ENGINEERING INVESTIGATIONS AT INACTIVE HAZARDOUS WASTE SITES IN THE STATE OF NEW YORK

PRELIMINARY SITE ASSESSMENT
TASK 1

TAM Ceramics, Inc. Site
Site Number 932028
Town of Niagara, Niagara County

August 1991

Prepared for:

New York State Department of Environmental Conservation

50 Wolf Road, Albany, New York 12233

Thomas C. Jorling, Commissioner

Division of Hazardous Waste Remediation

Michael J. O'Toole, Jr., P.E., Director

Prepared by:

Ecology and Environment Engineering, P.C.

SB-5202 D3417

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BUFFALO CORPORATE CENTER
368 PLEASANTVIEW DRIVE, LANCASTER, NEW YORK 14086, TEL.. 716/684-8060

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1. EXECUTIVE SUMMARY

The TAM Ceramics, Inc. (TAM) site (Site I.D. No. 932028) is a 30-acre area located at 4511 Hyde Park Boulevard in Niagara Falls, Niagara County, New York (see Figures 1-1 and 1-2). TAM manufactures ceramic powders used to make tile, paints, crucibles, refractories, and electronic capacitors. TAM produces zirconium oxide by heating zirconium silicate in an arc furnace. Prior to TAM taking ownership of the site in 1979, two other companies used this site. From 1930 to 1948 Titanium Alloy Manufacturing produced titanium oxide which was used as a pigment in paint. From 1948 to 1979, National Lead (NL) Industries produced zirconium oxide and titanium oxide which were used to make items similar to those TAM now produces. From 1930 to 1976, including the period of ownership by Titanium Alloy Manufacturing and NL Industries, it is estimated that 2,986 tons of waste material were disposed of either by storing in waste piles or landfilling on site property. The known wastes from the production of zirconium oxide and titanium oxide include: uncalcined titanium oxide, aluminum oxide with titania impurity, zirconium sodium potassium chloride, ammonia zirconium carbonate, iron carbon titanium alloy, silica fume with motor oil, and magnesium chloride. Magnesium chloride is generally toxic by inhalation (Ref. 2).

The TAM site is located south of the Hyde Park Landfill (see Figure 1-2). The landfill has been studied extensively because of the hazardous wastes it contains. During the Hyde Park Landfill remedial program in July

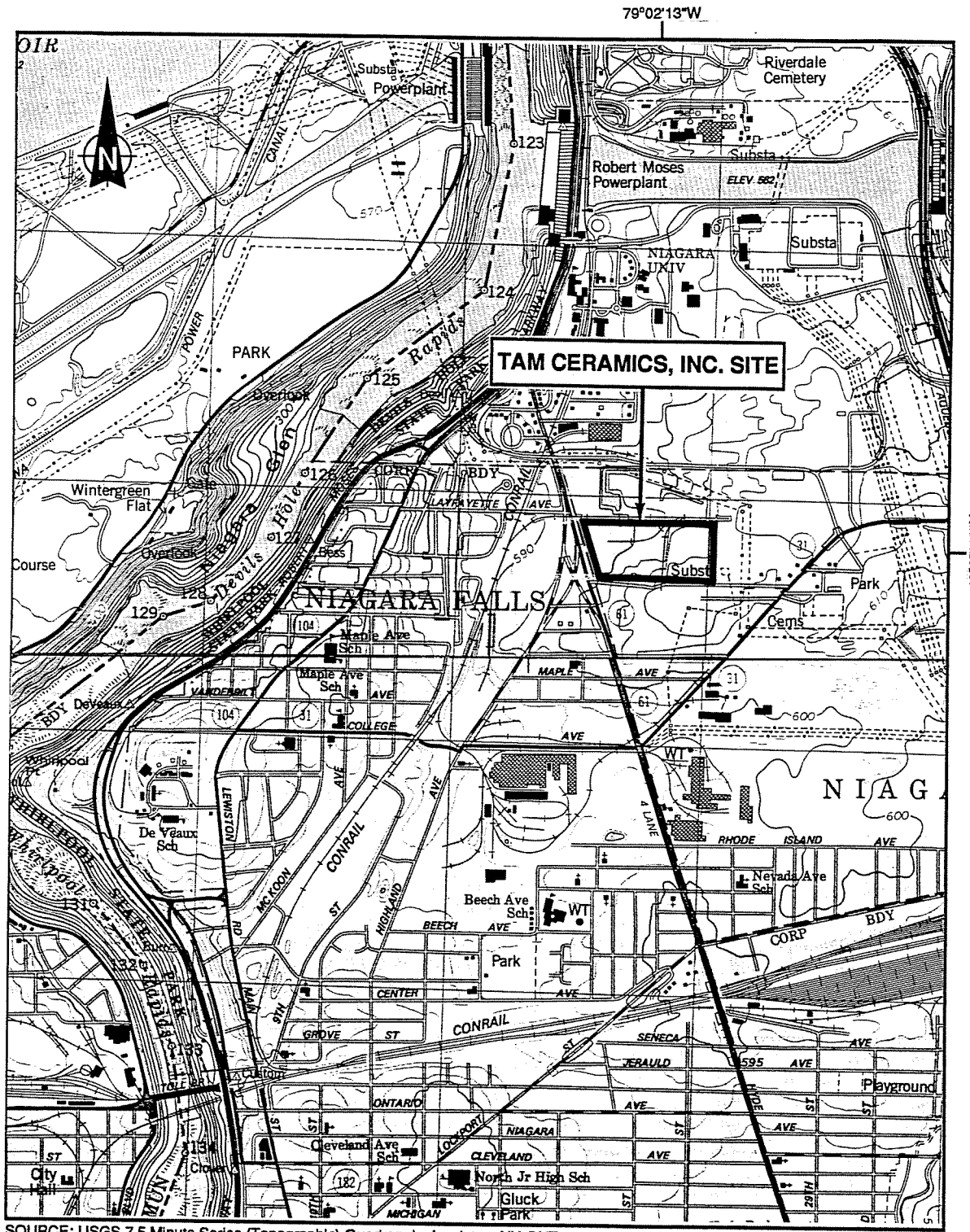
1990, which required the relocation of a railroad spur on the TAM property to accommodate an overburden barrier collection system, 178 drums were found 10 to 12 feet below ground surface (bgs) on the TAM site. These drums were excavated, sampled, and placed in 85 gallon overpack drums. The contents were tested for TCL organics by TAM and the New York State Department of Health (NYSDOH). Samples collected and analyzed in-house by TAM determined the material to be zirconium oxychloride, an industrial waste; clay dirt; and steel from oxidized drums (Refs. 3 and 4). TAM has conducted analysis and characterization studies, including Toxicity Characteristic Leaching Potential (TCLP), of this waste for disposal purposes. The material was found not to be a listed waste or meet any of the "D" series characteristics and is therefore, nonhazardous.

A site inspection was conducted on April 29, 1991 by Ecology and Environment Engineering, P.C. (E & E) personnel Linda Fischer, Chad Eich, and Scott Glinski, accompanied by TAM Environmental Engineer, Russell Steiger. It was noted that the site is bordered to the north by the Hyde Park Landfill and to the south by an auto junkyard.

On May 6, 1990 the site was revisited with New York State Department of Environmental Conservation (NYSDEC) Regional on-site representative, Gerry Pietraszek, and E & E personnel. Mr. Pietraszak pointed out two areas of disposed materials on the eastern perimeter of the TAM property. Figure 1-3 presents photographs taken during both site inspections. The first area, shown as area A on Figure 1-2, is 50 to 75 feet west of the eastern perimeter fence and contains a 2-foot-square deposit of a black tarry substance. The substance is located in an excavated and filled dump area containing scrap motor oil and silica fume (see Figure 1-2). Approximately 25 feet southwest of the first area, a rusted steel drum was found sitting on the surface of a 3-foot-square pile of blue-gray solid material. Area B on Figure 1-2 shows the location of this waste. Samples from areas A and B were collected by TAM on May 8, 1991 based on the site inspection conducted by E & E and NYSDEC. The samples were

analyzed for TCLP by Advanced Environmental Services. All results were negative for TCLP with the exception of 190 mg/L for barium (Ref. 14). Photoionization detector (HNu) and minirad readings of the two areas were not above background levels.

TCLP is not recognized by NYSDEC as a criterion for determining if a material is a hazardous waste. A waste sample collected on May 12, 1992 was analyzed for EP Toxicity. All results were negative except for barium, which at 5130 mg/l greatly exceeds the maximum concentration of barium which is 100 mg/l. This documents the presence of hazardous waste at the site. Available information is not sufficient to determine whether significant threat is posed by the site. Additional sampling and analysis of on-site soils, wastes, and groundwater should be conducted in order to determine whether significant threat is posed by the site.



SOURCE: USGS 7.5 Minute Series (Topographic) Quadrangle: Lewiston, NY-ONT 1980; Niagara Falls, NY-ONT 1980.

SCALE 1:25,000

0 ½ 1 Mile

0 .5 1 Kilometer

Figure 1-1
LOCATION MAP, TAM CERAMICS, INC. SITE

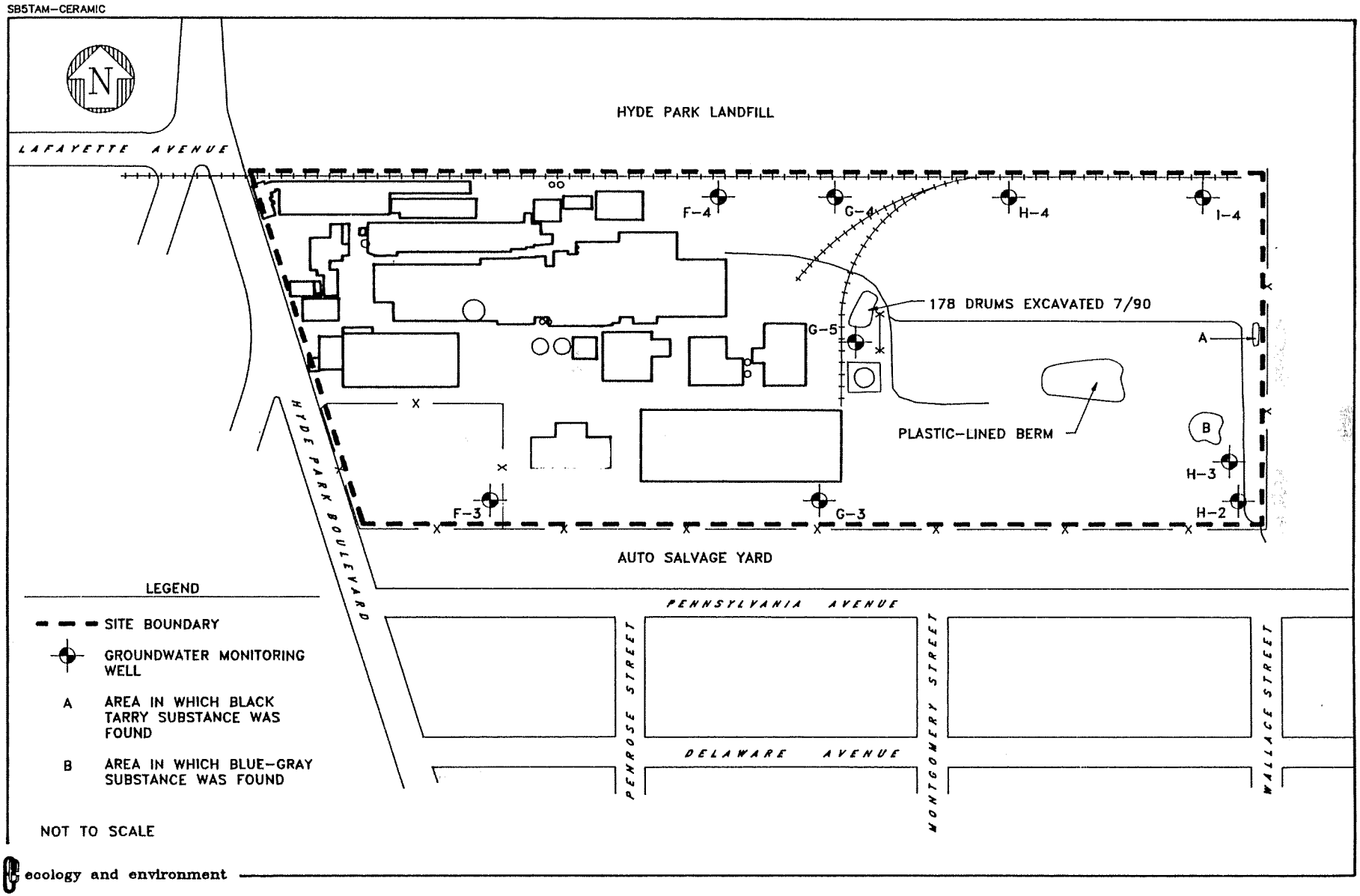


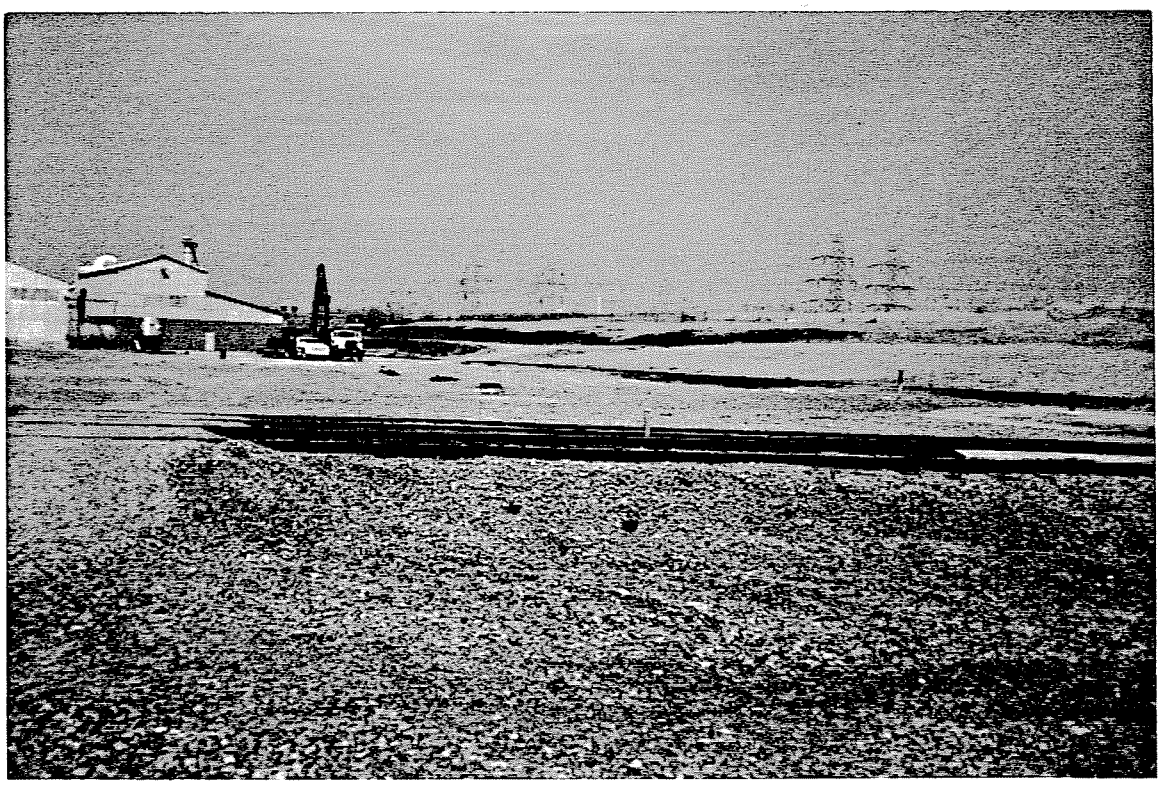
Figure 1-2 SITE MAP, TAM CERAMICS SITE

Figure 1-3

PHOTOGRAPHIC LOGS

ecology and environment engineering, p.c.
PHOTOGRAPHIC RECORD

Client: NYSDEC	E & E Job No.: SB5222
Site: TAM Ceramics, Inc.	
Camera: Make Kodak 35mm	SN Disposable
Lens Type --	SN --
	Photographer: Scott Glinski Date: 4/29/91
	Time: 10:30 Frame No.: 16
	Comments*: Direction northwest, Hyde Park
	Landfill area of drum excavation.
	*Comments to include location.



ecology and environment engineering, p.c.
PHOTOGRAPHIC RECORD

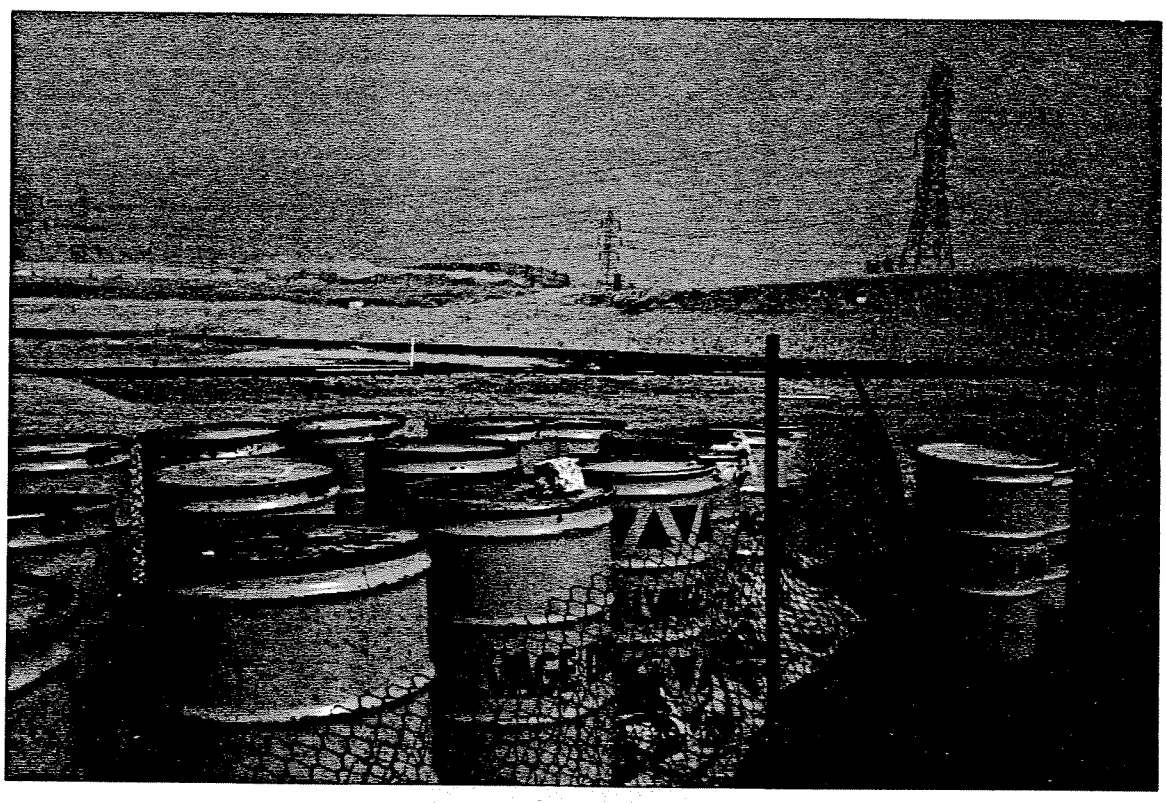
Client: NYSDEC	E & E Job No.: SB5222
Site: TAM Ceramics, Inc.	
Camera: Make Kodak 35mm	SN Disposable
Lens Type --	SN --
	Photographer: Scott Glinski Date: 4/29/91
	Time: 10:35 Frame No.: 17
	Comments*: Direction south, debris pile and junkyard on south property line.
	*Comments to include location.

ecology and environment engineering, p.c.
PHOTOGRAPHIC RECORD

Client: NYSDEC	E & E Job No.: SB5222
Site: TAM Ceramics, Inc.	
Camera: Make Kodak 35mm	SN Disposable
Lens Type --	SN --
	Photographer: Scott Glinski Date: 4/29/91
	Time: 10:45 Frame No.: 18
	Comments*: Berm with plastic lining, soil surrounding drums excavated in fall 1990.
	*Comments to include location.

ecology and environment engineering, p.c.
PHOTOGRAPHIC RECORD

Client: NYSDEC	E & E Job No.: SB5222
Site: TAM Ceramics, Inc.	
Camera: Make Kodak 35mm	SN Disposable
Lens Type --	SN --
	Photographer: Scott Glinski Date: 4/29/91
	Time: 10:45 Frame No.: 19
	Comments*: Direction north northwest, Hyde Park Landfill in back, overpack drums.
	*Comments to include location.



ecology and environment engineering, p.c.
PHOTOGRAPHIC RECORD

Client: NYSDEC	E & E Job No.: SB5222
Site: TAM Ceramics, Inc.	
Camera: Make Kodak 35mm	SN Disposable
Lens Type --	SN --
	Photographer: Scott Glinski Date: 4/29/91
	Time: 10:50 Frame No.: 20
	Comments*: Overpack drums from excavation activities, fall 1990.
	*Comments to include location.

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PHOTOGRAPHIC RECORD

Client: NYSDEC	E & E Job No.: SB5222
Site: TAM Ceramics, Inc.	
Camera: Make Kodak 35mm	SN Disposable
Lens Type --	SN --
	Photographer: Scott Glinski Date: 4/29/91
	Time: 10:55 Frame No.: 21
	Comments*: Direction northeast, excavated drum area.
	*Comments to include location.

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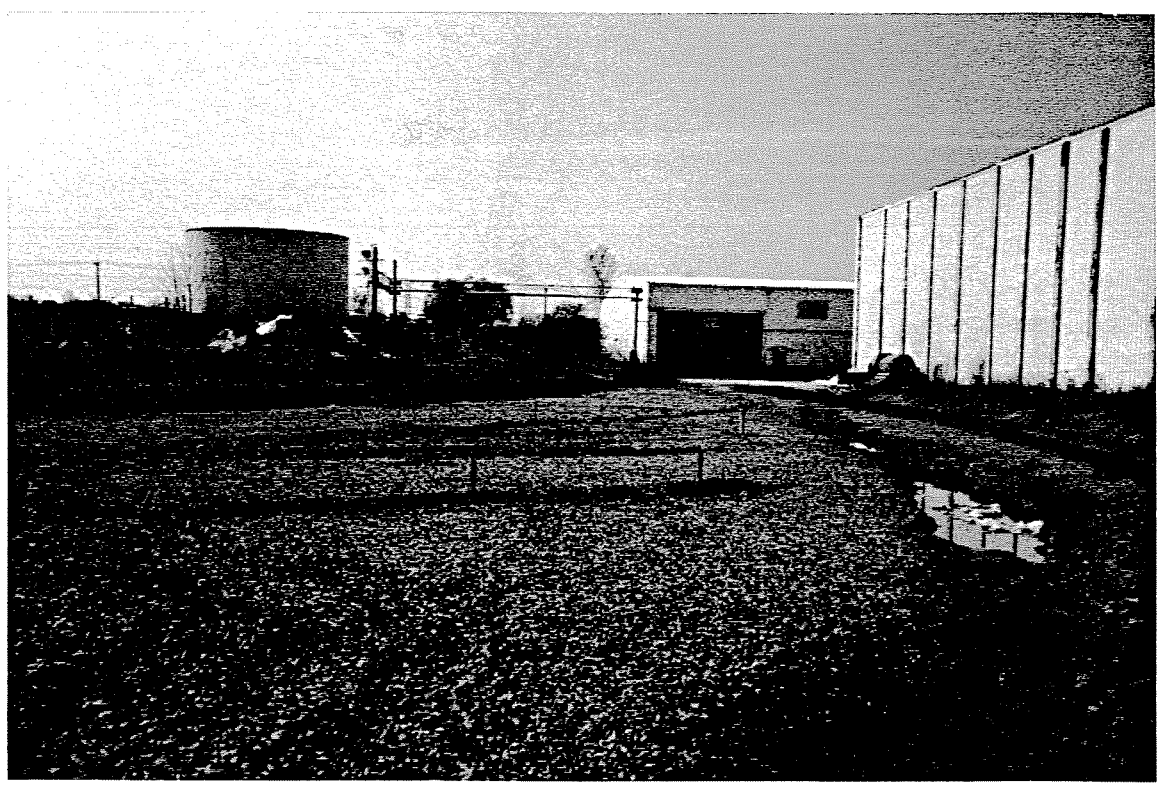
PHOTOGRAPHIC RECORD

Client: NYSDEC	E & E Job No.: SB5222
Site: TAM Ceramics, Inc.	
Camera: Make Kodak 35mm	SN Disposable
Lens Type --	SN --
	Photographer: Scott Glinski Date: 4/29/91
	Time: 10:55 Frame No.: 22
	Comments*: Direction south, excavated drum area.

*Comments to include location.

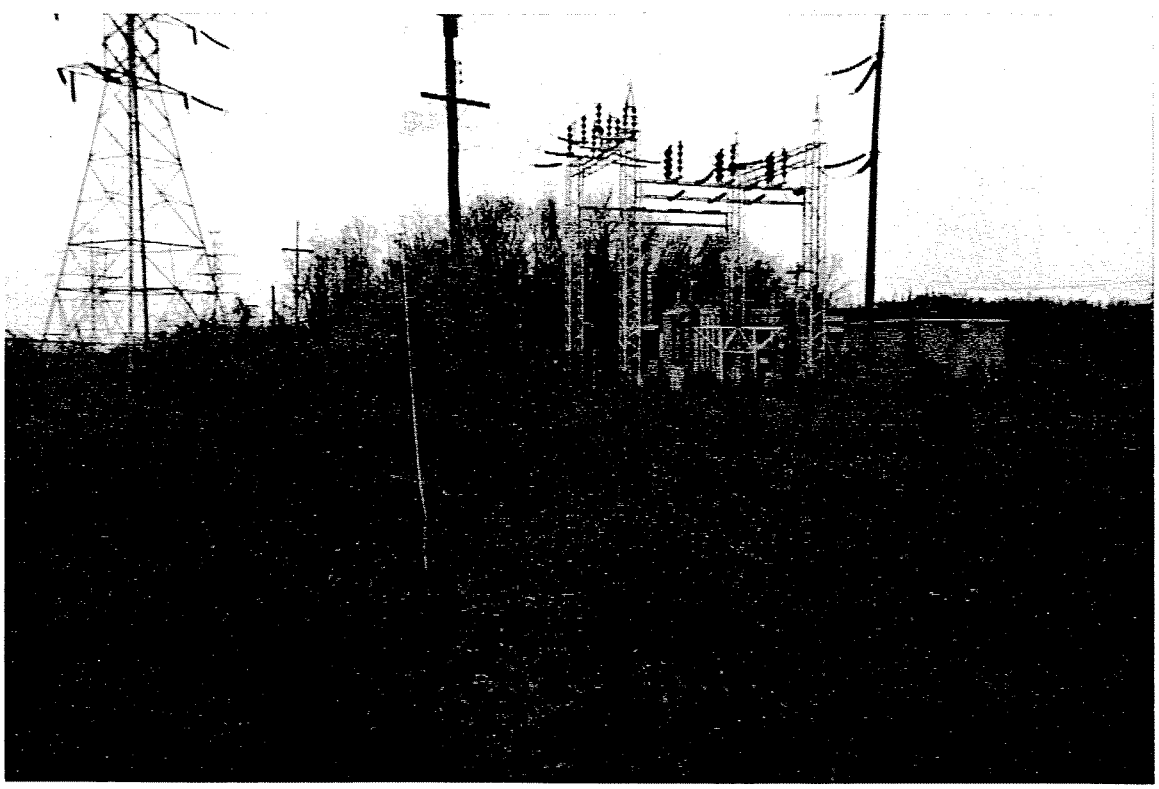


ecology and environment engineering, p.c.
PHOTOGRAPHIC RECORD

Client: NYSDEC	E & E Job No.: SB5222
Site: TAM Ceramics, Inc.	
Camera: Make Kodak 35mm	SN Disposable
Lens Type --	SN --
	Photographer: Scott Glinski Date: 4/29/91
	Time: 10:55 Frame No.: 23
	Comments*: Direction southeast, berm area with overpack drums from excavation.
	*Comments to include location.

ecology and environment engineering, p.c.
PHOTOGRAPHIC RECORD

Client: NYSDEC	E & E Job No.: SB5222
Site: TAM Ceramics, Inc.	
Camera: Make Kodak 35mm	SN Disposable
Lens Type --	SN --
	Photographer: Linda Fischer Date: 5/6/91
	Time: 15:40 Frame No.: 20
	Comments*: Direction southeast, downed high voltage power line.
	*Comments to include location.



ecology and environment engineering, p.c.
PHOTOGRAPHIC RECORD

Client: NYSDEC	E & E Job No.: SB5222
Site: TAM Ceramics, Inc.	
Camera: Make Kodak 35mm	SN Disposable
Lens Type --	SN --
	Photographer: Linda Fischer Date: 5/6/91
	Time: 15:45 Frame No.: 21
	Comments*: Direction northeast, area where oil/sludge was surfacing.
	*Comments to include location.

ecology and environment engineering, p.c.
PHOTOGRAPHIC RECORD

Client: NYSDEC	E & E Job No.: SB5222
Site: TAM Ceramics, Inc.	
Camera: Make Kodak 35mm	SN Disposable
Lens Type --	SN --
	Photographer: Linda Fischer Date: 5/6/91
	Time: 15:50 Frame No.: 22
	Comments*: Direction southwest, blue-gray powder spread along east end of property.
	*Comments to include location.

47-15-25 (11/90)-9d

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF HAZARDOUS WASTE REMEDIATION

ADDITIONS/CHANGES TO REGISTRY OF INACTIVE HAZARDOUS WASTE DISPOSAL SITES

Original - BHSC
Copy - REGION
Copy - DEE
Copy - DOH
Copy - PREPARER

1. Site Name	2. Site Number	3. Town	4. County
TAM Ceramics, Inc.	932028	Niagara Falls	Niagara

5. Region	6. Classification	7. Activity
9	Current 2a /Proposed	[ ] Add [ ] Reclassify [ ] Delist [ ] Modify

8a. Describe location of site (attach USGS topographic map showing site location).
TAM Ceramics, Inc. is located south of Hyde Park, and industrial landfill and residences are located to the east and west, respectively. The area is generally flat, and the Niagara River is 0.4 mile west of the site.
b. Quadrangle Niagara Falls c. Site latitude 43° 07' 42" N Longitude 79° 02' 13" W d. Tax Map Number 130.11-1-8

9a. Briefly describe the site (attach site plan showing disposal/sampling locations).
TAM Ceramics, Inc. was previously owned by Titanium Alloy Manufacturing and NL Industries (1930 to 1979). During this period wastes generated from processing zirconium and coke were disposed of on the eastern portion of the site.
b. Area 30 acres c. EPA ID number _____ d. PA/SI [ ] Yes [ ] No

e. Completed: [X] Phase I [ ] Phase II [ ] PSA [ ] Sampling

10. Briefly list the type and quantity of the hazardous waste and the dates that it was disposed of at this site.

EP Tox Barium

11a. Summarized sampling data attached

[ ] Air [ ] Groundwater [ ] Surface Water [ ] Soil [X] Waste [X] EP Tox [X] TCLP

b. List contravened parameters and values.

EP Tox Barium at 5,130 mg/l; TCLP Barium at 190 mg/l

12. Site impact data

a. Nearest surface water: Distance 0.4 mile Direction west Classification A

b. Nearest groundwater: Depth 20 ft. Flow direction northwest [ ] Sole source [ ] Primary [ ] Principal

c. Nearest water supply: Distance >3 miles Direction south Active [X] Yes [ ] No

d. Nearest building: Distance 0 ft. Direction west Use Plant facility

e. Crops/livestock on site? [ ] Yes [X] No

f. Exposed hazardous waste? [ ] Yes [X] No

g. Controlled site access? [X] Yes [ ] No

h. Documented fish or wildlife mortality? [ ] Yes [X] No

i. Impact on special status fish or wildlife resource? [ ] Yes [X] No

j. Within a State Economic Development Zone? [ ] Yes [X] No

k. For Class 2A: Code _____ Health model score _____

l. For Class 2: Priority category _____

m. HRS Score ____

n. Significant threat [ ] Yes [ ] No [X] Unknown

13. Site owner's name	14. Address	15. Telephone Number
TAM Ceramics, Inc.	4511 Hyde Park Boulevard, Niagara Falls, NY 14302	(716) 278-9423

16. Preparer
Linda Fischer — Environmental Analyst, Ecology and Environment Engineering, P.C.
Name, title, and organization

5/14/91
Date

Josephine H. Burton for Linda Fischer
Signature

17. Approved

_____
Name, title, and organization

_____ _____
Date Signature

2. PURPOSE

Task 1 of the Preliminary Site Assessment (PSA), Data Records Search and Assessment, was conducted by Ecology and Environment Engineering, P.C. (E & E) under contract to the New York State Department of Environmental Conservation (NYSDEC) Superfund Standby Contract (Contract No. D002526).

Task 1 involves the search for proof of disposal of hazardous waste documentation and proof of a significant threat to human health or the environment. Additional investigation may also be recommended.

The purpose of the PSA is to provide the information for NYSDEC to reclassify the site according to the following classifications:

- **Class 2.** Hazardous waste sites presenting a significant threat to the public health or the environment;
- **Class 3.** Hazardous waste sites not presenting a significant threat to the public health or the environment; and
- **Delist.** Sites where hazardous waste disposal cannot be documented.

The TAM site has been classified as 2a because of insufficient information to document hazardous waste disposal and/or assess the significance of potential risks to public health or the environment.

3. SCOPE OF WORK

Task 1 of the PSA at the TAM site comprised several interrelated subtasks as follows.

File Reviews and Data Search

An extensive data search was conducted utilizing state, county, municipal, and site-specific sources. This information was compiled from existing data as well as new sources, and a preliminary characterization of the site was developed after review.

Sources contacted during the PSA are listed in Table 3-1.

Site Inspection

A site inspection was conducted on April 29, 1991 and May 6, 1991 to assess the site's surface characteristics, observe evidence (if any) of hazardous substances or wastes present, photograph the site, conduct preliminary air monitoring, and confirm information obtained from the initial data search. An Environmental Protection Agency (EPA) Site Inspection Report (EPA Form 2070-13) and a NYSDEC Additions/Changes to Registry of Inactive Hazardous Waste Disposal Sites form were completed following the site inspection. Preliminary air monitoring using an HNu and minirad resulted in no reading above background levels. A black substance with a sludge-like appearance was noted on the eastern edge of the property. An area of blue powder was also noted on the surface near the fence.

Participants in the site inspection were:

Name	Title	Affiliation
Chad Eich	Environmental Analyst	E & E
Linda Fischer	Environmental Analyst	E & E
Scott Glinski	Environmental Analyst	E & E
Gerry Pietrasak	Environmental Engineer	NYSDEC
Russ Steiger	Environmental Health/ Safety Engineer	TAM

Table 3-1

SOURCES CONTACTED FOR THE NYSDEC PSA
TAM CERAMICS, INC. SITE
NIAGARA FALLS, NEW YORK

New York State Department of Environmental Conservation
Division of Hazardous and Solid Waste
584 Delaware Avenue
Buffalo, New York 14202
Contact: Gerry Pietraszek
Telephone: 716/847-4585
Date: April 22, 1991
Information Gathered: File search.

New York State Department of Environmental Conservation
Bureau of Hazardous Site Control
50 Wolf Road
Albany, New York 12233
Contact: Valerie Lauzze
Telephone: 518/457-9538
Date: April 17-18, 1991
Information Gathered: File search.

New York State Department of Health
Bureau of Environmental Exposure
2 University Place
Room 205
Albany, New York 12203
Contact: Andy Carlson
Telephone: 518/458-6306
Date: April 16-17, 1991
Information Gathered: File search.

Niagara County Environmental Management Council
County Courthouse, Lockport, New York 14094
Contact: Joann Ellsworth
Telephone: 716/439-6170
Date: April 25, 1991
Information: Information on land use, wetlands, flood plains, zoning, waterlines.

Niagara County Department of Health
10th and Falls Streets
Niagara Falls, New York 14302
Contact: Paul Dicky
Telephone: 716/284-3128
Date: April 25, 1991
Information Gathered: File information.

Table 3-1

SOURCES CONTACTED FOR THE NYSDEC PSA
TAM CERAMICS, INC. SITE
NIAGARA FALLS, NEW YORK

Niagara County Highway Department 225 South Niagara Street Lockport, New York 14094 Contact: Gary Hinton Telephone: 716/439-6066 Date: April 26, 1991 Information Gathered: Aerial photographs from 1938, 1951, 1955, 1966, 1982.
Niagara County Department of Planning County Office Building Lockport, New York 14094 Contact: Rick Seekins Telephone: 716/439-6033 Date: April 25, 1991 Information Gathered: 1990 Census data.
Niagara County Real Property Tax Director County Courthouse, Lockport, New York 14094 Contact: Hazel Hasley Telephone: 716/439-6111 Date: April 25, 1991 Information Gathered: Tax maps and site ownership history.
TAM Ceramics, Inc. 4511 Hyde Park Boulevard Niagara Falls, New York 14302 Contact: Russ Steiger Telephone: 716/278-9423 Date: April 29 and May 6, 1991 Information Gathered: File search and site inspection.
United States Department of Agriculture Soil Conservation Service Cornell Cooperative Extension 4487 Lake Avenue Lockport, New York 14094 Contact: Darcy Tone Telephone: 716/434-4949 Date: April 30, 1991 Information Gathered: Soil survey, agriculture districts, and prime farmland.

4. SITE ASSESSMENT

4.1 SITE HISTORY

The 30-acre TAM site is located at 4511 Hyde Park Boulevard, in Niagara Falls, Niagara County, New York. The site was owned by Titanium Alloy Manufacturing Co. prior to 1948, by National Lead (NL) Industries from 1948 to 1979, and by TAM since 1979. From 1930 to 1948 Titanium Alloy Manufacturing produced titanium oxide which was used as a pigment in paint (Ref. 7). From 1948 to 1979 National Lead (NL) Industries produced zirconium oxide and titanium oxide which were used to make items similar to those TAM now produces. From 1930 to 1976, including the time period of ownership by Titanium Alloy Manufacturing and NL Industries, it is estimated that 2,986 tons of waste material were disposed of either by storing in waste piles or landfilled on site property (Ref. 1). The wastes produced from the production of titanium oxide and zirconium oxide include: uncalcined titanium oxide, aluminum oxide with titania impurity, zirconium sodium potassium chloride, ammonia zirconium carbonate, iron carbon titanium alloy, silica fume with motor oil, and magnesium chloride. Zirconium oxide is produced by heating zirconium silicate in an arc furnace. In 1974, the process was modified and wastes containing titanium were no longer generated. This disposal of wastes occurred between 1930 and 1976. The types and quantities of wastes disposed of in this area are presented in Table 4-1.

In 1981, some of the aboveground drummed wastes and waste piles were removed from selected areas of the disposal site (Ref. 12). The removed wastes were transported to the Modern Landfill by Modern Disposal, Inc. for disposal (Ref. 7). The waste types and quantities removed from the site include:

- 500 tons of iron carbon titanium alloy with broken arc furnace shells;
- 740 cubic yards, or an estimated 1,000 tons, of inert slag and scrap;
- 4 drums zirconium oxychloride;
- 12 drums zircon fused salts; and
- 20 drums ammonium zirconia carbonate solution (3.6 tons) (Ref. 7).

The TAM site is located directly south of and adjacent to the Hyde Park Landfill. The Hyde Park landfill is currently under remedial activities including the construction of an overburden barrier collection system that uses pumps and a drain encompassing the landfill to prevent migration of contaminants in the groundwater. This system runs along the north edge of the TAM, Inc. property, and construction required the relocation of a number of railroad spurs located on TAM property. During the excavation necessary for relocating the spurs, 178 drums were found on the TAM property 10 to 12 feet bgs (Ref. 6). All drums were removed. Ninety-two were placed in 85-gallon overpack drums and the remainder in a plastic-lined berm (see Figure 1-2). NYSDOH tested the drums for TCL organics and the test results were negative (Ref. 15). An in-house analysis conducted by TAM found the drums to contain zirconium oxychloride with clay, an industrial waste (Ref. 8).

4.2 SITE TOPOGRAPHY

TAM is a 30-acre manufacturing facility located on Hyde Park Boulevard, Town of Niagara, Niagara County, New York. The former disposal area is confined to an approximately 15-acre open field east of the plant buildings.

Access to the site is controlled by plant security personnel. The entire disposal area is within fenced plant property, however, the fence adjacent to the Hyde Park Landfill has been removed. Past site remediation involved the removal of most aboveground wastes; however, buried materials were not excavated.

The TAM facility is located in a commercial and residential section of Niagara Falls. Residential areas are immediately east and west of the facility, Hyde Park Landfill is north, and other commercial properties are south (see Figure 1-2).

The wastes were disposed of in the open field located on plant property. The most common disposal method used was burial; however, some wastes were stored in waste piles above ground surface (Ref. 1). Currently, the topography exists as a grass covered flat field, gently sloping to the west, with small mounds denoting former disposal areas.

There is a drainage ditch on the northern edge of the site bordering both the TAM site and the Hyde Park Landfill. Surface water flows east to west in this ditch where it eventually drains into the plant sewer system. The plant sewers tie into the City of Niagara Falls sewer system. The Niagara River is approximately 0.4 mile west of the site (see Figure 1-1).

4.3 SITE HYDROLOGY

Niagara County lies within the Central Lowland physiographic province. Specifically, it lies in the Eastern Lake section and occupies part of the Huron and Ontario plains (Ref. 9).

This area, known as the Niagara Frontier, is relatively flat and broken by two east-west trending escarpments: the Niagara Escarpment and the

Onondaga Escarpment. The site lies on the flat area between these escarpments called the Tonawanda Plain. This was the site of the postglacial Lake Tonawanda (Ref. 9).

Sediments in this area consist mainly of lacustrine deposits and glacial tills. The lacustrine deposits (i.e., silts and clays that settled to the bottom of the postglacial lake) are generally olive and brownish sediments overlying a red clay. The olive and brownish lacustrine sediments were deposited in glacial Lake Tonawanda following the Wisconsin Ice Age. These sediments blanket a red clay that was deposited following an earlier ice age in glacial Lake Lundy that at one time covered the entire county. Glacial till also occupies a large part of the surface area in the county and underlies most areas of lake sediments. The glacial till deposits consist of ground moraines, drumlins, eskers, and terminal moraines. Ground moraines occupy the low undulating till plain and are approximately 10 to 15 feet thick. Drumlins are rounded hills of bedrock or till that were molded beneath the ice and are elongated in the direction of ice flow. Drumlins in Niagara County are very subdued due to modification by the glacial lakes. Eskers are thin elongated ridges of pebbly till trending northeast-southwest. These ridges may be related to giant flutings (furrows or grooves cut by glaciers) in the underlying Queenston shale. The terminal moraines have a general east-west trend and were formed when the ice stagnated for a long period of time. Other deposits, consisting of glacial outwash and beach deposits, exist in large belts (up to 8 miles in length) and are generally 1 to 10 feet thick (Ref. 9).

Surface drainage of the Ontario Plain is northward into Lake Ontario and soil drainage is relatively poor. Surface drainage of the Huron Plain is southward into Tonawanda Creek and is also not well developed (Ref. 9).

The lacustrine sediments and glacial till of the Niagara Frontier are underlain by sedimentary rocks varying in thickness from 1,980 to 4,200 feet and are Ordovician, Silurian, and Devonian in age. The lower part of the Ordovician system is composed primarily of limestones and dolostones. The

upper part is composed of massive shales interbedded with thin sandstone layers. These are in turn overlain by the red shales of the Queenston formation.

The Silurian system is composed of the Medina, Clinton, Lockport, and Salina groups. The Medina group consists of sandstones, shales, and siltstones. These are overlain by the limestones, shales, and dolostones of the Clinton, which in turn are overlain by the dolostones of the Lockport group. Above the Lockport are shales, siltstones, dolostones, gypsum, anhydrite, and salt beds of the Salina group. The poorly drained Tonawanda Plain is formed on the weathered surface of the Lockport and Salina groups.

The Devonian system overlies Silurian rocks to the south of Niagara County. The formation at the Devonian-Silurian contact is the Onondaga limestone which is a massive cherty limestone that outcrops across most of northern Erie County (Ref. 10).

Niagara County has abundant surface waters bordering it: Tonawanda Creek to the south, the Niagara River to the west, and Lake Ontario to the north. The county's municipal water district draws its water from the Niagara River. The bedrock wells north of the Niagara Escarpment are dug or drilled into the Queenston shale. The yields of water are often inadequate during extended dry periods and may contain high levels of salt or sulfate. Bedrock wells to the south of the escarpment are drilled into the Lockport dolomite. Yields are generally higher, but the water is hard from high calcium and other base concentrations. There is no use of groundwater as drinking water within the vicinity of the site. Two residences on Delaware Avenue located approximately 0.25 mile south of TAM are using well water, but only for washing and bathing. A new waterline is being installed to service these residents as part of the Hyde Park Landfill Remedial Program Installation, which began on July 22, 1991. On September 17, 1990 the well water used by these homes was tested by NYSDOH for possible contamination. This testing was conducted as part of the Hyde

Park Landfill Investigation. No contamination was found above maximum concentration levels (MCLs)(Ref. 5).

Several monitoring wells were installed on the TAM site as part of the Hyde Park Landfill investigation. These bedrock wells are designated F-3, F-4, G-3, G-4, G-5, H-2, H-3, H-4 and I-4. Well logs and sample results for these wells are presented in Appendix D.

Bedrock beneath the site is Lockport dolomite. Depth to bedrock is approximately 10 to 20 feet below ground surface. The Lockport overlies mixed rock formations, which in turn overlay Queenston shale.

4.4 CONTAMINATION ASSESSMENT

From 1930 to 1976, NL Industry and Titanium Alloy Manufacturing disposed of an estimated 3,000 tons of wastes at the TAM site from the processing of zirconium and coke (Ref. 1). Some of these wastes were landfilled over a 15-acre area east of the plant operations, and some wastes were removed in 1981 for off-site disposal at an industrial waste landfill (Ref. 13). The wastes disposed of in this manner are listed in Table 4-1. None of these wastes are hazardous wastes according to 6 NYCRR Part 371.

The Hyde Park Landfill located adjacent to the TAM facility previously was used for the disposal of hazardous wastes (Ref. 16). From 1953 to 1975, 80,000 tons of organic chemicals including dioxin were disposed of at the landfill. Tests showed that contaminants have leached into the groundwater, overburden, and bedrock. Monitoring wells were installed in the vicinity of the landfill, including locations on TAM property. Contaminants found in these wells included phenol; mono-, tri-, and tetra-chlorbenzene; and trichlorophenol (Ref. 7). However, these contaminants are not characteristic of any type of processing or wastes associated with TAM. The Hyde Park remedial program required that part of the overburden barrier collection system be constructed on TAM property. During excavation activities in July 1990, 178 drums were discovered 10 to 12

feet bgs under the railroad tracks. Figure 1-2 shows the area of drum excavation. Of the drums found, 92 were placed in 85-gallon overpack containers. The remaining crushed drums and surrounding clay and dirt were placed in a plastic-lined berm. The contents of the drums were tested and found to be zirconium oxide, a non-hazardous waste (Ref. 14). Analysis and characterization studies, including TCLP, of this waste has been conducted by TAM for disposal purposes. The material was found not to be a listed waste or meet any of the "D" series characteristics and is therefore nonhazardous. On May 8, 1991 three soil samples were collected by TAM from the eastern edge of the site in Areas A and B. Samples were collected at a depth of 1.5 to 2 feet (Ref. 14). These three samples were analyzed by Advanced Environmental Services for TCLP. One sample was found to be positive for TCLP Barium, therefore, hazardous by Federal Standards. A waste sample collected on May 12, 1992 was analyzed for EP Toxicity. All results were negative except for barium, which at 5130 mg/l greatly exceeds the maximum concentration of barium which is 100 mg/l. This documents the presence of hazardous waste at the site according to New York State Standards.

TAM currently produces barium titanates for use in the Electronics Industry. All wastes are transported off-site for disposal. It is likely that similar processes generated similar wastes in the past and that those process wastes are the source of the barium.

Table 4-1

TYPES AND ESTIMATED QUANTITIES OF WASTE DISPOSED OF AT THE TAM CERAMICS, INC. SITE

Waste Types Treated or Disposed of at This Site	Physical State	Total Quantity (rough estimate) tons	Type of Container (if any)
Uncalcined titanium oxide	Solid	385	None
Ammonium zirconium carbonate solution	Liquid	3.6	Steel drum
Magnesium chloride with zirconium impurity	Solid	43	Steel drum
Zirconium-sodium-potassium chloride mixture (fused salt)	Solid	3.3	Steel drum
Aluminum oxide with titanium impurity	Solid	2,000	None
Iron-carbon-titanium alloy	Solid	500	Steel shell
Silica fume (with motor oil)	Solid/sludge	50	None
Ammonium zirconium carbonate	Liquid	<1	Plastic bottles

Source: Interagency Task Force on Hazardous Wastes, TAM Ceramics, Inc. site, March 1979

5. ASSESSMENT OF DATA ADEQUACY AND RECOMMENDATIONS

5.1 HAZARDOUS WASTE DEPOSITION

From 1930 to 1976, more than 2,500 tons of wastes from the manufacturing of zirconium oxide and titanium oxide were disposed of over a 15-acre area east of the TAM plant (see Table 4-1). TCLP testing of waste at the site found it to be hazardous by Federal Standards because of the high concentration of leachable barium. Subsequent EP Toxicity testing found the waste to be hazardous by New York State Standards, also for barium (Ref. 17).

5.2 SIGNIFICANT THREAT DETERMINATION

It is uncertain whether the TAM Ceramics, Inc. site poses a significant threat to human health or the environment. Preliminary air monitoring conducted by E & E during site investigations on April 29 and May 6, 1990 with an HNu photoionization detector found no air emissions above background (Ref. 11).

Because the site is securely fenced and no plant activities except storage of miscellaneous plant equipment are performed on the eastern 15 acres, the potential for a direct contact hazard is considered low.

Groundwater is not used as a drinking water source in the vicinity of the site. Two residential wells located more than 0.25 mile south of the TAM site were used for washing and bathing. Installation of a new water line to service these residences began July 22, 1991. These wells were

sampled by NYSDOH in September 1990. No contaminants were detected above MCLs (Ref. 5).

There are no wetlands within 1 mile of the site (Ref. 12) and the nearest residence is located 0.25 mile south of the disposal area.

5.3 RECOMMENDATIONS

Recent soil sampling along the eastern edge of the site in Areas A and B tested negative for TCLP with the exception of barium. Subsequent EP Toxicity testing also found levels of barium in exceedance of New York State Standards thereby documenting hazardous waste disposal (Ref. 17). Due to the unknown nature of the wastes deposited in Disposal Area A, additional sampling of the area should be considered. Presently, there is not enough information available to determine whether this site poses a significant threat to human health or the environment.

APPENDIX A
REFERENCES

REFERENCES

1. Interagency Task Force on Hazardous Wastes, March 1979, Draft Report on Hazardous Waste Disposal in Erie and Niagara Counties, New York.

2. Sax, Irving, 1984, Dangerous Properties of Industrial Materials, 6th Edition.

3. Pietraszek, Gerald, August 14, 1990, New York State Department of Environmental Conservation, file search.

4. Forcucci, Matthew, August 13, 1990, New York State Department of Health, file search.

5. VanValkenburg, Mark, May 17, 1991, personal communication, New York State Department of Health.

6. Ecology and Environment Engineering, P.C., April 29 and May 6, 1991, Site Inspection.

7. Engineering-Science, P.C., Phase I Investigation, January 1989.

8. Pietraszek, Gerald, January 24, 1991, New York State Department of Environmental Conservation, written communication to Mark VanValkenburg, New York State Department of Health.

9. United States Department of Agriculture, 1972, Soil Survey of Niagara County, New York.

10. Tesmer, I.H., 1981, Colossal Cataract, State University of New York Press.

11. Ellsworth, Joann, April 25, 1991, Niagara County Department of Environmental Management, Wetlands Map Search.

12. Walsh, J., June 1, 1981, TAM, written communication to D. Hurley, Associated Lead, regarding waste removal.

13. Steiger, Russell, November 19, 1990, TAM, letter to Modern Landfill, Inc., including New York State Department of Environmental Conservation Application for Disposal.

14. Steiger, Russell, June 3, 1991, TAM Ceramics, Inc, letter to Jerry Pietraszek, New York State Department of Environmental Conservation, letter and analytical results of soil sample.

15. New York State Department of Health, August 1, 1990, Analytical Results for Drum Testing.

16. Occidental Chemical Corporation, Pump Well Installation and Pump Test Results, December, 1983.

17. RECRA Environmental, Inc., 1992, EP Toxicity Sample Results for Waste From TAM Ceramics, Inc. Site.

18. Steiger, Russell, August 18, 1992, Personal Communication with Chad Eich.

REFERENCE 1

INTERAGENCY TASK FORCE ON HAZARDOUS WASTES

DRAFT REPORT

ON

HAZARDOUS WASTE DISPOSAL

IN

ERIE AND NIAGARA COUNTIES, NEW YORK

March 1979

NL INDUSTRIES, INC.
Hyde Park Boulevard Site

The Hyde Park Boulevard disposal site of NL Industries is located in the Town of Niagara. It is bordered on the north by railroad tracks, on the south by Pennsylvania Street, on the east by Witmer Road and on the west by the NL Industries plant. To the north of the railroad tracks is Hooker's Hyde Park landfill.

The surface water nearest to the site is the Niagara River, 0.4 miles to the west. There are no wells close to the site.

The site, 30 to 50 acres in size, was probably used by NL Industries for the disposal of wastes as early at 1906. From 1930 to 1976 when the site was closed, the following amounts of wastes were disposed of there:

Iron carbon titanium alloy	500 tons
Uncalcined titanium oxide	306 tons
Ammonium zirconia carbonate solution	3.6 tons
Magnesium chloride with zirconium impurity	43 tons
Zirconium sodium potassium chloride mixture	3.3 tons
Aluminum oxide with titania impurity	2000 tons
Silica fume with motor oil	50 tons
Ammonia zirconium carbonate	1 ton

The wastes were disposed of in steel drums, steel shells, plastic bottles or, in the case of uncalcined titanium oxide, aluminum oxide and the silica fume, in bulk.

The major health and environmental problem posed by the NL Industries site is the potential cross contamination of groundwater with the adjacent Hyde Park landfill owned by Hooker and the migration of leachate which may contaminate sediments already contaminated by leachate from the Hooker site. In addition, this site has not been properly closed.

REFERENCE 2

Dangerous Properties of Industrial Materials

Sixth Edition

N. IRVING SAX

Assisted by:

Benjamin Feiner/Joseph J. Fitzgerald/Thomas J. Haley/Elizabeth K. Weisburger

VNR VAN NOSTRAND REINHOLD COMPANY

New York

Very light, odorless, white powder, sol in acids; insol in water and alc. d: 3.04; decomp @ 350°.

SYNS:

CARBONATE MAGNESIUM
CARBONIC ACID, MAGNESIUM SALT
C.I. 77713
HYDROMAGNESITE
MAGMASTER
MAGNESITE

TOXICITY DATA: CODEN:

Aquatic Toxicity Rating: TLm96:over 1000 ppm WQCHM* 3,-,74. Reported in EPA TSCA Inventory, 1980.

THR: No data. A general-purpose food additive; it migrates to food from packaging materials. See also magnesium.

Disaster Hazard: When heated to decomp it emits acrid smoke and fumes.

MAGNESIUM CARBONATE

mf: $MgCO_3$; mw: 84.32

Very light, odorless, white powder, sol in acids; insol in H_2O and alc. d: 3.04, decomp @ 350°.

SYNS:

MAGNESIUM CARBONATE, PRECIPITATED
MAGNESIA ALBA

THR: Probably LOW. A general-purpose food additive; it migrates to food from packaging materials.

Incomp: Formaldehyde.

MAGNESIUM CHLORATE

CAS RN: 10326213 NIOSH #: FO 0175000
mf: $Cl_2O_6 \cdot Mg$; mw: 191.21

White deliquescent crystals or powder. Bitter taste; mp: 35°, bp: decomp @ 120°, d: 1.80 @ 25°. Slightly sol in alc. Keep well closed.

SYN: CHLORATE SALT OF MAGNESIUM

TOXICITY DATA: 2-1 CODEN:

orl-rat LDLo:5250 mg/kg JPETAB 35,1,29
ipr-rat LDLo:1100 mg/kg JPETAB 35,1,29

Toxicology Review: 27ZTAP 3,33,69. Reported in EPA TSCA Inventory, 1980.

THR: MOD ipr; LOW orl. A defoliant. See magnesium compounds and chlorates.

Incomp: Al, Sb_2S_3, As, As_2S_3, C, charcoal, Cu, CuS, MnO_2, metal sulfides, dibasic organic acids, organic matter, P, SnS_2, SnS, S.

Disaster Hazard: When heated to decomp it emits tox fumes of Cl^-.

MAGNESIUM CHLORIDE

CAS RN: 7786303 NIOSH #: OM 2800000
mf: Cl_2Mg; mw: 95.21

mp: 712° (rapid heating). Thin white to opaque gray granules and/or flakes. mp: 708°; bp: 1412°; d: 2.325. Sol in H_2O evolving much heat.

TOXICITY DATA: 3-2 CODEN:

mmo-omi 8000 ppm APMBAY 6,45,58
cyt-hmn:hla 2 mmol/L JCLLAX 78,217,71
orl-rat LD50:2800 mg/kg JPETAB 35,1,29
ipr-rat LDLo:225 mg/kg JPETAB 35,1,29
scu-rat LDLo:900 mg/kg ENDOAO 24,523,39
ipr-mus LD50:99 mg/kg COREAF 256,1043,63
ivn-mus LD50:14 mg/kg TXAPA9 22,150,72

Toxicology Review: 27ZTAP 3,88,69. Reported in EPA TSCA Inventory, 1980.

THR: MUT data. HIGH ivn, ipr; MOD orl, scu. A substance which migrates to food from packaging materials. See also magnesium.

Disaster Hazard: When heated to decomp it emits tox fumes of Cl^-.

MAGNESIUM CHLORIDE HEXAHYDRATE

CAS RN: 7791186 NIOSH #: OM 2975000
mf: $Cl_2Mg \cdot 6H_2O$; mw: 203.33

Deliquesc crystals; d: 1.59; mp: when rapidly heated approx 118° with decomp. Keep well closed.

TOXICITY DATA: 3-1 CODEN:

orl-rat LD50:8100 mg/kg AIHAAP 30,470,69
ivn-rat LDLo:176 mg/kg JLCMAK 15,35,29

THR: HIGH ivn; LOW orl. See also magnesium.

Disaster Hazard: When heated to decomp it emits tox fumes of Cl^-.

MAGNESIUM COMPOUNDS

THR: The inhal of fumes of freshly sublimed magnesium oxide may cause metal fume fever. There is no evidence that magnesium produces true systemic poisoning. Occupational health hazards may exist in magnesium foundries, probably from the presence of atmospheric contaminants such as fluorides, sulfur dioxide, carbon tetrachloride and chromium compounds.

Particles of metallic magnesium or magnesium alloy which perforate the skin or gain entry through cuts and scratches may produce a severe local lesion characterized by the evolution of gas and acute inflammatory reaction, frequently with necrosis. The condition has been called a "chemical gas gangrene." Gaseous blebs may develop within 24 hrs of the injury. The inflammatory response is marked at the site of injury and there may be signs of lymphangitis. The lesion is very slow to heal.

The most serious hazard presented by magnesium is the danger from burns. Protection necessary for personnel handling and processing magnesium is usually no different from that which is necessary for other metals. It is recommended that smooth clothing and leather or fire resistant, easily removable aprons be worn in grinding operations on magnesium. The toxicity of magnesium compounds is usually that of the anion. Refer to magnesium and anion. See also specific compounds.

MAGNESIUM DROSS, (HOT)

CAS RN: 69011638 NIOSH #: OM 3200000

REFERENCE 3

MLD 8-17-90 → File

New York State Department of Environmental Conservation
600 Delaware Avenue, Buffalo, New York 14202

Thomas C. Jorling
Commissioner

TO: File

FROM: Gerald Pietraszek

SUBJECT: TAM CERAMICS #932028
BURIED DRUM DISCOVERY

DATE: August 14, 1990

On 7/30/90 Sevenson Environmental, while excavating for a new RR spur on TAM Ceramics property discovered a number of barrels in a buried trench. The work is part of the Hyde Park Remedial program which requires relocation of a RR spur to accommodate the proposed Overburden Barrier Collection System (OBCS).

Mr. Fred Silvernail (TAMS) was initially contacted. TAM Ceramics sampled the barrels on 7/30 and analysis was performed on 7/31. Results indicated zirconium oxychloride which is a somewhat inert material.

Mr. Gerald Pietraszek (DEC) contacted Mr. Silvernail on 7/31 and requested that he:

1. Sample each barrel for TCL organics

2. File a full report with the DEC early in the week of 8/6/90.

3. Arrange to have OCC (Sevenson) complete all overpacking of barrels.

4. Stage all material on TAM property.

5. Meet with John McDonald (OCC) to determine exactly what work OCC can do for TAM.

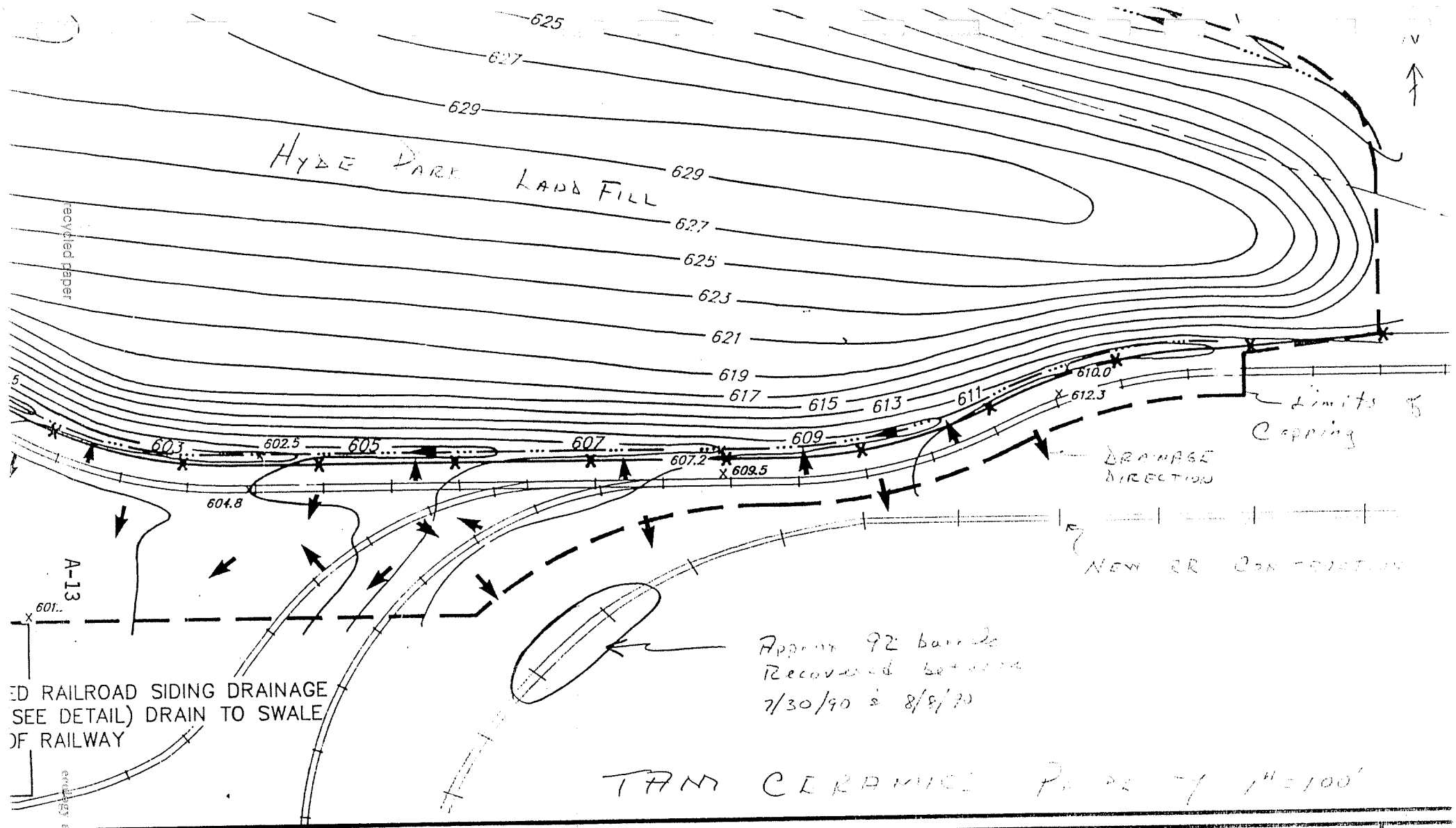
Work on the RR Spur was delayed while the barrels were retrieved for overpacking by Sevenson. The trench appears to be between 2' to 10' below existing grade. The material in the drums looks like melted ice cream. It varies from black and white saturated very fine sand/silt like material to gray/yellow solid (rock salt like) material.

Mr. Russ Steiger, Environmental Engineer, TAM Ceramics was contacted on 8-8-90 (278-9423). By 8-8-90 approx. 92 barrels had been overpacked with a number of crushed barrels placed on plastic for temporary storage. Sevenson Environmental performed all removal/overpacking/staging. Chemical Waste Management (CWM) will

sample each barrel and perform proper disposal for TAM.

To date, a Phase I investigation has been performed at TAM Ceramics. (1/89)

Barrel removal ended and excavation for the RR spur continued the afternoon of 8-8-90.



Approved

by G Pietraszek 8/14/90

STATE OF NEW YORK
THOMAS A. NOWOCIEN
No. 57564
LICENSED PROFESSIONAL ENGINEER

7/12/89

HYDE PARK REMEDIAL PROGRAM
OCCIDENTAL CHEMICAL CORPORATION

OVERBURDEN BARRIER COLLECTION SYSTEM

DETAILED GRADING PLAN

Drawn b

Designed

Checked

9 R.H.

Initial

REFERENCE 4

File
Niagara Falls

STATE OF NEW YORK—DEPARTMENT OF HEALTH

INTEROFFICE MEMORANDUM

RECEIVED

AUG 16 1990

BUREAU OF ENVIRONMENTAL EXPOSURE INVESTIGATION

To: Cameron O'Connor

From: Matthew Forcucci MF

Date: August 13, 1990

Subject: Drum Removal at TAM Ceramics (HYDE PARK LANDFILL REMEDIAL PROGRAM)

On Monday, July 30, 1990, during excavation activities at TAM Ceramics for the relocation of railroad spurs as part of the Hyde Park Remedial Program, several drums of unknown material were encountered. The first discovery of the drums occurred approximately 10 feet north of overburden monitoring well G-5, installed during the 1982 Aquifer Survey. At this location, there were two empty, flattened drums, some old railroad ties, and other wood debris. It appeared that a pit was dug, the materials placed in it, and the area covered with clean clay. Air monitoring conducted with the Hnu indicated no organics present. The drums and debris were disposed of in disposal cell #5 at the Hyde Park Landfill. As excavation proceeded north, it appeared that the area where the drums and debris were encountered also extended to the north. This was evident by a change in the nature of fill materials encountered mostly "shot-rock"), and the appearance of groundwater on the subgrade of the excavation. Near the end of the day, a cluster of drums was encountered within the fill materials. The drums contained a white sludge-like sediment, a black, oily-looking material (no sheen visible) and mixtures of other sludge-like materials. Some drums were crushed and empty, indicating that the drums may have contained liquids at one time. Hnu readings indicated no organics present. At this time, all work was stopped by Sevenson Environmental after consultation with the NYSDOH on-site representative. (The OCC representative had to leave shortly before this time for a medical appointment).

On July 31, 1990, at 6:30 a.m., discussions were held with OCC, DOH, and Sevenson on-site representatives to develop methods and plans for the drum removal. The following was agreed to:

- All relatively intact drums would be placed into over-pack drums, and all drums which were crushed, broken, or rotted would not be placed into over-pack drums, but would be placed on plastic and wrapped up.

- Any contaminated soils would be cast aside within the excavation until it could be determined where they should be disposed.

- All over-pack drums were to be placed in rows on plastic, aisles left between rows to facilitate sampling, and all drums were to be numbered and logged as to contents.

- This storage area would be fenced each day, and at the end of the operation.

- All over-pack drums would be covered with plastic when the drum removal was completed.

- All workers involved in handling the drums would be dressed in coated tyveks, boots, gloves, and would be on supplied air due to the unknown nature of the materials. Recra Environmental would continue to perform air monitoring.

Work activities began at 6:45 a.m. following the above protocols.

During the morning of July 31, 1990, I notified Mr. Mark Van Valkenburg, DOH/Albany, of the situation. Discussions included the apparent extent of the problem, and the unwillingness of OCC to sample the material since it was on TAM Ceramics property, even though it was encountered during Hyde Park remedial activities and was located approximately 30 feet south of the clean/dirty line of the Hyde Park APL plume. I then contacted Mr. Craig Jackson of NYSDEC to apprise that agency of the situation, and to discuss further actions to be undertaken at both the field level and coordinator level. I suggested that samples be collected, if for any reason, to add to any existing data concerning the TAM Ceramics Site (#0932028), and to possibly determine any OCC responsibilities concerning this waste material. DEC was also informed that I had requested Sevenson Environmental personnel to look for labels or any markings on the drums which may determine potential responsible parties (No identifying markings have been observed as of this writing).

It was agreed to that samples should be collected, and that Mr. Jackson would make sure a DEC representative came to the site immediately to assess the situation and assist myself in obtaining samples. Mr. Jackson also contacted Mr. Van Valkenburg to make arrangements with the DOH Lab for a TCL analysis of the samples (to be paid for by DEC).

At 1:00 p.m., a meeting was held at the OCC Hyde Park trailer with DOH, OCC, Sevenson, and Mr. Fred Silvernail of TAM Ceramics. During the meeting, Mr. Silvernail stated that TAM had sampled "the material" during the night of July 30, 1990, and that analytical results determined "the material" to be zirconium oxychloride. He would not identify the material sampled, the sample location, nor the lab doing the work. It was assumed that TAM used their own in-house

lab. At this time, I requested and received permission from Mr. Silvernail for the State to collect and analyze samples. TAM and OCC also declined any split samples of the material which the State would be collecting.

Upon arrival of Mr. Gerry Pietraszek of DEC, Region 9 at approximately 2:00 p.m., preparations were made to collect samples. At 3:10 p.m., with permission from OCC and Sevenson Environmental, I directed Sevenson personnel to collect the following samples:

- TC-1 A white sludge-like sediment from a drum which subsequently placed into over-pack drum #17.

- TC-2 A black, sludge-like sediment, oily in appearance (no sheen) which was collected off of soils located in the drum disposal area.

- TC-3 A yellow, sludge-like sediment with some white and gray material from a drum which was subsequently placed into over-pack drum #18.

On August 1, 1990, Mr. John Nichter of OCC directed the OCC field rep to have Sevenson do all that is necessary to remove drums within the alignment of the new railroad spurs, and any other remedial work. This is to include removal of contaminated soils to the Hyde Park Landfill.

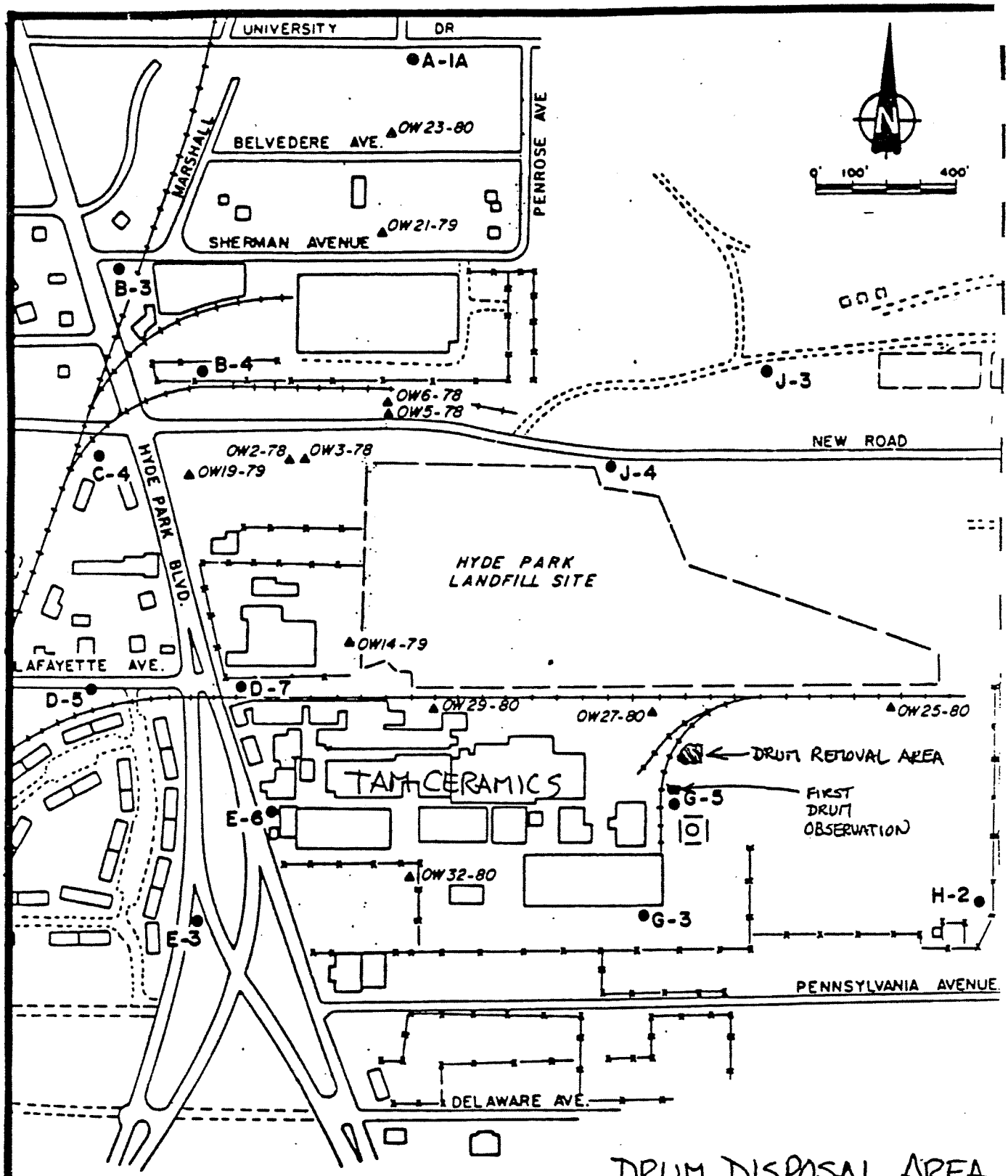
On Thursday, August 2, 1990, Mr. Rob Larrabee of TAM Ceramics, collected a small plastic bottle of waste material from each of over-pack drums #38, 39, and 40. He stated that TAM Ceramics would do the analysis in-house. On Friday, August 3, 1990, TAM Ceramics reported to OCC that the material was zirconium oxychloride.

If there are any questions or comments, please feel free to contact me.

MJF/jzp

cc: Dr. Smith-Blackwell
Mr. Wakeman/Mr. Van Valkenburg

attachment



DRUM DISPOSAL AREA
TAM CERAMICS

figure 5

OFF-SITE OVERBURDEN
SURVEY WELL LOCATIONS
HYDE PARK REMEDIAL PROGRAM
Occidental Chemical Corporation

1069-08/09/83

REFERENCE 5

CONTACT REPORT

MEETING [ ] **TELEPHONE [X]** **OTHER [ ]**

AGENCY: New York State Department of Health Center of Environmental Health

ADDRESS: 2 University Place, Albany, New York 12203

PHONE #: (518) 458-6309

PERSON CONTACTED: Mark Vanvalkenburg

TO: N. Snyder

FROM: L. Fischer

DATE: May 17, 1991

SUBJECT: Results of Residential Water Testing on Delaware Avenue, Niagara Falls

CC:

CTF: SB5220

In September 1990, NYSDOH performed well water testing on homes surrounding the Hyde Park Landfill currently not hooked up to the municipal water system. The results indicated no contaminants in these particular wells.

REFERENCE 6

Observations made during the E & E Site Inspection are provided on EPA Form 2070-13, Appendix B.

REFERENCE 7

ENGINEERING INVESTIGATIONS AT INACTIVE HAZARDOUS WASTE SITES

PHASE I INVESTIGATION

TAM Ceramics
Town Of Niagara

Site NO. 932028
Niagara County

Prepared for:

New York State Department of Environmental Conservation

50 Wolf Road, Albany, New York 12233
Thomas C. Jorling, *Commissioner*

Division of Hazardous Waste Remediation
Michael J. O'Toole, P.E., *Director*

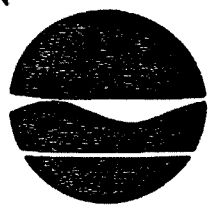
By:

ENGINEERING-SCIENCE

REFERENCE 8

New York State Department of Environmental Conservation
600 Delaware Avenue, Buffalo, New York 14202

Mark



Thomas C. Jorling
Commissioner

January 24, 1990

RECEIVED

JAN 29 1991

BUREAU OF ENVIRONMENTAL
EXPOSURE INVESTIGATION

Mr. Mark VanValkenberg
New York State DOH
2 University Place
2nd Floor
Albany, New York 12237

Dear Mr. VanValkenberg:

TAM Ceramics Site #932028
Drum Removal Sampling

Enclosed for your information are the analytical results for:

1 - Sediment Sample TC-3
and
2 - Drum Samples TC-1, TC-2

The samples were taken on July 31, 1990 by Mr. Matt Forcucci, New York State Department of Health. Sample location is the TAM Ceramics Plant Site in the Town of Niagara, Niagara County. This is the result of a drum removal from a trench excavation in conjunction with a railroad relocation project as part of the Hyde Park Landfill remediation immediately north of TAM Ceramics. A map is included.

Also enclosed find initial analytical results from Advanced Environmental Services for TAM Ceramics, Inc. drum sampling. Finally, find the TAM Ceramics - "NYSDEC Application for Disposal Form" for disposal of the drums at Modern Landfill, Model City, New York. As noted, final indication is that the material is Zirconium Oxychloride with clay, an industrial waste.

Please call me at 716/847-4585 if you have any questions.

Very truly yours,

Gerald Pietraszek

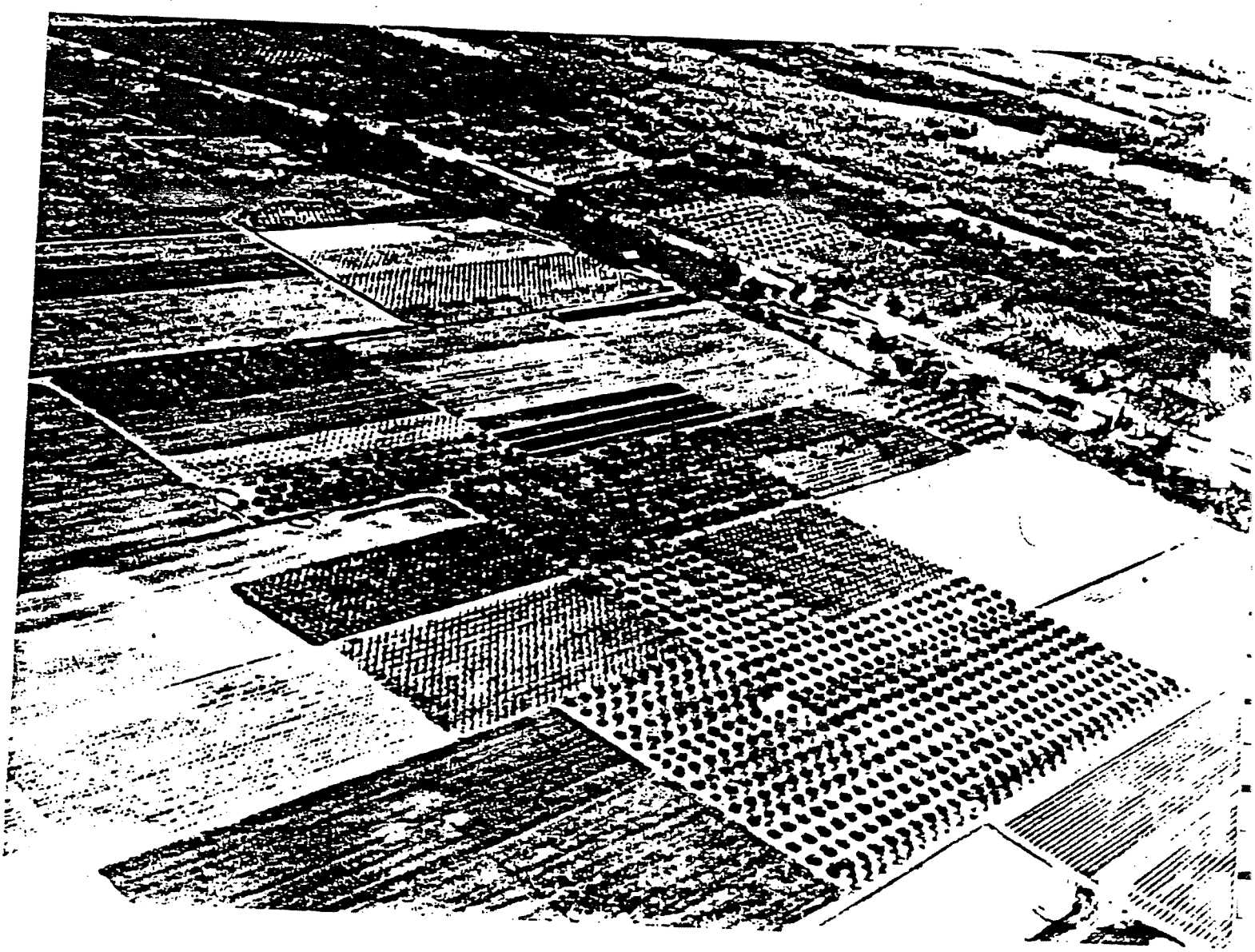
Gerald Pietraszek
Senior Engineering Geologist

GP:vam
Enclosure

REFERENCE 9

SOIL SURVEY C

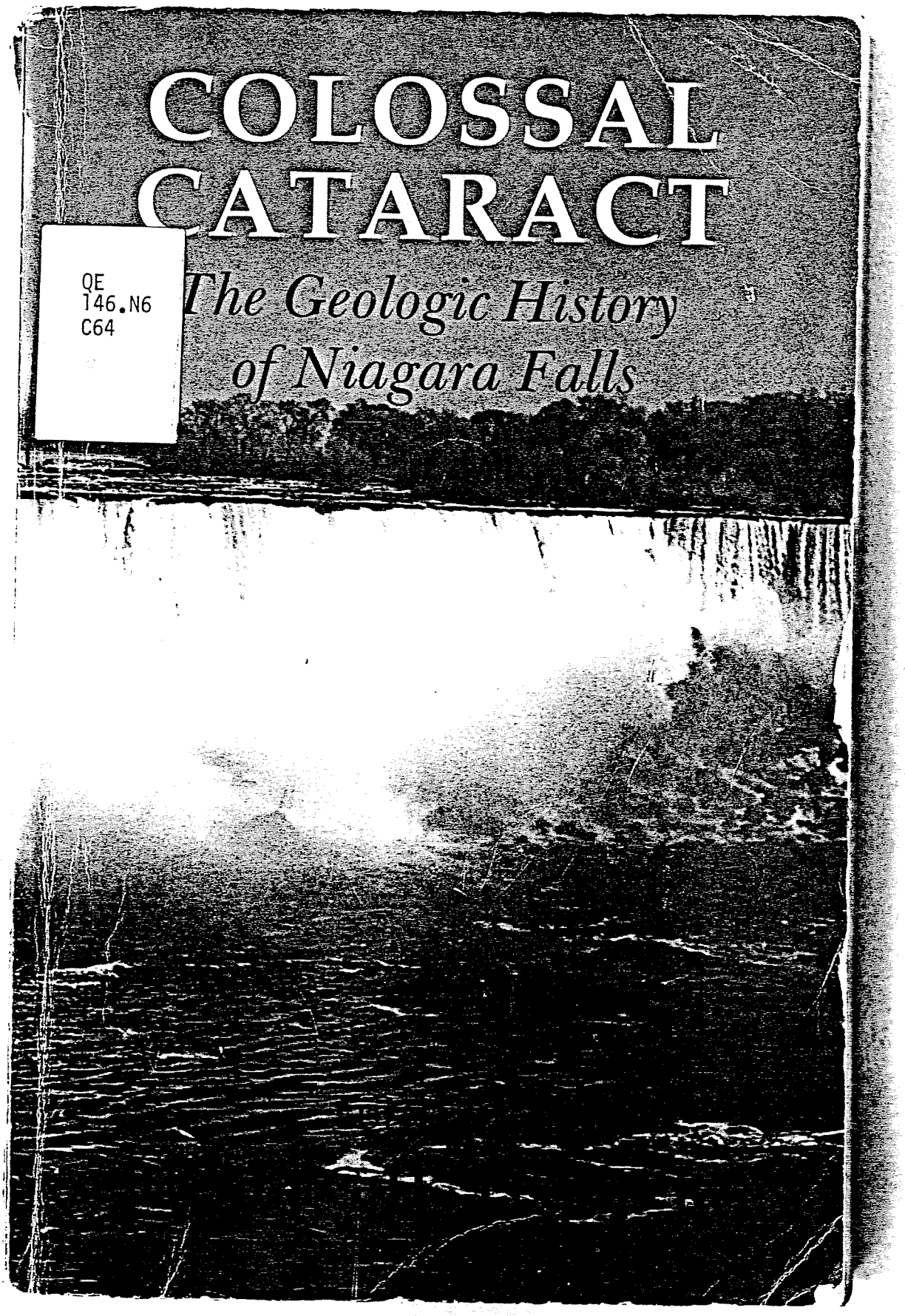
Niagara County, New Yo



United States Department of Agriculture
Soil Conservation Service
In cooperation with
Cornell University Agricultural Experiment Station

Issued October 1972

REFERENCE 10



REFERENCE 11

CONTACT REPORT

MEETING [X] **TELEPHONE [ ]** **OTHER [ ]**

AGENCY: Niagara County Environmental Management Council

ADDRESS: Courthouse, Lockport, New York 14094

PHONE #:

PERSON CONTACTED: Joann Ellsworth

TO: N. Snyder

FROM: L. Fischer

DATE: April 25, 1991

SUBJECT: Wetlands in Niagara Falls

CC:

CTF: SB5220

For the NYSDEC PSA TAM Ceramics Site, the NYS wetlands maps were reviewed and no wetlands within 1 mile of the site were located.

REFERENCE 12

June 1, 1981

Mr. Dan Hurley
Associated Lead
2545 Aramingo Ave.
Philadelphia, Pa. 19125

Dear Dan:

We removed:

1. 500 tons of iron carbon titanium alloy complete with the broken arc furnace shells.

2. 740 cu.yds. est. 1,000 tons of inert slag and scrap.

3. 4 drums zirconium oxychloride.

4. 12 drums zircon fused salts.

5. 20 drums ammonium zirconia carbonate solution (3.6 tons).

This is all material above ground level. All buried materials as reported to the Interagency Task Force on Hazardous Wastes remains in ground.

Our cost was $42,000 on item #2 above and about $4,000 on the balance.

Jim W

James L. Walsh
Engineering Manager

cc: J.F.Kilpatrick

JLW/ljg

TAM Ceramics Inc., Box C., Bridge Station, Niagara Falls, New York 14305
Telephone – (716) 278-9400 TWX – (710) 524-1659

5. Identify all Treatment or Disposal Sites in Erie or Niagara County used since 1930 (use separate sheet for each site).

a. Name of Site NL Industries, Inc. ICD/Niagara

b. Location 4511 Hyde Park Blvd. Niagara Falls, New York

c. Owner or Operator Same

d. Time Period Site was Used 1930-1976

e. Describe Waste Types Treated or Disposed at this Site	Physical State	Total Quantity	Type of Container, If Any
(1) Uncalcined titanium oxide	Solid	Rough Est. 385 tons	None
1-a. Ammonium Zirconium Carb.Sol.	Liquid	Rough Est. 3.6 tons	Steel Drum
(2) Magnesium chloride, with zirconium impurity	Solid	Rough Est. 43 tons	Steel Drums
(3) Zirconium-sodium-potassium chloride mixture(fused salt)	Solid	Rough Est. 3.3 tons	Steel Drums
(4) Aluminum oxide, with titania impurity	Solid	Rough Est. 2,000 tons	None
(5) Iron-carbon-titanium Alloy	Solid	Rough Est. 500 tons	Steel Shell
(6) Silica fume (with motor oil)	Solid/sludge	Rough Est. 50 tons	None
(7) "Ivex" Lotion(ammonium zirconium carbonate	Liquid	Rough Est. less than 1 ton	Plastic bottles

f. Wastes Were [X] land disposed [ ] incinerated [ ] reclaimed (1.a.)
[ ] treated [ ] other (specify) item (5) above ground

g. Names of waste haulers including your company transporting such wastes to this site, if a disposal site.

NL Industries Inc. 278-9401
Name Telephone

4511 Hyde Park Blvd. Niagara Falls New York
Street City State

Time Periods such Hauler Transported to this Site 1930 - 1976

Name Telephone

Street City State

Time Periods such Hauler Transported to this Site

h. List Names and Addresses of other Companies using this Site, if a disposal site.

Name of Company

Street City State

Time Periods such Other Company Used this Site

EPA 2070-12

REFERENCE 13

CERTIFIED MAIL

TAM
A COOKSON COMPANY
Reaching Into Tomorrow...Today!

November 19, 1990

Modern Landfill Inc.
4746 Model City
Model City, NY 14107

Attention: Mike Gullo

Subject: TAM Ceramics Inc. - NYDEC Application for Disposal Form

Dear Mr. Gullo:

Attached please find the following

- Completed NYDEC form 47-19-7
- Analysis and characterization, including TCLP

for the wastestream that was the subject of our telephone discussion on this date.

Currently there are 178 drums contained in 85-gallon overpack containers plus 2 debris piles containing primarily rusted drums contaminated with the wastestream (zirconium oxide sludge, clay, dirt).

It is our intention to package this waste in roll-off containers or other appropriate bulk transportation method upon verifying NYDEC approval of this wastestream.

Please expedite your processing of this application at Modern Landfill and forward to NYDEC for approval as we are most anxious to remove this material from our property.

Note that the material does not meet the definition of hazardous waste as it is not listed and does not meet any of the "D" series characteristics as verified by the attached TCLP results.

If you have any questions or require any further information, please call me at 716/278-9423.

Very truly yours,

Russell H. Steiger

Russell H. Steiger
Environmental/Safety Engineer

pam/2131EE

cc: J. Petraszek, NYS DEC (600 Delaware Ave., Buffalo, NY 14202-1073)
(via Certified mail)

bcc: FASilvernail

19-7 (10/85) — Text 12

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF SOLID AND HAZARDOUS WASTE • BUREAU OF HAZARDOUS WASTE OPERATIONS
50 WOLF ROAD, ALBANY, NEW YORK 12233-001

APPLICATION FOR TREATMENT OR DISPOSAL OF AN INDUSTRIAL WASTE STREAM

SEE APPLICATION INSTRUCTIONS ON REVERSE SIDE

FOR STATE USE ONLY		
SITE NO.	APPLICATION NO.	DATE RECEIVED
DEPARTMENT ACTION ☐ Approved ☐ Disapproved		DATE

1. NAME OF PROJECT/FACILITY	2. COUNTY	3. SITE NUMBER
Modern Landfill Inc.	Niagara	32N30
4. NAME OF OWNER	5. ADDRESS (Street, City, State, Zip Code)	6. TELEPHONE NO.
Modern Landfill Inc.	PO Box 209 Model City NY 14107	716/754-8226
7. NAME OF OPERATOR	8. ADDRESS (Street, City, State, Zip Code)	9. TELEPHONE NO.
Daniel L. Colpetzer	PO Box 209 Model City NY 14107	716/754-8226

10. METHOD OF TREATMENT OR DISPOSAL

Sanitary Landfill - D90

11. COMPANY GENERATING WASTE	12. ADDRESS OF FACILITY GENERATING WASTE (Street, City, State, Zip Code)
TAM CERAMICS INC.	4511 Hyde Park Blvd., Niagara Falls, NY
13. REPRESENTATIVE OF WASTE GENERATOR	14. MAILING ADDRESS OF REPRESENTATIVE / 15. TELEPHONE NO.
RUSS STEIGER	4511 Hyde Park Blvd., Niagara Falls, NY 716/278-9423

16. DESCRIPTION OF PROCESS PRODUCING WASTE

Material excavated during construction activity

17. EXPECTED ANNUAL WASTE PRODUCTION	18. WASTE HAULED IN
Onetime prox. 50 Tons/Year N/A Gallons/Year	☐ Drums ☐ Bulk Tank ☒ Roll-off Container ☐ Other

19. WASTE COMPOSITION	19b Physical State	19c pH Range
a. Average Percent Solids 85	☐ Liquid ☐ Slurry ☒ Sludge ☒ Solid ☐ Contained Gas	Neutral to

19d COMPONENTS	CONCENTRATION (Dry Weight) Upper	Lower	Typical	UNIT (Check one) Wt%	PPM
1) Zirconium oxide sludge (ZrO_2/water)			85	☒	☐
2) Clay, dirt			10	☐	☐
3) Steel from partially oxidized drums			5	☐	☐
4)				☐	☐

20. IS AN ANALYSIS OF WASTE ATTACHED?	21. WAS AN EP TOXICITY TEST CONDUCTED ON THE WASTE?	22. MATERIAL IS:
☒ Yes ☐ No	☒ Yes ☐ No If "Yes", attach results TCLP	☐ Hazardous ☒ Non-Hazardous

23. DETAIL ALL HAZARD AND NUISANCE PROBLEMS ASSOCIATED WITH THE WASTES. List necessary safety, handling, treatment, and disposal precautions.

If dry to the point of generating particles in the respirable size range, repeated or prolonged breathing may cause respiratory disease. May contain crystalline silica, listed by IARC as having "limited evidence" for carcinogencity.

24. WHERE WAS MATERIAL DISPOSED OF PREVIOUSLY?

Not Known

25. NAME OF WASTE TRANSPORTER	26. ADDRESS (Street, City, State, Zip Code)	27. NYSDEC PERMIT No.	28. TELEPHONE NO.
Modern Landfill Inc.	Box 209, Model City, NY	98073	716/754-8226

29. CERTIFICATION

I hereby affirm under penalty of perjury that information provided on this form and attached statements and exhibits is true to the best of my knowledge and belief. False statements made herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the Penal Law.

a. SIGNATURE AND TITLE OF REPRESENTATIVE OF WASTE GENERATOR	DATE
X Russ Steiger — ENVIRONMENTAL/SAFETY ENGINEER	11/19/90
b. SIGNATURE AND TITLE OF REPRESENTATIVE OF TREATMENT OR DISPOSAL FACILITY	DATE
X	

INSTRUCTIONS FOR COMPLETION OF APPLICATION FORM

A. General Instructions:

1. The application form should be completed in quadruplicate. The original and one copy should be submitted to the Regional Office of the New York State Department of Environmental Conservation in the Region where the solid waste management facility is or is proposed to be located. The third copy should be submitted to the waste generator and the fourth copy may be retained for your files.
2. Entries on the application form should be either typewritten or neatly printed in black ink.
3. Attach additional reference sheets if space on the application form is insufficient or supplementary information is required or appropriate.
4. The application may be submitted by the owner of the treatment or disposal facility, or any agent designated, in writing, by the owner. Written authorization by the owner must accompany all applications by persons other than the owner.
5. A separate application form should be completed for each waste stream the facility wishes to receive.

B. Special Instructions:

Item 3. This is the unique site number assigned to each Solid Waste Management Facility by the Department.

Item 6, 9, 15, and 28. Include Area Codes.

Items 11. thru 24. These items should be provided by the company generating the waste.

Item 12. This should be the address of the manufacturing plant generating the waste rather than the corporate office.

Item 13. This is to be the same individual signing Item 29a.

Item 16. This should be a brief description using industry terminology.

Item 17. Volume expected to be generated during normal operating year.

Item 19. Laboratory analyses are required. The upper and lower concentration limits should describe the concentration range of each waste component and the typical concentration should be the concentration expected in a normal load of wastes.

Item 21. An EP Toxicity Test is required only if specifically requested by the Department. However, the applicant can facilitate the processing of his request by conducting an EP Toxicity Test if he feels that such a test may be requested by the Department or that it would support his application.

Item 23. Describe hazards such as those relating to health, safety and fire. Include such factors as carcinogenicity, toxicity, explosivity, flammability and reactivity.

Item 27. The permit number is obtained from the waste transporter's NYSDEC "Waste Transporter's Permit".

Item 29. Those who sign this application should meet the following conditions:

a. The individual signing the application for the waste generator is the individual named in Item 13. The representative of the waste generator shall be at the level of Plant Engineer, Plant Manager, a Corporate Officer or the equivalent.

b. The individual signing the application for the treatment or disposal facility (The Applicant) is the individual or agent designated in writing, by the owner, named in Item 4. If the applicant is a municipality, the form should be signed by the principal executive officer or elected official to whom all correspondence is to be addressed. If applicant is a partnership, at least one partner must sign. If applicant is a corporation, the signature of an authorized officer is required. Include the name of municipality, partnership or corporation with the title of the individual signing the form. Please print or type name under the signature and insert address (if different from Item 5) under title.

DATE

X

DATE

Management and its companies. No representation concerning significance of the reported data is made to any other person or entity.

(See Computer Label)
Waste Profile Sheet Code
FROM SAMPLE CONTAINER

LABORATORY NAME: Chemical Waste Management Technical Center Analytical Laboratories
ADDRESS: 150 West 137th Street, Riverdale, Illinois 60627
DATE SAMPLE RECEIVED AT LAB: (See Computer Label)
LAB MGR. PHONE: (312) 841-8360
LAB SAMPLE NUMBER ASSIGNED: (See Computer Label)
DATE SAMPLE TAKEN: 8-30-90

CERTIFICATION: Except as explicitly noted, all analytical data reported below were obtained under my direction and supervision. For Chemical Waste Management... preparation and analytical methods and analytical equipment specified or approved in the facility's waste analysis plan were used ... control program.

CERTIFICATION OF REP. SAMPLE OBTAINED? ☒ YES ☐ NO

DATE OF REPORT: SEP 25 1990
LAB MANAGER: Frank Thomas
SIGNATURE: [signature]

PHYSICAL CHARACTERISTICS OF WASTE

SAMPLE VOLUME	COLOR	DOES THE WASTE HAVE A STRONG INCIDENTAL ODOR?	PHYSICAL STATE @ 70°F	LAYERS	FREE LIQUIDS
Weird [illegible] 9/28/90	Brown/ White	☐ YES ☒ NO IF KNOWN, DESCRIBE	☒ SOLID ☐ SEMI-SOLID ☐ LIQUID ☐ POWDER	☐ MULTILAYERED ☐ BI-LAYERED ☒ SINGLE PHASED	☐ YES ☒ NO VOLUME

✓	Test	As Received	Extraction Procedure	Date of Analysis
✓	Specific Gravity	1.2		9-13-90
✓	pH, s.u. 10% [illegible]	7.0		9-12-90
	Acidity, %, as			
	Alkalinity, %, as			
	C.O.D., mg/l			
	B.O.D., mg/l			
✓	Total Solids @ 105°C, %	84.4		9-14-90
	Total Dissolved Solids, mg/l			
	R.O.E. @ 180°C, mg/l			
	Viscosity, cps			
	Flash Point, °F (closed cup)			
✓	Ash Content, on ignition, %	73.0		9-14-90
✓	Heating Value, BTU/lb	<1000		9-13-90
✓	Sodium, as Na, mg/L	87500		9/24/90
✓	Arsenic, as As, mg/l			↓
✓	Barium, as Ba, mg/l			
✓	Cadmium, as Cd, mg/l			
✓	Chromium, Total, as Cr, mg/l			
	Chromium, Hexavalent, as Cr⁶⁺, mg/l			
	Cobalt, as Co, mg/l			
✓	Copper, as Cu, mg/l			
	Iron, Total, as Fe, mg/l			
	Iron, Dissolved, as Fe, mg/l			
✓	Lead, as Pb, mg/l	13.3		
	Manganese, as Mn, mg/l			
	Magnesium, as Mg, mg/l			
✓	Mercury, as Hg, mg/l	0.054		
✓	Nickel, as Ni, mg/l			
✓	Selenium, as Se, mg/l			
✓	Silver, as Ag, mg/l			
✓	Thallium, as Tl, mg/l			
✓	Zinc, as Zn, mg/l			
	Potassium, as K, mg/l	6700		↓
	Bicarbonates, as HCO_3, mg/l			
	Bromides, as Br, mg/K % Total	<.5		9-15-90
	Carbonates, as CO_3, mg/l			
	Chlorides, as Cl, mg/K % Total	6.9		9-15-90
	Fluorides, as F, mg/l Total	<.3		9-15-90
	Nitrates, as NO_3, mg/l			
	Nitrites, as NO_2, mg/l			
	Phosphates, as P, mg/l			
	Sulfates, as SO_4, mg/l			

✓	Test	As Received	Extraction Procedure	Date of Analysis
✓	Sulfur, as S, % Total	<.5		9-15-90
	Phenols, mg/l [illegible]	<10		9-12-90
	Cyanides, as CN, Total mg/l			
	Cyanides, as CN, Free mg/l			
	Ammonia Nitrogen, as N, mg/l			

90031336 PROF: IIIK56501 09/11/90
90032629 PROF: TECK56501 10/16/90
TAM CERAMICS
N. FALLS, NY
SRCE: RES SITE: MCN R 31336
ZIRCONIUM OXYCHLORIDE W/CLAY

✓	Test	As Received	Extraction Procedure	Date of Analysis
✓	SOLVENT SCREEN SEE ATTACHED			
	Oil and Grease, mg/l			
	Paint Filter Test, free liquids, %			
	Water Content, as H_2O, %			
	Aldrin, mg/l			
	Chlordane, mg/l			
	DDT, mg/l			
	Dieldrin, mg/l			
	Heptachlor, mg/l			
	Parathion, mg/l			
	Endrin, mg/l			
	Lindane, mg/l			
	Methoxychlor, mg/l			
	Toxaphene, mg/l			
	2,4-D, mg/l			
	2,4,5-TP (Silvex), mg/l			
	PCBs, ppm			
	PCBs, mg/l			
	pH Screen, s.u.			
✓	Cyanide Screen, (+,-) mg/l	<50 [illegible]		9-13-90
✓	Flammability Screen, (+,-)	Neg		
✓	Oxidizer Screen, (+,-)	Neg		
✓	Radiation Screen, (+,-)	equal background		
✓	Sulfide Screen, (+,-) mg/l	<.3		↓
	Water Mix Screen, (+,-)	both lights & browns initially, [illegible], non-reactive		

TECHNICAL CENTER ANALYTICAL LABORATORY
SPECTROSCOPY

SampleID:200032629

Correction values from Sample ID: 200032627
Matrix: solid

TC MATRIX CORRECTED RESULTS

TEST	Correction factors	RESULT (PPM)
Silver	65.40	0.05
Barium	92.78	2.58
Cadmium	97.12	0.05
Chromium	96.00	0.17
Lead	91.40	0.98

Signature: Larry W. Wyglen

Date: 10-30-90

The above results are matrix spike recovery corrected results as specified in the June 29, 1990 TC Final rule. This is not a mandatory requirement until September 25, 1990 for large quantity generators, and until March 29, 1991 for small quantity generators. The uncorrected results are provided on a separate report.

90032629 PROF: TECK56501 10/16/90
TAM CERAMICS
N. FALLS, NY
SRCE: RES SITE: MCN 31336
ZIRCONIUM OXYCHLORIDE W/CLAY

TECHNICAL CENTER ANALYTICAL LABORATORY

ırce: RES
ıple ID: 200032629
ıerator Name: TAM CERAMICS
ːe Name:
ɔve Non Hazardous: NO

Date Reported: 10/30/90
Waste Profile No: TEC K56501
Generator Location: N. FALLS, NY
Waste Name: ZIRCONIUM OXYCHLORIDE W/CLAY

SPECTROSCOPY

ST	RESULT	USER	DATE
rium - Tclp	2.39 ppm	FLETCHER	10/29
dmium - Tclp	0.05 ppm	FLETCHER	10/29
romium - Tclp	0.16 ppm	FLETCHER	10/29
ad - Tclp	0.90 ppm	FLETCHER	10/29
lver - Tclp	0.03 ppm	FLETCHER	10/29
senic - Total	2.40 ppm	TAYLOR	10/29
rium - Total	169 ppm	HEARD	10/26
dmium - Total	1.77 ppm	HEARD	10/26
romium - Total	30.4 ppm	HEARD	10/26
pper - Total	23.9 ppm	HEARD	10/26
ad - Total	55.2 ppm	HEARD	10/26
ːrcury - Total	0.066 ppm	BIENDUGA	10/19
ckel - Total	14.7 ppm	HEARD	10/26
ːlenium - Total	< 0.18 ppm	TAYLOR	10/29
.lver - Total	8.23 ppm	HEARD	10/26
.nc - Total	2370 ppm	HEARD	10/26

ːtal lid

ːviewed By: Gary W. Wright

ate: 10-30-90

90032629 PROF: TECK56501 10/16/90
TAM CERAMICS
N. FALLS, NY
SRCE: RES SITE: MCN 31336
ZIRCONIUM OXYCHLORIDE W/CLAY

irce: RES
mple ID: 200032629
nerator Name: TAM CERAMICS
e Name:

Date Reported: 10/27/90
Waste Profile No: TEC K56501
Generator Location: N. FALLS, NY
Waste Name: ZIRCONIUM OXYCHLORIDE W/CLAY

ORGANIC CHEMISTRY
SOLVENT SCREEN

-lyst: JHD Date: 10/27/90

viewed By: AR Date: 10-29-90

90032629 PROF: TECK56501 10/16/90
TAM CERAMICS
N. FALLS, NY
SRCE: RES SITE: MCN
ZIRCONIUM OXYCHLORIDE W/CLAY 31336

TECHNICAL CENTER ANALYTICAL LABORATORY

)urce: RES
mple ID: 200032629
nerator Name: TAM CERAMICS
te Name:

Date Reported: 10/27/90
Waste Profile No: TEC K56501
Generator Location: N. FALLS, NY
Waste Name: ZIRCONIUM OXYCHLORIDE W/CLAY

ORGANIC CHEMISTRY
SOLVENT SCREEN

MPOUND	PQL (Wgt %)	RESULT (Wgt %)
ichlorofluoromethane	0.10	BQL
thanol	0.10	BQL
her	0.10	BQL
1,2-Trichloro-1,2,2-Trifluoroethane	0.10	BQL
hanol	0.10	BQL
etone	0.10	BQL
opropanol	0.10	BQL
thylene Chloride	0.10	BQL
1,2-Dichloroethylene	0.10	BQL
etonitrile	0.10	BQL
hyl Acetate	0.10	BQL
1,1-Trichloroethane	0.10	BQL
thyl Ethyl Ketone	0.10	BQL
rbon Tetrachloride	0.10	BQL
loroform	0.10	BQL
Propanol	0.10	BQL
nzene	0.10	BQL
2-Dichloroethane	0.10	BQL
obutanol	0.10	BQL
ichloroethylene	0.10	BQL
Butanol	0.10	BQL
4-Dioxane	0.10	BQL
opyl Acetate	0.10	BQL
luene	0.10	BQL
Ethoxyethanol	0.10	BQL
thyl Isobutyl Ketone	0.10	BQL
trachloroethylene	0.10	BQL
tyl Acetate	0.10	BQL
lorobenzene	0.10	BQL
hylbenzene	0.10	BQL
lenes	0.10	BQL
yrene	0.10	BQL
Ethoxyethanol Acetate	0.10	BQL
clohexanone	0.10	BQL
Butoxyethanol	0.10	BQL
chlorobenzene	0.10	BQL
drocarbons HC	0.10	BQL
gh-Boiling Organics	0.10	BQL

ltiply PQL by Dilution Factor of 1

continued on page 2)

90032629 PROF: TECK56501 10/16/90
TAM CERAMICS
N. FALLS, NY
SRCE: RES SITE: MCN 31336
ZIRCONIUM OXYCHLORIDE W/CLAY

REFERENCE 14

TAM
A COOKSON COMPANY
Reaching Into Tomorrow...Today!

FEDERAL EXPRESS

June 3, 1991

New York State
Department of Environmental Conservation
600 Delaware Avenue
Buffalo, New York 14202-1073
ATTN: Jerry Pietraszek

SUBJECT: TAM Ceramics, Inc.

Dear Mr. Pietraszek:

Enclosed please find TCLP analytical results for 3 samples collected on May 8, 1991 based on the field visit by NYDEC and Ecology and Environment as part of the Phase II investigation of TAM Ceramics. The samples were collected in the three distinct areas we jointly identified: All results were negative on TCLP with the exception of 190 mg/l. for barium in a pile of white solid material.

These results were Faxed to my attention from Advanced Environmental Services (analytical laboratory) on May 30, 1991. I spoke with Peter Buchi at 4:20 PM on the same day to verbally summarize these results.

TAM Ceramics is now evaluating the options for proper management of these materials.

If you have any questions, please do not hesitate to contact me at 278-9423.

Very truly yours,

Russ Steiger

Russ Steiger
Environmental & Safety Engineer

cc: Ms. Linda Fischer (Federal Express)
Ecology and Environment, Inc.
Buffalo Corporate Center
368 Pleasantview Drive
Lancaster, New York 14086

File 792

ljg/2562EE

Tam Ceramics Inc., Box C., Bridge Station, Niagara Falls, New York 14305
Telephone — (716) 278-9400 TWX — (710) 524-1659
Cables — Tamceram, Niagara Falls, New York
FAX — (716) 285-3026

ADVANCED
ENVIRONMENTAL SERVICES INC.

TOXICITY CHARACTERISTIC LEACHING PROCEDURE (TCLP) TESTING REQUESTED BY THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Report Prepared For
TAM CERAMICS

May 29, 1991

AES Report DDI

COMMITMENT
TO
HONESTY - QUALITY - SERVICE

QA/QC Verification

The following report, as well as the supporting data, have been carefully reviewed for accuracy, adherence to the cited methods, and completeness. All data contained in this report was generated in accordance with the AES Laboratory Quality Assurance/Quality Control Program.

Denise R. Tuhovak
Organics Supervisor

Gary L. Amato
Technical Supervisor

Paul T. McMahon
Quality Control Officer

Joseph J. Curtis
Customer Service Representative

ADVANCED ENVIRONMENTAL SERVICES, INC.
FIELD REPORT

CUSTOMER: Tam Ceramics AES JOB CODE: DD1

WEATHER: Sunny 70°F BEGINNING DATE: 5-8-91

NUMBER OF SAMPLES: 3 ENDING DATE: 5-8-91

SAMPLING LOCATIONS (1) East Corner of Lot (2) Gray Solid Pile on East Corner of lot (3) White/Dark Pile Fine Solid

TIME 15:25 pm 15:30 pm 15:35

SAMPLING VOLUME 1-liter 1-liter 1-liter

SAMPLE APPEARANCE (1) Soil Was red, orange, & brown in color;

(2) Fine Grey granular, Very dry.

(3) White Clay like looking/some black clay.

Parameters	Date	Preservative	Flow Comp.	Time Comp.	Grab Comp.	Grab
Full TCLP	5/8/91	None			X	

FIELD PARAMETERS: ph (1) NA (2) NA (3) NA F C Temp (1) NA (2) NA (3) NA

Dissolved Oxygen (1) NA (2) NA (3) NA Red (1) NA (2) NA (3) NA

Specific Conductivity (1) NA (2) NA (3) NA

COMMENTS: Russ Steiger Was Present To Indicate Sample Locations.

All samples taken from a hole dug by shovel to a depth of 1.5 feet to 2.0 feet.

Sampled by: Dan T Rej Date: 5-8-91

ADVANCED ENVIRONMENTAL SERVICES, INC.
LABORATORY REPORT

JOB# 911525

TOXICITY CHARACTERISTIC LEACHING PROCEDURE (TCLP)

Type of Analysis: INORGANICS
Client: TAM CERAMICS

A.E.S. Job Code: DDI
Units: mg/l

Analysis	Method No.	Reference No.	Allowable Concentration (mg/l)	Prac. Quant Limit	Analysis Date	A.E.S. Lab No.....: 3899 Customer ID.....: WHITE/GRAY SOIL 5/8/91 GRAB	3900 GRAY solid 5/8/91 GRAB	3901 EAST CORNER 5/8/91 GRAB	
Arsenic, (on furnace)	EPA 7060	5	5.0	0.005	05/13/91	BQL *	0.013	BQL	
Barium, (on flame)	EPA 7080	5	100.0	5.00	5/13/91	199	BQL	BQL	
Cadmium, (on flame)	EPA 7130	5	1.0	0.04	5/16/91	BQL	BQL	BQL	
Chromium, (on flame)	EPA 7190	5	5.0	0.50	5/14/91	BQL	BQL	BQL	
Lead, (on flame)	EPA 7420	5	5.0	1.00	5/14/91	BQL	BQL	BQL	
Mercury, Cold Vapor	EPA 7471	5	0.2	0.005	5/22/91	BQL	BQL	BQL	
Selenium, (on furnace)	EPA 7740	5	1.0	0.005	5/16/91	BQL	BQL	BQL	
Silver, (on flame)	EPA 7760	5	5.0	0.10	5/17/91	BQL	BQL	BQL	

FOOTNOTES

* Below Quantifiable Limit.

ADVANCED ENVIRONMENTAL SERVICES, INC.
LABORATORY CONTROL
QUALITY CONTROL - ACCURACY

JOB# 911525 PAGE 1

Type of Analysis: Matrix Spikes and E.P.A. Standards
Client: TAM CERAMICS

A.E.S. Job Code: DDI
Units: mg/l or ppm

Analytical Parameters	Sample No.	Type	Observed Concentration	Original Concentration	Added Concentration	Percent Recovery*
Arsenic	3901	SPK	0.047	BQL *	0.050	94
EPA (Ag) Std.	378	EPA	0.065	0.061	NONE	107
Barium	3901	SPK	11.3	BQL	10.0	113
CHK (Ba) Std.	---	STD	10.9	10.0	NONE	109
Chromium	3901	SPK	4.46	BQL	5.00	89
EPA (Cr) Std.	1085	EPA	4.71	5.06	NONE	93
Cadmium	3901	SPK	0.93	BQL	1.00	93
EPA (Cd) STd.	1085	EPA	0.97	1.01	NONE	96
Selenium	3901	SPK	0.046	BQL	0.050	92
EPA (Se) Std.	1085	EPA	0.047	0.050	NONE	94
Silver	3901	SPK	0.93	BQL	2.50	37 **
EPA (Ag) Std.	1085	EPA	2.37	2.50	NONE	95
Lead	3901	SPK	10.3	BQL	10.0	103

SUPERVISOR CHECK: N/A

FIELD CHECK: ______

PROJECT MANAGER CHECK: [signature]

QUALITY CONTROL CHECK: [initials]

* % Recovery = 100 x ((Observed Concentration - "background" Original Concentration) / "Spike" Added Concentration)

* If Added=NONE: % Recovery = 100 x (Observed Concentration / "background" Original Concentration)

FOOTNOTES

* Below Quantifiable Limit.
** Standard additions performed due to poor spike recovery.

ADVANCED ENVIRONMENTAL SERVICES, INC.
LABORATORY CONTROL
QUALITY CONTROL - ACCURACY

Type of Analysis: Matrix Spikes and E.P.A. Standards
Client: TAM CERAMICS

A.E.S. Job Code: DDI
Units: mg/l or ppm

Analytical Parameters	Sample No.	Type	Observed Concentration	Original Concentration	Added Concentration	Percent Recovery*
EPA (Pb) Std.	1085	EPA	5.04	5.12	NONE	98
Mercury	3901	SPK	0.0120	BQL *	0.0100	120
EPA (Hg) Std.	378	EPA	0.0069	0.0076	NONE	91

SUPERVISOR CHECK: _____

FIELD CHECK: _____

PROJECT MANAGER CHECK: _____

QUALITY CONTROL CHECK: _____

* % Recovery = 100 x ((Observed Concentration - "background" Original Concentration) / "Spike" Added Concentration)

* If Added=NONE: % Recovery = 100 x (Observed Concentration / "background" Original Concentration)

FOOTNOTES

* Below Quantifiable Limit.

STANDARD ADDITIONS DATA SHEET

Client: TAM CERAMICS
A.E.S. Job Code: DDI

Units: Milligrams/Liter, or PPM

S #	Element	0/Abs.	1 Spike/1 Abs	2 Spike/2 Abs	3 Spike/3 Abs	Final Conclusion	Correlation Coefficient
01	Silver	0.000	0.50/0.064	1.00/0.122	2.00/0.240	BQL **	.999

COMMENTS

* "s" is the correlation coefficient.

Extract (s) analyzed by the method of standard additions, as specified in EPA Reference SW-846 (3rd Edition, 1986). Correlation coefficient equal to or greater than .995 fulfill the requirements for an analysis free of sample matrix interference.

** Below Quantifiable Limit.

AES Inorganics Department Traceability

Job Code: DBT

Technician Signature	AES Sample #	Method	Date of Analysis
Mark Mocell	3899-3901	7060	5-13-91
[illegible]	"	7080	5-13-91
[illegible]	"	7190	5-14-91
[illegible]	"	7130	5-16-91
Mark Mocell	"	7740	5-16-91
[illegible]	"	7420	5-14-91
[illegible]	"	7760	5-17-91
Mark Mocell	"	7471	5-21-91

ADVANCED ENVIRONMENTAL SEVICES, Inc.
EXTRACTION TRACEABILITY REPORT
INORGANICS REPORT

A.E.S. Job Code: DDI A.E.S. Job Number: 911525

TECHNICIAN	ANALYTICAL METHOD	SAMPLE CODE(S)	DATE OF EXTRACTION
[illegible]	1311	3899-3901	5-9-91

ADVANCED ENVIRONMENTAL SERVICES, INC.
LABORATORY REPORT

JOB# 911525

Type of Analysis: TCLP ORGANICS
Client: TAM CERAMICS

A.E.S. Job Code: DDI
Units: ug/l,ppb

Analytical Parameter(s)	Method No.	Practical Quantifiable Limit	A.E.S. Lab No..... 3899 Customer ID..... WHITE/GRAY SOIL 5/8/91 GRAB	3900 GRAY SOLID 5/8/91 GRAB	3901 EAST CORNER 5/8/91 GRAB	
Endrin	SW 846 8080	2.00	BQL *	BQL	BQL	
Lindane	SW 846 8080	"	"	"	"	
Methoxychlor	SW 846 8080	"	"	"	"	
Toxaphene	SW 846 8080	100	"	"	"	
Heptachlor	SW 846 8080	2.00	"	"	"	
Heptachlor Epoxide	SW 846 8080	"	"	"	"	
Chlordane	SW 846 8080	20.0	"	"	"	
2,4-D	SW846 8150	2.00	"	"	"	
Silvex	SW846 8150	"	"	"	"	

FOOTNOTES

* Below Quantifiable Limit.

Type of Analysis: TCLP ORGANICS
Client: TAM CERAMICS

A.E.S. Job Code: DDI
Units: ug/l,ppb

Analytical Parameter(s)	Method No.	Practical Quantifiable Limit	A.E.S. Lab No..... 3899 Customer ID..... WHITE/GRAY SOIL 5/8/91 GRAB	3900 GRAY SOLID 5/8/91 GRAB	3901 EAST CORNER 5/8/91 GRAB	
Benzene	SW846 8240	120	BQL *	BQL	BQL	
Carbon Tetrachloride	SW846 8240	"	"	"	"	
Chlorobenzene	SW846 8240	"	"	"	"	
Chloroform	SW846 8240	"	"	"	"	
1,2-Dichloroethane	SW846 8240	"	"	"	"	
1,1-Dichloroethene	SW846 8240	"	"	"	"	
Methyl Ethyl Ketone	SW846 8240	1200	"	"	"	
Tetrachloroethene	SW846 8240	120	"	"	"	
Trichloroethene	SW846 8240	"	"	"	"	
Vinyl Chloride	SW846 8240	"	"	"	"	
Cresol (total)	SW846 8270	20	"	"	"	
1,4-Dichlorobenzene	SW846 8270	"	"	"	"	
2,4-Dinitrotoluene	SW846 8270	"	"	"	"	
Hexachlorobenzene	SW846 8270	"	"	"	"	
Hexachlorobutadiene	SW846 8270	"	"	"	"	
Hexachloroethane	SW846 8270	"	"	"	"	

Type of Analysis: TCLP ORGANICS
Client: TAM CERAMICS

A.E.S. Job Code: DDI
Units: ug/l,ppb

Analytical Parameter(s)	Method No.	Practical Quantifiable Limit	A.E.S. Lab No..... 3899 Customer ID..... WHITE/GRAY SOIL 5/8/91 GRAB	3900 GRAY SOLID 5/8/91 GRAB	3901 EAST CORNER 5/8/91 GRAB	
Nitrobenzene	SW846 8270	20	BQL	BQL	BQL	
Pentachlorophenol	SW846 8270	100	"	"	"	
Pyridine	SW846 8270	"	"	"	"	
2,4,5-Trichlorophenol	SW846 8270	20	"	"	"	
2,4,6-Trichlorophenol	SW846 8270	"	"	"	"	

FOOTNOTES

* Below Quantifiable Limit.

Type of Analysis: Matrix Spikes and E.P.A. Standards
Client: TAM CERAMICS

A.E.S. Job Code: DDI
Units: mg/l or ppb

Analytical Parameters	Sample No.	Type	Observed Concentration	Original Concentration	Added Concentration	Percent Recovery*
2,4-D	3901	SPK	106	BQL *	156	68
Silvex	3901	SPK	11.3	BQL	13.3	85
Lindane	3901	SPK	17.6	BQL	22.2	79
Heptachlor	3901	SPK	18.4	BQL	22.2	83
Heptachlor Epoxide	3901	SPK	18.1	BQL	22.2	82
Endrin	3901	SPK	16.8	BQL	22.2	76
Methoxychlor	3901	SPK	4.22	BQL	22.2	19
Pyridine	3901	SPK	84	BQL	64	130
1,4-Dichlorobenzene	3901	SPK	46	BQL	64	72
2-Methylphenol	3901	SPK	59	BQL	64	92
4-Methylphenol	3901	SPK	67	BQL	64	105
Hexachloroethane	3901	SPK	54	BQL	64	85
Nitrobenzene	3901	SPK	55	BQL	64	86

SUPERVISOR CHECK: DRL

FIELD CHECK: _____

PROJECT MANAGER CHECK: _____

QUALITY CONTROL CHECK: _____

* % Recovery = 100 x ((Observed Concentration - "background" Original Concentration) / "Spike" Added Concentration)

* If Added=NONE: % Recovery = 100 x (Observed Concentration / "background" Original Concentration)

FOOTNOTES

* Below Quantifiable Limit.

ADVANCED ENVIRONMENTAL SERVICES, INC.
LABORATORY CONTROL
QUALITY CONTROL - ACCURACY

Type of Analysis: Matrix Spikes and E.P.A. Standards
Client: TAM CERAMICS

A.E.S. Job Code: DDI
Units: mg/l or ppb

Analytical Parameters	Sample No.	Type	Observed Concentration	Original Concentration	Added Concentration	Percent Recovery*
Hexachlorobutadiene	3901	SPK	51	BQL *	64	80
2,4,6-Trichlorophenol	3901	SPK	25	BQL	64	39
2,4,5- Trichlorophenol	3901	SPK	23	BQL	64	35
2,4-Dinitrotoluene	3901	SPK	68	BQL	64	107
Hexachlorobenzene	3901	SPK	50	BQL	64	78
Pentachlorophenol	3901	SPK	14	BQL	64	22

SUPERVISOR CHECK: DR:\

FIELD CHECK: _____

PROJECT MANAGER CHECK: _____

QUALITY CONTROL CHECK: _____

* % Recovery = 100 x ((Observed Concentration - "background" Original Concentration) / "Spike" Added Concentration)

* If Added=NONE: % Recovery = 100 x (Observed Concentration / "background" Original Concentration)

FOOTNOTES

* Below Quantifiable Limit.

Type of Analysis: Matrix Spikes and E.P.A. Standards
Client: TAM CERAMICS

A.E.S. Job Code: DDI
Units: ug/l,ppb

Analytical Parameters	Sample No.	Type	Observed Concentration	Original Concentration	Added Concentration	Percent Recovery*
Vinyl Chloride	3901	SPK	16.5	BQL *	25.0	66
1,1- Dichloroethene	3901	SPK	22.3	BQL	25.0	89
Chloroform	3901	SPK	23.7	BQL	25.0	95
1,2-Dichloroethane	3901	SPK	24.3	BQL	25.0	97
2-Butanone	3901	SPK	40.6	BQL	50.0	81
Carbon Tetrachloride	3901	SPK	23.6	BQL	25.0	94
Benzene	3901	SPK	24.6	BQL	25.0	98
Trichloroethene	3901	SPK	26.1	BQL	25.0	104
Tetrachloroethene	3901	SPK	24.9	BQL	25.0	100
Chlorobenzene	3901	SPK	24.2	BQL	25.0	97

SUPERVISOR CHECK: DRL

FIELD CHECK: _____

PROJECT MANAGER CHECK: JPC

QUALITY CONTROL CHECK: JPM C

* % Recovery = 100 x ((Observed Concentration - "background" Original Concentration) / "Spike" Added Concentration)

* If Added=NONE: % Recovery = 100 x (Observed Concentration / "background" Original Concentration)

FOOTNOTES

* Below Quantifiable Limit.

AES ORGANIC DEPARTMENT TRACEABLITY

JOB CODE: DDT

Technician Signature	AES Sample #'s	Method	Date of Analysis
[signature]	3899-3901	ASTM 3478	5/13/91
Sean Hallinan	3899-3901	8080	5/15/91
Jim Fugh	3899-3901	8270	5/16/91
Jim Fugh	3899-3901	8240	5/16/91

ADVANCED ENVIRONMENTAL SEVICES, Inc.
EXTRACTION TRACEABILITY REPORT
INORGANICS REPORT

A.E.S. Job Code: DDI A.E.S. Job Number: 911525

TECHNICIAN	ANALYTICAL METHOD	SAMPLE CODE(S)	DATE OF EXTRACTION
Mark Weber	HERB	3899-3901	5-12-91
Mark Weber	8270	3899-3901	5-14-91
Mark Weber	8080	3899-3901	5-14-91

ADVANCED
ENVIRONMENTAL SERVICES, INC.
2186 LIBERTY DRIVE
NIAGARA FALLS, NY 14304 • (716) 283-3120

CHAIN OF CUSTODY RECORD

PROJECT NAME: TAM CERAMICS

JOB CODE: DDI

SAMPLER'S SIGNATURE:

IDENTIFICATION OF BLIND FIELD DUPLICATE SITE:

DATE	TIME	SAMPLE IDENTIFICATION	GRAB	COMP	SAMPLE TYPE	UNPRESERVED	HNO_3	H_2SO_4	HCL	NAOH	VIAL (PRES.)	VIAL (UNPRES.)	TOTAL	PARAMETERS/REMARKS
5-8-91	1525	White & Dark Solid	X		Soil	1							1	Full TCLP
5-8-91	1530	~~East~~ Gray Solid	X		Soil	1							1	Full TCLP
5-8-91	1535	East Corner	X		Water/Sludge	2							2	Full TCLP

TOTAL NUMBER OF CONTAINERS: 3

NOTE: Please indicate required analysis, and whom we may contact with questions, if you have not yet done so through your customer service representative.

RELINQUISHED BY	DATE	TIME	RECEIVED BY
1. RELINQUISHED BY: [signature]	5/8/91	1615	RECEIVED BY: Wendy Herbert
2. RELINQUISHED BY:	DATE	TIME	RECEIVED BY:
3. RELINQUISHED BY:	DATE	TIME	RECEIVED BY:

REFERENCE 15

1752 NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER FOR LABORATORIES AND RESEARCH

PAGE 1 RESULTS OF EXAMINATION FINAL REPORT

SAMPLE ID: 902645 SAMPLE RECEIVED:90 08/01/ CHARGE: 42.00
PROGRAM: 6501:DIV. HAZARDOUS WASTE REMED - BUR WESTERN REMEDIAL ACTION
SOURCE ID: DRAINAGE BASIN:03 GAZETTEER CODE:3155
POLITICAL SUBDIVISION:NIAGARA COUNTY:NIAGARA
LATITUDE:43 04 00. LONGITUDE:79 00 00. Z DIRECTION:
LOCATION: TAM CERAMICS, DRUM REMOVAL, HYDE PARK REMEDIAL PROJECT TC-1 DRUM
DESCRIPTION:EAST END OF TAM CERAMICS, SOUTH OF HYDE PARK LF,RAILRD CUT
REPORTING LAB: TOX:LAB FOR ORGANIC ANALYTICAL CHEMISTRY
TEST PATTERN: VOL3SOIL:PURGEABLE HALO-ORGANICS - SOIL/SEDIMENT (DES 312-4)
SAMPLE TYPE: 999:OTHER/MISCELLANEOUS/UNCATAGORIZED SAMPLES
TIME OF SAMPLING: 90/07/31 15:10 DATE PRINTED:90/11/07

ANALYSIS: VHO5021S VOLATILE HALOGENATED ORGANICS-SOIL/SED.(DES 312-4)
BATCH ID: VHO5021S9009240934 DEFAULT MULTIPLIER: 20.
DATE PRINTED: 90/11/05 FINAL REPORT(REV)
VOL-PREP PREPARATION DATE-VOLATILE ANALYSIS CM 90/09/07
HALO-AN DATE OF ANALYSIS CM 90/09/07

PARAMETER		RESULT	
T62003	CHLOROMETHANE	[ND]	
T61803	BROMOMETHANE	[ND]	
T41003	VINYL CHLORIDE	[ND]	
T70203	DICHLORODIFLUOROMETHANE (FREON-12)	[ND]	
T61903	CHLOROETHANE	[ND]	
T23803	METHYLENE CHLORIDE (DICHLOROMETHAN	< 0.2	MCG/G
T61703	TRICHLOROFLUOROMETHANE (FREON-11)	[ND]	
T50903	1,1-DICHLOROETHENE	< 0.2	MCG/G
T51903	1,1-DICHLOROETHANE	< 0.2	MCG/G
T61203	TRANS-1,2-DICHLOROETHENE	< 0.2	MCG/G
T87603	CIS-1,2-DICHLOROETHENE	< 0.2	MCG/G
T39003	CHLOROFORM	< 0.2	MCG/G
T50803	1,2-DICHLOROETHANE	< 0.2	MCG/G
T88703	DIBROMOMETHANE	[ND]	
T23603	1,1,1-TRICHLOROETHANE	< 0.2	MCG/G
T36603	CARBON TETRACHLORIDE	< 0.2	MCG/G
T38903	BROMODICHLOROMETHANE	< 0.2	MCG/G
T18003	2,3-DICHLOROPROPENE	< 0.2	MCG/G
T61303	1,2-DICHLOROPROPANE	< 0.2	MCG/G
T61403	CIS-1,3-DICHLOROPROPENE	< 0.2	MCG/G
T41103	TRICHLOROETHENE	< 0.2	MCG/G
T11203	1,3-DICHLOROPROPANE	< 0.2	MCG/G
T44903	DIBROMOCHLOROMETHANE	< 0.2	MCG/G
T61503	TRANS-1,3-DICHLOROPROPENE	< 0.2	MCG/G
T51703	1,1,2-TRICHLOROETHANE	< 0.2	MCG/G
T60403	1,2-DIBROMOETHANE (EDB)	< 0.2	MCG/G
T61103	2-CHLOROETHYLVINYL ETHER	[ND]	

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WADSWORTH LABS & RESEARCH
ORGANIC ANALYTICAL CHEMISTRY LAB
(COUNTY FILE COPY) SUBMITTED BY:FORCUCCI

1753 NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER FOR LABORATORIES AND RESEARCH

PAGE 2 RESULTS OF EXAMINATION FINAL REPORT

SAMPLE ID: 902645 SAMPLE RECEIVED:90/08/01/ CHARGE: 42.00
POLITICAL SUBDIVISION:NIAGARA COUNTY:NIAGARA
LOCATION: TAM CERAMICS, DRUM REMOVAL, HYDE PARK REMEDIAL PROJECT TC-1
TIME OF SAMPLING: 90/07/31 15:10 DATE PRINTED:90/11/07

PARAMETER	RESULT
T42103 BROMOFORM	< 0.2 MCG/G
T21003 1,1,1,2-TETRACHLOROETHANE	< 0.2 MCG/G
T31003 1,2,3-TRICHLOROPROPANE	< 0.2 MCG/G
T51803 1,1,2,2-TETRACHLOROETHANE	< 0.2 MCG/G
T41203 TETRACHLOROETHENE	< 0.2 MCG/G
T40003 PENTACHLOROETHANE	< 0.2 MCG/G
T85203 1-CHLOROCYCLOHEXENE-1	[ND]
T40903 CHLOROBENZENE	< 0.2 MCG/G
T63903 BIS(2-CHLOROETHYL)ETHER	< 0.02 MS MCG/G
REVISION DATE 90/11/02, ABOVE RESULT VALUE CHANGED, WAS:	
REVISION DATE 90/11/02, ABOVE NOTATION CHANGED, WAS: ND	
T38203 1,2-DIBROMO-3-CHLOROPROPANE	[ND]
T51203 BROMOBENZENE	< 0.2 MCG/G
T50403 O-CHLOROTOLUENE	< 0.2 MCG/G
I68103 BIS(2-CHLOROISOPROPYL)ETHER	< 0.11 MS MCG/G
REVISION DATE 90/11/02, ABOVE RESULT VALUE CHANGED, WAS:	
REVISION DATE 90/11/02, ABOVE NOTATION CHANGED, WAS: ND	
T49703 1,3-DICHLOROBENZENE	< 0.02 MS MCG/G
REVISION DATE 90/11/02, ABOVE RESULT VALUE CHANGED, WAS:	< 0.2
T44103 1,2-DICHLOROBENZENE	< 0.02 MS MCG/G
REVISION DATE 90/11/02, ABOVE RESULT VALUE CHANGED, WAS:	< 0.2
T44203 1,4-DICHLOROBENZENE	< 0.05 MS MCG/G
REVISION DATE 90/11/02, ABOVE RESULT VALUE CHANGED, WAS:	< 0.2

ANALYSIS: 5031S VOLATILE ORGANICS - SOIL/SEDIMENT (DES 312-4)
BATCH ID: 5031S9009240933 DEFAULT MULTIPLIER: 20.
DATE PRINTED: 90/11/05 FINAL REPORT(REV)
AROM-AN DATE OF ANALYSIS CM 90/09/13

PARAMETER	RESULT
T34403 BENZENE	< 0.2 MCG/G
T39203 TOLUENE	< 0.2 MCG/G
T51003 ETHYLBENZENE	< 0.2 MCG/G
T51303 M/P-XYLENE	< 0.2 MCG/G
T51403 O-XYLENE	< 0.2 MCG/G
T85403 STYRENE	< 0.2 MCG/G
T85303 ISOPROPYLBENZENE (CUMENE)	< 0.2 MCG/G
T51103 N-PROPYLBENZENE	< 0.2 MCG/G
T50503 M-CHLOROTOLUENE	< 0.2 MCG/G
T50603 P-CHLOROTOLUENE	< 0.2 MCG/G
T85803 1,3,5-TRIMETHYLBENZENE	< 0.2 MCG/G
T85603 TERT-BUTYLBENZENE	< 0.2 MCG/G
T85903 1,2,4-TRIMETHYLBENZENE	< 0.2 MCG/G
T86203 SEC-BUTYLBENZENE	< 0.2 MCG/G
T86003 4-ISOPROPYLTOLUENE (P-CYMENE)	< 0.2 MCG/G
T86103 CYCLOPROPYLBENZENE	< 0.2 MCG/G
T86303 N-BUTYLBENZENE	< 0.2 MCG/G
T44003 1,2,4-TRICHLOROBENZENE	< 0.02 MS MCG/G

**** CONTINUED ON NEXT PAGE ****

1754 NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER FOR LABORATORIES AND RESEARCH

PAGE 3 RESULTS OF EXAMINATION FINAL REPORT

SAMPLE ID: 902645 SAMPLE RECEIVED:90/08/01/ CHARGE: 42.00
POLITICAL SUBDIVISION:NIAGARA COUNTY:NIAGARA
LOCATION: TAM CERAMICS, DRUM REMOVAL, HYDE PARK REMEDIAL PROJECT TC-1
TIME OF SAMPLING: 90/07/31 15:10 DATE PRINTED:90/11/07
REVISION DATE 90/11/02, ABOVE RESULT VALUE CHANGED, WAS: < 0.2

PARAMETER	RESULT
T65603 NAPHTHALENE	< 0.02 MS MCG/G
REVISION DATE 90/11/02, ABOVE RESULT VALUE CHANGED, WAS:	< 0.2
T52503 HEXACHLOROBUTADIENE (C-46)	< 0.09 MS MCG/G
REVISION DATE 90/11/02, ABOVE RESULT VALUE CHANGED, WAS:	< 0.2
T43903 1,2,3-TRICHLOROBENZENE	< 0.2 MCG/G

FOLLOWING PARAMETERS NOT PART OF TEST PATTERN

ANALYSIS: CLP-SV-S CLP SEMIVOLATILES - SOLID SAMPLE (GC/MS)
BATCH ID: CLP-SV-S9008130549 DEFAULT MULTIPLIER: 1.0
DATE PRINTED: 90/11/05 FINAL REPORT
CLP-EX DATE EXTRACTED CM 90/08/02
CLP-AN DATE ANALYZED CM 90/10/05

PARAMETER	RESULT
T65803 N-NITROSODIMETHYLAMINE	< 0.14 MCG/G
T18703 ANILINE	< 0.18 MCG/G
T67103 PHENOL	< 0.16 MCG/G
T66403 2-CHLOROPHENOL	< 0.02 MCG/G
I18403 BENZYL ALCOHOL	< 0.09 MCG/G
T72203 2-METHYL PHENOL	< 0.11 MCG/G
T72303 4-METHYL PHENOL	< 0.14 MCG/G
T65903 N-NITROSODI-N-PROPYLAMINE	< 0.18 MCG/G
T65303 HEXACHLOROETHANE	< 0.09 MCG/G
T65703 NITROBENZENE	< 0.09 MCG/G
T65503 ISOPHORONE	< 0.11 MCG/G
T66803 2-NITROPHENOL	< 0.16 MCG/G
T66603 2,4-DIMETHYLPHENOL	< 0.09 MCG/G
T85003 BENZOIC ACID	< 0.23 MCG/G
T68603 BIS(2-CHLOROETHOXY)METHANE	< 0.09 MCG/G
T66503 2,4-DICHLOROPHENOL	< 0.02 MCG/G
T19403 4-CHLOROANILINE	< 0.11 MCG/G
T66303 4-CHLORO-3-METHYLPHENOL	< 0.23 MCG/G
T19603 2-METHYLNAPHTHALENE	< 0.16 MCG/G
T49203 HEXACHLOROCYCLOPENTADIENE (C-56)	< 0.23 MCG/G
T67203 2,4,6-TRICHLOROPHENOL	< 0.16 MCG/G
T49603 2,4,5-TRICHLOROPHENOL	< 0.14 MCG/G
T64103 2-CHLORONAPHTHALENE	< 0.18 MCG/G
T19703 2-NITROANILINE	< 0.18 MCG/G
T64703 DIMETHYLPHTHALATE	< 0.18 MCG/G
T63103 ACENAPHTHYLENE	< 0.02 MCG/G
I20303 3-NITROANILINE	< 0.39 MCG/G
T63003 ACENAPHTHENE	< 0.02 MCG/G
T66703 2,4-DINITROPHENOL	< 0.91 MCG/G
T66903 4-NITROPHENOL	< 0.32 MCG/G
T19503 DIBENZOFURAN	< 0.14 MCG/G
T64803 2,4-DINITROTOLUENE	< 0.18 MCG/G

**** CONTINUED ON NEXT PAGE ****

1755 NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER FOR LABORATORIES AND RESEARCH

PAGE 4 RESULTS OF EXAMINATION FINAL REPORT

SAMPLE ID: 902645 SAMPLE RECEIVED:90/08/01/ CHARGE: 42.00
POLITICAL SUBDIVISION:NIAGARA COUNTY:NIAGARA
LOCATION: TAM CERAMICS, DRUM REMOVAL, HYDE PARK REMEDIAL PROJECT TC-1
TIME OF SAMPLING: 90/07/31 15:10 DATE PRINTED:90/11/07

PARAMETER		RESULT
T64903	2,6-DINITROTOLUENE	< 0.16 MCG/G
T64603	DIETHYLPHTHALATE	< 0.20 MCG/G
T68403	4-CHLOROPHENYL PHENYL ETHER	< 0.18 MCG/G
T65203	FLUORENE	< 0.18 MCG/G
T19803	4-NITROANILINE	< 0.70 MCG/G
T68503	2-METHYL-4,6-DINITROPHENOL	< 0.34 MCG/G
T66003	N-NITROSODIPHENYLAMINE	< 0.02 MCG/G
T68303	4-BROMOPHENYL PHENYL ETHER	< 0.05 MCG/G
T48803	HEXACHLOROBENZENE	< 0.07 MCG/G
T67003	PENTACHLOROPHENOL	< 0.11 MCG/G
T66103	PHENANTHRENE	< 0.02 MCG/G
T63203	ANTHRACENE	< 0.05 MCG/G
T64403	DI-N-BUTYL PHTHALATE	< 0.16 MCG/G
T68003	FLUORANTHENE	< 0.09 MCG/G
T63803	BENZIDINE	< 0.20 MCG/G
T66203	PYRENE	< 0.14 MCG/G
T64003	BUTYL BENZYL PHTHALATE	< 0.11 MCG/G
T64503	3,3'-DICHLOROBENZIDINE	< 0.29 MCG/G
T63303	BENZO(A)ANTHRACENE	< 0.02 MCG/G
T67903	BIS(2-ETHYLHEXYL)PHTHALATE	< 0.20 MCG/G
T64203	CHRYSENE	< 0.02 MCG/G
T65003	DI-N-OCTYL PHTHALATE	< 0.18 MCG/G
T63403	BENZO(B)FLUORANTHENE	< 0.07 MCG/G
T63503	BENZO(K)FLUORANTHENE	< 0.16 MCG/G
T63603	BENZO(A)PYRENE	< 0.07 MCG/G
T65403	INDENO(1,2,3-CD)PYRENE	< 0.18 MCG/G
T64303	DIBENZO(AH)ANTHRACENE	< 0.16 MCG/G
T63703	BENZO(GHI)PERYLENE	< 0.16 MCG/G

ANALYSIS: CLP-VOL-S CLP VOLATILES - SOIL (GC/MS)
BATCH ID: CLP-VOL-S9008140548 DEFAULT MULTIPLIER: 1.0
DATE REPORTED: 90/09/25 REPORT MAILED OUT
CLPV-AN DATE ANALYZED CM 90/09/13

PARAMETER		RESULT
T42003	ACETONE	140. MCG/G [SU]
T20103	CARBON DISULFIDE	5.6 MCG/G [EE]
T17003	2-BUTANONE (METHYL ETHYL KETONE)	< 10. MCG/G
T87003	VINYL ACETATE	< 30. MCG/G
T70603	4-METHYL-2-PENTANONE (MIBK)	< 20. MCG/G
T17703	2-HEXANONE (METHYL BUTYL KETONE)	< 20. MCG/G
T21103	TOTAL XYLENES	< 10. MCG/G

**** END OF REPORT ****

JUN 11 '91 16:25 NYS ENVIRONMENTAL HEALTH

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER FOR LABORATORIES AND RESEARCH

0911 6P.64 Pietragani Reg 9

PAGE 1

RESULTS OF EXAMINATION

FINAL REPORT

SAMPLE ID: 901009508 SAMPLE RECEIVED:90/08/02/11 CHARGE: 7.60
PROGRAM: 6501:DIV. HAZARDOUS WASTE REMED - BUR WESTERN REMEDIAL ACTION
SOURCE ID: DRAINAGE BASIN:03 GAZETTEER CODE:3155
POLITICAL SUBDIVISION:NIAGARA COUNTY:NIAGARA
LATITUDE: . LONGITUDE: . Z DIRECTION:
LOCATION: ~~TAM CERAMICS DRUM REMOVAL HYDE PARK REMEDIAL PROJECT~~ # 932028
DESCRIPTION:E. END OF TAM CERAMICS S OF HYDE PARK LANDFILL TC-1
REPORTING LAB: 10:LABORATORY OF INORGANIC ANALYTICAL CHEMISTRY - ALBAN
TEST PATTERN: 10-195:SOILS - CLP PROCEDURE
SAMPLE TYPE: 999:OTHER/MISCELLANEOUS/UNCATAGORIZED SAMPLES
TIME OF SAMPLING: 90/07/31 15:10 DATE PRINTED:90/09/0

<> CHAIN OF CUSTODY FORM ACCOMPANIED THIS SAMPLE. <>

ANALYSIS: 10-195 SOILS - CLP PROCEDURE

PARAMETER	RESULT
SOLIDS, DRY	81. PERCENT
ARSENIC IN DRY SOLIDS	4.9 MG/KG
MERCURY IN DRY SOLIDS	< 0.1 MG/KG
SELENIUM IN DRY SOLIDS	2.3 MG/KG
BERYLLIUM IN DRY SOLIDS	< 1. MG/KG
SILVER IN DRY SOLIDS	83. MG/KG
BARIUM IN DRY SOLIDS	38. MG/KG
CADMIUM IN DRY SOLIDS	< 5. MG/KG
COBALT IN DRY SOLIDS	< 5. MG/KG
CHROMIUM IN DRY SOLIDS	< 5. MG/KG
COPPER IN DRY SOLIDS	< 5. MG/KG
IRON IN DRY SOLIDS	1150. MG/KG
MANGANESE IN DRY SOLIDS	14. MG/KG
NICKEL IN DRY SOLIDS	< 5. MG/KG
STRONTIUM IN DRY SOLIDS	< 50. MG/KG
TITANIUM IN DRY SOLIDS	61. MG/KG
VANADIUM IN DRY SOLIDS	8. MG/KG
ZINC IN DRY SOLIDS	< 10. MG/KG
MOLYBDENUM IN DRY SOLIDS	< 20. MG/KG
LEAD IN DRY SOLIDS	< 40. MG/KG
ANTIMONY IN DRY SOLIDS	< 1. MG/KG
TIN IN DRY SOLIDS	< 50. MG/KG
THALLIUM IN DRY SOLIDS	2.7 MG/KG
ALUMINUM IN DRY SOLIDS	213. MG/KG
CALCIUM IN DRY SOLIDS	< 1000. MG/KG
POTASSIUM IN DRY SOLIDS	< 1000. MG/KG
MAGNESIUM IN DRY SOLIDS	39300. MG/KG
SODIUM IN DRY SOLIDS	240000. MG/KG
DIGESTION OF SOILS - CLP PROTOCOL	DONE

**** END OF REPORT ****

COPIES SENT TO: CO(1), RO( ), LPHE( ), FED( ), INFO-P( ), INFO-L( )

EDWARD BELMORE (RM. 222)
BUREAU OF WESTERN REMEDIAL ACTION
DEP'T. ENVIRONMENTAL CONSERVATION
50 WOLF RD.
ALBANY, NY 12233

SUBMITTED BY:FORCUCCI

1756 NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER FOR LABORATORIES AND RESEARCH

PAGE 1 RESULTS OF EXAMINATION FINAL REPORT

SAMPLE ID: 902646 SAMPLE RECEIVED:90/08/01/ CHARGE: 42.00
PROGRAM: 6501:DIV. HAZARDOUS WASTE REMED - BUR WESTERN REMEDIAL ACTION
SOURCE ID: DRAINAGE BASIN:03 GAZETTEER CODE:3155
POLITICAL SUBDIVISION:NIAGARA COUNTY:NIAGARA
LATITUDE:43 04 00. LONGITUDE:79 00 00. Z DIRECTION:
LOCATION: TAM CERAMICS, DRUM REMOVAL, HYDE PARK REMEDIAL PROJECT (TC-2) DRUM
DESCRIPTION:EAST END OF TAM CERAMICS, SOUTH OF HYDE PARK LANDFILL,RR
REPORTING LAB: TOX:LAB FOR ORGANIC ANALYTICAL CHEMISTRY
TEST PATTERN: VOL3SOIL:PURGEABLE HALO-ORGANICS - SOIL/SEDIMENT (DES 312-4)
SAMPLE TYPE: 999:OTHER/MISCELLANEOUS/UNCATAGORIZED SAMPLES
TIME OF SAMPLING: 90/07/31 15:10 DATE PRINTED:90/11/07

ANALYSIS: VHO5021S VOLATILE HALOGENATED ORGANICS-SOIL/SED.(DES 312-4)
BATCH ID: VHO5021S9009240934 DEFAULT MULTIPLIER: 20.
DATE PRINTED: 90/11/05 FINAL REPORT(REV)
VOL-PREP PREPARATION DATE-VOLATILE ANALYSIS CM 90/09/07
HALO_AN DATE OF ANALYSIS CM 90/09/07

PARAMETER		RESULT	
T62003	CHLOROMETHANE	[ND]	
T61803	BROMOMETHANE	[ND]	
T41003	VINYL CHLORIDE	[ND]	
T70203	DICHLORODIFLUOROMETHANE (FREON-12)	[ND]	
T61903	CHLOROETHANE	[ND]	
T23803	METHYLENE CHLORIDE (DICHLOROMETHAN	< 0.2	MCG/G
T61703	TRICHLOROFLUOROMETHANE (FREON-11)	[ND]	
T50903	1,1-DICHLOROETHENE	< 0.2	MCG/G
T51903	1,1-DICHLOROETHANE	< 0.2	MCG/G
T61203	TRANS-1,2-DICHLOROETHENE	< 0.2	MCG/G
T87603	CIS-1,2-DICHLOROETHENE	< 0.2	MCG/G
T39003	CHLOROFORM	< 0.2	MCG/G
T50803	1,2-DICHLOROETHANE	< 0.2	MCG/G
T88703	DIBROMOMETHANE	[ND]	
T23603	1,1,1-TRICHLOROETHANE	< 0.2	MCG/G
T36603	CARBON TETRACHLORIDE	< 0.2	MCG/G
T38903	BROMODICHLOROMETHANE	< 0.2	MCG/G
T18003	2,3-DICHLOROPROPENE	< 0.2	MCG/G
T61303	1,2-DICHLOROPROPANE	< 0.2	MCG/G
T61403	CIS-1,3-DICHLOROPROPENE	< 0.2	MCG/G
T41103	TRICHLOROETHENE	< 0.2	MCG/G
T11203	1,3-DICHLOROPROPANE	< 0.2	MCG/G
T44903	DIBROMOCHLOROMETHANE	< 0.2	MCG/G
T61503	TRANS-1,3-DICHLOROPROPENE	< 0.2	MCG/G
T51703	1,1,2-TRICHLOROETHANE	< 0.2	MCG/G
T60403	1,2-DIBROMOETHANE (EDB)	< 0.2	MCG/G
T61103	2-CHLOROETHYLVINYL ETHER	[ND]	

**** CONTINUED ON NEXT PAGE ****

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WADSWORTH LABS & RESEARCH
ORGANIC ANALYTICAL CHEMISTRY LAB
(COUNTY FILE COPY) SUBMITTED BY:FORCUCCI

1757 NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER FOR LABORATORIES AND RESEARCH

PAGE 2 RESULTS OF EXAMINATION FINAL REPORT

SAMPLE ID: 902646 SAMPLE RECEIVED:90/08/01/ CHARGE: 42.00
POLITICAL SUBDIVISION:NIAGARA COUNTY:NIAGARA
LOCATION: FAM CERAMICS, DRUM REMOVAL, HYDE PARK REMEDIAL PROJECT TC-2
TIME OF SAMPLING: 90/07/31 15:10 DATE PRINTED:90/11/07

PARAMETER		RESULT	
T42103	BROMOFORM	< 0.2 MCG/G	
T21003	1,1,1,2-TETRACHLOROETHANE	< 0.2 MCG/G	
T31003	1,2,3-TRICHLOROPROPANE	< 0.2 MCG/G	
T51803	1,1,2,2-TETRACHLOROETHANE	< 0.2 MCG/G	
T41203	TETRACHLOROETHENE	< 0.2 MCG/G	
T40003	PENTACHLOROETHANE	< 0.2 MCG/G	
T85203	1-CHLOROCYCLOHEXENE-1	[ND]	
T40903	CHLOROBENZENE	< 0.2 MCG/G	
T63903	BIS(2-CHLOROETHYL)ETHER	< 0.02 MS MCG/G	
REVISION DATE 90/11/02, ABOVE RESULT VALUE CHANGED, WAS:			
REVISION DATE 90/11/02, ABOVE NOTATION CHANGED, WAS: ND			
T38203	1,2-DIBROMO-3-CHLOROPROPANE	[ND]	
T51203	BROMOBENZENE	< 0.2 MCG/G	
T50403	O-CHLOROTOLUENE	< 0.2 MCG/G	
T68103	BIS(2-CHLOROISOPROPYL)ETHER	< 0.10 MS MCG/G	
REVISION DATE 90/11/02, ABOVE RESULT VALUE CHANGED, WAS:			
REVISION DATE 90/11/02, ABOVE NOTATION CHANGED, WAS: ND			
T49703	1,3-DICHLOROBENZENE	< 0.02 MS MCG/G	
REVISION DATE 90/11/02, ABOVE RESULT VALUE CHANGED, WAS:			< 0.2
T44103	1,2-DICHLOROBENZENE	< 0.02 MS MCG/G	
REVISION DATE 90/11/02, ABOVE RESULT VALUE CHANGED, WAS:			< 0.2
T44203	1,4-DICHLOROBENZENE	< 0.04 MS MCG/G	
REVISION DATE 90/11/02, ABOVE RESULT VALUE CHANGED, WAS:			< 0.2

ANALYSIS: 5031S VOLATILE ORGANICS - SOIL/SEDIMENT (DES 312-4)
BATCH ID: 5031S9009240933 DEFAULT MULTIPLIER: 20.
DATE PRINTED: 90/11/05 FINAL REPORT(REV)
AROM-AN DATE OF ANALYSIS CM 90/09/13

PARAMETER		RESULT	
T34403	BENZENE	< 0.2 MCG/G	
T39203	TOLUENE	< 0.2 MCG/G	
T51003	ETHYLBENZENE	< 0.2 MCG/G	
T51303	M/P-XYLENE	< 0.2 MCG/G	
T51403	O-XYLENE	< 0.2 MCG/G	
T85403	STYRENE	< 0.2 MCG/G	
T85303	ISOPROPYLBENZENE (CUMENE)	< 0.2 MCG/G	
T51103	N-PROPYLBENZENE	< 0.2 MCG/G	
T50503	M-CHLOROTOLUENE	< 0.2 MCG/G	
T50603	P-CHLOROTOLUENE	< 0.2 MCG/G	
T85803	1,3,5-TRIMETHYLBENZENE	< 0.2 MCG/G	
T85603	TERT-BUTYLBENZENE	< 0.2 MCG/G	
T85903	1,2,4-TRIMETHYLBENZENE	< 0.2 MCG/G	
T86203	SEC-BUTYLBENZENE	< 0.2 MCG/G	
T86003	4-ISOPROPYLTOLUENE (P-CYMENE)	< 0.2 MCG/G	
T86103	CYCLOPROPYLBENZENE	< 0.2 MCG/G	
T86303	N-BUTYLBENZENE	< 0.2 MCG/G	
T44003	1,2,4-TRICHLOROBENZENE	< 0.02 MS MCG/G	

**** CONTINUED ON NEXT PAGE ****

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER FOR LABORATORIES AND RESEARCH

PAGE 3 RESULTS OF EXAMINATION FINAL REPORT

SAMPLE ID: 902646 SAMPLE RECEIVED:90/08/01/ CHARGE: 42.00
POLITICAL SUBDIVISION:NIAGARA COUNTY:NIAGARA
LOCATION: TAM CERAMICS, DRUM REMOVAL, HYDE PARK REMEDIAL PROJECT TC-2
TIME OF SAMPLING: 90/07/31 15:10 DATE PRINTED:90/11/07
REVISION DATE 90/11/02, ABOVE RESULT VALUE CHANGED, WAS: < 0.2

PARAMETER	RESULT
T65603 NAPHTHALENE	< 0.02 MS MCG/G
REVISION DATE 90/11/02, ABOVE RESULT VALUE CHANGED, WAS:	< 0.2
T52503 HEXACHLOROBUTADIENE (C-46)	< 0.09 MS MCG/G
REVISION DATE 90/11/02, ABOVE RESULT VALUE CHANGED, WAS:	< 0.2
T43903 1,2,3-TRICHLOROBENZENE	< 0.2 MCG/G

FOLLOWING PARAMETERS NOT PART OF TEST PATTERN

ANALYSIS: CLP-SV-S CLP SEMIVOLATILES - SOLID SAMPLE (GC/MS)
BATCH ID: CLP-SV-S9008130549 DEFAULT MULTIPLIER: 1.0
DATE PRINTED: 90/11/05

CLP-EX	DATE EXTRACTED	FINAL REPORT CM 90/08/02
CLP-AN	DATE ANALYZED	CM 90/08/22

PARAMETER		RESULT
T65803	N-NITROSODIMETHYLAMINE	< 0.12 MCG/G
T18703	ANILINE	< 0.17 MCG/G
T67103	PHENOL	< 0.15 MCG/G
T66403	2-CHLOROPHENOL	< 0.02 MCG/G
T18403	BENZYL ALCOHOL	< 0.08 MCG/G
T72203	2-METHYL PHENOL	< 0.10 MCG/G
T72303	4-METHYL PHENOL	< 0.12 MCG/G
T65903	N-NITROSODI-N-PROPYLAMINE	< 0.17 MCG/G
T65303	HEXACHLOROETHANE	< 0.08 MCG/G
T65703	NITROBENZENE	< 0.08 MCG/G
T65503	ISOPHORONE	< 0.10 MCG/G
T66803	2-NITROPHENOL	< 0.15 MCG/G
T66603	2,4-DIMETHYLPHENOL	< 0.08 MCG/G
T85003	BENZOIC ACID	< 0.21 MCG/G
T68603	BIS(2-CHLOROETHOXY)METHANE	< 0.08 MCG/G
T66503	2,4-DICHLOROPHENOL	< 0.02 MCG/G
T19403	4-CHLOROANILINE	< 0.10 MCG/G
T66303	4-CHLORO-3-METHYLPHENOL	< 0.21 MCG/G
T19603	2-METHYLNAPHTHALENE	< 0.15 MCG/G
T49203	HEXACHLOROCYCLOPENTADIENE (C-56)	< 0.21 MCG/G
T67203	2,4,6-TRICHLOROPHENOL	< 0.15 MCG/G
T49603	2,4,5-TRICHLOROPHENOL	< 0.12 MCG/G
T64103	2-CHLORONAPHTHALENE	< 0.17 MCG/G
T19703	2-NITROANILINE	< 0.17 MCG/G
T64703	DIMETHYLPHTHALATE	< 0.17 MCG/G
T63103	ACENAPHTHYLENE	< 0.02 MCG/G
T20303	3-NITROANILINE	< 0.35 MCG/G
T63003	ACENAPHTHENE	< 0.02 MCG/G
T66703	2,4-DINITROPHENOL	< 0.83 MCG/G
T66903	4-NITROPHENOL	< 0.29 MCG/G
T19503	DIBENZOFURAN	< 0.12 MCG/G
T64803	2,4-DINITROTOLUENE	< 0.17 MCG/G

**** CONTINUED ON NEXT PAGE ****

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NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER FOR LABORATORIES AND RESEARCH

PAGE 4 RESULTS OF EXAMINATION FINAL REPORT

SAMPLE ID: 902646 SAMPLE RECEIVED:90/08/01/ CHARGE: 42.00
POLITICAL SUBDIVISION:NIAGARA COUNTY:NIAGARA
LOCATION: TAM CERAMICS, DRUM REMOVAL, HYDE PARK REMEDIAL PROJECT TC-2
TIME OF SAMPLING: 90/07/31 15:10 DATE PRINTED:90/11/07

PARAMETER		RESULT
T64903	2,6-DINITROTOLUENE	< 0.15 MCG/G
T64603	DIETHYLPHTHALATE	< 0.19 MCG/G
T68403	4-CHLOROPHENYL PHENYL ETHER	< 0.17 MCG/G
T65203	FLUORENE	< 0.17 MCG/G
T19803	4-NITROANILINE	< 0.64 MCG/G
T68503	2-METHYL-4,6-DINITROPHENOL	< 0.31 MCG/G
T66003	N-NITROSODIPHENYLAMINE	< 0.02 MCG/G
T68303	4-BROMOPHENYL PHENYL ETHER	< 0.04 MCG/G
T48803	HEXACHLOROBENZENE	< 0.06 MCG/G
T67003	PENTACHLOROPHENOL	< 0.10 MCG/G
T66103	PHENANTHRENE	< 0.02 MCG/G
T63203	ANTHRACENE	< 0.04 MCG/G
T64403	DI-N-BUTYL PHTHALATE	< 0.01 MCG/G
T68003	FLUORANTHENE	< 0.08 MCG/G
T63803	BENZIDINE	< 0.19 MCG/G
T66203	PYRENE	< 0.12 MCG/G
T64003	BUTYL BENZYL PHTHALATE	< 0.10 MCG/G
T64503	3,3'-DICHLOROBENZIDINE	< 0.27 MCG/G
T63303	BENZO(A)ANTHRACENE	< 0.02 MCG/G
T67903	BIS(2-ETHYLHEXYL)PHTHALATE	< 0.02 MCG/G
T64203	CHRYSENE	< 0.02 MCG/G
T65003	DI-N-OCTYL PHTHALATE	< 0.17 MCG/G
T63403	BENZO(B)FLUORANTHENE	< 0.06 MCG/G
T63503	BENZO(K)FLUORANTHENE	< 0.15 MCG/G
T63603	BENZO(A)PYRENE	< 0.06 MCG/G
T65403	INDENO(1,2,3-CD)PYRENE	< 0.17 MCG/G
T64303	DIBENZO(AH)ANTHRACENE	< 0.15 MCG/G
T63703	BENZO(GHI)PERYLENE	< 0.15 MCG/G

ANALYSIS: CLP-VOL-S CLP VOLATILES - SOIL (GC/MS)
BATCH ID: CLP-VOL-S9008140548 DEFAULT MULTIPLIER: 1.0
DATE REPORTED: 90/09/25 REPORT MAILED OUT
CLPV-AN DATE ANALYZED CM 90/09/13

PARAMETER		RESULT
T42003	ACETONE	140. MCG/G [BU]
T20103	CARBON DISULFIDE	7.6 MCG/G [EE]
T17003	2-BUTANONE (METHYL ETHYL KETONE)	< 10. MCG/G
T87003	VINYL ACETATE	< 30. MCG/G
T70603	4-METHYL-2-PENTANONE (MIBK)	< 20. MCG/G
T17703	2-HEXANONE (METHYL BUTYL KETONE)	< 20. MCG/G
T21103	TOTAL XYLENES	< 10. MCG/G

**** END OF REPORT ****

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER FOR LABORATORIES AND RESEARCH

PAGE 1 RESULTS OF EXAMINATION FINAL REPORT

SAMPLE ID: 901009509 SAMPLE RECEIVED:90/08/02/11 CHARGE: 7.60
PROGRAM: 6501:DIV. HAZARDOUS WASTE REMED - BUR WESTERN REMEDIAL ACTION
SOURCE ID: DRAINAGE BASIN:03 GAZETTEER CODE:3155
POLITICAL SUBDIVISION:NIAGARA COUNTY:NIAGARA
LATITUDE: . LONGITUDE: . Z DIRECTION:
LOCATION: TAM CERAMICS DRUM REMOVAL HYDE PARK REMEDIAL PROJECT TC-2
DESCRIPTION:E. END OF TAM CERAMICS S OF HYDE PARK LANDFILL
REPORTING LAB: 10:LABORATORY OF INORGANIC ANALYTICAL CHEMISTRY - ALBANY
TEST PATTERN: 10-195:SOILS - CLP PROCEDURE
SAMPLE TYPE: 999:OTHER/MISCELLANEOUS/UNCATAGORIZED SAMPLES
TIME OF SAMPLING: 90/07/31 15:10 DATE PRINTED:90/09/07

<> CHAIN OF CUSTODY FORM ACCOMPANIED THIS SAMPLE. <>

ANALYSIS: 10-195 SOILS - CLP PROCEDURE

PARAMETER	RESULT
SOLIDS, DRY	71. PERCENT
ARSENIC IN DRY SOLIDS	4.3 MG/KG
MERCURY IN DRY SOLIDS	< 0.1 MG/KG
SELENIUM IN DRY SOLIDS	4.3 MG/KG
BERYLLIUM IN DRY SOLIDS	< 1. MG/KG
SILVER IN DRY SOLIDS	52. MG/KG
BARIUM IN DRY SOLIDS	41. MG/KG
CADMIUM IN DRY SOLIDS	< 6. MG/KG
COBALT IN DRY SOLIDS	< 6. MG/KG
CHROMIUM IN DRY SOLIDS	< 6. MG/KG
COPPER IN DRY SOLIDS	< 6. MG/KG
IRON IN DRY SOLIDS	6820. MG/KG
MANGANESE IN DRY SOLIDS	88. MG/KG
NICKEL IN DRY SOLIDS	< 6. MG/KG
STRONTIUM IN DRY SOLIDS	< 60. MG/KG
TITANIUM IN DRY SOLIDS	92. MG/KG
VANADIUM IN DRY SOLIDS	10. MG/KG
ZINC IN DRY SOLIDS	21. MG/KG
MOLYBDENUM IN DRY SOLIDS	< 20. MG/KG
LEAD IN DRY SOLIDS	< 40. MG/KG
ANTIMONY IN DRY SOLIDS	< 1. MG/KG
TIN IN DRY SOLIDS	< 60. MG/KG
THALLIUM IN DRY SOLIDS	3.1 MG/KG
ALUMINUM IN DRY SOLIDS	2230. MG/KG
CALCIUM IN DRY SOLIDS	4870. MG/KG
POTASSIUM IN DRY SOLIDS	< 1000. MG/KG
MAGNESIUM IN DRY SOLIDS	20900. MG/KG
SODIUM IN DRY SOLIDS	269000. MG/KG
DIGESTION OF SOILS - CLP PROTOCOL	DONE

**** END OF REPORT ****

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EDWARD BELMORE (RM. 222)
BUREAU OF WESTERN REMEDIAL ACTION
DEP'T. ENVIRONMENTAL CONSERVATION
50 WOLF RD.
ALBANY, NY 12233

SUBMITTED BY:FORCUCCI

1760 NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER FOR LABORATORIES AND RESEARCH

PAGE 1 RESULTS OF EXAMINATION FINAL REPORT

SAMPLE ID: 902647 SAMPLE RECEIVED:90/08/01/ CHARGE: 42.00
PROGRAM: 6501:DIV. HAZARDOUS WASTE REMED - BUR WESTERN REMEDIAL ACTION
SOURCE ID: DRAINAGE BASIN:03 GAZETTEER CODE:3155
POLITICAL SUBDIVISION:NIAGARA COUNTY:NIAGARA
LATITUDE:43 04 00. LONGITUDE:79 00 00. Z DIRECTION:
LOCATION: TAM CERAMICS, DRUM REMOVAL, HYDE PARK REMEDIAL PROJECT, TC-3 So.
DESCRIPTION:EAST END OF TAM CERAMICS,SOUTH OF HYDE PARK LANDFILL, RR
REPORTING LAB: TOX:LAB FOR ORGANIC ANALYTICAL CHEMISTRY
TEST PATTERN: VOL3SOIL:PURGEABLE HALO-ORGANICS - SOIL/SEDIMENT (DES 312-4)
SAMPLE TYPE: 999:OTHER/MISCELLANEOUS/UNCATAGORIZED SAMPLES
TIME OF SAMPLING: 90/07/31 15:10 DATE PRINTED:90/11/07

ANALYSIS: VHO5021S VOLATILE HALOGENATED ORGANICS-SOIL/SED.(DES 312-4)
BATCH ID: VHO5021S9009240934 DEFAULT MULTIPLIER: 20.
DATE PRINTED: 90/11/05 FINAL REPORT(REV)
VOL-PREP PREPARATION DATE-VOLATILE ANALYSIS CM 90/09/07
HALO-AN DATE OF ANALYSIS CM 90/09/07

	PARAMETER	RESULT
T62003	CHLOROMETHANE	[ND]
T61803	BROMOMETHANE	[ND]
T41003	VINYL CHLORIDE	[ND]
T70203	DICHLORODIFLUOROMETHANE (FREON-12)	[ND]
T61903	CHLOROETHANE	[ND]
T23803	METHYLENE CHLORIDE (DICHLOROMETHAN	< 0.2 MCG/G
T61703	TRICHLOROFLUOROMETHANE (FREON-11)	[ND]
T50903	1,1-DICHLOROETHENE	< 0.2 MCG/G
T51903	1,1-DICHLOROETHANE	< 0.2 MCG/G
T61203	TRANS-1,2-DICHLOROETHENE	< 0.2 MCG/G
T87603	CIS-1,2-DICHLOROETHENE	< 0.2 MCG/G
T39003	CHLOROFORM	< 0.2 MCG/G
T50803	1,2-DICHLOROETHANE	< 0.2 MCG/G
T88703	DIBROMOMETHANE	[ND]
T23603	1,1,1-TRICHLOROETHANE	< 0.2 MCG/G
T36603	CARBON TETRACHLORIDE	< 0.2 MCG/G
T38903	BROMODICHLOROMETHANE	< 0.2 MCG/G
T18003	2,3-DICHLOROPROPENE	< 0.2 MCG/G
T61303	1,2-DICHLOROPROPANE	< 0.2 MCG/G
T61403	CIS-1,3-DICHLOROPROPENE	< 0.2 MCG/G
T41103	TRICHLOROETHENE	< 0.2 MCG/G
T11203	1,3-DICHLOROPROPANE	< 0.2 MCG/G
T44903	DIBROMOCHLOROMETHANE	< 0.2 MCG/G
T61503	TRANS-1,3-DICHLOROPROPENE	< 0.2 MCG/G
T51703	1,1,2-TRICHLOROETHANE	< 0.2 MCG/G
T60403	1,2-DIBROMOETHANE (EDB)	< 0.2 MCG/G
T61103	2-CHLOROETHYLVINYL ETHER	[ND]

**** CONTINUED ON NEXT PAGE ****

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WADSWORTH LABS & RESEARCH
ORGANIC ANALYTICAL CHEMISTRY LAB
(COUNTY FILE COPY) SUBMITTED BY:FORCUCCI

1761 NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORT CENTER FOR LABORATORIES AND RESEARCH

PAGE 2 RESULTS OF EXAMINATION FINAL REPORT

SAMPLE ID: 902647 SAMPLE RECEIVED:90/08/01/ CHARGE: 42.00-
POLITICAL SUBDIVISION:NIAGARA COUNTY:NIAGARA
LOCATION: TAN CERAM 'S, DRUM REMOVAL, HYDE PARK REMEDIAL PROJECT, TC-3
TIME OF SAMPLING: 90/07/31 15:10 DATE PRINTED:90/11/07

PARAMETER	RESULT
T42103 BROMOFORM	< 0.2 MCG/G
T21003 1,1,1,2-TETRACHLOROETHANE	< 0.2 MCG/G
I31003 1,2,3-TRICHLOROPROPANE	< 0.2 MCG/G
I51803 1,1,2,2-TETRACHLOROETHANE	< 0.2 MCG/G
T41203 TETRACHLOROETHENE	< 0.2 MCG/G
I40003 PENTACHLOROETHANE	< 0.2 MCG/G
T85203 1-CHLOROCYCLOHEXENE-1	[ND]
I40903 CHLOROBENZENE	< 0.2 MCG/G
I63903 BIS(2-CHLOROETHYL)ETHER	< 0.02 MS MCG/G
REVISION DATE 90/11/02, ABOVE RESULT VALUE CHANGED, WAS:	
REVISION DATE 90/11/02, ABOVE NOTATION CHANGED, WAS: ND	
I38203 1,2-DIBROMO-3-CHLOROPROPANE	[ND]
I51203 BROMOBENZENE	< 0.2 MCG/G
T50403 O-CHLOROTOLUENE	< 0.2 MCG/G
I68103 BIS(2-CHLOROISOPROPYL)ETHER	< 0.11 MS MCG/G
REVISION DATE 90/11/02, ABOVE RESULT VALUE CHANGED, WAS:	
REVISION DATE 90/11/02, ABOVE NOTATION CHANGED, WAS: ND	
I49703 1,3-DICHLOROBENZENE	< 0.02 MS MCG/G
REVISION DATE 90/11/02, ABOVE RESULT VALUE CHANGED, WAS:	< 0.2
I44103 1,2-DICHLOROBENZENE	< 0.02 MS MCG/G
REVISION DATE 90/11/02, ABOVE RESULT VALUE CHANGED, WAS:	< 0.2
I44203 1,4-DICHLOROBENZENE	< 0.04 MS MCG/G
REVISION DATE 90/11/02, ABOVE RESULT VALUE CHANGED, WAS:	< 0.2

ANALYSIS: 5031S VOLATILE ORGANICS - SOIL/SEDIMENT (DES 312-4)
BATCH ID: 5031S9009240933 DEFAULT MULTIPLIER: 20.
DATE PRINTED: 90/11/05 FINAL REPORT(REV)
AROM-AN DATE OF ANALYSIS CM 90/09/13

PARAMETER	RESULT
T34403 BENZENE	< 0.2 MCG/G
T39203 TOLUENE	< 0.2 MCG/G
T51003 ETHYLBENZENE	< 0.2 MCG/G
T51303 M/P-XYLENE	< 0.2 MCG/G
T51403 O-XYLENE	< 0.2 MCG/G
T85403 STYRENE	< 0.2 MCG/G
T85303 ISOPROPYLBENZENE (CUMENE)	< 0.2 MCG/G
T51103 N-PROPYLBENZENE	< 0.2 MCG/G
T50503 M-CHLOROTOLUENE	< 0.2 MCG/G
T50603 P-CHLOROTOLUENE	< 0.2 MCG/G
T85803 1,3,5-TRIMETHYLBENZENE	< 0.2 MCG/G
T85603 TERT-BUTYLBENZENE	< 0.2 MCG/G
T85903 1,2,4-TRIMETHYLBENZENE	< 0.2 MCG/G
T86203 SEC-BUTYLBENZENE	< 0.2 MCG/G
T86003 4-ISOPROPYLTOLUENE (P-CYMENE)	< 0.2 MCG/G
T86103 CYCLOPROPYLBENZENE	< 0.2 MCG/G
T86303 N-BUTYLBENZENE	< 0.2 MCG/G
T44003 1,2,4-TRICHLOROBENZENE	< 0.02 MS MCG/G

**** CONTINUED ON NEXT PAGE ****

1762 NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER FOR LABORATORIES AND RESEARCH

PAGE 3 RESULTS OF EXAMINATION FINAL REPORT

SAMPLE ID: 902647 SAMPLE RECEIVED:90/08/01/ CHARGE: 42.00
POLITICAL SUBDIVISION:NIAGARA COUNTY:NIAGARA
LOCATION: TAH CERAMICS, DRUM REMOVAL, HYDE PARK REMEDIAL PROJECT, TC-3
TIME OF SAMPLING: 90/07/3 15:10 DATE PRINTED:90/11/07
REVISION DATE 90/11/02, ABOVE RESULT VALUE CHANGED, WAS: < 0.2

PARAMETER		RESULT
T65603	NAPHTHALENE	< 0.02 MS MCG/G
REVISION DATE 90/11/02, ABOVE RESULT VALUE CHANGED, WAS:		< 0.2
T52503	HEXACHLOROBUTADIENE (C-46)	< 0.09 MS MCG/G
REVISION DATE 90/11/02, ABOVE RESULT VALUE CHANGED, WAS:		< 0.2
T43903	1,2,3-TRICHLOROBENZENE	< 0.2 MCG/G

FOLLOWING PARAMETERS NOT PART OF TEST PATTERN

ANALYSIS: CLP-SV-S CLP SEMIVOLATILES - SOLID SAMPLE (GC/MS)
BATCH ID: CLP-SV-S9008130549 DEFAULT MULTIPLIER: 1.0
DATE PRINTED: 90/11/05

CLP-EX	DATE EXTRACTED	FINAL REPORT
CLP-AN	DATE ANALYZED	CM 90/08/02
		CM 90/10/05

PARAMETER		RESULT
T65803	N-NITROSODIMETHYLAMINE	< 0.13 MCG/G
T18703	ANILINE	< 0.17 MCG/G
T67103	PHENOL	< 0.15 MCG/G
T66403	2-CHLOROPHENOL	< 0.02 MCG/G
T18403	BENZYL ALCOHOL	< 0.09 MCG/G
T72203	2-METHYL PHENOL	< 0.11 MCG/G
T72303	4-METHYL PHENOL	< 0.13 MCG/G
T65903	N-NITROSODI-N-PROPYLAMINE	< 0.17 MCG/G
T65303	HEXACHLOROETHANE	< 0.09 MCG/G
T65703	NITROBENZENE	< 0.09 MCG/G
T65503	ISOPHORONE	< 0.11 MCG/G
T66803	2-NITROPHENOL	< 0.15 MCG/G
T66603	2,4-DIMETHYLPHENOL	< 0.09 MCG/G
T85003	BENZOIC ACID	< 0.22 MCG/G
T68603	BIS(2-CHLOROETHOXY)METHANE	< 0.09 MCG/G
T66503	2,4-DICHLOROPHENOL	< 0.02 MCG/G
T19403	4-CHLOROANILINE	< 0.11 MCG/G
T66303	4-CHLORO-3-METHYLPHENOL	< 0.22 MCG/G
T19603	2-METHYLNAPHTHALENE	< 0.15 MCG/G
T49203	HEXACHLOROCYCLOPENTADIENE (C-56)	< 0.22 MCG/G
T67203	2,4,6-TRICHLOROPHENOL	< 0.15 MCG/G
T49603	2,4,5-TRICHLOROPHENOL	< 0.13 MCG/G
T64103	2-CHLORONAPHTHALENE	< 0.17 MCG/G
T19703	2-NITROANILINE	< 0.17 MCG/G
T64703	DIMETHYLPHTHALATE	< 0.17 MCG/G
T63103	ACENAPHTHYLENE	< 0.02 MCG/G
T20303	3-NITROANILINE	< 0.37 MCG/G
T63003	ACENAPHTHENE	< 0.02 MCG/G
T66703	2,4-DINITROPHENOL	< 0.87 MCG/G
T66903	4-NITROPHENOL	< 0.30 MCG/G
T19503	DIBENZOFURAN	< 0.13 MCG/G
T64803	2,4-DINITROTOLUENE	< 0.17 MCG/G

**** CONTINUED ON NEXT PAGE ****

1763 NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER FOR LABORATORIES AND RESEARCH

PAGE 4 RESULTS OF EXAMINATION FINAL REPORT

SAMPLE ID: 902647 SAMPLE RECEIVED:90/08/01/ CHARGE: 42.00
POLITICAL SUBDIVISION:NIAGARA COUNTY:NIAGARA
LOCATION: TAM CERAMICS, DRUM REMOVAL, HYDE PARK REMEDIAL PROJECT, TC-3
TIME OF SAMPLING: 90/07/31 15:10 DATE PRINTED:90/11/07

PARAMETER		RESULT
T64903	2,6-DINITROTOLUENE	< 0.15 MCG/G
T64603	DIETHYLPHTHALATE	< 0.20 MCG/G
T68403	4-CHLOROPHENYL PHENYL ETHER	< 0.17 MCG/G
T65203	FLUORENE	< 0.17 MCG/G
T19803	4-NITROANILINE	< 0.68 MCG/G
T68503	2-METHYL-4,6-DINITROPHENOL	< 0.33 MCG/G
T66003	N-NITROSODIPHENYLAMINE	< 0.02 MCG/G
T68303	4-BROMOPHENYL PHENYL ETHER	< 0.04 MCG/G
T48803	HEXACHLOROBENZENE	< 0.07 MCG/G
T67003	PENTACHLOROPHENOL	< 0.11 MCG/G
T66103	PHENANTHRENE	< 0.02 MCG/G
T63203	ANTHRACENE	< 0.04 MCG/G
T64403	DI-N-BUTYL PHTHALATE	< 0.15 MCG/G
T68003	FLUORANTHENE	< 0.09 MCG/G
T63803	BENZIDINE	< 0.20 MCG/G
T66203	PYRENE	< 0.13 MCG/G
T64003	BUTYL BENZYL PHTHALATE	< 0.11 MCG/G
T64503	3,3'-DICHLOROBENZIDINE	< 0.28 MCG/G
T63303	BENZO(A)ANTHRACENE	< 0.02 MCG/G
T67903	BIS(2-ETHYLHEXYL)PHTHALATE	< 0.20 MCG/G
T64203	CHRYSENE	< 0.02 MCG/G
T65003	DI-N-OCTYL PHTHALATE	< 0.17 MCG/G
T63403	BENZO(B)FLUORANTHENE	< 0.07 MCG/G
T63503	BENZO(K)FLUORANTHENE	< 0.15 MCG/G
T63603	BENZO(A)PYRENE	< 0.07 MCG/G
T65403	INDENO(1,2,3-CD)PYRENE	< 0.17 MCG/G
T64303	DIBENZO(AH)ANTHRACENE	< 0.15 MCG/G
T63703	BENZO(GHI)PERYLENE	< 0.15 MCG/G

ANALYSIS: CLP-VOL-S CLP VOLATILES - SOIL (GC/MS)
BATCH ID: CLP-VOL-89008140548 DEFAULT MULTIPLIER: 1.0
DATE REPORTED: 90/09/25 REPORT MAILED OUT
CLPV-AN DATE ANALYZED CM 90/09/13

PARAMETER		RESULT
T42003	ACETONE	150. MCG/G [SU]
T20103	CARBON DISULFIDE	6.7 MCG/G [EE]
T17003	2-BUTANONE (METHYL ETHYL KETONE)	11. MCG/G [SU]
T87003	VINYL ACETATE	< 30. MCG/G
T70603	4-METHYL-2-PENTANONE (MIBK)	< 20. MCG/G
T17703	2-HEXANONE (METHYL BUTYL KETONE)	< 20. MCG/G
T21103	TOTAL XYLENES	< 10. MCG/G

**** END OF REPORT ****

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER FOR LABORATORIES AND RESEARCH

PAGE 1 RESULTS OF EXAMINATION FINAL REPORT

SAMPLE ID: 901009510 SAMPLE RECEIVED:90/08/02/11 CHARGE: 7.60
PROGRAM: 6501:DIV. HAZARDOUS WASTE REMED - BUR WESTERN REMEDIAL ACTION
SOURCE ID: DRAINAGE BASIN:03 GAZETTEER CODE:3155
POLITICAL SUBDIVISION:NIAGARA COUNTY:NIAGARA
LATITUDE: . LONGITUDE: . Z DIRECTION:
LOCATION: TAM CERAMICS DRUM REMOVAL HYDE PARK REMEDIAL PROJECT TC-3
DESCRIPTION:EAST END OF TAM CERAMIS SOUTH OF HYDE PARK LANDFILL
REPORTING LAB: 10:LABORATORY OF INORGANIC ANALYTICAL CHEMISTRY - ALBANY
TEST PATTERN: 10-195:SOILS - CLP PROCEDURE
SAMPLE TYPE: 999:OTHER/MISCELLANEOUS/UNCATAGORIZED SAMPLES
TIME OF SAMPLING: 90/07/31 15:10 DATE PRINTED:90/09/07

<> CHAIN OF CUSTODY FORM ACCOMPANIED THIS SAMPLE. <>

ANALYSIS: 10-195 SOILS - CLP PROCEDURE

PARAMETER	RESULT
SOLIDS, DRY	82. PERCENT
ARSENIC IN DRY SOLIDS	5.9 MG/KG
MERCURY IN DRY SOLIDS	< 0.2 MG/KG
SELENIUM IN DRY SOLIDS	< 1. MG/KG
BERYLLIUM IN DRY SOLIDS	< 1. MG/KG
SILVER IN DRY SOLIDS	50. MG/KG ~
BARIUM IN DRY SOLIDS	146. MG/KG ~
CADMIUM IN DRY SOLIDS	< 5. MG/KG
COBALT IN DRY SOLIDS	< 5. MG/KG
CHROMIUM IN DRY SOLIDS	5. MG/KG
COPPER IN DRY SOLIDS	8. MG/KG
IRON IN DRY SOLIDS	6880. MG/KG
MANGANESE IN DRY SOLIDS	134. MG/KG
NICKEL IN DRY SOLIDS	7. MG/KG
STRONTIUM IN DRY SOLIDS	< 50. MG/KG
TITANIUM IN DRY SOLIDS	200. MG/KG
VANADIUM IN DRY SOLIDS	11. MG/KG
ZINC IN DRY SOLIDS	37. MG/KG
MOLYBDENUM IN DRY SOLIDS	< 20. MG/KG
LEAD IN DRY SOLIDS	< 40. MG/KG
ANTIMONY IN DRY SOLIDS	< 1. MG/KG
TIN IN DRY SOLIDS	< 50. MG/KG
THALLIUM IN DRY SOLIDS	< 2. MG/KG
ALUMINUM IN DRY SOLIDS	3120. MG/KG
CALCIUM IN DRY SOLIDS	8460. MG/KG
POTASSIUM IN DRY SOLIDS	< 1000. MG/KG
MAGNESIUM IN DRY SOLIDS	30700. MG/KG
SODIUM IN DRY SOLIDS	209000. MG/KG
DIGESTION OF SOILS - CLP PROTOCOL	DONE

**** END OF REPORT ****

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EDWARD BELMORE (RM. 222)
BUREAU OF WESTERN REMEDIAL ACTION
DEP'T. ENVIRONMENTAL CONSERVATION
50 WOLF RD.
ALBANY, NY 12233

SUBMITTED BY:FORCUCCI

REFERENCE 16

Occidental Chemical Corporation
HOOKER Industrial & Specialty Chemicals

PUMP WELL INSTALLATION and PUMP TEST RESULTS

Hyde Park Remedial Program
December, 1983

Volume II - Appendices

REFERENCE 17

ORGANIC DATA COMMENT PAGE

TAMS

Laboratory Name RECRA ENVIRONMENTAL, INC.

USEPA Defined Organic Data Qualifiers:

U - Indicates compound was analyzed for but not detected.

J - Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the mass spectral data indicate the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero.

C - This flag applies to pesticide results where the identification has been confirmed by GC/MS.

B - This flag is used when the analyte is found in the associated blank as well as in the sample.

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

D - This flag identifies all compounds identified in an analysis at a secondary dilution factor.

G - The TCLP Matrix Spike recovery was greater than the upper limit of the analytical method.

L - The TCLP Matrix Spike recovery was lower than the lower limit of the analytical method.

T - This flag is used when the analyte is found in the associated TCLP extraction as well as in the sample.

Laboratory Name RECRA ENVIRONMENTAL, INC.

USEPA Defined Organic Data Qualifiers:

N - Indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds, where the identification is based on a mass spectral library search. It is applied to all TIC results.

P - This flag is used for a pesticide/Aroclor target analyte when there is greater than 25% difference for detected concentrations between the two GC columns. The lower of the two values is reported on Form I and flagged with a "P".

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

A60901

Lab Name: RECRA ENVIRON Contract: C002412

Lab Code: RECNY Case No.: SH092 SAS No.: _____ SDG No.: 0512

Matrix: (soil/water) SOIL Lab Sample ID: AS011185

Sample wt/vol: 5.3 (g/mL) G Lab File ID: G3316

Level: (low/med) LOW Date Received: 05/12/92

% Moisture: not dec. 83 Date Analyzed: 05/15/92

GC Column: SP-1000 ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	55	U
74-83-9	Bromomethane	55	U
75-01-4	Vinyl Chloride	55	U
75-00-3	Chloroethane	55	U
75-09-2	Methylene Chloride	4	J
67-64-1	Acetone	72	
75-15-0	Carbon Disulfide	55	U
75-35-4	1,1-Dichloroethene	55	U
75-34-3	1,1-Dichloroethane	55	U
540-59-0	1,2-Dichloroethene (total)	55	U
67-66-3	Chloroform	55	U
107-06-2	1,2-Dichloroethane	55	U
78-93-3	2-Butanone	55	U
71-55-6	1,1,1-Trichloroethane	55	U
56-23-5	Carbon Tetrachloride	55	U
75-27-4	Bromodichloromethane	55	U
78-87-5	1,2-Dichloropropane	55	U
10061-01-5	cis-1,3-dichloropropene	55	U
79-01-6	Trichloroethene	55	U
124-48-1	Dibromochloromethane	55	U
79-00-5	1,1,2-Trichloroethane	55	U
71-43-2	Benzene	55	U
10061-02-6	trans-1,3-dichloropropeme	55	U
75-25-2	Bromoform	55	U
108-10-1	4-Methyl-2-Pentanone	55	U
591-78-6	2-Hexanone	55	U
127-18-4	Tetrachloroethene	55	U
79-34-5	1,1,2,2-Tetrachloroethane	55	U
108-88-3	Toluene	55	U
108-90-7	Chlorobenzene	55	U
100-41-4	Ethylbenzene	55	U
100-42-5	Styrene	55	U
1330-20-7	Total Xylenes	55	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

A60901

Lab Name: RECRA ENVIRON Contract: C002412

Lab Code: RECNY Case No.: SH092 SAS No.: _____ SDG No.: 0512

Matrix: (soil/water) SOIL Lab Sample ID: AS011185

Sample wt/vol: 5.3 (g/mL) G Lab File ID: G3316

Level: (low/med) LOW Date Received: 05/12/92

% Moisture: not dec. 83 Date Analyzed: 05/15/92

GC Column: SP-1000 ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

A60904

Lab Name: RECRA ENVIRON Contract: C002412

Lab Code: RECNY Case No.: SH092 SAS No.: _____ SDG No.: 0512

Matrix: (soil/water) SOIL Lab Sample ID: AS011188

Sample wt/vol: 4.0 (g/mL) G Lab File ID: L0259

Level: (low/med) MED Date Received: 05/12/92

% Moisture: not dec. _____ Date Analyzed: 05/14/92

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: 10000 (uL) Soil Aliquot Volume: 100 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	1200	U
74-83-9	Bromomethane	1200	U
75-01-4	Vinyl Chloride	1200	U
75-00-3	Chloroethane	1200	U
75-09-2	Methylene Chloride	1200	U
67-64-1	Acetone	1200	U
75-15-0	Carbon Disulfide	1200	U
75-35-4	1,1-Dichloroethene	1200	U
75-34-3	1,1-Dichloroethane	1200	U
540-59-0	1,2-Dichloroethene (total)	1200	U
67-66-3	Chloroform	1200	U
107-06-2	1,2-Dichloroethane	1200	U
78-93-3	2-Butanone	1200	U
71-55-6	1,1,1-Trichloroethane	1200	U
56-23-5	Carbon Tetrachloride	1200	U
75-27-4	Bromodichloromethane	1200	U
78-87-5	1,2-Dichloropropane	1200	U
10061-01-5	cis-1,3-dichloropropene	1200	U
79-01-6	Trichloroethene	1200	U
124-48-1	Dibromochloromethane	1200	U
79-00-5	1,1,2-Trichloroethane	1200	U
71-43-2	Benzene	1200	U
10061-02-6	trans-1,3-dichloropropene	1200	U
75-25-2	Bromoform	1200	U
108-10-1	4-Methyl-2-Pentanone	1200	U
591-78-6	2-Hexanone	1200	U
127-18-4	Tetrachloroethene	1200	U
79-34-5	1,1,2,2-Tetrachloroethane	1200	U
108-88-3	Toluene	1200	U
108-90-7	Chlorobenzene	1200	U
100-41-4	Ethylbenzene	1200	U
100-42-5	Styrene	1200	U
1330-20-7	Total Xylenes	1200	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

A60904

Lab Name: RECRA ENVIRON Contract: C002412

Lab Code: RECNY Case No.: SH092 SAS No.: _____ SDG No.: 0512

Matrix: (soil/water) SOIL Lab Sample ID: AS011188

Sample wt/vol: 4.0 (g/mL) G Lab File ID: L0259

Level: (low/med) MED Date Received: 05/12/92

% Moisture: not dec. _____ Date Analyzed: 05/14/92

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: 10000 (uL) Soil Aliquot Volume: 100 (uL)

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

A60901

Lab Name: RECRA ENVIRON Contract: C002412

Lab Code: RECNY Case No.: SH092 SAS No.: _____ SDG No.: 0512

Matrix: (soil/water) SOIL Lab Sample ID: AS011185

Sample wt/vol: 30.2 (g/mL) G Lab File ID: 11108Z

Level: (low/med) LOW Date Received: 05/12/92

% Moisture: 72 decanted: (Y/N) N Date Extracted: 05/16/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 05/26/92

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 5.4

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	1200	U
111-44-4	bis(2-Chloroethyl)Ether	1200	U
95-57-8	2-Chlorophenol	1200	U
541-73-1	1,3-Dichlorobenzene	1200	U
106-46-7	1,4-Dichlorobenzene	1200	U
95-50-1	1,2-Dichlorobenzene	1200	U
95-48-7	2-Methylphenol	1200	U
108-60-1	2,2'-oxybis(1-Chloropropane)	1200	U
106-44-5	4-Methylphenol	1200	U
621-64-7	N-Nitroso-Di-n-Propylamine	1200	U
67-72-1	Hexachloroethane	1200	U
98-95-3	Nitrobenzene	1200	U
78-59-1	Isophorone	1200	U
88-75-5	2-Nitrophenol	1200	U
105-67-9	2,4-Dimethylphenol	1200	U
111-91-1	bis(2-Chloroethoxy)Methane	1200	U
120-83-2	2,4-Dichlorophenol	1200	U
120-82-1	1,2,4-Trichlorobenzene	1200	U
91-20-3	Naphthalene	1200	U
106-47-8	4-Chloroaniline	1200	U
87-68-3	Hexachlorobutadiene	1200	U
59-50-7	4-Chloro-3-Methylphenol	1200	U
91-57-6	2-Methylnaphthalene	1200	U
77-47-4	Hexachlorocyclopentadiene	1200	U
88-06-2	2,4,6-Trichlorophenol	1200	U
95-95-4	2,4,5-Trichlorophenol	2800	U
91-58-7	2-Chloronaphthalene	1200	U
88-74-4	2-Nitroaniline	2800	U
131-11-3	Dimethyl Phthalate	1200	U
208-96-8	Acenaphthylene	1200	U
606-20-2	2,6-Dinitrotoluene	1200	U
99-09-2	3-Nitroaniline	2800	U
83-32-9	Acenaphthene	1200	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

A60901

Lab Name: RECRA ENVIRON Contract: C002412

Lab Code: RECNY Case No.: SH092 SAS No.: _____ SDG No.: 0512

Matrix: (soil/water) SOIL Lab Sample ID: AS011185

Sample wt/vol: 30.2 (g/mL) G Lab File ID: 11108Z

Level: (low/med) LOW Date Received: 05/12/92

% Moisture: 72 decanted: (Y/N) N Date Extracted: 05/16/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 05/26/92

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 5.4

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	2800	U
100-02-7	4-Nitrophenol	2800	U
132-64-9	Dibenzofuran	1200	U
121-14-2	2,4-Dinitrotoluene	1200	U
84-66-2	Diethylphthalate	1200	U
7005-72-3	4-Chlorophenyl-phenylether	1200	U
86-73-7	Fluorene	1200	U
100-01-6	4-Nitroaniline	2800	U
534-52-1	4,6-Dinitro-2-Methylphenol	2800	U
86-30-6	N-Nitrosodiphenylamine (1)	1200	U
101-55-3	4-Bromophenyl-phenylether	1200	U
118-74-1	Hexachlorobenzene	1200	U
87-86-5	Pentachlorophenol	2800	U
85-01-8	Phenanthrene	1200	U
120-12-7	Anthracene	1200	U
86-74-8	Carbazole	1200	U
84-74-2	Di-n-Butylphthalate	1200	U
206-44-0	Fluoranthene	1200	U
129-00-0	Pyrene	1200	U
85-68-7	Butylbenzylphthalate	1200	U
91-94-1	3,3'-Dichlorobenzidine	1200	U
56-55-3	Benzo(a)Anthracene	1200	U
218-01-9	Chrysene	1200	U
117-81-7	Bis(2-Ethylhexyl)Phthalate	5500	
117-84-0	Di-n-Octyl Phthalate	1200	U
205-99-2	Benzo(b)Fluoranthene	1200	U
207-08-9	Benzo(k)Fluoranthene	1200	U
50-32-8	Benzo(a)Pyrene	1200	U
193-39-5	Indeno(1,2,3-cd)Pyrene	1200	U
53-70-3	Dibenz(a,h)Anthracene	1200	U
191-24-2	Benzo(g,h,i)Perylene	1200	U

1F

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

A60901

Lab Name: RECRA ENVIRON Contract: C002412

Lab Code: RECNY Case No.: SH992 SAS No.: _____ SDG No.: 0512

Matrix: (soil/water) SOIL Lab Sample ID: AS011185

Sample wt/vol: 30.2 (g/mL) G Lab File ID: 11108Z

Level: (low/med) LOW Date Received: 05/12/92

% Moisture: 72 decanted: (Y/N) N Date Extracted: 05/16/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 05/26/92

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 5.4

Number TICs found: 6 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UKNOWN	5.02	650	BJ
2.		UKNOWN	5.77	2000	BJ
3.		UKNOWN	8.25	760	J
4.		UKNOWN	17.64	270	J
5.		UKNOWN ACID	22.92	300	J
6.		UKNOWN	25.34	380	J

A60904

Lab Name: RECRA ENVIRON Contract: C002412

Lab Code: RECNY Case No.: SH092 SAS No.: _____ SDG No.: 0512

Matrix: (soil/water) WATER Lab Sample ID: AS011188

Sample wt/vol: 950 (g/mL) ML Lab File ID: 11021X

Level: (low/med) LOW Date Received: 05/12/92

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/15/92

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 05/21/92

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND		Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	26	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	26	U
131-11-3	Dimethyl Phthalate	2	J
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
99-09-2	3-Nitroaniline	26	U
83-32-9	Acenaphthene	10	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

A60904

Lab Name: RECRA ENVIRON Contract: C002412

Lab Code: RECNY Case No.: SH092 SAS No.: _____ SDG No.: 0512

Matrix: (soil/water) WATER Lab Sample ID: AS011188

Sample wt/vol: 950 (g/mL) ML Lab File ID: I1021X

Level: (low/med) LOW Date Received: 05/12/92

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/15/92

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 05/21/92

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS (ug/L or ug/Kg) UG/L	Q
51-28-5	2,4-Dinitrophenol	52	U
100-02-7	4-Nitrophenol	26	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	26	U
534-52-1	4,6-Dinitro-2-Methylphenol	26	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	6	J
87-86-5	Pentachlorophenol	26	U
85-01-8	Phenanthrene	0.2	J
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	0.4	J
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	Bis(2-Ethylhexyl)Phthalate	10	U
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

1F

EPA SAMPLE NO. 33

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

A60904

Lab Name: RECRA ENVIRON Contract: C002412

Lab Code: RECNY Case No.: SH992 SAS No.: _____ SDG No.: 0512

Matrix: (soil/water) WATER Lab Sample ID: AS011188

Sample wt/vol: 950 (g/mL) ML Lab File ID: 11021X

Level: (low/med) LOW Date Received: 05/12/92

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/15/92

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 05/21/92

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

Number TICs found: 20 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		OXYGENATED COMPOUND	6.07	9	BJ
2.	96-23-1	2-PROPANOL,1,3-DICHLORO	6.22	24	JN
3.		OXYGENATED COMPOUND	6.55	37	J
4.		UKNOWN	7.03	53	BJ
5.		BUTOXYETHOXY-ETHANOL DERIVAT	12.77	150	J
6.		UKNOWN	14.89	15	J
7.		UKNOWN	15.30	9	J
8.		BENZALDEHYDE DERIVATIVE	16.55	33	J
9.		UKNOWN	17.10	24	J
10.		ETHANONE DERIVATIVE	17.97	8	J
11.		UKNOWN	19.60	36	J
12.		BENZALDEHYDE DERIVATIVE	20.74	57	J
13.		UKNOWN	22.97	5	J
14.		UKNOWN	23.25	5	J
15.		UKNOWN ACID	24.67	7	J
16.	10544-50-0	SULFUR	25.79	6	JN
17.		UKNOWN	26.84	9	J
18.		UKNOWN ACID	27.11	6	J
19.		UKNOWN	31.22	5	J
20.		UKNOWN	31.37	7	J

INORGANIC DATA COMMENT PAGE

TAMS

Laboratory Name RECRA ENVIRONMENTAL, INC.

USEPA Defined Inorganic Data Qualifiers:

B - Indicates a value greater than or equal to the instrument detection limit but less than the contract required detection limit.

U - Indicates element was analyzed for but not detected. Report with the detection limit value (e.g., 100).

E - Indicates a value estimated or not reported due to the presence of interference.

S - Indicates value determined by Method of Standard Addition.

N - Indicates spike sample recovery is not within control limits.

* - Indicates duplicate analysis is not within control limits.

+ - Indicates the correlation coefficient for method of standard addition is less than 0.995.

M - Indicates duplicate injection results exceeded control limits.

W - Post digestion spike for Furnace AA analysis is out of control limits (85-115%), while sample absorbance is less than 50% of spike absorbance.

G - The TCLP Matrix Spike recovery was greater than the upper limit of the analytical method.

L - The TCLP Matrix Spike recovery was lower than the lower limit of the analytical method.

RECRA
ENVIRONMENTAL
INC.

INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

A60901

Lab Name: RECRA_ENVIRONMENTAL_INC._ Contract: C002412___

Lab Code: RECNY_ Case No.: SH092 SAS No.: _____ SDG No.: 0512__

Matrix (soil/water): SOIL_ Lab Sample ID: 5654_____

Level (low/med): LOW__ Date Received: 05/12/92

% Solids: _17.2

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	30200		E	P
7440-36-0	Antimony	5.8	U	N	F
7440-38-2	Arsenic	8.1	B		F
7440-39-3	Barium	3720		N	P
7440-41-7	Beryllium	5.9	U		P
7440-43-9	Cadmium	5.9	U		P
7440-70-2	Calcium	31800		E	P
7440-47-3	Chromium	81.0		N	A
7440-48-4	Cobalt	23.5	U		P
7440-50-8	Copper	5.9	U		P
7439-89-6	Iron	173000		E	P
7439-92-1	Lead	3140		N	P
7439-95-4	Magnesium	19200		E	P
7439-96-5	Manganese	1010		E*	P
7439-97-6	Mercury	4.7			CV
7440-02-0	Nickel	137			P
7440-09-7	Potassium	3320	B		P
7782-49-2	Selenium	5.8	U	WN	F
7440-22-4	Silver	267		N	P
7440-23-5	Sodium	1120	B		P
7440-28-0	Thallium	8.1	U		F
7440-62-2	Vanadium	23.5	U	N	P
7440-66-6	Zinc	330		E	P
	Cyanide				NR

Color Before: ORANGE___ Clarity Before: _____ Texture: COARSE

Color After: YELLOW___ Clarity After: CLEAR_ Artifacts: ___

Comments:

CLIENT_SAMPLE_ID: SH092-0512-A60901

RE-DIGESTION_ID#_5842

LAB_SAMPLE_ID:_AS011185

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INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

A60902

Lab Name: RECRA_ENVIRONMENTAL_INC._ Contract: COO2412___

Lab Code: RECNY_ Case No.: SH092 SAS No.: _____ SDG No.: 0512__

Matrix (soil/water): SOIL_ Lab Sample ID: 5655_____

Level (low/med): LOW__ Date Received: 05/12/92

% Solids: _77.4

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	2600		E	P
7440-36-0	Antimony	2.0	B	N	F
7440-38-2	Arsenic	1.3	U	W	F
7440-39-3	Barium	479000		N	P
7440-41-7	Beryllium	63.0	U		P
7440-43-9	Cadmium	63.0	U		P
7440-70-2	Calcium	2520	U	E	P
7440-47-3	Chromium	7.1		N	A
7440-48-4	Cobalt	252	U		P
7440-50-8	Copper	63.0	U		P
7439-89-6	Iron	674	B	E	P
7439-92-1	Lead	923		N	P
7439-95-4	Magnesium	1260	U	E	P
7439-96-5	Manganese	63.0	U	E*	P
7439-97-6	Mercury	5.9			CV
7440-02-0	Nickel	252	U		P
7440-09-7	Potassium	7560	U		P
7782-49-2	Selenium	1.3	U	WN	F
7440-22-4	Silver	272		N	P
7440-23-5	Sodium	7290	B		P
7440-28-0	Thallium	1.8	U		F
7440-62-2	Vanadium	252	U	N	P
7440-66-6	Zinc	126	U	E	P
	Cyanide				NR

Color Before: WHITE____ Clarity Before: _____ Texture: COARSE

Color After: ORANGE___ Clarity After: CLEAR_ Artifacts: ___

Comments:

CLIENT_SAMPLE_ID: SH092-0512-A60902

RE-DIGESTION_ID#_5843

LAB_SAMPLE_ID: AS011186

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INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

A60902

Lab Name: RECRA_ENVIRONMENTAL_INC._ Contract: CO02412___

Lab Code: RECNY_ Case No.: SH092 SAS No.: _____ SDG No.: 0512__

Matrix (soil/water): WATER Lab Sample ID: 5804_____

Level (low/med): LOW__ Date Received: 05/12/92

Solids: ____0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__	5.0	U	N	F_
7440-39-3	Barium___	5130000			P_
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__	5.0	U		P_
7440-70-2	Calcium__				NR
7440-47-3	Chromium_	16.0			A_
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron____				NR
7439-92-1	Lead____	3.0	U		F_
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__	0.20	U		CV
7440-02-0	Nickel___				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium_	10.0	U	N	F_
7440-22-4	Silver___	10.0	U	*	P_
7440-23-5	Sodium___				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc____				NR
	Cyanide__				NR

Color Before: COLORLESS Clarity Before: CLEAR_ Texture: _____

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: ___

Comments:

CLIENT_SAMPLE_ID:_SH092-0512-A60902_____

EP_TOXICITY_EXTRACTION_____

LAB_SAMPLE_ID:_AS011186_____

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INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.: A60903

Lab Name: RECRA_ENVIRONMENTAL_INC._ Contract: CO02412___

Lab Code: RECNY_ Case No.: SH092 SAS No.: _____ SDG No.: 0512__

Matrix (soil/water): SOIL_ Lab Sample ID: 5656_____

Level (low/med): LOW__ Date Received: 05/12/92

% Solids: _81.6

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	293		E	P
7440-36-0	Antimony	1.2	U	N	F
7440-38-2	Arsenic	5.8			F
7440-39-3	Barium	118		N	P
7440-41-7	Beryllium	1.2	U		P
7440-43-9	Cadmium	1.2	U		P
7440-70-2	Calcium	550	B	E	P
7440-47-3	Chromium	11.1		N	A
7440-48-4	Cobalt	4.9	U		P
7440-50-8	Copper	1.2	U		P
7439-89-6	Iron	1000		E	P
7439-92-1	Lead	62.2			P
7439-95-4	Magnesium	104	B	E	P
7439-96-5	Manganese	9.4		E*	P
7439-97-6	Mercury	0.12	U		CV
7440-02-0	Nickel	5.7	B		P
7440-09-7	Potassium	148	U		P
7782-49-2	Selenium	1.2	U	N	F
7440-22-4	Silver	7.6		N	P
7440-23-5	Sodium	201	B		P
7440-28-0	Thallium	1.7	U		F
7440-62-2	Vanadium	8.4	B	N	P
7440-66-6	Zinc	13.5		E	P
	Cyanide				NR

Color Before: GRAY_____ Clarity Before: _____ Texture: COARSE

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: ___

Comments:

CLIENT_SAMPLE_ID: SH092-0512-A60903

RE-DIGESTION_ID#_5844

LAB_SAMPLE_ID: AS011187

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INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.: A60903

Lab Name: RECRA_ENVIRONMENTAL_INC._ Contract: C002412___

Lab Code: RECNY_ Case No.: SH092 SAS No.: _____ SDG No.: 0512__

Matrix (soil/water): WATER Lab Sample ID: 5805_____

Level (low/med): LOW__ Date Received: 05/12/92

% Solids: ____0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_		_		NR
7440-36-0	Antimony_		_		NR
7440-38-2	Arsenic__	5.0	U	N	F_
7440-39-3	Barium___	946	_		P_
7440-41-7	Beryllium		_		NR
7440-43-9	Cadmium__	5.0	U		P_
7440-70-2	Calcium__		_		NR
7440-47-3	Chromium_	37.0	_		A_
7440-48-4	Cobalt___		_		NR
7440-50-8	Copper___		_		NR
7439-89-6	Iron_____		_		NR
7439-92-1	Lead_____	16.0	_		F_
7439-95-4	Magnesium		_		NR
7439-96-5	Manganese		_		NR
7439-97-6	Mercury__	0.20	U		CV
7440-02-0	Nickel___		_		NR
7440-09-7	Potassium		_		NR
7782-49-2	Selenium_	10.0	U	N	F_
7440-22-4	Silver___	12.2	_	*	P_
7440-23-5	Sodium___		_		NR
7440-28-0	Thallium_		_		NR
7440-62-2	Vanadium_		_		NR
7440-66-6	Zinc_____		_		NR
	Cyanide__		_		NR
			_		

Color Before: COLORLESS Clarity Before: CLEAR_ Texture: _____

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: ___

Comments:

CLIENT_SAMPLE_ID:_SH092-0512-A60903

EP_TOXICITY_EXTRACTION

LAB_SAMPLE_ID:_AS011187

FORM I - IN 9/89

INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

A60904

Lab Name: RECRA_ENVIRONMENTAL_INC._ Contract: CO02412___

Lab Code: RECNY_ Case No.: SH092 SAS No.: _____ SDG No.: 0512__

Matrix (soil/water): WASTE Lab Sample ID: 5653_____

Level (low/med): LOW__ Date Received: 05/12/92

% Solids: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	966		E	P
7440-36-0	Antimony	0.99	U	N	F
7440-38-2	Arsenic	1.6	B		F
7440-39-3	Barium	71.6		N	P
7440-41-7	Beryllium	0.98	U		P
7440-43-9	Cadmium	0.98	U		P
7440-70-2	Calcium	12800		E	P
7440-47-3	Chromium	4.7		N	A
7440-48-4	Cobalt	3.9	U		P
7440-50-8	Copper	4.9	U		P
7439-89-6	Iron	17000		E	P
7439-92-1	Lead	466		N	P
7439-95-4	Magnesium	6310		E	P
7439-96-5	Manganese	290		E*	P
7439-97-6	Mercury	0.07	U		CV
7440-02-0	Nickel	10.7			P
7440-09-7	Potassium	118	U		P
7782-49-2	Selenium	0.99	U	WN	F
7440-22-4	Silver	214		N	P
7440-23-5	Sodium	756	B		P
7440-28-0	Thallium	1.4	U		F
7440-62-2	Vanadium	19.7	U	N	P
7440-66-6	Zinc	25.5		E	P
	Cyanide				NR

Color Before: BROWN____ Clarity Before: _____ Texture: FINE__

Color After: YELLOW___ Clarity After: CLEAR_ Artifacts: ___

Comments:

CLIENT_SAMPLE_ID:_SH092-0512-A60904

RE-DIGESTION_ID#_5847

LAB_SAMPLE_ID:_AS011188

SAMPLE_MATRIX_-_OILY_SLUDGE

FORM I - IN 9/89

REFERENCE 18

INTERVIEW ACKNOWLEDGMENT FORM

SITE NAME:	TAM Ceramics, Inc.	I.D. NUMBER:	932028
PERSON CONTACTED:	Russ Steiger	DATE:	8/18/92
AFFILIATION:	TAM Ceramics, Inc.	PHONE NUMBER:	716/278-9423
ADDRESS:	4511 Hyde Park Blvd. Niagara Falls, NY 14302	CONTACT PERSON(S):	Chad Eich

TYPE OF CONTACT: Telephone

INTERVIEW SUMMARY

- TAM currently produces barium titanates, among other products, for sale to the electronics industry;
- All wastes are disposed of off-site: solid wastes in solid waste landfills; hazardous wastes in RCRA TSDF;
- It is likely that similar processes produced similar wastes in the past.

ACKNOWLEDGMENT

I have read the above transcript and I agree that it is an accurate summary of the information verbally conveyed to Ecology and Environment, Inc. interviewer(s) (as revised below, if necessary).

Revisions (please write in any corrections needed to above transcript).

Signature: Russ Steiger Date: 9/3/92

APPENDIX B

SITE INSPECTION FORM
(EPA FORM 2070-13)

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT

PART 1 - SITE LOCATION AND INSPECTION INFORMATION

I. IDENTIFICATION

01 State	02 Site Number
NY	932028

II. SITE NAME AND LOCATION

01 Site Name (legal, common, or descriptive name of site)	02 Street, Route No., or specific location identifier				
TAM Ceramics, Inc. (NL Industries)	4511 Hyde Park Boulevard				
03 City	**04 State**	**05 Zip Code**	**06 County**	**07 County Code**	**08 Cong. Dist.**
Niagara Falls	NY	14302	Niagara	063	33

09 Coordinates		10 Type of Ownership (check one)
Latitude	Longitude	[X] A. Private [ ] B. Federal _____ [ ] C. State [ ] D. County
43° 07' 42" N	79° 02' 13" W	[ ] E. Municipal [ ] F. Other _____ [ ] G. Unknown

III. INSPECTION INFORMATION

01 Date of Inspection	02 Site Status	03 Years of Operation
4 / 29 / 91 (Month Day Year)	[ ] Active [X] Inactive	1930 (Beginning Year) 1976 (Ending Year) [ ] Unknown

04 Agency Performing Inspection (check all that apply)
[ ] A. EPA [ ] B. EPA Contractor _____ (name of firm) [ ] C. Municipal [ ] D. Municipal Contractor _____ (name of firm)
[ ] E. State [X] F. State Contractor Ecology and Environment Engineering, P.C. (name of firm) [ ] G. Other _____ (specify)

05 Chief Inspector	06 Title	07 Organization	08 Telephone No.
Chad Eich	Environmental Analyst	Ecology and Environment Engineering, P.C.	(716) 684-8060
09 Other Inspectors	**10 Title**	**11 Organization**	**12 Telephone No.**
Linda Fischer	Environmental Analyst	Ecology and Environment Engineering, P.C.	(716) 684-8060
Scott Glinski	Environmental Analyst	Ecology and Environment Engineering, P.C.	(716) 684-8060
Gerry Pietraszek	Engineer	NYSDEC	(716) 847-4585
			( )
13 Site Representatives Interviewed	**14 Title**	**15 Address**	**16 Telephone No.**
Russ Steiger	Environmental/Safety Engineer	4511 Hyde Park Boulevard Niagara Falls, NY 14305	(716) 278-9423
			( )
			( )

17 Access Gained by (check one)	18 Time of Inspection	19 Weather Conditions
[X] Permission [ ] Warrant	10:00	Clear - 65°F

IV. INFORMATION AVAILABLE FROM

01 Contact	02 Of (Agency/Organization)	03 Telephone No.
Gerry Pietraszek	NYSDEC	(716) 847-4585

04 Person Responsible for Site Inspection Form	05 Agency	06 Organization	07 Telephone No.	08 Date
Linda Fischer		Ecology and Environment Engineering, P.C.	(716) 684-8060	5 / 6 / 91 (Month Day Year)

POTENTIAL HAZARDOUS WASTE SITE SITE INSPECTION REPORT

PART 2 - WASTE INFORMATION

I. IDENTIFICATION

01 State	02 Site Number
NY	932028

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 Physical States (check all that apply)

[X] A. Solid
[ ] B. Powder, Fines
[X] C. Sludge
[ ] D. Other _____
[ ] E. Slurry
[ ] F. Liquid
[ ] G. Gas

02 Waste Quantity at Site (measure of waste quantities must be independent)

Tons 2,986
Cubic Yards _____
No. of Drums _____

03 Waste Characteristics (check all that apply)

[X] A. Toxic
[ ] B. Corrosive
[ ] C. Radioactive
[X] D. Persistent
[ ] E. Soluble
[ ] F. Infectious
[ ] G. Flammable
[ ] H. Ignitable
[ ] I. Highly volatile
[ ] J. Explosive
[ ] K. Reactive
[ ] L. Incompatible
[ ] M. Not applicable

III. WASTE TYPE

Category	Substance Name	01 Gross Amount	02 Unit of Measure	03 Comments
SLU	Sludge			
OLW	Oily waste			
SOL	Solvents			
PSD	Pesticides			
OOC	Other organic chemicals			
IOC	Inorganic chemicals			
ACD	Acids			
BAS	Bases			
MES	Heavy metals			

IV. HAZARDOUS SUBSTANCES (see Appendix for most frequently cited CAS Numbers)

01 Category	02 Substance Name	03 CAS Number	04 Storage/Disposal Method	05 Concentration	06 Measure of Concentration
MES	Titanium Oxide	13463677	Buried		

V. FEEDSTOCKS (see Appendix for CAS Numbers)

Category	01 Feedstock Name	02 CAS Number	Category	01 Feedstock Name	02 CAS Number
FDS			FDS		
FDS			FDS		
FDS			FDS		
FDS			FDS		

VI. SOURCES OF INFORMATION (cite specific references, e.g., state files, sample analysis, reports)

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT

PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION

01 State	02 Site Number
NY	932028

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 [X] A. Groundwater Contamination
03 Population Potentially Affected unknown
02 [ ] Observed (date _____)
04 Narrative Description:
[X] Potential [ ] Alleged

None documented. Groundwater monitoring wells installed at the TAM Ceramics site in association with the Hyde Park Landfill showed no contamination by materials known to have been disposed of by TAM Ceramics, Inc.

01 [ ] B. Surface Water Contamination
03 Population Potentially Affected unknown
02 [ ] Observed (date _____)
04 Narrative Description:
[ ] Potential [ ] Alleged

01 [ ] C. Contamination of Air
03 Population Potentially Affected unknown
02 [ ] Observed (date _____)
04 Narrative Description:
[ ] Potential [ ] Alleged

No readings detected above background levels with the HNu.

01 [ ] D. Fire/Explosive Conditions
03 Population Potentially Affected _____
02 [ ] Observed (date _____)
04 Narrative Description:
[ ] Potential [ ] Alleged

None reported.

01 [X] E. Direct Contact
03 Population Potentially Affected 8,972
02 [ ] Observed (date _____)
04 Narrative Description:
[X] Potential [ ] Alleged

Population within 1 mile of site.

01 [ ] F. Contamination of Soil
03 Area Potentially Affected _____
02 [ ] Observed (date _____)
04 Narrative Description:
[ ] Potential [ ] Alleged

Hyde Park Landfill cause for potential contamination.

01 [ ] G. Drinking Water Contamination
03 Population Potentially Affected ~7
02 [ ] Observed (date _____)
04 Narrative Description:
[ ] Potential [ ] Alleged

All residences use municipal water. Two homes still have wells which are used for sanitary purposes. There is potential that this water may be used for drinking.

01 [ ] H. Worker Exposure/Injury
03 Workers Potentially Affected _____
02 [ ] Observed (date _____)
04 Narrative Description:
[ ] Potential [ ] Alleged

None reported.

01 [ ] I. Population Exposure/Injury
03 Population Potentially Affected _____
02 [ ] Observed (date _____)
04 Narrative Description:
[ ] Potential [ ] Alleged

None reported.

POTENTIAL HAZARDOUS WASTE SITE SITE INSPECTION REPORT PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS	I. IDENTIFICATION	
	01 State NY	02 Site Number 932028

II. HAZARDOUS CONDITIONS AND INCIDENTS (Cont.)

01 [X] J. Damage to Flora — 02 [X] Observed (date 5/7/91) — [ ] Potential — [ ] Alleged
04 Narrative Description:

East edge of property contained areas of fine blue-gray powder where flora was stressed.

01 [ ] K. Damage to Fauna — 02 [ ] Observed (date _____) — [ ] Potential — [ ] Alleged
04 Narrative Description:

Not noticed.

01 [ ] L. Contamination of Food Chain — 02 [ ] Observed (date _____) — [ ] Potential — [ ] Alleged
04 Narrative Description:

Not likely.

01 [X] M. Unstable Containment of Wastes (spills/runoff/standing liquids, leaking drums) — 02 [X] Observed (date 5/7/91) — [ ] Potential — [ ] Alleged
03 Population Potentially Affected: _____
04 Narrative Description:

East edge of property.

01 [ ] N. Damage to Off-site Property — 02 [ ] Observed (date _____) — [ ] Potential — [ ] Alleged
04 Narrative Description:

Not noticed/reported.

01 [ ] O. Contamination of Sewers, Storm Drains, WWTPs — 02 [ ] Observed (date _____) — [ ] Potential — [ ] Alleged
04 Narrative Description:

None reported.

01 [ ] P. Illegal/Unauthorized Dumping — 02 [ ] Observed (date _____) — [ ] Potential — [ ] Alleged
04 Narrative Description:

Not noticed.

05 Description of Any Other Known, Potential, or Alleged Hazards

III. TOTAL POPULATION POTENTIALLY AFFECTED ~7 from groundwater, 8,972 persons reside within 1 mile

IV. COMMENTS

V. SOURCES OF INFORMATION (cite specific references, e.g., state files, sample analysis, reports)

Ecology and Environment Engineering, P.C. site inspection, April 29, 1991 and May 6, 1991.

POTENTIAL HAZARDOUS WASTE SITE SITE INSPECTION REPORT

PART 4 - PERMIT AND DESCRIPTIVE INFORMATION

I. IDENTIFICATION

01 State	02 Site Number
NY	932028

II. PERMIT INFORMATION

01 Type of Permit Issued (check all that apply)	02 Permit Number	03 Date Issued	04 Expiration Date	05 Comments
[ ] A. NPDES				
[ ] B. UIC				
[ ] C. AIR				
[ ] D. RCRA				
[ ] E. RCRA Interim Status				
[ ] F. SPCC Plan				
[ ] G. State (specify)				
[ ] H. Local (specify)				
[ ] I. Other (specify)				
[ ] J. None				

III. SITE DESCRIPTION

01 Storage Disposal (check all that apply)	02 Amount	03 Unit of Measure	04 Treatment (check all that apply)	05 Other
[ ] A. Surface Impoundment			[ ] A. Incineration	[ ] Buildings On Site
[ ] B. Piles			[ ] B. Underground Injection	
[ ] C. Drum, Aboveground			[ ] C. Chemical/Physical	
[ ] D. Tank, Aboveground			[ ] D. Biological	
[ ] E. Tank, Belowground			[ ] E. Waste Oil Processing	06 Area of Site
[X] F. Landfill	2,986	tons	[ ] F. Solvent Recovery	
[ ] G. Landfarm			[ ] G. Other Recycling Recovery	30 to 50 Acres
[ ] H. Open Dump			[ ] H. Other _____ (specify)	
[ ] I. Other _____ (specify)				

07 Comments

IV. CONTAINMENT

01 Containment of Wastes (check one)

[ ] A. Adequate, Secure [ ] B. Moderate [X] C. Inadequate, Poor [ ] D. Insecure, Unsound, Dangerous

02 Description of Drums, Diking, Liners, Barriers, etc.

V. ACCESSIBILITY

01 Waste Easily Accessible [ ] Yes [X] No

02 Comments

VI. SOURCES OF INFORMATION (cite specific references, e.g., state files, sample analysis, reports)

Ecology and Environment Engineering, P.C. site inspection, April 29, 1991 and May 6, 1991; Interagency Task Force on Hazardous Wastes, March 1979.

POTENTIAL HAZARDOUS WASTE SITE SITE INSPECTION REPORT

PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION

01 State	02 Site Number
NY	932028

II. DRINKING WATER SUPPLY

01 Type of Drinking Supply (check as applicable)

	Surface	Well
Community	A. [X]	B. [ ]
Non-community	C. [ ]	D. [X]

02 Status

Endangered	Affected	Monitored
A. [ ]	B. [ ]	C. [ ]
D. [ ]	E. [ ]	F. [ ]

03 Distance to Site

A _____ (mi)

B ~500 ft. (mi)

III. GROUNDWATER

01 Groundwater Use in Vicinity (check one)

[ ] A. Only Source for Drinking

[X] B. Drinking (other sources available) Commercial, Industrial, Irrigation (no other water sources available)

[ ] C. Commercial, Industrial, Irrigation (limited other sources available)

[X] D. Not Used, Unusable

02 Population Served by Groundwater 0

03 Distance to Nearest Drinking Water Well 500 ft. (mi)

04 Depth to Groundwater	05 Direction of Groundwater Flow	06 Depth to Aquifer of Concern	07 Potential Yield of Aquifer	08 Sole Source Aquifer
20 (ft)	unknown - varies locally	10 (ft)	_____ (gpd)	[ ] Yes [X] No [ ] Unknown

09 Description of Wells (including usage, depth, and location relative to population and buildings)

10 Recharge Area	11 Discharge Area
[ ] Yes | Comments: [ ] No |	[ ] Yes | Comments: [ ] No |

IV. SURFACE WATER

01 Surface Water (check one)

[ ] A. Reservoir, Recreation, Drinking Water Source

[ ] B. Irrigation, Economically Important Resources

[ ] C. Commercial, Industrial

[X] D. Not Currently Used

02 Affected/Potentially Affected Bodies of Water

Name:	Affected	Distance to Site
Niagara River	[ ]	0.4 (mi)
	[ ]	_____ (mi)
	[ ]	_____ (mi)

V. DEMOGRAPHIC AND PROPERTY INFORMATION

01 Total Population Within

One (1) Mile of Site	Two (2) Miles of Site	Three (3) Miles of Site
A. 8,972 No. of Persons	B. 28,897 No. of Persons	C. 51,745 No. of Persons

02 Distance to Nearest Population 0.1 (mi)

03 Number of Buildings Within Two (2) Miles of Site	04 Distance to Nearest Off-Site Building
~8,236	0.1 (mi)

05 Population Within Vicinity of Site (provide narrative description of nature of population within vicinity of site, e.g., rural, village, densely populated urban area)

TAM Ceramics, Inc. is located in a commercial, industrialized area of Niagara Falls, NY.

POTENTIAL HAZARDOUS WASTE SITE SITE INSPECTION REPORT

PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION

01 State	02 Site Number
NY	932028

VI. ENVIRONMENTAL INFORMATION

01 Permeability of Unsaturated Zone (check one)

[ ] A. Impermeable (less than 10^{-6} cm/sec) [X] B. Relatively Impermeable (10^{-4} - 10^{-6} cm/sec) [ ] C. Relatively Permeable (10^{-2} - 10^{-4} cm/sec) [ ] D. Very Permeable (greater than 10^{-2} cm/sec)

02 Permeability of Bedrock (check one)

[ ] A. Impermeable (less than 10^{-6} cm/sec) [X] B. Relatively Impermeable (10^{-4} - 10^{-6} cm/sec) [ ] C. Relatively Permeable (10^{-2} - 10^{-4} cm/sec) [ ] D. Very Permeable (greater than 10^{-2} cm/sec)

03 Depth to Bedrock	04 Depth of Contaminated Soil Zone	05 Soil pH
20 (ft)	(ft)	

06 Net Precipitation	07 One Year 24-Hour Rainfall	08 Slope: Site Slope	Direction of Site Slope	Terrain Average Slope
9 (in)	21 (in)	2 %	Northwest	2 %

09 Flood Potential

Site is in <500 Year Floodplain

10 [ ] Site is on Barrier Island, Coastal High Hazard Area, Riverine Floodway

11 Distance to Wetlands (5 acre minimum)

ESTUARINE OTHER

A. _____ (mi) B. 3.0 (mi)

12 Distance to Critical Habitat (of endangered species)

_____ (mi)

Endangered Species: _____

13 Land Use in Vicinity

Distance to:

COMMERCIAL/INDUSTRIAL	RESIDENTIAL AREAS, NATIONAL/STATE PARKS, FORESTS, OR WILDLIFE RESERVES	AGRICULTURAL LANDS: PRIME AG LAND	AGRICULTURAL LANDS: AG LAND
A. 0 (mi)	B. 0.25 (mi)	C. >2 (mi)	D. >2 (mi)

14 Description of Site in Relation to Surrounding Topography

The TAM Ceramics, Inc. property is located south of the Hyde Park Landfill. The area is flat whereas the landfill is about 20 feet high. The disposal area is an open field on the eastern boundary of the site.

VII. SOURCES OF INFORMATION (cite specific references, e.g., state files, sample analysis, reports)

Ecology and Environment Engineering, P.C. site inspection, April 29, 1991 and May 6, 1991; NYSDEC Region 9 file search.

POTENTIAL HAZARDOUS WASTE SITE SITE INSPECTION REPORT

PART 6 - SAMPLE AND FIELD INFORMATION

I. IDENTIFICATION

01 State	02 Site Number
NY	932028

II. SAMPLES TAKEN

Sample Type	01 Number of Samples Taken	02 Samples Sent To	03 Estimated Date Results Available
Groundwater			
Surface Water			
Waste			
Air			
Runoff			
Spill			
Soil			
Vegetation			
Other			

III. FIELD MEASUREMENTS TAKEN

01 Type	02 Comments
Air	No readings with HNu and minirad resulted above background.

IV. PHOTOGRAPHS AND MAPS

01 Type [X] Ground [ ] Aerial	02 In Custody of Ecology and Environment Engineering, P.C. (name of organization or individual)

03 Maps	04 Location of Maps
[ ] Yes [ ] No	

V. OTHER FIELD DATA COLLECTED (provide narrative description of sampling activities)

VI. SOURCES OF INFORMATION (cite specific references, e.g., state files, sample analysis, reports)

POTENTIAL HAZARDOUS WASTE SITE SITE INSPECTION REPORT

PART 7 - OWNER INFORMATION

I. IDENTIFICATION

01 State	02 Site Number
NY	932028

II. CURRENT OWNER(S)

01 Name	02 D&B Number		PARENT COMPANY (if applicable) 08 Name	09 D&B Number	
TAM Ceramics, Inc.					
03 Street Address (P.O. Box, RFD #, etc.)		04 SIC Code	10 Street Address (P.O. Box, RFD #, etc.)		11 SIC Code
4511 Hyde Park Boulevard					
05 City	06 State	07 Zip Code	12 City	13 State	14 Zip Code
Niagara Falls	NY	14302			
01 Name	02 D&B Number		08 Name	09 D&B Number	
03 Street Address (P.O. Box, RFD #, etc.)		04 SIC Code	10 Street Address (P.O. Box, RFD #, etc.)		11 SIC Code
05 City	06 State	07 Zip Code	12 City	03 State	14 Zip Code
01 Name	02 D&B Number		08 Name	09 D&B Number	
03 Street Address (P.O. Box, RFD #, etc.)		04 SIC Code	10 Street Address (P.O. Box, RFD #, etc.)		11 SIC Code
05 City	06 State	07 Zip Code	12 City	13 State	14 Zip Code

III. PREVIOUS OWNER(S) (list most recent first)

IV. REALTY OWNER(S) (if applicable, list most recent first)

01 Name	02 D&B Number		01 Name	02 D&B Number	
NL Industries					
03 Street Address (P.O. Box, RFD #, etc.)		04 SIC Code	03 Street Address (P.O. Box, RFD #, etc.)		04 SIC Code
1230 Avenue of the Americas					
05 City	06 State	07 Zip Code	05 City	06 State	07 Zip Code
New York	NY	10020			
01 Name	02 D&B Number		01 Name	02 D&B Number	
Titanium Alloy Mfg. Co.					
03 Street Address (P.O. Box, RFD #, etc.)		04 SIC Code	03 Street Address (P.O. Box, RFD #, etc.)		04 SIC Code
4511 Hyde Park Boulevard					
05 City	06 State	07 Zip Code	05 City	06 State	07 Zip Code
Niagara Falls	NY	14302			
01 Name	02 D&B Number		01 Name	02 D&B Number	
03 Street Address (P.O. Box, RFD #, etc.)		04 SIC Code	03 Street Address (P.O. Box, RFD #, etc.)		04 SIC Code
05 City	06 State	07 Zip Code	05 City	06 State	07 Zip Code

V. SOURCES OF INFORMATION (cite specific references, e.g., state files, sample analysis, reports)

NYSDEC Region 9 file search, April 22, 1991.

POTENTIAL HAZARDOUS WASTE SITE SITE INSPECTION REPORT PART 8 - OPERATOR INFORMATION	I. IDENTIFICATION 01 State: NY 02 Site Number: 932028

II. CURRENT OPERATOR (provide if different from owner)				OPERATOR'S PARENT COMPANY (if applicable)		
01 Name	02 D&B Number			10 Name	11 D&B Number	
03 Street Address (P.O. Box, RFD #, etc.)			04 SIC Code	12 Street Address (P.O. Box, RFD #, etc.)		13 SIC Code
05 City	06 State		07 Zip Code	14 City	15 State	16 Zip Code
08 Years of Operation	09 Name of Owner					

III. PREVIOUS OPERATOR(S) (list most recent first; provide if different from owner)				PREVIOUS OPERATORS' PARENT COMPANIES (if applicable)		
01 Name	02 D&B Number			10 Name	11 D&B Number	
03 Street Address (P.O. Box, RFD #, etc.)			04 SIC Code	12 Street Address (P.O. Box, RFD #, etc.)		13 SIC Code
05 City	06 State		07 Zip Code	14 City	15 State	16 Zip Code
08 Years of Operation	09 Name of Owner During this Period					
01 Name	02 D&B Number			10 Name	11 D&B Number	
03 Street Address (P.O. Box, RFD #, etc.)			04 SIC Code	12 Street Address (P.O. Box, RFD #, etc.)		13 SIC Code
05 City	06 State		07 Zip Code	14 City	15 State	16 Zip Code
08 Years of Operation	09 Name of Owner During this Period					
01 Name	02 D&B Number			10 Name	11 D&B Number	
03 Street Address (P.O. Box, RFD #, etc.)			04 SIC Code	12 Street Address (P.O. Box, RFD #, etc.)		13 SIC Code
05 City	06 State		07 Zip Code	14 City	15 State	16 Zip Code
08 Years of Operation	09 Name of Owner During this Period					

IV. SOURCES OF INFORMATION (cite specific references, e.g., state files, sample analysis, reports)

POTENTIAL HAZARDOUS WASTE SITE SITE INSPECTION REPORT

PART 9 - GENERATOR/TRANSPORTER INFORMATION

I. IDENTIFICATION

01 State	02 Site Number
NY	932028

II. ON-SITE GENERATOR

01 Name	02 D&B Number	
NL Industries		
03 Street Address (P.O. Box, RFD #, etc.)		04 SIC Code
1230 Avenue of the Americas		
05 City	06 State	07 Zip Code
New York	NY	10020

III. OFF-SITE GENERATOR(S)

01 Name	02 D&B Number		01 Name	02 D&B Number	
03 Street Address (P.O. Box, RFD #, etc.)		04 SIC Code	03 Street Address (P.O. Box, RFD #, etc.)		04 SIC Code
05 City	06 State	07 Zip Code	05 City	06 State	07 Zip Code
01 Name	02 D&B Number		01 Name	02 D&B Number	
03 Street Address (P.O. Box, RFD #, etc.)		04 SIC Code	03 Street Address (P.O. Box, RFD #, etc.)		04 SIC Code
05 City	06 State	07 Zip Code	05 City	06 State	07 Zip Code

IV. TRANSPORTER(S)

01 Name	02 D&B Number		01 Name	02 D&B Number	
03 Street Address (P.O. Box, RFD #, etc.)		04 SIC Code	03 Street Address (P.O. Box, RFD #, etc.)		04 SIC Code
05 City	06 State	07 Zip Code	05 City	06 State	07 Zip Code
01 Name	02 D&B Number		01 Name	02 D&B Number	
03 Street Address (P.O. Box, RFD #, etc.)		04 SIC Code	03 Street Address (P.O. Box, RFD #, etc.)		04 SIC Code
05 City	06 State	07 Zip Code	05 City	06 State	07 Zip Code

V. SOURCES OF INFORMATION (cite specific references, e.g., state files, sample analysis, reports)

NYSDEC file search, April 22, 1991.

POTENTIAL HAZARDOUS WASTE SITE SITE INSPECTION REPORT PART 10 - PAST RESPONSE ACTIVITIES	I. IDENTIFICATION	
	01 State NY	02 Site Number 932028

II. PAST RESPONSE ACTIVITIES

01 [ ] A. Water Supply Closed — 02 Date _____ — 03 Agency _____
04 Description:

01 [ ] B. Temporary Water Supply Provided — 02 Date _____ — 03 Agency _____
04 Description:

01 [ ] C. Permanent Water Supply Provided — 02 Date _____ — 03 Agency _____
04 Description:

01 [ ] D. Spilled Material Removed — 02 Date _____ — 03 Agency _____
04 Description:

01 [ ] E. Contaminated Soil Removed — 02 Date _____ — 03 Agency _____
04 Description:

01 [ ] F. Waste Repackaged — 02 Date _____ — 03 Agency _____
04 Description:

01 [X] G. Waste Disposed Elsewhere — 02 Date 1981 — 03 Agency TAM Ceramics
04 Description: Drums and waste piles taken to Modern City Landfill.

01 [X] H. On-Site Burial — 02 Date July 1990 — 03 Agency NYSDOH, NYSDEC
04 Description: 178 drums were excavated approximately 10 feet north of MW5 during Hyde Park Remediation. Drums were analyzed and found to contain zirconium oxide sludge, a nonhazardous waste.

01 [ ] I. In Situ Chemical Treatment — 02 Date _____ — 03 Agency _____
04 Description:

01 [ ] J. In Situ Biological Treatment — 02 Date _____ — 03 Agency _____
04 Description:

01 [ ] K. In Situ Physical Treatment — 02 Date _____ — 03 Agency _____
04 Description:

01 [ ] L. Encapsulation — 02 Date _____ — 03 Agency _____
04 Description:

01 [ ] M. Emergency Waste Treatment — 02 Date _____ — 03 Agency _____
04 Description:

01 [ ] N. Cutoff Walls — 02 Date _____ — 03 Agency _____
04 Description:

01 [ ] O. Emergency Diking/Surface Water Diversion — 02 Date _____ — 03 Agency _____
04 Description:

POTENTIAL HAZARDOUS WASTE SITE SITE INSPECTION REPORT

PART 10 - PAST RESPONSE ACTIVITIES

I. IDENTIFICATION

01 State	02 Site Number
NY	932028

II. PAST RESPONSE ACTIVITIES (Cont.)

01 [ ] Q. Subsurface Cutoff Wall 04 Description:	02 Date _____	03 Agency _____
01 [ ] R. Barrier Walls Constructed 04 Description:	02 Date _____	03 Agency _____
01 [ ] S. Capping/Covering 04 Description:	02 Date _____	03 Agency _____
01 [ ] T. Bulk Tankage Repaired 04 Description:	02 Date _____	03 Agency _____
01 [ ] U. Grout Curtain Constructed 04 Description:	02 Date _____	03 Agency _____
01 [ ] V. Bottom Sealed 04 Description:	02 Date _____	03 Agency _____
01 [ ] W. Gas Control 04 Description:	02 Date _____	03 Agency _____
01 [ ] X. Fire Control 04 Description:	02 Date _____	03 Agency _____
01 [ ] Y. Leachate Treatment 04 Description:	02 Date _____	03 Agency _____
01 [ ] Z. Area Evacuated 04 Description:	02 Date _____	03 Agency _____
01 [ ] 1. Access to Site Restricted 04 Description:	02 Date _____	03 Agency _____
01 [ ] 2. Population Relocated 04 Description:	02 Date _____	03 Agency _____
01 [ ] 3. Other Remedial Activities 04 Description:	02 Date _____	03 Agency _____

III. SOURCES OF INFORMATION (cite specific references, e.g., state files, sample analysis, reports)

Interagency Task Force March 1979; NYSDEC file search.
Forcucci, Matthew August 1990, NYSDOH file search.

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT

PART 11 - ENFORCEMENT INFORMATION

I. IDENTIFICATION

01 State	02 Site Number
NY	932028

II. ENFORCEMENT INFORMATION

01 Past Regulatory/Enforcement Action [ ] Yes [ ] No

02 Description of Federal, State, Local Regulatory/Enforcement Action

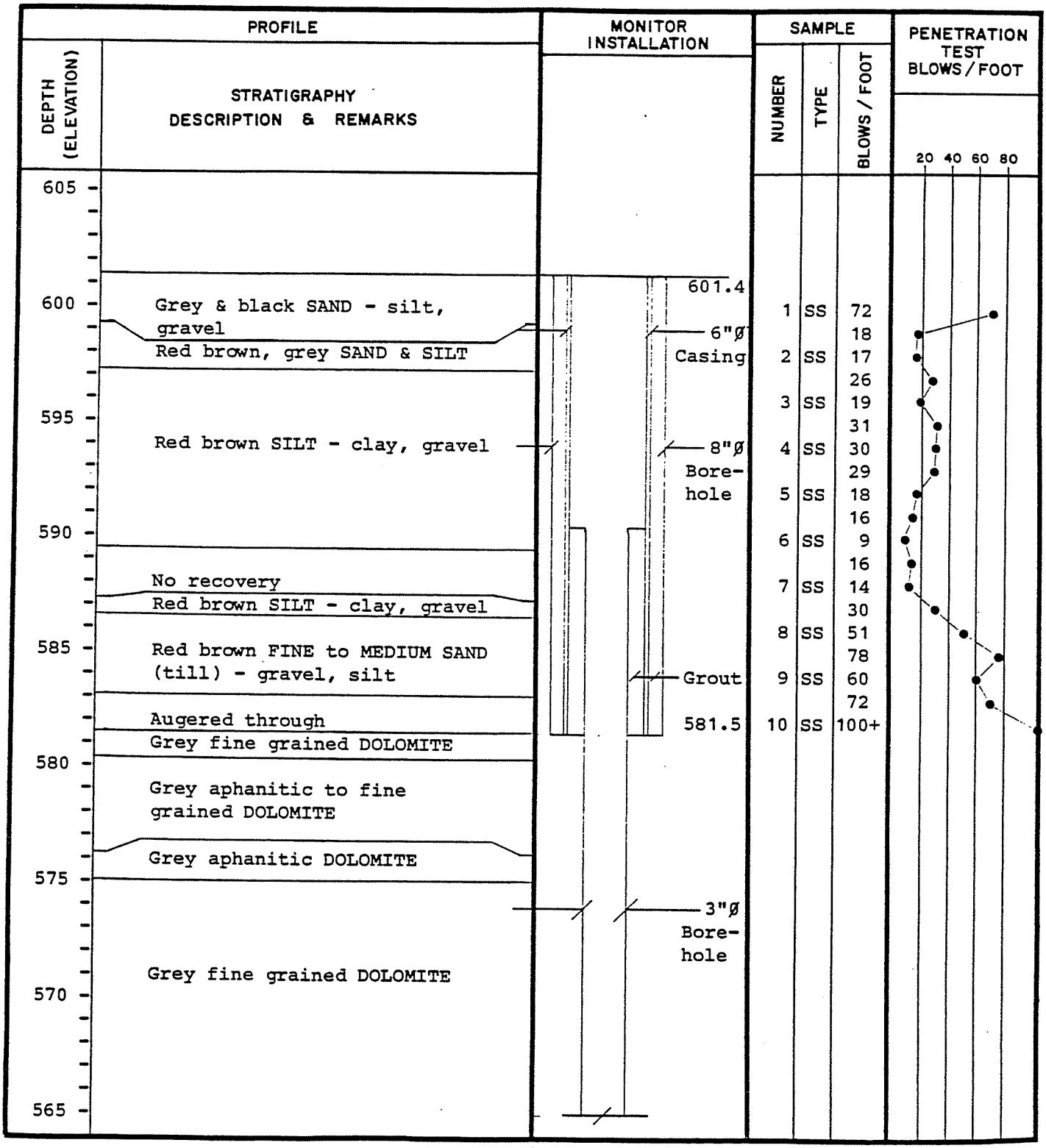
III. SOURCES OF INFORMATION (cite specific references, e.g., state files, sample analysis, reports)

APPENDIX C
WELL LOGS AND SAMPLE RESULTS

STRATIGRAPHIC AND INSTRUMENTATION LOG

PROJECT NAME : HYDE PARK AQUIFER SURVEY
JOB Nº : 9-1069
CLIENT : OCCIDENTAL CHEMICAL CORPORATION
HOLE TYPE : 8"ø AUGER/NX CORE
LOCATION : S. PROP. LINE-H.P. LANDFILL-S.W. CORNER

HOLE Nº: F-4 Page 1 of 4
DATE COMPLETED: MAY 25, 1983
GEOLOGIST/ENGINEER: W. CLARKE/J. KAY
GROUND ELEVATION: 601.4
TOP OF PIPE ELEVATION:



○ GRAIN SIZE ANALYSIS ▼ WATER FOUND ▽ STATIC WATER LEVEL

STRATIGRAPHIC AND INSTRUMENTATION LOG

PROJECT NAME: HYDE PARK AQUIFER SURVEY
HOLE Nº: F-4 Page 2 of 4
JOB Nº: 9-1069
DATE COMPLETED: MAY 25, 1983
CLIENT: OCCIDENTAL CHEMICAL CORPORATION
GEOLOGIST/ENGINEER: W. CLARKE/J. KAY
HOLE TYPE: 8"Ø AUGER/NX CORE
GROUND ELEVATION: 601.4
LOCATION: S. PROP. LINE-H.P. LANDFILL-S.W. CORNER
TOP OF PIPE ELEVATION:

PROFILE		MONITOR INSTALLATION	SAMPLE			PENETRATION TEST BLOWS/FOOT
DEPTH (ELEVATION)	STRATIGRAPHY DESCRIPTION & REMARKS		NUMBER	TYPE	BLOWS/FOOT	20 40 60 80
565	Grey fine grained DOLOMITE					
560						
555		3"Ø Bore-hole				
550						
545	Grey aphanitic DOLOMITE					
540						
535						
530	Grey fine grained DOLOMITE					
525						

○ GRAIN SIZE ANALYSIS ▼ WATER FOUND ▽ STATIC WATER LEVEL

STRATIGRAPHIC AND INSTRUMENTATION LOG

PROJECT NAME : HYDE PARK AQUIFER SURVEY
JOB Nº : 9-1069
CLIENT : OCCIDENTAL CHEMICAL CORPORATION
HOLE TYPE : 8"Ø AUGER/NX CORE
LOCATION : S. PROP. LINE-H.P. LANDFILL-S.W. CORNER

HOLE Nº: F-4 Page 3 of 4
DATE COMPLETED: MAY 25, 1983
GEOLOGIST/ENGINEER: W. CLARKE/J. KAY
GROUND ELEVATION: 601.4
TOP OF PIPE ELEVATION:

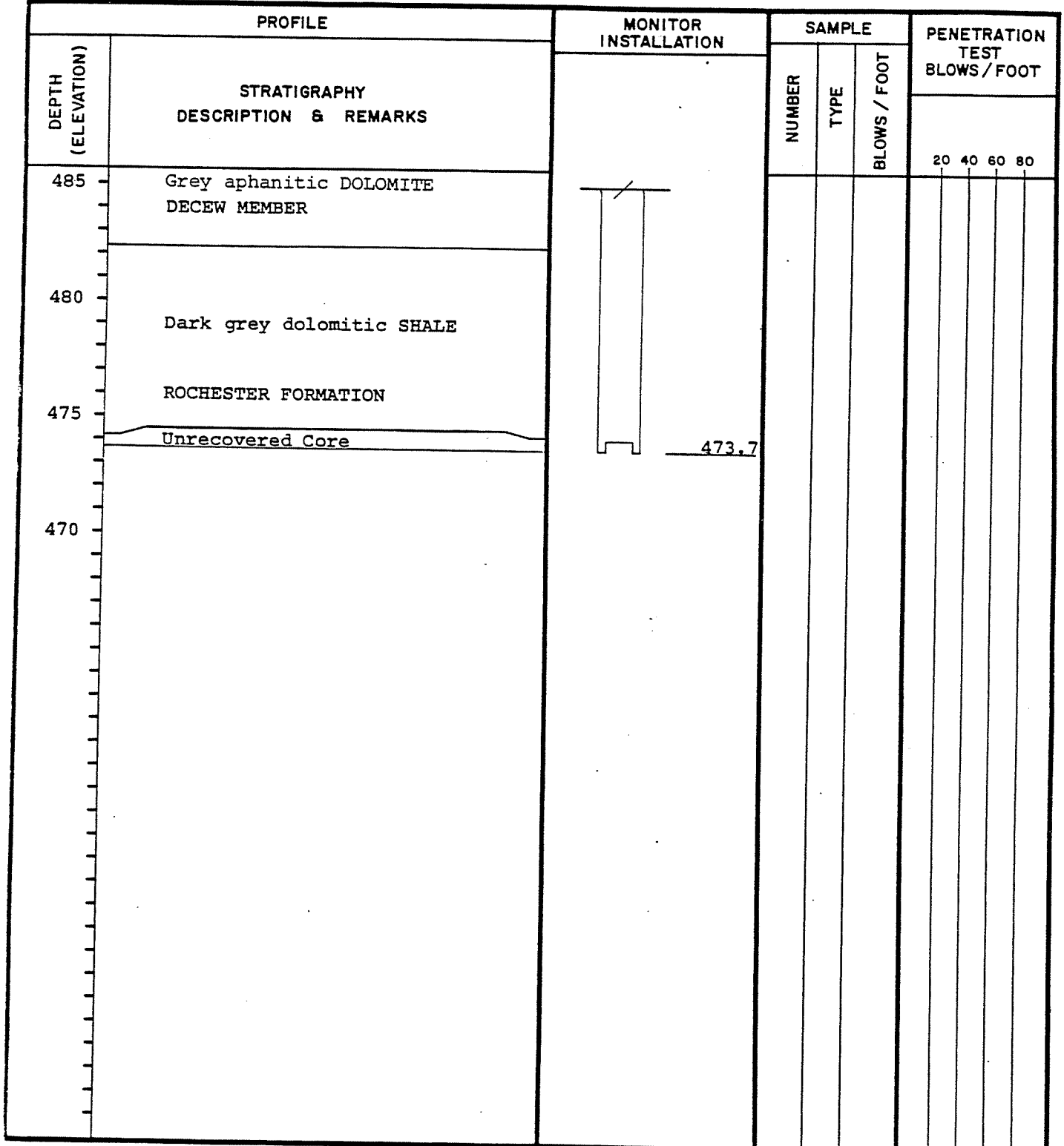
PROFILE		MONITOR INSTALLATION	SAMPLE			PENETRATION TEST BLOWS/FOOT
DEPTH (ELEVATION)	STRATIGRAPHY DESCRIPTION & REMARKS		NUMBER	TYPE	BLOWS/FOOT	20 40 60 80
525						
520	Grey fine grained DOLOMITE					
515		3"Ø Bore-hole				
510						
505	Grey aphanitic DOLOMITE					
500						
495	Medium grey fine to medium grained DOLOMITE GASPORT MEMBER					
490						
485	Grey aphanitic DOLOMITE DECEW MEMBER					

○ GRAIN SIZE ANALYSIS ▼ WATER FOUND ▽ STATIC WATER LEVEL

STRATIGRAPHIC AND INSTRUMENTATION LOG

PROJECT NAME: HYDE PARK AQUIFER SURVEY
JOB Nº: 9-1069
CLIENT: OCCIDENTAL CHEMICAL CORPORATION
HOLE TYPE: 8"ø AUGER/NX CORE
LOCATION: S. PROP. LINE-H.P. LANDFILL-S.W. CORNER

HOLE Nº: F-4 Page 4 of 4
DATE COMPLETED: MAY 25, 1983
GEOLOGIST/ENGINEER: W. CLARKE/J. KAY
GROUND ELEVATION: 601.4
TOP OF PIPE ELEVATION:



○ GRAIN SIZE ANALYSIS ▼ WATER FOUND ▽ STATIC WATER LEVEL

PROJECT NAME : HYDE PARK AQUIFER SURVEY

JOB Nº : 9-1069

CLIENT : OCCIDENTAL CHEMICAL CORPORATION

HOLE TYPE : 8"Ø AUGER/NX CORE

LOCATION : SOUTH CENTRAL TAM PROPERTY

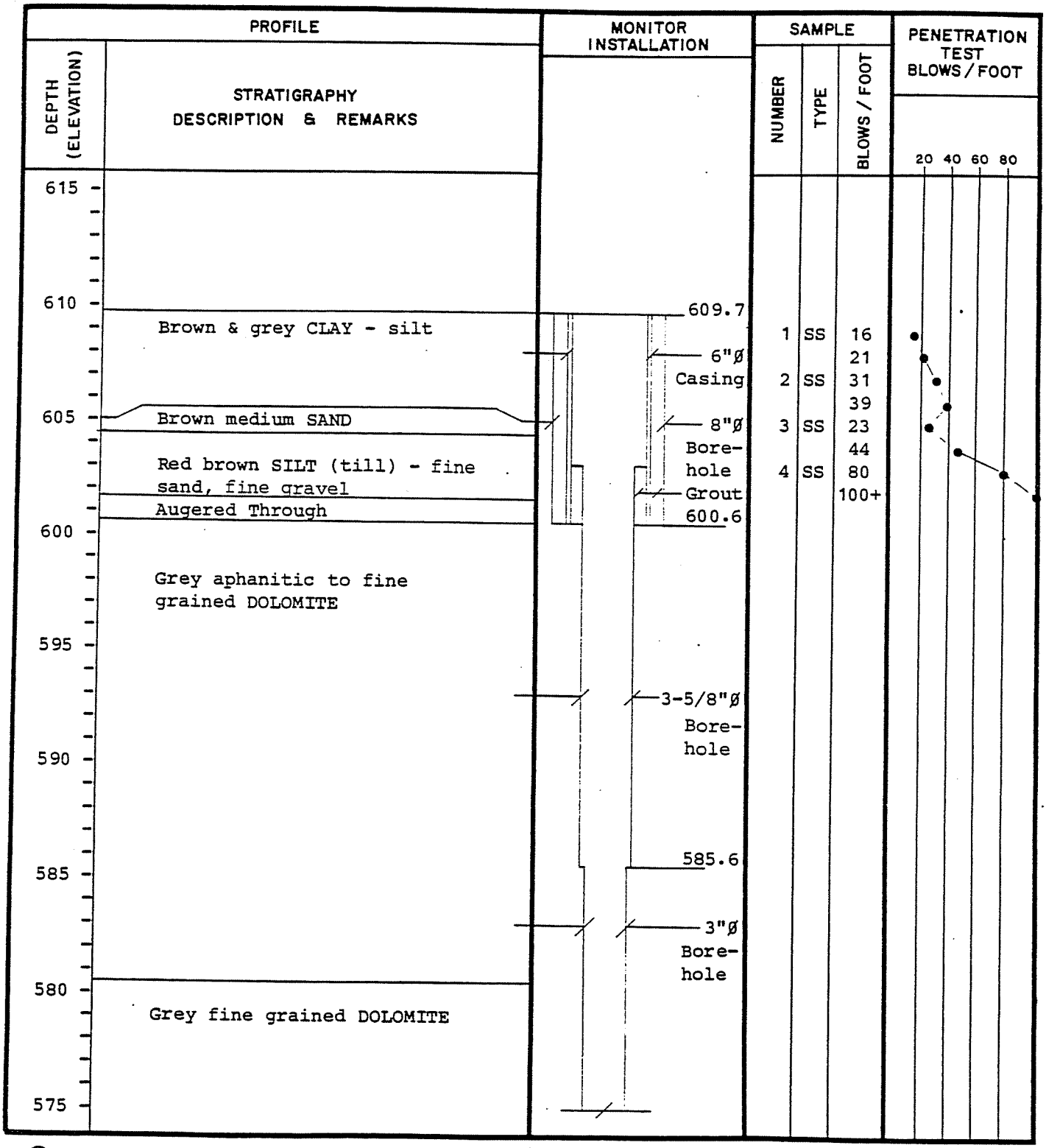
HOLE Nº: G-3 Page 1 of 4

DATE COMPLETED: FEBRUARY 26, 1983

GEOLOGIST/ENGINEER: W. CLARKE/J. KAY

GROUND ELEVATION: 609.7

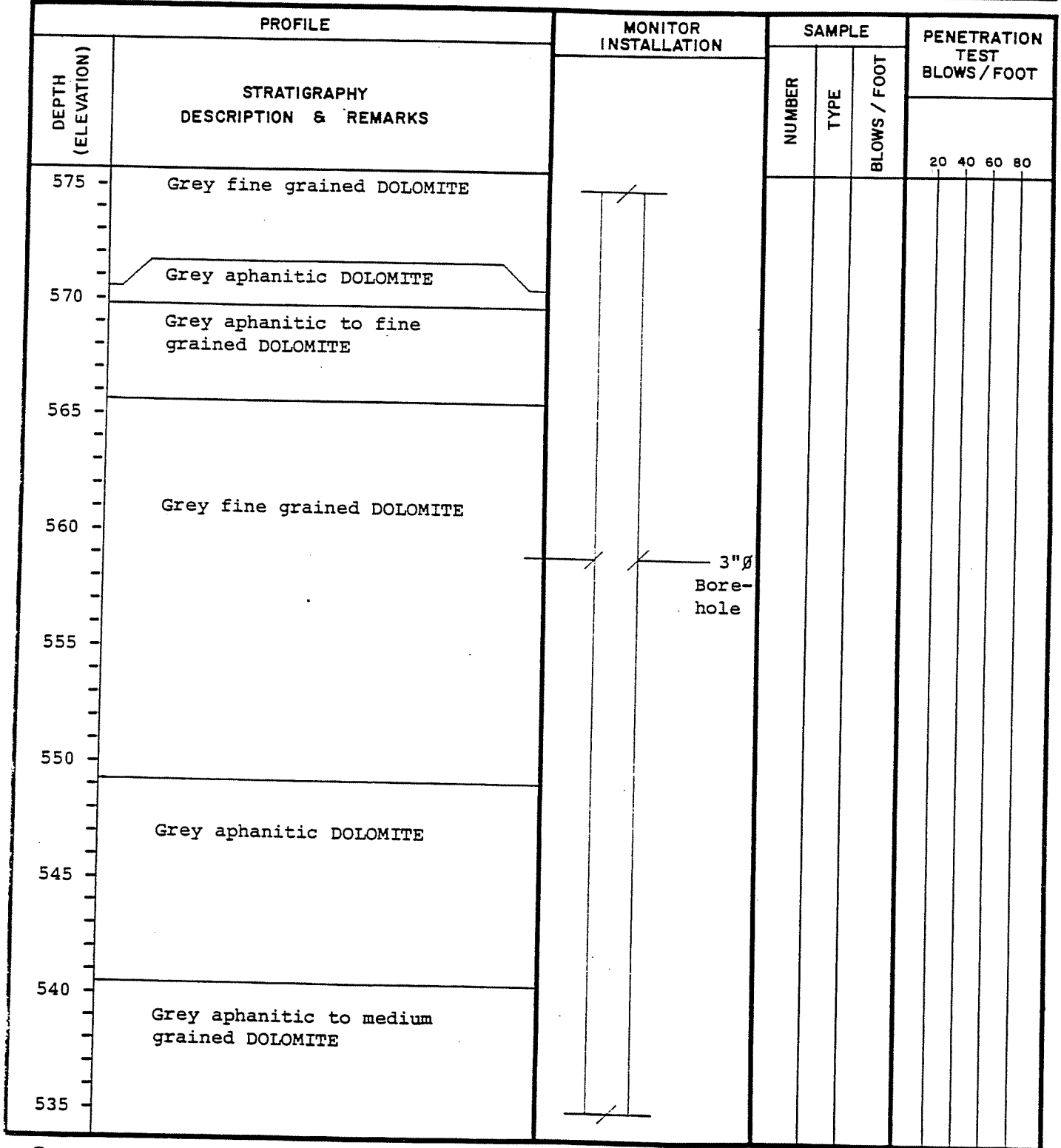
TOP OF PIPE ELEVATION:



○ GRAIN SIZE ANALYSIS ▼ WATER FOUND ▽ STATIC WATER LEVEL

PROJECT NAME: HYDE PARK AQUIFER SURVEY
JOB Nº: 9-1069
CLIENT: OCCIDENTAL CHEMICAL CORPORATION
HOLE TYPE: 8"Ø AUGER/NX CORE
LOCATION: SOUTH CENTRAL TAM PROPERTY

HOLE Nº: G-3 Page 2 of 4
DATE COMPLETED: FEBRUARY 26, 1983
GEOLOGIST/ENGINEER: W. CLARKE/J. KAY
GROUND ELEVATION: 609.7
TOP OF PIPE ELEVATION:



○ GRAIN SIZE ANALYSIS ▼ WATER FOUND ▽ STATIC WATER LEVEL

STRATIGRAPHIC AND INSTRUMENTATION LOG

PROJECT NAME : HYDE PARK AQUIFER SURVEY
JOB Nº : 9-1069
CLIENT : OCCIDENTAL CHEMICAL CORPORATION
HOLE TYPE : 8"Ø AUGER/NX CORE
LOCATION : SOUTH CENTRAL TAM PROPERTY

HOLE Nº: G-3 Page 3 of 4
DATE COMPLETED: FEBRUARY 26, 1983
GEOLOGIST/ENGINEER: W. CLARKE/J. KAY
GROUND ELEVATION: 609.7
TOP OF PIPE ELEVATION:

PROFILE		MONITOR INSTALLATION	SAMPLE			PENETRATION TEST BLOWS/FOOT
DEPTH (ELEVATION)	STRATIGRAPHY DESCRIPTION & REMARKS		NUMBER	TYPE	BLOWS/FOOT	20 40 60 80
535	Grey aphanitic to medium grained DOLOMITE					
530						
525	Grey fine grained DOLOMITE					
520						
515		3"Ø Bore-hole				
510						
505	Grey aphanitic to fine grained DOLOMITE					
500						
495						

○ GRAIN SIZE ANALYSIS ▼ WATER FOUND ▽ STATIC WATER LEVEL

PROJECT NAME: _____ HOLE Nº: G-5 Page 4 of 4

JOB Nº: 9-1069 DATE COMPLETED: FEBRUARY 26, 1983

CLIENT: OCCIDENTAL CHEMICAL CORPORATION GEOLOGIST/ENGINEER: W. CLARKE/J. KAY

HOLE TYPE: 8"Ø AUGER/NX CORE GROUND ELEVATION: 609.7

LOCATION: SOUTH CENTRAL TAM PROPERTY TOP OF PIPE ELEVATION: _____

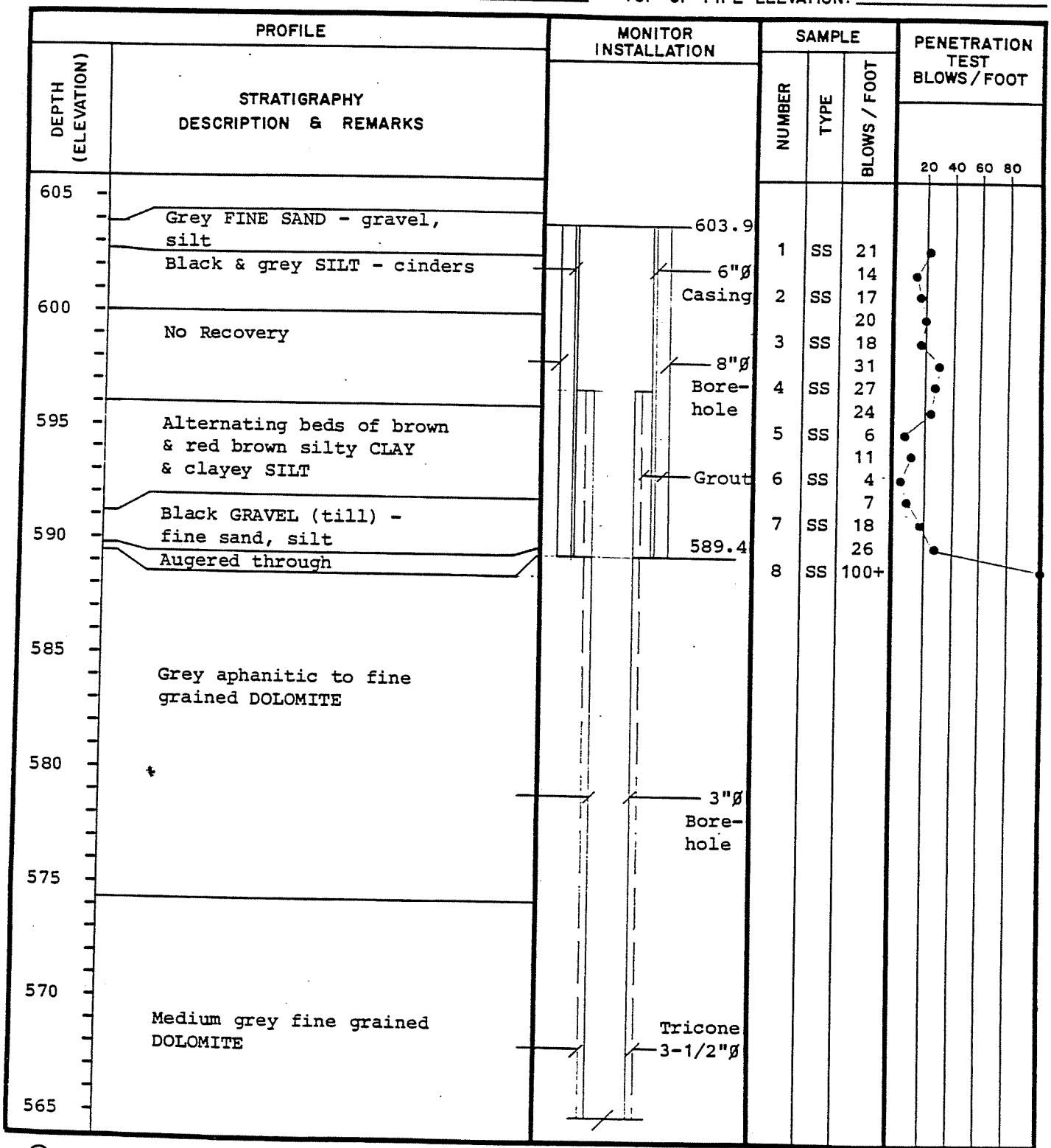
PROFILE		MONITOR INSTALLATION	SAMPLE			PENETRATION TEST BLOWS / FOOT
DEPTH (ELEVATION)	STRATIGRAPHY DESCRIPTION & REMARKS		NUMBER	TYPE	BLOWS / FOOT	20 40 60 80
495	Grey fine grained DOLOMITE					
	Dark grey fine to medium grained DOLOMITE					
490	GASPORT MEMBER					
485	Grey aphanitic DOLOMITE	3"Ø Bore-hole				
480	DECEW MEMBER					
475	Dark grey dolomitic SHALE					
470	ROCHESTER FORMATION					
465		465.3				
460						
455						

○ GRAIN SIZE ANALYSIS ▼ WATER FOUND ▽ STATIC WATER LEVEL

STRATIGRAPHIC AND INSTRUMENTATION LOG

PROJECT NAME : HYDE PARK AQUIFER SURVEY
JOB Nº : 9-1069
CLIENT : OCCIDENTAL CHEMICAL CORPORATION
HOLE TYPE : 8"Ø AUGER/NX CORE
LOCATION : SOUTHERN PL. H.P. LANDFILL - CENTER

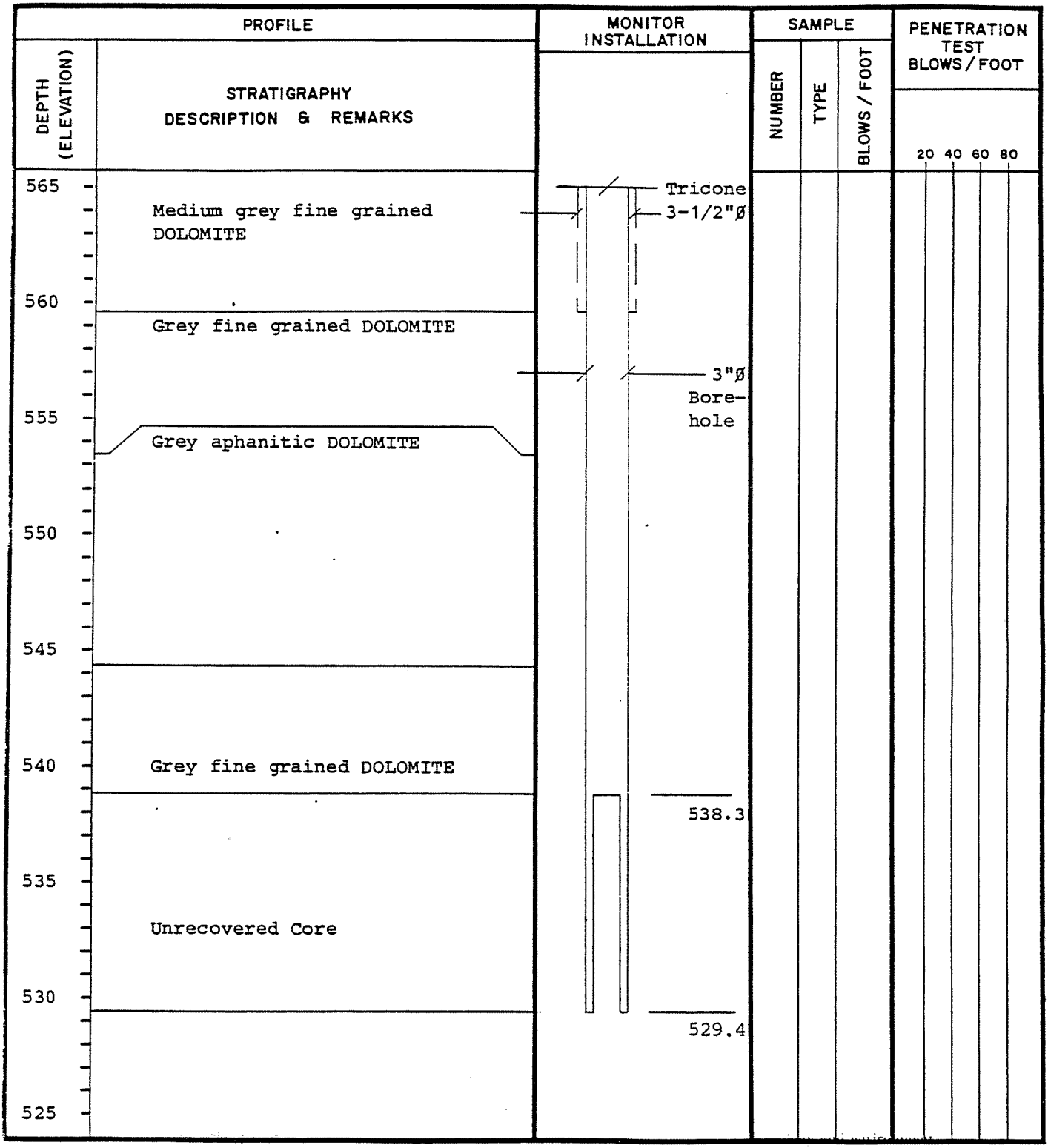
HOLE Nº: G-4 Page 1 of 2
DATE COMPLETED: APRIL 19, 1983
GEOLOGIST/ENGINEER: W. CLARKE/J. KAY
GROUND ELEVATION: 603.9
TOP OF PIPE ELEVATION:



○ GRAIN SIZE ANALYSIS ▼ WATER FOUND ▽ STATIC WATER LEVEL

STRATIGRAPHIC AND INSTRUMENTATION LOG

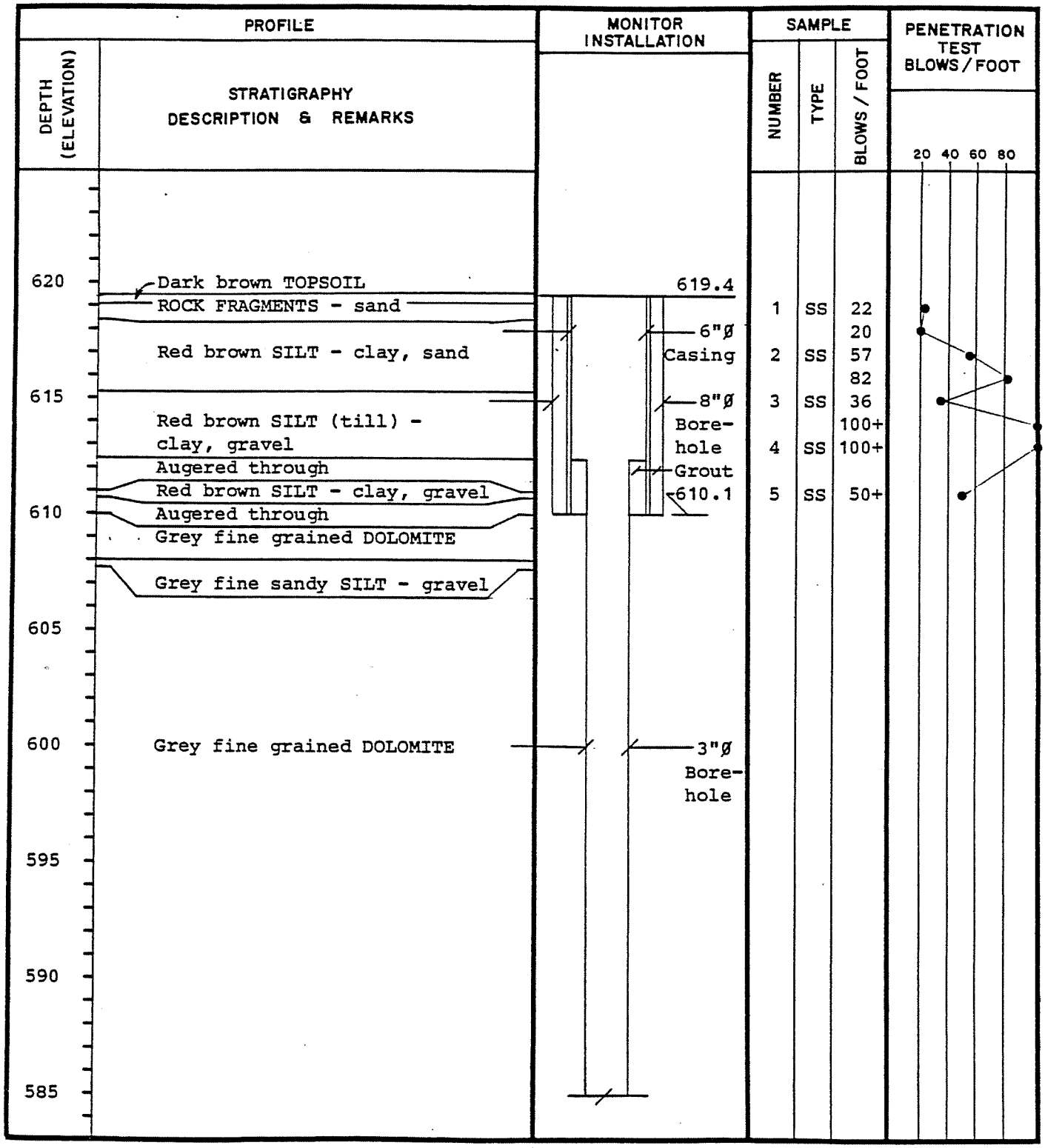
PROJECT NAME : HYDE PARK AQUIFER SURVEY
HOLE Nº: G-4 Page 2 of 2
JOB Nº.: 9-1069
DATE COMPLETED: APRIL 19, 1983
CLIENT : OCCIDENTAL CHEMICAL CORPORATION
GEOLOGIST/ENGINEER: W. CLARKE/J. KAY
HOLE TYPE : 8"Ø AUGER/NX CORE
GROUND ELEVATION: 603.9
LOCATION : SOUTHERN PL. H.P. LANDFILL - CENTER
TOP OF PIPE ELEVATION:



○ GRAIN SIZE ANALYSIS ▼ WATER FOUND ▽ STATIC WATER LEVEL

STRATIGRAPHIC AND INSTRUMENTATION LOG

PROJECT NAME : HYDE PARK AQUIFER SURVEY
HOLE Nº: H-2 Page 1 of 5
JOB Nº : 9-1069
DATE COMPLETED: FEBRUARY 9, 1983
CLIENT : OCCIDENTAL CHEMICAL CORPORATION
GEOLOGIST/ENGINEER: W. CLARKE/J. KAY
HOLE TYPE : 8"Ø AUGER/NX CORE
GROUND ELEVATION: 619.4
LOCATION : SOUTHEAST CORNER - TAM CERAMICS
TOP OF PIPE ELEVATION:



○ GRAIN SIZE ANALYSIS ▼ WATER FOUND ▽ STATIC WATER LEVEL

STRATIGRAPHIC AND INSTRUMENTATION LOG

PROJECT NAME: HYDE PARK AQUIFER SURVEY
HOLE Nº: H-2 Page 2 of 5
JOB Nº: 9-1069
DATE COMPLETED: FEBRUARY 9, 1983
CLIENT: OCCIDENTAL CHEMICAL CORPORATION
GEOLOGIST/ENGINEER: W. CLARKE/J. KAY
HOLE TYPE: 8"Ø AUGER/NX CORE
GROUND ELEVATION: 619.4
LOCATION: SOUTHEAST CORNER - TAM CERAMICS
TOP OF PIPE ELEVATION:

PROFILE		MONITOR INSTALLATION	SAMPLE			PENETRATION TEST BLOWS/FOOT
DEPTH (ELEVATION)	STRATIGRAPHY DESCRIPTION & REMARKS		NUMBER	TYPE	BLOWS / FOOT	20 40 60 80
585	Grey fine grained DOLOMITE					
580	Grey fine to medium grained DOLOMITE					
575	Grey fine grained DOLOMITE					
570		3"Ø Bore-hole				
565						
560						
555						
550						
545	Grey aphanitic DOLOMITE					

○ GRAIN SIZE ANALYSIS ▼ WATER FOUND ▽ STATIC WATER LEVEL

STRATIGRAPHIC AND INSTRUMENTATION LOG

PROJECT NAME: HYDE PARK AQUIFER SURVEY
JOB Nº: 9-1069
CLIENT: OCCIDENTAL CHEMICAL CORPORATION
HOLE TYPE: 8"Ø AUGER/NX CORE
LOCATION: SOUTHEAST CORNER - TAM CERAMICS

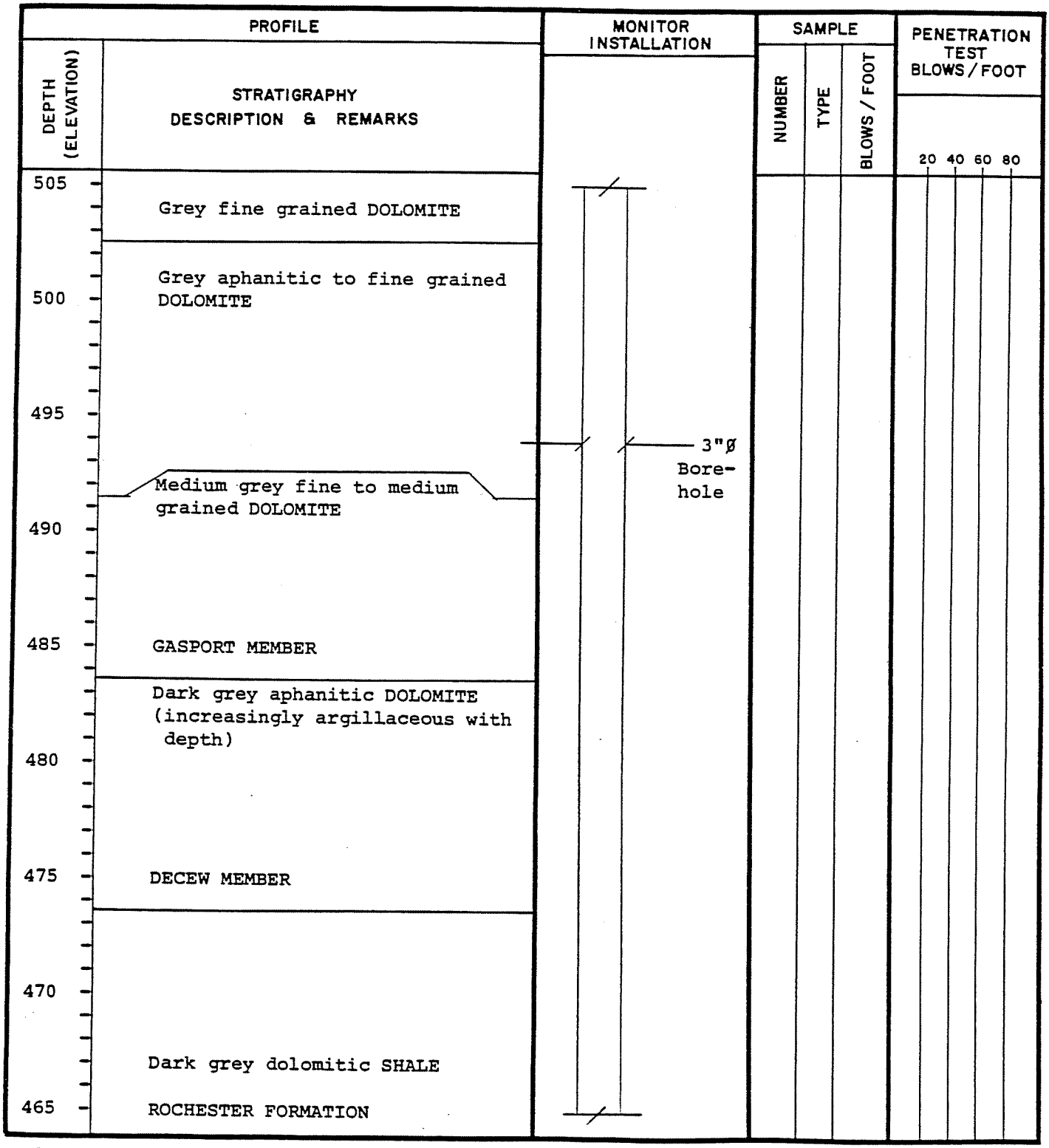
HOLE Nº: H-2 Page 3 of 5
DATE COMPLETED: FEBRUARY 9, 1983
GEOLOGIST/ENGINEER: W. CLARKE/J. KAY
GROUND ELEVATION: 619.4
TOP OF PIPE ELEVATION:

PROFILE		MONITOR INSTALLATION	SAMPLE			PENETRATION TEST BLOWS/FOOT
DEPTH (ELEVATION)	STRATIGRAPHY DESCRIPTION & REMARKS		NUMBER	TYPE	BLOWS/FOOT	20 40 60 80
545	Grey aphanitic DOLOMITE					
540						
535		3"Ø Bore-hole				
530	Grey fine to medium grained DOLOMITE					
525						
520						
515	Grey fine grained DOLOMITE					
510						
505						

○ GRAIN SIZE ANALYSIS ▼ WATER FOUND ▽ STATIC WATER LEVEL

STRATIGRAPHIC AND INSTRUMENTATION LOG

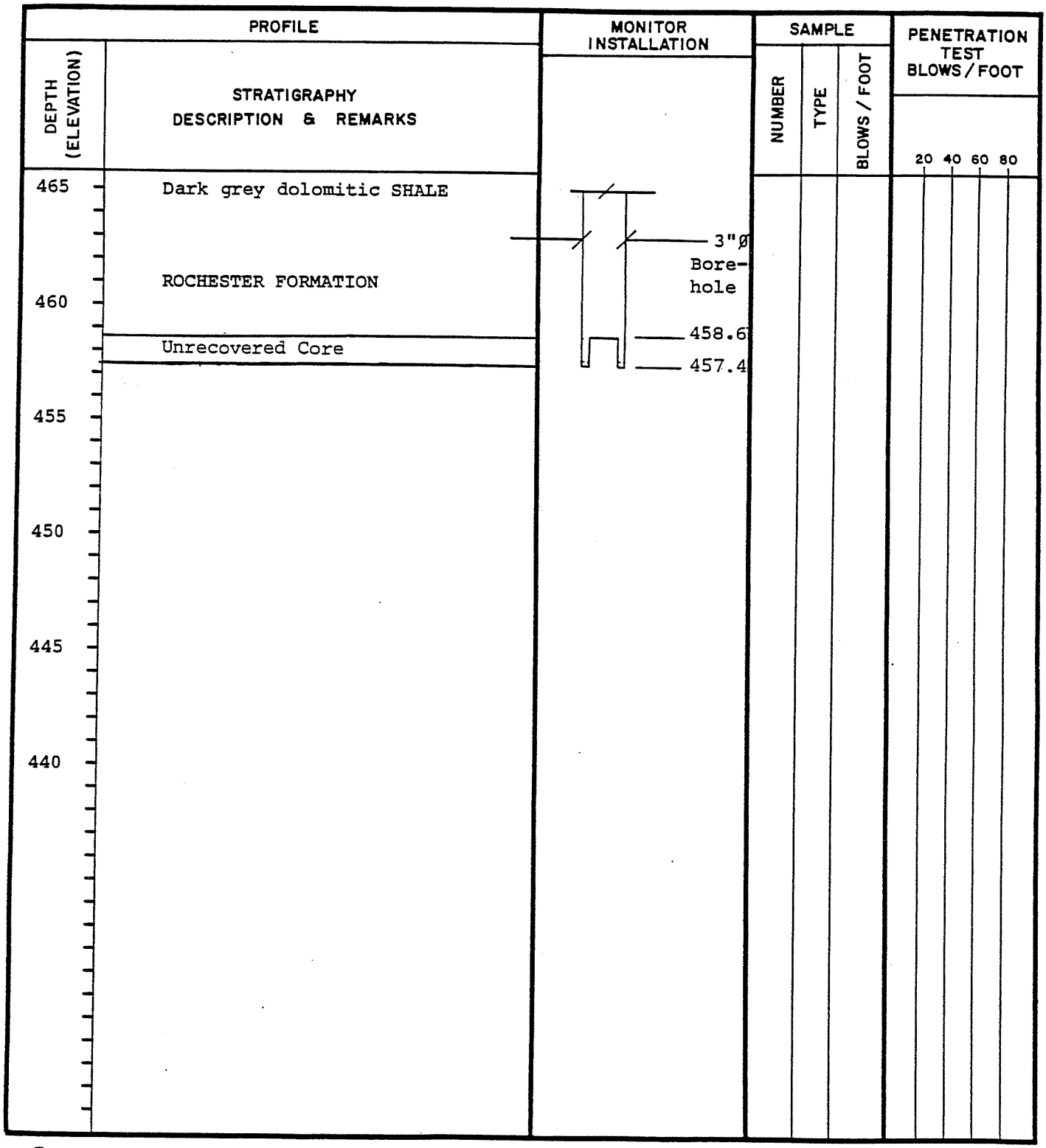
PROJECT NAME: HYDE PARK AQUIFER SURVEY
HOLE Nº: H-2 Page 4 of 5
JOB Nº: 9-1069
DATE COMPLETED: FEBRUARY 9, 1983
CLIENT: OCCIDENTAL CHEMICAL CORPORATION
GEOLOGIST/ENGINEER: W. CLARKE/J. KAY
HOLE TYPE: 8"Ø AUGER/NX CORE
GROUND ELEVATION: 619.4
LOCATION: SOUTHEAST CORNER - TAM CERAMICS
TOP OF PIPE ELEVATION:



○ GRAIN SIZE ANALYSIS ▼ WATER FOUND ▽ STATIC WATER LEVEL

STRATIGRAPHIC AND INSTRUMENTATION LOG

PROJECT NAME: HYDE PARK AQUIFER SURVEY
HOLE Nº: H-2 Page 5 of 5
JOB Nº: 9-1069
DATE COMPLETED: FEBRUARY 9, 1983
CLIENT: OCCIDENTAL CHEMICAL CORPORATION
GEOLOGIST/ENGINEER: W. CLARKE/J. KAY
HOLE TYPE: 8"ø AUGER/NX CORE
GROUND ELEVATION: 619.4
LOCATION: SOUTHEAST CORNER - TAM CERAMICS
TOP OF PIPE ELEVATION:

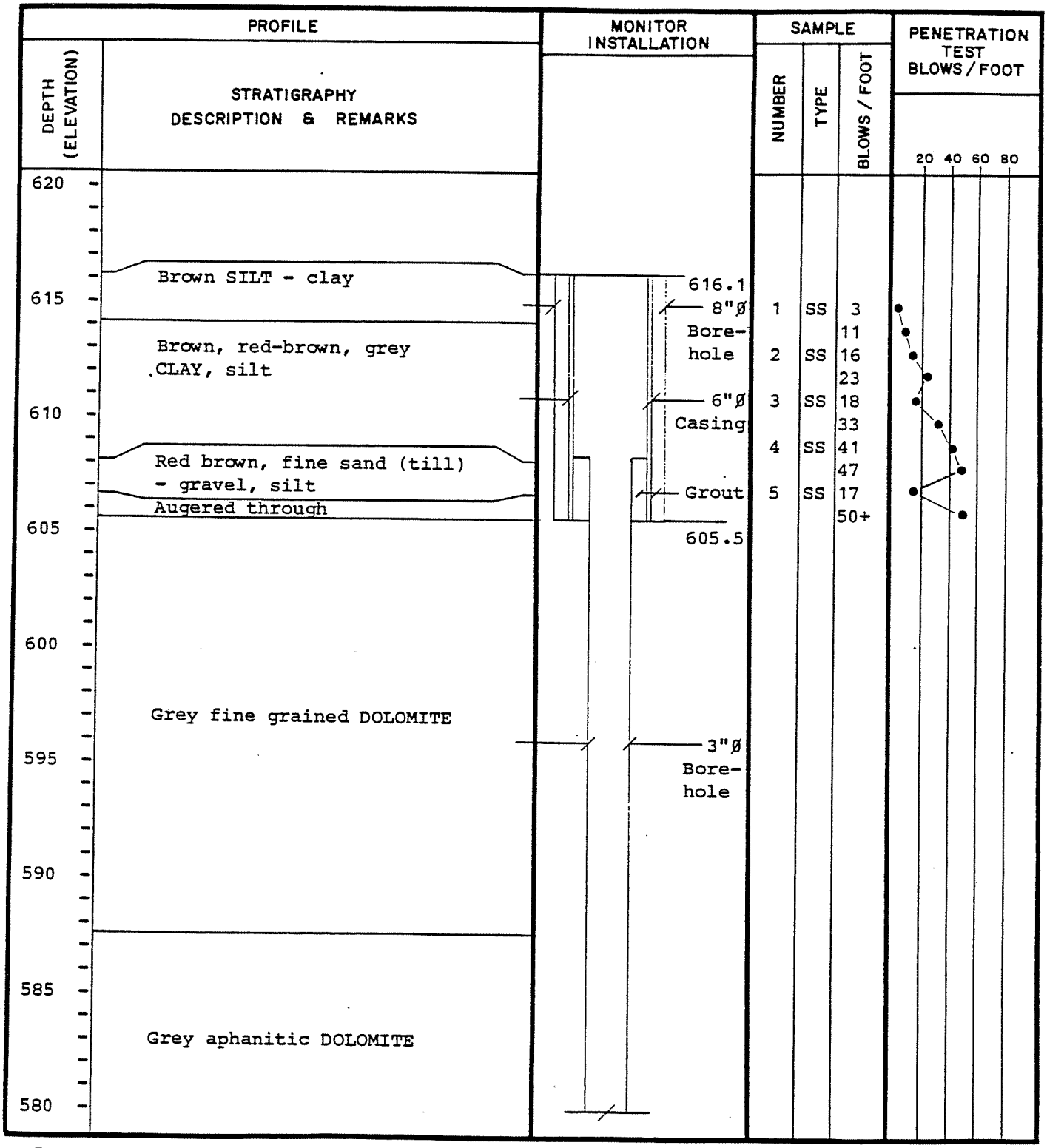


○ GRAIN SIZE ANALYSIS ▼ WATER FOUND ▽ STATIC WATER LEVEL

STRATIGRAPHIC AND INSTRUMENTATION LOG

PROJECT NAME: HYDE PARK AQUIFER SURVEY
JOB Nº: 9-1069
CLIENT: OCCIDENTAL CHEMICAL CORPORATION
HOLE TYPE: 8"Ø AUGER/NX CORE
LOCATION: EAST CENTRAL TAM CERAMICS

HOLE Nº: H-3 Page 1 of 4
DATE COMPLETED: MAY 18, 1983
GEOLOGIST/ENGINEER: W. CLARKE/J. KAY
GROUND ELEVATION: 616.1
TOP OF PIPE ELEVATION:



○ GRAIN SIZE ANALYSIS ▼ WATER FOUND ▽ STATIC WATER LEVEL

STRATIGRAPHIC AND INSTRUMENTATION LOG

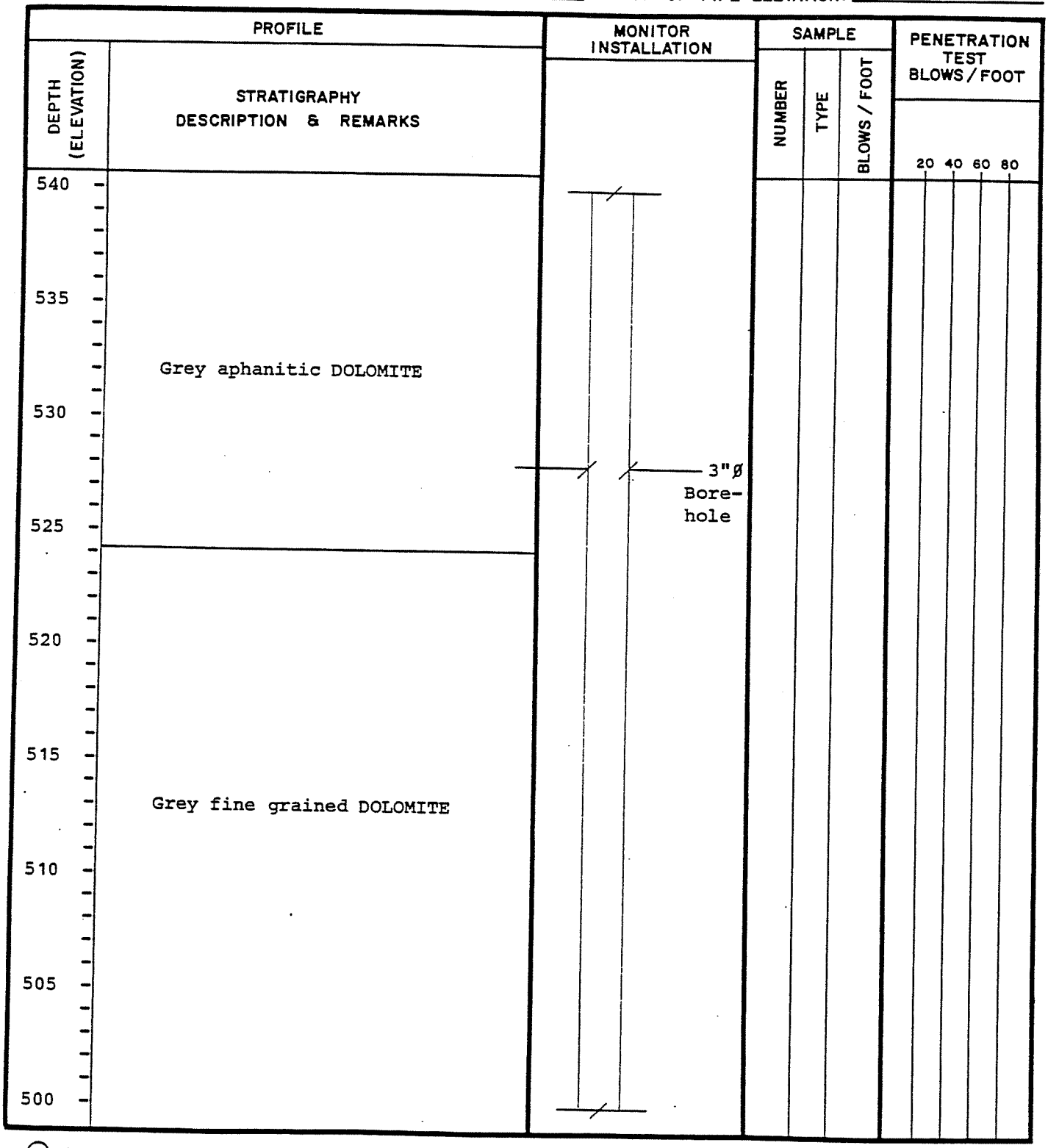
PROJECT NAME: HYDE PARK AQUIFER SURVEY
HOLE Nº: H-3 Page 2 of 4
JOB Nº: 9-1069
DATE COMPLETED: MAY 18, 1983
CLIENT: OCCIDENTAL CHEMICAL CORPORATION
GEOLOGIST/ENGINEER: W. CLARKE/J. KAY
HOLE TYPE: 8"ø AUGER/NX CORE
GROUND ELEVATION: 616.1
LOCATION: EAST CENTRAL TAM CERAMICS
TOP OF PIPE ELEVATION:

PROFILE		MONITOR INSTALLATION	SAMPLE			PENETRATION TEST BLOWS/FOOT
DEPTH (ELEVATION)	STRATIGRAPHY DESCRIPTION & REMARKS		NUMBER	TYPE	BLOWS/FOOT	20 40 60 80
580						
575						
570	Grey aphanitic DOLOMITE	3"ø Bore-hole				
565						
560						
555	Grey fine grained DOLOMITE					
550						
545	Grey aphanitic DOLOMITE					
540						

○ GRAIN SIZE ANALYSIS ▼ WATER FOUND ▽ STATIC WATER LEVEL

STRATIGRAPHIC AND INSTRUMENTATION LOG

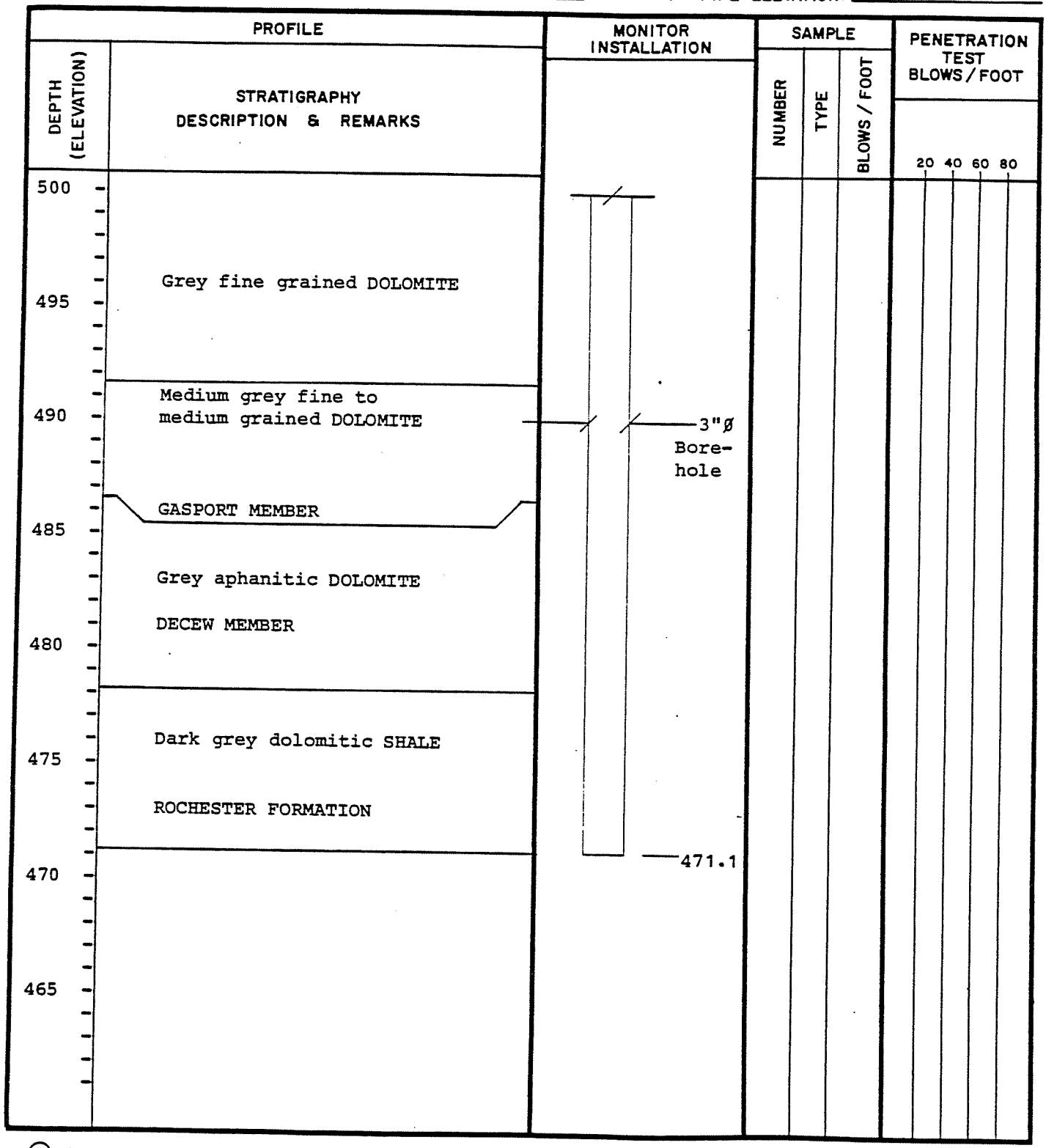
PROJECT NAME: HYDE PARK AQUIFER SURVEY
HOLE Nº: H-3
JOB Nº: 9-1069
DATE COMPLETED: MAY 18, 1983
CLIENT: OCCIDENTAL CHEMICAL CORPORATION
GEOLOGIST/ENGINEER: W. CLARKE/J. KAY
HOLE TYPE: 8"Ø AUGER/NX CORE
GROUND ELEVATION: 616.1
LOCATION: EAST CENTRAL TAM CERAMICS
TOP OF PIPE ELEVATION:



○ GRAIN SIZE ANALYSIS ▼ WATER FOUND ▽ STATIC WATER LEVEL

STRATIGRAPHIC AND INSTRUMENTATION LOG

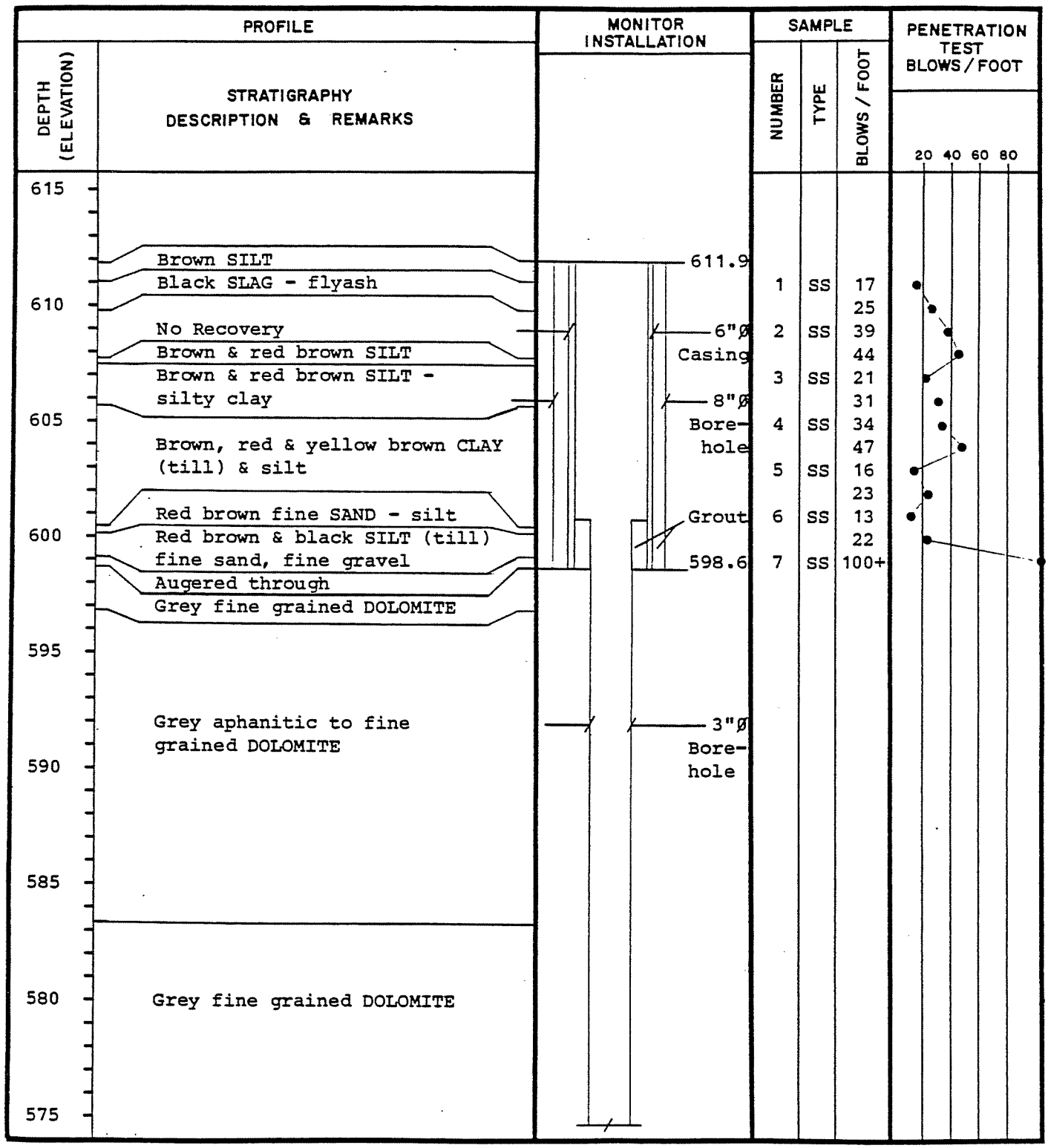
PROJECT NAME: HYDE PARK AQUIFER SURVEY
HOLE Nº: H-3
JOB Nº: 9-1069
DATE COMPLETED: MAY 18, 1983
CLIENT: OCCIDENTAL CHEMICAL CORPORATION
GEOLOGIST/ENGINEER: W. CLARKE/J. KAY
HOLE TYPE: 8"Ø AUGER/NX CORE
GROUND ELEVATION: 616.1
LOCATION: EAST CENTRAL TAM CERAMICS
TOP OF PIPE ELEVATION:



○ GRAIN SIZE ANALYSIS ▼ WATER FOUND ▽ STATIC WATER LEVEL

STRATIGRAPHIC AND INSTRUMENTATION LOG

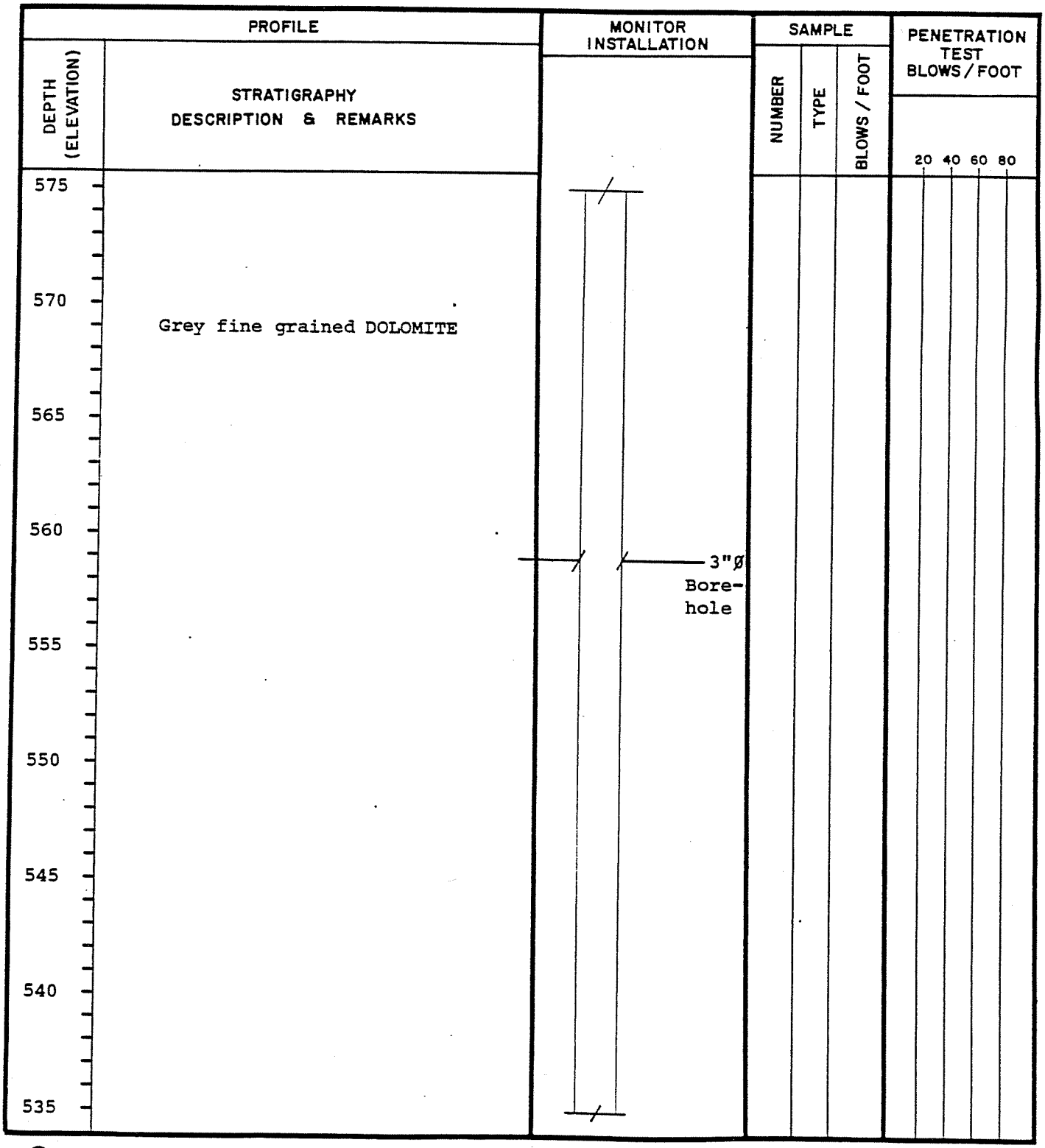
PROJECT NAME: HYDE PARK AQUIFER SURVEY
HOLE Nº: H-4 Page 1 of 4
JOB Nº: 9-1069
DATE COMPLETED: APRIL 6, 1983
CLIENT: OCCIDENTAL CHEMICAL CORPORATION
GEOLOGIST/ENGINEER: W. CLARKE/J. KAY
HOLE TYPE: 8"Ø AUGER/NX CORE
GROUND ELEVATION: 611.9
LOCATION: SOUTH OF HYDE PARK LANDFILL - S.E. CORNER
TOP OF PIPE ELEVATION:



○ GRAIN SIZE ANALYSIS ▼ WATER FOUND ▽ STATIC WATER LEVEL

STRATIGRAPHIC AND INSTRUMENTATION LOG

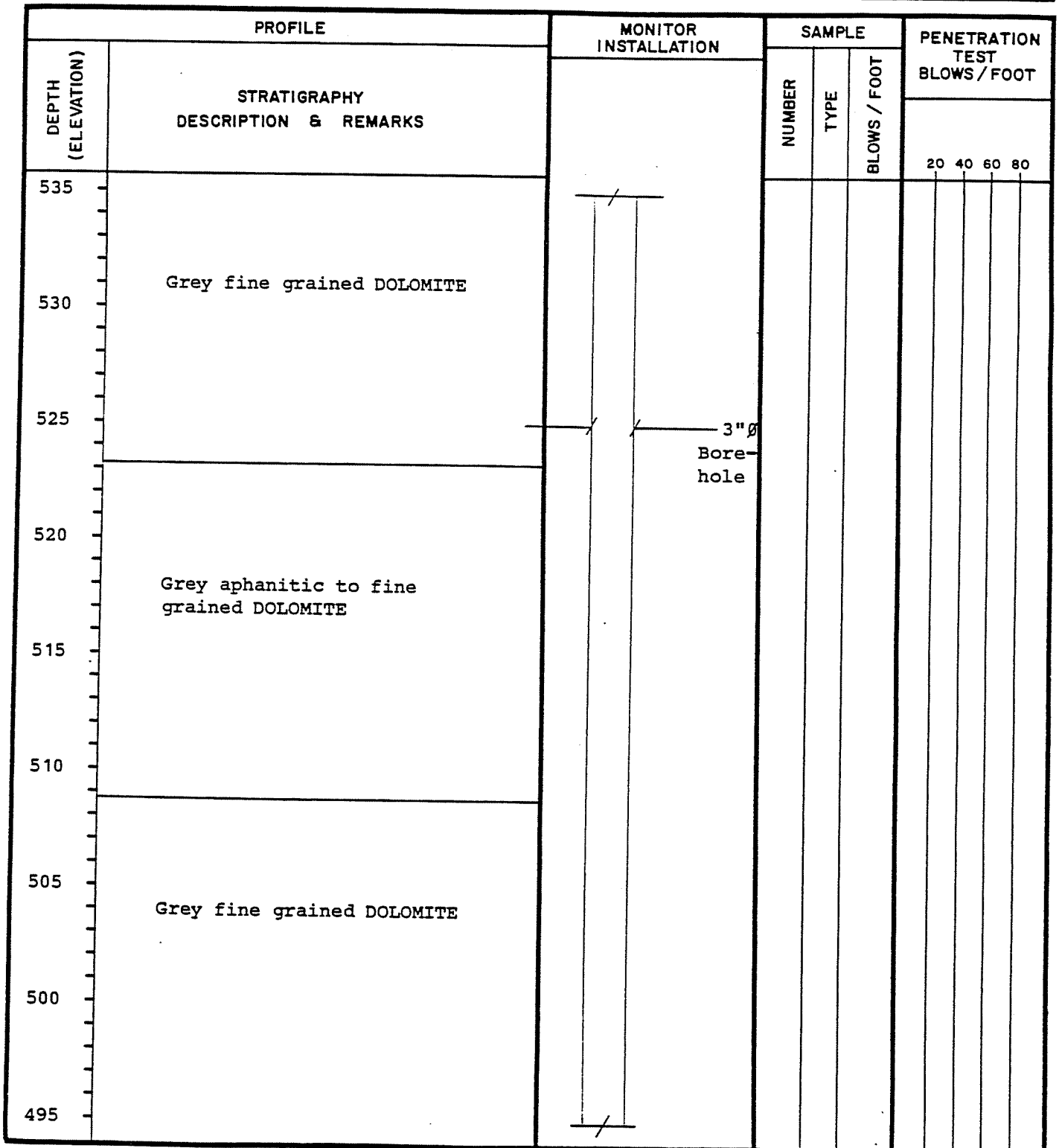
PROJECT NAME : HYDE PARK AQUIFER SURVEY
HOLE Nº: H-4 Page 2 of 4
JOB Nº : 9-1069
DATE COMPLETED: APRIL 6, 1983
CLIENT : OCCIDENTAL CHEMICAL CORPORATION
GEOLOGIST/ENGINEER: W. CLARKE/J. KAY
HOLE TYPE : 8"Ø AUGER/NX CORE
GROUND ELEVATION: 611.9
LOCATION : SOUTH OF HYDE PARK LANDFILL - S.E. CORNER
TOP OF PIPE ELEVATION:



○ GRAIN SIZE ANALYSIS ▼ WATER FOUND ▽ STATIC WATER LEVEL

STRATIGRAPHIC AND INSTRUMENTATION LOG

PROJECT NAME: HYDE PARK AQUIFER SURVEY
HOLE Nº: H-4 Page 3 of 4
JOB Nº: 9-1069
DATE COMPLETED: APRIL 6, 1983
CLIENT: OCCIDENTAL CHEMICAL CORPORATION
GEOLOGIST/ENGINEER: W. CLARKE/J. KAY
HOLE TYPE: 8"Ø AUGER/NX CORE
GROUND ELEVATION: 611.9
LOCATION: SOUTH OF HYDE PARK LANDFILL - S.E. CORNER
TOP OF PIPE ELEVATION:



○ GRAIN SIZE ANALYSIS ▼ WATER FOUND ▽ STATIC WATER LEVEL

STRATIGRAPHIC AND INSTRUMENTATION LOG

PROJECT NAME: HYDE PARK AQUIFER SURVEY
HOLE Nº: H-4 Page 4 of 4
JOB Nº: 9-1069
DATE COMPLETED: APRIL 6, 1983
CLIENT: OCCIDENTAL CHEMICAL CORPORATION
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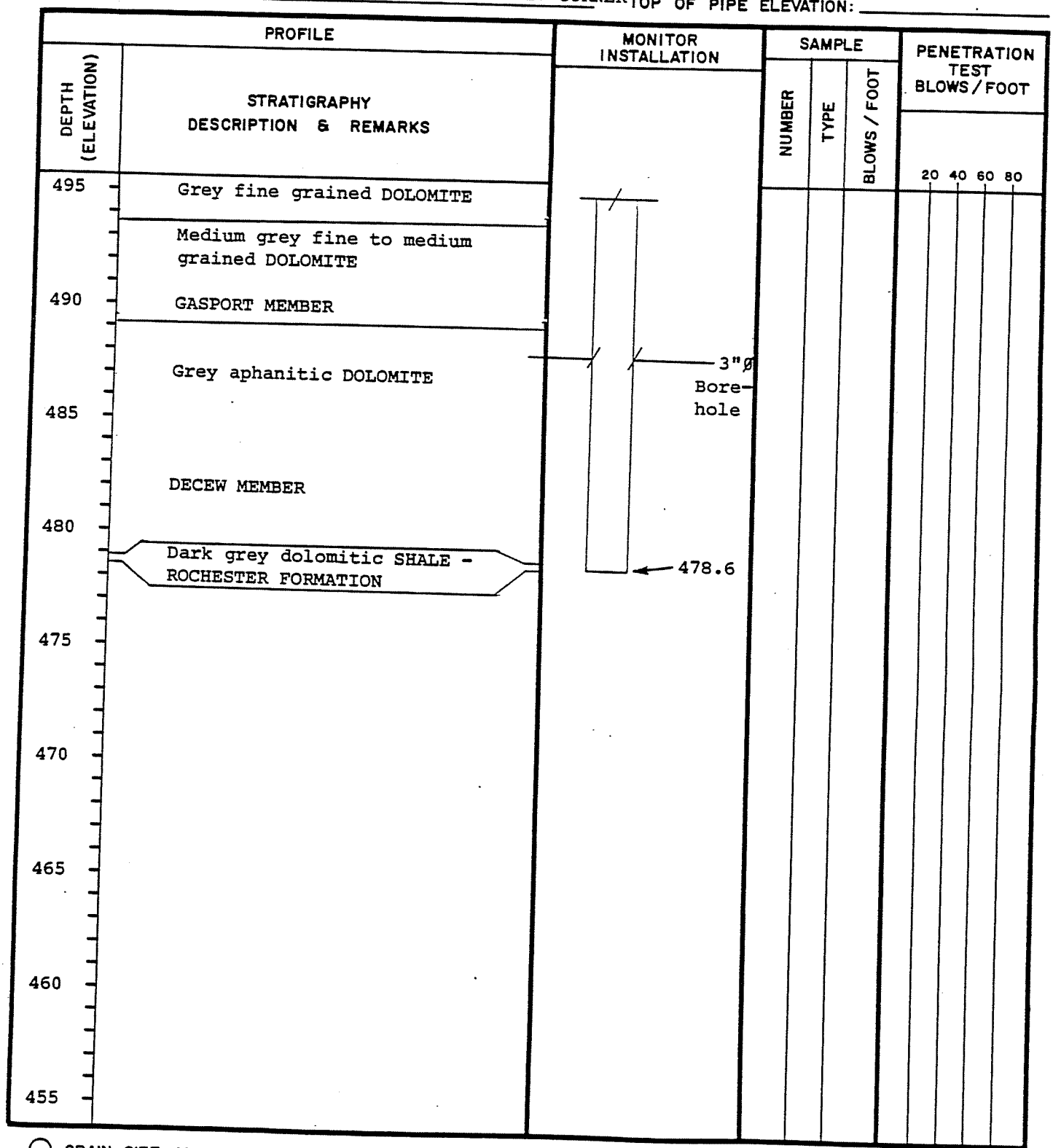
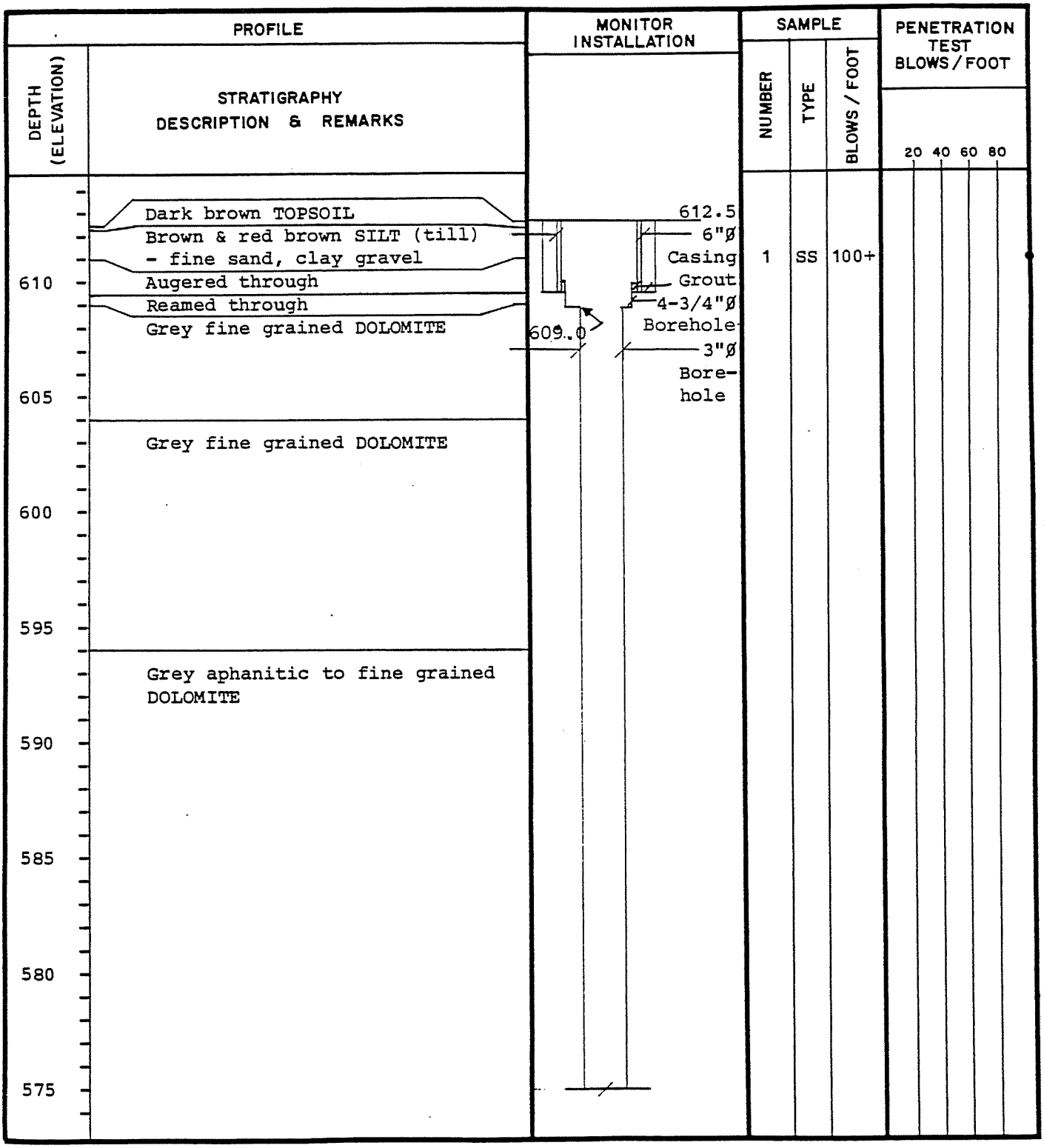
TOP OF PIPE ELEVATION:



○ GRAIN SIZE ANALYSIS ▼ WATER FOUND ▽ STATIC WATER LEVEL

STRATIGRAPHIC AND INSTRUMENTATION LOG

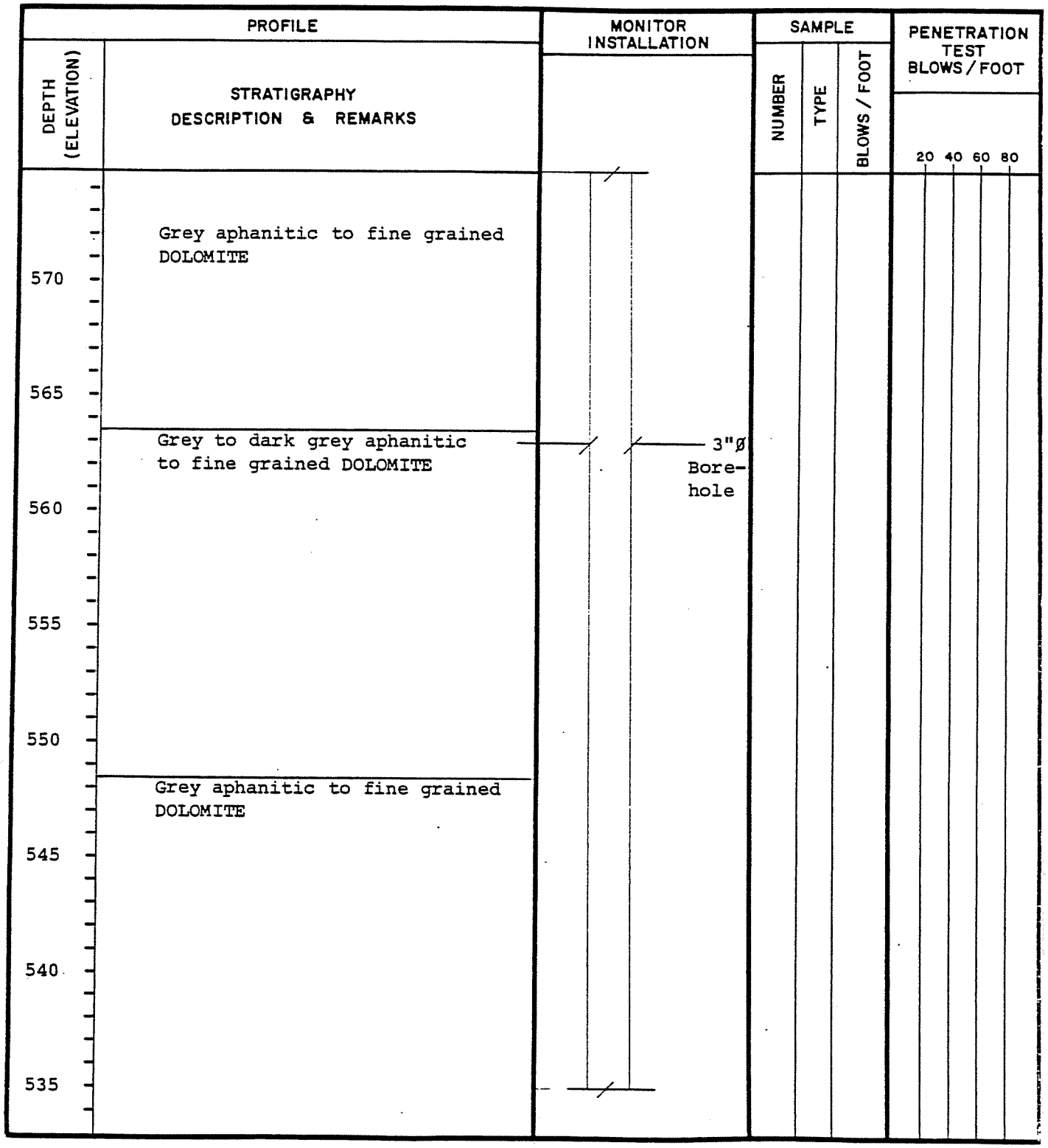
PROJECT NAME: HYDE PARK AQUIFER SURVEY
HOLE Nº: I-4 Page 1 of 4
JOB Nº: 9-1069
DATE COMPLETED: MARCH 9, 1983
CLIENT: OCCIDENTAL CHEMICAL CORPORATION
GEOLOGIST/ENGINEER: W. CLARKE/J. KAY
HOLE TYPE: 8"Ø AUGER/NX CORE
GROUND ELEVATION: 612.5
LOCATION: SE CORNER OF HYDE PARK LANDFILL
TOP OF PIPE ELEVATION:



○ GRAIN SIZE ANALYSIS ▼ WATER FOUND ▽ STATIC WATER LEVEL

STRATIGRAPHIC AND INSTRUMENTATION LOG

PROJECT NAME: HYDE PARK AQUIFER SURVEY
HOLE Nº: I-4 Page 2 of 4
JOB Nº: 9-1069
DATE COMPLETED: MARCH 9, 1983
CLIENT: OCCIDENTAL CHEMICAL CORPORATION
GEOLOGIST/ENGINEER: W. CLARKE/J. KAY
HOLE TYPE: 8"Ø AUGER/NX CORE
GROUND ELEVATION: 612.5
LOCATION: SE CORNER OF HYDE PARK LANDFILL
TOP OF PIPE ELEVATION:

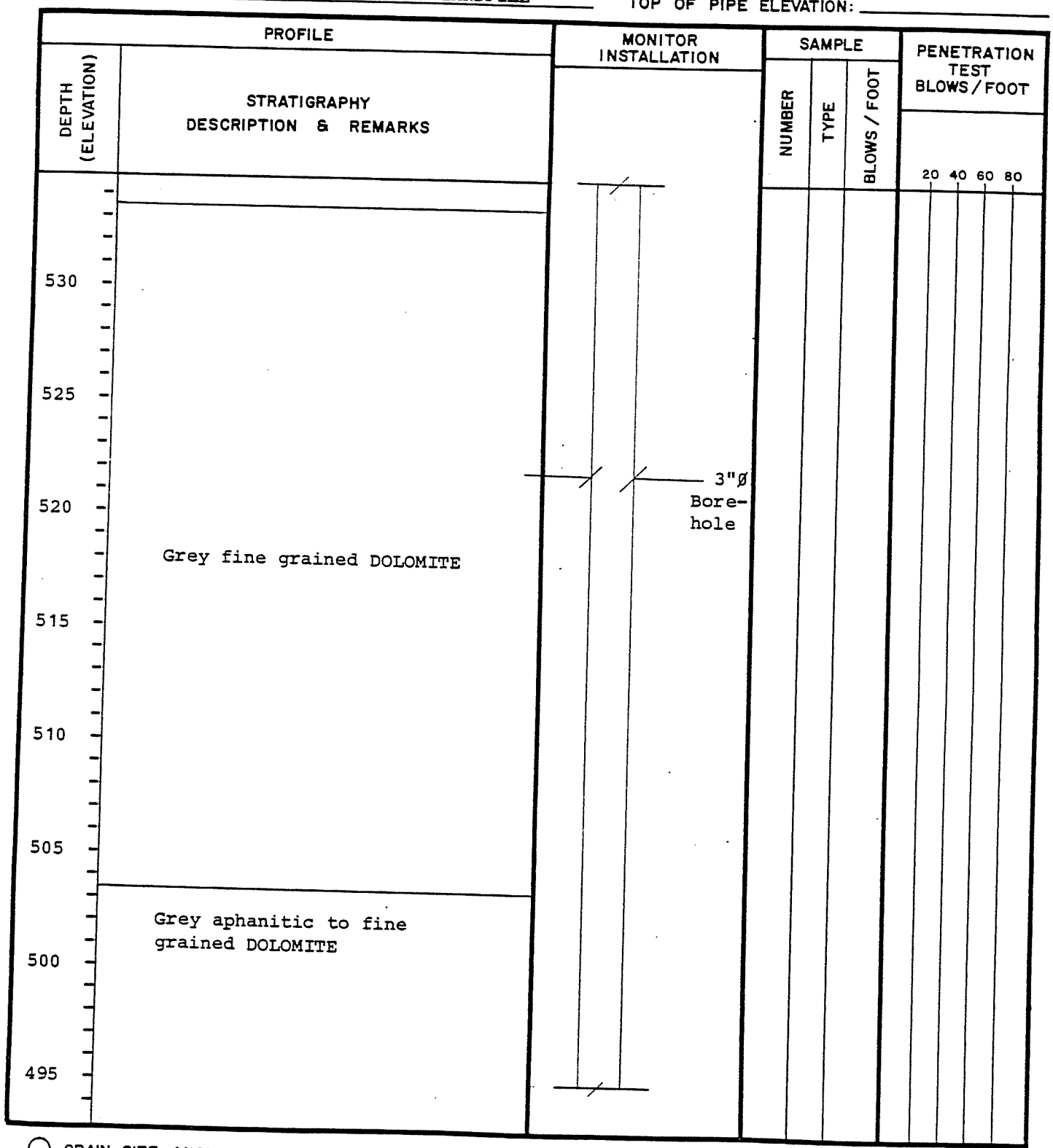


○ GRAIN SIZE ANALYSIS ▼ WATER FOUND ▽ STATIC WATER LEVEL

STRATIGRAPHIC AND INSTRUMENTATION LOG

PROJECT NAME : HYDE PARK AQUIFER SURVEY
JOB Nº : 9-1069
CLIENT : OCCIDENTAL CHEMICAL CORPORATION
HOLE TYPE : 8"Ø AUGER/NX CORE
LOCATION : SE CORNER OF HYDE PARK LANDFILL

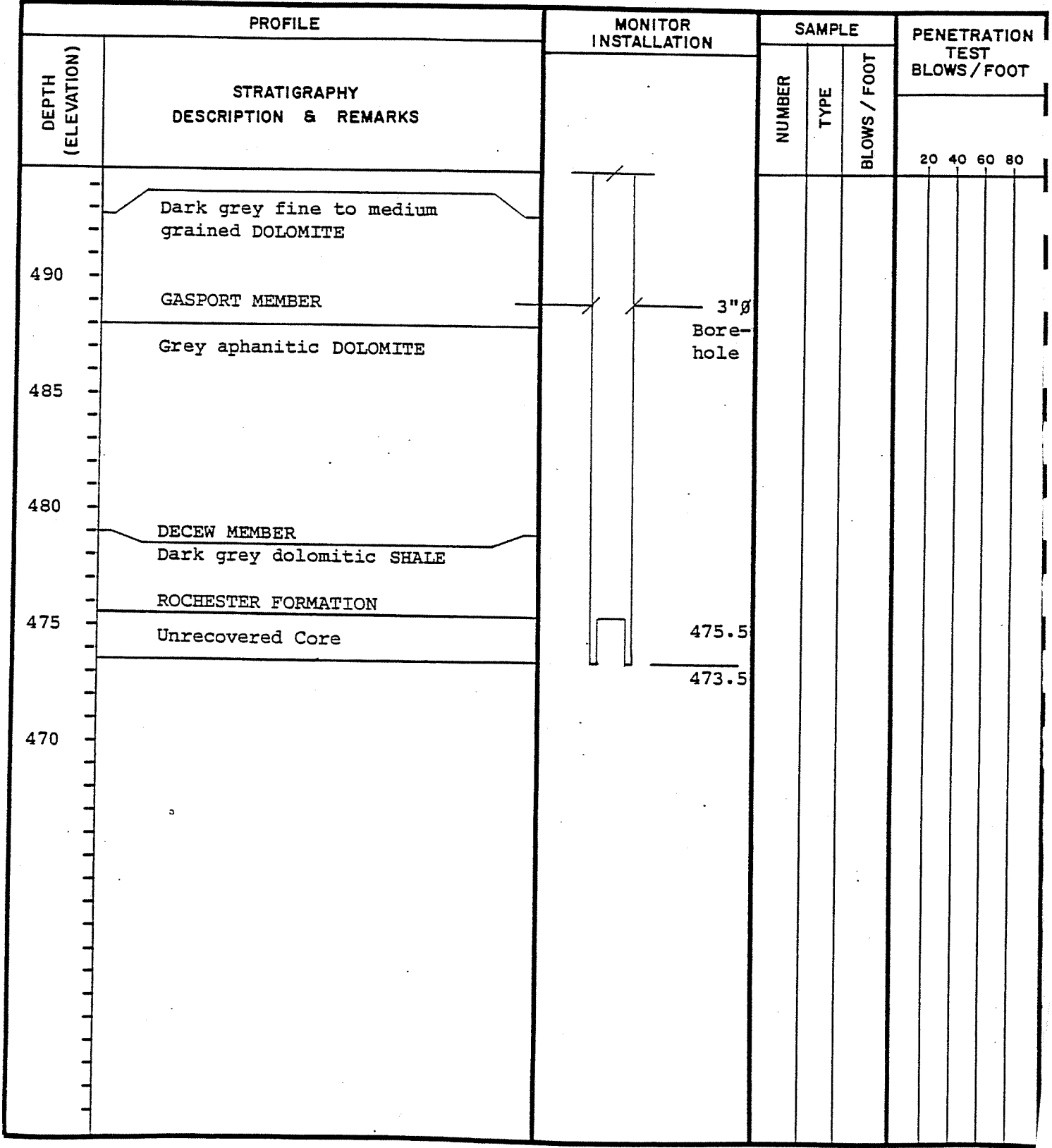
HOLE Nº: I-4
DATE COMPLETED: MARCH 9, 1983
GEOLOGIST/ENGINEER: W. CLARKE/J. KAY
GROUND ELEVATION: 612.5
TOP OF PIPE ELEVATION:



○ GRAIN SIZE ANALYSIS ▼ WATER FOUND ▽ STATIC WATER LEVEL

STRATIGRAPHIC AND INSTRUMENTATION LOG

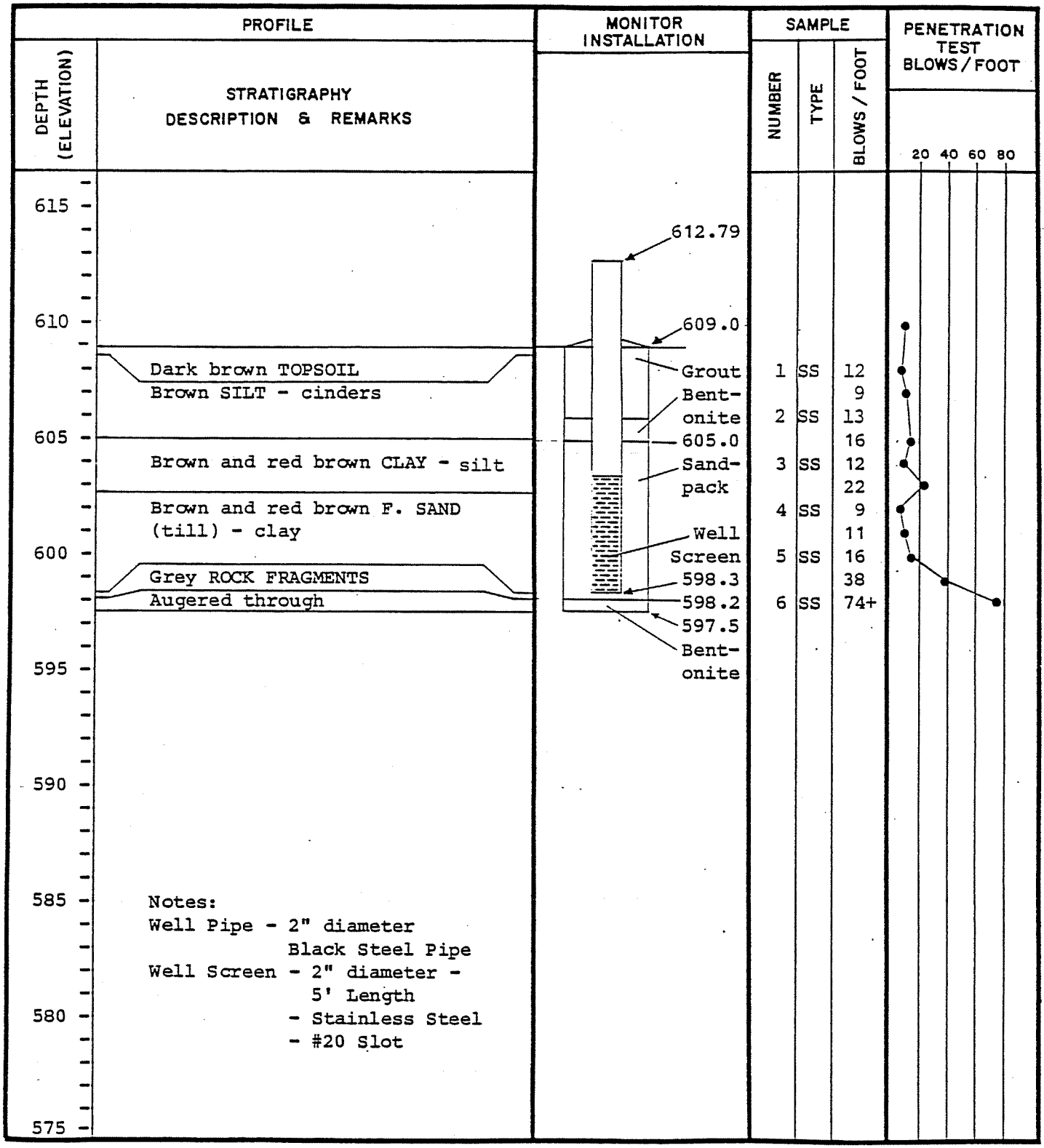
PROJECT NAME: HYDE PARK AQUIFER SURVEY
HOLE Nº: I-4 Page 4 of 4
JOB Nº: 9-1069
DATE COMPLETED: MARCH 9, 1983
CLIENT: OCCIDENTAL CHEMICAL CORPORATION
GEOLOGIST/ENGINEER: W. CLARKE/J. KAY
HOLE TYPE: 8"Ø AUGER/NX CORE
GROUND ELEVATION: 612.5
LOCATION: SE CORNER OF HYDE PARK LANDFILL
TOP OF PIPE ELEVATION:



○ GRAIN SIZE ANALYSIS ▼ WATER FOUND ▽ STATIC WATER LEVEL

STRATIGRAPHIC AND INSTRUMENTATION LOG

PROJECT NAME: HYDE PARK AQUIFER SURVEY
HOLE Nº: OVERBURDEN WELL G-5
JOB Nº: 9-1069
DATE COMPLETED: MAY 16, 1983
CLIENT: OCCIDENTAL CHEMICAL CORPORATION
GEOLOGIST/ENGINEER: W. CLARKE/J. KAY
HOLE TYPE: 8"Ø HOLLOW STEM AUGERS
GROUND ELEVATION: 609.0
LOCATION: CENTRAL TAM
TOP OF PIPE ELEVATION: 612.79



◯ GRAIN SIZE ANALYSIS ▼ WATER FOUND ▽ STATIC WATER LEVEL

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REPORT DATE: 23SEP83

OCCIDENTAL CHEMICAL CORPORATION
HYDE PARK SETTLEMENT DECREE

PLUME DEFINITION WELLS, PDW
BY WELL

*	= Sample out of range
-1	= Unsuitable value
ND	= Not Detected below the given level
COM	= Comment

QA CODES: C=Confirmed by GC/MS D=Duplicate
S=Second Phase Organic Z=Unsuitable Sample

ID NUMBER	QA	PH	COND	ANALYSIS: TOC	TOH	PHENOL	MCB	MCBTF	MCT	TRCLB	C56	TCP	TETCLB	HCCH	COMMENT
LIMITS:		4 5- 9.5		200 (mg/L)	0.5 (mg/L)	0.25 (mg/L)				*** 10 (ug/L) ***					
HP 22MAR83 PDW F-2 20-35		7.5	700	3	0.12	0.04	ND	ND	ND	ND	ND	ND	ND	ND	
*HP 23MAR83 PDW F-2 35-50	S	6.9	1800	6	*10.09	*9	*6200	*47	*9200	*1900	ND	*1200	*700	*380	COM
*HP 23MAR83 PDW F-2 65-80		7.4	1650	7	*2.3	*0.42	*1300	*19	*3800	*490	ND	*190	*220	*90	COM
*HP 24MAR83 PDW F-2 95-110		6.2	*9999	ND	*1.15	ND	ND	ND	ND	ND	ND	ND	*14	ND	COM
*HP 22FEB83 PDW F-3 12-27		7.2	800	2	ND	ND	*32	ND	*41	*52	ND	ND	*38	10	COM
*HP 22FEB83 PDW F-3 25-42		8.5	940	87	*10	*10.8	*1100	*310	*6100	*1600	ND	-1	*190	*525	COM
*HP 22FEB83 PDW F-3 41-57		6.5	7200	6	*0.8	ND	*11	ND	*25	*66	ND	ND	*69	*13	COM
*HP 23FEB83 PDW F-3 86-102	S	7.5	2800	96	*49.93	*32.3	*24000	*770	*11000					*1400	COM
*HP 05MAY83 PDW F-4 19-38	S														
*HP 23MAY83 PDW F-4 53-69		7.6	2010	3	*3.4	ND	*580	*41	*3400	*310	ND	*74	*160	*190	
*HP 24MAY83 PDW F-4 81-99		8.1	2600	70	*20	*2.2	*3800	*120	*10000	*510	*126	*1500	*134	*330	
*HP 25MAY83 PDW F-4 111-127		6.3	*9999	2	0.31	ND	*210	ND	*1400	*95	ND	*66	*27	*70	COM
*HP 07MAR83 PDW F-6 10-29	C	7.0	1120	3	0.09	ND	ND	*12	*31	*28	-1	ND	-1	-1	
*HP 07MAR83 PDW F-6 28-44		6.9	1320	2	0.2	ND	ND	ND	*12	-1	-1	ND	-1	-1	COM
*HP 08MAR83 PDW F-6 43-59	C	6.8	3500	7	0.13	ND	*12	ND	ND	ND	ND	ND	ND	ND	COM
*HP 08MAR83 PDW F-6 57-74		6.8	3500	7	0.16	ND	*11	ND	ND	ND	ND	ND	ND	ND	COM

MCB=monochlorobenzene
MCBTF=monochlorobenzotrifluorides
MCT=monochlorotoluenes
TRCLB=trichlorobenzenes
C56=hexachlorocyclopentadiene
TCP=2,4,5-trichlorophenol
TETCLB=Tetrachlorobenzenes
HCCH=hexachlorocyclohexanes

PAGE 9
REPORT DATE: 23SEP83

OCCIDENTAL CHEMICAL CORPORATION
HYDE PARK SETTLEMENT DECREE

PLUME DEFINITION WELLS, PDW
BY WELL

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QA CODES: C=Confirmed by GC/MS D=Duplicate
S=Second Phase Organic Z=Unsuitable Sample

ID NUMBER	QA	PH	COND	ANALYSIS: TOC	TOH	PHENOL	MCB	MCBTF	MCT	TRCLB	C56	TCP	TETCLB	HCCH	COMMENT
LIMITS:		4.5- 9.5		200 (mg/L)	0.5 (mg/L)	0.25 (mg/L)				***	10 (ug/L)	***			
*HP 02MAR83 PDW G-2 70-86		7.2	2100	2	0.35	ND	ND	*46	*209	*88	*21	ND	*40	*23	
*HP 02MAR83 PDW G-2 100-116		6.6	*9999	17	0.49	ND	*19	*47	*248	*68	ND	ND	*40	*20	COM
*HP 02MAR83 PDW G-2 200-216	D	6.5	*9999	15	0.35	0.2	*19	*45	*243	*63	ND	ND	*38	*20	COM
HP 22FEB83 PDW G-3 9-24		7.1	1720	4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	COM
*HP 22FEB83 PDW G-3 23-39		7.1	7900	49	*6.83	*7.5	*490	*300	*680	*210	ND	*71	*35	*39	COM
*HP 22FEB83 PDW G-3 38-54	S	6.3	6800	80	*6.83	*5									COM
*HP 24FEB83 PDW G-3 68-84		8.4	8100	27	*6.19	*100	*320	*210	*1200	*420	*16	*320	*110	*87	COM
*HP 25FEB83 PDW G-3 98-114		6.4	*9999	7		*0.8									COM
*HP 25FEB83 PDW G-3 98-114	S	6.4	*9999	7		*1.3									COM
*HP 26FEB83 PDW G-3 128-144		6.3	*9999	3		ND									COM
*HP 26FEB83 PDW G-3 128-144	S	6.3	*9999	3		ND									COM
*HP 18APR83 PDW G-4 14-29	S	5.9	*9999												COM
*HP 18APR83 PDW G-4 28-44	S	5.9	*9999												COM
*HP 18APR83 PDW G-4 41-59	S	7.0	3000												COM
HP 08JUN83 PDW G-5 O/B		7.5	1540	8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	COM
HP 26JAN83 PDW H-2 9-27		6.9	9800	2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	COM
HP 01FEB83 PDW H-2 26-42		7.0	990	2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	COM

OCCIDENTAL CHEMICAL CORPORATION
HYDE PARK SETTLEMENT DECREE

PLUME DEFINITION WELLS, PDW
BY WELL

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COM	= Comment

QA CODES. C=Confirmed by GC/MS D=Duplicate S=Second Phase Organic Z=Unsuitable Sample

ID NUMBER	QA	PH	COND	ANALYSIS: TOC	TOH	PHENOL	MCB	MCBTF	MCT	TRCLB	C56	TCP	TETCLB	HCCH	COMMENT
LIMITS:		4.5- 9.5		200 (mg/L)	0.5 (mg/L)	0.25 (mg/L)				***	10 (ug/L)	***			
HP 01FEB83 PDW H-2 41-57		7.4	1200	2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	COM
HP 01FEB83 PDW H-2 56-72		7.3	1340	2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	COM
*HP 03FEB83 PDW H-2 101-117		7.1	*9999	1	*1.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	COM
HP 07FEB83 PDW H-2 116-132		6.8	1850	4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	COM
*HP 12MAY83 PDW H-3 10-25		7.1	610	5	*0.76	0.05	ND	*18	*41	-1	-1	-1	-1	-1	COM
*HP 13MAY83 PDW H-3 10-40		7.2	610	5	0.16	ND	ND	ND	ND	*12	ND	ND	*16	ND	
*HP 16MAY83 PDW H-3 39-55		7.2	1700	5	*0.96	0.04	ND	ND	ND	ND	ND	ND	ND	ND	
*HP 16MAY83 PDW H-3 54-70		7.3	2500	8	*2.31	0.05	ND	ND	ND	ND	ND	ND	ND	ND	
*HP 17MAY83 PDW H-3 99-115		6.8	*9999	5	*1.65	ND	ND	ND	ND	*11	ND	ND	ND	ND	COM
*HP 18MAY83 PDW H-3 129-145		7.0	*9999	ND	0.38	ND	ND	ND	ND	ND	ND	ND	ND	ND	COM
*HP 27MAR83 PDW H-4 13-28	S														
*HP 27MAR83 PDW H-4 27-43	S														
*HP 28MAR83 PDW H-4 42-58	S														
*HP 05APR83 PDW H-4 87-103	S	6.9	5500												
*HP 05APR83 PDW H-4 102-118	S	6.4	5000												COM
*HP 06APR83 PDW H-4 118-133	S														COM

OCCIDENTAL CHEMICAL CORPORATION
HYDE PARK SETTLEMENT DECREE

PLUME DEFINITION WELLS, PDW
BY WELL

*	= Sample out of range
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ND	= Not Detected below the given level
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QA CODES: C=Confirmed by GC/MS D=Duplicate
S=Second Phase Organic Z=Unsuitable Sample

ID NUMBER	QA	PH	COND	ANALYSIS: TOC	TOH	PHENOL	MCB	MCBTF	MCT	TRCLB	C56	TCP	TETCLB	HCCH	COMMENT
LIMITS:		4.5- 9.5		200 (mg/L)	0.5 (mg/L)	0.25 (mg/L)				***	10 (ug/L)	***			
*HP 02FEB83 PDW I-2 49-65		7.0	2500	2	ND	*0.3	ND	ND	ND	ND	ND	ND	ND	ND	COM
HP 04FEB83 PDW I-2 64-80		6.9	2600	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	COM
HP 08FEB83 PDW I-2 94-110		7.1	1090	2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	COM
HP 09FEB83 PDW I-2 109-125		6.9	1275	3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	COM
*HP 02MAR83 PDW I-4 3-18		6.5	1550	140	*719	*18.5	*1200	*3700	*9100	-1	-1	-1	-1	-1	
*HP 07MAR83 PDW I-4 18-34		7.0	1730	16	*2.99	*6.4	*74	*140	*370	*140	ND	*73	*68	*26	COM
*HP 07MAR83 PDW I-4 33-49		6.8	2100	160	*21.18	*5.6	*550	*1300	*3000	*540	ND	-1	*107	*96	COM
*HP 07MAR83 PDW I-4 48-64		6.9	1640	68	*19.25	*17	*380	*700	*1800	*360	ND	-1	*82	*55	COM
*HP 08MAR83 PDW I-4 93-109		6.6	9100	15	0.2	*0.6	*45	*110	*270	*86	*12	*38	*95	*78	COM
*HP 09MAR83 PDW I-4 121-139		6.7	9700	12	*6.77	*1.1	*59	*183	*447	*99	ND	*55	*95	*24	
HP 18APR83 PDW I-5 15 BEDRK		7.3	1400		0.05		ND	ND	ND	ND	ND	ND	ND	ND	COM
*HP 09APR83 PDW I-5 9-24		7.1	1220	3	0.2	ND	ND	ND	ND	ND	ND	ND	*12	ND	COM
*HP 09APR83 PDW I-5 23-39		7.5	1200	3	0.2	ND	ND	ND	ND	ND	ND	ND	*11	ND	COM
HP 09APR83 PDW I-5 39-54	C	7.7	1250	3	0.2	ND	ND	ND	ND	ND	ND	ND	10	ND	
*HP 09APR83 PDW I-5 54-69	C	7.4	2100	2	0.06	ND	ND	ND	ND	ND	ND	ND	*12	ND	COM
HP 10APR83 PDW I-5 69-84		7.6	1470	2	0.07	ND	ND	ND	ND	ND	ND	ND	ND	ND	COM