FILE COPY

ENVIRONMENTAL SITE ASSESSMENT

MILL STREET

ROME, NEW YORK

Prepared for
Atlantic Energy Systems, Inc.

August 1990
GTA-90-75

TABLE OF CONTENTS

PHASE II ENVIRONMENTAL SITE ASSESSMENT
INDEPENDENT POWER PLANT
ROME, NEW YORK
GTA-91-40B

1.0 INTRODUCTION

Empire Soils Investigations, Inc. (Empire Soils) was authorized by Mr. David Palmer of Atlantic Energy Systems, Inc. to perform a Phase II Environmental Site Assessment at the site of a proposed power generation facility located on Mill Street, the City of Rome, Oneida County, New York (see Drawing No. 1, Appendix A). The investigation has been prepared for the exclusive use of Mr. David Palmer and Atlantic Energy Systems, Inc. The work was performed following generally accepted hydrogeologic procedures. No other warranty, either expressed or implied, is made.

Our conclusions regarding the site are based on the observations made and data collected during the study. Therefore, conclusions regarding the conditions of the site do not represent a warranty that all areas within the study area are of the same quality. Empire Soils Investigations, Inc. is not able to represent that the site is free of hazardous materials beyond that detected or observed by Empire Soils Investigations, Inc. during the site study.

1.1 Site Description

The site is located in the City of Rome, Oneida County, New York on Mill Street, approximately 20 feet north of the New York State Barge Canal (see Drawing No. 1, Appendix A). Topographic relief across the site is less than 5 feet.

In general, the area surrounding the site is used for general manufacturing purposes. A vacant building previously occupied by General Cable Corporation is located to the north of the site.

1.2 Previous Investigation

Prior to this investigation, Empire Soils conducted a Phase I Environmental Site Assessment of the proposed Independent Power Plant site (Empire Soils, August 1990). Findings of the Phase I investigation indicated that there was a potential that past activities associated with the General Cable Corporation facility may have degraded the groundwater and/or soil quality at the site. Based on these findings, Empire Soils recommended installing groundwater monitoring wells in the geotechnical borings for the proposed Independent Power Plant facility to serve as groundwater monitoring/sampling locations.

Borings B-2, B-6 and B-11 were advanced in May, 1991 (see Subsurface Logs in Appendix B) as part of the geotechnical investigation (Empire Soils, May 1991). Fill materials including cinders were encountered in borings B-2 and B-6 to 2.5 feet below the ground surface and 4.0 feet below the ground surface, respectively.

Monitoring wells were installed in borings B-2, B-6 and B-11. Groundwater samples were obtained from these three wells by representatives from O'Brien & Gere, Inc. in June, 1991. The groundwater samples were analyzed for volatile organic compounds, polychlorinated biphenyls (PCB's), semivolatile organic compounds, total metals, phenols and total petroleum hydrocarbons. The results of the analyses indicated that concentrations of trichloroethylene were detected in the groundwater samples from monitoring wells B-6 (930 ug/l) and B-11 (490 ug/l) above the NYSDEC groundwater standard of 5 ug/l (NYSDEC, 1990).

Vinyl chloride was detected in the sample from well B-11 (3 ug/l) above the NYSDEC groundwater standard of 2 ug/l (NYSDEC, 1990). Concentrations of 1,2-dichloroethylene (total) were detected in the samples from wells B-2 (170 ug/l), B-6 (380 ug/l) and B-11 (500 ug/l) above the NYSDEC groundwater standard of 5 ug/l (NYSDEC, 1990). A copy of the laboratory report from O'Brien & Gere Laboratories, Inc. is enclosed in Appendix C.

A test pit was excavated by O'Brien & Gere Engineers in June, 1991 at the location shown on Drawing No. 2, Appendix A. The test pit was excavated to approximately 9 feet below the ground surface. According to Mr. David Palmer, fill materials including cinders were encountered in the test pit excavation to approximately 1 foot below the ground surface. Natural soils were encountered below the fill materials to the bottom of the test pit. Two soil samples were obtained from the test pit for analysis of "volatile organics." The results of these analyses had not been received by Empire Soils as of the preparation of this report. However, Mr. David Palmer stated that no organic compounds were detected in the soil samples from the excavation.

2.0 OBJECTIVES AND SCOPE

The objective of the Phase II Environmental Site Assessment was to evaluate the groundwater and soil quality at the site. In addition, the purpose of the investigation was to further assess the extent of the contamination previously identified at the site.

Based on the previous investigations at the site, specific environmental concerns included the presence of fill materials such as cinders within the proposed construction areas, and the discovery of chlorinated solvents in the groundwater at the site. Due to the size of the

site, this investigation was limited to investigating two issues; 1) health and safety risks which might be associated with the subsurface construction proposed for the power plant (depth of up to 9 feet below the ground surface), and 2) groundwater conditions at the site. A thorough investigation of the entire General Cable complex was not performed due to time and budgetary constraints. A preliminary assessment was conducted to identify possible sources of groundwater contamination at the power plant site and potential migration pathways.

For addressing the objectives of the Phase II assessment, the scope of services provided by Empire Soils was limited to:

- Investigating potential sources of soil and water contamination at the site.
- Drilling five soil borings and obtaining split-spoon soil samples continuously from the ground surface to the bottom of each boring;
- Installing and developing monitoring wells in nine additional borings to provide long-term groundwater sampling points;
- Monitoring the soil samples from the borings in the field for volatile organic compounds using a photoionization detector (HNU);
- Classifying the soil samples from the borings by an Empire Soils geologist;
- Surveying the locations and elevations of the borings, monitoring wells and the surface water at one point on the barge canal;
- Measuring the groundwater levels in each of the monitoring wells to define the groundwater flow direction at the site;
- Analyzing one soil sample from each of the five soil borings for purgeable halocarbons by EPA Method 8010 and purgeable aromatics by EPA Method 8020.
- Analyzing one soil sample from each of the three proposed construction areas for TCLP metals.
- Analyzing groundwater samples from each monitoring well at the site for purgeable halocarbons by EPA Method 601 and purgeable aromatics by EPA Method 602.

3.0 METHODOLOGY

3.1 Soil Borings

The locations of the soil borings and monitoring wells were chosen by Bruce Coulombe and Steven Zientek of Empire Soils Investigations, Inc. (See Drawing No. 2, Appendix A). The borings/wells shown on Drawing No. 2 were advanced on July 25 through August 2, 1991 as part of the current investigation, with the exception of wells B-2, B-6 and MW-11S. These three wells were installed during the geotechnical investigation conducted in May, 1991 (Empire Soils, May 1991). The borings were advanced by drilling with 4 1/4-inch I.D. hollow stem augers.

Soil samples were obtained continuously from the ground surface to the bottom of borings B-12 through B-16. Soil samples were obtained at 5-foot intervals in the remaining borings. Additional soil samples were also obtained at various depths from the well borings to establish the depth to groundwater or the silt/clay layer identified in previous borings advanced at the site (Empire Soils, May 1991). Soil samples were obtained using a 2-inch O.D. split barrel sample spoon in accordance with ASTM Method D1586-84. Soil samples were classified on-site by an Empire Soils geologist.

The bore hole and soil samples were monitored during drilling with a photoionization detector (HNU) to analyze for the presence of volatile organic compounds and as a precautionary health and safety measure. "Head space" analyses were performed on the soil samples by allowing the vapors to collect in the sample jars for approximately 10 minutes prior to analysis with the HNU. The results of the analyses are contained in Table 1.

Borings were terminated at depths ranging from 10.0 feet below the ground surface in borings B-13, B-15 and B-16 to 47.0 feet below ground surface in boring MW-4D. Details for these borings are outlined in the Subsurface Logs contained in Appendix B.

3.2 Soil Sampling

On July 25, 1991 samples of the fill materials and natural soils were obtained from borings B-12, B-14 and B-16. Based on organic vapor readings, soil samples obtained for laboratory analyses were collected at the bottom of each boring (sample #5 from each boring). As indicated by Table 2, organic vapor readings generally increased with depth in borings B-12 through B-16. The highest organic vapor reading (10 ppm) was present in the jar containing soil sample #5 from the bottom of boring B-16. The sample depths are shown on the Subsurface Logs (Appendix B).

The soil samples were taken directly into laboratory supplied bottles. The soil samples were stored on ice and delivered to Huntingdon Analytical Services, Inc. by Federal Express following chain-of-custody procedures. Soil samples from borings B-12, B-14 and B-16 were analyzed for TCLP metals. Soil samples from borings B-12 through B-16 were analyzed for purgeable halocarbons by EPA Method 8010 and for purgeable aromatics by EPA Method 8020. The analytical results are contained in Appendix C.

The soil sample (S-5) from boring B-16 sent to be analyzed using the TCLP for metals was broken in transit to the laboratory. To replace this sample, soil sample S-4 was sent to the laboratory for analysis.

3.3 Monitoring Well Installation and Development

A monitoring well was installed in each of the borings, with the exception of borings B-12 through B-16. The wells are constructed of 2-inch diameter Schedule 40 PVC with 0.01-inch slotted well screens. The well screens are 10 feet long. The tops of the screens were installed at depths ranging from 10.0 feet below the ground surface in wells MW-1S, MW-2S, MW-3S to 33.0 feet below the ground surface in well MW-4D. A clean medium-grained quartz sand pack was placed around the well screens which extends at least 2.0 feet above the screen. A bentonite pellet seal 2.0 to 3.0 feet thick was placed in the annular space above the sand pack to minimize vertical migration of surface water runoff and/or contaminants through the annular space into the wells. The remainder of the annular space around the riser pipe was filled with grout from the top of the bentonite seal to the ground surface. Flush-mounted curb boxes were installed on wells MW-2S, MW-3S, MW-4S, MW-4D and locking caps were placed on the PVC riser pipes. Locking guard pipes which extend approximately 3 feet above the ground surface were installed at wells MW-1S, MW-1D, MW-2D, MW-3D, and MW-11D to protect the PVC well riser pipes. Well construction details are included in the Subsurface Logs in Appendix B.

The new monitoring wells were developed by bailing on August 6, 1991 prior to obtaining groundwater samples. Approximately 10 gallons of water were bailed from wells MW-1S, MW-4S, MW-4D and MW-11D. Wells MW-2S and MW-3S were purged of 15 gallons of water. Approximately 25 gallons of water was bailed from wells MW-1D, MW-2D and MW-3D.

3.4 Site Survey

The locations and elevations of the monitoring wells were surveyed on August 6, 1991. The locations of the wells and borings were determined by tape measurements taken from a baseline established parallel to the northern property boundary. The elevations for the wells, borings and barge canal were established by differential leveling using the manhole shown on Drawing No. 2 as a benchmark (100.06 feet at top of rim). The survey elevations for the ground surface and monitoring wells are presented in Table 2.

3.5 Water Level Measurements

Water levels were measured in each of the wells on August 6, 1991. Measurements were taken using an optical interface probe which was rinsed with distilled water between measurements. The reference elevation used for the water levels is the top of the PVC well pipe, with the exception of well MW-11S. The reference elevation used for the water level at well MW-11S is the top of the guard pipe casing. A summary of groundwater elevations is presented in Table 2.

3.6 Groundwater Sampling

Groundwater samples were obtained from all of the monitoring wells at the site on August 6, 1991. The water samples were taken using pre-cleaned PVC bailers. The wells were bailed prior to sampling to ensure the sampling of fresh formation water. The volume of water bailed from the new wells is discussed above in Section 3.3. Existing wells B-2 and MW-11S were purged of 5 (MW-11S) to 8 (B-2) gallons of water. Well B-6 was bailed dry after removing

approximately 3 gallons of water. All wells were allowed to recharge prior to sampling.

Groundwater samples were stored on ice and delivered to Huntingdon Analytical Services, Inc. by Federal Express following chain-of-custody procedures. The samples were analyzed for purgeable halocarbons by EPA Method 601 and for purgeable aromatics by EPA Method 602. The analytical results are contained in Appendix C.

4.0 FINDINGS OF THE INVESTIGATION

4.1 Site Hydrogeology

Soils composed of silt with varying amounts of sand, gravel, brick fragments and cinders were encountered in the borings to depths of approximately 4 to 10 feet below the ground surface. These soils were interpreted to be fill materials.

The natural soils encountered in the borings were composed predominantly of a brown silt unit with varying amounts of fine to coarse sand, gravel and clay overlaying a sand unit. A gray silt unit with varying amounts of clay was encountered in the deep borings (greater than 20 feet below the ground surface) below the sand unit. These units are interpreted to be alluvial deposits.

The brown silt unit with varying amounts of sand, gravel, and clay was encountered in all the borings to depths ranging from 7.0 feet (B-12) to 20.0 feet (MW-3D) below the ground surface. This silt unit was encountered to the bottom of borings B-13 through B-16 (10.0 to 11.0 feet below the ground surface). Below the brown silt unit, a fine to coarse sand unit with varying amounts of gravel, silt and clay was encountered in the remaining borings.

The sand unit was encountered below the brown silt unit to the bottom of borings MW-1S, MW-3S, MW-4S, MW-4D,

and B-12 (22.0, 20.0, 21.0, 47.0 and 11.0 feet below the ground surface, respectively). In wells MW-1D, MW-2S, MW-2D, MW-3D, and MW-11D the sand unit was encountered to depths ranging from 20.0 to 40.0 feet below the ground surface.

Below the sand unit, a gray silt unit was encountered to the bottom of borings MW-1D, MW-2S, MW-3D, and MW-11D (22.0 to 42.0 below the ground surface). In boring MW-2D, the gray silt unit was underlain by a layer of gray fine sand which extended from 32.0 feet below the ground surface to the bottom of the boring (34.0 feet below the ground surface).

Groundwater elevations in the monitoring wells on August 8, 1991 are listed in Table 2. The groundwater elevations ranged from 85.39 feet at well MW-2D to 87.37 feet at well MW-4S. The surface water elevation at the point shown on Drawing No. 2 was 85.14 feet on August 8, 1991. A Water Table Map for August 8, 1991 (Drawing No. 3) is contained in Appendix A. Based on the water levels in the shallow monitoring wells (B-2, B-6, MW-1S, MW-2S, MW-3S, MW-4S and MW-11S) and the surface water elevation at the Barge Canal, the direction of groundwater flow at the site is to the south towards the Barge Canal.

4.2 Soil Quality

Although there was no olfactory evidence of soil contamination in the soil samples from the borings, there was visual evidence of cinders in some of the soil samples. The cinders were apparently used as fill materials. Fill materials including cinders and brick fragments were detected in the soil samples from the borings to depths ranging from 5 feet below the ground surface to 10 feet

below the ground surface. These materials are classified by the NYSDEC as a solid waste according to NYCRR Part 360 regulations.

As shown in Table 1, "head space" analyses indicate that organic vapor concentrations ranged from less than 1 to 10 ppm in the glass jars containing the soil samples from the borings. The highest organic vapor concentration was present in sample #5 from boring B-16.

The results of the EPA Method 8010 analyses indicate that 100 ug/l of trichloroethylene was detected in the soil sample from boring B-14. The analytical results for the soil samples from borings B-12 through B-16 also indicate that methylene chloride was detected by EPA Method 8010 in all the soil samples and the method blank. The concentrations of methylene chloride detected ranged from 110 ug/kg in the method blank to 290 ug/kg in the soil sample from boring B-14. This suggests that the concentrations detected by the EPA Method 8010 analyses were caused by laboratory interference. The analytical results for the EPA Method 602 analyses indicate that no concentrations of purgeable hydrocarbons were present in the soil samples above the detection limits of the analysis.

The laboratory report for the soil sample analyses is included in Appendix C and the analytical results are summarized in Table 3. The results of the TCLP metals analyses indicate that barium was detected in each soil sample (borings B-12, B-14, and B-16) in concentrations ranging from 0.27 mg/l (boring B-14) to 2.94 mg/l (boring B-16). These concentrations are below the EPA regulatory level of 100 mg/l. Cadmium (0.22 mg/l) and lead (100 mg/l) were detected in the soil sample from boring B-16. The concentration of cadmium is below the EPA regulatory level

of 1.0 mg/l. However, the concentration of lead detected in the soil sample exceeds the EPA regulatory level for hazardous waste of 5.0 mg/l.

Based on these findings, soil sample S-2 from boring B-16 was delivered to Buck Environmental Laboratories on August 22, 1991 for analysis using the TCLP Method for lead. The results of the analysis indicated that the concentration of lead in soil sample S-2 was below the detection limit of the analysis (0.10 mg/l).

4.3 Groundwater Quality

There was no visual or olfactory evidence of groundwater contamination detected during the sampling event. However, several compounds were detected by the laboratory analyses indicating that the groundwater quality at the site has been degraded. The laboratory report is included in Appendix C and the analytical results are summarized in Table 4.

Total-1,2 dichloroethylene was detected in each of the groundwater samples from the monitoring wells by EPA Method 601. Concentrations of total-1,2 dichloroethylene ranged from 1.1 ug/l in the sample from well MW-1S to 630 ug/l in the sample from well B-6. The concentrations of total-1,2 dichloroethylene exceed the NYSDEC groundwater standard of 5 ug/l in each sample, with the exception of the sample from well MW-1S (NYSDEC, 1990). Total-1,2 dichloroethylene was detected in the field blank (0.89 ug/l), but was not detected in the method blank.

Trichloroethylene was detected by EPA Method 601 in all of the samples from the monitoring wells, with the exception of wells MW-1S and MW-2S. Concentrations of trichloroethylene detected by the EPA Method 601 analyses ranged from 17 ug/l in well MW-2D to 910 ug/l in well B-6.

Concentrations of trichloroethylene detected in each of the samples, with the exception of wells MW-1S and MW-2S (none detected) exceeds the NYSDEC groundwater quality standard of 5.0 ug/l (NYSDEC, 1990). Trichloroethylene was detected in the field blank (1.7 ug/l), but was not detected in the method blank.

Analytical results indicate that 1,1 dichloroethene (1.0 ug/l) and 1,1 dichloroethane (0.52 ug/l) were detected in the groundwater sample from well MW-4S by EPA Method 601. These concentrations are below the NYSDEC groundwater quality standard of 5.0 ug/l for each compound (NYSDEC, 1990). These compounds were not detected in the field blank or method blank.

Benzene was detected in the groundwater samples from wells MW-1D, MW-11D, B-2 and B-6 by the EPA Method 602 analyses. The concentrations of benzene detected in these samples ranged from 0.56 ug/l in the sample from well MW-11D to 0.86 ug/l in the sample from well B-2. The concentrations of benzene detected in these wells exceed the NYSDEC groundwater standard of none detected (NYSDEC, 1990).

An Isoconcentration Plan was constructed for the August 6, 1991 sampling event (see Drawing No. 4, Appendix A). The concentrations are presented as the sum of total-1,2 dichloroethylene and trichloroethylene.

4.4 Potential Sources

The site of this investigation is a portion of the former General Cable manufacturing facility. The facility began operations in the early 1900s as Rome Wire Company, and became the General Cable Company in 1927. Buildings or property presently owned by several nearby businesses were once part of the General Cable complex. These properties include the HESS Oil terminal, Hubbard Tool and

Die, Mosca Brothers Moving and Storage, Canterbury Press, and the holdings of Mr. George Rossi and Mr. Charles Gaetano. At the time of its closing in 1972 General Cable's operation was limited to the building immediately adjacent to the north side of the proposed power plant site.

Numerous underground utility lines are reportedly present at the site. A complex of storm sewer lines is present throughout the former General Cable complex, with three discharge lines to the barge canal (see Drawing No. 5). A municipal water line enters the complex at the east side along the northern side of the Hess terminal. Underground tunnels are present which carried steam from the boilers at the center of the complex to the General Cable buildings.

General Cable. A visual inspection was made of portions of the former General Cable building in order to assess the potential that hazardous materials had been used or disposed of which would have an environmental impact on the proposed power plant site. The inspection was carried out by a representative of Empire Soil, Mr. Charles Gaetano (the present site owner), Mr. Henry Mauer (former superintendent of the facility for General Cable), and Mr. Bob Viscome (the site manager for Gaetano Realty Corp.).

General Cable ceased production at this site in 1972: The building has been vacant since the plant closed except for a portion of the building which was rented to Precision Castings, a golf club manufacturer. A fire occurred in the portion of the building rented by Precision Castings and the company went out of business after occupying the site for approximately two years.

Mr. Mauer was not aware of the use of any solvents at the site while he was employed there. He reported that

muriatic (hydrochloric) acid was used to clean the copper used in the wire. The acid was recycled in a small building at the west side of the site (see Drawing No. 5). It was reported by the site manager that acids were found in an excavation in the vicinity of this building approximately 3 years ago. Mr. Sten Boustedt, a former employee of General Cable, reported that acid had once been discovered in a steam tunnel adjacent to this building.

Underground fuel oil tanks are located at the north side of the main General Cable building adjacent to the boiler room for the facility. According to Mr. Neil Carrier of the NYSDEC (Utica Petroleum Spill office) these tanks are not registered and have not been investigated. These tanks were reportedly used for the storage of #6 fuel oil. The large above ground oil tank located adjacent to the barge canal was used for the storage of #2 fuel oil, with transfer lines connecting it to the boiler room. The transfer lines appear to be disconnected and access ports to the tank are open. An undetermined quantity of water is present at the bottom of the tank.

An oil spill was reported to the NYSDEC approximately three years ago as a result of the discovery of petroleum in the manhole at the northwest side of the proposed power plant site (see Drawing No. 2). The spill was reportedly remediated by NYSDEC personnel.

Electrical transformers containing PCB oils were removed from the site approximately one year ago. These transformers were located at the northwest side of the General Cable building near the fuel oil tanks. It is not known whether PCBs were released to the environment.

All major mechanical equipment has been removed from the building. Pits associated with furnaces at the southwest side of the building were filled with sand by Mr. Gaetano. Other open areas beneath floor elevation were

observed during the inspection. Water was observed in some of these pits and catch basins.

Mr. Mauer reported that the concrete paving at the south side of the building was installed in the 1940s during World War II, and that the area was used to store bulk copper. Prior to this time this area was also used for coal storage.

According to Mr. Boustedt underground tanks were also located in basements within the facility for the mixing and heating of "drawing dip". This material consisted of lubricants which were used on the dies during the process of drawing copper into wire. This lubricant also contained copper which would flake-off during the drawing process.

Above and below ground tanks were reported by Mr. Boustedt to have been used by the enamel department of the facility for coating wire coils. These tanks were located near the present Canterbury Press building.

Extensive machine shops were once present at the facility for the manufacturing of dies for the copper wire. (Chlorinated solvents are commonly used as cleaning agents in machine shops.) At the time of the plant closure the machine shop was located in a small building which is now on the Mosca Moving Company property.

Other Vacant General Cable property. To the northeast of the General Cable building closed in 1972 are other former General Cable properties owned by Mr. Gaetano. A portion of a building has been renovated and is presently used as a garage, with a small office fronting Railroad Street. A portion of this property is vacant where the buildings have been torn down. All of the remaining buildings are in poor condition (except for the restored section). Piles of demolition debris are present in some areas, and

empty drums are present in various places around the facility. Due to the age and generally poor condition of the drums no indications could be found of their original contents. A small empty drum labeled trichlortrifluromethane - Barcon 13 was found in the wooded area along the barge canal.

Selway Furniture. The Selway company owns two buildings which are used for the production of wooden cabinets. Selway began operations at the site between 1965 and 1967 in the former General Cable garage. The main (western) building owned by Selway was reported to have been used formerly as a warehouse by Carls Drug Company. Drums were observed on the loading dock of the main (western) building. Labels included "Nelsonite" wood stabilizer and "conversion varnish".

The plant manager, Mr. Jim Perry reported that unusual odors have been detected associated with the floor drain in the loading bay at the south end of the main building. These odors occurred in the spring during several successive years and that they were drawn in throughout the building due to the ventilation system of the building. These odors were reported to the City Fire Department, with determined that they were not potentially explosive. They were also reported to the NYSDEC, which could not determine their source. Mr. Perry reported that several workers felt ill due to these vapors. This storm drain is downgradient of former General Cable buildings to the north (see Drawing No. 5).

HESS Terminal. The site of the HESS oil terminal was purchased from General Cable. Three above ground bulk oil storage tanks are present at the site which were reported by the HESS site manager to have been constructed between

1961 and 1962. The site was closed for petroleum storage by HESS approximately one year ago, however it is still maintained by HESS personnel. The site was reportedly used by General Cable as disposal site where scrap wire insulation was burned. Three groundwater monitoring wells are present at the site. According to the site manager petroleum concentrations in groundwater from these wells does not exceed NYSDEC standards, however drillers and groundwater samplers have reported that the water quality in the wells is unusual, implying that other compounds may be present.

Hubbard Tool and Die. The Hubbard Tool and Die Company was started between 1963 and 1965 by a former General Cable machinist (Fritz Hubbard), and provided machine shop services to General Cable. A small brick building next to the machine shop was observed to contain several drums of chemicals, including cutting oils and 1-1-1 trichloroethane. These materials are commonly used in machine shops. The presence of citrus-based solvents was noted in the machine shop.

Canterbury Press. This building is located at the west side of the General Cable building. Drums of chemicals were stored along the fence bordering General Cable. Contents included:

- Superkleene IC
- Ecolo-Clean
- Prisco Autowash X

The contents of "Prisco Autowash" were listed on the drum as aliphatics, aromatics, creosol, and phalate. The southern end of the Canterbury building is occupied by the Kynex Corp.

Rossi Building. An inspection was not made of the former General Cable building owned by Mr. George Rossi. Drums and pails were observed on the loading dock at the rear of this building. Labels included:

- o SPRA Cure White
- o Spect
- o Low T Bleach

Other Buildings and Facilities. Revere Copper Company operated a manufacturing facility at the northwest side of the side. A "heavy equipment" manufacturing facility owned by the Pettibone Company formerly occupied a building to the northeast of the site on Dominic Avenue. Neither of these properties were investigated during this study. The City of Rome Public Works Department garage is located northwest of the site on property formerly owned by General Cable. A petroleum spill investigation is currently underway at this site, however the water table map for that investigation indicates that the direction of groundwater flow is to the southwest, away from the subject parcel of this investigation.

Conclusions. No obvious source for the chlorinated compounds in the groundwater at the site was found during this investigation. A review of historical maps of the site showed that machine shops were present in the General Cable building upgradient of the proposed power plant site. No information could be found regarding the storage, use, or disposal of solvents at the site. 111 trichloroethane was observed at the Hubbard Tool and Die facility, however this site is hydraulically cross-gradient of the monitoring well network.

The network of storm sewer lines and underground steam tunnels may act as a conduit for migration of contaminants throughout the former General Cable building

complex. It is possible that groundwater quality at the proposed power plant site may have been affected by contaminants which have migrated from present or former industrial sites through this system. A review of a plan of the storm drain system indicates that drain lines from the Canterbury Press, the Rossi Building, and some of the General Cable buildings owned by Mr. Gaetano converge in an area hydraulically upgradient of the proposed power plant site (see Drawing No. 5). Groundwater contamination through leaks in the storm sewer system could occur if contaminants are present in the sewer lines.

4.5 Potential Receptors

The potential receptors of contaminated groundwater and soil vapors were identified in order to evaluate the impact to human life and/or the environment associated with soil and/or groundwater contamination at the site. Potential receptors include public and private water supply wells, commercial and residential structures with basements, surface water bodies, and underground utilities (sanitary and storm sewers, water and gas lines).

There are no known public or private groundwater supply wells downgradient of the site. The water for the commercial and residential properties in the vicinity of the site is supplied by the City of Rome.

Locations of businesses in the area of the site are shown on Drawing No. 5. Properties located in the area surrounding the site are used for general manufacturing (industrial). Buildings with basements are of concern due to the potential for impact caused by volatilization of contaminants in the groundwater. However, since the groundwater flows south towards the Barge Canal and there are no occupied structures between the site and the Barge Canal, there is little likelihood that basements down-

Blank out comment in margin

gradient of the site [illegible] any contamination from the site.

Surface water bodies which could potentially become contaminated by the groundwater from the site include the barge canal. Groundwater in the vicinity of the site discharges into the barge canal which is located approximately 20 feet south of the site.

As-built drawings of the area indicate that there are utilities (storm and sanitary sewers, catch basins, water and natural gas lines) at the site. Underground utility lines are of concern because they may serve as conduits for the migration of contaminated groundwater and/or vapors. Although no invert elevations were available for these utility lines, the depth of the groundwater (approximately 10 to 15 feet below the ground surface) would minimize the potential of these lines or their excavations acting as conduits for groundwater.

Contradicts early statement regarding exposure of contamination via sewers

4.6 Construction Considerations

The Geotechnical Engineering Evaluation for the proposed power plant (Empire Soils, August 1991) indicated that structurally unsuitable materials found beneath foundations would need to be excavated and replaced with structurally sound materials. The materials identified for removal included fill and may include natural soils which are unsuitable or must be removed to create a uniform grade. Based on the proposed foundation design, soils will not be excavated beyond 6 feet below grade in the vicinity of boring B-16. The final determination of the depth of excavation will be made in the field by a geotechnical engineer during the excavation for the foundations. Groundwater is expected to be below the anticipated depth of construction at the site.

5.0 CONCLUSIONS

- The soils encountered in the borings at the site are composed of fill materials overlying a brown silt unit. Below the brown silt unit, a sand unit with varying amounts of gravel, silt and clay was encountered. A gray silt unit was encountered below the sand unit. The natural soils are interpreted to be alluvial deposits.
- Bedrock was not encountered in any of the borings.
- Based upon the Water Table Map constructed for the August 6, 1991 monitoring event, the local direction of groundwater flow is to the south towards the Barge Canal.
- Concentrations of the metals detected in the soil samples from borings B-12, B-14 and B-16 were below the EPA regulatory levels, with the exception of lead. Lead (100 mg/l) was detected in one sample (S-4) from boring B-16 above the EPA regulatory level of 5 mg/l.
- Soil samples analyzed from borings B-12 through B-16 using EPA Methods 8010 and 8020 did not contain concentrations of purgeable halocarbons or purgeable aromatics above the detection limits of the analyses, with the exception of methylene chloride in all the samples and trichloroethylene (100 ug/l) in the sample from boring B-14. The concentrations of methylene chloride detected in all the soil samples and the method blank were most likely caused by laboratory interference.
- Each of the groundwater samples analyzed by EPA Method 601 contained concentrations of total-1,2 dichloroethylene above NYSDEC groundwater quality standards, with the exception of the sample from well MW-1S.
- Each of the groundwater samples analyzed by EPA Method 601 contained concentrations of trichloroethylene above NYSDEC groundwater quality standards, with the exception of the samples from wells MW-1S and MW-2S.
- Groundwater samples analyzed by EPA Method 602 did not contain concentrations of purgeable aromatics above detection limits, with the exception of benzene. Concentrations of benzene were detected in the groundwater samples from monitoring wells MW-1D, MW-11D, B-2, and B-6 above NYSDEC groundwater standard/guidance values.
- Potential receptors of contaminated groundwater at the site include groundwater and surface water bodies hydraulically downgradient of the site (to the south).
- There are no known public or private groundwater supply wells in the hydraulically downgradient direction of the site.
- Soil vapors and contaminated groundwater may be migrating off-site towards the south.

- o No obvious source for the chlorinated compounds in the groundwater at the site was found during this investigation. The direction of groundwater flow and distribution of chlorinated solvents indicates that the source is to the north of the proposed power plant property.

6.0 REFERENCES

Empire Soils Investigations, Inc. Phase I Environmental Site Assessment, August, 1990.

Empire Soils Investigations, Inc. Geotechnical Engineering Evaluation, August, 1991.

NYSDEC, 1990. Ambient Water Quality Standards and Guidance Values, Division of Water Technical and Operational Guidance Series 85-W-38.

Respectfully submitted,

EMPIRE SOILS INVESTIGATIONS, INC.

Karen Seitz
Hydrogeologist

Bruce Coulombe
Manager of Environmental Services

TABLES

TABLE 1
ORGANIC VAPOR READINGS
INDEPENDENT POWER PLANT
ROME, NEW YORK
GTA-91-40B

SAMPLE NUMBER	MW-1S	MW-1D	MW-2S	MW-2D	MW-3S	MW-3D	MW-4S	MW-4D	MW-11D	B-12	B-13	B-14	B-15	B-16
1	<1	4	<1	5	<1	<1	3	2	<1	---	1	<1	1	4
2	4	---	<1	4	<1	<1	3	3	<1	4	1	<1	1	4
3	<1	<1	<1	2	<1	<1	3	3	<1	4	1	<1	4	4
4	<1	<1	<1	2	<1	<1	3	3	<1	4	1	<1	4	4
5		<1		---	<1	<1	1	3	<1	4	1	<1	4	10
6		<1		2	<1	<1	1	2	<1					
7		<1		2		<1	1	6	<1					
8		<1		<1		<1	1	5	<1					
9		<1				<1	1	5						
10						<1	<1	6						
11						<1		6						

NOTES:
- PHOTOIONIZATION DETECTOR WAS CALIBRATED TO 61 ppm ISOBUTYLENE.
- CORRECTION FACTOR FOR TRICHLOROETHYLENE IS 0.787 MULTIPLIED BY ACTUAL READING.
- ALL READINGS TAKEN USING A PHOTOIONIZATION DETECTOR (HNU).
- ALL READINGS IN ppm.
- FOR SAMPLE DEPTHS, SEE SUBSURFACE LOGS IN APPENDIX B.

--- - NO READING TAKEN.

TABLE 2
SURVEY AND GROUNDWATER ELEVATIONS
INDEPENDENT POWER PLANT
ROME, NEW YORK
GTA-91-40B

	MW-1S	MW-1D	MW-2S	MW-2D	MW-3S	MW-3D	MW-4S	MW-4D	MW-11S	MW-11D	B-2	B-6
GROUND SURFACE ELEVATION	99.03	99.06	98.36	100.19	100.15	100.25	97.08	97.18	99.93	99.82	99.69	99.17
REFERENCE ELEVATION	101.56	101.55	98.38	102.27	100.13	102.24	96.79	97.08	102.17	102.28	101.71	101.20
DATE												
08-06-91	85.48	86.17	86.63	85.39	86.96	87.20	87.37	86.73	86.82	86.86	86.73	85.93

NOTES:
- ALL GROUNDWATER ELEVATIONS ARE REFERENCED TO THE TOP OF PVC, EXCEPT MW-11S, WHICH IS REFERENCED TO THE TOP OF THE GUARD PIPE.

TABLE 3
SUMMARY OF ANALYTICAL RESULTS
SOIL SAMPLES
INDEPENDENT POWER PLANT
ROME, NEW YORK
GTA-91-408

ANALYTICAL METHOD	COMPOUND/METAL	B-12 (S-5)	B-13 (S-5)	B-14 (S-5)	B-15 (S-5)	B-16 (S-2)	B-16 (S-4)	B-16 (S-5)	METHOD BLANK	EPA LIMIT
EPA METHOD 8010 (ug/kg)	METHYLENE CHLORIDE	180	190	190	190	---	---	220	110	
	TRICHLOROETHENE	<50	<50	110	<50			<50	<50	
EPA METHOD 8020 (ug/kg)		ND	ND	ND	ND	---	---	ND	ND	
TCLP METALS (mg/l)	BARIUM	0.31	---	0.27	---	---	2.94	---	ND	100
	CADMIUM	ND	---	ND	---	---	.22	---	ND	1.0
	LEAD	ND	---	ND	---	ND	100	---	ND	5.0

NOTES:

- ONLY COMPOUNDS OR METALS DETECTED ARE LISTED.
ND - NONE DETECTED.
--- - NOT TESTED.
ug/kg - MICROGRAMS PER KILOGRAM.
mg/l - MILLIGRAMS PER LITER.

TABLE 4
SUMMARY OF ANALYTICAL RESULTS
GROUNDWATER SAMPLES
INDEPENDENT POWER PLANT
ROME, NEW YORK
GTA-91-40B

ANALYTICAL METHOD	MW-1S	MW-1D	MW-2S	MW-2D	MW-3S	MW-3D	MW-4S	MW-4D	MW-11S	MW-11D	B-2	B-6	METHOD BLANK	FIELD BLANK
PURGEABLE HALOCARBONS EPA METHOD 601 (ug/l)	1.1	* 920	* 62	* 167	* 221	* 490	* 59.52	* 740	* 830	* 1,060	* 740	* 1,540	ND	2.59
PURGEABLE AROMATICS EPA METHOD 602 (ug/l)	ND	** 0.58	ND	ND	ND	ND	ND	ND	ND	** 0.56	** 0.86	** 0.74	ND	ND

NOTES:

- ALL CONCENTRATIONS ARE SUM TOTALS OF REPORTED VALUES.
- SAMPLES WERE OBTAINED ON 08/06/91.

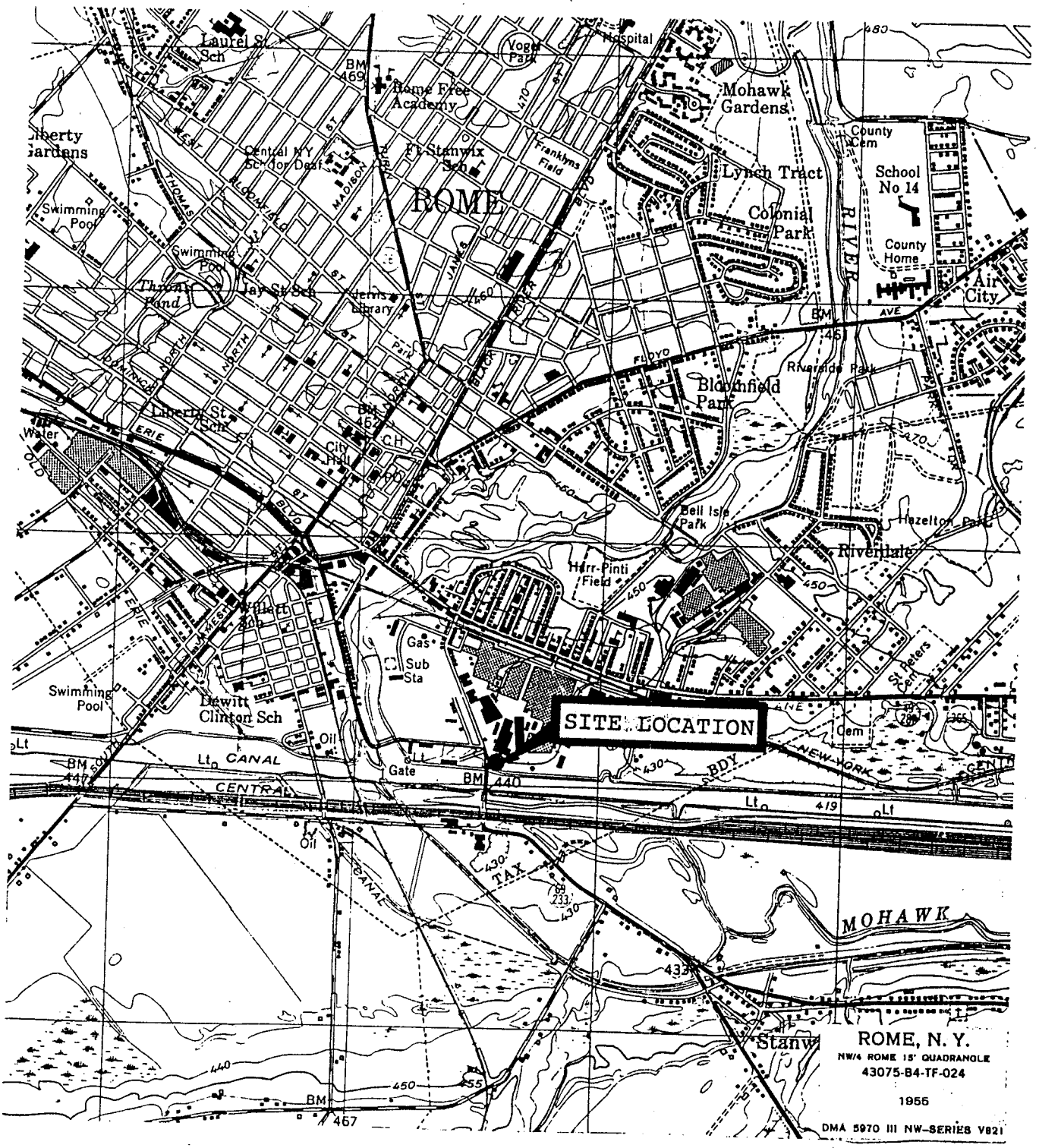
* - CONCENTRATION EXCEEDS NYSDEC GROUNDWATER STANDARDS FOR 1,2 DICHLOROETHYLENE AND/OR TRICHLOROETHYLENE (5 ug/l).

** - CONCENTRATION EXCEEDS NYSDEC GROUNDWATER STANDARDS FOR BENZENE (NONE DETECTED).

ND - NONE DETECTED.

ug/l - MICROGRAMS PER LITER.

APPENDIX A



N

EMPIRE SOILS INVESTIGATIONS INC

CONSULTING GEOTECHNICAL ENGINEERS & GEOLOGISTS

SITE LOCATION PLAN
ENVIRONMENTAL SITE ASSESSMENT - PHASE II
MILL ST.
ROME, NEW YORK

DR. BY: — — —	SCALE: 1"=2000'	PROJ. NO.: GTA-91-40B
REV'D. BY:	DATE: AUG 1991	DRWG. NO.: 1

APPENDIX B

DATE
STARTED 8-01-91
FINISHED 8-01-91
SHEET 1 OF 1

EMPIRE SOILS INVESTIGATIONS INC. SUBSURFACE LOG

HOLE NO. MW-1S
SURF. ELEV. 99.03'
G. W. DEPTH See Notes

PROJECT Independent Power Plant
GTA-91-040B

LOCATION Rome, New York

DEPTH FT	SAMPLES	SAMPLE NO	BLOWS ON SAMPLER 0/6	6/12	12/18	N	Sample Recovery (Inches)	SOIL OR ROCK CLASSIFICATION
0								CONCRETE 0.5'
								FILL: Brown SILT, Some fine-coarse Sand & Gravel, brick chips & cinders
5		1	2	3				
				3	2	6	6"	(Moist-Loose)
10		2	7	2				Brown fine-coarse SAND, Some Silt, little fine-coarse gravel, trace clay
				2	2	4	6"	(Moist-Loose)
15		3	5	6				becomes (Wet-Firm)
				5	6	11	6"	
20		4	7	1				grades to little silt, trace fine gravel
				1	2	2	6"	becomes (Loose)
								Boring Terminated at 22.0'
25								

Guardpipe with Lock
Grout
Schedule 40 2" PVC Riser Pipe
Bentonite Seal
3Q Sand
.01" Slotted Screen
Natural Fill

NOTES
Reference Elevation Top of PVC 101.56'
Groundwater at 85.48' on 8-6-91.

N = No. blows to drive 2 " spoon 12 " with 140 lb. pin wt. falling 30 "per blow.
C = No. blows to drive _____ " casing _____ " with _____ lb. weight falling _____ "per blow.
4¼" I.D. Hollow Stem Augers

CLASSIFICATION Visual by Geologist

DATE
STARTED 8-01-91
FINISHED 8-01-91
SHEET 1 OF 2

EMPIRE SOILS INVESTIGATIONS INC. SUBSURFACE LOG

HOLE NO. MW-1D
SURF. ELEV. 99.06'
G. W. DEPTH See Notes

PROJECT Independent Power Plant
GTA-91-040B

LOCATION Rome, New York

DEPTH-FT	SAMPLES	SAMPLE NO	BLOWS ON SAMPLER 0/6	6/12	12/18	N	Sample Recovery (Inches)	SOIL OR ROCK CLASSIFICATION
0								CONCRETE 0.5'
								FILL: Brown SILT, Some fine-coarse Sand & Gravel, brick chips
5		1	2	2				
				2	2	4	12"	(Moist-Loose)
10		2	6	3				
				2	2	5	NR	
15		3	8	5				Brown fine-coarse SAND & GRAVEL, little silt
				5	5	10	6"	(Wet-Loose)
20		4	1	1				Brown fine-coarse SAND, little silt, trace fine gravel
				1	1	2	6"	(Wet-Loose)
25		5	4	9				grades to little fine-coarse gravel
				15	24	24	12"	becomes Gray, (Firm)
30		6	24	100/.1'			12"	cobbles encountered
		7	51	16				Brown fine-coarse SAND, little fine gravel, trace silt
				15	11	31	6"	(Wet-Compact) 34.0'
35		8	10	6				cobbles encountered
				6	2	12	6"	becomes (Firm)
40								

NOTES
Guardpipe with Lock
Grout with Natural Fill
Bentonite Seal
Schedule 40 PVC Riser Pipe
3Q Sand
.01" Slotted Screen

N = No blows to drive 2 " spoon 12 " with 140 lb. pin wt. falling 30 "per blow.
C = No blows to drive _____ " casing _____ " with _____ lb. weight falling _____ "per blow.

CLASSIFICATION Visual by Geologist

4¼" I.D. Hollow Stem Auger

DATE
STARTED 8-01-91
FINISHED 8-01-91
SHEET 2 OF 2

EMPIRE SOILS INVESTIGATIONS INC. SUBSURFACE LOG

HOLE NO. MW-1D
SURF. ELEV. 99.06'
G. W. DEPTH See Notes

PROJECT Independent Power Plant
GTA-91-040B

LOCATION Rome, New York

DEPTH FT	SAMPLES	SAMPLE NO	BLOWS ON SAMPLER 0/6	6/12	12/18	N	Sample Recovery (Inches)	SOIL OR ROCK CLASSIFICATION	NOTES
40		9	4	6				Gray SILT, Some Clay, little fine sand	Natural Fill
				5	3	11	6"		
								Boring Terminated at 42.0'	Reference Elevation Top of PVC 101.55' Groundwater at 86.17' on 8-6-91.
45									

N = No blows to drive 2 " spoon 12 " with 140 lb. pin wt. falling 30 "per blow.

C = No blows to drive _____ " casing _____ " with _____ lb. weight falling _____ "per blow.

CLASSIFICATION Visual by Geologist

METHOD OF INVESTIGATION 4¼" I.D. Hollow Stem Augers

DATE
STARTED 8-02-91
FINISHED 8-02-91
SHEET 1 OF 1

EMPIRE SOILS INVESTIGATIONS INC. SUBSURFACE LOG

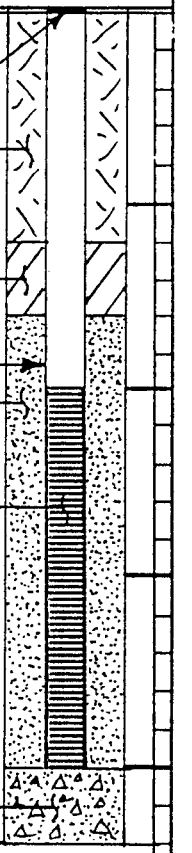
HOLE NO. MW-2S
SURF. ELEV. 98.36'
G. W. DEPTH See Notes

PROJECT Independent Power Plant
GTA-91-040B

LOCATION Rome, New York

DEPTH-FT	SAMPLES	SAMPLE NO	BLOWS ON SAMPLER 0/6	6/12	12/18	N	Sample Recovery (Inches)	SOIL OR ROCK CLASSIFICATION
0								CONCRETE 0.5'
								FILL: SILT, fine-coarse SAND & GRAVEL
5		1	4	5				
				6	10	11	12"	Brown SILT, Some fine Sand, trace clay (Damp-Loose)
10		2	28	28				
				28	9	56	4"	Brown fine-coarse SAND & GRAVEL, little silt (Damp-Very Compact)
15		3	2	3				
				13	9	16	6"	Brown fine-coarse SAND & GRAVEL, Some Silt, trace clay (Wet-Firm)
20		4	5	7				
				5	12	12	4"	Gray SILT, Some Clay (Wet-Firm)
								Boring Terminated at 22.0'
25								

NOTES



Reference Elevation Top of PVC 98.38'

Groundwater at 86.63' on 8-6-91.

N = No blows to drive 2 " spoon 12 " with 140 lb. pin wt. falling 30 "per blow.

C = No blows to drive ____ " casing ____ " with ____ lb. weight falling ____ "per blow.

CLASSIFICATION Visual by Geologist

METHOD OF INVESTIGATION 4¼" I.D. Hollow Stem Augers

DATE
STARTED 8-02-91
FINISHED 8-02-91
SHEET 1 OF 1

EMPIRE SOILS INVESTIGATIONS INC. SUBSURFACE LOG

HOLE NO. MW-2D
SURF. ELEV. 100.19'
G. W. DEPTH See Notes

PROJECT Independent Power Plant
GTA-91-040

LOCATION Rome, New York

DEPTH FT	SAMPLES	SAMPLE NO	BLOWS ON SAMPLER 0/6	6/12	12/18	N	Sample Recovery (Inches)	SOIL OR ROCK CLASSIFICATION
0								CONCRETE 0.5'
								FILL: Brown SILT with fine-coarse SAND & GRAVEL
5		1	3	4				Brown SILT, little fine SAND, trace clay (Damp-Loose)
				4	5	8	6"	
10		2	4	6				becomes (Firm)
				8	10	14	4"	
15		3	3	5				Brown fine-coarse SAND & GRAVEL, Some Silt (Wet-Firm)
				7	7	12	6"	
20		4	3	5				
				5	6	10	6"	becomes (Loose)
25		5	4	7				becomes (Firm)
				6	4	13	NR	
		6	3	3				Gray SILT, Some Clay, little fine sand (Wet-Loose)
30				3	3	6	18"	
		7	4	6				
				5	4	11	12"	becomes (Firm)
		8	11	15				Gray fine SAND, Some SILT, little clay, trace fine gravel (Wet-Compact)
				20	24	35	12"	
35								Boring Terminated at 34.0'
40								

GuardpipeNOTES with Lock

Grout with Natural Fill

Schedule 40 2" PVC Riser Pipe

Bentonite Seal

3Q Sand

.01" Slotted Screen

Natural Fill

Reference Elevation Top of PVC 102.27'

Groundwater at 85.39' on 8-6-91

N = No blows to drive 2 " spoon 12 " with 140 lb. pin wt. falling 30 "per blow.

C = No blows to drive _____ " casing _____ " with _____ lb. weight falling _____ "per blow.

CLASSIFICATION Visual by Geologist

METHOD OF INVESTIGATION 4¼" I.D. Hollow Stem Augers

DATE
STARTED 7-30-91
FINISHED 7-30-91
SHEET 1 OF 1

EMPIRE SOILS INVESTIGATIONS INC. SUBSURFACE LOG

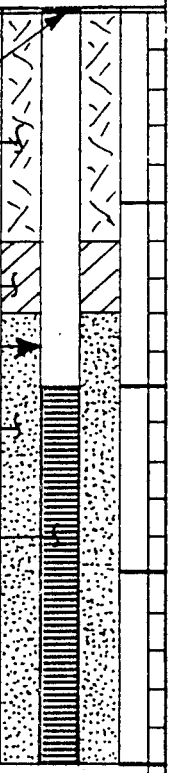
HOLE NO. MW-3S
SURF. ELEV. 100.15'
G. W. DEPTH See Notes

PROJECT Independent Power Plant
GTA-91-040B

LOCATION Rome, New York

DEPTH-FT	SAMPLES	SAMPLE NO	BLOWS ON SAMPLER 0/6	6/12	12/18	N	Sample Recovery (Inches)	SOIL OR ROCK CLASSIFICATION
0								CONCRETE 0.5'
								FILL: SILT, fine-coarse SAND & GRAVEL
5		1	2	3				
				4	5	7	18"	Brown SILT with trace fine-coarse sand (Damp-Loose)
		2	3	3				grades to Some fine-coarse Sand
10				2	4	5	18"	12.0'
		3	3	4				Gray SILT, little clay (Damp-Loose)
				4	4	8	24"	14.7'
		4	1	3				Gray SILT, Some Peat (Moist-Loose)
15				3	2	6	18"	grades to little peat
		5	2	2				18.8'
				2	2	4	24"	Gray fine-coarse SAND & GRAVEL, little silt (Wet-Loose)
		6	11	4				Boring Terminated at 20.0'
20				4	4	8	12"	
25								

NOTES



Reference Elevation Top of PVC 100.13'

Groundwater encountered at 10.0'.
Groundwater at 86.96' on 8-6-91.

N = No blows to drive 2 " spoon 12 " with 140 lb. pin wt. falling 30 "per blow.

C = No blows to drive ____ " casing ____ " with ____ lb. weight falling ____ "per blow.

CLASSIFICATION Visual by Geologist

METHOD OF INVESTIGATION 4¼" I.D. Hollow Stem Augers

DATE
STARTED 7-31-91
FINISHED 7-31-91
SHEET 1 OF 1

EMPIRE SOILS INVESTIGATIONS INC. SUBSURFACE LOG

HOLE NO. MW-3D
SURF. ELEV. 100.25'
G. W. DEPTH See Notes

PROJECT Independent Power Plant
GTA-91-040B

LOCATION Rome, New York

DEPTH FT	SAMPLES	SAMPLE NO	BLOWS ON SAMPLER 0/6	6/12	12/18	N	Sample Recovery (Inches)	SOIL OR ROCK CLASSIFICATION	NOTES
0								CONCRETE 0.5'	Guardpipe with lock
								FILL: Silt & fine-coarse SAND & GRAVEL, brick chips	Grout with Natural Fill
5		1	2	2					
				3	4	5	12"	Brown SILT, little fine sand, trace clay (Damp-Loose)	
10		2	3	4				becomes (Wet)	Schedule 40 2" PVC Riser Pipe
				4	5	8	12"		
15		3	2	3					
				4	4	7	18"	Dark Gray SILT, Some Peat, trace clay (Moist-Loose)	
20		4	8	15					Bentonite Seal
				21	16	36	18"	Gray fine-coarse SAND & GRAVEL, little silt (Wet-Compact)	
		5	38	16					3Q Sand
				15	13	31	18"	becomes (Firm)	
25		6	3	5					
				15	22	20	12"	Cobbles encountered, becomes Compact	.01" Slotted Screen
		7	10	15					
				40	20	55	12"	becomes (Very Compact)	
		8	12	28					
30				27	15	55	6"	30.0'	
		9	12	8				Gray SILT, Some fine Sand, little clay (Wet-Firm)	
				2	6	10	12"		
		10	6	3					
				3	5	6	18"	becomes (Moist-Loose)	
35		11	5	3					Natural Fill
				3	7	6	12"		
								Boring Terminated at 36.0'	Reference Elevation Top of PVC 102.24' Groundwater at 87.20' on 8-6-91.
40									

N = No blows to drive 2 " spoon 12 " with 140 lb. pin wt. falling 30 "per blow.

C = No blows to drive _____ " casing _____ " with _____ lb. weight falling _____ "per blow.

CLASSIFICATION Visual by Geologist

METHOD OF INVESTIGATION 4¼" I.D. Hollow Stem Augers

DATE
STARTED 7-26-91
FINISHED 7-26-91
SHEET 1 OF 1

EMPIRE SOILS INVESTIGATIONS INC.

SUBSURFACE LOG

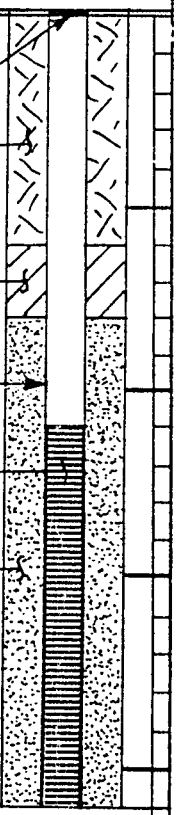
HOLE NO. MW-4S
SURF. ELEV. 97.08'
G. W. DEPTH See Notes

PROJECT Independent Power Plant
GTA-91-040B

LOCATION Rome, New York

DEPTH-FT	SAMPLES	SAMPLE NO	BLOWS ON SAMPLER 0/6	6/12	12/18	N	Sample Recovery (Inches)	SOIL OR ROCK CLASSIFICATION
0								CONCRETE 1.0'
		1	4	3				FILL: SILT, fine-coarse SAND & GRAVEL
				3	5	6	18"	
		2	4	5				
5				9	6	14	18"	5.0'
		3	1	2				Brown SILT, little gray clay, trace fine-coarse sand (Damp-Loose)
				3	4	5	18"	
		4	3	4				
				5	5	9	18"	
10		5	3	3				
				4	4	7	18"	grades to Some fine-coarse Sand
		6	4	4				
				5	5	9	18"	becomes (Moist)
		7	1	1				14.0'
				1	1	2	18"	Gray SILT, Some fine-coarse Sand, little fine-coarse gravel (Wet-Loose)
15		8	1	1				
				1	1	2	12"	
		9	1	1				
				2	27	3	6"	19.0'
		10	10	8				Gray fine-coarse SAND & GRAVEL, Some Silt (Wet-Firm)
20				8	15	16	6"	
								Boring Terminated at 21.0'
25								

NOTES



Reference Elevation Top of PVC 96.79'

Groundwater at 87.37' at 8-6-91.

N = No blows to drive 2 " spoon 12 " with 140 lb. pin wt. falling 30 "per blow.

C = No blows to drive _____ " casing _____ " with _____ lb. weight falling _____ "per blow.

CLASSIFICATION Visual by Geologist

4¼" I.D. Hollow Stem Augers

DATE
STARTED 7-29-91
FINISHED 7-30-91
SHEET 1 OF 2

EMPIRE SOILS INVESTIGATIONS INC.

SUBSURFACE LOG

HOLE NO. MW-4D
SURF. ELEV. 97.18'
G. W. DEPTH See Notes

PROJECT Independent Power Plant
GTA-91-040B

LOCATION Rome, New York

DEPTH FT	SAMPLES	SAMPLE NO	BLOWS ON SAMPLER 0/6	6/12	12/18	N	Sample Recovery (Inches)	SOIL OR ROCK CLASSIFICATION	NOTES
0								CONCRETE 0.5'	Curb Box with Locking Cap
								FILL: SILT, fine-coarse SAND & GRAVEL	
5		1	1	2					
				1	3	3	24"	Brown SILT, little gray clay, trace fine-coarse sand (Damp-Loose)	Grout
10		2	3	5					
				5	6	10	24"	Brown SILT, Some fine-coarse Sand, trace clay (Moist-Loose)	
15		3	2	1					
				1	1	2	20"	Gray SILT, Some fine-coarse Sand, little fine-coarse gravel (Wet-Loose)	
20		4	11	7					
				8	14	15	16"	Gray fine-coarse SAND & GRAVEL, Some Silt (Wet-Firm)	
		5	21	16				grades to little silt	
				17	42	33	16"	becomes (Compact)	
		6	12	26				becomes (Very Compact)	
25				29	30	55	24"		Schedule 40 2" PVC Riser Pipe
		7	7	7				grades to Some Silt	
				7	12	14	12"	becomes (Firm)	Bentonite Seal
30		8	17	18				cobbles encountered	
				50/.2'			12"	becomes (Very Compact)	3Q Sand
35		9	46	100/.4'			6"		.01" Slotted Screen
40									

N = No blows to drive 2 " spoon 12 " with 140 lb. pin wt. falling 30 "per blow.

C = No blows to drive _____ " casing _____ " with _____ lb. weight falling _____ "per blow.

METHOD OF INVESTIGATION 4¼" I.D. Hollow Stem Augers

CLASSIFICATION Visual by Geologist

DATE
STARTED 7-29-91
FINISHED 7-30-91
SHEET 2 OF 2

EMPIRE SOILS INVESTIGATIONS INC. SUBSURFACE LOG

HOLE NO. MW-4D
SURF. ELEV. 97.18'
G. W. DEPTH See Notes

PROJECT Independent Power Plant
GTA-91-040B

LOCATION Rome, New York

DEPTH FT	SAMPLES	SAMPLE NO	BLOWS ON SAMPLER 0/6	6/12	12/18	N	Sample Recovery (Inches)	SOIL OR ROCK CLASSIFICATION	NOTES
40		10	13	48				Gray fine-coarse SAND & GRAVEL, Some fine Sand, little silt (Wet-Very Compact)	
				62/.4'			14"		Natural Fill
45		11	7	19				Gray fine-medium SAND, Some Silt, trace gravel (Wet-Compact)	
				14	8	33	12"		
								Boring Terminated at 47.0'	Reference Elevation Top of PVC 97.08'
50									Groundwater at 86.73' on 8-6-91.

N = No blows to drive 2 " spoon 12 " with 140 lb. pin wt. falling 30 "per blow.

C = No blows to drive _____ " casing _____ " with _____ lb. weight falling _____ "per blow.

METHOD OF INVESTIGATION 4¼" I.D. Hollow Stem Augers

CLASSIFICATION Visual by Geologist

DATE
STARTED 8-01-91
FINISHED 8-02-91
SHEET 1 OF 1

EMPIRE SOILS INVESTIGATIONS INC. SUBSURFACE LOG

HOLE NO. MW-11D
SURF. ELEV. 99.82'
G. W. DEPTH See Notes

PROJECT Independent Power Plant
GTA-91-040B

LOCATION Rome, New York

DEPTH-FT	SAMPLES	SAMPLE NO	BLOWS ON SAMPLER 0/6	6/12	12/18	N	Sample Recovery (Inches)	SOIL OR ROCK CLASSIFICATION
0								CONCRETE 0.5'
								FILL: Brown SILT, fine-coarse SAND & GRAVEL, brick chips
5		1	3	4				
				4	5	8	6"	Dark Brown SILT, Some fine Sand, trace clay (Damp-Loose)
10		2	3	3				
				7	9	10	12"	becomes (Moist)
15		3	1	3				Gray fine-coarse SAND & GRAVEL, Some Silt, trace clay (Wet-Loose)
				3	4	6	6"	
20		4	3	4				
				4	5	8	18"	grades to trace silt
25		5	6	10				
				15	11	25	12"	becomes (Firm)
30		6	6	14				becomes (Compact)
				24	6	38	18"	
		7	7	6				grades to Some Silt
				8	10	14	12"	becomes (Firm) 34.0'
35		8	2	3				Gray SILT, Some Clay, trace fine-coarse sand (Wet-Loose)
				3	6	6	18"	
40								Boring Terminated at 36.0'

NOTES

Guardpipe with Lock
Grout with Natural Fill
Schedule 40 2" PVC Riser Pipe
Bentonite Seal
3Q Sand
.01" Slotted Screen
Natural Fill

Reference Elevation Top of PVC 102.28'
Groundwater at 86.86' on 8-6-91.

N = No blows to drive 2 " spoon 12 " with 140 lb. pin wt. falling 30 "per blow.

C = No blows to drive ____ " casing ____ " with ____ lb. weight falling ____ "per blow.

METHOD OF INVESTIGATION 4¼" I.D. Hollow Stem Augers

CLASSIFICATION Visual by Geologist

DATE
STARTED 07-25-91
FINISHED 07-25-91
SHEET 1 OF 1

EMPIRE SOILS INVESTIGATIONS INC. SUBSURFACE LOG

HOLE NO. B-12
SURF. ELEV. 99.83'
G. W. DEPTH See Notes

PROJECT Independent Power Plant
GTA-91-040B

LOCATION Rome, New York

DEPTH-FT	SAMPLES	SAMPLE NO	BLOWS ON SAMPLER 0/6	6/12	12/18	N	Sample Recovery (Inches)	SOIL OR ROCK CLASSIFICATION	NOTES
0								CONCRETE 1.0'	
		1	7	12					
				11	6	23	NR	FILL: Brown Silt, Some fine-coarse Sand, trace fine-coarse gravel	
		2	6	8					
5				8	5	16	4"		
		3	7	2					
				2	3	4	12"	(Moist-Loose) 7.0'	
		4	3	2				Brown fine-coarse SAND, trace silt	
				3	2	5	10"	(Moist-Loose)	
		5	4	2					
10				2	4	4	8"		
								Boring Terminated at 11.0'	
15									

N = No blows to drive 2 " spoon 12 " with 140 lb. pin wt. falling 30 "per blow.

C = No blows to drive _____ " casing _____ " with _____ lb. weight falling _____ "per blow.

CLASSIFICATION Visual by Geologist

METHOD OF INVESTIGATION 4¼" I.D. Hollow Stem Augers

DATE
STARTED 07-25-91
FINISHED 07-25-91
SHEET 1 OF 1

EMPIRE SOILS INVESTIGATIONS INC.

SUBSURFACE LOG

HOLE NO. B-13
SURF. ELEV. 99.70'
G. W. DEPTH See Notes

PROJECT Independent Power Plant
GTA-91-040B

LOCATION Rome, New York

DEPTH FT	SAMPLES	SAMPLE NO	BLOWS ON SAMPLER 0/6	6/12	12/18	N	Sample Recovery (Inches)	SOIL OR ROCK CLASSIFICATION	NOTES
0								CONCRETE 1.0'	
		1	6	5	5	10	2"	FILL: Bronw SILT, little fine sand, trace clay (Damp-Loose)	
		2	7	7	8	15	2"	becomes (Firm)	
		3	3	3				becomes (Loose)	
5				4	4	7	2"		
		4	4	5					
				6	7	11	2"	becomes (Firm)	
		5	5	5					
				6	7	11	2"		
10								Boring Terminated at 10.0'	
15									

N = No blows to drive 2 " spoon 12 " with 140 lb. pin wt. falling 30 "per blow.

C = No blows to drive _____ " casing _____ " with _____ lb. weight falling _____ "per blow.

CLASSIFICATION Visual by Geologist

METHOD OF INVESTIGATION 4¼" I.D. Hollow Stem Augers

DATE
STARTED 07-25-91
FINISHED 07-25-91
SHEET 1 OF 1

EMPIRE SOILS INVESTIGATIONS INC. SUBSURFACE LOG

HOLE NO. B-14
SURF. ELEV. 99.62'
G. W. DEPTH See Notes

PROJECT Independent Power Plant
GTA-91-040B

LOCATION Rome, New York

DEPTH FT	SAMPLES	SAMPLE NO	BLOWS ON SAMPLER 0/6	6/12	12/18	N	Sample Recovery (Inches)	SOIL OR ROCK CLASSIFICATION	NOTES
0								CONCRETE 1.0'	
		1	5	6				FILL: Brown SILT, little fine sand,	
				5	9	11	18"	trace brick fragments	
		2	8	8				4.0'	
				8	9	16	10"	Brown SILT, little clay, trace fine	
5		3	2	2				sand (Damp-Firm)	
				3	3	5	6"	becomes (Loose)	
		4	2	2					
				3	2	5	4"		
		5	5	5	5	10	6"		
10								Boring Terminated at 10.5'	
15									

N = No blows to drive 2 " spoon 12 " with 140 lb. pin wt. falling 30 "per blow.

C = No blows to drive _____ " casing _____ " with _____ lb. weight falling _____ "per blow.

CLASSIFICATION Visual by Geologist

METHOD OF INVESTIGATION 4¼" I.D. Hollow Stem Augers

DATE
STARTED 07-25-91
FINISHED 07-25-91
SHEET 1 OF 1

EMPIRE SOILS INVESTIGATIONS INC. SUBSURFACE LOG

HOLE NO. B-15
SURF. ELEV. 99.22'
G. W. DEPTH See Notes

PROJECT Independent Power Plant
GTA-91-040B

LOCATION Rome, New York

DEPTH FT	SAMPLES	SAMPLE NO	BLOWS ON SAMPLER 0/6	6/12	12/18	N	Sample Recovery (Inches)	SOIL OR ROCK CLASSIFICATION	NOTES
0								CONCRETE 1.0'	
		1	18	24	24	48	6"	FILL: fine-coarse SAND, Some fine-coarse Gravel, little brick fragments 4.0'	
		2	17	11	8	19	8"		
		3	6	7				Brown SILT, Some fine-coarse Sand & Gravel (Moist-Firm)	
5				8	7	15	8"		
		4	5	17				becomes (Compact)	
				17	18	34	10"		
		5	17	15					
				9	11	24	6"		
10								Boring Terminated at 10.0'	
15									

N = No. blows to drive 2 " spoon 12 " with 140 lb. pin wt. falling 30 "per blow.

C = No. blows to drive _____ " casing _____ " with _____ lb. weight falling _____ "per blow.

CLASSIFICATION Visual by Geologist

DATE
STARTED 07-25-91
FINISHED 07-25-91
SHEET 1 OF 1

EMPIRE SOILS INVESTIGATIONS INC.

SUBSURFACE LOG

HOLE NO. B-16
SURF. ELEV. 99.09'
G. W. DEPTH See Notes

PROJECT Independent Power Plant
GTA-91-040B

LOCATION Rome, New York

DEPTH FT	SAMPLES	SAMPLE NO	BLOWS ON SAMPLER 0/6	6/12	12/18	N	Sample Recovery (Inches)	SOIL OR ROCK CLASSIFICATION	NOTES
0								CONCRETE 1.0'	
		1	8	8	5	13	6"	FILL: Brown SILT, Some fine-coarse Sand, little fine-coarse gravel, trace brick fragments & ash cinders 5.0'	
		2	6	5	6	11	6"		
5		3	3	4					
				5	5	9	6"	Brown SILT, little fine sand, trace fine-coarse gravel (Moist-Loose)	
		4	5	5					
				5	5	10	8"		
		5	5	6				becomes (Firm)	
10				5	6	11	2"		
								Boring Terminated at 10.0'	
15									

N = No blows to drive 2 " spoon 12 " with 140 lb. pin wt. falling 30 "per blow.

C = No blows to drive _____ " casing _____ " with _____ lb. weight falling _____ "per blow.

METHOD OF INVESTIGATION 4¼" I.D. Hollow Stem Augers

CLASSIFICATION Visual by Geologist

DATE
STARTED 5-07-91
FINISHED 5-07-91
SHEET 1 OF 2

EMPIRE SOILS INVESTIGATIONS INC.

SUBSURFACE LOG

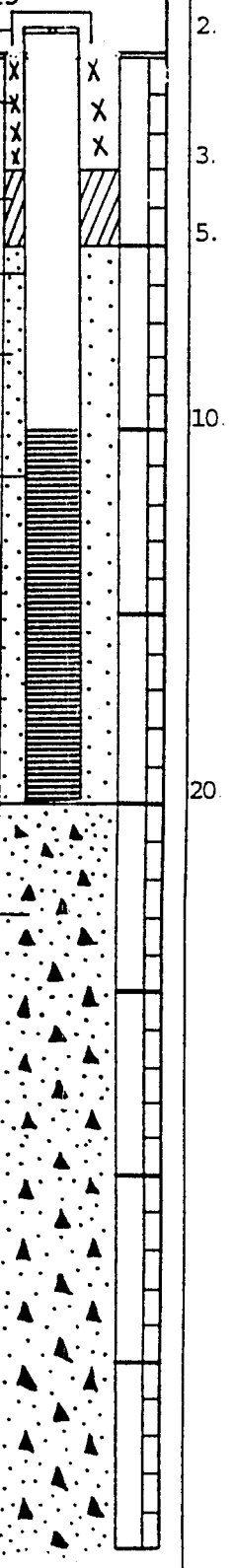
HOLE NO. B-2
SURF. ELEV. 100.79'
G. W. DEPTH See Notes

OJECT Independent Power Plant
ESI# GTA-91-040

LOCATION Rome, New York

DEPTH-FT	SAMPLES	SAMPLE NO	BLOWS ON SAMPLER 0/6	6/12	12/18	N	BLOW ON CASING C	SOIL OR ROCK CLASSIFICATION
0								CONCRETE 0.5'
		1	10	7	7	14		FILL: SAND, little gravel, silt, brick, ash, cinders (Moist) 2.5'
		2	10	7	6	13		
			6					Brown SILT, trace fine sand (Moist-Loose)
5		3	3	4	5	9		
			9					Brown SILT (Firm)
		4	7	8	6	14		
			6					
		5	4	5	7	12		
			8					
10		6	10	11	15	26		
			14					
								15.0'
15		7	1	1	1	2		Brown fine-medium SAND, trace silt (Saturated-Loose)
			1					19.0'
20		8	6	7	6	13		Brown fine-coarse SAND and GRAVEL, trace silt (Wet-Firm)
			6					24.0'
25		9	12	24	26	50		Brown fine-coarse SAND, Some Gravel, little silt (Wet-Compact)
			19					
30		10	3	4	3	7		Brown SILT, Some fine Sand, trace clay (Moist-Loose)
			3					
35		11	3	3	3	6		Brown SILT, Some Clay, trace fine sand (Moist-Loose)
			3					
40								

NOTES



N = No blows to drive 2 " spoon 12 " with 140 lb. pin wt. falling 30 "per blow. CLASSIFICATION Visual by Driller (S.B.

C = No blows to drive ____ " casing ____ " with ____ lb. weight falling ____ "per blow. & Engineering Technician (J.M.)

METHOD OF INVESTIGATION 4¼" I.D. Hollow Stem Augers

DATE
STARTED 5-07-91
FINISHED 5-07-91
SHEET 2 OF 2

EMPIRE SOILS INVESTIGATIONS INC. SUBSURFACE LOG

HOLE NO. B-2
SURF. ELEV. 100.79'
G. W. DEPTH See Notes

PROJECT Independent Power Plant
ESI# GTA-91-040

LOCATION Rome, New York

DEPTH-FT	SAMPLES	SAMPLE NO	BLOWS ON SAMPLER 0/6	6/12	12/18	N	BLOW ON CASING C	SOIL OR ROCK CLASSIFICATION	NOTES
40		12	5	8	10	18		Brown SILT, little fine sand and gravel (Wet-Firm)	Natural Material
			15					43.5'	
45		13	10	14	8	22		Grey fine-coarse SAND, Some Gravel, trace silt (Wet-Firm)	
			8						
50		14	20	19	24	43		(Wet-Compact)	
			24					Boring Terminated at 52.0'	Groundwater first encountered at 14.2', with augers at 15.0'. Upon completion, groundwater at 17.4', with augers at 50.0'.
55									Water Levels in well:
									5/08/91 12.8'
									5/09/91 12.5'
									5/13/91 12.8'
									5/14/91 12.9'

N = No blows to drive 2 " spoon 12 " with 140 lb. pin wt. falling 30 "per blow.
C = No blows to drive ____ " casing ____ " with ____ lb. weight falling ____ "per blow.
CLASSIFICATION Visual by Driller(S.) & Engineering Technician(J.M.)
METHOD OF INVESTIGATION 4¼" I.D. Hollow Stem Augers

DATE
STARTED 5-06-91
FINISHED 5-06-91
SHEET 1 OF 1

EMPIRE SOILS INVESTIGATIONS INC. SUBSURFACE LOG

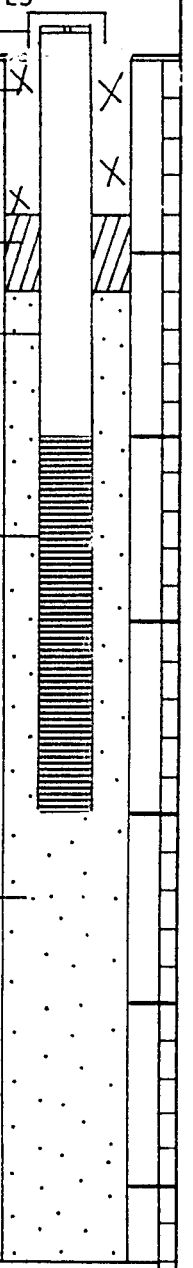
HOLE NO. B-6
SURF. ELEV. 100.21'
G. W. DEPTH See Notes

PROJECT Independent Power Plant
ESI# GTA-91-040

LOCATION Rome, New York

DEPTH-FT	SAMPLES	SAMPLE NO	BLOWS ON SAMPLER 0/6	6/12	12/18	N	BLOW ON CASING C	SOIL OR ROCK CLASSIFICATION
0								CONCRETE 0.5'
		1	10	16	12	28		FILL: Brown SILT, Some Sand, little gravel, cinders, ash (Moist) 2.0'
		2	8	5	6	11		FILL: Brown SILT, cinders (Moist) 4.0'
			6					
5		3	4	20	14	34		FILL: Brown SILT, Some Sand, Gravel, ash (Moist)
			6					
		4	4	5	5	10		
			4					
		5	9	12	7	19		No Recovery on Sample No. 5
			4					
10		6	10	12	12	24		Brown SILT, Some Gravel, little sand (Moist-Firm)
			10					
15		7	4	3	4	7		Brown fine-coarse SAND, Some Silt, trace gravel (Wet-Loose)
			4					
20		8	1	1	2	3		Brown fine-coarse SAND, little silt (Saturated-Loose)
			2					
								25.0'
25		9	14	19	24	43		Brown fine-coarse SAND, little gravel, trace silt (Wet-Compact)
			30					
30		10	11	39	42	81		(Wet-Very Compact)
			41					
								Boring Terminated at 32.0'
35								
40								

NOTES



Groundwater at 14.0', with augers at 15.0'. Upon completion, groundwater at 14.0'.

Water levels in well:

5/08/91	13.1'
5/09/91	13.3'
5/13/91	13.3'
5/14/91	13.25'

N = No. blows to drive 2 " spoon 12 " with 140 lb. pin wt. falling 30 "per blow

C = No. blows to drive _____ " casing _____ " with _____ lb. weight falling _____ "per blow

CLASSIFICATION Visual by Driller (S.B. & Engineering Technician (J.M.)

METHOD OF INVESTIGATION 4¼" I.D. Hollow Stem Augers

DATE
STARTED 5-07-91
FINISHED 5-08-91
SHEET 1 OF 2

EMPIRE SOILS INVESTIGATIONS INC

SUBSURFACE LOG

HOLE NO. B-11
SURF. ELEV. 101.1'
G. W. DEPTH See Notes

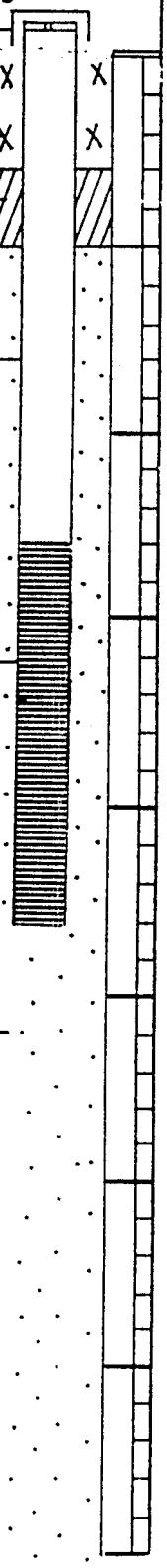
PROJECT Independent Power Plant
ESI# GTA-91-040

LOCATION Rome, New York

DEPTH-FT	SAMPLES	SAMPLE NO	BLOWS ON SAMPLER 0/6	6/12	12/18	N	BLOW ON CASING C	SOIL OR ROCK CLASSIFICATION
0								CONCRETE 1.0'
								GRAVEL 2.0'
		1	4 6	5	6	11		Brown SILT, trace fine sand (Moist-Loose)
5		2	3 6	3	5	8		
		3	5 7	6	7	13		
		4	3 6	4	4	8		
10		5	6 9	8	12	20		(Firm)
								14.0'
15		6	2 5	2	5	7		Grey fine-coarse SAND, little gravel, silt (Wet-Loose)
20		7	2 10	5	7	12		(Wet-Firm)
25		8	8 18	8	16	24		Grey fine-coarse SAND, Some Gravel, little silt (Wet-Firm)
30		9	10 5	5	6	11		
35		10	3 3	4	4	8		Grey fine SAND and SILT (Wet-Loose)

NOTES

Guardpipe w/Lock
Concrete
Bentonite Pellets
2" PVC Riser Pipe
2" PVC Well Screen, 0.010 Slot
3Q Sand



2
3
5
13
23.

N = No blows to drive 2 " spoon 12 " with 140 lb. pin wt. falling 30 "per blow.
C = No blows to drive ____ " casing ____ " with ____ lb. weight falling ____ "per blow.

CLASSIFICATION Visual by Driller (S.B. & Engineering Technician (J.M.)

METHOD OF INVESTIGATION 4¼" I.D. Hollow Stem Augers

DATE STARTED 5-07-91
FINISHED 5-08-91
SHEET 2 OF 2

EMPIRE SOILS INVESTIGATIONS INC.

SUBSURFACE LOG

HOLE NO. B-11
SURF. ELEV. 101.1'
G. W. DEPTH See Notes

PROJECT Independent Power Plant
ESI# GTA-91-040

LOCATION Rome, New York

DEPTH-FT	SAMPLES	SAMPLE NO	BLOWS ON SAMPLER 0/6	6/12	12/18	N	BLOW ON CASING C	SOIL OR ROCK CLASSIFICATION	NOTES
40		11	2	2	3	5		Grey fine SAND and SILT, trace clay (Wet-Loose)	
			2						
45		12	2	2	3	5		Brown CLAY, Some Silt (Wet-Soft)	
			3						3Q Sand
50		13	WOR	WOR	WOH	-		Brown CLAY, Some fine Sand and Silt (Wet-Very Soft)	
			1						
55		14	3	3	3	6		Brown CLAY, Some Silt (Wet-Medium)	
			4						
60		15	6	7	6	13		61.0'	
			7					Brown fine SAND, Some Silt (Wet-Firm)	
		16	9	11	24	35		same, Some Silt, Gravel (Wet-Compact) 65.0'	
			12						
65		17	14	24	19	43		Brown fine-coarse SAND, Some Gravel, Silt (Wet-Compact)	
			24					Boring Terminated at 66.0'	
70									

Groundwater first encountered at 17.0', with augers at 20.0'. Upon completion, groundwater at 27.5', with augers at 60.0'.

Water levels in well:

5/08/91 12.4'
5/09/91 12.7'
5/13/91 12.8'
5/14/91 12.9'

WOR=Weight of Rod
WOH=Weight of Hammer

N = No blows to drive 2 " spoon 12 " with 140 lb. pin wt. falling 30 "per blow.

C = No blows to drive _____ " casing _____ " with _____ lb. weight falling _____ "per blow.

CLASSIFICATION Visual by Driller(S.B & Engineering Technician(J.M.)

METHOD OF INVESTIGATION 4¼" I.D. Hollow Stem Augers

APPENDIX C

HAS

HUNTINGDON ANALYTICAL SERVICES
Division of **EMPIRE SOILS INVESTIGATIONS INC.**
PO Box 250 Middleport New York 14105
Tel: (716) 735-3400 FAX (716) 735-3653

Environmental Analytical Report For:

EMPIRE SOILS INVESTIGATIONS, INC. - GROTON

PROJECT NAME: ROME GOGEN

HAS Ref. # 91-1220

August 15, 1991

HAS

HUNTINGDON ANALYTICAL SERVICES
ELAP #10833
ENVIRONMENTAL REPORT

HAS Reference Numbers: #91-1220

August 15, 1991

Statement of Work Performed

I hereby declare that the work was performed under my supervision according to the procedures outlined by the following references and that this report provides a correct and faithful record of the results obtained.

- 40 CFR Part 136, "Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the Clean Water Act," October 26, 1984 (Federal Register) U. S. Environmental Protection Agency.

- U. S. Environmental Protection Agency, "Test Methods of Evaluating Solid Waste - Physical/Chemical Methods, " Office of Solid Waste and Emergency Response, SW-846, 2nd Edition and 3rd Edition.

- New York State Department of Health, Analytical Toxicology Laboratory Handbook, August 1982.

Katherine A. Syracuse
Lab Director, Environmental

REPORT CODE LEGEND:

<DL = Less than detection limit
ND = Not detected
NA = Not applicable
INP = Information not provided
MB = Method Blank

HUNTINGDON ANALYTICAL SERVICES
ENVIRONMENTAL

METHOD 601
PURGEABLE HALOCARBONS

SAMPLE IDENTIFICATION :	METHOD BLANK	MW-1S	MW-1D	MW-2S	MW-2D	MW-3S	MW-3D	MW-4S
HAS SAMPLE #91-1220-	----	001	002	003	004	005	006	007
DATE ANALYZED:	8-8-91	8-8-91	8-8-91	8-8-91	8-8-91	8-8-91	8-8-91	8-8-91
COMPOUND	RESULT ug/l	RESULT ug/l	RESULT ug/l	RESULT ug/l	RESULT ug/l	RESULT ug/l	RESULT ug/l	RESULT ug/l
CHLOROMETHANE	<1.0	<1.0	<20	<10	<10	<10	<20	<1.0
BROMOMETHANE	<1.0	<1.0	<20	<10	<10	<10	<20	<1.0
VINYL CHLORIDE	<1.0	<1.0	<20	<10	<10	<10	<20	<1.0
DICHLORODIFLUOROMETHANE	<1.0	<1.0	<20	<10	<10	<10	<20	<1.0
CHLOROETHANE	<1.0	<1.0	<20	<10	<10	<10	<20	<1.0
METHYLENE CHLORIDE	<0.50	<0.50	<10	<5.0	<5.0	<5.0	<10	<0.50
TRICHLOROFLUOROMETHANE	<0.50	<0.50	<10	<5.0	<5.0	<5.0	<10	<0.50
1,1-DICHLOROETHENE	<0.50	<0.50	<10	<5.0	<5.0	<5.0	<10	1.0
1,1-DICHLOROETHANE	<0.50	<0.50	<10	<5.0	<5.0	<5.0	<10	0.52
total-1,2-DICHLOROETHENE	<0.50	1.1	410	62	150	170	210	32
CHLOROFORM	<0.50	<0.50	<10	<5.0	<5.0	<5.0	<10	<0.50
1,2-DICHLOROETHANE	<0.50	<0.50	<10	<5.0	<5.0	<5.0	<10	<0.50
1,1,1-TRICHLOROETHANE	<0.50	<0.50	<10	<5.0	<5.0	<5.0	<10	<0.50
CARBON TETRACHLORIDE	<0.50	<0.50	<10	<5.0	<5.0	<5.0	<10	<0.50
BROMODICHLOROMETHANE	<0.50	<0.50	<10	<5.0	<5.0	<5.0	<10	<0.50
1,2-DICHLOROPROPANE	<0.50	<0.50	<10	<5.0	<5.0	<5.0	<10	<0.50
cis-1,3-DICHLOROPROPENE	<0.50	<0.50	<10	<5.0	<5.0	<5.0	<10	<0.50
TRICHLOROETHENE	<0.50	<0.50	510	<5.0	17	51	280	26
trans-1,3-DICHLOROPROPENE	<0.50	<0.50	<10	<5.0	<5.0	<5.0	<10	<0.50
DIBROMOCHLOROMETHANE	<0.50	<0.50	<10	<5.0	<5.0	<5.0	<10	<0.50
1,1,2-TRICHLOROETHANE	<0.50	<0.50	<10	<5.0	<5.0	<5.0	<10	<0.50
2-CHLOROETHYLVINYL ETHER	<5.0	<5.0	<100	<50	<50	<50	<100	<5.0
BROMOFORM	<5.0	<5.0	<100	<50	<50	<50	<100	<5.0
1,1,2,2-TETRACHLOROETHANE	<0.50	<0.50	<10	<5.0	<5.0	<5.0	<10	<0.50
TETRACHLOROETHENE	<0.50	<0.50	<10	<5.0	<5.0	<5.0	<10	<0.50
CHLOROBENZENE	<0.50	<0.50	<10	<5.0	<5.0	<5.0	<10	<0.50
1,4-DICHLOROBENZENE	<1.0	<1.0	<20	<10	<10	<10	<20	<1.0
1,2-DICHLOROBENZENE	<1.0	<1.0	<20	<10	<10	<10	<20	<1.0
1,3-DICHLOROBENZENE	<1.0	<1.0	<20	<10	<10	<10	<20	<1.0

HUNTINGDON ANALYTICAL SERVICES
ENVIRONMENTAL

METHOD 601
PURGEABLE HALOCARBONS

SAMPLE IDENTIFICATION :	MW-4D	B-2	B-6	B-11S	B-11D	BLANK
HAS SAMPLE #91-1220-	008	009	010	011	012	014
DATE ANALYZED:	8-8-91	8-8-91	8-8-91	8-8-91	8-8-91	8-8-91
COMPOUND	RESULT ug/l	RESULT ug/l	RESULT ug/l	RESULT ug/l	RESULT ug/l	RESULT ug/l
CHLOROMETHANE ----------	<20	<20	<20	<20	<20	<1.0
BROMOMETHANE ----------	<20	<20	<20	<20	<20	<1.0
VINYL CHLORIDE ----------	<20	<20	<20	<20	<20	<1.0
DICHLORODIFLUOROMETHANE -	<20	<20	<20	<20	<20	<1.0
CHLOROETHANE ----------	<20	<20	<20	<20	<20	<1.0
METHYLENE CHLORIDE ------	<10	<10	<10	<10	<10	<0.50
TRICHLOROFLUOROMETHANE --	<10	<10	<10	<10	<10	<0.50
1,1-DICHLOROETHENE ------	<10	<10	<10	<10	<10	<0.50
1,1-DICHLOROETHANE ------	<10	<10	<10	<10	<10	<0.50
total-1,2-DICHLOROETHENE	250	330	530	460	570	0.89
CHLOROFORM ----------	<10	<10	<10	<10	<10	<0.50
1,2-DICHLOROETHANE ------	<10	<10	<10	<10	<10	<0.50
1,1,1-TRICHLOROETHANE ---	<10	<10	<10	<10	<10	<0.50
CARBON TETRACHLORIDE ----	<10	<10	<10	<10	<10	<0.50
BROMODICHLOROMETHANE ----	<10	<10	<10	<10	<10	<0.50
1,2-DICHLOROPROPANE -----	<10	<10	<10	<10	<10	<0.50
cis-1,3-DICHLOROPROPENE -	<10	<10	<10	<10	<10	<0.50
TRICHLOROETHENE ---------	490	410	910	370	490	1.7
trans-1,3-DICHLOROPROPENE	<10	<10	<10	<10	<10	<0.50
DIBROMOCHLOROMETHANE ----	<10	<10	<10	<10	<10	<0.50
1,1,2-TRICHLOROETHANE ---	<10	<10	<10	<10	<10	<0.50
2-CHLOROETHYLVINYL ETHER	<100	<100	<100	<100	<100	<5.0
BROMOFORM ----------	<100	<100	<100	<100	<100	<5.0
1,1,2,2-TETRACHLOROETHANE	<10	<10	<10	<10	<10	<0.50
TETRACHLOROETHENE -------	<10	<10	<10	<10	<10	<0.50
CHLOROBENZENE ----------	<10	<10	<10	<10	<10	<0.50
1,4-DICHLOROBENZENE -----	<20	<20	<20	<20	<20	<1.0
1,2-DICHLOROBENZENE -----	<20	<20	<20	<20	<20	<1.0
1,3-DICHLOROBENZENE -----	<20	<20	<20	<20	<20	<1.0

HUNTINGDON ANALYTICAL SERVICES
ENVIRONMENTAL

METHOD 602
PURGEABLE AROMATICS

SAMPLE IDENTIFICATION :	METHOD BLANK	MW-1S	MW-1D	MW-2S	MW-2D	MW-3S	MW-3D	MW-4S
HAS SAMPLE #91-1220-	----	001	002	003	004	005	006	007
DATE ANALYZED:	8-8-91	8-8-91	8-8-91	8-8-91	8-8-91	8-8-91	8-8-91	8-8-91
COMPOUND	RESULT ug/l	RESULT ug/l	RESULT ug/l	RESULT ug/l	RESULT ug/l	RESULT ug/l	RESULT ug/l	RESULT ug/l
BENZENE ----------	<0.50	<0.50	0.58	<0.50	<0.50	<0.50	<0.50	<0.50
TOLUENE ----------	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
ETHYL BENZENE ----------	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
TOTAL XYLENES ----------	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
CHLOROBENZENE ----------	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,4-DICHLOROBENZENE -----	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,3-DICHLOROBENZENE -----	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,2-DICHLOROBENZENE -----	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

HUNTINGDON ANALYTICAL SERVICES
ENVIRONMENTAL

METHOD 602
PURGEABLE AROMATICS

SAMPLE IDENTIFICATION :	MW-4D	B-2	B-6	B-11S	B-11D	BLANK
HAS SAMPLE #91-1220-	008	009	010	011	012	013
DATE ANALYZED:	8-8-91	8-8-91	8-8-91	8-8-91	8-8-91	8-8-91
COMPOUND	RESULT ug/l	RESULT ug/l	RESULT ug/l	RESULT ug/l	RESULT ug/l	RESULT ug/l
BENZENE	<0.50	0.86	0.74	<0.50	0.56	<0.50
TOLUENE	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
ETHYL BENZENE	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
TOTAL XYLENES	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
CHLOROBENZENE	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,4-DICHLOROBENZENE	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,3-DICHLOROBENZENE	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,2-DICHLOROBENZENE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

HUNTINGDON ANALYTICAL SERVICES - CHAIN-OF-CUSTODY RECORD AND ANALYTICAL REQUEST FORM Page 1 of 1

Client Name: Empire Soils Investigations, 105 Corona Ave
Client Contact: Karen Seitz
HAS Quote #:
Address: Groton, NY 13073
Phone: 607-898-5881
P.O. #:

Project No.: GTA-90-40B
Project/Site Name: Rome Cogeneration
Samplers (Signature):
HAS Ref. #99-1220

Sample I.D.	Date	Time	Comp.	Grab	Sample Location	HAS Seq. #	Matrix	# of Containers	Container Size & Type: 40ml	Analysis Requested/ Remarks
MW-1S	8/6/91	11:00		✓		001A&B	W	4		EPA 601 // 602
MW-1D	8/6/91	11:15		✓		002A&B	W	4		
MW-2S	8/6/91	11:25		✓		003A&B	W	4		
MW-2D	8/6/91	11:40		✓		004A&B	W	4		one week
MW-3S	8/6/91	12:00		✓		005A&B	W	4		turnaround
MW-3D	8/6/91	12:15		✓		006A&B	W	4		50%
MW-4S	8/6/91	1:15		✓		007A&B	W	4		surcharge
MW-4D	8/6/91	1:00		✓		008A&B	W	4		OK
B-2	8/6/91	1:30		✓		009A&B	W	4		
B-6	8/6/91	1:40		✓		010A&B	W	4		
B-11S	8/6/91	1:55		✓		011A&B	W	4		
B-11D	8/6/91	2:10		✓		012A&B	W	4		↓
Blank	8/6/91			✓		013A&B	W	1		EPA 601
Blank	8/6/91			✓		013 PEDB 014A&B	W	1		EPA 602

Relinquished by:	Date/ Time:	Received by:	Relinquished by:	Date/ Time:	Received By:
	8/6/91 5:30				
Relinquished by:	Date/ Time:	Received by:	Relinquished by:	Date/ Time:	Received By:
Relinquished by:	Date/ Time:	Received for Lab by:	Date/ Time:	Remarks:	

HAS

HUNTINGDON ANALYTICAL SERVICES
Division of **EMPIRE SOILS INVESTIGATIONS INC.**
PO Box 250 Middleport New York 14105
Tel: (716) 735-3400 FAX (716) 735-3653

Environmental Analytical Report For:

EMPIRE SOILS INVESTIGATIONS, INC. - GROTON

PROJECT NAME: ROME CO-GENERATION

HAS Ref. # 91-1170

August 9, 1991

HAS

HUNTINGDON ANALYTICAL SERVICES
ELAP #10833
ENVIRONMENTAL REPORT

HAS Reference Numbers: #91-1170

August 6, 1991

Statement of Work Performed

I hereby declare that the work was performed under my supervision according to the procedures outlined by the following references and that this report provides a correct and faithful record of the results obtained.

- 40 CFR Part 136, "Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the Clean Water Act," October 26, 1984 (Federal Register) U. S. Environmental Protection Agency.

- U. S. Environmental Protection Agency, "Test Methods of Evaluating Solid Waste - Physical/Chemical Methods, " Office of Solid Waste and Emergency Response, SW-846, 2nd Edition and 3rd Edition.

- New York State Department of Health, Analytical Toxicology Laboratory Handbook, August 1982.

Bryan E. Martin

Katherine A. Syracuse
Lab Director, Environmental

REPORT CODE LEGEND:

<DL = Less than detection limit
ND = Not detected
NA = Not applicable
INP = Information not provided
MB = Method Blank

INGDON ANALYTICAL SERVICES

METALS ANALYSIS-TCLP DATA SHEET

Sample ID: B - 12 ROME COGENERATION
HAS Sample #91-1170-006
Date Sampled: 7/25/91

ANALYTE	EPA METHOD	EPA LIMITS	DATE ANALYZED	DETECTION LIMIT	RESULT mg/l	QC
ARSENIC	6010	5.0 mg/l	8/02/91	0.50	<DL	*95
BARIUM	6010	100 mg/l	8/02/91	0.10	0.31	*95
CADMIUM	6010	1.0 mg/l	8/02/91	0.050	<DL	*95
CHROMIUM	6010	5.0 mg/l	8/02/91	0.10	<DL	*95
LEAD	6010	5.0 mg/l	8/02/91	0.40	<DL	*95
MERCURY	7470	0.2 mg/l	7/31/91	0.0002	<DL	*95
SELENIUM	7740	1.0 mg/l	8/06/91	0.60	<DL	*95
SILVER	6010	5.0 mg/l	8/02/91	0.10	<DL	*95

*THIS INDICATES A 95% CONFIDENCE LIMIT ACHIEVED WITH AN EPA QUALITY CONTROL SOLUTION ANALYZED ALONG WITH YOUR SAMPLE.

HUNTINGDON ANALYTICAL SERVICES

METALS ANALYSIS-TCLP DATA SHEET

Sample ID: B - 14 ROME COGENERATION
HAS Sample #91-1170-007
Date Sampled: 7/25/91

ANALYTE	EPA METHOD	EPA LIMITS	DATE ANALYZED	DETECTION LIMIT	RESULT mg/l	QC
ARSENIC	6010	5.0 mg/l	8/02/91	0.50	<DL	*95
BARIUM	6010	100 mg/l	8/02/91	0.10	0.27	*95
CADMIUM	6010	1.0 mg/l	8/02/91	0.050	<DL	*95
CHROMIUM	6010	5.0 mg/l	8/02/91	0.10	<DL	*95
LEAD	6010	5.0 mg/l	8/02/91	0.40	<DL	*95
MERCURY	7470	0.2 mg/l	7/31/91	0.0002	<DL	*95
SELENIUM	7740	1.0 mg/l	8/06/91	0.60	<DL	*95
SILVER	6010	5.0 mg/l	8/02/91	0.10	<DL	*95

*THIS INDICATES A 95% CONFIDENCE LIMIT ACHIEVED WITH AN EPA QUALITY CONTROL SOLUTION ANALYZED ALONG WITH YOUR SAMPLE.

H[illegible]TINGDON ANALYTICAL SERVICES

METALS ANALYSIS-TCLP DATA SHEET

Sample ID: METHOD BLANK
HAS Sample #91-1170-MB
Date Sampled: NA

ANALYTE	EPA METHOD	EPA LIMITS	DATE ANALYZED	DETECTION LIMIT	RESULT mg/l	QC
ARSENIC	6010	5.0 mg/l	8/02/91	0.05	<DL	*95
BARIUM	6010	100 mg/l	8/02/91	0.01	<DL	*95
CADMIUM	6010	1.0 mg/l	8/02/91	0.005	<DL	*95
CHROMIUM	6010	5.0 mg/l	8/02/91	0.01	<DL	*95
LEAD	6010	5.0 mg/l	8/02/91	0.04	<DL	*95
MERCURY	7470	0.2 mg/l	7/31/91	0.0002	<DL	*95
SELENIUM	7740	1.0 mg/l	8/06/91	0.06	<DL	*95
SILVER	6010	5.0 mg/l	8/02/91	0.01	<DL	*95

*THIS INDICATES A 95% CONFIDENCE LIMIT ACHIEVED WITH AN EPA QUALITY CONTROL SOLUTION ANALYZED ALONG WITH YOUR SAMPLE.

HUNTINGDON ANALYTICAL SERVICES
ENVIRONMENTAL

METHOD 8010
PURGEABLE HALOCARBONS

SAMPLE IDENTIFICATION :	METHOD BLANK	B-12	B-13	B-14	B-15	B-16
HAS SAMPLE #91-1170-	-----	001	002	003	004	005
DATE ANALYZED :	7-29-91	7-29-91	7-29-91	7-29-91	7-29-91	7-29-91
COMPOUND	RESULT ug/kg	RESULT ug/kg	RESULT ug/kg	RESULT ug/kg	RESULT ug/kg	RESULT ug/kg
CHLOROMETHANE ---- -----	<100	<100	<100	<100	<100	<100
BROMOMETHANE ----------	<100	<100	<100	<100	<100	<100
VINYL CHLORIDE ----------	<100	<100	<100	<100	<100	<100
DICHLORODIFLUOROMETHANE -	<100	<100	<100	<100	<100	<100
CHLOROETHANE ----------	<100	<100	<100	<100	<100	<100
METHYLENE CHLORIDE ------	110	180	190	190	190	220
TRICHLOROFLUOROMETHANE --	<50	<50	<50	<50	<50	<50
1,1-DICHLOROETHENE ------	<50	<50	<50	<50	<50	<50
1,1-DICHLOROETHANE ------	<50	<50	<50	<50	<50	<50
trans-1,2-DICHLOROETHENE	<50	<50	<50	<50	<50	<50
CHLOROFORM ----------	<50	<50	<50	<50	<50	<50
1,2-DICHLOROETHANE ------	<50	<50	<50	<50	<50	<50
1,1,1-TRICHLOROETHANE ---	<50	<50	<50	<50	<50	<50
CARBON TETRACHLORIDE ----	<50	<50	<50	<50	<50	<50
BROMODICHLOROMETHANE ----	<50	<50	<50	<50	<50	<50
1,2-DICHLOROPROPANE -----	<50	<50	<50	<50	<50	<50
cis-1,3-DICHLOROPROPENE -	<50	<50	<50	<50	<50	<50
TRICHLOROETHENE ---------	<50	<50	<50	100	<50	<50
trans-1,3-DICHLOROPROPENE	<50	<50	<50	<50	<50	<50
DIBROMOCHLOROMETHANE ----	<50	<50	<50	<50	<50	<50
1,1,2-TRICHLOROETHANE ---	<50	<50	<50	<50	<50	<50
2-CHLOROETHYLVINYL ETHER	<500	<500	<500	<500	<500	<500
BROMOFORM ----------	<500	<500	<500	<500	<500	<500
1,1,2,2-TETRACHLOROETHANE	<50	<50	<50	<50	<50	<50
TETRACHLOROETHENE -------	<50	<50	<50	<50	<50	<50
CHLOROBENZENE ----------	<50	<50	<50	<50	<50	<50
1,4-DICHLOROBENZENE -----	<100	<100	<100	<100	<100	<100
1,2-DICHLOROBENZENE -----	<100	<100	<100	<100	<100	<100
1,3-DICHLOROBENZENE -----	<100	<100	<100	<100	<100	<100

DISCREPANCY/DEFICIENCY REPORT FORM

TO: Laboratory Manager

FROM: K Syracuse

DATE: 7/29/91

RE: Sample I.D. No. 1170-008
Batch No.

EXPLANATION: TCLP metals bottle broken upon receipt.

called Bruce Coulombe, 7/29/91, 8:45 am will send replacement sample. KS

cc: Client report file

HAS

HUNTINGDON ANALYTICAL SERVICES
Division of **EMPIRE SOILS INVESTIGATIONS INC.**
PO Box 250 Middleport New York 14105
Tel: (716) 735-3400 FAX (716) 735-3653

Environmental Analytical Report For:

EMPIRE SOILS INVESTIGATIONS, INC. - GROTON

PROJECT NAME: ROME CO-GENERATION

HAS Ref. # 91-1199

August 18, 1991

HAS

HUNTINGDON ANALYTICAL SERVICES
ELAP #10833
ENVIRONMENTAL REPORT

HAS Reference Numbers: #91-1199

August 18, 1991

Statement of Work Performed

I hereby declare that the work was performed under my supervision according to the procedures outlined by the following references and that this report provides a correct and faithful record of the results obtained.

- 40 CFR Part 136, "Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the Clean Water Act," October 26, 1984 (Federal Register) U. S. Environmental Protection Agency.

- U. S. Environmental Protection Agency, "Test Methods of Evaluating Solid Waste - Physical/Chemical Methods, " Office of Solid Waste and Emergency Response, SW-846, 2nd Edition and 3rd Edition.

- New York State Department of Health, Analytical Toxicology Laboratory Handbook, August 1982.

Katherine A. Syracuse
Lab Director, Environmental

REPORT CODE LEGEND:

<DL = Less than detection limit
ND = Not detected
NA = Not applicable
INP = Information not provided
MB = Method Blank

HUNTINGDON ANALYTICAL SERVICES

METALS ANALYSIS-TCLP DATA SHEET

Sample ID: B-16 S-4 ROME COGENERATION
HAS Sample #91-1199-001
Date Sampled: 7/26/91

ANALYTE	EPA METHOD	EPA LIMITS	DATE ANALYZED	DETECTION LIMIT	RESULT mg/l	QC
ARSENIC	6010	5.0 mg/l	8/09/91	0.50	<DL	*95
BARIUM	6010	100 mg/l	8/09/91	0.10	2.94	*95
CADMIUM	6010	1.0 mg/l	8/09/91	0.050	0.22	*95
CHROMIUM	6010	5.0 mg/l	8/09/91	0.10	<DL	*95
LEAD	6010	5.0 mg/l	8/09/91	0.40	100	*95
MERCURY	7470	0.2 mg/l	8/15/91	0.0002	<DL	*95
SELENIUM	6010	1.0 mg/l	8/09/91	0.60	<DL	*95
SILVER	6010	5.0 mg/l	8/09/91	0.10	<DL	*95

*THIS INDICATES A 95% CONFIDENCE LIMIT ACHIEVED WITH AN EPA QUALITY CONTROL SOLUTION ANALYZED ALONG WITH YOUR SAMPLE.

HUNTINGDON ANALYTICAL SERVICES

METALS ANALYSIS-TCLP DATA SHEET

Sample ID: METHOD BLANK
HAS Sample #91-1199-MB
Date Sampled: NA

ANALYTE	EPA METHOD	EPA LIMITS	DATE ANALYZED	DETECTION LIMIT	RESULT mg/l	QC
ARSENIC	6010	5.0 mg/l	8/09/91	0.05	<DL	*95
BARIUM	6010	100 mg/l	8/09/91	0.01	<DL	*95
CADMIUM	6010	1.0 mg/l	8/09/91	0.005	<DL	*95
CHROMIUM	6010	5.0 mg/l	8/09/91	0.01	<DL	*95
LEAD	6010	5.0 mg/l	8/09/91	0.04	<DL	*95
MERCURY	7470	0.2 mg/l	8/15/91	0.0002	<DL	*95
SELENIUM	6010	1.0 mg/l	8/09/91	0.06	<DL	*95
SILVER	6010	5.0 mg/l	8/09/91	0.01	<DL	*95

*THIS INDICATES A 95% CONFIDENCE LIMIT ACHIEVED WITH AN EPA QUALITY CONTROL SOLUTION ANALYZED ALONG WITH YOUR SAMPLE.

HUNTING ANALYTICAL SERVICES - CHAIN-OF-CUSTODY RECORD AND ANALYTICAL REQUEST FORM

Page 1 of 1

Client Name: ESI
Address: 105 Corona Ave, Groton, NY 13073
Client Contact: Karen Seitz
Phone: 607-898-5881
HAS Quote #:
P.O. #:

Project No.: GTA-91-40B
Project/Site Name: Rome Cogeneration
Samplers (Signature):
HAS Ref. #90-1199

Sample I.D.	Date	Time	Comp.	Grab	Sample Location	HAS Seq. #	MATRIX	# of Containers	Container Size & Type: 250 ml	Analysis Requested/ Remarks
B-16/S-4	7/24/91	10:00				004	S	1	✓	TCLP Metals

Relinquished by:	Date/ Time:	Received by:	Relinquished by:	Date/ Time:	Received By:
	8/1/91 15:09				
Relinquished by:	Date/ Time:	Received by:	Relinquished by:	Date/ Time:	Received By:
Relinquished by:	Date/ Time:	Received for Lab by:	Date/ Time:	Remarks:	PP, MP
			8/2/91 11:30am		

SECTION LEADER: DRC

LEVEL OF REPORT: 1 (?)

DATE SCHEDULED: 6-25-91

BIN #: 109

Laboratory Report

LABORATORIES, INC.

D. CRAMER

CLIENT O'Brien + Gere Engineers

DESCRIPTION Atlantic Energy
General Cable Ground

JOB NO. 3435.001.040
Ref#: 5035.002
MATRIX: Water

DATE COLLECTED 6-24-91 DATE RECEIVED 6-24-91

Description:	Well B2	Well B6	Well B11	Field Dup B11	Field Blank	QC B
Sample No:	M6732	M6733	M6734	M6735	M6736	M
EPA 8010/8020	✓	✓	✓	✓	✓	
PCB .065 ppb	<0.065	<0.065	<0.065	<0.065	<0.10 **	
BNA	✓	✓	✓	✓	✓	
Total Metals:						
Cd	<0.1 *	<0.1 *	<0.01	<0.1 *	<0.01	
Cr	<0.5 *	<0.5 *	<0.05	<0.5 *	<0.05	
Cu	0.61	2.4	0.05	0.52	<0.01	
Pb	0.80	1.1	0.06	0.61	<0.05	
Ni	<0.5 *	0.56	<0.05	<0.5 *	<0.05	
Zn	1.3	4.2	0.07	0.89	0.01	
Other Analyses:						
CN	<0.01	<0.01	<0.01	<0.01	<0.01	
pH	6.8	7.1	6.8	6.8	7.9	
PHENOL	<0.005	<0.005	<0.005	<0.005	<0.005	
Total Petroleum Hydrocarbons +	1.	2.	1.	<1.	<1.	

RUSH!

Comments: + R/A TR

Certification No.: 10155

Units: mg/l

COMMENTS:
* Elevated detection limits due to matrix complexity and/or interferences
** Elevated detection limit due to low sample volume

Authorized:

OBG LABORATORIES, INC.

Volatile Organics
Method 8010/8020

CLIENT O'Brien & Gere Engineers, Inc JOB NO. 3435.001.040

DESCRIPTION Atlantic Energy, General Cable Grounds

Matrix: water

DATE COLLECTED 6-24-91 DATE RECEIVED 6-24-91 DATE ANALYZED 6-26, 27-91

DESCRIPTION:	Well B2	Well B6	Well B11	Field Dup B11	Field Blank	QC Trip Blank
SAMPLE NO.:	M6732	M6733	M6734	M6735	M6736	M6737
1,1-Dichloroethane	<E.	<10.	<2.	<2.	<1.	<1.
1,2-Dichloroethane	↓	↓	↓	↓	↓	↓
1,1-Dichloroethylene	↓	↓	↓	↓	↓	↓
1,2-Dichloroethylene (total)	170.	380.	500.	490.	↓	↓
Dichloromethane	4.	<10.	<2.	<2.	↓	↓
1,2-Dichloropropane	<1.	↓	<20.	<20.	↓	↓
cis-1,3-Dichloropropylene	↓	↓	↓	↓	↓	↓
trans-1,3-Dichloropropylene	↓	↓	↓	↓	↓	↓
Ethylbenzene	↓	↓	<2.	<2.	↓	↓
1,1,2,2-Tetrachloroethane	↓	↓	↓	↓	↓	↓
1,1,1,2-Tetrachloroethane	↓	↓	↓	↓	↓	↓
Tetrachloroethylene	↓	↓	↓	↓	↓	↓
Toluene	↓	↓	↓	↓	↓	↓
1,1,1-Trichloroethane	↓	↓	↓	↓	↓	↓
1,1,2-Trichloroethane	↓	↓	<20.	<20.	↓	↓
Trichloroethylene	4.	930.	490.	480.	↓	↓
Trichlorofluoromethane	<1.	<10.	<2.	<2.	↓	↓
1,2,3-Trichloropropane	↓	↓	<2.	<2.	↓	↓
Vinyl chloride	↓	↓	3.	3.	↓	↓
Xylene (total)	<3.	<30.	<6.	<6.	<3.	<3.

Comments:

Methodology: USEPA SW-846, November 1986, 3rd Edition

Certification No.: 10155

Units: ug/L

Authorized: _____

OBG LABORATORIES, INC.

Semivolatile Organics Method 827(

CLIENT O'BRIEN & GERE ENGINEERS JOB NO. 3435.001.040

DESCRIPTION ATLANTIC ENERGY - GENERAL CABLE GROUNDS

WELL B2 MATRIX: WATER

SAMPLE NO. M6732 DATE COLLECTED 06/24/91 DATE RECEIVED 06/24/91

DATE EXTRACTED 06/26/91 DATE ANALYZED 06/27/91

Phenol	<10
Bis (2-chloroethyl) ether	
2-Chlorophenol	
1,3-Dichlorobenzene	
1,4-Dichlorobenzene	
Benzyl alcohol	
1,2-Dichlorobenzene	
2-Methylphenol	
Bis (2-chloroisopropyl) ether	
4-Methylphenol	
N-Nitroso-di-n-propylamine	
Hexachloroethane	
Nitrobenzene	
Isophorone	
2-Nitrophenol	
2,4-Dimethylphenol	
Benzoic acid	<51
Bis (2-chloroethoxy) methane	<10
2,4-Dichlorophenol	
1,2,4-Trichlorobenzene	
Naphthalene	
4-Chloroaniline	
Hexachlorobutadiene	
4-Chloro-3-methylphenol	<10
2-Methylnaphthalene	
Hexachlorocyclopentadiene	
2,4,6-Trichlorophenol	
2,4,5-Trichlorophenol	<51
2-Chloronaphthalene	<10
2-Nitroaniline	<51
Dimethylphthalate	<10
Acenaphthylene	
2,6-Dinitrotoluene	
3-Nitroaniline	<51
Acenaphthene	<10
2,4-Dinitrophenol	<51
4-Nitrophenol	<51
Dibenzofuran	<10
2,4-Dinitrotoluene	
Diethylphthalate	
4-Chlorophenyl-phenylether	
Fluorene	
4-Nitroaniline	<51
4,6-Dinitro-2-methylphenol	<51
N-Nitrosodiphenylamine	<10
4-Bromophenyl-phenylether	<10

OBG Laboratories, Inc., *an O'Brien & Gere Limited Company*
5000 Brittonfield Parkway / Suite 300, Box 4942 / Syracuse, NY 13221 / (315) 437-0200

Authorized: _____

Date: _____

OBG LABORATORIES, INC.

Semivolatile Organics Method 827(

CLIENT O'BRIEN & GERE ENGINEERS JOB NO. 3435.001.040

DESCRIPTION ATLANTIC ENERGY - GENERAL CABLE GROUNDS
WELL 02 MATRIX: WATER

SAMPLE NO. MG722 DATE COLLECTED 06/24/91 DATE RECEIVED 06/24/91

DATE EXTRACTED 06/26/91 DATE ANALYZED 06/27/91

Hexachlorobenzene	<10	Benzo (a) anthracene	<10
Pentachlorophenol	<51	Chrysene	
Phenanthrene	<10	Bis (2-ethylhexyl) phthalate	
Anthracene		Di-n-octylphthalate	
Di-n-butylphthalate		Benzo (b) fluoranthene	
Fluoranthene		Benzo (k) fluoranthene	
Pyrene		Benzo (a) pyrene	
Butylbenzylphthalate		Indeno (1,2,3-cd) pyrene	
3,3'-Dichlorobenzidine	<20	Dibenz (a,h) anthracene	
		Benzo (g,h,i) perylene	

Comments:

Methodology: EPA Target Compound List By 8270, SW-846 November 1986, 3rd Edition

Certification No.: 10155

Units: µg/L

Elevated detection limits due to matrix interferences.

Values flagged with a "B" indicate the analyte was detected in the laboratory blank. The blank exhibited ___ µg/___ of bis(2-ethylhexyl)phthalate.

OBG Laboratories, Inc., *an O'Brien & Gere Limited Company*
5000 Brittonfield Parkway / Suite 300, Box 4942 / Syracuse, NY 13221 / (315) 437-0200

Authorized: _____

OBG LABORATORIES, INC.

Semivolatile Organics
Method 8270

CLIENT O'BRIEN & GERE ENGINEERS JOB NO. 3435.001.040

DESCRIPTION ATLANTIC ENERGY - GENERAL CABLE GROUNDS

WELL B6 MATRIX: WATER

SAMPLE NO. M6733 DATE COLLECTED 06/24/91 DATE RECEIVED 06/24/91

DATE EXTRACTED 06/26/91 DATE ANALYZED 06/27/91

Phenol	<13	4-Chloro-3-methylphenol	<13
Bis (2-chloroethyl) ether		2-Methylnaphthalene	
2-Chlorophenol		Hexachlorocyclopentadiene	
1,3-Dichlorobenzene		2,4,6-Trichlorophenol	
1,4-Dichlorobenzene		2,4,5-Trichlorophenol	<66
Benzyl alcohol		2-Chloronaphthalene	<13
1,2-Dichlorobenzene		2-Nitroaniline	<66
2-Methylphenol		Dimethylphthalate	<13
Bis (2-chloroisopropyl) ether		Acenaphthylene	
4-Methylphenol		2,6-Dinitrotoluene	
N-Nitroso-di-n-propylamine		3-Nitroaniline	<66
Hexachloroethane		Acenaphthene	<13
Nitrobenzene		2,4-Dinitrophenol	<66
Isophorone		4-Nitrophenol	<66
2-Nitrophenol		Dibenzofuran	<13
2,4-Dimethylphenol		2,4-Dinitrotoluene	
Benzoic acid	<66	Diethylphthalate	
Bis (2-chloroethoxy) methane	<13	4-Chlorophenyl-phenylether	
2,4-Dichlorophenol		Fluorene	
1,2,4-Trichlorobenzene		4-Nitroaniline	<66
Naphthalene		4,6-Dinitro-2-methylphenol	<66
4-Chloroaniline		N-Nitrosodiphenylamine	<13
Hexachlorobutadiene		4-Bromophenyl-phenylether	

OBG Laboratories, Inc., *an O'Brien & Gere Limited Company*
5000 Brittonfield Parkway / Suite 300, Box 4942 / Syracuse, NY 13221 / (315) 437-0200

Authorized: _____

Date: _____

OBG LABORATORIES, INC.

Semivolatile Organic Method 827

CLIENT O'BRIEN & GERE ENGINEERS JOB NO. 3435.001.040

DESCRIPTION ATLANTIC ENERGY - GENERAL CABLE GROUNDS WELL B6 MATRIX: WATER

SAMPLE NO. M6733 DATE COLLECTED 06/24/91 DATE RECEIVED 06/24/91

DATE EXTRACTED 06/26/91 DATE ANALYZED 06/27/91

Hexachlorobenzene	<13	Benzo (a) anthracene	<13
Pentachlorophenol	<66	Chrysene	
Phenanthrene	<13	Bis (2-ethylhexyl) phthalate	
Anthracene		Di-n-octylphthalate	
Di-n-butylphthalate		Benzo (b) fluoranthene	
Fluoranthene		Benzo (k) fluoranthene	
Pyrene		Benzo (a) pyrene	
Butylbenzylphthalate		Indeno (1,2,3-cd) pyrene	
3,3'-Dichlorobenzidine	<26	Dibenz (a,h) anthracene	
		Benzo (g,h,i) perylene	

Comments:

Methodology: EPA Target Compound List By 8270, SW-846 November 1986, 3rd Edition

Certification No.: 10155

Units: µg/L

Elevated detection limits due to ~~matrix interference~~ SAMPLE SIZE (760 mL).

Values flagged with a "B" indicate the analyte was detected in the laboratory blank. The blank exhibited [illegible] µg/L of bis(2-ethylhexyl)phthalate.

OBG Laboratories, Inc., an O'Brien & Gere Limited Company
5000 Brittonfield Parkway / Suite 300, Box 4942 / Syracuse, NY 13221 / (315) 437-0200

Authorized: _____ Date: _____

OBG LABORATORIES, INC.

Semivolatile Organics
Method 8270

CLIENT O'BRIEN & GERE ENGINEERS JOB NO. 3435.001.040

DESCRIPTION ATLANTIC ENERGY - GENERAL CABLE GROUNDS

WELL B11 MATRIX: WATER

SAMPLE NO. M6734 DATE COLLECTED 06/24/91 DATE RECEIVED 06/24/91

DATE EXTRACTED 06/26/91 DATE ANALYZED 06/27/91

Phenol	<11
Bis (2-chloroethyl) ether	
2-Chlorophenol	
1,3-Dichlorobenzene	
1,4-Dichlorobenzene	
Benzyl alcohol	
1,2-Dichlorobenzene	
2-Methylphenol	
Bis (2-chloroisopropyl) ether	
4-Methylphenol	
N-Nitroso-di-n-propylamine	
Hexachloroethane	
Nitrobenzene	
Isophorone	
2-Nitrophenol	
2,4-Dimethylphenol	
Benzoic acid	<55
Bis (2-chloroethoxy) methane	<11
2,4-Dichlorophenol	
1,2,4-Trichlorobenzene	
Naphthalene	
4-Chloroaniline	
Hexachlorobutadiene	

4-Chloro-3-methylphenol	<11
2-Methylnaphthalene	
Hexachlorocyclopentadiene	
2,4,6-Trichlorophenol	
2,4,5-Trichlorophenol	<55
2-Chloronaphthalene	<11
2-Nitroaniline	<55
Dimethylphthalate	<11
Acenaphthylene	
2,6-Dinitrotoluene	
3-Nitroaniline	<55
Acenaphthene	<11
2,4-Dinitrophenol	<55
4-Nitrophenol	<55
Dibenzofuran	<11
2,4-Dinitrotoluene	
Diethylphthalate	
4-Chlorophenyl-phenylether	
Fluorene	
4-Nitroaniline	<55
4,6-Dinitro-2-methylphenol	<55
N-Nitrosodiphenylamine	<11
4-Bromophenyl-phenylether	<11

Authorized: _____

OBG LABORATORIES, INC.

Semivolatile Orga
Method

CLIENT O'BRIEN & GERE ENGINEERS

DESCRIPTION ATLANTIC ENERGY - GENERAL CABLE GROUNDS — JOB NO. 3435.001.040

WELL B11

SAMPLE NO. M6734 — MATRIX: WATER

DATE COLLECTED 06/24/91 — DATE RECEIVED 06/24/91

DATE EXTRACTED 06/26/91 — DATE ANALYZED 06/27/91

Hexachlorobenzene	<11	Benzo (a) anthracene	
Pentachlorophenol		Chrysene	<11
Phenanthrene	<55	Bis (2-ethylhexyl) phthalate	
Anthracene	<11	Di-n-octylphthalate	
Di-n-butylphthalate		Benzo (b) fluoranthene	
Fluoranthene		Benzo (k) fluoranthene	
Pyrene		Benzo (a) pyrene	
Butylbenzylphthalate		Indeno (1,2,3-cd) pyrene	
3,3'-Dichlorobenzidine	<22	Dibenz (a,h) anthracene	
		Benzo (g,h,i) perylene	

Comments:

Methodology: EPA Target Compound List By 8270, SW-846 November 1986, 3rd Edition

Certification No.: 10155

Units: µg/L

Elevated detection limits due to matrix interferences.

Values flagged with a "B" indicate the analyte was detected in the laboratory blank. The blank exhibited ____ µg/ ____ of bis(2-ethylhexyl)phthalate.

OBG Laboratories, Inc., an O'Brien & Gere Limited Company
5000 Brittonfield Parkway / Suite 300, Box 4942 / Syracuse, NY 13221 / (315) 437-0200

Authorized: _____

Date: _____

OBG LABORATORIES, INC.

Semivolatile Organics
Method 827C

CLIENT O'BRIEN & GERE ENGINEERS JOB NO. 3435.001.040

DESCRIPTION ATLANTIC ENERGY - GENERAL CABLE GROUNDS
FIELD DUP B11 MATRIX: WATER

SAMPLE NO. M6735 DATE COLLECTED 06/24/91 DATE RECEIVED 06/24/91

DATE EXTRACTED 06/26/91 DATE ANALYZED 06/27/91

Phenol	<11	4-Chloro-3-methylphenol	<11
Bis (2-chloroethyl) ether		2-Methylnaphthalene	
2-Chlorophenol		Hexachlorocyclopentadiene	
1,3-Dichlorobenzene		2,4,6-Trichlorophenol	
1,4-Dichlorobenzene		2,4,5-Trichlorophenol	<56
Benzyl alcohol		2-Chloronaphthalene	<11
1,2-Dichlorobenzene		2-Nitroaniline	<56
2-Methylphenol		Dimethylphthalate	<11
Bis (2-chloroisopropyl) ether		Acenaphthylene	
4-Methylphenol		2,6-Dinitrotoluene	
N-Nitroso-di-n-propylamine		3-Nitroaniline	<56
Hexachloroethane		Acenaphthene	<11
Nitrobenzene		2,4-Dinitrophenol	<56
Isophorone		4-Nitrophenol	<56
2-Nitrophenol		Dibenzofuran	<11
2,4-Dimethylphenol		2,4-Dinitrotoluene	
Benzoic acid	<56	Diethylphthalate	
Bis (2-chloroethoxy) methane	<11	4-Chlorophenyl-phenylether	
2,4-Dichlorophenol		Fluorene	
1,2,4-Trichlorobenzene		4-Nitroaniline	<56
Naphthalene		4,6-Dinitro-2-methylphenol	<56
4-Chloroaniline		N-Nitrosodiphenylamine	<11
Hexachlorobutadiene		4-Bromophenyl-phenylether	<11

OBG Laboratories, Inc., an O'Brien & Gere Limited Company
5000 Brittonfield Parkway / Suite 300, Box 4942 / Syracuse, NY 13221 / (315) 437-0200

Authorized: _____

Date: _____

OBG LABORATORIES, INC.

Semivolatile Organics
Method 827(

CLIENT O'BRIEN & GERE ENGINEERS JOB NO. 3435.001.040

DESCRIPTION ATLANTIC ENERGY - GENERAL CABLE GROUNDS
FIELD DUP B11 MATRIX: WATER

SAMPLE NO. M6735 DATE COLLECTED 06/24/91 DATE RECEIVED 06/24/91

DATE EXTRACTED 06/26/91 DATE ANALYZED 06/27/91

Hexachlorobenzene	<11	Benzo (a) anthracene	<11
Pentachlorophenol	<56	Chrysene	
Phenanthrene	<11	Bis (2-ethylhexyl) phthalate	
Anthracene		Di-n-octylphthalate	
Di-n-butylphthalate		Benzo (b) fluoranthene	
Fluoranthene		Benzo (k) fluoranthene	
Pyrene		Benzo (a) pyrene	
Butylbenzylphthalate		Indeno (1,2,3-cd) pyrene	
3,3'-Dichlorobenzidine	<22	Dibenz (a,h) anthracene	
		Benzo (g,h,i) perylene	

Comments:

Methodology: EPA Target Compound List By 8270, SW-846 November 1986, 3rd Edition

Certification No.: 10155

Units: µg/L

Elevated detection limits due to ~~matrix~~ interferences.

Values flagged with a "B" indicate the analyte was detected in the laboratory blank. The blank exhibited ____ µg/L of bis(2-ethylhexyl)phthalate.

OBG Laboratories, Inc., *an O'Brien & Gere Limited Company*
5000 Brittonfield Parkway / Suite 300, Box 4942 / Syracuse, NY 13221 / (315) 437-0200

Authorized: _____ Date: _____

OBG LABORATORIES, INC.

Semivolatile Organics
Method 8270

CLIENT O'BRIEN & GERE ENGINEERS JOB NO. 3435.001.040

DESCRIPTION ATLANTIC ENERGY - GENERAL CABLE GROUNDS

FIELD BLANK B1 MATRIX: WATER

SAMPLE NO. M6736 DATE COLLECTED 06/24/91 DATE RECEIVED 06/24/91

DATE EXTRACTED 06/26/91 DATE ANALYZED 06/27/91

Phenol	<17	4-Chloro-3-methylphenol	<17
Bis (2-chloroethyl) ether		2-Methylnaphthalene	
2-Chlorophenol		Hexachlorocyclopentadiene	
1,3-Dichlorobenzene		2,4,6-Trichlorophenol	
1,4-Dichlorobenzene		2,4,5-Trichlorophenol	<86
Benzyl alcohol		2-Chloronaphthalene	<17
1,2-Dichlorobenzene		2-Nitroaniline	<86
2-Methylphenol		Dimethylphthalate	<17
Bis (2-chloroisopropyl) ether		Acenaphthylene	
4-Methylphenol		2,6-Dinitrotoluene	
N-Nitroso-di-n-propylamine		3-Nitroaniline	<86
Hexachloroethane		Acenaphthene	<17
Nitrobenzene		2,4-Dinitrophenol	<86
Isophorone		4-Nitrophenol	<86
2-Nitrophenol		Dibenzofuran	<17
2,4-Dimethylphenol		2,4-Dinitrotoluene	
Benzoic acid	<86	Diethylphthalate	
Bis (2-chloroethoxy) methane	<17	4-Chlorophenyl-phenylether	
2,4-Dichlorophenol		Fluorene	
1,2,4-Trichlorobenzene		4-Nitroaniline	<86
Naphthalene		4,6-Dinitro-2-methylphenol	<86
4-Chloroaniline		N-Nitrosodiphenylamine	<17
Hexachlorobutadiene		4-Bromophenyl-phenylether	<17

OBG Laboratories, Inc., an O'Brien & Gere Limited Company
5000 Brittonfield Parkway / Suite 300, Box 4942 / Syracuse, NY 13221 / (315) 437-0200

Authorized: _____

Date: _____

OBG LABORATORIES, INC.

Semivolatile Or
Metho

CLIENT O'BRIEN & GERE ENGINEERS

DESCRIPTION ATLANTIC ENERGY - GENERAL CABLE GROUNDS JOB NO. 3435.001.05
FIELD BLANK B11

SAMPLE NO. M6736 MATRIX: WATER

DATE COLLECTED 06/24/91 DATE RECEIVED 06/24/

DATE EXTRACTED 06/26/91 DATE ANALYZED 06/27/

Hexachlorobenzene	<17	Benzo (a) anthracene	<17
Pentachlorophenol		Chrysene	
Phenanthrene	<86	Bis (2-ethylhexyl) phthalate	
Anthracene	<17	Di-n-octylphthalate	
Di-n-butylphthalate		Benzo (b) fluoranthene	
Fluoranthene		Benzo (k) fluoranthene	
Pyrene		Benzo (a) pyrene	
Butylbenzylphthalate		Indeno (1,2,3-cd) pyrene	
3,3'-Dichlorobenzidine	<34	Dibenz (a,h) anthracene	
		Benzo (g,h,i) perylene	

Comments:

Methodology: EPA Target Compound List By 8270, SW-846 November 1986, 3rd Edition

Certification No.: 10155

Units: µg/L

Elevated detection limits due to ~~matrix interference~~ SAMPLE SIZE (580 mLs.)

Values flagged with a "B" indicate the analyte was detected in the laboratory blank. The blank exhibited ____ µg/____ of bis(2-ethylhexyl)phthalate.

Authorized:

BUCK ENVIRONMENTAL LABORATORIES INC.
ACCREDITED ENVIRONMENTAL ANALYSIS
100 TOMPKINS ST. · CORTLAND, N.Y. 13045
607-753-3403

TOXICITY CHARACTERISTICS LEACHING PROCEDURE
LEAD

Client: **EMPIRE SOILS INVESTIGATIONS**

Site: Rome Cogeneration
Project No: GTA-91-40B

Sample: Soil - B-16/S-2

Report Date: 8/27/91
Sampling Date: 7/25/91
Sampled By: K. Seitz
Date Received: 8/23/91
Extraction: TCLP 1311
Percent Solids: 80.4%
Lab Log Number: 9108187

Cas No.	Compound	Regulatory Level (mg/L)	Result (mg/L)
7439-92-1	Lead	5.0	ND (<.10)

ND - None detected greater than detection limits noted.

Fluid Extraction Method: Fluid #1

All units above are mg/L based on a digestion of 100 g sample and a final solution volume of 2,000 ml.

These analyses are certified as conforming to generally accepted laboratory practices and requirements of the New York State Health Department ELAP program.

John H. Buck

John H. Buck, P.E.
Laboratory Director
NYS ELAP ID 10795

HUNTINGDON ANALYTICAL SERVICES
ENVIRONMENTAL

METHOD 8020
PURGEABLE AROMATICS

SAMPLE IDENTIFICATION :	METHOD BLANK	B-12	B-13	B-14	B-15	B-16
HAS SAMPLE #91-1170-	----	001	002	003	004	005
DATE ANALYZED:	7-29-91	7-29-91	7-29-91	7-29-91	7-29-91	7-29-91
COMPOUND	RESULT ug/kg	RESULT ug/kg	RESULT ug/kg	RESULT ug/kg	RESULT ug/kg	RESULT ug/kg
BENZENE	<50	<50	<50	<50	<50	<50
TOLUENE	<50	<50	<50	<50	<50	<50
ETHYL BENZENE	<50	<50	<50	<50	<50	<50
TOTAL XYLENES	<100	<100	<100	<100	<100	<100
CHLOROBENZENE	<50	<50	<50	<50	<50	<50
1,4-DICHLOROBENZENE	<50	<50	<50	<50	<50	<50
1,3-DICHLOROBENZENE	<50	<50	<50	<50	<50	<50
1,2-DICHLOROBENZENE	<100	<100	<100	<100	<100	<100

HUNTINGDON ANALYTICAL SERVICES - CHAIN-OF-CUSTODY RECORD AND ANALYTICAL REQUEST FORM

Page of

Client Name: Empire Soils
Address: 495 CORONA AVE, Groton N.Y. 13073
Client Contact: Karen Seitz / Bruce Coulombe
Phone: 607-898-5881
HAS Quote #:
P.O. #:
Project No.:
Project/Site Name: Lone Star Generation
HAS Ref. #90-1170
Sampler's (Signature):

Sample I.D.	Date	Time	Comp.	Grab	Sample Location	HAS Seq. #	MATRIX	# of Containers	Container Size & Type: 40 ml	8 oz	Analysis Requested / Remarks
B-12	7-25-91	1045			B-12	001	Soil	4	4		8010, 8020
B-13	7-25-91	1350			B-13	002					
B-14	7-25-91	1230			B-14	003A→D					
B-15	7-26-91	0800			B-15	004A→D					
B-16	7-26-91	0900			B-16	005A→D					
B-12	7-25-91	1015			B-12	006		1		1	TCLP Metals
B-13 (B-14)	7-25-91	1350		(B-14)	B-14 (B-13)	007		1		1	TCLP Metals
B-16	7-26-91	0900			B-16	008		1		1	TCLP Metals broken

ONE WEEK TURN AROUND

Relinquished by:	Date/Time:	Received by:	Relinquished by:	Date/Time:	Received By:
	7-26-91				
Relinquished by:	Date/Time:	Received by:	Relinquished by:	Date/Time:	Received By:
Relinquished by:	Date/Time:	Received for Lab by:	Date/Time:	Remarks:	MP, DA, DW, PC, SM