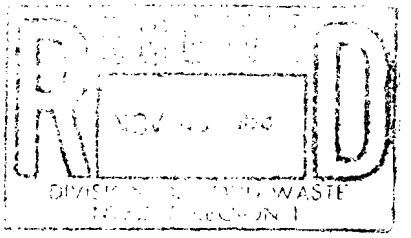
EPA WORK ASSIGNMENT NO.: 158-2LR6
EPA CONTRACT NO.: 68-01-7250

FARMINGDALE, NEW YORK
TRONIC PLATING SITE

RI/FS SCOPING MEETING
SEPTEMBER 15, 1987



PREPARED BY
EBASCO SERVICES INCORPORATED

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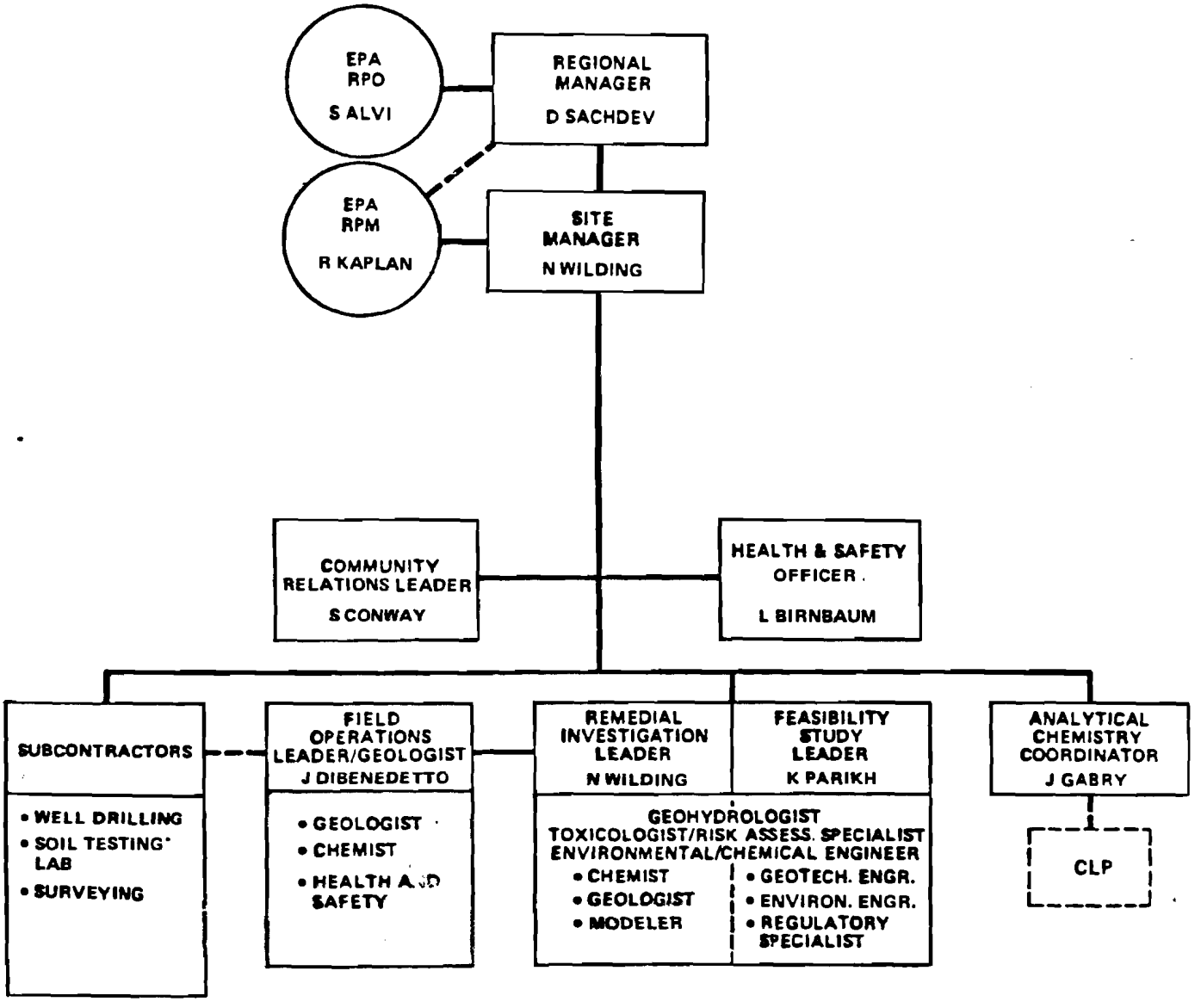
TRONIC PLATING CORPORATION SITE



TRONIC PLATING SITE

RI/FS PROJECT TEAM

DR. DEV SACHDEV	- REGIONAL MANAGER
NEIL WILDING	- SITE MANAGER/RI TASK MANAGER
JOSEPH DIBENEDETTO	- HYDROGEOLOGIST/FIELD TEAM LEADER
KISHOR PARIKH	- FS TASK MANAGER
DR. DIANA WONG	- RISK ASSESSMENT LEADER
LESLIE BIRNBAUM	- HEALTH AND SAFETY OFFICER

AGENDA

RI/FS SCOPING MEETING

TRONIC PLATING SITE
FARMINGDALE, NEW YORK

o	INTRODUCTION	N. WILDING
o	GEOHYDROLOGY & WATER RESOURCES	J. DIBENEDETTO
o	PRELIMINARY RISK ASSESSMENT	D. WONG
o	PRELIMINARY IDENTIFICATION OF REMEDIAL TECHNOLOGIES AND ALTERNATIVES	K. PARIKH
o	REMEDIAL INVESTIGATION SCOPE	N. WILDING
o	SUMMARY	N. WILDING

6306B

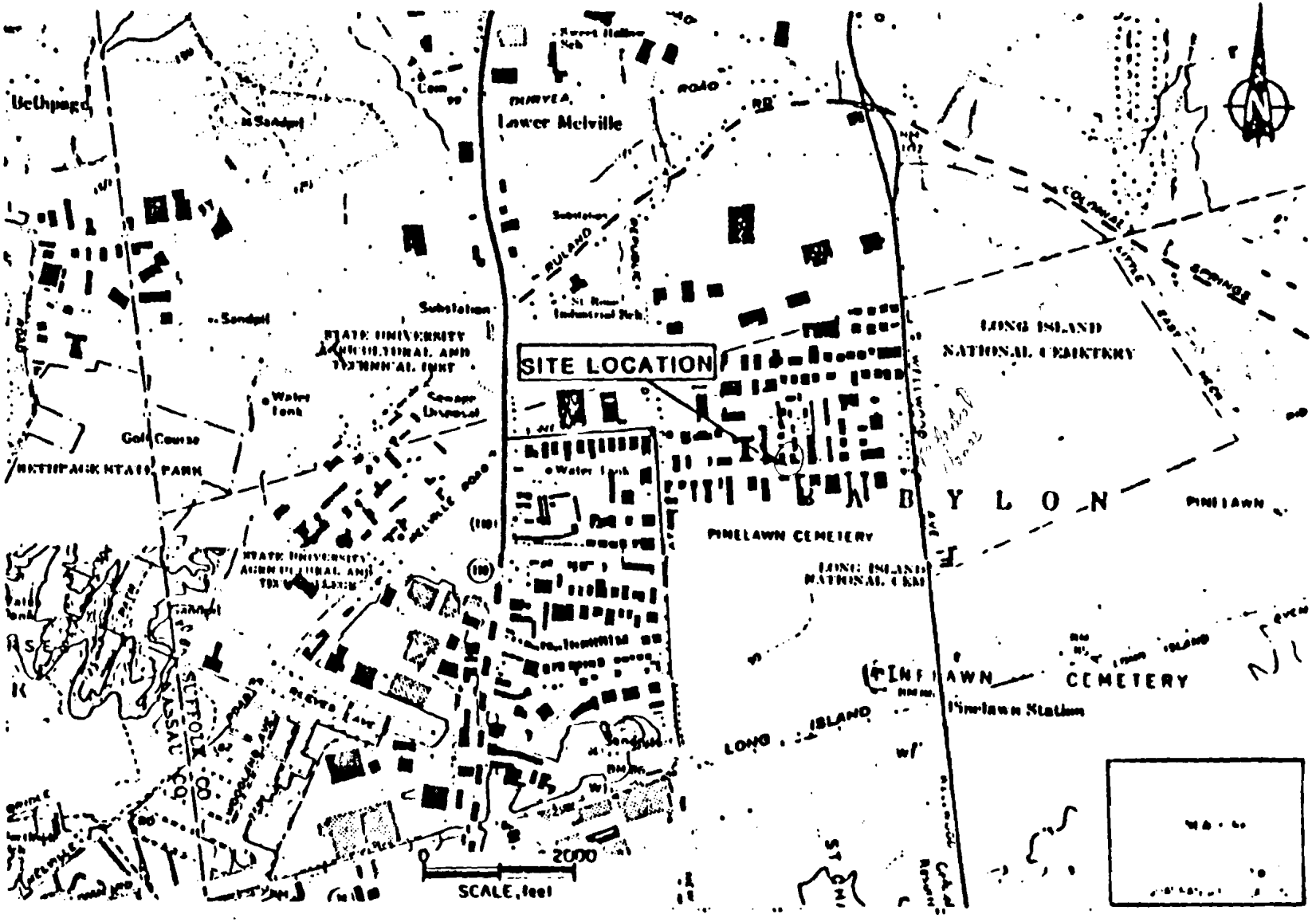


Figure 1. Location of Tronic Plating Co., Inc., Farmingdale, Suffolk County, NY. Map is a portion of the U.S.G.S. Amityville and Huntington 7.5 minute quadrangles.

REGULATORY EVENTS

- MAY 1974 - TRONIC PLATING SUMMONED BY NYSDEC TO COMPLIANCE CONFERENCE FOR "...CONTINUING VIOLATIONS OF ARTICLE 17, ENVIRONMENTAL CONSERVATION LAW..."

- JULY 1974 - NYSDEC SENT ORDER ON CONSENT TO TRONIC PLATING (NEVER SIGNED)

- APRIL 1980 - SPDES PERMIT NYC075574 ISSUED TO TRONIC PLATING FOR DISCHARGE OF 1000 GPD COOLING WATER FLOW TO GROUNDWATER

- JUNE 1980 - NYSDEC SENT ORDER ON CONSENT TO TRONIC PLATING (NEVER SIGNED)

- AUGUST 1983 - WOODWARD CLYDE SITE INSPECTION REPORT (DENIED ACCESS TO SITE)

- AUGUST 1983 - WOODWARD CLYDE CALCULATED AN HRS SCORE OF 41.60 (71.97 FOR GROUNDWATER) AT TRONIC PLATING

- DECEMBER 1983 - SCDHS ORDER ON CONSENT SIGNED BY TRONIC PLATING DUE TO DISCHARGE OF "TOXIC OR HAZARDOUS MATERIALS (METALS) TO A SANITARY CESSPOOL..." TRONIC REQUIRED TO PRESENT PROPOSAL FOR BRINGING FACILITY INTO COMPLIANCE BY MARCH 31, 1984. (TRONIC PLATING STATED IT WOULD VACATE PREMISES BEFORE THAT DATE.)

- MARCH 1986 - NYSDEC SENT ORDER ON CONSENT TO TRONIC PLATING. ORDER REQUIRES TRONIC TO SUBMIT PLAN TO PERFORM AN RI AT THE 168 CENTRAL AVENUE SITE. (ORDER NOT SIGNED AS OF SEPTEMBER 1986).

SITE HISTORY

- ELECTROPLATING, ANODIZING AND ETCHING OPERATIONS FOR THE ELECTRONICS INDUSTRY OPERATED AT SITE FROM JULY 1968 TO MID-1984
- SITE IS NOW USED BY INFRARED OPTICS, INC., FARRALANE LIGHTING AND AUDIO, EFS MARKETING AND OAKLAND SUPPLY

SUSPECTED SOURCES OF CONTAMINATION

- DIRECT DISCHARGE OF PLATING WASTE AND RINSES TO FOUR (4) LEACHING PITS AND ONE (1) POOL South & S-E N-E of bldg.
- CONTAMINANTS INCLUDE COPPER, ZINC, SILVER, IRON, LEAD, AND CADMIUM
- SCDHS FOUND "SURFACE IMPOUNDMENT" CONTAMINANTS OF:

		NYS GA STANDARDS
COPPER	8.8 MG/L	1.0 MG/L
ZINC	12.0 MG/L	5.0 MG/L
SILVER	0.11 MG/L	0.05 MG/L
IRON	170 MG/L	0.3 MG/L
LEAD	3.2 MG/L	0.25 MG/L
CADMIUM	2.8 MG/L	0.01 MG/L

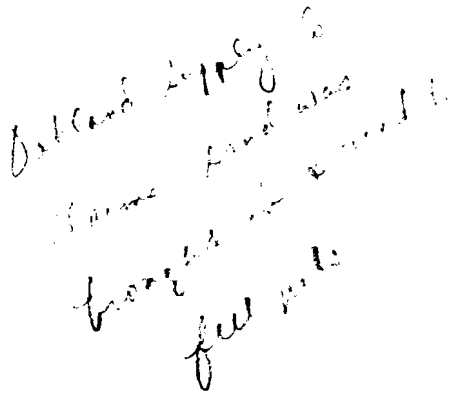
- POSSIBLE HEAVY METAL CONTAMINATION IN A STORM DRAIN LOCATED NE OF BUILDING (N-E)

Well 1/4 mi. to east of site

6308B

SITE VISIT HIGHLIGHTS

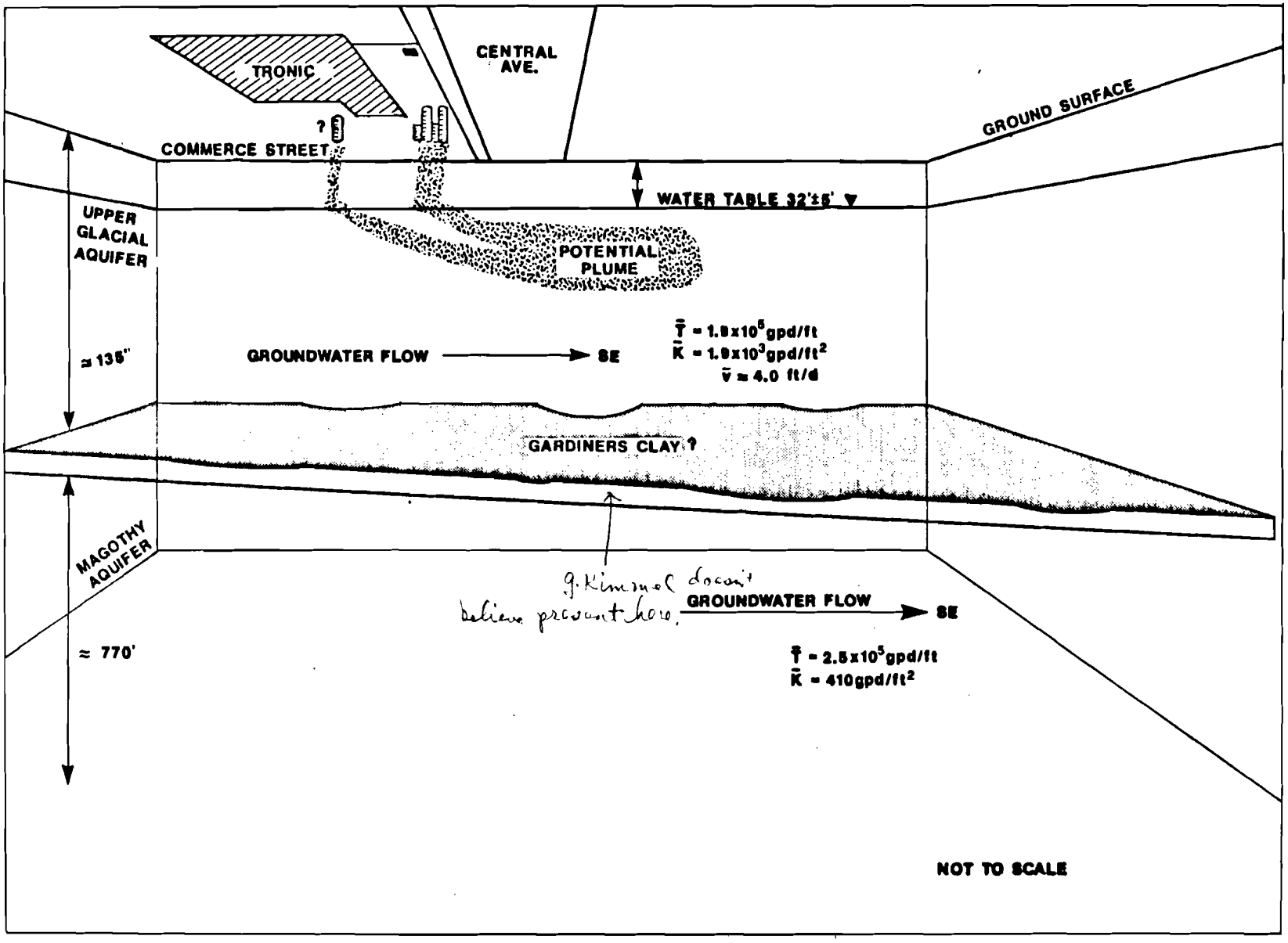
- NO CURRENT PLATING AND ANODIZING OPERATIONS
- OPERATIONS DISCONTINUED 1984
- NO PRESENT DISCHARGE TO FORMER LEACHING PITS
- FOUR DOWNGRADIENT LEACHING PITS WITH ONE POSSIBLE UPGRADIENT POOL - CONDITION AND FORMER EFFLUENT CONCENTRATIONS WITHIN PITS AND POOL UNKNOWN
- FOUR DOWNGRADIENT PITS ALLEGEDLY FILLED WITH SAND IN 1984
- PREVIOUS DATA AMBIGUOUS - SPECIFIC SAMPLING LOCATIONS UNCLEAR



SUBSURFACE/GROUNDWATER DATA

- o SURFACE ELEVATION APPROXIMATELY 95 FEET ABOVE MSL
- o GROUNDWATER TABLE ESTIMATED TO BE 47 FEET BELOW GRADE ± 5 FEET FOR SEASONAL FLUCTUATIONS
- o UPPER GLACIAL AQUIFER - AVERAGE HYDRAULIC CONDUCTIVITY APPROXIMATELY 1.9×10^3 GPD/FT^2
  - ESTIMATED AVERAGE TRANSMISSIVITY 1.9×10^5 GPD/FT
  - AVERAGE GROUNDWATER VELOCITY 4 FT/DAY
  - ESTIMATED SATURATED THICKNESS 100 FT
- o MACOTHY AQUIFER MAY BE HYDRAULICALLY CONNECTED TO THE UPPER GLACIAL AQUIFER EAST AND WEST OF THE SITE
- o GROUNDWATER FLOW IS GENERALLY TOWARD THE SOUTHEAST UNLESS DEFLECTED BY SEEPAGE TO SURFACE WATER
- o NO STREAMS OR SURFACE WATER BODIES NEAR THE SITE

TRONIC PLATING



ON SITE INVESTIGATION

GEOLOGICAL CHARACTERIZATION/SUBSURFACE INVESTIGATION

- o SOIL BORINGS AT FOURTEEN (14) SITE LOCATIONS
  - TWO (2) DEEP BORINGS - ONE (1) UPGRADIENT AS BACKGROUND WELL
    - ONE (1) DOWNGRADIENT AS AQUIFER PUMPING TEST WELL
  - FIVE (5) SHALLOW WELL BORINGS FIFTEEN (15') FEET BELOW WATER TABLE
  - SEVEN (7) ADDITIONAL BORINGS WILL BE ADVANCED
    - FIVE (5) IN FORMER LEACHING PIT AREAS
    - TWO (2) IN SUSPECT AREAS DISTAL FROM THE LEACHING PIT AREA

- o CONTINUOUS SPLIT SPOON SAMPLING TO TWO (2) FEET BELOW THE WATER TABLE AND FIVE (5) FOOT INTERVALS THEREAFTER TO TEN (10) FEET BELOW THE WATER TABLE IN SHALLOW WELLS

- o CONTINUOUS SPLIT-SPOON SAMPLES TO THE CONFINING LAYER IN THE DEEP WELL

- o SAMPLES SELECTED FOR CHEMICAL ANALYSIS - FIELD SCREENED AND SELECTED AS INDICATED BY HNU/OVA READINGS
  ANALYSES FOR TCL ORGANICS/INORGANICS AND TOTAL METALS

ON SITE INVESTIGATION (CONT'D)

MONITORING WELL INSTALLATION

- SEVEN MONITORING WELLS TO BE ADVANCED AT THE SITE
  - TWO (2) DEEP WELLS (1) ONE UPGRADIENT
    (1) ONE DOWNGRADIENT
    BOTH TO THE LEVEL OF THE CONFINING LAYER
  - FIVE (5) SHALLOW WELLS (1) ONE UPGRADIENT
    (4) FOUR DOWNGRADIENT

- SHALLOW WELLS - 4 - 2" STAINLESS STEEL WITH FIFTEEN (15) FOOT SCREENED INTERVAL FIVE (5) FEET OF SCREEN ABOVE WATER TABLE TO ALLOW FOR SEASONAL FLUCTUATIONS
  - 1 - 4" STAINLESS STEEL WELL SIMILARLY SCREENED FOR THE AQUIFER PUMPING TEST - DOWNGRADIENT

- DEEPWELLS - 2 - 4" STAINLESS STEEL RISERS AND SCREEN ADVANCED TO THE CONFINING LAYER OR APPROPRIATE ELEVATION
  - 10 FEET SCREENED INTERVAL AT AQUITARD CONTACT OR APPROPRIATE ELEVATION

AQUIFER CHARACTERIZATION

- AQUIFER PUMPING TEST
  - TO DEFINE UPPER GLACIAL AQUIFER PARAMETERS AS SITE SPECIFIC INFORMATION

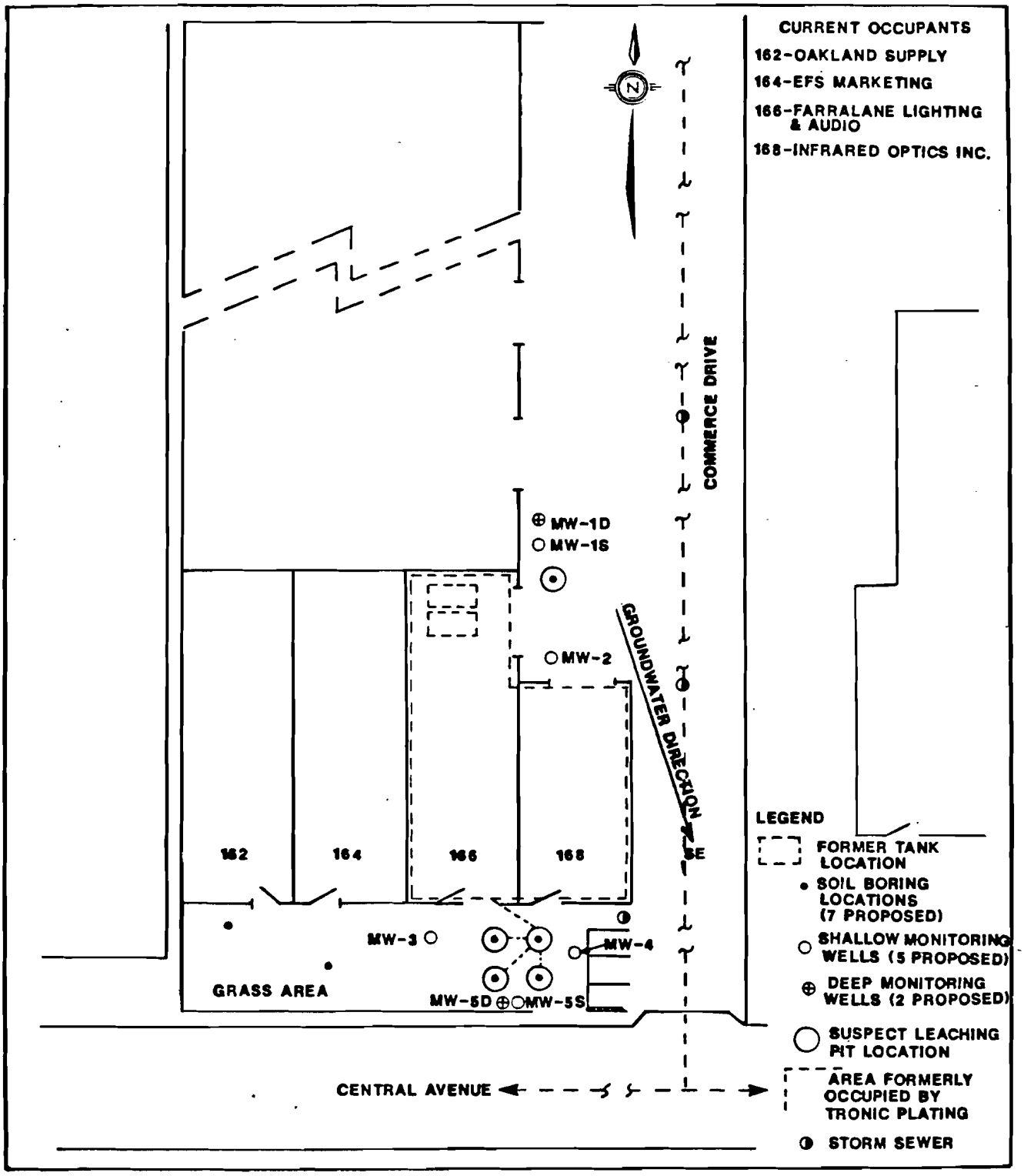
(G. Kimmel advised that geology is well defined, etc. Therefore pumping test unnecessary. Elrasco so advised 9/25/87 OK.)

- TWO DIMENSIONAL FLOW MODEL
  - APPLICATION OF SITE SPECIFIC AQUIFER DATA TO POTENTIAL CONTAMINANT FLOW MODEL

SOIL GAS SURVEY

- CONDUCTED IN GRASSY AREA IN FRONT OF SITE PREVIOUSLY OCCUPIED BY TRONIC PLATING CO. AND IN ALLEY EAST OF BUILDING.

TRONIC PLATING



NOT TO SCALE

Note - Significant errors in representation; corrected sketch to Ebasco 9/25/87 RK

Also, suggested different well locations

ESTIMATED WASTE VOLUME

WASTE PRODUCED PER YEAR:	1,250,000 GAL
TOTAL HAZARDOUS WASTE QUANTITY:	18.75×10^6 GAL

SUSPECTED CONTAMINANTS

COPPER

ZINC

SILVER

IRON

LEAD

CADMIUM

CYANIDE

TESTING PROGRAM

GROUNDWATER:

1. METALS
2. CYANIDE
3. VOLATILE ORGANICS
4. ACID/BASE/NEUTRAL COMPOUNDS
5. PESTICIDES

15% Analyzed

SOIL:

1. METALS
2. CYANIDE
3. VOLATILE ORGANICS
4. ACID/BASE/NEUTRAL COMPOUNDS
5. PESTICIDES

PRELIMINARY RISK ASSESSMENT

EXPOSURE PATHWAY

- RESIDENTIAL EXPOSURE TO GROUNDWATER CONTAMINATION

  A. PUBLIC WATER SUPPLY
  B. PRIVATE WELLS FOR IRRIGATION

ENVIRONMENTAL MEDIA OF CONCERN

- GROUNDWATER
- SOIL

ENVIRONMENTAL DATA NEEDED

- GROUNDWATER CONTAMINANTS IDENTIFICATION (ON-SITE)
- RESIDENTIAL/PUBLIC WATER SUPPLY CONTAMINATION (OFF-SITE)
- SOIL CONTAMINATION SURVEY (ON-SITE)
- SURVEY OF NEARBY OFF-SITE WELL
- SURVEY OF STORM-DRAIN SYSTEM

PRELIMINARY LISTING OF POTENTIAL ARARS (9/1/87)

(APPLICABLE, RELEVANT AND APPROPRIATE, TO BE CONSIDERED)

CONTAMINANT - SPECIFIC

- o SAFE DRINKING WATER ACT MCLs, ~~RMCLs~~
- o NEW YORK DRINKING WATER STANDARDS
- o NEW YORK GROUNDWATER QUALITY STANDARDS
- o RCRA GROUNDWATER PROTECTION STANDARDS
- o NEW YORK SPDES DISCHARGE TO GROUNDWATER EFFLUENT STANDARDS/LIMITATIONS
- o CONDITIONS OF NEW YORK SPDES DISCHARGE TO GROUNDWATER PERMIT ISSUED TO NPL SITE FACILITY

LOCATION - SPECIFIC

- o SAFE DRINKING WATER ACT SOLE-SOURCE AQUIFER REQUIREMENTS
- o NEW YORK SPDES GROUNDWATER EFFLUENT STANDARDS FOR NASSAU/SUFFOLK COUNTIES

ACTION - SPECIFIC

- o RCRA TREATMENT FACILITY STANDARDS (SOIL TREATMENT)
- o EPA EFFLUENT LIMITATION GUIDELINES FOR ELECTROPLATING FACILITIES (GROUNDWATER TREATMENT)
- o SAFE DRINKING WATER ACT UNDERGROUND INJECTION CONTROL REQUIREMENTS (RE-INJECTION OF TREATED GROUNDWATER)
- o NEW YORK SPDES DISCHARGE TO GROUNDWATER REQUIREMENTS (RE-INJECTION OF TREATED GROUNDWATER)
- o EPA/NEW YORK SOLID/HAZARDOUS WASTE MANAGEMENT REQUIREMENT (ON-SITE/OFF-SITE DISPOSAL OF TREATED SOIL, SOIL TREATMENT RESIDUE)
- o EPA/NEW YORK SPDES STORMWATER RUNOFF REQUIREMENTS (DISCHARGE OF TREATED GROUNDWATER TO STORM DRAIN)

REMEDIAL ALTERNATIVES SCREENING FACTORS

- DEPTH TO BEDROCK OR IMPERVIOUS LAYER
- SITE CONSTRAINTS: SIZE
  NEIGHBORHOOD
  DEPTH OF WATER TABLE
  OPERATIONAL STATUS
- SAND/GRAVEL UNDERLYING SITE - PERMEABILITY
- INNOVATIVE TECHNOLOGY
- TREATMENT OPTIONS

  ON-SITE

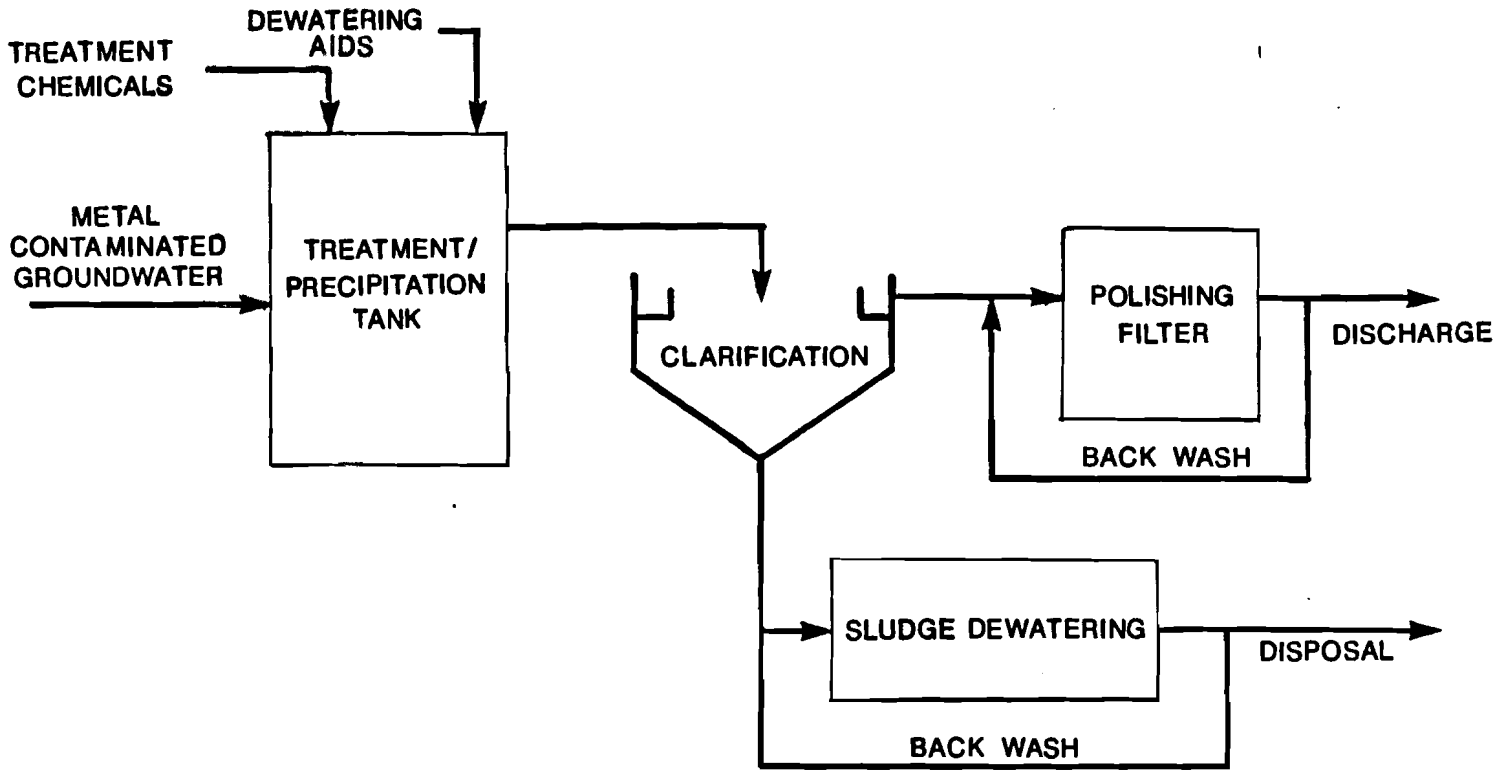
  OFF-SITE
- COST

GROUNDWATER REMEDIAL ALTERNATIVES

RESPONSE ACTION	REMEDIAL ALTERNATIVE	ADDITIONAL DATA
NO ACTION/LIMITED ACTION	NATURAL ATTENUATION INSTITUTIONAL CONTROLS GROUNDWATER MONITORING	RISK ASSESSMENT
CONTAINMENT	SURFACE SEALING/ IMPERMEABLE BARRIER	GEOTECHNICAL TESTING AND INFILTRATION RATE
TREATMENT	PUMP AND TREAT	
	METALS o PRECIPATATION o REDUCTION o ION EXCHANGE o REVERSE OSMOSIS	GROUNDWATER CHARACTERIZATION AND TREATABILITY STUDIES
	CYANIDES o CHLORINATION	GROUNDWATER CHARACTERIZATION
	VOLATILES o AIR STRIPPING	GROUNDWATER CHARACTERIZATION

GROUNDWATER REMEDIAL ALTERNATIVES (CONT'D)

RESPONSE ACTION	REMEDIAL ALTERNATIVE	ADDITIONAL DATA
	ORGANICS	TREATABILITY STUDIES
	o CARBON ADSORPTION	
	o OXIDATION	
DISPOSAL	o STORM SEWER	
	o SANITARY SEWER	
	o RETURN TO AQUIFER	



SCHEMATIC ILLUSTRATION OF CHEMICAL PRECIPITATION FOR METAL REMOVAL FROM CONTAMINATED GROUNDWATER

SOIL/SEDIMENT REMEDIAL ALTERNATIVES

RESPONSE ACTION	REMEDIAL ALTERNATIVE	ADDITIONAL DATA
NO ACTION	o GROUNDWATER MONITORING o INSTITUTIONAL CONTROLS	RISK ASSESSMENT
CONTAINMENT	o SURFACE SEALING	GEOTECHNICAL TESTING
TREATMENT	EXCAVATION/ON-SITE TREATMENT	
	METALS-	
	o STABILIZATION o SOIL WASHING	SOIL CHARACTERIZATION AND TREATABILITY STUDIES
	CYANIDES	
	o SOIL WASHING o CHLORINATION	SOIL CHARACTERIZATION
	VOLATILES-	
	o MECHANICAL AERATION	SOIL CHARACTERIZATION

SOIL/SEDIMENT REMEDIAL ALTERNATIVES (CONT'D)

RESPONSE ACTION	REMEDIAL ALTERNATIVE	ADDITIONAL DATA
	ORGANICS	
	o SOIL WASHING o OXIDATION o STABILIZATION	SOIL CHARACTER-ISTICS AND TREATABILITY STUDIES
	IN-SITU TREATMENT	
	ORGANICS/METALS	SITE SPECIFIC STUDY FOR TECHNOLOGY APPLICATION
	o INSITU-VITRIFICATION	
DISPOSAL	O OFF-SITE LANDFILL O ON-SITE USE AS FILL	REGULATORY REQUIREMENT

ADDITIONAL GROUNDWATER SOIL CHARACTERIZATION FOR EVALUATING REMEDIAL TECHNOLOGIES

GROUNDWATER

FIELD MEASUREMENTS:

PH, DO, TEMPERATURE, SPECIFIC CONDUCTANCE.

LABORATORY ANALYSES:

TSS, TDS, TOC, BOD, COD, OIL & GREASE, ALKALINITY, BICARBONATE, CARBONATE, HARDNESS, SULFATE, IRON, MAGANESE, CALCIUM, MAGNESIUM.

SOIL

- GRAIN SIZE
- ORGANIC CONTENT
- MOISTURE CONTENT
- CATION EXCHANGE CAPACITY

TRONIC PLATING SITE

REMEDIAL INVESTIGATION

- SITE RECONNAISSANCE
- LITERATURE REVIEW
- FIELD INVESTIGATION
- MODELING

EXHIBIT A

TRONIC PLATING COMPANY SITE
SCHEDULE FOR INTERIM ACTIVITIES