Report

Surface Water Interim Remedial Measure Engineering Report

Chicago Pneumatic Tool Company
Frankfort, New York

October 1994

BLASLAND, BOUCK & LEE, INC.
ENGINEERS & SCIENTISTS

6723 Towpath Road
Syracuse, New York 13214
(315) 446-9120

surface water at the Site. The first investigation was initiated in 1985 by Recra Research, Inc., under contract to the NYSDEC, to complete a Phase I Investigation and to propose a Phase II Work Plan for the Chicago Pneumatic Site. The Phase I Investigation identified surface and subsurface issues at the Site; however, no air, water, or soil samples were obtained.

In 1986, the United States Environmental Protection Agency (USEPA) contracted NUS Corporation (NUS) to prepare a Potential Hazardous Waste Site Inspection Report. Seven surface water, ten sediment, and two soil samples were obtained by NUS as part of their investigation. NUS's report identified four potential areas of concern (AOCs): the debris landfill area; the three former oil separation ponds; the drainage ditches; and the chip chute area.

In January 1988, BB&L was contracted to conduct an Environmental Assessment to further characterize the constituents identified at the Chicago Pneumatic Site during the 1986 USEPA investigation. The Environmental Assessment activities included conducting an aerial photograph review, a magnetometer survey, the installation of monitoring wells and surface water, ground-water, soil and sediment sampling. The Environmental Assessment was conducted in several phases between 1988 and 1991. The scope of work and results of the activities were detailed in the following two reports prepared by BB&L and submitted to the NYSDEC: "Summary of Site Activities and Quality Assurance Project Plan (QAPP)", dated June 1990, and "Site Investigation Report", dated July 1990.

Based on the results of information collected during these previous site investigations, a Consent Order was issued in July 1993. Among the work activities covered by the Consent Order was preparation of an RI/FS Work Plan. Based on review of data generated during the Environmental Assessment and the scoping efforts, the following five AOCs were investigated during the RI:

1. The former debris landfill area;
2. The former separation ponds (including the east lot);
3. The former chip chute area and drainage ditches;

4. The foundry sand beneath the west parking lot; and

5. The clay drainage pipe and off-site drainage ditch.

A conceptual site model was developed in the RI/FS Work Plan (BB&L, 1993) and included identification of existing data gaps associated with characterization of the AOCs, assessment of background conditions, a hydrogeologic characterization to address non-site related constituents, and an assessment of ground-water and surface water (i.e., drainage ditches) migration pathways. A Risk Assessment addressed exposure pathways and receptors associated with the drainage ditches. RI activities were conducted between November 1993 and April 1994 and a RI Report was issued in July 1994.

One of the recommendations of the RI Report was to complete an IRM to address VOCs discharging from a clay pipe to a surface water ditch along Bleecker Street and the oil skimmer pond overflow to SPDES Outfall 003. This surface water IRM Engineering Report addresses this recommendation of the RI Report.

3.1 General

This section includes a discussion of the information and data that were used to develop the basis of design of the surface water IRM. This information included discharge monitoring data for Outfall 003, sampling results from the RI, and data from the four streams that contribute flow to Outfall 003. As shown on Figure 3, the surface water drainage ditches at the Site include the southern drainage ditch, the chip chute drainage ditch, the eastern drainage ditch, and the drainage ditch parallel to Bleecker Street. Both the southern drainage ditch (which receives drainage from the debris landfill area and the former separation ponds), and the chip chute drainage ditch discharge to the oil skimmer pond. The oil skimmer pond overflow discharges through Outfall 003, which in turn, discharges to the eastern drainage ditch. The eastern drainage ditch converges into the Bleecker Street drainage ditch. The clay pipe discharges to Bleecker Street drainage ditch downstream of the convergence with the eastern drainage ditch.

3.2 Discharge Monitoring Data - Outfall 003

Discharge monitoring data collected by Chicago Pneumatics from Outfall 003 was evaluated between the period of January 1993 through June 1994. This monitoring data included bi-monthly flow measurements and analytical results for those parameters required by the existing SPDES permit. The following VOCs of concern were sampled and analyzed as part of these monitoring requirements:

- Trichloroethene;
- cis-1,2-Dichloroethene;
- trans-1,2-Dichloroethene; and
- Vinyl chloride.

A summary of flows and concentrations recorded at Outfall 003 for the period evaluated is provided in Table 1. The average flow during the period evaluated was approximately 23 gallons per minute (gpm). The six highest recorded flow events for this period were 37 gpm in April 1994, 42 gpm in March 1994, 55 gpm in May 1993, 60 gpm in May 1994, 100 gpm in April 1993, and 300 gpm in November 1993. However, a total of 30 out of 36 flows were below 20 gpm, and six flows were less than 1 gpm.

In evaluating this data, several observations were made. Trichloroethene and cis-1,2-Dichloroethene were present in the highest concentrations in comparison to the other parameters with detected at concentrations of 1.1 and 2.2 milligrams per liter (mg/l), respectively. The highest concentrations of VOCs at Outfall 003 occurred during colder months while the lowest concentrations of VOCs occur during warmer months. There was no relationship observed between flow and concentration of VOCs. Higher flows (i.e., greater than 20 gpm) at Outfall 003 did not occur simultaneously with peak concentrations of VOCs. While high flows tended to occur during the months of March through May due to spring run-off, highest concentrations of VOCs tended to occur during the colder months of November through March. The highest flow of 300 gpm, which occurred during November 1993, is thought to be due to a wet weather sampling event.

3.3 Remedial Investigation Sampling Results

RI activities included sampling and chemical characterization of surface water. VOCs were detected in the surface water samples obtained from the southern drainage ditch; the chip chute drainage ditch; the eastern drainage ditch; and the clay pipe discharge. A summary of these results is provided below:

Location	Flow Rate (gpm)	Concentration (mg/l)	
		Trichloroethene	Total 1,2-Dichloroethene
Southern Drainage Ditch	Stagnant	< 0.005	0.037
Chip Chute Drainage Ditch	Stagnant	5.1	2.2
Eastern Drainage Ditch	7	0.027	0.013

Location	Flow Rate (gpm)	Concentration (mg/l)	
		Trichloroethene	Total 1,2-Dichloroethene
Clay Pipe Discharge	2	7.6	0.5

3.4 Streams that Contribute Flow to Outfall 003

Four streams contribute flow to Outfall 003, including:

- Oil skimmer pond overflow;
- Manufacturing building roof leaders;
- Building floor drains from warehouse to east of manufacturing building; and
- Exterior warehouse loading dock trench drain.

On April 1 and April 8, 1994, Chicago Pneumatic measured flow and sampled these four streams that contribute flow to Outfall 003. The results of these activities are provided on Table 2. As can be seen by the results, the oil skimmer pond overflow was the only source of VOCs to Outfall 003. Trichloroethene and cis-1,2-Dichloroethene were present in the highest concentrations on the April 8, 1994 sampling event at 0.12 and 0.065 mg/l, respectively. During the April 1 and April 8, 1994 sampling events, the flow contribution of the oil skimmer pond overflow relative to other streams that contributed flow to Outfall 003 was 12 percent and 16 percent, respectively.

Since the warehouse at the Chicago Pneumatic facility is relatively new (constructed in the 1970s) and no known sources of VOCs have been found at that location, there is no reason to expect the presence of such compounds in either the floor drains or exterior dock drain as was demonstrated by the April 1994 sampling events. The discharge main connecting the building roof leaders runs directly under the southeast side of the facility where ground water and geoprobe samples have detected concentrations of VOCs in the soil and ground water. However, based upon BB&L's inspection of Chicago Pneumatic manufacturing building plumbing and facility drawings, the roof leader discharge main is buried above the ground water level.

Infiltration of ground water containing VOCs into the discharge main would therefore not be expected as was demonstrated by the April 1994 sampling events.

In order to better understand the sources of flow contributing to Outfall 003 during wet-weather conditions, the Rational Method was employed. The following assumptions were made in applying the Rational Method:

- Drainage area for the oil skimmer pond (which includes the drainage ditches) is approximately 60,000 square feet (assumes drainage ditches collect runoff from an area 50 feet wide);

- Drainage area for the roof drains is approximately 90,000 square feet (200 feet by 450 feet area of the roof);

- Run-off coefficient for the oil skimmer pond drainage area is 0.15 (generally unpaved area);

- Run-off coefficient for the roof drain drainage area is 0.85 (all impervious surfaces); and

- Run-off from warehouse floor drains and loading dock trench drains are insignificant.

Given these assumptions, the total flow to Outfall 003 during wet-weather conditions was calculated to be 89 percent run-off from the roof drains drainage area and 11 percent run-off from the oil skimmer pond drainage area.

4.0 - Interim Remedial Measure Basis of Design

4.1 General

The basis of design for the IRM is based upon the existing site data discussed in Section 3.0. The basis of design for the IRM considers the following three design and operating conditions:

1. High flow operating condition;
2. Normal operating condition; and
3. Long-term average operations.

The design of the air stripper system is governed by flow rate, concentration of the influent and target effluent concentrations. The high flow operating condition represents the maximum design condition while the normal operating condition represents typical design conditions. Both the high flow and normal operating conditions are used as a basis for sizing the air stripper and to evaluate the short-term (hourly) potential air emission impacts. The long-term average operations is used to evaluate the long-term (annual) potential air emission impacts. The basis of design for each of these three conditions is provided on Table 3. Further details regarding the development of flow rates and VOC influent concentrations at each operating condition are described below. The target for treatment of VOCs in the effluent is 0.01 mg/l. These limits are established based on the NYSDEC's Best Available Technology Economically Achievable (BAT) guidance.

4.2 Operating Conditions

4.2.1 High Flow Operating Condition

This subsection summarizes the basis of design for the high flow operating condition at the oil skimmer pond overflow and clay pipe discharge. The basis of design of the treatment system for the

high flow operating condition is equal to the sum of the oil skimmer pond overflow and clay pipe discharge flows or 150 gpm.

The basis of design for the high flow operating condition at the oil skimmer pond overflow is 130 gpm. This 130 gpm is extremely conservative considering:

- This flow rate is greater than all but one (300 gpm in November 1993) of the 36 flow measurements at Outfall 003 from January 1993 to June 1994;

- Based upon the Rational Method calculations which demonstrate that the percentage of flow from the oil skimmer pond overflow is only 11 percent of the wet-weather flow at Outfall 003, the oil skimmer pond flow would have only been approximately 33 gpm during the 300 gpm flow event measured at Outfall 003 in November 1993; and

- The 130 gpm flow rate would accommodate a rainfall event of approximately 1.4 inch per hour which is equivalent to just under a ten-year, one-hour frequency storm.

The basis of design for the high flow operating condition at the clay pipe discharge is 20 gpm. This flow rate is 10 times the estimated flow measured in November 1993 during RI sampling activities.

The basis of design with respect to VOCs for the high flow operating condition is based on the highest historical sampling results as described in Section 3.0. For the oil skimmer pond overflow, the data obtained at Outfall 003 from January 1993 to June 1994 was utilized since these sampling results had higher concentrations and covered a greater time period than those obtained from the oil skimmer pond overflow in April 1994. To be conservative, twice the highest observed concentrations from the six sampling events at a flow rate greater than 20 gpm were utilized. For the clay pipe discharge, the sampling results obtained during the November 1993 RI sampling event were utilized. The basis of

design for the treatment system influent concentrations are the flow weighted concentrations from the oil skimmer pond overflow and clay pipe discharge.

4.2.2 Normal Operating Condition

The basis of design flow rate for the normal operating condition at both the oil skimmer pond overflow and the clay pipe discharge is equal to ½ the high flow operating condition. The basis of design with respect to VOC concentrations at the oil skimmer pond overflow is assumed to be twice the highest historical sampling results observed for flow events of less than 20 gpm at Outfall 003 (i.e., during the thirty sampling events). This basis of design will allow the system to accommodate variations in VOC influent concentrations while still remaining extremely conservative. The basis of design with respect to VOC concentrations for the clay pipe discharge is assumed to be twice the concentrations measured during the November 1993 RI sampling event. Similar to the high flow operating condition, the flow weighted concentrations from the two sources were utilized to calculate the treatment system basis of design influent conditions.

4.2.3 Long-Term Average Operations

The flow and influent concentrations for the long-term average operations will be used for air permitting purposes only. To be conservative, the basis of design for the oil skimmer pond overflow is based upon the average flow and influent concentration for VOCs measured at Outfall 003 observed during the January 1993 to June 1994 monitoring period. The basis of design for the clay pipe discharge is equal to the flow rate and VOC concentrations observed during the November 1993 RI sampling event. Again, the flow weighted concentrations from the oil skimmer pond overflow and clay pipe discharge were utilized to calculate the long-term average treatment system basis of design concentrations.

4.3 Treatment System Design

The surface water IRM treatment system design is described below. A process flow diagram showing treatment system components is included as Figure 2. The major treatment system components are shown on the partial site plan included as Figure 3 and are summarized on Table 4. Additional details on the IRM treatment system are found on the Contract Drawings that are bound separately from this Engineering Report.

4.3.1 Process Description

The IRM treatment system and all equipment controls will be located in the southeast corner of the manufacturing building and will consist of a low-profile air stripper. The low-profile air stripper will treat influent pumped from two manholes which will collect water from the oil skimmer pond overflow and clay pipe discharge. From the low-profile air stripper, treated water will discharge by gravity to the surface water drainage ditch upstream of Outfall 003 on the southeast corner of the Chicago Pneumatics' property. The area around the low-profile air stripper will be contained by a 6-inch curb and will drain into a trench drain/sump. A sump pump will transfer any collected water to the inlet of the low-profile air stripper.

The low-profile air stripper will be designed to treat the high flow and normal operating conditions provided on Table 3. Off-gas from the low-profile air stripper will be discharged to atmosphere through a 26 foot high, 12-inch diameter discharge stack.

An 8-inch diameter pipe will be installed to allow the oil skimmer pond to overflow by gravity into a manhole designated as Pumping Manhole No. 1. The existing oil skimmer overflow pipes leading to Outfall 003 will be removed. Two submersible pumps will be installed in the manhole and will operate on a lead/lag/alternate sequence via level controls. Each of the two pumps will be capable

of pumping the normal operating flow of 65 gpm and will meet the high flow operating conditions of 130 gpm with both pumps running. During normal operating conditions (i.e., 65 gpm), the manhole pumps provide 100% installed backup capacity.

Water from the clay pipe will flow by gravity via an 8-inch diameter pipe into a manhole designated as Manhole No. 2 located just south of Bleecker Street on the north side of the Chicago Pneumatic property. Two submersible pumps will be installed in the manhole and will operate on a lead/lag/alternate sequence via level controls. Each of the two pumps will be capable of pumping the normal operating flow of 10 gpm and will meet the high flow operating condition of 20 gpm with both pumps running. During normal operating conditions (i.e., 10 gpm), the manhole pumps provide 100% installed backup capacity.

4.3.2 Operating Alarms

The IRM treatment system will have an alarm system which will activate an auto-dialer and notify the Chicago Pneumatic Security Office (manned continuously) of certain alarm conditions. These alarm conditions include:

- High, High Level (indicating failure of both pumps) or Low, Low Level (indicating failure of a pump to shut off) at Pumping Manhole No. 1;
- High, High Level (indicating failure of both pumps) or Low, Low Level (indicating failure of a pump to shut off) at Pumping Manhole No. 2;
- High, High Level in the air stripper (indicating a blockage of the discharge line); and
- Loss of air flow to the air stripper (indicating blower failure).

Loss of air flow to the air stripper is a critical operating condition and will shut down all influent pumps to the air stripper. Should this condition occur, an operator will be required to investigate the problem and manually restart the blower and influent pumps. The remaining three alarm conditions will allow the treatment system to remain operational but provide notification of an abnormal operating condition. The Chicago Pneumatic security personnel will be trained to respond appropriately to each alarm condition.

4.3.3 Additional Process Features

The total volume of water treated will be measured by flow meters providing instantaneous and totalizing flow readings. These flow meters will be located on air stripper influent pipeline from the oil skimmer pond, clay pipe, and the sump pump. Sample taps will be provided on all three influent lines and the effluent pipeline.

4.3.4 Future Potential Process Upgrades

The IRM treatment system has been designed with additional treatment capacity which could be utilized for upgrading flow from the oil skimmer pond overflow or clay pipe discharge and/or other future remedial activities at the Site (if necessary). The following design features have been incorporated into the design to accommodate these future process upgrades:

- The air stripper has been designed to operate at a conservative inlet water temperature of 38°F and a conservative inlet air temperature of 50°F. Operating at temperatures greater than these will enhance air stripper performance.

- The maximum hydraulic capacity of the air stripper is 250 gallons per minute.

- An additional flow of 100 gpm at the high flow operating design concentrations of 1.9 mg/l for trichloroethylene, 0.34 mg/l for cis-1,2-dichloroethylene, 0.1 mg/l for trans-1,2-dichloroethylene, and 0.02 mg/l for vinyl chloride can be added to the treatment system influent and the target effluent concentrations of 0.01 mg/l would still be met for all four parameters.

- The flow from the two existing pumping manholes can be increased by 50% by merely upgrading the submersible pumps.

- A review of the available data on inorganic parameters has indicated that pretreatment is not required. However, the treatment system has been designed in such a manner that retrofitting for inorganic pretreatment, if necessary, can be easily accomplished.

- The air stripper effluent pipeline has been sized at 8-inch diameter to accommodate a discharge of 250 gpm.

- The transfer line inside of the manufacturing building from the clay pipe has been sized at 3-inch diameter to accommodate additional influent streams from the north side of the Chicago Pneumatic property (if necessary).

4.4 Implementation of the Interim Remedial Measure

In parallel with this IRM Engineering Report, the following documents are being submitted to the NYSDEC:

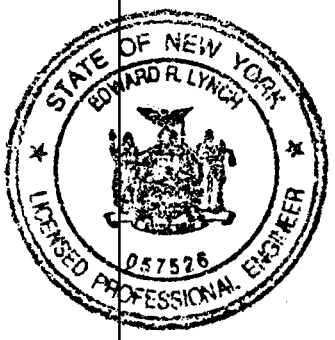
- Contract Drawings;
- Air Permit Application to Construct; and
- SPDES Permit Modification Application.

Approval by NYSDEC of all four submittals will be necessary to implement the IRM.

The current schedule for the start up of the IRM is December 1994. In order to achieve this goal, preliminary approval by NYSDEC of the submittals by mid- to late-October 1994 is required. At that time, the air stripper will be placed on order and all exterior work will be completed prior to the onset of winter weather conditions. At the conclusion of construction, an Engineering Certification Report, certified by a professional engineer licensed to practice in New York State, will be prepared to certify that all facilities were constructed in accordance with this IRM Engineering Report and the Contract Drawings.

Respectfully submitted,

BLASLAND, BOUCK & LEE, INC.



Edward R. Lynch, P.E.
Executive Vice President

TABLE 1

CHICAGO PNEUMATIC TOOL COMPANY
FRANKFORT, NEW YORK

SURFACE WATER INTERIM REMEDIAL MEASURE
DISCHARGE MONITORING DATA AT OUTFALL 003

Time	Flow (gpm)	Trichloroethene (mg/l)	cis-1,2-Dichloroethene (mg/l)	trans-1,2-Dichloroethene (mg/l)	Vinyl Chloride (mg/l)
1993					
January	15 15	0.44 0.27	0.15 0.62	<0.02 <0.02	<0.02 <0.02
February	4 4	2.2 1.8	1 1.1	<0.05 <0.05	<0.05 <0.05
March	4 10	2 1.7	0.85 0.44	<0.05 <0.05	<0.05 <0.05
April	100 6	0.2 0.21	0.064 0.097	<0.01 <0.01	<0.01 <0.01
May	13 55	0.011 0.005	0.038 0.01	<0.005 <0.005	<0.005 <0.005
June	0.6 4	0.008 0.026	0.016 0.082	<0.005 <0.001	<0.005 0.007
July	0.2 No Flow	<0.005 --	<0.005 --	<0.005 --	<0.005 --
August	No Flow No Flow	-- --	-- --	-- --	-- --
September	0.3 1	0.011 <0.001	0.022 0.008	<0.001 <0.001	<0.001 <0.001
October	3 12	0.016 0.026	0.039 0.065	<0.001 <0.005	<0.004 <0.005
November	300 5	0.29 0.99	0.16 0.34	<0.01 <0.05	0.013 <0.05
December	8 10	0.031 0.7	0.02 0.21	<0.001 <0.02	<0.001 <0.02
1994					
January	20 5	0.51 0.22	0.36 0.71	<0.02 <0.02	<0.02 0.035
February	5 5	0.63 --	0.5 --	<0.02 --	<0.02 --
March	42 2	0.5 0.67	0.14 0.18	<0.02 <0.05	<0.02 <0.05
April	10 37	0.01 0.1	0.026 0.058	<0.005 0.005	<0.005 0.005

TABLE 1
(Cont'd)
CHICAGO PNEUMATIC TOOL COMPANY
FRANKFORT, NEW YORK

SURFACE WATER INTERIM REMEDIAL MEASURE
DISCHARGE MONITORING DATA AT OUTFALL 003

Time	Flow (gpm)	Trichloroethene (mg/l)	cis-1,2-Dichloroethene (mg/l)	trans-1,2-Dichloroethene (mg/l)	Vinyl Chloride (mg/l)
May	19	0.11	0.15	<0.01	<0.01
	60	0.059	0.071	<0.01	<0.01
June	3.8	<0.001	0.012	<0.001	0.004
	0.3	<0.001	0.002	<0.001	<0.001

Notes:

1. Data provided by Chicago Pneumatic Tool Company.
2. gpm = gallons per minute.
3. mg/l = milligrams per liter.

TABLE 2

CHICAGO PNEUMATIC TOOL COMPANY
FRANKFORT, NEW YORK

SURFACE WATER INTERIM REMEDIAL MEASURE
INVESTIGATION OF STREAMS THAT CONTRIBUTE FLOW TO OUTFALL 003

Parameter	Oil Skimmer Pond Overflow		Manufacturing Building Roof Leader		Warehouse Floor Drains		Warehouse Exterior Loading Dock Trench Drains	
	4/1/94	4/8/94	4/1/94	4/8/94	4/1/94	4/8/94	4/1/94	4/8/94
Flow (gpm)	2	2	2	10	No Flow	No Flow	12	No Flow
Trichloroethene (mg/l)	0.005	0.120	<0.001	<0.005	--	--	<0.001	--
cis-1,2-Dichloroethene (mg/l)	0.031	0.068	<0.001	<0.005	--	--	<0.001	--
trans-1,2-Dichloroethene (mg/l)	<0.001	<0.005	<0.001	<0.005	--	--	<0.001	--
Vinyl chloride (mg/l)	0.003	<0.005	<0.001	<0.005	--	--	<0.001	--

Notes:

1. Data provided by Chicago Pneumatic Tool Company.
2. gpm = gallons per minute.
3. mg/l = milligrams per liter.

TABLE 3

CHICAGO PNEUMATIC TOOL COMPANY
FRANKFORT, NEW YORK

SURFACE WATER INTERIM REMEDIAL MEASURE
BASIS OF DESIGN

Parameter	Concentration (mg/l)			Target Effluent Concentration (mg/l)
	Oil Skimmer Pond	Clay Pipe	Treatment System Influent	
High Flow Operating Conditions				
Flow (gpm)	130	20	150	--
Trichloroethylene	1.0	7.6	1.9	<0.010
cis-1,2-Dichloroethylene	0.32	0.5	0.34	<0.010
trans-1,2-Dichloroethylene	<0.04	0.5	0.1	<0.010
Vinyl chloride	0.026	<0.01	0.02	<0.010
Normal Operating Conditions				
Flow (gpm)	65	10	75	--
Trichloroethylene	4.4	15.2	5.8	<0.010
cis-1,2-Dichloroethylene	2.2	1.0	2.0	<0.010
trans-1,2-Dichloroethylene	<0.04	1.0	0.2	<0.010
Vinyl chloride	0.07	<0.01	0.06	<0.010
Long-Term Average Operations				
Flow (gpm)	23	2	25	--
Trichloroethylene	0.28	7.6	0.87	<0.010
cis-1,2-Dichloroethylene	0.09	0.5	0.12	<0.010
trans-1,2-Dichloroethylene	0.01	0.5	0.05	<0.010
Vinyl chloride	0.01	<0.01	0.01	<0.010

Notes:

1. gpm = gallons per minute.
2. mg/l = milligrams per liter.

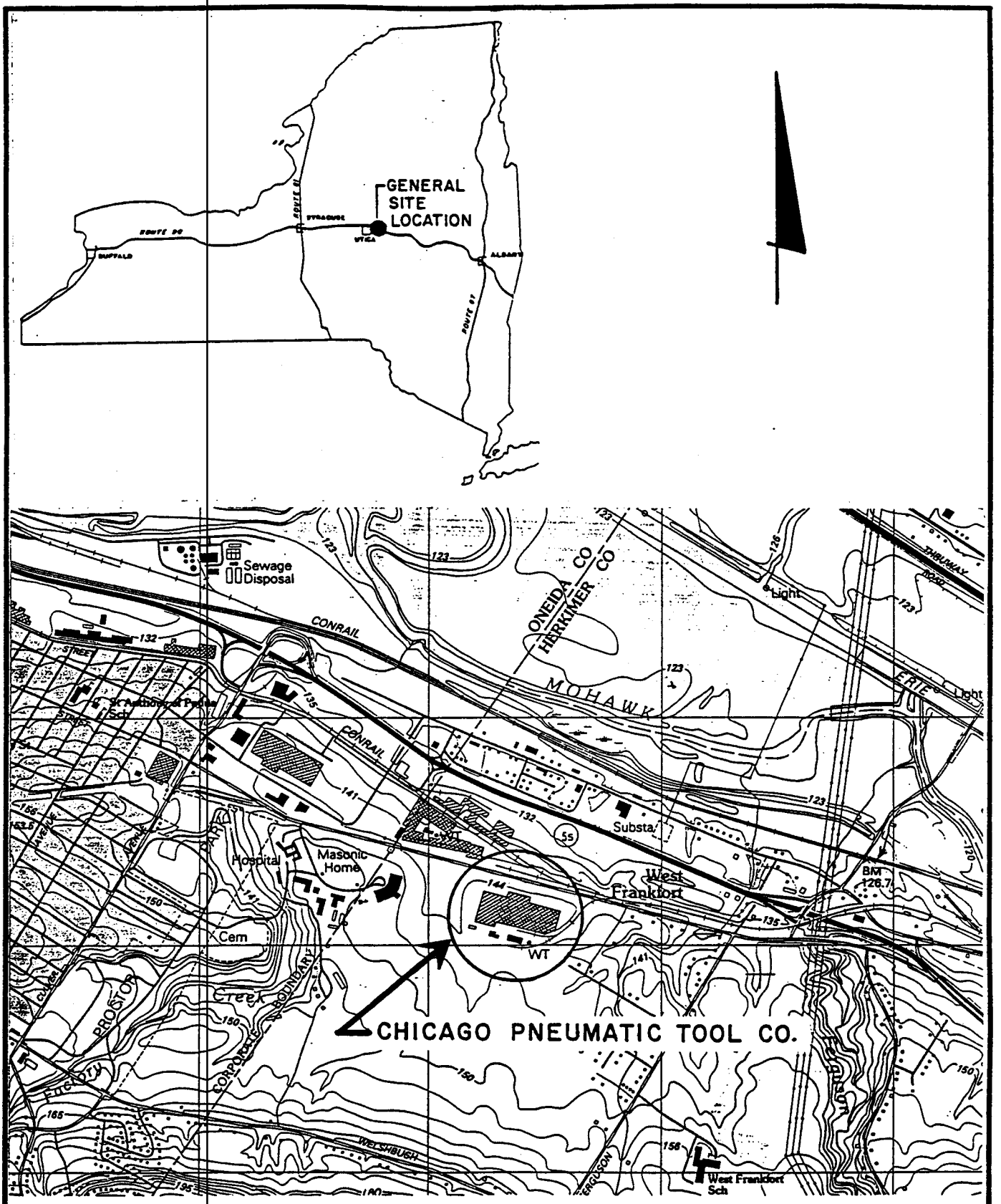
TABLE 4

CHICAGO PNEUMATIC TOOL COMPANY
FRANKFORT, NEW YORK

SURFACE WATER INTERIM REMEDIAL MEASURE
TREATMENT SYSTEM EQUIPMENT SUMMARY

Quantity	Description	Specifications
1	Low-Profile Air Stripper	ShallowTray Model 31241 with one 20 HP blower capable of providing 1,800 cubic feet per minute of air at 32 inches of water column and 4 stainless steel trays. Air to water ratio at design water flow rate of 150 gallons per minute (gpm) is 90:1.
2	Pumping Manhole No. 1 Pumps	Myers Model ME75 capable of 65 gpm at 28 feet of head.
2	Pumping Manhole No. 2 Pumps	Myers Model ME50 capable of 10 gpm at 43 feet of head.
3	Flow Meters	Signet analog flow meter which displays flow rate and totalized flow volume.

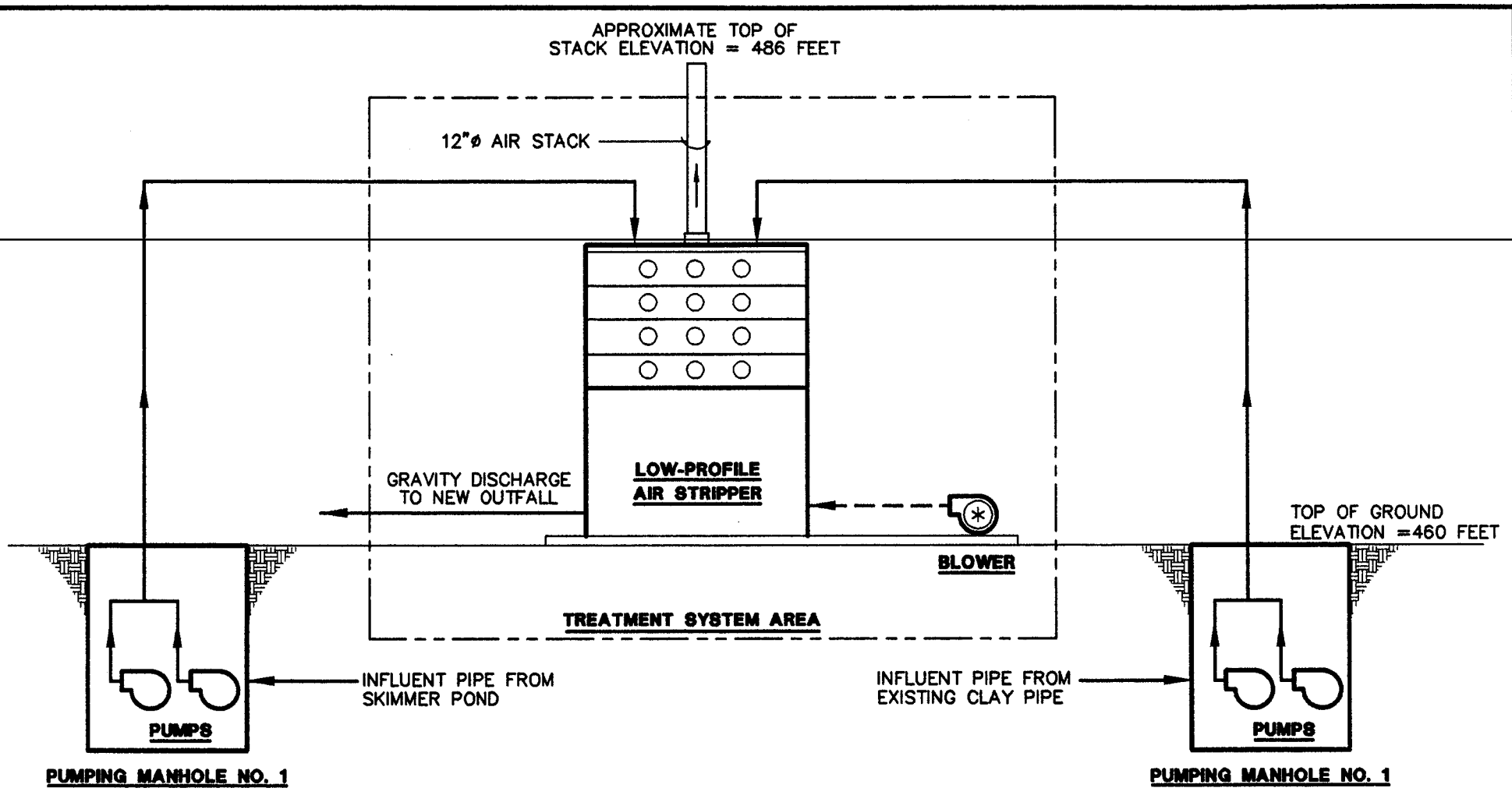
FIGURE 1



SITE LOCATION MAP

SEPT. 1994
307.08.01 I

BLASLAND, BOUCK & LEE, INC.
ENGINEERS & SCIENTISTS



LEGEND

——— GROUND–WATER FLOW

– – – AIR FLOW

BLASLAND, BOUCK & LEE, INC.

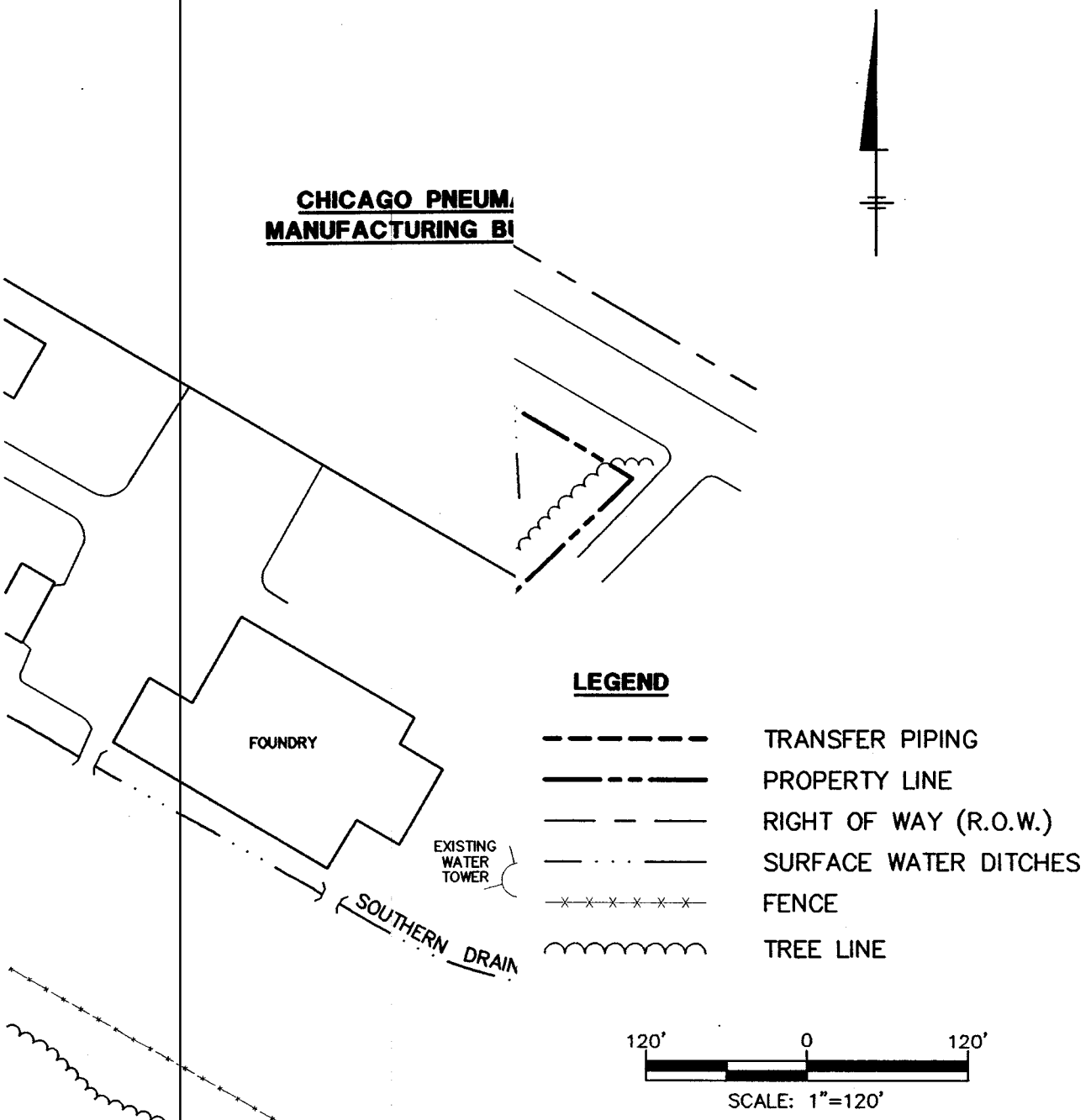
ENGINEERS & SCIENTISTS

CHICAGO PNEUMATIC TOOL COMPANY
FRANKFORT, NEW YORK

SURFACE WATER INTERIM REMEADIAL MEASURE

PROCESS FLOW DIAGRAM | FIGURE **2**

OPTIONAL L: OR X:
10/94 54-JLG
30708044\30708F01.DWG



BLASLAND, BOUCK & LEE, INC.
ENGINEERS & SCIENTISTS

CHICAGO PNEUMATIC TOOL COMPANY
FRANKFORT, NEW YORK

SURFACE WATER INTERIM REMEADIAL MEASURE

PARTIAL SITE PLAN

FIGURE **3**

LA FRZ: 1-*, OFF: REF
9/94 54-JLG
30708044/30708G02.DWG

14-16-4 (2/87)—Text 12

PROJECT I.D. NUMBER

617.21
Appendix C
State Environmental Quality Review

SEQR

SHORT ENVIRONMENTAL ASSESSMENT FORM

For UNLISTED ACTIONS Only

PART I—PROJECT INFORMATION (To be completed by Applicant or Project sponsor)

1. APPLICANT /SPONSOR
Chicago Pneumatic Tool Company

2. PROJECT NAME
Surface Water Interim Remedial Measure

3. PROJECT LOCATION:
Municipality Frankfort Township County Herkimer

4. PRECISE LOCATION (Street address and road intersections, prominent landmarks, etc., or provide map)

2200 Bleecker Street
Utica, New York 13501

5. IS PROPOSED ACTION:
☒ New ☐ Expansion ☐ Modification/alteration

6. DESCRIBE PROJECT BRIEFLY:

Surface water treatment system consisting of a low-profile air stripper.

7. AMOUNT OF LAND AFFECTED:
Initially < 1 acres Ultimately < 1 acres

8. WILL PROPOSED ACTION COMPLY WITH EXISTING ZONING OR OTHER EXISTING LAND USE RESTRICTIONS?
☒ Yes ☐ No If No, describe briefly

9. WHAT IS PRESENT LAND USE IN VICINITY OF PROJECT?
☐ Residential ☒ Industrial ☐ Commercial ☐ Agriculture ☐ Park/Forest/Open space ☐ Other
Describe:

10. DOES ACTION INVOLVE A PERMIT APPROVAL, OR FUNDING, NOW OR ULTIMATELY FROM ANY OTHER GOVERNMENTAL AGENCY (FEDERAL, STATE OR LOCAL)?
☒ Yes ☐ No If yes, list agency(s) and permit/approvals

Air Permit to Construct and Operate
SPDES Permit Modification

11. DOES ANY ASPECT OF THE ACTION HAVE A CURRENTLY VALID PERMIT OR APPROVAL?
☒ Yes ☐ No If yes, list agency name and permit/approval

Existing SPDES Permit No. NY 0108537 - NYSDEC

12. AS A RESULT OF PROPOSED ACTION WILL EXISTING PERMIT/APPROVAL REQUIRE MODIFICATION?
☒ Yes ☐ No

I CERTIFY THAT THE INFORMATION PROVIDED ABOVE IS TRUE TO THE BEST OF MY KNOWLEDGE

Applicant/sponsor name: David L. Rosbrook, Senior Vice President Date: 12 Oct 94

Signature: David L Rosbrook

If the action is in the Coastal Area, and you are a state agency, complete the Coastal Assessment Form before proceeding with this assessment

OVER

Chicago Pneumatic Tool Company
Frankfort, New York
Surface Water Interim Remedial Measure

Attachment 1

Assumptions

1. The surface water Interim Remedial Measure consists of two influent surface water sources, the oil skimmer pond and the clay pipe, that collect into two manholes and are pumped via level control to a low-profile air stripper. The flow into the manholes will vary widely so the following two short-term (hourly) and one long-term (annual) design conditions were developed:

Short-Term Design Condition

- High flow; and
- Normal flow.

Long-Term Design Condition

- Average flow.

The high flow design condition is 150 gallons per minute (gpm) which represents the maximum capacity of the pumps used to transfer water from the manholes to the low-profile air stripper. Under the normal flow design condition, water accumulates into the two pumping manholes at a flow rate of up to 75 gpm until pumps are started to transfer water to the low-profile air stripper. The average flow design condition of 25 gpm represents the average condition anticipated over a full year of operation. The development of these flow rates and the associated chemical concentrations is described in detail in an Engineering Report for this project. The high flow and normal flow design conditions will be used to evaluate the short-term (hourly) ambient air quality impacts while the average flow design condition will be used to evaluate the long-term (annual) ambient air quality impacts. These three design conditions and the resultant air emission mass loadings are summarized below.

Short-Term Air Emissions

High Flow Design Conditions

Parameter	Concentration [milligrams per liter (mg/l)]			Hourly Mass Loading [pounds per hour (lbs/hour)]
	Oil Skimmer Pond	Clay Pipe	Treatment System Influent	
Flow [gallons per minute (gpm)]	130	20	150	--
Trichloroethylene (TCE)	1.0	7.6	1.9	0.1427
cis-1,2-Dichloroethylene (cis-1,2-DCE)	0.32	0.5	0.34	0.0255
trans-1,2-Dichloroethylene (trans-1,2-DCE)	<0.04	0.5	0.1	0.0075
Vinyl chloride (VC)	0.026	<0.01	0.02	0.0015

Normal Flow Design Conditions

Parameter	Concentration (mg/l)			Hourly Mass Loading (lbs/hour)
	Oil Skimmer Pond	Clay Pipe	Treatment System Influent	
Flow (gpm)	65	10	75	--
TCE	4.4	15.2	5.8	0.2178
cis-1,2-DCE	2.2	1.0	2.0	0.0751
trans-1,2-DCE	<0.04	1.0	0.2	0.0075
VC	0.07	<0.01	0.06	0.0023

Long-Term Air Emissions

Average Flow Design Conditions

Parameter	Concentration (mg/l)			Mass Loading	
	Oil Skimmer Pond	Clay Pipe	Treatment System Influent	Hourly (lbs/hour)	Annual (lbs/year)
Flow (gpm)	23	2	25	--	--
TCE	0.28	7.6	0.87	0.0109	95.4
cis-1,2-DCE	0.09	0.5	0.12	0.0015	13.2
trans-1,2-DCE	0.01	0.5	0.05	0.0006	5.5
VC	0.01	<0.01	0.01	0.0001	1.1

2. Ambient air quality input screening analysis conducted in accordance with the revised Appendix B of NYSDEC's Air Guide - 1, dated April 12, 1994. Short-Term Guideline Concentrations (SGCs) and Annual Guideline Concentrations (AGCs) for each parameter were taken from the 1991 edition of NYSDEC's Draft Air Guide - 1.

3. Air stripper removal efficiency is 100 percent for all parameters.

4. Operating period is 24 hours per day and 365 days per year.

5. Proposed stack height (h_s) is 26 feet.

6. Building height (h_b) is 17 feet.

7. Shortest distance to the closest property line (D_{PI}) is 400 feet.

8. Exit temperature at stack is ambient (assume 72°F).

Calculations

1. Since the horizontal extent of building cavity 3 h_b = 51 feet (where h_b = 17 feet) is less than the shortest distance to the closest property line D_{PI} = 400 feet, then cavity impacts are confined to on-site receptors and the building cavity impacts do not need to be calculated.

2. Effective Stack Height

   Since the stack exit temperature is at ambient conditions, a plume rise will not be calculated. Therefore, the effective stack height (h_e) is equal to the actual stack height (h_s) of 26 feet. However, since the ratio of the stack height to the building height (h_s/h_b) or 26/17 = 1.53 is greater than 1.5, but less than 2.5, all calculated impacts will be reduced by a factor of 0.75.

3. Maximum Actual Annual Impact (C_a)

   C_a [micrograms per cubic meter ($\mu g/m^3$)] = $\frac{(0.75)(6.0)(Q_a)}{h_e^{2.25}}$ [Equation III.A.2.]

   Q_a (TCE) = 95.4 lbs/year
   Q_a (cis-1,2-DCE) = 13.2 lbs/year
   Q_a (trans-1,2-DCE) = 5.5 lbs/year
   Q_a (VC) = 1.1 lbs/year
   h_e = 26 feet

   C_a (TCE) = 0.28 $\mu g/m^3$
   C_a (cis-1,2-DCE) = 0.039 $\mu g/m^3$
   C_a (trans-1,2-DCE) = 0.016 $\mu g/m^3$
   C_a (VC) = 0.003 $\mu g/m^3$

4. Maximum Short-Term Impacts (C_{ST})

   C_{ST} ($\mu g/m^3$) = $\frac{(0.75)(65)(52{,}500)(Q)}{h_e^{2.25}}$ [Equations III A.3 and III.A.5]

   High Flow Design Conditions

   Q (TCE) = 0.1427 lbs/hour
   Q (cis-1,2-DCE) = 0.0255 lbs/hour
   Q (trans-1,2-DCE) = 0.0075 lbs/hour
   Q (VC) = 0.0015 lbs/hour
   h_e = 26 ft

   C_{ST} (TCE) = 239 $\mu g/m^3$
   C_{ST} (cis-1,2-DCE) = 43 $\mu g/m^3$
   C_{ST} (trans-1,2-DCE) = 13 $\mu g/m^3$
   C_{ST} (VC) = 3 $\mu g/m^3$

   Normal Flow Design Conditions

   Q (TCE) = 0.2178 lbs/hour
   Q (cis-1,2-DCE) = 0.0751 lbs/hour
   Q (trans-1,2-DCE) = 0.0075 lbs/hour
   Q (VC) = 0.0023 lbs/hour
   h_e = 26 ft

   C_{ST} (TCE) = 365 $\mu g/m^3$
   C_{ST} (cis-1,2-DCE) = 126 $\mu g/m^3$
   C_{ST} (trans-1,2-DCE) = 13 $\mu g/m^3$
   C_{ST} (VC) = 4 $\mu g/m^3$

5. Comparison of Annual and Short-Term Impacts

Annual Impacts

Parameter	AGC ($\mu g/m^3$)	C_a ($\mu g/m^3$)
TCE	0.45	0.28
cis-1,2-DCE	1,900	0.039
trans-1,2-DCE	360	0.016
VC	0.02	0.003

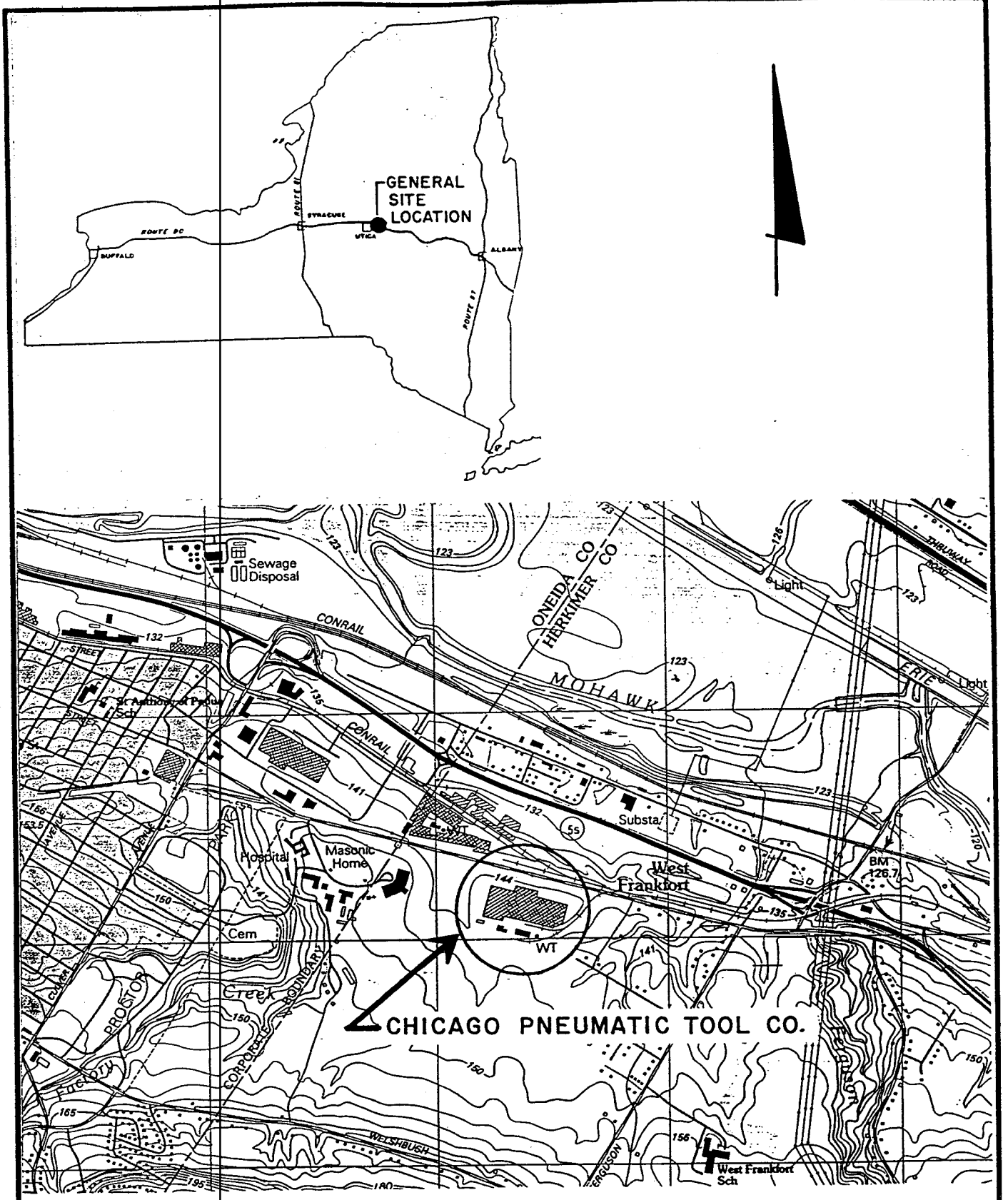
Short-Term Impacts

Parameter	SGC ($\mu g/m^3$)	High Flow Design Conditions	Normal Flow Design Conditions
		C_{ST} ($\mu g/m^3$)	C_{ST} ($\mu g/m^3$)
TCE	33,000	239	365
cis-1,2-DCE	190,000	43	126
trans-1,2-DCE	190,000	13	13
VC	1,300	3	4

6. Assessment of Comparison

The C_a and C_{ST} for all parameters are less than the respective AGCs and SGCs, therefore, no emissions controls are required.

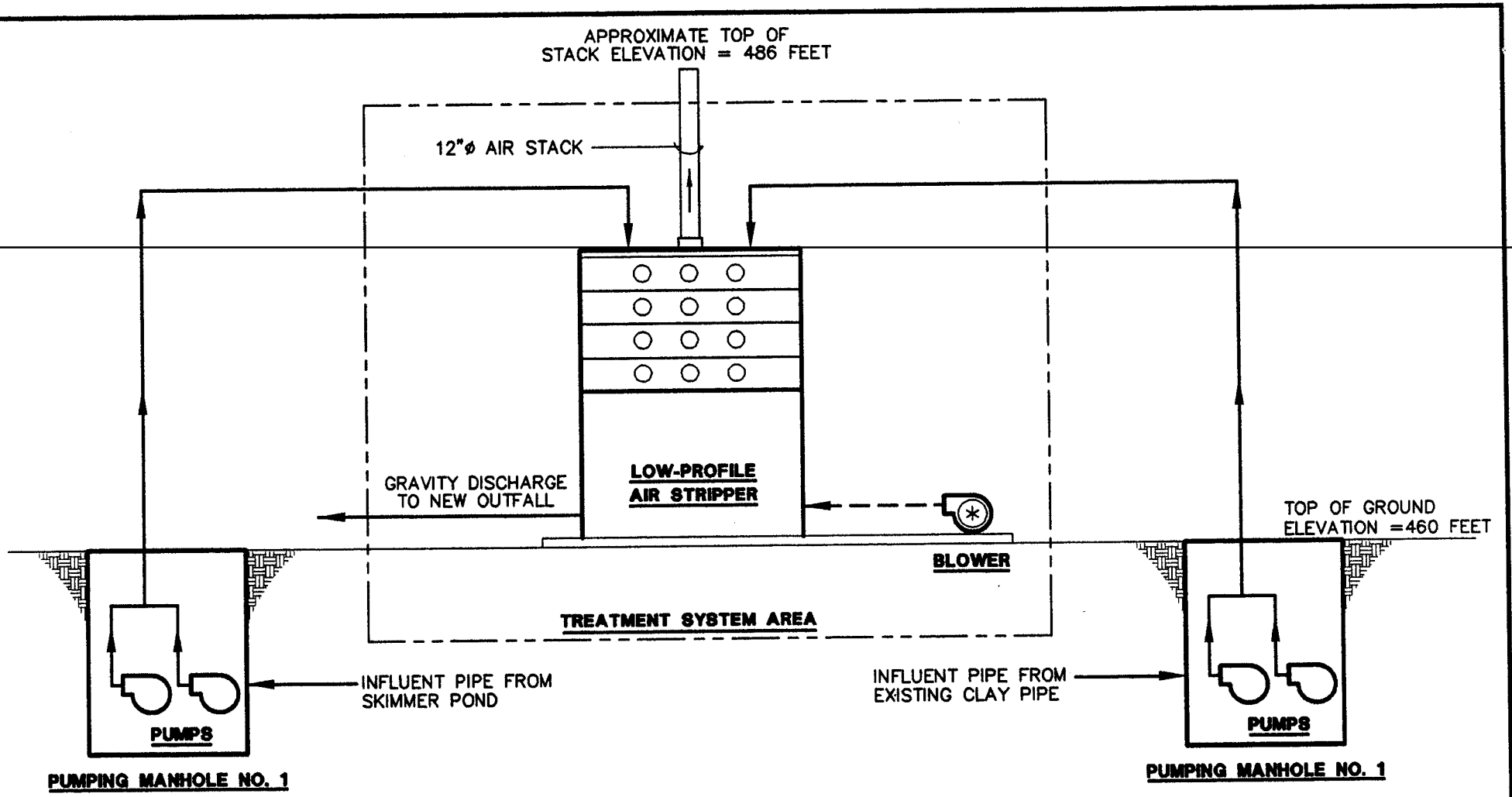
FIGURE 1



SITE LOCATION MAP

SEPT. 1994
307.08.011

BLASLAND, BOUCK & LEE, INC.
ENGINEERS & SCIENTISTS



LEGEND

——— GROUND–WATER FLOW

– – – AIR FLOW

BLASLAND, BOUCK & LEE, INC.

ENGINEERS & SCIENTISTS

CHICAGO PNEUMATIC TOOL COMPANY
FRANKFORT, NEW YORK

SURFACE WATER INTERIM REMEADIAL MEASURE

PROCESS FLOW DIAGRAM | FIGURE **2**

OPTIONAL L: OR X:
10/94 54-JLG
30708044\30708F01.DWG

OFFICE

PARKING AREA

CHICAGO PNEUMATIC MANUFACTURING BUILDING

PUMPING MANHOLE NO. 2

100'-0" R.O.W.

BLEECKER STREET

APPROXIMATE LOCATION OF EXISTING CLAY PIPE

8"ø PVC PIPE

1-1/2"ø HDPE INFLUENT PIPE WITHIN 3"ø HDPE SECONDARY CONTAINMENT PIPE

PARKING AREA

3"ø HDPE INFLUENT PIPE TO TREATMENT SYSTEM

12"ø AIR STACK

TREATMENT SYSTEM LOCATION

CHIP CHUTE DRAINAGE DITCH

EASTERN DRAINAGE DITCH

FOUNDRY

PUMPING MANHOLE NO. 1

8"ø PVC PIPE

4"ø HDPE INFLUENT PIPE WITHIN 8"ø HDPE SECONDARY CONTAINMENT PIPE

EXISTING WATER TOWER

8"ø PVC (GRAVITY DISCHARGE) EFFLUENT PIPE TO NEW OUTFALL

SOUTHERN DRAINAGE DITCH

SPDES OUTFALL 003

400'-0"

SKIMMER POND

LEGEND

- TRANSFER PIPING
- PROPERTY LINE
- RIGHT OF WAY (R.O.W.)
- SURFACE WATER DITCHES
- FENCE
- TREE LINE

120' 0 120'

SCALE: 1"=120'

LA FRZ: 1-=, OFF: REF
9/94 54-JLG
30708044/30708G02.DWG

BLASLAND, BOUCK & LEE, INC.
ENGINEERS & SCIENTISTS

CHICAGO PNEUMATIC TOOL COMPANY
FRANKFORT, NEW YORK

SURFACE WATER INTERIM REMEADIAL MEASURE

PARTIAL SITE PLAN

FIGURE **3**

Please print or type in the unshaded areas only
(fill—in areas are spaced for elite type, i.e., 12 characters/inch).

Form Approved. OMB No. 2040-0086 Approval expires 7-31-88

FORM 1 GENERAL

EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY

GENERAL INFORMATION

Consolidated Permits Program

(Read the "General Instructions" before starting.)

I. EPA I.D. NUMBER

F N Y D 0 0 2 2 3 0 9 7 7 | | D

LABEL ITEMS

I. EPA I.D. NUMBER

III. FACILITY NAME

V. FACILITY MAILING ADDRESS

VI. FACILITY LOCATION

PLEASE PLACE LABEL IN THIS SPACE

GENERAL INSTRUCTIONS

If a preprinted label has been provided, affix it in the designated space. Review the information carefully; if any of it is incorrect, cross through it and enter the correct data in the appropriate fill—in area below. Also, if any of the preprinted data is absent *(the area to the left of the label space lists the information that should appear)*, please provide it in the proper fill—in area*(s)* below. If the label is complete and correct, you need not complete Items I, III, V, and VI *(except VI-B which must be completed regardless)*. Complete all items if no label has been provided. Refer to the instructions for detailed item descriptions and for the legal authorizations under which this data is collected.

II. POLLUTANT CHARACTERISTICS

INSTRUCTIONS: Complete A through J to determine whether you need to submit any permit application forms to the EPA. If you answer "yes" to any questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the box in the third column if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activity is excluded from permit requirements; see Section C of the instructions. See also, Section D of the instructions for definitions of bold—faced terms.

SPECIFIC QUESTIONS	MARK 'X' YES	NO	FORM ATTACHED
A. Is this facility a **publicly owned treatment works** which results in a **discharge** to **waters of the U.S.**? (FORM 2A)		X	
B. Does or will this facility *(either existing or proposed)* include a **concentrated animal feeding operation** or **aquatic animal production facility** which results in a **discharge** to **waters of the U.S.**? (FORM 2B)		X	
C. Is this a facility which currently results in **discharges** to **waters of the U.S.** other than those described in A or B above? (FORM 2C)	X		
D. Is this a proposed facility *(other than those described in A or B above)* which will result in a **discharge** to **waters of the U.S.**? (FORM 2D)	X		X
E. Does or will this facility treat, store, or dispose of **hazardous wastes**? (FORM 3)		X	
F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing, within one quarter mile of the well bore, underground sources of drinking water? (FORM 4)		X	
G. Do you or will you inject at this facility any produced water or other fluids which are brought to the surface in connection with conventional oil or natural gas production, inject fluids used for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid hydrocarbons? (FORM 4)		X	
H. Do you or will you inject at this facility fluids for special processes such as mining of sulfur by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy? (FORM 4)		X	
I. Is this facility a proposed **stationary source** which is one of the 28 industrial categories listed in the instructions and which will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an **attainment area**? (FORM 5)		X	
J. Is this facility a proposed **stationary source** which is NOT one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an **attainment area**? (FORM 5)		X	

III. NAME OF FACILITY

1 SKIP: CHICAGO PNEUMATIC TOOL COMPANY

IV. FACILITY CONTACT

A. NAME & TITLE *(last, first, & title)*	B. PHONE *(area code & no.)*
2 VISCOSI CARMEN PLANT ENG	315 792 2727

V. FACILITY MAILING ADDRESS

A. STREET OR P.O. BOX			
3 2200 BLEECKER STREET			
B. CITY OR TOWN	**C. STATE**	**D. ZIP CODE**	
4 UTICA	NY	13501	

VI. FACILITY LOCATION

A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER			
5 2200 BLEECKER STREET			
B. COUNTY NAME			
HERKIMER			
C. CITY OR TOWN	**D. STATE**	**E. ZIP CODE**	**F. COUNTY CODE** *(if known)*
6 FRANKFORT TOWNSHIP	NY	13501	

CONTINUE ON REVERSE

Please type or print in the unshaded areas only

EPA ID Number *(copy from Item 1 of Form 1)*
NYD 002230977

Form Approved
OMB No. 2040-0086
Approval expires 7-31-88

Form 2D NPDES

EPA

New Sources and New Dischargers Application for Permit to Discharge Process Wastewater

I. Outfall Location

For each outfall, list the latitude and longitude, and the name of the receiving water.

Outfall Number *(list)*	Latitude			Longitude			Receiving Water *(name)*
	Deg	Min	Sec	Deg	Min	Sec	
03A	43	05	11	75	10	55	Unnamed tributary of Mohawk River.

II. Discharge Date *(When do you expect to begin discharging?)*

December 1, 1994

III. Flows, Sources of Pollution, and Treatment Technologies

A. For each outfall, provide a description of (1) All operations contributing wastewater to the effluent, including process wastewater, sanitary wastewater, cooling water, and stormwater runoff; (2) The average flow contributed by each operation; and (3) The treatment received by the wastewater. Continue on additional sheets if necessary.

Outfall Number	1. Operations Contributing Flow *(list)*	2. Average Flow *(include units)*	3. Treatment *(Description or List Codes from Table 2D-1)*
03A	Ground-water from "clay pipe" at north side of property	2,880 gpd	Low-profile air stripper
03A	Oil skimmer pond overflow	33,120 gpd	Low-profile air stripper
	TOTAL	36,000 gpd	

CONTINUED FROM THE FRONT	EPA ID Number *(copy from Item 1 of Form 1)* NYD 002230977	Outfall Number 03A

V. Effluent Characteristics

A, and B: These items require you to report estimated amounts *(both concentration and mass)* of the pollutants to be discharged from each of your outfalls. Each part of this item addresses a different set of pollutants and should be completed in accordance with the specific instructions for that part. Data for each outfall should be on a separate page. Attach additional sheets of paper if necessary.

General Instructions *(See table 2D-2 for Pollutants)*

Each part of this item requests you to provide an estimated daily maximum and average for certain pollutants and the source of information. Data for all pollutants in Group A, for all outfalls, must be submitted unless waived by the permitting authority. For all outfalls, data for pollutants in Group B should be reported only for pollutants which you believe will be present or are limited directly by an effluent limitations guideline or NSPS or indirectly through limitations on an indicator pollutant.

1. Pollutant	2. Maximum Daily Value *(include units)*	3. Average Daily Value *(include units)*	4. Source *(see instructions)*
Flow	216,000 gpd	36,000 gpd	1 (Engineering Study)
Trichlorethylene	1.9 mg/l	0.87 mg/l	1 (Engineering Study)
	3.4 #/d	0.26 #/d	1 (Engineering Study)
Cis-1,2-dichloroethylene	0.34 mg/l	0.12 mg/l	1 (Engineering Study)
	0.61 #/d	0.036 #/d	1 (Engineering Study)
trans-1,2-dichloroethylene	0.1 mg/l	0.05 mg/l	1 (Engineering Study)
	0.18 #/d	0.015 #/d	1 (Engineering Study)
Vinyl Chloride	0.02 mg/l	0.01 mg/l	1 (Engineering Study)
	0.036 #/d	0.003 #/d	1 (Engineering Study)
A waiver is requested for all			
additional parameters since the			
two sources currently discharge			
to surface water and the proposed			
treatment system is not designed			
to treat any other parameter beyond			
those listed above.			

CONTINUE ON REVERSE

EPA ID Number *(copy from item one of Form 1)*
NYD 002230977

VII. Other Information *(Optional)*

Use the space below to expand upon any of the above questions or to bring to the attention of the reviewer any other information you feel should be considered in establishing permit limitations for the proposed facility. Attach additional sheets if necessary.

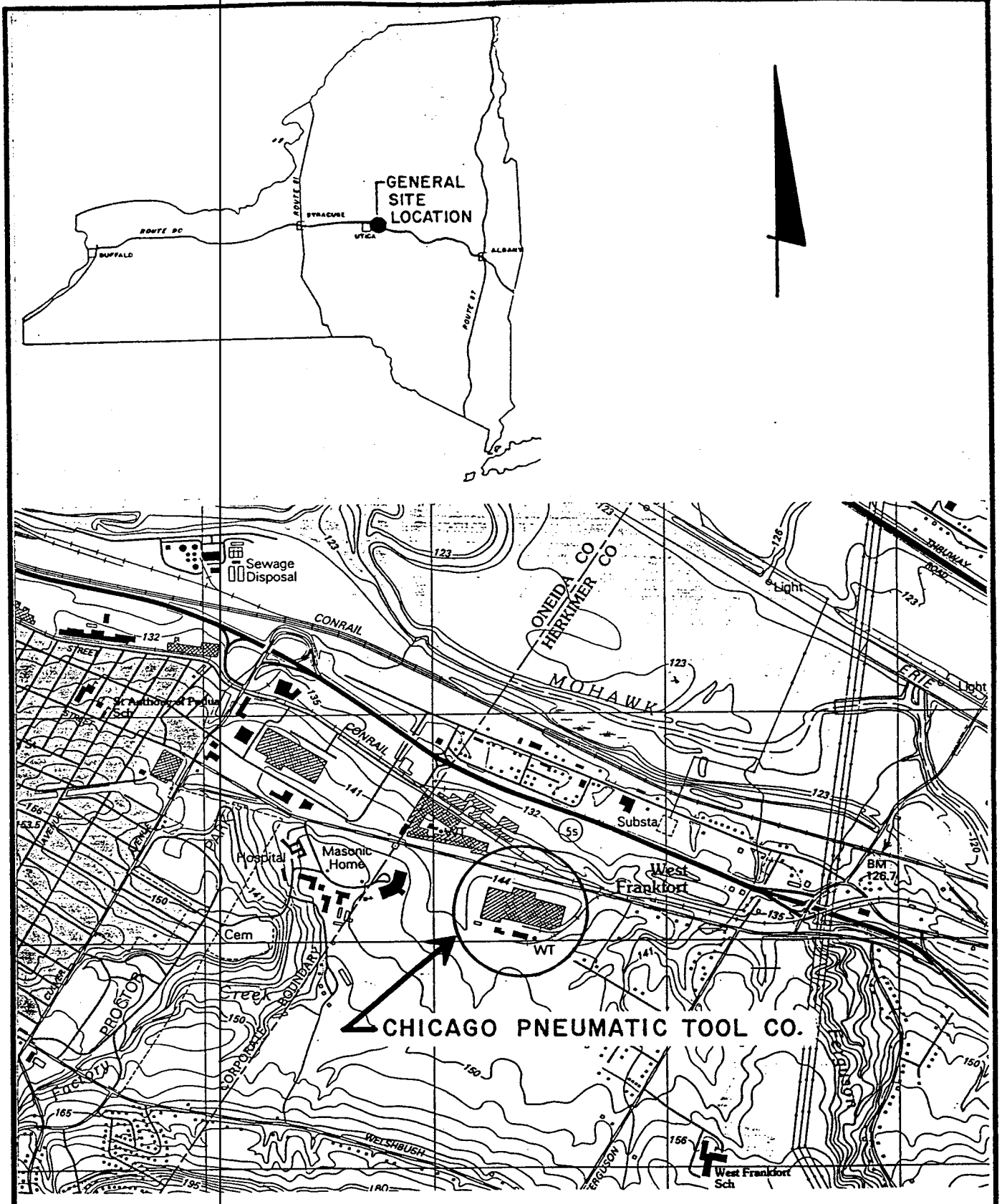
The permit limitations for Oufall 03A should be established based on the New York State Department of Environmental Conservation Division of Water Best Available Technology Economically Achievable (BAT) Guidance.

VIII. Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

A. Name and Official Title *(type or print)*	B. Phone No.
David L. Rosbrook, Senior Vice President	(315) 792-2710
C. Signature: David L Rosbrook	D. Date Signed: 12 Oct 94

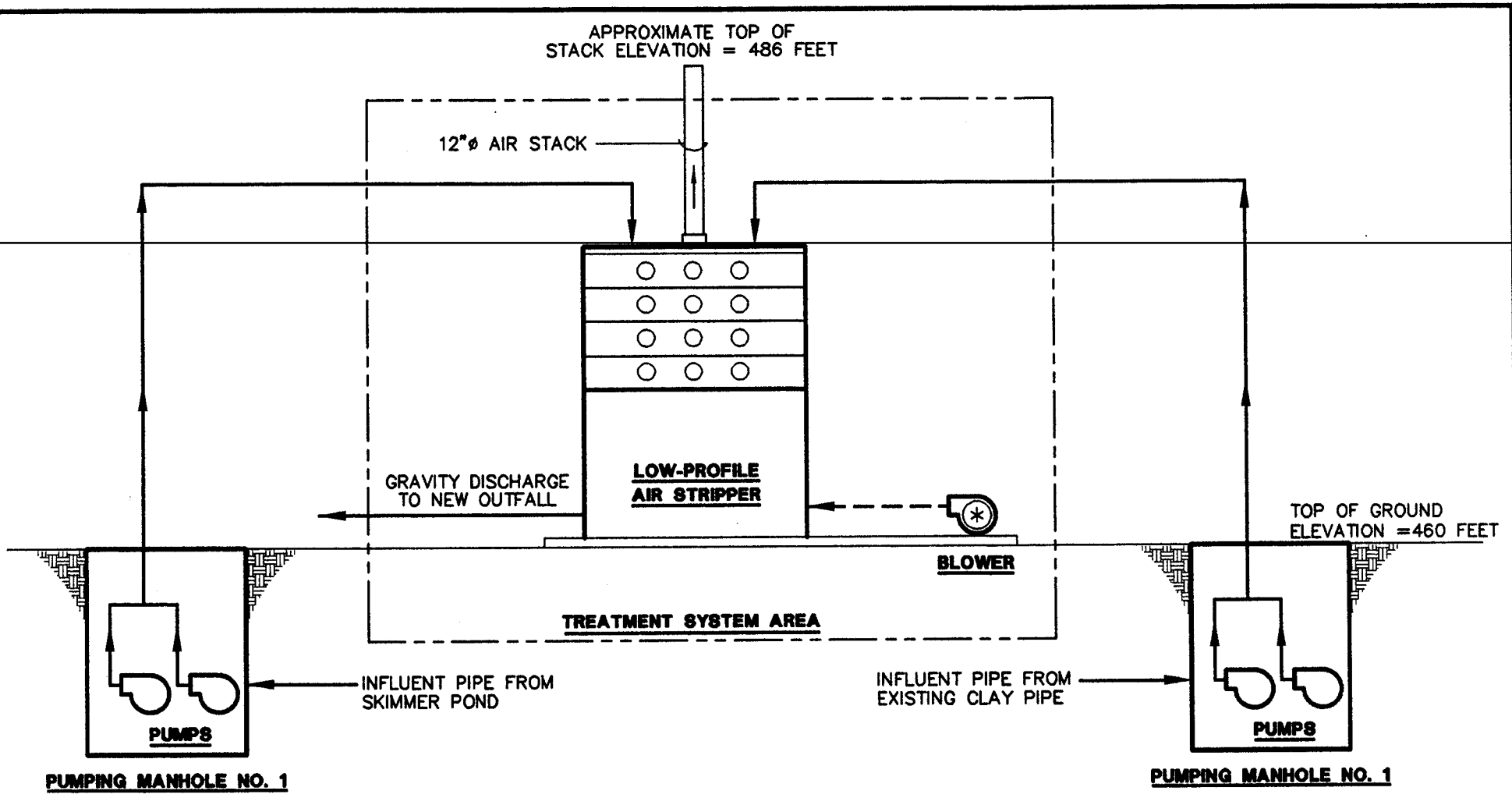
FIGURE 1



SITE LOCATION MAP

SEPT. 1994
307.08.01 1

BLASLAND, BOUCK & LEE, INC.
ENGINEERS & SCIENTISTS



LEGEND

——— GROUND–WATER FLOW

– – – AIR FLOW

BLASLAND, BOUCK & LEE, INC.

ENGINEERS & SCIENTISTS

CHICAGO PNEUMATIC TOOL COMPANY
FRANKFORT, NEW YORK

SURFACE WATER INTERIM REMEADIAL MEASURE

PROCESS FLOW DIAGRAM | FIGURE **2**

OPTIONAL L: OR X:
10/94 54-JLG
30708044\30708F01.DWG

Please print or type in the unshaded areas only
(fill—in areas are spaced for elite type, i.e., 12 characters/inch).

Form Approved. OMB No. 2040-0086 Approval expires 7-31-88

FORM 1 GENERAL

EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY

GENERAL INFORMATION

Consolidated Permits Program

(Read the "General Instructions" before starting.)

I. EPA I.D. NUMBER

F N Y D 0 0 2 2 3 0 9 7 7 D

LABEL ITEMS

I. EPA I.D. NUMBER

III. FACILITY NAME

V. FACILITY MAILING ADDRESS

VI. FACILITY LOCATION

PLEASE PLACE LABEL IN THIS SPACE

GENERAL INSTRUCTIONS

If a preprinted label has been provided, affix it in the designated space. Review the information carefully; if any of it is incorrect, cross through it and enter the correct data in the appropriate fill—in area below. Also, if any of the preprinted data is absent *(the area to the left of the label space lists the information that should appear)*, please provide it in the proper fill—in area(s) below. If the label is complete and correct, you need not complete Items I, III, V, and VI *(except VI-B which must be completed regardless)*. Complete all items if no label has been provided. Refer to the instructions for detailed item descriptions and for the legal authorizations under which this data is collected.

II. POLLUTANT CHARACTERISTICS

INSTRUCTIONS: Complete A through J to determine whether you need to submit any permit application forms to the EPA. If you answer "yes" to any questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the box in the third column if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activity is excluded from permit requirements; see Section C of the instructions. See also, Section D of the instructions for definitions of **bold—faced terms.**

SPECIFIC QUESTIONS	MARK 'X' YES	NO	FORM ATTACHED
A. Is this facility a **publicly owned treatment works** which results in a **discharge** to **waters of the U.S.**? (FORM 2A)		X	
C. Is this a facility which currently results in **discharges** to **waters of the U.S.** other than those described in A or B above? (FORM 2C)	X		
E. Does or will this facility treat, store, or dispose of **hazardous wastes**? (FORM 3)		X	
G. Do you or will you inject at this facility any produced water or other fluids which are brought to the surface in connection with conventional oil or natural gas production, inject fluids used for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid hydrocarbons? (FORM 4)		X	
I. Is this facility a proposed **stationary source** which is one of the 28 industrial categories listed in the instructions and which will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an **attainment area**? (FORM 5)		X	

SPECIFIC QUESTIONS	MARK 'X' YES	NO	FORM ATTACHED
B. Does or will this facility *(either existing or proposed)* include a **concentrated animal feeding operation** or **aquatic animal production facility** which results in a **discharge** to **waters of the U.S.**? (FORM 2B)		X	
D. Is this a proposed facility *(other than those described in A or B above)* which will result in a **discharge** to **waters of the U.S.**? (FORM 2D)	X		X
F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing, within one quarter mile of the well bore, underground sources of drinking water? (FORM 4)		X	
H. Do you or will you inject at this facility fluids for special processes such as mining of sulfur by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy? (FORM 4)		X	
J. Is this facility a proposed **stationary source** which is NOT one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an **attainment area**? (FORM 5)		X	

III. NAME OF FACILITY

1 SKIP: CHICAGO PNEUMATIC TOOL COMPANY

IV. FACILITY CONTACT

A. NAME & TITLE *(last, first, & title)*	B. PHONE *(area code & no.)*
2 VISCOSI CARMEN PLANT ENG	315 792 2727

V. FACILITY MAILING ADDRESS

A. STREET OR P.O. BOX	B. CITY OR TOWN	C. STATE	D. ZIP CODE
3 2200 BLEECKER STREET	4 UTICA	NY	13501

VI. FACILITY LOCATION

A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER	B. COUNTY NAME	C. CITY OR TOWN	D. STATE	E. ZIP CODE	F. COUNTY CODE *(if known)*
5 2200 BLEECKER STREET	HERKIMER	6 FRANKFORT TOWNSHIP	NY	13501	

EPA Form 3510-1 (Rev. 10-80)

CONTINUE ON REVERSE

CONTINUED FROM THE FRONT

VII. SIC CODES (4-digit, in order of priority)

A. FIRST	B. SECOND
3546 (specify) Power driven hand tools	3536 (specify) Hoists
C. THIRD	**D. FOURTH**
3365 (specify) Aluminum foundry	3366 (specify) Non-ferrous foundry (brass-, bronze-, and copper-based alloys)

VIII. OPERATOR INFORMATION

A. NAME

CHICAGO PNEUMATIC TOOL COMPANY

B. Is the name listed in Item VIII-A also the owner? ☒ YES ☐ NO

C. STATUS OF OPERATOR (Enter the appropriate letter into the answer box; if "Other", specify.)

F = FEDERAL; S = STATE; P = PRIVATE; M = PUBLIC (other than federal or state); O = OTHER (specify)

P (specify)

D. PHONE (area code & no.)

A 315 792 2600

E. STREET OR P.O. BOX

2200 BLEECKER STREET

F. CITY OR TOWN

UTICA

G. STATE NY

H. ZIP CODE 13501

IX. INDIAN LAND

Is the facility located on Indian lands? ☐ YES ☒ NO

X. EXISTING ENVIRONMENTAL PERMITS

A. NPDES (Discharges to Surface Water): N NY0108537

D. PSD (Air Emissions from Proposed Sources): P

B. UIC (Underground Injection of Fluids): U

E. OTHER (specify): 9 (specify) 38 air emission operating permits

C. RCRA (Hazardous Wastes): R

E. OTHER (specify): 9 (specify)

XI. MAP

Attach to this application a topographic map of the area extending to at least one mile beyond property bounderies. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in the map area. See instructions for precise requirements. (See Figures 1 and 3)

XII. NATURE OF BUSINESS (provide a brief description)

The manufacturer, distribution, and sale of portable pneumatic and electric-driven hand tools.

XIII. CERTIFICATION (see instructions)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME & OFFICIAL TITLE (type or print)	B. SIGNATURE	C. DATE SIGNED
David L. Rosbrook Senior Vice President	David L Rosbrook	12 Oct 94

COMMENTS FOR OFFICIAL USE ONLY

C

Please type or print in the unshaded areas only

EPA ID Number *(copy from Item 1 of Form 1)*
NYD 002230977

Form Approved
OMB No. 2040-0086
Approval expires 7-31-88

Form 2D NPDES

EPA

New Sources and New Dischargers Application for Permit to Discharge Process Wastewater

I. Outfall Location

For each outfall, list the latitude and longitude, and the name of the receiving water.

Outfall Number *(list)*	Latitude			Longitude			Receiving Water *(name)*
	Deg	Min	Sec	Deg	Min	Sec	
03A	43	05	11	75	10	55	Unnamed tributary of Mohawk River.

II. Discharge Date *(When do you expect to begin discharging?)*

December 1, 1994

III. Flows, Sources of Pollution, and Treatment Technologies

A. For each outfall, provide a description of (1) All operations contributing wastewater to the effluent, including process wastewater, sanitary wastewater, cooling water, and stormwater runoff; (2) The average flow contributed by each operation; and (3) The treatment received by the wastewater. Continue on additional sheets if necessary.

Outfall Number	1. Operations Contributing Flow *(list)*	2. Average Flow *(include units)*	3. Treatment *(Description or List Codes from Table 2D-1)*
03A	Ground-water from "clay pipe" at north side of property	2,880 gpd	Low-profile air stripper
03A	Oil skimmer pond overflow	33,120 gpd	Low-profile air stripper
	TOTAL	36,000 gpd	

B. Attach a line drawing showing the water flow through the facility. Indicate sources of intake water, operations contributing wastewater to the effluent, and treatment units labeled to correspond to the more detailed descriptions in Item III-A. Construct a water balance on the line drawing by showing average flows between intakes, operations, treatment units, and outfalls. If a water balance cannot be determined (e.g., for certain mining activities), provide a pictorial description of the nature and amount of any sources of water and any collection or treatment measures. (see Figure 2)

C. Except for storm runoff, leaks, or spills, will any of the discharges described in item III-A be intermittent or seasonal?

☐ Yes *(complete the following table)* ☒ XX No *(go to item IV)*

Outfall Number	1. Frequency		2. Flow		
	a. Days Per Week *(specify average)*	b. Months Per Year *(specify average)*	a. Maximum Daily Flow Rate *(in mgd)*	b. Maximum Total Volume *(specify with units)*	c. Duration *(in days)*

IV. Production

If there is an applicable production-based effluent guideline or NSPS, for each outfall list the estimated level of production (projection of actual production level, not design), expressed in the terms and units used in the applicable effluent guideline or NSPS, for each of the first 3 years of operation. If production is likely to vary, you may also submit alternative estimates (attach a separate sheet).

Year	a. Quantity Per Day	b. Units of Measure	c. Operation, Product, Material, etc *(specify)*
			None

CONTINUED FROM THE FRONT	EPA ID Number *(copy from Item 1 of Form 1)* NYD 002230977	Outfall Number 03A

V. Effluent Characteristics

A, and B: These items require you to report estimated amounts *(both concentration and mass)* of the pollutants to be discharged from each of your outfalls. Each part of this item addresses a different set of pollutants and should be completed in accordance with the specific instructions for that part. Data for each outfall should be on a separate page. Attach additional sheets of paper if necessary.

General Instructions *(See table 2D-2 for Pollutants)*

Each part of this item requests you to provide an estimated daily maximum and average for certain pollutants and the source of information. Data for all pollutants in Group A, for all outfalls, must be submitted unless waived by the permitting authority. For all outfalls, data for pollutants in Group B should be reported only for pollutants which you believe will be present or are limited directly by an effluent limitations guideline or NSPS or indirectly through limitations on an indicator pollutant.

1. Pollutant	2. Maximum Daily Value *(include units)*	3. Average Daily Value *(include units)*	4. Source *(see instructions)*
Flow	216,000 gpd	36,000 gpd	1 (Engineering Study)
Trichlorethylene	1.9 mg/l	0.87 mg/l	1 (Engineering Study)
	3.4 #/d	0.26 #/d	1 (Engineering Study)
Cis-1,2-dichloroethylene	0.34 mg/l	0.12 mg/l	1 (Engineering Study)
	0.61 #/d	0.036 #/d	1 (Engineering Study)
trans-1,2-dichloroethylene	0.1 mg/l	0.05 mg/l	1 (Engineering Study)
	0.18 #/d	0.015 #/d	1 (Engineering Study)
Vinyl Chloride	0.02 mg/l	0.01 mg/l	1 (Engineering Study)
	0.036 #/d	0.003 #/d	1 (Engineering Study)
A waiver is requested for all			
additional parameters since the			
two sources currently discharge			
to surface water and the proposed			
treatment system is not designed			
to treat any other parameter beyond			
those listed above.			

CONTINUED FROM THE FRONT	EPA ID Number *(copy from Item 1 of Form 1)* NYD 002230977	

C. Use the space below to list any of the pollutants listed in Table 2D-3 of the instructions which you know or have reason to believe will be discharged from any outfall. For every pollutant you list, briefly describe the reasons you believe it will be present.

1. Pollutant	2. Reason for Discharge
None	

VI. Engineering Report on Wastewater Treatment

A. If there is any technical evaluation concerning your wastewater treatment, including engineering reports or pilot plant studies, check the appropriate box below.

☒ Report Available ☐ No Report

B. Provide the name and location of any existing plant(s) which, to the best of your knowledge, resembles this production facility with respect to production processes, wastewater constituents, or wastewater treatments.

Name	Location
None	

EPA ID Number *(copy from item one of Form 1)*
NYD 002230977

VII. Other Information *(Optional)*

Use the space below to expand upon any of the above questions or to bring to the attention of the reviewer any other information you feel should be considered in establishing permit limitations for the proposed facility. Attach additional sheets if necessary.

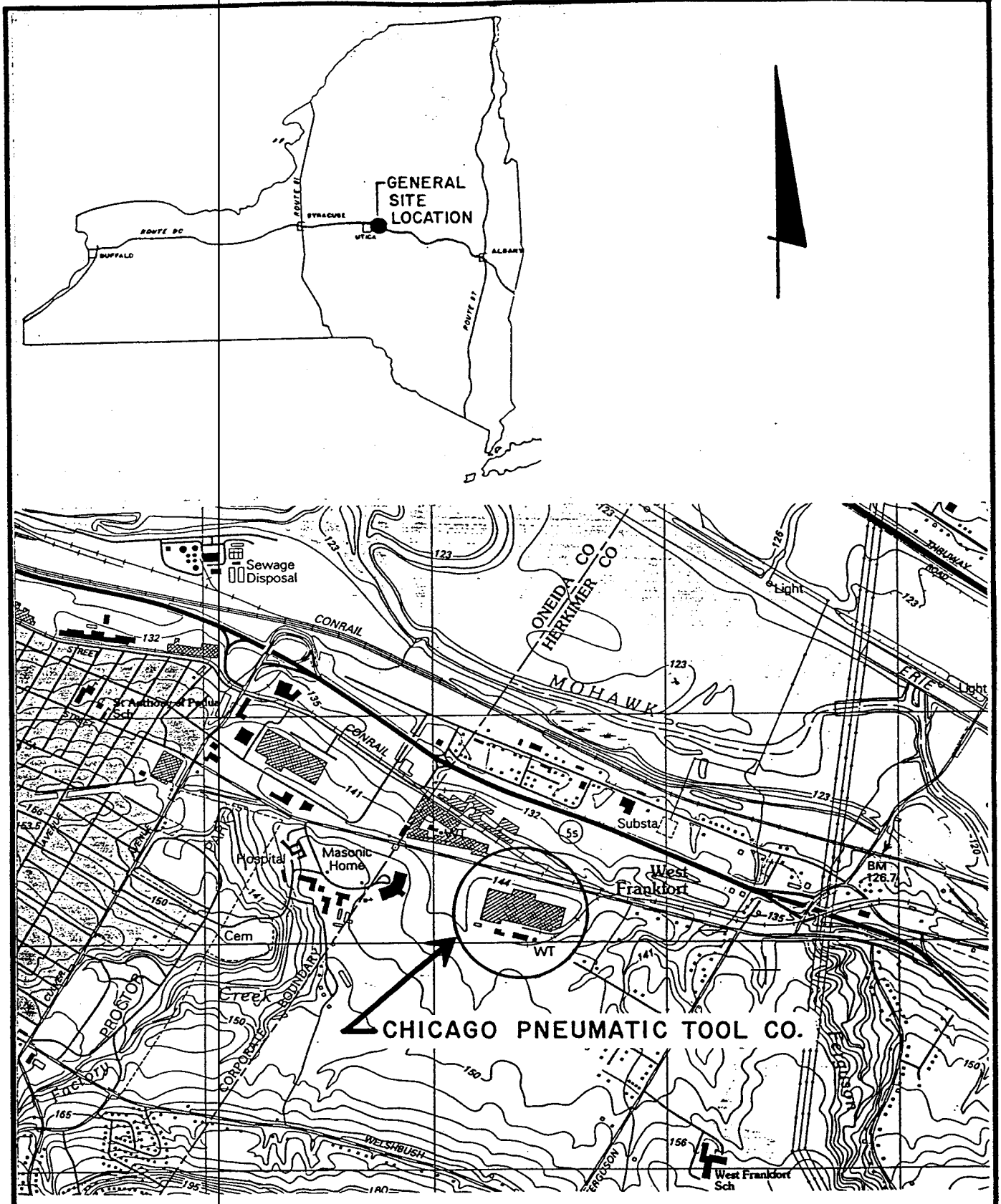
The permit limitations for Oufall 03A should be established based on the New York State Department of Environmental Conservation Division of Water Best Available Technology Economically Achievable (BAT) Guidance.

VIII. Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

A. Name and Official Title *(type or print)*	B. Phone No.
David L. Rosbrook, Senior Vice President	(315) 792-2710
C. Signature: David L Rosbrook	D. Date Signed: 12 Oct 94

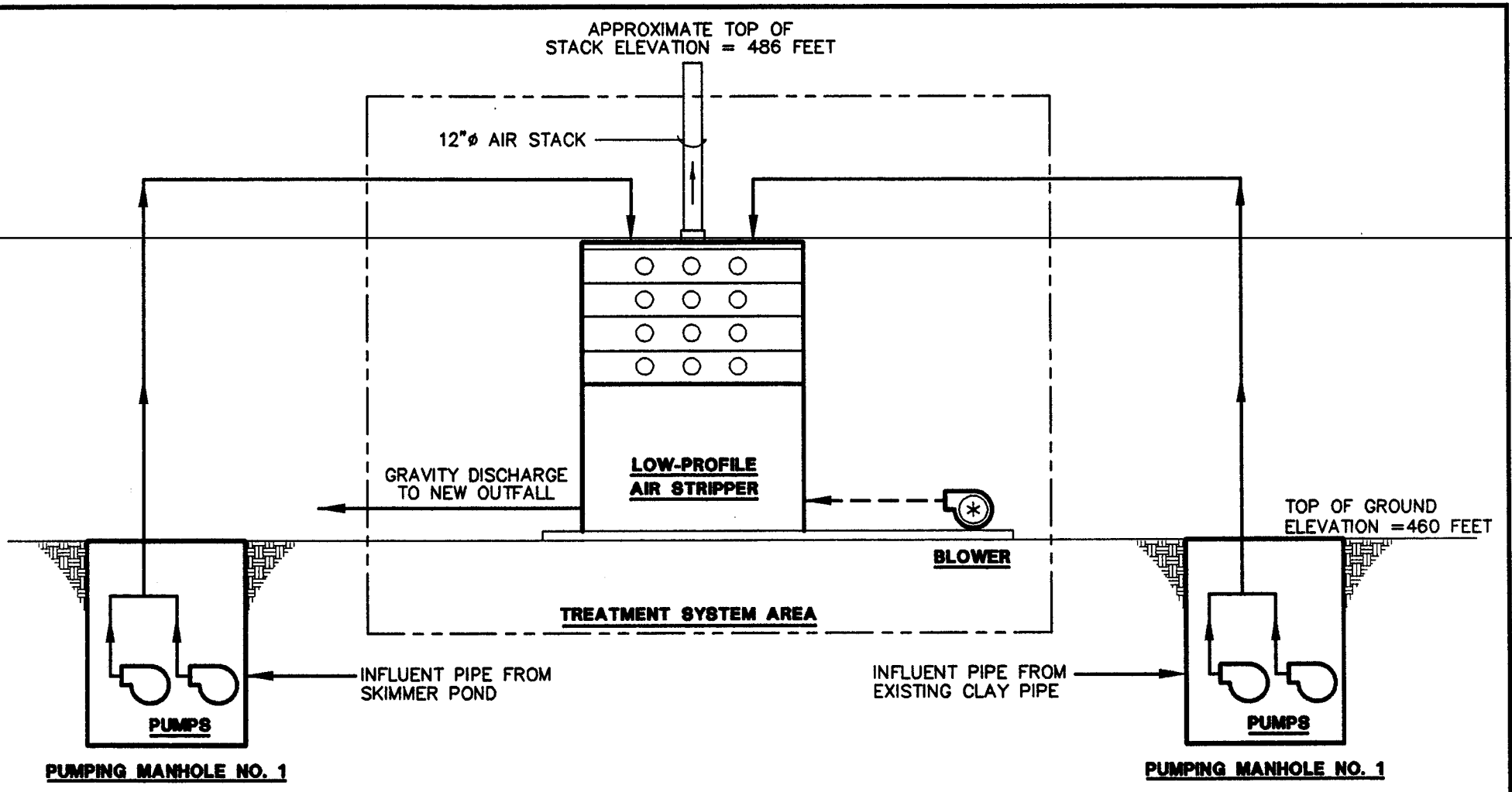
FIGURE 1



SITE LOCATION MAP

SEPT. 1994
307.08.01 I

BLASLAND, BOUCK & LEE, INC.
ENGINEERS & SCIENTISTS



LEGEND

——— GROUND–WATER FLOW

– – – AIR FLOW

BLASLAND, BOUCK & LEE, INC.

ENGINEERS & SCIENTISTS

CHICAGO PNEUMATIC TOOL COMPANY
FRANKFORT, NEW YORK

SURFACE WATER INTERIM REMEADIAL MEASURE

PROCESS FLOW DIAGRAM | FIGURE **2**

OPTIONAL L: OR X:
10/94 54-JLG
30708044\30708F01.DWG

CHICAGO PNEUMATIC MANUFACTURING BUILDING

OFFICE

PARKING AREA

PUMPING MANHOLE NO. 2

100'-0" R.O.W.

BLEECKER STREET

APPROXIMATE LOCATION OF EXISTING CLAY PIPE

8"ø PVC PIPE

1-1/2"ø HDPE INFLUENT PIPE WITHIN 3"ø HDPE SECONDARY CONTAINMENT PIPE

PARKING AREA

3"ø HDPE INFLUENT PIPE TO TREATMENT SYSTEM

12"ø AIR STACK

TREATMENT SYSTEM LOCATION

CHIP CHUTE DRAINAGE DITCH

EASTERN DRAINAGE DITCH

FOUNDRY

PUMPING MANHOLE NO. 1

8"ø PVC PIPE

4"ø HDPE INFLUENT PIPE WITHIN 8"ø HDPE SECONDARY CONTAINMENT PIPE

EXISTING WATER TOWER

8"ø PVC (GRAVITY DISCHARGE) EFFLUENT PIPE TO NEW OUTFALL

SOUTHERN DRAINAGE DITCH

SPDES OUTFALL 003

400'-0"

SKIMMER POND

LEGEND

- TRANSFER PIPING
- PROPERTY LINE
- RIGHT OF WAY (R.O.W.)
- SURFACE WATER DITCHES
- FENCE
- TREE LINE

120' 0 120'

SCALE: 1"=120'

LA FRZ: 1→, OFF: REF
9/94 54-ALC
30708044/30708G02.DWG

BLASLAND, BOUCK & LEE, INC.
ENGINEERS & SCIENTISTS

CHICAGO PNEUMATIC TOOL COMPANY
FRANKFORT, NEW YORK

SURFACE WATER INTERIM REMEADIAL MEASURE

PARTIAL SITE PLAN

FIGURE **3**

Table of Contents

1.0 - Introduction

This Engineering Report presents the basis of design for a proposed surface water Interim Remedial Measure (IRM) to address volatile organic compounds (VOCs) in the surface water discharge from the Chicago Pneumatic Tool Company Site (the Site) in Frankfort, New York (see Figure 1 for a site location map). In a July 1994 Remedial Investigation (RI) Report, Blasland, Bouck & Lee, Inc. (BB&L) presented the results of RI activities performed at the Chicago Pneumatic Site from November 1993 to April 1994. The results of these RI activities and previous site investigations identified elevated concentrations of VOCs, principally trichloroethene and 1,2-dichloroethene, in selected areas at the Site. Additionally, elevated concentrations of VOCs, specifically trichloroethene, cis-1,2-dichloroethene, trans-1,2-dichloroethene, and vinyl chloride, have been detected in surface water from the oil skimmer pond overflow that discharges through State Pollutant Discharge Elimination System (SPDES)-permitted Outfall 003 and a clay pipe that discharges to a surface water ditch along Bleecker Street. A Feasibility Study (FS) is underway to select an overall site remediation program. The IRM covered by this Engineering Report will address the discharge of VOCs to surface water and consist of pumping water from the oil skimmer pond overflow and the clay pipe discharge to a low-profile air stripper located in the existing Chicago Pneumatic manufacturing building (see Figure 2 for process flow diagram). The locations of these proposed facilities are shown on the partial site plan on Figure 3.

The remainder of this Engineering Report presents an overview of site background information and a discussion of existing site data utilized to develop a basis of design for the surface water IRM. This document also presents a description of the surface water treatment system components and a discussion of the specific activities to be completed during implementation of the IRM.

2.0 - Background

2.1 Site History

The Chicago Pneumatic Site is located in the town of Frankfort, Herkimer County, approximately one mile east of the City of Utica, New York, and 0.5 miles south of the Mohawk River. The Site is situated on a 77-acre lot in an industrial setting, which is bound to the north by Bleecker Street, to the south by wooded and agricultural land, to the west by an unnamed creek that drains a wooded area, and to the east by a property fence line bordering Industrial Park Drive. During the 1930s and early 1940s, the Site was occupied by an amusement park and baseball field. The amusement park was located in an area to the south of the current manufacturing building. The former baseball field is thought to be located near the southeast portion of the manufacturing building, and the flagpole for the former baseball field still stands at the Site.

The manufacturing building was constructed in 1948 and has since been used as a pneumatic tool manufacturing facility. A circa 1948-49 aerial photograph of the Site shows the manufacturing building, foundry, and power plant. In this time period, railroad tracks ran along the south and east side of the building, and a spur originated behind the power plant building and connected to another spur near the existing oil skimmer pond. Drainage ditches were evident along the entire southern edges of both spurs. During the early 1970s, a connecting warehouse was constructed to the east of the existing manufacturing building.

Waste oils were discharged into three unlined separation ponds located in the southern portion of the Site from 1966 through 1978. Waste oil from a metal chip handling facility was collected in an underground steel holding tank located within a pump house adjacent to the former chip handling area. Waste oil and water were then pumped to the first of the three separation ponds. The water and oil were allowed to discharge to the next pond in series, then ultimately to the drainage ditch located on the east side of the site. Each

pond provided a degree of oil/water separation. When the ponds became filled with oil, the oil was pumped off and either disposed of off-site or burned as fuel in the power plant.

In 1979, this practice was discontinued, and the New York State Department of Environmental Conservation (NYSDEC) granted Chicago Pneumatics permission to close the three separation ponds. The waste oils were removed from the ponds and disposed of off-site, and the ponds were backfilled. The steel holding tank and pump house were also dismantled. A new oil skimmer pond was constructed near the southeast corner of the manufacturing building to intercept any spillage from the metal chip handling area.

Metal chips from the manufacturing process were continued to be stored in a chip chute located along the south side of the manufacturing building until this system was eliminated in 1991. The spent chips were centrifuged prior to storage in the chip chute and removal off-site for recycling; however, some oil remained attached to the chips. Occasionally, this oil drained from the former chip chute and was discharged to the drainage ditch that drains to the oil skimmer pond. A similar drainage ditch receives surface water runoff from the area north of the former separation pond area. A rope-type oil skimmer removes oil from the surface of the oil skimmer pond. From the oil skimmer pond, water overflows through four overflow pipes to a diversion structure where it is discharged to a drainage ditch that runs along the east side of the Site. In addition to the oil skimmer pond overflow, this drainage ditch receives discharges from roof drains from a portion of the manufacturing building, floor drains inside of the warehouse to the east of the manufacturing building and a trench drain located east of the warehouse exterior loading docks. These four streams combine together and discharge through a SPDES-permitted discharge designated as Outfall 003 (SPDES Permit Number NY-0108537).

2.2 Investigation History

Over the last nine years, there have been a number of Site investigations that ultimately resulted in identification of the oil skimmer pond overflow and the clay pipe discharge as sources of VOCs in the