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WORK PLAN

Interim Remedial Measures

Accurate Die Casting Site
Fayetteville, New York

July 1993
Revised September 1993

O'BRIEN & GERE
ENGINEERS, INC.

2488.396

WORK PLAN

INTERIM REMEDIAL MEASURE (IRM)

ACCURATE DIE CASTING SITE

FAYETTEVILLE, NEW YORK

JULY 1993
REVISED SEPTEMBER 1993

O'BRIEN & GERE ENGINEERS, INC.
5000 BRITTONFIELD PARKWAY
SYRACUSE, NEW YORK 13221

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SECTION 1 - INTRODUCTION

1.01 Background

The former Accurate Die Casting Facility located in Fayetteville, New York is situated on a 32-acre parcel at 547 East Genesee Street. The facility was constructed in the 1950's and had been used as a die casting operation until 1988, when it was abandoned. ITT Commercial Finance Company ("ITT"), which possessed a mortgage on the real property, foreclosed on the premises and was the successful bidder at the auction. Shortly thereafter, an environmental assessment for property transfer was conducted by Stearns & Wheler for ITT, the asset lender. As a result of the site assessment, it was concluded that potential for environmental contamination existed at the site and that further investigation would be necessary. Stearns & Wheler was subsequently retained to perform a Phase II assessment of the site, completing it in September 1990.

Upon review of the work completed to date at the former Accurate Die Casting facility, the NYSDEC has required additional investigation activities which have been completed in accordance with the Remedial Investigation/Feasibility Study Work Plan (Stearns & Wheler, May 1992). The Draft Report - Remedial Investigation (Stearns & Wheler, January 1993) concluded that:

1. Ground water quality, both overburden and bedrock, has been impacted by trichloroethene (TCE). The overburden TCE plume extends from near MW-3 north to Bishop Brook.

2. TCE in soils is limited to the vicinity of MW-3, with concentrations ranging from 0.39 mg/kg at MW-10 to 7,500 mg/kg at MW-3. The highest TCE concentrations were observed at about 20 to 25 feet below grade, at the interface between the sand/gravel and till layers.

3. Soils beneath the floor of the building have not been impacted. Soil samples from two monitoring wells (MW-13, MW-14) installed just inside the building exhibited minimal TCE levels (<0.04 mg/kg).

1.02 Interim Remedial Measure (IRM) Objectives

Previous Interim Remedial Measures (IRMs) have been conducted at the site during the Phase II investigation, and were described in the Phase II report (Stearns & Wheler, September 1990). Most notable was the installation and operation of a product recovery system in the vicinity of MW-3. That system was operated in 1990 to remove a TCE product layer which had been observed. A total of approximately 550 gallons of TCE was recovered at that location, decreasing the thickness of the free product layer from about 20 inches to 2 inches. It is believed that residual TCE contamination exists in dissolved or vapor phase, or as residual within soil pores.

At this time, an additional IRM is proposed for soils and ground water. The objectives of the IRM, recognizing that TCE contamination exists in the soils and ground water, are:

1. Remediate the subsurface soils in the vicinity of MW-3 to eliminate the potential for migration of contaminants form a well defined, localized source.
2. Initiate ground water remediation by a recovery and treatment system, to reduce the potential for further contamination of the ground water supplies.

The accelerated cleanup of the site is proposed to facilitate the sale and development of this presently underutilized property.

1.03 Purpose of Work Plan

The purpose of this Work Plan is to define the cleanup objectives, describe the measures to be used to achieve those goals, and outline a verification sampling program to document the success of the IRM.

SECTION 2 - SUMMARY OF AVAILABLE INFORMATION

2.01 Prior Studies

Following the abandonment of the Accurate Die Casting facility in 1988, Phase I environmental assessments for property transfer were performed by other consultants (Blasland & Bouck, HRP Associates, Stearns & Wheler). Those assessments concluded that the potential for environmental contamination existed at the site.

Based on those concerns, a Phase II environmental assessment was initiated by Stearns & Wheler in 1989. The Phase II assessment included several Interim Remedial Measures (IRMs) which addressed several of the identified areas of concern. The prior IRMs included:

1. TCE Recovery: A 4-inch recovery well with dual-phase pump was installed in the vicinity of monitoring well MW-3. During 1990, the product layer thickness in MW-3 was reduced from 20 inches to 2 inches, and approximately 550 gallons of TCE product was recovered.

2. TCE Degreaser System: The degreaser system was decommissioned and steam-cleaned. All TCE, sludges, residues, and rinse water were collected in drums and disposed.

3. Containerized Waste Disposal: All containers of waste (refuse, oils, paints, thinners, chemicals, unknown liquids, miscellaneous solid wastes) remaining in the facility were inventoried, characterized, and transported off-site for disposal.

4. PCB Remediation: Six transformers (two interior and four exterior) containing PCBs were taken out of service, drained, dismantled, and disposed. In addition, all other PCB-

containing electrical equipment, including capacitors, were disposed off-site. Finally, an oil stained surface near the interior transformers was cleaned.

5. Underground Storage Tank Closure: Four underground storage tanks (USTs) at the site were originally identified and recommended for closure. Recent investigations have indicated that there are three USTs at the site, which the property owner intends to remove.

Based on the results of the Phase II assessment, NYSDEC required that a Remedial Investigation/Feasibility (RI/FS) Study be undertaken. The RI activities, including monitoring well installation, ground water sampling, and surface water and sediment sampling, were conducted in accordance with the approved RI Work Plan (Stearns & Wheler, May 1992).

2.02 Site Characterization

The results of the RI activities were presented in a Draft Report dated January 1993. The data presented in the Draft RI Report are summarized as follows:

1. Analysis of subsurface soil samples from monitoring well installation and borings indicates that residual TCE contamination exists north of the eastern addition to the main building. The highest TCE concentrations were observed at MW-3 (7,500 mg/kg at the 19'-21' depth). At the same location, 1.8 mg/kg TCE was observed in the 4'-6' depth interval. Ten additional soil borings were sampled within a fifty foot radius of MW-3. About 50 north of MW-3 (at boring B-11) 1.3 mg/kg TCE was detected at the 25'-25.5' depth; about 35 feet east of MW-3 (at boring B-13) 4.2 mg/kg TCE was detected at the 24'-24.5' depth. The results of those analyses lead to the conclusions that:

a. The lateral extent of TCE contamination in subsurface soils has been well defined, and is limited to approximately 50 feet north and east of the suspected source near MW-3.

b. The greatest TCE concentrations, based on field photoionization detector screening of split spoon samples and laboratory analysis, are observed at roughly 20 to 25 feet below grade. These results are consistent with the prior observation of the free product layer at that depth.

c. The presence of TCE in the soils in the vicinity of MW-3 represents a potential continuing source of ground water contamination.

2. The overburden ground water quality has been impacted by TCE. The dissolved TCE plume extends from MW-3 north to Bishop Brook. TCE concentrations diminish greatly along that axis, from 340,000 μg/l at MW-3 to 110 μg/l at MW-5, located about 350 feet to the north. Lower concentrations were detected at monitoring wells located to the east and west of this axis. Water level measurements confirm the northerly ground water flow direction, and indicate that Bishop Brook is a ground water discharge point.

3. TCE concentrations in bedrock ground water include 4,500 μg/l at MW-10 (located about 50 feet north of MW-3) and 5,200 μg/l at MW-11 (located about 140 feet north of MW-3). Additional investigations have been proposed to further characterize bedrock water quality impacts.

The results of the prior studies have sufficiently characterized the site to provide the basis for development of an IRM to remediate the soil source area and the overburden ground water.

SECTION 3 - INTERIM REMEDIAL MEASURE TASKS

3.01 Project Planning

In preparing this plan for a soil and ground water cleanup program, several initial tasks have been accomplished, and additional tasks defined. Project planning elements are outlined below:

3.01.1 Field Reconnaissance

On June 4, 1993 representatives of Stearns & Wheler, O'Brien & Gere Engineers, and OBG Technical Services conducted a field visit to the site. The purpose of the visit was to review the locations of prior investigatory activities and conceptualize in the field the plan for the IRM.

3.01.2 Data Evaluation

O'Brien & Gere Engineers has reviewed the data presented in the Phase II Assessment and Draft RI Reports (Stearns & Wheler, 1990 and 1993). Those data, summarized in Section 2.02, have sufficiently characterized the site for the purposes of developing the proposed IRM.

3.01.3 Cleanup Limits

On November 16, 1992 the NYSDEC Division of Hazardous Waste Remediation issued a Technical and Administrative Guidance Memorandum (TAGM) which provides a basis for determining recommended soil cleanup levels for listed hazardous waste sites in New York State. For total VOCs, the TAGM recommends a cleanup level of 10 mg/kg. For organic chemicals, a water/soil partitioning theory is used to establish conservative cleanup objectives which would be protective of ground water quality for its best use. Using that model, a recommended soil cleanup objective of 0.7 mg/kg for TCE has been calculated, and will be used as the goal for this IRM.

That cleanup value is based on the assumption that ground water is to be used as a drinking water source. The Draft RI Report (Stearns & Wheler, January 1993) included a risk assessment which evaluated potential exposures and associated risks. The risk assessment concluded that, under current site conditions, the only complete exposure pathway is water contact recreation in Bishop Brook, and the risks from that exposure were calculated to be minimal. The evaluation of potential future exposures concluded that, if the site were to be developed for residential, commercial or industrial use, additional exposure pathways would be possible if the site ground water were to be used for private water supply. However, as discussed in the risk assessment, this use is considered highly improbable since the site and surrounding properties are served by public water supply. Therefore, it is concluded that cleanup levels based on protection of ground water quality should be considered highly conservative.

3.01.4 Air Permitting

The proposed remedial action utilizes mechanical aeration to volatilize organic chemicals from the soil matrix into the air. Under Part 375 regulations, it is not necessary to obtain a permit for this discharge of VOCs into the air. However, to demonstrate substantial compliance with the technical requirements, an application for a Permit to Construct will be prepared and submitted to the NYSDEC. Calculations of maximum emissions of TCE to the air are shown on Table 1, with comparison to Short-term Guideline Concentrations (SGC) as presented in Air Guide 1.

3.02 Soils Excavation Plan

Based on the results of the previous site characterization data, a soils excavation plan has been developed. The initial excavation will be centered around MW-3, extending approximately 50 feet to the north and east, and south and west to the building lines, as shown on Figure 2. The excavation area has been proposed to encompass the locations of subsurface soil containing TCE concentrations above 0.7 mg/kg. The proposed depth of excavation is approximately 25 feet as the highest levels of TCE were determined to be at depths ranging from 20 to 25 feet. Based on the results of previous soil borings and analyses of samples, it appears that the upper 4 to 8 feet of soils are not contaminated within most of the proposed excavation area.

During excavation of the soils, it is anticipated that dewatering of the excavation will be required. Any TCE product observed will be recovered by pumping directly to an existing product recovery tank. Ground water recovered during dewatering operations will be pumped to a holding tank for subsequent treatment by an air stripping/carbon adsorption system before being discharged to Bishop Brook. A schematic of the proposed water treatment system is shown in Figure 4.

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3.03 Follow-up Soils Study

Following the initial excavation, samples will be collected at the limits of the excavated area and analyzed for total VOC (Method 8010/8020) to determine if further remediation is necessary. The VOC data obtained from these samples will be evaluated and used to determine the extent of any additional excavation necessary to meet cleanup objectives. If it is concluded that further excavation is required, the limits of excavation will be extended laterally, followed by additional soil sampling and VOC analyses (Method 8010/8020).

3.04 Soils Staging, Treatment, and Disposition

As the soils are excavated to the defined limits, they will be transported to designated staging areas located on-site. In these staging areas, the soil will be temporarily stored on top of a concrete pad or polyethylene sheeting and covered by polyethylene sheeting to prevent erosion or contact with precipitation prior to treatment.

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The treatment for the TCE containing soils will be performed on-site using the following steps (a schematic diagram of the soil treatment system is included as Figure 3):

1. Amending the excavated soils with lime, if required, to reduce the moisture content;
2. Screening the soils to remove large, non-processible materials and debris;
3. Loading the amended soil into a mechanical aeration system (hammermill shredder) to reduce the soil particle size and promote contact with the air, thereby allowing the VOCs to volatilize;
4. Analyzing treated soils and soils from the "clean" stockpile; and
5. Backfilling soils meeting the cleanup criteria into the excavation area.

Soils not meeting the cleanup criteria will be reprocessed to achieve these criteria. Concrete, asphalt, and debris removed during the excavation activities will be decontaminated for on-site use as fill.

3.05 Soil Verification Sampling

Upon completion of excavation to the predetermined limits, confirmation samples will be obtained from each excavation, transported to a New York State certified laboratory using appropriate chain-of-custody procedures, and analyzed for VOCs using EPA Method 8010/8020. The results of those analyses will be used to document that cleanup to the defined objectives has been accomplished.

As part of the verification sampling for treated soils, a minimum of 1 grab sample will be taken for each treated batch. Once residual levels are confirmed to be below the target goals, the excavation will be backfilled with treated material meeting the cleanup criteria, restored with topsoil, and reseeded.

Confirmation sampling will also be used to monitor the effectiveness of the water treatment system by analyzing daily grab samples from both the influent and effluent flow streams for VOCs. This will document adequate treatment of the groundwater which is discharged to Bishop Brook.

3.06 Ground Water Recovery Well Installation and Pump Testing

Two recovery wells will be installed and pump testing will be conducted to evaluate the overburden aquifer characteristics and develop the necessary data for design of a ground water recovery system. One test/recovery well will be located at the downgradient (north) edge of soil excavation, and one well will be located near the downgradient edge of the VOC plume in the vicinity of Bishop Brook, as shown on Figure 2. To provide drawdown data during the pump tests two observation wells, one approximately 20 feet from each test/recovery well, will also be installed.

The recovery wells will be installed using either cable tool or air rotary drilling methods. The average well depth of the two wells is 35 feet. However, final well specifications will be determined in the field based on the geologic conditions encountered. The wells will be constructed of eight inch diameter stainless steel screen and carbon steel riser casing. The length of the well screen will be 10-15 feet, with the slot size determined based on grain size analyses performed on soil samples collected during drilling of the recovery wells and nearby monitoring wells. A five foot long sump will be installed below the well screen to house the ground water pump such that the maximum available drawdown can be maintained at each of the recovery wells.

The well construction will be completed by installing a suitable gravel pack within the annular space around the well screen to a depth of at least two feet above the top of the screen. A two to three foot bentonite seal will be installed above the gravel pack, with the remaining annular space filled with a cement/bentonite grout mixture.

Subsequent to installation, the recovery wells will be developed using a combination of mechanical surging and pumping. Well development will continue until the wells yield relatively sediment-free water.

Following installation of the recovery well, a pump test will be conducted on each of the two wells to estimate the design flow rates and to provide a preliminary evaluation of the aquifer characteristics. The wells will be pumped continuously for 12 hours at a constant flow rate. The flow rate will be determined based on maximum rates obtained during the well installation and development. Water level drawdowns in the pumping well and nearby monitoring and observation wells wells will be measured throughout the test, as well as recovery rates for the wells after pumping is discontinued. In addition, four ground water samples will be collected during each test and will be analyzed for VOCs to assess the VOC influent concentrations. Ground water generated during the pump testing will be treated with an air stripper and discharged into Bishop Brook, upon approval by NYSDEC. Upon completion of pumping, ground water recovery data will be collected in select wells until water levels approximate static conditions.

Collected water level data will be evaluated in accordance with standard methods as discussed as in USGS Publication "Aquifer Test Design, Observation and Data Analysis" Driscoll, Fletcher G.; 1986; Ground Water & Wells; Johnson Division; St. Paul. This analysis will provide information regarding the sustained well yield, radius of influence of the well, the coefficient of storage, and the transmissivity of the aquifer. The information will be used to evaluate the design flow rates and zone of capture for these wells.

3.07 Evaluation of Hyrdrogeologic Data

Data obtained from pump testing, laboratory analyses, and hydrogeologic investigations will be reviewed and evaluated. A simplified, two-dimensional ground water flow model will be utilized to estimate the well yield extent of the cone of influence for each of the recovery wells and to evaluate the effectiveness of the proposed recovery wells. Analytical and hydrogeologic data will be used to determine ground water flow directions, and general hydrogeologic conditions at the facility.

Following completion of the data evaluation, an interim technical memorandum report will be prepared. The report will contain data pertaining to the recovery well installations, ground water sampling, ground water quality results, laboratory analytical data sheets, and aquifer performance test analyses. Hydrogeologic maps will also be prepared to illustrate ground water conditions during pumping and non-pumping conditions.

3.08 Ground Water Treatment System Design

Upon completion of the hydrogeologic data evaluation, design of the ground water recovery and treatment systems will be initiated. It is assumed, at this time, that treatment of the ground water via air stripping will be effective for removal of VOCs.

Design of the ground water recovery/treatment systems will include sizing and selection of pumps, layout of interconnecting piping to the treatment systems, sizing and layout of the treatment systems and design of related electrical, instrumentation and control systems, as well as any required foundations or structures. Prior to installation and operation of the treatment system, the appropriate permits will be obtained from the NYSDEC and other local agencies.

The design will include development of projected influent concentrations, basis of design, equipment layouts and operating and control plans.

SECTION 4 - PROJECT MANAGEMENT

4.01 Project Organization and Responsibilities

A project management team has been assembled to plan, coordinate, and implement this IRM. The lead organization in the IRM process is OBG Technical Services, Inc., a full service environmental contracting firm. O'Brien & Gere Engineers, Inc. has been retained by OBG Technical Services to prepare this Work Plan, perform hydrogeologic investigations, and provide engineering oversight. The roles and responsibilities of the individuals assigned to this program are described below.

4.01.1 Project Manager

Terry L. Brown, P.E. of OBG Technical Services will serve as project manager for this program. Mr. Brown is responsible for coordinating the overall management of the IRM, directing field and office personnel, and managing the administrative aspects of the project.

4.01.2 Engineering Manager

James R. Heckathorne, P.E. of O'Brien & Gere Engineers will act as the IRM engineering manager. Mr. Heckathorne will develop the soil remediation concept, review deliverables prior to submittal to NYSDEC, monitor the project progress, and oversee the remedial efforts.

4.01.3 Hydrogeologic Manager

John C. Tomik, C.P.G. of O'Brien & Gere Engineers will be the hydrogeologic manager for this program. Mr. Tomik will design and implement the test well program, and will develop specifications for the ground water recovery system. He will review all hydrogeologic data to document the effectiveness of the ground water portion of the IRM.

4.01.4 Field Operations Manager

Mr. Anthony Geiss of OBG Technical Services will serve as field operations manager. Mr. Geiss's responsibilities will include overseeing the day-to-day activities necessary in the field to implement the IRM program.

4.02 Project Schedule

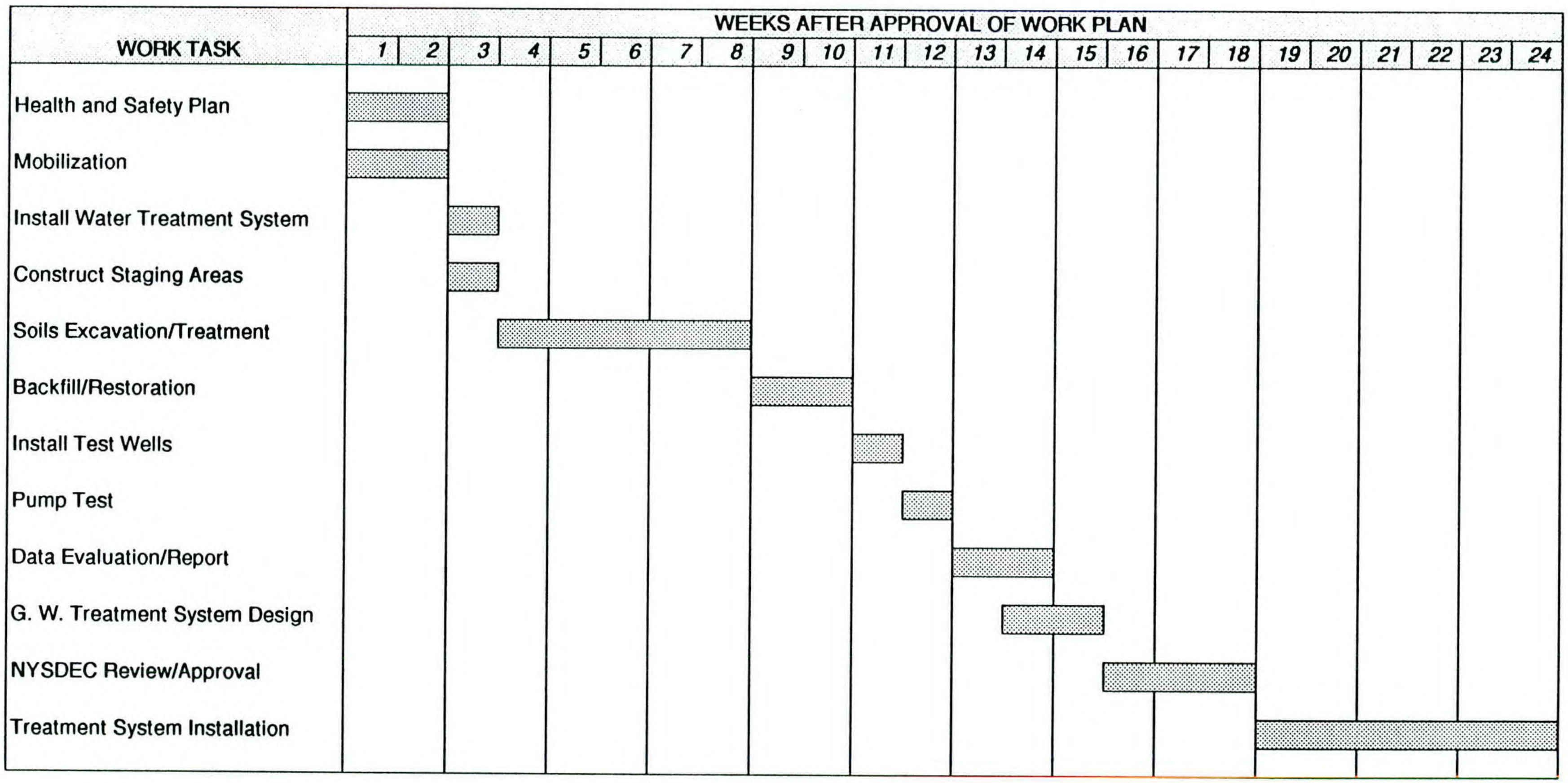
The project schedule for this IRM is included as Figure 4-1 on the following page. The bar graph schedule shows the estimated time frames for completion of the various aspects of the IRM program, starting with the date of approval of this Work Plan by the NYSDEC.

The schedule for this IRM incorporates the wishes of the current owner of the site to proceed quickly with implementation of the IRM so that the site can be returned to productive use as soon as possible.

FIGURE 4-1

ACCURATE DIE CASTING SITE
FAYETTEVILLE, NEW YORK

PROPOSED IRM SCHEDULE



SECTION 5 - HEALTH AND SAFETY PLAN

5.01 General

The contractor performing the IRM will be responsible for the development, implementation, and enforcement of a Health and Safety Plan (HASP) for the IRM activities to be conducted on the site. The HASP will be prepared in accordance with the requirements set forth in 29 CFR 1910; highlights are discussed below.

5.02 Project Organization

The HASP will include an organization chart identifying key personnel involved in the IRM activities. The chart will identify the following personnel, and describe their duties as related to health and safety issues:

- Project Manager
- Site Health and Safety Officer
- Field Supervisor

The Health and Safety Officer (HSO) or named designee will have the following responsibilities:

- The HSO will be present at all times during site operations;
- The HSO will have the authority to enforce the HASP and stop operations if the safety or health of site personnel is jeopardized;
- The HSO will evaluate all monitoring data and make necessary field decisions regarding site health and safety procedures;
- The HSO may order evacuation of the site if necessary to protect the safety and health of workers.

5.03 Hazard Identification

Potential health and safety hazards which may be encountered during the execution of the IRM will be identified in the HASP. Examples of such hazards include, but are not limited to, exposure to VOCs, and safety hazards inherent in working around excavations and machinery. The HASP will include descriptions of methods to be employed to reduce the risks associated with the identified hazards.

5.04 Work Zones

The HASP will delineate work zones in which specific operations or tasks will take place, and will describe specific site entry and decontamination procedures at designated control points in accordance with the provisions of 29 CFR 1910. At a minimum, three work zones (exclusion zone, contamination reduction zone, and clean zone) will be established to perform this work. A map showing the work zones will be included in the HASP.

5.05 Site Control

The contractor will establish a site control program as part of the HASP. The following information will be included in the site control program:

- Site map, with work zones;
- Site entry procedures;
- Description of the use of "buddy" system;
- Site communications, including means of alerting workers to emergencies;
- Locations of nearest medical assistance, and emergency phone numbers.

5.06 Employee Training

Employees performing on-site activities and the supervisors responsible for the site will be trained to the level required by their assigned function as specified by 29 CFR 1910.120(e). Written certification of the successful completion of the necessary training is required by those regulations.

5.07 Medical Surveillance

The contractor will establish and implement a Medical Surveillance Program (MSP) for employees engaged in on-site operations, consistent with 29 CFR 1910.120(f). The MSP will include physical examinations performed by or under the supervision of a licensed physician. The written opinion of the attending physician on the employee's ability to perform the required work will be obtained by the contractor and made available to the employee.

The contractor will retain a record of the required medical surveillance information for the appropriate period as specified in 29 CFR 1910.120.

5.08 Personnel Protection

Engineering controls, work practices, the use of personal protection equipment (PPE), or a combination of these will be implemented during site operations to protect employees from exposure to hazardous substances and safety hazards as required by 29 CFR 1910.120(g). A written PPE program including the following elements will be incorporated into the HASP:

- PPE inspection prior to, during and after use;
- PPE selection (based on site hazards), use, and limitations, including heat stress and cold injury protection;
- PPE maintenance, storage, decontamination, and disposal;

- PPE training, proper fit, and procedures for donning and doffing PPE;
- Evaluation of the effectiveness of the PPE program.

5.09 Monitoring

The HASP will define a monitoring program in accordance with 29 CFR 1910.120(h) to select and maintain proper engineering controls, work practices, and PPE. Breathing zone air monitoring will be performed to identify levels of airborne VOCs to determine the necessary level of employee protection.

5.10 Decontamination

The contractor will develop and implement decontamination procedures as required by 29 CFR 1910.120(k) which will minimize employee contact with hazardous substances or equipment and materials that have contacted hazardous substances.

5.11 Emergency Response Plan

The HASP will include an emergency response plan section meeting the requirements of 29 CFR 1910.120(l). The emergency response plan will address the following elements:

- Pre-planning of site operations to prevent emergencies;
- Personnel roles, lines of authority, and communications;
- Emergency recognition and prevention;
- Safe distance and places of refuge;
- Evacuation routes and procedures;
- Emergency first aid, medical treatment, alerting, and response procedures;
- Emergency and personnel equipment maintained at the site for emergencies.

5.12 Community Air Monitoring Plan

The HASP will include a Community Air Monitoring Plan prepared in accordance with New York State Department of Health guidance. The plan will include monitoring for VOCs and particulates at the site perimeter, and will describe removal actions to be implemented if target levels (5 ppm above background for VOCs, 100 $\mu g/m^3$ for particulates) are exceeded.

Tables

TABLE 1

AIR EMISSIONS CALCULATIONS

1. Average Contaminant Concentration (avg. 10 soil samples in excavation area):

   Trichloroethylene (TCE): 2.4 mg/kg

2. Soil Treatment Rate:

   50 tons/hr

3. Hourly Emission Rate:

   Q = (50 tons/hr)(2000 lbs/ton)(2.4 ppm TCE) = 0.24 lbs/hr TCE

4. Maximum Annual Impact:

   $C_p = (4218Q/h_e^{2.16}) = 7.0\ \mu g/m^3$,

   where stack height (h_e) = 10 ft

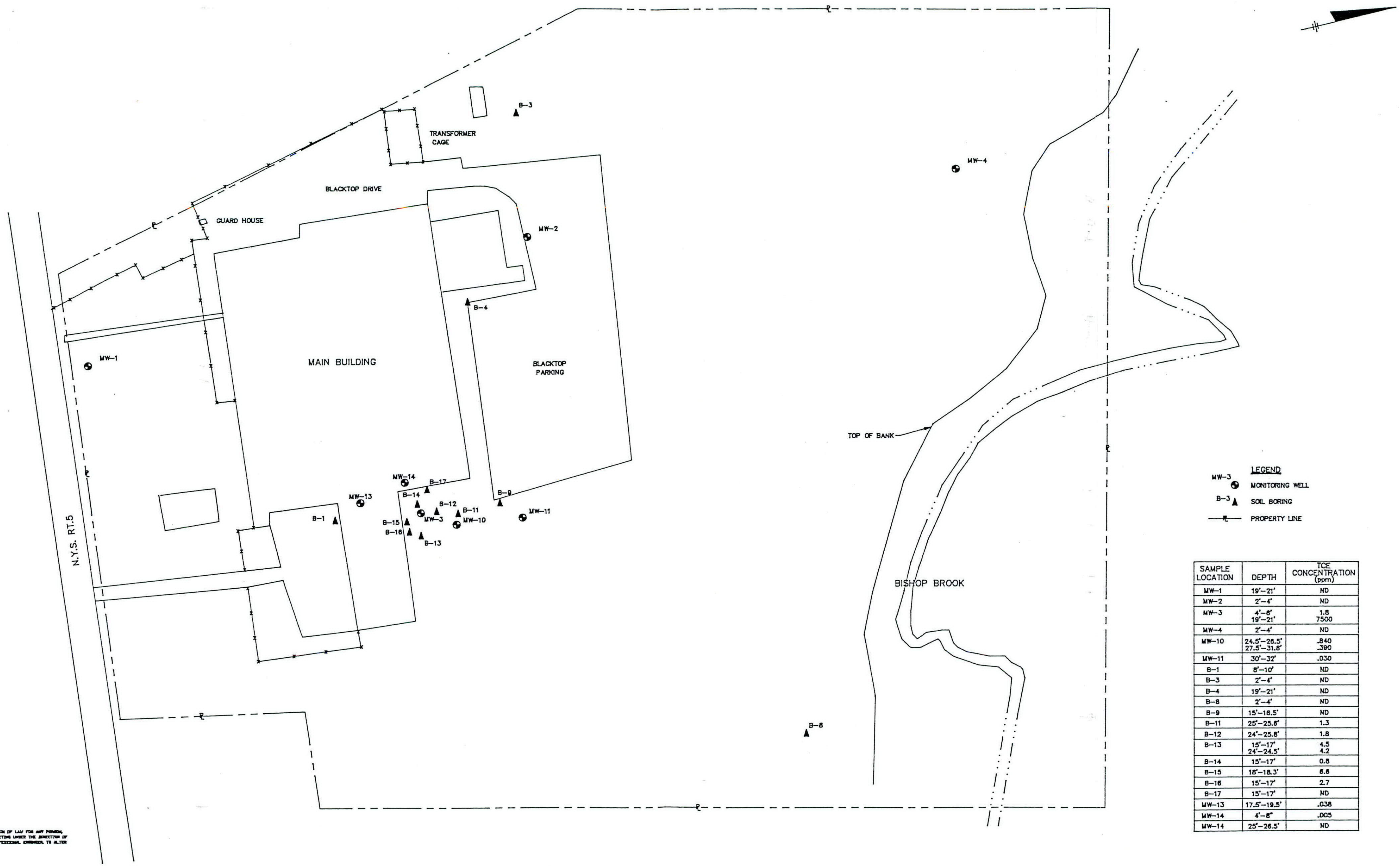
5. Short-term Concentration:

   $C_{st} = 420C_p = 2940\ \mu g/m^3$

6. Short-term Guideline Concentration (TCE):

   SGC = 33,000 $\mu g/m^3$ (per Air Guide 1)

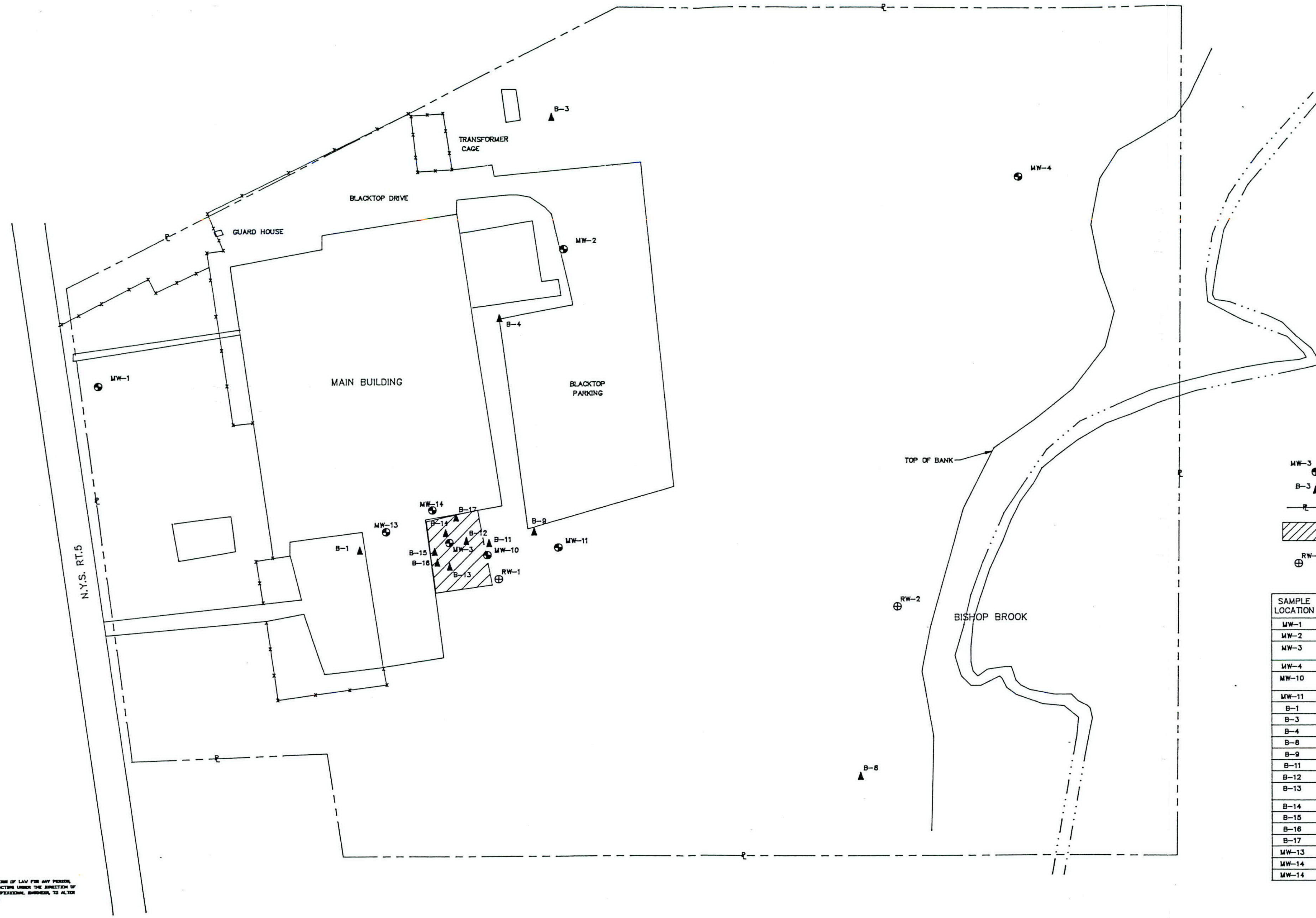
Figures



SAMPLE LOCATION	DEPTH	TCE CONCENTRATION (ppm)
MW-1	19'-21'	ND
MW-2	2'-4'	ND
MW-3	4'-6' 19'-21'	1.8 7500
MW-4	2'-4'	ND
MW-10	24.5'-26.5' 27.5'-31.8'	.840 .390
MW-11	30'-32'	.030
B-1	8'-10'	ND
B-3	2'-4'	ND
B-4	19'-21'	ND
B-8	2'-4'	ND
B-9	15'-16.5'	ND
B-11	25'-25.6'	1.3
B-12	24'-25.8'	1.8
B-13	15'-17' 24'-24.5'	4.5 4.2
B-14	15'-17'	0.8
B-15	18'-18.3'	6.6
B-16	15'-17'	2.7
B-17	15'-17'	ND
MW-13	17.5'-19.5'	.038
MW-14	4'-6"	.005
MW-14	25'-26.5'	ND

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS HE IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

In charge of____ Designed by____ Checked by____ Made by____	NO.	DATE	REVISION	INIT.	O'BRIEN & GERE ENGINEERS, INC. Syracuse, New York	ACCURATE DIE CASTING FAYETTEVILLE, NEW YORK	SITE PLAN	FILE NO. 2488.396 DATE JUNE 1993 FIGURE 1



LEGEND

MW-3 MONITORING WELL

B-3 SOIL BORING

PROPERTY LINE

SOIL TO BE EXCAVATED

RW-X PROPOSED RECOVERY WELLS

SAMPLE LOCATION	DEPTH	TCE CONCENTRATION (ppm)
MW-1	19'-21'	ND
MW-2	2'-4'	ND
MW-3	4'-6' 19'-21'	1.8 7500
MW-4	2'-4'	ND
MW-10	24.5'-26.5' 27.5'-31.8'	.840 .390
MW-11	30'-32'	.030
B-1	8'-10'	ND
B-3	2'-4'	ND
B-4	19'-21'	ND
B-8	2'-4'	ND
B-9	15'-16.5'	ND
B-11	25'-25.6'	1.3
B-12	24'-25.8'	1.8
B-13	15'-17' 24'-24.5'	4.5 4.2
B-14	15'-17'	0.8
B-15	18'-18.3'	6.6
B-16	15'-17'	2.7
B-17	15'-17'	ND
MW-13	17.5'-19.5'	.038
MW-14	4'-8"	.005
MW-14	25'-26.5'	ND

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In charge of____________
Designed by________Checked by________
Made by__________

NO.	DATE	REVISION	INIT.

O'BRIEN & GERE ENGINEERS, INC. Syracuse, New York

ACCURATE DIE CASTING
FAYETTEVILLE, NEW YORK

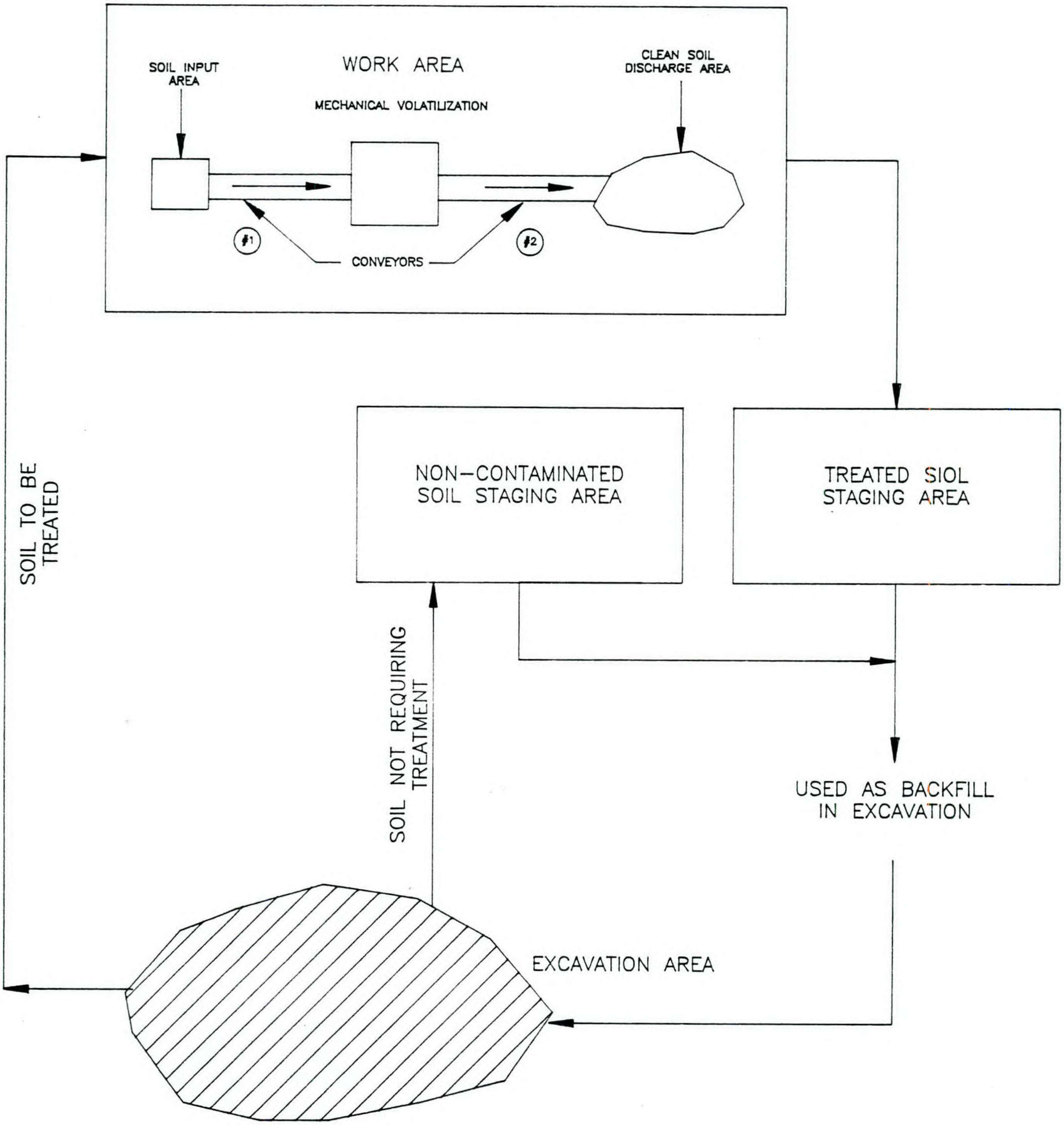
EXCAVATION PLAN

FILE NO. 2488.396

DATE JUNE 1993

FIGURE 2

FIGURE 3



ACCURATE DIE CASTING
FAYETTEVILLE, NEW YORK

SOIL TREATMENT SYSTEM SCHEMATIC

O'BRIEN & GERE ENGINEERS, INC.
Syracuse, New York
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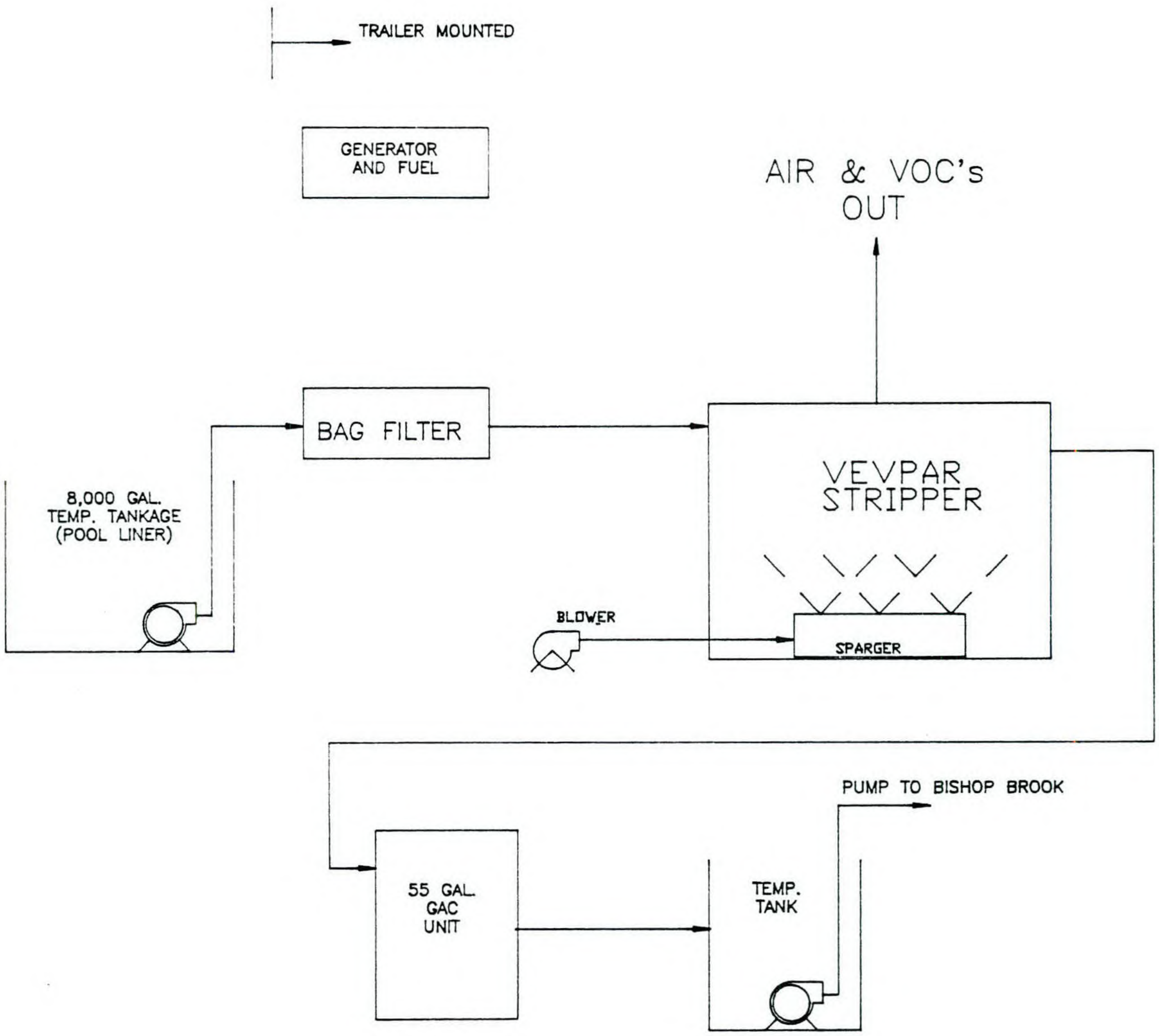
FIGURE 4



ACCURATE DIE CASTING
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WATER TREATMENT SYSTEM SCHEMATIC

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Syracuse, New York
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