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SOILS INVESTIGATIONS INC.
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August 16, 1991

NYSDEC
600 Delaware Ave.
Buffalo, N.Y.

Attention: Mr. Jerry Petrizak

Re: Dowcraft and Ellison Bronze
Environmental Investigation
Falconer New York

Dear Mr. Petrizak:

Enclosed are three copies of the reports we discussed on July 17, 1991. These reports are being submitted on behalf of our client, Dowcraft for your review. I will contact you next week to discuss the reports.

If you have any questions, please do not hestiate to call.

Sincerely,
Empire Soils Investigations, Inc.

David M. Harty, P.E.
Environmental Engineering Services Manager

cc: H. Nicholson - Dowcraft
A. Kryzan - Whiteman, Osterman and Hanna
M. Doster - NYSDEC
J. Ryan - NYSDEC

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ENVIRONMENTAL INVESTIGATION
DOWCRAFT CORPORATION
FALCONER, NEW YORK

8/91

Prepared For:

Dowcraft Corporation
65 South Dow Street
Falconer, New York 14733

Attention: Mr. Harry B. Nicholson

Prepared By:

Empire Soils Investigations, Inc.
S-5167 South Park Avenue
Hamburg, New York 14075

BTA-90-179B
August, 1991

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TABLE OF CONTENTS

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ENVIRONMENTAL INVESTIGATION
DOWCRAFT CORPORATION
FALCONER, NEW YORK

SECTION I
INTRODUCTION

A. General

Empire Soils Investigations, Inc. (ESI) was authorized by Mr. Harry B. Nicholson Jr., President and Chief Executive Officer of the Dowcraft Corporation, to conduct Phase I and Phase II Environmental Site Assessments on the property where the Dowcraft Corporation plant and offices are located at 65 South Dow Street, Falconer, New York. A site vicinity map is enclosed as Drawing No. 1 in Appendix A. The work described in this document incorporates the findings to date from the Environmental Site Assessments and data collection activities.

B. Purpose And Scope

ESI was engaged by the Dowcraft Corporation to complete an extensive environmental investigation on the Dowcraft Corporation plant and surrounding property located at 65 South Dow Street, Falconer, New York. A Phase I Environmental Site Assessment was conducted to evaluate the potential for environmental contamination to be present on the subject property. Based on the Phase I conclusions, a Phase II Environmental Site Assessment was recommended to identify and characterize the suspected environmental contamination. The analytical results of samples acquired during the Phase II Investigation indicated trichloroethene and 1,2-dichloroethene contamination of the ground water was present. The results of additional research conducted by ESI and Dowcraft personnel regarding information on past disposal practices at the subject property to identify the source of the contamination are incorporated in this report. The following scope of services for this environmental investigation has been completed on the subject property:

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Phase I Scope of Services

- Conducted site walkovers of the property on September 12 and 20, and October 2, 1990 to evaluate the present environmental condition and use of the site.
- Observed present uses of the adjoining properties.
- Examined historical aerial photographs of the site.
- Reviewed site history including available information regarding past ownership.
- Examined past and present methods of plant wastewater disposal.
- Contacted selected public officials and federal, state and local regulatory agencies regarding potential environmental concerns at the site.

Phase II Scope of Services

- Developed a subsurface and surface exploration program to identify contamination on the subject property.
- Monitored the drilling of seven (7) test borings and the installation of seven (7) ground water monitoring wells at the subject site.
- Measured organic vapor concentrations during the subsurface exploration phase of the project.
- Prepared boring logs associated with each of the test borings and well construction diagrams corresponding to each of the ground water monitoring wells installed.
- Measured ground water levels in the seven (7) monitoring wells installed.
- Developed, purged and sampled the ground water monitoring wells.
- Collected and analyzed three (3) surface soil samples.
- Collected and analyzed ground water samples from the seven (7) wells on the site.

- o Collected soil/sediment samples from drywells 004 and 005 located on the site for detection of volatile organic compounds.
- o Engaged the services of a New York State Department of Health (NYSDOH) certified analytical testing laboratory, Huntingdon Analytical Services, Inc. to analyze the soil and ground water samples collected.
- o Evaluated the data collected.
- o Designed a plan to locate the source of contamination based on the analytical data collected and the information gathered regarding past practices at the plant.
- o Incorporated site research completed by Dowcraft to locate the probable source of the contamination.
- o Prepared a conceptual design for remediation of the contaminated soils quantified on the subject property.
- o Summarized the information in this report.

The opinions rendered in this report are based solely on the above scope of services. Limitations to this report are presented in Appendix B.

SECTION II

SITE DESCRIPTION/HISTORICAL REVIEW

A. Physical Layout

The subject property is located at 65 South Dow Street, Falconer, New York. Based on the Chautauqua County tax maps, the site covers approximately 2.2-acres. The section, block, and lot number which identifies the property is 104-12-2. Site Plan of the property is shown as Drawing No. 2 in Appendix A. The subject site is bound to the north and east by the Jamestown Container property and to the south by property owned by Erie Railroad. South Dow Street is directly west of the site with Niagara Mohawk property located across South Dow Street to the west. Representative photographs of the subject property are presented in Appendix C.

The subject property contains a metal fabrication plant with associated office and parking areas. The topography of the property appears flat, however, the tracks on the railroad property to the south lie on a slag covered easement which is approximately five-feet higher than the Dowcraft site. The Chadakoin River is located approximately 100-feet north of the subject property.

B. Site History

Information on site history was obtained from the Chautauqua County Department of Planning and Development, Chautauqua County Clerks Office, Town of Ellicott Historian, historical aerial photographs, and inspection of available historical maps. The discussion below is based solely on information obtained from these limited sources.

The Town of Ellicott Historian, Chautauqua County Department of Planning and Development, and Chautauqua County Clerks Office informed ESI that the subject property was vacant until the late 1890's. According to Ms. Chris Lyon, the Town of Ellicott Historian, the first form of development on the subject property was a woolen mill. Ms. Lyon could not specify an exact year, however, she did indicated that the mill opened in the early 1900's. Potential environmental concerns associated with woolen

mills include potential contamination from alkaline solutions, acids, solvents, oils, and chromium. The woolen mill was reportedly converted to a factory which manufactured steel partitions in 1939. Today the plant is still manufacturing steel partitions for offices and the telecommunications industry.

The Town of Ellicott Assessor's Office reported to ESI that the original building was built in the period between 1890-1900. Construction for plant additions occurred in 1943, 1948, 1964, 1966, 1967, 1978, and 1984. The former woolen mill was owned by the Odsonia Corporation in 1939. A second deed was recorded in 1962, however, no change in ownership occurred. In 1986 the deed was transferred to Dowcraft Corporation.

A review of aerial photographs (1948, 1956, 1961, 1971, 1977, 1983, 1989) from the Chautauqua County Department of Planning and Development generally substantiates the above information.

According to a publication entitled "Ground Water Resources of the Jamestown Area, New York with Emphasis on the Hydrogeology of the Major Stream Valleys" (1966) the site is over a portion of the "Jamestown Aquifer". The nearest water well used for the public drinking water supply was reported to be approximately 6,600-feet downgradient.

SECTION III
SITE RECONNAISSANCE

A. General

A site walkover was conducted on September 12, 1990 by an ESI Environmental Engineer and Senior Environmental Engineer. An ESI Environmental Engineer returned for a second and third visit on September 20 and October 2, 1990 to obtain additional information about the site. The purpose of the site visits was to observe current conditions at the site pertaining to potential environmental concerns, to observe the uses of the adjacent properties, and to confirm information gathered during the historical search.

Representative photographs of the subject site are presented in Appendix C. Mr. Walter Barker and Mr. Charles Jewell, representing the Dowcraft Corporation, accompanied the ESI staff during the site visits. Mr. Barker and Mr. Jewell provided information on the physical operation of the plant and manufacturing processes.

The building consists of a number of additions constructed at different times as indicated on the plant floorplans of the first and second floors as shown on Drawing Nos. 3, 4 and 5 in Appendix A. The plant additions are interconnected and have poured concrete floors on the first floor. The original building and 1948 expansion consist of brick walls and wooden joists. The later additions (1964, 1966, 1967, 1978, and 1984) are constructed with cinder block walls and steel beam supports. Roofing materials were not inspected as part of the Phase I Environmental Site Assessment.

B. Plant Exterior

The subject property contains the Dowcraft Corporation plant and offices with an asphaltic concrete parking lot and access road leading to the rear of the building. Grass type vegetation (weeds) is present along the south side of the plant and parking lot. Eight large empty bin type structures were also observed along the south side of the building directly adjacent to the railroad property. An abandoned section of track apparently provided access to the bins from the railroad. These bins were probably used

for the bulk storage of coal or other bulk materials the plant may have historically used. Directly north of the 1984 addition, a solid waste trash compactor was located. Waste and recyclable material storage areas were also noted to be present during the site walkover and will be discussed in a later section.

C. Asbestos

The interior of the plant was inspected to determine the potential presence of friable asbestos containing thermal insulation. Suspected asbestos thermal insulation was observed in the 1966 expansion area. In total, there is approximately 100 linear feet of suspected asbestos insulation in this portion of the plant. Removal of the suspected asbestos insulation would be governed by the provisions of New York State Code Rule 56.

D. Lead Paint

It should be noted that the painted surfaces within the building may contain a lead based paint. Sampling and testing these paints for lead was outside the scope of this assessment.

E. Waste and Recyclable Material Storage

A number of areas used for waste and recyclable material storage were observed during the site walkovers. The recyclable materials consist of various types of metal used during the manufacturing and finishing of Dowcraft products. Small metal particles are collected using cyclone particle collectors (refer to photograph No. 1). Medium sized metal scraps generated during fabrication are stored with small metal particles on the north side (exterior) of the building in 55-gallon drums (refer to photograph No. 2). Larger scrap metal pieces generated in the metal shop are stored in three dumpsters located outside the southwest corner of the building (refer to photograph No. 3).

A phosphatizer is used for cleaning and etching metal during the manufacturing process. Phosphatizer sludge is generated, periodically removed, and stored prior to disposal in 55-gallon drums in the phosphatizer room. Approximately nine 55-gallon drums of phosphatizer sludge requires disposal annually. This sludge has been tested by

Dowcraft and was reportedly found to be non-hazardous.

A trichloroethene vapor degreaser was located in the southeast corner of the first floor of the original building (refer to photograph No. 7). The spent trichloroethene sludge bottoms are typically pumped into a 55-gallon drum and stored in the same vicinity (refer to photograph No. 8). According to Dowcraft the spent trichloroethene sludge is then transported off site for proper disposal. A roof vent was observed above the vapor degreaser unit which serves as an exhaust system for trichloroethene vapors. A sump pit is located beneath the vapor degreaser and no water was observed in the pit during the site visit. Dowcraft has reported to ESI that the pit was sealed with cement.

F. Chemical Used Within The Plant

Due to the type of manufacturing process utilized at the Dowcraft plant, a large number of chemicals are stored within the plant. The mixing room is where the majority of the chemicals are stored and is located on the second floor of the 1966 addition. A significant portion of the mixing room floor space is used for storage of one (1), five (5), and fifty-five (55)-gallon containers of paint and paint related solvents (refer to photograph No. 9). At the time of site reconnaissance, a system was in place to ground the open 55-gallon drums and reduce static electricity buildup. Precautions for fire and explosion hazards such as explosion proof wiring, an exhaust fan, and a scupper floor drain (refer to photograph No. 10) were also apparent in the mixing room.

Two exterior trailers located on the north side of the building are utilized for bulk storage of 55-gallon drums of paint, adhesives, gum cleaner, and reducer used in the manufacturing processes (refer to photograph No. 11). The trailers were vented with wind driven turbines.

Chemicals used for the boiler or compressor were observed in the boiler room. Phosphatizer chemical storage was located adjacent to the phosphatizer in the same room. Seven 55-gallon drums of trichloroethene were observed in the same vicinity as the vapor degreaser (refer to photograph No. 8). Paint and adhesive storage was also noted to be present in the areas used for painting. Adhesive storage was observed in the assembly

regions of the second and third floors (refer to photograph No. 12). Several other chemicals are stored in the plant, however, a detailed itemization of all the chemicals present was beyond the scope of services for this project. New York State Department of Environmental Conservation (NYSDEC) files reported annual consumption of toluene, xylene and trichloroethene to be 16109, 36582, and 40656 pounds, respectively.

G. Drainage Systems and Discharge Locations

The Dowcraft plant has four discharge locations associated with the manufacturing operations and storm water removal. The sanitary collection system is designed to store the sanitary wastewater in a tank near the west end of the building. Periodically the sanitary wastewater is pumped into the sanitary sewer system.

The plant process water and storm water have traditionally been discharged to the Chadakoin River and five (5) drywells located in and around the plant. Reportedly, two drywells have been abandoned due to plant reorganization. Currently plant water and storm water are discharged into the Chadakoin River (outfall 002) and drywells 004, 005 and 007. Company provided listings of outfalls, daily discharge volumes, and composition of discharge water is presented on Table III-1 and Figure III-1.

Outfall 002 is a pipe which traverses under the Jamestown Container plant and discharges into the Chadakoin River. The scupper drain, located at the doorway to the mixing room, drains to the mixing room roof drains which are tied into drywell 004. Mr. Barker indicated to ESI the majority of the roof drains are plumbed into outfall 002 which discharges to the river. This drainage pattern was verified by NYSDEC files. Drywells 004 and 005 are located directly outside the north wall of the phosphatizer room and inside the phosphatizer room respectively (refer to photograph No. 15). Drywell 007 was not located during the site walkover but was reportedly near the north end of the metal shop.

H. Underground Storage Tank

One underground storage tank with pump and nozzle was reported to be located approximately 100-feet east of the subject property on the Jamestown Container property (refer to photograph No. 13). The fill pipe to the underground storage tank was observed to be painted yellow. According to regulations pertaining to underground storage tanks, yellow markings on the fill pipe indicate diesel fuel storage. The condition of the tank (if present) could not be determined during the site visit. The tank was registered with the NYSDEC as discussed in a later section. Dowcraft personnel reported to ESI the tank had been removed but this was not verified. No underground storage tanks were identified on the subject site.

I. Electric Transformers

Two pole mounted electric transformers were observed on the Jamestown Container property near the northwest corner of the site (refer to photograph No. 14). Although the transformers appeared to be rather old, no leakage from the casing was apparent. One dry electric transformer was also located just outside the west end of the Dowcraft plant. Dry transformers do not contain PCB oils. The Niagara Mohawk property located directly west of the site (across South Dow Street) is apparently being used to store transformers.

TABLE III-1 SUMMARY OF PLANT WATER DISCHARGE		
Outfall	**Daily Volume (Gallons)**	**Composition**
002 (River)	4,113	Storm Water Runoff
	2,950	Vapor Degreaser Non-Contact Cooling Water
	3,429	Spot Welder Non-Contact Cooling Water
004 (Drywell)	5,356	Compressor Non-Contact Cooling Water
	720	Spot Welder Non-Contact Cooling Water
	640	Distillation Unit
	85	Boiler Water, Scupper Drain
005 (Drywell)	924	Rinse Water From Phosphatizer*
007 (Drywell)	2,160	Spot Welder Non Contact Cooling Water

* - To be recycled back in to the phosphatizer in the near future.

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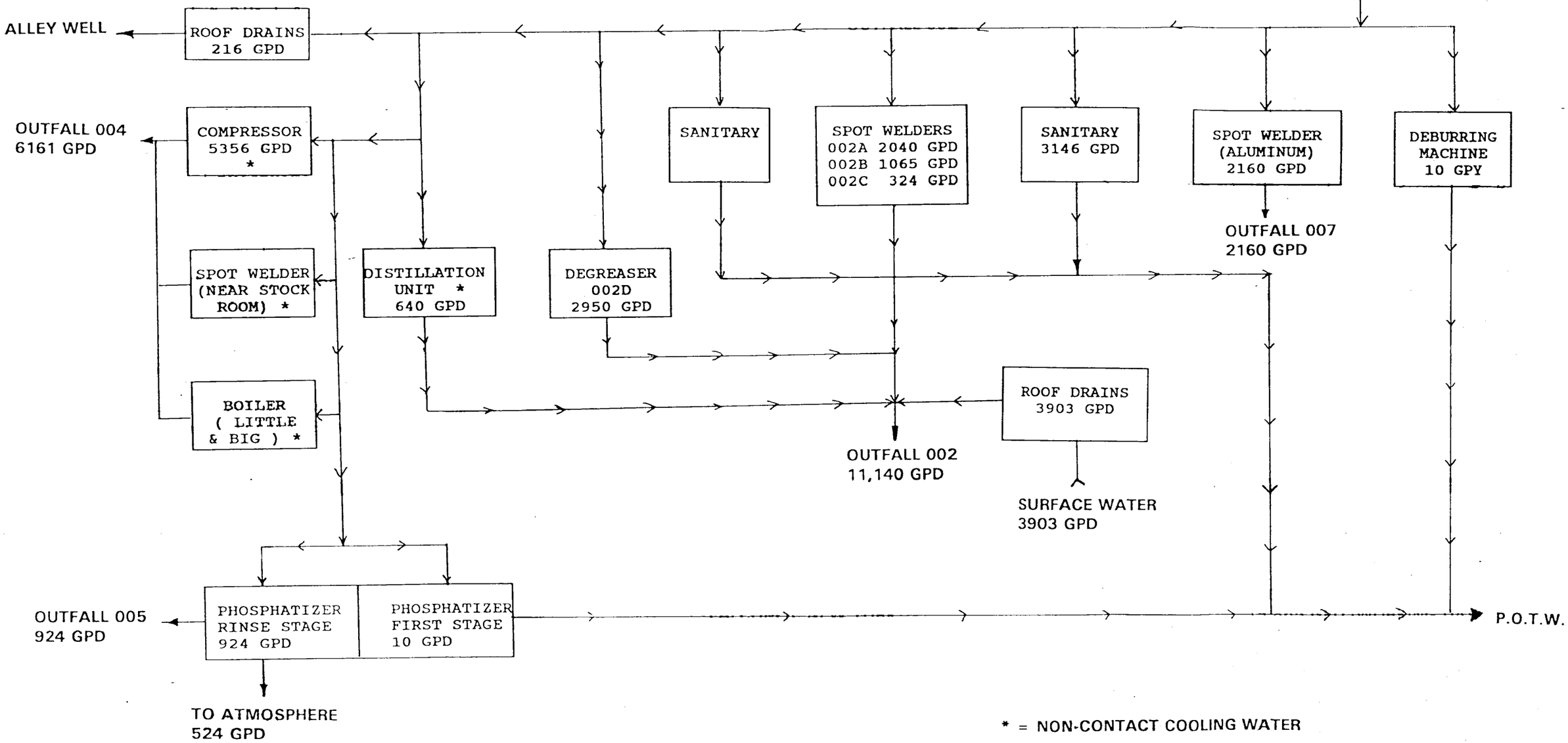
Figure No. III-1

SCHEMATIC OF WATER FLOW
DOWCRAFT CORPORATION
65 S. DOW STREET
FALCONER, NEW YORK

476,750 GAL/MONTH
19,865 GPD (WORKING DAY)
MUNICIPAL WATER SUPPLY



* = NON-CONTACT COOLING WATER

TO BE ELIMINATED BY 9/31/91

THIS WILL BE RECAPTURED AND
REROUTED BACK TO FINAL STAGE

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IV. REGULATORY AGENCY INFORMATION

Information requests were submitted to the New York State Department of Environmental Conservation (NYSDEC) Region 9 Office, the United States Environmental Protection Agency (USEPA) Region II Office, the Chautauqua County Department of Health, and the New York State Department of Labor to determine if past activities on the subject property or adjacent parcels have caused any known environmental concerns. None of the above mentioned departments had indicated the subject property was on record for environmental concerns. A copy of the written responses received from the agencies is presented in Appendix D.

A review of the NYSDEC files pertaining to inactive hazardous waste sites was conducted to evaluate whether the subject property or adjacent parcels may be of known environmental concern. The NYSDEC has no listing of active or inactive hazardous waste sites located within a one-half mile radius of the Dowcraft plant. A review of the USEPA National Priorities List of Hazardous Waste Sites (NPL) indicated that there were no sites listed within a one-half mile radius of the subject site as of July, 1987.

ESI reviewed the NYSDEC Region 9 files to determine if there are any records regarding waste disposal activities, oil or chemical spills, underground storage tanks, or bulk storage tanks on the site. There was no record of waste disposal activities or spills on file. However, the information provided by the NYSDEC regarding a petroleum bulk storage tank registered on the Jamestown Container property directly east of the subject property is shown below:

PBS#:	004324
Application Received:	3/10/86
Registration Date:	5/23/86
Facility Status:	Active
Name:	Jamestown Container Corporation
Address:	14 Dening Drive Falconer, New York 14733

The condition of the underground storage tank was not determined as part of the scope of services, however, any underground spills or leaks detected by the NYSDEC would have been made known to ESI through the Freedom of Information Act. According to Dowcraft Corporation personnel, the underground storage tank was removed in the last several months.

There are no NYSDEC or USEPA registered wetlands located within a one-half mile radius of the subject site which is on a Zone C floodplain. A Zone C floodplain is defined as an area of minimal flooding. Wetland and floodplain information was obtained from the Chautauqua County Department of Planning and Development, community panel number 3601380001B which went into effect on January 5, 1978.

The Dowcraft Corporation was required by the NYSDEC to obtain a State Pollution Discharge Elimination System (SPDES) permit to legally discharge plant water. The SPDES permit number for the Dowcraft plant is NY-0030210. Compliance with the SPDES permit includes a sampling program to evaluate the discharge water quality. Table IV-1 is a summary of analytical testing conducted on samples obtained from each outfall location. A request by the NYSDEC to increase monitoring frequency was sent to Dowcraft Corporation in April, 1989. Traditional sampling of each outfall occurred quarterly, however, monthly sampling is currently required.

Inspection of the Dowcraft Corporation plant was done on March 28, 1988 by NYSDEC personnel. As part of this inspection a formal request to reroute the phosphatizer process water to the Jamestown publicly operated treatment works (POTW) was issued by the NYSDEC on March 29, 1990. The NYSDEC reported the requested modification was carried out and phosphatizer rinse water is currently the only discharge from the phosphatizer to Outfall 005. Dowcraft has reported to ESI the phosphatizer rinse water will be recycled back into the phosphatizer in the near future eliminating the flow to Outfall 005.

TABLE IV-1

SUMMARY OF SPDES SAMPLING PROGRAM CONDUCTED AT THE DOWCRAFT CORPORATION PLANT

Parameter	Outfall			
	002	004	005	007
Temperature	X			
Flowrate	X	X	X	X
pH	X	X	X	X
Oil & Grease	X			
Fluoride		X	X	X
Iron		X	X	X

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SECTION V
SURFACE EXPLORATION

A. General

ESI collected surface soil samples from three (3) locations on the exterior of the Dowcraft Plant. The soil samples were collected from the liquid waste storage area, empty drum storage area and the recyclable metals storage area. The soil sampling locations were determined based on current property use and on potential areas of past use. The soil samples were obtained on November 14, 1990. The locations are plotted on the Site Plan shown as Drawing No. 2 in Appendix A. The purpose of this sampling and analysis was to determine if surface contamination is present in these areas.

B. Soil Sample Procedures

Soil samples for chemical testing were obtained by an ESI Environmental Engineer using precleaned equipment for excavation of soil. Surface soil samples were excavated to a depth of zero to six inches below the ground surface. The soil samples were analyzed for USEPA Target Compound List (TCL) volatiles, priority pollutant metals and pH. The selection of these chemical tests was based on historical site use as reported in the ESI Phase I Environmental Site Assessment submitted in October, 1990.

The samples were collected with a stainless steel precleaned trowel and placed into two (2) 40-milliliter amber glass vials with septums (filled to capacity) and one 500-milliliter amber glass jar. Chain-of-custody forms were completed with the required sample location and analysis. The samples were then packaged, cooled, and sent to the laboratory for analysis. All sampling tools were decontaminated between sampling locations.

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SECTION VI
SUBSURFACE EXPLORATIONS

A. General

ESI advanced seven (7) test borings (ESI-1 through ESI-5, ESI-A and ESI-B) and installed ground water monitoring wells at each of the test boring locations as part of the Environmental Site Assessment. Test boring and monitoring well installation for ESI-1 through ESI-5 was completed on November 2 and 3, 1990. Test boring and monitoring well installation for ESI-A and ESI-B was completed on December 18, 1990. The test boring locations are plotted on the Site Plan shown as Drawing No. 2 presented in Appendix A.

Test borings were advanced to determine subsurface conditions for environmental considerations and to determine the potential presence of hazardous material in the ground water beneath the subject site. The boring logs associated with the test borings, and well installation diagrams corresponding to the ground water monitoring wells can be found in Appendix E.

The monitoring wells locations were chosen to generalize subsurface conditions downgradient of the drywells which have historically been used for plant process water disposal and storm water discharge. Due to overhead electrical lines four (4) monitoring wells were installed a few feet the north of the northern property line of the subject property along the road providing access to the rear of the building on Jamestown Container Property. The fifth monitoring well was installed on the east end of the site directly north of the loading dock. Monitoring wells ESI-A and ESI-B are located on the east side of the boiler room.

Soil samples were collected from drywells 004 and 005 to evaluate of the potential for chemical contamination of the drywells. Drywell sampling was conducted on February 20, 1991.

B. Test Boring Procedures

The seven (7) borings (ESI-1, ESI-2, ESI-3, ESI-4, ESI-5, ESI-A and ESI-B) were advanced to 16.0-feet, 17.0-feet, 15.9-feet, 16.8-feet, 16.0-feet, 14.0-feet, and 15.0-feet respectively. The test borings were advanced using 4-1/4-inch inside diameter (I.D.) hollow stem augers to facilitate installation of 2-inch I.D. PVC monitoring wells. Representative soil samples of the overburden were obtained by driving a standard 2-inch outside diameter (O.D.) split-spoon sampler into the undisturbed material below the auger casing with a 140-pound hammer falling freely a distance of 30-inches (American Society of Testing Materials (ASTM Method D-1586). The number of blows required to drive the split-spoon for each 6-inch interval was recorded. Standard Penetration Tests (SPT) conforming to ASTM D-1586 were done as noted on the subsurface logs found in Appendix E. Soil samples were recovered from each sampling interval. The depth of each borehole was determined in the field by an ESI geologist based on subsurface conditions and ground water encountered during drilling operations. Soil descriptions are reported on the subsurface logs presented in Appendix E.

Ground water monitoring wells were installed in each of the five (5) test borings and set at depths below ground surface of 14.7-feet (ESI-1), 14.7-feet (ESI-2), 14.5-feet (ESI-3), 15.0-feet (ESI-4), 15.2-feet (ESI-5), 13.5-feet (ESI-A) and 14.5-feet (ESI-B). Each ground water monitoring well consists of ten (10)-feet of two (2)-inch I.D. PVC slotted (0.10-inch) well screen. Each well also consists of two (2)-inch I.D. PVC flush joint riser pipe to ground surface. Quartzite sand (No. 2) was used as a sand pack to fill the annular space between the well screen and the borehole wall from the bottom of the hole to a minimum of one (1)-foot above the top of the slotted well screen. A bentonite pellet seal was placed above the sand pack with grout to ground surface. Locking well caps were installed at the top of the riser pipe on the monitoring wells and protective curb boxes were installed at ground surface. The ground water monitoring well installation diagrams are presented in Appendix E.

C. Subsurface Conditions

ESI evaluated the subsurface conditions at the subject site based on the seven (7) test borings completed during this study. In general, similar subsurface conditions were encountered at each of the seven (7) test borings drilled at the site. Fill material was observed to be present overlying the native soils at varying depths from 4.0 to 14.0-feet. The material observed within the fill layer consisted of cinders, sand, silt, gravel, brick, concrete, coal, slag and metal. Asphaltic concrete was present over crusher run stone in the first foot for borings ESI-2 through ESI-5. A 1.0-foot interval of concrete was encountered between 4.5 and 5.5-feet in test boring ESI-B. A railroad tie was also encountered below the crusher run stone in test borings ESI-2, ESI-3 and ESI-5 indicating a railroad track was formerly present in the access road along the north side of the Dowcraft plant.

Underlying the fill zone, native soils were encountered consisting of silty sand, sand and gravel. There was no detectable odor present during the boring procedures. A slight oil sheen was apparent on some of the samples acquired from test borings ESI-A and ESI-B. Water was detected at 8-feet for ESI-1 and ESI-5, at 10-feet for ESI-2 and ESI-4, and at 8.5-feet for ESI-3. Bedrock was not encountered in the test borings drilled at the site.

D. Soil Sample Organic Vapor Screening

Recovered soil samples from the test borings were scanned by an ESI geologist to determine the presence of volatile organic contaminants utilizing a Photoionization Detector (PID). The PID measurements using an Hnu with a 10.2 eV lamp (reported in parts per million-ppm) gave ESI an indication of volatile organic concentrations in the recovered soil samples. Ambient "background" organic vapor measurements were taken in the ESI laboratory prior to sample screening. Table VI-1 summarizes the organic vapor measurements taken in the headspace of the sample jars of the soil samples collected during the test boring procedures.

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TABLE VI-1
SUMMARY OF PHOTOIONIZATION
DETECTOR (PID) MEASUREMENTS
OF TEST BORING SAMPLES

Test Boring Number	Soil Sample Depth(ft)	PID Measurements(ppm)
ESI-1	2-4	BG
	4-6	BG
	6-8	BG
	8-10	BG
	10-12	BG
	12-14	BG
	14-16	BG
ESI-2	0-2	1.6
	2-4	BG
	4-6	BG
	6-8	BG
	10-12	BG
	12-14	2.2-3.8
ESI-3	2-4	BG
	4-6	BG
	6-8	BG
	8-10	BG
	10-12	BG
	12-14	BG
ESI-4	1-2	BG
	2-4	BG
	4-6	BG
	6-8	BG
	8-10	BG
	10-12	BG
	12-14	BG
ESI-5	3-4	BG
	4-6	BG
	6-8	BG
	8-10	BG
	10-12	BG
	12-14	BG

TABLE VI-1
CONTINUED

ESI-A	0-2	BG
	2-4	.6
	4-6	.4
	6-8	.8
	8-10	.8
	10-12	6.6
	12-14	7.1
ESI-B	0-2	0.4
	2-4	0.4
	4-5	0.8
	5-6	0.6
	6-8	0.5
	8-10	0.6
	10-12	0.4
	12-14	0.4
	14-15	0.6

BG – Background Concentration =0.3 ppm
ppm – parts per million

E. Drywell Sampling

One soil sample was obtained from drywells 004 and 005 on February 20, 1991 by an ESI Environmental Engineer assisted by Dowcraft personnel. At the time of sampling, drywell 005 was receiving rinse water from the adjacent phosphatizer and non-contact cooling water from the main boiler. There was several feet of standing water in drywell 005. It appeared that the permeability of drywell 005 was lower than expected since the incoming flow of water was low and standing water was apparent. A decontaminated pipe was used to collect the soil sample from drywell 005.

Drywell 004 is located on the exterior of the plant. There was no free standing water present in drywell 004 at the time of sampling. A decontaminated hand auger was used to acquire the sample from drywell 004. Both soil samples were collected from soils between the surface of soils in the drywell and six inches below the surface. The soil samples were analyzed for purgeable halocarbons to determine if trichloroethene and 1,2 dichloroethene were present and to determine if these drywells are the source of the contamination.

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SECTION VII
WELL DEVELOPMENT AND GROUND WATER SAMPLING

ESI obtained ground water levels and developed the seven (7) monitoring wells November 12 and 13, 1990 and January 2, 1991. The well development was accomplished by pumping ground water from the well with a guzzler pump and new tubing. A minimum of ten (10) water well volumes were removed from all seven (7) monitoring wells to develop and purge the well.

Well development and purging was completed to collect a representative sample of the ground water in the vicinity of the monitoring well. Representative water was assumed to have been obtained when pH, temperature, and specific conductivity measurements stabilize (variation of less than 10% over successive well volumes). The well development procedures and data were recorded on well development logs and are presented in Appendix E.

ESI collected representative ground water samples from monitoring wells ESI-1 through ESI-5 on November 13 and 14, 1990 and ESI-A and ESI-B on January 2, 1991. The water levels in the monitoring wells were measured to verify a recharge of at least ninety percent prior to collecting the ground water samples. Ground water samples for ESI-1 through ESI-5 were collected by lowering a precleaned 3-foot long by 2-inch outside diameter stainless steel bailer with a teflon check value into the water and allowing it to fill. The bailer was then removed and the contents emptied into two 40-milliliter amber glass vials with septums (filled to capacity to prevent air bubbles), and a 1-liter plastic bottle. Ground water samples obtained from ESI-A and ESI-B were collected in the same manner but were poured into two 40-milliliter amber glass vials and

SECTION VIII
ANALYTICAL TEST RESULTS

A. General

ESI obtained three (3) surface soil samples, two (2) drywell soil samples and seven (7) ground water samples for analytical testing. The three (3) surface soil samples and ground water samples collected from ground water monitoring wells ESI-1 through ESI-5 were analyzed for pH, USEPA target compound list (TCL) volatiles, and USEPA priority pollutant metals. Based on the analytical results from ESI-1 through ESI-5 and observations of a sheen on the soil the ground water samples obtained from ground water monitoring wells ESI-A and ESI-B were analyzed for purgeable halocarbons, purgeable aromatics and total petroleum hydrocarbons (TPH). Soil samples collected from drywells 004 and 005 were tested for purgeable halocarbons.

Historical site use and analytical test results obtained during this study was the basis for selecting these parameters to assist in evaluation of potential chemical contamination. Historical site usage indicated that solvents (chlorinated and nonchlorinated) may have been used. After the initial ground water analysis, only two (trichloreothene and 1,2-dichloroethene) chlorinated solvents were detected in the groundwater. Therefore, subsequent sampling in wells ESI-A, ESI-B and the drywells was focused on the previously detected chlorinated compounds. TPH was included in the analysis of ground water from wells ESI-A and ESI-B due to reports of a sheen on the soils during installation of the wells. The laboratory test results are presented in Appendix F and are summarized in this section.

B. Surface Soil Samples

Surface soil samples were collected from three (3) locations on the exterior of the Dowcraft facility and were analyzed for the aforementioned list of compounds. The USEPA priority pollutant metals and pH results can be found on Table VIII-1. Metal constituents which were detected were compared to published ranges for metals typically found in New York State soils. The reference for this criteria is a NYSDEC document

which lists background concentrations of naturally occurring elements in New York State soils. The pH results were compared to hazardous waste criteria as defined in the Code of Federal Regulations Part 261.

Surface soil samples SS-1, SS-2 and SS-3 were obtained from soils below the spent paint thinner storage area, the empty drum storage area, and the recyclable metals storage area, respectively (refer to Drawing No. 2 in Appendix A). All three surface soil samples exhibited concentrations of copper, lead, silver, and zinc above the typical background range for New York State soils.

TABLE VIII-1
ANALYTICAL RESULTS FOR SURFACE SOIL SAMPLES COLLECTED DURING PHASE II ENVIRONMENTAL SITE ASSESSMENT

Parameter	Sample Location And Concentration (mg/Kg)			Average Crustal Metal Range (mg/kg)	Average NYS Metal Range (mg/kg)
	SS-1	SS-2	SS-3		
Antimony	12.7	<12.7	<11.4	0.2	NA
Arsenic	11.4	7.09	10.5	2.0	3-12
Beryllium	<1.27	<1.27	1.23	2.0	0-1.75
Cadmium	<1.27	<1.27	<1.14	0.2	0.01-0.88
Chromium	59.5	81.4	115	200	1.5-40
Copper	141	236	122	45	<1-15
Lead	177	251	469	16	1-12.5
Mercury	<0.13	<0.13	<0.12	0.5	0.042-0.066
Nickel	30.0	24.9	40.4	80	0.5-25
Selenium	<1.27	<1.27	<1.14	0.09	<0.1-0.125
Silver	3.54	4.73	7.45	0.1	NA
Thallium	<2.53	<2.53	<2.27	1.0	NA
Zinc	1300	630	548	65	37-60
pH*	6.48	6.70	7.49	---	---

* Hazardous waste criteria for pH is 2.0<pH>12.5.

The presence of these metals in concentrations above the published background levels for New York State can be attributed to the historical industrial use of the site. There are no known applicable soil standards promulgated regarding total metal constituents. However, it is ESI's opinion that the metals concentrations in the surface soils sampled are below levels that would require remediation under current rules and regulations.

There were no volatile organic compounds detected in the surface soil samples analyzed. The pH of the subsurface soil samples ranged from 6.48 (SS-1) to 7.59 (SS-3). The reported pH range was not within the pH criteria established to be considered a hazardous waste ($2 > pH > 12.5$).

C. Drywell Soil Samples

Drywell soil samples were collected from drywells 004 and 005 on February 20, 1991. The soil samples were analyzed for purgeable halocarbons to determine if these drywells were the source of the trichloroethene and 1,2-dichloroethene contamination of the groundwater. Table VIII-2 summarizes the detectable contaminants found in the soil samples obtained from the drywells. The sample obtained from drywell 005 was found to contain 440 ug/Kg of 1,2-dichloroethene and 310 ug/Kg of trichloroethene. The sample collected from drywell 004 was also found to contain 120 ug/Kg of trichloroethene.

TABLE VIII-2
ANALYTICAL RESULTS FOR DRYWELL
SOIL SAMPLES COLLECTED DURING THE PHASE II
ENVIRONMENTAL SITE ASSESSMENT

Parameter	Concentration (ug/Kg)	
	Drywell 004	Drywell 005
1,2-Dichloroethene	<50	440
Trichloroethene	120	310

D. Ground Water Samples

Ground water samples were obtained from ground water monitoring wells ESI-1 through ESI-5, ESI-A and ESI-B located as shown on Drawing No. 2 in Appendix A. Ground water samples collected from monitoring wells ESI-1 through ESI-5 were analyzed for USEPA Target Compound List (TCL) volatiles, USEPA Priority Pollutant metals, and pH. The analytical results for these samples for the priority pollutant analysis and the field measurements during the sampling event are presented on Table VIII-3.

Ground water samples collected from monitoring wells ESI-A and ESI-B were analyzed for TCL volatiles and total petroleum hydrocarbons. There were no detected petroleum hydrocarbons found in either sample from ESI-A or ESI-B. Total petroleum hydrocarbons analysis were included due to the slight sheen reported during well installation and sampling. The detectable organic constituents found in these samples are presented on Table VIII-4.

Detectable concentrations of arsenic, cadmium, chromium, copper, lead and zinc were found to be present in ground water samples taken from monitoring wells ESI-2 through ESI-5. The levels reported were compared to state ground water quality standards (Class GA). Lead concentrations in the ground water samples obtained from ESI-3, ESI-4, and ESI-5 were above the New York State standards for ground water quality. Cadmium was also tested to be present in the sample collected from monitoring well ESI-5 at a concentration above the state ground water standard.

The pH of the ground water obtained from well ESI-5 (12.08) was well above the NYSDEC ground water criteria during sampling. The pH in well ESI-5 changed dramatically from between 6.1 and 7.14 during development to 12.08 during sampling. Further work to determine the true pH of this well is recommended. The ground water pH in well ESI-3 (9.28) was also higher than expected.

TABLE VIII-3
ANALYTICAL RESULTS FOR GROUND WATER
SAMPLES COLLECTED DURING
PHASE II ENVIRONMENTAL SITE ASSESSMENT

Parameter	Sample Location					State Ground Water Quality Standard*
	ESI-1	ESI-2	ESI-3	ESI-4	ESI-5	
pH (s.u.)	6.50	6.82	9.28	8.26	12.05	6.5 to 8.5
Conductivity (umhos/cm)	374	459	402	608	1566	NC
Turbidity (NTU)	1000	610	940	880	600	NC
Temperature °C	11.8	14.9	11.8	10.8	10.4	NC
Metals	Concentration (mg/L)					
Antimony	<0.05	<0.05	<0.05	0.05	<0.05	NC
Arsenic	<0.01	<0.01	<0.01	0.02	0.01	0.025
Beryllium	<0.00	<0.005	<0.005	<0.005	<0.005	NC
Cadmium	<0.005	<0.005	<0.005	<0.005	0.013	0.01
Chromium	0.05	<0.01	0.03	0.05	0.03	0.05
Copper	0.01	0.02	0.04	0.06	0.05	1.0
Lead	0.0006	<0.005	0.03	0.038	0.06	0.025
Mercury	<0.0002	<0.0002	<0.0002	<0.002	<0.002	0.0002
Nickel	<0.04	<0.04	<0.04	<0.04	<0.04	NC
Selenium	<0.005	<0.005	<0.005	<0.005	<0.005	0.02
Silver	<0.01	<0.01	<0.01	<0.01	<0.01	0.05
Thallium	<0.01	<0.01	<0.01	<0.02	<0.01	NC
Zinc	0.02	<0.02	0.08	0.13	<0.06	5.0

* – Source: New York State Code Rules and Regulations Title 6, Chapter 10, Part 703.5.
NC– No Criteria.

Detectable volatile organics were present in ground water samples ESI-1, ESI-2, ESI-3, ESI-5, ESI-A and ESI-B as shown in Table VIII-4. Trichloroethene was detected in ground water samples ESI-1 (12 ug/l), ESI-2 (1,300 ug/l), ESI-3 (180 ug/l), ESI-A (57 ug/l) and ESI-B (3.9 ug/l). Samples ESI-2 and ESI-A also were found to contain 230 and 30 ug/L 1,2-dichloroethene, respectively. 1,2-Dichloroethene is a biological degradation product of trichloroethene and is often present when trichloroethene is detected. Acetone was found to be present in ground water sample ESI-5 at a concentration of 13 ug/L. Ground water quality standards of 5 ug/L have been established for 1,2-dichloroethene and trichloroethene. The samples obtained from monitoring wells ESI-1, ESI-2, ESI-3, ESI-A and ESI-B were above of the state ground water standards for 1,2-dichloroethene and/or trichloroethene.

The ground water sampling results indicate the contaminant plume appears to be well defined and is approximately located between monitoring wells ESI-B and ESI-4. A ground water contamination contour map is presented as Drawing No. 2 in Appendix A. The contamination appears to be concentrated in a relatively narrow band centered around well ESI-2. The apparent source of contamination is in the vicinity of the 1978 plant expansion located between the boiler room and the main plant assembly area. The location of the contamination source is supported by the distribution of trichloroethene data and an apparent localized ground water flow in a north-northeast direction.

TABLE VIII-4
ANALYTICAL RESULTS FOR GROUND WATER SAMPLES COLLECTED FOR PHASE II ENVIRONMENTAL SITE ASSESSMENT

Parameter	Monitoring Well Location* Concentration (ug/l)							State Ground Water Standard**
	ESI-1	ESI-2	ESI-3	ESI-4	ESI-5	ESI-A	ESI-B	
Trichloroethene	12	1300	180	ND	ND	57	3.9	5
1,2-Dichloroethene	ND	230	ND	ND	ND	30	ND	5
Acetone	ND	ND	ND	ND	13	NT	NT	No Criteria

ND -- Not Detected
NT -- Not Tested For
* -- ESI-1 through ESI-5 were sampled on 11/13/90, ESI-A and ESI-B were sampled on 11/30/90, ESI-A and ESI-B were sampled on 1/2/91.
** -- Source: New York State Code Rules and Regulations, Title 6, Chapter 10, Parts 703.5. Modified by "Ambient Water Quality Standards and Guidance Values", September 25, 1990 (NYSDEC).

SECTION IX
RELATED RESEARCH

Research conducted by Dowcraft Corporation personnel concurrently with the Phase II Environmental Site Assessment has generated important information pertaining to the contamination detected in the subsurface of the Dowcraft site. The information gathered was limited to discussions from past and present employees and a drawing of the subject property from the 1940's. Dowcraft Corporation management conducted an interview with a former employee Mr. Robert C. Johnson in an effort to learn more about past practices at the Dowcraft plant. Mr. Johnson worked at the subject property between 1935 to 1941 and 1946 to 1981. Mr. Johnson informed Dowcraft that the trichloroethene vapor degreaser was installed in 1948 when the boiler room was moved to the current location. Virgin trichloroethene and trichloethene sludge were stored in the area where the 1978 plant expansion exists. Mr. Johnson could not recall any spills of the trichloethene product or sludge during his employment at the plant. A septic tank was also reported to be located in this area. All the areas of possible trichloroethene contamination all narrow down to the area associated with the 1978 addition to the Plant (See Drawing No. 2 in Appendix A).

The adjacent property presently occupied by the Jamestown Container Corporation was occupied by a company named "Chemetal" As shown on Drawing No. 6 in Appendix A. ESI contacted the Chautauqua County Tax Assessors Office regarding any records on a former business under the name of Chemetal. There was no record of a company under the Chemetal name according to the Tax Assessor, however, businesses were not required to register during that period. Mr. Gene Sedowski, former president of Dowcraft Corporation, indicated the Chemetal Company produced metal caskets during World War II. This information is significant in that most metal fabrication businesses during that period used trichloroethene vapor degreaser units as part of the manufacturing operations. Therefore, the potential for trichloroethene contamination from the Jamestown Container property (former Chemetal property) exists.

Mr. Charles Jewell also interviewed a current Dowcraft employee regarding former disposal practices of the Jamestown Container Corporation plant. The information gathered from the interview indicated that there was periodic dumping of aqueous waste in the access road between the two plants some time ago. The doorway where the alleged wastewater disposal had been observed has been bricked up since that time. The significance of the observed disposal from the Jamestown Container property is that the former doorway is in very close proximity to the most contaminated ground water monitoring well (ESI-2). However, this type of dumping would not readily explain the presence of trichloroethene in drywells 004 and 005 and monitoring wells ESI-1, ESI-3, ESI-A and ESI-B.

SECTION X
SUMMARY OF CONTAMINATION

A. General

The sampling and analytical testing at the Dowcraft plant has been directed at pollutants that could reasonably be expected to be present on the site due to known present and past operations at the facility. The contaminants of concern in the ground water at this site have been determined to be:

1. 1,2-Dichloroethene
2. Trichloroethene
3. pH

Table X-1 summarizes the chemical and physical properties of the volatile compounds found in the ground water.

TABLE X-1
SUMMARY OF CHEMICAL AND PHYSICAL PROPERTIES

Property	Trichloroethene	1,2-Dichloroethene
CAS No.	79-01-6	540-59-0
Formula	CHCL: CL2	CLC:CHCL
Synor	TCE, Trichloroethlene Ethylene Trichloride Triclene	DCE, Cis and trans isomers, acetylene dichloride, dichloracetylene
Water Solubility	1,100 mg/l	3,500 to 6,300 mg/l
Vapor Pressure	57.9 mm Hg	208-324 mm Hg
Henry's Law Constant	0.0091 atm-m_3/mol	0.00656 to 0.00758 atm-m^3/mol
Koc	126 ml/g	49-59 ml/g
Kow	240	3.02-5.01
Specific Gravity	1.460	1.28
Molecular Weight	131	97
Ionization Potential	9.47 eV	9.66 eV

Sources:

1. Saz, N. Irving and Lewis, Richard J. Sr., Hawley's Condensed Chemical Dictionary, Eleventh Edition, Van Nostraud Reinhold Company, New York, 1987.

2. NIOSH, "Pocket Guide To Chemical Hazards", February, 1987.

3. USEPA, Handbook: Responding to Discharges of Sinking Hazardous Substances, EPA/540/2-87/001, September, 1987.

4. USEPA, Basics of Pump and Treat Ground-Water Remediation Technology, EPA/600/8-90/003, March, 1990.

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SECTION XI
SUMMARY AND CONCLUSIONS

The conclusions and recommendations presented below are based on the Phase I and Phase II scope of services and are subject to the limitations contained in Appendix B. Phase I and Phase II Environmental Site Assessments were completed for Dowcraft Corporation for the property located at 65 South Dow Street, Falconer, New York. This study was limited to data obtained during the site visit, a review of site history, a review of regulatory agency data, surface explorations, subsurface explorations and limited analytical testing. Based on the limited studies completed and the information made available to ESI, the relevant findings are summarized below:

Summary

- The Dowcraft Corporation property consists of one parcel and occupies approximately 2.2 acres.
- Based on our review of site history, including discussions with the Town of Ellicott Historian, the property has been primarily used for the textile and metal fabrication industries since the early 1900's.
- Approximately 100 linear feet of suspected asbestos thermal insulation was noted to be present in the 1966 building during the initial site visit.

Regulatory Information

- There are no known active or inactive hazardous waste sites, or NPL hazardous waste sites within one-half mile of the subject site.
- There is no record of waste disposal activities, oil spills, chemical spills or underground storage tanks on the subject property according to NYSDEC records.
- The discharges from the plant are permitted through the State Pollution Discharge Elimination System (SPDES). The permit is for three drywells and one river outfall.

Adjacent Properties

- The presence of railroad property directly south of the subject site is a potential environmental concern. Activities inherent to the railroad industry include the use of herbicides for weed control and the historical use of lead brake bushings in rail cars.

- The environmental concerns associated with the Jamestown Container property include the historical disposal of aqueous waste in the alley between the Dowcraft plant and Jamestown Container plant, the former presence of an underground petroleum bulk storage tank and the potential for PCB contamination from the two pole-mounted transformers adjacent to the subject property.

- The adjacent Niagara Mohawk Power transformer storage yard is a potential source of PCB contamination if spills or leaks have occurred.

Surface Soils

- Three (3) surface soil samples were obtained from outside storage areas and the samples were analyzed for the Target Compound List (TCL) volatiles, Priority Pollutant metals and pH.

- Copper, lead, silver and zinc concentrations were higher than the NYSDEC published background metal levels found in New York State soils.

- There were no volatile organic compounds detected in the surface soil samples analyzed.

- The pH of the surface soil samples were within generally acceptable ranges.

Dry Wells

- Two drywell soil samples were obtained and analyzed for purgeable halocarbons. 1,2-Dichloroethene and trichloroethene were detected in drywells 004 and 005.

Subsurface Investigation

- Seven test borings were advanced to evaluate the subsurface condition at the subject property.

- Laboratory organic vapor measurements taken on soil samples obtained from the seven (7) test borings did not indicate significant levels of organic vapors in the test borings samples.

- Seven ground water monitoring wells (ESI-1 through ESI-5, ESI-A and ESI-B) were installed to determine whether contamination exists in the ground water at the subject property.

- Laboratory test results for ground water samples obtained from the monitoring wells indicate metals concentrations of cadmium (ESI-5) and lead (ESI-3, ESI-4, and ESI-5) which were slightly above the state ground water quality standards.

- Trichloroethene and/or 1,2-dichloroethene, were detected in ground water samples ESI-1, ESI-2, ESI-3, ESI-A and ESI-B at concentrations above the New York State ground water quality standards. Acetone was also detected in ground water sample ESI-5.

- The pH of ground water samples ESI-3 (9.28) and ESI-5 (12.05) were above the New York State ground water quality standards.

The salient information relative to volatile compounds present is summarized below:

1. Trichloroethene is used in vapor degreaser within the plant.

2. Trichloroethene product and waste are stored in 55-gallon drums near the degreaser within the building.

3. Trichloroethene product and waste was formerly stored outside where the 1978 plant addition is located (near the current location of drywell 005).

4. Trichloroethene and 1,2 dichloroethene were detected in the soils from drywells 004 and 005.

5. The maximum concentration of 1,2-dichloroethene and trichloroethene were detected in monitoring well ESI-2.

Based on the information summarized above, the probable source of trichloreothene and 1,2-dichloroethene is a spill of virgin product or waste material prior to 1978 in the area where the 1978 plant addition is located.

The entire area of identified contamination is relatively small (100' x 150'). The likely area of contamination is from the 1978 addition to the Chadakoin River. The soils in this area consists of sands and gravel and are likely to be permeable. ESI believes that if the results of a soil gas surface are positive, soil vapor extraction system will be able to cleanup this area. To accomplish this objective ESI recommends the following actions be taken:

- Well level measurement be obtained and plotted
- Permeability of the soils be determined
- A soil gas survey be conducted under the floor slab for the 1978 addition
- An estimate of the thickness of the water bearing zone be made
- An interim remedial measure (IRM) should be sufficient to remediate this site. A soil vapor extraction system is being planned for this site.

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Respectfully Submitted,
EMPIRE SOILS INVESTIGATIONS, INC.

Kevin J. Shanahan
Environmental Engineer

David M. Harty, P.E.
Senior Environmental Engineer

DOWCRAFT.2

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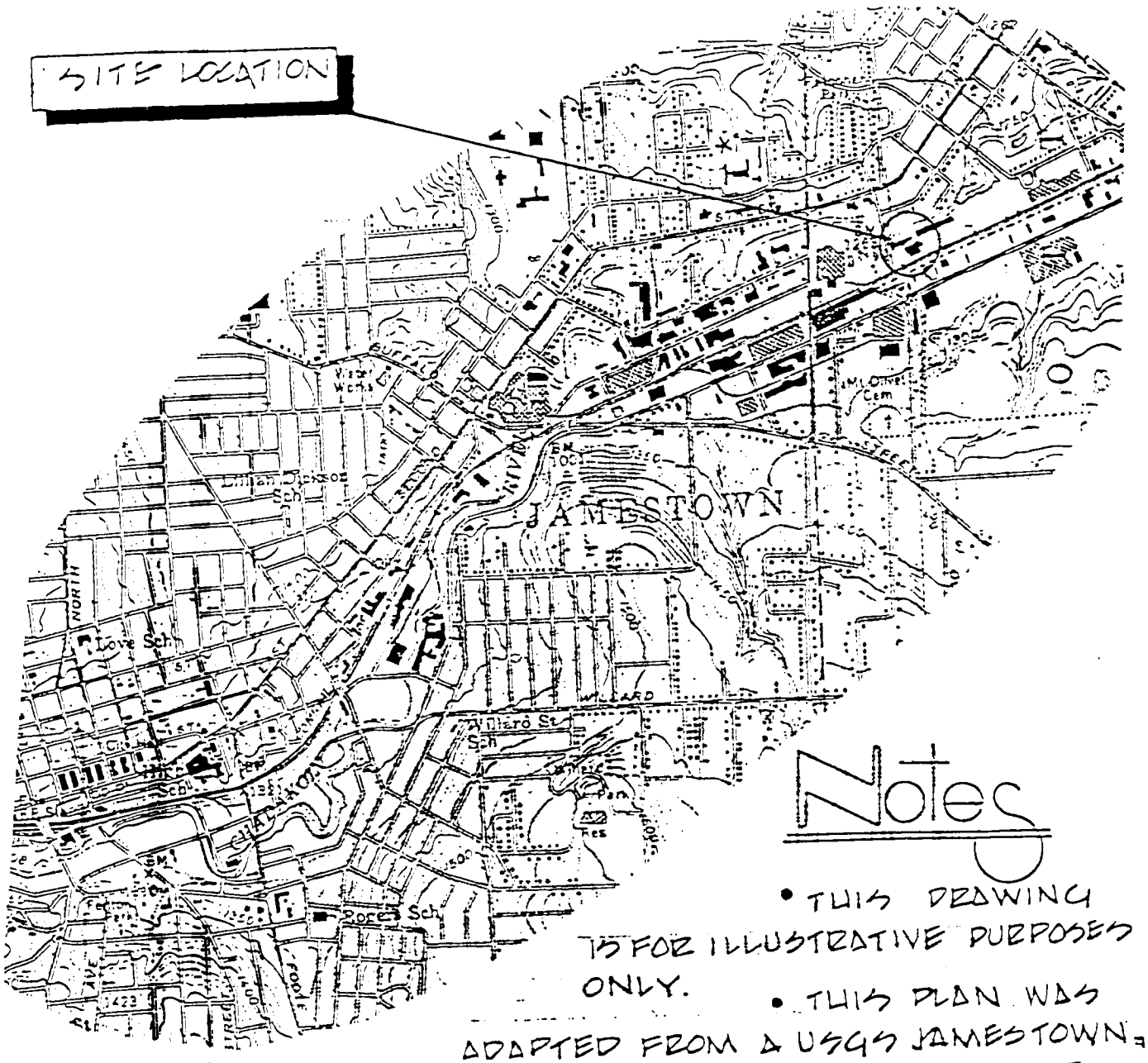
APPENDIX A



Notes

- THIS DRAWING IS FOR ILLUSTRATIVE PURPOSES ONLY.
- THIS PLAN WAS ADAPTED FROM A USGS JAMESTOWN, NEW YORK MAP DATED 1965.

N

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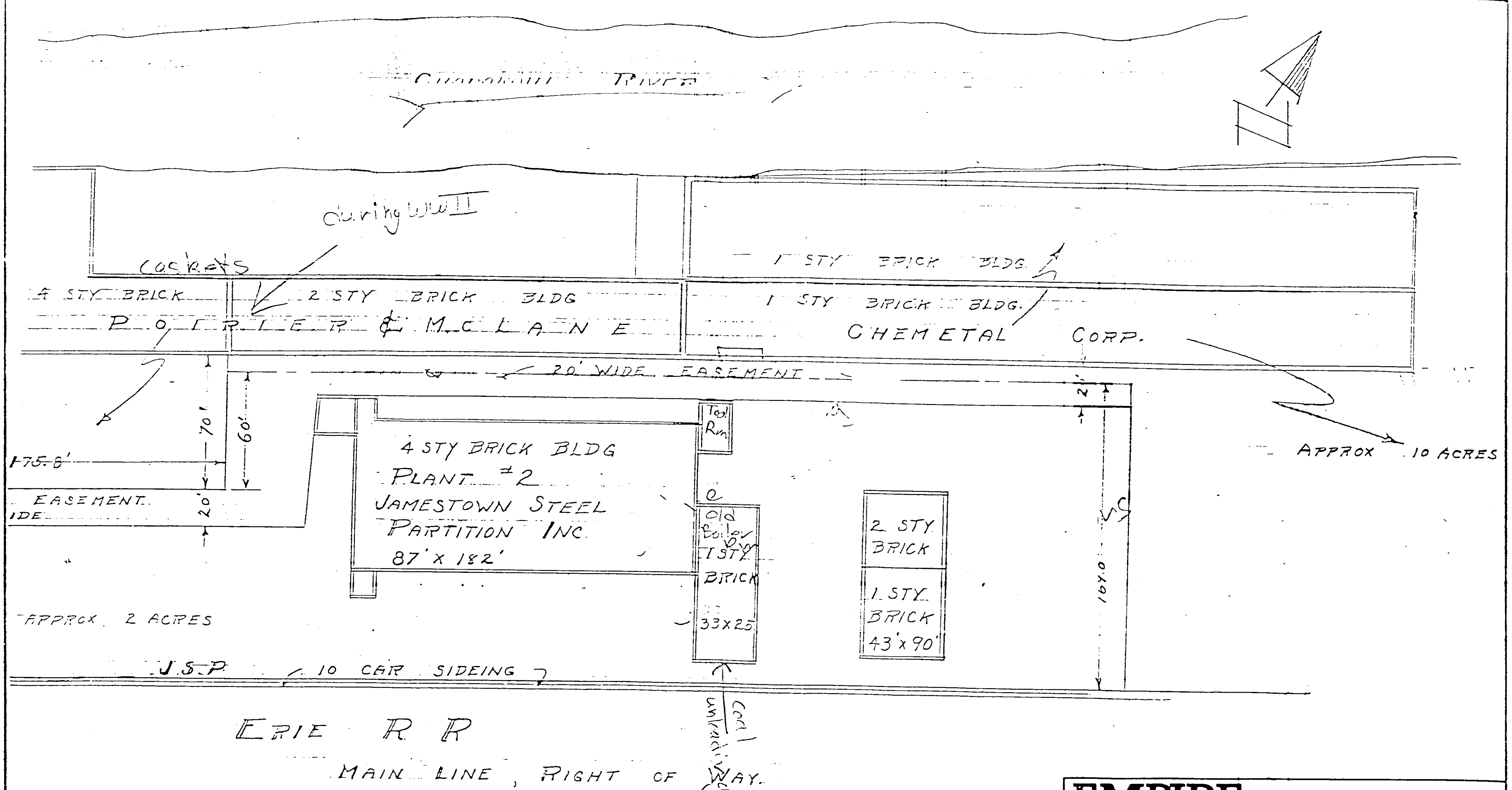
Site Location Map

DOWCRAFT CORPORATION
65 S. DOW STREET
FALCONER, NEW YORK.

DR.BY: D.W. LABELLE	SCALE: 1" = 2000'	PROJ. NO.	BTA90179
CK'D.BY: K.S.	DATE: OCT. 1990	DRWG.NO.	1

EG FORM 5-2



River
during WW II
caskets
4 STY BRICK
2 STY BRICK BLDG
POIRIER & McLANE
1 STY BRICK BLDG
1 STY BRICK BLDG.
CHEMETAL CORP.
20' WIDE EASEMENT
APPROX 10 ACRES
4 STY BRICK BLDG
PLANT #2
JAMESTOWN STEEL
PARTITION INC
87' x 182'
Tool Rm
Old Boiler Rm
1 STY BRICK
33X25
2 STY BRICK
1 STY BRICK 43'x 90'
70'
60'
20'
175.8'
EASEMENT
APPROX 2 ACRES
J.S.P.
10 CAR SIDEING
167.0'
Coal unloading
ERIE R R
MAIN LINE, RIGHT OF WAY.

EMPIRE SOILS INVESTIGATIONS INC

HISTORICAL PLAN

JAMESTOWN STEEL PARTITION PLANT, POIRIER & McLANE AND CHEMETAL CORP.

DR.BY:	SCALE: NONE	PROJ. NO. BTA-90-179
CK'D.BY:	DATE: MAY 1991	DRWG.NO. 6

R/T FORM R-2

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APPENDIX B

APPENDIX B
LIMITATIONS

1. Empire Soils Investigations, Inc. (ESI) work was completed in accordance with generally accepted practices of other consultants undertaking similar studies, and ESI observed that degree of care and skill generally exercised by other consultants under similar circumstances and conditions. ESI's finding and conclusions must be considered not as scientific certainties but as probabilities based on our professional judgement concerning the significance of the limited data gathered du/ring the course of the work.

2. The environmental site assessment, completed has not included comprehensive analytical testing on the site. Without such testing, ESI can assume no responsibility for the undetected presence of either identified potential conditions or other latent conditions.

3. The observations described in this report were made under conditions stated therein. The conclusions presented in the report were based solely upon the services described therein and not on tasks and procedures beyond the scope of described services or the time and budgetary constraints imposed by the client.

4. In preparing this report, ESI has relied on certain information provided by the State, County and Town Officials and other parties referenced herein and on information contained in the files of the state and local agencies made available to ESI at the time of the assessment.

5. Observations were made of the subject site and on adjacent sites as indicated within the report. Where access to portions of the site or structures were limited or unavailable, ESI renders no opinion as to the presence of hazardous materials or to the presence of indirect evidence relating to hazardous material in that portion of the site or adjacent structures.

6. Unless otherwise specified in the report, ESI did not perform testing or analyses to determine the presence of concentrations of hazardous chemical compounds, asbestos, polychlorinated biphenyls (PCB's) oil, gasoline, radon and lead paint at the subject property.

7. The purpose of this report was to assess the physical characteristics of the subject property with respect to the presence in the environment of hazardous materials or oil. No specific attempt was made to check on the compliance of present or past owners or operators of the site with federal, state or local laws and regulations, environmental or otherwise.

APPENDIX B
(Continued)

8. Except as noted within the text of the report, no quantitative laboratory testing was performed as part of the site assessment. Where such analyses have been conducted by a laboratory, ESI has relied upon the data provided and has not conducted an independent evaluation of the reliability of these data.

9. Evaluation of the possible impact of activities at neighboring locations on the subject property was beyond the scope of services for this environmental investigation.

10. Evaluation of the presence of a regulated wetland was beyond the contractual scope of work for this environmental investigation.

11. This report has been prepared for the exclusive use of Dowcraft Corporation and its designated agents and lending institutions for the specific application to the subject property in accordance with generally accepted engineering practice. No other warranty, expressed or implied, is made. The environmental concerns noted in this report (if any) are applicable to the current identified proposed usage of this property.

12. Marine Midland Bank as the lending institution can rely on the contents of this report.

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APPENDIX C

EMPIRE
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CLIENT: Dowcraft Corporation

PROJECT: Dowcraft Corporation

PROJECT LOCATION: 65 South Dow Street, Falconer, New York

PROJECT NO.: BIA-90-179 DATE PHOTOGRAPHED: 10-2-90

PHOTOGRAPHED BY: K. Shanahan PAGE 1 OF 15

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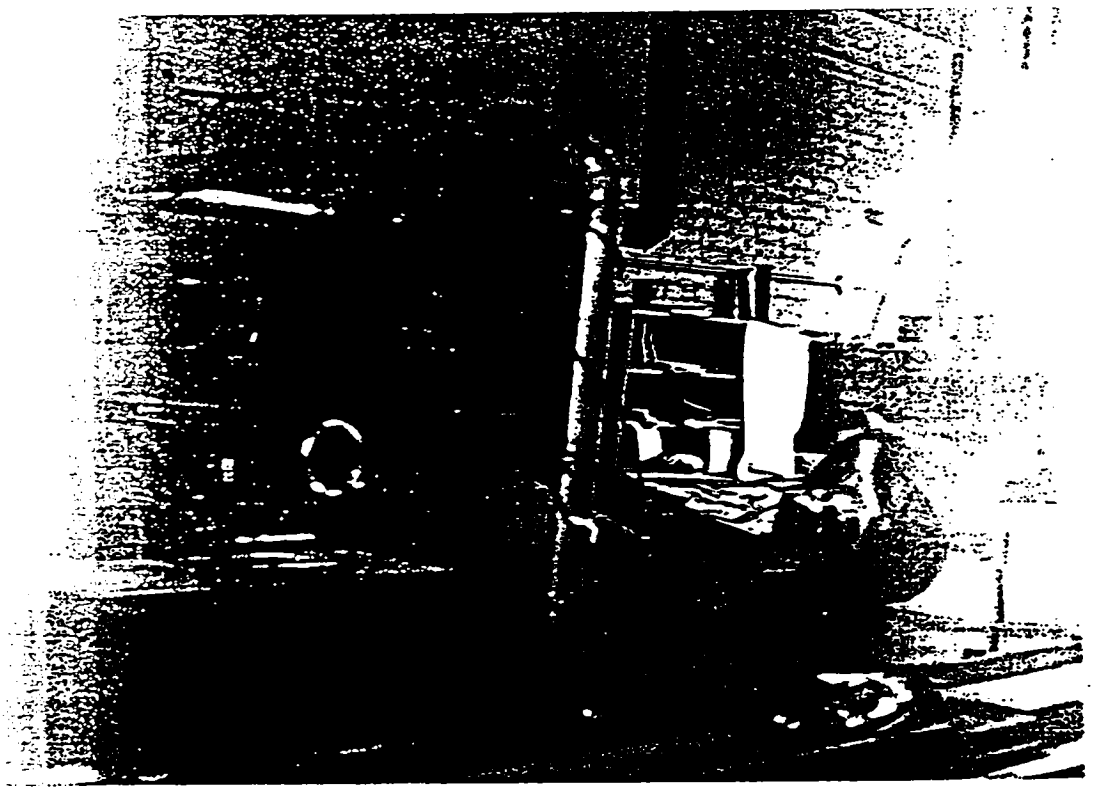


DESCRIPTION: Particle separator used for control of metal dust.

EMPIRE
SOILS INVESTIGATIONS INC

CLIENT: Dowcraft Corporation

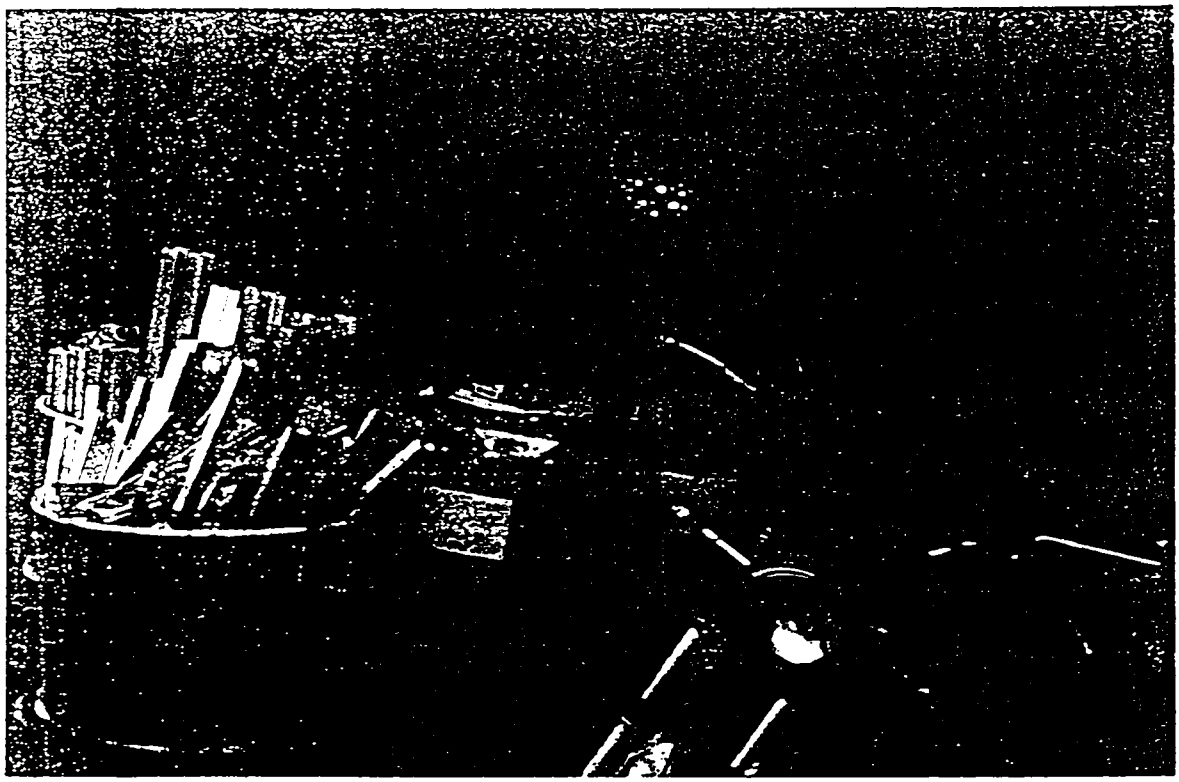
PROJECT: Dowcraft Corporation

PROJECT LOCATION: 65 South Dow Street, Falconer, New York

PROJECT NO.: BTA-90-179 DATE PHOTOGRAPHED: 10-2-90

PHOTOGRAPHED BY: K. Shanahan PAGE 2 OF 15

2



DESCRIPTION: Storage area for recyclable metal located on north side of plant.

EMPIRE
SOILS INVESTIGATIONS INC

CLIENT: Dowcraft Corporation

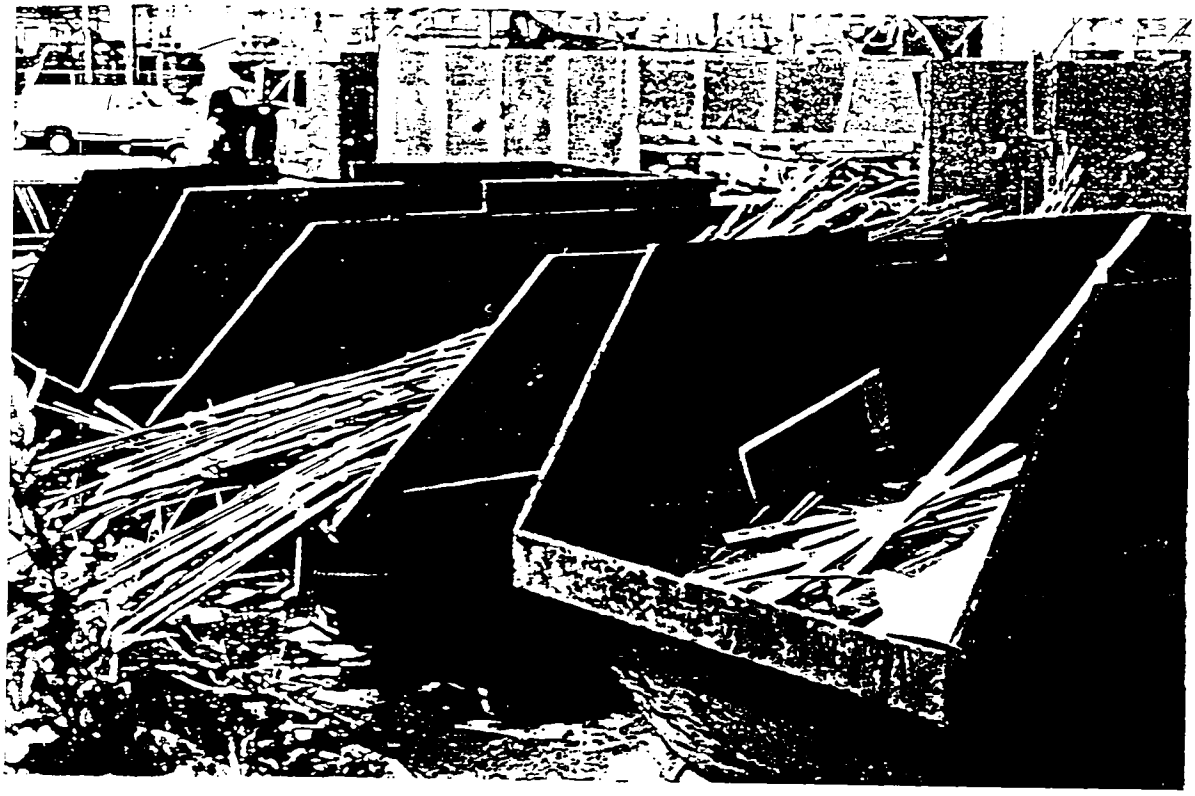
PROJECT: Dowcraft Corporation

PROJECT LOCATION: 65 South Dow Street, Falconer, New York

PROJECT NO.: BIA-90-179 DATE PHOTOGRAPHED: 10-2-90

PHOTOGRAPHED BY: K. Shanahan PAGE 3 OF 15

3



DESCRIPTION: Storage dumpsters for recyclable metal scraps located at the south west corner of the plant.

EMPIRE
SOILS INVESTIGATIONS INC

CLIENT: Dowcraft Corporation

PROJECT: Dowcraft Corporation

PROJECT LOCATION: 65 South Dow Street, Falconer, New York

PROJECT NO.: EIA-90-179 DATE PHOTOGRAPHED: 10-2-90

PHOTOGRAPHED BY: K. Shanahan PAGE 4 OF 15

4

DESCRIPTION: Solvent recovery still located in the mixing room.

EMPIRE
SOILS INVESTIGATIONS INC.

CLIENT: Dowcraft Corporation

PROJECT: Dowcraft Corporation

PROJECT LOCATION: 65 South Dow Street, Falconer, New York

PROJECT NO.: EIA-90-179 DATE PHOTOGRAPHED: 10-2-90

PHOTOGRAPHED BY: K. Shanahan PAGE 5 OF 15

5

DESCRIPTION: Storage area for spent paint stripper and scrappings from used fifty five gallon drums located east of the boiler room on the exterior of the plant.

EMPIRE
SOILS INVESTIGATIONS INC.

CLIENT: Dowcraft Corporation

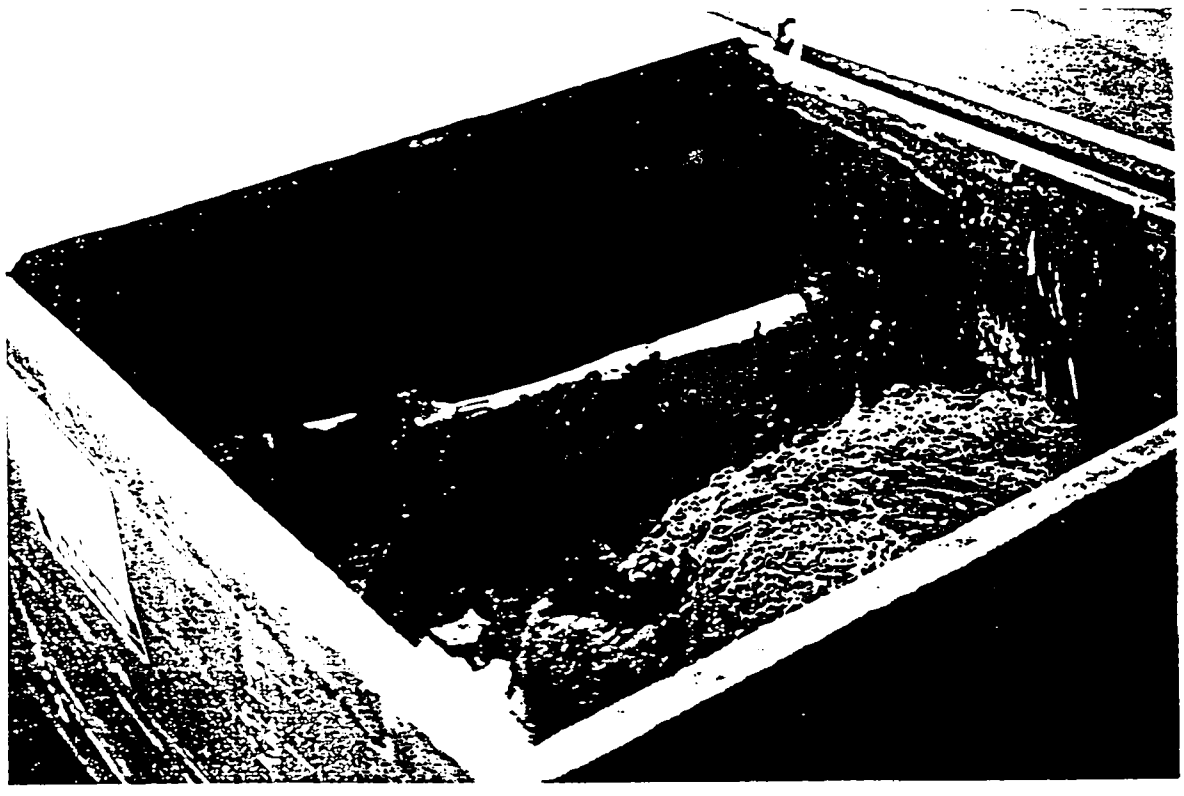
PROJECT: Dowcraft Corporation

PROJECT LOCATION: 65 South Dow Street, Falconer, New York

PROJECT NO.: BTA-90-179 DATE PHOTOGRAPHED: 10-2-90

PHOTOGRAPHED BY: K. Shanahan PAGE 6 OF 15

6



DESCRIPTION: Dumpster designated for storage of spent air filters from the painting operations.

EMPIRE
SOILS INVESTIGATIONS INC

CLIENT: Dowcraft Corporation

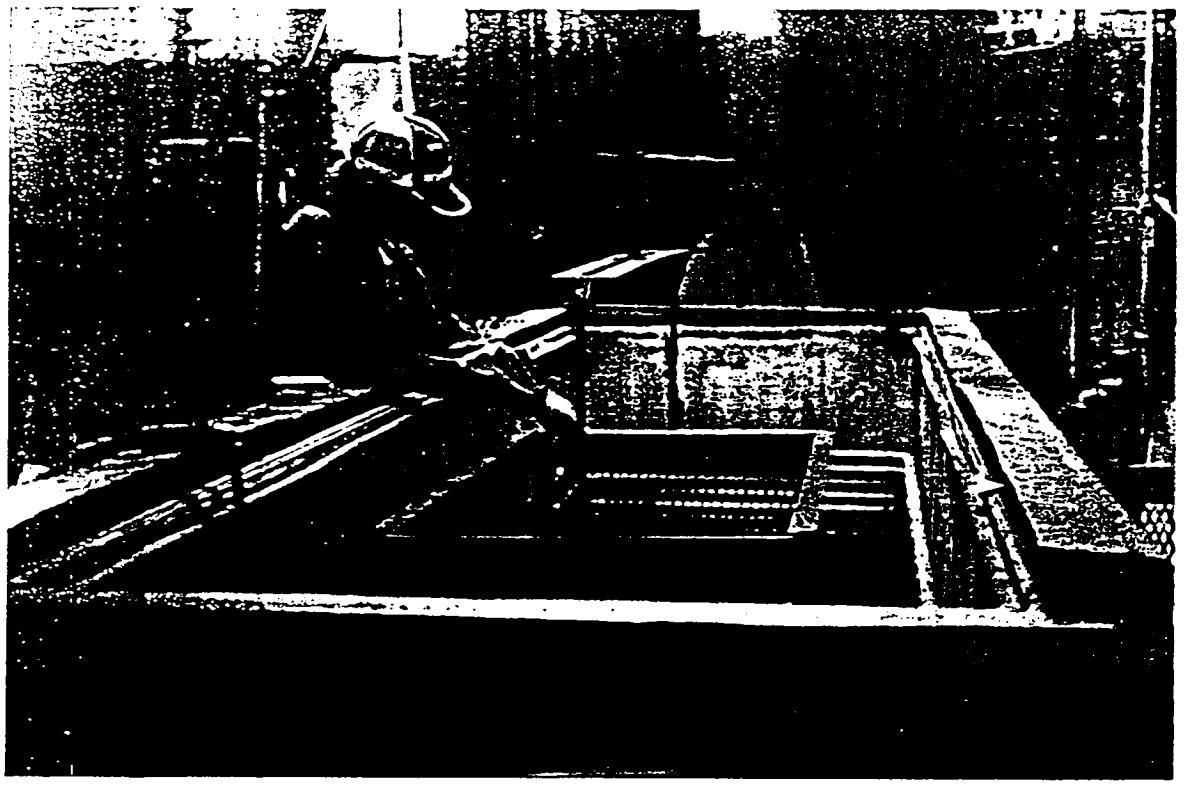
PROJECT: Dowcraft Corporation

PROJECT LOCATION: 65 South Dow Street, Falconer, New York

PROJECT NO.: EIA-90-179 DATE PHOTOGRAPHED: 10-2-90

PHOTOGRAPHED BY: K. Shanahan PAGE 7 OF 15

7



DESCRIPTION: Trichloroethylene vapor degreaser located in the southeast corner of the original plant on the first floor.

EMPIRE
SOILS INVESTIGATIONS INC

CLIENT: Dowcraft Corporation

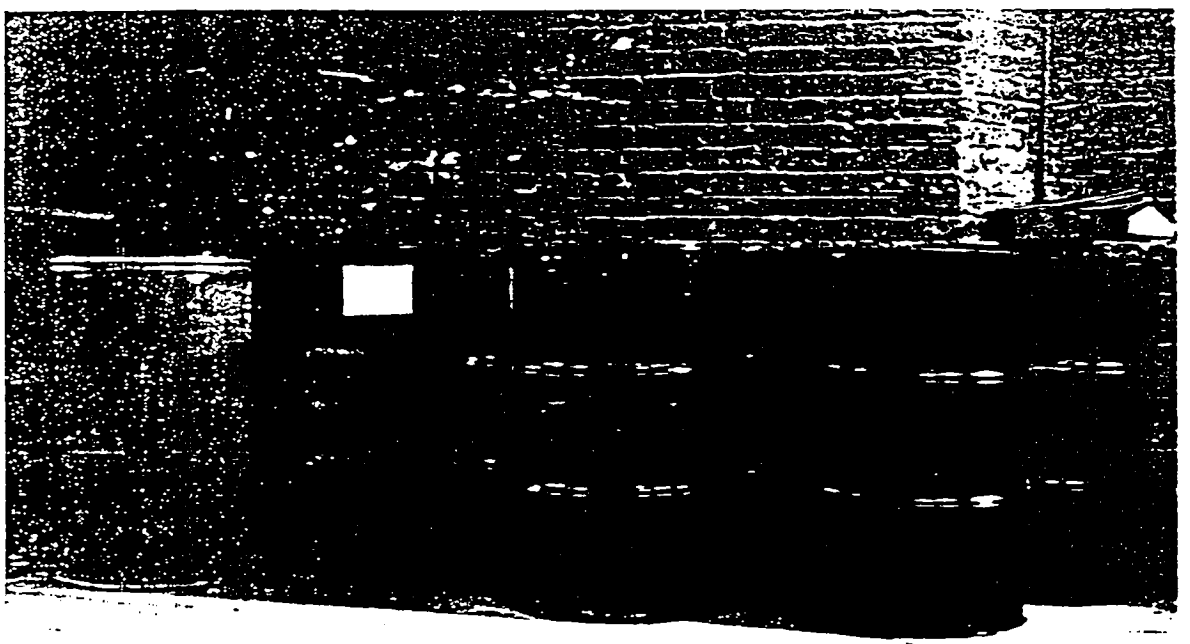
PROJECT: Dowcraft Corporation

PROJECT LOCATION: 65 South Dow Street, Falconer, New York

PROJECT NO.: BIA-90-179 DATE PHOTOGRAPHED: 10-2-90

PHOTOGRAPHED BY: K. Shanahan PAGE 8 OF 15

8



DESCRIPTION: Trichloroethylene and spent trichloroethylene bottoms storage located approximately ten feet east of the degreaser unit.

EMPIRE
SOILS INVESTIGATIONS INC.

CLIENT: Dowcraft Corporation

PROJECT: Dowcraft Corporation

PROJECT LOCATION: 65 South Dow Street, Falconer, New York

PROJECT NO.: EIA-90-179 DATE PHOTOGRAPHED: 10-2-90

PHOTOGRAPHED BY: N. Shanahan PAGE 9 OF 15

9

DESCRIPTION: Paints, solvents, and adhesives in the mixing room.

EMPIRE
SOILS INVESTIGATIONS INC.

CLIENT: Dowcraft Corporation

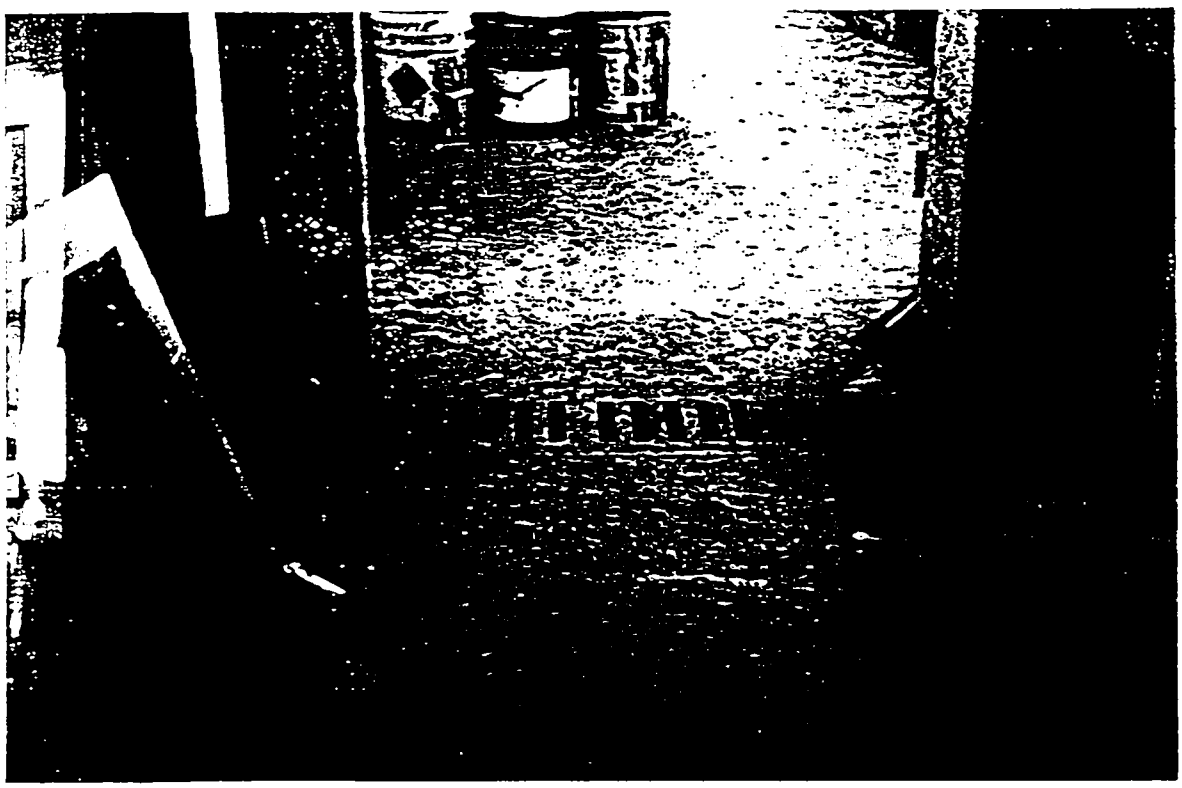
PROJECT: Dowcraft Corporation

PROJECT LOCATION: 65 South Dow Street, Falconer, New York

PROJECT NO.: BIA-90-179 DATE PHOTOGRAPHED: 10-2-90

PHOTOGRAPHED BY: K. Shanahan PAGE 10 OF 15

10



DESCRIPTION: Scupper drain located at the mixing room doorway.

EMPIRE
SOILS INVESTIGATIONS INC.

CLIENT: Dowcraft Corporation

PROJECT: Dowcraft Corporation

PROJECT LOCATION: 65 South Dow Street, Falconer, New York

PROJECT NO.: BTA-90-179 DATE PHOTOGRAPHED: 10-2-90

PHOTOGRAPHED BY: K. Shanahan PAGE 11 OF 15

11

DESCRIPTION: Paint, adhesive, gum cleaner, and reducer storage located in two trailers on the north side of the plant.

EMPIRE
SOILS INVESTIGATIONS INC

CLIENT: Dowcraft Corporation

PROJECT: Dowcraft Corporation

PROJECT LOCATION: 65 South Dow Street, Falconer, New York

PROJECT NO.: BTA-90-179 DATE PHOTOGRAPHED: 10-2-90

PHOTOGRAPHED BY: K. Shanahan PAGE 12 OF 15

12

DESCRIPTION: Painting area located on second floor. Five gallon pails of paint and adhesive were located in the vicinity.

EMPIRE
SOILS INVESTIGATIONS INC.

CLIENT: Dowcraft Corporation

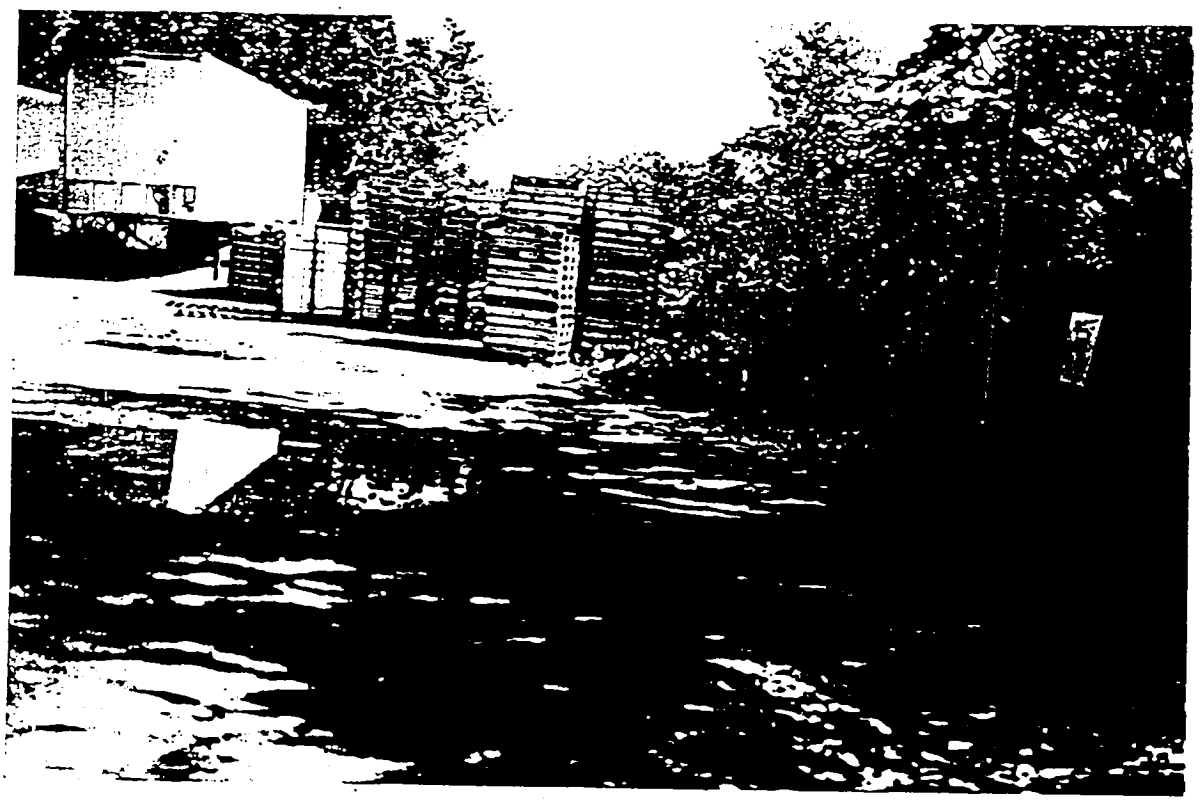
PROJECT: Dowcraft Corporation

PROJECT LOCATION: 65 South Dow Street, Falconer, New York

PROJECT NO.: BTA-90-179 DATE PHOTOGRAPHED: 10-2-90

PHOTOGRAPHED BY: K. Shanahan PAGE 13 OF 15

13



DESCRIPTION: Underground storage tank and pump located approximately 100-feet east of subject site. The fill pipe was noted to be present in the concrete pad in front of the wooden pallets.

EMPIRE
SOILS INVESTIGATIONS INC.

CLIENT: Dowcraft Corporation

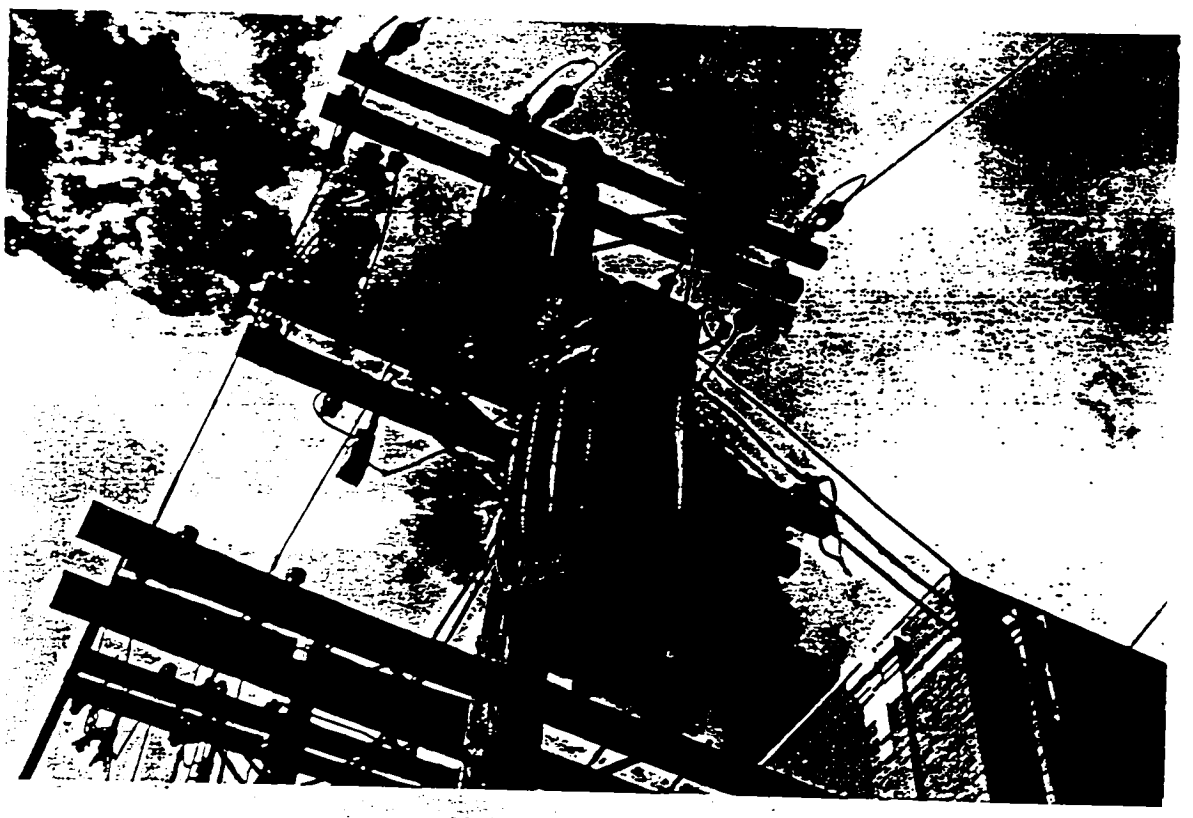
PROJECT: Dowcraft Corporation

PROJECT LOCATION: 65 South Dow Street, Falconer, New York

PROJECT NO.: BTA-90-179 DATE PHOTOGRAPHED: 10-2-90

PHOTOGRAPHED BY: K. Shanahan PAGE 14 OF 15

14



DESCRIPTION: Pole mounted transformer located on Jamestown container property.

EMPIRE
SOILS INVESTIGATIONS INC

CLIENT: Dowcraft Corporation

PROJECT: Dowcraft Corporation

PROJECT LOCATION: 65 South Dow Street, Falconer, New York

PROJECT NO.: BTA-90-179 DATE PHOTOGRAPHED: 10-2-90

PHOTOGRAPHED BY: N. Shanahan PAGE 15 OF 15

15

DESCRIPTION: Dry well (manhole cover) 004 located on the north side of the plant.

EMPIRE
SOILS INVESTIGATIONS INC.

APPENDIX D

BTA 90 - 179

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION II
JACOB K. JAVITS FEDERAL BUILDING
NEW YORK, NEW YORK 10278

MAR 06 1991

Mr. Kevin J. Shanahan
Empire Soils Investigations, Inc.
S-5167 South Park Avenue
P.O. Box 0913
Hamburg, New York 14075

Re: Freedom of Information Act Request Nos. (2) RIN-2720-90
RIN-2721-90

Dear Mr. Shanahan:

This is in response to your letters dated September 26, 1990, requesting information regarding the following sites:

Dowcraft Corporation
65 South Dow Street
Falconer, New York

Ellison Bronze Co., Inc.
125 West Main Street
Falconer, New York

As per your request, this letter will confirm that our CERCLIS database of potential hazardous waste sites does not show a listing of the above mentioned facilities in Chautauqua County, New York. Enclosed is a copy of the CERCLIS list for Chautauqua County.

Please note that the inclusion of a facility on this list does not confirm the presence of an environmental problem or public health threat. All identified sites will be assessed by the Environmental Protection Agency to determine the extent, if any, of a hazardous waste problem.

I understand a copy of your letter has been forwarded to other EPA Divisions for a more complete response to your request.

Sincerely yours,

Leslie H. Peterson, Chief
Planning and Information Management Section
Program Support Branch
Emergency and Remedial Response Division

Enclosure

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

Thomas C. Jorling
Commissioner

October 2, 1990

Mr. Kevin J. Shanahan
Empire Soils Investigations, Inc.
S-5167 South Park Avenue
P.O. Box 0913
Hamburg, New York 14075

Dear Mr. Shanahan:

This letter is to acknowledge receipt of your request for information relative to

- Dow Craft Corp.
  Falconer, NY

Because of the multi-divisional nature of your request, it has been forwarded to the individual divisions involved.

Individual program staff will contact you relative to your request.

Very truly yours,

Charles W. Kollatz
Regional Citizen
Participation Specialist

CWK/jmm

2/90

SHAWLER

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

Thomas C. Jorling
Commissioner

October 11, 1990

Mr. Kevin J. Shanahan
Empire Soils Investigations, Inc.
S-5167 South Park Avenue
P.O. Box 0913
Hamburg, New York 14075

Dear Mr. Shanahan:

Dow Craft Corp.
Falconer, NY

In response to your FOIL request of October 2, 1990 relative to the subject property, a search of this Region's Solid and Hazardous Waste Program files has been completed.

We have found no records of currently active solid or hazardous waste facilities associated with the subject property. In addition, we have found no records of past solid or hazardous waste disposal at this site. We do have a file on this site in our Hazardous Substances Regulation Section. For information on this file please contact Mr. Louis Violanti at 716/847-4585.

Please be advised that our files only reflect information on those sites where investigation by this Department, the USEPA or local county health/environmental agencies, or information from the public has revealed that waste disposal has or may have occurred. The Department makes no guarantee as to the completeness of our files. Therefore, our file search should in no way be considered as a substitute for a site inspection or environmental audit by qualified personnel. If such an inspection/audit were to reveal that waste disposal has occurred, it should be promptly reported to this office.

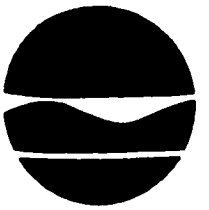
You may wish to contact the local county health/environmental department to determine if they have any information on the subject site.

Yours truly,

Edward J. Feron, Jr., P.E.
Environmental Engineer II

EJF:vam
cc: Mr. James Wilding
Mr. Charles Kollatz

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



Thomas C. Jorling
Commissioner

December 28, 1990

Mr. Kevin J. Shanahan
Empire Soils Investigations, Inc.
S-5167 South Park Avenue
P.O. Box 0913
Hamburg, NY 14075

Dear Mr. Shanahan:

This is in response to your request for information regarding Dow Craft Corp., Falconer, NY. A search of our spill computer files (1986-present) and bulk storage computer files has been conducted. Based on these reviews, the following information is provided:

___ See attached response sheets for reported spills.

___ See attached response sheets for tanks registered pursuant to the NYS Petroleum Bulk Storage Program.

___ See attached response sheets for tanks registered pursuant to the NYS Chemical Bulk Storage Program.

___ This Office has no record of spills reported.

_X_ This Office has no record of tanks registered pursuant to the NYS Petroleum Bulk Storage Program.

___ This Office has no record of tanks registered pursuant to the NYS Chemical Bulk Storage Program.

_X_ Refer to the spill record summary previously provided to your firm.

___ Request cannot be processed due to insufficient street address.

Please be advised that requests for area-wide searches of our records cannot be accommodated. As such, information presented in response to your request is site-specific.

Very truly yours,

Daniel K King

Daniel K. King, P.E.
Associate Sanitary Engineer

cc: FOIL File

STATE OF NEW YORK
DEPARTMENT OF LABOR

GOVERNOR W. AVERELL HARRIMAN
STATE OFFICE BUILDING CAMPUS
ALBANY, NEW YORK 12240

Counsel's Office
(518) 457-4380

December 26, 1990

Kevin J. Shanahan
Environmental Engineer
Empire Soils Investigations, Inc.
S.5167 South Park Avenue
P.O. Box 0913
Hamburg, New York 14075

Re: Freedom of Information Law Request--
Shanahan/Empire Soils/Dowcraft Corporation

Dear Mr. Shanahan:

I am informed that the Department of Labor has no records concerning the subject of your request.

Please be advised that Department records are accessible only be specific location and can not be accessed by location described in terms of radius.

Very truly yours,

Barbara C. Deinhardt
Deputy Commissioner of Labor
for Legal Affairs
Records Access Officer

By: Christine J. Timber
Attorney I

CJT:sg

STATE OF NEW YORK
DEPARTMENT OF LABOR

GOVERNOR W. AVERELL HARRIMAN
STATE OFFICE BUILDING CAMPUS
ALBANY, NEW YORK 12240

Counsel's Office
(518) 457-4380

October 2, 1990

Kevin J. Shanahan
Environmental Engineer
Empire Soils Investigations, Inc.
S.5167 South Park Avenue
P.O. Box 0913
Hamburg, New York 14075

Re: Freedom of Information Law Request--
Shanahan/Empire Soils/Dowcraft Corporation

Dear Mr. Shanahan:

Receipt is acknowledged of the Freedom of Information Law request contained in your correspondence dated September 26, 1990 and received in this office October 1, 1990.

We are in the process of obtaining and reviewing the materials to which you have requested access. We will advise as to those documents to which access can be granted and the cost for same as soon as possible.

Please be advised that our records are accessible only by specific location. We will be unable to advise as to any location as described by radius.

Very truly yours,

Barbara C. Deinhardt
Deputy Commissioner of Labor
for Legal Affairs
Records Access Officer

By: Christine J. Timber
Attorney I

CJT:sg

EMPIRE
SOILS INVESTIGATIONS INC.

APPENDIX E

GENERAL INFORMATION & KEY TO SUBSURFACE LOGS

The Subsurface Logs attached to this report present the observations and mechanical data collected by the driller at the site, supplemented by classification of the material removed from the borings as determined through visual identification by technicians in the laboratory. It is cautioned that the materials removed from the borings represent only a fraction of the total volume of the deposits at the site and may not necessarily be representative of the subsurface conditions between adjacent borings or between the sampled intervals. The data presented on the Subsurface Logs together with the recovered samples will provide a basis for evaluating the character of the subsurface conditions relative to the project. The evaluation must consider all the recorded details and their significance relative to each other. Often analyses of standard boring data indicate the need for additional testing or sampling procedures to more accurately evaluate the subsurface conditions. Any evaluation of the contents of this report and the recovered samples must be performed by Professionals. The information presented in the following defines some of the procedures and terms used on the Subsurface Logs to describe the conditions encountered.

1. The figures in the Depth column defines the scale of the Subsurface Log.

2. The sample column shows, graphically, the depth range from which a sample was recovered. See Table 1 for a description of the symbols used to signify the various types of samples.

3. The Sample No. is used for identification on sample containers and/or Laboratory Test Reports.

4. Blows on Sampler — shows the results of the "Penetration Test", recording the number of blows required to drive a split spoon sampler into the soil. The number of blows required for each six inches of penetration is recorded. The first 6 inches of penetration is considered to be a seating drive. The number of blows required for the second and third 6 inches of penetration is termed the penetration resistance, N. The outside diameter of the sampler, the hammer weight and the length of drop are noted at the bottom of the Subsurface Log.

5. Blows on Casing — shows the number of blows required to advance the casing a distance of 12 inches. The casing size, the hammer weight and the length of drop are noted at the bottom of the Subsurface Log. If the casing is advanced by means other than driving, the method of advancement will be indicated in the Notes column or under the Method of Investigation at the bottom of the Subsurface Log.

6. All recovered soil samples are reviewed in the laboratory by an engineering technician, geologist or geotechnical engineer, unless note otherwise. The visual descriptions are made on the basis of a combination of the driller's field descriptions and observations and the sample as received in the laboratory. The method of visual classification is based primarily on the Unified Soil Classification (ASTM D 2487-83) with regard to the particle size and plasticity. (See Table No. II) Additionally, the relative portion, by weight, of two or more soil types is described for granular soils in accordance with "Suggested Methods of Test for Identification of Soils" by D. M. Burmister, ASTM Special Technical Publication 479, June 1970. (See Table No. III) The description of the relative soil density or consistency is based upon the penetration records as defined on Table No. IV. The description of the soil moisture is based upon the relative wetness of the soil as recovered and is described as dry, moist, wet and saturated. Water introduced in the boring either naturally or during drilling may have affected the moisture condition of the recovered sample. Special terms are used as required to describe materials in greater detail; several such terms are listed in Table V. When sampling gravelly soils with a standard two inch diameter split spoon, the true percentage of gravel is often not recovered due to the relatively small sampler diameter. The presence of boulders and large gravel is sometimes, but not necessarily, detected by an evaluation of the casing and samplers blows or through the "action" of the drill rig as reported by the driller.

7. The description of the rock shown is based on the recovered rock core and the driller's observations. The terms frequently used in the description are included in Table VI.

8. The stratification lines represent the approximate boundary between soil types and the transition may be gradual. Solid stratification lines are based on the driller's field observations.

9. Miscellaneous observations and procedures noted by the driller are shown in this column, including water level observations. It is important to realize the reliability of the water level observations depends upon the soil type (water does not readily stabilize in a hole through fine grained soils), and that drill water used to advance the boring may have influenced the observations. The ground water level typically will fluctuate seasonally. One or more perched or trapped water levels may exist in the ground seasonally. All the available readings should be evaluated. If definite conclusions cannot be made, it is often prudent to examine the conditions more thoroughly through test pit excavations or water observation wells.

10. The length of core run is defined as the length of penetration of the core barrel. Core recovery is the length of core recovered divided by the core run. The RQD (Rock Quality Designation) is the total pieces of NX core exceeding 4 inches in length divided by the core run. The size core barrel used is also noted.

DATE
STARTED 5-1-86
FINISHED 5-1-86
SHEET 1 OF 1

EMPIRE SOILS INVESTIGATIONS INC

SUBSURFACE LOG

HOLE NO. B-175
SURF. ELEV. 325.6
G. W. DEPTH See Note #1

Project _____ LOCATION _____

DEPTH-FT	SAMPLES	SAMPLE NO.	BLOWS ON SAMPLER 0/6	6/12	12/18-	N	BLOW ON CASING C	SOIL OR ROCK CLASSIFICATION	NOTES
0	1	1	2	2	3	5	10	TOPSOIL 3"	NOTE #1 G.W. at 2.0' completion G.W. at 2.2' 24 hrs. after completion
							15	Brown SILT, some Sand, trace clay (Moist - Loose)	
							50/.5'		
5								Gray SHALE, medium hard weathered, thin bedded some fractures	Run #1, 2.5' - 5.0' 95% Recovery 50% RQD

(1) (2) (3) (4) (5) (6) (7) (8) (9) (10)

TABLE I

- Split Spoon Sample
- Shelby Tube Sample
- Auger or Test Pit Sample
- Rock Core

TABLE II

Identification of soil type is made on basis of an estimate of particle sizes, and in the case of fine grained soils also on basis of plasticity.

Soil Type	Soil Particle Size	
Boulder	> 12"	
Cobble	3" - 12"	
Gravel - Coarse	3" - ¾"	Coarse Grained (Granular)
- Fine	¾" - #4	
Sand - Coarse	#4 - #10	
- Medium	#10 - #40	
- Fine	#40 - #200	
Silt-Non Plastic (Granular) Clay-Plastic (Cohesive)	<#200	Fine Grained

TABLE III

The following terms are used in classifying soils consisting of mixtures of two or more soil types. The estimate is based on weight of total sample.

Term	Percent of Total Sample
"and"	35 - 50
"some"	20 - 35
"little"	10 - 20
"trace"	less than 10

(When sampling gravelly soils with a standard split spoon, the true percentage of gravel is often not recovered due to the relatively small sampler diameter.)

TABLE IV

The relative compactness or consistency is described in accord with the following terms.

Granular Soils		Cohesive Soils	
Term	Blows per Foot, N	Term	Blows per Foot, N
Loose	< 11	Very Soft	< 3
Firm	11 - 30	Soft	3 - 5
Compact	31 - 50	Medium	6 - 15
Very Compact	> 51	Stiff	16 - 25
		Hard	> 26

(Large particles in the soils will often significantly influence the blows per foot recorded during the Penetration Test.)

TABLE V

Varved	- Horizontal uniform layers or seams of soil(s).
Layer	- Soil deposit more than 6" thick.
Seam	- Soil deposit less than 6" thick.
Parting	- Soil deposit less than ⅛" thick.
Laminated	- Irregular, horizontal and angled seams and partings of soil(s).

TABLE VI

Rock Classification Terms Term		Meaning	
Hardness	Soft	Scratched by fingernail	
	Medium Hard	Scratched easily by penknife	
	Hard	Scratched with difficulty by penknife	
	Very Hard	Cannot be scratched by penknife	
Weathering	Very Weathered	Judged from the relative amounts of disintegration iron staining, core recovery, clay seams, etc.	
	Weathered		
	Sound		
Bedding	Laminated	Natural breaks in Rock Layers	(<1")
	Thin bedded		(1" - 4")
	Bedded		(4" - 12")
	Thick bedded		(12" - 36")
	Massive		(>36")

(Fracturing refers to natural breaks in the rock oriented at some angle to the rock layers.)

DATE
STARTED 11-2-90
FINISHED 11-2-90
SHEET 1 OF 1

EMPIRE SOILS INVESTIGATIONS INC.

SUBSURFACE LOG

HOLE NO. ESI-1
SURF. ELEV. ---
G. W. DEPTH See Notes

PROJECT Dowcraft (BTA-90-179A)

LOCATION S. Dow Street, Falconer, New York

DEPTH FT	SAMPLES	SAMPLE NO	BLOWS ON SAMPLER 0/6	6/12	12/18	N	PID Sample	SOIL OR ROCK CLASSIFICATION	NOTES
0		1	11	13		24		Brown-black f-c SAND, some f-m Gravel, little-tr. Silt, tr. brick (moist, FILL)	Note:Concrete obstruction at 2 locations moved twice to final plan location.
			11	11					
		2	11	13		29		Becomes brown-red-gray Contains "and" f-c GRAVEL (concrete and brick)	
			16	16					
5		3	1	3		8		Becomes black Contains tr. coal Contains tr. brick	
			5	3					
		4	3	1		2			
			1	9					
		5	8	10		14		Lt. brown-tan f-m GRAVEL and f-c Sand, little Clayey Silt (wet,firm)	Water at approx. 8.0'.
10			4	5					
		6	5	7		11			Driller notes running sands and gravel at 14.0'.
			4	4					
		7	3	1		2		(loose)	
			1	3					
15		8	1	3		5		Contains occasional broken rock fragments	
			2	4					
								Boring Complete at 16.0'.	Free Standing Water measured at 10.2' inside augers at boring completion.
20								Ground water monitoring well installed tip set at 14.7'. Refer to monitoring well completion report for details.	

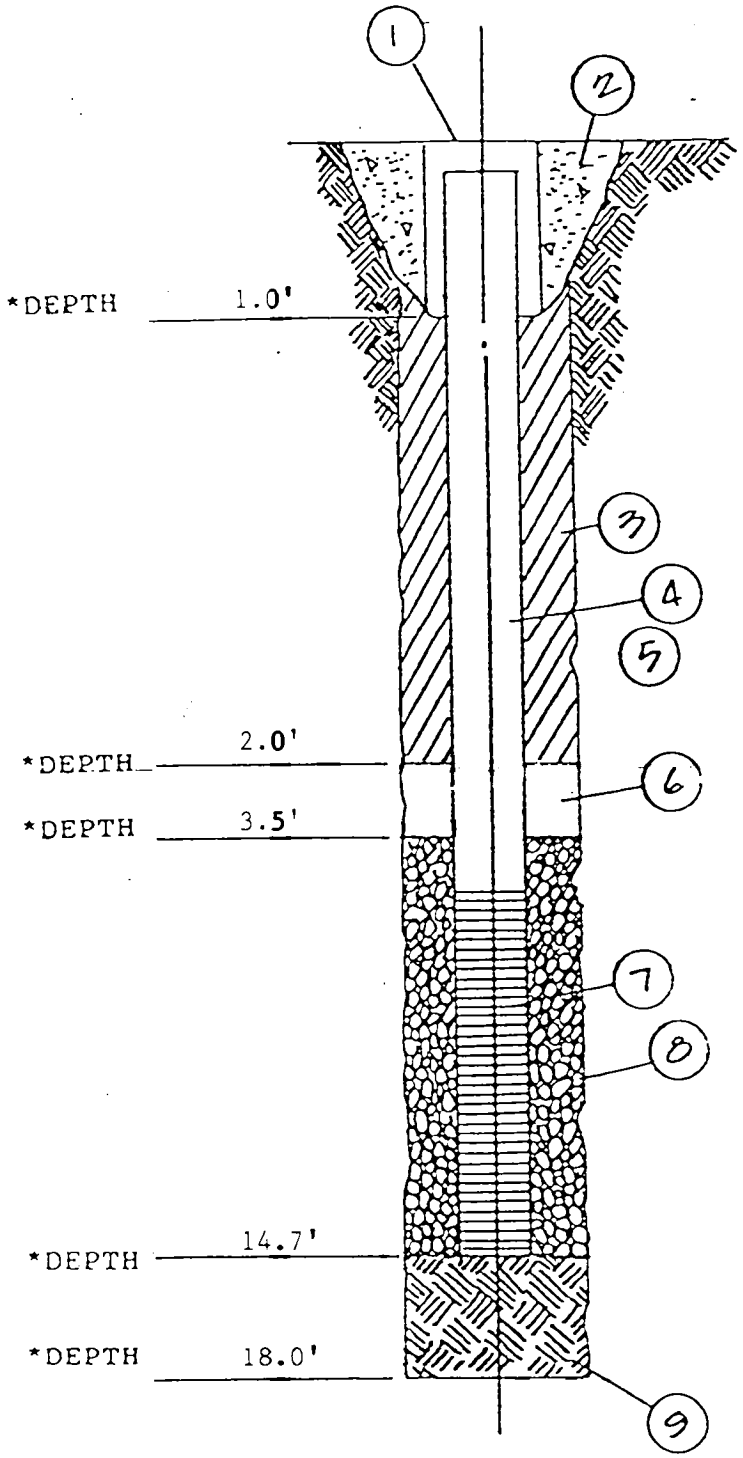
N = No. blows to drive 2 " spoon 12 " with 140 lb. pin wt. falling 30 "per blow

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

CLASSIFICATION Visual by Geologist

METHOD OF INVESTIGATION ASTM D-1586 USING 4-1/4" HOLLOW STEM AUGERS

MONITOR WELL COMPLETION REPORT:



*DEPTH IN FEET BELOW GROUND SURFACE.

WELL No. ESI-1 JOB No. BTA-90-179A

PROJECT: Dowcraft Corporation

Falconer, New York

1. GATE BOX I.D.: 8 INCHES
2. SURFACE SEAL TYPE: Type I Portland Cement
3. BOREHOLE DIAMETER 8 INCHES
4. RISER PIPE:
   a. TYPE 40 Schedule PVC
   b. I.D. 2 INCHES
   c. LENGTH 4.5 FEET
   d. JOINT TYPE Flush Couple Threaded
5. BACKFILL:
   a. TYPE Type I Portland Cement
   b. INSTALLATION Surface Pour
6. TYPE OF SEAL: Bentonite Pellet
7. SCREEN:
   a. TYPE 40 Schedule PVC
   b. I.D. 2 INCHES
   c. SLOT SIZE 0.010 In.
   d. LENGTH 10 FT.
8. SCREEN FILTER TYPE: #2 Q Rok Sand
9. BACKFILL TYPE: Natural Sands & Gravel

EMPIRE SOILS INVESTIGATIONS INC.

DATE
STARTED 11-5-90
FINISHED 11-5-90
SHEET 1 OF 1

EMPIRE SOILS INVESTIGATIONS INC. — **SUBSURFACE LOG**

HOLE NO. ESI-2
SURF. ELEV. ---
G. W. DEPTH See Notes

PROJECT Dowcraft Corporation (BTA-90-179A)

LOCATION S. Dow Street, Falconer, New York

DEPTH FT	SAMPLES	SAMPLE NO	BLOWS ON SAMPLER 0/6	6/12	12/18	N	PID Sample	SOIL OR ROCK CLASSIFICATION	NOTES
0								0-2' ASPHALTIC CONCRETE 0-8' CRUSHER RUN STONE	
		1	26	23		-		Brown WOOD (RAILROAD TIE), some f-c Sand, tr. gravel (moist, FILL)	
		2	16	13		25		Black f-c SAND, little Clayey Silt, tr. gravel, tr. wood, tr. coal, tr. brick (moist, FILL)	
			12	10					
5		3	8	7		11			
			4	25				Contains "and" f-m GRAVEL, tr. lime	
		4	5	2		5		Gray-brown-tan mottled f-c SILTY SAND, some f-c Gravel (moist, loose)	
			3	7				Becomes brown-gray	
		5	2	5		15		Contains "and" f-c GRAVEL, occasional tan silt partings (wet, firm)	
			10	14					
10		6	8	10		20		Contains tr. silt (loose)	Note: Water at approx. 10.0'.
			10	9					
		7	9	4		9			Driller notes running sands and gravels at approx. 14.0'
			5	5					
15									
								Boring Complete at 17.0'.	Free Standing Water measured at 10.8' inside augers at boring completion.
20								Ground water monitoring well installed tip set at 14.7-feet. Refer to monitoring well completion report for details.	

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

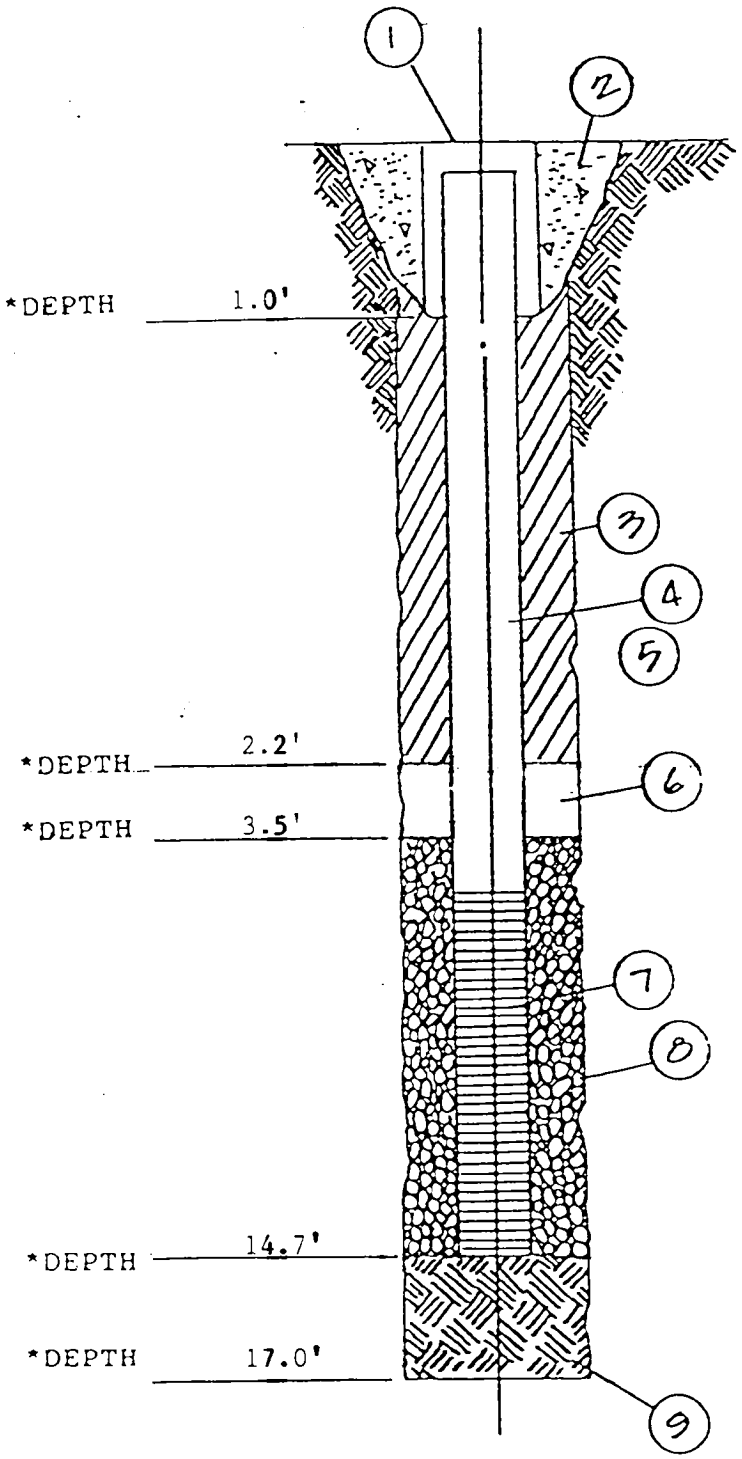
C = No. blows to drive _____ " casing _____ " with _____ lb. weight falling _____ "per blow

CLASSIFICATION Visual by Geologist

METHOD OF INVESTIGATION ASTM D-1586 USING 4-1/4" HOLLOW STEM AUGERS

B/T Form H

MONITOR WELL COMPLETION REPORT:



*DEPTH IN FEET BELOW GROUND SURFACE.

WELL No. ESI-2 JOB No. BTA-90-179A

PROJECT: Dowcraft Corporation

Falconer, New York

1. GATE BOX I.D.: 8 INCHES
2. SURFACE SEAL TYPE: Type I Portland Cement
3. BOREHOLE DIAMETER 8 INCHES
4. RISER PIPE:
   - a. TYPE 40 Schedule PVC
   - b. I.D. 2 INCHES
   - c. LENGTH 4.5 FEET
   - d. JOINT TYPE Flush Couple Threaded
5. BACKFILL:
   - a. TYPE Type I Portland Cement
   - b. INSTALLATION Surface Pour
6. TYPE OF SEAL: Bentonite Pellet
7. SCREEN:
   - a. TYPE 40 Schedule PVC
   - b. I.D. 2 INCHES
   - C. SLOT SIZE 0.020 In.
   - d. LENGTH 10 FT.
8. SCREEN FILTER TYPE: #4 Q Rok Sand
9. BACKFILL TYPE: Natural Sands & Gravel

EMPIRE SOILS INVESTIGATIONS INC.

DATE
STARTED 11-5-90
FINISHED 11-5-90
SHEET 1 OF 1

EMPIRE SOILS INVESTIGATIONS INC. SUBSURFACE LOG

HOLE NO. ESI-3
SURF. ELEV. ---
G. W. DEPTH See Notes

PROJECT Dowcraft Corporation
BTA-90-179A

LOCATION Dow Street
Falconer, New York

DEPTH FEET	SAMPLES	SAMPLE NO	BLOWS ON SAMPLER 0/6 6/12 12/18	N	PID Sample	SOIL OR ROCK CLASSIFICATION	NOTES
0						0.2' ASPHALTIC CONCRETE 0.8' CRUSHER RUN STONE 1' Wood Railroad Tie	Driller notes railroad tie at approximately 1.0'.
		1	11 22	49		Brown-gray f-c GRAVEL, some f-c Sand, little-tr. Silt, tr. coal, tr. concrete (moist, FILL)	
			27 9				
5		2	8 5	10		Brown-tan mottled f-c SAND, some Clayey Silt, little f-c Gravel (moist, loose)	Water at approximately 8.5'.
			5 6				
		3	6 7	17			
			10 11				
		4	8 13	25		Brown f-c GRAVEL, some f-c Sand, little Clayey Silt (wet, firm)	
10			12 9				
		5	10 6	13			
			7 6				
		6	9 5	9		Contains occasional brown-gray f-c sand seams (loose)	Driller notes running sands at 13.0'.
			4 4				
15						Boring Complete at 15.9'.	Free Standing Water measured at 12.3' inside augers at boring completion.
20						Ground water monitoring well installed tip set at 14.5-feet. Refer to monitoring well completion report for details.	
25							

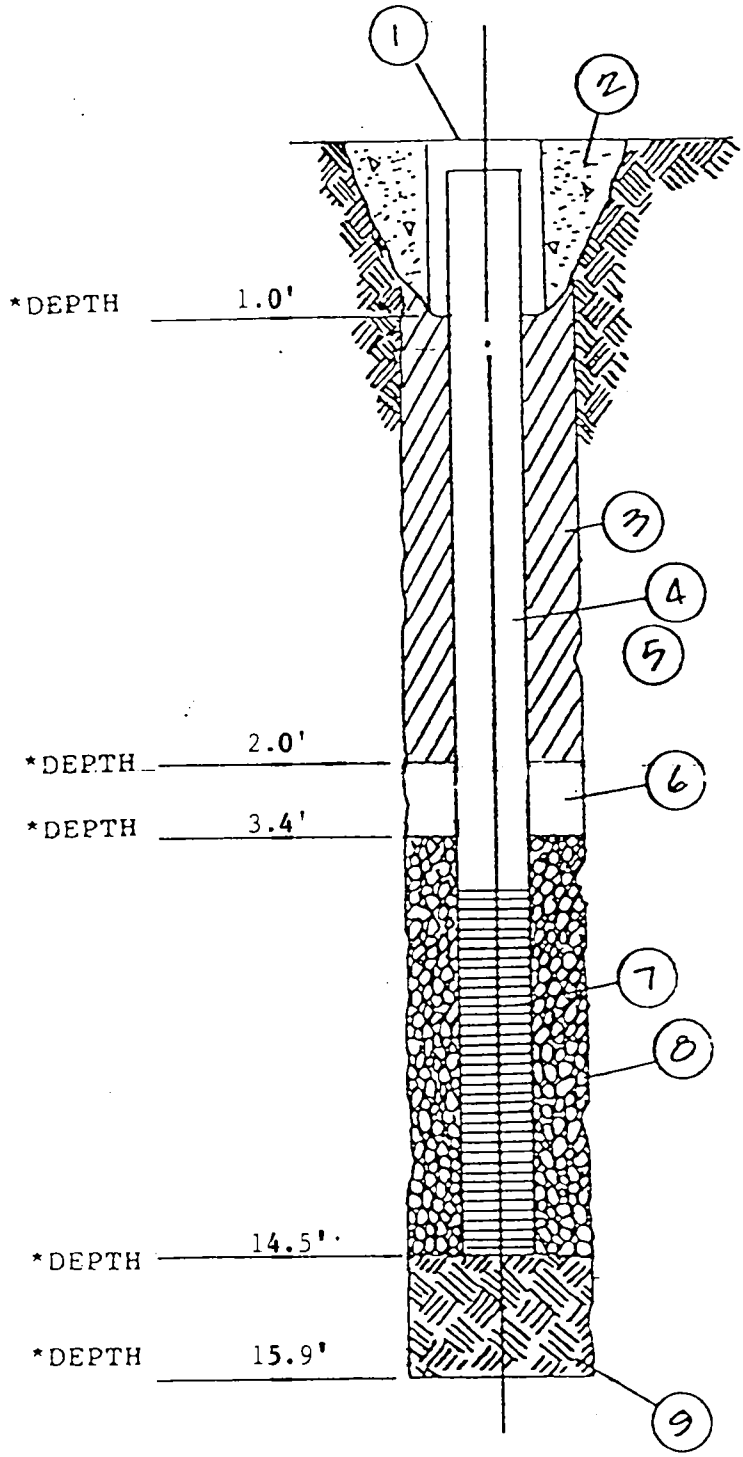
N = No. blows to drive 2 " spoon 12 " with 140 lb. pin wt. falling 30 "per blow. CLASSIFICATION Visual by Onsite Geologist

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

METHOD OF INVESTIGATION ASTM D-1586 USING 4-1/4" HOLLOW STEM AUGERS

R/T Form H

MONITOR WELL COMPLETION REPORT:



*DEPTH IN FEET BELOW GROUND SURFACE.

WELL No. ESI-3 JOB No. BTA-90-179A
PROJECT: Dowcraft Corporation
Falconer, New York

1. GATE BOX I.D.: 8 INCHES
2. SURFACE SEAL TYPE: Type I Portland Cement
3. BOREHOLE DIAMETER 8 INCHES
4. RISER PIPE:
   a. TYPE 40 Schedule PVC
   b. I.D. 2 INCHES
   c. LENGTH 4.6 FEET
   d. JOINT TYPE Flush Couple Threaded
5. BACKFILL:
   a. TYPE Type I Portland Cement
   b. INSTALLATION Surface Pour
6. TYPE OF SEAL: Bentonite Pellet
7. SCREEN:
   a. TYPE 40 Schedule PVC
   b. I.D. 2 INCHES
   c. SLOT SIZE 0.020 In.
   d. LENGTH 10 FT.
8. SCREEN FILTER TYPE: #4 Q Rok Sand
9. BACKFILL TYPE: Natural Sands & Gravel

EMPIRE SOILS INVESTIGATIONS INC.

DATE
STARTED 11-5-90
FINISHED 11-5-90
SHEET 1 OF 1

EMPIRE SOILS INVESTIGATIONS INC. SUBSURFACE LOG

HOLE NO. ESI-4
SURF. ELEV. ---
G. W. DEPTH See Notes

PROJECT Dowcraft Corporation (BTA-90-179A)

LOCATION Dow Street, Falconer, New York

DEPTH FEET	SAMPLES	SAMPLE NO	BLOWS ON SAMPLER 0/6	6/12	12/18	N	BLOW ON CASING C	SOIL OR ROCK CLASSIFICATION	NOTES
0								0.2' ASPHALTIC CONCRETE 0.8' CRUSHER RUN STONE FILL	
		1	17	8		-		Black f-c SAND, some f-m Gravel, little-tr. Silt, tr. coal, tr. concrete, tr. metal shavings, tr. brick (moist, FILL)	
		2	10	8		12			
			4	3					
5		3	3	5		10		Becomes brown Contains little Clayey Silt	
			5	5					
		4	5	6		12		Contains "and" Clayey Silt, little f. Gravel	
			6	7					
		5	7	9		18		Brown-tan f-c GRAVEL, some f-c Sand, little Clayey Silt (moist, firm)	
			9	7					
10		6	8	6		11		Contains "and" f-c SAND (wet)	
			5	5					Drilling completed to 8.0' on 11-5-90. Water at approximately 10.0'.
		7	5	5		10		(loose)	
			5	4					
15									
								Boring Complete at 16.8'.	Free Standing Water measured at 14.4' inside augers at boring completion.
20								Ground water monitoring well installed tip set at 15.0-feet. Refer to monitoring well completion report for details.	
25									

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

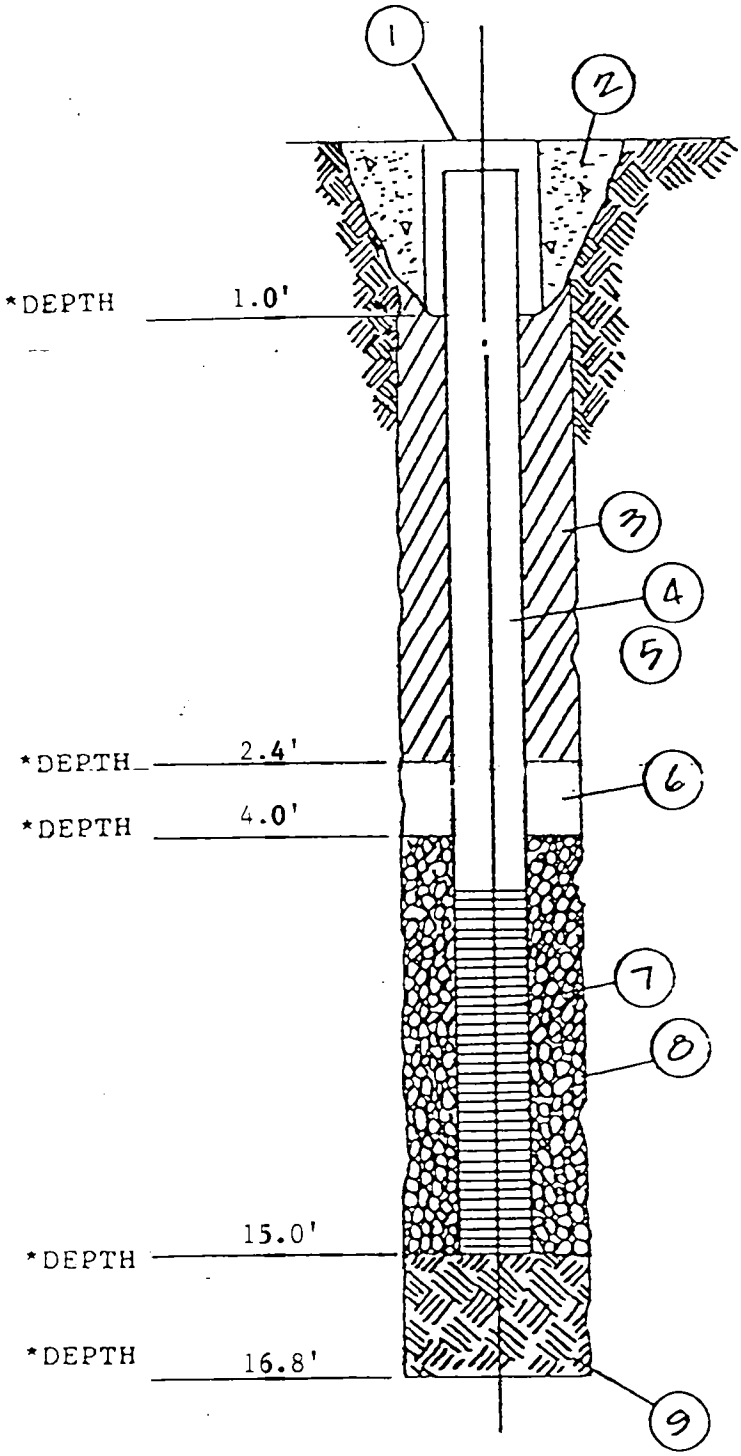
C = No. blows to drive _____ " casing _____ " with _____ lb. weight falling _____ "per blow

CLASSIFICATION Visual by Geologist

METHOD OF INVESTIGATION ASTM D-1586 USING 4-1/4" HOLLOW STEM AUGERS

R/T Form H

MONITOR WELL COMPLETION REPORT:



*DEPTH IN FEET BELOW GROUND SURFACE.

WELL No. ESI-4 JOB No. BTA-90-179A
PROJECT: Dowcraft Corporation
Falconer, New York

1. GATE BOX I.D.: 8 INCHES
2. SURFACE SEAL TYPE: Type I Portland Cement
3. BOREHOLE DIAMETER 8 INCHES
4. RISER PIPE:
   a. TYPE 40 Schedule PVC
   b. I.D. 2 INCHES
   c. LENGTH 4.8 FEET
   d. JOINT TYPE Flush Couple Threaded
5. BACKFILL:
   a. TYPE Type I Portland Cement
   b. INSTALLATION Surface Pour
6. TYPE OF SEAL: Bentonite Pellet
7. SCREEN:
   a. TYPE 40 Schedule PVC
   b. I.D. 2 INCHES
   c. SLOT SIZE 0.020 In.
   d. LENGTH 10 FT.
8. SCREEN FILTER TYPE: #4 Q Rok Sand
9. BACKFILL TYPE: Natural Sands & Gravel

EMPIRE SOILS INVESTIGATIONS INC.

DATE
STARTED 11-6-90
FINISHED 11-6-90
SHEET 1 OF 1

EMPIRE SOILS INVESTIGATIONS INC. SUBSURFACE LOG

HOLE NO. ESI-5
SURF. ELEV. ---
G. W. DEPTH See Notes

PROJECT Dowcraft Corporation (BTA-90-179A)

LOCATION Dow Street, Falconer, New York

DEPTH FEET	SAMPLES	SAMPLE NO	BLOWS ON SAMPLER 0/6 6/12 12/18	N	BLOW ON CASING C	SOIL OR ROCK CLASSIFICATION	NOTES
0						0.4' ASPHALTIC CONCRETE 0.6' CRUSHER RUN STONE FILL Thin Concrete layer Wood Railroad tie	
		2	7 10	-		Brown-tan f-c SAND, some f-c Gravel, little Silt, tr. brick, tr. wood, (moist, FILL)	Railroad tie from approximately 1.5' to 2.7'.
5		3	7 12 14 19	26		Contains tr. rusted metal shaving	
		4	19 13 11 9	24		Brown-tan f-c GRAVEL, some f-c Sand, little Silt (moist, firm) (wet)	
		5	8 8 6 5	14			
10		6	2 4 5 3	9		Contains "and" f-c Sand (loose)	Water at approximately 8.0'.
		7	1 1 1 1	2			
15						Boring Complete at 16.0'.	Free Standing Water measured at 12.1' inside augers at boring completion.
20						Ground water monitoring well installed tip set at 15.2-feet. Refer to monitoring well completion report for details.	

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

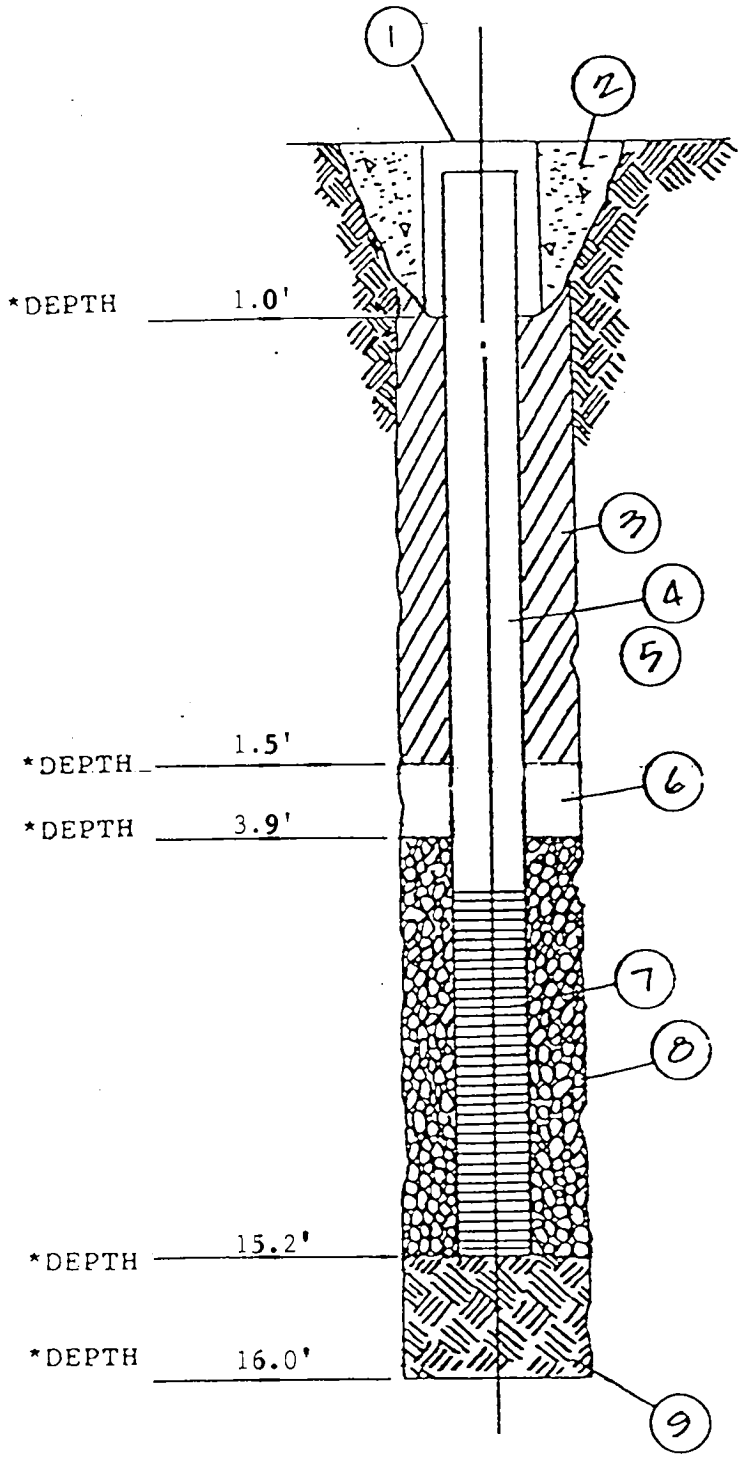
C = No. blows to drive _____ " casing _____ " with _____ lb. weight falling _____ "per blow.

CLASSIFICATION Visual by Geologist

METHOD OF INVESTIGATION ASTM D-1586 USING 4-1/4" HOLLOW STEM AUGERS

R/T Form H

MONITOR WELL COMPLETION REPORT:



*DEPTH IN FEET BELOW GROUND SURFACE.

WELL No. ESI- 5 JOB No. BTA-90-179A
PROJECT: Dowcraft Corporation
Falconer, New York

1. GATE BOX I.D.: 8 INCHES
2. SURFACE SEAL TYPE: Type I Portland Cement
3. BOREHOLE DIAMETER 8 INCHES
4. RISER PIPE:
   a. TYPE 40 Schedule PVC
   b. I.D. 2 INCHES
   c. LENGTH 5.0 FEET
   d. JOINT TYPE Flush Couple Threaded
5. BACKFILL:
   a. TYPE Type I Portland Cement
   b. INSTALLATION Surface Pour
6. TYPE OF SEAL: Bentonite Pellet
7. SCREEN:
   a. TYPE 40 Schedule PVC
   b. I.D. 2 INCHES
   c. SLOT SIZE 0.010 In.
   d. LENGTH 10 FT.
8. SCREEN FILTER TYPE: #2 Q Rok Sand
9. BACKFILL TYPE: Natural Sands & Gravel

EMPIRE SOILS INVESTIGATIONS INC.

DATE
STARTED 12-26-90
FINISHED 12-26-90
SHEET 1 OF 1

EMPIRE SOILS INVESTIGATIONS INC

SUBSURFACE LOG

(BTA-90-179B)

HOLE NO. ESI-A
SURF. ELEV. ----
G. W. DEPTH **

PROJECT Dowcraft Corporation
Environmental Investigation

LOCATION 65 South Dow Street
Falconer, New York 14733

DEPTH FT	SAMPLES	SAMPLE NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	N	PID F	PID L	SOIL OR ROCK CLASSIFICATION	NOTES
0		1	8	7						
			11	21		18	BG	BG	Brown Clayey SILT, and black CINDERS, some crushed red Brick, some f-c Sand, little f.-Gravel (damp, FILL)	*Organic vapor measurements recorded in-field (F) using a photoionization detector (PID) by an ESI geologist. Measurements collected as split-spoon was opened measurements recorded in parts per million (ppm).
		2	10	10						
			7	8		17	BG	0.6	Black crushed CINDERS, some Slag, tr. silt, tr. f-c sand, tr. black-brown sand, (moist, FILL)	
5		3	2	3						
			2	1		5	BG	0.4	Some Silt, some f-m Sand, some crushed red Brick	
		4	3	2						
			6	4		8	BG	0.8	tr. red brick pieces (wet)	
		5	1	2						
			2	6		4	BG	0.6	"And" f-m SAND, little crushed red Brick, tr. crushed cinders	
10		6	2	2						Field Background (BG) =0.3-0.5 ppm.
			2	3		4	BG	0.6		Laboratory headspace measurements (L) collected as aluminum foil capped jar was opened. BG=0.3 ppm.
		7	5	6						
			6	7		12	BG	7.2	Gray f-m GRAVEL, some Silt, tr.f.-sand, tr. clay (wet, FILL)	
15									Boring Complete at 14.0'. Tip of ground water monitoring well set at 13.5' (See Well Construction Diagram for details).	S-5,6,7: Water had slight sheen on surface.
20										**Free standing water measured in well after completion of well construction at depth of 7.21' below grade.

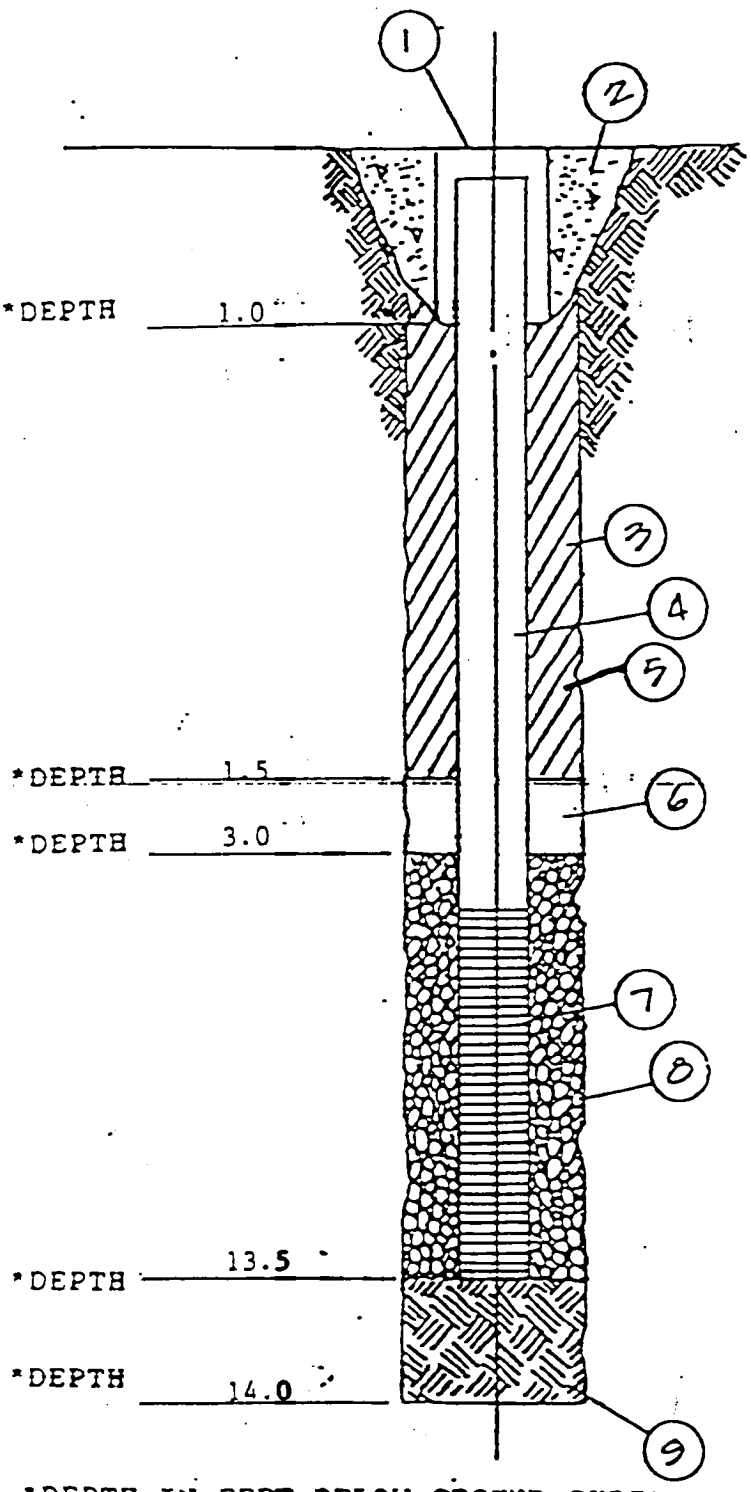
N = No. blows to drive 2 " spoon 12 " with 140 lb. pin wt. falling 30 "per blow. CLASSIFICATION Visual by Geologist

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

METHOD OF INVESTIGATION: ASTM D-1586; BORING ADVANCED USING A CME-45B DRILL RIG W/4¼" I.D.H.S.A.

R/T Form H

MONITOR WELL COMPLETION REPORT:



*DEPTH IN FEET BELOW GROUND SURFACE.

WELL No. ESI-A JOB No. BTA-90-179B
PROJECT: Dowcraft Corp. Environmental Invest.
65 South Dow Street

1. GATE BOX I.D.: 8-3/8" INCHES
2. SURFACE SEAL TYPE: Cement Grout
3. BOREHOLE DIAMETER 8 INCHES
4. RISER PIPE:
   a. TYPE Schedule 40 PVC
   b. I.D. 2 INCHES
   c. LENGTH 3.5 FEET
   d. JOINT TYPE Flush Threaded
5. BACKFILL:
   a. TYPE Cement Grout
   b. INSTALLATION Pour From Ground Surface
6. TYPE OF SEAL: Bentonite Pellets
7. SCREEN:
   a. TYPE Schedule 40 PVC
   b. I.D. 2 INCHES
   C. SLOT SIZE 0.020 In.
   d. LENGTH 10 FT.
8. SCREEN FILTER TYPE: 4 QRok Sand
9. BACKFILL TYPE: 4 QRok Sand

EMPIRE SOILS INVESTIGATIONS INC

DATE
STARTED 12-26-90
FINISHED 12-26-90
SHEET 1 OF 1

EMPIRE SOILS INVESTIGATIONS INC

SUBSURFACE LOG

(BTA-90-179B)

HOLE NO. ESI-B
SURF. ELEV. -----
G. W. DEPTH * *

PROJECT Dowcraft Corporation
Environmental Investigation

LOCATION 65 South Dow Street
Falconer, New York 14733

DEPTH-FT.	SAMPLES	SAMPLE NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	N	PID F	PID L	SOIL OR ROCK CLASSIFICATION	NOTES
0										Organic vapor measurements recorded in-field (F) using photoionization detector (PID) by an ESI Geologist. Measurements collected as split-spoon was opened. Measurements recorded in parts per million (ppm). Field Background(BG) =0.4-0.5 ppm. Laboratory headspace measurements (L) collected as aluminum foil capped jar was opened. BG=0.3 ppm.
		1	14	9			BG	0.4	Brown Clayey SILT AND f-c Sand, little f. Gravel, tr. concrete (damp,FILL)	
			6	6		15				
		2	3	3					Does not contain concrete	
			4	10		7	BG	0.4	little Coal	
5		3	8	100/0.3		100	*	0.8	CONCRETE	
		4	11	6		17	*	0.6		
		5	9	6					Brown Clayey SILT, little Brick, little Coal (moist,FILL)	
			15	11		21	*	0.5	some f.-Gravel	
		6	6	8					(wet)	
10			9	7		17	*	0.6	Brown f-c SAND, some Silt, tr. clay, tr. calcareous shells (wet,stiff)	
		7	2	8						
			8	7		16	*	0.4	tr. silt, tr. clay, no calcareous shells	
		8	9	7			*	0.4		
			6	5		13			"And" SILT "And" f.-SAND (medium)	
15		9	4	5		9	*	0.6	"And" f-c SAND, little f.-Gravel, little Silt, tr. clay	
									Boring Complete at 15.0'. Tip of ground water monitoring well set at 14.5' (See Well Construction Diagram for details).	
20										

PID not working properly due to temperature.
S-8,9: Slight sheen on water surface
Note: Auger spoil has slight sheen.

**Free standing water measured in well after completion of well construction at depth of 7.11' below grade.

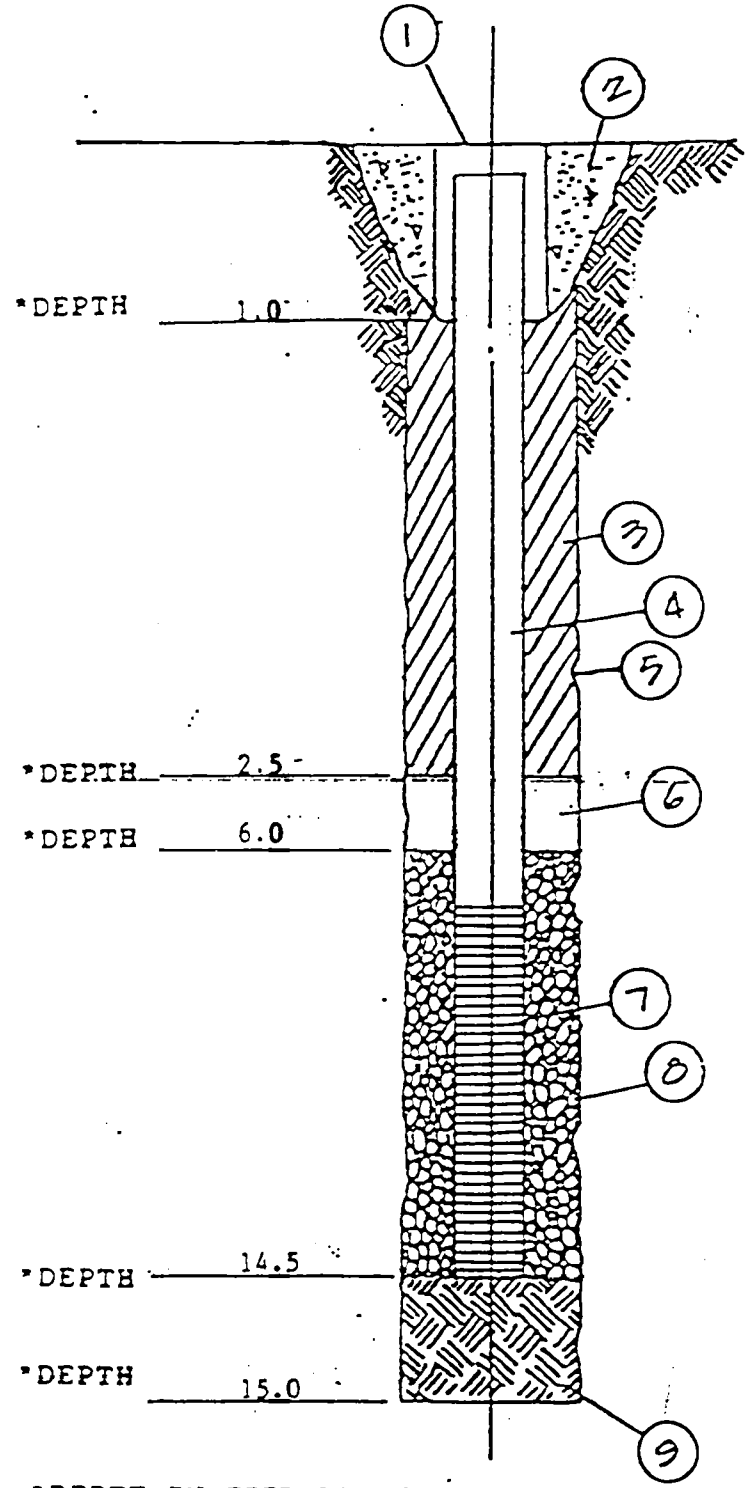
N = No. blows to drive 2 " spoon 12 " with 140 lb. pin wt. falling 30 "per blow.
CLASSIFICATION Visual by Geologist

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

METHOD OF INVESTIGATION: ASTM D-1586; BORING ADVANCED USING A CME-45B DRILL RIG W/4¼" I.D.H.S.A.

R/T Form H

MONITOR WELL COMPLETION REPORT:



*DEPTH IN FEET BELOW GROUND SURFACE.

WELL No. ESI-B JOB No. BTA-90-179B
PROJECT: Dowcraft Corp. Environmental Invest.
65 South Dow Street

1. GATE BOX I.D.: 8-3/8" INCHES
2. SURFACE SEAL TYPE: Cement Grout
3. BOREHOLE DIAMETER 8 INCHES
4. RISER PIPE:
   a. TYPE Schedule 40 PVC
   b. I.D. 2.0 INCHES
   c. LENGTH 6.0 FEET
   d. JOINT TYPE Flush Threaded
5. BACKFILL:
   a. TYPE Cement Grout
   b. INSTALLATION Pour From Ground Surface
6. TYPE OF SEAL: Bentonite Pellet
7. SCREEN:
   a. TYPE Schedule 40 PVC
   b. I.D. 2 INCHES
   c. SLOT SIZE 0.020 In.
   d. LENGTH 8 FT.
8. SCREEN FILTER TYPE: 4QRok Sand
9. BACKFILL TYPE: 4QRok Sand

EMPIRE SOILS INVESTIGATIONS INC

WELL DEVELOPMENT RECORD

PROJECT: Dowcraft Phase II Environmental Site Assessment

PROJECT NUMBER: BTA-90-179A DATE: 11-13-90

LOCATION: Dowcraft Plant, 65 South Dow Street, Falconer, New York

WELL NUMBER: ESI- 1

PERSONNEL: K. Shanahan, D. Lauzon

DEVELOPMENT METHOD: BAILERS - BK PUMP - PERASTALLIC PUMP
DOWN HOLE PUMP - COMPRESSED AIR
OTHER: Guzzler Pump

REQUIRED DEVELOPMENT CRITERIA:

TURBIDITY --- NTU
WELL VOLUMES 10
STABLE pH Yes
STABLE CONDUCTIVITY Yes

WATER LEVEL PRIOR TO DEVELOPMENT 7.69' (TOR) (elevation in feet)
WATER LEVEL AFTER DEVELOPMENT 7.72' (TOR) (elevation in feet)
DEVELOPMENT STARTED 11:20 am
DEVELOPMENT COMPLETED 12:00 Noon
TOTAL VOLUME OF WATER REMOVED 16 GALLONS

VOLUME EVACUATED (GALLONS)	pH (STANDARD UNITS)	CONDUCTIVITY (umhos cm) x 10	TEMPERATURE (DEGREES F)	TURBIDITY NTU
1	6.39	56.3	51	Extremely Turbid
5	6.61	36.4	52	345
8	6.58	33.6	52	195
13	6.63	32.2	52	89
16	6.66	31.0	53	98

NOTES: Depth To Water Surface = 7.69' (TOR)

Depth To Bottom of Well= 14.05' (TOR)

1 Well Volume= 1.04 Gallons

WELL DEVELOPMENT RECORD

PROJECT: Dowcraft Phase II Environmental Site Assessment

PROJECT NUMBER: BTA-90-179A DATE: 11-12-90

LOCATION: Dowcraft Plant, 65 South Dow Street, Falconer, New York

WELL NUMBER: ESI- 2

PERSONNEL: K. Shanahan

DEVELOPMENT METHOD: BAILERS - BK PUMP - PERASTALLIC PUMP
DOWN HOLE PUMP - COMPRESSED AIR
OTHER: Guzzler Pump

REQUIRED DEVELOPMENT CRITERIA:

TURBIDITY	---	NTU
WELL VOLUMES	10	
STABLE pH	Yes	
STABLE CONDUCTIVITY	Yes	

WATER LEVEL PRIOR TO DEVELOPMENT	8.0' (TOR)	(elevation in feet)
WATER LEVEL AFTER DEVELOPMENT	8.0' (TOR)	(elevation in feet)
DEVELOPMENT STARTED	3:25 pm	
DEVELOPMENT COMPLETED	4:20 pm	
TOTAL VOLUME OF WATER REMOVED	13	GALLONS

VOLUME EVACUATED (GALLONS)	pH (STANDARD UNITS)	CONDUCTIVITY (umhos cm) x 10	TEMPERATURE (DEGREES F)	TURBIDITY NTU
1	7.57	53.6	57	Extremely Turbid
4	7.42	50.9	57	"
7	7.37	50.0	57	"
10	7.21	48.2	58	"
12	7.17	47.2	61	"

NOTES: Depth To Water Surface = 8.0' (TOR)

Depth To Bottom of Well= 12.92' (TOR)

1 Well Volume= 0.803 Gallons

WELL DEVELOPMENT RECORD

PROJECT: Dowcraft Phase II Environmental Site Assessment

PROJECT NUMBER: BTA-90-179A DATE: 11-12-90

LOCATION: Dowcraft Plant, 65 South Dow Street, Falconer, New York

WELL NUMBER: ESI- 3

PERSONNEL: K. Shanahan

DEVELOPMENT METHOD: BAILERS - BK PUMP - PERASTALLIC PUMP
DOWN HOLE PUMP - COMPRESSED AIR
OTHER: Guzzler Pump

REQUIRED DEVELOPMENT CRITERIA:

TURBIDITY	--	NTU
WELL VOLUMES	10	
STABLE pH	Yes	
STABLE CONDUCTIVITY	Yes	

WATER LEVEL PRIOR TO DEVELOPMENT	8.08' (TOR)	(elevation in feet)
WATER LEVEL AFTER DEVELOPMENT	8.15' (TOR)	(elevation in feet)
DEVELOPMENT STARTED	2:30 pm	
DEVELOPMENT COMPLETED	3:15 pm	
TOTAL VOLUME OF WATER REMOVED	15	GALLONS

VOLUME EVACUATED (GALLONS)	pH (STANDARD UNITS)	CONDUCTIVITY (umhos cm) x 10	TEMPERATURE (DEGREES F)	TURBIDITY NTU
1	10.53	27.7	38	Extremely Turbid
8	9.61	36.4	41	"
12	9.73	35.4	41	"
14	9.56	35.4	41	"
15	10.16	30.3	39	"

NOTES: Depth To Water Surface = 8.08' (TOR)

Depth To Bottom of Well= 13.80' (TOR)

1 Well Volume= 0.933 Gallons

WELL DEVELOPMENT RECORD

PROJECT: Dowcraft Phase II Environmental Site Assessment

PROJECT NUMBER: BTA-90-179A DATE: 11-12-90

LOCATION: Dowcraft Plant, 65 South Dow Street, Falconer, New York

WELL NUMBER: ESI-4

PERSONNEL: K. Shanahan

DEVELOPMENT METHOD: BAILERS - BK PUMP - PERASTALLIC PUMP
DOWN HOLE PUMP - COMPRESSED AIR
OTHER: Guzzler Pump

REQUIRED DEVELOPMENT CRITERIA:

TURBIDITY	---	NTU
WELL VOLUMES	10	
STABLE pH	Yes	
STABLE CONDUCTIVITY	Yes	

WATER LEVEL PRIOR TO DEVELOPMENT	8.23'	(TOR)	(elevation in feet)
WATER LEVEL AFTER DEVELOPMENT	8.27'	(TOR)	(elevation in feet)
DEVELOPMENT STARTED	1:20 pm		
DEVELOPMENT COMPLETED	2:20 pm		
TOTAL VOLUME OF WATER REMOVED	17	GALLONS	

VOLUME EVACUATED (GALLONS)	pH (STANDARD UNITS)	CONDUCTIVITY (umhos cm) x 10	TEMPERATURE (DEGREES F)	TURBIDITY NTU
1	6.94	63.6	49	Extremely Turbid
10	6.93	57.9	49	"
12	7.24	63.0	52	"
15	7.11	59.0	56	"
17	7.12	59.8	56	"

NOTES: Depth To Water Surface = 8.23 (TOR)

Depth To Bottom of Well= 12.23' (TOR)

1 Well Volume= 0.653 Gallons

WELL DEVELOPMENT RECORD

PROJECT: Dowcraft Phase II Environmental Site Assessment

PROJECT NUMBER: BTA-90-179A DATE: 11-12-90

LOCATION: Dowcraft Plant, 65 South Dow Street, Falconer, New York

WELL NUMBER: ESI- 5

PERSONNEL: K. Shanahan

DEVELOPMENT METHOD: BAILERS - BK PUMP - PERASTALLIC PUMP
DOWN HOLE PUMP - COMPRESSED AIR
OTHER: Guzzler Pump

REQUIRED DEVELOPMENT CRITERIA:

TURBIDITY	---	NTU
WELL VOLUMES	10	
STABLE pH	Yes	
STABLE CONDUCTIVITY	Yes	

WATER LEVEL PRIOR TO DEVELOPMENT	7.70'	(TOR)	(elevation in feet)
WATER LEVEL AFTER DEVELOPMENT	7.72'	(TOR)	(elevation in feet)
DEVELOPMENT STARTED	11:45 pm		
DEVELOPMENT COMPLETED	1:00 pm		
TOTAL VOLUME OF WATER REMOVED	14		GALLONS

VOLUME EVACUATED (GALLONS)	pH (STANDARD UNITS)	CONDUCTIVITY (umhos cm) x 10	TEMPERATURE (DEGREES F)	TURBIDITY NTU
1	6.10	64.2	51	Extremely Turbid
5	6.56	62.6	52	65
10	6.65	60.0	52	27
11	6.79	62.4	53	> 200
13	7.20	62.7	55	87
14	7.14	63.7	53	64

NOTES: Depth To Water Surface = 7.70' (TOR)

Depth To Bottom of Well= 14.19' (TOR)

1 Well Volume= 1.06 Gallons

ESI SAMPLING LOG

PROJECT: Dowcraft FILE: BTA-90-179A

SAMPLE LOCATION: ESI-1

DATE: 11-14-90 TIME: 11:20

GENERAL

SAMPLING EQUIPMENT USED: Stainless Steel Bailer

DECONTAMINATION PROCEDURE (Indicate if equipment was precleaned): Alconox soap wash distilled water rinse.

SAMPLE COLLECTION PROCEDURES (Include purging, if appropriate): Purging not required due to sample collection within 24 hours of development.

IN SITU MONITORING EQUIPMENT USED AND CALIBRATED: N/A

SAMPLE IDENTIFICATION

SAMPLE TYPE: Water

SAMPLE CODE: ESI-1

CONTAINER	SEQUENCE NUMBER *	TEST PARAMETER	CONTAINER VOLUME	PRESERVATION
1.		TCL Volatiles	40 mls	----
2.		" "	40 mls	----
3.		PP Metals	1 liter	HNO_3
4.				
5.				
6.				
7.				
8.				

IN SITU MEASUREMENTS

INITIAL WATER LEVEL (MEASURED FROM MONITORING POINT): 7.74' (TOR)

WATER VOLUME REMOVED (IF APPLICABLE): Approx. 1.5 liters

pH (STANDARD UNITS): 6.50

CONDUCTANCE (μ ohms/cm): 374

TEMPERATURE (☒ °C, ☐ °F): 11.8

TOTAL ORGANIC VAPOR (VIA PID): N/A

LOCATION OF PID MEASUREMENT: N/A

OTHER MEASUREMENTS:

1. Turbidity 1000 NTU
2.
3.
4.

MISCELLANEOUS INFORMATION:

CHAIN-OF-CUSTODY COMPLETED (☒ YES, ☐ NO)

SAMPLE CONTAINERS LABELED (☒ YES, ☐ NO)

SHIPPING CONTAINERS SEALED (☒ YES, ☐ NO)

TRIP BLANK (☐ YES, ☒ NO)

FIELD BLANK (☐ YES, ☒ NO)

REMARKS: Metals sample turbidity was approximately 50 NTU.

* SEQUENCE NUMBER CORRESPONDS TO IDENTIFICATION USED ON CHAIN-OF-CUSTODY

EMPIRE SOILS INVESTIGATIONS INC

Kevin J. Shanahan
SAMPLER

SAMPLER

ESI SAMPLING LOG

PROJECT: Dowcraft FILE: BTA-90-179A
SAMPLE LOCATION: ESI-2
DATE: 11-13-90 TIME: 3:55

GENERAL

SAMPLING EQUIPMENT USED: Stainless Steel Bailer

DECONTAMINATION PROCEDURE (Indicate if equipment was precleaned): Alconox soap wash with distilled water rinse.

SAMPLE COLLECTION PROCEDURES (Include purging, if appropriate): Purging not required since sample collection was within 24 hours of well development.

IN SITU MONITORING EQUIPMENT USED AND CALIBRATED: N/A

SAMPLE IDENTIFICATION

SAMPLE TYPE: Water
SAMPLE CODE: ESI-2

CONTAINER	SEQUENCE NUMBER *	TEST PARAMETER	CONTAINER VOLUME	PRESERVATION
1.		TCL Volatiles	40 mls	----
2.		" "	40 mls	----
3.		PP Metals	1 liter	HNO_3
4.				
5.				
6.				
7.				
8.				

IN SITU MEASUREMENTS

INITIAL WATER LEVEL (MEASURED FROM MONITORING POINT): 8.01' (TOR)
WATER VOLUME REMOVED (IF APPLICABLE): Approximately 2 liters
pH (STANDARD UNITS): 6.82
CONDUCTANCE (μ ohms/cm): 459
TEMPERATURE (☒ °C, ☐ °F): 14.9
TOTAL ORGANIC VAPOR (VIA PID): N/A
LOCATION OF PID MEASUREMENT: N/A
OTHER MEASUREMENTS:
1. Turbidity approximately 610 NTU
2.
3.
4.

MISCELLANEOUS INFORMATION:

CHAIN-OF-CUSTODY COMPLETED (☒ YES, ☐ NO)
SAMPLE CONTAINERS LABELED (☒ YES, ☐ NO)
SHIPPING CONTAINERS SEALED (☒ YES, ☐ NO)
TRIP BLANK (☐ YES, ☒ NO)
FIELD BLANK (☐ YES, ☒ NO)

REMARKS: Metals sample contained much lower turbidity.

* SEQUENCE NUMBER CORRESPONDS TO IDENTIFICATION USED ON CHAIN-OF-CUSTODY

EMPIRE SOILS INVESTIGATIONS INC

Kevin J. Shanahan
SAMPLER
SAMPLER
SAMPLER

ESI SAMPLING LOG

PROJECT: Dowcraft Corporation FILE: BTA-90-179A
SAMPLE LOCATION: ESI-3
DATE: 11-13-90 TIME: 3:40 pm

GENERAL

SAMPLING EQUIPMENT USED: Stainless Steel Bailer

DECONTAMINATION PROCEDURE (Indicate if equipment was precleaned): Alconox soap wash and distilled water rinse.

SAMPLE COLLECTION PROCEDURES (Include purging, if appropriate): Purging not required since sample collection was within 24 hours of well development.

IN SITU MONITORING EQUIPMENT USED AND CALIBRATED: N/A

SAMPLE IDENTIFICATION

SAMPLE TYPE: Water
SAMPLE CODE: ESI-3

CONTAINER	SEQUENCE NUMBER *	TEST PARAMETER	CONTAINER VOLUME	PRESERVATION
1.		TCL Volatiles	40 mls	----
2.		TCL Volatiles	40 mls	----
3.		PP Metals	1 liter	HNO_3
4.				
5.				
6.				
7.				
8.				

IN SITU MEASUREMENTS

INITIAL WATER LEVEL (MEASURED FROM MONITORING POINT): 8.24' (TOR)
WATER VOLUME REMOVED (IF APPLICABLE): Approximately 2 liters
pH (STANDARD UNITS): 9.28
CONDUCTANCE (μ ohms/cm): 402
TEMPERATURE (☒ °C, ☐ °F): 11.80
TOTAL ORGANIC VAPOR (VIA PID): N/A
LOCATION OF PID MEASUREMENT: N/A
OTHER MEASUREMENTS:
1. Turbidity = 940 NTU
2.
3.
4.

MISCELLANEOUS INFORMATION:

CHAIN-OF-CUSTODY COMPLETED (☒ YES, ☐ NO)
SAMPLE CONTAINERS LABELED (☒ YES, ☐ NO)
SHIPPING CONTAINERS SEALED (☒ YES, ☐ NO)
TRIP BLANK (☐ YES, ☒ NO)
FIELD BLANK (☐ YES, ☒ NO)

REMARKS: Metals sample contained much lower turbidity.

* SEQUENCE NUMBER CORRESPONDS TO IDENTIFICATION USED ON CHAIN-OF-CUSTODY

EMPIRE SOILS INVESTIGATIONS INC.

Kevin J. Shanahan
SAMPLER
SAMPLER
SAMPLER

ESI SAMPLING LOG

PROJECT: Dowcraft Corporation FILE: BTA-90-179A
SAMPLE LOCATION: ESI-4
DATE: 11-13-90 TIME: 3:20 pm

GENERAL

SAMPLING EQUIPMENT USED: Stainless Steel Bailer

DECONTAMINATION PROCEDURE (Indicate if equipment was precleaned): Alconox soap wash with distilled water rinse.

SAMPLE COLLECTION PROCEDURES (Include purging, if appropriate): Purging not required due to sample collection within 24 hours of well development.

IN SITU MONITORING EQUIPMENT USED AND CALIBRATED: N/A

SAMPLE IDENTIFICATION

SAMPLE TYPE: Water
SAMPLE CODE: ESI-4

CONTAINER	SEQUENCE NUMBER *	TEST PARAMETER	CONTAINER VOLUME	PRESERVATION
1.		TCL Volatiles	40 mls	----
2.		TCL Volatiles	40 mls	----
3.		PP Metals	1 liter	HNO_3
4.				
5.				
6.				
7.				
8.				

IN SITU MEASUREMENTS

INITIAL WATER LEVEL (MEASURED FROM MONITORING POINT): 8.24' (TOR)
WATER VOLUME REMOVED (IF APPLICABLE): Approximately 2 liters
pH (STANDARD UNITS): 8.26
CONDUCTANCE (μ ohms/cm): 608
TEMPERATURE (☒ °C, ☐ °F): 10.8
TOTAL ORGANIC VAPOR (VIA PID): N/A
LOCATION OF PID MEASUREMENT: N/A
OTHER MEASUREMENTS:
1. Turbidity approximately 880 NTU
2.
3.
4.

MISCELLANEOUS INFORMATION:

CHAIN-OF-CUSTODY COMPLETED (☒ YES, ☐ NO)
SAMPLE CONTAINERS LABELED (☒ YES, ☐ NO)
SHIPPING CONTAINERS SEALED (☒ YES, ☐ NO)
TRIP BLANK (☐ YES, ☒ NO)
FIELD BLANK (☐ YES, ☒ NO)

REMARKS: Metals sample contained much lower turbidity.

* SEQUENCE NUMBER CORRESPONDS TO IDENTIFICATION USED ON CHAIN-OF-CUSTODY

EMPIRE SOILS INVESTIGATIONS INC

Kevin J. Shanahan
SAMPLER
SAMPLER
SAMPLER

ESI SAMPLING LOG

PROJECT: Dowcraft Corporation FILE: BTA-90-179A
SAMPLE LOCATION: ESI-5
DATE: 11-13-90 TIME: 3:05 PM

GENERAL

SAMPLING EQUIPMENT USED: Stainless Steel Bailer

DECONTAMINATION PROCEDURE (Indicate if equipment was precleaned): Alconox soap wash and distilled water rinse.

SAMPLE COLLECTION PROCEDURES (Include purging, if appropriate): Purging not required due to sample collection within 24 hours of well development

IN SITU MONITORING EQUIPMENT USED AND CALIBRATED: N/A

SAMPLE IDENTIFICATION

SAMPLE TYPE: Water
SAMPLE CODE: ESI-5

CONTAINER	SEQUENCE NUMBER *	TEST PARAMETER	CONTAINER VOLUME	PRESERVATION
1.		TCL Volatiles	40 mls	-----
2.		" "	40 mls	-----
3.		PP Metals	1 liter	HNO_3
4.				
5.				
6.				
7.				
8.				

IN SITU MEASUREMENTS

INITIAL WATER LEVEL (MEASURED FROM MONITORING POINT): 7.75' (TOR)
WATER VOLUME REMOVED (IF APPLICABLE): 2 liters
pH (STANDARD UNITS): 12.05
CONDUCTANCE (μ ohms/cm): 1566
TEMPERATURE (☒ °C, ☐ °F): 10.4°
TOTAL ORGANIC VAPOR (VIA PID): N/A
LOCATION OF PID MEASUREMENT: N/A
OTHER MEASUREMENTS:
1. Turbidity 600 NTU
2.
3.
4.

MISCELLANEOUS INFORMATION:

CHAIN-OF-CUSTODY COMPLETED (☒ YES, ☐ NO)
SAMPLE CONTAINERS LABELED (☒ YES, ☐ NO)
SHIPPING CONTAINERS SEALED (☒ YES, ☐ NO)
TRIP BLANK (☐ YES, ☒ NO)
FIELD BLANK (☐ YES, ☒ NO)

REMARKS: Metals sample contained much lower turbidity

* SEQUENCE NUMBER CORRESPONDS TO IDENTIFICATION USED ON CHAIN-OF-CUSTODY

EMPIRE SOILS INVESTIGATIONS INC.

Kevin J. Shanahan
SAMPLER
SAMPLER
SAMPLER

EMPIRE
SOILS INVESTIGATIONS INC.

APPENDIX F

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. - HAMBURG

PROJECT NAME: DOWCRAFT

HAS Ref. #90-1653; 1658

December 4, 1990

HAS

HUNTINGDON ANALYTICAL SERVICES
ELAP #10833
ENVIRONMENTAL REPORT

HAS Reference Numbers: #90-1653

November 27, 1990

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 624
VOLATILE ORGANICS

SAMPLE IDENTIFICATION :	DONCEAST ESI-1	ESI-2	ESI-3	ESI-4	ESI-5	METHOD BLANK	
HAS SAMPLE #90-1653	001	004	003	002	001	-----	
COMPOUND	RESULT ug/l	RESULT ug/l	RESULT ug/l	RESULT ug/l	RESULT ug/l	RESULT ug/l	MDL ug/l
CHLOROMETHANE	<10	<250	<50	<10	<10	<10	<10
BROMOMETHANE	<10	<250	<50	<10	<10	<10	<10
VINYL CHLORIDE	<10	<250	<50	<10	<10	<10	<10
CHLOROETHANE	<10	<250	<50	<10	<10	<10	<10
METHYLENE CHLORIDE	<5.0	<130	<25	<5.0	<5.0	<5.0	<5.0
ACETONE	<10	<250	<50	<10	13	<10	<10
TRICHLOROFLUOROMETHANE	<10	<250	<50	<10	<10	<10	<10
CARBON DISULFIDE	<5.0	<130	<25	<5.0	<5.0	<5.0	<5.0
1,1-DICHLOROETHENE	<5.0	<130	<25	<5.0	<5.0	<5.0	<5.0
1,1-DICHLOROETHANE	<5.0	<130	<25	<5.0	<5.0	<5.0	<5.0
1,2-DICHLOROETHENE (TOTAL)	<5.0	230	<25	<5.0	<5.0	<5.0	<5.0
CHLOROFORM	<5.0	<130	<25	<5.0	<5.0	<5.0	<5.0
1,2-DICHLOROETHANE	<5.0	<130	<25	<5.0	<5.0	<5.0	<5.0
2-BUTANONE	<10	<250	<50	<10	<10	<10	<10
1,1,1-TRICHLOROETHANE	<5.0	<130	<25	<5.0	<5.0	<5.0	<5.0
CARBON TETRACHLORIDE	<5.0	<130	<25	<5.0	<5.0	<5.0	<5.0
VINYL ACETATE	<10	<250	<50	<10	<10	<10	<10
BROMODICHLOROMETHANE	<5.0	<130	<25	<5.0	<5.0	<5.0	<5.0
1,2-DICHLOROPROPANE	<5.0	<130	<25	<5.0	<5.0	<5.0	<5.0
cis-1,3-DICHLOROPROPENE	<5.0	<130	<25	<5.0	<5.0	<5.0	<5.0
TRICHLOROETHENE	12	1,500	180	<5.0	<5.0	<5.0	<5.0
DIBROMOCHLOROMETHANE	<5.0	<130	<25	<5.0	<5.0	<5.0	<5.0
1,1,2-TRICHLOROETHANE	<5.0	<130	<25	<5.0	<5.0	<5.0	<5.0
BENZENE	<5.0	<130	<25	<5.0	<5.0	<5.0	<5.0
trans-1,3-DICHLOROPROPENE	<5.0	<130	<25	<5.0	<5.0	<5.0	<5.0
2-CHLOROETHYLVINYL ETHER	<20	<500	<100	<20	<20	<20	<20
BROMOFORM	<5.0	<130	<25	<5.0	<5.0	<5.0	<5.0
4-METHYL-2-PENTANONE	<10	<250	<50	<10	<10	<10	<10
2-HEXANONE	<10	<250	<50	<10	<10	<10	<10
TETRACHLOROETHENE	<5.0	<130	<25	<5.0	<5.0	<5.0	<5.0
1,1,2,2-TETRACHLOROETHANE	<5.0	<130	<25	<5.0	<5.0	<5.0	<5.0
TOLUENE	<5.0	<130	<25	<5.0	<5.0	<5.0	<5.0
CHLOROBENZENE	<5.0	<130	<25	<5.0	<5.0	<5.0	<5.0
ETHYL BENZENE	<5.0	<130	<25	<5.0	<5.0	<5.0	<5.0
STYRENE	<5.0	<130	<25	<5.0	<5.0	<5.0	<5.0
XYLENE (TOTAL)	<5.0	<130	<25	<5.0	<5.0	<5.0	<5.0
1,3-DICHLOROBENZENE	<10	<250	<50	<10	<10	<10	<10
1,2-DICHLOROBENZENE	<10	<250	<50	<10	<10	<10	<10
1,4-DICHLOROBENZENE	<10	<250	<50	<10	<10	<10	<10
DATE RECEIVED:	11-15-90	11-14-90	11-14-90	11-14-90	11-14-90	-----	-----
DATE SAMPLED:	11-14-90	11-13-90	11-13-90	11-13-90	11-13-90	-----	-----
DATE ANALYZED:	11-17-90	11-17-90	11-17-90	11-15-90	11-15-90	11-17-90	-----

HUNTINGDON ANALYTICAL SERVICES

Sample ID: ESI-5
HAS Sample #90-1653-001
Date Sampled: 11/13/90

ANALYTE	EPA METHOD	DATE PREPARED	DATE ANALYZED	DETECTION LIMIT	RESULT mg/l	QC
ANTIMONY	6010	11/15/90	11/21/90	0.05	<DL	*95
ARSENIC	7060	11/15/90	11/20/90	0.01	0.01	*95
BERYLLIUM	6010	11/15/90	11/21/90	0.005	<DL	*95
CADMIUM	6010	11/15/90	11/21/90	0.005	0.013	*95
CHROMIUM	6010	11/15/90	11/21/90	0.01	0.03	*95
COPPER	6010	11/15/90	11/21/90	0.01	0.05	*95
LEAD	7421	11/15/90	11/19/90	0.005	0.060	*95
MERCURY	7470	11/27/90	11/27/90	0.0002	<DL	*95
NICKEL	6010	11/15/90	11/21/90	0.04	<DL	*95
SELENIUM	7740	11/15/90	11/21/90	0.005	<DL	*95
SILVER	6010	11/15/90	11/21/90	0.01	<DL	*95
THALLIUM	7841	11/15/90	11/21/90	0.01	<DL	*95
ZINC	6010	11/15/90	11/21/90	0.02	0.06	*95

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

HUNTINGDON ANALYTICAL SERVICES

Sample ID: ESI-4
HAS Sample #90-1653-002
Date Sampled: 11/13/90

ANALYTE	EPA METHOD	DATE PREPARED	DATE ANALYZED	DETECTION LIMIT	RESULT mg/l	QC
ANTIMONY	6010	11/15/90	11/21/90	0.05	<DL	*95
ARSENIC	7060	11/15/90	11/20/90	0.01	0.02	*95
BERYLLIUM	6010	11/15/90	11/21/90	0.005	<DL	*95
CADMIUM	6010	11/15/90	11/21/90	0.005	<DL	*95
CHROMIUM	6010	11/15/90	11/21/90	0.01	0.05	*95
COPPER	6010	11/15/90	11/21/90	0.01	0.06	*95
LEAD	7421	11/15/90	11/19/90	0.005	0.038	*95
MERCURY	7470	11/27/90	11/27/90	0.0002	<DL	*95
NICKEL	6010	11/15/90	11/21/90	0.04	<DL	*95
SELENIUM	7740	11/15/90	11/21/90	0.005	<DL	*95
SILVER	6010	11/15/90	11/21/90	0.01	<DL	*95
THALLIUM	7841	11/15/90	11/21/90	0.01	<DL	*95
ZINC	6010	11/15/90	11/21/90	0.02	0.13	*95

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

HUNTINGDON ANALYTICAL SERVICES

Sample ID: ESI-3
HAS Sample #90-1653-003
Date Sampled: 11/13/90

ANALYTE	EPA METHOD	DATE PREPARED	DATE ANALYZED	DETECTION LIMIT	RESULT mg/l	MS %REC	MSD %REC	RPD
ANTIMONY	6010	11/15/90	11/21/90	0.05	<DL	84.6	85.5	1.0
ARSENIC	7060	11/15/90	11/20/90	0.01	<DL	*95		
BERYLLIUM	6010	11/15/90	11/21/90	0.005	<DL	96.2	95.0	1.2
CADMIUM	6010	11/15/90	11/21/90	0.005	<DL	109	114	5.2
CHROMIUM	6010	11/15/90	11/21/90	0.01	0.03	92.2	91.7	<1.0
COPPER	6010	11/15/90	11/21/90	0.01	0.04	117	116	<1.0
LEAD	7421	11/15/90	11/19/90	0.010	0.030	*95		
MERCURY	7470	11/27/90	11/27/90	0.0002	<DL	*95		
NICKEL	6010	11/15/90	11/21/90	0.04	<DL	91.8	93.4	1.7
SELENIUM	7740	11/15/90	11/21/90	0.005	<DL	*95		
SILVER	6010	11/15/90	11/21/90	0.01	<DL	112	112	<1.0
THALLIUM	7841	11/15/90	11/21/90	0.01	<DL	*95		
ZINC	6010	11/15/90	11/21/90	0.02	0.08	89.3	89.3	<1.0

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

HUNTINGDON ANALYTICAL SERVICES

Sample ID: ESI-2
HAS Sample #90-1653-004
Date Sampled: 11/13/90

ANALYTE	EPA METHOD	DATE PREPARED	DATE ANALYZED	DETECTION LIMIT	RESULT mg/l	QC
ANTIMONY	6010	11/15/90	11/21/90	0.05	<DL	*95
ARSENIC	7060	11/15/90	11/20/90	0.01	<DL	*95
BERYLLIUM	6010	11/15/90	11/21/90	0.005	<DL	*95
CADMIUM	6010	11/15/90	11/21/90	0.005	<DL	*95
CHROMIUM	6010	11/15/90	11/21/90	0.01	<DL	*95
COPPER	6010	11/15/90	11/21/90	0.01	0.02	*95
LEAD	7421	11/15/90	11/19/90	0.005	<DL	*95
MERCURY	7470	11/27/90	11/27/90	0.0002	<DL	*95
NICKEL	6010	11/15/90	11/21/90	0.04	<DL	*95
SELENIUM	7740	11/15/90	11/21/90	0.005	<DL	*95
SILVER	6010	11/15/90	11/21/90	0.01	<DL	*95
THALLIUM	7841	11/15/90	11/21/90	0.01	<DL	*95
ZINC	6010	11/15/90	11/21/90	0.02	<DL	*95

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

HUNTINGDON ANALYTICAL SERVICES

Sample ID: METHOD BLANK
HAS Sample #90-1653-MB
Date Sampled: N/A

ANALYTE	EPA METHOD	DATE PREPARED	DATE ANALYZED	DETECTION LIMIT	RESULT mg/l	QC
ANTIMONY	6010	11/15/90	11/21/90	0.05	<DL	*95
ARSENIC	7060	11/15/90	11/20/90	0.01	<DL	*95
BERYLLIUM	6010	11/15/90	11/21/90	0.005	<DL	*95
CADMIUM	6010	11/15/90	11/21/90	0.005	<DL	*95
CHROMIUM	6010	11/15/90	11/21/90	0.01	<DL	*95
COPPER	6010	11/15/90	11/21/90	0.01	<DL	*95
LEAD	7421	11/15/90	11/19/90	0.005	<DL	*95
MERCURY	7470	11/27/90	11/27/90	0.0002	<DL	*95
NICKEL	6010	11/15/90	11/21/90	0.04	<DL	*95
SELENIUM	7740	11/15/90	11/21/90	0.005	<DL	*95
SILVER	6010	11/15/90	11/21/90	0.01	<DL	*95
THALLIUM	7841	11/15/90	11/21/90	0.01	<DL	*95
ZINC	6010	11/15/90	11/21/90	0.02	<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 624
VOLATILE ORGANICS

SAMPLE IDENTIFICATION :	DOWCRAFT ES1-1	METHOD BLANK	
HAS SAMPLE #90-1658	001	-----	
COMPOUND	RESULT ug/l	RESULT ug/l	MDL ug/l
CHLOROMETHANE ----------	<10	<10	<10
BROMOMETHANE ----------	<10	<10	<10
VINYL CHLORIDE ----------	<10	<10	<10
CHLOROETHANE ----------	<10	<10	<10
METHYLENE CHLORIDE ----------	<5.0	<5.0	<5.0
ACETONE ----------	<10	<10	<10
TRICHLOROFLUOROMETHANE -----	<10	<10	<10
CARBON DISULFIDE ----------	<5.0	<5.0	<5.0
1,1-DICHLOROETHENE ----------	<5.0	<5.0	<5.0
1,1-DICHLOROETHANE ----------	<5.0	<5.0	<5.0
1,2-DICHLOROETHENE (TOTAL) -	<5.0	<5.0	5.0
CHLOROFORM ----------	<5.0	5.0	<5.0
1,2-DICHLOROETHANE ----------	<5.0	<5.0	<5.0
2-BUTANONE ----------	<10	<10	<10
1,1,1-TRICHLOROETHANE ------	<5.0	<5.0	<5.0
CARBON TETRACHLORIDE -------	<5.0	<5.0	<5.0
VINYL ACETATE ----------	<10	<10	<10
BROMODICHLOROMETHANE ------	<5.0	<5.0	<5.0
1,2-DICHLOROPROPANE --------	<5.0	<5.0	<5.0
CIS-1,3-DICHLOROPROPENE ----	<5.0	<5.0	<5.0
TRICHLOROETHENE ----------	<5.0	<5.0	<5.0
DIBROMOCHLOROMETHANE -------	<5.0	<5.0	<5.0
1,1,2-TRICHLOROETHANE ------	<5.0	<5.0	<5.0
BENZENE ----------	<5.0	<5.0	<5.0
TRANS-1,3-DICHLOROPROPENE --	<5.0	<5.0	<5.0
2-CHLOROETHYLVINYL ETHER ---	<10	<10	<10
BROMOFORM ----------	<5.0	<5.0	<5.0
4-METHYL-2-PENTANONE -------	<10	<10	<10
2-HEXANONE ----------	<10	<10	<10
TETRACHLOROETHENE ----------	<5.0	<5.0	<5.0
1,1,2,2-TETRACHLOROETHANE --	<5.0	<5.0	<5.0
TOLUENE ----------	<5.0	<5.0	<5.0
CHLOROBENZENE ----------	<5.0	<5.0	<5.0
ETHYL BENZENE ----------	<5.0	<5.0	<5.0
STYRENE ----------	<5.0	<5.0	<5.0
XYLENE (TOTAL) ----------	<5.0	<5.0	<5.0
1,3-DICHLOROBENZENE --------	<10	<10	<10
1,2-DICHLOROBENZENE --------	<10	<10	<10
1,4-DICHLOROBENZENE --------	<10	<10	<10
DATE RECEIVED:	11-15-90	-----	-----
DATE SAMPLED:	11-14-90	-----	-----
DATE ANALYZED:	11-17-90	11-03-90	-----

HUNTINGDON ANALYTICAL SERVICES
ENVIRONMENTAL

METHOD 8240
VOLATILE ORGANICS

SAMPLE IDENTIFICATION :	DOWCRAFT SS-1	DOWCRAFT SS-2	DOWCRAFT SS-3	METHOD BLANK	
HAS SAMPLE #90-1658	005	006	007	-----	
COMPOUND	RESULT ug/Kg	RESULT ug/Kg	RESULT ug/Kg	RESULT ug/Kg	MDL ug/Kg
CHLOROMETHANE ----------	<1,000	<1,000	<1,000	<1,000	<1,000
BROMOMETHANE ----------	<1,000	<1,000	<1,000	<1,000	<1,000
VINYL CHLORIDE ----------	<1,000	<1,000	<1,000	<1,000	<1,000
CHLOROETHANE ----------	<1,000	<1,000	<1,000	<1,000	<1,000
METHYLENE CHLORIDE ---------	<500	<500	<500	<500	<500
ACETONE ----------	<1,000	<1,000	<1,000	<1,000	<1,000
TRICHLOROFLUOROMETHANE -----	<1,000	<1,000	<1,000	<1,000	<1,000
CARBON DISULFIDE ----------	<500	<500	<500	<500	<500
1,1-DICHLOROETHENE ---------	<500	<500	<500	<500	<500
1,1-DICHLOROETHANE ---------	<500	<500	<500	<500	<500
1,2-DICHLOROETHENE (TOTAL) -	<500	<500	<500	<500	<500
CHLOROFORM ----------	<500	<500	<500	<500	<500
1,2-DICHLOROETHANE ---------	<500	<500	<500	<500	<500
2-BUTANONE ----------	<1,000	<1,000	<1,000	<1,000	<1,000
1,1,1-TRICHLOROETHANE ------	<500	<500	<500	<500	<500
CARBON TETRACHLORIDE -------	<500	<500	<500	<500	<500
VINYL ACETATE ----------	<1,000	<1,000	<1,000	<1,000	<1,000
BROMODICHLOROMETHANE -------	<500	<500	<500	<500	<500
1,2-DICHLOROPROPANE --------	<500	<500	<500	<500	<500
CIS-1,3-DICHLOROPROPENE ----	<500	<500	<500	<500	<500
TRICHLOROETHENE ----------	<500	<500	<500	<500	<500
DIBROMOCHLOROMETHANE -------	<500	<500	<500	<500	<500
1,1,2-TRICHLOROETHANE ------	<500	<500	<500	<500	<500
BENZENE ----------	<500	<500	<500	<500	<500
TRANS-1,3-DICHLOROPROPENE --	<500	<500	<500	<500	<500
2-CHLOROETHYLVINYL ETHER----	<2,000	<2,000	<2,000	<2,000	<2,000
BROMOFORM----------	<500	<500	<500	<500	<500
4-METHYL-2-PENTANONE -------	<1,000	<1,000	<1,000	<1,000	<1,000
2-HEXANONE ----------	<1,000	<1,000	<1,000	<1,000	<1,000
TETRACHLOROETHENE ----------	<500	<500	<500	<500	<500
1,1,2,2-TETRACHLOROETHANE --	<500	<500	<500	<500	<500
TOLUENE ----------	<500	<500	<500	<500	<500
CHLOROBENZENE ----------	<500	<500	<500	<500	<500
ETHYL BENZENE ----------	<500	<500	<500	<500	<500
STYRENE ----------	<500	<500	<500	<500	<500
XYLENE (TOTAL) ----------	<500	<500	<500	<500	<500
1,3-DICHLOROBENZENE --------	<1,000	<1,000	<1,000	<1,000	<1,000
1,2-DICHLOROBENZENE --------	<1,000	<1,000	<1,000	<1,000	<1,000
1,4-DICHLOROBENZENE --------	<1,000	<1,000	<1,000	<1,000	<1,000
DATE RECEIVED:	11-15-90	11-15-90	11-15-90	----	----
DATE SAMPLED:	11-14-90	11-14-90	11-14-90	----	----
DATE ANALYZED:	11-17-90	11-17-90	11-17-90	11-17-90	----

HUNTINGTON ANALYTICAL SERVICES
ENVIRONMENTAL

QUALITY CONTROL MS/MSD
METHOD 624/8240
WATERS

SAMPLE #	FILE #
90-1658-001	D2447861
90-1658-001MS	D2447871
90-1658-001MSD	D2447881

HAS SAMPLE #90-1658-001

DATE ANALYZED: 11-17-90

NOTEBOOK: E208-98

COMPOUND	CONC. OF SPIKE (ug/L)	SAMPLE RESULT	CONC. MS	% REC.	CONC. MSD	% REC.	RPD
1,1-DICHLOROETHENE	50	0	58	116	54	108	7.1
TRICHLOROETHENE	50	12	64	104	60	96	6.5
BENZENE	50	0	54	108	51	102	5.7
TOLUENE	50	0	50	100	48	96	4.1
CHLOROBENZENE	50	0	52	104	50	100	3.9

HUNTINGDON ANALYTICAL SERVICES
ENVIRONMENTAL

Inorganic Wet Chemical Analyses

Analyte: Percent Solid - dry weight

EPA Method No.: 160.3

Sample Date	HAS Sample #90-	Client I.D.	Date Prepared	Date Analyzed	Method Detection Limit	Result	Units	QC in %
11/14/90	1658-005	SS-1	11/21/90	11/26/90	0.1	78.0	% Solid	---
11/14/90	1658-006	SS-2	11/21/90	11/26/90	0.1	79.3	% Solid	---
11/14/90	1658-007	SS-3	11/21/90	11/26/90	0.1	86.8	% Solid	---

HUNTINGDON ANALYTICAL SERVICES

Sample ID: DOWCRAFT SS-2
HAS Sample #90-1658-006
Date Sampled: 11/14/90

ANALYTE	EPA METHOD	DATE PREPARED	DATE ANALYZED	DETECTION LIMIT	RESULT mg/kg	QC
ANTIMONY	6010	11/15/90	11/21/90	12.7	<DL	*95
ARSENIC	7060	11/15/90	11/20/90	2.53	7.09	*95
BERYLLIUM	6010	11/15/90	11/21/90	1.27	<DL	*95
CADMIUM	6010	11/15/90	11/21/90	1.27	<DL	*95
CHROMIUM	6010	11/15/90	11/21/90	2.53	81.4	*95
COPPER	6010	11/15/90	11/21/90	2.53	236	*95
LEAD	7421	11/15/90	11/19/90	127	251	*95
MERCURY	7471	11/21/90	11/21/90	0.13	<DL	*95
NICKEL	6010	11/15/90	11/21/90	10.10	24.9	*95
SELENIUM	7740	11/15/90	11/21/90	1.27	<DL	*95
SILVER	6010	11/15/90	11/21/90	2.53	4.73	*95
THALLIUM	7841	11/15/90	11/21/90	2.53	<DL	*95
ZINC	6010	11/15/90	11/21/90	5.06	630	*95

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

ALL SOIL/SLUDGE SAMPLE RESULTS ARE BASED UPON DRY WEIGHT

HUNTINGDON ANALYTICAL SERVICES

Sample ID: DOWCRAFT SS-3
HAS Sample #90-1658-007
Date Sampled: 11/14/90

ANALYTE	EPA METHOD	DATE PREPARED	DATE ANALYZED	DETECTION LIMIT	RESULT mg/kg	QC
ANTIMONY	6010	11/15/90	11/21/90	11.4	<DL	*95
ARSENIC	7060	11/15/90	11/20/90	2.27	10.5	*95
BERYLLIUM	6010	11/15/90	11/21/90	1.14	1.23	*95
CADMIUM	6010	11/15/90	11/21/90	1.14	<DL	*95
CHROMIUM	6010	11/15/90	11/21/90	2.27	115	*95
COPPER	6010	11/15/90	11/21/90	2.27	122	*95
LEAD	6010	11/15/90	11/21/90	10.2	469	*95
MERCURY	7471	11/21/90	11/21/90	0.12	<DL	*95
NICKEL	6010	11/15/90	11/21/90	9.09	40.4	*95
SELENIUM	7740	11/15/90	11/21/90	1.14	<DL	*95
SILVER	6010	11/15/90	11/21/90	2.27	7.45	*95
THALLIUM	7841	11/15/90	11/21/90	2.27	<DL	*95
ZINC	6010	11/15/90	11/21/90	4.55	548	*95

---

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

ALL SOIL/SLUDGE SAMPLE RESULTS ARE BASED UPON DRY WEIGHT

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

Client Name: EMPIRE SOILS INV.
Address: 5167 SOUTH PARK
HAMBURG, N.Y.

Client Contact: DAVE HARTY
Phone: 649-8110

HAS Quote #:
P.O. #:

Project No.: BTA 90-179A
Project/Site Name: DOWCRAFT
Samplers (Signature): Diane L. Lauzon
HAS Ref. #90-: 1653

Sample I.D.	Date	Time	Comp.	Grab	Sample Location	HAS Seq. #	MATRIX	# of Containers	Container Size & Type: VOL. 40 ML	1L-Plastic					Analysis Requested/ Remarks: 40 ML VOL.	1L Plastic
E.S.I-5	11/13/90	3:05		X	E.S.I-5	001	W	3	2	1					[illegible] VOLATILES	METALS
E.S.I-4	11/13/90	3:20		X	E.S.I-4	002	W	3	2	1					"	"
E.S.I-3	11/13/90	3:40		X	E.S.I-3	003	W	3	2	1					"	"
E.S.I-[illegible]	11/13/90	[illegible]:55		X	E.S.I-[illegible]	004	W	3	2	1					"	"
						MES										

Relinquished by:	Date/ Time:	Received by:	Relinquished by:	Date/ Time:	Received By:
D. Lauzon	11/13/90 5:30	[signature]	[signature]	11/14/90 1:10	Mary Beaudoin
Relinquished by:	Date/ Time:	Received by:	Relinquished by:	Date/ Time:	Received By:
Relinquished by:	Date/ Time:	Received for Lab by:	Date/ Time:	Remarks:	
		Mary Beaudoin	11/14/90 1:10	[illegible]	

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. - HAMBURG

PROJECT NAME: DOWCRAFT

HAS Ref. #91-345

February 28, 1991

HAS

HUNTINGDON ANALYTICAL SERVICES
ELAP #10833
ENVIRONMENTAL REPORT

HAS Reference Numbers: #91-345

February 28, 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 8010
PURGEABLE HALOCARBONS

SAMPLE IDENTIFICATION :	DRY WELL IN	DRY WELL OUT	METHOD BLANK
HAS SAMPLE #91-345-	001	002	----
DATE ANALYZED :	2/25/91	2/25/91	2/25/91
COMPOUND	RESULT ug/kg	RESULT ug/kg	RESULT ug/kg
CHLOROMETHANE ----------	[illegible]	[illegible]	[illegible]
BROMOMETHANE ----------	[illegible]	[illegible]	[illegible]
VINYL CHLORIDE ----------	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
CHLOROETHANE ----------	[illegible]	[illegible]	[illegible]
METHYLENE CHLORIDE ------	[illegible]	[illegible]	50
TRICHLOROFLUOROMETHANE -	[illegible]	5	[illegible]
1,1-DICHLOROETHENE ------	[illegible]	[illegible]	[illegible]
1,1-DICHLOROETHANE ------	[illegible]	[illegible]	[illegible]
TOTAL 1,2-DICHLOROETHENE	[illegible]	[illegible]	[illegible]
CHLOROFORM ----------	[illegible]	[illegible]	[illegible]
1,2-DICHLOROETHANE ------	[illegible]	[illegible]	[illegible]
1,1,1-TRICHLOROETHANE ---	[illegible]	[illegible]	[illegible]
CARBON TETRACHLORIDE ----	[illegible]	[illegible]	[illegible]
BROMODICHLOROMETHANE ----	[illegible]	[illegible]	[illegible]
1,2-DICHLOROPROPANE -----	[illegible]	[illegible]	[illegible]
cis-1,3-DICHLOROPROPENE -	[illegible]	[illegible]	[illegible]
TRICHLOROETHENE ----------	[illegible]	[illegible]	[illegible]
trans-1,3-DICHLOROPROPENE	[illegible]	[illegible]	[illegible]
DIBROMOCHLOROMETHANE ----	[illegible]	[illegible]	[illegible]
1,1,2-TRICHLOROETHANE ---	[illegible]	[illegible]	[illegible]
2-CHLOROETHYLVINYL ETHER	[illegible]	[illegible]	[illegible]
BROMOFORM ----------	[illegible]	[illegible]	[illegible]
1,1,2,2-TETRACHLOROETHANE	[illegible]	[illegible]	[illegible]
TETRACHLOROETHENE -------	[illegible]	[illegible]	[illegible]
CHLOROBENZENE ----------	[illegible]	[illegible]	[illegible]
1,4-DICHLOROBENZENE -----	[illegible]	[illegible]	[illegible]
1,2-DICHLOROBENZENE -----	[illegible]	[illegible]	[illegible]
1,3-DICHLOROBENZENE -----	[illegible]	[illegible]	[illegible]

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

Client Name: EMPIRE SOILS INVESTIGATIONS
Client Contact: DAVE HARTY
HAS Quote #:
Address: S-5167 S. PARK AVE. Hamburg, NY 14075
Phone: 649 BIID
P.O. #:

Project No.: BTA 90179 B
Project/Site Name: DOWCRAFT
Samplers (Signature):
HAS Ref. #99-345

Container Size & Type: 40 ml VOA Vials; 125 glass septum

Sample I.D.	Date	Time	Comp.	Grab	Sample Location	HAS Req. #	MATRIX	# of Containers	40 ml VOA Vials	125 glass septum					Analysis Requested/ Remarks
DRYWELL IN	2/20/91	10:45		X	DRYWELL 004	001 A+B	S	2	2						601's
DRYWELL OUT	2/20/91	10:55		X	DRYWELL 005	002	S	1		1					601's

Relinquished by:	Date/ Time:	Received by:	Relinquished by:	Date/ Time:	Received By:
[signature]	2/20/91 11:45	[signature]			
Relinquished by: [signature]	2/21/91 8:10 AM	Received by: [signature]	Relinquished by:	Date/ Time:	Received By:
Relinquished by:	Date/ Time:	Received for Lab by:	Date/ Time:	Remarks:	

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. - HAMBURG

PROJECT NAME: DOWCRAFT

HAS Ref. #91-011

January 22, 1991

HAS

HUNTINGDON ANALYTICAL SERVICES
ELAP #10833
ENVIRONMENTAL REPORT

HAS Reference Numbers: #91-011

January 22, 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 DOH 310-13
PETROLEUM PRODUCTS IN WATER

SAMPLE IDENTIFICATION :	ESI-A	ESI-B	METHOD BLANK
HAS SAMPLE #91-011-	001	002	----
DATE ANALYZED:	1-7-91	1-7-91	1-7-91
COMPOUND	RESULT ug/l	RESULT ug/l	RESULT ug/l
GASOLINE ----------	ND	ND	ND
KEROSENE ----------	<100	<100	<100
FUEL OILS ----------	<100	<100	<100
LUBE OIL ----------	ND	ND	ND

ND = NONE DETECTED

HUNTINGDON ANALYTICAL SERVICES
ENVIRONMENTAL

METHOD 601
PURGEABLE HALOCARBONS

SAMPLE IDENTIFICATION :	ESI-A	ESI-B	METHOD BLANK
HAS SAMPLE #91-011	001	002	----
DATE ANALYZED:	1-9-91	1-9-91	1-9-91
COMPOUND	RESULT ug/l	RESULT ug/l	RESULT ug/l
CHLOROMETHANE ----------	<1.0	<1.0	<1.0
BROMOMETHANE ----------	<1.0	<1.0	<1.0
VINYL CHLORIDE ----------	<1.0	<1.0	<1.0
DICHLORODIFLUOROMETHANE -	<1.0	<1.0	<1.0
CHLOROETHANE ----------	<1.0	<1.0	<1.0
METHYLENE CHLORIDE ------	0.50	<0.50	<0.50
TRICHLOROFLUOROMETHANE --	0.51	<0.50	<0.50
1,1-DICHLOROETHENE ------	0.50	<0.50	<0.50
1,1-DICHLOROETHANE ------	1.50	<0.50	<0.50
trans-1,2-DICHLOROETHENE	59	<0.50	<0.50
CHLOROFORM -------------	<0.50	<0.50	<0.50
1,2-DICHLOROETHANE ------	0.50	<0.50	<0.50
1,1,1-TRICHLOROETHANE ---	0.50	<0.50	<0.50
CARBON TETRACHLORIDE ----	<0.50	<0.50	<0.50
BROMODICHLOROMETHANE ----	<0.50	<0.50	<0.50
1,2-DICHLOROPROPANE -----	<0.50	<0.50	<0.50
cis-1,3-DICHLOROPROPENE -	<0.50	<0.50	<0.50
TRICHLOROETHENE ---------	57	3.9	<0.50
trans-1,3-DICHLOROPROPENE	<0.50	<0.50	<0.50
DIBROMOCHLOROMETHANE ----	<0.50	<0.50	<0.50
1,1,2-TRICHLOROETHANE ---	<0.50	<0.50	<0.50
2-CHLOROETHYLVINYL ETHER	<5.0	<5.0	<5.0
BROMOFORM ---------------	<5.0	<5.0	<5.0
1,1,2,2-TETRACHLOROETHANE	<0.50	<0.50	<0.50
TETRACHLOROETHENE -------	<0.50	<0.50	<0.50
CHLOROBENZENE -----------	<0.50	<0.50	<0.50
1,4-DICHLOROBENZENE -----	<1.0	<1.0	<1.0
1,2-DICHLOROBENZENE -----	<1.0	<1.0	<1.0
1,3-DICHLOROBENZENE -----	<1.0	<1.0	<1.0

HUNTINGDON ANALYTICAL SERVICES
ENVIRONMENTAL

METHOD 602
PURGEABLE AROMATICS

SAMPLE IDENTIFICATION :	ESI-A	ESI-B	METHOD BLANK
HAS SAMPLE #91-011-	001	002	----
DATE ANALYZED:	1/11/91	1/11/91	1/11/91
COMPOUND	RESULT ug/l	RESULT ug/l	RESULT ug/l
BENZENE	<0.50	<0.50	<0.50
TOLUENE	<0.50	<0.50	<0.50
ETHYL BENZENE	<0.50	<0.50	<0.50
TOTAL XYLENES	<1.0	<1.0	<1.0
CHLOROBENZENE	<0.50	<0.50	<0.50
1,4-DICHLOROBENZENE	<0.50	<0.50	<0.50
1,3-DICHLOROBENZENE	<0.50	<0.50	<0.50
1,2-DICHLOROBENZENE	<1.0	<1.0	<1.0

Page 1 of 1

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

Client Name: Dowcraft
Address: S. Dow Street

Client Contact: David Harty-ESI
Phone: 649-8110

HAS Quote #: —
P.O. #: —

Project No.: BTA-90-179
Project/Site Name: Dowcraft
HAS Ref. #: 91-011
Samplers (Signature):

Container Size & Type: 950 ml amber; 40 ml vials

Sample I.D.	Date	Time	Comp.	Grab	Sample Location	HAS Seq. #	MATRIX	# of Containers	950 ml amber	40 ml vials					Analysis Requested/ Remarks
ESI-A	1/2/91	1:43		X	ESI-A	001	W	3	1	2					TPH, EPA 624
ESI-B	1/2/91	1:55		X	ESI-B	002	W	3	1	2					TPH, EPA 624

PCP

Relinquished by:	Date/ Time:	Received by:
David M Harty	1/3/91 2:48	Pam Pearson

Relinquished by:	Date/ Time:	Received by:

Relinquished by:	Date/ Time:	Received by:

Relinquished by:	Date/ Time:	Received for Lab by:

Date/ Time: | Remarks: cc: D(o), DA, TC, PM, SM

EMPIRE
SOILS INVESTIGATIONS INC.

APPENDIX G

DOWCRAFT
corporation

Harry B. Nicholson, Jr.
President & Chief Executive Officer

65 S. Dow Street • Falconer, New York 14733
Phone (716) 665-6210 • Fax (716) 665-2743

Robert C Johnson
071-10-8623
211 Hotch Kiss St
Jamestown, NY 14701

Born 12-20-1915

I, Bob Johnson, worked for Steel Partitions from 1935 to 1941 and from 1946 to 1961 when Steel Partitions closed. I worked for Dowcraft Corporation, the succeeding company from 1961 until retirement in 1981. My comments are in regard to the property located at 65 S. Dow St. in Falconer, NY.

~~Benzene was used for cleaning metals until 1946.~~ I will refer to a drawing with Building layout dated 3-27-84 for Dowcraft Corporation. It also has the label of Empire Soils Investigation, Inc dated 10-5-90. Phase II Environmental site assessment findings. November, 1990.

The map shows dates of building additions and the hand written results of water and soil testing.

P

Benzene was used for metals cleaning until about 1948. ~~At the time~~ we added the new boiler room in 1948. About the same time we started degreasing with trichlorethelyne. The incoming Trichlorethelyne was stored outside where the 1978 addition now is marked. Sludge was also stored there in barrels and ~~taken away~~ picked up by a disposal firm. I can not recall any spills of TCE. I can only guess that a spill occurred while loading or unloading in the alley. This area is now the site of the phosphatizer and the tool room addition.

The Tool room may have used TCE to clean dies from the press room.

(Told to Harry B. Nicholson, Jr and Marnie Smith on 4-19-91)

DOWCRAFT
corporation

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President & Chief Executive Officer

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The map shows dates of building additions and the hand written results of water and soil testing.

P

Benzene was used for metals cleaning until about 1948. ~~At the time~~ we added the new boiler room in 1948. About the same time we started degreasing with trichlorethelyne. The incoming trichlorethelyne was stored outside where the 1972 addition now is marked. Sludge was also stored there in barrels and ~~taken away~~ picked up by a disposal firm. I can not recall any spills of TCE. I can only guess that a spill occurred while loading or unloading in the alley. This area is now the site of the phosphatizer and the tool room addition.

The Tool room may have used TCE to clean dies from the press room.

(Told to Harry B. Nicholson, Jr and Marnie Smith on 4-19-91)