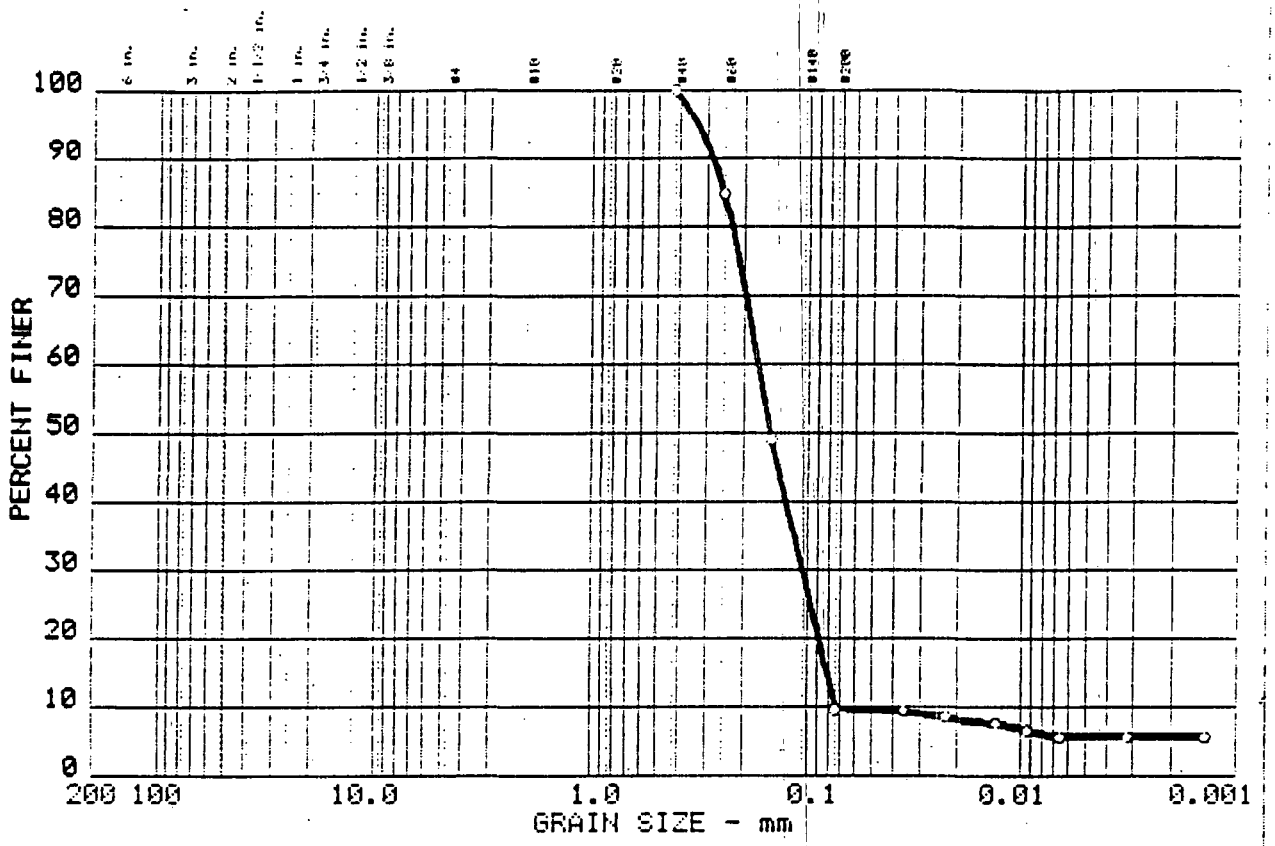
Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 0.0 % SAND = 90.3
% SILT = 4.1 % CLAY = 5.6

D85= 0.25 D60= 0.172 D50= 0.151
D30= 0.1062 D15= 0.08127 D10= 0.07438
Cc = 0.8831 Cu = 2.3067

50

GRAIN SIZE DISTRIBUTION TEST REPORT



Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
○ 4	0.0	0.0	90.3	4.1	5.6

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			0.25	0.17	0.15	0.106	0.0813	0.0744	0.88	2.3

MATERIAL DESCRIPTION	USCS	AASHTO
○ SAND WITH CLAY	SP-SC	A-3

Project No.: 4122 94-0157
Project: EPA-SAS 08356-F-08
○ Location: Monitoring Well 18

Date: 5-31-94

Remarks:
SAS Sample Number:
SFB 878
Tag Number:
6-016499

GRAIN SIZE DISTRIBUTION TEST REPORT
TWIN CITY TESTING CORPORATION

Figure No.44

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GRAIN SIZE DISTRIBUTION TEST DATA

Test No.: 5

Date: 5-31-94
Project No.: 4122 94-0157
Project: EPA-SAS 08356-F-08

Sample Data

Location of Sample: Monitoring Well 18
Sample Description: SAND WITH CLAY
USCS: SP-SC LL:
AASHTO: A-3 PI:

Notes

Remarks: SAS Sample Number: SFB 878 DUPLICATE
Tag Number: 6-016499
Station Location ID No.: AL-MW018-SB-02
Fig. No.: 45

Mechanical Analysis Data

Sieve	Size, mm	Percent finer
# 40	0.420	100.0
# 60	0.250	84.3
# 100	0.149	47.5
# 200	0.074	9.5

Hydrometer Analysis Data

Size, mm	Percent finer
0.0354	9.4
0.0226	8.5
0.0131	7.5
0.0093	6.6
0.0066	5.6
0.0032	5.6
0.0014	5.6

Remarks:

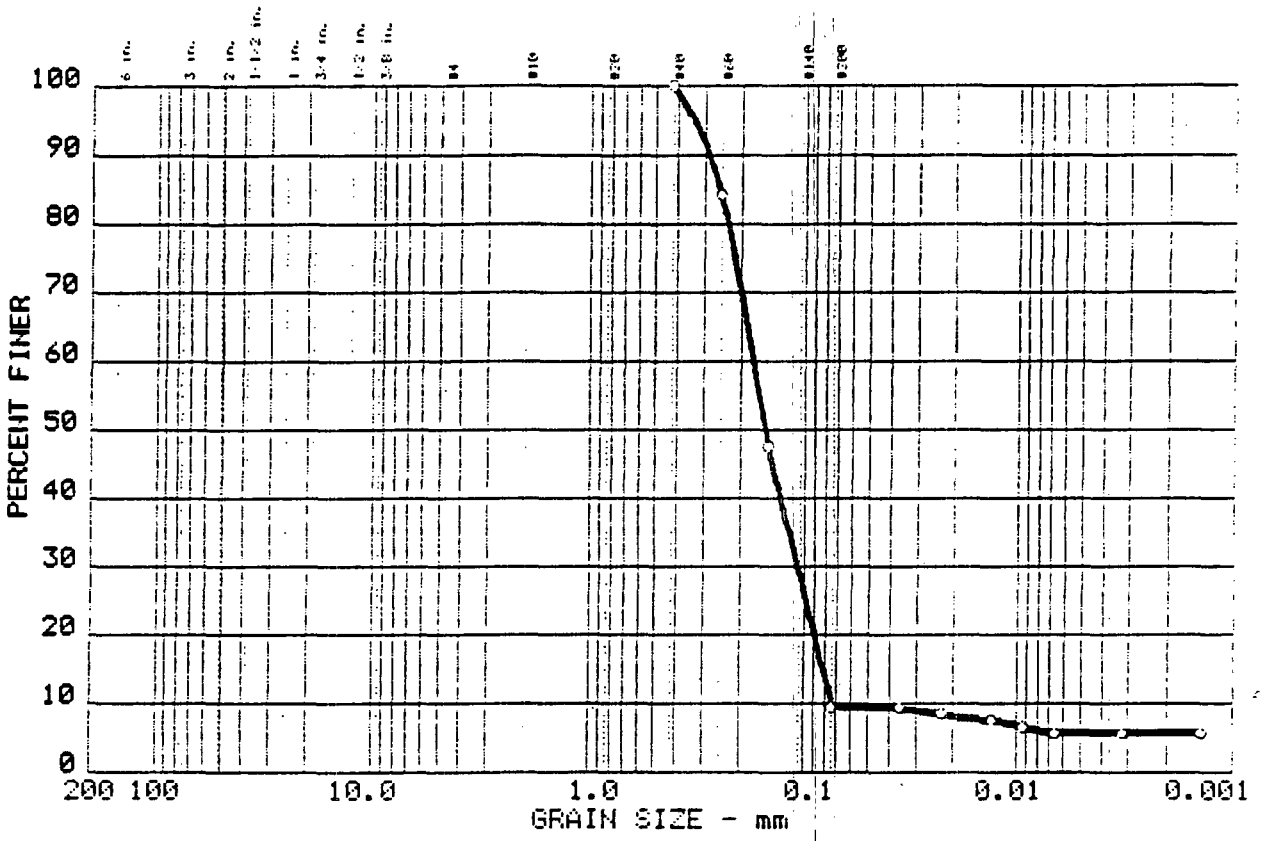
Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 0.0 % SAND = 90.5
% SILT = 3.9 % CLAY = 5.6

D85= 0.25 D60= 0.174 D50= 0.153
D30= 0.1079 D15= 0.08185 D10= 0.07464
Cc = 0.8954 Cu = 2.3335

52

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
o	5	0.0	0.0	90.5	3.9	5.6

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
o			0.25	0.17	0.15	0.108	0.0818	0.0746	0.90	2.3

MATERIAL DESCRIPTION	USCS	AASHTO
o SAND WITH CLAY	SP-SC	A-3

Project No.: 4122 94-0157
Project: EPA-SAS 08356-F-08
o Location: Monitoring Well 18

Date: 5-31-94

Remarks:
SAS Sample Number:
SFB 878 DUPLICATE
Tag Number:
6-016499

GRAIN SIZE DISTRIBUTION TEST REPORT
TWIN CITY TESTING CORPORATION

Figure No.45 53

00159.1004

SAMPLE LOG SUMMARY SHEET

Job No.:	4122 94-0157	Sample Delivery Group:	1
Project:	EPA-SAS	Date Samples Received:	5-12-94
SAS No.:	08356-F-08	Date Tests Completed:	5-23-94

Test No.	EPA-SAS Sample No.	Sta Loc. Identification No.	USCS Class	Group Symbol	% Finer #200	% Silt	% Clay
1	SF 9886	AL-MW023-SB-01	FAT CLAY	CH	100.0	12.7	87.3
2	SF 9887	AL-MW033-SB-02	FAT CLAY	CH	100.0	23.7	76.3
3	SF 9669	AL-MW011-SB-01	SILT WITH SAND	ML	78.1	72.1	6.0
4	SF 9669 DUP	AL-MW011-SB-01	SILT WITH SAND	ML	77.0	71.2	5.8
5	SF 9670	AL-MW017-SB-01	LEAN CLAY	CL	95.2	82.3	12.9
6	SF 9671	AL-MW015-SB-01	SANDY LEAN CLAY	CL	69.9	29.7	40.2
7	SF 9674	AL-MW029-SB-01	FAT CLAY	CH	91.4	15.0	76.4
8	SF 9790	AL-MW013-SB-01	LEAN CLAY	CL	89.7	74.8	14.9
9	SF 9794	AL-MW001-SB-01	LEAN CLAY	CL	97.7	60.5	37.2
10	SF 9795	AL-MW007-SB-01	LEAN CLAY	CL	98.1	59.6	38.5
11	SF 9798	AL-MW032-SB-05	SAND WITH SILT	SP-SM	9.1	6.9	2.2
12	SFB 897	AL-MW034-SB-04	SAND WITH CLAY	SP-SC	6.7	3.1	3.6
13	SFB 895	AL-MW021-SB-01	FAT CLAY	CH	93.0	11.7	81.3
14	SFB 896	AL-MW010-SB-02	SAND WITH CLAY	SP-SC	11.0	4.3	6.7
15	SFB 893	AL-MW028-SB-04	SAND WITH SILT	SP-SM	12.0	6.3	5.7
16	SFB 892	AL-MW019-SB-01	LEAN CLAY	CL	95.5	51.9	43.6
17	SFB 847	AL-MW027-SB-04	LEAN CLAY	CL	98.8	62.3	36.5
18	SFB 882	AL-MW002-SB-02	CLAYEY SAND	SC	30.9	12.0	18.9
19	SFB 891	AL-MW038-SB-05	FAT CLAY WITH SAND	CH	74.5	18.2	56.3
20	SFB 854	AL-MW004-SB-02	CLAYEY SAND	SC	43.5	22.7	20.8

3

GRAIN SIZE DISTRIBUTION TEST DATA Test No.: 1

Date: 5-23-94
Project No.: 4122 94-0157
Project: EPA-SAS 08356-F-08

Sample Data

Location of Sample: Perimeter Well 23
Sample Description: FAT CLAY
USCS: CH LL:
AASHTO: A-4(0.0) PI:

Notes

Remarks: SAS Sample Number: SF 9886
Tag Number: 6-015867
Station Location ID No.: AL-MW023-SB-01
Fig. No.: 1

Mechanical Analysis Data

Sieve	Size, mm	Percent finer
# 200	0.074	100.0

Hydrometer Analysis Data

Size, mm	Percent finer
0.0248	92.3
0.0159	90.6
0.0092	90.6
0.0066	88.8
0.0047	87.0
0.0024	81.7
0.0011	69.3

Remarks:

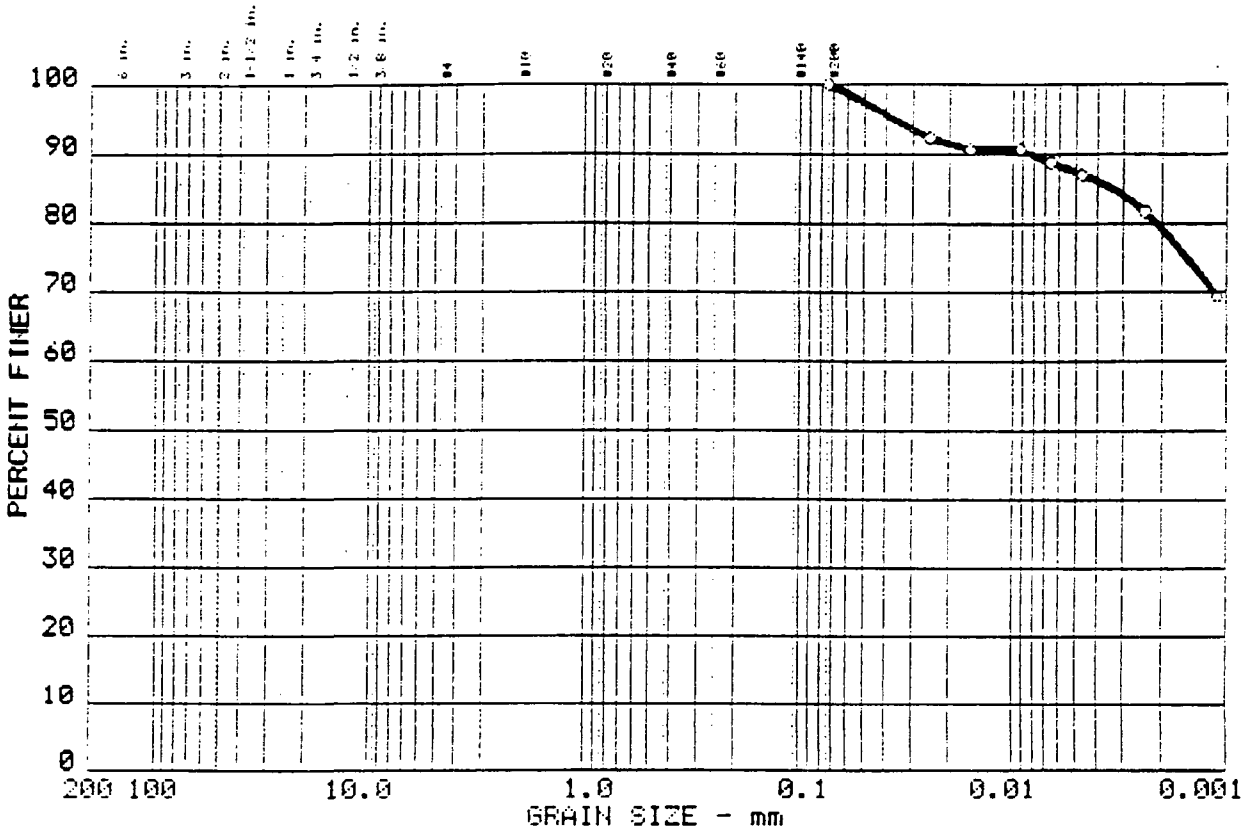
Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 0.0 % SAND = 0.0
% SILT = 12.7 % CLAY = 87.3

D85= 0.00

4

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
o	1	0.0	0.0	0.0	12.7	87.3

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
o										

MATERIAL DESCRIPTION	USCS	AASHTO
o FAT CLAY	CH	A-4(0.0)

Project No.: 4122 94-0157
Project: EPA-SAS 08356-F-08
o Location: Perimeter Well 23

Date: 5-23-94

Remarks:
SAS Sample Number:
SF 9886
Tag Number:
6-015867

GRAIN SIZE DISTRIBUTION TEST REPORT
TWIN CITY TESTING CORPORATION

Figure No. 1

5

GRAIN SIZE DISTRIBUTION TEST DATA Test No.: 2

Date: 5-23-94
Project No.: 4122 94-0157
Project: EPA-SAS 08356-F-08

Sample Data

Location of Sample: Interior Well 33
Sample Description: FAT CLAY
USCS: CH LL:
AASHTO: A-4(0.0) PI:

Notes

Remarks: SAS Sample Number: SF 9887
Tag Number: 6-015868
Station Location ID No.: AL-MW033-SB-02
Fig. No.: 2

Mechanical Analysis Data

Sieve	Size, mm	Percent finer
# 200	0.074	100.0

Hydrometer Analysis Data

Size, mm	Percent finer
0.0263	90.1
0.0166	90.1
0.0098	86.3
0.0071	82.5
0.0051	76.7
0.0027	65.3
0.0012	50.0

Remarks:

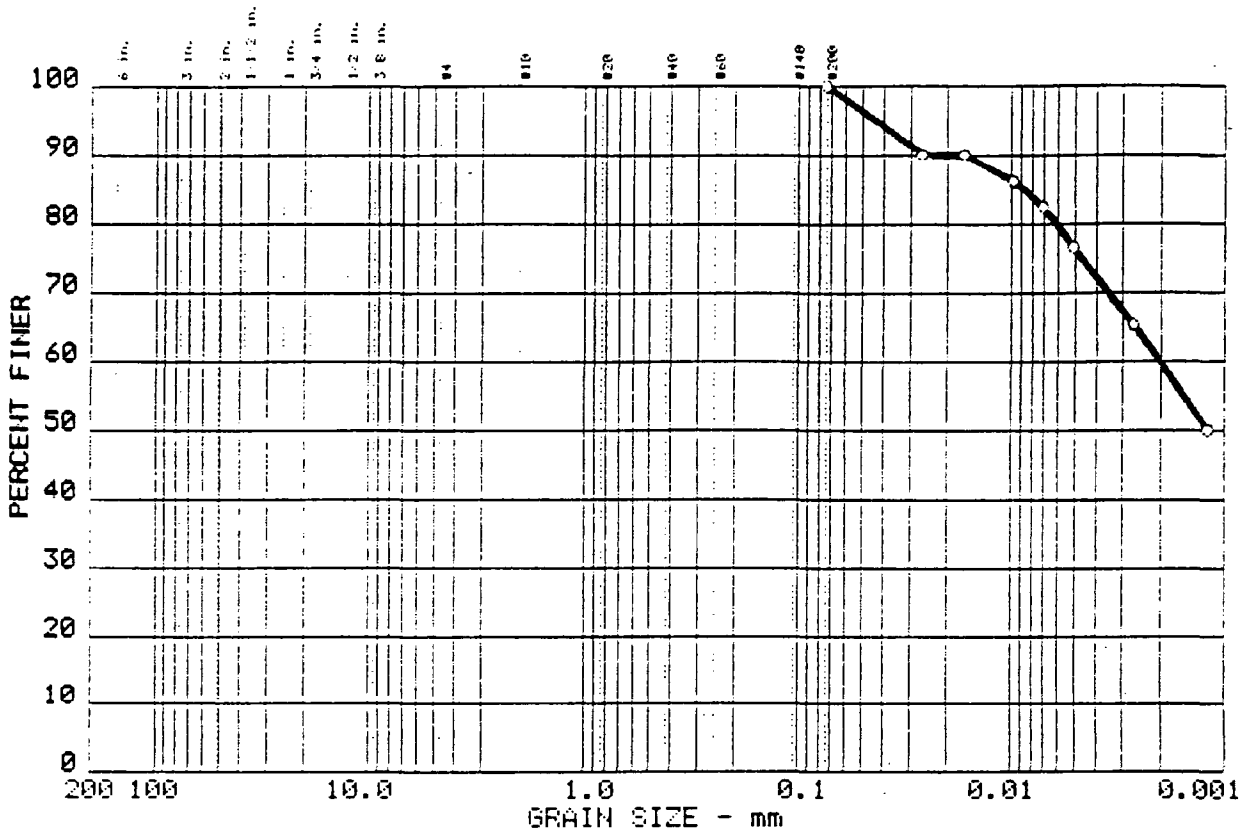
Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 0.0 % SAND = 0.0
% SILT = 23.7 % CLAY = 76.3

D85= 0.01 D60= 0.002

6

GRAIN SIZE DISTRIBUTION TEST REPORT



Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
○ 2	0.0	0.0	0.0	23.7	76.3

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○										

MATERIAL DESCRIPTION	USCS	AASHTO
○ FAT CLAY	CH	A-4(0.0)

Project No.: 4122 94-0157
Project: EPA-SAS 08356-F-08
○ Location: Interior Well 33

Date: 5-23-94

Remarks:
SAS Sample Number:
SF 9887
Tag Number:
6-015868

GRAIN SIZE DISTRIBUTION TEST REPORT
TWIN CITY TESTING CORPORATION

Figure No.2

7

GRAIN SIZE DISTRIBUTION TEST DATA Test No.: 3

Date: 5-23-94
Project No.: 4122 94-0157
Project: EPA-SAS 08356-F-08

Sample Data

Location of Sample: Perimeter Well 11
Sample Description: SILT WITH SAND
USCS: ML LL:
AASHTO: A-4(0.0) PI:

Notes

Remarks: SAS Sample Number: SF 9669
Tag Number: 6-015869
Station Location ID No.: AL-MW011-SB-01
Fig. No.: 3

Mechanical Analysis Data

Sieve	Size, mm	Percent finer
# 100	0.149	100.0
# 200	0.074	78.1

Hydrometer Analysis Data

Size, mm	Percent finer
0.0340	28.3
0.0225	15.3
0.0132	9.7
0.0094	7.8
0.0067	6.0
0.0033	6.0
0.0014	6.0

Remarks:

Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 0.0 % SAND = 21.9
% SILT = 72.1 % CLAY = 6.0

D85= 0.09 D60= 0.056 D50= 0.048
D30= 0.0352 D15= 0.02193 D10= 0.01384
Cc = 1.6088 Cu = 4.0133

8

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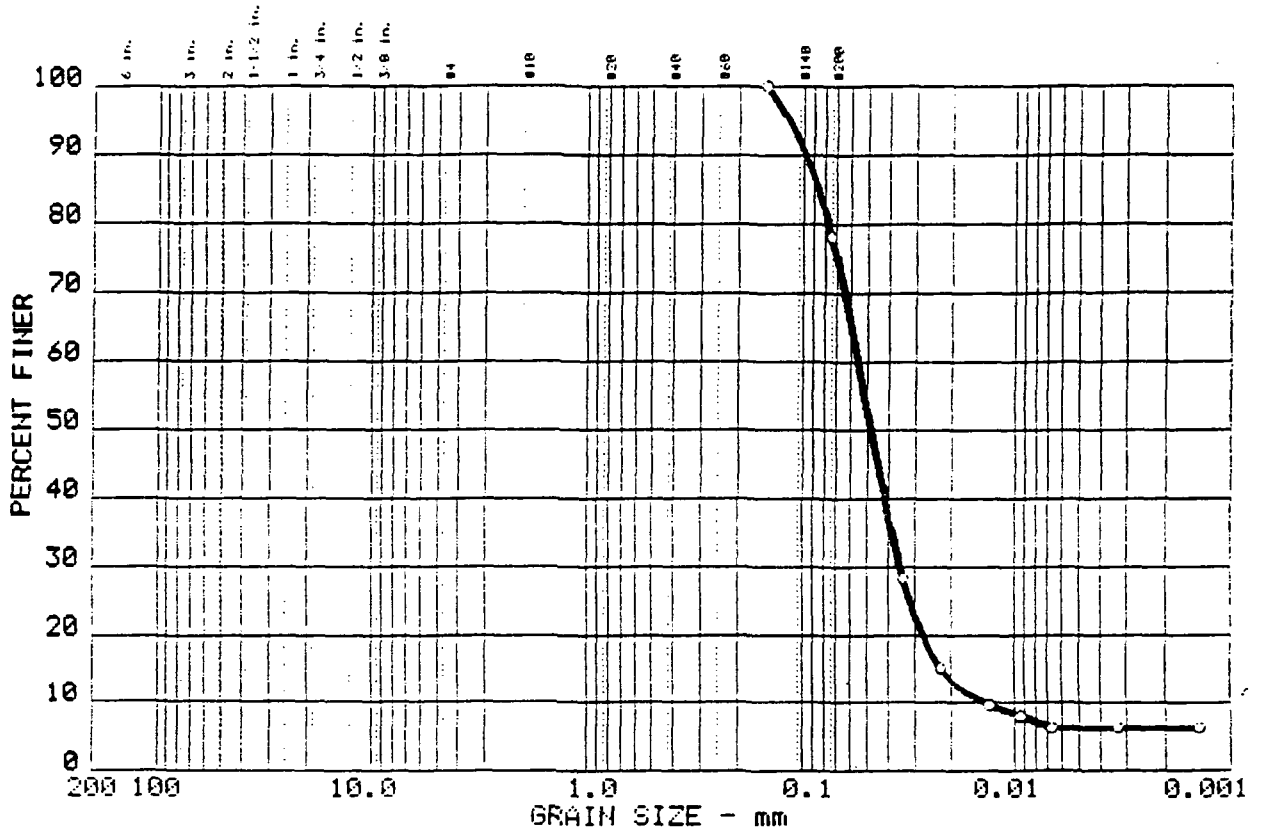
GRAIN SIZE DISTRIBUTION TEST REPORT



Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
○ 3	0.0	0.0	21.9	72.1	6.0

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			0.09		0.05	0.035	0.0219	0.0138	1.61	4.0

MATERIAL DESCRIPTION	USCS	AASHTO
○ SILT WITH SAND	ML	A-4(0.0)

Project No.: 4122 94-0157
Project: EPA-SAS 08356-F-08
○ Location: Perimeter Well 11

Date: 5-23-94

Remarks:
SAS Sample Number:
SF 9669
Tag Number:
6-015869

GRAIN SIZE DISTRIBUTION TEST REPORT
TWIN CITY TESTING CORPORATION

Figure No.3

9

GRAIN SIZE DISTRIBUTION TEST DATA Test No.: 4

Date: 5-23-94
Project No.: 4122 94-0157
Project: EPA-SAS 08356-F-08

Sample Data

Location of Sample: Perimeter Well 11
Sample Description: SILT WITH SAND
USCS: ML LL:
AASHTO: A-4(0.0) PI:

Notes

Remarks: SAS Sample Number: SF 9669 Duplicate
Tag Number: 6-015869
Station Location ID No.: AL-MW011-SB-01
Fig. No.: 4

Mechanical Analysis Data

Sieve	Size, mm	Percent finer
# 100	0.149	100.0
# 200	0.074	77.0

Hydrometer Analysis Data

Size, mm	Percent finer
0.0340	27.6
0.0225	14.9
0.0132	9.5
0.0094	7.6
0.0067	5.8
0.0033	5.8
0.0014	5.8

Remarks:

Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 0.0 % SAND = 23.0
% SILT = 71.2 % CLAY = 5.8

D85= 0.09 D60= 0.056 D50= 0.049
D30= 0.0356 D15= 0.02249 D10= 0.01419
Cc = 1.5867 Cu = 3.9765

10

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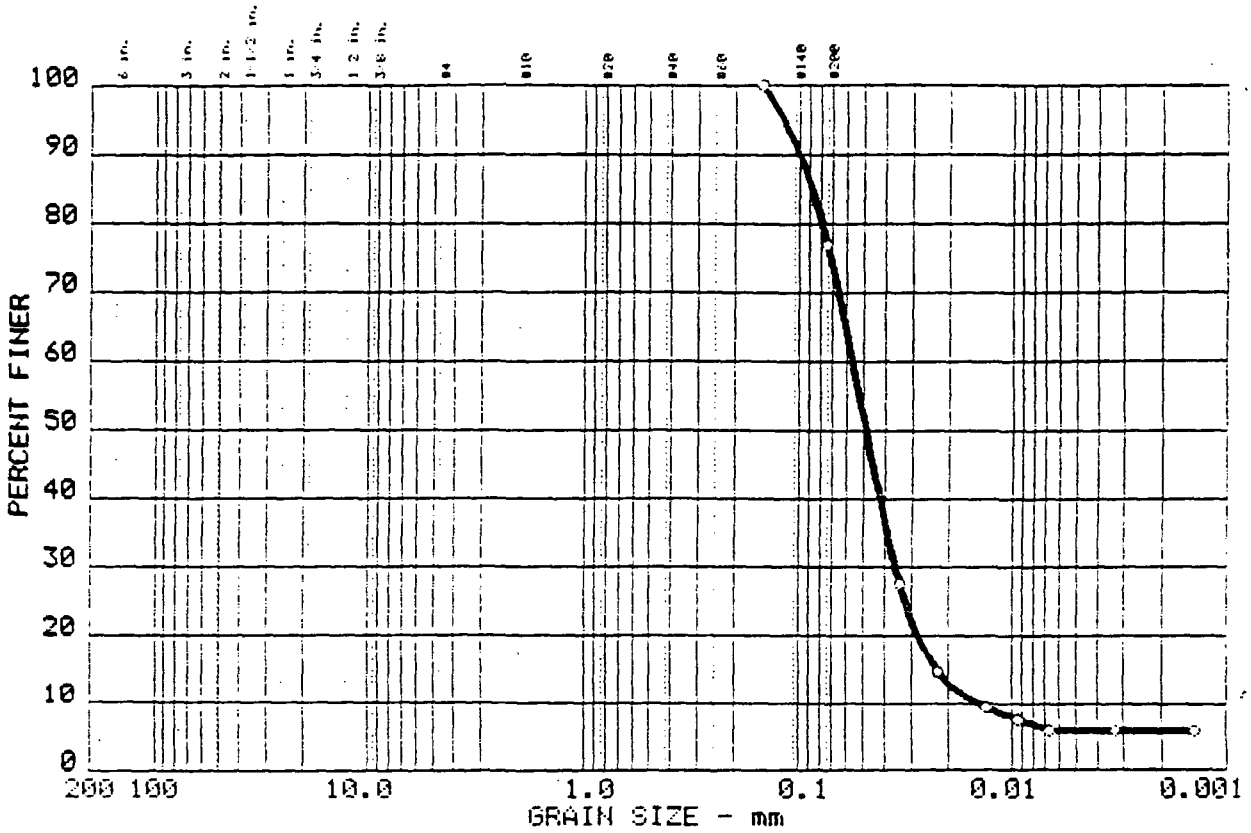
GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
o	4	0.0	0.0	23.0	71.2	5.8

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
o			0.09		0.05	0.036	0.0225	0.0142	1.59	4.0

MATERIAL DESCRIPTION	USCS	AASHTO
o SILT WITH SAND	ML	A-4(0.0)

Project No.: 4122 94-0157
Project: EPA-SAS 08356-F-08
o Location: Perimeter Well 11

Date: 5-23-94

Remarks:
SAS Sample Number:
SF 9669 Duplicate
Tag Number:
6-015869

GRAIN SIZE DISTRIBUTION TEST REPORT
TWIN CITY TESTING CORPORATION

Figure No.4

GRAIN SIZE DISTRIBUTION TEST DATA

Test No.: 5

Date: 5-23-94
Project No.: 4122 94-0157
Project: EPA-SAS 08356-F-08

Sample Data

Location of Sample: Perimeter Well 17
Sample Description: LEAN CLAY
USCS: CL LL:
AASHTO: A-4(0.0) PI:

Notes

Remarks: SAS Sample Number: SF 9670
Tag Number: 6-015870
Station Location ID No.: AL-MW017-SB-01
Fig. No.: 5

Mechanical Analysis Data

Sieve	Size, mm	Percent finer
# 60	0.250	100.0
# 100	0.149	99.3
# 200	0.074	95.2

Hydrometer Analysis Data

Size, mm	Percent finer
0.0307	54.3
0.0208	36.3
0.0126	23.7
0.0090	18.3
0.0065	14.7
0.0032	11.2
0.0013	9.4

Remarks:

Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 0.0 % SAND = 4.8
% SILT = 82.3 % CLAY = 12.9

D85= 0.06 D60= 0.035 D50= 0.028
D30= 0.0169 D15= 0.00667 D10= 0.00179
Cc = 4.5499 Cu = 19.5884

12

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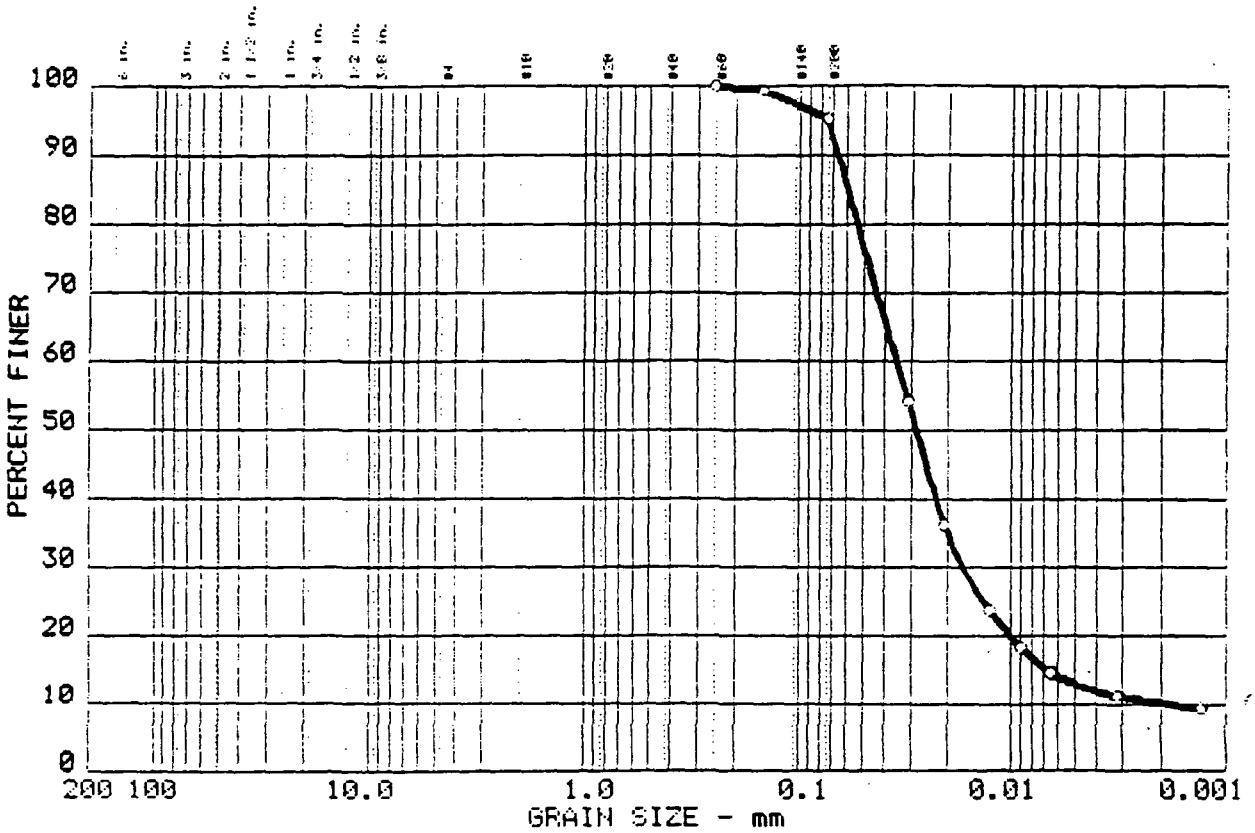
GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
○	5	0.0	0.0	4.8	82.3	12.9

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○					0.03	0.017	0.0067	0.0018	4.55	19.6

MATERIAL DESCRIPTION	USCS	AASHTO
○ LEAN CLAY	CL	A-4(0.0)

Project No.: 4122 94-0157
Project: EPA-SAS 08356-F-08
○ Location: Perimeter Well 17

Date: 5-23-94

Remarks:
SAS Sample Number:
SF 9670
Tag Number:
6-015870

GRAIN SIZE DISTRIBUTION TEST REPORT
TWIN CITY TESTING CORPORATION

Figure No.5

13

GRAIN SIZE DISTRIBUTION TEST DATA Test No.: 6

Date: 5-23-94
Project No.: 4122 94-0157
Project: EPA-SAS 08356-F-08

Sample Data

Location of Sample: Perimeter Well 15
Sample Description: SANDY LEAN CLAY
USCS: CL LL:
AASHTO: A-4(0.0) PI:

Notes

Remarks: SAS Sample Number: SF 9671
Tag Number: 6-015871
Station Location ID No.: AL-MW015-SB-01
Fig. No.: 6

Mechanical Analysis Data

Sieve	Size, mm	Percent finer
# 10	2.000	100.0
# 20	0.840	95.2
# 40	0.420	83.5
# 60	0.250	75.8
# 100	0.149	72.3
#200	0.074	69.9

Hydrometer Analysis Data

Size, mm	Percent finer
0.0275	66.1
0.0181	58.0
0.0108	51.5
0.0078	46.6
0.0057	41.8
0.0029	35.3
0.0012	28.8

Remarks:

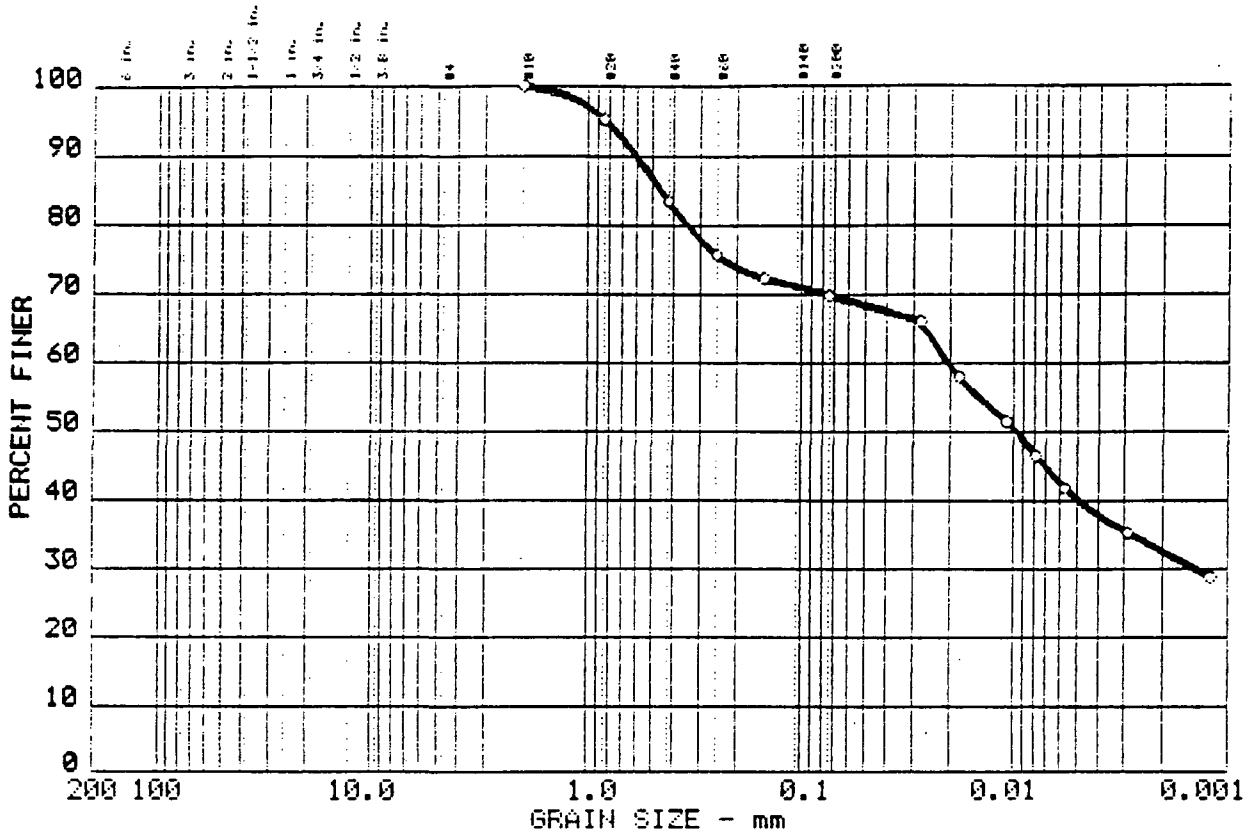
Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 0.0 % SAND = 30.1
% SILT = 29.7 % CLAY = 40.2

D85= 0.45 D60= 0.020 D50= 0.010
D30= 0.0014

14

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
○	6	0.0	0.0	30.1	29.7	40.2

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			0.45		0.01	0.001				

MATERIAL DESCRIPTION	USCS	AASHTO
○ SANDY LEAN CLAY	CL	A-4(0.0)

Project No.: 4122 94-0157
Project: EPA-SAS 08356-F-08
○ Location: Perimeter Well 15

Date: 5-23-94

Remarks:
SAS Sample Number:
SF 9671
Tag Number:
6-015871

GRAIN SIZE DISTRIBUTION TEST REPORT
TWIN CITY TESTING CORPORATION

Figure No. 6

15

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GRAIN SIZE DISTRIBUTION TEST DATA Test No.: 7

Date: 5-23-94
Project No.: 4122 94-0157
Project: EPA-SAS 08356-F-08

Sample Data

Location of Sample: Interior Well 29
Sample Description: FAT CLAY
USCS: CH LL:
AASHTO: A-4(0.0) PI:

Notes

Remarks: SAS Sample Number: SF 9674
Tag Number: 6-015872
Station Location ID No.: AL-MW029-SB-01
Fig. No.: 7

Mechanical Analysis Data

Sieve	Size, mm	Percent finer
# 20	0.840	100.0
# 40	0.420	97.7
# 60	0.250	94.7
# 100	0.149	92.9
# 200	0.074	91.4

Hydrometer Analysis Data

Size, mm	Percent finer
0.0191	77.6
0.0121	77.6
0.0070	77.6
0.0050	76.4
0.0036	75.3
0.0019	70.8
0.0009	60.7

Remarks:

Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 0.0 % SAND = 8.6
% SILT = 15.0 % CLAY = 76.4 (% CLAY COLLOIDS = 62.3)

D85= 0.04

16

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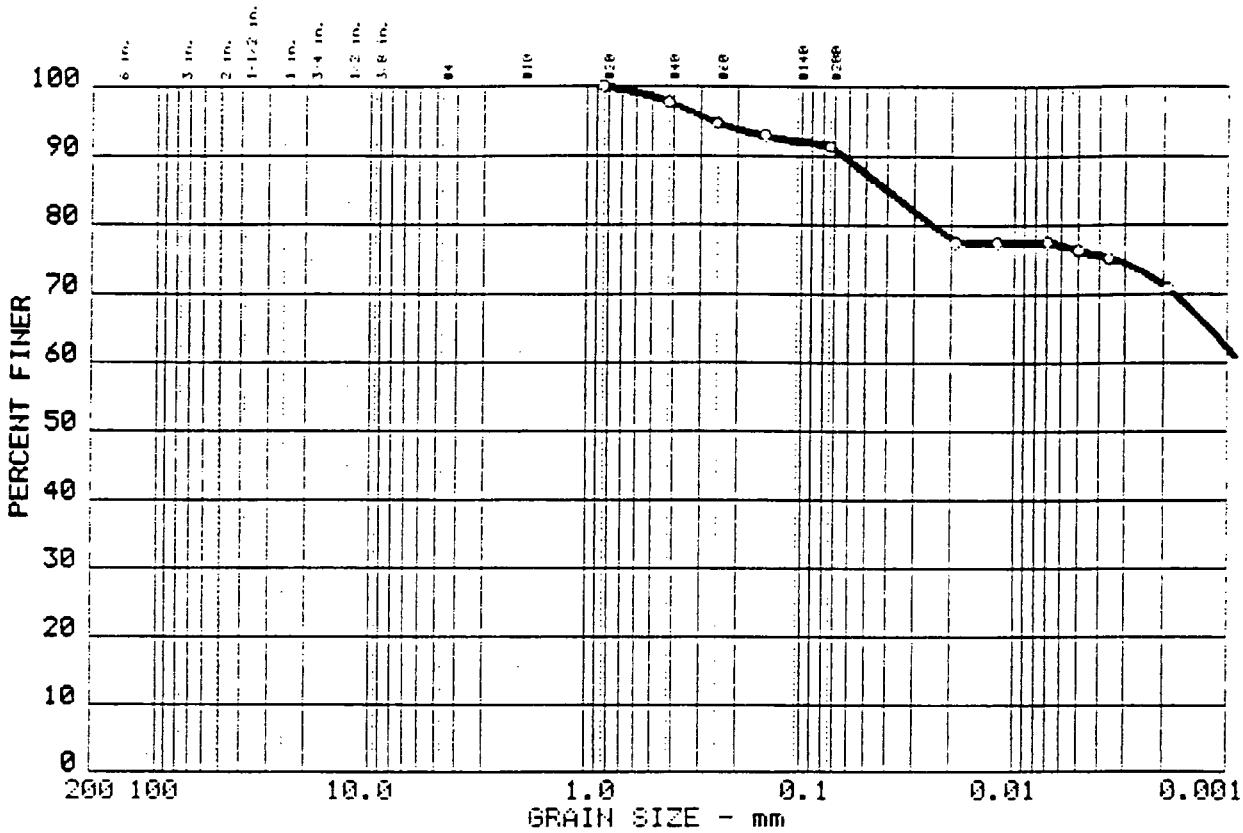
GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
○	7	0.0	0.0	8.6	15.0	76.4

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○										

MATERIAL DESCRIPTION	USCS	AASHTO
○ FAT CLAY	CH	A-4(0.0)

Project No.: 4122 94-0157
Project: EPA-SAS 08356-F-08
○ Location: Interior Well 29

Date: 5-23-94

Remarks:
SAS Sample Number:
SF 9674
Tag Number:
6-015872

GRAIN SIZE DISTRIBUTION TEST REPORT
TWIN CITY TESTING CORPORATION

Figure No.7

17

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GRAIN SIZE DISTRIBUTION TEST DATA

Test No.: 8

Date: 5-23-94
Project No.: 4122 94-0157
Project: EPA-SAS 08356-F-08

Sample Data

Location of Sample: Perimeter Well 13
Sample Description: LEAN CLAY
USCS: CL LL:
AASHTO: A-4(0.0) PI:

Notes

Remarks: SAS Sample Number: SF 9790
Tag Number: 6-014118
Station Location ID No.: AL-MW013-SB-01
Fig. No.: 8

Mechanical Analysis Data

Sieve	Size, mm	Percent finer
# 60	0.250	100.0
# 100	0.149	99.7
# 200	0.074	89.7

Hydrometer Analysis Data

Size, mm	Percent finer
0.0304	58.5
0.0204	43.5
0.0124	28.5
0.0089	22.9
0.0064	17.3
0.0032	13.5
0.0013	9.8

Remarks:

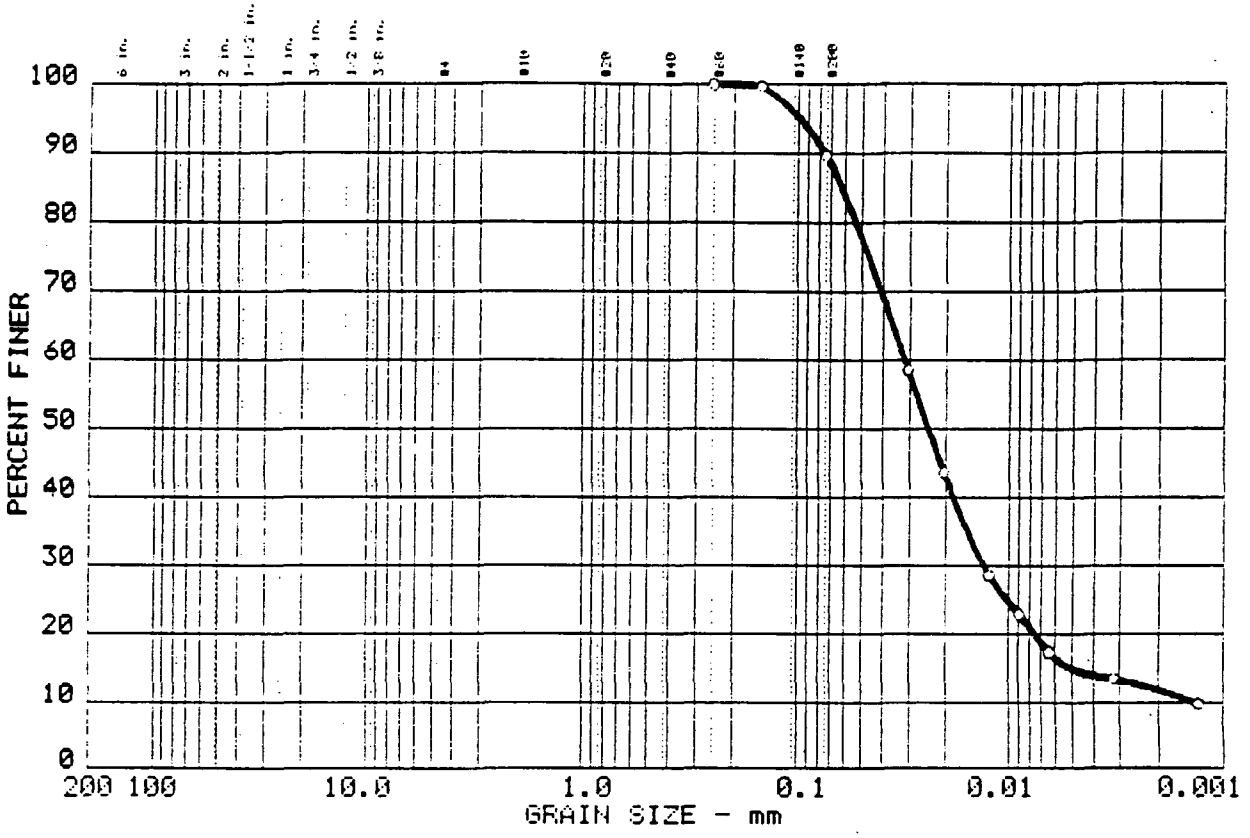
Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 0.0 % SAND = 10.3
% SILT = 74.8 % CLAY = 14.9

D85= 0.06 D60= 0.032 D50= 0.024
D30= 0.0132 D15= 0.00506 D10= 0.00135
Cc = 4.0738 Cu = 23.4423

18

GRAIN SIZE DISTRIBUTION TEST REPORT



Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
○ 8	0.0	0.0	10.3	74.8	14.9

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○					0.02	0.013	0.0051	0.0013	4.07	23.4

MATERIAL DESCRIPTION	USCS	AASHTO
○ LEAN CLAY	CL	A-4(0.0)

Project No.: 4122 94-0157
Project: EPA-SAS 08356-F-08
○ Location: Perimeter Well 13

Date: 5-23-94

Remarks:
SAS Sample Number:
SF 9790
Tag Number:
6-014118

GRAIN SIZE DISTRIBUTION TEST REPORT
TWIN CITY TESTING CORPORATION

Figure No.8

19

GRAIN SIZE DISTRIBUTION TEST DATA

Test No.: 9

Date: 5-23-94
Project No.: 4122 94-0157
Project: EPA-SAS 08356-F-08

Sample Data

Location of Sample: Monitoring Well 1
Sample Description: LEAN CLAY
USCS: CL LL:
AASHTO: A-4(0.0) PI:

Notes

Remarks: SAS Sample Number: SF 9794
Tag Number: 6-014260
Station Location ID No.: AL-MW001-SB-01
Fig. No.: 9

Mechanical Analysis Data

Sieve	Size, mm	Percent finer
# 60	0.250	100.0
# 100	0.149	99.5
# 200	0.074	97.7

Hydrometer Analysis Data

Size, mm	Percent finer
0.0278	70.2
0.0185	59.6
0.0111	49.0
0.0081	42.0
0.0058	38.4
0.0029	33.1
0.0012	27.9

Remarks:

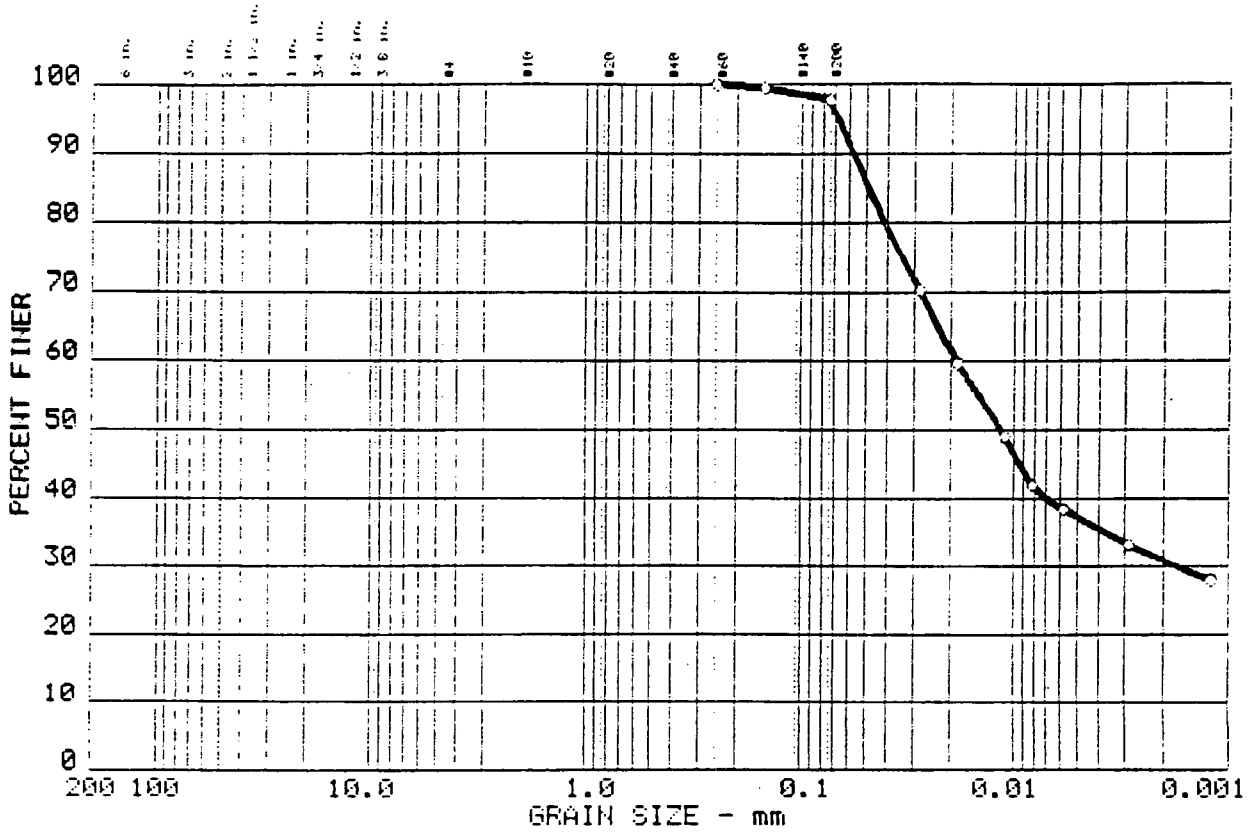
Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 0.0 % SAND = 2.3
% SILT = 60.5 % CLAY = 37.2

D85= 0.05 D60= 0.019 D50= 0.012
D30= 0.0018

20

GRAIN SIZE DISTRIBUTION TEST REPORT



Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
○ 9	0.0	0.0	2.3	60.5	37.2

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○					0.01	0.002				

MATERIAL DESCRIPTION	USCS	AASHTO
○ LEAN CLAY	CL	A-4(0.0)

Project No.: 4122 94-0157
Project: EPA-SAS 08356-F-08
○ Location: Monitoring Well 1

Date: 5-23-94

Remarks:
SAS Sample Number:
SF 9794
Tag Number:
6-014260

GRAIN SIZE DISTRIBUTION TEST REPORT
TWIN CITY TESTING CORPORATION

Figure No.9 21

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GRAIN SIZE DISTRIBUTION TEST DATA

Test No.: 10

Date: 5-23-94
Project No.: 4122 94-0157
Project: EPA-SAS 08356-F-08

Sample Data

Location of Sample: Perimeter Well 7 10'-12.5'
Sample Description: LEAN CLAY
USCS: CL LL:
AASHTO: A-4(0.0) PI:

Notes

Remarks: SAS Sample Number: SF 9795
Tag Number: 6-014754
Station Location ID No.: AL-MW007-SB-01
Fig. No.: 10

Mechanical Analysis Data

Sieve	Size, mm	Percent finer
# 60	0.250	100.0
# 100	0.149	99.5
# 200	0.074	98.1

Hydrometer Analysis Data

Size, mm	Percent finer
0.0262	81.9
0.0181	64.0
0.0109	55.0
0.0080	47.9
0.0058	40.8
0.0029	33.6
0.0012	28.2

Remarks:

Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 0.0 % SAND = 1.9
% SILT = 59.6 % CLAY = 38.5

D85= 0.03 D60= 0.016 D50= 0.009
D30= 0.0016

22

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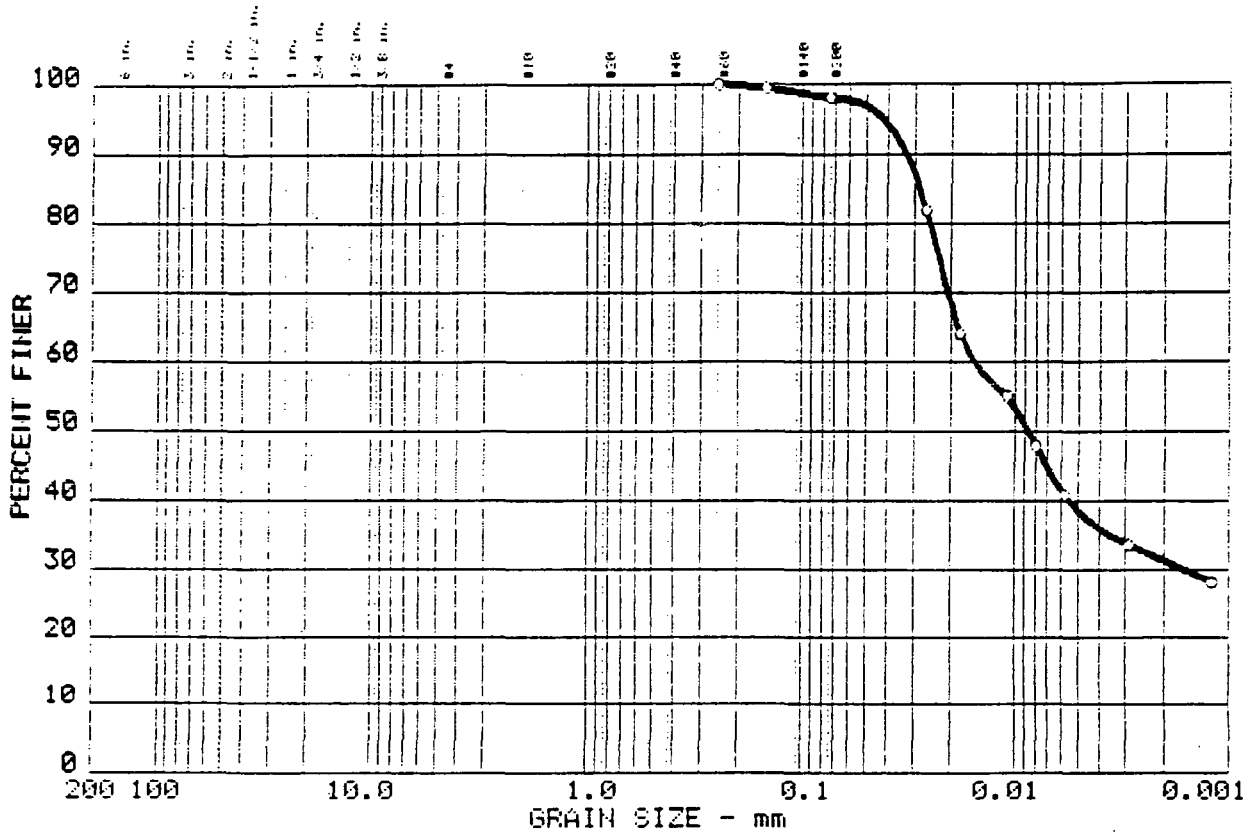
GRAIN SIZE DISTRIBUTION TEST REPORT



Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
○ 10	0.0	0.0	1.9	59.6	38.5

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○					0.01	0.002				

MATERIAL DESCRIPTION	USCS	AASHTO
○ LEAN CLAY	CL	A-4(0.0)

Project No.: 4122 94-0157
Project: EPA-SAS 08356-F-08
○ Location: Perimeter Well 7 10'-12.5'

Date: 5-23-94

Remarks:
SAS Sample Number:
SF 9795
Tag Number:
6-014754

GRAIN SIZE DISTRIBUTION TEST REPORT
TWIN CITY TESTING CORPORATION

Figure No.10

23

00159.1025

GRAIN SIZE DISTRIBUTION TEST DATA Test No.: 11

Date: 5-23-94
Project No.: 4122 94-0157
Project: EPA-SAS 08356-F-08

Sample Data

Location of Sample: Monitoring Well 32
Sample Description: SAND WITH SILT
USCS: SP-SM LL:
AASHTO: A-3 PI:

Notes

Remarks: SAS Sample Number: SF 9798
Tag Number: 6-015865
Station Location ID No.: AL-MW032-SB-05
Fig. No.: 11

Mechanical Analysis Data

Sieve	Size, mm	Percent finer
# 20	0.840	100.0
# 40	0.420	94.1
# 60	0.250	58.8
# 100	0.149	23.8
# 200	0.074	9.1

Hydrometer Analysis Data

Size, mm	Percent finer
0.0351	6.1
0.0223	5.2
0.0129	4.3
0.0092	3.4
0.0065	2.5
0.0032	1.6
0.0013	1.6

Remarks:

Fractional Components

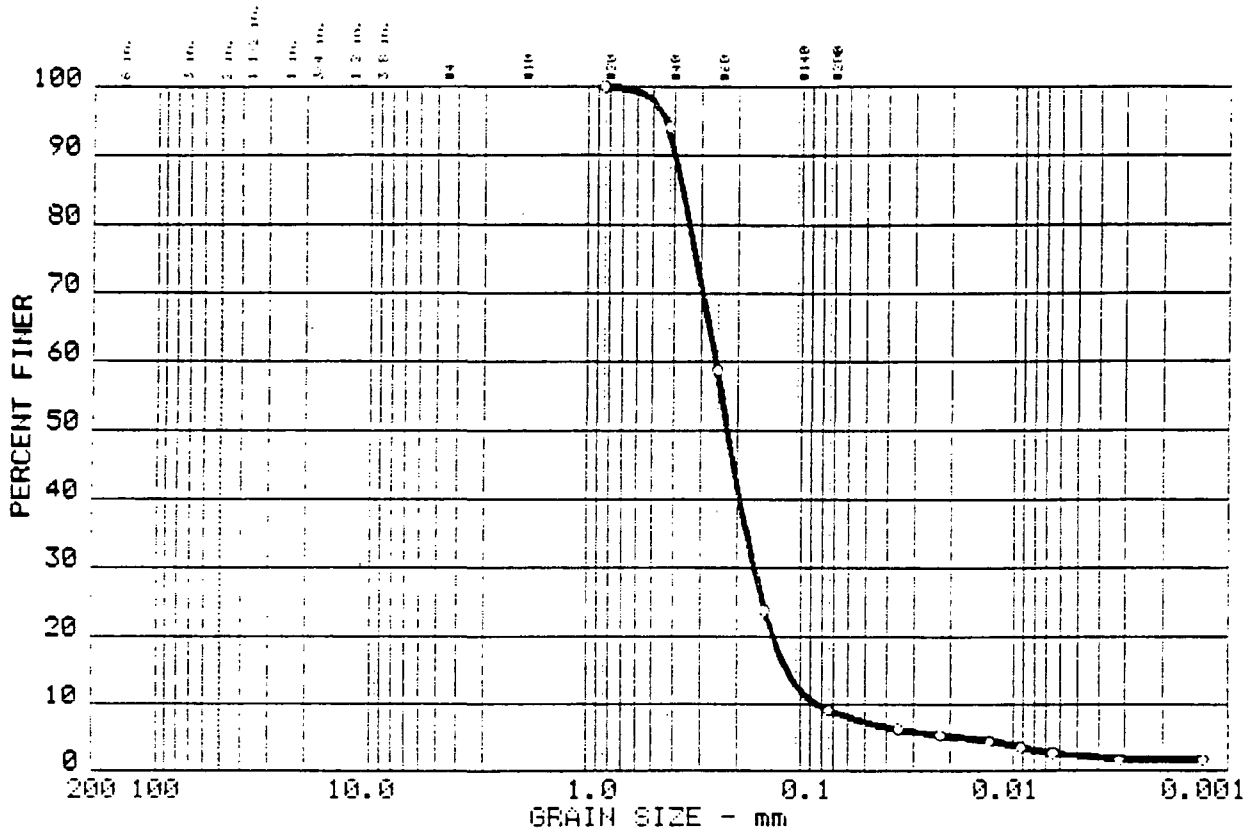
Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 0.0 % SAND = 90.9
% SILT = 6.9 % CLAY = 2.2

D85= 0.36 D60= 0.254 D50= 0.223
D30= 0.1671 D15= 0.11561 D10= 0.08375
Cc = 1.3122 Cu = 3.0339

24

00159.1026

GRAIN SIZE DISTRIBUTION TEST REPORT



Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
○ 11	0.0	0.0	90.9	6.9	2.2

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			0.36	0.25	0.22	0.167	0.1156	0.0838	1.31	3.0

MATERIAL DESCRIPTION	USCS	AASHTO
○ SAND WITH SILT	SP-SM	A-3

Project No.: 4122 94-0157
Project: EPA-SAS 08356-F-08
○ Location: Monitoring Well 32

Date: 5-23-94

Remarks:
SAS Sample Number:
SF 9798
Tag Number:
6-015865

GRAIN SIZE DISTRIBUTION TEST REPORT
TWIN CITY TESTING CORPORATION

Figure No.11

25

GRAIN SIZE DISTRIBUTION TEST DATA

Test No.: 12

Date: 5-23-94
Project No.: 4122 94-0157
Project: EPA-SAS 08356-F-08

Sample Data

Location of Sample: Interior Well 34
Sample Description: SAND WITH CLAY
USCS: SP-SC LL:
AASHTO: A-3 PI:

Notes

Remarks: SAS Sample Number: SFB 897
Tag Number: 6-015879
Station Location ID No.: AL-MW034-SB-04
Fig. No.: 12

Mechanical Analysis Data

Sieve	Size, mm	Percent finer
# 20	0.840	100.0
# 40	0.420	96.0
# 60	0.250	51.5
# 100	0.149	12.1
# 200	0.074	6.7

Hydrometer Analysis Data

Size, mm	Percent finer
0.0351	6.5
0.0223	5.5
0.0129	4.6
0.0092	3.6
0.0065	3.6
0.0032	3.6
0.0013	3.6

Remarks:

Fractional Components

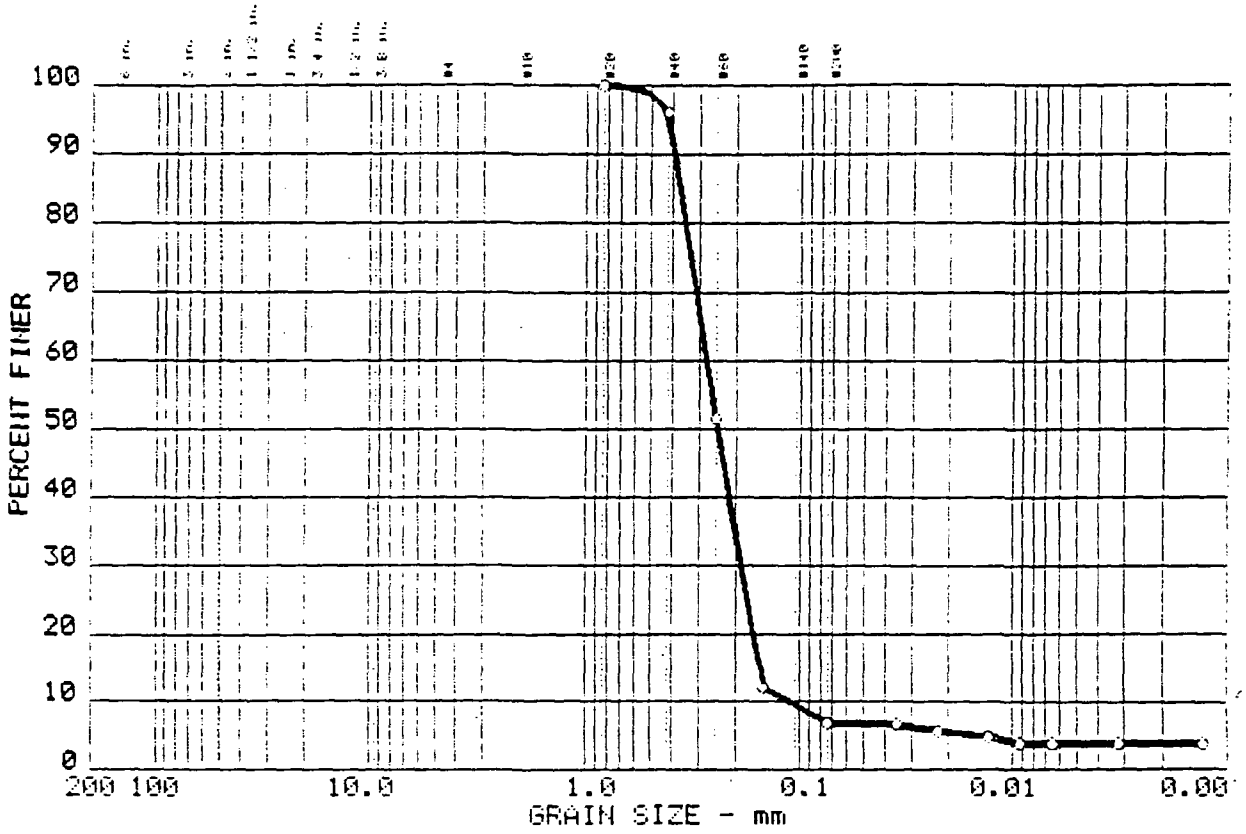
Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 0.0 % SAND = 93.3
% SILT = 3.1 % CLAY = 3.6

D85= 0.37 D60= 0.276 D50= 0.245
D30= 0.1884 D15= 0.15470 D10= 0.11337
Cc = 1.1350 Cu = 2.4322

26

00159.1028

GRAIN SIZE DISTRIBUTION TEST REPORT



Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
○ 12	0.0	0.0	93.3	3.1	3.6

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			0.37	0.28	0.24	0.188	0.1547	0.1134	1.14	2.4

MATERIAL DESCRIPTION	USCS	AASHTO
○ SAND WITH CLAY	SP-SC	A-3

Project No.: 4122 94-0157
Project: EPA-SAS 08356-F-08
○ Location: Interior Well 34

Date: 5-23-94

Remarks:
SAS Sample Number:
SFB 897
Tag Number:
6-015879

GRAIN SIZE DISTRIBUTION TEST REPORT
TWIN CITY TESTING CORPORATION

Figure No.12

27

00159.1029

GRAIN SIZE DISTRIBUTION TEST DATA

Test No.: 13

Date: 5-23-94
Project No.: 4122 94-0157
Project: EPA-SAS 08356-F-08

Sample Data

Location of Sample: Perimeter Well 21
Sample Description: FAT CLAY
USCS: CH LL:
AASHTO: A-4(0.0) PI:

Notes

Remarks: SAS Sample Number: SFB 895
Tag Number: 6-015698
Station Location ID No.: AL-MW021-SB-01
Fig. No.: 13

Mechanical Analysis Data

Sieve	Size, mm	Percent finer
# 20	0.840	100.0
# 40	0.420	95.7
# 60	0.250	94.6
# 100	0.149	93.7
# 200	0.074	93.0

Hydrometer Analysis Data

Size, mm	Percent finer
0.0237	90.8
0.0155	85.9
0.0091	84.3
0.0065	82.6
0.0046	81.0
0.0023	77.7
0.0011	63.0

Remarks:

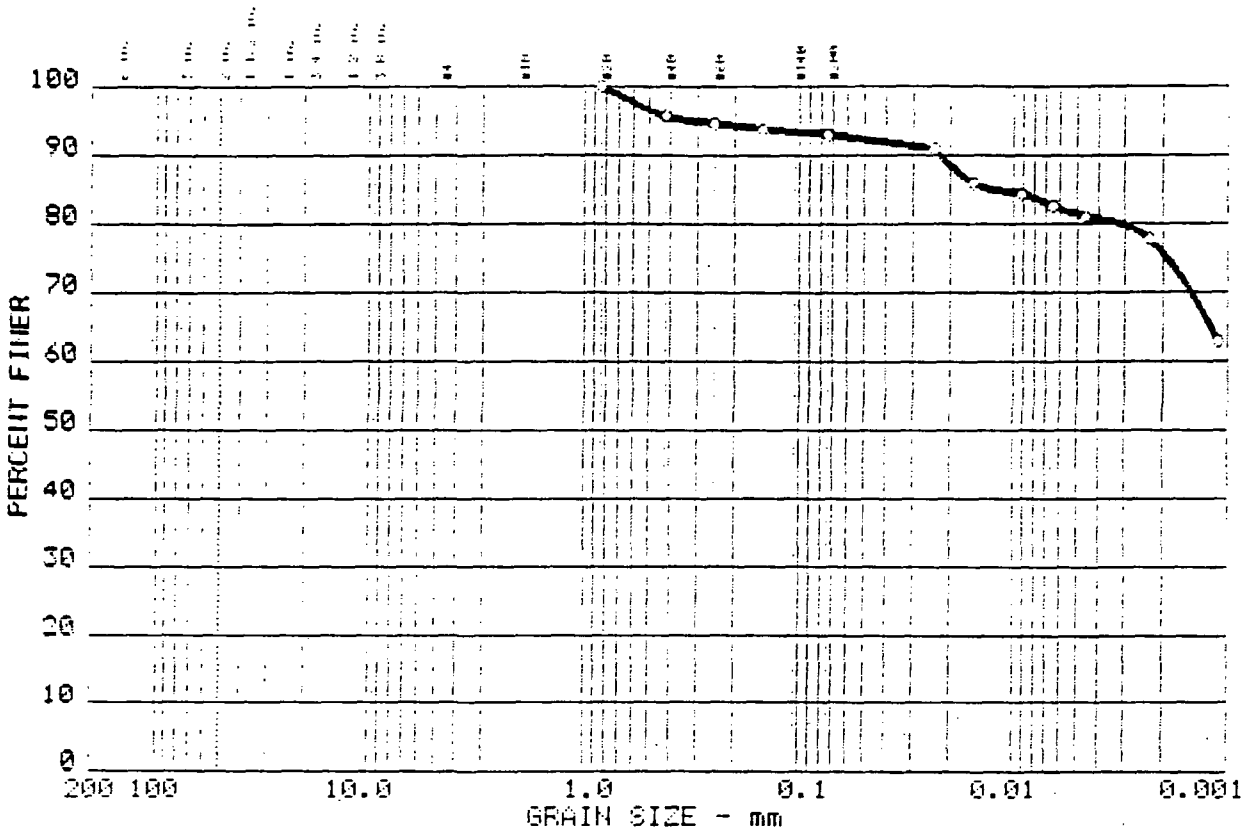
Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 0.0 % SAND = 7.0
% SILT = 11.7 % CLAY = 81.3

D85= 0.01

28

GRAIN SIZE DISTRIBUTION TEST REPORT



Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
○ 13	0.0	0.0	7.0	11.7	81.3

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○										

MATERIAL DESCRIPTION	USCS	AASHTO
○ FAT CLAY	CH	A-4(0.0)

Project No.: 4122 94-0157
Project: EPA-SAS 08356-F-08
○ Location: Perimeter Well 21

Date: 5-23-94

Remarks:
SAS Sample Number:
SFB 895
Tag Number:
6-015698

GRAIN SIZE DISTRIBUTION TEST REPORT
TWIN CITY TESTING CORPORATION

Figure No. 13

29

00159.1031

GRAIN SIZE DISTRIBUTION TEST DATA

Test No.: 14

Date: 5-23-94
Project No.: 4122 94-0157
Project: EPA-SAS 08356-F-08

Sample Data

Location of Sample: Perimeter Well 10
Sample Description: SAND WITH CLAY
USCS: SP-SC LL:
AASHTO: A-2-4(0.4) PI:

Notes

Remarks: SAS Sample Number: SFB 896
Tag Number: 6-015699
Station Location ID No.: AL-MW010-SB-02
Fig. No.: 14

Mechanical Analysis Data

Sieve	Size, mm	Percent finer
# 40	0.420	100.0
# 60	0.250	73.6
# 100	0.149	28.8
# 200	0.074	11.0

Hydrometer Analysis Data

Size, mm	Percent finer
0.0345	10.8
0.0219	9.9
0.0127	8.9
0.0091	8.0
0.0064	7.0
0.0032	6.1
0.0013	6.1

Remarks:

Fractional Components

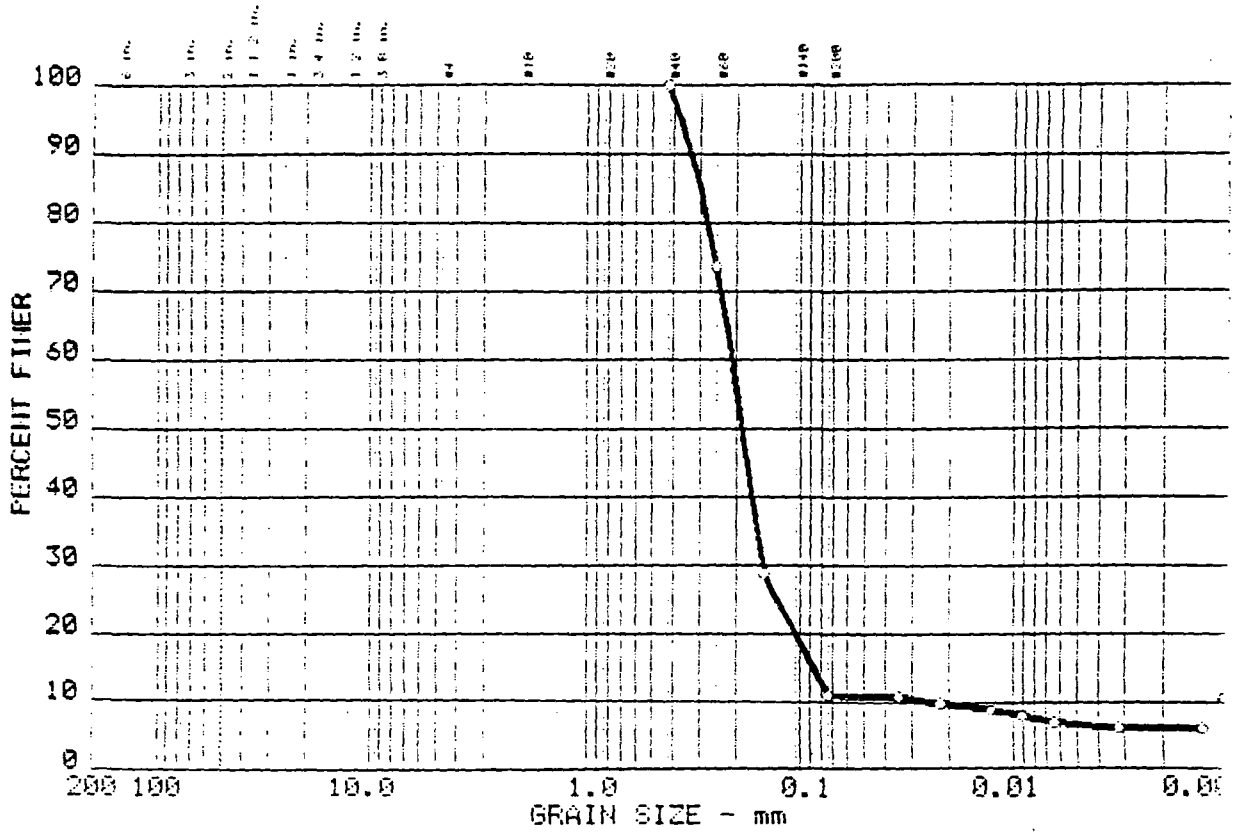
Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 0.0 % SAND = 89.0
% SILT = 4.3 % CLAY = 6.7

D85= 0.30 D60= 0.209 D50= 0.187
D30= 0.1510 D15= 0.08660 D10= 0.02331
Cc = 4.6827 Cu = 8.9640

30

00159.1032

GRAIN SIZE DISTRIBUTION TEST REPORT



Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
14	0.0	0.0	89.0	4.3	6.7

LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
		0.30	0.21	0.19	0.151	0.0866	0.0233	4.68	9.0

MATERIAL DESCRIPTION	USCS	AASHTO
SAND WITH CLAY	SP-SC	A-2-4(0.4

Project No.: 4122 94-0157
Project: EPA-SAS 08356-F-08
Location: Perimeter Well 10

Date: 5-23-94

Remarks:
SAS Sample Number:
SFB 896
Tag Number:
6-015699

GRAIN SIZE DISTRIBUTION TEST REPORT
TWIN CITY TESTING CORPORATION

Figure No.14

31

GRAIN SIZE DISTRIBUTION TEST DATA

Test No.: 15

Date: 5-23-94
Project No.: 4122 94-0157
Project: EPA-SAS 08356-F-08

Sample Data

Location of Sample: Interior Well 28
Sample Description: SAND WITH SILT
USCS: SP-SM LL:
AASHTO: A-2-4(0.3) PI:

Notes

Remarks: SAS Sample Number: SFB 893
Tag Number: 6-015887
Station Location ID No.: AL-MW028-SB-04
Fig. No.: 15

Mechanical Analysis Data

Sieve	Size, mm	Percent finer
# 20	0.840	100.0
# 40	0.420	86.8
# 60	0.250	47.8
# 100	0.149	25.5
# 200	0.074	12.0

Hydrometer Analysis Data

Size, mm	Percent finer
0.0345	10.6
0.0220	8.8
0.0128	7.9
0.0091	6.9
0.0065	6.0
0.0032	5.1
0.0013	5.1

Remarks:

Fractional Components

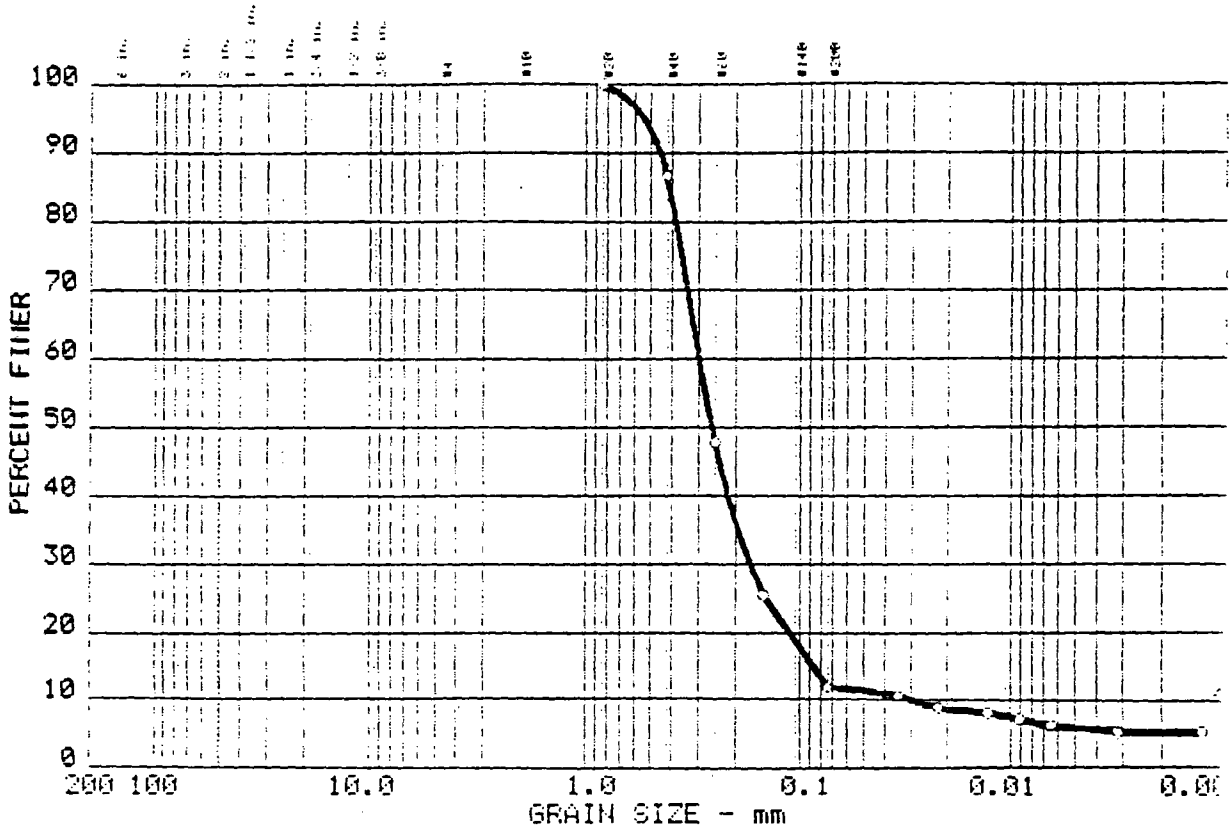
Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 0.0 % SAND = 88.0
% SILT = 6.3 % CLAY = 5.7

D85= 0.41 D60= 0.298 D50= 0.259
D30= 0.1710 D15= 0.08570 D10= 0.03041
Cc = 3.2285 Cu = 9.7949

32

00159.1034

GRAIN SIZE DISTRIBUTION TEST REPORT



Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
15	0.0	0.0	88.0	6.3	5.7

LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
		0.41	0.30	0.26	0.171	0.0857	0.0304	3.23	9.8

MATERIAL DESCRIPTION	USCS	AASHTO
SAND WITH SILT	SP-SM	A-2-4(0.3

Project No.: 4122 94-0157
Project: EPA-SAS 08356-F-08
Location: Interior Well 28

Date: 5-23-94

Remarks:
SAS Sample Number:
SFB 893
Tag Number:
6-015887

GRAIN SIZE DISTRIBUTION TEST REPORT
TWIN CITY TESTING CORPORATION

Figure No.15

33

00159.1035

GRAIN SIZE DISTRIBUTION TEST DATA Test No.: 16

Date: 5-23-94
Project No.: 4122 94-0157
Project: EPA-SAS 08356-F-08

Sample Data

Location of Sample: Perimeter Well 19
Sample Description: LEAN CLAY
USCS: CL LL:
AASHTO: A-4(0.0) PI:

Notes

Remarks: SAS Sample Number: SFB 892
Tag Number: 6-015888
Station Location ID No.: AL-MW019-SB-01
Fig. No.: 16

Mechanical Analysis Data

Sieve	Size, mm	Percent finer
# 40	0.420	100.0
# 60	0.250	99.1
# 100	0.149	97.4
# 200	0.074	95.5

Hydrometer Analysis Data

Size, mm	Percent finer
0.0265	81.6
0.0181	67.3
0.0108	60.1
0.0079	52.9
0.0057	45.7
0.0029	38.6
0.0012	31.4

Remarks:

Fractional Components

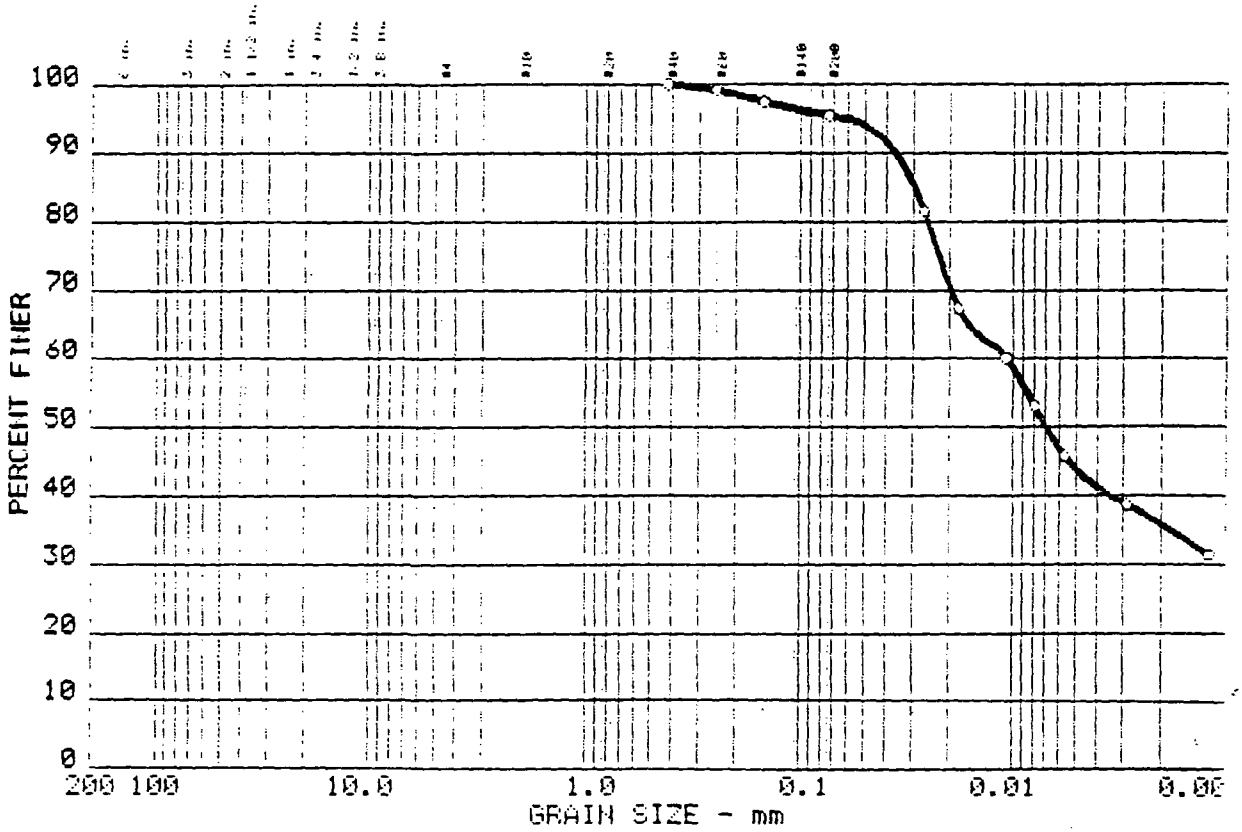
Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
+ 3 in. = 0.0 % GRAVEL = 0.0 % SAND = 4.5
SILT = 51.9 % CLAY = 43.6

D35= 0.03 D60= 0.011 D50= 0.007

34

00159.1036

GRAIN SIZE DISTRIBUTION TEST REPORT



Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
○ 16	0.0	0.0	4.5	51.9	43.6

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○					0.01					

MATERIAL DESCRIPTION	USCS	AASHTO
○ LEAN CLAY	CL	A-4(0.0)

Project No.: 4122 94-0157
Project: EPA-SAS 08356-F-08
○ Location: Perimeter Well 19

Date: 5-23-94

Remarks:
SAS Sample Number:
SFB 892
Tag Number:
6-015888

GRAIN SIZE DISTRIBUTION TEST REPORT
TWIN CITY TESTING CORPORATION

Figure No.16

35

00159.1037

GRAIN SIZE DISTRIBUTION TEST DATA

Test No.: 17

Date: 5-23-94
Project No.: 4122 94-0157
Project: EPA-SAS 08356-F-08

Sample Data

Location of Sample: Interior Well 27
Sample Description: LEAN CLAY
USCS: CL LL:
AASHTO: A-4(0.0) PI:

Notes

Remarks: SAS Sample Number: SFB 847
Tag Number: 6-015767
Station Location ID No.: AL-MW027-SB-04
Fig. No.: 17

Mechanical Analysis Data

Sieve	Size, mm	Percent finer
# 100	0.149	100.0
# 200	0.074	98.8

Hydrometer Analysis Data

Size, mm	Percent finer
0.0265	81.1
0.0183	63.3
0.0112	50.8
0.0082	43.7
0.0059	38.3
0.0029	33.0
0.0013	27.6

Remarks:

Fractional Components

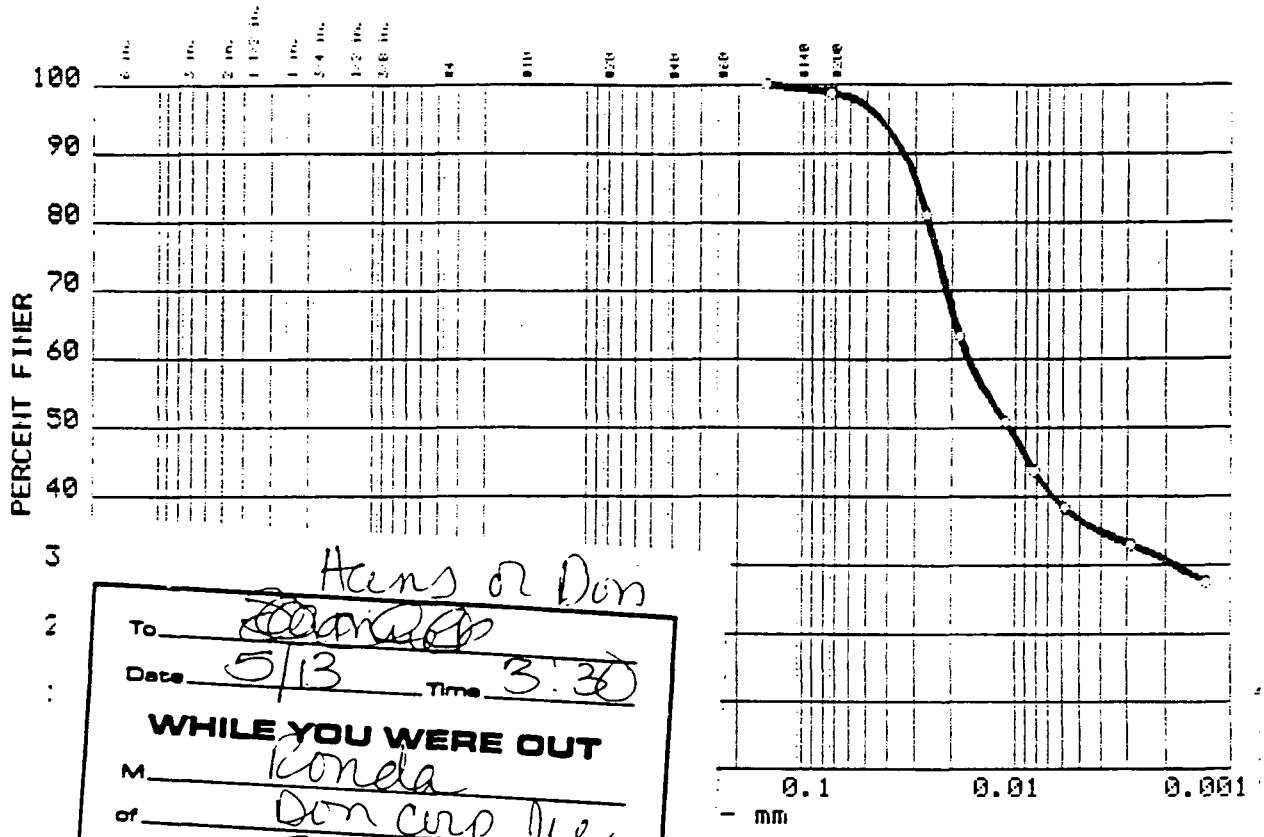
Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 0.0 % SAND = 1.2
% SILT = 62.3 % CLAY = 36.5

D85= 0.03 D60= 0.017 D50= 0.011
D30= 0.0018

36

00159.1038

GRAIN SIZE DISTRIBUTION TEST REPORT



Hans or Don

To

Date 5/13 Time 3:30

WHILE YOU WERE OUT

M Ronda

of Don Corp Inc

Phone 703-519-1447

Area Code Number Extension

TELEPHONED		✓ PLEASE CALL	
CALLED TO SEE YOU		WILL CALL AGAIN	
WANTS TO SEE YOU		URGENT	
RETURNED YOUR CALL			

Message

Operator

AMPAD EFFICIENCY®

Z3-021 - 200 SETS
Z3-421 - 400 SETS

CARBONLESS

72

	% SILT	% CLAY
	62.3	36.5

30	D_{15}	D_{10}	C_c	C_u
02				

USCS	AASHTO
CL	A-4(0.0)

Remarks:

SAS Sample Number:

SFB 847

Tag Number:

6-015767

Date: 5-23-94

GRAIN SIZE DISTRIBUTION TEST REPORT

TWIN CITY TESTING CORPORATION

Figure No.17

37

00159.1039

GRAIN SIZE DISTRIBUTION TEST DATA Test No.: 18

Date: 5-23-94
Project No.: 4122 94-0157
Project: EPA-SAS 08356-F-08

Sample Data

Location of Sample: Perimeter Well 2
Sample Description: CLAYEY SAND
USCS: SC LL:
AASHTO: A-2-4(0.0) PI:

Notes

Remarks: SAS Sample Number: SFB 882
Tag Number: 6-015898
Station Location ID No.: AL-MW002-SB-02
Fig. No.: 18

Mechanical Analysis Data

Sieve	Size, mm	Percent finer
# 40	0.420	100.0
# 60	0.250	87.9
# 100	0.149	48.6
# 200	0.074	30.9

Hydrometer Analysis Data

Size, mm	Percent finer
0.0305	27.5
0.0197	24.7
0.0116	21.9
0.0083	20.1
0.0059	19.1
0.0029	18.2
0.0012	15.4

Remarks:

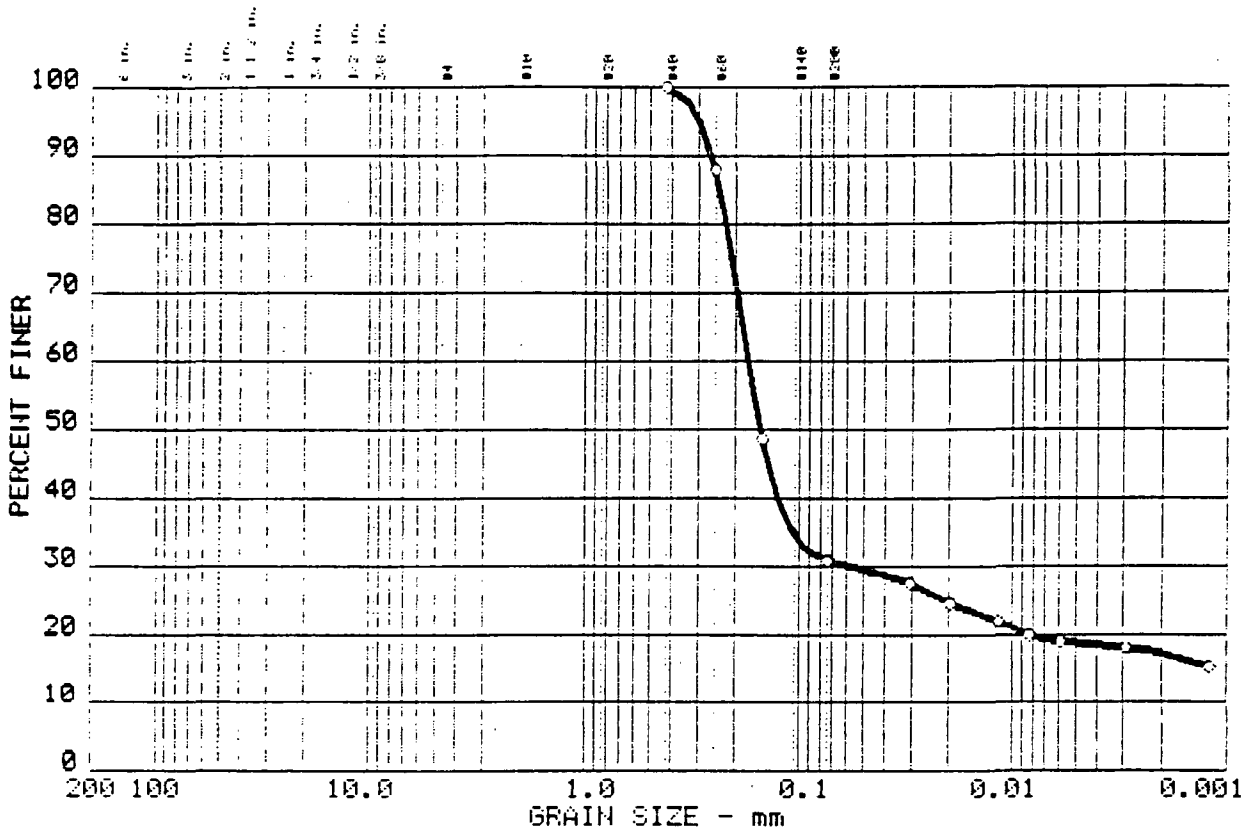
Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 0.0 % SAND = 69.1
% SILT = 12.0 % CLAY = 18.9

D85= 0.24 D60= 0.174 D50= 0.152
D30= 0.0585

38

GRAIN SIZE DISTRIBUTION TEST REPORT



Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
○ 18	0.0	0.0	69.1	12.0	18.9

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			0.24	0.17	0.15	0.058				

MATERIAL DESCRIPTION	USCS	AASHTO
○ CLAYEY SAND	SC	A-2-4(0.0)

Project No.: 4122 94-0157
Project: EPA-SAS 08356-F-08
○ Location: Perimeter Well 2

Date: 5-23-94

Remarks:
SAS Sample Number:
SFB 882
Tag Number:
6-015898

GRAIN SIZE DISTRIBUTION TEST REPORT
TWIN CITY TESTING CORPORATION

Figure No.18

39

00159.1041

GRAIN SIZE DISTRIBUTION TEST DATA

Test No.: 19

e: 5-23-94
ject No.: 4122 94-0157
Project: EPA-SAS 08356-F-08

Sample Data

Location of Sample: Interior Well 38
Sample Description: FAT CLAY WITH SAND
USCS: CH LL:
AASHTO: A-4(0.0) PI:

Notes

Remarks: SAS Sample Number: SFB 891
Tag Number: 6-014498
Station Location ID No.: AL-MW038-SB-05
Fig. No.: 19

Mechanical Analysis Data

Sieve	Size, mm	Percent finer
# 10	2.000	100.0
# 20	0.840	93.9
# 40	0.420	88.1
# 60	0.250	81.8
# 100	0.149	78.2
# 200	0.074	74.5

Hydrometer Analysis Data

Size, mm	Percent finer
0.0198	62.4
0.0129	60.6
0.0077	58.7
0.0056	56.9
0.0041	55.0
0.0022	48.5
0.0010	38.4

Remarks:

Fractional Components

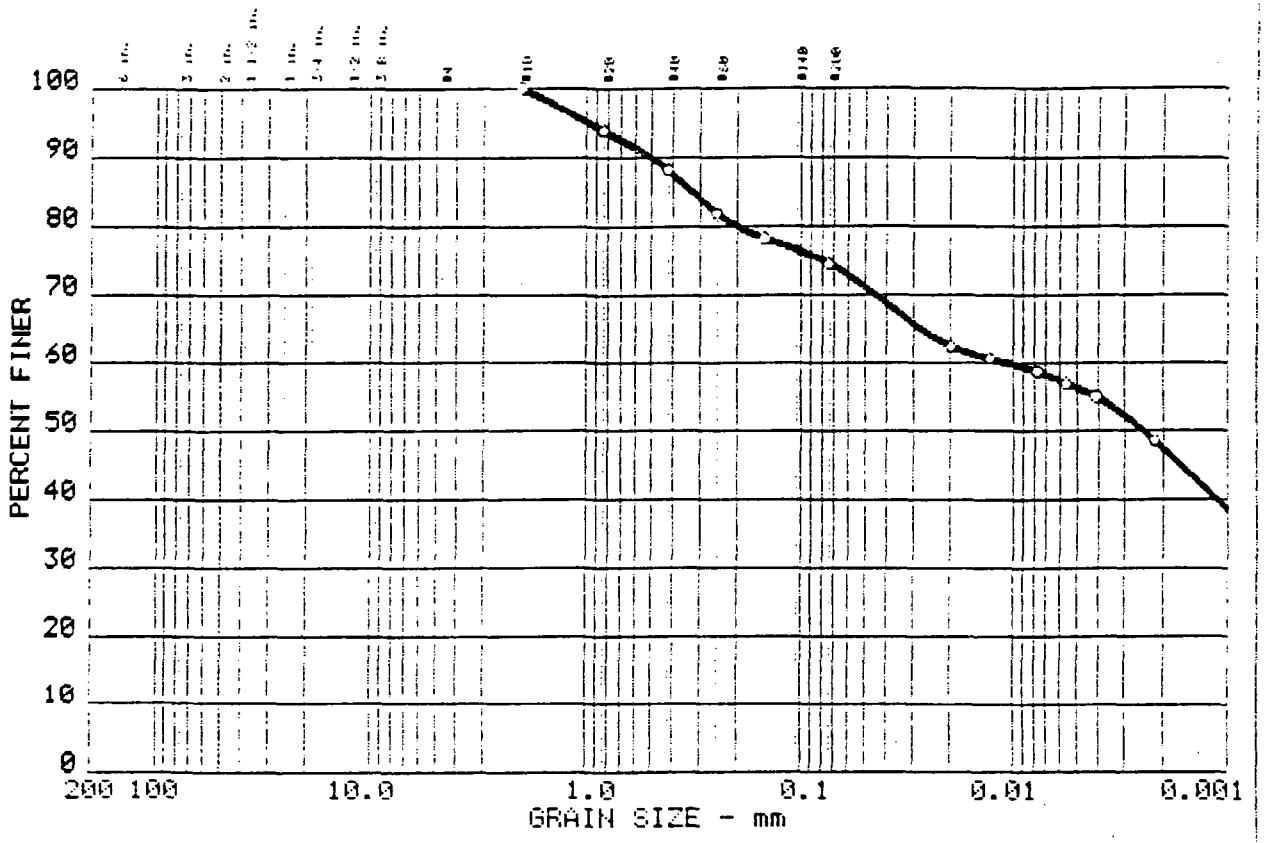
Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 0.0 % SAND = 25.5
% SILT = 18.2 % CLAY = 56.3 (% CLAY COLLOIDS = 38.4)

D85= 0.32 D60= 0.010 D50= 0.002

40

00159.1042

GRAIN SIZE DISTRIBUTION TEST REPORT



Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
○ 19	0.0	0.0	25.5	18.2	56.3

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			0.32		0.00					

MATERIAL DESCRIPTION	USCS	AASHTO
○ FAT CLAY WITH SAND	CH	A-4(0.0)

Project No.: 4122 94-0157
Project: EPA-SAS 08356-F-08
○ Location: Interior Well 38

Date: 5-23-94

Remarks:
SAS Sample Number:
SFB 891
Tag Number:
6-014498

GRAIN SIZE DISTRIBUTION TEST REPORT
TWIN CITY TESTING CORPORATION

Figure No.19

41

GRAIN SIZE DISTRIBUTION TEST DATA

Test No.: 20

Date: 5-23-94
Project No.: 4122 94-0157
Project: EPA-SAS 08356-F-08

Sample Data

Location of Sample: Perimeter Well 4 62' bgs
Sample Description: CLAYEY SAND
USCS: SC LL:
AASHTO: A-4(0.0) PI:

Notes

Remarks: SAS Sample Number: SFB 854
Tag Number: 6-015900
Station Location ID No.: AL-MW004-SB-02
Fig. No.: 20

Mechanical Analysis Data

Sieve	Size, mm	Percent finer
# 40	0.420	100.0
# 60	0.250	99.3
# 100	0.149	74.5
# 200	0.074	43.5

Hydrometer Analysis Data

Size, mm	Percent finer
0.0289	33.3
0.0190	28.8
0.0113	25.1
0.0081	23.3
0.0058	21.4
0.0029	19.6
0.0012	17.8

Remarks:

Fractional Components

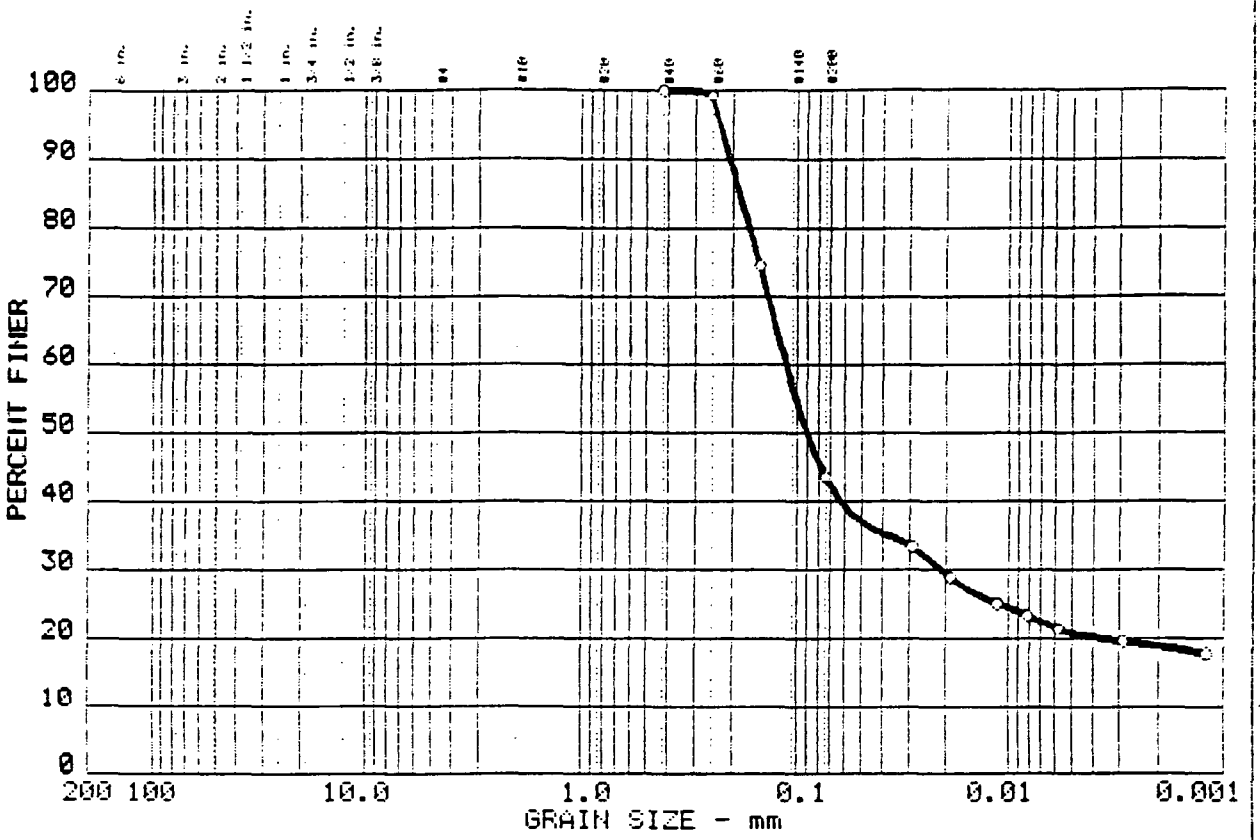
Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 0.0 % SAND = 56.5
% SILT = 22.7 % CLAY = 20.8

D85= 0.19 D60= 0.113 D50= 0.090
D30= 0.0211

42

00159.1044

GRAIN SIZE DISTRIBUTION TEST REPORT



Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
○ 20	0.0	0.0	56.5	22.7	20.8

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			0.19	0.11	0.09	0.021				

MATERIAL DESCRIPTION	USCS	AASHTO
○ CLAYEY SAND	SC	A-4(0.0)

Project No.: 4122 94-0157
Project: EPA-SAS 08356-F-08
○ Location: Perimeter Well 4 62' bgs

Date: 5-23-94

Remarks:
SAS Sample Number:
SFB 854
Tag Number:
6-015900

GRAIN SIZE DISTRIBUTION TEST REPORT
TWIN CITY TESTING CORPORATION

Figure No.20 43

ATEC Associates, Inc.

170

Particle Size Analysis

File No. GS _____ . _____

5/3/94

roject No.: 21-02-94-42130

roject: SAS 8356-F-04

ocation of Sample: SF 9651

ample Description: _____

SCS Class: _____ Dry Sample & Tare wt.: 201.92

ASHTO Class: _____ Tare No.: _____ Tare wt.: 81.57

quid Limit: _____ Wash data? Y / N

Washed Sample & Tare wt.: _____

asticity Index: _____ Tare No.: _____ Tare wt.: _____

emarks

ne 1: (Client) [illegible] Split Sample & Tare wt.: 153.87

ne 2: _____ Tare No.: 157

ne 3: _____ Tare wt.: 107.40

ne 4: (Sample No.) 340336

g. No.: _____ Spec. Set? Y / N Spec. Set No.: _____

nical Analysis? Y / N Uncalculated? Y / N

meter Analysis? Y / N Uncalculated? Y / N

-#10: _____

eight of hydrometer sample (g): 50.09

se hygroscopic moisture correction? Y / N

If Y : Moist wt. & Tare: 22.45

Dry wt & Tare: 21.64

Tare No.: 382 Tare wt.: 11.26

Hygroscopic Moisture: 7.8

uto. Temp. Correction? Y / N

Y : If N :

Correction at 20°: _____

	Temp.	Comp. Correct.
1)		
2)		
3)		
4)		
5)		

eniscus Correction: 0 Spec. Grav.: _____ (2.7 if not tested)

pe of Hydrometer? 152H? Y

e Effective Depth Shown? Y

David Sparks 5/3/94

Size	Cumm. Wt. Retained	% Finer
1.5"		
1.0"		
.75"		
.5"		
.375"		
#4		
#8		
#10		100
#16	107.46	
#30	107.63	
#40	107.97	
#50	108.52	
#80	109.30	
#100	109.76	
#200	110.56	

+10?: Rounded -- Angular Hard -- Soft -- Weathered

Graduate No.: 2 Hydrometer No.: 13636

(Time)	Elapse Time (min)	Temp. (°C)	Actual Reading	Diam. (mm)	% Finer
7:35	0	20.5	0		
7:37	2	20.5	36		
7:40	5	20.5	35		
7:50	15	20.5	34		
8:05	30	20.5	34		
8:35	60	20.5	34		
11:45	250	20	32		
7:35	1440	17	30		

Print test summary? Y / N

00159.1046

ATEC Associates, Inc.

Particle Size Analysis

171

File No. GS _____ . _____

ate: 5/2/94

roject No.: 21- 02 - 94 - 42130

roject: SAS 83516 - F - 04

ocation of Sample: SF 9652

mple Description:

SCS Class: _____ Dry Sample & Tare wt.: 188.37

ASHTO Class: _____ Tare No.: _____ Tare wt.: 24.83

quid Limit: _____ Wash data? Y / N

Washed Sample & Tare wt.: _____

asticity Index _____

Tare No.: _____ Tare wt.: _____

emarks

e 1: (Client) Jaya Corp Lien

e 2:

e 3:

e 4: (Sample No.) 9410336

Split Sample & Tare wt.: 157.65

Tare No.: 13

Tare wt.: 110.56

g. No.: _____ Spec. Set? Y / N Spec. Set No.: _____

echanical Analysis? Y / N Uncalculated? Y / N

ydrometer Analysis? Y / N Uncalculated? Y / N

-#10: _____

eight of hydrometer sample (g): 50.06

e hygroscopic moisture correction? Y / N

If Y : Moist wt. & Tare: 26.41

Dry wt & Tare: 25.51

Tare No.: 351 Tare wt.: 11.20

Hygroscopic Moisture: 6.3

to. Temp. Correction? Y / N

Y : If N :

Correction at 20°:

Temp.	Comp. Correct.
1)	
2)	
3)	
4)	
5)	

eniscus Correction: 0 Spec. Grav.: _____ (2.7 if not tested)

pe of Hydrometer? 152H? Y

e Effective Depth Shown? Y

David Sparks 5/2/94

Size	Cumm. Wt. Retained	% Finer
1.5"	—	
1.0"	—	
.75"	—	
5"	42.62	
.375"	52.19	
#4	66.70	
#8	84.29	
#10	91.74	
#16	118.26	
#30	125.09	
#40	128.33	
#50	131.12	
#80	133.95	
#100	135.12	
#200	137.78	

Glass, misc debris

+10?: Rounded -- Angular Hard -- Soft -- Weathered

Graduate No.: 17 Hydrometer No.: 90-6725

(Time)	Elapse Time (min)	Temp. (°C)	Actual Reading	Diam. (mm)	% Finer
8:12	0	22.5	0		
8:14	2	22.5	23		
8:17	5	22.5	20		
8:27	15	22.5	18		
8:42	30	22.5	17		
9:12	60	23	17		
12:22	250	23.5	15		
8:12	1440	22.5	13		

Print test summary? Y / N

00159.1047

ATEC Associates, Inc.

172

Particle Size Analysis

File No. GS _____ . _____

5/2/94

oject No.: 21- 02 - 94 - 42:30

oject: SAS 8386-F-04

cation of Sample: SF 9653

mple Description: _____

CS Class: _____

SHTO Class: _____

uid Limit: _____

sticity Index: _____

Dry Sample & Tare wt.: 172.70

Tare No.: _____ Tare wt.: 24.83

Wash data? Y / N

Washed Sample & Tare wt.: _____

Tare No.: _____ Tare wt.: _____

marks

1: (Client) [illegible]

2: _____

3: _____

4: (Sample No.) 940336

Split Sample & Tare wt.: 170.38

Tare No.: 55

Tare wt.: 123.09

Size	Cumm. Wt. Retained	% Finer
1.5"	—	
1.0"	—	
.75"	—	
.5"	—	
.375"	28.70	
#4	47.82	
#8	66.31	
#10	72.33	
#16	131.29	
#30	138.84	
#40	142.46	
#50	145.85	
#80	149.52	
#100	150.89	
#200	154.21	

No.: _____ Spec. Set? Y / N Spec. Set No.: _____

nical Analysis? Y / N Uncalculated? Y / N

meter Analysis? Y / N Uncalculated? Y / N

Glass & misc debris

+10?: Rounded -- Angular Hard -- Soft -- Weathered

-#10: _____

ight of hydrometer sample (g): 50.08

hygroscopic moisture correction? Y / N

If Y : Moist wt. & Tare: 25.03

Dry wt & Tare: 24.29

Tare No.: 380 Tare wt.: 11.73

Hygroscopic Moisture: 5.9

o. Temp. Correction? Y / N

Correction at 20°: _____

If N :

	Temp.	Comp. Correct.
1)		
2)		
3)		
4)		
5)		

niscus Correction: 0 Spec. Grav.: _____ (2.7 if not tested)

e of Hydrometer? 152H? Y

Effective Depth Shown? Y

David Spark 5/2/94

Graduate No.: 83 Hydrometer No.: 90-6725

(Time)	Elapse Time (min)	Temp. (°C)	Actual Reading	Diam. (mm)	% Finer
8:16	0	22.5	0		
8:18	2	22.5	17		
8:21	5	22.5	15		
8:31	15	22.5	13		
8:46	30	22.5	12		
9:16	60	23	11		
12:26	250	23.5	9		
8:16	1440	22.5	8		

Print test summary? Y / N

00159.1048

ATEC Associates, Inc.

Particle Size Analysis

177

File No. GS 20 . F

ate: 5/3/94

oject No.: 21-02-94 - 42130

oject: SAS 8356-F-04

cation of Sample: SF 9654

mple Description:

CS Class:

SHTO Class:

uid Limit:

sticity Index:

Dry Sample & Tare wt.: 193.99

Tare No.: Tare wt.: 24.54

Wash data? Y / N

Washed Sample & Tare wt.:

Tare No.: Tare wt.:

marks

e 1: (Client) Ayn Loyo Vian

e 2:

e 3:

e 4: (Sample No.) 940336

Split Sample & Tare wt.: 171.70

Tare No.: 40

Tare wt.: 124.12

Size	Cumm. Wt. Retained	% Finer
1.5"	—	
1.0"	—	
.75"	—	
5"	35.64	
.375"	44.49	
#4	61.84	
#8	79.46	
#10	84.98	
#16	132.05	
#30	138.32	
#40	142.09	
#50	146.17	
#80	150.55	
#100	152.38	
#200	156.70	

.. No.: Spec. Set? Y / N Spec. Set No.:

chanical Analysis? Y / N Uncalculated? Y / N

drometer Analysis? Y / N Uncalculated? Y / N

Glass & misc debris

+10?: Rounded -- Angular Hard -- Soft -- Weathered

-#10:

ight of hydrometer sample (g): 50.05

Graduate No.: 89 Hydrometer No.: 13636

e hygroscopic moisture correction? Y / N

If Y : Moist wt. & Tare: 22.22

Dry wt & Tare: 21.69

Tare No.: 324 Tare wt.: 11.50

Hygroscopic Moisture: 5.2

to. Temp. Correction? Y / N

Y : If N :

Correction at 20°: Temp. Comp. Correct.

1)
2)
3)
4)
5)

(Time)	Elapse Time (min)	Temp. (°C)	Actual Reading	Diam. (mm)	% Finer
7:19	0	20.5	0		
7:21	2	20.5	13		
7:24	5	20.5	12		
7:34	15	20.5	11		
7:49	30	20.5	10		
8:19	60	20.5	9		
11:29	250	20	7		
7:19	1440	17	7		

Print test summary? Y / N

niscus Correction: 0 Spec. Grav.: (2.7 if not tested)

pe of Hydrometer? 152H? Y

e Effective Depth Shown? Y

David Sparks 5/3/94

00159.1049

ATEC Associates, Inc.

174

Particle Size Analysis

File No. GS 1 . G

ate: 5/3/94

roject No.: 21- 02 - 94 - 42130

roject: SAS 8356-F-04

ocation of Sample: SF 9655

ample Description:

SCS Class:

ASHTO Class:

quid Limit:

asticity Index:

Dry Sample & Tare wt.: 176.63

Tare No.: Tare wt.: 24.84

Wash data? Y / N

Washed Sample & Tare wt.:

Tare No.: Tare wt.:

emarks

e 1: (Client) Dyn Corp Yiar

e 2:

e 3:

e 4: (Sample No.) 940336

Split Sample & Tare wt.: 171.73

Tare No.: 83

Tare wt.: 124.11

Size	Cumm. Wt. Retained	% Finer
1.5"	—	
1.0"	—	
.75"	—	
.5"	—	
.375"	32.04	
#4	49.61	
#8	59.88	
#10	63.65	
#16	129.65	
#30	134.83	
#40	137.57	
#50	141.21	
#80	147.92	
#100	152.50	
#200	157.64	

.: Spec. Set? Y / N Spec. Set No.:

ical Analysis? Y / N Uncalculated? Y / N

ydrometer Analysis? Y / N Uncalculated? Y / N

-#10:

eight of hydrometer sample (g): 50.05

se hygroscopic moisture correction? Y / N

If Y : Moist wt. & Tare: 26.14

Dry wt & Tare: 25.44

Tare No.: 341 Tare wt.: 11.76

Hygroscopic Moisture: 5.1

uto. Temp. Correction? Y / N

Y :

Correction at 20°:

If N :

	Temp.	Comp. Correct.
1)		
2)		
3)		
4)		
5)		

Meniscus Correction: 0 Spec. Grav.: (2.7 if not tested)

ype of Hydrometer? 152H? Y

se Effective Depth Shown? Y

David Sparks 5/3/94

Class Trash

+10?: Rounded -- Angular Hard -- Soft -- Weathered

Graduate No.: 5 Hydrometer No.: 13636

(Time)	Elapse Time (min)	Temp. (°C)	Actual Reading	Diam. (mm)	% Finer
7:15	0	20.5	0		
7:17	2	20.5	15		
7:20	5	20.5	13		
7:30	15	20.5	11		
7:45	30	20.5	10		
8:15	60	20.5	10		
11:25	250	20	9		
7:15	1440	17	9		

Print test summary? Y / N

00159.1050

ATEC Associates, Inc.

175

Particle Size Analysis

File No. GS ____ . ____

Date: 5/2/94

Project No.: 21-02 - 94 - 42130

Project: SAS 8356 - F-04

Location of Sample: SF 9656

Sample Description: ____

USCS Class: ____

AASHTO Class: ____

Liquid Limit: ____

Plasticity Index: ____

Dry Sample & Tare wt.: 178.14

Tare No.: ____ Tare wt.: 24.83

Wash data? Y / N

Washed Sample & Tare wt.: ____

Tare No.: ____ Tare wt.: ____

Remarks

line 1: (Client) Dept Corps Vicar

line 2: ____

line 3: ____

line 4: (Sample No.) 940336

Split Sample & Tare wt.: 159.07

Tare No.: 32

Tare wt.: 112.25

Size	Cumm. Wt. Retained	% Finer
1.5"	—	
1.0"	—	
.75"	—	
.5"	—	
.375"	31.12	
#4	49.96	
#8	63.62	
#10	67.89	
#16	118.95	
#30	128.97	
#40	134.89	
#50	139.88	
#80	144.29	
#100	145.58	
#200	148.92	

Glass & misc debris

Fig. No.: ____ Spec. Set? Y / N Spec. Set No.: ____

Mechanical Analysis? Y / N Uncalculated? Y / N

Hydrometer Analysis? Y / N Uncalculated? Y / N

+10?: Rounded -- Angular Hard -- Soft -- Weathered

% -#10: ____

Weight of hydrometer sample (g): 50.05

Graduate No.: 52 Hydrometer No.: 90-6725

Use hygroscopic moisture correction? Y / N

If Y : Moist wt. & Tare: 24.90

Dry wt & Tare: 23.99

Tare No.: 107 Tare wt.: 10.73

Hygroscopic Moisture: 6.9

Auto. Temp. Correction? Y / N

If Y : Correction at 20°: ____

If N : Temp. Comp. Correct.

1)
2)
3)
4)
5)

(Time)	Elapse Time (min)	Temp. (°C)	Actual Reading	Diam. (mm)	% Finer
8:08	0	22.5	0		
8:10	2	22.5	13		
8:13	5	22.5	11		
8:23	15	22.5	10		
8:38	30	22.5	8		
9:08	60	23	8		
12:18	250	23.5	7		
8:08	1440	22.5	6		

Meniscus Correction: 0 Spec. Grav.: ____ (2.7 if not tested)

Type of Hydrometer? 152H? Y

Use Effective Depth Shown? Y

David Loomis 5/2/94

Print test summary? Y / N

00159.1051

ATEC Associates, Inc.

176

Particle Size Analysis

File No. GS _____ . _____

Date: 5/2/94

Project No.: 21- 02 - 94 - 42170

Project: SAS 8356 - F - 04

Location of Sample: SF 9657

Sample Description:

USCS Class:

AASHTO Class:

Liquid Limit:

Plasticity Index:

Dry Sample & Tare wt.: 168.73

Tare No.: _____ Tare wt.: 24.83

Wash data? Y / N

Washed Sample & Tare wt.:

Tare No.: _____ Tare wt.:

Split Sample & Tare wt.: 168.57

Tare No.: 65

Tare wt.: 121.82

Remarks

line 1: (Client) Aqua Loop Liner

line 2:

line 3:

line 4: (Sample No.) 940336

Size	Cumm. Wt. Retained	% Finer
1.5"	—	
1.0"	—	
.75"	—	
.5"	27.20	
.375"	39.59	
#4	62.78	
#8	78.27	
#10	82.28	
#16	130.61	
#30	139.29	
#40	143.56	
#50	147.85	
#80	152.34	
#100	154.12	
#200	157.78	

Glass & misc debris

+10?: Rounded – Angular Hard – Soft – Weathered

No.: _____ Spec. Set? Y / N Spec. Set No.: _____

Mechanical Analysis? Y / N Uncalculated? Y / N

Hydrometer Analysis? Y / N Uncalculated? Y / N

% -#10: _____

Weight of hydrometer sample (g): 50.02

Graduate No.: 16 Hydrometer No.: 90-6725

Use hygroscopic moisture correction? Y / N

If Y : Moist wt. & Tare: 26.07

Dry wt & Tare: 25.13

Tare No.: 325 Tare wt.: 11.66

Hygroscopic Moisture: 7.0

Auto. Temp. Correction? Y / N

If Y : If N :

Correction at 20°: _____

Temp. Comp. Correct.

1)
2)
3)
4)
5)

(Time)	Elapse Time (min)	Temp. (°C)	Actual Reading	Diam. (mm)	% Finer
8:14	0	22.5	6		
8:16	2	22.5	13		
8:19	5	22.5	12		
8:29	15	22.5	10		
8:44	30	22.5	9		
9:14	60	23	9		
12:24	250	23.5	8		
8:14	1440	22.5	7		

Meniscus Correction: 0 Spec. Grav.: _____ (2.7 if not tested)

Type of Hydrometer? 152H? Y

Use Effective Depth Shown? Y

David Peach 5/2/94

Print test summary? Y / N

00159.1052

ATEC Associates, Inc.

1.77

Particle Size Analysis

File No. GS ____ . ____

ate: 5/2/94

roject No.: 21-02-94-42130

roject: SAS 8356-F-04

ocation of Sample: SF 9658

ample Description: ____

SCS Class: ____ Dry Sample & Tare wt.: 173.90

ASHTO Class: ____ Tare No.: ____ Tare wt.: 24.84

quid Limit: ____ Wash data? Y / N

Washed Sample & Tare wt.: ____

asticity Index: ____ Tare No.: ____ Tare wt.: ____

emarks

ne 1: (Client) [illegible]

Split Sample & Tare wt.: 170.55

ne 2: ____ Tare No.: 62

ne 3: ____ Tare wt.: 123.30

ne 4: (Sample No.) 940336

Size	Cumm. Wt. Retained	% Finer
1.5"	—	
1.0"	—	
.75"	—	
.5"	32.96	
.375"	43.43	
#4	61.95	
#8	75.81	
#10	80.34	
#16	130.03	
#30	136.98	
#40	140.84	
#50	144.79	
#80	149.18	
#100	150.78	
#200	154.29	

ig. No.: ____ Spec. Set? Y / N Spec. Set No.: ____

echanical Analysis? Y / N Uncalculated? Y / N

ydrometer Analysis? Y / N Uncalculated? Y / N

Glass + misc debris

+10?: Rounded -- Angular Hard -- Soft -- Weathered

-#10: ____

eight of hydrometer sample (g): 50.04

Graduate No.: 6 Hydrometer No.: 90-6725

se hygroscopic moisture correction? Y / N

If Y: Moist wt. & Tare: 24.53

Dry wt & Tare: 23.81

Tare No.: 352 Tare wt.: 11.53

Hygroscopic Moisture: 5.9

uto. Temp. Correction? Y / N

Y: If N:

Correction at 20°: ____

	Temp.	Comp. Correct.
1)		
2)		
3)		
4)		
5)		

(Time)	Elapse Time (min)	Temp. (°C)	Actual Reading	Diam. (mm)	% Finer
8:18	0	22.5	0		
8:20	2	22.5	22		
8:23	5	22.5	16		
8:33	15	22.5	13		
8:48	30	22.5	12		
9:18	60	23	11		
12:28	250	23.5	9		
8:18	1440	22.5	8		

eniscus Correction: 0 Spec. Grav.: ____ (2.7 if not tested)

ype of Hydrometer? 152H? Y

se Effective Depth Shown? Y

David Sparks 5/2/94

Print test summary? Y / N

00159.1053

178

ATEC Associates, Inc.

Particle Size Analysis

File No. GS ____ . ____

Date: 5/3/94

Project No.: 21-02-94-42130

Project: SAS 8356-F-04

Location of Sample: SF 9659

Sample Description: ____

USCS Class: ____

AASHTO Class: ____

Liquid Limit: ____

Plasticity Index: ____

Dry Sample & Tare wt.: 116.77

Tare No.: ____ Tare wt.: 24.83

Wash data? Y / N

Washed Sample & Tare wt.: ____

Tare No.: ____ Tare wt.: ____

Remarks

Line 1: (Client) Ryan Corp Vian

Line 2: ____

Line 3: ____

Line 4: (Sample No.) 940336

Split Sample & Tare wt.: 170.94

Tare No.: 50

Tare wt.: 122.02

Size	Cumm. Wt. Retained	% Finer
1.5"	—	
1.0"	—	
.75"	—	
.5"	26.71	
.375"	30.17	
#4	40.93	
#8	45.06	
#10	46.26	
#16	125.39	
#30	128.88	
#40	133.34	
#50	139.61	
#80	151.28	
#100	155.56	
#200	158.99	

Glass & misc debris

No.: ____ Spec. Set? Y / N Spec. Set No.: ____

Mechanical Analysis? Y / N Uncalculated? Y / N

Hydrometer Analysis? Y / N Uncalculated? Y / N

+10?: Rounded -- Angular Hard -- Soft -- Weathered

% -#10: ____

Weight of hydrometer sample (g): 50.05

Graduate No.: 84 Hydrometer No.: 13636

Use hygroscopic moisture correction? Y / N

If Y: Moist wt. & Tare: 21.90

Dry wt & Tare: 21.67

Tare No.: 308 Tare wt.: 11.66

Hygroscopic Moisture: 2.3

Auto. Temp. Correction? Y / N

If Y: Correction at 20°: ____

If N: Temp. Comp. Correct.

1)
2)
3)
4)
5)

(Time)	Elapse Time (min)	Temp. (°C)	Actual Reading	Diam. (mm)	% Finer
7:21	0	20.5	0		
7:23	2	20.5	16		
7:26	5	20.5	14		
7:36	15	20.5	13		
7:51	30	20.5	12		
8:21	60	20.5	11		
11:31	250	20	10		
7:21	1440	17	10		

Print test summary? Y / N

Meniscus Correction: 0 Spec. Grav.: ____ (2.7 if not tested)

Type of Hydrometer? 152H? Y

Use Effective Depth Shown? Y

David Sparks 5/3/94

179

ATEC Associates, Inc.

Particle Size Analysis

File No. GS _____ . _____

Date: 5/3/94

Project No.: 21-02-94-~~4~~130

Project: SAS 8356-F-04

Location of Sample: SF 9659 QC

Sample Description: _____

USCS Class: _____

AASHTO Class: _____

Liquid Limit: _____

Plasticity Index: _____

Dry Sample & Tare wt.: 116.26

Tare No.: _____ Tare wt.: 24.84

Wash data? Y / N

Washed Sample & Tare wt.: _____

Tare No.: _____ Tare wt.: _____

Remarks

Line 1: (Client) Dyn Corp Vian

Line 2: _____

Line 3: _____

Line 4: (Sample No.) 940336

Split Sample & Tare wt.: 172.79

Tare No.: 60

Tare wt.: 123.84

Size	Cumm. Wt. Retained	% Finer
1.5"	—	
1.0"	—	
.75"	—	
.5"	28.24	
.375"	32.73	
#4	38.72	
#8	45.44	
#10	46.94	
#16	127.09	
#30	130.41	
#40	134.68	
#50	140.65	
#80	151.84	
#100	156.54	
#200	160.09	

Fig. No.: _____ Spec. Set? Y / N Spec. Set No.: _____

Mechanical Analysis? Y / N Uncalculated? Y / N

Hydrometer Analysis? Y / N Uncalculated? Y / N

Glass + mesa dolin

+10?: Rounded – Angular Hard – Soft – Weathered

% -#10: _____

Weight of hydrometer sample (g): 50.08

Graduate No.: 82 Hydrometer No.: 13636

Use hygroscopic moisture correction? Y / N

If Y: Moist wt. & Tare: 20.37

Dry wt & Tare: 20.15

Tare No.: 154 Tare wt.: 10.70

Hygroscopic Moisture: 2.3

Auto. Temp. Correction? Y / N

If Y: Correction at 20°: _____

If N: Temp. Comp. Correct.

1)
2)
3)
4)
5)

(Time)	Elapse Time (min)	Temp. (°C)	Actual Reading	Diam. (mm)	% Finer
7:23	0	20.5	0		
7:25	2	20.5	16		
7:28	5	20.5	14		
7:38	15	20.5	13		
7:53	30	20.5	13		
8:23	60	20.5	12		
11:33	250	20	11		
7:23	1440	17	11		

Meniscus Correction: 0 Spec. Grav.: _____ (2.7 if not tested)

Type of Hydrometer? 152H? Y

Use Effective Depth Shown? Y

David Sparks 5/3/94

Print test summary? Y / N

00159.1055

ATEC Associates, Inc.

180

Particle Size Analysis

File No. GS ____ . ____

ate: 5/3/94

roject No.: 21- 02 - 94 - 42130

roject: SAS 8356-F-04

ocation of Sample: SF 9660

ample Description: ____

SCS Class: ____ Dry Sample & Tare wt.: 230.31

ASHTO Class: ____ Tare No.: ____ Tare wt.: 24.84

iquid Limit: ____ Wash data? Y / N

Washed Sample & Tare wt.: ____

lasticity Index: ____ Tare No.: ____ Tare wt.: ____

emarks

ne 1: (Client) Dyn Corp Vicar Split Sample & Tare wt.: 222.28

ne 2: ____ Tare No.: 81

ne 3: ____ Tare wt.: 123.22

ne 4: (Sample No.) 940336

o.: ____ Spec. Set? Y / N Spec. Set No.: ____

anical Analysis? Y / N Uncalculated? Y / N

Hydrometer Analysis? Y / N Uncalculated? Y / N

Size	Cumm. Wt. Retained	% Finer
1.5"	—	
1.0"	—	
.75"	—	
5"	27.41	
.375"	31.58	
#4	38.76	
#8	47.95	
#10	49.72	
#16	126.64	
#30	130.20	
#40	136.25	
#50	148.70	
#80	186.47	
#100	202.39	
#200	213.52	

Glass & Mica debris

+10?: Rounded -- Angular Hard -- Soft -- Weathered

-#10: ____

Weight of hydrometer sample (g): 100.05

Graduate No.: 50 Hydrometer No.: 13636

Use hygroscopic moisture correction? Y / N

If Y : Moist wt. & Tare: 28.17

Dry wt & Tare: 28.00

Tare No.: 346 Tare wt.: 11.63

Hygroscopic Moisture: 1.0

Auto. Temp. Correction? Y / N

If Y : Correction at 20°: ____

If N : Temp. Comp. Correct.

1)
2)
3)
4)
5)

(Time)	Elapse Time (min)	Temp. (°C)	Actual Reading	Diam. (mm)	% Finer
7:17	0	20.5	0		
7:19	2	20.5	12		
7:22	5	20.5	11		
7:32	15	20.5	10		
7:47	30	20.5	10		
8:17	60	20.5	9		
11:27	250	20	8		
7:17	1440	17	8		

Meniscus Correction: 0 Spec. Grav.: ____ (2.7 if not tested)

Type of Hydrometer? 152H? Y

Use Effective Depth Shown? Y

David Sparks 5/3/94

Print test summary? Y / N

00159.1056

ATEC Associates, Inc.

181

Particle Size Analysis

File No. GS ___ . ___

Date: 5/2/94

Project No.: 21-02 - 94 - 42130

Project: SAS 8356-F-04

Location of Sample: SF 9661

Sample Description: ___

USCS Class: ___

AASHTO Class: ___

Liquid Limit: ___

Plasticity Index: ___

Dry Sample & Tare wt.: 197.56

Tare No.: ___ Tare wt.: 24.83

Wash data? Y / N

Washed Sample & Tare wt.: ___

Tare No.: ___ Tare wt.: ___

Remarks

Line 1: (Client) Dyn Corp Vien

Line 2: ___

Line 3: ___

Line 4: (Sample No.) 940336

Split Sample & Tare wt.: 158.13

Tare No.: A60

Tare wt.: 110.15

Size	Cumm. Wt. Retained	% Finer
1.5"	—	
1.0"	—	
.75"	—	
.5"	—	
.375"	27.38	
#4	53.60	
#8	79.82	
#10	87.29	
#16	119.59	
#30	129.88	
#40	135.38	
#50	140.14	
#80	144.52	
#100	146.23	
#200	149.62	

Fig. No.: ___ Spec. Set? Y / N Spec. Set No.: ___

Mechanical Analysis? Y / N Uncalculated? Y / N

Hydrometer Analysis? Y / N Uncalculated? Y / N

Glass + mix debris

+10?: Rounded -- Angular Hard -- Soft -- Weathered

% -#10: ___

Weight of hydrometer sample (g): 50.04

Use hygroscopic moisture correction? Y / N

If Y : Moist wt. & Tare: 27.16

Dry wt & Tare: 26.53

Tare No.: 193 Tare wt.: 11.80

Hygroscopic Moisture: 4.3

Auto. Temp. Correction? Y / N

If Y : Correction at 20°: ___

If N : Temp. Comp. Correct.

1)
2)
3)
4)
5)

Meniscus Correction: 0 Spec. Grav.: ___ (2.7 if not tested)

Type of Hydrometer? 152H? Y

Use Effective Depth Shown? Y

David Spencer 5/2/94

Graduate No.: 169 Hydrometer No.: 90-6725

(Time)	Elapse Time (min)	Temp. (°C)	Actual Reading	Diam. (mm)	% Finer
8:06	0	22.5	0		
8:08	2	22.5	13		
8:11	5	22.5	10		
8:21	15	22.5	9		
8:36	30	22.5	8		
9:06	60	23	8		
12:16	250	23.5	7		
8:06	1440	22.5	7		

Print test summary? Y / N

00159.1057

ATEC Associates, Inc.

Particle Size Analysis

182

File No. GS ____ . ____

Date: 5/2/94

Project No.: 21-02 - 94 - 42130

Project: SAS 8356 - F-04

Location of Sample: 8F 9662

Sample Description:

USCS Class: ____ Dry Sample & Tare wt.: 157.01

AASHTO Class: ____ Tare No.: ____ Tare wt.: 24.82

Liquid Limit: ____ Wash data? Y / N

Washed Sample & Tare wt.: ____

Plasticity Index: ____ Tare No.: ____ Tare wt.: ____

Remarks

Line 1: (Client) Dept. Corps Eng.

Split Sample & Tare wt.: 154.71

Line 2:

Tare No.: 149

Line 3:

Tare wt.: 107.25

Line 4: (Sample No.) 940736

Spec.: ____ Spec. Set? Y / N Spec. Set No.: ____

Mechanical Analysis? Y / N Uncalculated? Y / N

Hydrometer Analysis? Y / N Uncalculated? Y / N

Size	Cumm. Wt. Retained	% Finer
1.5"	—	
1.0"	—	
.75"	—	
.5"	—	
.375"	30.21	
#4	49.44	
#8	61.81	
#10	66.26	
#16	113.21	
#30	119.28	
#40	122.65	
#50	126.30	
#80	130.32	
#100	132.07	
#200	135.42	

Glass & wood debris

+10?: Rounded -- Angular Hard -- Soft -- Weathered

-#10: ____

Weight of hydrometer sample (g): 50.07

Graduate No.: 28 Hydrometer No.: 50-6725

Use hygroscopic moisture correction? Y / N

If Y : Moist wt. & Tare: 27.07

Dry wt & Tare: 26.25

Tare No.: 319 Tare wt.: 11.43

Hygroscopic Moisture: 5.5

Auto. Temp. Correction? Y / N

If Y : Correction at 20°: ____

If N : Temp. Comp. Correct.

1)
2)
3)
4)
5)

(Time)	Elapse Time (min)	Temp. (°C)	Actual Reading	Diam. (mm)	% Finer
8:04	0	22.5	0		
8:06	2	22.5	22		
8:09	5	22.5	19		
8:19	15	22.5	17		
8:34	30	22.5	16		
9:04	60	23	14		
12:14	250	23.5	12		
8:04	1440	22.5	11		

Meniscus Correction: 0 Spec. Grav.: ____ (2.7 if not tested)

Type of Hydrometer? 152H? Y

Use Effective Depth Shown? Y

David Franks 5/2/94

Print test summary? Y / N

00159.1058

ATEC Associates, Inc.

183

Particle Size Analysis

File No. GS ____ . ____

:te: 5/2/94

oject No.: 21-02 -94 - 42130

oject: SAS 8316-F-04

cation of Sample: SF 9663

mple Description: ____

CS Class: ____

.SHTO Class: ____

uid Limit: ____

.sticity Index: ____

Dry Sample & Tare wt.: 183.72

Tare No.: ____ Tare wt.: 24.84

Wash data? Y / N

Washed Sample & Tare wt.: ____

Tare No.: ____ Tare wt.: ____

marks

. 1: (Client) Dry Corp Vicu

: 2: ____

: 3: ____

: 4: (Sample No.) 940336

Split Sample & Tare wt.: 152.93

Tare No.: 52

Tare wt.: 104.31

Size	Cumm. Wt. Retained	% Finer
1.5"	—	
1.0"	—	
.75"	—	
.5"	—	
.375"	30.28	
#4	40.18	
#8	46.43	
#10	48.59	
#16	106.02	
#30	107.59	
#40	108.49	
#50	109.95	
#80	114.82	
#100	119.42	
#200	127.34	

Glass + mix debris

.. No.: ____ Spec. Set? Y / N Spec. Set No.: ____

:chanical Analysis? Y / N Uncalculated? Y / N

drometer Analysis? Y / N Uncalculated? Y / N

+10?: Rounded -- Angular Hard -- Soft -- Weathered

-#10: ____

:ight of hydrometer sample (g): 50.03

Graduate No.: 87 Hydrometer No.: 90-6725

e hygroscopic moisture correction? Y / N

If Y : Moist wt. & Tare: 23.81

Dry wt & Tare: 23.46

Tare No.: 357 Tare wt.: 11.37

Hygroscopic Moisture: 2.9

.to. Temp. Correction? Y / N

Y : If N :

Correction at 20°: ____

	Temp.	Comp. Correct.
1)		
2)		
3)		
4)		
5)		

(Time)	Elapse Time (min)	Temp. (°C)	Actual Reading	Diam. (mm)	% Finer
8:10	0	22.5	0		
8:12	2	22.5	23		
8:15	5	22.5	19		
8:25	15	22.5	17		
8:40	30	22.5	16		
9:10	60	23	15		
12:20	250	23.5	13		
8:10	1440	22.5	13		

eniscus Correction: 0 Spec. Grav.: ____ (2.7 if not tested)

pe of Hydrometer? 152H? Y

:e Effective Depth Shown? Y

David Sparks 5/2/94

Print test summary? Y / N

00159.1059

ATEC Associates, Inc.

184

Particle Size Analysis

File No. GS _____ . _____

Date: 5/3/94

Project No.: 21-02 - 94 - 42130

Project: SFS 8356 F-04

Location of Sample: SF 9664

Sample Description:

USCS Class: _____

AASHTO Class: _____

Liquid Limit: _____

Plasticity Index: _____

Dry Sample & Tare wt.: 172.33

Tare No.: _____ Tare wt.: 24.83

Wash data? Y / N

Washed Sample & Tare wt.: _____

Tare No.: _____ Tare wt.: _____

Remarks

Line 1: (Client) Myers Corp Union

Line 2:

Line 3:

Line 4: (Sample No.) 940336

Split Sample & Tare wt.: 170.82

Tare No.: 41

Tare wt.: 123.61

Size	Cumm. Wt. Retained	% Finer
1.5"	—	
1.0"	—	
.75"	—	
.5"	—	
.375"	31.42	
#4	40.69	
#8	56.12	
#10	62.14	
#16	126.56	
#30	130.12	
#40	133.55	
#50	137.93	
#80	141.84	
#100	143.14	
#200	145.79	

Gleis + silt

Spec. Set? Y / N Spec. Set No.: _____

Mechanical Analysis? Y / N Uncalculated? Y / N

Hydrometer Analysis? Y / N Uncalculated? Y / N

+10?: Rounded – Angular Hard – Soft – Weathered

-#10: _____

Weight of hydrometer sample (g): 50.04

Graduate No.: 19 Hydrometer No.: 13636

Use hygroscopic moisture correction? Y / N

If Y : Moist wt. & Tare: 24.34

Dry wt & Tare: 23.52

Tare No.: 358 Tare wt.: 11.53

Hygroscopic Moisture: 6.0

Auto. Temp. Correction? Y / N

Y : If N :

Correction at 20°: _____

Temp.	Comp. Correct.
1)	
2)	
3)	
4)	
5)	

(Time)	Elapse Time (min)	Temp. (°C)	Actual Reading	Diam. (mm)	% Finer
7:27	0	20.5	0		
7:29	2	20.5	26		
7:32	5	20.5	24		
7:42	15	20.5	22		
7:57	30	20.5	20		
8:27	60	20.5	20		
11:37	250	20	18		
7:27	1440	17	16		

Meniscus Correction: 0 Spec. Grav.: _____ (2.7 if not tested)

Type of Hydrometer? 152H? Y

Use Effective Depth Shown? Y

Daniel Spencer 5/3/94

Print test summary? Y / N

00159.1060

ATEC Associates, Inc.

185

Particle Size Analysis

File No. GS ___ . ___

ate: 5/3/94

roject No.: 21-02 - 94 - 42130

roject: SAS 8356 - F-04

ocation of Sample: SF 9665

ample Description: ___

SCS Class: ___ Dry Sample & Tare wt.: 141.98

ASHTO Class: ___ Tare No.: ___ Tare wt.: 24.83

quid Limit: ___ Wash data? Y / N

Washed Sample & Tare wt.: ___

asticity Index: ___ Tare No.: ___ Tare wt.: ___

emarks

e 1: (Client) Dun Cong Vic

Split Sample & Tare wt.: 168.09

e 2: ___ Tare No.: 64

e 3: ___ Tare wt.: 121.27

e 4: (Sample No.) 940336

Size	Cumm. Wt. Retained	% Finer
1.5"	—	
1.0"	—	
.75"	—	
.5"	—	
.375"	31.02	
#4	43.99	
#8	56.41	
#10	60.09	
#16	128.30	
#30	135.04	
#40	138.92	
#50	142.73	
#80	147.01	
#100	148.81	
#200	152.72	

. No.: ___ Spec. Set? Y / N Spec. Set No.: ___

echanical Analysis? Y / N Uncalculated? Y / N

drometer Analysis? Y / N Uncalculated? Y / N

Glass + more debris

+10?: Rounded -- Angular / Hard -- Soft -- Weathered

-#10: ___

eight of hydrometer sample (g): 80.05

e hygroscopic moisture correction? Y / N

If Y : Moist wt. & Tare: 21.88

Dry wt & Tare: 21.22

Tare No.: 306 Tare wt.: 11.72

Hygroscopic Moisture: 6.9

to. Temp. Correction? Y / N

Y : If N :

Correction at 20°: Temp. Comp. Correct.

1)
2)
3)
4)
5)

niscus Correction: 0 Spec. Grav.: ___ (2.7 if not tested)

pe of Hydrometer? 152H? Y

e Effective Depth Shown? Y

David Spaulin 5/3/94

Graduate No.: 3 Hydrometer No.: 13636

(Time)	Elapse Time (min)	Temp. (°C)	Actual Reading	Diam. (mm)	% Finer
7:25	0	20.5	0		
7:27	2	20.5	20		
7:30	5	20.5	15		
7:40	15	20.5	11		
7:55	30	20.5	10		
8:25	60	20.5	9		
11:35	250	20	8		
7:25	1440	17	8		

Print test summary? Y / N

00159.1061

ATEC Associates, Inc.

186

Particle Size Analysis

File No. GS 3 . 6

5/3/94

oject No.: 21-02-94-42130

oject: SAS 8356-F-04

cation of Sample: SF 9666

mple Description:

CS Class:

SHTO Class:

quid Limit:

asticity Index

Dry Sample & Tare wt.: 182.81

Tare No.: Tare wt.: 24.83

Wash data? Y / N

Washed Sample & Tare wt.:

Tare No.: Tare wt.:

marks

1: (Client) Dyer Corp View

2:

3:

4: (Sample No.) 940336

Split Sample & Tare wt.: 172.15

Tare No.: 67

Tare wt.: 123.54

Size	Cumm. Wt. Retained	% Finer
1.5"	—	
1.0"	—	
.75"	—	
.5"	—	
.375"	33.49	
#4	51.99	
#8	66.08	
#10	70.97	
#16	129.99	
#30	135.76	
#40	139.37	
#50	143.37	
#80	148.06	
#100	150.05	
#200	153.69	

No.: Spec. Set? Y / N Spec. Set No.:

nical Analysis? Y / N Uncalculated? Y / N

rometer Analysis? Y / N Uncalculated? Y / N

Glass & Misc. Debris

+10?: Rounded -- Angular Hard -- Soft -- Weathered

-#10:

ight of hydrometer sample (g): 50.02

Graduate No.: 11 Hydrometer No.: 13636

hygroscopic moisture correction? Y / N

If Y : Moist wt. & Tare: 28.62

Dry wt & Tare: 28.14

Tare No.: 330 Tare wt.: 11.61

Hygroscopic Moisture: 29

o. Temp. Correction? Y / N

If N :

Correction at 20°:

Temp. Comp. Correct.

1)
2)
3)
4)
5)

(Time)	Elapse Time (min)	Temp. (°C)	Actual Reading	Diam. (mm)	% Finer
7:33	0	20.5	0		
7:35	2	20.5	17		
7:38	5	20.5	16		
7:48	15	20.5	14		
8:03	30	20.5	13		
8:33	60	20.5	12		
11:43	250	20	10		
7:33	1440	17	10		

niscus Correction: 0 Spec. Grav.: (2.7 if not tested)

e of Hydrometer? 152H? Y

Effective Depth Shown? Y

David Sparks 5/3/94

Print test summary? Y / N

00159.1062

ATEC Associates, Inc.

187

Particle Size Analysis

File No. GS _____ . _____

Date: 5/3/94

Project No.: 21-02 . 94 . 42130

Project: SAS 8356-F-04

Location of Sample: SF 9667

Sample Description:

USCS Class: _____

AASHTO Class: _____

Liquid Limit: _____

Plasticity Index _____

Dry Sample & Tare wt.: 169.69

Tare No.: _____ Tare wt.: 24.82

Wash data? Y / N

Washed Sample & Tare wt.: _____

Tare No.: _____ Tare wt.: _____

Split Sample & Tare wt.: 172.57

Tare No.: 63

Tare wt.: 123.36

Remarks

Line 1: (Client) Dave Gross Diam

Line 2:

Line 3:

Line 4: (Sample No.) 940336

Size	Cumm. Wt. Retained	% Finer
1.5"	—	
1.0"	—	
.75"	—	
.5"	41.62	
.375"	46.81	
#4	56.46	
#8	65.63	
#10	68.54	
#16	132.15	
#30	140.63	
#40	144.59	
#50	148.21	
#80	151.92	
#100	153.51	
#200	157.21	

Log. No.: _____ Spec. Set? Y / N Spec. Set No.: _____

Mechanical Analysis? Y / N Uncalculated? Y / N

Hydrometer Analysis? Y / N Uncalculated? Y / N

Glass & Mica Debris

+10?: Rounded -- Angular Hard -- Soft -- Weathered

-#10: _____

Weight of hydrometer sample (g): 50.05

Use hygroscopic moisture correction? Y / N

If Y : Moist wt. & Tare: 28.07

Dry wt & Tare: 27.79

Tare No.: 318 Tare wt.: 11.52

Hygroscopic Moisture: 1.7

Auto. Temp. Correction? Y / N

Y : If N :

Correction at 20°: _____

Temp.	Comp. Correct.
1)	
2)	
3)	
4)	
5)	

Meniscus Correction: 0 Spec. Grav.: _____ (2.7 if not tested)

Type of Hydrometer? 152H? Y

Use Effective Depth Shown? Y

David Franks 5/3/94

Graduate No.: 33 Hydrometer No.: 13636

(Time)	Elapse Time (min)	Temp. (°C)	Actual Reading	Diam. (mm)	% Finer
7:31	0	20.5	0		
7:33	2	20.5	15		
7:36	5	20.5	14		
7:46	15	20.5	12		
8:01	30	20.5	10		
8:31	60	20.5	9		
11:41	250	20	7		
7:31	1440	17	7		

Print test summary? Y / N

00159.1063

ATEC Associates, Inc.

188

Particle Size Analysis

File No. GS _____ . _____

ate: 5/2/94

roject No.: 21-02 - 94 - 42130

roject: SAS 8356 - F - 04

ocation of Sample: SF 9668

mple Description: _____

SCS Class: _____ Dry Sample & Tare wt.: 204.27

ASHTO Class: _____ Tare No.: _____ Tare wt.: 24.83

quid Limit: _____ Wash data? Y / N

Washed Sample & Tare wt.: _____

asticity Index: _____ Tare No.: _____ Tare wt.: _____

marks

e 1: (Client) [illegible]

e 2: _____

e 3: _____

4: (Sample No.) 940336

Split Sample & Tare wt.: 157.48

Tare No.: 22

Tare wt.: 111.18

Size	Cumm. Wt. Retained	% Finer
1.5"	—	
1.0"	—	
.75"	—	
.5"	—	
.375"	26.55	
#4	31.45	
#8	39.56	
#10	44.06	
#16	112.00	
#30	113.03	
#40	114.15	
#50	117.09	
#80	122.26	
#100	124.88	
#200	128.22	

No.: _____ Spec. Set? Y / N Spec. Set No.: _____

anical Analysis? Y / N Uncalculated? Y / N

drometer Analysis? Y / N Uncalculated? Y / N

Glass & misc debris

+10?: Rounded -- Angular Hard -- Soft -- Weathered

-#10: _____

ight of hydrometer sample (g): 50.05

Graduate No.: 69 Hydrometer No.: 90-6725

hygroscopic moisture correction? Y / N

If Y : Moist wt. & Tare: 26.50

Dry wt & Tare: 25.39

Tare No.: 176 Tare wt.: 11.74

Hygroscopic Moisture: 8.1

o. Temp. Correction? Y / N

Correction at 20°: _____

If N :

	Temp.	Comp. Correct.
1)		
2)		
3)		
4)		
5)		

(Time)	Elapse Time (min)	Temp. (°C)	Actual Reading	Diam. (mm)	% Finer
8:00	0	22.5	0		
8:02	2	22.5	32		
8:05	5	22.5	30		
8:15	15	22.5	28		
8:30	30	22.5	27		
9:00	60	23	26		
12:10	250	23.5	25		
8:00	1440	22.5	22		

niscus Correction: 0 Spec. Grav.: _____ (2.7 if not tested)

e of Hydrometer? 152H? Y

Effective Depth Shown? Y

David [illegible]
5/2/94

Print test summary? Y / N

00159.1064

ATEC Associates, Inc.

184

Particle Size Analysis

File No. GS ____ . ____

Date: 5/3/94

Project No.: 21-02-94-42130

Project: SAS 8356-F-04

Location of Sample: SF 9529

Sample Description: ____

USCS Class: ____

AASHTO Class: ____

Liquid Limit: ____

Plasticity Index: ____

Dry Sample & Tare wt.: 146.30

Tare No.: ____ Tare wt.: 24.83

Wash data? Y / N

Washed Sample & Tare wt.: ____

Tare No.: ____ Tare wt.: ____

Remarks

Line 1: (Client) Dyn Corp Vicar

Line 2: ____

Line 3: ____

Line 4: (Sample No.) 940336

Split Sample & Tare wt.: 171.92

Tare No.: 57

Tare wt.: 122.97

Size	Cumm. Wt. Retained	% Finer
1.5"		
1.0"		
.75"		
.5"		
.375"		
#4		
#8		
#10	25.54	
#16	123.10	
#30	123.38	
#40	123.65	
#50	124.12	
#80	125.54	
#100	128.26	
#200	141.69	

Sig. No.: ____ Spec. Set? Y / N Spec. Set No.: ____

Mechanical Analysis? Y / N Uncalculated? Y / N

Hydrometer Analysis? Y / N Uncalculated? Y / N

Sticks + Leaves

+10?: Rounded -- Angular Hard -- Soft -- Weathered

-#10: ____

Weight of hydrometer sample (g): 50.08

Graduate No.: 8 Hydrometer No.: 13636

Use hygroscopic moisture correction? Y / N

If Y : Moist wt. & Tare: 24.84

Dry wt & Tare: 24.55

Tare No.: 321 Tare wt.: 11.78

Hygroscopic Moisture: 2.3

Auto. Temp. Correction? Y / N

Y : If N :

Correction at 20°: ____

	Temp.	Comp. Correct.
1)		
2)		
3)		
4)		
5)		

Meniscus Correction: 0 Spec. Grav.: ____ (2.7 if not tested)

Type of Hydrometer? 152H? Y

Use Effective Depth Shown? Y

David Sparks 5/3/94

(Time)	Elapse Time (min)	Temp. (°C)	Actual Reading	Diam. (mm)	% Finer
7:29	0	20.5	0		
7:31	2	20.5	21		
7:34	5	20.5	18		
7:44	15	20.5	15		
7:59	30	20.5	14		
8:29	60	20.5	12		
11:39	250	20	11		
7:29	1440	17	10		

Print test summary? Y / N

00159.1065

ATEC Associates, Inc.

Particle Size Analysis

190

File No. GS ____ . ____

Date: 5/2/94

roject No.: 21-02-94-42130

roject: SAS 8356-F-04

ocation of Sample: SF 9530

ample Description: ____

SCS Class: ____

ASHTO Class: ____

quid Limit: ____

asticity Index: ____

Dry Sample & Tare wt.: 118.02

Tare No.: ____ Tare wt.: 24.83

Wash data? Y / N

Washed Sample & Tare wt.: ____

Tare No.: ____ Tare wt.: ____

emarks

e 1: (Client) Ayres Corp Vicar

e 2: ____

e 3: ____

e 4: (Sample No.) 940336

Split Sample & Tare wt.: 159.41

Tare No.: 38

Tare wt.: 110.66

Size	Cumm. Wt. Retained	% Finer
1.5"	—	
1.0"	—	
.75"	—	
.5"	—	
.375"	25.77	
#4	28.14	
#8	30.31	
#10	31.01	
#16	111.66	
#30	112.98	
#40	113.99	
#50	115.32	
#80	118.50	
#100	124.95	
#200	139.28	

o.: ____ Spec. Set? Y / N Spec. Set No.: ____

nical Analysis? Y / N Uncalculated? Y / N

drometer Analysis? Y / N Uncalculated? Y / N

Glass & misc debris

+10?: Rounded -- Angular Hard - Soft – Weathered

#10: ____

eight of hydrometer sample (g): 50.07

e hygroscopic moisture correction? Y / N

If Y : Moist wt. & Tare: 21.76

Dry wt & Tare: 21.47

Tare No.: 158 Tare wt.: 10.73

Hygroscopic Moisture: 2.7

to. Temp. Correction? Y / N

Y :

Correction at 20°: ____

If N :

	Temp.	Comp. Correct.
1)		
2)		
3)		
4)		
5)		

eniscus Correction: 0 Spec. Grav.: ____ (2.7 if not tested)

pe of Hydrometer? 152H? Y

e Effective Depth Shown? Y

[signature] 5/2/94

Graduate No.: 4 Hydrometer No.: 90-6725

(Time)	Elapse Time (min)	Temp. (°C)	Actual Reading	Diam. (mm)	% Finer
8:02	0	22.5	0		
8:04	2	22.5	17		
8:07	5	22.5	15		
8:17	15	22.5	13		
8:32	30	22.5	12		
9:02	60	23	12		
12:12	250	23.5	10		
8:02	1440	22.5	9		

Print test summary? Y / N

00159.1066

131

ATEC Associates, Inc.

Particle Size Analysis

File No. GS ____ . ____

Date: 5/3/94

Project No.: 21-02 - 94 - 42130

Project: SAS 8356 F-04

Location of Sample: SF 9518

Sample Description: ____

USCS Class: ____

Dry Sample & Tare wt.: 102.09

AASHTO Class: ____

Tare No.: ____ Tare wt.: 24.83

Liquid Limit: ____

Wash data? Y / N

Washed Sample & Tare wt.: ____

Plasticity Index: ____

Tare No.: ____ Tare wt.: ____

Remarks

Line 1: (Client) Dry Cyp Vicu

Split Sample & Tare wt.: 152.18

Line 2: ____

Tare No.: 129

Line 3: ____

Tare wt.: 102.71

Line 4: (Sample No.) 940336

Size	Cumm. Wt. Retained	% Finer
1.5"		
1.0"		
.75"		
.5"		
.375"		
#4		
#8		
#10	27.44	
#16	102.85	
#30	103.48	
#40	104.28	
#50	105.74	
#80	109.90	
#100	119.67	
#200	140.08	

Log. No.: ____ Spec. Set? Y / N Spec. Set No.: ____

Mechanical Analysis? Y / N Uncalculated? Y / N

Hydrometer Analysis? Y / N Uncalculated? Y / N

Leaves Trash

+10?: Rounded -- Angular Hard -- Soft -- Weathered

-#10: ____

Weight of hydrometer sample (g): 50.06

Graduate No.: 15 Hydrometer No.: 13636

Use hygroscopic moisture correction? Y / N

If Y : Moist wt. & Tare: 26.68

Dry wt & Tare: 26.50

Tare No.: 216 Tare wt.: 11.32

Hygroscopic Moisture: 1.2

Auto. Temp. Correction? Y / N

Y : If N :

Correction at 20°: ____

	Temp.	Comp. Correct.
1)		
2)		
3)		
4)		
5)		

(Time)	Elapse Time (min)	Temp. (°C)	Actual Reading	Diam. (mm)	% Finer
9:02	0	20	0		
9:04	2	20	9		
9:07	5	20	9		
9:17	15	20	9		
9:32	30	20	9		
10:02	60	20	9		
1:12	250	20	8		
9:02	1440	18	7		

Meniscus Correction: 0 Spec. Grav.: ____ (2.7 if not tested)

Type of Hydrometer? 152H? Y

Use Effective Depth Shown? Y

David Sparks 5/3/94

Print test summary? Y / N

00159.1067

132

ATEC Associates, Inc.

Particle Size Analysis

File No. GS ____ . ____

5/3/94

Project No.: 21-02-94-42130

Project: SAS 8356 F-04

Location of Sample: SF 9518 QC

Sample Description: ____

USCS Class: ____

AASHTO Class: ____

Liquid Limit: ____

Plasticity Index: ____

Dry Sample & Tare wt.: 102.53

Tare No.: ____ Tare wt.: 24.83

Wash data? Y / N

Washed Sample & Tare wt.: ____

Tare No.: ____ Tare wt.: ____

Remarks

Line 1: (Client) Dyn Corp Vian

Line 2: ____

Line 3: ____

Line 4: (Sample No.) 940336

Split Sample & Tare wt.: 157.45

Tare No.: SWD

Tare wt.: 108.02

Size	Cumm. Wt. Retained	% Finer
1.5"		
1.0"		
.75"		
.5"		
.375"		
#4		
#8		
#10	25.47	
#16	108.16	
#30	108.81	
#40	109.65	
#50	111.14	
#80	114.91	
#100	124.70	
#200	144.64	

Fig. No.: ____ Spec. Set? Y / N Spec. Set No.: ____

Mechanical Analysis? Y / N Uncalculated? Y / N

Hydrometer Analysis? Y / N Uncalculated? Y / N

Lecures Trash

+10?: Rounded -- Angular Hard -- Soft -- Weathered

6 -#10: ____

Weight of hydrometer sample (g): 50.02

Use hygroscopic moisture correction? Y / N

If Y: Moist wt. & Tare: 22.65

Dry wt & Tare: 22.52

Tare No.: 165 Tare wt.: 11.37

Hygroscopic Moisture: 1.2

Auto. Temp. Correction? Y / N

If Y: Correction at 20°: ____

If N: Temp. Comp. Correct.

1)
2)
3)
4)
5)

Meniscus Correction: 0 Spec. Grav.: ____ (2.7 if not tested)

Type of Hydrometer? 152H? Y

Use Effective Depth Shown? Y

David Sparks 5/3/94

Graduate No.: 81 Hydrometer No.: 13636

(Time)	Elapse Time (min)	Temp. (°C)	Actual Reading	Diam. (mm)	% Finer
9:16	0	20	0		
9:18	2	20	10		
9:21	5	20	10		
9:31	15	20	10		
9:46	30	20	9		
10:16	60	20	8		
1:26	250	20	8		
9:16	1440	18	7		

Print test summary? Y / N

00159.1068

ATEC Associates, Inc.

133

Particle Size Analysis

File No. GS [illegible]

Date: 5/3/94

Project No.: 21-02-94-42130

Project: SAS 8356-F-04

Location of Sample: SF 9521

Sample Description:

USCS Class:

Dry Sample & Tare wt.: 206.57

AASHTO Class:

Tare No.: Tare wt.: 24.84

Liquid Limit:

Wash data? Y / N

Washed Sample & Tare wt.:

Plasticity Index:

Tare No.: Tare wt.:

Remarks

Line 1: (Client) Dryer Corp [illegible]

Split Sample & Tare wt.: 159.10

Line 2:

Tare No.: 18

Line 3:

Tare wt.: 109.67

Line 4: (Sample No.) 940736

Size	Cumm. Wt. Retained	% Finer
1.5"	—	
1.0"	—	
.75"	34.52	
.5"	57.43	
.375"	63.77	
#4	77.71	
#8	83.81	
#10	85.25	
#16	110.55	
#30	111.66	
#40	113.05	
#50	116.27	
#80	125.73	
#100	132.70	
#200	142.31	

Log. No.: Spec. Set? Y / N Spec. Set No.:

Mechanical Analysis? Y / N Uncalculated? Y / N

Hydrometer Analysis? Y / N Uncalculated? Y / N

mostly shells

+10?: Rounded -- Angular Hard -- Soft -- Weathered

-#10:

Weight of hydrometer sample (g): 50.02

Graduate No.: 30 Hydrometer No.: 13636

Use hygroscopic moisture correction? Y / N

If Y: Moist wt. & Tare: 25.86

Dry wt & Tare: 25.69

Tare No.: 123 Tare wt.: 11.55

Hygroscopic Moisture: 1.2

Auto. Temp. Correction? Y / N

Y: If N:

Correction at 20°: Temp. Comp. Correct.

1)
2)
3)
4)
5)

Meniscus Correction: 0 Spec. Grav.: (2.7 if not tested)

Type of Hydrometer? 152H? Y

Use Effective Depth Shown? Y

David Sparks 5/3/94

(Time)	Elapse Time (min)	Temp. (°C)	Actual Reading	Diam. (mm)	% Finer
9:10	0	20	0		
9:12	2	20	15		
9:15	5	20	14		
9:25	15	20	13		
9:40	30	20	13		
10:10	60	20	12		
1:20	250	20	10		
9:10	1440	18	9		

Print test summary? Y / N

00159.1069

ATEC Associates, Inc.

134

Particle Size Analysis

File No. GS ____ . ____

Date: 5/3/94

Project No.: 21-02-94-42130

Project: SAS 8356-F-04

Location of Sample: SF 9522

Sample Description:

USCS Class:

AASHTO Class:

Liquid Limit:

Plasticity Index:

Dry Sample & Tare wt.: 137.85

Tare No.: ____ Tare wt.: 24.83

Wash data? Y / N

Washed Sample & Tare wt.:

Tare No.: ____ Tare wt.:

Split Sample & Tare wt.: 158.57

Tare No.: 124

Tare wt.: 109.53

Remarks

Line 1: (Client) Dyn Corp Univ

Line 2:

Line 3:

Line 4: (Sample No.) 340336

Size	Cumm. Wt. Retained	% Finer
1.5"	—	
1.0"	—	
.75"	—	
.5"	28.41	
.375"	—	
#4	33.87	
#8	37.43	
#10	38.84	
#16	110.48	
#30	111.69	
#40	113.03	
#50	115.60	
#80	122.63	
#100	127.91	
#200	137.47	

Spec. No.: ____ Spec. Set? Y / N Spec. Set No.: ____

Chemical Analysis? Y / N Uncalculated? Y / N

Hydrometer Analysis? Y / N Uncalculated? Y / N

+10?: Rounded -- Angular Hard -- Soft -- Weathered

-#10:

Weight of hydrometer sample (g): 50.07

Graduate No.: 7 Hydrometer No.: 12636

Use hygroscopic moisture correction? Y / N

If Y: Moist wt. & Tare: 23.31

Dry wt & Tare: 23.05

Tare No.: 149 Tare wt.: 10.83

Hygroscopic Moisture: 2.1

Auto. Temp. Correction? Y / N

Y: If N:

Correction at 20°:

Temp. Comp. Correct.

1)
2)
3)
4)
5)

Meniscus Correction: 0 Spec. Grav.: ____ (2.7 if not tested)

Type of Hydrometer? 152H? Y

Use Effective Depth Shown? Y

David Sparks 5/3/94

(Time)	Elapse Time (min)	Temp. (°C)	Actual Reading	Diam. (mm)	% Finer
9:12	0	20	0		
9:14	2	20	20		
9:17	5	20	19		
9:27	15	20	17		
9:42	30	20	15		
10:12	60	20	14		
1:22	250	20	12		
9:12	1440	18	11		

Print test summary? Y / N

00159.1070

ATEC Associates, Inc.

135

Particle Size Analysis

File No. GS — . —

Date: 5/3/94

Project No.: 21- 03 - 94 - 42130

Project: SAS 8356-F-04

Location of Sample: SF 9523

Sample Description:

USCS Class:

Dry Sample & Tare wt.: 247.54

AASHTO Class:

Tare No.: Tare wt.: 24.83

Liquid Limit:

Wash data? Y / N

Washed Sample & Tare wt.:

Plasticity Index:

Tare No.: Tare wt.:

Remarks

Line 1: (Client) Dryer Corps Vicinity

Split Sample & Tare wt.: 208.41

Line 2:

Tare No.: 137

Line 3:

Tare wt.: 108.79

Line 4: (Sample No.) 940336

Size	Cumm. Wt. Retained	% Finer
1.5"		
1.0"		
.75"		
.5"		
.375"		
#4		
#8		
#10	26.35	
#16	109.57	
#30	112.43	
#40	119.33	
#50	135.79	
#80	176.36	
#100	197.86	
#200	205.61	

Sticks, Leaves & Trash

Log. No.: Spec. Set? Y / N Spec. Set No.:

Mechanical Analysis? Y / N Uncalculated? Y / N

Hydrometer Analysis? Y / N Uncalculated? Y / N

+10?: Rounded -- Angular Hard -- Soft -- Weathered

-#10:

Weight of hydrometer sample (g): 100.02

Graduate No.: 14 Hydrometer No.: 13636

Use hygroscopic moisture correction? Y / N

If Y : Moist wt. & Tare: 32.21

Dry wt & Tare: 32.12

Tare No.: 221 Tare wt.: 11.34

Hygroscopic Moisture: .4

Auto. Temp. Correction? Y / N

Y : If N :

Correction at 20°: Temp. Comp. Correct.

1)
2)
3)
4)
5)

(Time)	Elapse Time (min)	Temp. (°C)	Actual Reading	Diam. (mm)	% Finer
9:06	0	20	0		
9:08	2	20	8		
9:11	5	20	8		
9:21	15	20	8		
9:36	30	20	8		
10:06	60	20	8		
1:16	250	20	7		
9:06	1440	18	7		

Meniscus Correction: 0 Spec. Grav.: (2.7 if not tested)

Type of Hydrometer? 152H? Y

Use Effective Depth Shown? Y

David Sparks 5/3/94

Print test summary? Y / N

00159.1071

ATEC Associates, Inc.

136

Particle Size Analysis

File No. GS _____ . _____

5/3/94

roject No.: 21- 02 - 94 - 42130

roject: SAS 8356-F-04

ocation of Sample: SF 9524

ample Description: _____

SCS Class: _____

ASHTO Class: _____

iquid Limit: _____

iasticity Index: _____

Dry Sample & Tare wt.: 240.96

Tare No.: _____ Tare wt.: 24.83

Wash data? Y / N

Washed Sample & Tare wt.: _____

Tare No.: _____ Tare wt.: _____

emarks

ne 1: (Client) [illegible]

ne 2: _____

ne 3: _____

ne 4: (Sample No.) 94D336

Split Sample & Tare wt.: 206.64

Tare No.: 155

Tare wt.: 106.84

Size	Cumm. Wt. Retained	% Finer
1.5"	—	
1.0"	—	
.75"	—	
.5"	—	
.375"	—	
#4	25.22	
#8	25.96	
#10	26.27	
#16	107.62	
#30	111.25	
#40	123.46	
#50	161.32	
#80	192.62	
#100	199.61	
#200	205.10	

g. No.: _____ Spec. Set? Y / N Spec. Set No.: _____

ical Analysis? Y / N Uncalculated? Y / N

eter Analysis? Y / N Uncalculated? Y / N

+10?: Rounded -- Angular Hard -- Soft -- Weathered

-#10: _____

eight of hydrometer sample (g): 100.10

Graduate No.: 13 Hydrometer No.: 13636

se hygroscopic moisture correction? Y / N

If Y : Moist wt. & Tare: 31.46

Dry wt & Tare: 31.41

Tare No.: 118 Tare wt.: 11.54

Hygroscopic Moisture: .3

ito. Temp. Correction? Y / N

Y : If N :

Correction at 20°: _____

	Temp.	Comp. Correct.
1)		
2)		
3)		
4)		
5)		

eniscus Correction: 0 Spec. Grav.: _____ (2.7 if not tested)

pe of Hydrometer? 152H? Y

e Effective Depth Shown? Y

David [illegible]
5/3/94

(Time)	Elapse Time (min)	Temp. (°C)	Actual Reading	Diam. (mm)	% Finer
9:04	0	20	0		
9:06	2	20	7		
9:09	5	20	7		
9:19	15	20	7		
9:34	30	20	7		
10:04	60	20	7		
1:14	250	20	7		
9:04	1440	18	7		

Print test summary? Y / N

00159.1072

ATEC Associates, Inc.

137

Particle Size Analysis

File No. GS ___ . ___

Date: 5/3/94

Project No.: 21-07-94-42130

Project: SAS 8356-F-04

Location of Sample: SF 9525

Sample Description: ___

USCS Class: ___

AASHTO Class: ___

Liquid Limit: ___

Plasticity Index: ___

Dry Sample & Tare wt.: 188.60

Tare No.: ___ Tare wt.: 24.83

Wash data? Y / N

Washed Sample & Tare wt.: ___

Tare No.: ___ Tare wt.: ___

Remarks

line 1: (Client) Dyn Corp Vicu

line 2: ___

line 3: ___

line 4: (Sample No.) 940336

Split Sample & Tare wt.: 207.40

Tare No.: 139

Tare wt.: 108.04

Size	Cumm. Wt. Retained	% Finer
1.5"	—	
1.0"	—	
.75"	—	
.5"	31.14	
.375"	—	
#4	31.60	
#8	32.18	
#10	32.69	
#16	109.05	
#30	110.11	
#40	112.17	
#50	119.53	
#80	145.64	
#100	171.47	
#200	200.09	

Fig. No.: ___ Spec. Set? Y / N Spec. Set No.: ___

Mechanical Analysis? Y / N Uncalculated? Y / N

Hydrometer Analysis? Y / N Uncalculated? Y / N

+10?: Rounded – Angular Hard – Soft – Weathered

% -#10: ___

Weight of hydrometer sample (g): 100.06

Graduate No.: 86 Hydrometer No.: 13636

Use hygroscopic moisture correction? Y / N

If Y : Moist wt. & Tare: 25.06

Dry wt & Tare: 24.96

Tare No.: 150 Tare wt.: 10.68

Hygroscopic Moisture: .7

Auto. Temp. Correction? Y / N

If Y : Correction at 20°: ___

If N : Temp. Comp. Correct.

1)
2)
3)
4)
5)

(Time)	Elapse Time (min)	Temp. (°C)	Actual Reading	Diam. (mm)	% Finer
9:18	0	20	0		
9:20	2	20	8		
9:23	5	20	8		
9:33	15	20	8		
9:48	30	20	8		
10.18	60	20	9		
1:28	250	20	8		
9:18	1440	18	8		

Meniscus Correction: 0 Spec. Grav.: ___ (2.7 if not tested)

Type of Hydrometer? 152H? Y

Use Effective Depth Shown? Y

David Sparks 5/3/94

Print test summary? Y / N

00159.1073

ATEC Associates, Inc.

138

Particle Size Analysis

File No. GS ____ . ____

5/3/94

Project No.: 21- 01 - 94 - 42130

Project: SAS 8356 - F-04

Location of Sample: SF 9526

Sample Description: ____

USCS Class: ____ Dry Sample & Tare wt.: 314.35

AASHTO Class: ____ Tare No.: ____ Tare wt.: 24.83

Liquid Limit: ____ Wash data? Y / N

Washed Sample & Tare wt.: ____

Plasticity Index: ____ Tare No.: ____ Tare wt.: ____

Remarks

Line 1: (Client) Dyn Corp Vicu Split Sample & Tare wt.: 207.86

Line 2: ____ Tare No.: 143

Line 3: ____ Tare wt.: 108.14

Line 4: (Sample No.) 340336

Fig. No.: ____ Spec. Set? Y / N Spec. Set No.: ____

Mechanical Analysis? Y / N Uncalculated? Y / N

Hydrometer Analysis? Y / N Uncalculated? Y / N

Glass shells

+10?: Rounded -- Angular Hard -- Soft -- Weathered

5 -#10: ____

Weight of hydrometer sample (g): 100.02

Use hygroscopic moisture correction? Y / N

If Y: Moist wt. & Tare: 25.62

Dry wt & Tare: 25.58

Tare No.: 108 Tare wt.: 11.33

Hygroscopic Moisture: .3

Auto. Temp. Correction? Y / N

If Y: If N:

Correction at 20°: ____

	Temp.	Comp. Correct.
1)		
2)		
3)		
4)		
5)		

Meniscus Correction: 0 Spec. Grav.: ____ (2.7 if not tested)

Type of Hydrometer? 152H? Y

Use Effective Depth Shown? Y

David Sparks 5/3/94

Size	Cumm. Wt. Retained	% Finer
1.5"	—	
1.0"	—	
.75"	—	
.5"	46.88	
.375"	64.45	
#4	124.85	
#8	175.45	
#10	188.05	
#16	133.13	
#30	159.75	
#40	176.48	
#50	192.31	
#80	201.20	
#100	203.74	
#200	206.60	

Graduate No.: 2 Hydrometer No.: 13636

(Time)	Elapse Time (min)	Temp. (°C)	Actual Reading	Diam. (mm)	% Finer
9:20	0	20	0		
9:22	2	20	6		
9:25	5	20	6		
9:35	15	20	6		
9:50	30	20	7		
10:20	60	20	7		
1:30	250	20	6		
9:30	1440	18	7		

Print test summary? Y / N

00159.1074

ATEC Associates, Inc.

139

Particle Size Analysis

File No. GS ___ . ___ 6

Date: 5/3/94

Project No.: 21-02-94-42130

Project: SAS 8356-F-04

Location of Sample: SF 9527

Sample Description:

USCS Class:

AASHTO Class:

Liquid Limit:

Plasticity Index:

Dry Sample & Tare wt.: 174.29

Tare No.: ___ Tare wt.: 24.52

Wash data? Y / N

Washed Sample & Tare wt.:

Tare No.: ___ Tare wt.:

Split Sample & Tare wt.: 157.90

Tare No.: 147

Tare wt.: 108.38

Remarks

Line 1: (Client) Dyn Corp Ulin

Line 2:

Line 3:

Line 4: (Sample No.) 340336

Size	Cumm. Wt. Retained	% Finer
1.5"		
1.0"		
.75"		
.5"		
.375"		
#4		
#8		
#10	25.19	
#16	108.47	
#30	108.84	
#40	109.58	
#50	111.06	
#80	114.91	
#100	124.53	
#200	144.97	

Proj. No.: ___ Spec. Set? Y / N Spec. Set No.: ___

Mechanical Analysis? Y / N Uncalculated? Y / N

Hydrometer Analysis? Y / N Uncalculated? Y / N

+10?: Rounded -- Angular (Trash sticks) Hard -- Soft -- Weathered

-#10: ___

Weight of hydrometer sample (g): 50.02

Use hygroscopic moisture correction? Y / N

If Y : Moist wt. & Tare: 28.42

Dry wt & Tare: 28.25

Tare No.: 366 Tare wt.: 11.52

Hygroscopic Moisture: 1.0

Auto. Temp. Correction? Y / N

Y : If N :

Correction at 20°: ___

Temp.	Comp. Correct.
1)	
2)	
3)	
4)	
5)	

Meniscus Correction: 0 Spec. Grav.: ___ (2.7 if not tested)

Type of Hydrometer? 152H? Y

Use Effective Depth Shown? Y

David Sparks 5/3/94

Graduate No.: 18 Hydrometer No.: 13676

(Time)	Elapse Time (min)	Temp. (°C)	Actual Reading	Diam. (mm)	% Finer
9:14	0	20	0		
9:16	2	20	10		
9:19	5	20	10		
9:29	15	20	9		
9:44	30	20	9		
10:14	60	20	9		
1:24	250	20	8		
9:14	1440	18	7		

Print test summary? Y / N

00159.1075

ATEC Associates, Inc.

140

Particle Size Analysis

File No. GS ____ . ____

5/3/94

oject No.: 21-02-94-42130

oject: SAS 8653-F-04

cation of Sample: SF 9-28

mple Description:

CS Class:

SHTO Class:

uid Limit:

sticity Index:

Dry Sample & Tare wt.: 283.24

Tare No.: ____ Tare wt.: 24.83

Wash data? Y / N

Washed Sample & Tare wt.:

Tare No.: ____ Tare wt.:

marks

1: (Client) Dyn Corp Vica

2:

3:

4: (Sample No.) 940336

Split Sample & Tare wt.: 155.32

Tare No.: 130

Tare wt.: 105.48

Size	Cumm. Wt. Retained	% Finer
1.5"	—	
1.0"	—	
.75"	—	
.5"	—	
.375"	26.93	
#4	33.62	
#8	46.89	
#10	51.43	
#16	108.49	
#30	112.91	
#40	118.18	
#50	125.75	
#80	134.91	
#100	140.43	
#200	149.68	

No.: ____ Spec. Set? Y / N Spec. Set No.: ____

cal Analysis? Y / N Uncalculated? Y / N

meter Analysis? Y / N Uncalculated? Y / N

Glass fuse debris

+10?: Rounded -- Angular (Hard -- Soft -- Weathered

#10:

ght of hydrometer sample (g): 50.09

Graduate No.: 9 Hydrometer No.: 14036

hygroscopic moisture correction? Y / N

If Y: Moist wt. & Tare: 29.89

Dry wt & Tare: 29.79

Tare No.: 104 Tare wt.: 11.36

Hygroscopic Moisture: .5

. Temp. Correction? Y / N

If N:

Correction at 20°:

Temp. Comp. Correct.

1)
2)
3)
4)
5)

(Time)	Elapse Time (min)	Temp. (°C)	Actual Reading	Diam. (mm)	% Finer
9:00	0	20	0		
9:02	2	20	9		
9:05	5	20	9		
9:15	15	20	9		
9:30	30	20	8		
10:00	60	20	8		
1:10	250	20	7		
9:00	1440	18	7		

:scus Correction: 0 Spec. Grav.: ____ (2.7 if not tested)

of Hydrometer? 152H? Y

Effective Depth Shown? Y

David Sparks 5/3/94

Print test summary? Y / N

00159.1076

ATEC Associates, Inc.

Particle Size Analysis

141

File No. GS ____ . 6

ate: 5/3/94

oject No.: 21-02-94-42130

oject: SAS 8356-F-04

cation of Sample: SF 9650

mple Description: ____

CS Class: ____

SHTO Class: ____

uid Limit: ____

sticity Index: ____

Dry Sample & Tare wt.: 189.42

Tare No.: ____ Tare wt.: 24.83

Wash data? Y / N

Washed Sample & Tare wt.: ____

Tare No.: ____ Tare wt.: ____

Split Sample & Tare wt.: 156.68

Tare No.: 150

Tare wt.: 107.53

Size	Cumm. Wt. Retained	% Finer
1.5"	—	
1.0"	—	
.75"	—	
.5"	49.50	
.375"	52.67	
#4	65.13	
#8	73.92	
#10	77.05	
#16	115.13	
#30	123.54	
#40	127.84	
#50	131.85	
#80	136.02	
#100	137.64	
#200	141.64	

marks

1: (Client) Dun Corp Vian

2: ____

3: ____

4: (Sample No.) 340336

No.: ____ Spec. Set? Y / N Spec. Set No.: ____

hanical Analysis? Y / N Uncalculated? Y / N

rometer Analysis? Y / N Uncalculated? Y / N

Glass + Rhese Debris

+10?: Rounded -- Angular Hard -- Soft -- Weathered

#10: ____

ght of hydrometer sample (g): 50.03

Graduate No.: 88 Hydrometer No.: 13636

hygroscopic moisture correction? Y / N

If Y: Moist wt. & Tare: 28.61

Dry wt & Tare: 28.31

Tare No.: 349 Tare wt.: 11.25

Hygroscopic Moisture: 1.8

. Temp. Correction? Y / N

If N:

Correction at 20°: ____

	Temp.	Comp. Correct.
1)		
2)		
3)		
4)		
5)		

(Time)	Elapse Time (min)	Temp. (°C)	Actual Reading	Diam. (mm)	% Finer
9:08	0	20	0		
9:10	2	20	15		
9:13	5	20	13		
9:23	15	20	12		
9:38	30	20	10		
10:08	60	20	9		
1:18	250	20	7		
9:08	1440	18	7		

scus Correction: 0 Spec. Grav.: ____ (2.7 if not tested)

of Hydrometer? 152H? Y David Spurk

Effective Depth Shown? Y 5/3/94

Print test summary? Y / N

00159.1077

LABORATORY TESTING
E.P.A. SAMPLES
AGRICULTURE STREET LANDFILL
LOUISIANA

HENLEY
JOHNSTON
& ASSOCIATES, INC.
engineering geoscience consultants

(214) 941-3808 fax (214) 943-7645
235 Morgan Ave., Dallas, Texas 75203-1088

00159.1078

HENLEY
JOHNSTON
& ASSOCIATES, INC.
engineering geoscience consultants

Aubrey D. Henley, R.G., C.E.G.
president

John W. Johnston, P.E.
executive vice-president

William D. Flanigan, R.G.
senior vice-president

Herbert C. Crowder, R.G.
senior vice-president

28 June 1994

Ecology and Environment, Inc.
1999 Bryan Street, Suite 2000
Dallas, Texas 75201

Attention: Mr. Michael Watson

Re: Laboratory Testing
E.P.A. Samples
Agriculture Street Landfill
Louisiana
HJA 6266

Dear Mr. Watson:

In accordance with your Purchase Order No. 95469, we have completed laboratory testing on E.P.A. soil samples from the Agriculture Street Landfill in Louisiana. The report submitted herewith includes a brief description of each test type and the results of all tests.

Please note that two Atterberg Limits and five grain size analyses could not be performed for lack of sufficient sample.

We trust this provides the information you need at this time. Please call us if you have any questions or require additional information.

Sincerely,

John W. Johnston, P.E.
Henley-Johnston & Associates, Inc.

JWJ
Enclosure

telephone (214) 941-3808 fax (214) 943-7645 235 Morgan Ave., Dallas, Texas 75203-1088

00159.1080

ECOLOGY AND ENVIRONMENT, INC.
E.P.A. SAMPLES - LABORATORY TESTING
AGRICULTURE STREET LANDFILL
LOUISIANA

LABORATORY TESTING

General

Laboratory tests were performed on 25 disturbed and 6 undisturbed samples of soil provided by Ecology and Environment, Inc. Tests were performed in general accordance with ASTM standards, where applicable, or as otherwise noted.

Triaxial Permeability

Permeability was determined for a specimen from each of the six undisturbed samples by triaxial permeability methods as described in ASTM D 5084. In this test, a cylindrical specimen is enclosed in a membrane and placed in a triaxial cell where a hydrostatic pressure approximating the in situ overburden pressure is applied to the specimen. The specimen is saturated by back-pressure methods and consolidated under the overburden pressure. Following completion of consolidation, the permeability of the specimen is determined by the falling head method. The permeabilities resulting from these tests, together with moisture content and dry unit weight of each specimen, are tabulated on Plate 1.

Atterberg Limits Tests

Atterberg Limits were determined on portions of 23 disturbed samples to estimate the plasticity characteristics of the material. The Plasticity Index (PI) is representative of this characteristic and is bracketed by the Liquid Limit (LL) and the Plastic Limit (PL). The Liquid Limit is the moisture content at and above which the soil will flow as a heavy viscous fluid; the Plastic Limit is the lowest moisture content at which the soil remains plastic. These indices were determined in accordance with ASTM D 4318 (formerly ASTM D 427) procedures. Atterberg Limits determined by these tests are shown graphically

on the Plasticity Chart on Plate 2 and the test results are tabulated on Plate 3. Two samples did not have sufficient material to perform this test.

Grain Size

Grain size analyses (sieve and hydrometer) were performed on 20 disturbed samples. These tests were conducted in general accordance with ASTM D 422.

For particle sizes larger than the No. 200 sieve, sieve analyses were performed by passing the sample over a series of sieves with successively smaller openings and determining the weight of material retained on each sieve. The hydrometer analysis is generally utilized to determine particle sizes smaller than the No. 200 sieve. In this test, the sample is dispersed and transferred into a soil sedimentation cylinder; hydrometer and temperature readings are taken at specified intervals and, by use of Stokes' Law, the diameter of particle size at each hydrometer reading is calculated.

Grain size distribution curves are presented on Plates 4 through 28. Five samples did not provide enough material to perform this test; plates are included for these samples with a notation of insufficient sample.

Unconsolidated-Undrained Triaxial Compression Tests

Unconsolidated-undrained triaxial compression tests were performed on six undisturbed samples. These tests were performed in accordance with ASTM D 2850. In the unconsolidated-undrained triaxial compression test, a sample is hydrostatically confined at a pressure approximating the in situ overburden pressure and then loaded axially to failure. The test is performed fairly rapidly (failure achieved within 2 to 10 minutes) resulting in an undrained test for a cohesive soil sample.

Stress-strain curves for unconsolidated-undrained triaxial compression tests are presented on Plates 29 through 34. Soil modulus values were interpreted from the stress-strain curves using a tangent modulus at 50 percent of peak stress. These modulus values are noted on the stress strain curves.

Consolidation Tests

Consolidation tests were conducted on six undisturbed samples. This test involves the application of an axial load to a laterally confined specimen and the measurement of vertical deformation over time. The load is transmitted to the upper and lower surface of the sample through two porous disks which permit access of water to and from the specimen while deformation of the specimen is measured by a dial gauge. The deformation-time data are plotted on a semi-logarithmic plot of dial reading (deformation) vs. log of time. The load-deformation data are plotted as void ratio versus log of applied load. These tests were performed in accordance with the procedures of ASTM D 2435 and the results of the tests are presented on Plates 35 through 46.

HENLEY
JOHNSTON
& ASSOCIATES, INC.
engineering geoscience consultants

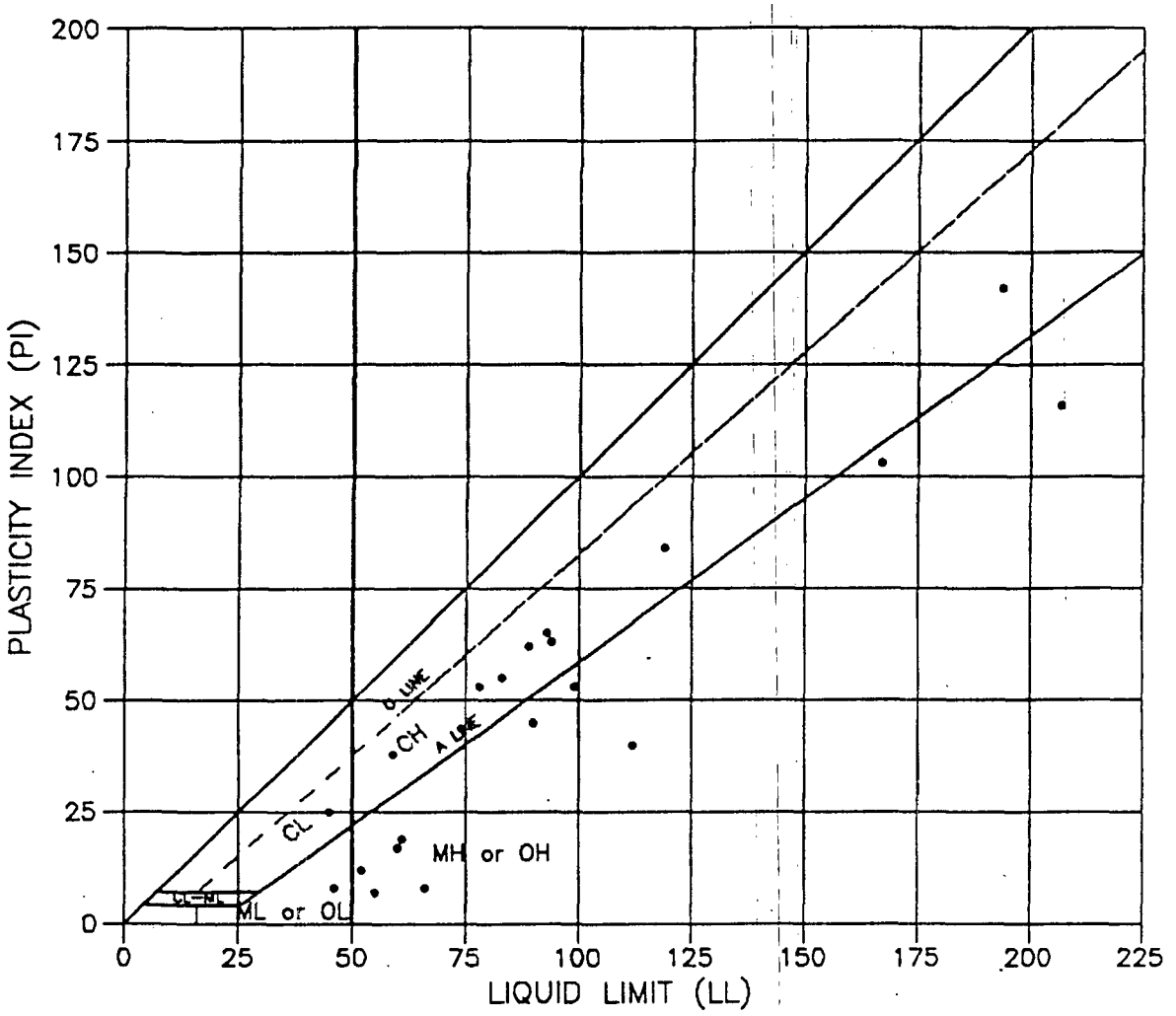
SUMMARY OF PERMEABILITY TESTS

ECOLOGY AND ENVIRONMENTAL, INC.
PROJECT No. ZT2061/ELA0116SDA

FLEXIBLE WALL PERMEABILTY TESTS
ASTM D 5084

BORING NUMBER	SAMPLE NUMBER	DEPTH (ft)	MOISTURE CONTENT (%)	DRY UNIT WEIGHT (pcf)	COEFFICIENT OF PERMEABILITY k (cm/sec)	MATERIAL TYPE
MW-004	ST-01	~~35.5-38.0~~ 35-37.5	90.2	52.0	1.0 E -8	CLAY
MW-010	ST-01	~~33.8-34.2~~ 35-35	98.6	46.7	3.8 E -8	CLAY
MW-018	ST-01	~~37.0-37.5~~ 35-37.5	61.2	60.1	1.4 E -8	CLAY
MW-024	ST-01	36.5-37.5	47.1	69.5	1.8 E -8	CLAY
MW-028	ST-01	~~36.0-36.5~~ 35-37.5	69.0	59.2	1.5 E -8	CLAY
MW-032	ST-01	34.2-34.6 34-36	54.4	70.8	4.9 E -9	CLAY

telephone (214) 941-3808 fax (214) 943-7645 235 Morgan Ave., Dallas, Texas 75203-1088



SUMMARY OF ATTERBERG LIMITS

ECOLOGY AND ENVIRONMENTAL	
SUMMARY OF ATTERBERG LIMITS	
HENLEY-JOHNSTON & ASSOCIATES, INC. engineering geoscience consultants	
HJA NO.: 6266	PLATE 2
DATE TESTED: 06/15/94	

HENLEY
JOHNSTON
& ASSOCIATES, INC.
engineering geoscience consultants

SUMMARY OF ATTERBERG LIMIT TESTS

ECOLOGY AND ENVIRONMENTAL, INC.
PROJECT No. ZT2061/ELA0116SDA

ATTERBERG LIMIT TESTS
ASTM D 4318

BORING NUMBER	SAMPLE NUMBER	LIQUID LIMIT (%)	PLASTIC LIMIT (%)	PLASTICITY INDEX	UNIFIED SOIL CLASSIFICATION
MW-004	SB-03	INSUFFICIENT QUANTITY OF MATERIAL PROVIDED FOR THIS TEST			TRASH
MW-004	SB-04	112	72	40	PEAT (MH or OH)
MW-004	SB-05	83	28	55	CLAY (CH)
MW-010	SB-03	61	42	19	WASTE (MH or OH)
MW-010	SB-04	194	52	142	PEAT (CH)
MW-010	SB-05	93	28	65	CLAY (CH)
MW-018	SB-03	99	46	53	WASTE (MH or OH)
MW-018	SB-04	167	64	103	PEAT (MH or OH)
MW-018	SB-05	78	25	53	CLAY (CH)
MW-024	SB-02	46	38	8	WASTE (MH or OH)
MW-024	SB-03	90	45	45	PEAT (MH or OH)
MW-024	SB-04	119	35	84	CLAY (CH)
MW-027	SB-01		NON-PLASTIC		WASTE
MW-027	SB-03	45	20	25	CLAY (CL)
MW-028	SB-05	89	27	62	CLAY (CH)
MW-031	SB-01		NON-PLASTIC		PEAT & TRASH
MW-032	SB-03	94	31	63	CLAY (CH)
MW-034	SB-05	59	21	38	CLAY (CH)
MW-036	SB-04		NON-PLASTIC		WASTE
MW-038	SB-04	66	58	8	WASTE (MH or OH)
MW-040	SB-04	INSUFFICIENT QUANTITY OF MATERIAL PROVIDED FOR THIS TEST			TRASH
MW-046	SB-04	52	40	12	WASTE (MH or OH)
BL-006	SB-01	55	48	7	WASTE (MH or OH)
BL-007	SB-01	60	43	17	WASTE (MH or OH)
BL-007	SB-02	207	91	116	PEAT (MH or OH)

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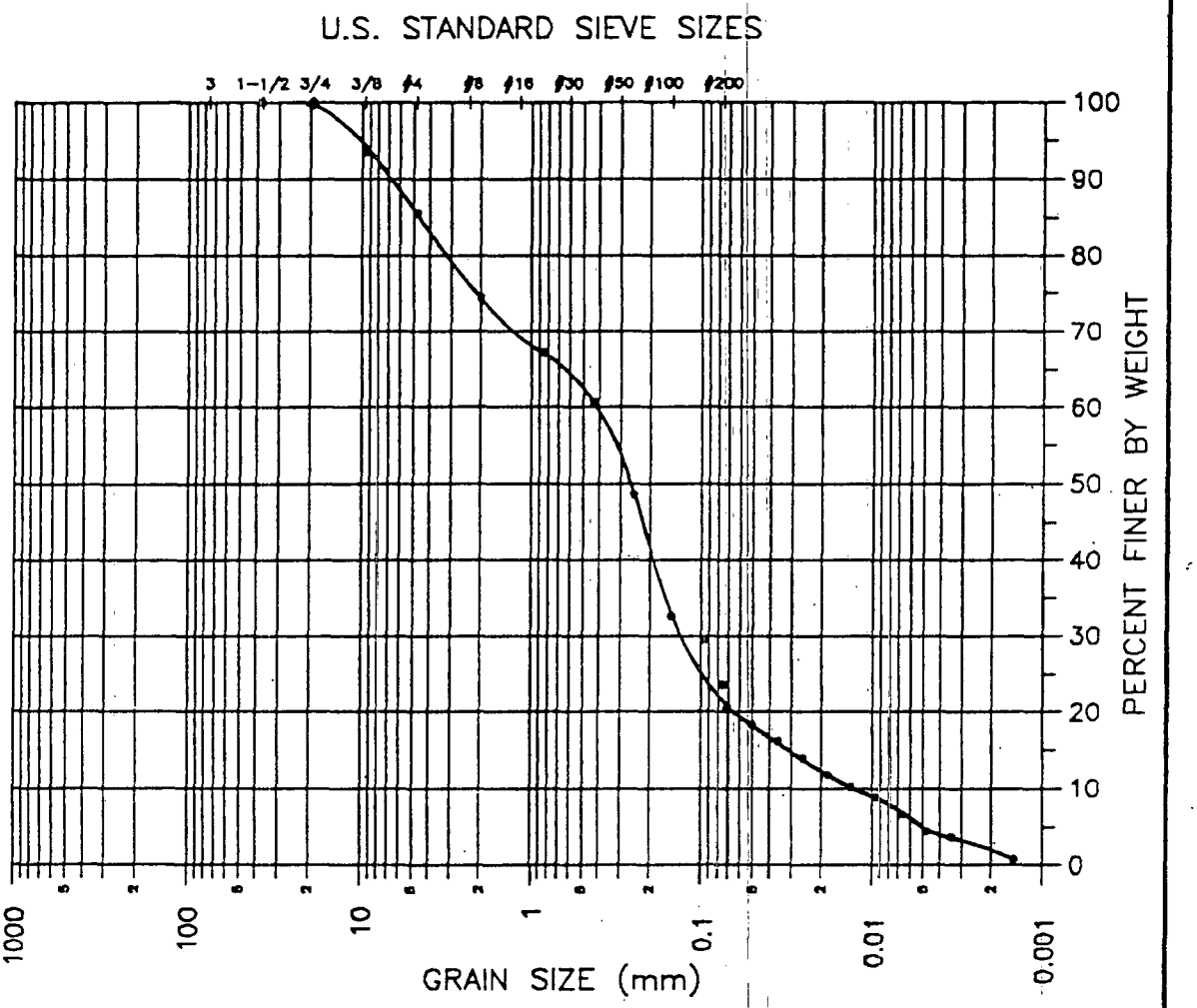
PLATE 3

00159.1087

BORING NO.: MW-004
SAMPLE No.: SB-03
TRASH

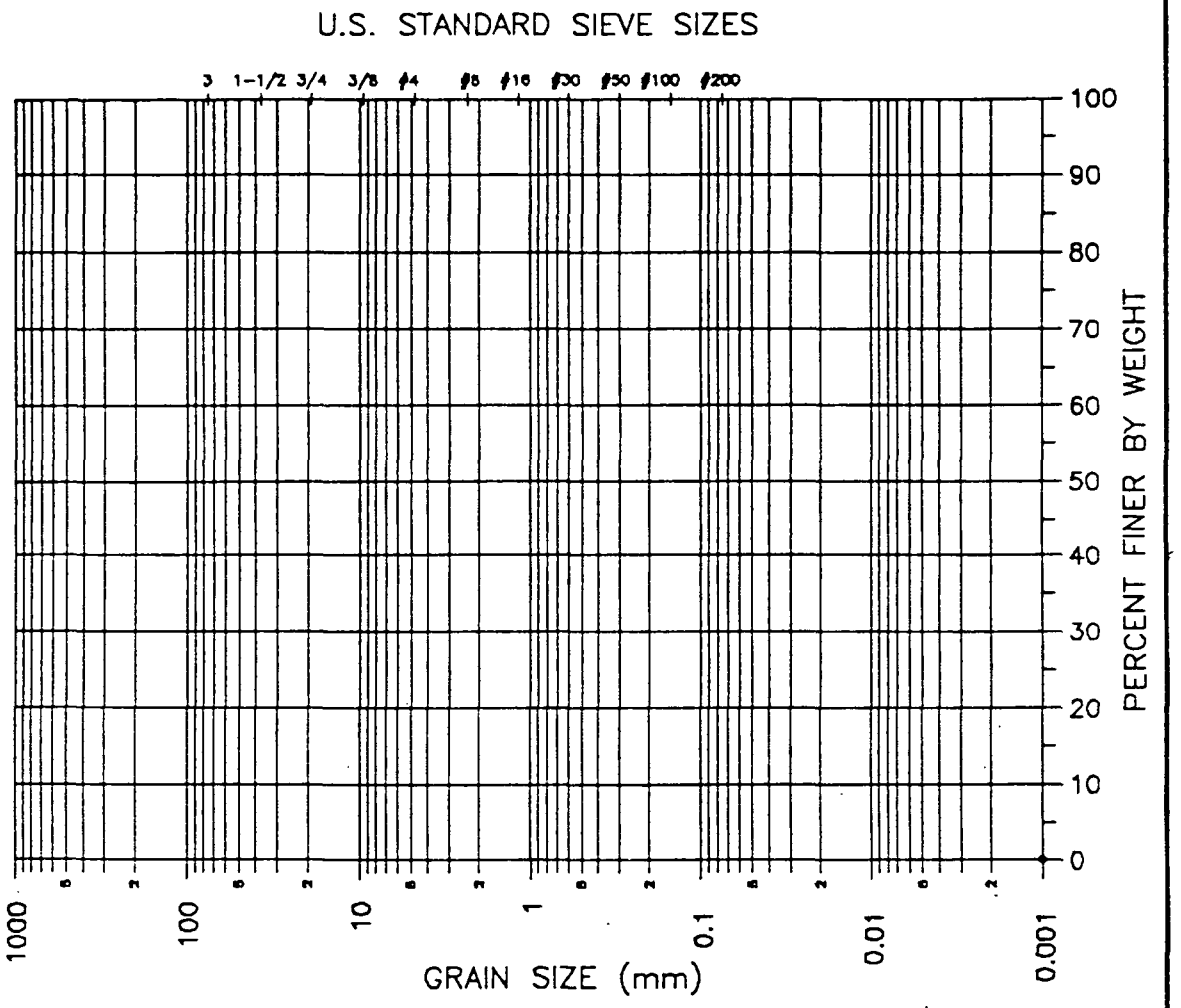


TEST TYPE: PARTICLE-SIZE ANALYSIS
ASTM D 422

ECOLOGY AND ENVIRONMENTAL	
GRAIN SIZE DISTRIBUTION	
HENLEY-JOHNSTON & ASSOCIATES, INC. engineering geoscience consultants	
HJA NO.: 6266	PLATE 4
DATE TESTED: 06/17/94	

BORING NO.: MW-004
SAMPLE No.: SB-04

INSUFFICIENT QUANTITY OF MATERIAL PROVIDED FOR THIS TEST

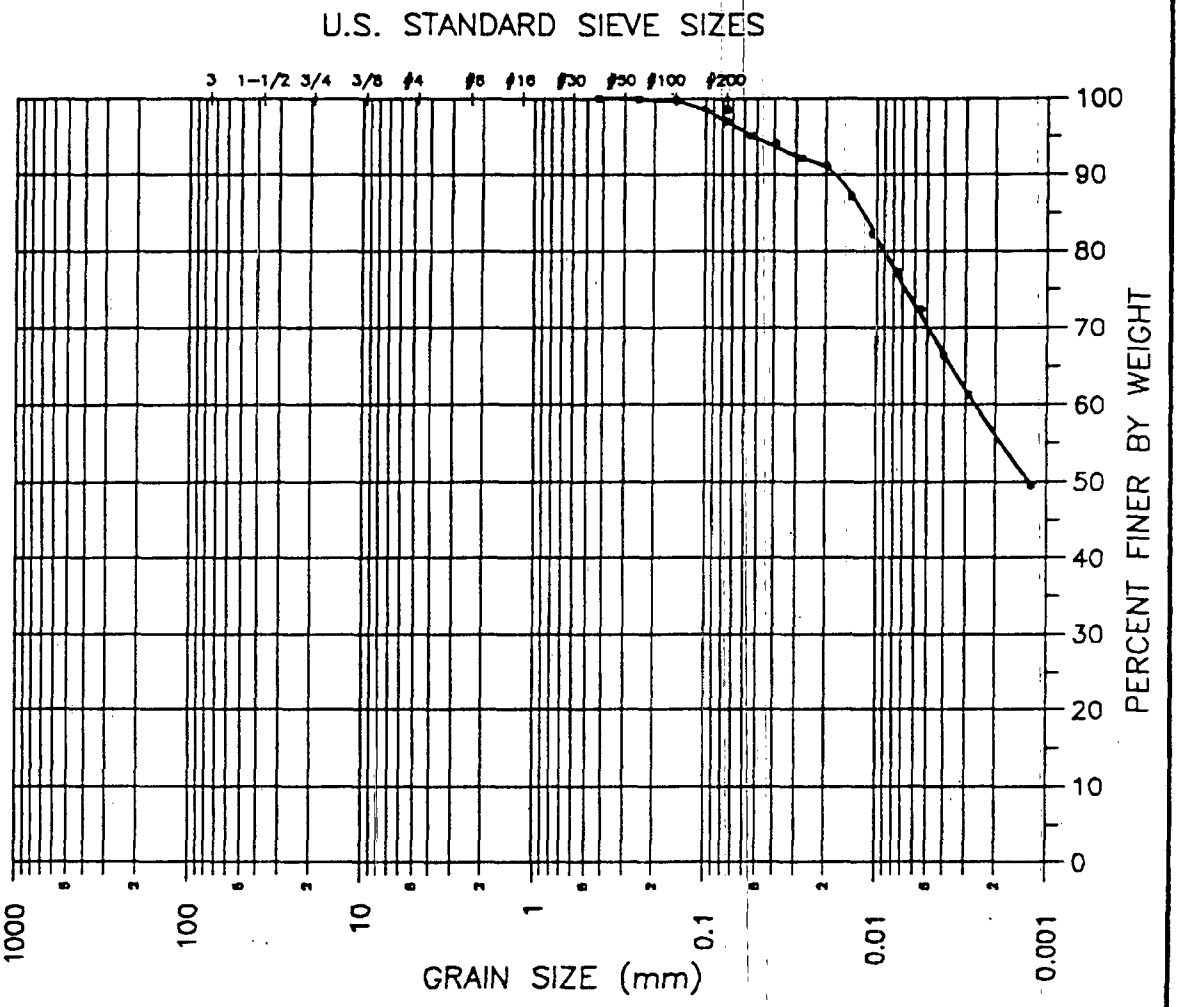


TEST TYPE: PARTICLE-SIZE ANALYSIS
ASTM D 422

ECOLOGY AND ENVIRONMENTAL	
GRAIN SIZE DISTRIBUTION	
HENLEY-JOHNSTON & ASSOCIATES, INC. engineering geoscience consultants	
HJA NO.: 6266	PLATE 5
DATE TESTED: 06/15/94	

00159.1089

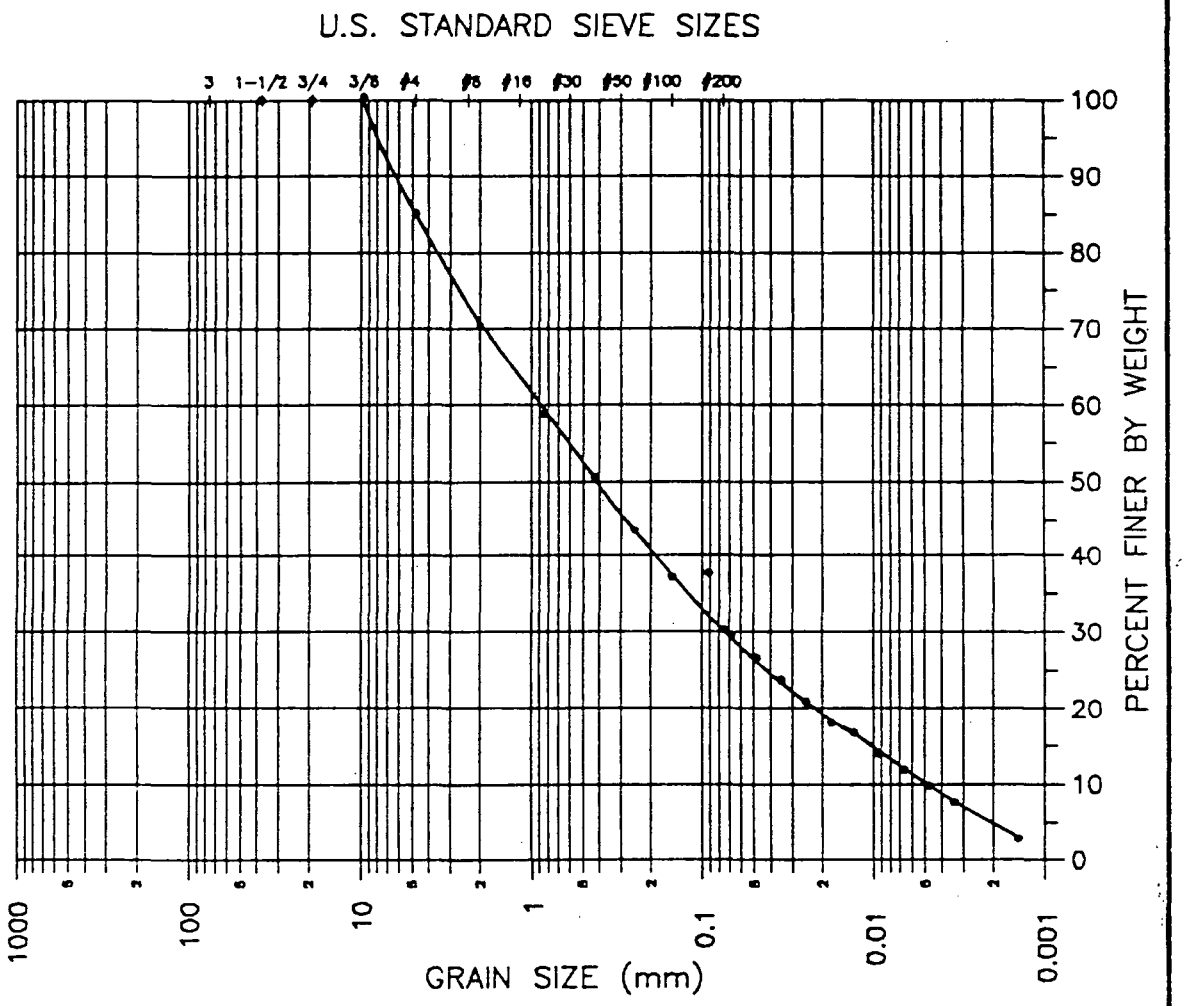
BORING NO.: MW-004
SAMPLE No.: SB-05
CLAY



TEST TYPE: PARTICLE-SIZE ANALYSIS
ASTM D 422

ECOLOGY AND ENVIRONMENTAL	
GRAIN SIZE DISTRIBUTION	
HENLEY-JOHNSTON & ASSOCIATES,INC. engineering geoscience consultants	
HJA NO.: 6266	PLATE 6
DATE TESTED: 06/22/94	

BORING NO.: MW-010
SAMPLE No.: SB-03
TRASH



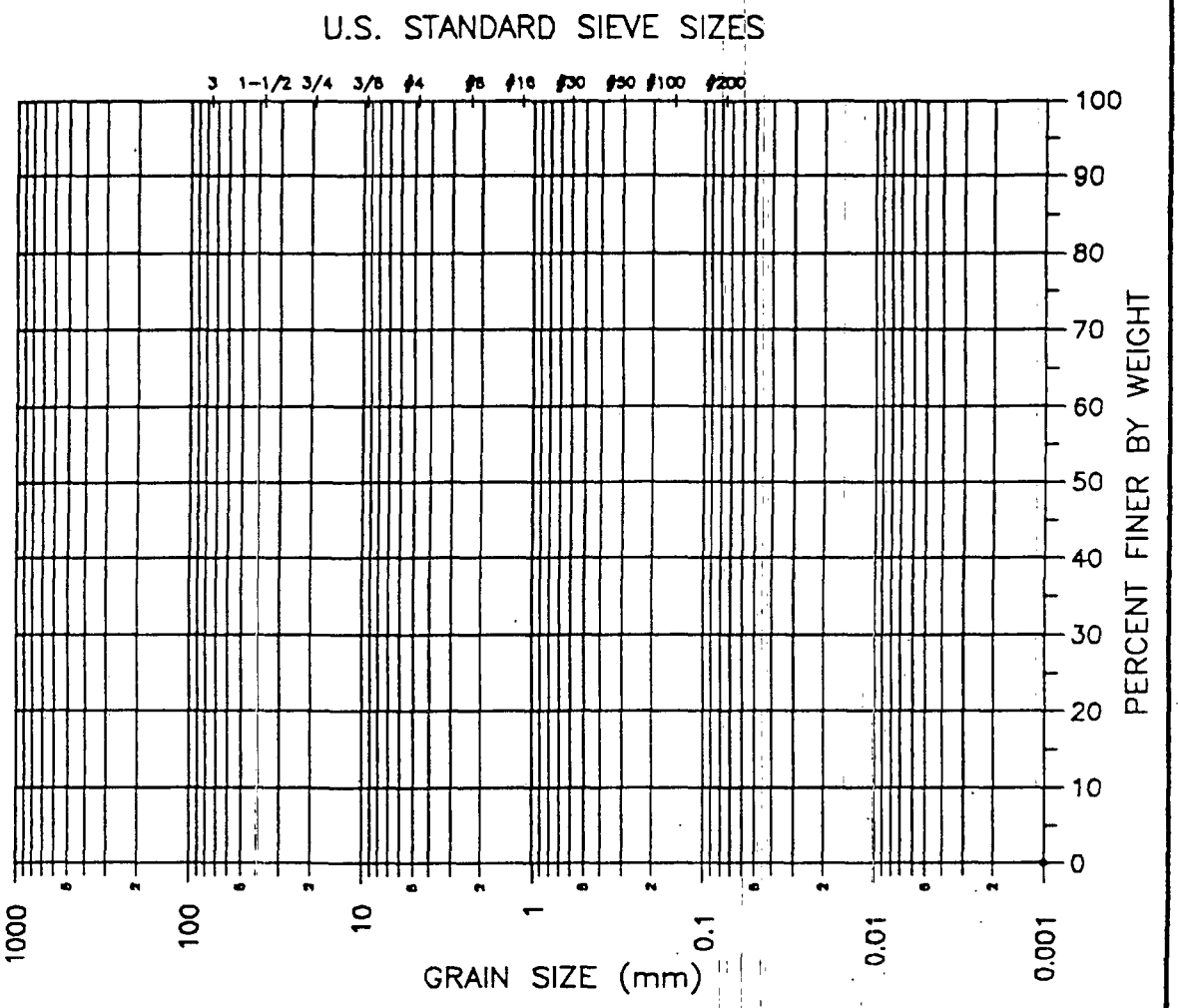
TEST TYPE: PARTICLE-SIZE ANALYSIS
ASTM D 422

ECOLOGY AND ENVIRONMENTAL	
GRAIN SIZE DISTRIBUTION	
HENLEY-JOHNSTON & ASSOCIATES,INC. engineering geoscience consultants	
HJA NO.: 6266	PLATE 7
DATE TESTED: 06/17/94	

00159.1091

BORING NO.: MW-010
SAMPLE No.: SB-04

INSUFFICIENT QUANTITY OF MATERIAL PROVIDED FOR THIS TEST

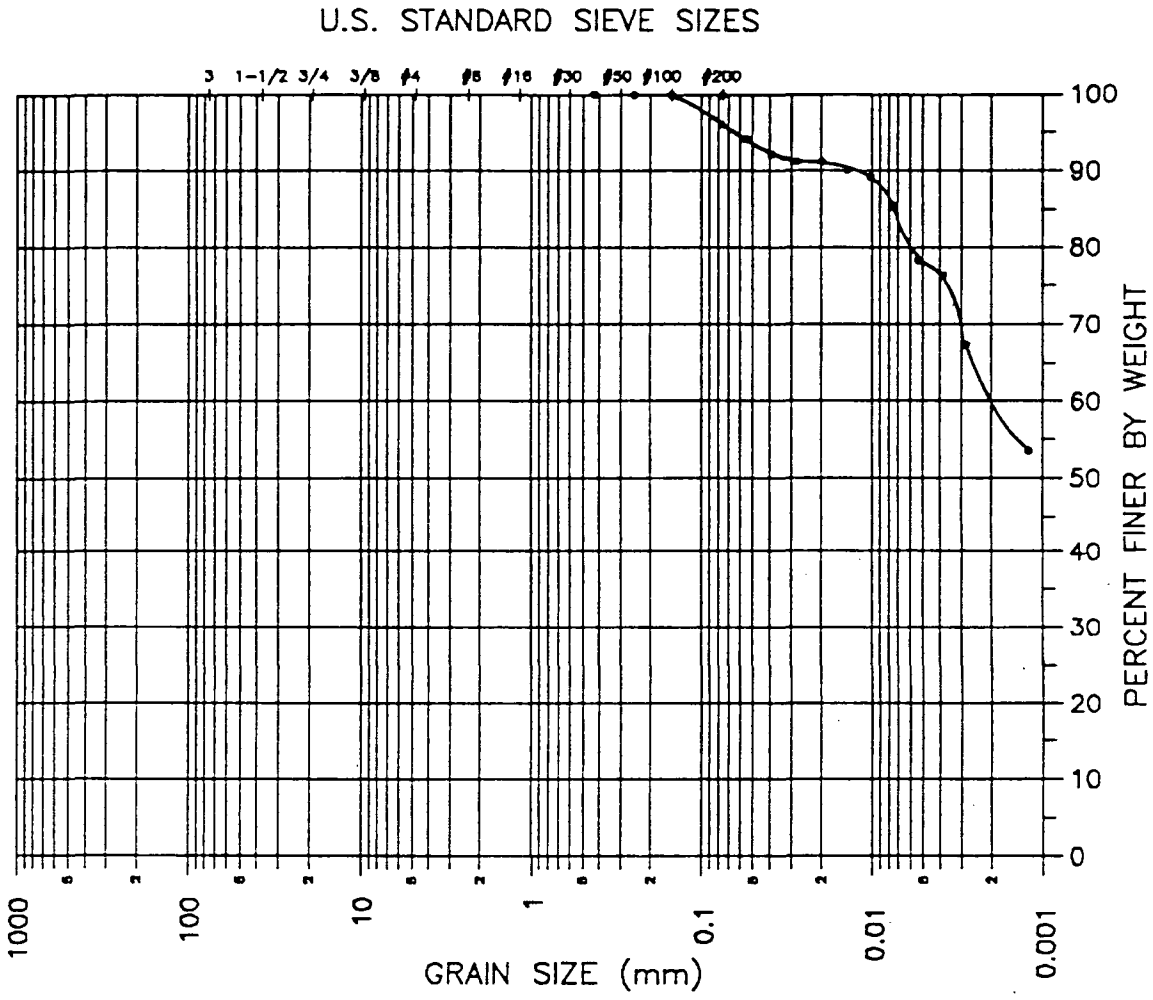


TEST TYPE: PARTICLE-SIZE ANALYSIS
ASTM D 422

ECOLOGY AND ENVIRONMENTAL	
GRAIN SIZE DISTRIBUTION	
HENLEY-JOHNSTON & ASSOCIATES, INC. engineering geoscience consultants	
HJA NO.: 6266	PLATE 8
DATE TESTED: 06/15/94	

00159.1092

BORING NO.: MW-010
SAMPLE No.: SB-05
CLAY

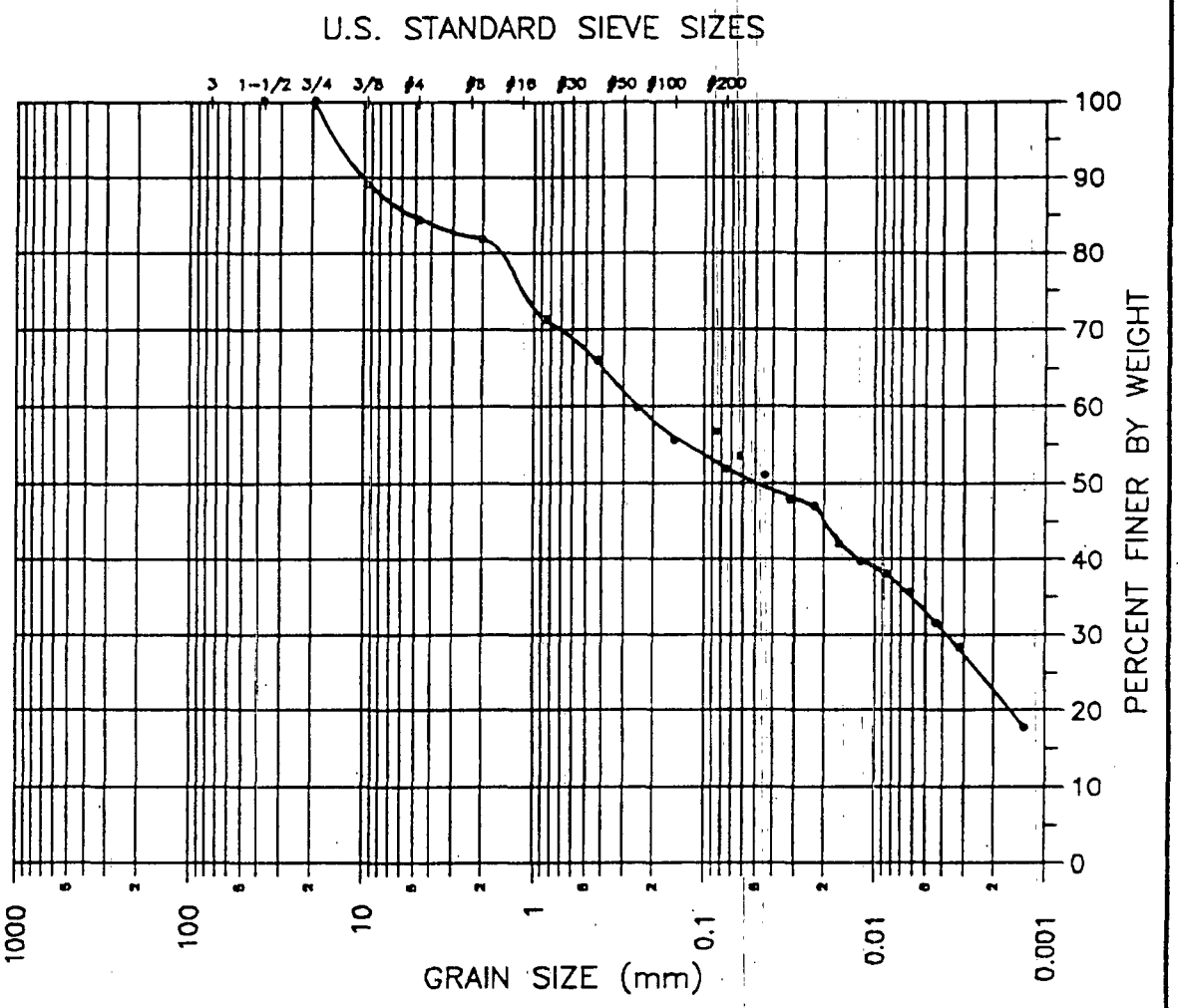


TEST TYPE: PARTICLE-SIZE ANALYSIS
ASTM D 422

ECOLOGY AND ENVIRONMENTAL	
GRAIN SIZE DISTRIBUTION	
HENLEY-JOHNSTON & ASSOCIATES, INC. engineering geoscience consultants	
HJA NO.: 6266	PLATE 9
DATE TESTED: 05/22/94	

00159.1093

BORING NO.: MW-018
SAMPLE No.: SB-03
TRASH



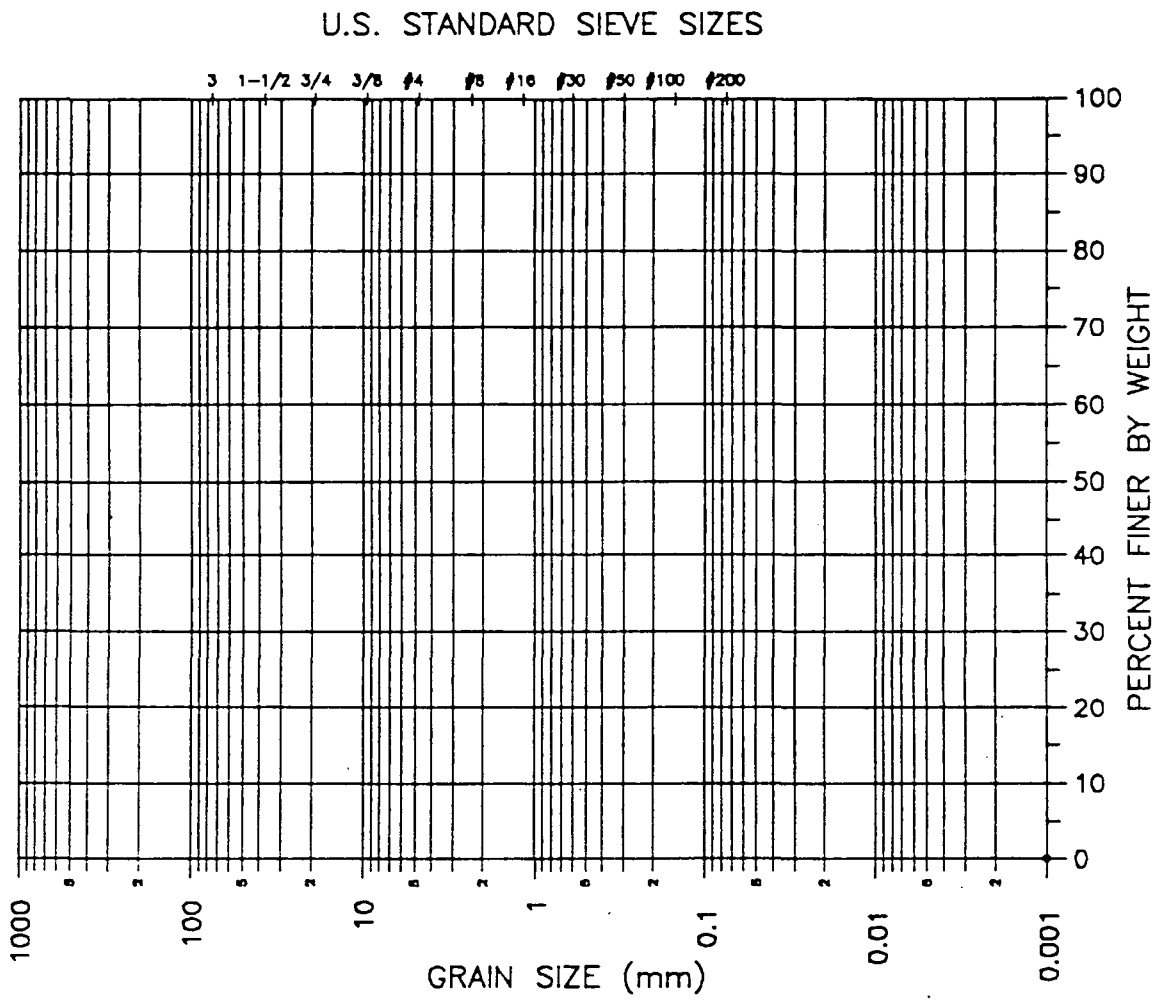
TEST TYPE: PARTICLE-SIZE ANALYSIS
ASTM D 422

ECOLOGY AND ENVIRONMENTAL	
GRAIN SIZE DISTRIBUTION	
HENLEY-JOHNSTON & ASSOCIATES,INC. engineering geoscience consultants	
HJA NO.: 6266	PLATE 10
DATE TESTED: 06/17/94	

00159.1094

BORING NO.: MW-018
SAMPLE No.: SB-04

INSUFFICIENT QUANTITY OF MATERIAL PROVIDED FOR THIS TEST

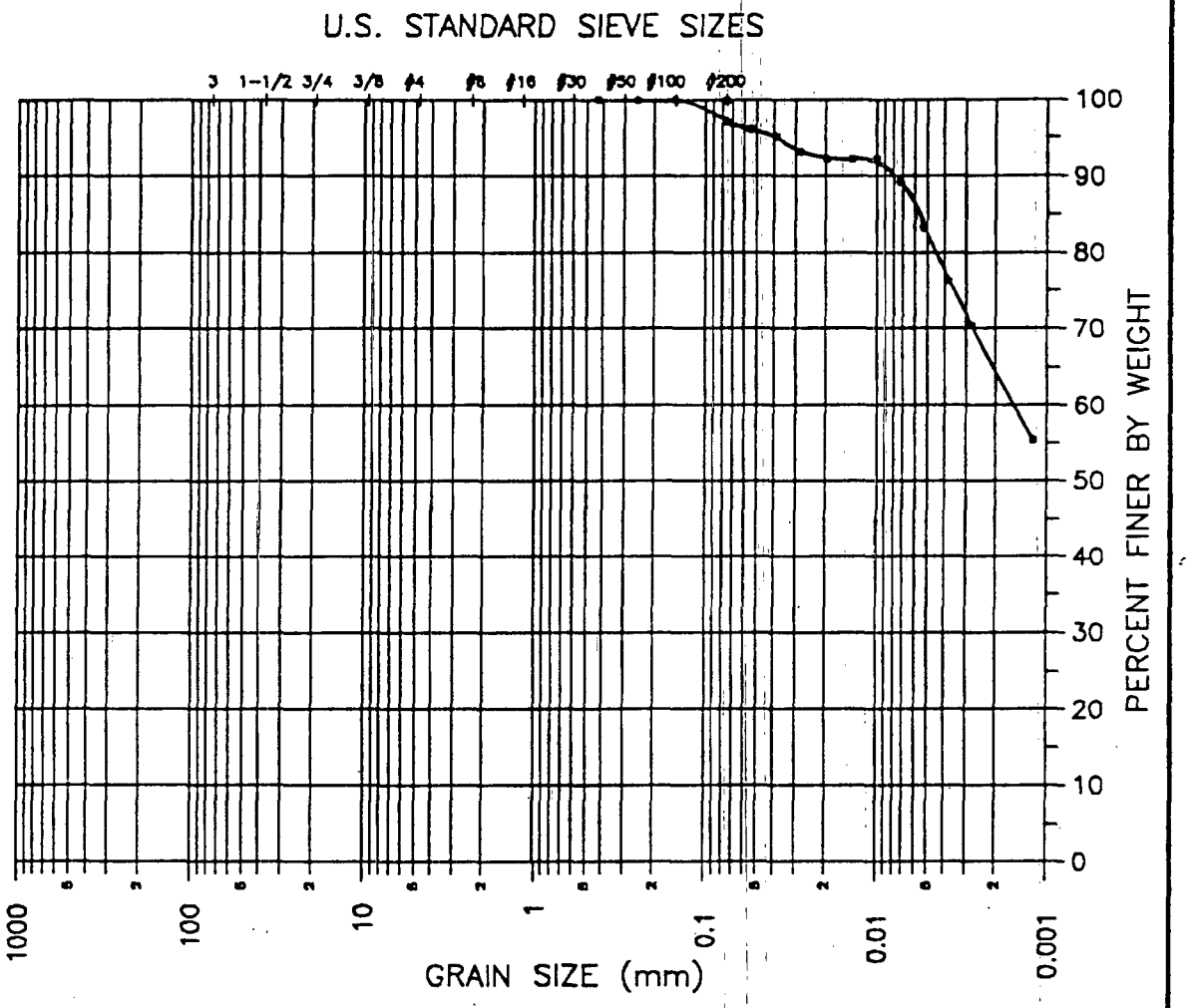


TEST TYPE: PARTICLE-SIZE ANALYSIS
ASTM D 422

ECOLOGY AND ENVIRONMENTAL	
GRAIN SIZE DISTRIBUTION	
HENLEY-JOHNSTON & ASSOCIATES,INC. engineering geoscience consultants	
HJA NO.: 6266	PLATE 11
DATE TESTED: 06/15/94	

00159.1095

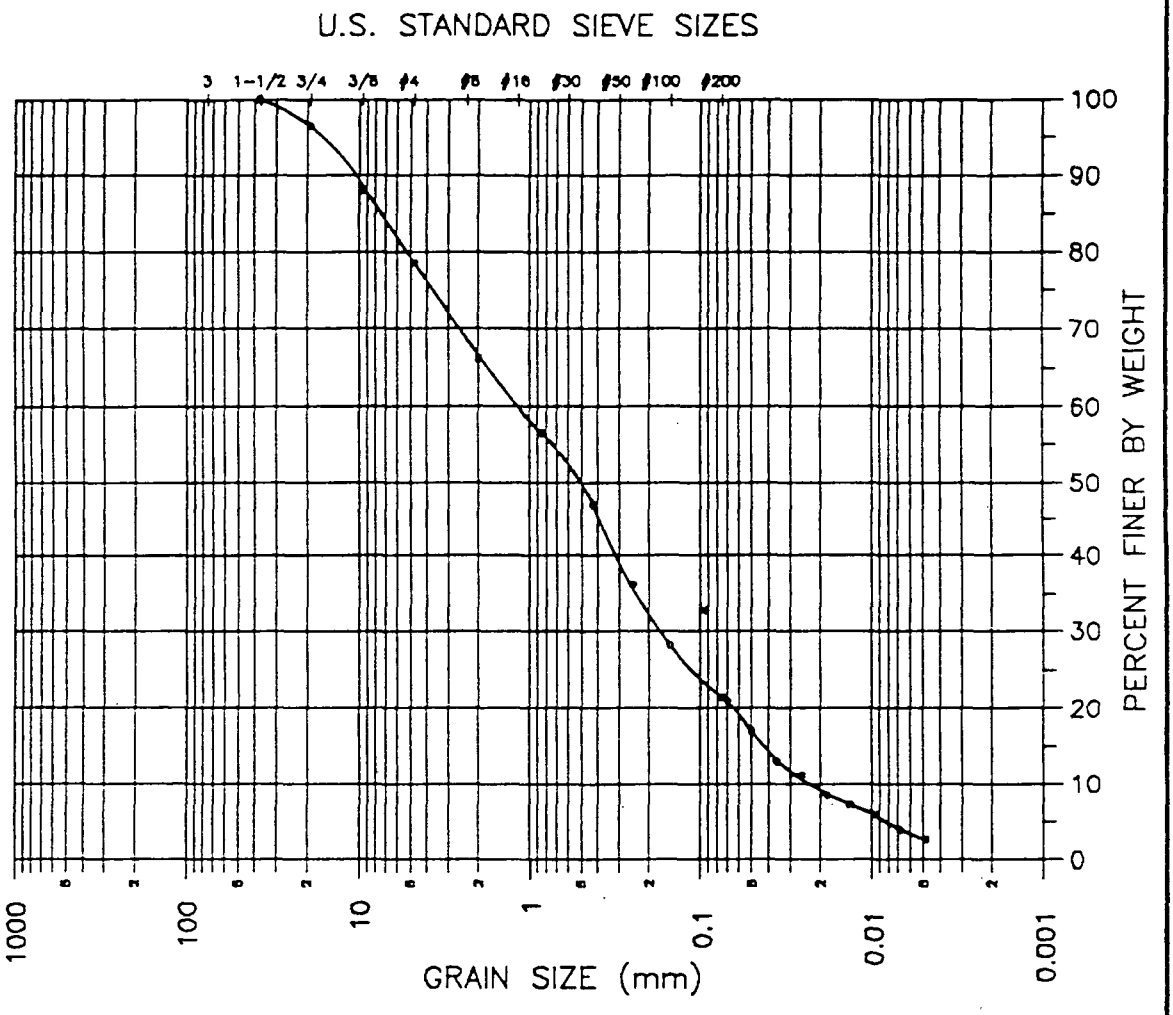
BORING NO.: MW-018
SAMPLE No.: SB-05
CLAY



TEST TYPE: PARTICLE-SIZE ANALYSIS
ASTM D 422

ECOLOGY AND ENVIRONMENTAL	
GRAIN SIZE DISTRIBUTION	
HENLEY-JOHNSTON & ASSOCIATES,INC. engineering geoscience consultants	
HJA NO.: 6266	PLATE 12
DATE TESTED: 06/22/94	

BORING NO.: MW-024
SAMPLE No.: SB-02
TRASH

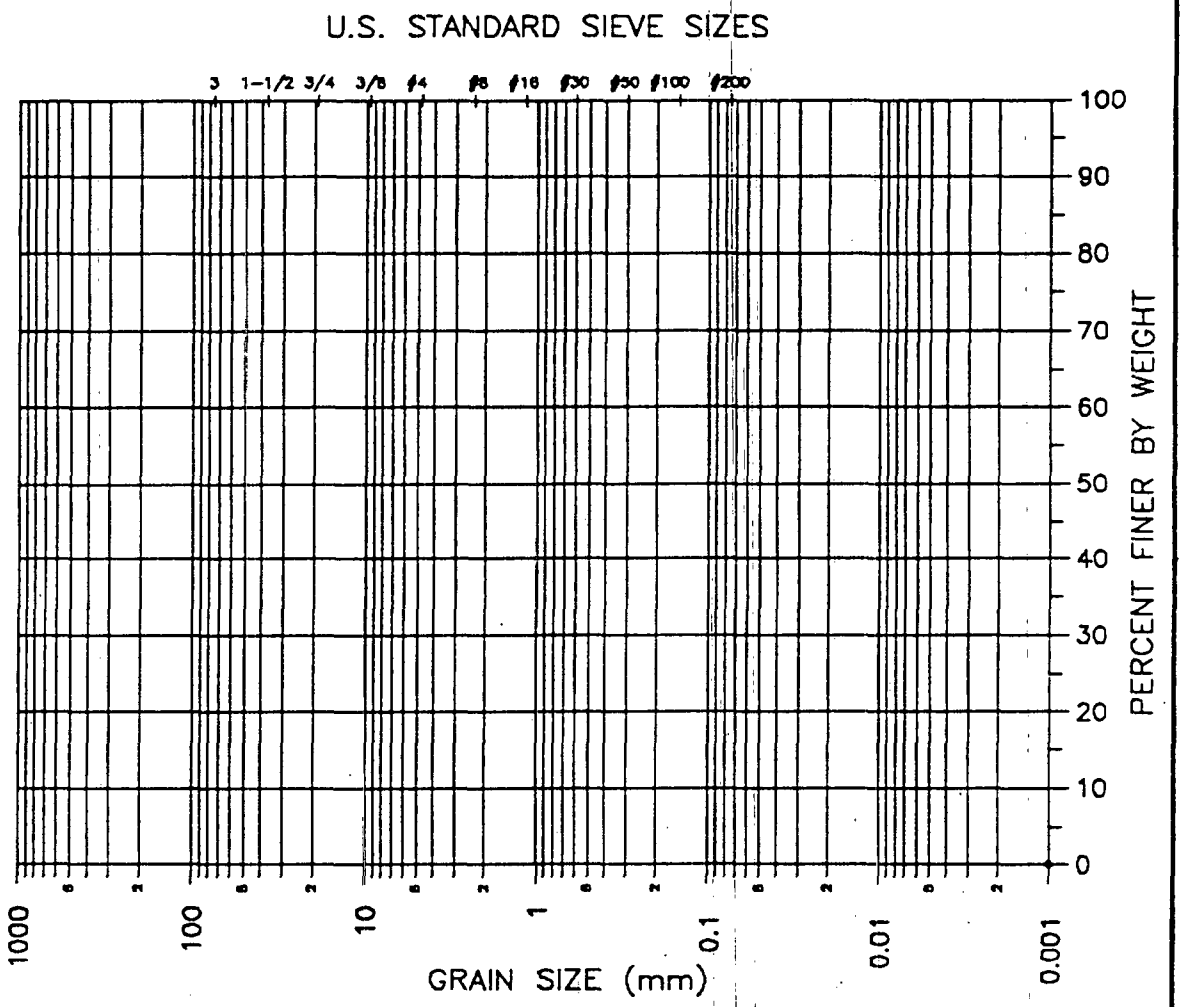


TEST TYPE: PARTICLE-SIZE ANALYSIS
ASTM D 422

ECOLOGY AND ENVIRONMENTAL	
GRAIN SIZE DISTRIBUTION	
HENLEY-JOHNSTON & ASSOCIATES,INC. engineering geoscience consultants	
HJA NO.: 6266	PLATE 13
DATE TESTED: 06/20/94	

BORING NO.: MW-024
SAMPLE No.: SB-03

INSUFFICIENT QUANTITY OF MATERIAL PROVIDED FOR THIS TEST

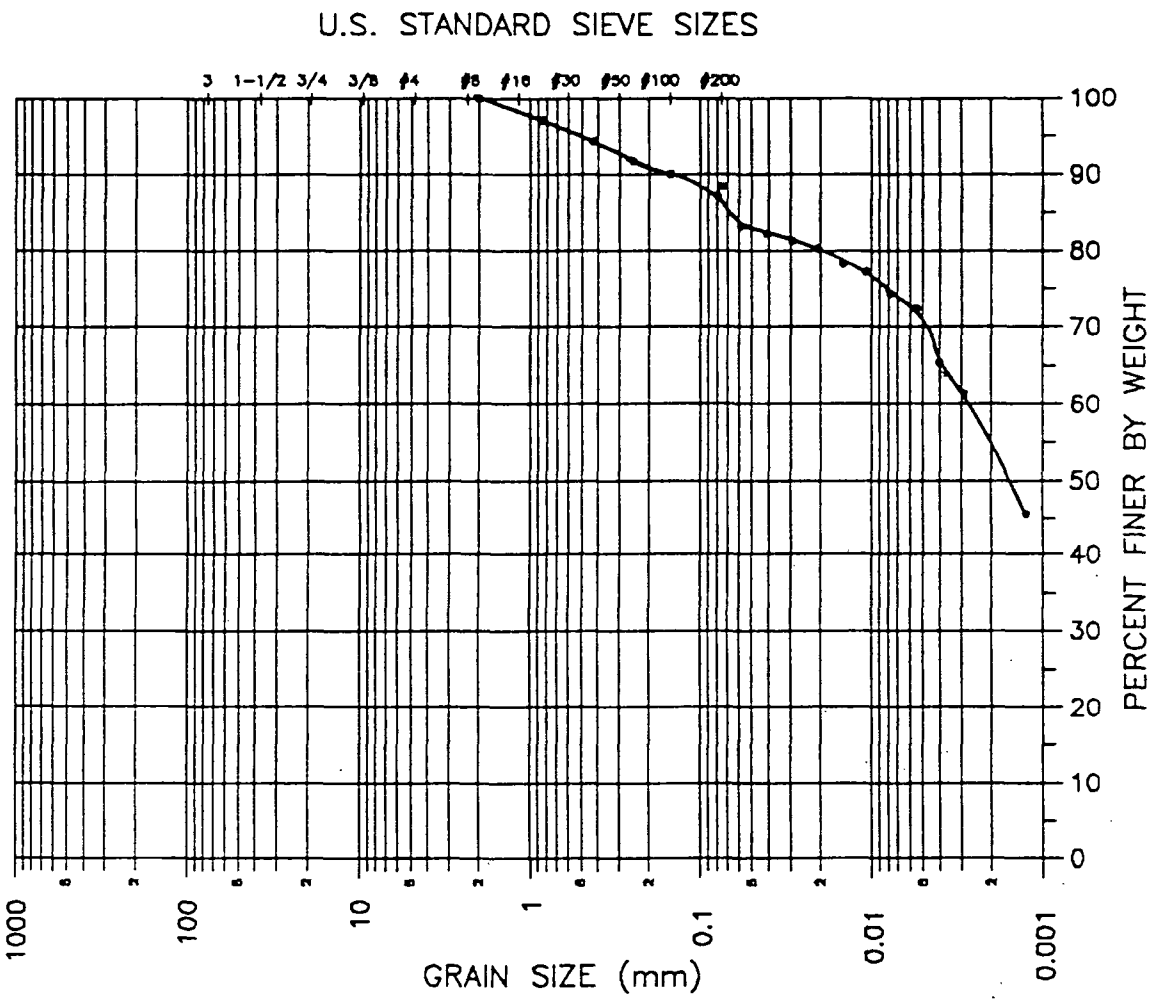


TEST TYPE: PARTICLE-SIZE ANALYSIS
ASTM D 422

ECOLOGY AND ENVIRONMENTAL	
GRAIN SIZE DISTRIBUTION	
HENLEY-JOHNSTON & ASSOCIATES, INC. engineering geoscience consultants	
HJA NO.: 6266	PLATE 14
DATE TESTED: 06/15/94	

00159.1098

BORING NO.: MW-024
SAMPLE No.: SB-04
CLAY with some peat

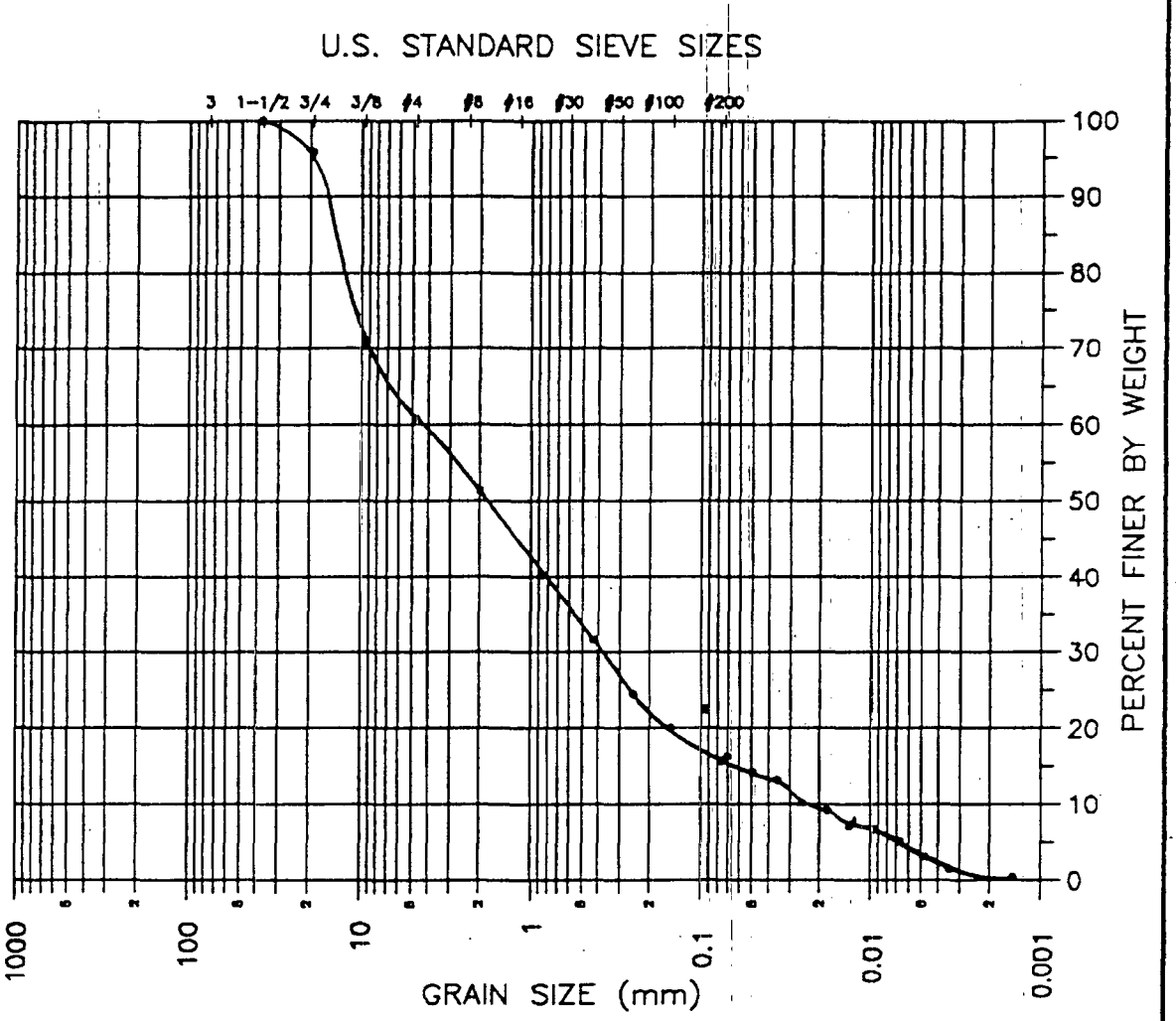


TEST TYPE: PARTICLE-SIZE ANALYSIS
ASTM D 422

ECOLOGY AND ENVIRONMENTAL	
GRAIN SIZE DISTRIBUTION	
HENLEY-JOHNSTON & ASSOCIATES,INC. engineering geoscience consultants	
HJA NO.: 6266	PLATE 15
DATE TESTED: 06/20/94	

00159.1099

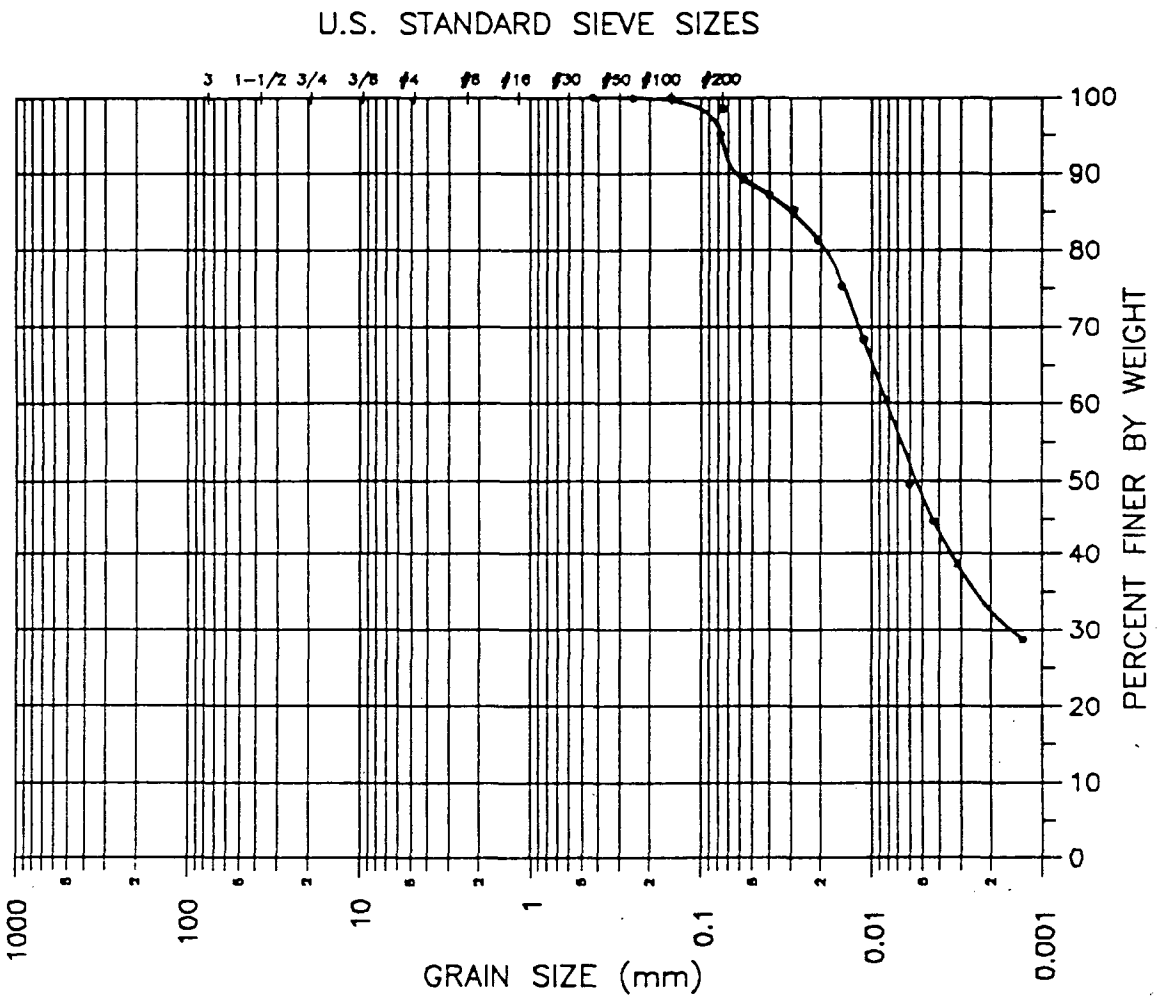
BORING NO.: MW-027
SAMPLE No.: SB-01
TRASH



TEST TYPE: PARTICLE-SIZE ANALYSIS
ASTM D 422

ECOLOGY AND ENVIRONMENTAL	
GRAIN SIZE DISTRIBUTION	
HENLEY-JOHNSTON & ASSOCIATES, INC. engineering geoscience consultants	
HJA NO.: 6266	PLATE 16
DATE TESTED: 06/17/94	

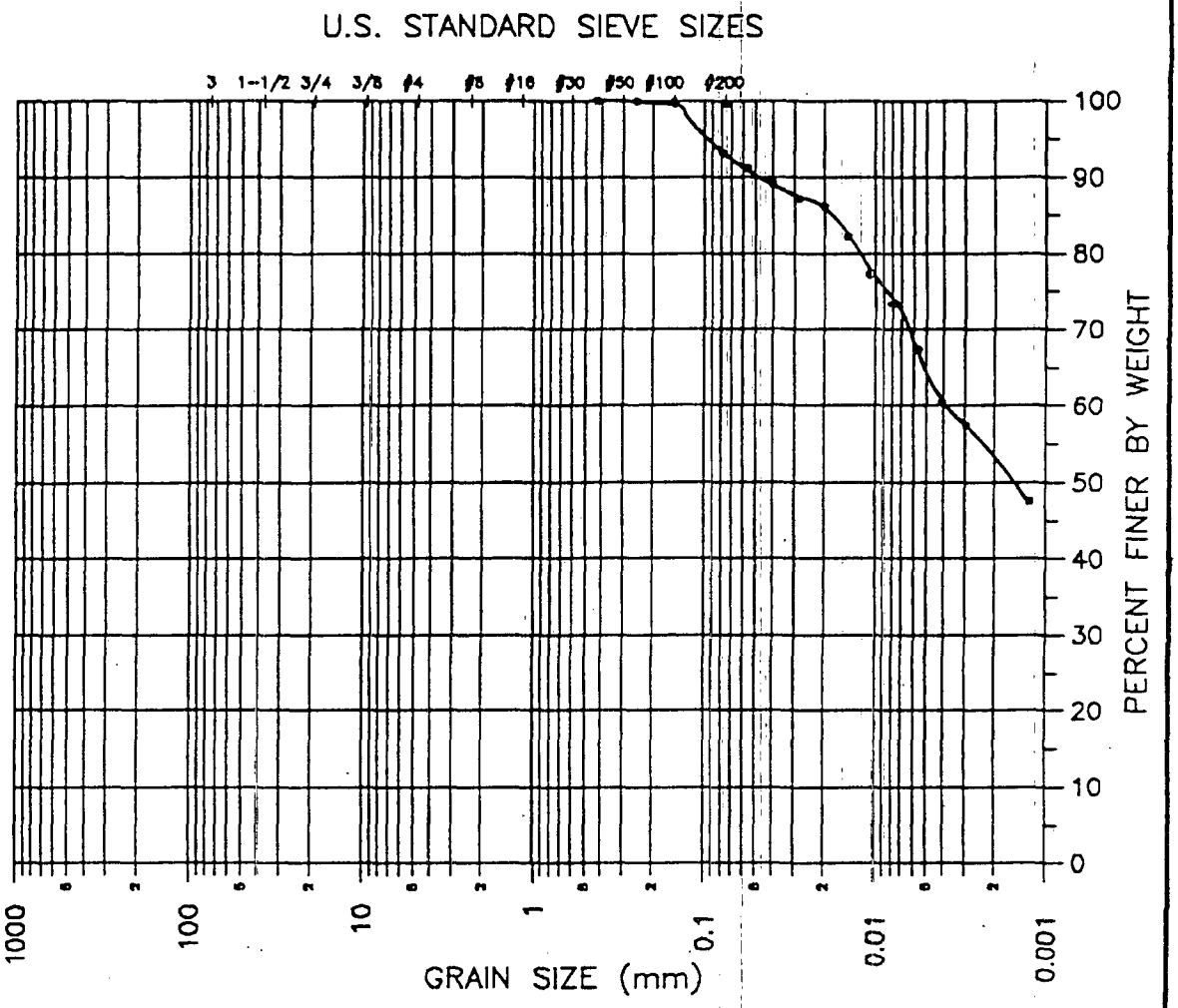
BORING NO.: MW-027
SAMPLE No.: SB-03
CLAY



TEST TYPE: PARTICLE-SIZE ANALYSIS
ASTM D 422

ECOLOGY AND ENVIRONMENTAL	
GRAIN SIZE DISTRIBUTION	
HENLEY-JOHNSTON & ASSOCIATES, INC. engineering geoscience consultants	
HJA NO.: 6266	PLATE 17
DATE TESTED: 06/22/94	

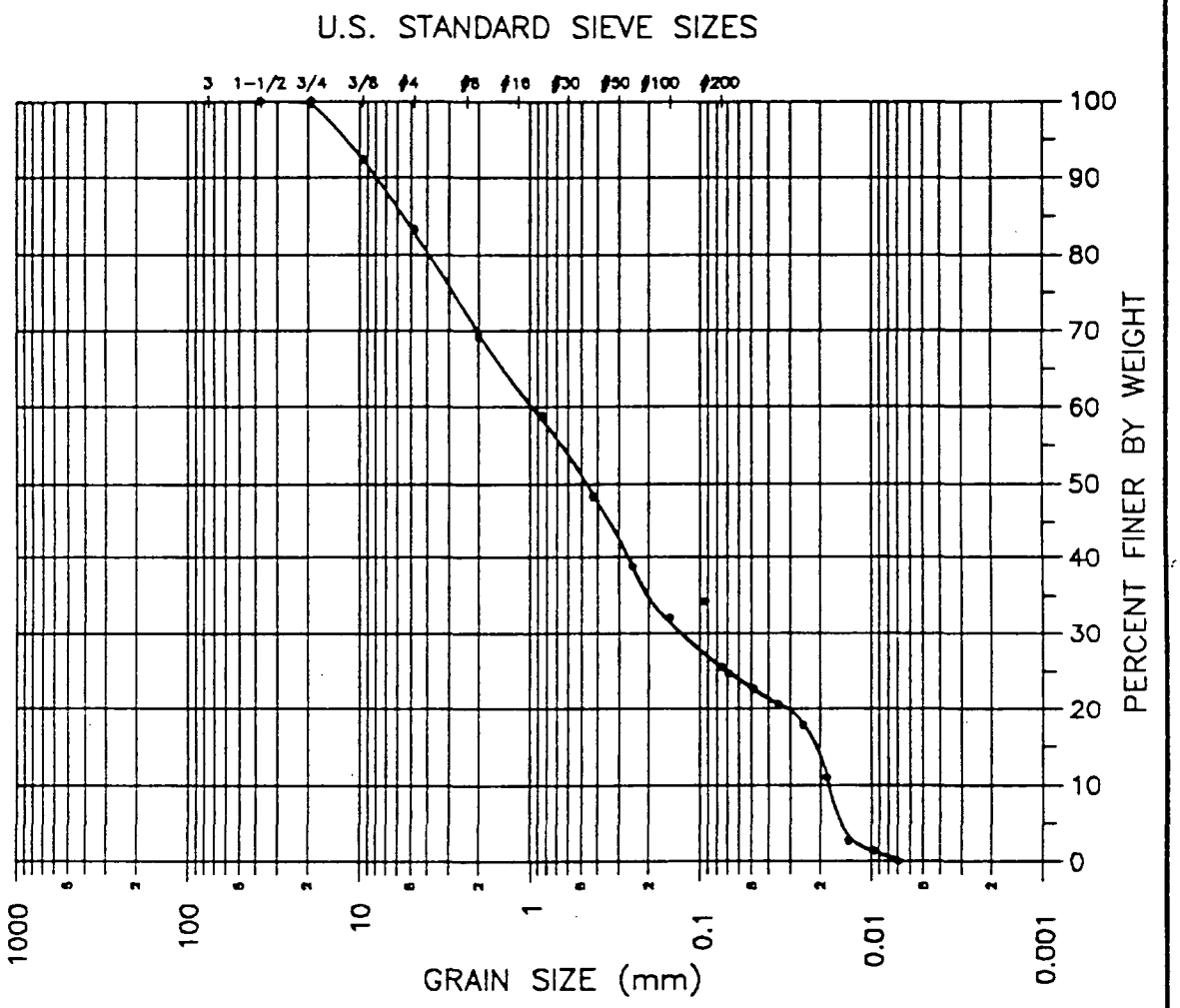
BORING NO.: MW-028
SAMPLE No.: SB-05
CLAY



TEST TYPE: PARTICLE-SIZE ANALYSIS
ASTM D 422

ECOLOGY AND ENVIRONMENTAL	
GRAIN SIZE DISTRIBUTION	
HENLEY-JOHNSTON & ASSOCIATES, INC. engineering geoscience consultants	
HJA NO.: 6266	PLATE 18
DATE TESTED: 06/22/94	

BORING NO.: MW-031
SAMPLE No.: SB-01
TRASH



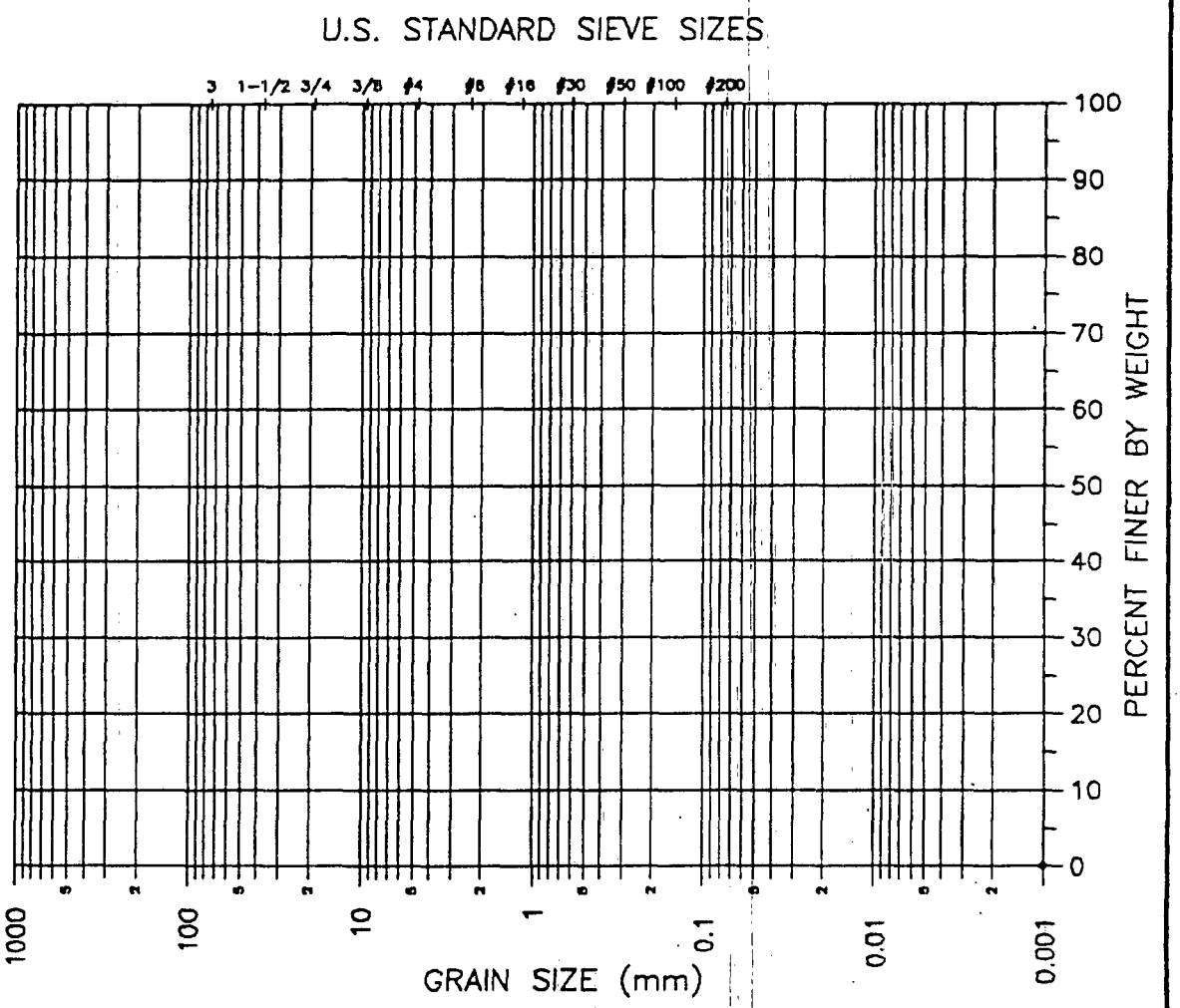
TEST TYPE: PARTICLE-SIZE ANALYSIS
ASTM D 422

ECOLOGY AND ENVIRONMENTAL	
GRAIN SIZE DISTRIBUTION	
HENLEY-JOHNSTON & ASSOCIATES,INC. engineering geoscience consultants	
HJA NO.: 6266	PLATE 19
DATE TESTED: 06/16/94	

00159.1103

BORING NO.: MW-032
SAMPLE No.: SB-03

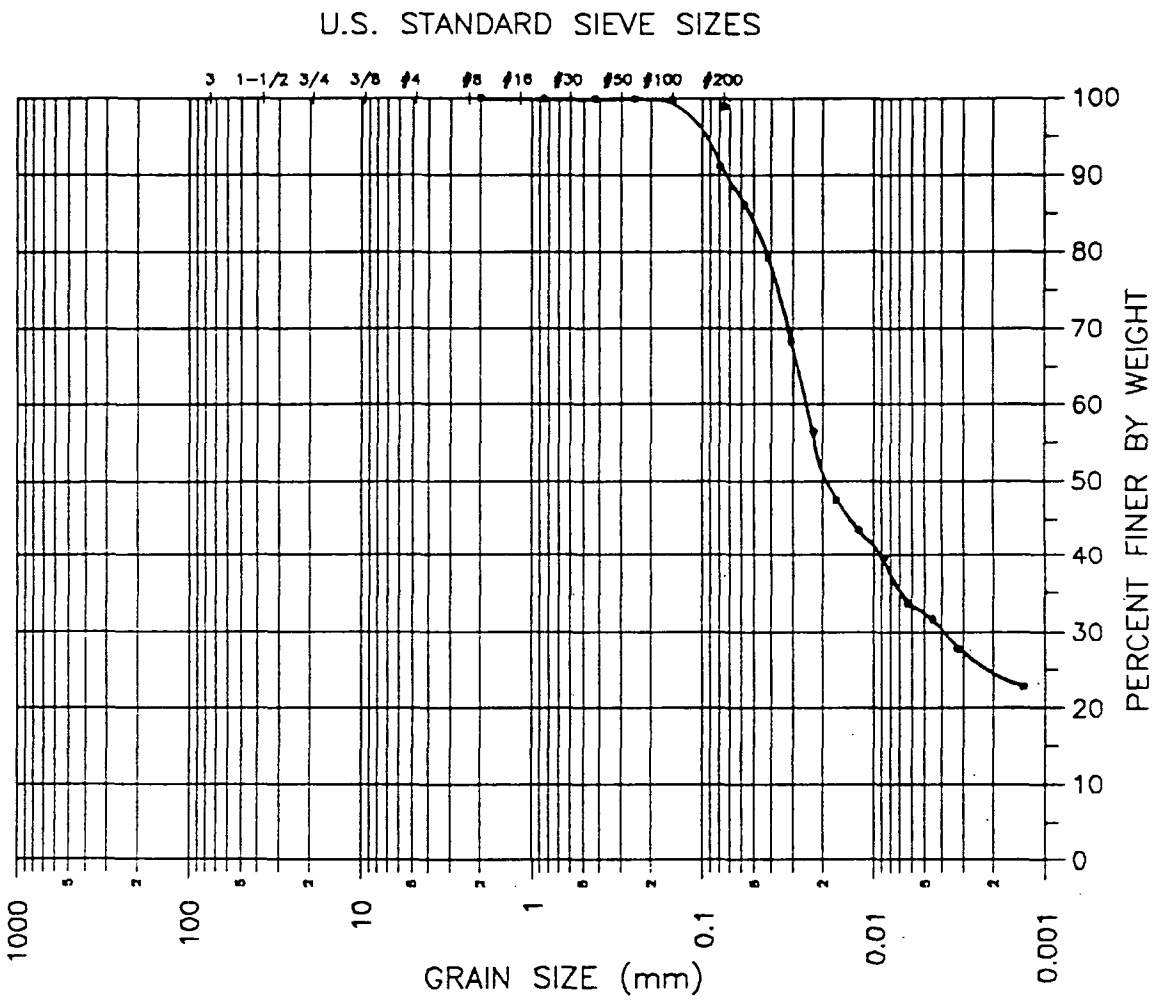
INSUFFICIENT QUANTITY OF MATERIAL PROVIDED FOR THIS TEST



TEST TYPE: PARTICLE-SIZE ANALYSIS
ASTM D 422

ECOLOGY AND ENVIRONMENTAL	
GRAIN SIZE DISTRIBUTION	
HENLEY-JOHNSTON & ASSOCIATES, INC. engineering geoscience consultants	
HJA NO.: 6266	PLATE 20
DATE TESTED: 06/15/94	

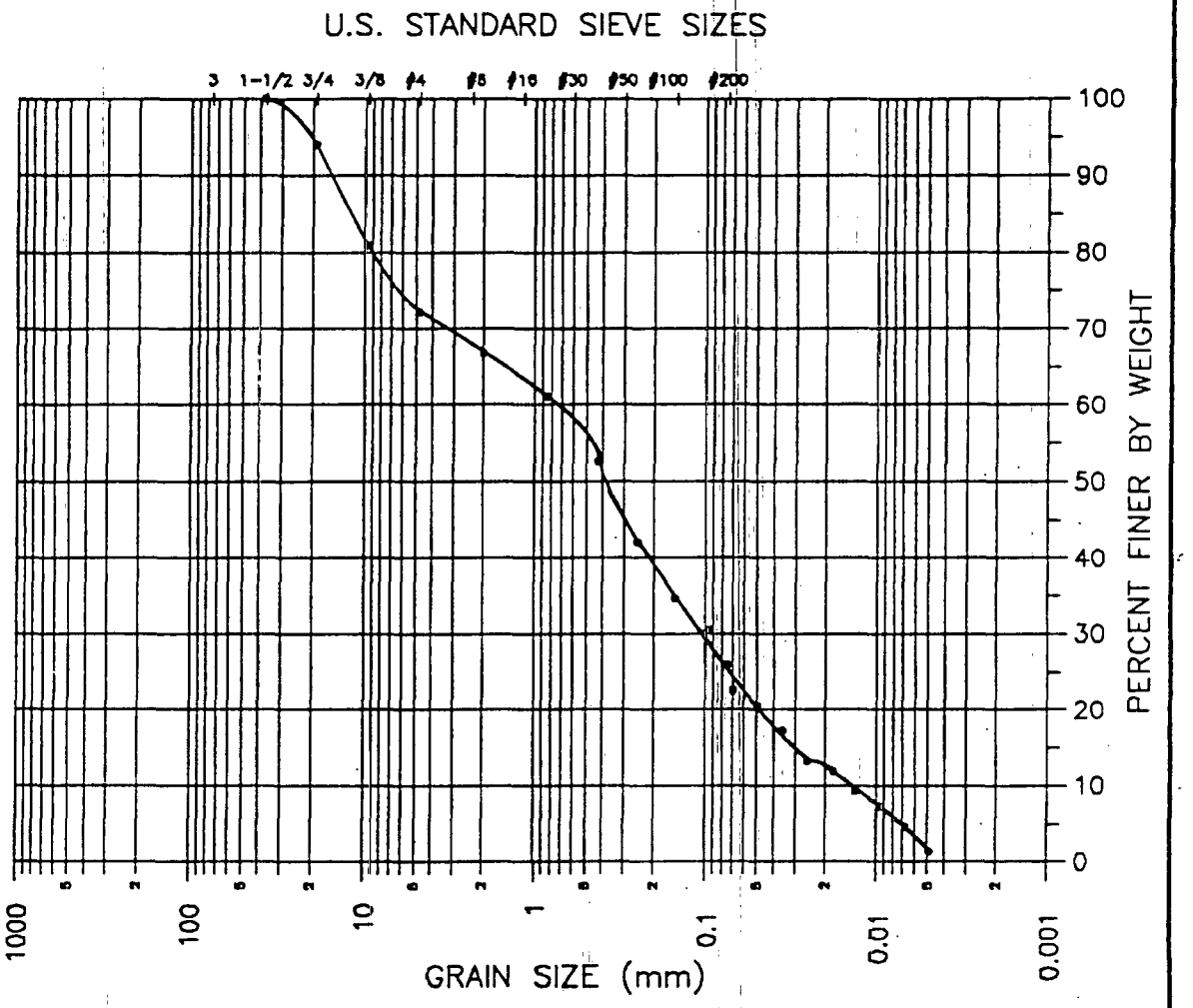
BORING NO.: MW-034
SAMPLE No.: SB-05
CLAY



TEST TYPE: PARTICLE-SIZE ANALYSIS
ASTM D 422

ECOLOGY AND ENVIRONMENTAL	
GRAIN SIZE DISTRIBUTION	
HENLEY-JOHNSTON & ASSOCIATES,INC. engineering geoscience consultants	
HJA NO.: 6266	PLATE 21
DATE TESTED: 06/20/94	

BORING NO.: MW-036
SAMPLE No.: SB-04
TRASH

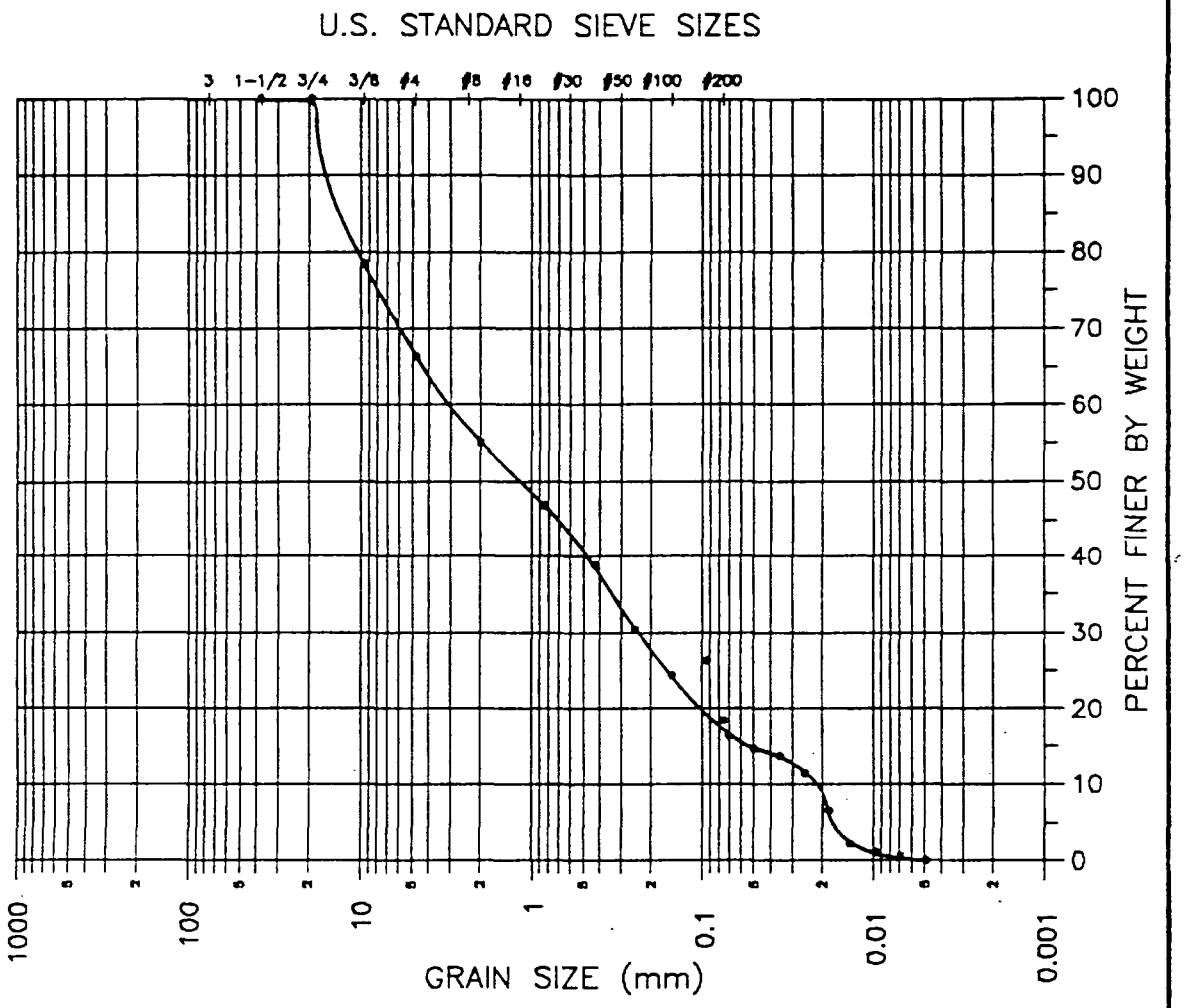


TEST TYPE: PARTICLE-SIZE ANALYSIS
ASTM D 422

ECOLOGY AND ENVIRONMENTAL	
GRAIN SIZE DISTRIBUTION	
HENLEY-JOHNSTON & ASSOCIATES,INC. engineering geoscience consultants	
HJA NO.: 6266	PLATE 22
DATE TESTED: 06/16/94	

00159.1106

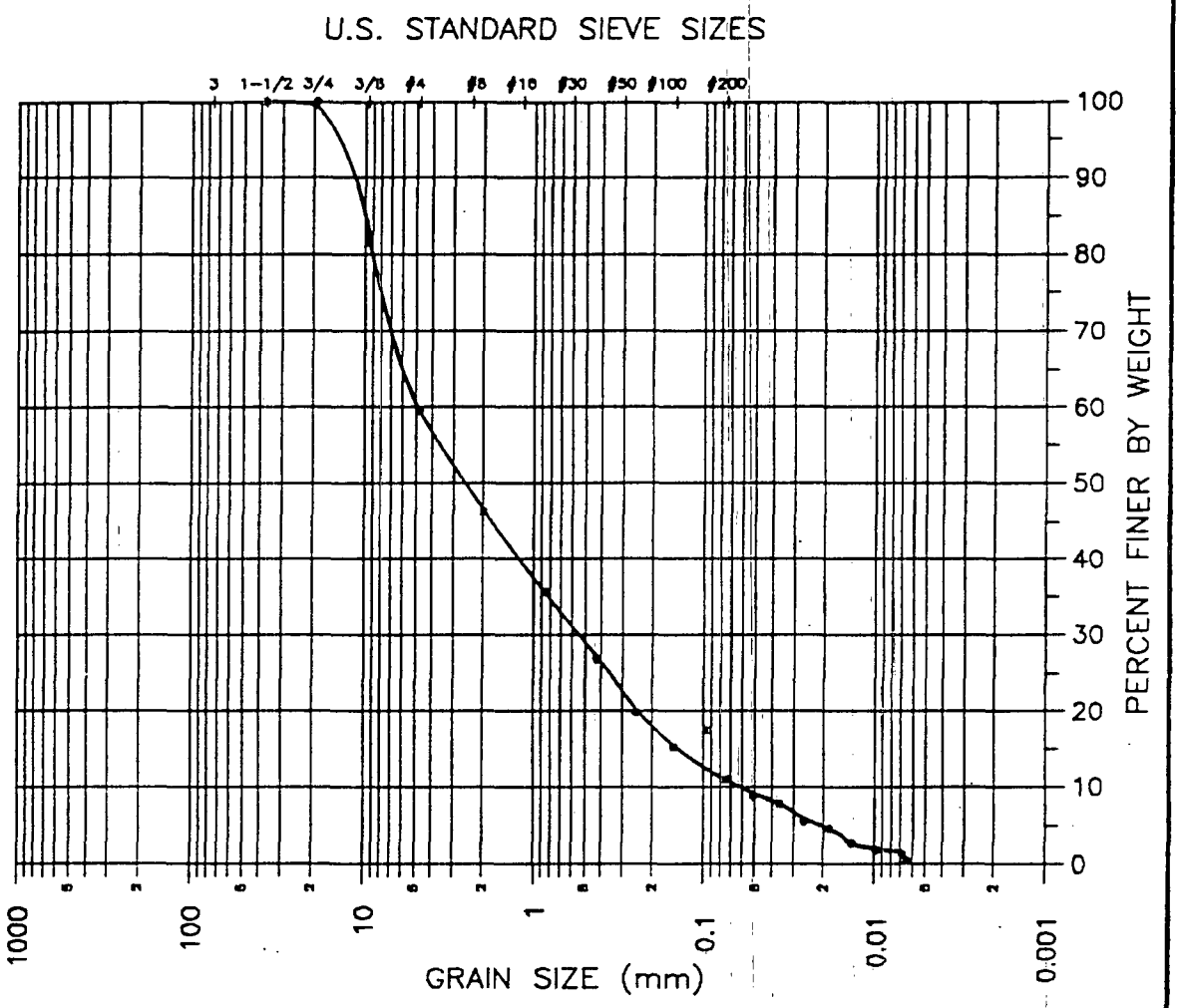
BORING NO.: MW-038
SAMPLE No.: SB-04
TRASH



TEST TYPE: PARTICLE-SIZE ANALYSIS
ASTM D 422

ECOLOGY AND ENVIRONMENTAL	
GRAIN SIZE DISTRIBUTION	
HENLEY-JOHNSTON & ASSOCIATES, INC. engineering geoscience consultants	
HJA NO.: 6266	PLATE 23
DATE TESTED: 06/16/94	

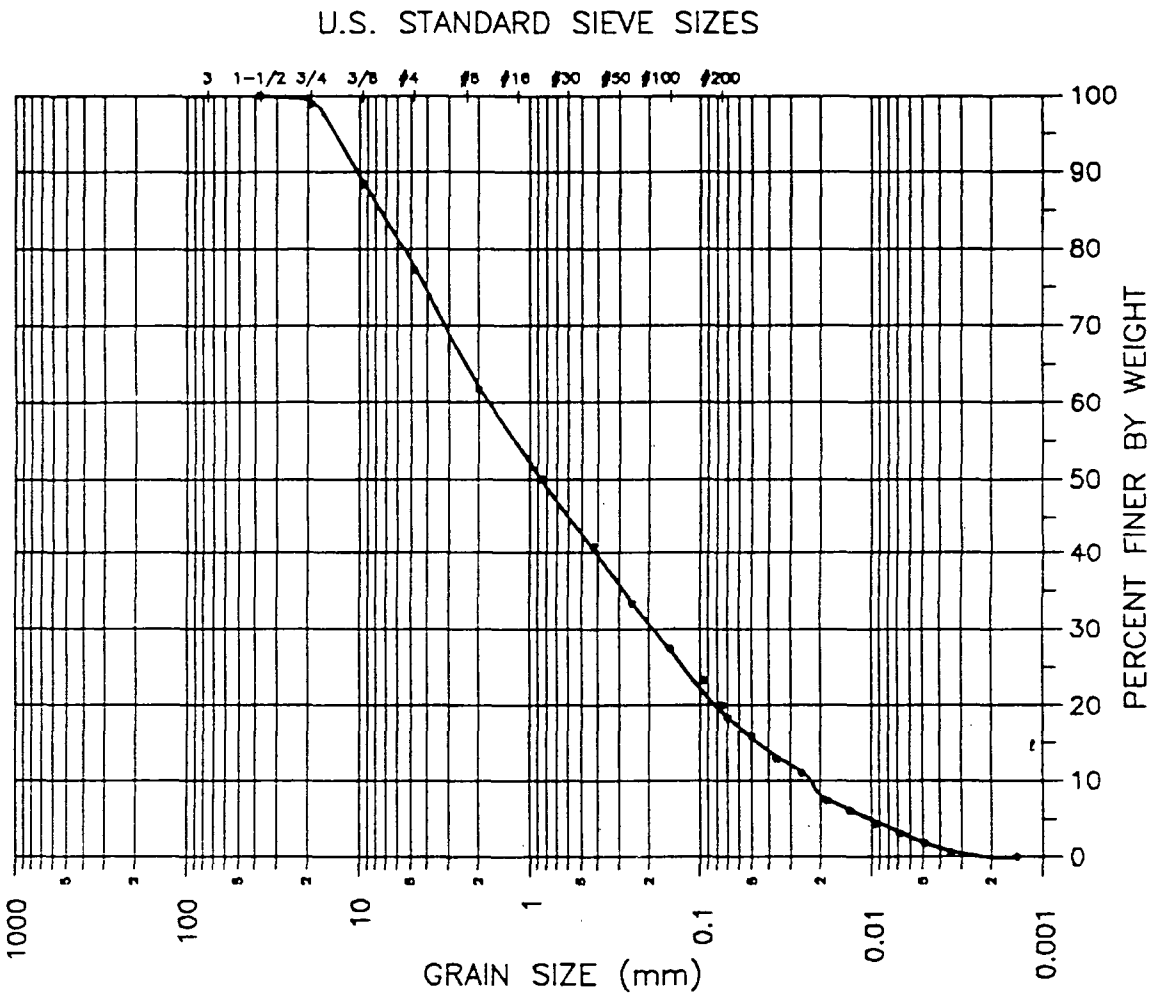
BORING NO.: MW-040
SAMPLE No.: SB-04
TRASH



TEST TYPE: PARTICLE-SIZE ANALYSIS
ASTM D 422

ECOLOGY AND ENVIRONMENTAL	
GRAIN SIZE DISTRIBUTION	
HENLEY-JOHNSTON & ASSOCIATES, INC. engineering geoscience consultants	
HJA NO.: 6266	PLATE 24
DATE TESTED: 06/16/94	

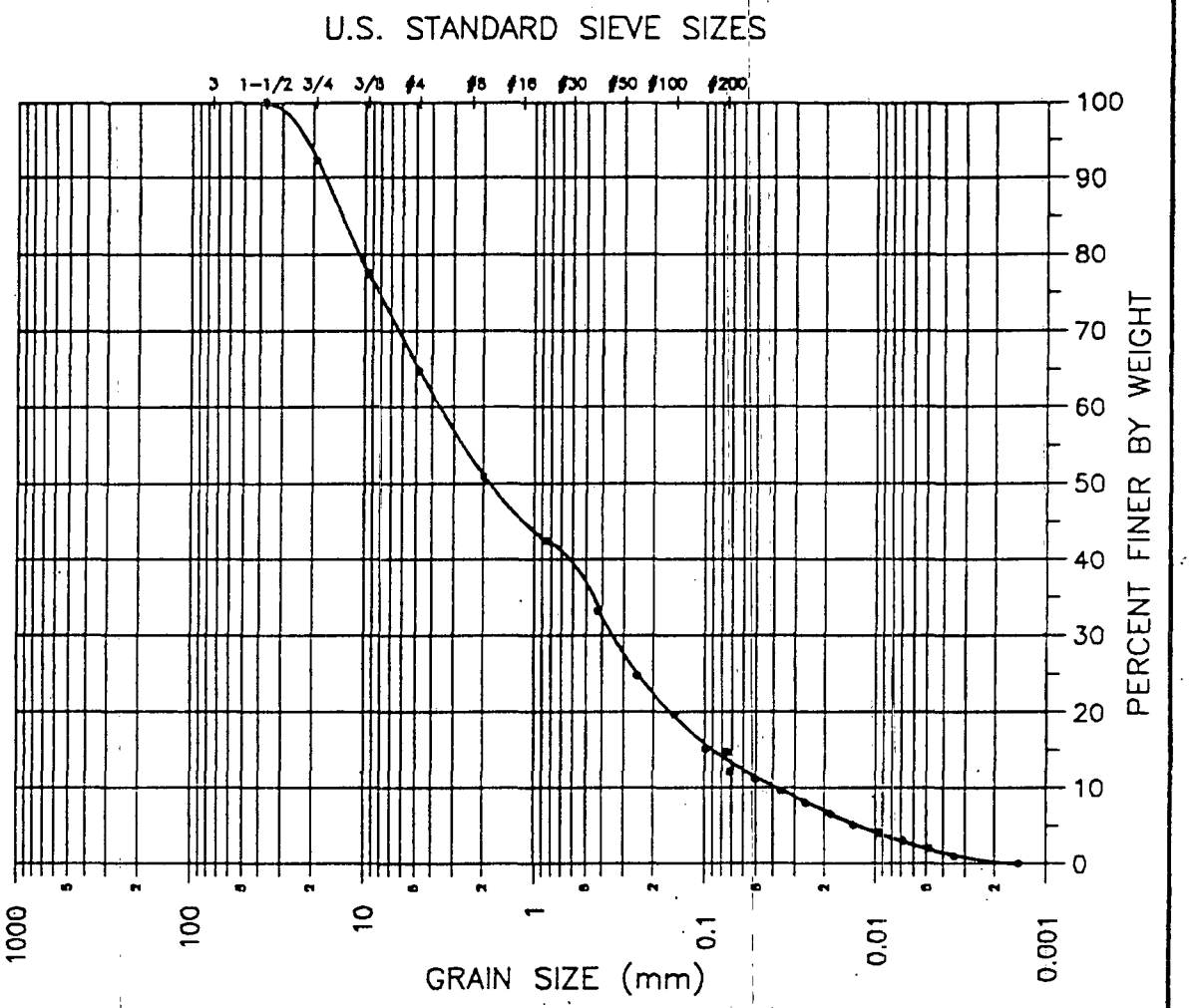
BORING NO.: MW-046
SAMPLE No.: SB-04
TRASH



TEST TYPE: PARTICLE-SIZE ANALYSIS
ASTM D 422

ECOLOGY AND ENVIRONMENTAL	
GRAIN SIZE DISTRIBUTION	
HENLEY-JOHNSTON & ASSOCIATES,INC. engineering geoscience consultants	
HJA NO.: 6266	PLATE 25
DATE TESTED: 06/20/94	

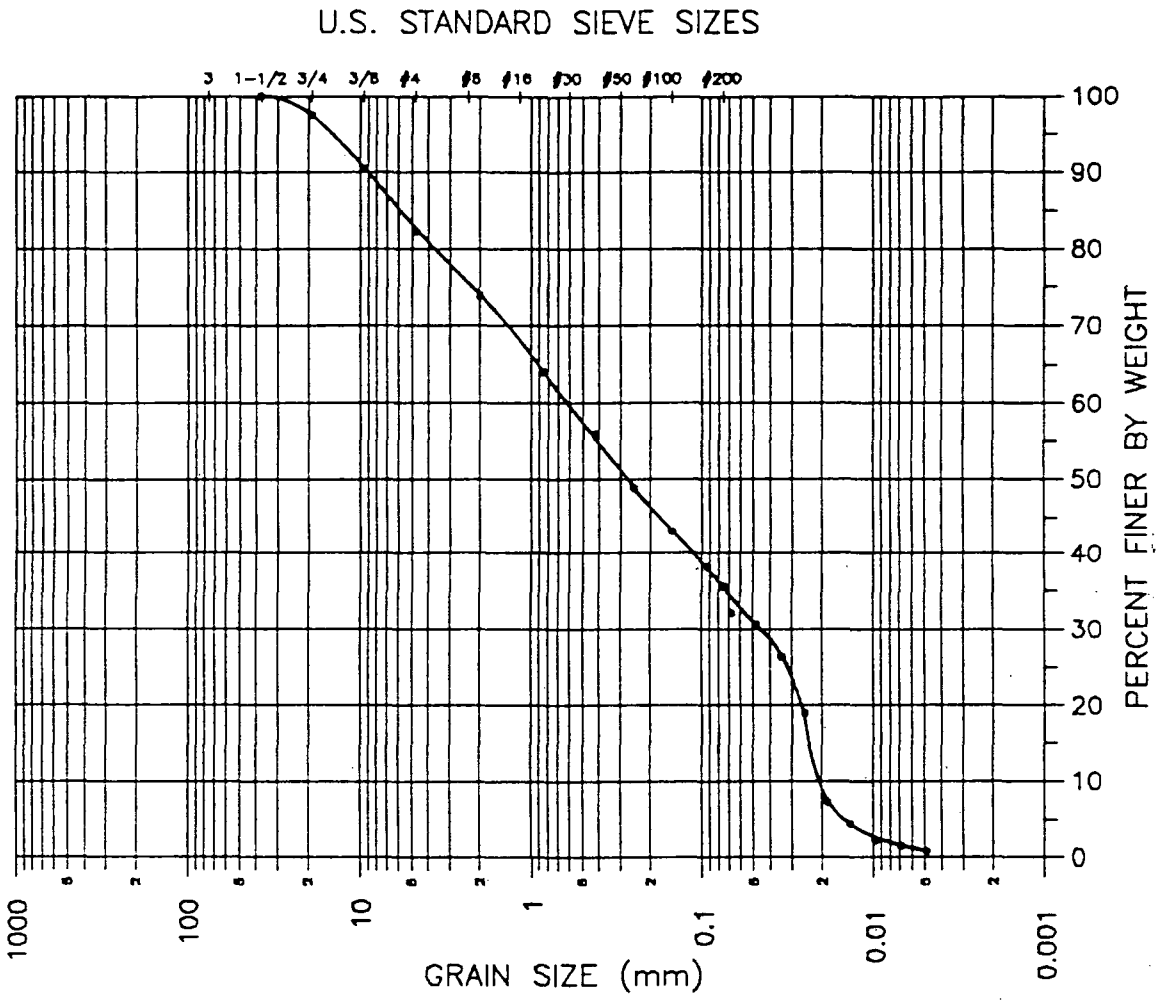
BORING NO.: BL-006
SAMPLE No.: SB-01
TRASH



TEST TYPE: PARTICLE-SIZE ANALYSIS
ASTM D 422

ECOLOGY AND ENVIRONMENTAL	
GRAIN SIZE DISTRIBUTION	
HENLEY-JOHNSTON & ASSOCIATES, INC. engineering geoscience consultants	
HJA NO.: 6266	PLATE 26
DATE TESTED: 06/17/94	

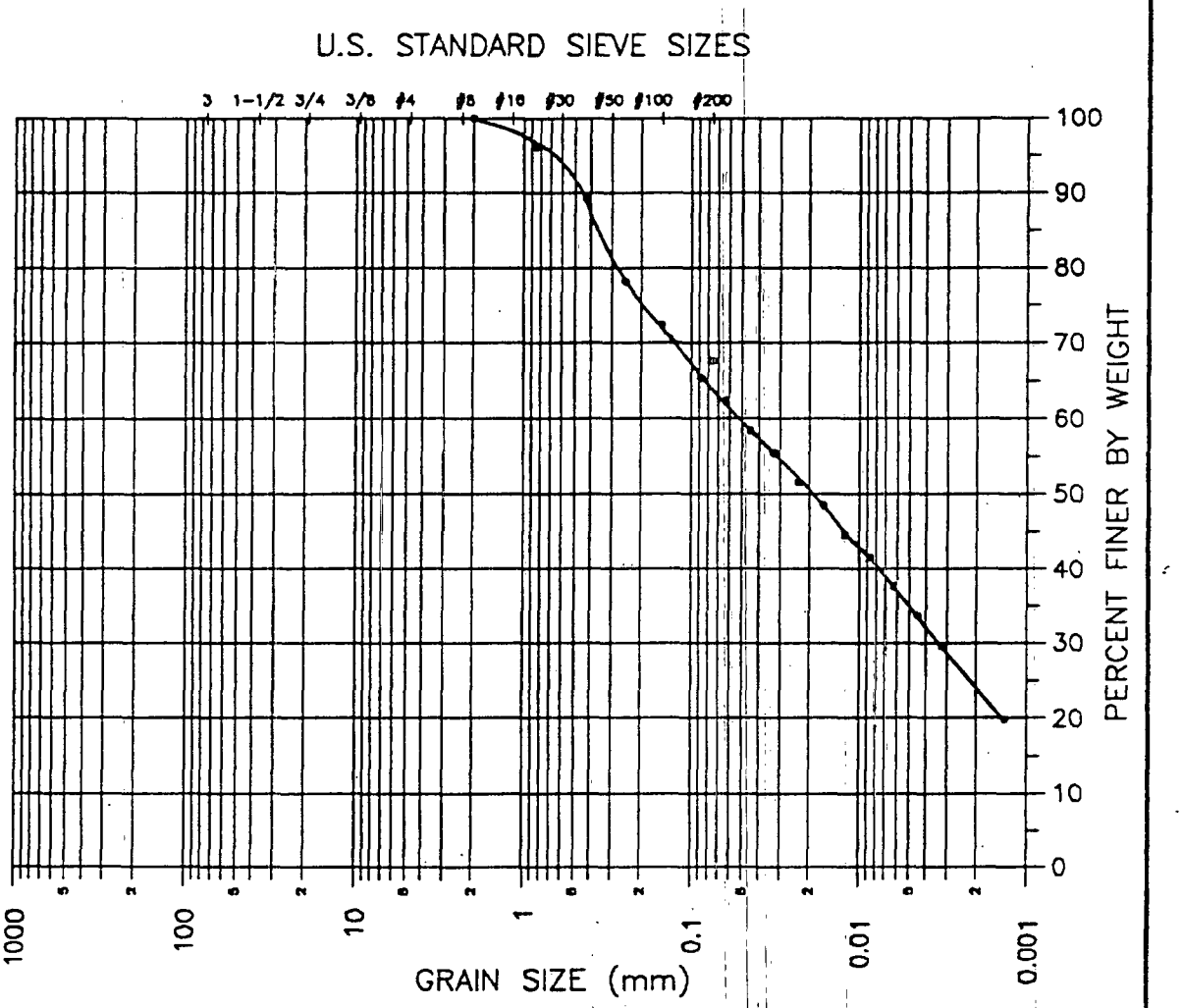
BORING NO.: BL-007
SAMPLE No.: SB-01
TRASH



TEST TYPE: PARTICLE-SIZE ANALYSIS
ASTM D 422

ECOLOGY AND ENVIRONMENTAL	
GRAIN SIZE DISTRIBUTION	
HENLEY-JOHNSTON & ASSOCIATES,INC. engineering geoscience consultants	
HJA NO.: 6266	PLATE 27
DATE TESTED: 06/16/94	

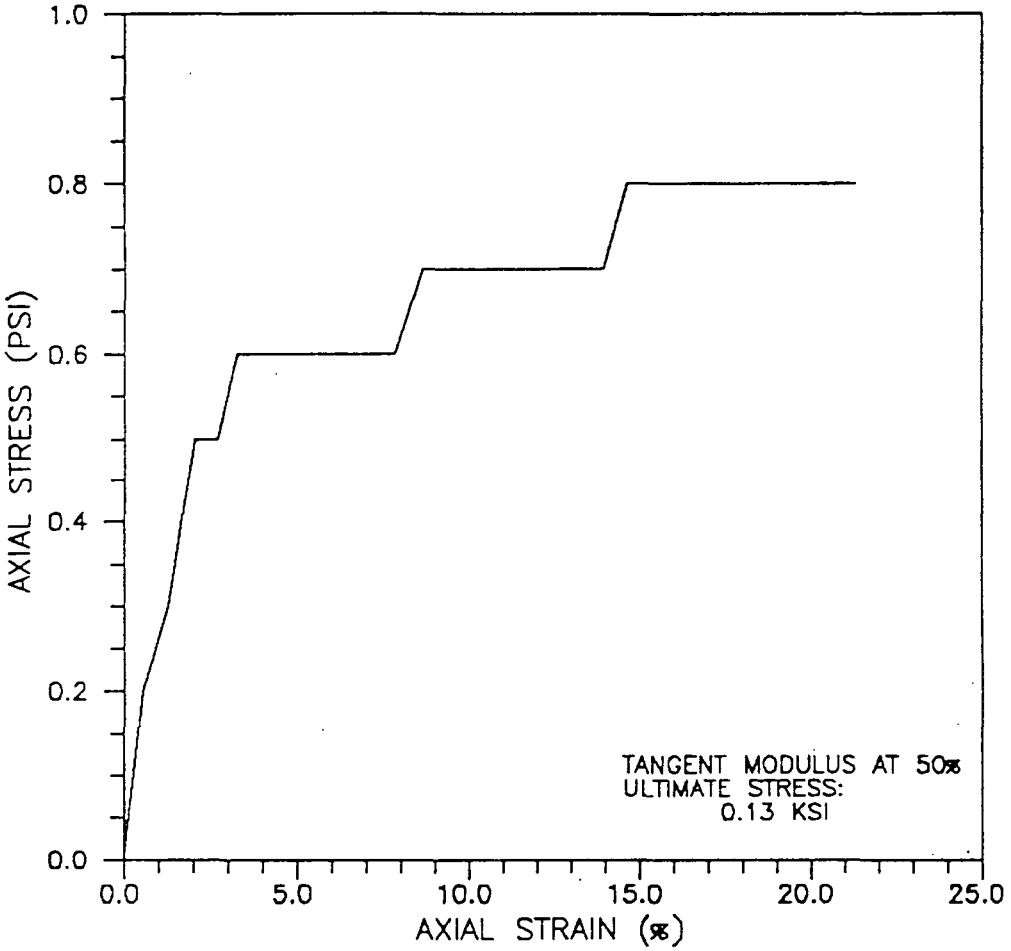
BORING NO.: BL-007
SAMPLE No.: SB-02
PEAT



TEST TYPE: PARTICLE-SIZE ANALYSIS
ASTM D 422

ECOLOGY AND ENVIRONMENTAL	
GRAIN SIZE DISTRIBUTION	
HENLEY-JOHNSTON & ASSOCIATES, INC. engineering geoscience consultants	
HJA NO.: 6266	PLATE 28
DATE TESTED: 06/20/94	

BORING NO.: MW-004
DEPTH (FT): 36.0-36.5
CLAY



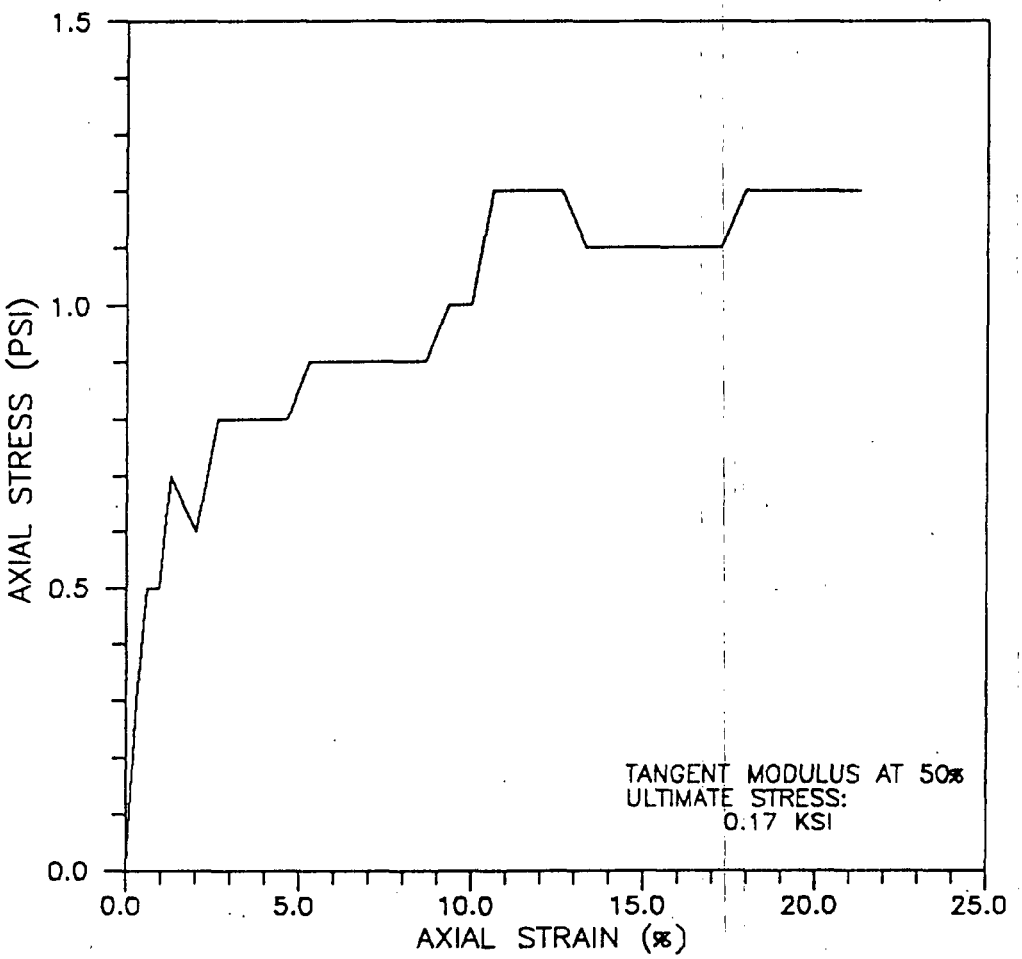
TEST TYPE: UNCONSOLIDATED-UNDRAINED
TRIAXIAL COMPRESSION TEST
(ASTM D 2850)

MOISTURE CONTENT (%): 88.2
DRY UNIT WEIGHT (PCF): 49.8

CONFINING PRESSURE (PSI): 16.0

ECOLOGY AND ENVIRONMENTAL	
TRIAXIAL COMPRESSION TEST STRESS-STRAIN PLOT	
HENLEY-JOHNSTON & ASSOCIATES,INC. engineering geoscience consultants	
HJA NO.: 6266	PLATE 29
DATE TESTED: 06/19/94	

BORING NO.: MW-010
DEPTH (FT): 34.2-34.7
CLAY



TEST TYPE: UNCONSOLIDATED-UNDRAINED
TRIAXIAL COMPRESSION TEST
(ASTM D 2850)

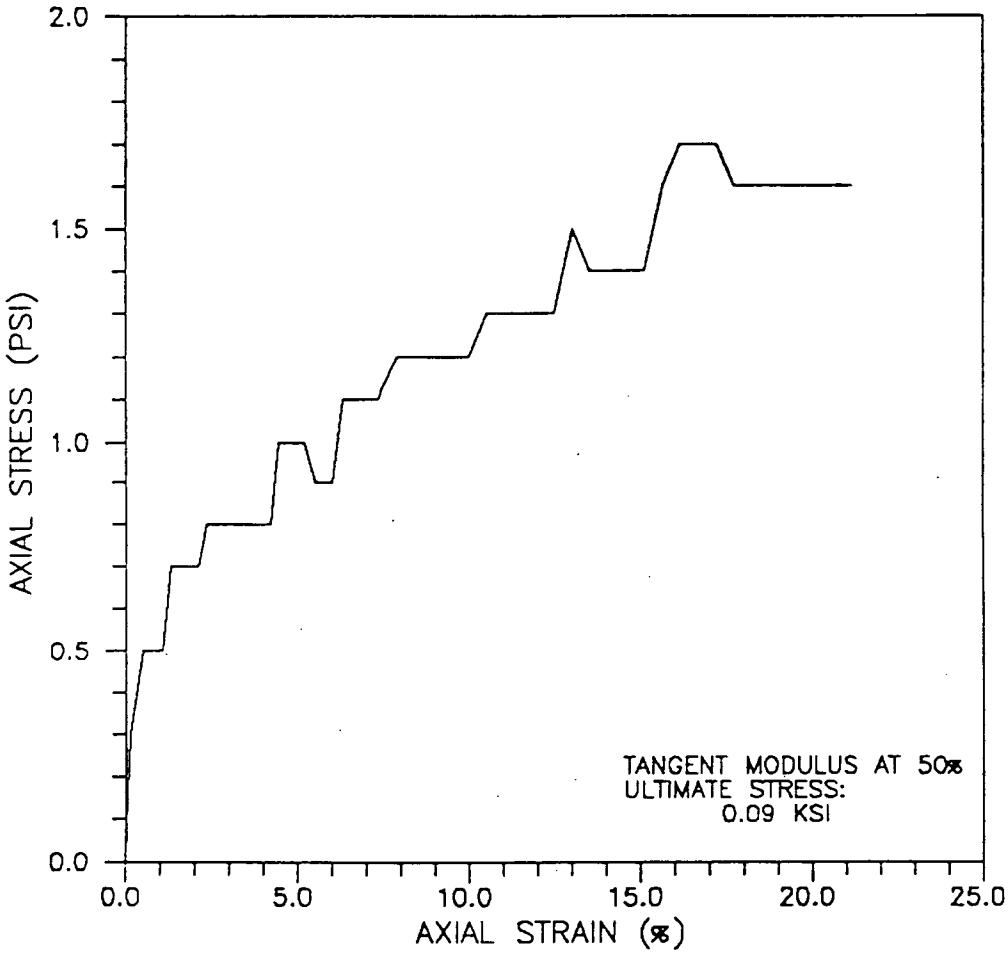
MOISTURE CONTENT (%): 57.6
DRY UNIT WEIGHT (PCF): 62.7

CONFINING PRESSURE (PSI): 15.4

ECOLOGY AND ENVIRONMENTAL	
TRIAXIAL COMPRESSION TEST STRESS-STRAIN PLOT	
HENLEY-JOHNSTON & ASSOCIATES, INC. engineering geoscience consultants	
HJA NO.: 6266	PLATE 30
DATE TESTED: 06/18/94	

00159.1114

BORING NO.: MW-018
DEPTH (FT): 35.5-36.0
CLAY



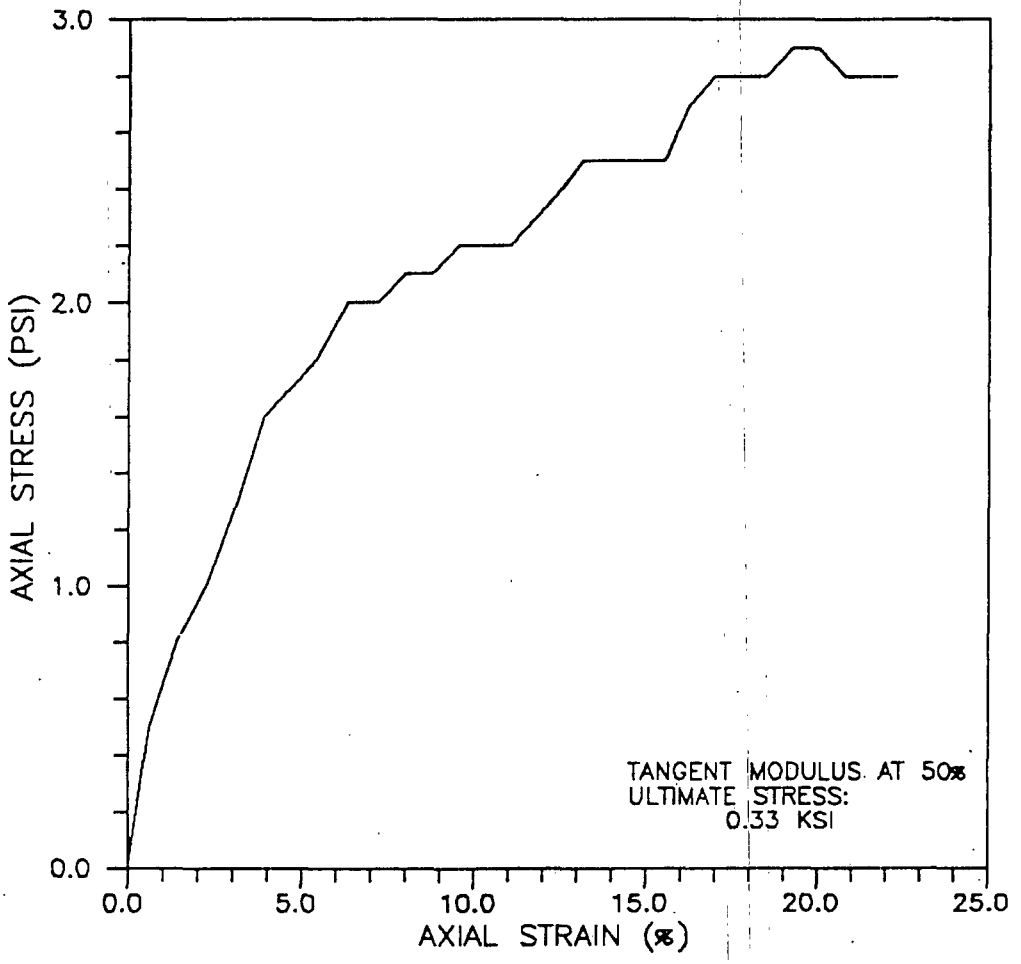
TEST TYPE: UNCONSOLIDATED-UNDRAINED
TRIAXIAL COMPRESSION TEST
(ASTM D 2850)

MOISTURE CONTENT (%): 62.6
DRY UNIT WEIGHT (PCF): 64.4

CONFINING PRESSURE (PSI): 16.0

ECOLOGY AND ENVIRONMENTAL	
TRIAXIAL COMPRESSION TEST STRESS-STRAIN PLOT	
HENLEY-JOHNSTON & ASSOCIATES, INC. engineering geoscience consultants	
HJA NO.: 6266	PLATE 31
DATE TESTED: 06/18/94	

BORING NO.: MW-024
DEPTH (FT): 35.5-36.0
CLAY



TEST TYPE: UNCONSOLIDATED-UNDRAINED
TRIAXIAL COMPRESSION TEST
(ASTM D 2850)

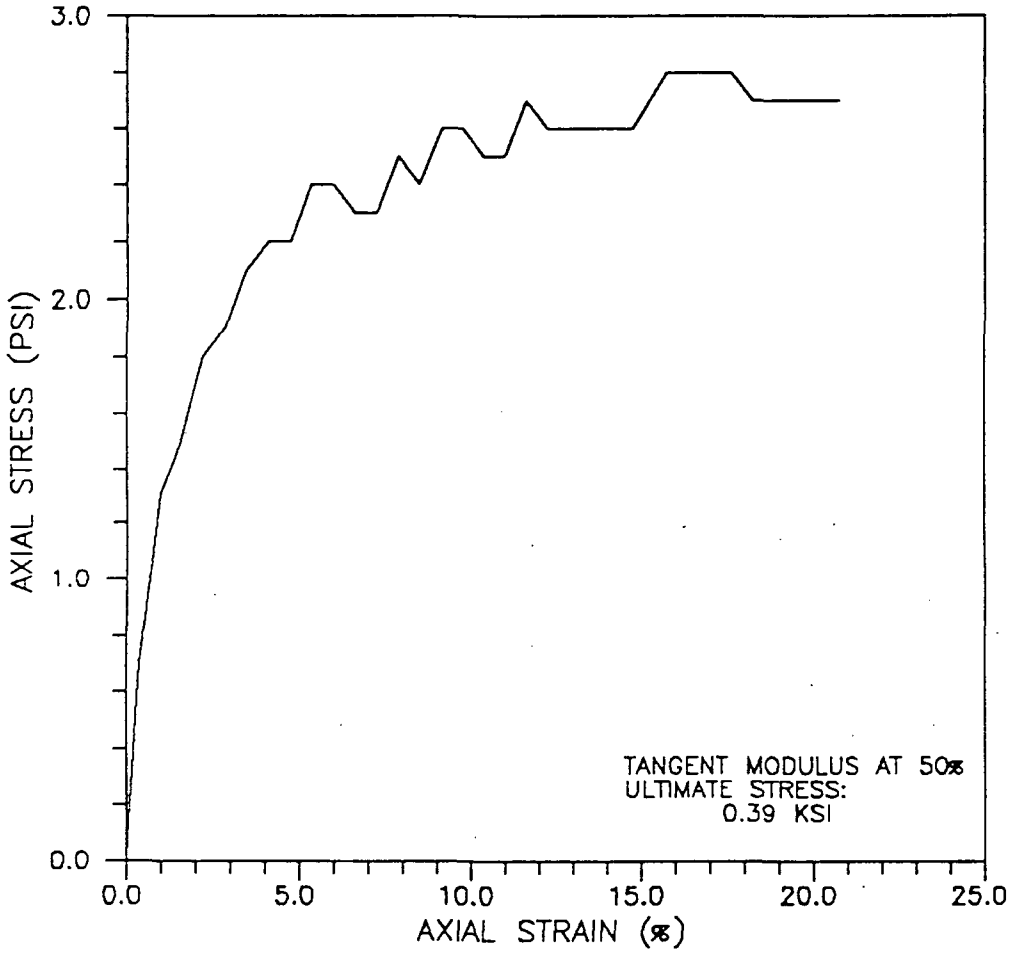
MOISTURE CONTENT (%): 53.1
DRY UNIT WEIGHT (PCF): 72.9

CONFINING PRESSURE (PSI): 16.0

ECOLOGY AND ENVIRONMENTAL	
TRIAXIAL COMPRESSION TEST STRESS-STRAIN PLOT	
HENLEY-JOHNSTON & ASSOCIATES, INC. engineering geoscience consultants	
HJA NO.: 6266	PLATE 32
DATE TESTED: 06/18/94	

00159.1116

BORING NO.: MW-028
DEPTH (FT): 36.8-37.2
CLAY



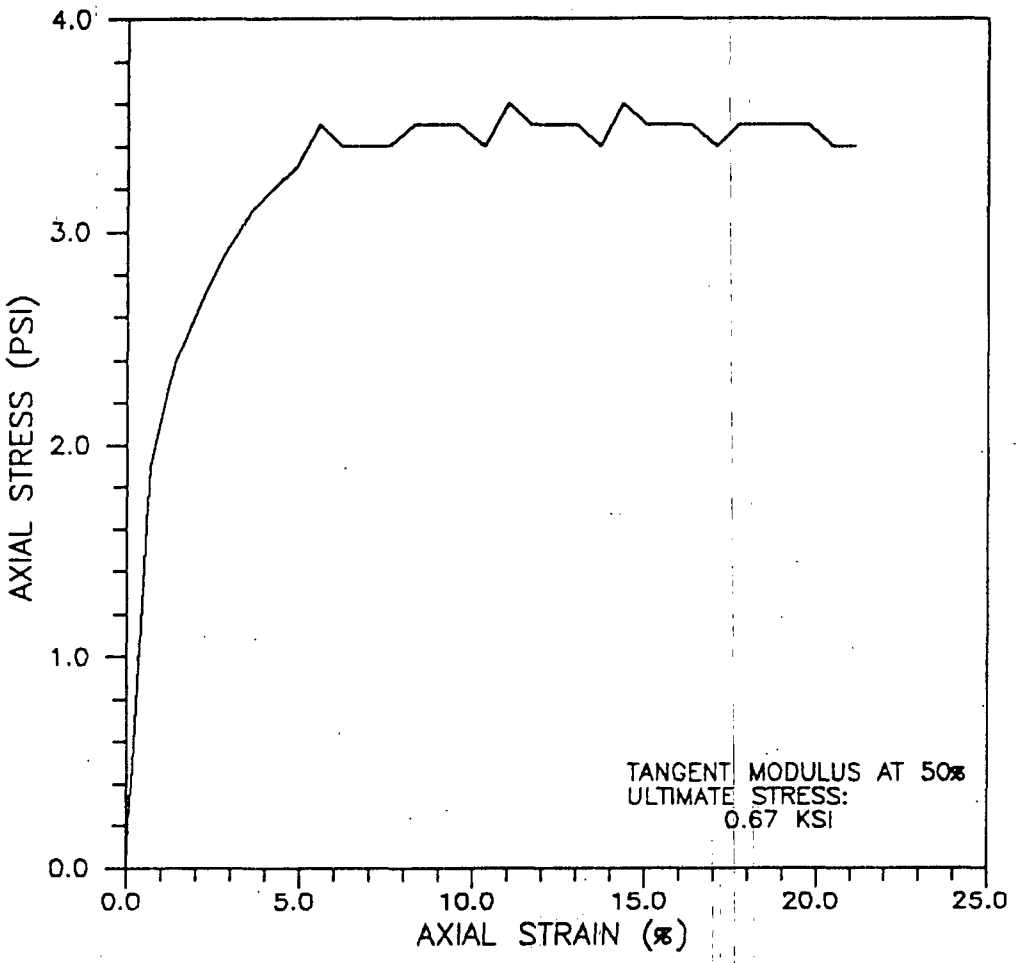
TEST TYPE: UNCONSOLIDATED-UNDRAINED
TRIAXIAL COMPRESSION TEST
(ASTM D 2850)

MOISTURE CONTENT (%): 78.8
DRY UNIT WEIGHT (PCF): 56.3

CONFINING PRESSURE (PSI): 16.5

ECOLOGY AND ENVIRONMENTAL	
TRIAXIAL COMPRESSION TEST STRESS-STRAIN PLOT	
HENLEY-JOHNSTON & ASSOCIATES,INC. engineering geoscience consultants	
HJA NO.: 6266	PLATE 33
DATE TESTED: 06/18/94	

BORING NO.: MW-032
DEPTH (FT): 34.8-35.2
CLAY



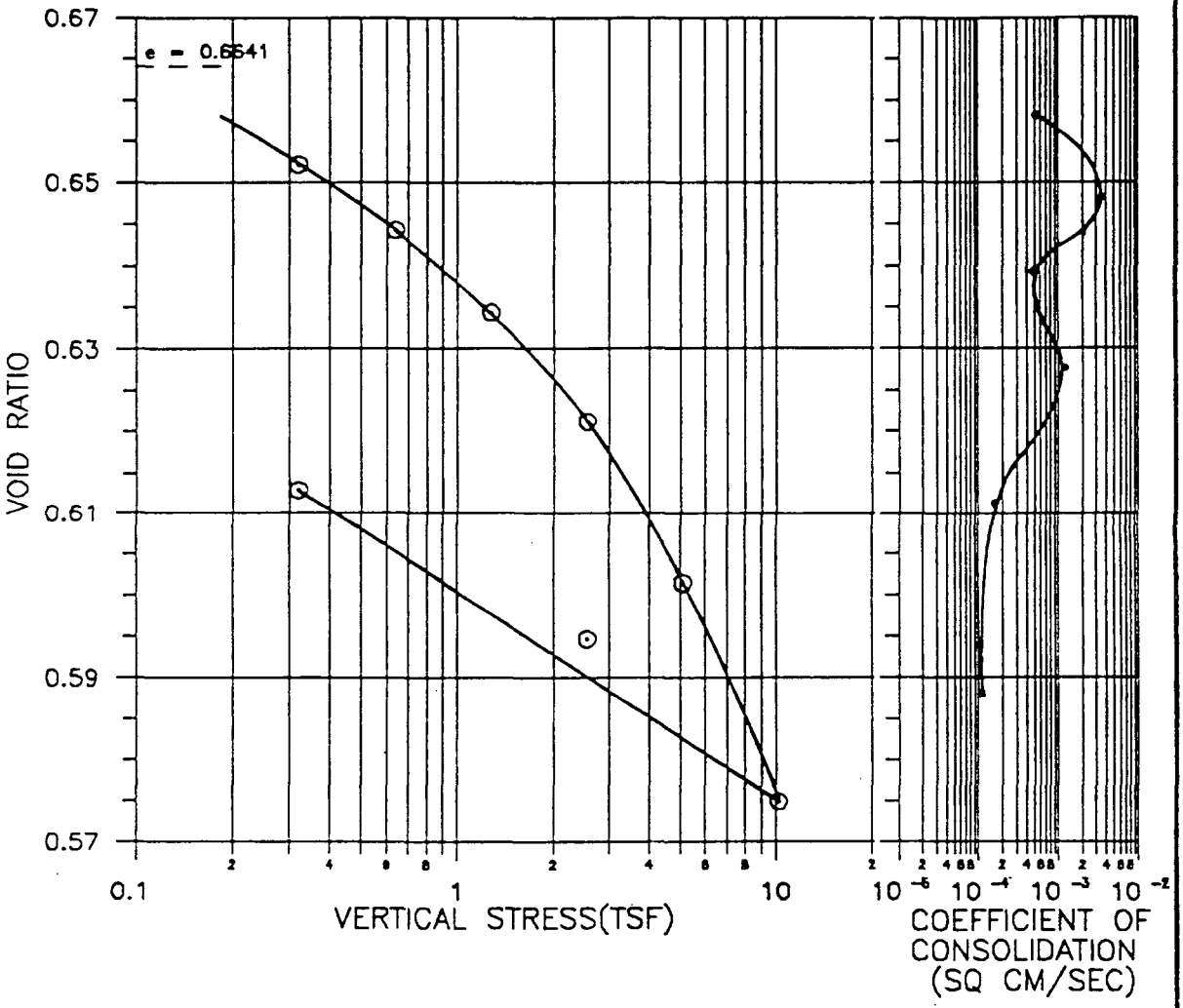
TEST TYPE: UNCONSOLIDATED-UNDRAINED
TRIAXIAL COMPRESSION TEST
(ASTM D 2850)

MOISTURE CONTENT (%): 65.6
DRY UNIT WEIGHT (PCF): 62.5

CONFINING PRESSURE (PSI): 15.7

ECOLOGY AND ENVIRONMENTAL	
TRIAXIAL COMPRESSION TEST STRESS-STRAIN PLOT	
HENLEY-JOHNSTON & ASSOCIATES, INC. engineering geoscience consultants	
HJA NO.: 6266	PLATE 34
DATE TESTED: 06/19/94	

BORING NO.: MW-004
DEPTH (FT): 36.8-37.2
CLAY

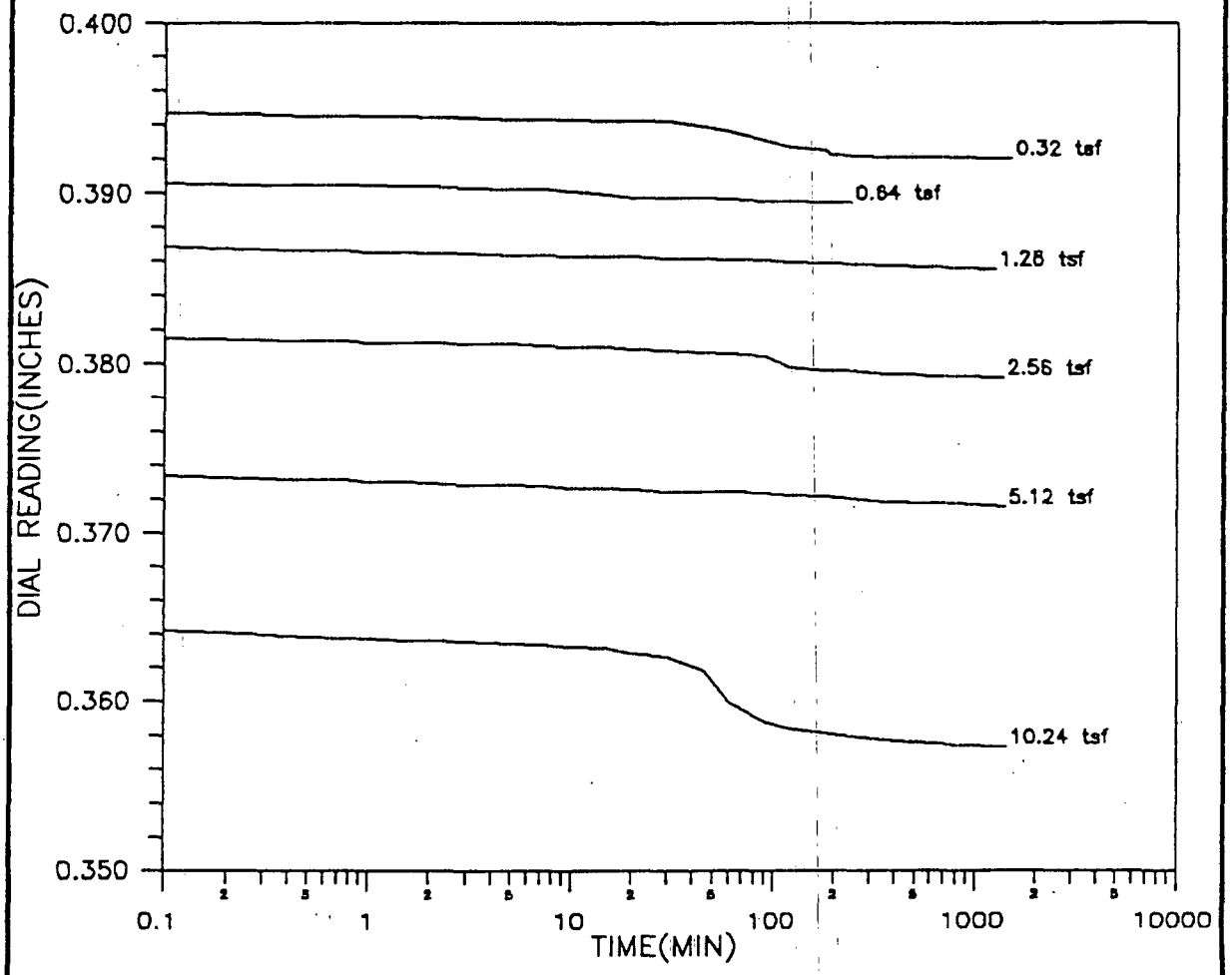


TEST TYPE: CONSOLIDATION TEST
(ASTM D 2435)

MOISTURE CONTENT (%): 26.9
DRY UNIT WEIGHT (PCF): 99.4

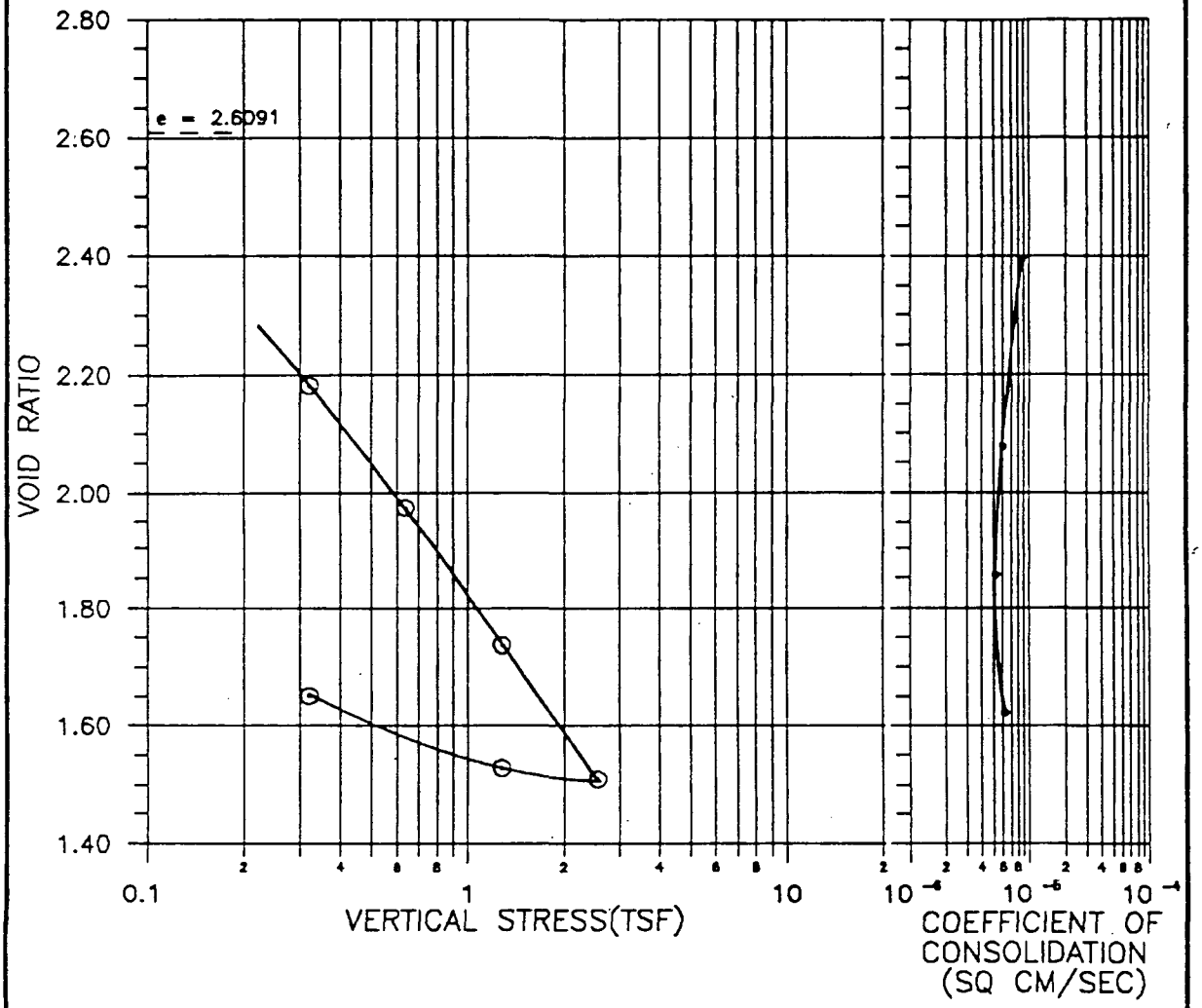
ECOLOGY AND ENVIRONMENTAL	
CONSOLIDATION TEST VOID RATIO-LOG OF STRESS PLOT	
HENLEY-JOHNSTON & ASSOCIATES,INC. engineering geoscience consultants	
HJA NO.: 6266	PLATE 35
DATE TESTED: 06/10/94	

BORING NO.: MW-004
DEPTH (FT): 36.8-37.2
CLAY



ECOLOGY AND ENVIRONMENTAL	
CONSOLIDATION TEST DIAL READING-LOG OF TIME PLOT	
HENLEY-JOHNSTON & ASSOCIATES,INC. engineering geoscience consultants	
HJA NO.: 6266	PLATE 36
DATE TESTED: 06/18/94	

BORING NO.: MW-010
DEPTH (FT): 33.2-33.8
CLAY

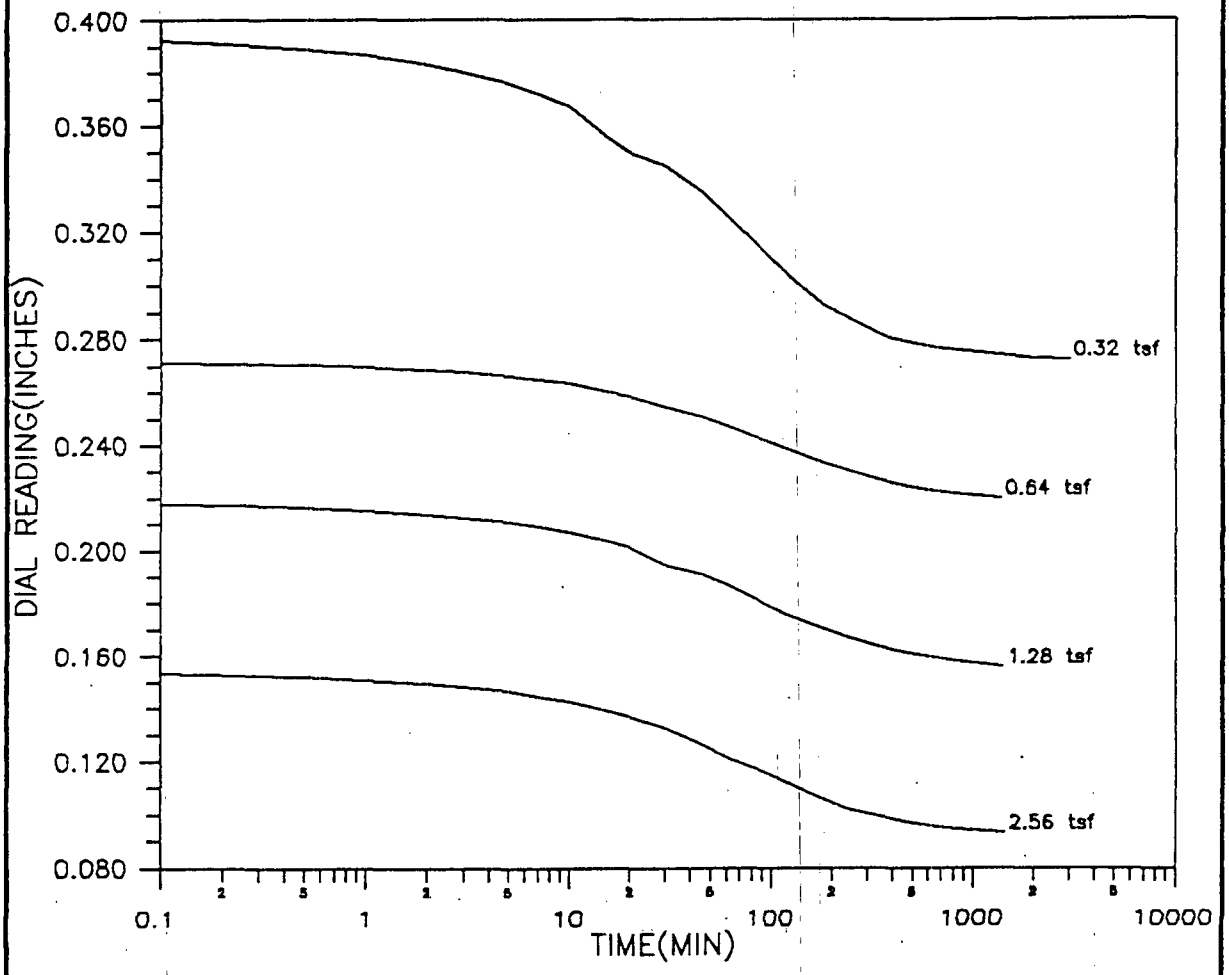


TEST TYPE: CONSOLIDATION TEST (ASTM D 2435)

MOISTURE CONTENT (%): 93.7
DRY UNIT WEIGHT (PCF): 46.9

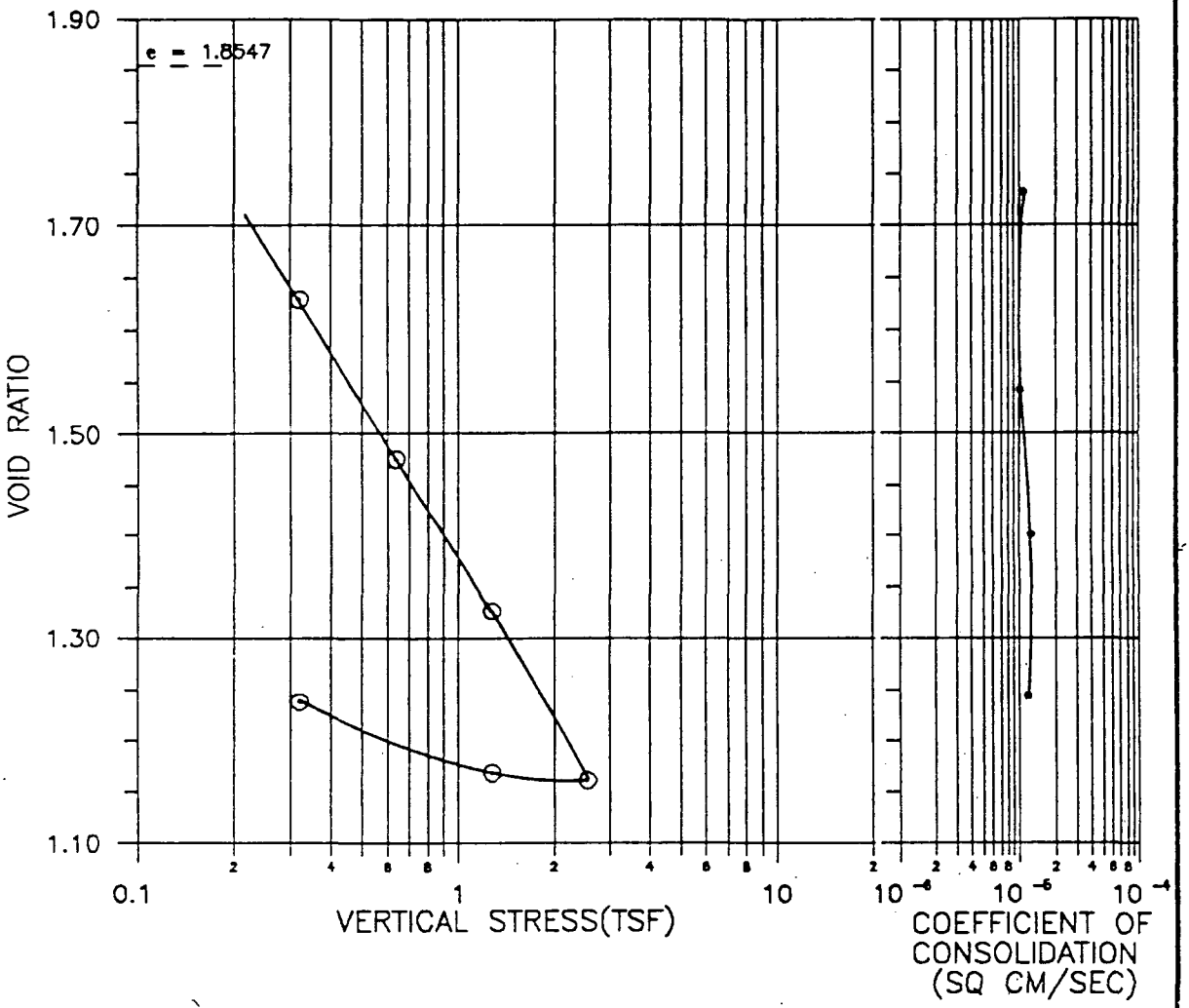
ECOLOGY AND ENVIRONMENTAL	
CONSOLIDATION TEST VOID RATIO-LOG OF STRESS PLOT	
HENLEY-JOHNSTON & ASSOCIATES,INC. engineering geoscience consultants	
HJA NO.: 6266	PLATE 37
DATE TESTED: 06/10/94	

BORING NO.: MW-010
DEPTH (FT): 33.2-33.8
CLAY



ECOLOGY AND ENVIRONMENTAL	
CONSOLIDATION TEST DIAL READING-LOG OF TIME PLOT	
HENLEY-JOHNSTON & ASSOCIATES,INC. engineering geoscience consultants	
HJA NO.: 6266	PLATE 38
DATE TESTED: 06/10/94	

BORING NO.: MW-018
DEPTH (FT): 36.0-36.5
CLAY

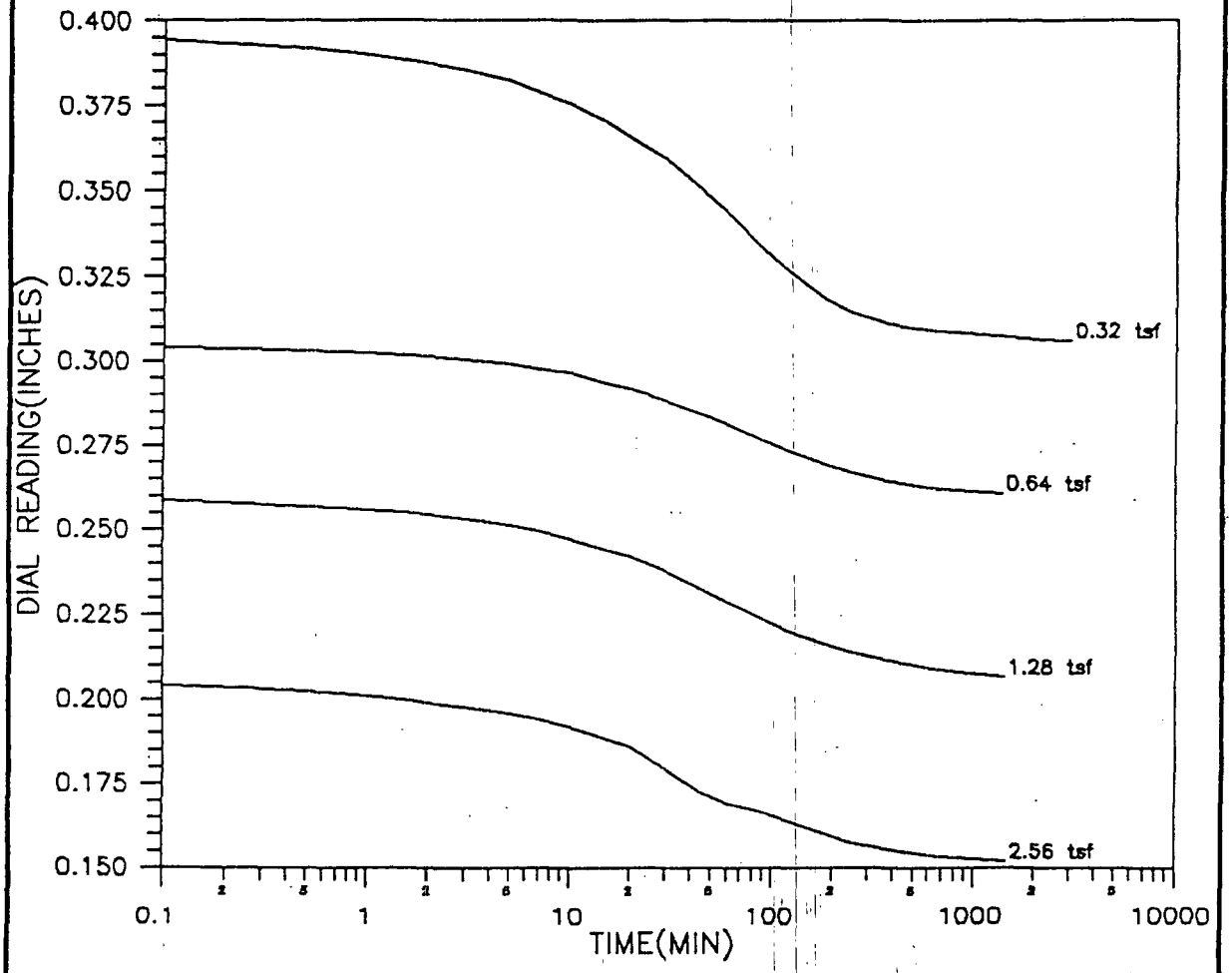


TEST TYPE: CONSOLIDATION TEST
(ASTM D 2435)

MOISTURE CONTENT (%): 68.9
DRY UNIT WEIGHT (PCF): 58.8

ECOLOGY AND ENVIRONMENTAL	
CONSOLIDATION TEST VOID RATIO-LOG OF STRESS PLOT	
HENLEY-JOHNSTON & ASSOCIATES,INC. engineering geoscience consultants	
HJA NO.: 6266	PLATE 39
DATE TESTED: 06/10/94	

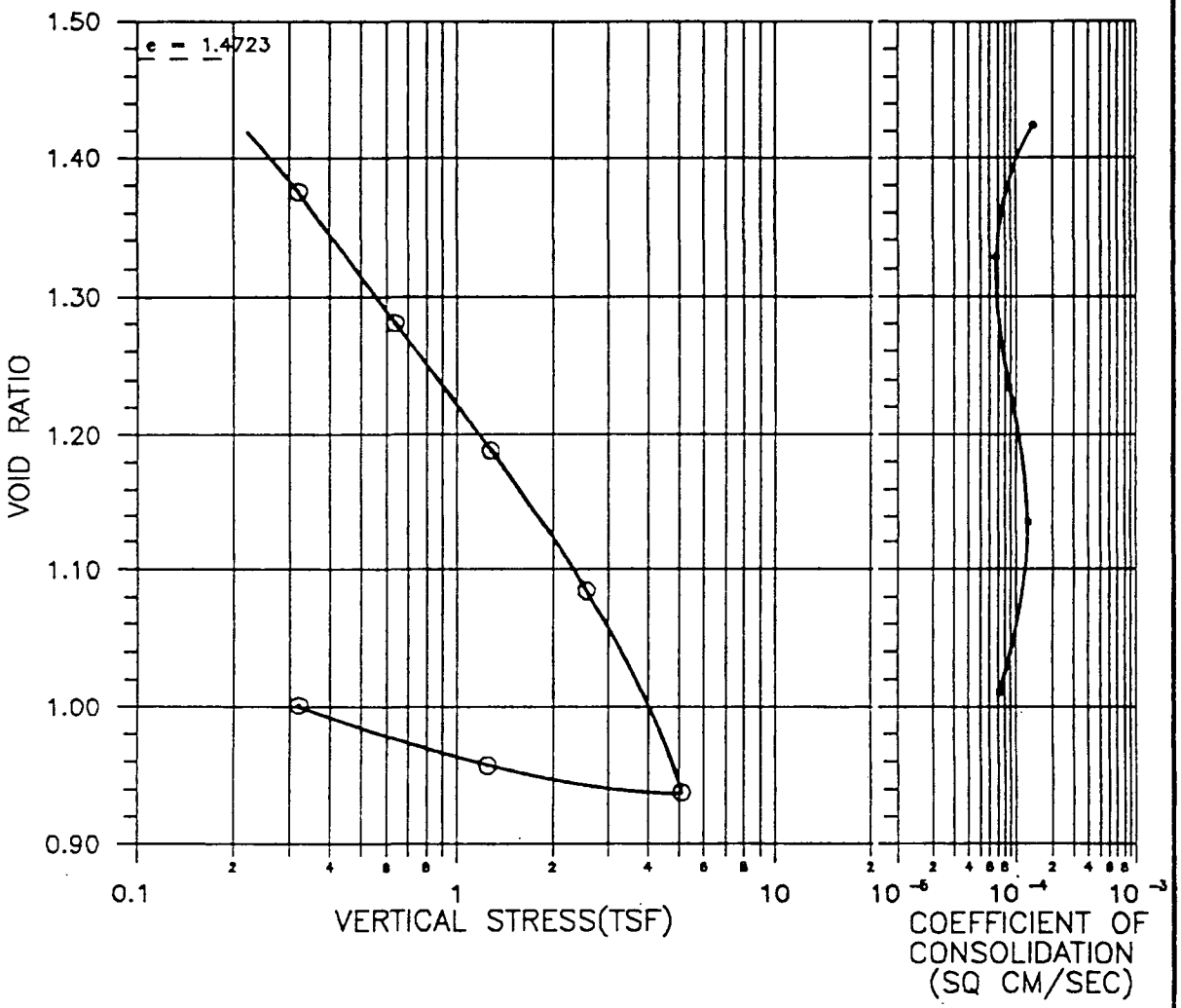
BORING NO.: MW-018
DEPTH (FT): 36.0-36.5
CLAY



ECOLOGY AND ENVIRONMENTAL	
CONSOLIDATION TEST DIAL READING-LOG OF TIME PLOT	
HENLEY-JOHNSTON & ASSOCIATES,INC. engineering geoscience consultants	
HJA NO.: 6266	PLATE 40
DATE TESTED: 06/10/94	

00159.1124

BORING NO.: MW-024
DEPTH (FT): 36.0-36.5
CLAY

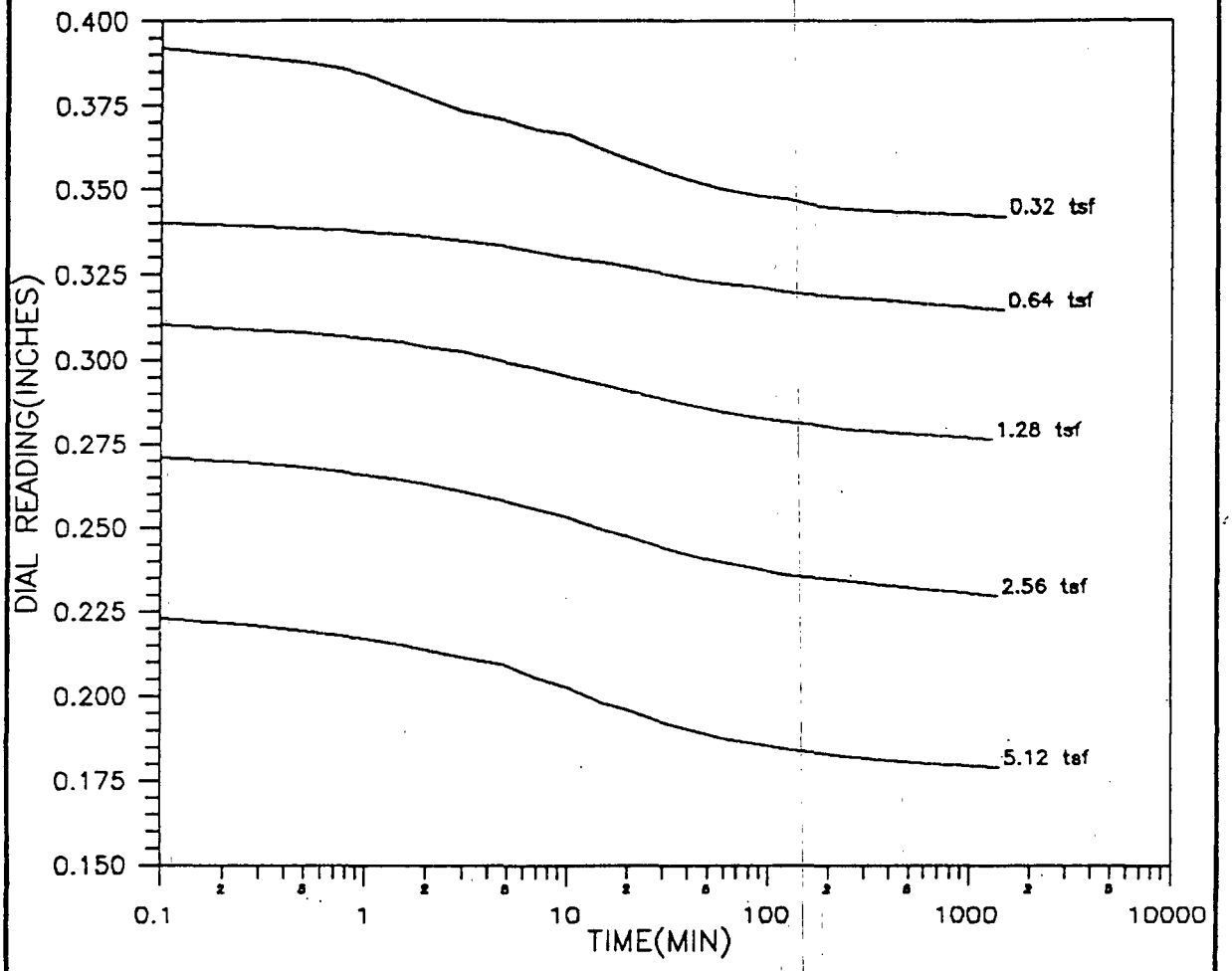


TEST TYPE: CONSOLIDATION TEST
(ASTM D 2435)

MOISTURE CONTENT (%): 53.9
DRY UNIT WEIGHT (PCF): 68.7

ECOLOGY AND ENVIRONMENTAL	
CONSOLIDATION TEST VOID RATIO-LOG OF STRESS PLOT	
HENLEY-JOHNSTON & ASSOCIATES,INC. engineering geoscience consultants	
HJA NO.: 6266	PLATE 41
DATE TESTED: 06/10/94	

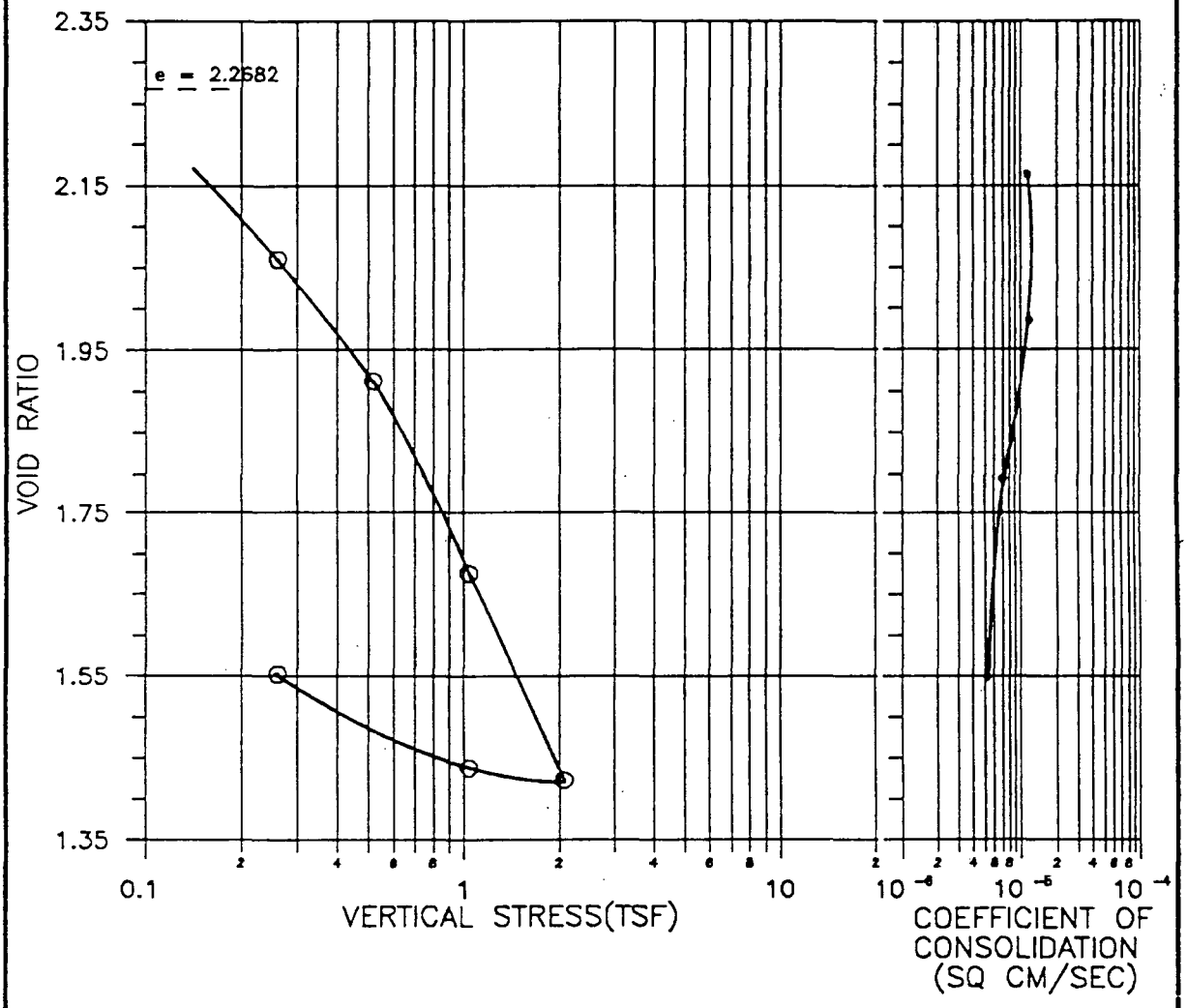
BORING NO.: MW-024
DEPTH (FT): 36.0-36.5
CLAY



ECOLOGY AND ENVIRONMENTAL	
CONSOLIDATION TEST DIAL READING-LOG OF TIME PLOT	
HENLEY-JOHNSTON & ASSOCIATES,INC. engineering geoscience consultants	
HJA NO.: 6266	PLATE 42
DATE TESTED: 06/10/94	

00159.1126

BORING NO.: MW-028
DEPTH (FT): 35.5-36.0
CLAY



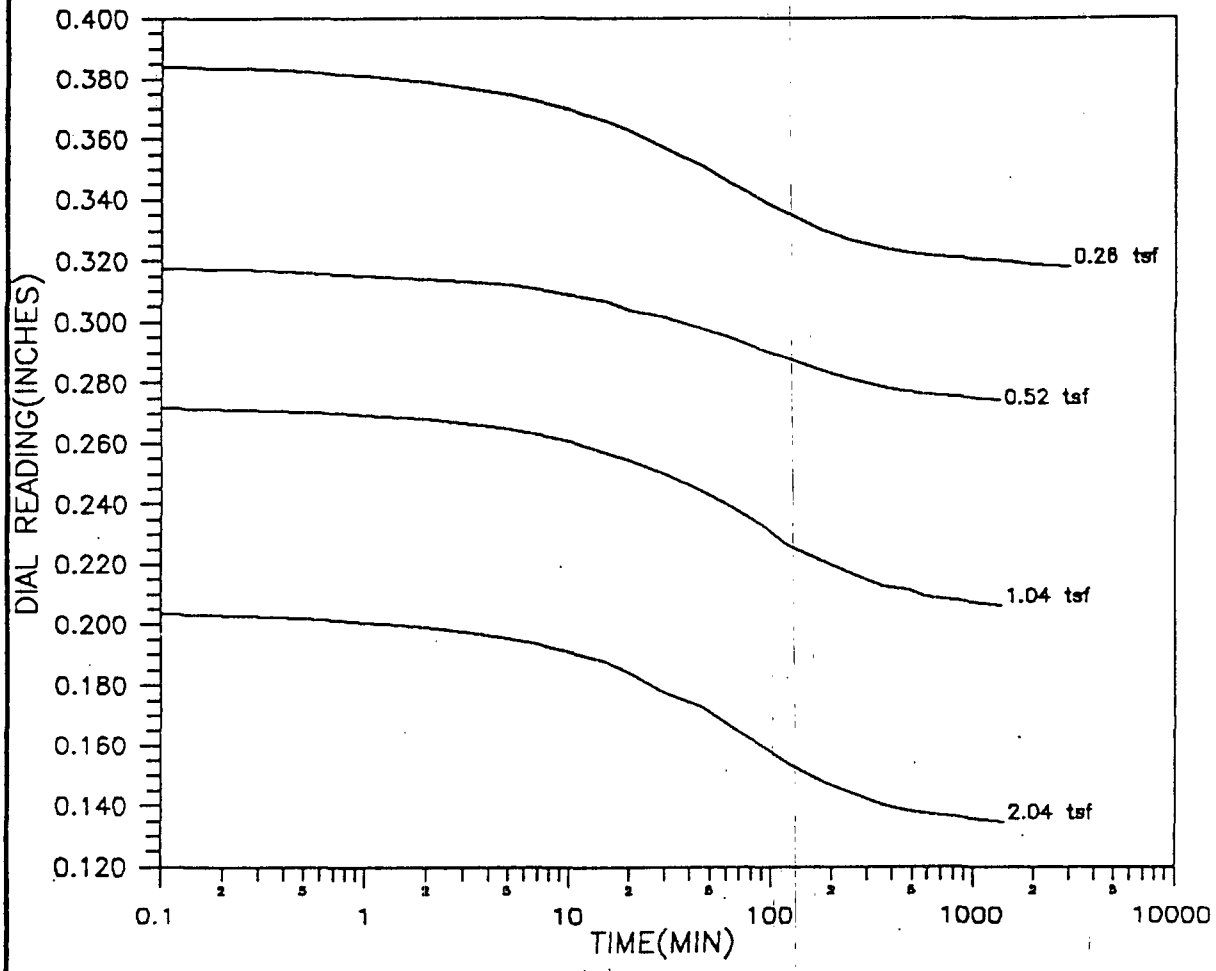
TEST TYPE: CONSOLIDATION TEST (ASTM D 2435)

MOISTURE CONTENT (%): 82.5
DRY UNIT WEIGHT (PCF): 51.8

ECOLOGY AND ENVIRONMENTAL	
CONSOLIDATION TEST VOID RATIO-LOG OF STRESS PLOT	
HENLEY-JOHNSTON & ASSOCIATES,INC. *engineering geoscience consultants*	
HJA NO.: 6266	PLATE 43
DATE TESTED: 06/10/94	

00159.1127

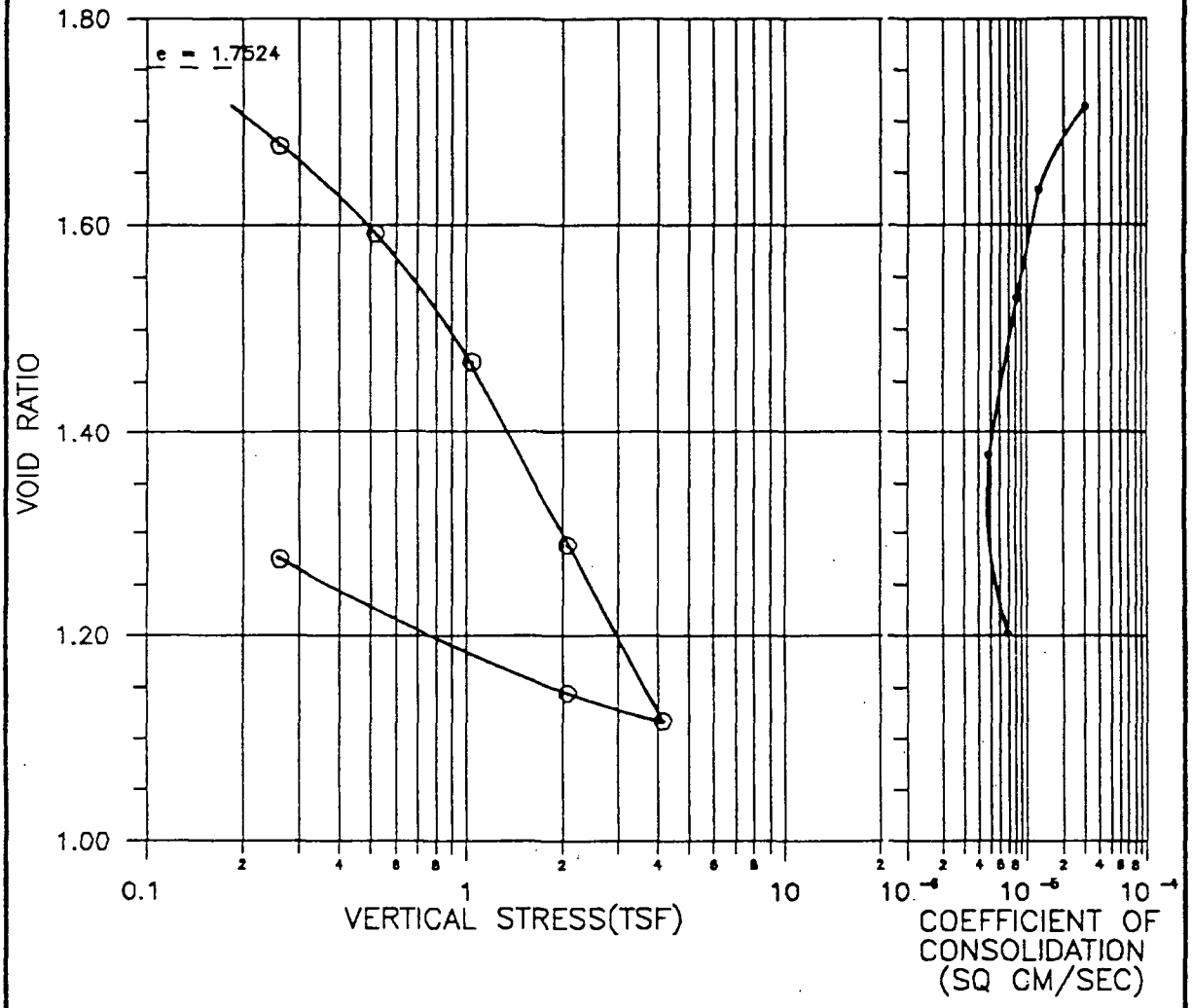
BORING NO.: MW-028
DEPTH (FT): 35.5-36.0
CLAY



ECOLOGY AND ENVIRONMENTAL	
CONSOLIDATION TEST DIAL READING-LOG OF TIME PLOT	
HENLEY-JOHNSTON & ASSOCIATES,INC. engineering geoscience consultants	
HJA NO.: 6266	PLATE 44
DATE TESTED: 06/10/94	

00159.1128

BORING NO.: MW-032
DEPTH (FT): 35.2-35.8
CLAY

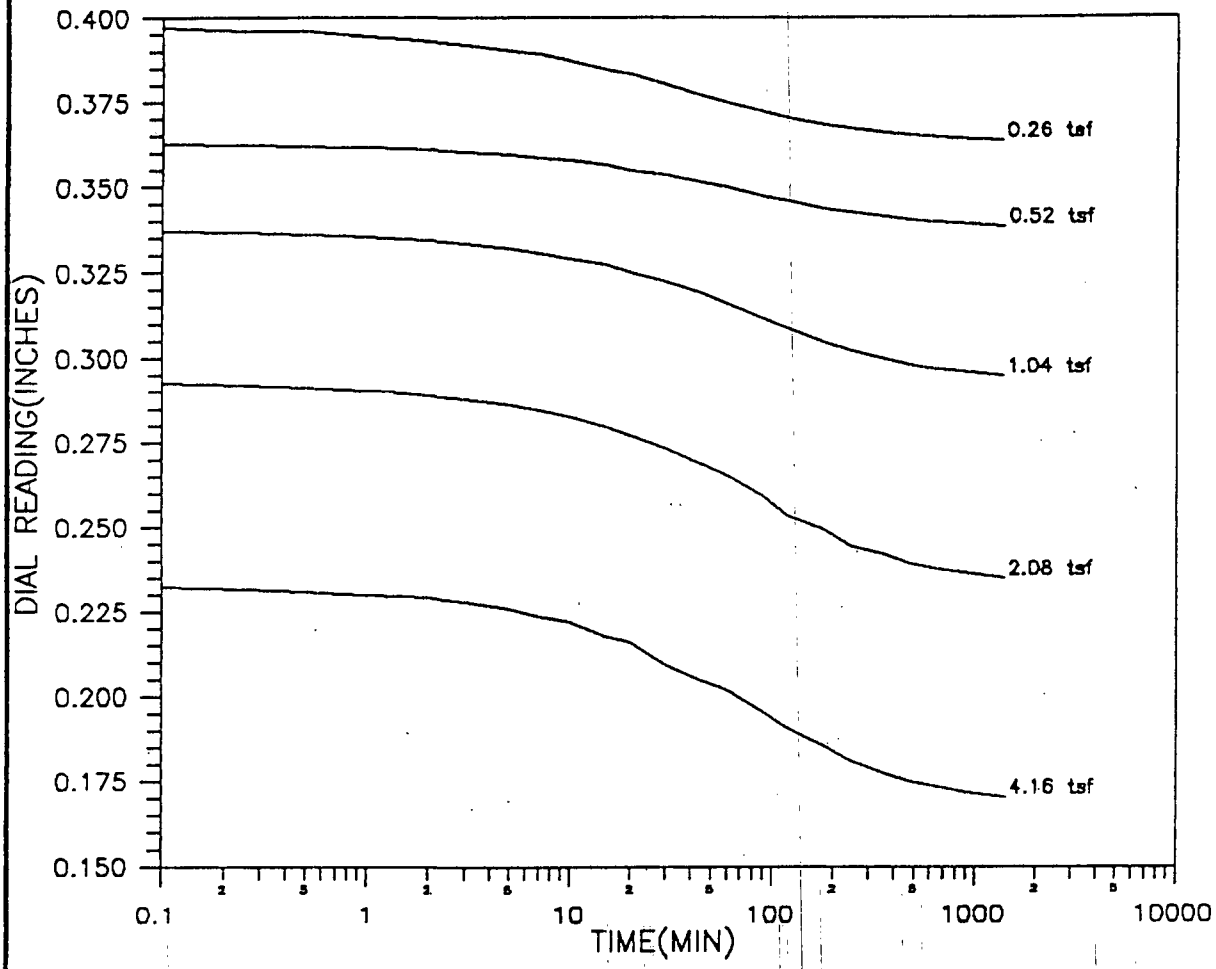


TEST TYPE: CONSOLIDATION TEST
(ASTM D 2435)

MOISTURE CONTENT (%): 63.0
DRY UNIT WEIGHT (PCF): 61.5

ECOLOGY AND ENVIRONMENTAL	
CONSOLIDATION TEST VOID RATIO-LOG OF STRESS PLOT	
HENLEY-JOHNSTON & ASSOCIATES,INC. engineering geoscience consultants	
HJA NO.: 6266	PLATE 45
DATE TESTED: 06/13/94	

BORING NO.: MW-032
DEPTH (FT): 35.2-35.8
CLAY



ECOLOGY AND ENVIRONMENTAL	
CONSOLIDATION TEST DIAL READING-LOG OF TIME PLOT	
HENLEY-JOHNSTON & ASSOCIATES,INC. engineering geoscience consultants	
HJA NO.: 6266	PLATE 46
DATE TESTED: 06/13/94	

APPENDIX N

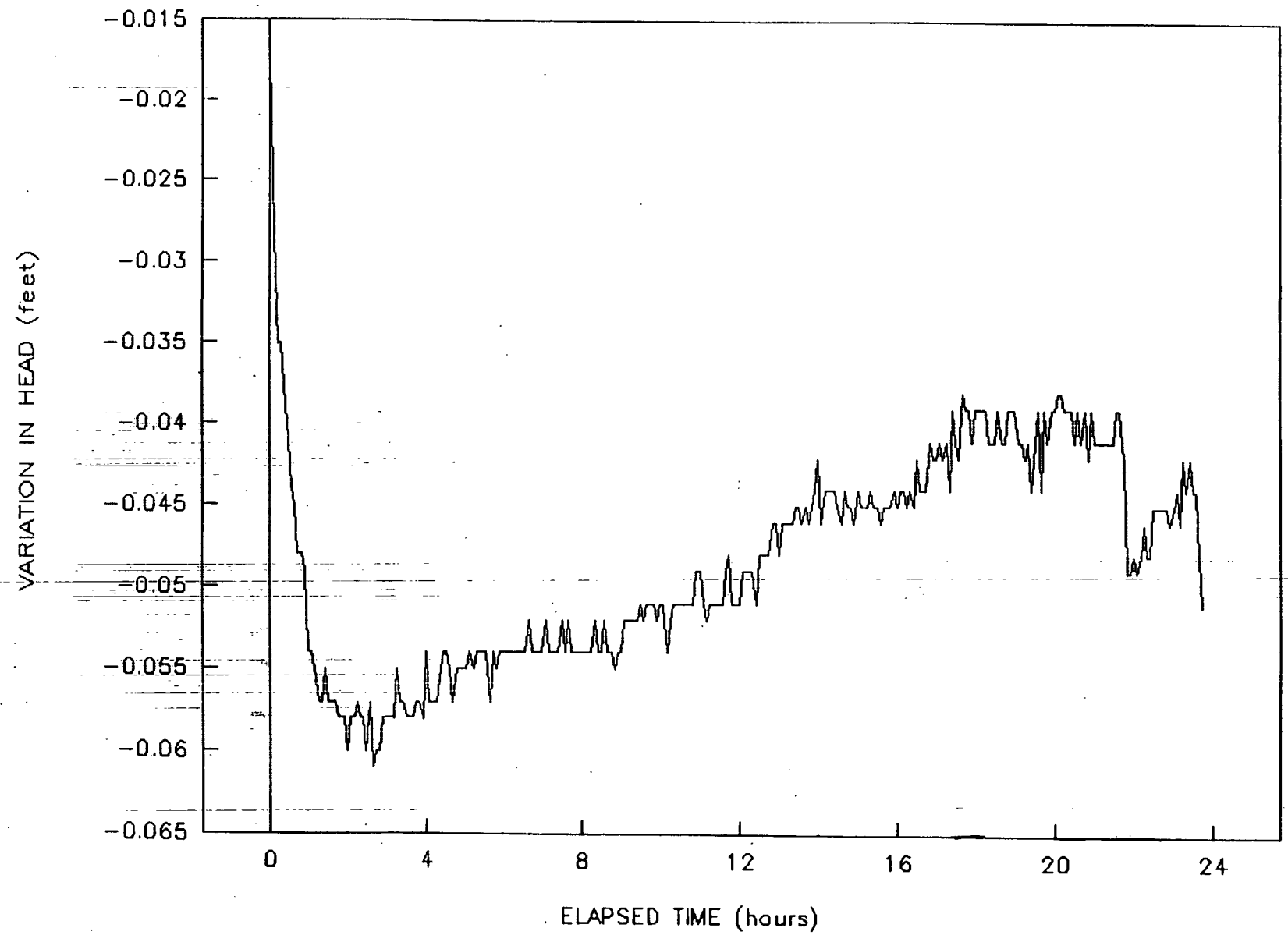
CONTINUOUS WATER-LEVEL RECORDS

APPENDIX N

Appendix N contains information pertaining to the evaluation of possible tidal effects on the groundwater systems associated with the Agriculture Street Landfill (ASL) site. Data within Appendix N is separated into two groups. The first group contains summary water level information collected at four monitoring wells (MW015, MW016, MW017, and MW018) during specific time intervals from May 20 to May 26, 1994. The second group of information summarizes barometric pressure readings compiled by the National Weather Service (NWS) for the City of New Orleans during the measurement period at each well.

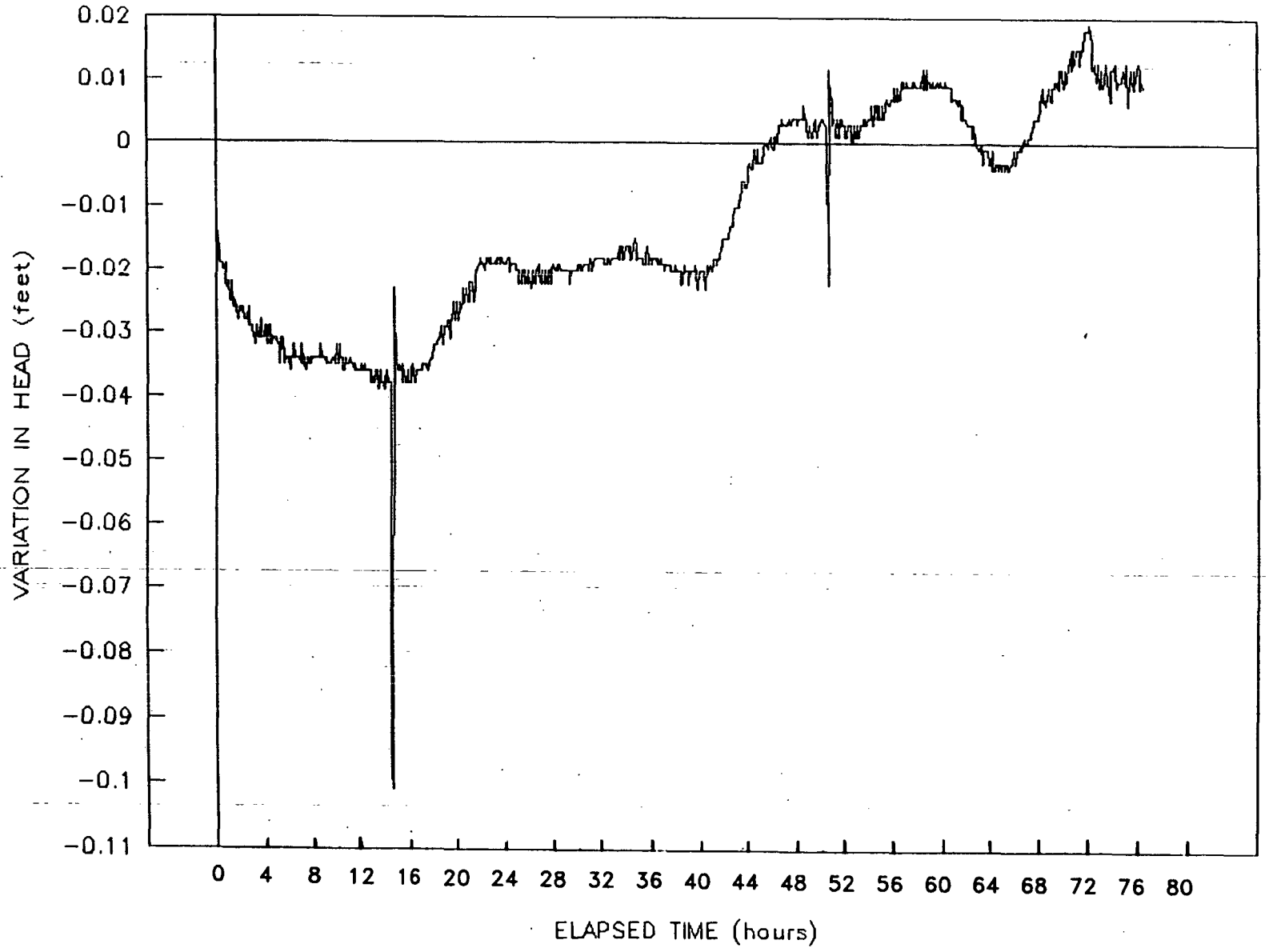
To evaluate the potential effect of variations in barometric pressure on the water level readings, barometric pressure versus time were plotted for the measurement period at each well using NWS data. The start and end times of the barometric plots approximate the data collection period for the hydrographs. Water level hydrographs for each monitoring well are presented on pages N-5 to N-11. Barometric pressure plots for each monitoring well are presented on pages N-13 to N-19, and data used to generate the barometric pressure plots are summarized on pages N-21 to N-28. Raw data associated with each well are presented on pages N-29 to N-68.

00159.1134



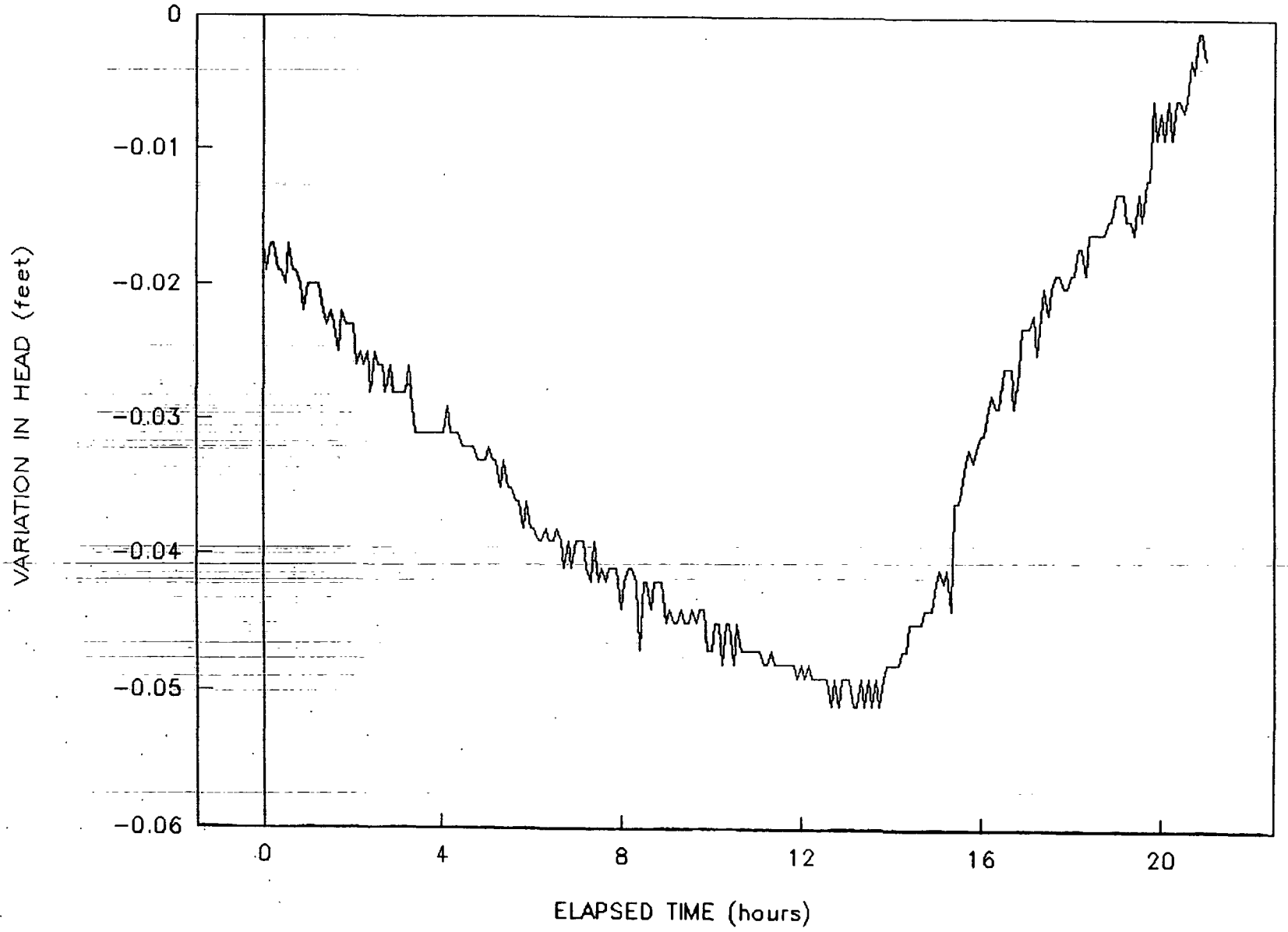
00159.1136

Figure N-1 MW015 WATER LEVEL HYDROGRAPH
AGRICULTURE STREET LANDFILL SITE, NEW ORLEANS, LOUISIANA



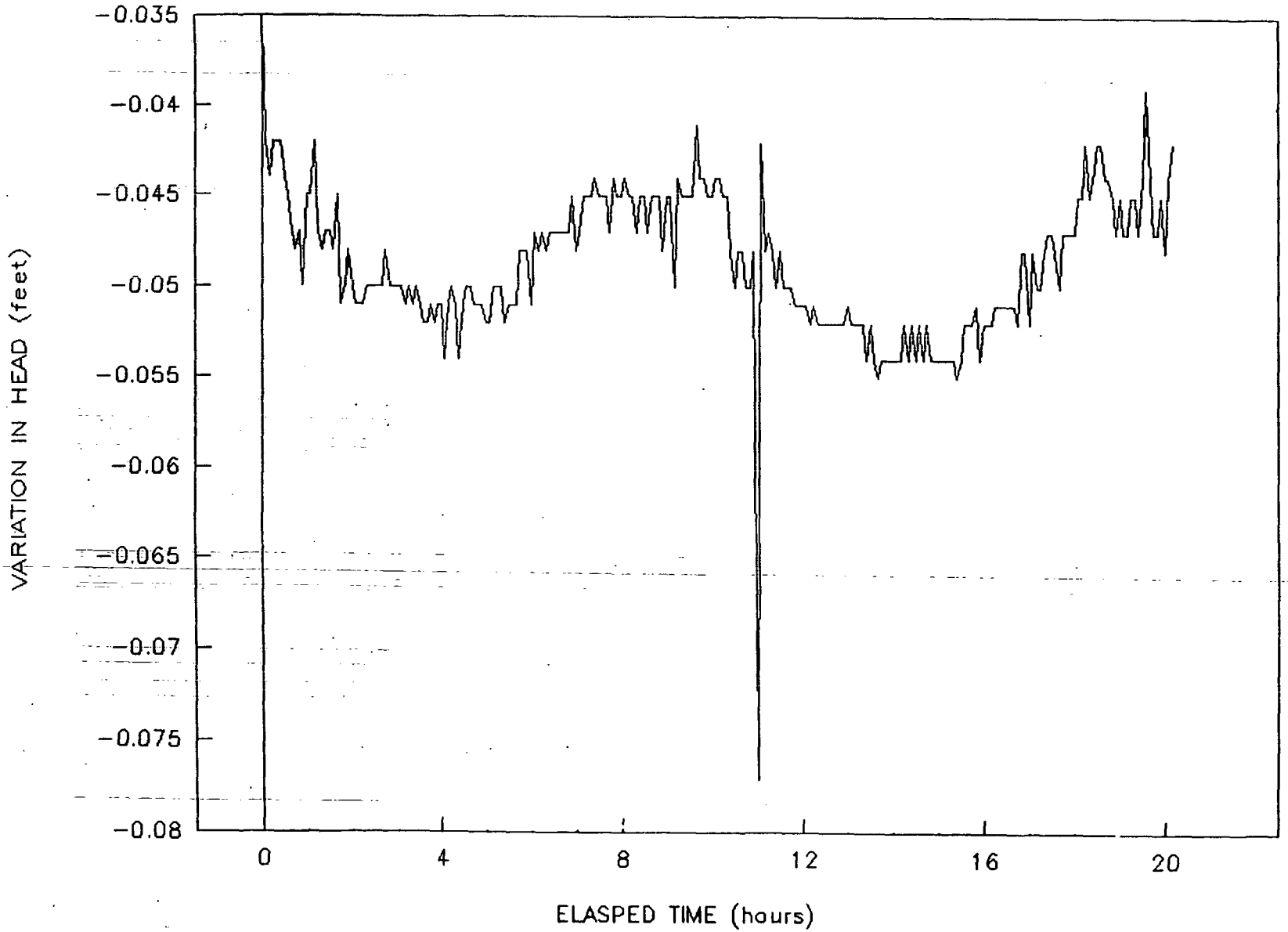
00159.1138

Figure N-2 MW016 WATER LEVEL HYDROGRAPH
AGRICULTURE STREET LANDFILL SITE, NEW ORLEANS, LOUISIANA



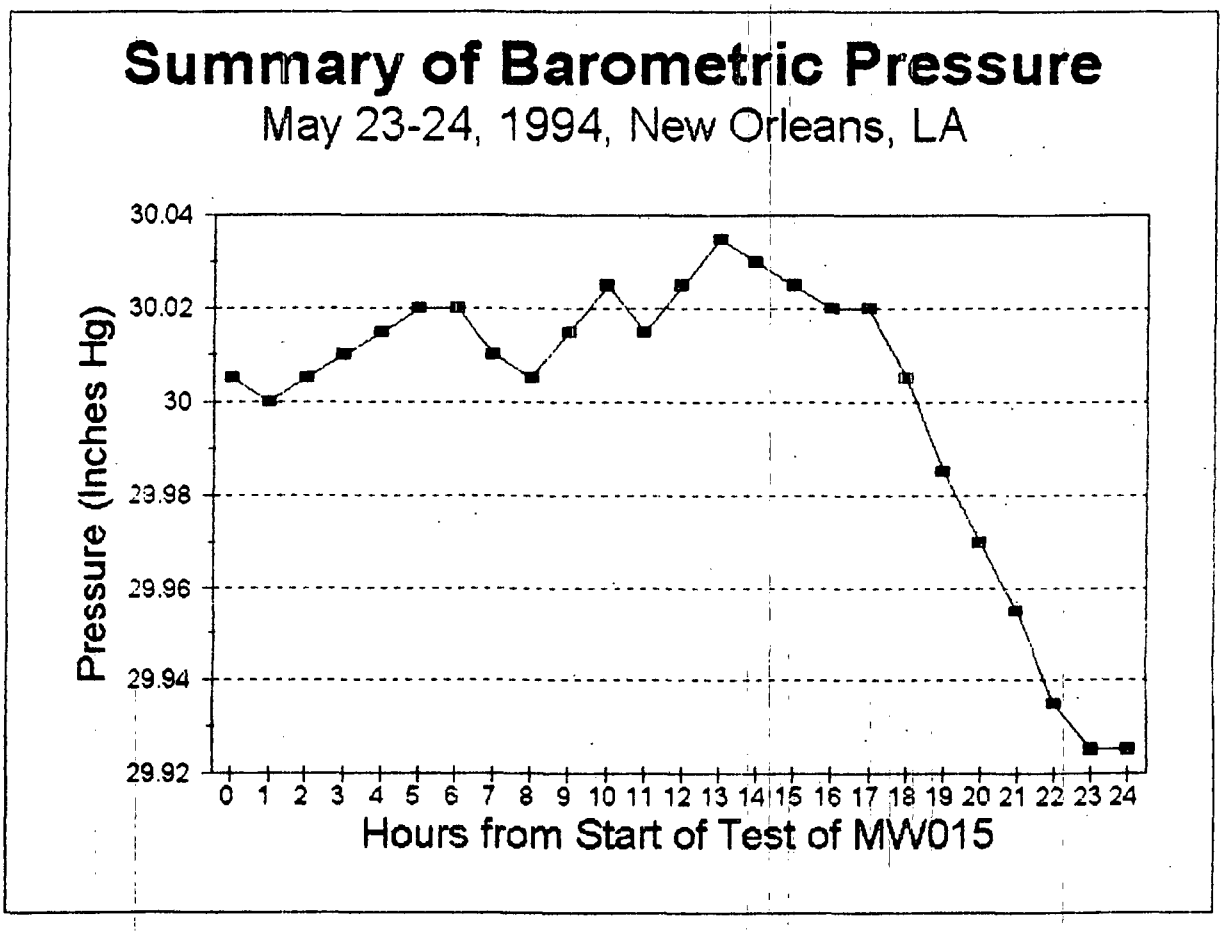
00159.1140

Figure N-3 MW017 WATER LEVEL HYDROGRAPH
AGRICULTURE STREET LANDFILL SITE, NEW ORLEANS, LOUISIANA

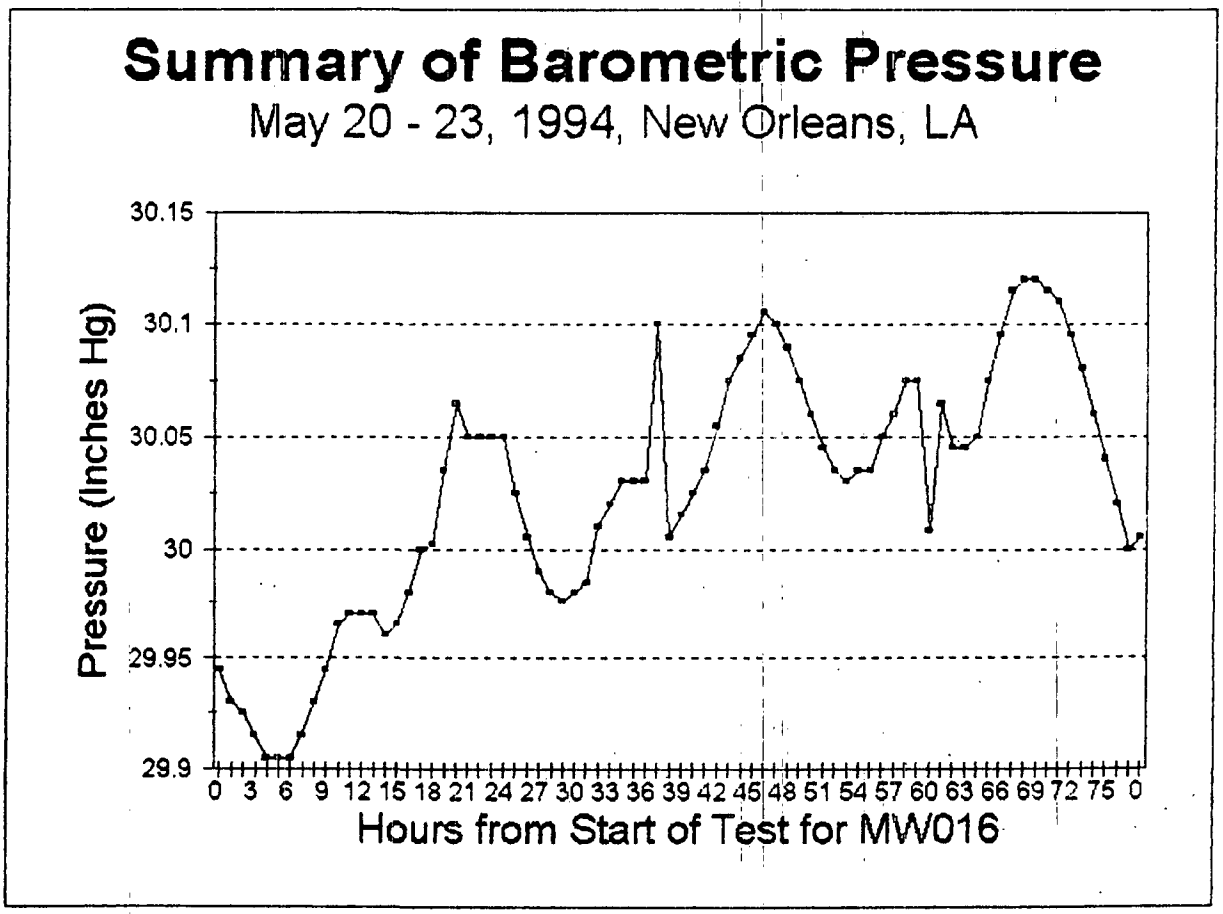


00159.1142

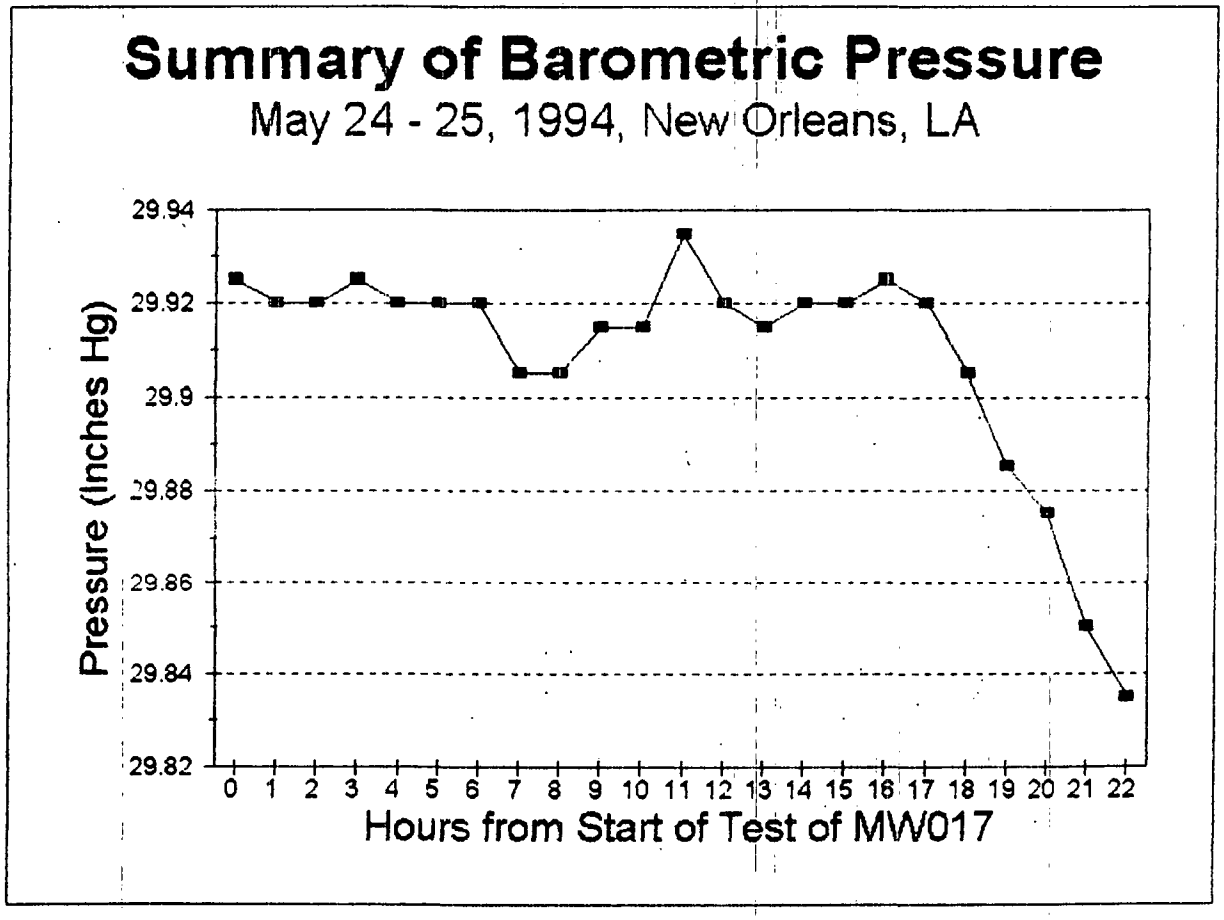
Figure N-4 MW018 WATER LEVEL HYDROGRAPH
AGRICULTURE STREET LANDFILL SITE, NEW ORLEANS, LOUISIANA


Summary of Barometric Pressure
May 23-24, 1994, New Orleans, LA
Pressure (Inches Hg)
30.04
30.02
30
29.98
29.96
29.94
29.92
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
Hours from Start of Test of MW015

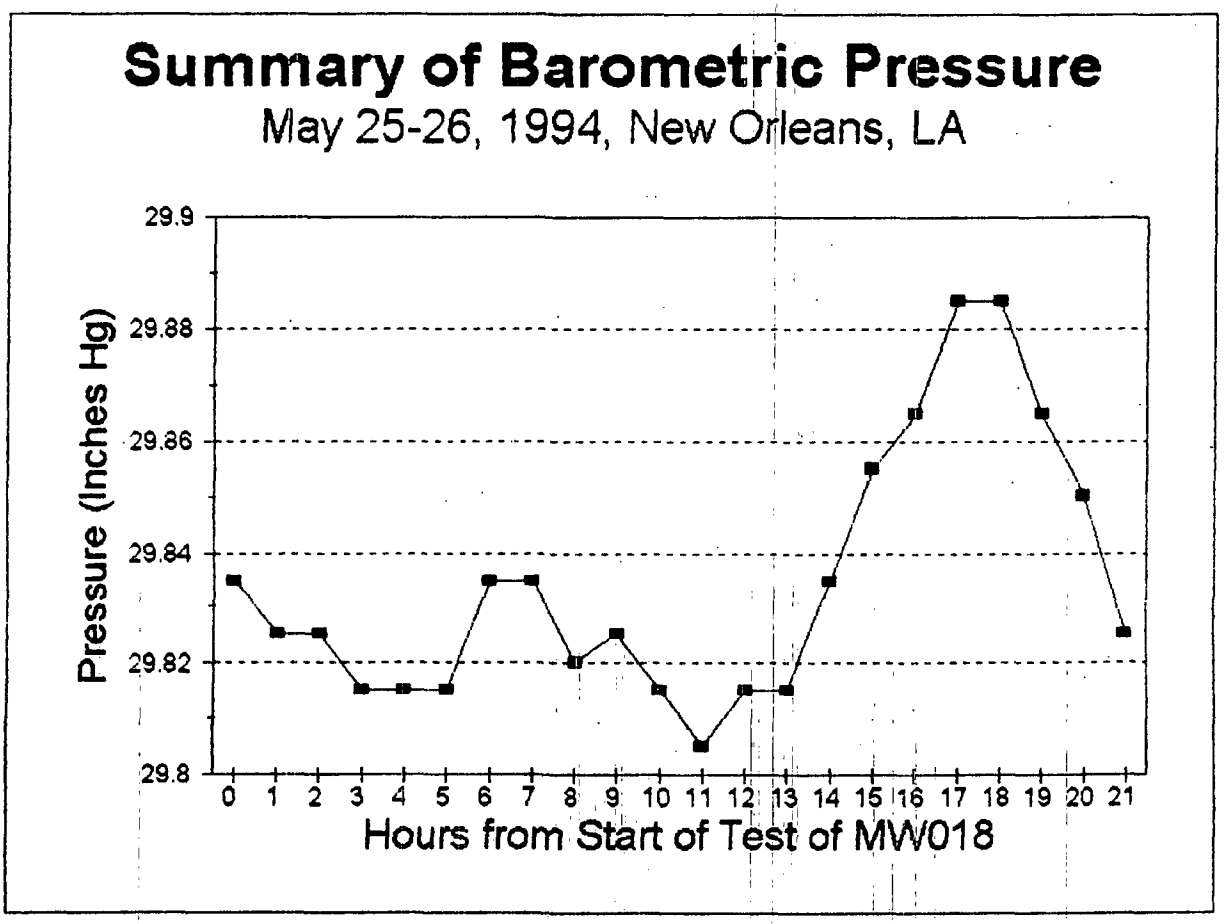
00159.1144


Summary of Barometric Pressure
May 20 - 23, 1994, New Orleans, LA
Pressure (Inches Hg)
30.15
30.1
30.05
30
29.95
29.9
0 3 6 9 12 15 18 21 24 27 30 33 36 39 42 45 48 51 54 57 60 63 66 69 72 75 0
Hours from Start of Test for MW016

00159.1146


Summary of Barometric Pressure
May 24 - 25, 1994, New Orleans, LA
Pressure (Inches Hg)
29.94
29.92
29.9
29.88
29.86
29.84
29.82
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22
Hours from Start of Test of MW017

00159.1148


Summary of Barometric Pressure
May 25-26, 1994, New Orleans, LA
Pressure (Inches Hg)
29.9
29.88
29.86
29.84
29.82
29.8
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21
Hours from Start of Test of MW018

MW015 SUMMARY OF BAROMETRIC PRESSURE MAY 23-24, 1994, NEW ORLEANS, LA		
Date	**Military Time (Local)**	**Pressure (Inches Hg)**
May 23, 1994	1750	30.005
	1850	30.000
	1953	30.005
	2051	30.010
	2150	30.015
	2250	30.020
	2350	30.020
May 24, 1994	0050	30.010
	0150	30.005
	0250	30.015
	0350	30.025
	0450	30.015
	0550	30.025
	0650	30.035
	0751	30.030
	0850	30.025
	0952	30.020
	1050	30.020
	1150	30.005
	1251	29.985
	1351	29.970
	1450	29.955
	1551	29.935
	1651	29.925

00159.1152

MW016

SUMMARY OF BAROMETRIC PRESSURE
MAY 20-23, 1994, NEW ORLEANS, LA

Date	Military Time (Local)	Pressure (Inches Hg)
May 20, 1994	1150	29.945
	1254	29.930
	1350	29.925
	1450	29.915
	1550	29.905
	1650	29.905
	1750	29.905
	1850	29.915
	1950	29.930
	2050	29.945
	2150	29.965
	2250	29.970
	2350	29.970
May 21, 1994	0050	29.970
	0150	29.960
	0250	29.965
	0350	29.980
	0450	30.000
	0550	30.020
	0650	30.035
	0752	30.065
	0851	30.050
	0952	30.050
	1050	30.050

00159.1154

MW016 (Continued)		
Date	**Miltary Time (Local)**	**Pressure (Inches Hg)**
May 21, 1994	1150	30.050
	1253	30.025
	1351	30.005
	1451	29.990
	1550	29.980
	1650	29.976
	1750	29.980
	1851	29.985
	1951	30.010
	2050	30.020
	2150	30.030
	2250	30.030
	2350	30.030
May 22, 1994	0052	30.010
	0153	30.035
	0250	30.015
	0351	30.025
	0455	30.035
	0550	30.055
	0650	30.075
	0750	30.085
	0850	30.095
	0950	30.105
	1050	30.100
	1150	30.090

00159.1155

MW016 (Continued)		
Date	**Military Tine (Local)**	**Pressure (Inches Hg)**
May 22, 1994	1250	30.075
	1350	30.060
	1450	30.045
	1550	30.035
	1651	30.030
	1750	30.035
	1850	30.035
	1951	30.050
	2050	30.060
	2150	30.075
	2250	30.075
	2350	30.008
May 23, 1994	0050	30.065
	0150	30.045
	0250	30.045
	0350	30.050
	0450	30.075
	0550	30.095
	0650	30.115
	0750	30.120
	0850	30.120
	0951	30.115
	1050	30.110
	1150	30.950
	1250	30.080

00159.1156

MW016 (Continued)		
Date	**Military Time (Local)**	**Pressure (Inches Hg)**
May 23, 1994	1351	30.060
	1450	30.040
	1550	30.020
	1650	30.000
	1750	30.005

MW017

SUMMARY OF BAROMETRIC PRESSURE
MAY 24-25, 1994, NEW ORLEANS, LA

Date	Military Time (Local)	Pressure (Inches Hg)
May 24, 1994	1750	29.925
	1851	29.920
	1951	29.920
	2050	29.925
	2150	29.920
	2250	29.920
	2350	29.920
May 25, 1994	0050	29.905
	0150	29.905
	0251	29.915
	0350	29.915
	0453	29.935
	0550	29.920
	0650	29.915
	0750	29.920
	0850	29.920
	0953	29.925
	1051	29.920
	1150	29.905
	1251	29.885
	1350	29.875
	1450	29.850
	1550	29.835
	1651	29.825

00159.1158

MW018 SUMMARY OF BAROMETRIC PRESSURE MAY 25-26, 1994, NEW ORLEANS, LA		
Date	**Military Time (Local)**	**Pressure (Inches Hg)**
May 25, 1994	1550	29.835
	1651	29.825
	1750	29.825
	1851	29.815
	1950	29.815
	2050	29.815
	2150	29.835
	2252	29.835
	2350	29.820
May 26, 1994	0050	29.825
	0150	29.815
	0250	29.805
	0350	29.815
	0450	29.815
	0550	29.835
	0651	29.855
	0753	29.865
	0851	29.885
	0950	29.885
	1050	29.865
	1150	29.850
	1250	29.825

00159.1159

WELL DATA

IN-SITU, INC.
WELL SENTINEL
Serial # L3K00631

Downloaded: 05/24/94 17:47
Unit ID: L3K00631
Test name: mw015a
Linearity: 0.029
Scale Factor: 10.067
Offset: 0.002
Specific Gravity: 1.000
Data Type: Level
Units: English
Mode: Top of Casing
Ref. Level: 0.000
Ref. Taken: 05/23/94 17:51
Test Begun: 05/23/94 18:00

Real Time	Reading
05/23/94 18:00	-0.017
05/23/94 18:05	-0.025
05/23/94 18:10	-0.031
05/23/94 18:15	-0.035
05/23/94 18:20	-0.035
05/23/94 18:25	-0.039
05/23/94 18:30	-0.041
05/23/94 18:35	-0.044
05/23/94 18:40	-0.045
05/23/94 18:45	-0.048
05/23/94 18:50	-0.048
05/23/94 18:55	-0.049
05/23/94 19:00	-0.054
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05/23/94 19:15	-0.057
05/23/94 19:20	-0.057
05/23/94 19:25	-0.055
05/23/94 19:30	-0.057
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05/23/94 20:20	-0.058
05/23/94 20:25	-0.058
05/23/94 20:30	-0.060

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05/23/94	21:45	-0.057
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05/23/94	22:40	-0.055
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00159.1163

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05/24/94	04:45	-0.051
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05/24/94	13:15	-0.042
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05/24/94	13:25	-0.044
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05/24/94	16:40	-0.045
05/24/94	16:45	-0.045
05/24/94	16:50	-0.045
05/24/94	16:55	-0.046
05/24/94	17:00	-0.045
05/24/94	17:05	-0.044
05/24/94	17:10	-0.046
05/24/94	17:15	-0.042
05/24/94	17:20	-0.044
05/24/94	17:25	-0.042
05/24/94	17:30	-0.044
05/24/94	17:35	-0.044
05/24/94	17:40	-0.048
05/24/94	17:45	-0.051

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IN-SITU, INC.
WELL SENTINEL
Serial # L3K00631

Downloaded: 05/23/94 17:06
Unit ID: L3K00631
Test name: mw016a
Linearity: 0.029
Scale Factor: 10.067
Offset: 0.002
Specific Gravity: 1.000
Data Type: Level
Units: English
Mode: Top of Casing
Ref. Level: 0.000
Ref. Taken: 05/20/94 11:44
Test Begun: 05/20/94 12:00

Real Time	Reading
05/20/94 12:00	-0.016
05/20/94 12:05	-0.010
05/20/94 12:10	-0.018
05/20/94 12:15	-0.016
05/20/94 12:20	-0.019
05/20/94 12:25	-0.019
05/20/94 12:30	-0.019
05/20/94 12:35	-0.020
05/20/94 12:40	-0.020
05/20/94 12:45	-0.019
05/20/94 12:50	-0.022
05/20/94 12:55	-0.023
05/20/94 13:00	-0.022
05/20/94 13:05	-0.022
05/20/94 13:10	-0.025
05/20/94 13:15	-0.022
05/20/94 13:20	-0.023
05/20/94 13:25	-0.026
05/20/94 13:30	-0.026
05/20/94 13:35	-0.025
05/20/94 13:40	-0.026
05/20/94 13:45	-0.028
05/20/94 13:50	-0.028
05/20/94 13:55	-0.026
05/20/94 14:00	-0.026
05/20/94 14:05	-0.026
05/20/94 14:10	-0.026
05/20/94 14:15	-0.026
05/20/94 14:20	-0.028
05/20/94 14:25	-0.028
05/20/94 14:30	-0.028

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05/20/94	14:35	-0.028
05/20/94	14:40	-0.026
05/20/94	14:45	-0.029
05/20/94	14:50	-0.029
05/20/94	14:55	-0.029
05/20/94	15:00	-0.029
05/20/94	15:05	-0.031
05/20/94	15:10	-0.031
05/20/94	15:15	-0.032
05/20/94	15:20	-0.029
05/20/94	15:25	-0.031
05/20/94	15:30	-0.031
05/20/94	15:35	-0.031
05/20/94	15:40	-0.028
05/20/94	15:45	-0.031
05/20/94	15:50	-0.031
05/20/94	15:55	-0.031
05/20/94	16:00	-0.031
05/20/94	16:05	-0.029
05/20/94	16:10	-0.032
05/20/94	16:15	-0.031
05/20/94	16:20	-0.029
05/20/94	16:25	-0.032
05/20/94	16:30	-0.029
05/20/94	16:35	-0.032
05/20/94	16:40	-0.031
05/20/94	16:45	-0.031
05/20/94	16:50	-0.031
05/20/94	16:55	-0.031
05/20/94	17:00	-0.031
05/20/94	17:05	-0.032
05/20/94	17:10	-0.032
05/20/94	17:15	-0.035
05/20/94	17:20	-0.031
05/20/94	17:25	-0.031
05/20/94	17:30	-0.031
05/20/94	17:35	-0.034
05/20/94	17:40	-0.035
05/20/94	17:45	-0.034
05/20/94	17:50	-0.034
05/20/94	17:55	-0.034
05/20/94	18:00	-0.034
05/20/94	18:05	-0.036
05/20/94	18:10	-0.034
05/20/94	18:15	-0.034
05/20/94	18:20	-0.034
05/20/94	18:25	-0.032
05/20/94	18:30	-0.034
05/20/94	18:35	-0.034
05/20/94	18:40	-0.034
05/20/94	18:45	-0.034

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05/20/94	18:50	-0.034
05/20/94	18:55	-0.034
05/20/94	19:00	-0.035
05/20/94	19:05	-0.032
05/20/94	19:10	-0.035
05/20/94	19:15	-0.034
05/20/94	19:20	-0.035
05/20/94	19:25	-0.036
05/20/94	19:30	-0.034
05/20/94	19:35	-0.035
05/20/94	19:40	-0.035
05/20/94	19:45	-0.034
05/20/94	19:50	-0.035
05/20/94	19:55	-0.034
05/20/94	20:00	-0.034
05/20/94	20:05	-0.034
05/20/94	20:10	-0.034
05/20/94	20:15	-0.034
05/20/94	20:20	-0.034
05/20/94	20:25	-0.034
05/20/94	20:30	-0.034
05/20/94	20:35	-0.032
05/20/94	20:40	-0.034
05/20/94	20:45	-0.034
05/20/94	20:50	-0.034
05/20/94	20:55	-0.034
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05/20/94	21:05	-0.034
05/20/94	21:10	-0.035
05/20/94	21:15	-0.035
05/20/94	21:20	-0.035
05/20/94	21:25	-0.035
05/20/94	21:30	-0.034
05/20/94	21:35	-0.034
05/20/94	21:40	-0.034
05/20/94	21:45	-0.035
05/20/94	21:50	-0.035
05/20/94	21:55	-0.032
05/20/94	22:00	-0.035
05/20/94	22:05	-0.035
05/20/94	22:10	-0.032
05/20/94	22:15	-0.034
05/20/94	22:20	-0.034
05/20/94	22:25	-0.034
05/20/94	22:30	-0.036
05/20/94	22:35	-0.036
05/20/94	22:40	-0.034
05/20/94	22:45	-0.035
05/20/94	22:50	-0.035
05/20/94	22:55	-0.035
05/20/94	23:00	-0.035

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05/20/94	23:05	-0.034
05/20/94	23:10	-0.035
05/20/94	23:15	-0.035
05/20/94	23:20	-0.035
05/20/94	23:25	-0.036
05/20/94	23:30	-0.035
05/20/94	23:35	-0.036
05/20/94	23:40	-0.036
05/20/94	23:45	-0.036
05/20/94	23:50	-0.036
05/20/94	23:55	-0.036
05/21/94	00:00	-0.035
05/21/94	00:05	-0.036
05/21/94	00:10	-0.035
05/21/94	00:15	-0.036
05/21/94	00:20	-0.036
05/21/94	00:25	-0.036
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05/21/94	00:35	-0.036
05/21/94	00:40	-0.036
05/21/94	00:45	-0.038
05/21/94	00:50	-0.038
05/21/94	00:55	-0.038
05/21/94	01:00	-0.038
05/21/94	01:05	-0.036
05/21/94	01:10	-0.036
05/21/94	01:15	-0.036
05/21/94	01:20	-0.039
05/21/94	01:25	-0.036
05/21/94	01:30	-0.038
05/21/94	01:35	-0.038
05/21/94	01:40	-0.038
05/21/94	01:45	-0.038
05/21/94	01:50	-0.039
05/21/94	01:55	-0.038
05/21/94	02:00	-0.036
05/21/94	02:05	-0.038
05/21/94	02:10	-0.038
05/21/94	02:15	-0.038
05/21/94	02:20	-0.038
05/21/94	02:25	-0.098
05/21/94	02:30	-0.101
05/21/94	02:35	-0.023
05/21/94	02:40	-0.029
05/21/94	02:45	-0.031
05/21/94	02:50	-0.034
05/21/94	02:55	-0.036
05/21/94	03:00	-0.036
05/21/94	03:05	-0.035
05/21/94	03:10	-0.036
05/21/94	03:15	-0.035

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05/21/94	03:25	-0.036
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05/21/94	03:35	-0.038
05/21/94	03:40	-0.038
05/21/94	03:45	-0.036
05/21/94	03:50	-0.038
05/21/94	03:55	-0.038
05/21/94	04:00	-0.038
05/21/94	04:05	-0.036
05/21/94	04:10	-0.035
05/21/94	04:15	-0.036
05/21/94	04:20	-0.036
05/21/94	04:25	-0.038
05/21/94	04:30	-0.036
05/21/94	04:35	-0.036
05/21/94	04:40	-0.036
05/21/94	04:45	-0.036
05/21/94	04:50	-0.036
05/21/94	04:55	-0.036
05/21/94	05:00	-0.036
05/21/94	05:05	-0.035
05/21/94	05:10	-0.035
05/21/94	05:15	-0.035
05/21/94	05:20	-0.035
05/21/94	05:25	-0.035
05/21/94	05:30	-0.036
05/21/94	05:35	-0.036
05/21/94	05:40	-0.035
05/21/94	05:45	-0.034
05/21/94	05:50	-0.034
05/21/94	05:55	-0.034
05/21/94	06:00	-0.032
05/21/94	06:05	-0.032
05/21/94	06:10	-0.032
05/21/94	06:15	-0.032
05/21/94	06:20	-0.032
05/21/94	06:25	-0.031
05/21/94	06:30	-0.031
05/21/94	06:35	-0.031
05/21/94	06:40	-0.029
05/21/94	06:45	-0.029
05/21/94	06:50	-0.032
05/21/94	06:55	-0.029
05/21/94	07:00	-0.029
05/21/94	07:05	-0.029
05/21/94	07:10	-0.029
05/21/94	07:15	-0.028
05/21/94	07:20	-0.028
05/21/94	07:25	-0.031
05/21/94	07:30	-0.028

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05/21/94	07:35	-0.028
05/21/94	07:40	-0.026
05/21/94	07:45	-0.025
05/21/94	07:50	-0.028
05/21/94	07:55	-0.026
05/21/94	08:00	-0.025
05/21/94	08:05	-0.028
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05/21/94	08:15	-0.025
05/21/94	08:20	-0.026
05/21/94	08:25	-0.025
05/21/94	08:30	-0.023
05/21/94	08:35	-0.025
05/21/94	08:40	-0.023
05/21/94	08:45	-0.023
05/21/94	08:50	-0.025
05/21/94	08:55	-0.025
05/21/94	09:00	-0.022
05/21/94	09:05	-0.022
05/21/94	09:10	-0.022
05/21/94	09:15	-0.022
05/21/94	09:20	-0.025
05/21/94	09:25	-0.022
05/21/94	09:30	-0.020
05/21/94	09:35	-0.020
05/21/94	09:40	-0.020
05/21/94	09:45	-0.019
05/21/94	09:50	-0.019
05/21/94	09:55	-0.018
05/21/94	10:00	-0.019
05/21/94	10:05	-0.019
05/21/94	10:10	-0.019
05/21/94	10:15	-0.020
05/21/94	10:20	-0.018
05/21/94	10:25	-0.019
05/21/94	10:30	-0.018
05/21/94	10:35	-0.019
05/21/94	10:40	-0.018
05/21/94	10:45	-0.018
05/21/94	10:50	-0.019
05/21/94	10:55	-0.019
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05/21/94	11:05	-0.019
05/21/94	11:10	-0.019
05/21/94	11:15	-0.018
05/21/94	11:20	-0.019
05/21/94	11:25	-0.018
05/21/94	11:30	-0.018
05/21/94	11:35	-0.019
05/21/94	11:40	-0.018
05/21/94	11:45	-0.019

05/21/94	11:50	-0.019
05/21/94	11:55	-0.019
05/21/94	12:00	-0.019
05/21/94	12:05	-0.019
05/21/94	12:10	-0.018
05/21/94	12:15	-0.018
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05/21/94	12:25	-0.019
05/21/94	12:30	-0.019
05/21/94	12:35	-0.019
05/21/94	12:40	-0.019
05/21/94	12:45	-0.019
05/21/94	12:50	-0.020
05/21/94	12:55	-0.020
05/21/94	13:00	-0.020
05/21/94	13:05	-0.022
05/21/94	13:10	-0.022
05/21/94	13:15	-0.022
05/21/94	13:20	-0.020
05/21/94	13:25	-0.020
05/21/94	13:30	-0.022
05/21/94	13:35	-0.020
05/21/94	13:40	-0.022
05/21/94	13:45	-0.022
05/21/94	13:50	-0.020
05/21/94	13:55	-0.022
05/21/94	14:00	-0.022
05/21/94	14:05	-0.023
05/21/94	14:10	-0.022
05/21/94	14:15	-0.020
05/21/94	14:20	-0.022
05/21/94	14:25	-0.022
05/21/94	14:30	-0.020
05/21/94	14:35	-0.020
05/21/94	14:40	-0.019
05/21/94	14:45	-0.020
05/21/94	14:50	-0.022
05/21/94	14:55	-0.020
05/21/94	15:00	-0.022
05/21/94	15:05	-0.022
05/21/94	15:10	-0.022
05/21/94	15:15	-0.020
05/21/94	15:20	-0.022
05/21/94	15:25	-0.022
05/21/94	15:30	-0.020
05/21/94	15:35	-0.020
05/21/94	15:40	-0.022
05/21/94	15:45	-0.020
05/21/94	15:50	-0.019
05/21/94	15:55	-0.020
05/21/94	16:00	-0.020

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05/21/94	16:10	-0.019
05/21/94	16:15	-0.020
05/21/94	16:20	-0.019
05/21/94	16:25	-0.020
05/21/94	16:30	-0.020
05/21/94	16:35	-0.020
05/21/94	16:40	-0.020
05/21/94	16:45	-0.020
05/21/94	16:50	-0.020
05/21/94	16:55	-0.020
05/21/94	17:00	-0.020
05/21/94	17:05	-0.020
05/21/94	17:10	-0.020
05/21/94	17:15	-0.022
05/21/94	17:20	-0.020
05/21/94	17:25	-0.020
05/21/94	17:30	-0.020
05/21/94	17:35	-0.020
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05/21/94	17:45	-0.020
05/21/94	17:50	-0.020
05/21/94	17:55	-0.019
05/21/94	18:00	-0.019
05/21/94	18:05	-0.020
05/21/94	18:10	-0.019
05/21/94	18:15	-0.020
05/21/94	18:20	-0.019
05/21/94	18:25	-0.019
05/21/94	18:30	-0.019
05/21/94	18:35	-0.019
05/21/94	18:40	-0.019
05/21/94	18:45	-0.019
05/21/94	18:50	-0.020
05/21/94	18:55	-0.018
05/21/94	19:00	-0.019
05/21/94	19:05	-0.020
05/21/94	19:10	-0.019
05/21/94	19:15	-0.018
05/21/94	19:20	-0.018
05/21/94	19:25	-0.018
05/21/94	19:30	-0.018
05/21/94	19:35	-0.018
05/21/94	19:40	-0.018
05/21/94	19:45	-0.018
05/21/94	19:50	-0.018
05/21/94	19:55	-0.018
05/21/94	20:00	-0.018
05/21/94	20:05	-0.019
05/21/94	20:10	-0.019
05/21/94	20:15	-0.019

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05/21/94	20:25	-0.018
05/21/94	20:30	-0.019
05/21/94	20:35	-0.019
05/21/94	20:40	-0.018
05/21/94	20:45	-0.018
05/21/94	20:50	-0.018
05/21/94	20:55	-0.018
05/21/94	21:00	-0.018
05/21/94	21:05	-0.018
05/21/94	21:10	-0.018
05/21/94	21:15	-0.016
05/21/94	21:20	-0.018
05/21/94	21:25	-0.016
05/21/94	21:30	-0.018
05/21/94	21:35	-0.016
05/21/94	21:40	-0.018
05/21/94	21:45	-0.016
05/21/94	21:50	-0.016
05/21/94	21:55	-0.016
05/21/94	22:00	-0.016
05/21/94	22:05	-0.016
05/21/94	22:10	-0.018
05/21/94	22:15	-0.016
05/21/94	22:20	-0.018
05/21/94	22:25	-0.016
05/21/94	22:30	-0.016
05/21/94	22:35	-0.015
05/21/94	22:40	-0.016
05/21/94	22:45	-0.018
05/21/94	22:50	-0.018
05/21/94	22:55	-0.018
05/21/94	23:00	-0.018
05/21/94	23:05	-0.018
05/21/94	23:10	-0.018
05/21/94	23:15	-0.019
05/21/94	23:20	-0.019
05/21/94	23:25	-0.019
05/21/94	23:30	-0.018
05/21/94	23:35	-0.016
05/21/94	23:40	-0.018
05/21/94	23:45	-0.019
05/21/94	23:50	-0.018
05/21/94	23:55	-0.018
05/22/94	00:00	-0.019
05/22/94	00:05	-0.018
05/22/94	00:10	-0.018
05/22/94	00:15	-0.018
05/22/94	00:20	-0.018
05/22/94	00:25	-0.019
05/22/94	00:30	-0.018

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05/22/94	00:40	-0.018
05/22/94	00:45	-0.019
05/22/94	00:50	-0.019
05/22/94	00:55	-0.019
05/22/94	01:00	-0.020
05/22/94	01:05	-0.019
05/22/94	01:10	-0.019
05/22/94	01:15	-0.019
05/22/94	01:20	-0.019
05/22/94	01:25	-0.019
05/22/94	01:30	-0.020
05/22/94	01:35	-0.020
05/22/94	01:40	-0.020
05/22/94	01:45	-0.020
05/22/94	01:50	-0.020
05/22/94	01:55	-0.019
05/22/94	02:00	-0.020
05/22/94	02:05	-0.020
05/22/94	02:10	-0.020
05/22/94	02:15	-0.020
05/22/94	02:20	-0.020
05/22/94	02:25	-0.022
05/22/94	02:30	-0.022
05/22/94	02:35	-0.019
05/22/94	02:40	-0.020
05/22/94	02:45	-0.020
05/22/94	02:50	-0.020
05/22/94	02:55	-0.020
05/22/94	03:00	-0.020
05/22/94	03:05	-0.022
05/22/94	03:10	-0.020
05/22/94	03:15	-0.020
05/22/94	03:20	-0.020
05/22/94	03:25	-0.020
05/22/94	03:30	-0.020
05/22/94	03:35	-0.019
05/22/94	03:40	-0.020
05/22/94	03:45	-0.023
05/22/94	03:50	-0.023
05/22/94	03:55	-0.020
05/22/94	04:00	-0.020
05/22/94	04:05	-0.020
05/22/94	04:10	-0.020
05/22/94	04:15	-0.020
05/22/94	04:20	-0.020
05/22/94	04:25	-0.023
05/22/94	04:30	-0.019
05/22/94	04:35	-0.020
05/22/94	04:40	-0.020
05/22/94	04:45	-0.019

00159.1177

05/22/94	04:50	-0.019
05/22/94	04:55	-0.020
05/22/94	05:00	-0.019
05/22/94	05:05	-0.018
05/22/94	05:10	-0.018
05/22/94	05:15	-0.018
05/22/94	05:20	-0.019
05/22/94	05:25	-0.018
05/22/94	05:30	-0.018
05/22/94	05:35	-0.018
05/22/94	05:40	-0.016
05/22/94	05:45	-0.016
05/22/94	05:50	-0.015
05/22/94	05:55	-0.015
05/22/94	06:00	-0.015
05/22/94	06:05	-0.015
05/22/94	06:10	-0.015
05/22/94	06:15	-0.015
05/22/94	06:20	-0.015
05/22/94	06:25	-0.013
05/22/94	06:30	-0.013
05/22/94	06:35	-0.013
05/22/94	06:40	-0.013
05/22/94	06:45	-0.012
05/22/94	06:50	-0.010
05/22/94	06:55	-0.010
05/22/94	07:00	-0.010
05/22/94	07:05	-0.010
05/22/94	07:10	-0.010
05/22/94	07:15	-0.009
05/22/94	07:20	-0.009
05/22/94	07:25	-0.007
05/22/94	07:30	-0.006
05/22/94	07:35	-0.006
05/22/94	07:40	-0.006
05/22/94	07:45	-0.007
05/22/94	07:50	-0.007
05/22/94	07:55	-0.006
05/22/94	08:00	-0.004
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05/22/94	08:10	-0.004
05/22/94	08:15	-0.004
05/22/94	08:20	-0.004
05/22/94	08:25	-0.001
05/22/94	08:30	-0.001
05/22/94	08:35	-0.003
05/22/94	08:40	-0.001
05/22/94	08:45	-0.003
05/22/94	08:50	-0.003
05/22/94	08:55	-0.003
05/22/94	09:00	-0.003

00159.1178

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05/22/94	09:10	-0.001
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05/22/94	09:25	0.000
05/22/94	09:30	0.000
05/22/94	09:35	-0.001
05/22/94	09:40	0.000
05/22/94	09:45	0.000
05/22/94	09:50	0.001
05/22/94	09:55	0.000
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05/22/94	10:05	-0.001
05/22/94	10:10	0.001
05/22/94	10:15	0.001
05/22/94	10:20	0.000
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05/22/94	10:35	0.003
05/22/94	10:40	0.003
05/22/94	10:45	0.003
05/22/94	10:50	0.004
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05/22/94	11:30	0.003
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05/22/94	11:55	0.004
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05/22/94	13:00	0.003
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05/22/94	13:10	0.001
05/22/94	13:15	0.001

00159.1179

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05/22/94	13:45	0.003
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05/22/94	15:15	0.001
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05/22/94	15:55	0.003
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05/22/94	16:10	0.003
05/22/94	16:15	0.003
05/22/94	16:20	0.003
05/22/94	16:25	0.003
05/22/94	16:30	0.001
05/22/94	16:35	0.000
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05/22/94	17:15	0.003
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05/22/94	17:25	0.003
05/22/94	17:30	0.004

00159.1180

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05/22/94	18:00	0.004
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05/22/94	18:10	0.006
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05/22/94	20:35	0.007
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05/22/94	22:10	0.009
05/22/94	22:15	0.010
05/22/94	22:20	0.010
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05/22/94	23:45	0.009
05/22/94	23:50	0.010
05/22/94	23:55	0.009
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05/23/94	00:40	0.009
05/23/94	00:45	0.007
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05/23/94	01:05	0.007
05/23/94	01:10	0.006
05/23/94	01:15	0.006
05/23/94	01:20	0.007
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05/23/94	01:30	0.004
05/23/94	01:35	0.006
05/23/94	01:40	0.004
05/23/94	01:45	0.004
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05/23/94	02:25	0.001
05/23/94	02:30	0.003
05/23/94	02:35	0.001
05/23/94	02:40	0.000
05/23/94	02:45	0.000
05/23/94	02:50	0.000
05/23/94	02:55	-0.001
05/23/94	03:00	-0.001
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05/23/94	03:25	-0.001
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05/23/94	03:35	-0.001
05/23/94	03:40	-0.001
05/23/94	03:45	-0.003
05/23/94	03:50	-0.003
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05/23/94	04:10	-0.004
05/23/94	04:15	-0.003
05/23/94	04:20	-0.004
05/23/94	04:25	-0.003
05/23/94	04:30	-0.003
05/23/94	04:35	-0.004
05/23/94	04:40	-0.003
05/23/94	04:45	-0.004
05/23/94	04:50	-0.003
05/23/94	04:55	-0.003
05/23/94	05:00	-0.003
05/23/94	05:05	-0.004
05/23/94	05:10	-0.003
05/23/94	05:15	-0.004
05/23/94	05:20	-0.003
05/23/94	05:25	-0.004
05/23/94	05:30	-0.003
05/23/94	05:35	-0.003
05/23/94	05:40	-0.003
05/23/94	05:45	-0.001
05/23/94	05:50	-0.001
05/23/94	05:55	-0.003
05/23/94	06:00	-0.001
05/23/94	06:05	-0.001
05/23/94	06:10	-0.001
05/23/94	06:15	-0.001

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05/23/94	06:25	0.000
05/23/94	06:30	-0.001
05/23/94	06:35	0.000
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05/23/94	06:45	0.001
05/23/94	06:50	0.000
05/23/94	06:55	0.000
05/23/94	07:00	0.001
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05/23/94	07:10	0.001
05/23/94	07:15	0.001
05/23/94	07:20	0.003
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05/23/94	07:45	0.004
05/23/94	07:50	0.004
05/23/94	07:55	0.006
05/23/94	08:00	0.007
05/23/94	08:05	0.007
05/23/94	08:10	0.009
05/23/94	08:15	0.007
05/23/94	08:20	0.007
05/23/94	08:25	0.006
05/23/94	08:30	0.007
05/23/94	08:35	0.007
05/23/94	08:40	0.009
05/23/94	08:45	0.009
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05/23/94	08:55	0.007
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05/23/94	09:05	0.009
05/23/94	09:10	0.009
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05/23/94	09:20	0.010
05/23/94	09:25	0.009
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05/23/94	09:35	0.009
05/23/94	09:40	0.012
05/23/94	09:45	0.012
05/23/94	09:50	0.010
05/23/94	09:55	0.012
05/23/94	10:00	0.009
05/23/94	10:05	0.010
05/23/94	10:10	0.012
05/23/94	10:15	0.010
05/23/94	10:20	0.013
05/23/94	10:25	0.013
05/23/94	10:30	0.013

00159.1184

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05/23/94	10:40	0.012
05/23/94	10:45	0.013
05/23/94	10:50	0.015
05/23/94	10:55	0.013
05/23/94	11:00	0.015
05/23/94	11:05	0.015
05/23/94	11:10	0.015
05/23/94	11:15	0.015
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05/23/94	11:25	0.015
05/23/94	11:30	0.015
05/23/94	11:35	0.015
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05/23/94	11:45	0.018
05/23/94	11:50	0.018
05/23/94	11:55	0.018
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05/23/94	12:25	0.012
05/23/94	12:30	0.013
05/23/94	12:35	0.013
05/23/94	12:40	0.010
05/23/94	12:45	0.013
05/23/94	12:50	0.012
05/23/94	12:55	0.009
05/23/94	13:00	0.012
05/23/94	13:05	0.010
05/23/94	13:10	0.009
05/23/94	13:15	0.010
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05/23/94	13:55	0.012
05/23/94	14:00	0.012
05/23/94	14:05	0.012
05/23/94	14:10	0.013
05/23/94	14:15	0.012
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05/23/94	14:25	0.010
05/23/94	14:30	0.010
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05/23/94	14:40	0.010
05/23/94	14:45	0.010

00159.1185

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05/23/94	14:55	0.010
05/23/94	15:00	0.010
05/23/94	15:05	0.013
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05/23/94	15:15	0.007
05/23/94	15:20	0.010
05/23/94	15:25	0.012
05/23/94	15:30	0.010
05/23/94	15:35	0.010
05/23/94	15:40	0.009
05/23/94	15:45	0.012
05/23/94	15:50	0.010
05/23/94	15:55	0.012
05/23/94	16:00	0.012
05/23/94	16:05	0.013
05/23/94	16:10	0.012
05/23/94	16:15	0.009
05/23/94	16:20	0.010
05/23/94	16:25	0.009

00159.1186

IN-SITU, INC.
WELL SENTINEL
Serial # L3K00631

Downloaded: 05/25/94 15:31
Unit ID: L3K00631
Test name: mw017a
Linearity: 0.029
Scale Factor: 10.067
Offset: 0.002
Specific Gravity: 1.000
Data Type: Level
Units: English
Mode: Top of Casing
Ref. Level: 0.000
Ref. Taken: 05/24/94 17:56
Test Begun: 05/24/94 18:30

Real Time	Reading
05/24/94 18:30	-0.017
05/24/94 18:35	-0.019
05/24/94 18:40	-0.017
05/24/94 18:45	-0.017
05/24/94 18:50	-0.019
05/24/94 18:55	-0.019
05/24/94 19:00	-0.020
05/24/94 19:05	-0.017
05/24/94 19:10	-0.019
05/24/94 19:15	-0.019
05/24/94 19:20	-0.020
05/24/94 19:25	-0.022
05/24/94 19:30	-0.020
05/24/94 19:35	-0.020
05/24/94 19:40	-0.020
05/24/94 19:45	-0.020
05/24/94 19:50	-0.022
05/24/94 19:55	-0.023
05/24/94 20:00	-0.022
05/24/94 20:05	-0.023
05/24/94 20:10	-0.025
05/24/94 20:15	-0.022
05/24/94 20:20	-0.023
05/24/94 20:25	-0.023
05/24/94 20:30	-0.023
05/24/94 20:35	-0.026
05/24/94 20:40	-0.025
05/24/94 20:45	-0.026
05/24/94 20:50	-0.025
05/24/94 20:55	-0.028
05/24/94 21:00	-0.025

00159.1188

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05/24/94	21:10	-0.026
05/24/94	21:15	-0.028
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05/24/94	21:30	-0.028
05/24/94	21:35	-0.028
05/24/94	21:40	-0.028
05/24/94	21:45	-0.026
05/24/94	21:50	-0.029
05/24/94	21:55	-0.031
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05/24/94	22:05	-0.031
05/24/94	22:10	-0.031
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05/24/94	22:40	-0.029
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05/24/94	22:50	-0.031
05/24/94	22:55	-0.031
05/24/94	23:00	-0.032
05/24/94	23:05	-0.032
05/24/94	23:10	-0.032
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05/24/94	23:35	-0.032
05/24/94	23:40	-0.033
05/24/94	23:45	-0.033
05/24/94	23:50	-0.035
05/24/94	23:55	-0.033
05/25/94	00:00	-0.035
05/25/94	00:05	-0.035
05/25/94	00:10	-0.036
05/25/94	00:15	-0.036
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05/25/94	00:30	-0.038
05/25/94	00:35	-0.038
05/25/94	00:40	-0.039
05/25/94	00:45	-0.039
05/25/94	00:50	-0.038
05/25/94	00:55	-0.039
05/25/94	01:00	-0.039
05/25/94	01:05	-0.038
05/25/94	01:10	-0.039
05/25/94	01:15	-0.041

00159.1189

05/25/94	01:20	-0.039
05/25/94	01:25	-0.041
05/25/94	01:30	-0.039
05/25/94	01:35	-0.039
05/25/94	01:40	-0.039
05/25/94	01:45	-0.041
05/25/94	01:50	-0.042
05/25/94	01:55	-0.039
05/25/94	02:00	-0.042
05/25/94	02:05	-0.041
05/25/94	02:10	-0.042
05/25/94	02:15	-0.041
05/25/94	02:20	-0.041
05/25/94	02:25	-0.041
05/25/94	02:30	-0.044
05/25/94	02:35	-0.042
05/25/94	02:40	-0.041
05/25/94	02:45	-0.041
05/25/94	02:50	-0.042
05/25/94	02:55	-0.047
05/25/94	03:00	-0.042
05/25/94	03:05	-0.042
05/25/94	03:10	-0.044
05/25/94	03:15	-0.042
05/25/94	03:20	-0.042
05/25/94	03:25	-0.042
05/25/94	03:30	-0.045
05/25/94	03:35	-0.044
05/25/94	03:40	-0.045
05/25/94	03:45	-0.045
05/25/94	03:50	-0.044
05/25/94	03:55	-0.045
05/25/94	04:00	-0.045
05/25/94	04:05	-0.044
05/25/94	04:10	-0.045
05/25/94	04:15	-0.044
05/25/94	04:20	-0.044
05/25/94	04:25	-0.047
05/25/94	04:30	-0.047
05/25/94	04:35	-0.045
05/25/94	04:40	-0.045
05/25/94	04:45	-0.048
05/25/94	04:50	-0.045
05/25/94	04:55	-0.045
05/25/94	05:00	-0.048
05/25/94	05:05	-0.045
05/25/94	05:10	-0.047
05/25/94	05:15	-0.047
05/25/94	05:20	-0.047
05/25/94	05:25	-0.047
05/25/94	05:30	-0.047

00159.1190

05/25/94	05:35	-0.047
05/25/94	05:40	-0.048
05/25/94	05:45	-0.048
05/25/94	05:50	-0.047
05/25/94	05:55	-0.048
05/25/94	06:00	-0.048
05/25/94	06:05	-0.048
05/25/94	06:10	-0.048
05/25/94	06:15	-0.048
05/25/94	06:20	-0.048
05/25/94	06:25	-0.049
05/25/94	06:30	-0.048
05/25/94	06:35	-0.049
05/25/94	06:40	-0.048
05/25/94	06:45	-0.049
05/25/94	06:50	-0.049
05/25/94	06:55	-0.049
05/25/94	07:00	-0.049
05/25/94	07:05	-0.049
05/25/94	07:10	-0.051
05/25/94	07:15	-0.049
05/25/94	07:20	-0.051
05/25/94	07:25	-0.049
05/25/94	07:30	-0.049
05/25/94	07:35	-0.049
05/25/94	07:40	-0.051
05/25/94	07:45	-0.051
05/25/94	07:50	-0.049
05/25/94	07:55	-0.051
05/25/94	08:00	-0.049
05/25/94	08:05	-0.051
05/25/94	08:10	-0.049
05/25/94	08:15	-0.051
05/25/94	08:20	-0.049
05/25/94	08:25	-0.048
05/25/94	08:30	-0.048
05/25/94	08:35	-0.048
05/25/94	08:40	-0.048
05/25/94	08:45	-0.047
05/25/94	08:50	-0.047
05/25/94	08:55	-0.045
05/25/94	09:00	-0.045
05/25/94	09:05	-0.045
05/25/94	09:10	-0.045
05/25/94	09:15	-0.044
05/25/94	09:20	-0.044
05/25/94	09:25	-0.044
05/25/94	09:30	-0.042
05/25/94	09:35	-0.041
05/25/94	09:40	-0.042
05/25/94	09:45	-0.041

00159.1191

05/25/94	09:50	-0.044
05/25/94	09:55	-0.036
05/25/94	10:00	-0.036
05/25/94	10:05	-0.035
05/25/94	10:10	-0.033
05/25/94	10:15	-0.032
05/25/94	10:20	-0.033
05/25/94	10:25	-0.032
05/25/94	10:30	-0.031
05/25/94	10:35	-0.031
05/25/94	10:40	-0.029
05/25/94	10:45	-0.028
05/25/94	10:50	-0.029
05/25/94	10:55	-0.029
05/25/94	11:00	-0.026
05/25/94	11:05	-0.026
05/25/94	11:10	-0.026
05/25/94	11:15	-0.029
05/25/94	11:20	-0.026
05/25/94	11:25	-0.023
05/25/94	11:30	-0.023
05/25/94	11:35	-0.023
05/25/94	11:40	-0.022
05/25/94	11:45	-0.025
05/25/94	11:50	-0.022
05/25/94	11:55	-0.020
05/25/94	12:00	-0.022
05/25/94	12:05	-0.020
05/25/94	12:10	-0.019
05/25/94	12:15	-0.019
05/25/94	12:20	-0.020
05/25/94	12:25	-0.020
05/25/94	12:30	-0.019
05/25/94	12:35	-0.019
05/25/94	12:40	-0.017
05/25/94	12:45	-0.017
05/25/94	12:50	-0.019
05/25/94	12:55	-0.016
05/25/94	13:00	-0.016
05/25/94	13:05	-0.016
05/25/94	13:10	-0.016
05/25/94	13:15	-0.016
05/25/94	13:20	-0.015
05/25/94	13:25	-0.015
05/25/94	13:30	-0.013
05/25/94	13:35	-0.013
05/25/94	13:40	-0.013
05/25/94	13:45	-0.015
05/25/94	13:50	-0.015
05/25/94	13:55	-0.016
05/25/94	14:00	-0.013

00159.1192

05/25/94	14:05	-0.015
05/25/94	14:10	-0.012
05/25/94	14:15	-0.012
05/25/94	14:20	-0.006
05/25/94	14:25	-0.009
05/25/94	14:30	-0.007
05/25/94	14:35	-0.009
05/25/94	14:40	-0.006
05/25/94	14:45	-0.009
05/25/94	14:50	-0.006
05/25/94	14:55	-0.006
05/25/94	15:00	-0.007
05/25/94	15:05	-0.006
05/25/94	15:10	-0.003
05/25/94	15:15	-0.004
05/25/94	15:20	-0.001
05/25/94	15:25	-0.001
05/25/94	15:30	-0.003

00159.1193

IN-SITU, INC.
WELL SENTINEL
Serial # L3K00631

Downloaded:	05/26/94 12:30
Unit ID:	L3K00631
Test name:	mwo18a
Linearity:	0.029
Scale Factor:	10.067
Offset:	0.002
Specific Gravity:	1.000
Data Type:	Level
Units:	English
Mode:	Top of Casing
Ref. Level:	0.000
Ref. Taken:	05/25/94 15:39
Test Begun:	05/25/94 16:15

Real Time	Reading
05/25/94 16:15	-0.035
05/25/94 16:20	-0.042
05/25/94 16:25	-0.044
05/25/94 16:30	-0.042
05/25/94 16:35	-0.042
05/25/94 16:40	-0.042
05/25/94 16:45	-0.044
05/25/94 16:50	-0.045
05/25/94 16:55	-0.047
05/25/94 17:00	-0.048
05/25/94 17:05	-0.047
05/25/94 17:10	-0.050
05/25/94 17:15	-0.045
05/25/94 17:20	-0.045
05/25/94 17:25	-0.042
05/25/94 17:30	-0.047
05/25/94 17:35	-0.048
05/25/94 17:40	-0.047
05/25/94 17:45	-0.047
05/25/94 17:50	-0.048
05/25/94 17:55	-0.045
05/25/94 18:00	-0.051
05/25/94 18:05	-0.050
05/25/94 18:10	-0.048
05/25/94 18:15	-0.050
05/25/94 18:20	-0.051
05/25/94 18:25	-0.051
05/25/94 18:30	-0.051
05/25/94 18:35	-0.050
05/25/94 18:40	-0.050
05/25/94 18:45	-0.050

00159.1194

05/25/94	18:50	-0.050
05/25/94	18:55	-0.050
05/25/94	19:00	-0.048
05/25/94	19:05	-0.050
05/25/94	19:10	-0.050
05/25/94	19:15	-0.050
05/25/94	19:20	-0.050
05/25/94	19:25	-0.051
05/25/94	19:30	-0.050
05/25/94	19:35	-0.051
05/25/94	19:40	-0.050
05/25/94	19:45	-0.051
05/25/94	19:50	-0.052
05/25/94	19:55	-0.052
05/25/94	20:00	-0.051
05/25/94	20:05	-0.052
05/25/94	20:10	-0.051
05/25/94	20:15	-0.051
05/25/94	20:20	-0.054
05/25/94	20:25	-0.051
05/25/94	20:30	-0.050
05/25/94	20:35	-0.051
05/25/94	20:40	-0.054
05/25/94	20:45	-0.051
05/25/94	20:50	-0.050
05/25/94	20:55	-0.050
05/25/94	21:00	-0.051
05/25/94	21:05	-0.051
05/25/94	21:10	-0.051
05/25/94	21:15	-0.052
05/25/94	21:20	-0.052
05/25/94	21:25	-0.050
05/25/94	21:30	-0.050
05/25/94	21:35	-0.050
05/25/94	21:40	-0.052
05/25/94	21:45	-0.051
05/25/94	21:50	-0.051
05/25/94	21:55	-0.051
05/25/94	22:00	-0.048
05/25/94	22:05	-0.048
05/25/94	22:10	-0.048
05/25/94	22:15	-0.051
05/25/94	22:20	-0.047
05/25/94	22:25	-0.048
05/25/94	22:30	-0.047
05/25/94	22:35	-0.048
05/25/94	22:40	-0.047
05/25/94	22:45	-0.047
05/25/94	22:50	-0.047
05/25/94	22:55	-0.047
05/25/94	23:00	-0.047

00159.1195

05/25/94	23:05	-0.047
05/25/94	23:10	-0.045
05/25/94	23:15	-0.048
05/25/94	23:20	-0.047
05/25/94	23:25	-0.045
05/25/94	23:30	-0.045
05/25/94	23:35	-0.045
05/25/94	23:40	-0.044
05/25/94	23:45	-0.045
05/25/94	23:50	-0.045
05/25/94	23:55	-0.045
05/26/94	00:00	-0.047
05/26/94	00:05	-0.044
05/26/94	00:10	-0.045
05/26/94	00:15	-0.045
05/26/94	00:20	-0.044
05/26/94	00:25	-0.045
05/26/94	00:30	-0.045
05/26/94	00:35	-0.047
05/26/94	00:40	-0.045
05/26/94	00:45	-0.045
05/26/94	00:50	-0.047
05/26/94	00:55	-0.045
05/26/94	01:00	-0.045
05/26/94	01:05	-0.045
05/26/94	01:10	-0.048
05/26/94	01:15	-0.045
05/26/94	01:20	-0.045
05/26/94	01:25	-0.050
05/26/94	01:30	-0.044
05/26/94	01:35	-0.045
05/26/94	01:40	-0.045
05/26/94	01:45	-0.045
05/26/94	01:50	-0.045
05/26/94	01:55	-0.041
05/26/94	02:00	-0.044
05/26/94	02:05	-0.044
05/26/94	02:10	-0.045
05/26/94	02:15	-0.045
05/26/94	02:20	-0.044
05/26/94	02:25	-0.044
05/26/94	02:30	-0.045
05/26/94	02:35	-0.045
05/26/94	02:40	-0.048
05/26/94	02:45	-0.050
05/26/94	02:50	-0.048
05/26/94	02:55	-0.048
05/26/94	03:00	-0.050
05/26/94	03:05	-0.050
05/26/94	03:10	-0.048
05/26/94	03:15	-0.077

00159.1196

05/26/94	03:20	-0.042
05/26/94	03:25	-0.048
05/26/94	03:30	-0.047
05/26/94	03:35	-0.048
05/26/94	03:40	-0.050
05/26/94	03:45	-0.048
05/26/94	03:50	-0.050
05/26/94	03:55	-0.050
05/26/94	04:00	-0.050
05/26/94	04:05	-0.051
05/26/94	04:10	-0.051
05/26/94	04:15	-0.051
05/26/94	04:20	-0.051
05/26/94	04:25	-0.052
05/26/94	04:30	-0.051
05/26/94	04:35	-0.052
05/26/94	04:40	-0.052
05/26/94	04:45	-0.052
05/26/94	04:50	-0.052
05/26/94	04:55	-0.052
05/26/94	05:00	-0.052
05/26/94	05:05	-0.052
05/26/94	05:10	-0.052
05/26/94	05:15	-0.051
05/26/94	05:20	-0.052
05/26/94	05:25	-0.052
05/26/94	05:30	-0.052
05/26/94	05:35	-0.052
05/26/94	05:40	-0.054
05/26/94	05:45	-0.052
05/26/94	05:50	-0.054
05/26/94	05:55	-0.055
05/26/94	06:00	-0.054
05/26/94	06:05	-0.054
05/26/94	06:10	-0.054
05/26/94	06:15	-0.054
05/26/94	06:20	-0.054
05/26/94	06:25	-0.054
05/26/94	06:30	-0.052
05/26/94	06:35	-0.054
05/26/94	06:40	-0.052
05/26/94	06:45	-0.054
05/26/94	06:50	-0.052
05/26/94	06:55	-0.054
05/26/94	07:00	-0.052
05/26/94	07:05	-0.054
05/26/94	07:10	-0.054
05/26/94	07:15	-0.054
05/26/94	07:20	-0.054
05/26/94	07:25	-0.054
05/26/94	07:30	-0.054

00159.1197

05/26/94	07:35	-0.054
05/26/94	07:40	-0.055
05/26/94	07:45	-0.054
05/26/94	07:50	-0.052
05/26/94	07:55	-0.052
05/26/94	08:00	-0.052
05/26/94	08:05	-0.051
05/26/94	08:10	-0.054
05/26/94	08:15	-0.052
05/26/94	08:20	-0.052
05/26/94	08:25	-0.052
05/26/94	08:30	-0.051
05/26/94	08:35	-0.051
05/26/94	08:40	-0.051
05/26/94	08:45	-0.051
05/26/94	08:50	-0.051
05/26/94	08:55	-0.051
05/26/94	09:00	-0.052
05/26/94	09:05	-0.048
05/26/94	09:10	-0.048
05/26/94	09:15	-0.052
05/26/94	09:20	-0.048
05/26/94	09:25	-0.050
05/26/94	09:30	-0.050
05/26/94	09:35	-0.048
05/26/94	09:40	-0.047
05/26/94	09:45	-0.047
05/26/94	09:50	-0.048
05/26/94	09:55	-0.050
05/26/94	10:00	-0.047
05/26/94	10:05	-0.047
05/26/94	10:10	-0.047
05/26/94	10:15	-0.047
05/26/94	10:20	-0.045
05/26/94	10:25	-0.045
05/26/94	10:30	-0.042
05/26/94	10:35	-0.045
05/26/94	10:40	-0.044
05/26/94	10:45	-0.042
05/26/94	10:50	-0.042
05/26/94	10:55	-0.044
05/26/94	11:00	-0.044
05/26/94	11:05	-0.045
05/26/94	11:10	-0.047
05/26/94	11:15	-0.045
05/26/94	11:20	-0.047
05/26/94	11:25	-0.047
05/26/94	11:30	-0.045
05/26/94	11:35	-0.045
05/26/94	11:40	-0.047
05/26/94	11:45	-0.044

00159.1198

05/26/94 11:50	-0.039
05/26/94 11:55	-0.044
05/26/94 12:00	-0.047
05/26/94 12:05	-0.047
05/26/94 12:10	-0.045
05/26/94 12:15	-0.048
05/26/94 12:20	-0.044
05/26/94 12:25	-0.042

00159.1199