ENGINEERING INVESTIGATIONS AT INACTIVE HAZARDOUS WASTE SITES IN THE STATE OF NEW YORK

PRELIMINARY SITE ASSESSMENT
Volume 1

Allied Chemical-Elberta Works Site
Site Number 932003
Town of Wilson, Niagara County

April 1995

Prepared for:

New York State Department of Environmental Conservation

50 Wolf Road, Albany, New York 12233

Michael D. Zagata, Commissioner

Division of Hazardous Waste Remediation

Michael J. O'Toole, Jr., P.E., Director

Prepared by:

Ecology and Environment Engineering, P.C.

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TABLE OF CONTENTS

Volume 1

Table of Contents (Cont.)

LIST OF TABLES

LIST OF ILLUSTRATIONS

EXECUTIVE SUMMARY

Under the contract to the New York State Department of Environmental Conservation (NYSDEC), Superfund Standby Contract, Ecology and Environment Engineering, P.C. (E & E) conducted a Preliminary Site Assessment (PSA), at the Allied Chemical-Elberta Works (Allied-Elberta) Site (Site #932003). The Allied-Elberta site is located at 3119 Randall Road in the Town of Wilson, Niagara County, New York.

Disposal of approximately 12 tons per year of aluminum chloride, refractory material containing graphite, and wastes containing trace amounts of asbestos took place on site from 1950 to 1977. In addition to landfilling activities, there were four lagoons on site which received cooling water from the manufacturing area. Of the materials disposed of at the site, aluminum chloride, in its anhydrous form, is violently reactive and gives off a great deal of heat when combined with water. The reaction dissipates into aluminum hydroxide and hydrochloric acid. Therefore, anhydrous aluminum chloride is classified as a hazardous waste.

In October 1979, Calspan Advanced Technology Center completed a groundwater monitoring report for Allied Chemical Corporation. This investigation involved the installation of four groundwater monitoring wells in the vicinity of the lagoons to determine the impact of the lagoons on groundwater quality. Results of this study indicated elevated chloride and conductivity levels, however, the highest levels were detected upgradient of the lagoons.

The Task 1 PSA report was submitted to NYSDEC by E & E in August 1991. File searches and personal interviews conducted during this investigation documented the disposal of aluminum chloride at the site in the reactive anhydrous form, thus making it a hazardous waste. However, the investigation was inconclusive as to whether the material may still be

reactive since it may have been placed in drums prior to disposal that may still be intact. Therefore, further investigations, including soil, groundwater, and surface water sampling, was recommended to determine if a significant threat to human health or the environment is posed by the buried aluminum chloride on site.

The PSA was continued by E & E beginning July 1993. At that time, geophysical surveys consisting of magnetic and electromagnetic ground conductivity surveys were performed on site to determine the presence or absence of buried wastes in 55-gallon drums. Several anomalous areas were detected, and the strongest areas were further investigated through test pit excavations. Results of the test pit excavations revealed discolored soils and fill material, however, no 55-gallon drums or aluminum chloride waste were found. Subsurface soil samples of these materials were collected for analysis. Results of the analyses revealed:

- A low level of 1,1,1-trichloroethane and an elevated level of hexachlorobenzene where detected in the native soil sample (TP3-1-7ft) adjacent to one of the former on-site cooling ponds;

- Several low level volatile organics including acetone, 2-butanone, chlorobenzene, chloroform, total-1,2-dichloroethene, methylene chloride, tetrachloroethene, 1,1,1-trichloroethane, and trichloroethene were detected in the discolored soil/waste samples;

- Several low levels of semivolatile organics were detected including carbazole, 1,3-dichlorobenzene, 1,4-dichlorobenzene, diethylphthalate, di-n-butylphthalate, and pentachlorophenol. Elevated levels of hexachlorobenzene, hexachlorobutadiene, and total PAHs were detected in the discolored soil/waste samples;

- Several low levels of pesticides including aldrin, alpha-BHC, beta-BHC, delta-BHC, alpha-chlordane, gamma-chlordane, 4,4'-dichlorodiphenyldichloroethane (4,4'-DDD), 4,4'-dichlorodiphenyldichloroethylene (4,4'-DDE), 4,4'-dichlorodiphenyltrichloroethane (4,4'-DDT), dieldrin, endrin, endrin ketone, and heptachlor epoxide were detected in the discolored soil/waste samples;

- Low levels of two polychlorinated biphenyls (PCBs), Aroclor-1254 and Aroclor-1260, were detected in some of the soil/waste samples; and

- Inorganics including beryllium, cobalt, copper, lead, and nickel were detected in excess of the common range (1 to 15.4 times) of metals

in soils of the eastern United States were detected in the discolored soil/waste samples.

Reactivity and EP toxicity (metals only) analyses of the discolored soil/waste samples were all within regulatory levels.

During field activities, three underground storage tanks (USTs) were noted at the site. In order to efficiently characterize the site for other possible waste streams, NYSDEC requested sampling of these tanks. One of the tanks (UST-1) appeared to be used for fuel oil, another tank (UST-2) appeared to be part of the sewer system, and the third tank (UST-3) remains unknown. This tank could not be sampled due to restricted access and may be empty. Results of the sample analysis indicated that the contents of UST-1 contained diesel fuel. The liquid portion of UST-2 contained several metals; however, reactivity, ignitability, and EPTOX (metals) analyses were all within regulatory levels. Sediment from UST-2 contained several low level volatile organics, phthalates, polynuclear aromatic hydrocarbons, and metals. The concentrations of metals were not high enough to warrant EPTOX analysis.

The main objective of this investigation was to determine the presence or absence of hazardous waste (i.e., anhydrous aluminum chloride) in 55-gallon drums buried beneath the site. No 55-gallon drums or any indication of the presence of anhydrous aluminum chloride was found, and no hazardous substances were found in the USTs. Therefore, E & E recommends delisting the site from the registry.

Regardless of the fact that no drums or aluminum chloride waste were found at the site, the potential threat to human health and the environment posed by possible off-site migration of some hazardous substances via surface water and groundwater pathways is significant enough that the site should be referred to the NYSDEC Division of Water for additional investigations.

1. SITE ASSESSMENT SUMMARY

1.1 INTRODUCTION

Under the New York State Department of Environmental Conservation (NYSDEC Superfund Standby Contract), Ecology and Environment, P.C. (E & E) conducted a preliminary site assessment (PSA) investigation at the Allied Chemical-Elberta Works (Allied-Elberta) site in the Town of Wilson, Niagara County, New York. This report summarizes PSA activities to date.

1.2 PURPOSE

The purpose of the PSA is to provide NYSDEC with the information necessary to properly assess and classify the site according to one of the following categories of hazardous waste sites pursuant to Section 27-1305 of the Environmental Conservation Law:

- **Class 1:** Causing or presenting an imminent danger or causing irreversible or irreparable damage to the public health or environment—immediate action required;
- **Class 2:** Significant threat to the public health or environment—action required;
- **Class 3:** Does not present a significant threat to the public health or environment—action may be deferred;
- **Class 4:** Site properly closed—requires continued management; or
- **Class 5:** Site properly closed, no evidence of present or potential adverse impact—no further action required.

If one of the above categories does not apply to the site or if disposal of consequential amounts of hazardous wastes were not documented, the site may be deleted from the Registry of Inactive Hazardous Waste Proposal Sites (the Registry). Sites with inadequate and/or insufficient data for inclusion in any of the above classifications receive a temporary 2A classification from NYSDEC.

1.3 SITE DESCRIPTION

The Allied-Elberta site is located at 3119 Randall Road on the northeast corner of the intersection between Randall and Braley roads in the Town of Wilson, Niagara County, New York (see Figure 1-1). The site is on a 3-acre parcel currently owned by Mr. Paul R. Fedkiw and used to warehouse pet supplies. The NYSDEC Registry lists this site as a 1-acre Class 2A site (NYSDEC 1992).

The site is pie-shaped and nearly flat with an approximate elevation of 325 feet above mean sea level (USGS 1974, 1979) (see Figure 1-2). It is bordered by Randall Road, to the west, residential/agricultural land to the north, an abandoned railroad right-of-way to the northeast, and Braley Road to the south. The site consists of four buildings (all currently used for pet supply storage) surrounded by asphalt, three known underground storage tanks (USTs), four abandoned cooling ponds within a fenced area, and an open field north of the fenced area. The fence is continuous around the site, however, there is an open gate along the eastern border. There are numerous floor drains connected by buried sewer lines throughout the site.

The surrounding properties are rural residential and used mainly as farmland. The nearest residence is approximately 300 feet west of the site (USGS 1974, 1979), and the nearest farmland is less than 100 feet west of the site (E & E 1993a). Twelve Mile Creek and the east branch of Twelve Mile Creek are located approximately 1 mile to the west and east, respectively, of the site (USGS 1974, 1979). According to Title 6, Part 848.4 of the Official Codes, Rules, and Regulations of the State of New York (6 NYCRR 848.4) both of these creeks are Class C streams flowing north to Lake Ontario. Class C streams are suitable for fish propagation and survival, and primary and secondary contact recreation including fishing (NYSDEC 1993).

The site and adjacent surrounding residences use the municipal water service, which obtains water from the Niagara River for domestic use. However, municipal water service

was refused by two residences along Braley Road between Randall and Daniels Roads (Albright 1994). Therefore, these residences use private wells for their water supply. Reportedly, there are four 4-inch, inner-diameter polyvinyl chloride (PVC) groundwater monitoring wells on site; however, only three were located during this investigation (see Figure 1-2). The three wells located do not have locking protective casings, but appear to be in good condition (E & E 1993a). There are no state- or federal-designated wetlands or critical habitats within a 1-mile radius of the site (E & E 1991).

1.4 HAZARDOUS WASTE SITE DISCUSSION

Previous investigations (E & E 1991) have documented the disposal of aluminum chloride in anhydrous form at the Allied-Elberta site. According to 6 NYCRR Part 371.3, a waste that reacts violently with water is considered a hazardous waste. Since aluminum chloride in its anhydrous form does react violently with water to produce aluminum hydroxide and hydrochloric acid, it appears that the waste was hazardous at the time of disposal. However, the method of disposal is unclear. It has not been documented if the wastes were disposed in 55-gallon drums, were hydrated before disposal, or have become hydrated after disposal. If the wastes were placed in 55-gallon drums in the anhydrous form, then it would remain potentially reactive in the ground. If the drums leaked and/or deteriorated allowing groundwater to seep in, then the wastes would be initially hazardous as they react with the groundwater, but then become hydrated and non-hazardous. It is likely that the drums and/or the wastes have been in contact with groundwater because groundwater was measured in July 1993 to be 2.7 to 3.5 feet below ground surface in the existing monitoring wells. The purpose of this investigation is to determine the presence or absence of buried drums through geophysical techniques and excavation to determine if any hazards exist at the site.

During the site inspection, three USTs were noted to be present on site. The scope of work for the PSA or previous investigations did not include any investigations of USTs; therefore, the presence of hazardous substances in or around these tanks was unknown.

1.5 SUMMARY OF PSA WORK

A PSA Task 1 report for the Allied-Elberta site, submitted in August 1991, confirmed the disposal of aluminum chloride at the site; however, the hazardous nature of the waste could not be substantiated. Therefore, insufficient information existed to determine whether

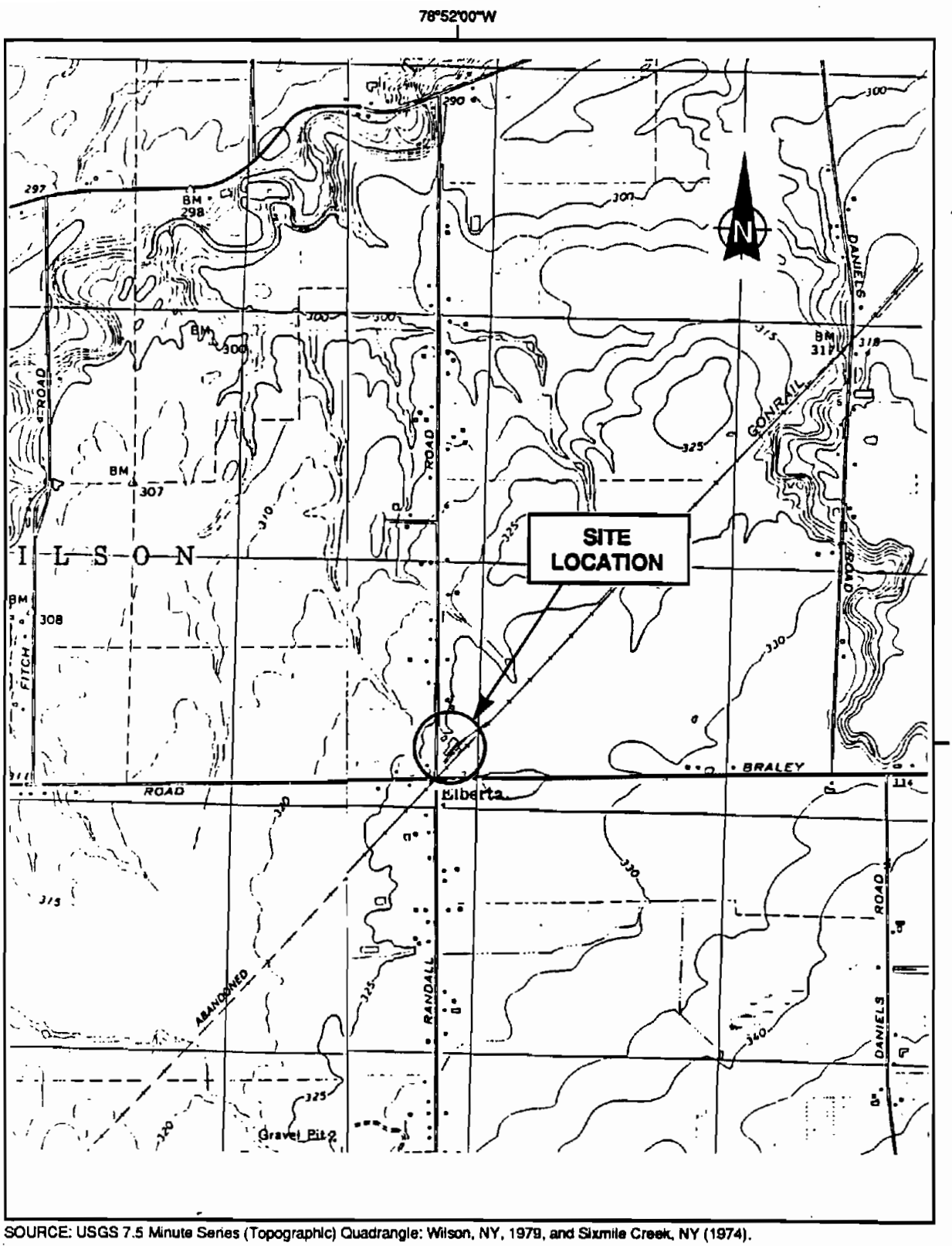
the site posed a significant threat to human health or the environment. The report recommended soil, groundwater, and surface water sampling to determine if the site was hazardous. An additional PSA investigation was performed including a geophysical survey (see Section 3.3) to delineate the wastes and characterization of the subsurface soil/waste through test pit excavations, sampling and chemical analyses.

The continuation of the PSA, as described in this report, has identified numerous magnetic and electromagnetic anomalies at the site. Test pit excavations of the major anomalous areas revealed discolored soil/waste; however, no drums were found. Due to the presence of a wood frame warehouse with a concrete floor over part of one of the alleged disposal areas, subsurface investigations of this area were limited. The northern end of this alleged disposal area located outside of the building, did not contain any evidence of the presence of aluminum chloride. Strong magnetic and electromagnetic anomalies were detected in the northern half of the inside of the building, however, it is not known whether these anomalies were caused by buried wastes beneath the building, or interference from the concrete foundation and pet supplies (i.e., metal cages and light fixtures) inside the building.

Sample results of the subsurface soil/waste from the test pits indicated the presence of several low level organic compounds, with elevated levels of hexachlorobenzene, hexachlorobutadiene, and polynuclear aromatic hydrocarbons (PAHs). Elevated levels of beryllium, cobalt, copper, lead, and nickel were also detected above the common range of metals in soils of the eastern United States (Shacklette and Boerngen 1984; Dragun 1988). Reactivity and EP Toxicity (metals only) analyses of the discolored soil/waste samples were all within regulatory limits. Although there was no evidence of the presence of anhydrous aluminum chloride at the site, there may be drums below the storage building mentioned above, or there may be potential hazards from other contaminants detected at the site.

1.6 NYSDEC CLASSIFICATION FORMS

The NYSDEC Registry Site Classification Decision Form and Classification Worksheet are presented on pages 1-9 and 1-10. These forms provide information necessary to properly classify the site in accordance with 6 NYCRR, Part 375.



SOURCE: USGS 7.5 Minute Series (Topographic) Quadrangle: Wilson, NY, 1979, and Sixmile Creek, NY (1974).

SCALE

0 1000 2000 3000 4000 FEET

Figure 1-1
LOCATION MAP, ALLIED CHEMICAL-ELBERTA WORKS SITE

YR8S002B

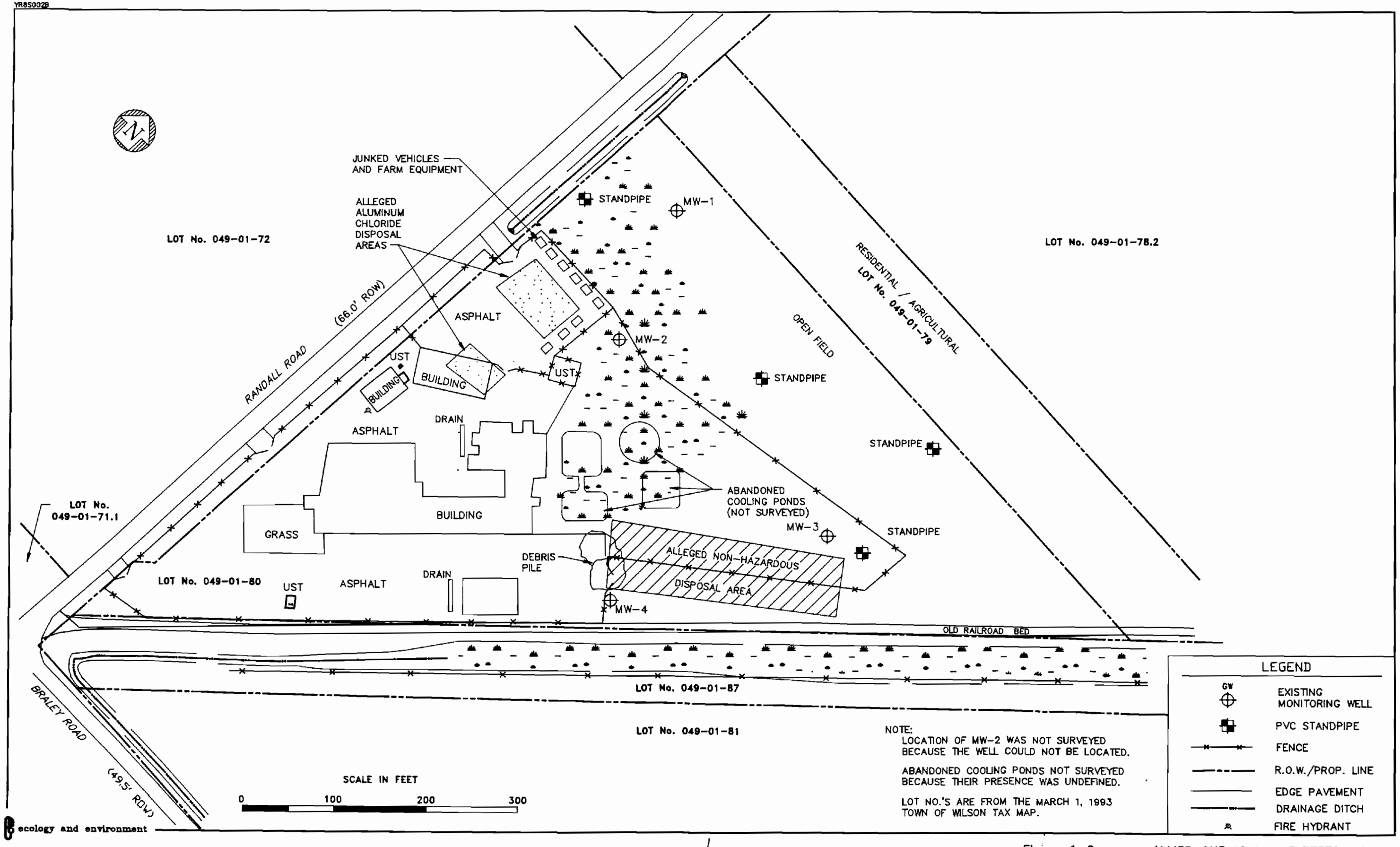


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Figure 1-2 ALLIED CHEMICAL - ELBERTA WORKS SITE MAP

YR850038

MONITOR WELL AND SAMPLE COORDINATES		
	NORTHING	EASTING
MW-1	N10,456.80	E10,686.36
MW-3	N10,100.01	E10,851.80
MW-4	N10,029.47	E10,612.12
TP1-1[a]	N10,119.03	E10,716.11
TP2-1[a]	N10,303.43	E10,478.90
TP2-2[a]	N10,265.34	E10,501.06
TP3-1[a]	N10,202.80	E10,566.33
TP4-1[a]	N10,353.16	E10,749.42
TP4-2[a]	N10,334.36	E10,867.66

[a] COORDINATES OF THE TEST PITS ARE BASED ON APPROXIMATE TEST PIT CENTERS.

7-29-93	MONITOR WELL ELEVATIONS		
W.L. ELEV.	TOP OF CASING ELEV.	WELL	GROUND ELEVATION
320.72	327.24	MW - 1	323.52
321.95	328.45	MW - 3	324.97
322.95	330.17	MW - 4	326.49

HORIZONTAL SURVEY CONTROL REFERENCE		
	NORTHING	EASTING
PK-1	N10,000	E10,000
PK-2	N10,000	E10,814.22

NOTE:

LOCATION OF MW-2 WAS NOT SURVEYED BECAUSE THE WELL COULD NOT BE LOCATED

ABANDONED COOLING PONDS NOT SURVEYED BECAUSE THEIR PRESENCE WAS UNDEFINED.

ALL HORIZONTAL COORDINATES ARE ON AN ASSUMED SYSTEM.

VERTICAL DATUM REFERENCE BENCHMARK TOP PVC PIPE MONITORING WELL MW-4. (ELEV. = 330.17 FT.)

LEGEND

- GW ⊕ EXISTING MONITORING WELL AND
- 321.95 WATER LEVEL ELEVATION MEASURED ON JULY 29, 1993.
- GROUNDWATER CONTOUR
- PVC STANDPIPE
- SURVEY CONTROL POINT
- TEST PIT LOCATION
- FENCE
- R.O.W./PROP. LINE
- EDGE PAVEMENT
- DRAINAGE DITCH
- FIRE HYDRANT

Figure 3-1 SAMPLE LOCATION AND GROUND-WATER CONTOUR MAP
ALLIED CHEMICAL - ELBERTA WORKS

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CLASSIFICATION WORKSHEET

Site: Allied Chemical-Elberta Works County: Niagara Region: 9

1. Hazardous waste disposed?	☒ Yes (to 2)	☐ No (Stop)	☐ Unknown (Stop)
2. Consequential amount of hazardous waste?	☐ Yes (to 3)	☒ No (Stop)	☐ Unknown (to 3)

3. Part 375-1.4(a)(1) applies?

☐ No (to 4) ☐ Unknown (to 4)

☐ Yes (as checked below; Class 2; to 5)

☐ a. endangered or threatened species	☐ d. fish, shellfish, crustacea, or wildlife
☐ b. streams, wetlands, or coastal zones	☐ e. fire, spill, explosion, or toxic reaction
☐ c. bioaccumulation	☐ f. proximity to people or water supplies

4. Part 375-1.4(a)(2) applies?

☐ No (Class 3; Stop) ☐ Unknown (Class 2a; Stop)

☐ Yes (Class 2; to 5)

5. Factor(s) considered in making this determination:

SUMMARY

Consequential Hazardous Waste	☐ Yes	☒ No	☐ Unknown
Significant Threat	☐ Yes	☒ No	☐ Unknown

Proposed Classification Delist Site Number 932003

Date Signature and Title

New York State Department of Environmental Conservation
Division of Hazardous Waste Remediation

REGISTRY SITE CLASSIFICATION DECISION

1. Site Name: Allied Chemical-Elberta Works	2. Site No. 932003	3. Town/City/Village: Wilson	4. County: Niagara
5. Region 9	6. Classification Current: 2a Proposed: Delist Modify:		

7. Location of Site (see Figure 1-1 for site location)
a. Quadrangle: Wilson and Six Mile Creek b. Site Latitude: 43°15'51" Longitude: 78°52'00" c. Tax Map Number: 049-01-80

8. Briefly Describe the Site (see Figure 3-1 for site plan)

The site consists of approximately 1-acre of fill on a 3-acre parcel located in a rural residential/agricultural area. During disposal the site was a chemical manufacturing facility, primarily producing aluminum chloride. Anhydrous aluminum chloride was disposed of at the site. In that form, it is violently reactive with water, and produces aluminum hydroxide and hydrochloric acid and is considered a hazardous waste. The site is currently used to warehouse pet supplies.

a. Area 1 acre b. EPA ID Number NYD002128544
c. Completed ☒ Phase I ☐ Phase II ☒ PSA ☐ RI/FS ☐ PA/SI ☒ Other (SI)

9. Hazardous Wastes Disposed

Anhydrous aluminum chloride, however, no drums of aluminum chloride were found during test pit excavations as part of the PSA.

10. Analytical Data Available
a. ☐ Air ☐ Groundwater ☐ Surface Water ☒ Soil (Sediment) ☒ Waste ☒ EPTox ☐ TCLP

b. Contravention of Standards or Guidance Values
No standards exceeded (were applicable); however, beryllium, cobalt, copper, lead, and nickel exceeded common ranges.

11. JUSTIFICATION FOR CLASSIFICATION DECISION

See No. 9 above.

12. Site Impact Data
a. Nearest surface water: Distance 5,280 ft. Direction east and west Classification C
b. Nearest groundwater: Depth 2.7 ft. Flow Direction north/northwest ☐ Sole Source ☐ Primary ☒ Principal
c. Nearest water supply: Distance 600 ft. Direction east Active? ☒ Yes ☐ No
d. Nearest building: Distance 0 ft. Direction ___ Use: warehouse
e. In State Economic Development Zone? ☐ Yes ☒ No i. Controlled site access? ☒ Yes ☐ No
f. Crops or livestock on site? ☐ Yes ☒ No j. Exposed hazardous waste? ☐ Yes ☒ No
g. Documented fish or wildlife mortality? ☐ Yes ☒ No k. PA Score ____
h. Impact on special status fish or wildlife resource? ☐ Yes ☒ No l. For Class 2: Priority Category ____

13. Site Owner's Name P.R. Fedkiw	Address 3119 Randall Road, Wilson, New York 14131	15. Telephone Number 716/751-6243

16. Preparer	17. Approved
Signature Date	Signature Date
Name, Title, Organization	Name, Title, Organization

2. SITE HISTORY

2.1 SITE HISTORY

The Allied-Elberta site was originally a fruit packing facility in 1923. In 1928, the site was used for barrel making. In 1945, the property was sold to Elberta Chemical Works Company and used for the production of aluminum chloride until 1956. The aluminum chloride manufacturing process involved reacting chlorine gas with aluminum ingots to make aluminum chloride. Two unlined cooling ponds were installed around 1945 by Elberta Chemical Company. One pond received and recycled cooling water, and the other received water from the process area. There was a common pipeline between the two ponds (Lewandowski 1982).

In 1956, Allied Chemical acquired the Elberta Chemical Works Company and continued plant operations until 1982. In August 1982, Allied Chemical proposed to dig two new cooling ponds adjacent to the northeast side of the existing ponds. The ponds were proposed to be 40 feet in diameter and 12 feet in depth. Based on the low permeable soils found during the groundwater study in 1979 prepared for Allied Chemical by Calspan Advanced Technology Center (Calspan 1979), the new cooling ponds were also to be unlined. The water from the existing ponds would be pumped into the new ponds; therefore, no discharge to surface water was planned. The existing ponds were proposed to be filled with the soil from the newly excavated ponds (Lewandowski 1982).

In November 1982, DAL Specialties bought the plant, and also continued aluminum chloride production (Kanelis 1991). Up until 1983, the cooling ponds discharged intermittently to Twelve Mile Creek. The facility stopped discharging when DAL Specialties was told that it would need a permit to continue discharging to the creek. Due to significant rainfall in 1984, the cooling ponds reached maximum capacity. The facility requested

permission from NYSDEC to discharge the water. The water was then sampled and discharge permitted from the new cooling ponds on a one-time basis (EPA 1988).

Welland Chemicals acquired DAL Specialties in 1985 and ceased all operations at the site. The equipment was transferred to their main aluminum chloride plant in Sarnia, Canada and the property remained unoccupied (Ballantyne 1991). The cooling water from the ponds was discharged, and the ponds were sampled, treated, and backfilled under a NYSDEC site closure plan (EPA 1988). In August 1989, EVA Corporation, owned by Paul R. Fedkiw, took title of the property. Currently, Mr. Fedkiw uses the facility to warehouse pet supplies including food and equipment. All of the buildings are being utilized for storage and the main building is currently undergoing renovation by the site owner (E & E 1993a).

2.2 INVESTIGATION HISTORY

The amount of aluminum chloride waste that was landfilled on site is unknown. During the Phase I investigation, James Lanzo, owner of DAL Specialties, stated that an estimated 324 tons of waste were landfilled from 1950 to 1977 (Engineering Science 1988). However, during the Preliminary Site Assessment Task 1, it was discovered that Allied Chemical disposed of approximately 1,500 tons of solid waste from 1956 to 1972 in two on-site areas. The solid waste included refractory material, graphite, small amounts of aluminum chloride and asbestos, and scrap rubber sealed bins. The two areas have since been covered with an asphalt parking lot and a wood frame warehouse on a concrete slab. It is not known for certain, but there was no evidence in Allied Signal's (formerly Allied Chemical) records that aluminum chloride was disposed in drums (Kanelis 1991). However, DAL Specialties reported in the hazardous waste questionnaire provided under Community Right-to-Know requirements that aluminum chloride waste generated between 1979 and 1981 was drummed, and sent to either CECOS or SCA landfills for disposal in a secure landfill as characteristic reactive waste. Allied Chemical owned and operated the facility during the years cited (NYSDEC 1991).

On February 17, 1988, NUS Corporation conducted a site inspection during which five soils, one tap water, and two monitoring well samples were collected. Analysis of the monitoring well and soil samples collected on site indicated the presence of various metals in concentrations above those detected in upgradient samples. Rusted drums labelled "aluminum chloride" were also found on site. Residents interviewed claimed that chlorine was released

from the site into a roadside ditch. The facility was found to have the capability to direct roof rainwater to the cooling ponds or to the road side ditch. The cooling ponds also received water from washdown of the aluminum chloride packing room and from two catch basins which serviced the truck loading station via two sump pumps. Blowdown from a boiler was also discharged to the cooling ponds (EPA 1988).

To verify alleged disposal areas and determine if there were any other potential disposal areas at the site, E & E reviewed aerial photographs from 1938, 1951, 1958, 1966, 1982, and 1991 (see Appendix A). These photographs were obtained from the Niagara County Highway Department in Lockport, New York. Although it was difficult to observe actual disposal areas due to the scale and clarity of the photographs, it was determined that the area of interest appears to lie only within the currently fenced area. The fence across the northern portion of the site is approximately 150 to 200 feet south of the actual property boundary; however, no activity in this area is visible in any of the aerial photographs. Review of the photographs indicated the following:

- The 1938 photo indicated the presence of a building and limited activity on site;
- The 1951 photo indicated a large excavated area (possibly one of the former cooling ponds), and other areas of disturbance around the building;
- The 1958 photo indicated the presence of a larger building adjacent to the previously detected building in the 1951 photo, two cooling ponds, and prominent areas of activity around the buildings and along the railroad track. The excavated area detected in the 1951 photo was much larger and located adjacent to the northeast of the cooling ponds;
- The 1966 photo is similar to the 1958 photo, and provides slightly more detail due to better clarity; however, the excavated area northeast of the cooling ponds is no longer visible;
- The 1982 photo still indicated the presence of the two cooling ponds, along with several additional buildings to the northwest of the previously observed buildings; and
- The 1991 photo indicated the same buildings as the 1982 photo, however, the asphalt parking lot in the northwest portion of the site is visible, and the cooling ponds are almost completely covered with vegetation and are undefined.

3. PSA TASK DISCUSSION

Task 1 of the PSA was performed in 1991 by E & E under contract to NYSDEC and included a record search and site inspection. The PSA was continued by E & E at the Allied-Elberta site with fieldwork performed in July, August, and November 1993. The scope-of-work for the PSA was prepared by NYSDEC and included a phased approach for this site.

The first phase of work was to perform a geophysical survey of the site to locate potentially buried drums. Test pits would then be dug to verify the results of the geophysical survey. If drums of aluminum chloride waste were found, then the next phase of work would include groundwater, surface water/sediment, and subsurface soil sampling to determine the extent of contamination migration.

With minor exceptions, all field tasks were performed in accordance with the scope of work.

3.1 PSA TASK 1 REPORT

Task 1 of the PSA for the Allied-Elberta Site was performed by E & E in 1991. This task included a file review, site inspection, and preparation of a PSA Task 1 report.

A file search and review was conducted utilizing state, county, municipal, and site-specific sources. This information was compiled from existing data as well as new sources, and a preliminary characterization of the site was developed after review.

A site inspection was conducted on April 29, 1991 to assess the surface characteristics of the site and vicinity, observe evidence, if any, of hazardous substances or wastes present, photograph the site, conduct preliminary air monitoring using a photoionization detector (PID) and a radiation meter, and confirm information obtained from the initial data search. At the time of the inspection, there was no instrument readings and no physical evidence of

hazardous waste disposal. The inspection was conducted along the perimeter of the site because the site owner was unavailable.

The PSA Task 1 report was submitted to NYSDEC in August 1991. This report concluded that although the disposal of anhydrous aluminum chloride at the site was documented, the nature of the disposal method was unsubstantiated (i.e., disposal of the waste in drums was not determined). Therefore, it was still unclear if the alleged waste is still reactive beneath site since it may or may not have come in contact with groundwater. Additional sampling was recommended, including soil, groundwater and surface water, to determine if aluminum chloride still posed a significant threat.

3.2 PRE-FIELD INVESTIGATION

Continuation of the PSA for the Allied-Elberta site involved several field tasks as described in the following sections. Prior to initiating field activities, E & E performed several other tasks. In June 1993, E & E submitted the Project Management Work Plan to NYSDEC for approval (E & E 1993b). This document included the abbreviated technical work plan prepared by NYSDEC for the site as well as technical approach for the management and performance of the field tasks, laboratory analyses, report preparation, etc.

In June 1993, E & E also submitted the General Health and Safety Plan (E & E June 1993b) to NYSDEC for review. The General Health and Safety Plan outlined the health and safety procedures and protocols to be followed during site characterization sampling and field activities. This document and information gathered during Task 1 of the PSA were used to generate a site-specific safety plan.

In August 1993, E & E submitted the QAPjP to NYSDEC for approval (E & E 1993d). The QAPjP presents the policies, organization, objectives, functional activities, and specific quality assurance (QA) and quality control (QC) activities implemented for this project. The QAPjP was designed in accordance with all NYSDEC and United States Environmental Protection Agency (EPA) guidance documents to ensure that all laboratory data generated by E & E's Analytical Services Center (ASC) meet specified data quality objectives.

In addition to preparation of these documents, tax map information was obtained and a site inspection was performed. The site inspection was performed on July 29, 1993 to confirm the observations of the first site inspection and to select the proposed geophysical survey areas. There were no physical signs of hazardous waste disposal, however, the alleged

disposal areas were covered with blacktop and a storage building. In addition, three USTs were noted to be present on site, along with numerous floor drains and sewers which may be source areas or migration pathways for contamination other than the disposal of aluminum chloride. The updated EPA Site Inspection Form, 2070-13, is presented in Appendix B.

3.3 GEOPHYSICAL INVESTIGATION

3.3.1 Methodology

A geophysical survey was performed at the site by E & E on July 29, August 2, August 3, 1993, and November 17, 1994. The letter report (E & E 1993e) and results pertaining to this investigation are included in Appendix C of this PSA report. The survey was performed in an effort to determine if drums are buried at this site. Two initial survey grids (Grid 2 and 5) were planned to investigate the two alleged aluminum chloride disposal areas. Upon review of the previous site history and performance of a second site inspection, two additional survey grids were proposed by E & E and approved by NYSDEC. One of these grids (Grid 1) encompassed the alleged nonhazardous disposal area, and the other grid (Grid 4) encompassed the open field north of the facility fence within the site boundary. A third grid (Grid 3) was also added at the request of the NYSDEC Region 9 site representative. This grid consisted of two profile lines across the southernmost cooling ponds. The purpose of these profile lines was to determine if drums were placed in the abandoned cooling ponds. Upon completion of the geophysical investigation and additional research by NYSDEC, an additional survey grid (Grid 6) was added along the east side of the warehouse which was allegedly constructed over one of the disposal areas.

The geophysical surveys were performed using an EG&G Geometrics model G-856 proton precision magnetometer and a Geonics Ltd. model EM31 ground conductivity meter. Grid 6 was initially surveyed with the EM31. After downloading and processing the data, it was deemed necessary to survey the grid with the magnetometer. Survey grids had variable station and line spacings depending upon the total grid area and man-made obstructions (see Table 3-1).

One reading of the earth's total magnetic field (in units of gammas) was collected at each grid station. Magnetic readings were later corrected for diurnal drift using a correction factor established from base station readings. Eight readings were recorded at each station by the EM31. Four of these readings were collected with the instrument oriented parallel to the

Y-axis of the grid (Orientation 1), and the remaining four were collected with the instrument oriented parallel to the x-axis of the grid (Orientation 2). The readings in each orientation consisted of both the quadrature phase component (conductivity) and the inphase component of the induced magnetic field. The quadrature phase component measures ground conductivity in units of millimhos/meter (mmhos/m). The inphase component is used to enhance the detection of buried metallic objects. The unit of measure for the inphase component is parts per thousand (ppt) which represents the ratio between the primary magnetic field generated by the instrument and the secondary magnetic field generated by the earth. The instrument can also be operated in two modes: vertical dipole and horizontal dipole modes. In the vertical dipole mode, the instrument is more sensitive to deeply buried objects and is capable of penetrating the ground to a depth of approximately 18 feet. In the horizontal dipole mode, the instrument is more sensitive to shallow objects and has a depth of penetration of approximately 9 feet.

All instrument readings were electronically recorded and stored by the instruments. Magnetometer readings were downloaded using *MAGPAC* version 4.1.5 software (EG&G) Geometrics 1989), and EM31 software (Geonics Ltd. 1992). All geophysical data were then plotted and contoured using *Surfer* version 4.15 software (Golden Software, Inc. 1991).

3.3.2 Results

Several contour maps of each survey grid were generated to illustrate survey results. Magnetometer maps are labeled "MAG," and EM31 maps are labeled "Conductivity" for the quadrature phase component, and "Inphase" for the inphase component. Vertical and horizontal dipole modes in instrument orientations 1 and 2 are labeled V1, H1, and V2, H2, respectively. Asterisks on the maps indicate grid station locations with recorded geophysical data. The contour maps are presented in the geophysical report (E & E 1993e) in Appendix B.

Several anomalous areas were detected in all six survey grids. Details of these anomalies are discussed in Appendix C. The potential for buried drums was evident by the presence of at least one unexplainable magnetic or electromagnetic anomaly in each one of the survey grids. If drums are present, they are most likely located in Grids 2, 4, and 5. However, most of the anomalies appear to be small and insignificant (i.e., large clusters of drums are not evident in any of the contour plots).

In order to confirm the results of the geophysical surveys and identify the source of the more prominent anomalies, test pit excavations were recommended in Grid 1 at X,Y grid coordinate (20,60); Grid 2, between (60,30) to (80,50); Grid 3 at (70,0); and Grid 4 at (200,25), and (275,100) to (300,100). Since Grid 5 was inside the storage building with the concrete slab foundation, no initial investigative work was recommended due to difficult access. If necessary, investigation at grid coordinates (18,40) and (18,50) in Grid 5 is recommended. Review of the data collected in Grid 6 revealed no significant anomalies, therefore, no test pits were recommended. Results of test pit excavations at the above-mentioned anomalies are discussed in Section 3.4.

3.4 SAMPLING

On November 2, 1993, as part of the PSA field investigations, six test pits were excavated by Green Environmental Specialists, Inc. under the supervision of an E & E on-site geologist and site safety officer. The excavations were performed using a backhoe which was decontaminated with a high-pressure steam cleaner before and after each test pit location. A NYSDEC Region 9 site representative was present for most of the excavations. A total of nine soil/waste samples were collected from the six test pit excavations (see Figure 3-1). Although two samples were proposed in the work plan from each pit, only one sample (TP4-2-6ft) of native soil was collected from the two test pits in the open field due to the lack of man-made fill materials. This sample was collected to characterize background soil conditions. The remaining samples consisted of seven discolored soils/wastes from test pits in geophysical Grids 1, 2, and 3; and one native soil (TP3-1-7ft) collected adjacent to one of the former cooling ponds.

Field and sampling procedures were performed in accordance with the PSA Project Work Plan (E & E 1993a), Health and Safety Plan (E & E 1993b), and the Quality Assurance Project Plan (QAPjP) (E & E 1993d). The background subsurface soil (TP4-2-6ft) and native soil adjacent to the Cooling Pond (TP3-1-7ft) soil, were analyzed for full TCL parameters including volatiles, semivolatiles, polychlorinated biphenyls (PCBs)/pesticides, metals, and cyanide. The remaining seven discolored soil/waste samples were analyzed for full TCL, reactivity, and EP toxicity (metals only).

At the request of NYSDEC, E & E collected samples from two of the three USTs (UST-1 and UST-2) at the site on November 17, 1994 (see Figure 3-1). A sample from

UST-3 could not be obtained due to restricted access. In addition, 9 feet of drain snake inserted in the vent pipe of UST-3 indicated dry conditions. It could not be determined whether the snake entered the tank. The liquid sample from UST-1 was analyzed for petroleum products due to its hydrocarbon odor, color and density, and the liquid sample from UST-2 was tested for full TCL/TAL parameters. This sample was also tested for reactivity, ignitability, and EP toxicity (metals). A sediment sample was also collected from UST-2 and tested for full TCL/TAL parameters and ignitability. All sample analyses were performed by E & E's Analytical Services Center (ASC) in accordance with NYSDEC's Analytical Services Protocol (ASP). In addition to the above-mentioned samples, one matrix spike and one matrix spike duplicate sample were collected for Quality Assurance/Quality Control (QA/QC) purposes.

Table 3-2 summarizes test pit excavations; Table 3-3 summarizes sampling and analyses performed during this investigation. Results of the soil/waste sampling are presented in Tables 3-4 through 3-8. UST sample results are summarized in Tables 3-9 through 3-11. Data summary forms are presented in Appendix D. Tentatively identified compounds (TICs) detected in samples are also presented in Appendix D.

3.4.1 Subsurface Soil/Waste From Test Pit Excavations

Discolored soil/waste was detected in four of the six test pit excavations. A description of the materials encountered during the excavations are presented in Table 3-2. No 55-gallon drums were found in any of the test pit excavations. Since no excavations were performed beneath the storage building partially covering one of the alleged aluminum chloride disposal areas, it is not known whether there are any buried drums below this building. However, a test pit (TP2-1) dug at an anomalous area at the northern end of this alleged area not covered by the building did not reveal any drums.

The background native soil (TP4-2-6ft) did not contain any organics above detection limits or inorganics above common ranges (see Tables 3-4 through 3-8). The native soil collected adjacent to the cooling ponds (TP3-1-7ft) only contained 5 μg/kg of 1,1,1-trichloroethane and 3,100 μg/kg of hexachlorobenzene (i.e., no other organics or inorganics were detected above detection limits or common ranges). Hexachlorobenzene was also detected in all of the discolored soil/waste samples in concentrations ranging from 74 μg/kg to 640,000 μg/kg (see Table 3-5). The highest concentration was detected in TP3-1-5Ft

collected from one of the cooling ponds. Hexachlorobenzene is a white crystalline solid formed as a by-product during the manufacture of chlorinated solvents, other chlorinated compounds, and pesticides. It can also be produced during combustion processes such as incineration of municipal wastes. It is relatively insoluble in water, and tends to remain as a solid in the environment for a long time (i.e., half of the released amount to soils will remain for 3 to 6 years, and half of the released amount to lakes and groundwater will remain 30 to 300 days mostly as particles in suspension or on the bottom). There are no current commercial uses of hexachlorobenzene in the United States; however, it was used as a pesticide or fungicide until 1985. It was also used in the production of pyrotechnic and ordnance materials for the military and in the production of synthetic rubber (Clement Associates 1990; Merck & Co. 1983).

Low levels of several volatile organics were detected in some of the test pit samples. These compounds include: acetone detected in TP1-1-3ft, TP1-1-12ft, TP2-2-1.5ft, and TP-3-1-5ft at concentrations ranging from 9 μg/kg to 57 μg/kg; 2-butanone in TP1-1-3ft at a concentration of 12 μg/kg; chlorobenzene in TP3-1-5ft at 180 μg/kg; chloroform in TP2-2-1.5ft at 8 μg/kg; total-1,2-dichloroethene in TP2-2-1.5ft. at 19 μg/kg; methylene chloride in all samples at 3 μg/kg to 6 μg/kg; tetrachloroethene in TP2-2-1.5ft and TP2-2-2ft at 410 μg/kg and 32 μg/kg, respectively; 1,1,1-trichloroethane as mentioned above and trichloroethene in TP2-2-1.5ft at 17 μg/kg (see Table 3-4). Since methylene chloride was detected at 3 μg/kg in the laboratory method blank, and the concentrations detected in the soil/waste samples were less than 10 times the method blank levels, the presence of methylene chloride in the field samples is considered laboratory background. Although acetone, 2-butanone, and chloroform were not detected in the laboratory method blank, these compounds are common laboratory contaminants. The presence of these compounds in the samples may be due to laboratory background.

Several pesticides were detected in the soil/waste samples. These compounds include: alpha-BHC detected in TP2-1-3ft and TP2-2-2ft at concentrations of 5.3 μg/kg and 84 μg/kg, respectively; beta-BHC in TP2-2-2ft at 13 μg/kg; delta-BHC in TP1-1-3ft and TP2-2-1.5ft at 2 μg/kg and 29 μg/kg, respectively; aldrin (20 μg/kg), heptachlor epoxide (7.4 μg/kg), 4,4'-DDD (59 μg/kg), 4,4'-DDT (23 μg/kg), endrin (5.7 μg/kg) and alpha-chlordane (4.4 μg/kg)

in TP2-2-2ft; dieldrin (32 μg/kg), 4,4'-DDE (24 μg/kg), and endrin (12 μg/kg) in TP2-2-1.5ft; and endrin ketone and gamma-chlordane in TP2-2-1.5ft at 9.9 μg/kg and 3 μg/kg, respectively (see Table 3-4).

Low levels of two PCB compounds were detected in the soil/waste samples. These compounds included: Aroclor-1254 detected in TP2-1-3ft at a concentration of 27 μg/kg; and Aroclor-1260 in TP2-1-1.5ft, TP2-2-1.5ft, and TP2-2-2ft at 110 μg/kg, 310 μg/kg, and 430 μg/kg, respectively (see Table 3-4).

Several semivolatiles were detected in the soil/waste samples. These compounds include: bis (2-ethylhexyl)phthalate detected in TP1-1-12ft, TP2-1-1.5ft, TP2-2-1.5ft, TP2-2-2ft and TP3-1-5ft at concentrations ranging between 22 μg/kg to 140 μg/kg; carbazole in TP2-1-3ft at 68 μg/kg; 1,3-dichlorobenzene, 1,4-dichlorobenzene, and diethylphthalate in TP3-1-5ft at 370 μg/kg, 370 μg/kg, and 150 μg/kg, respectively; di-n-butylphthalate in TP1-2-12ft and TP3-1-5ft at 30 μg/kg and 52 μg/kg, respectively; elevated levels of hexachlorobenzene as mentioned above; hexachlorobutadiene in TP2-1-1.5ft and TP2-2-1.5ft at 640 μg/kg and 6,000 μg/kg, respectively; pentachlorophenol in TP2-2-1.5ft at 180 μg/kg, respectively; and total PAHs at 2,250 μg/kg in TP1-1-3ft, 55 μg/kg in TP1-1-12ft, 6,315 μg/kg in TP2-1-3ft, 4,380 μg/kg in TP2-2-1.5ft, 8,012 μg/kg in TP2-2-2ft, and 195 μg/kg in TP3-1-5ft (see Table 3-5). Phthalate esters are plasticizers used in latex gloves which are worn by both field and laboratory personnel. Therefore, the low levels of phthalates mentioned above may be due to field/laboratory contamination. The levels of PAHs in the discolored soil/waste were all elevated when compared to the two native soil samples (PAHs were not detected), and almost all of these levels exceeded background PAH concentrations for rural and agricultural soils (see Table 3-6).

Several inorganics were detected in the soil/waste samples of which five exceeded the common range of metals in soils of the eastern United States (Shacklette and Boerngen 1984; Dragun 1988). Inorganics exceeding the common ranges include: beryllium in TP2-2-2ft at 3 times the common range; cobalt in TP2-1-3ft at 5.5 times the common range; copper in TP1-1-3ft, TP2-2-1.5 ft, and TP2-2-2ft at 2, 6.4, and 15.4 times the common range, respectively; lead in TP2-1-3ft, TP2-2-1.5ft, and TP2-2-2ft at 1.3, 1.02 and 1.8 times the common range, respectively; and nickel in TP2-1-3ft at 4.7 times the common range (see Table 3-7).

In order to determine whether the discolored soil/waste can be classified as hazardous, reactivity and EP toxicity (metals only) analyses were performed on the discolored

soil/waste samples at the request of NYSDEC. None of the samples exceeded the regulatory levels (see Table 3-8).

3.4.2 UST Sampling

The sample collected from UST-1 with a clear teflon bailer through the filler pipe, appeared to be a mixture of water and fuel oil, based on color, odor, and density. There was 2.2 feet of liquid in the tanks; however, the tank dimensions are unknown. The bottom of the tank was measured to be 7.4 feet below ground surface. UST-2 was accessed through a 2-foot diameter manway. The tank is concrete, rectangular in shape (4-foot long, 4-foot wide, and 5.75-feet deep), and was filled with a clear liquid (probably water) with 1 foot of black sludge on the bottom. A liquid sample was collected with a clear teflon bailer, and the sludge was collected by scooping the material off the bottom with a precleaned garden hoe. The material was transferred to the appropriate sample containers with a clean stainless steel spoon.

Analytical results from the UST-1 sample indicated the presence of 690,000 μg/L of diesel fuel (see Table 3-9). Analytical results of the liquid portion of UST-2 indicated the presence of several metals including aluminum, barium, beryllium, calcium, chromium, copper, cyanide, iron, lead, magnesium, manganese, potassium, sodium, and zinc (see Table 3-10). Reactivity, ignitability, and EP toxicity (metals) analyses were all below regulatory standards (see Table 3-11).

Analytical results of the sediment from UST-2 indicated the presence of acetone, carbon disulfide, ethylbenzenes, and xylene. Acetone and carbon disulfide are common laboratory contaminants. Several phthalates, including butylbenzylphthalate, dimethylphthalate, and bis(2-ethylhexyl)phthalate that were detected in the sample are also common laboratory contaminants, as stated in Section 3.4.1. Three low-level PAHs, fluoranthene, phenanthrene, and pyrene, along with numerous metals were also detected in the sediment (see Tables 3-10 and 3-11). The concentrations of metals were low enough not to warrant EP toxicity (metals) analysis.

3.5 SURVEYING

Following completion of the Test Pit activities, the site was surveyed by a licensed surveyor to a vertical accuracy of 0.05 feet and a horizontal precision of 1/10,000. The

vertical datum used was the top of PVC pipe of monitoring well MW-4 with an assigned elevation of 330.17 feet. This elevation was chosen based on contours from the Wilson (USGS 1979) and Six Mile Creek (USGS 1974) quadrangles. The horizontal datum was magnetic north with assumed coordinates. The physical features of the site, and all PSA sampling locations were surveyed and are shown on Figures 1-2 and 3-1 in this report. No property lines were surveyed. Instead, Town of Wilson tax maps were used to approximate the property boundaries (see Figure 1-2).

3.6 PA SCORE

The purpose of the PA score is to assist in differentiating sites that pose little or no potential threat to human health and the environment from sites that warrant further investigation based on their potential threat.

The PA score is a screening level compilation of existing information about a site and its surrounding environment, with an emphasis on obtaining comprehensive information on targets (i.e., populations and resources that might be threatened by a potential release from the site). The PA score is a simplified version of the Hazard Ranking System (HRS), which can be used to quantitatively assess a limited number of factors. A site with an HRS score of 28.50 or greater is eligible for proposal to the National Priorities List.

The factors used to compile the PA score are likelihood of release, targets, and waste characteristics. Likelihood of release is the relative potential of a hazardous substance migrating from the site. Targets represent people, physical resources (drinking water wells or intakes), and environmental resources (sensitive environments) that may be threatened by a release from the site. Waste characteristics is an estimation of the type and quantity of hazardous waste at the site. These factors are then applied to the various exposure pathways (groundwater, surface water, soil, and air) to derive an overall site score.

The results of PA scoring (out of 100) for the Allied-Elberta site are as follows:

- Overall site score: 23
- Groundwater pathway score: 5
- Surface water pathway score: 46
- Soil pathway score: 3

- Air pathway score: 2

Disposal of anhydrous aluminum chloride has been documented at this site. However, the method of disposal is undetermined (i.e., whether or not it was placed in drums), and no drum were found during test pit excavations. In addition to the aluminum chloride disposal, unlined cooling ponds on site received cooling water from the washdown of the aluminum chloride packing room. On-site monitoring wells have shown elevated levels of chloride; therefore, a release to groundwater is suspected. Although most of the area surrounding the site uses municipal water for their drinking water supply, there are two residences 2,600 feet from the site on private well water.

As stated above, there are unlined cooling ponds on site which were reported to intermittently discharge to Twelve Mile Creek up until 1983. Therefore, there has been a release to surface water, thus increasing the surface water pathway score.

Although there are no residences or schools built on the former facility and there are no documented adverse health effects, a low potential for exposure exists due to the possible migration route via the drainage ditch along the site. Air is not considered to be a major exposure pathway since there has been no documented release. However, due to the proximity of the residential area, a secondary target pathway was included in the air pathway score.

Table 3-1

GEOPHYSICAL SURVEY GRID SUMMARY
ALLIED-ELBERTA SITE

Grid No.	Location	Orientation[a]	Dimension X-axis x Y-axis (feet)	Station Spacing (feet)	Line Spacing (feet)
GRID-1	Non-hazardous disposal area along the eastern border of the site	N57E	150 x 160	20	20
GRID-2	Asphalt Parking lot in the northwest corner of the site covering one of the alleged aluminum chloride disposal areas	N15E	140 x 140	Variable[b] (10 and 20)	Variable[b] (10 and 20)
GRID-3	Southern-most former cooling ponds	N30E	80 x 45	10	45
GRID-4	Open field north of the site fence within the property boundary	N10W	525 x 150	25	25
GRID-5	Inside the storage building constructed over most of one of the alleged aluminum chloride disposal areas	N65E	25 x 65	Variable[c] (5 and 10)	Variable[c] (11, 7, and 8)
GRID-6	Adjacent to storage building (Grid 5)	N52E	20 x 70	5	5

a Orientation of grids is based on compass headings which were uncorrected for magnetic declination.

b Station and line spacings were variable due to interference from automobiles, farm equipment, fences, and the storage building.

c Station and line spacings were variable due to interference from fish tanks and fish tank accessories stored in the building.

Table 3-2

TEST PIT EXCAVATION SUMMARY
ALLIED-ELBERTA SITE

Test Pit No.	Location (Survey Grid and Station Coordinate)	Total Depth (feet bgs)	Total Length (feet)	OVA Readings (PPM)	Descriptions of Excavated Materials	Depths Sampled (feet bgs)
TP1-1	Grid 1 (20,40) to (20,60)	12	20	0	0-3.0 feet: Standing water at surface, medium brown clayey, very fine sand and silt, moist to wet	
				28	3.0-12 feet: Black swamp-like material, organic, some wood fragments and metallic-like material, moist to wet	3
				20	12 feet: gray, crushed stone, saturated	12
TP2-1	Grid 2 (60,30) to (80,50), (80,50) to (80,60)	4	35	0.1	0-3 feet: Approximately 3 inches of asphalt between (80,50) to (80,60), followed by fill materials. Fill material is black, brown, red and white in color, and consists of slag, bricks, cinderblocks, and graphite fragments. There was a white cinder-like material at 1.5 feet, and a ring to a 55-gallon drum at (80,60) and a steel grate at (60,30) which are the probable sources of the geophysical anomalies. Most of the fill was black in color, similar to graphite waste which may also be highly conductive.	1.5
				0	3-4 feet: Native soil, medium to light brown, sandy silt and clay, moist to wet.	3.0

Table 3-2

TEST PIT EXCAVATION SUMMARY
ALLIED-ELBERTA SITE

Test Pit No.	Location (Survey Grid and Station Coordinate)	Total Depth (feet bgs)	Total Length (feet)	OVA Readings (PPM)	Descriptions of Excavated Materials	Depths Sampled (feet bgs)
TP2-2	Grid 2 (120,40) to (120,50)	4	10	0.5	0-3 feet: Approximately 3-inches of asphalt, followed by a large 4-inch concrete slab, concrete fence-post footing caused circular bulge in asphalt. Fill material consisted of blue, green (granular material with large chunks up to 1-foot in length), and some red material. Two 4-inch pipes were ruptured at 2.5 feet beneath station coordinate (120,40). One of the pipes was collapsed and filled with debris, and the other pipe had water flowing into the pit.	1.5 2.0
				0	3-4 feet: Native soil, medium to light brown, sandy silt and clay, moist to wet.	3.0
TP3-1	Grid 3 (60,0) to (80,0)	12	20	0	0-5 feet (between [60,0] to [70,0]): Light brown fill consisting of sandy, silty, clay, plastic, some gravelly areas, ruptured 6" PVC pipe, water from pipe entered pit.	
				10	5-12 feet (between [60,0] to[70,0]): Black, organic-rich sediments, metallic-like material, saturated.	5.0
				0	12 feet (between [60.0] to [70.0]: Native soil, medium brown, very fine sandy silt, brittle	

Table 3-2

TEST PIT EXCAVATION SUMMARY
ALLIED-ELBERTA SITE

Test Pit No.	Location (Survey Grid and Station Coordinate)	Total Depth (feet bgs)	Total Length (feet)	OVA Readings (PPM)	Descriptions of Excavated Materials	Depths Sampled (feet bgs)
TP3-1 (Cont)				0	0-7 feet (between [70,0] to [80,0]): Native soil, medium brown, very fine sandy silt, brittle, metallic debris (wall vent and sign poles) covered with grass at the surface (probable source of geophysical anomaly).	7.0
TP4-1	Grid 4 (200,25) to (200,40)	7.5	15	0	0-7.5 feet: Standing water at surface, native soil, medium brown, very fine sandy, clayey, silt, moist to wet, brittle, hard.	
TP4-2	Grid 4 (275,100) to (300,100)	6	25	0	0 to 6 feet: Native soil, medium brown, very fine sandy, clayey silt, brittle, hard, dry	6.0

Table 3-3

SAMPLE ANALYSIS SUMMARY
ALLIED-ELBERTA WORKS SITE

Samples	Target Compound List (TCL)				EP Tox Metals	RCRA Characteristics	Petroleum Products
	VOCs	BNA	PCB/ Pest	Inorganics			
Subsurface							
TP1-1-3ft	X	X	X	X	X	X	—
TP1-1-12ft	X	X	X	X	X	X	—
TP2-1-1.5ft	X	X	X	X	X	X	—
TP2-1-3ft	X	X	X	X	X	X	—
TP2-2-1.5ft	X	X	X	X	X	X	—
TP3-1-5ft	X	X	X	X	X	X	—
TP3-1-7ft	X	X	X	X	—	—	—
TP4-2-6ft	X	X	X	X	—	—	—
Underground Storage Tanks							
UST-1	—	—	—	—	—	—	—
UST-2	X	X	X	X	X	X	X
UST-2 SED	X	X	X	X	—	X	—

Key:

BNA = TCL Base/Neutral and Acid Extractable Compounds.
EP Tox = Extraction Procedure Toxicity.
Inorganics = TCL Metals and Cyanide.
PCB = TCL Polychlorinated Biphenyls.
Pest = TCL Pesticides.
RCRA = Hazardous Waste Characteristics.
VOCs - TCL Volatile Organic Compounds.
X = Analysis performed.
— = Analysis not performed.

Table 3-4

SUMMARY OF VOLATILE ORGANICS, PESTICIDE, AND PCB RESULTS FOR TEST PIT SOILS ALLIED-ELBERTA SITE
(μg/kg)

Parameter / Sample No.: / Sampling Date:	TP1-1-3ft 11-2-93	TP1-1-12ft 11-2-93	TP2-1-1.5ft 11-2-93	TP2-1-3ft 11-2-3	TP2-2-1.5ft 11-2-93	TP2-2-2ft 11-2-93	TP3-1-3ft 11-2-93	TP3-1-7ft 11-2-93	TP4-2-6ft 11-2-93
Volatile Organics									
Acetone	57	27	ND	ND	9 J	ND	41	ND	ND
2-Butanone	12	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ND	ND	ND	ND	ND	ND	180	ND	ND
Chloroform	ND	ND	ND	ND	8 J	ND	ND	ND	ND
Total 1,2-Dichloroethene	ND	ND	ND	ND	19	ND	ND	ND	ND
Methylene Chloride	4 BJ	4 BJ	4 BJ	4 BJ	5 BJ	4 BJ	6 BJ	4 BJ	3 BJ
Tetrachloroethene	ND	ND	ND	ND	410 E	32	ND	ND	ND
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	5 J	ND
Trichloroethene	ND	ND	ND	ND	17	ND	ND	ND	ND
Pesticides									
Aldrin	ND	ND	ND	ND	ND	20 J	ND	ND	ND
alpha-BHC	ND	ND	ND	5.3 J	ND	84	ND	ND	ND
beta-BHC	ND	ND	ND	ND	ND	13 J	ND	ND	ND
delta-BHC	2	ND	ND	ND	29 J	ND	ND	ND	ND
4,4,'-DDD	ND	ND	ND	ND	ND	5.9	ND	ND	ND
4,4,'-DDE	ND	ND	ND	ND	24 J	6.8 J	ND	ND	ND
4,4'-DDT	ND	ND	ND	ND	ND	23 J	ND	ND	ND

Table 3-4

SUMMARY OF VOLATILE ORGANICS, PESTICIDE, AND PCB RESULTS FOR TEST PIT SOILS ALLIED-ELBERTA SITE
(μg/kg)

Parameter / Sample No.: / Sampling Date:	TP1-1-3ft 11-2-93	TP1-1-12ft 11-2-93	TP2-1-1.5ft 11-2-93	TP2-1-3ft 11-2-3	TP2-2-1.5ft 11-2-93	TP2-2-2ft 11-2-93	TP3-1-3ft 11-2-93	TP3-1-7ft 11-2-93	TP4-2-6ft 11-2-93
alpha-Chlordane	ND	ND	ND	ND	ND	4.4 J	ND	ND	ND
gamma-Chlordane	ND	ND	ND	ND	3 J	10	ND	ND	ND
Dieldrin	ND	ND	ND	ND	32 J	6.4 J	ND	ND	ND
Endrin	ND	ND	ND	ND	12	5.7 J	ND	ND	ND
Endrin Ketone	ND	ND	ND	ND	9.9 J	ND	ND	ND	ND
Heptachlor Epoxide	ND	ND	ND	ND	ND	7.4 J	ND	ND	ND
PCBs									
Aroclor-1254	ND	ND	ND	27 J	ND	ND	ND	ND	ND
Aroclor-1260	ND	ND	110 J	ND	310 J	430 DJ[a]	ND	ND	ND

[a] Dilution factor 10.

Key:

B = Analyte also present in associated blank.
D = Analyte identified in diluted sample.
E = Concentrations exceed calibration range of the instrument. The numerical value should be considered an estimated quantity.
J = The associated numerical value is an estimated quantity.
ND = Not detected above sample quantitation limit.
P = The associated pesticide/Aroclor numerical value is an estimated quantity.

Table 3-5

SUMMARY OF SEMIVOLATILE ORGANICS FOR TEST PIT SOILS
ALLIED CHEMICAL-ELBERTA WORKS SITE
(μg/kg)

Parameter / Sample No.: / Sampling Date:	TP1-1-3ft 11-2-93	TP1-1-12ft 11-2-93	TP2-1-1.5ft 11-2-93	TP2-1-3ft 11-2-3	TP2-2-1.5ft 11-2-93	TP2-2-2ft 11-2-93	TP3-1-5ft 11-2-93	TP3-1-7ft 11-2-93	TP4-2-6ft 11-2-93
Carbazole	ND	ND	ND	68 J	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	ND	ND	ND	ND	ND	ND	370 J	ND	ND
1,4-Dichlorobenzene	ND	ND	ND	ND	ND	ND	370 J	ND	ND
Diethylphthalate	ND	ND	ND	ND	ND	ND	150 J	ND	ND
Dimethylphthalate	ND	ND	ND	ND	ND	ND	ND	ND	ND
Di-n-butylphthalate	ND	30 J	ND	ND	ND	ND	52 J	ND	ND
bis(2-Ethylhexyl)phthalate	ND	22 J	84 J	ND	100 J	140 J	41 J	ND	ND
Hexachlorobenzene	2,500	74 J	6,900	590	13,000	18,000	640,000 D	3,100	ND
Hexachlorobutadiene	ND	ND	640 J	ND	6,000	ND	ND	ND	ND
Pentachlorophenol	ND	ND	ND	ND	180 J	ND	ND	ND	ND
1,2,4-Trichlorobenzene	ND	ND	ND	ND	ND	ND	190 J	ND	ND
PAHs									
Acenaphthene	ND	ND	ND	ND	ND	190 J	ND	ND	ND
Anthracene	59 J	ND	ND	63 J	ND	260 J	ND	ND	ND
Benzo(a)anthracene	190 J	ND	ND	520	460 J	820 J	ND	ND	ND
Benzo(a)pyrene	150 J	ND	ND	610	250 J	660 J	ND	ND	ND
Benzo(b)fluoranthene	220 J	ND	ND	1,000	840 J	890 J	51 J	ND	ND
Benzo(g,h,i)perylene	100 J	ND	ND	620	210 J	350 J	ND	ND	ND

Table 3-5

SUMMARY OF SEMIVOLATILE ORGANICS FOR TEST PIT SOILS
ALLIED CHEMICAL-ELBERTA WORKS SITE
(μg/kg)

Parameter / Sample No.: / Sampling Date:	TP1-1-3ft 11-2-93	TP1-1-12ft 11-2-93	TP2-1-1.5ft 11-2-93	TP2-1-3ft 11-2-3	TP2-2-1.5ft 11-2-93	TP2-2-2ft 11-2-93	TP3-1-5ft 11-2-93	TP3-1-7ft 11-2-93	TP4-2-6ft 11-2-93
Benzo(k)fluoranthene	73 J	ND	ND	280	240 J	300 J	ND	ND	ND
Chrysene	180 J	23 J	ND	640	830 J	820 J	40 J	ND	ND
Dibenz(a,h,)anthracene	32 J	ND	ND	170 J	ND	130 J	ND	ND	ND
Fluoranthene	400	ND	ND	670	690 J	1,200 J	59 J	ND	ND
Fluorene	46 J	ND	ND	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	110 J	ND	ND	600	260 J	350 J	ND	ND	ND
2-Methylnaphthalene	ND	ND	ND	34 J	ND	ND	ND	ND	ND
Naphthalene	ND	ND	ND	38 J	ND	72 J	ND	ND	ND
Phenanthrene	310 J	ND	ND	370 J	ND	990 J	ND	ND	ND
Pyrene	380	32 J	ND	700	600 J	980 J	45 J	ND	ND

[a] Dilution factor 10.

Key:

D = Analyte identified in diluted sample.
E = Concentrations exceed calibration range of the instrument. The numerical value should be considered an estimated quantity.
J = The associated numerical value is an estimated quantity.
ND = Not detected above sample quantitation limit.

Table 3-6

BACKGROUND SOIL CONCENTRATIONS OF POLYCYCLIC AROMATIC HYDROCARBONS (PAHs)

Compound	Concentration (μg/kg)		
	Rural Soil	Agricultural Soil	Urban Soil
Acenaphthene	1.7	6	—
Acenaphthylene	—	5	—
Anthracene	—	11 - 13	—
Benzo(a)anthracene	5 - 20	56 - 110	169 - 59,000
Benzo(a)pyrene	2 - 1,300	4.6 - 900	165 - 220
Benzo(b)fluoranthene	20 - 30	58 - 220	15,000 - 62,000
Benzo(e)pyrene	—	53 - 130	60 - 14,000
Benzo(g,h,i)perylene	10 - 70	66	900 - 47,000
Benzo(k)fluoranthene	10 - 110	58 - 250	300 - 26,000
Chrysene	38.3	78 - 120	251 - 640
Fluoranthene	0.3 - 40	120 - 210	200 - 166,000
Fluorene	—	9.7	—
Indeno(1,2,3-cd)pyrene	10 - 15	63 - 100	8,000 - 61,000
Phenanthrene	30.0	48 - 140	—
Pyrene	1 - 19.7	99 - 150	145 - 147,000

[a] Derived from IARC (1973), White and Vanderslice (1980), Windsor and Hites (1979), Edwards (1983), Butler *et al.* (1984), Vogt *et al.* (1987), and Jones *et al.* (1987).

Source: Clement International Corp. 1993.

Table 3-7

SUMMARY OF INORGANIC RESULTS FOR TEST PIT SOILS
ALLIED - ELBERTA SITE
(mg/kg)

Parameter / Sample no.: / Sampling date:	TP1-1-3ft 11-2-93	TP1-1-12ft 11-2-93	TP2-1-1.5ft 11-2-93	TP2-1-3ft 11-2-93	Common Range[a]
Aluminum	12,000	7,260	18,700	3,760	7,000 - >100,000
Arsenic	3.9	3.8	1.7	6.5	<0.1 - 73
Barium	113	77.7	ND	64.9	10 - 1,500
Beryllium	0.54	0.15	0.25	0.33	<1 - 7
Cadmium	2.1	1.5	2.3	4.4	0.01 - 7.0[b]
Calcium	24,100	53,700	806	33,500	10 - 280,000
Chromium	51.5	65.7	43.5	865	1 - 1,000
Cobalt	10.0	8.5	6.4	384	<0.3 - 70
Copper	1,470	59.4	69.2	381	<1 - 700
Iron	16,400	15,500	18,700	47,300	10 - >100,000
Lead	69.0	15.1	39.3	389	<10 - 300
Magnesium	5,750	12,300	588	7,160	50 - 50,000
Manganese	687	735	33.5	872	<2 - 7,000
Mercury	ND	ND	ND	0.23	0.01 - 3.4
Nickel	64.4	18.0	19.9	3,280	<5 - 700
Potassium	817	847	280	ND	50 - 3,700
Selenium	ND	ND	ND	ND	<0.1 - 3.9
Silver	ND	ND	ND	ND	NA
Sodium	1,100	559	199	ND	50 - 50,000
Thallium	ND	ND	ND	ND	NA
Vanadium	20.6	17.6	39.5	75.0	<7 - 300
Zinc	109	49.1	23.4	121	<5 - 2,900

Key at end of table.

Table 3-7

SUMMARY OF INORGANIC RESULTS FOR TEST PIT SOILS
ALLIED CHEMICAL - ELBERTA WORKS SITE
(mg/kg)

Parameter / Sample no.: / Sampling date:	TP2-2-1.5ft 11-2-93	TP2-2-2ft 11-2-93	TP3-1-5ft 11-2-93	TP3-1-7ft 11-2-93	Common Range[a]
Aluminum	69,200	69,700	8,800	6,360	7,000 - >100,000
Arsenic	6.6	17.2	3.1	2.3	<0.1 - 73
Barium	60.7	6.7	103	82.3	10 - 1,500
Beryllium	0.48	21.2	0.21	0.31	<1 - 7
Cadmium	5.9	0.48	1.7	1.5	0.01 - 7.0[b]
Calcium	2,100	2,320	31,200	14,400	10 - 280,000
Chromium	342	301	78.3	54.5	1 - 1,000
Cobalt	15.2	8.4	10.2	8.3	<0.3 - 70
Copper	4,480	10,800	204	34.2	<1 - 700
Iron	32,900	15,100	17,900	14,200	10 - >100,000
Lead	305	545	57.7	4.1	<10 - 300
Magnesium	1,060	1,490	7,040	3,380	50 - 50,000
Manganese	2,060	249	653	597	<2 - 7,000
Mercury	ND	ND	ND	ND	0.01 - 3.4
Nickel	172	633	24.9	14.4	<5 - 700
Potassium	332	ND	792	ND	50 - 3,700
Selenium	ND	ND	ND	ND	<0.1 - 3.9
Silver	ND	4.5	ND	ND	NA
Sodium	175	252	1,990	162	50 - 50,000
Thallium	ND	0.31	0.27	ND	NA
Vanadium	77.9	24.5	19.7	15.8	<7 - 300
Zinc	347	760	122	34.9	<5 - 2,900
Cyanide	ND	ND	ND	ND	NA

Key at end of table.

Table 3-7

SUMMARY OF INORGANIC RESULTS FOR TEST PIT SOILS
ALLIED CHEMICAL - ELBERTA WORKS SITE
(mg/kg)

Parameter / Sample no.: / Sampling date:	TP4-2-6ft 11-2-93	Common Range[a]
Aluminum	6,690	7,000 - >100,000
Arsenic	3.9	<0.1 - 73
Barium	93.2	10 - 1,500
Beryllium	0.15	<1 - 7
Cadmium	1.7	0.01 - 7.0[b]
Calcium	46,900	10 - 280,000
Chromium	10.4	1 - 1,000
Cobalt	8.7	<0.3 - 70
Copper	35.0	<1 - 700
Iron	15,600	10 - >100,000
Lead	4.7	<10 - 300
Magnesium	8,400	50 - 50,000
Manganese	627	<2 - 7,000
Mercury	ND	0.01 - 3.4
Nickel	16.7	<5 - 700
Potassium	702	50 - 3,700
Selenium	ND	<0.1 - 3.9
Silver	ND	NA
Sodium	ND	50 - 50,000
Thallium	0.26	NA
Vanadium	16.6	<7 - 300
Zinc	39.5	<5 - 2,900
Cyanide	ND	NA

Key at end of table.

Table 3-7 (Cont.)

Note: Shaded values exceed common range.

[a] According to Shacklette and Boerngen 1984, for soils of the Eastern United States.
[b] According to Dragun 1988.

Key:

— = No sample exceeded common range.
J = The associated numerical value is an estimated quantity.
NA = Not available.
ND = Not detected above the sample quantitation limit.

Table 3-8

SUMMARY OF REACTIVITY AND EPTOX (METALS) RESULTS FOR TEST PIT SOILS ALLIED CHEMICAL - ELBERTA WORKS SITE

Parameter / Sample no.: / Sampling date:	TP1-1-3ft 11-2-93	TP1-1-12ft 11-2-93	TP2-1-1.5ft 11-2-93	TP2-1-3ft 11-2-93	TP2-2-1.5ft 11-2-93	TP2-2-2ft 11-2-93	TP3-1-5ft 11-2-93	Regulatory Level[a]
Reactivity (mg/kg)								
Total sulfide	ND	ND	ND	ND	ND	ND	59	500
Cyanide	2.0	ND	ND	ND	ND	ND	ND	250
EPTOX (mg/L)								
Arsenic	ND	ND	ND	ND	ND	ND	ND	5.0
Barium	0.97	1.1	0.39	1.2	1.9	2.0	1.5	100
Cadmium	0.01	ND	ND	ND	0.01	0.01	0.01	1.0
Chromium	ND	0.01	0.02	0.09	0.29	0.16	0.03	5.0
Lead	ND	ND	ND	1.2	ND	0.58	0.11	5.0
Mercury	ND	ND	ND	ND	ND	ND	ND	0.2
Selenium	ND	ND	ND	ND	ND	ND	ND	1.0
Silver	0.005	0.005	ND	0.003	ND	0.003	ND	5.0

[a] According to 40 CFR Part 261 Subpart C.

Key:

ND = Not detected.

Table 3-9

SUMMARY OF ORGANICS DETECTED IN UST SAMPLES ALLIED-ELBERTA WORKS SITE

Parameter / Sample No: / Sampling Date: / Unit:	UST-1 11-17-94 µg/L	UST-2 11-17-94 µg/L	UST-2SED 11-17-94 µg/kg
Volatile Organics			
Acetone	NA	ND	57
Carbon disulfide	NA	ND	7 J
Ethyl benzene	NA	ND	23
Xylene (total)	NA	ND	5 J
Semivolatile Organics			
Butyl benzyl phthalate	NA	ND	120 J
DimethylPhthalate	NA	ND	790
bis(2-ethylhexyl)phthalate	NA	ND	1,300
Fluoranthene	NA	ND	140 J
Phenanthrene	NA	ND	140 J
Pyrene	NA	ND	96 J
Petroleum Products			
Diesel Fuel	690,000	NA	NA

Key:

J = The associated numerical value is an estimated quanity.
NA = Not analyzed.
ND = Not detected.

Table 3-10

SUMMARY OF INORGANICS DETECTED IN UST SAMPLES ALLIED-ELBERTA WORKS SITE

Parameter / Sample No: / Sampling Date: / Unit:	UST-1 11-17-94 µg/L (LIQ)	UST-2 11-17-94 µg/L (LIQ)	UST-2SED 11-17-94 mg/kg (Sludge)
Aluminum	NA	757	2,260
Barium	NA	ND	ND
Beryllium	NA	ND	ND
Cadmium	NA	ND	ND
Calcium	NA	58,800	137,000
Chromium	NA	ND	16.4
Copper	NA	40.7	107
Iron	NA	4,230	6,920
Lead	NA	14.5	42.1
Magnesium	NA	10,500	19,900
Manganese	NA	345	79.4
Mercury	NA	ND	0.49
Nickel	NA	ND	16.9
Potassium	NA	ND	ND
Sodium	NA	ND	ND
Vanadium	NA	ND	ND
Zinc	NA	77.6	210

Key:

NA = Not analyzed.
ND = Not detected.

Table 3-11

SUMMARY OF REACTIVITY, IGNITABILITY, EPTOX METALS, AND PERCENT SOLIDS FOR UST SAMPLES ALLIED-ELBERTA WORKS SITE

Parameter / Sample No: / Sampling Date:	UST-1 11-17-94	UST-2 11-17-94	UST-2SED 11-17-94	Regulatory Level[a]
Reactivity				
Total Sulfide	NA	ND	NA	500 mg/L
Cyanide	NA	27 µg/L	ND	250 mg/L
Ignitability at 140°F	NA[b]	No Flash	No Flash	Flash > 140°F
EP Toxicity				
Arsenic	NA	ND	NA	5.0 mg/L
Barium	NA	ND	NA	100 mg/L
Cadmium	NA	ND	NA	1.0 mg/L
Chromium	NA	ND	NA	5.0 mg/L
Lead	NA	ND	NA	5.0 mg/L
Mercury	NA	ND	NA	0.2 mg/L
Selenium	NA	ND	NA	1.0 mg/L
Zinc	NA	ND	NA	5.0 mg/L
Percent Solids	—	—	50%	—

[a] According to 40 CFR Part 261 Subpart C.

[b] Analysis not performed due to insufficient sample volume remaining after petroleum products analysis.

Key:

NA = Not analyzed.
ND = Not detected.

4. CONCLUSIONS AND RECOMMENDATIONS

4.1 CONCLUSIONS

The PSA Task 1 concluded that aluminum chloride in anhydrous form was disposed at the Allied-Elberta site based on existing documentation. However, the nature of the disposal (i.e., whether it was placed in drums or hydrated before burial) was not substantiated. Aluminum chloride in anhydrous form is violently reactive with water, therefore it is considered a hazardous waste. The geophysical survey performed to locate potentially buried drums indicated the presence of several anomalous areas, not only in the alleged aluminum chloride disposal areas, but also in several other areas of the site. Test pit excavations performed to identify the sources of the more prominent anomalies revealed discolored soil/waste; however, no drums or aluminum chloride waste were found. The presence or absence of drums in a portion of one of the alleged disposal areas could not be confirmed through test pit excavations due to the presence of a storage building over part of that area. However, additional research by NYSDEC revealed that the disposal area may have been adjacent to the storage building, and not beneath it. Therefore, an additional geophysical survey was performed. Because no major anomalies were detected, excavation was deemed not necessary.

Chemical analysis of the subsurface soil/water collected from the test pit excavations revealed the following:

- No organics above detection limits or inorganics above common ranges where detected in the background native soil (TP4-2-6ft) collected in the open field north of the fenced area within the site boundary;

- A low level (5 μg/kg) of 1,1,1-trichloroethane and an elevated level (3,100 μg/kg) of hexachlorobenzene where detected in the native soil

sample (TP3-1-7ft) adjacent to one of the former on-site cooling ponds;

- Several low level (3 μg/kg to 410 μg/kg) volatile organics including acetone, 2-butanone, chlorobenzene, chloroform, total-1,2-dichloroethene, methylene chloride, tetrachloroethene, 1,1,1-trichloroethane, and trichloroethene were detected in the discolored soil/waste samples. The concentration of methylene chloride was less than 10 times the laboratory method blank levels in all samples, and is therefore considered laboratory background;

- Several low levels (22 μg/kg to 370 μg/kg) of semivolatile organics were detected including carbazole, 1,3-dichlorobenzene, 1,4-dichlorobenzene, diethylphthalate, di-n-butylphthalate, bis(2-ethylhexyl)phthalate, and pentachlorophenol. Phthalates are common plasticizers used in latex gloves, which are worn by field and laboratory personnel and are therefore considered field/laboratory contamination. Elevated levels of hexachlorobenzene (74 μg/kg to 640,000 μg/kg), hexachlorobutadiene (640 μg/kg to 6,000 μg/kg), and total PAHs (55 μg/kg to 8,012 μg/kg) were detected in the discolored soil/waste samples;

- Several low levels (2 μg/kg to 84 μg/kg) of pesticides including aldrin, alpha-BHC, beta-BHC, delta-BHC, alpha-chlordane, gamma-chlordane, 4,4'-DDD, 4,4'-DDE, 4,4'-DDT, dieldrin, endrin, endrin ketone, and heptachlor epoxide were detected in the discolored soil/waste samples;

- Low levels (27 μg/kg to 430 μg/kg) of two PCBs, Aroclor-1254 and Aroclor-1260, were detected in some of the soil/waste samples; and

- Several high levels of inorganics including beryllium, cobalt, copper, lead, and nickel in excess of the common range (1 to 15.4 times) of metals in soils of the eastern United States were detected in the discolored soil/waste samples.

Reactivity and EP toxicity (metals only) analyses of the discolored soil/waste samples were all within regulatory levels.

Due to the presence of three USTs at the site that may have contained hazardous wastes, NYSDEC requested an investigation of these tanks. Chemical analysis of the samples collected from two of the three USTs revealed the following:

- Diesel fuel was detected in UST-1;

- Several metals were detected in the liquid portion of UST-2; however, reactivity, ignitability, and EP TOX (metals) analyses were all below regulatory levels; and

- Low levels of acetones, carbon disulfide, ethylbenzene, xylene, phthalates, PAHs, and metals were detected in a sediment sample collected from UST-2. TAL metals concentrations were low enough no to warrant EP TOX (metals) analysis.

Samples were not obtained from UST-3 due to restricted access. Insertion of 9 feet of drain snake into the vent pipe revealed dry conditions; however, it could not be determined whether the snake entered the tank.

The sampling and analysis conducted to date have failed to provide the physical hazardous evidence necessary to prove the presence of anhydrous aluminum chloride waste or any other wastes at the site.

4.2 RECOMMENDATIONS

The main objective of this investigation was to determine the presence or absence of hazardous waste (i.e., anhydrous aluminum chloride) in 55-gallon drums buried beneath the site. No 55-gallon drums or any indication of the presence of anhydrous aluminum chloride was found. Therefore, E & E recommends delisting the site from the registry.

Regardless of the fact that no drums or aluminum chloride waste were found at the site, the potential threat to human health and the environment posed by possible off-site migration of hazardous substances via surface water and groundwater pathways is significant enough that the site should be referred to the NYSDEC Division of Water for additional investigations. Specifically, the site's history combined with the limited environmental media sampling to date present an argument for additional studies. The following questions remain to be answered:

- Disposal areas at the site have been documented; however, the nature of disposal and content of the materials is not well documented;

- Underground storage tanks have been identified and sampled but their former use and integrity is unknown; and

- Former cooling ponds are present on site, the contents of these ponds and potential contamination of the sediments is uncertain.

Therefore, hazardous substances from the site may be migrating off site contaminating surface water bodies or groundwater which is used for drinking by residents close (i.e., less than 1 mile) to the site. The concerns regarding surface water migration pathway can be reduced by properly closing the former cooling ponds.

5. REFERENCES

Albright, L., 1994, personal communication, Town of Wilson Water Department, Wilson, New York.

Ballantyne, A., 1991, personal communication, Wellend Chemicals, Sarnia, Canada.

Calspan Advanced Technology Center, 1979, Groundwater Monitoring of the Allied Elberta Works Site, prepared for Allied Chemical Corporation, Buffalo, New York.

Clement Associates, Inc., 1990, Toxicological Profile for Hexachlorobenzene, prepared for Toxic Substance and Disease Registry, Atlanta, GA.

Clement International Corp., 1993, Draft Toxicological Profile for Polycyclic Aromatic Hydrocarbons, prepared for U.S. Department of Health and Human Services, Atlanta, GA.

Dragun, J., 1988, *The Soil Chemistry of Hazardous Materials*, Hazardous Materials Control Research Institute, Silver Spring, Maryland.

Ecology and Environment Engineering, P.C., 1991, Preliminary Site Assessment, Task 1 of the Allied Chemical - Elberta Works Site, prepared for NYSDEC, Lancaster, New York.

_____, 1993a, Site Inspection, Lancaster, New York.

_____, 1993b, Project Management Work Plan, Preliminary Site Assessments, prepared for New York State Department of Environmental Conservation, Albany, New York.

_____, 1993c, General Health and safety Plan, New York State, Preliminary Site Assessment, prepared for New York State Department of Environmental Conservation, Albany, New York.

_____, 1993d, Quality Assurance Project Plan (QAPjP), Preliminary Site Assessment, prepared for New York State Department of Environmental Conservation, Albany, New York.

_____, 1993e, letter to V. Woodward (NYSDEC) from G. Florentino, Ecology and Environment Engineering, P.C., Lancaster, New York.

EG&G Geometrics, 1989, MAGPAC Software, version 4.1.5, Sunnyvale, California.

Engineering Science, 1988, Phase I Investigation of the Allied Chemical - Elberta Works Site, prepared for NYSDEC, Liverpool, New York.

Geonics, Ltd., 1992, DAT31 Software, version 3.20, Mississauga, Canada.

Golden Software, Inc., 1991, Surfer Software, version 4.15, Golden, Colorado.

Kanelis, G., 1991, letter to NYSDEC, Allied-Signal, Inc., Morristown, New Jersey.

Lewandowski, J.P., 1982, letter to New York State Department of Environmental Conservation Region 9, Environmental Supervisor, Allied Chemical, Marcus Hook, Pennsylvania.

Merck & Co., 1983, The Merck Index, 10th edition, Rahway, New Jersey.

New York State Department of Environmental Conservation (NYSDEC), 1991, letter to Ecology and Environment Engineering, P.C. from Valerie Lauzze, Senior Engineering Geologist, Albany, New York.

_____, 1992, Inactive Hazardous Waste Disposal Sites in New York State, site list by counties, Volume 9, Albany, New York.

_____, 1993, Ambient Water Quality Standards and Guidance Values, Division of Water Technical and Operational Guidance Series (1.1.1), Albany, New York.

Shacklette, H.T. and J.G. Boerngen, 1984, Element Concentrations in Soils and Other Surficial Materials of the Conterminous United States, U.S. Geological Survey Professional paper 1270, Alexandria, Virginia.

United States Environmental Protection Agency, 1988, Final Draft Site Inspection Report for the Allied Corporation/Syracuse Research Lab in Ransomville, New York, Region II Environmental Services Division, Niagara Falls, New York.

United States Geological Survey, 1974, 7.5 Minute Series (Topographic) Quadrangle: Six-Mile Creek, New York, U.S. Department of the Interior, Washington, D.C.

_____, 1979, 7.5 Minute Series (Topographic) Quadrangle: Wilson, New York, U.S. Department of the Interior, Washington, D.C.

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ENGINEERING INVESTIGATIONS AT INACTIVE HAZARDOUS WASTE SITES IN THE STATE OF NEW YORK

PRELIMINARY SITE ASSESSMENT
Volume 2: Appendices

Allied Chemical-Elberta Works Site
Site Number 932003
Town of Wilson, Niagara County

April 1995

Prepared for:

New York State Department of Environmental Conservation

50 Wolf Road, Albany, New York 12233

Michael D. Zagata, Commissioner

Division of Hazardous Waste Remediation

Michael J. O'Toole, Jr., P.E., Director

Prepared by:

Ecology and Environment Engineering, P.C.

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PRELIMINARY SITE ASSESSMENT
Volume 2: Appendices

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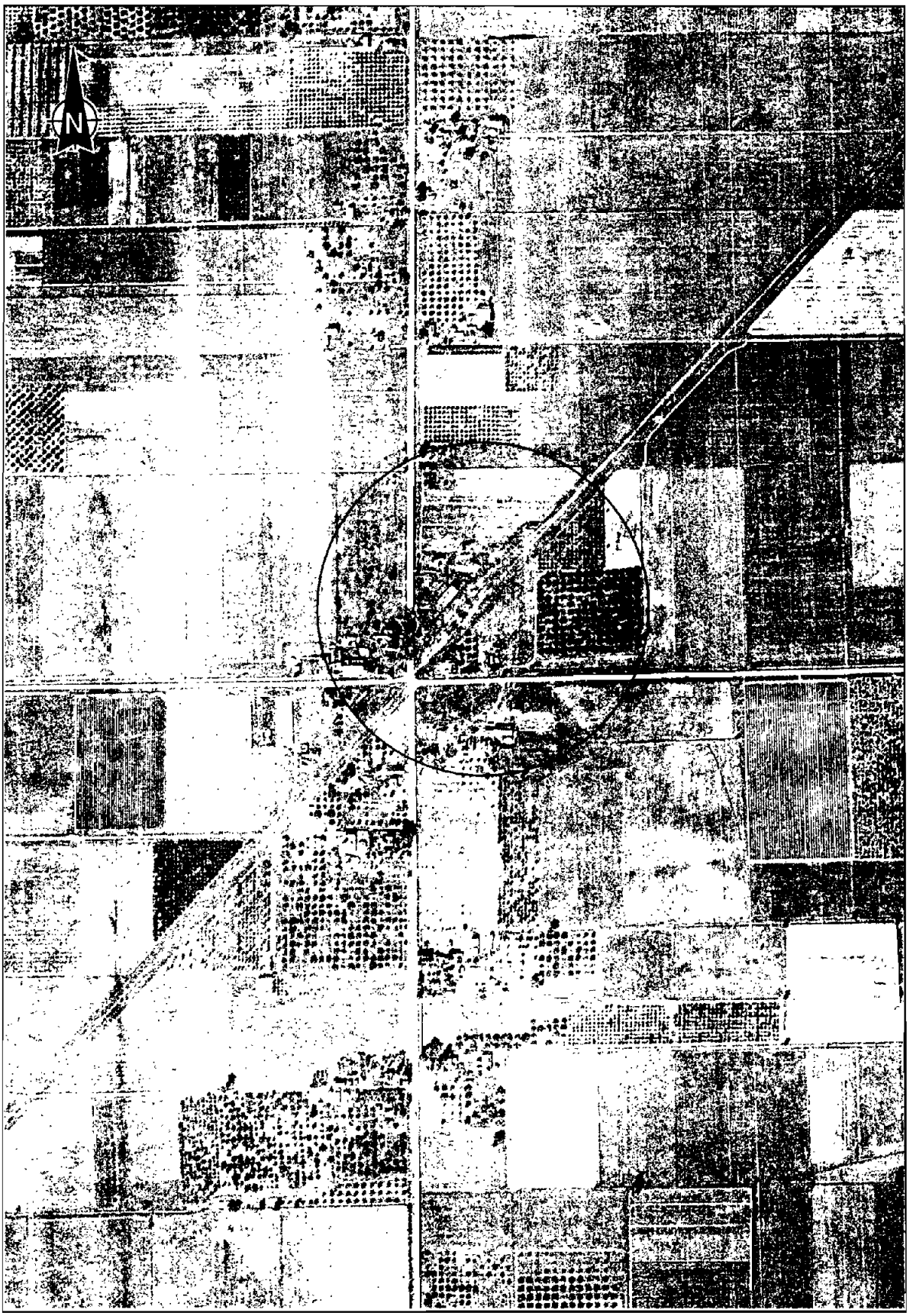
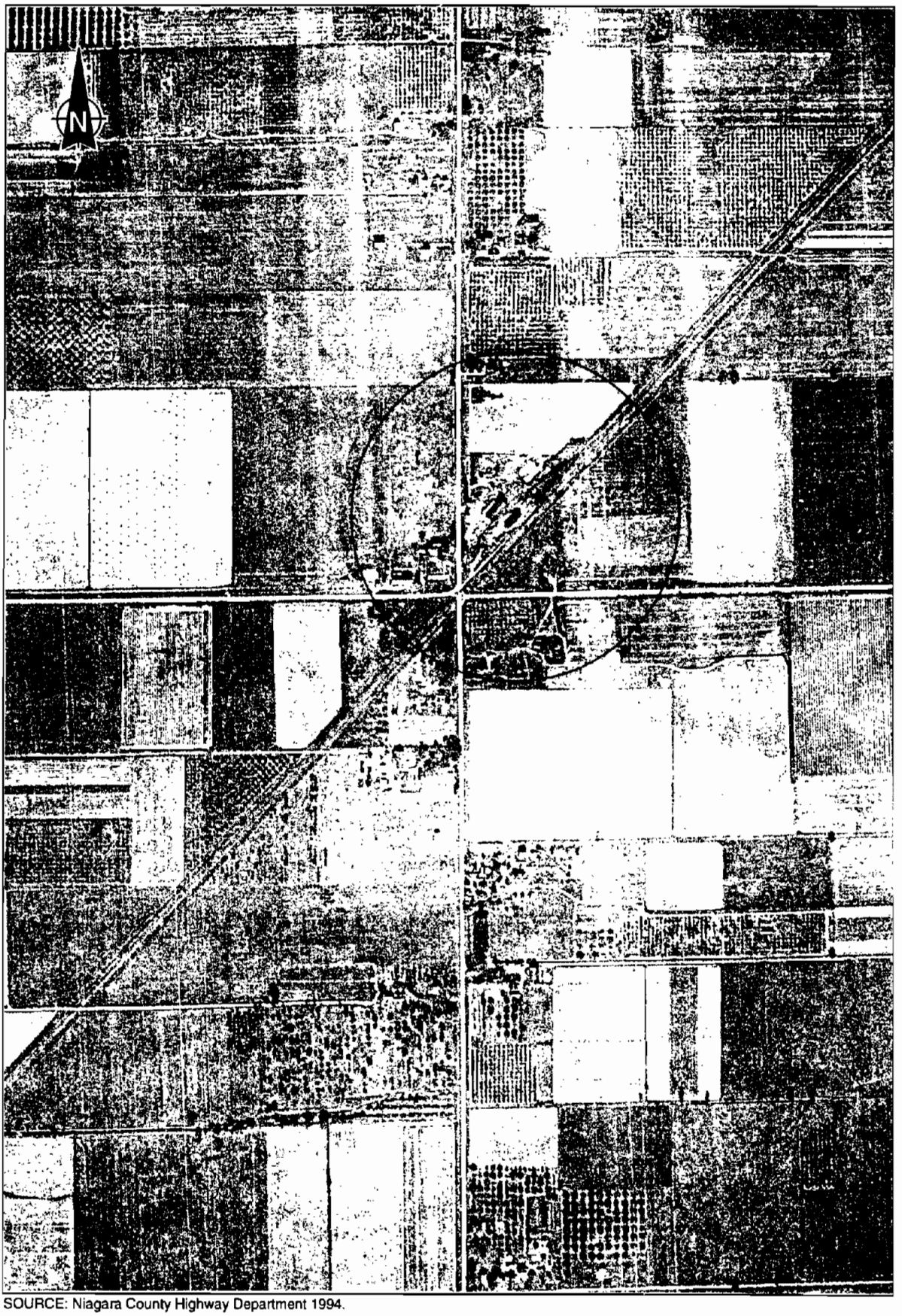
APPENDIX A

AERIAL PHOTOGRAPHS



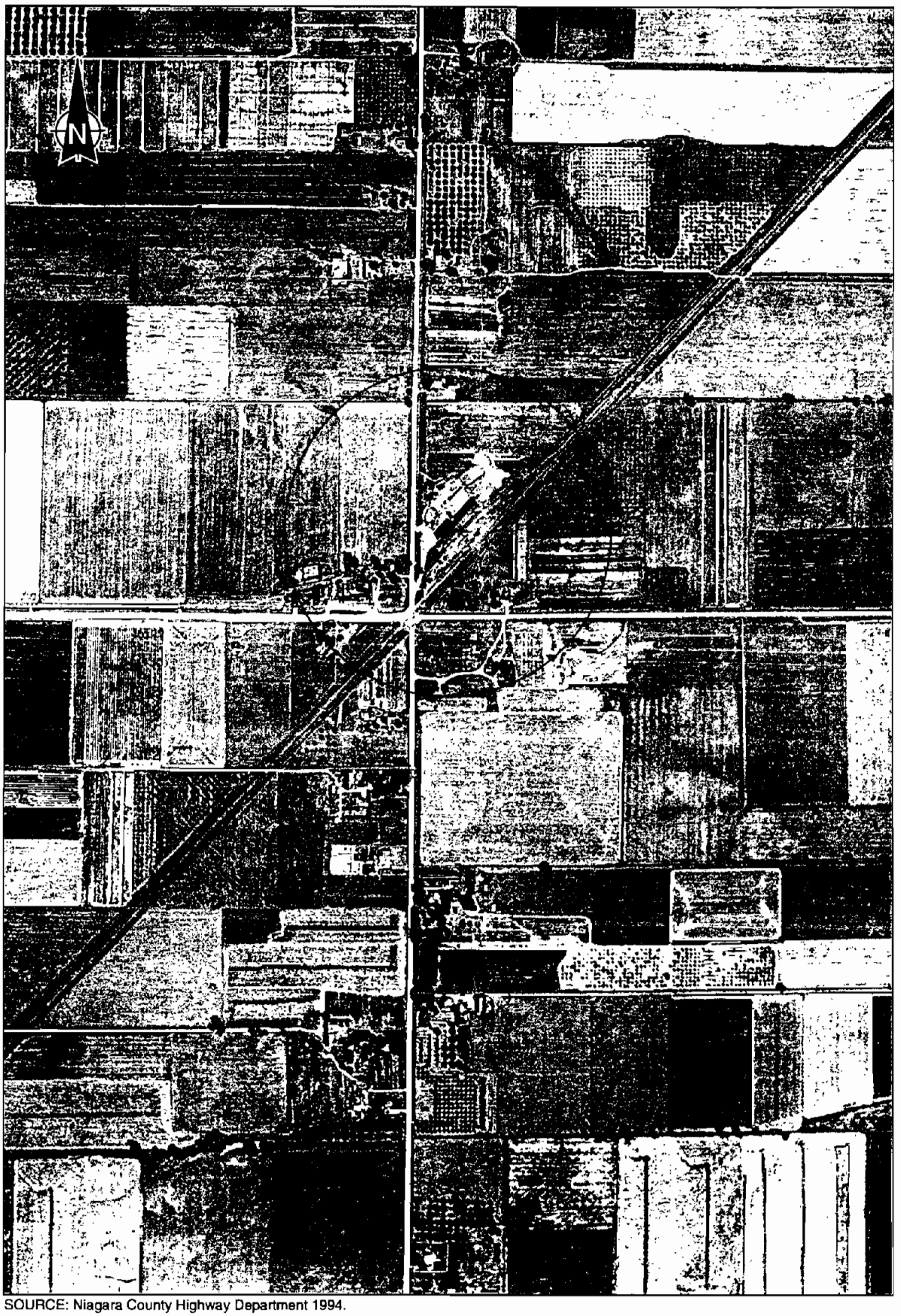
SOURCE: Niagara County Highway Department 1994.

Appendix A AERIAL PHOTOGRAPH 1938 ALLIED-ELBERTA SITE



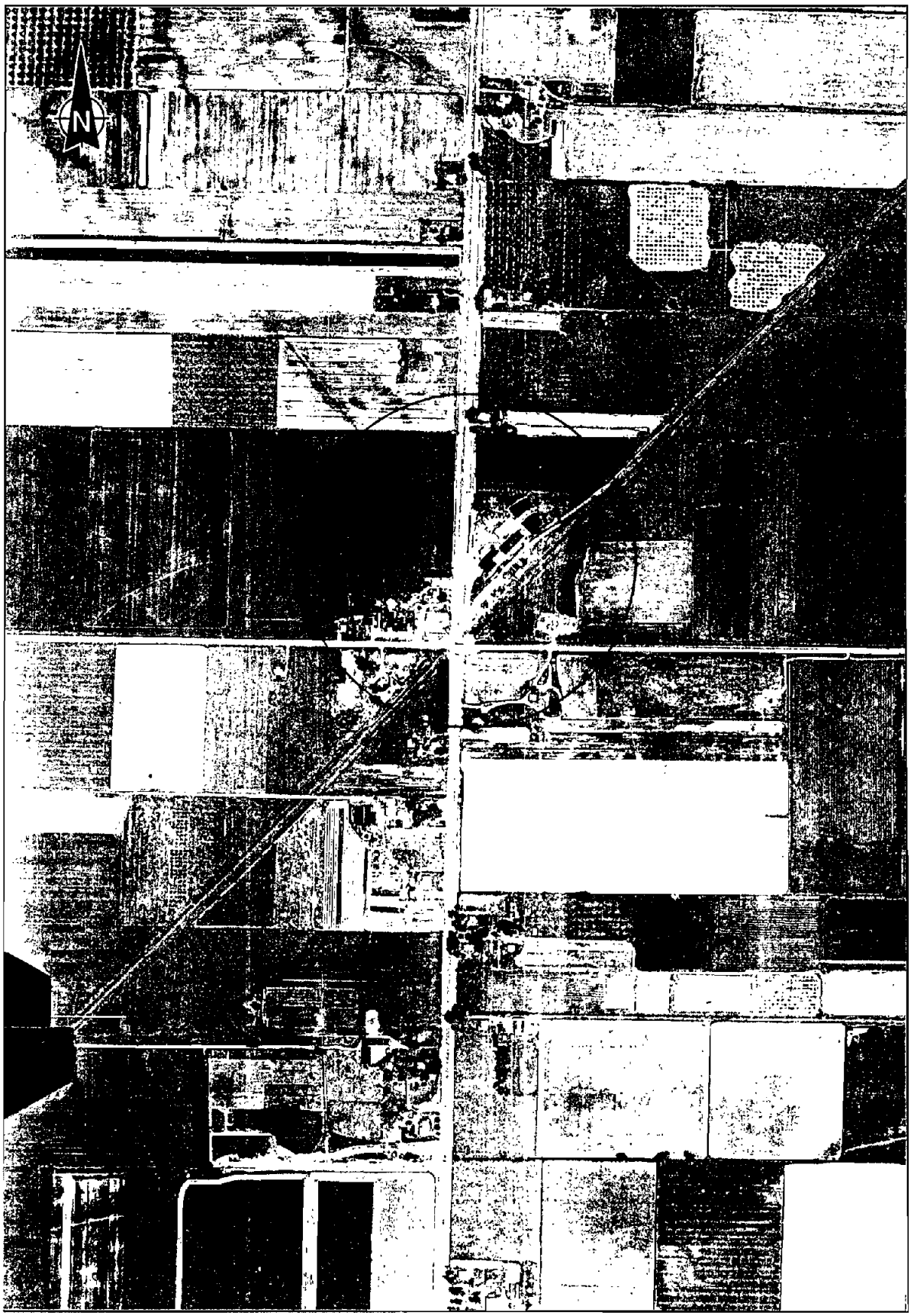
SOURCE: Niagara County Highway Department 1994.

Appendix A AERIAL PHOTOGRAPH 1951 ALLIED-ELBERTA SITE



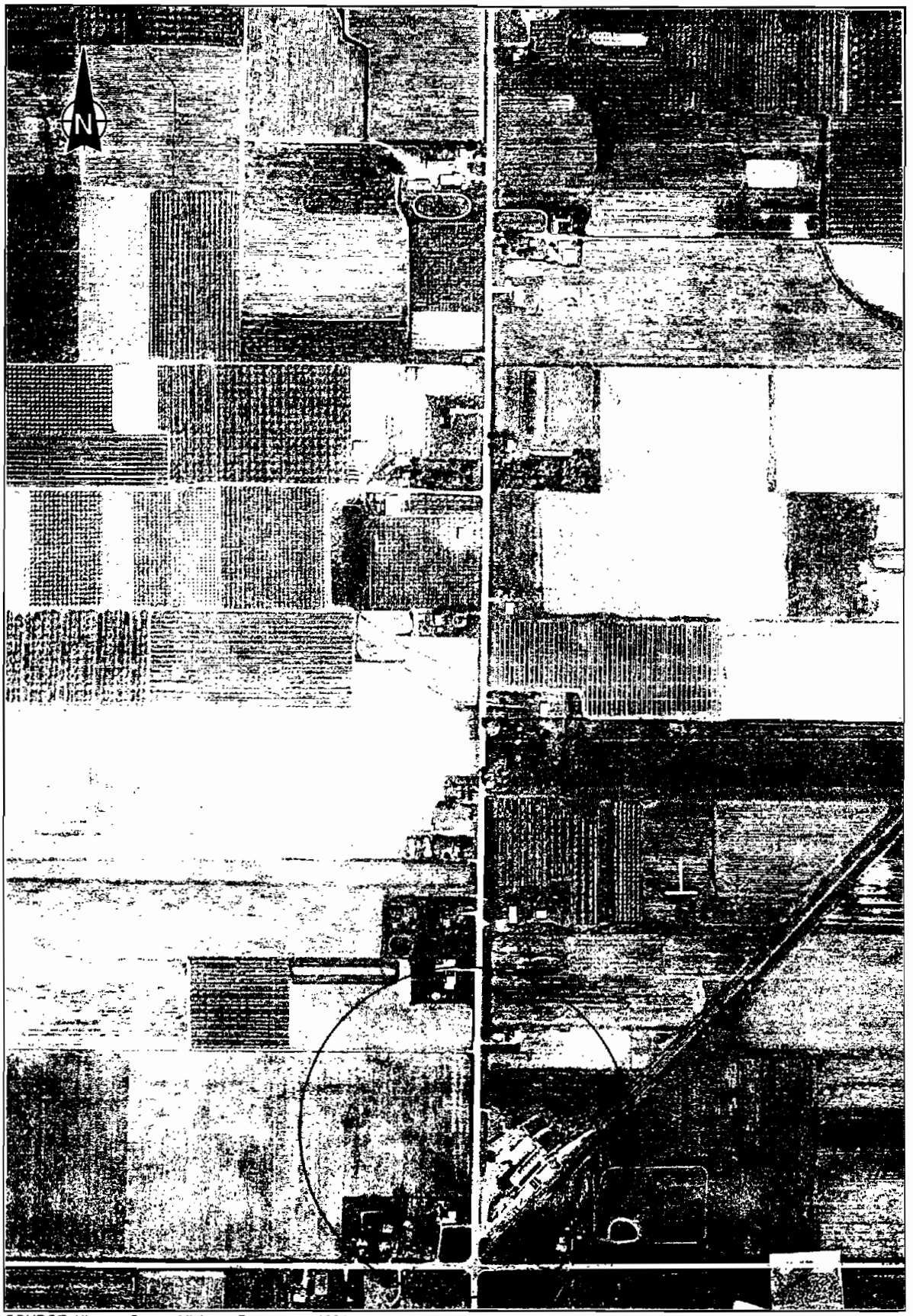
SOURCE: Niagara County Highway Department 1994.

Appendix A AERIAL PHOTOGRAPH 1958 ALLIED-ELBERTA SITE



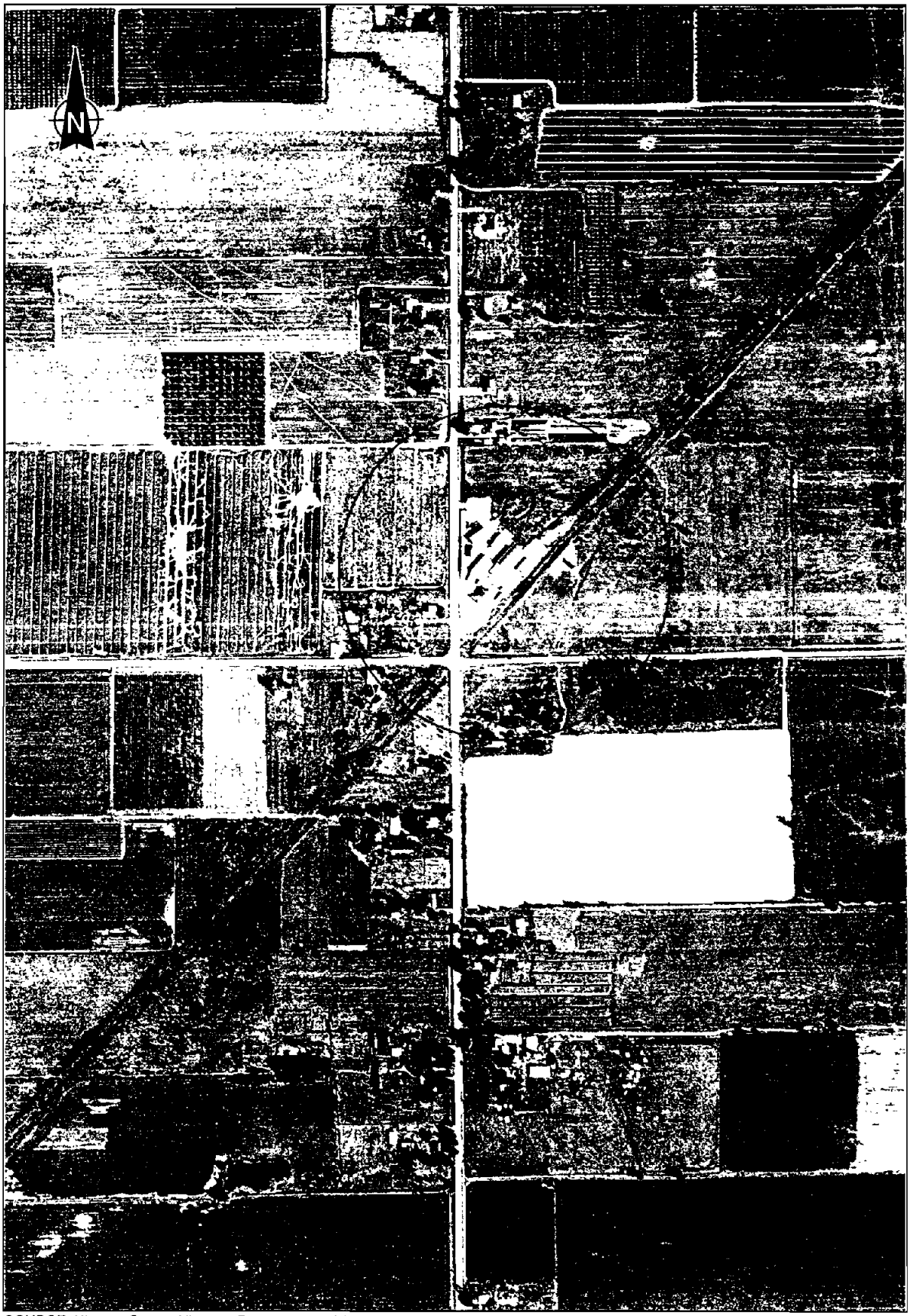
SOURCE: Niagara County Highway Department 1994.

Appendix A AERIAL PHOTOGRAPH 1966 ALLIED-ELBERTA SITE



SOURCE: Niagara County Highway Department 1994.

Appendix A AERIAL PHOTOGRAPH 1982 ALLIED-ELBERTA SITE



SOURCE: Niagara County Highway Department 1994.

Appendix A AERIAL PHOTOGRAPH 1991 ALLIED-ELBERTA SITE

APPENDIX B

SITE INSPECTION REPORT
(EPA FORM 2070-13)

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT

PART 1 - SITE LOCATION AND INSPECTION INFORMATION

I. IDENTIFICATION

01 State	02 Site Number
NY	932003

II. SITE NAME AND LOCATION

01 Site Name (legal, common, or descriptive name of site)	02 Street, Route No., or specific location identifier
Allied Chemical-Elberta Works	3119 Randall Road

03 City	04 State	05 Zip Code	06 County	07 County Code	08 Cong. Dist.
Town of Wilson	NY	14131	Niagara	063	32

09 Coordinates Latitude	Longitude	10 Type of Ownership (check one)
43° 15' 51" N	78° 52' 00" W	[X] A. Private [ ] B. Federal _____ [ ] C. State [ ] D. County [ ] E. Municipal [ ] F. Other _____ [ ] G. Unknown

III. INSPECTION INFORMATION

01 Date of Inspection	02 Site Status	03 Years of Operation
7 / 29 / 93 (Month Day Year)	[ ] Active [X] Inactive	1945 (Beginning Year) 1985 (Ending Year) [ ] Unknown

04 Agency Performing Inspection (check all that apply)
[ ] A. EPA [ ] B. EPA Contractor _____ (name of firm) [ ] C. Municipal [ ] D. Municipal Contractor _____ (name of firm)
[ ] E. State [X] F. State Contractor Ecology and Environment Engineering, P.C. (name of firm) [ ] G. Other _____ (specify)

05 Chief Inspector	06 Title	07 Organization	08 Telephone No.
G. Florentino	Geologist	E & E	(716) 684-8060
09 Other Inspectors	10 Title	11 Organization	12 Telephone No.
J. Richert	Geologist	E & E	(716) 684-8060
			( )
			( )

13 Site Representatives Interviewed	14 Title	15 Address	16 Telephone No.
Paul R. Fedkiw	Site Owner	3119 Randall Road	(716) 751-6243
			( )
			( )
			( )

17 Access Gained by (check one)	18 Time of Inspection	19 Weather Conditions
[X] Permission [ ] Warrant	0910	Sunny, 75°F, west wind at 5 mph, rain expected

IV. INFORMATION AVAILABLE FROM

01 Contact	02 Of (Agency/Organization)	03 Telephone No.
Jane Thapa	NYSDEC	(518) 457-9538

04 Person Responsible for Site Inspection Form	05 Agency	06 Organization	07 Telephone No.	08 Date
G. Florentino		E & E	(716) 684-8060	2 / 15 / 94 (Month Day Year)

POTENTIAL HAZARDOUS WASTE SITE SITE INSPECTION REPORT

PART 2 - WASTE INFORMATION

I. IDENTIFICATION

01 State	02 Site Number
NY	932003

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 Physical States (check all that apply)

[X] A. Solid
[ ] B. Powder, Fines
[ ] C. Sludge
[ ] D. Other _____
[ ] E. Slurry
[ ] F. Liquid
[ ] G. Gas

02 Waste Quantity at Site (measure of waste quantities must be independent)

Tons 1,500
Cubic Yards _____
No. of Drums _____

03 Waste Characteristics (check all that apply)

[ ] A. Toxic
[ ] B. Corrosive
[ ] C. Radioactive
[ ] D. Persistent
[ ] E. Soluble
[ ] F. Infectious
[ ] G. Flammable
[ ] H. Ignitable
[ ] I. Highly volatile
[ ] J. Explosive
[X] K. Reactive
[ ] L. Incompatible
[ ] M. Not applicable

III. WASTE TYPE

Category	Substance Name	01 Gross Amount	02 Unit of Measure	03 Comments
SLU	Sludge			
OLW	Oily waste			
SOL	Solvents			
PSD	Pesticides			
OOC	Other organic chemicals			
IOC	Inorganic chemicals			
ACD	Acids	Aluminum Chloride		Reacts violently with water
BAS	Bases			
MES	Heavy metals			

IV. HAZARDOUS SUBSTANCES (see Appendix for most frequently cited CAS Numbers)

01 Category	02 Substance Name	03 CAS Number	04 Storage/Disposal Method	05 Concentration	06 Measure of Concentration

V. FEEDSTOCKS (see Appendix for CAS Numbers)

Category	01 Feedstock Name	02 CAS Number	Category	01 Feedstock Name	02 CAS Number
FDS			FDS		
FDS			FDS		
FDS			FDS		

VI. SOURCES OF INFORMATION (cite specific references, e.g., state files, sample analysis, reports)

Telephone interview June 24, 1991 - Mr. G. Kanelis - Environmental Administrator, Allied Signal, Inc., Morristown, NJ

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT

PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION

01 State	02 Site Number
NY	932003

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 [X] A. Groundwater Contamination — 02 [ ] Observed (date _____) — [X] Potential — [ ] Alleged
03 Population Potentially Affected: Unknown
04 Narrative Description:

None reported, however, if present, aluminum chloride may contaminate groundwater.

01 [ ] B. Surface Water Contamination — 02 [ ] Observed (date _____) — [X] Potential — [ ] Alleged
03 Population Potentially Affected: _____
04 Narrative Description:

None reported, however, contaminated discharge to on-site cooling ponds or adjacent drainage ditches may contaminate Twelve Mile Creek.

01 [ ] C. Contamination of Air — 02 [ ] Observed (date _____) — [ ] Potential — [ ] Alleged
03 Population Potentially Affected: _____
04 Narrative Description:

None reported, wastes are allegedly buried.

01 [ ] D. Fire/Explosive Conditions — 02 [ ] Observed (date _____) — [ ] Potential — [ ] Alleged
03 Population Potentially Affected: _____
04 Narrative Description:

None reported.

01 [ ] E. Direct Contact — 02 [ ] Observed (date _____) — [ ] Potential — [ ] Alleged
03 Population Potentially Affected: _____
04 Narrative Description:

None reported (wastes are potentially buried).

01 [X] F. Contamination of Soil — 02 [ ] Observed (date _____) — [X] Potential — [ ] Alleged
03 Area Potentially Affected: 1 acre
04 Narrative Description:

None reported, however, if wastes are disposed on site, soil contamination is probable.

01 [X] G. Drinking Water Contamination — 02 [ ] Observed (date _____) — [X] Potential — [ ] Alleged
03 Population Potentially Affected: Unknown
04 Narrative Description:

Most surrounding residences use municipal water supply, however, there are some private wells where municipal water is not available within 0.5 mile of the site.

01 [ ] H. Worker Exposure/Injury — 02 [ ] Observed (date _____) — [ ] Potential — [ ] Alleged
03 Workers Potentially Affected: _____
04 Narrative Description:

None reported

01 [ ] I. Population Exposure/Injury — 02 [ ] Observed (date _____) — [ ] Potential — [ ] Alleged
03 Population Potentially Affected: _____
04 Narrative Description:

None reported

POTENTIAL HAZARDOUS WASTE SITE SITE INSPECTION REPORT

PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION

01 State	02 Site Number
NY	932003

II. HAZARDOUS CONDITIONS AND INCIDENTS (Cont.)

01 [ ] J. Damage to Flora — 02 [ ] Observed (date _____) — [ ] Potential — [ ] Alleged
04 Narrative Description:

None observed or reported.

01 [ ] K. Damage to Fauna — 02 [ ] Observed (date _____) — [ ] Potential — [ ] Alleged
04 Narrative Description:

None observed or reported.

01 [X] L. Contamination of Food Chain — 02 [ ] Observed (date _____) — [X] Potential — [ ] Alleged
04 Narrative Description:

None observed or reported, however, due to the proximity of active farm land (i.e., < 100 feet) to the site, the potential exists.

01 [X] M. Unstable Containment of Wastes (spills/ runoff/standing liquids, leaking drums) — 02 [ ] Observed (date _____) — [X] Potential — [ ] Alleged
03 Population Potentially Affected: Unknown
04 Narrative Description:

Since the aluminum chloride waste is violently reactive with water, and it may have been buried in drums, there is a potential for a reaction to take place beneath the ground surface.

01 [ ] N. Damage to Off-site Property — 02 [ ] Observed (date _____) — [ ] Potential — [ ] Alleged
04 Narrative Description:

None reported

01 [X] O. Contamination of Sewers, Storm Drains, WWTPs — 02 [ ] Observed (date _____) — [X] Potential — [ ] Alleged
04 Narrative Description:

None reported, however, drains on site may drain into adjacent drainage ditches.

01 [ ] P. Illegal/Unauthorized Dumping — 02 [ ] Observed (date _____) — [ ] Potential — [ ] Alleged
04 Narrative Description:

None reported

05 Description of Any Other Known, Potential, or Alleged Hazards

III. TOTAL POPULATION POTENTIALLY AFFECTED 141 - 1-mile radius

IV. COMMENTS

V. SOURCES OF INFORMATION (cite specific references, e.g., state files, sample analysis, reports)

Ecology and Environment Engineering, P.C. site inspection July 29, 1993. Niagara County Health Department Files, NYSDEC Files.

POTENTIAL HAZARDOUS WASTE SITE SITE INSPECTION REPORT

PART 4 - PERMIT AND DESCRIPTIVE INFORMATION

I. IDENTIFICATION

01 State	02 Site Number
NY	932003

II. PERMIT INFORMATION

01 Type of Permit Issued (check all that apply)	02 Permit Number	03 Date Issued	04 Expiration Date	05 Comments
[ ] A. NPDES	None			
[ ] B. UIC				
[ ] C. AIR				
[ ] D. RCRA				
[ ] E. RCRA Interim Status				
[ ] F. SPCC Plan				
[ ] G. State (specify)				
[ ] H. Local (specify)				
[ ] I. Other (specify)				
[ ] J. None				

III. SITE DESCRIPTION

01 Storage Disposal (check all that apply)	02 Amount	03 Unit of Measure	04 Treatment (check all that apply)	05 Other
[ ] A. Surface Impoundment			[ ] A. Incineration	[X] Buildings On Site
[ ] B. Piles			[ ] B. Underground Injection	
[ ] C. Drum, Aboveground			[ ] C. Chemical/Physical	
[ ] D. Tank, Aboveground			[ ] D. Biological	
[ ] E. Tank, Belowground			[ ] E. Waste Oil Processing	3
[X] F. Landfill	1,500	Tons	[ ] F. Solvent Recovery	
[ ] G. Landfarm			[ ] G. Other Recycling Recovery	06 Area of Site
[X] H. Open Dump			[X] H. Other None (specify)	3 Acres
[ ] I. Other (specify)				

07 Comments

The scope of this project was to investigate disposal of aluminum chloride in two potential disposal areas. Other potential sources of contamination exist on site in the form of cooling ponds, underground storage tanks, and discharge to drainage ditches. These potential sources are not considered in the investigation.

IV. CONTAINMENT

01 Containment of Wastes (check one)

[ ] A. Adequate, Secure [X] B. Moderate [ ] C. Inadequate, Poor [ ] D. Insecure, Unsound, Dangerous

02 Description of Drums, Diking, Liners, Barriers, etc.

Alleged disposal areas are covered with asphalt.

V. ACCESSIBILITY

01 Waste Easily Accessible [ ] Yes [X] No

02 Comments

VI. SOURCES OF INFORMATION (cite specific references, e.g., state files, sample analysis, reports)

Ecology and Environment Engineering, P.C. site inspection 7/29/93

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT

PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION

01 State	02 Site Number
NY	932003

II. DRINKING WATER SUPPLY

01 Type of Drinking Supply (check as applicable)

	Surface	Well
Community	A. [X]	B. [ ]
Non-community	C. [ ]	D. [ ]

02 Status

	Endangered	Affected	Monitored
	A. [ ]	B. [ ]	C. [ ]
	D. [ ]	E. [ ]	F. [ ]

03 Distance to Site

A ~10 (mi)

B 0.5 (mi)

III. GROUNDWATER

01 Groundwater Use in Vicinity (check one)

[ ] A. Only Source for Drinking

[ ] B. Drinking (other sources available) Commercial, Industrial, Irrigation (no other water sources available)

[X] C. Commercial, Industrial, Irrigation (limited other sources available) Limited use.

[ ] D. Not Used, Unusable

02 Population Served by Groundwater Unknown

03 Distance to Nearest Drinking Water Well 0.5 (mi)

04 Depth to Groundwater	05 Direction of Groundwater Flow	06 Depth to Aquifer of Concern	07 Potential Yield of Aquifer	08 Sole Source Aquifer
2 - 4 (ft)	NW	Unknown (ft)	Unknown (gpd)	[ ] Yes [X] No [ ] Unknown

09 Description of Wells (including usage, depth, and location relative to population and buildings)

The site and adjacent residences are on municipal water. However, municipal water is not available 150 yards west of Randall Road along Braley Road for a distance of 4,700 feet; and from the corner of Randall and Braley Roads east to Daniels Road.

10 Recharge Area

[ ] Yes | Comments:
[ ] No |

11 Discharge Area

[ ] Yes | Comments:
[ ] No |

IV. SURFACE WATER

01 Surface Water (check one)

[ ] A. Reservoir, Recreation, Drinking Water Source

[ ] B. Irrigation, Economically Important Resources

[ ] C. Commercial, Industrial

[X] D. Not Currently Used

02 Affected/Potentially Affected Bodies of Water

Name:	Affected	Distance to Site
Twelve Mile Creek	[ ]	1.0 (mi)
East Branch of Twelve Mile Creek	[ ]	(mi)
	[ ]	1.0 (mi)

V. DEMOGRAPHIC AND PROPERTY INFORMATION

01 Total Population Within

One (1) Mile of Site	Two (2) Miles of Site	Three (3) Miles of Site	02 Distance to Nearest Population
A. 141 No. of Persons	B. 899 No. of Persons	C. 2,882 No. of Persons	150 feet (mi)

03 Number of Buildings Within Two (2) Miles of Site

Approximately 237

04 Distance to Nearest Off-Site Building

150 feet (mi)

05 Population Within Vicinity of Site (provide narrative description of nature of population within vicinity of site, e.g., rural, village, densely populated urban area)

Site located in a rural area surrounded by land used for orchards and agriculture.

POTENTIAL HAZARDOUS WASTE SITE SITE INSPECTION REPORT

PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION

01 State	02 Site Number
NY	932003

VI. ENVIRONMENTAL INFORMATION

01 Permeability of Unsaturated Zone (check one)

[ ] A. Impermeable (less than 10^{-6} cm/sec) [X] B. Relatively Impermeable (10^{-4} - 10^{-6} cm/sec) [ ] C. Relatively Permeable (10^{-2} - 10^{-4} cm/sec) [ ] D. Very Permeable (greater than 10^{-2} cm/sec)

02 Permeability of Bedrock (check one)

[ ] A. Impermeable (less than 10^{-6} cm/sec) [X] B. Relatively Impermeable (10^{-4} - 10^{-6} cm/sec) [ ] C. Relatively Permeable (10^{-2} - 10^{-4} cm/sec) [ ] D. Very Permeable (greater than 10^{-2} cm/sec)

03 Depth to Bedrock	04 Depth of Contaminated Soil Zone	05 Soil pH
30-40 (ft)	Unknown (ft)	5.6-7.6

06 Net Precipitation	07 One Year 24-Hour Rainfall	08 Slope: Site Slope	Direction of Site Slope	Terrain Average Slope
9 (in)	2.4 (in)	0.3 %	NW	0-3 %

09 Flood Potential

Site is in >100 Year Floodplain

10 [ ] Site is on Barrier Island, Coastal High Hazard Area, Riverine Floodway

No

11 Distance to Wetlands (5 acre minimum)

ESTUARINE OTHER

A. _____ (mi) B. 1.5 (mi)

12 Distance to Critical Habitat (of endangered species)

_____ (mi) No federally designated areas.

Endangered Species: _____

13 Land Use in Vicinity

Distance to:

COMMERCIAL/INDUSTRIAL	RESIDENTIAL AREAS, NATIONAL/STATE PARKS, FORESTS, OR WILDLIFE RESERVES	AGRICULTURAL LANDS: PRIME AG LAND	AGRICULTURAL LANDS: AG LAND
A. On-site (mi)	B. Adjacent (mi)	C. 100 ft (mi)	D. 100 ft. (mi)

14 Description of Site in Relation to Surrounding Topography

Site is located northeast of the intersection of Randall and Braley roads. The topography is flat in this area of Niagara County.

VII. SOURCES OF INFORMATION (cite specific references, e.g., state files, sample analysis, reports)

Calspan Groundwater Monitoring Report 1979
Ecology and Environment Engineering, P.C. Site Inspection April 29, 1991
USDA soil Survey of Niagara County, 1972
Town of Wilson Water Department, May 27, 1994, personal communication with Lloyd Albright

POTENTIAL HAZARDOUS WASTE SITE SITE INSPECTION REPORT

PART 6 - SAMPLE AND FIELD INFORMATION

I. IDENTIFICATION	
01 State: NY	02 Site Number: 932003

II. SAMPLES TAKEN (pH samples collected during site inspection, soil/waste samples collected in November 1993)

Sample Type	01 Number of Samples Taken	02 Samples Sent To	03 Estimated Date Results Available
Groundwater	3	Field Test for pH	pH = 6 - 8
Surface Water	None		
Waste	7	E & E ASC	12/93
Air	None		
Runoff	None		
Spill	None		
Soil	2	E & E ASC	12/93
Vegetation	None		
Other	None		

III. FIELD MEASUREMENTS TAKEN

01 Type	02 Comments
OVA	1 to 2 ppm above background over most of site
OVM	0 ppm above background over most of site
Mini Ram	0 mg/cubic meter above background
Monitor 4 EC	0 counts per minute above background

IV. PHOTOGRAPHS AND MAPS

01 Type [X] Ground [ ] Aerial	02 In Custody of Ecology and Environment Engineering, P.C. (name of organization or individual)

03 Maps	04 Location of Maps
[X] Yes [ ] No	Copy of tax map-in custody of Ecology and Environment Engineering, P.C.

V. OTHER FIELD DATA COLLECTED (provide narrative description of sampling activities)

Geophysical Survey - magnetometer and EM31

VI. SOURCES OF INFORMATION (cite specific references, e.g., state files, sample analysis, reports)

Ecology and Environment Engineering, P.C. Site Inspection July 29, 1993

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT

PART 7 - OWNER INFORMATION

I. IDENTIFICATION	
01 State: NY	02 Site Number: 932003

II. CURRENT OWNER(S)			PARENT COMPANY (if applicable)		
01 Name: Paul R. Fedkiw, Eva Corporation	02 D&B Number		08 Name	09 D&B Number	
03 Street Address (P.O. Box, RFD #, etc.): 2658 Coomer Road		04 SIC Code	10 Street Address (P.O. Box, RFD #, etc.)		11 SIC Code
05 City: Newfane	06 State: NY	07 Zip Code: 14108	12 City	13 State	14 Zip Code
01 Name	02 D&B Number		08 Name	09 D&B Number	
03 Street Address (P.O. Box, RFD #, etc.)		04 SIC Code	10 Street Address (P.O. Box, RFD #, etc.)		11 SIC Code
05 City	06 State	07 Zip Code	12 City	03 State	14 Zip Code
01 Name	02 D&B Number		08 Name	09 D&B Number	
03 Street Address (P.O. Box, RFD #, etc.)		04 SIC Code	10 Street Address (P.O. Box, RFD #, etc.)		11 SIC Code
05 City	06 State	07 Zip Code	12 City	13 State	14 Zip Code

III. PREVIOUS OWNER(S) (list most recent first)			IV. REALTY OWNER(S) (if applicable, list most recent first)		
01 Name: Welland Chemicals, Ltd.	02 D&B Number		01 Name	02 D&B Number	
03 Street Address (P.O. Box, RFD #, etc.): Scott Road, Sarnia		04 SIC Code	03 Street Address (P.O. Box, RFD #, etc.)		04 SIC Code
05 City: Ontario	06 State: Canada	07 Zip Code	05 City	06 State	07 Zip Code
01 Name: DAL Specialties	02 D&B Number		01 Name	02 D&B Number	
03 Street Address (P.O. Box, RFD #, etc.): 3119 Randall Road		04 SIC Code	03 Street Address (P.O. Box, RFD #, etc.)		04 SIC Code
05 City: Wilson	06 State: NY	07 Zip Code: 14131	05 City	06 State	07 Zip Code
01 Name: Allied Chemicals	02 D&B Number		01 Name	02 D&B Number	
03 Street Address (P.O. Box, RFD #, etc.): 3119 Randall Road		04 SIC Code	03 Street Address (P.O. Box, RFD #, etc.)		04 SIC Code
05 City: Wilson	06 State: NY	07 Zip Code: 14131	05 City	06 State	07 Zip Code

V. SOURCES OF INFORMATION (cite specific references, e.g., state files, sample analysis, reports)

Ecology and Environment Engineering, P.C. site inspection, April 29, 1991.

POTENTIAL HAZARDOUS WASTE SITE SITE INSPECTION REPORT

PART 8 - OPERATOR INFORMATION

I. IDENTIFICATION

01 State	02 Site Number
NY	932003

II. CURRENT OPERATOR (provide if different from owner)			OPERATOR'S PARENT COMPANY (if applicable)		
01 Name Ronald Fedkiw, Eva Corporation	02 D&B Number		10 Name	11 D&B Number	
03 Street Address (P.O. Box, RFD #, etc.) 3119 Randall Road		04 SIC Code	12 Street Address (P.O. Box, RFD #, etc.)		13 SIC Code
05 City Ransomville	06 State NY	07 Zip Code 14131	14 City	15 State	16 Zip Code
08 Years of Operation 8/89 - present	09 Name of Owner Ronald Fedkiw				

III. PREVIOUS OPERATOR(S) (list most recent first; provide if different from owner)			PREVIOUS OPERATORS' PARENT COMPANIES (if applicable)		
01 Name Welland Chemicals, Ltd.	02 D&B Number		10 Name	11 D&B Number	
03 Street Address (P.O. Box, RFD #, etc.) Scott Road Sarnia		04 SIC Code	12 Street Address (P.O. Box, RFD #, etc.)		13 SIC Code
05 City Ontario Canada	06 State	07 Zip Code	14 City	15 State	16 Zip Code
08 Years of Operation 1985-1989	09 Name of Owner During this Period Colin Nixon				
01 Name DAL Specialties	02 D&B Number		10 Name	11 D&B Number	
03 Street Address (P.O. Box, RFD #, etc.) 3119 Randall Road		04 SIC Code	12 Street Address (P.O. Box, RFD #, etc.)		13 SIC Code
05 City Wilson	06 State NY	07 Zip Code 14131	14 City	15 State	16 Zip Code
08 Years of Operation 1983-1985	09 Name of Owner During this Period James Lanzo				
01 Name Allied Chemicals	02 D&B Number		10 Name	11 D&B Number	
03 Street Address (P.O. Box, RFD #, etc.) 3119 Randall Road		04 SIC Code	12 Street Address (P.O. Box, RFD #, etc.)		13 SIC Code
05 City Wilson	06 State NY	07 Zip Code 14131	14 City	15 State	16 Zip Code
08 Years of Operation 1956-1983	09 Name of Owner During this Period				

IV. SOURCES OF INFORMATION (cite specific references, e.g., state files, sample analysis, reports)

Ecology and Environment Engineering, P.C. site inspection April 29, 1991
Phase I Investigation, January 1988

POTENTIAL HAZARDOUS WASTE SITE SITE INSPECTION REPORT PART 9 - GENERATOR/TRANSPORTER INFORMATION	I. IDENTIFICATION 01 State: NY 02 Site Number: 932003

II. ON-SITE GENERATOR

01 Name	02 D&B Number	
Allied Chemical-Elberta Works		
03 Street Address (P.O. Box, RFD #, etc.)		04 SIC Code
3119 Randall Road		
05 City	06 State	07 Zip Code
Wilson	NY	14131

III. OFF-SITE GENERATOR(S)

01 Name	02 D&B Number		01 Name	02 D&B Number	
None					
03 Street Address (P.O. Box, RFD #, etc.)		04 SIC Code	03 Street Address (P.O. Box, RFD #, etc.)		04 SIC Code
05 City	06 State	07 Zip Code	05 City	06 State	07 Zip Code
01 Name	02 D&B Number		01 Name	02 D&B Number	
03 Street Address (P.O. Box, RFD #, etc.)		04 SIC Code	03 Street Address (P.O. Box, RFD #, etc.)		04 SIC Code
05 City	06 State	07 Zip Code	05 City	06 State	07 Zip Code

IV. TRANSPORTER(S)

01 Name	02 D&B Number		01 Name	02 D&B Number	
03 Street Address (P.O. Box, RFD #, etc.)		04 SIC Code	03 Street Address (P.O. Box, RFD #, etc.)		04 SIC Code
05 City	06 State	07 Zip Code	05 City	06 State	07 Zip Code
01 Name	02 D&B Number		01 Name	02 D&B Number	
03 Street Address (P.O. Box, RFD #, etc.)		04 SIC Code	03 Street Address (P.O. Box, RFD #, etc.)		04 SIC Code
05 City	06 State	07 Zip Code	05 City	06 State	07 Zip Code

V. SOURCES OF INFORMATION (cite specific references, e.g., state files, sample analysis, reports)

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT

PART 10 - PAST RESPONSE ACTIVITIES

I. IDENTIFICATION

01 State	02 Site Number
NY	932003

II. PAST RESPONSE ACTIVITIES

01 [ ] A. Water Supply Closed — 02 Date _____ — 03 Agency _____
04 Description:

01 [ ] B. Temporary Water Supply Provided — 02 Date _____ — 03 Agency _____
04 Description:

01 [ ] C. Permanent Water Supply Provided — 02 Date _____ — 03 Agency _____
04 Description:

01 [ ] D. Spilled Material Removed — 02 Date _____ — 03 Agency _____
04 Description:

01 [ ] E. Contaminated Soil Removed — 02 Date _____ — 03 Agency _____
04 Description:

01 [ ] F. Waste Repackaged — 02 Date _____ — 03 Agency _____
04 Description:

01 [ ] G. Waste Disposed Elsewhere — 02 Date _____ — 03 Agency _____
04 Description:

01 [X] H. On-Site Burial — 02 Date June 24, 1991 — 03 Agency _____
04 Description: From 1956 through 1972, approximately 1,500 tons of solid waste including refractory material, graphite, asbestos, aluminum chloride were disposed of on-site.

01 [ ] I. In Situ Chemical Treatment — 02 Date _____ — 03 Agency _____
04 Description:

01 [ ] J. In Situ Biological Treatment — 02 Date _____ — 03 Agency _____
04 Description:

01 [ ] K. In Situ Physical Treatment — 02 Date _____ — 03 Agency _____
04 Description:

01 [ ] L. Encapsulation — 02 Date _____ — 03 Agency _____
04 Description:

01 [ ] M. Emergency Waste Treatment — 02 Date _____ — 03 Agency _____
04 Description:

01 [ ] N. Cutoff Walls — 02 Date _____ — 03 Agency _____
04 Description:

01 [ ] O. Emergency Diking/Surface Water Diversion — 02 Date _____ — 03 Agency _____
04 Description:

01 [ ] P. Cutoff Trenches/Sump — 02 Date _____ — 03 Agency _____
04 Description:

POTENTIAL HAZARDOUS WASTE SITE SITE INSPECTION REPORT PART 10 - PAST RESPONSE ACTIVITIES	I. IDENTIFICATION	
	01 State NY	02 Site Number 932003

II. PAST RESPONSE ACTIVITIES (Cont.)

01 [ ] Q. Subsurface Cutoff Wall — 02 Date _____ — 03 Agency _____
04 Description:

01 [ ] R. Barrier Walls Constructed — 02 Date _____ — 03 Agency _____
04 Description:

01 [X] S. Capping/Covering — 02 Date June 24, 1991 — 03 Agency _____
04 Description: The area in which the 1,500 tons of solid waste were disposed of is now covered with asphalt and a building.

01 [ ] T. Bulk Tankage Repaired — 02 Date _____ — 03 Agency _____
04 Description:

01 [ ] U. Grout Curtain Constructed — 02 Date _____ — 03 Agency _____
04 Description:

01 [ ] V. Bottom Sealed — 02 Date _____ — 03 Agency _____
04 Description:

01 [ ] W. Gas Control — 02 Date _____ — 03 Agency _____
04 Description:

01 [ ] X. Fire Control — 02 Date _____ — 03 Agency _____
04 Description:

01 [ ] Y. Leachate Treatment — 02 Date _____ — 03 Agency _____
04 Description:

01 [ ] Z. Area Evacuated — 02 Date _____ — 03 Agency _____
04 Description:

01 [ ] 1. Access to Site Restricted — 02 Date _____ — 03 Agency _____
04 Description:

01 [ ] 2. Population Relocated — 02 Date _____ — 03 Agency _____
04 Description:

01 [ ] 3. Other Remedial Activities — 02 Date _____ — 03 Agency _____
04 Description:

III. SOURCES OF INFORMATION (cite specific references, e.g., state files, sample analysis, reports)

Kanelis, G., June 24, 1991, Allied Signal, Inc., letter to NYSDEC.

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT

PART 11 - ENFORCEMENT INFORMATION

I. IDENTIFICATION

01 State	02 Site Number
NY	932003

II. ENFORCEMENT INFORMATION

01 Past Regulatory/Enforcement Action [ ] Yes [X]02 No

02 Description of Federal, State, Local Regulatory/Enforcement Action

III. SOURCES OF INFORMATION (cite specific references, e.g., state files, sample analysis, reports)

APPENDIX C

GEOPHYSICAL REPORT

ecology and environment
engineering, p.c.
BUFFALO CORPORATE CENTER
368 PLEASANTVIEW DRIVE, LANCASTER, NEW YORK 14086, TEL. 716/684-8060

August 23, 1993

Valerie Woodward
Senior Engineering Geologist
Western Investigation Section
Bureau of Hazardous Site Control
Division of Hazardous Waste Remediation
New York State Department of Environmental Conservation
50 Wolf Road
Albany, New York 12233-7010

RE: Allied Chemical-Elberta Works (Site #932003)
Geophysical Survey Results

Dear Ms. Woodward:

Geophysical surveys were performed by Ecology and Environment Engineering, P.C. (E & E) at the Allied Chemical-Elberta Works (Allied) site located in Wilson, Niagara County, New York on August 2 and 3, 1993. The surveys were performed at the two locations identified within the New York State Department of Environmental Conservation (NYSDEC) scope-of-work (SOW) as suspected disposal areas for refractory material. Following the site inspection, three additional areas of the site were selected for surveying (see Attachment 1). These additional areas included the alleged "non-hazardous" disposal area along the eastern fence line, the open field north of the site fence, and the two former cooling ponds closest to the main building. Surveys of two of these additional areas (north of the site fence, and the "non-hazardous" disposal area) were recommended by E & E and approved by the NYSDEC site representative. The survey over the third additional area (across the former cooling ponds) was requested by the NYSDEC Region 9 representative.

SURVEY TECHNIQUES AND METHODS

The geophysical surveys were performed using an EG&G Geometrics model G-856 proton precession magnetometer and a Geonics Ltd. model EM31 ground conductivity meter. These instruments were chosen because they were best suited to locate buried drums at the Allied site. Ground penetrating radar (GPR), which was originally suggested, was determined to be unsuitable due to interference from the concrete floor of the storage building and the insufficient depth of penetration caused by the presence of blacktop and possible clay-rich subsoils.

Grids were established over each survey area with variable station and line spacings depending upon the total grid area and man-made obstructions. Grid 1 (located over the "non-hazardous" disposal area) had a grid orientation of N57E, dimensions of 150 feet by 160 feet (along the X and Y axes, respectively) and a station and line spacing of 20 feet. Grid 2 (located over the blacktop parking lot on the northwest corner of the site had a grid orientation of N15E, dimension of 140 feet by 140 feet, and a variable station and line spacing of 10 and 20 feet due to interference from automobiles, farm equipment, fences, and the storage building. The automobiles and farm equipment are being stored by the current site owner. Grid 3 (located over the former cooling ponds) consisted of two survey lines oriented approximately N30E, spaced 45 feet apart, with a station spacing of 10 feet. Grid 4 (located in the open field north of the site fence), had an orientation of N10W, dimension of 525 feet by 150 feet, and station and line spacing of 25 feet. Grid 5 (located inside the storage building adjacent to the parking area in the northwest corner of the site) had an orientation of N65E, dimension of 25 feet by 65 feet, line spacings of 11 feet, 7 feet, and 8 feet, and station spacings of 5 and 10 feet. Station and line spacings were irregular in Grid 5 due to the presence of pet supplies stored in the building. All compass directions are uncorrected for regional magnetic declination.

One reading of the earth's total magnetic field (in units of gammas) was collected at each grid station. Magnetic readings were later corrected for diurnal drift from base station readings. Eight readings were recorded at each grid station by the EM31. Four of these readings were collected with the instrument oriented parallel to the Y-axis (orientation 1) of the grid, and the remaining four were collected with the instrument oriented parallel to the X-axis (orientation 2). The readings in each orientation consisted of both the quadrature phase component (conductivity) and the inphase component of the induced magnetic field in both the vertical and horizontal dipole modes.

The quadrature phase component measures ground conductivity in units of millimhos/meter (mmhos/m). The inphase component is used to enhance the detection of buried metal objects. The unit of measure for the inphase component is ppt (parts per thousand) which represents the ratio between the primary magnetic field generated by the instrument and the secondary magnetic field generated by the earth. In the vertical dipole mode, the instrument is capable of penetrating the ground to a depth of approximately 18 feet and it is more sensitive to deeply buried objects.

In the horizontal dipole mode, the instrument penetrates the ground to a depth of about 9 feet and is more sensitive to shallow objects.

All instrument readings were electronically recorded and stored by the instruments. Magnetometer readings were down-loaded using MAGPAC Version 4.1.5-89 software (EG&G Geometrics) and EM readings were down-loaded using DAT31 Version 3.20 software (Geonics, Ltd.). All geophysical data were then plotted and contoured using Surfer Version 4.0 software (Golden Software, Inc.).

SURVEY RESULTS

Several contour maps of each survey grid were generated to illustrate survey results. Magnetometer contour maps are labeled MAG, and EM31 maps are labeled conductivity for the quatrature phase component, and inphase for the inphase component. Vertical and horizontal dipole modes in instrument orientations 1 and 2 are labeled V1, H1, V2, and H2 respectively. Attachment 2 contains the contour plots illustrating the survey results. Asterisks on the maps indicate grid station locations.

GRID 1

Several anomalies were detected in Grid 1. All of these anomalies, except at grid coordinate (20,60) were due to surface interference. The north-south linear shaped anomaly represented in the EM contour maps is due to the fence located between grid coordinates (75,0) and (75,160). The strong magnetic anomaly at grid coordinates (90,120), (90,140), and (90,160) were due to partially buried mounded debris and rolled-up fencing on the ground surface.

The prominent EM anomaly in the southeast corner of the grid is believed to be due to the presence of an abandoned railroad bed. The anomaly at (20,60) has no observable explanation. This anomaly is located on or adjacent to one of the former cooling ponds. Since nothing was detected by the magnetometer at this location, the anomaly is probably caused by a non-ferrous material. There do not appear to be any buried drums within this survey grid.

GRID 2

Several anomalies were detected in Grid 2 most of which are explained by surface features. EM and magnetic anomalies detected along the western border of the contour maps were caused by the site fence; magnetic anomalies at grid coordinates (110,80), (110,100),

and (110,120) were caused by farming equipment; the small magnetic anomaly at (20,130) was caused by a parked automobile; the magnetic anomaly at (100,50) was caused by a fence gate; and the magnetic anomalies along the lower eastern border were caused by an adjacent building. EM and magnetic anomalies at (120,20) to (120,40) are unknown, and may be caused by buried utilities or sewer pipes entering/exiting the building. However, since this is in close proximity to the suspected drum disposal area, these anomalies may also represent buried drums. The EM and magnetic anomalies at (60,30) and (80,50) are also unknown, and may represent buried drums. A sketch of the storage building fences, and other surface interferences are provided on the MAG contour map. There do not appear to be any buried drums in the central portion of the grid as indicated on the site map in Attachment 1.

GRID 3

Three magnetic anomalies were detected on the two survey lines across the former cooling ponds. The anomalies at (10,45) and (0,0) were due to surface debris. The anomaly at (70,0) is unknown. However, since there were no EM anomalies at (70,0), the magnetic anomaly was probably caused by a shallow, small metallic object. High conductivity readings were detected between (40,45) and (60,45), however, nothing was detected in the inphase component. Therefore, the increased conductivity is probably due to non-metallic sources. There do not appear to be any buried drums along these profile lines.

GRID 4

Several magnetic anomalies were detected in Grid 4. The anomaly along the northern border (also seen in the EM maps) is due to the wire fence. The source of the other anomalies at (200,25) and (275,100) are unknown. Since these anomalies were not detected by the EM, they are likely to be the result of a shallow, small metallic object. Based on the EM maps, there does not appear to be a large cluster of buried drums in this grid area. however, the two unexplained magnetic anomalies may represent small objects such as a single drum.

GRID 5

Several EM and magnetic anomalies were detected inside the storage building. Since the building is wood-framed, there should not be any interference from the building. However, the building is currently used for storage of pet supplies (including dog cages, and aquarium hoods containing light fixtures) which may have some interference on the instruments. The anomaly at (25,0) may be due to aquarium hoods, the

anomaly at (25,30) may be due to the metal overhead door; and the anomaly at (0,65) may be due to dog cages. The conductivity plots indicate high conductivity in the northern half of the building. However, since the inphase plots do not indicate the presence of subsurface metallic objects, this region of high conductivity may represent disturbed soil/fill or a change in soil type. Therefore, the results are inconclusive as to the presence of buried drums beneath the building.

CONCLUSIONS/RECOMMENDATIONS

The potential for buried drums is evident by the presence of at least one unexplained EM and/or magnetic anomaly in each one of the survey grids. If drums are present, it is most likely that they would be located in Grids 2, 4 and 5. However, most anomalies appear to be small and insignificant - large clusters of drums are not evident on any of the contour plots.

In order to confirm the results of the geophysical surveys and identify the source of the more prominent anomalies, E & E recommends test pit excavations in Grid 2 between coordinates (60,30) to (80,50); as well as in Grid 4 at (200,25), and (275,100) to (300,100). Additional excavations are also recommended for confirmation in Grid 1 at (20,60) and Grid 3 at (70,0). Since Grid 5 is inside the storage building, and the building has a concrete floor, no initial investigate work is recommended due to difficult access. If the above-proposed test pits prove to be negative in locating buried drums, final confirmation should be attempted by excavating inside the storage building between grid coordinates (18,40) and (18,50).

If you have any questions, or require additional information, please contact me at 716/684-8060.

Sincerely,

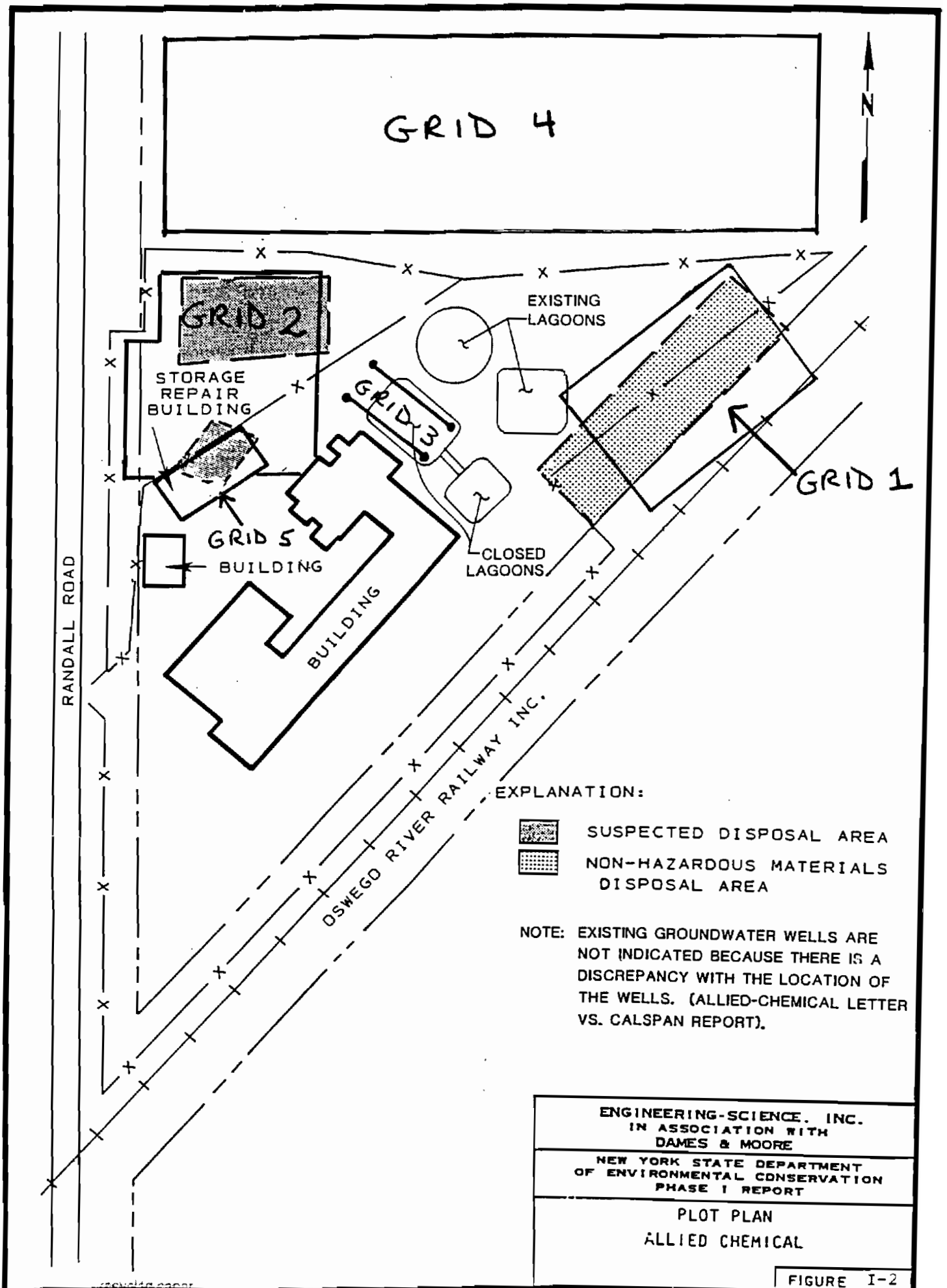
Richard M. Watt For

Gene Florentino
Site Manager/Geologist

jg/YR8030
[SEC]2398

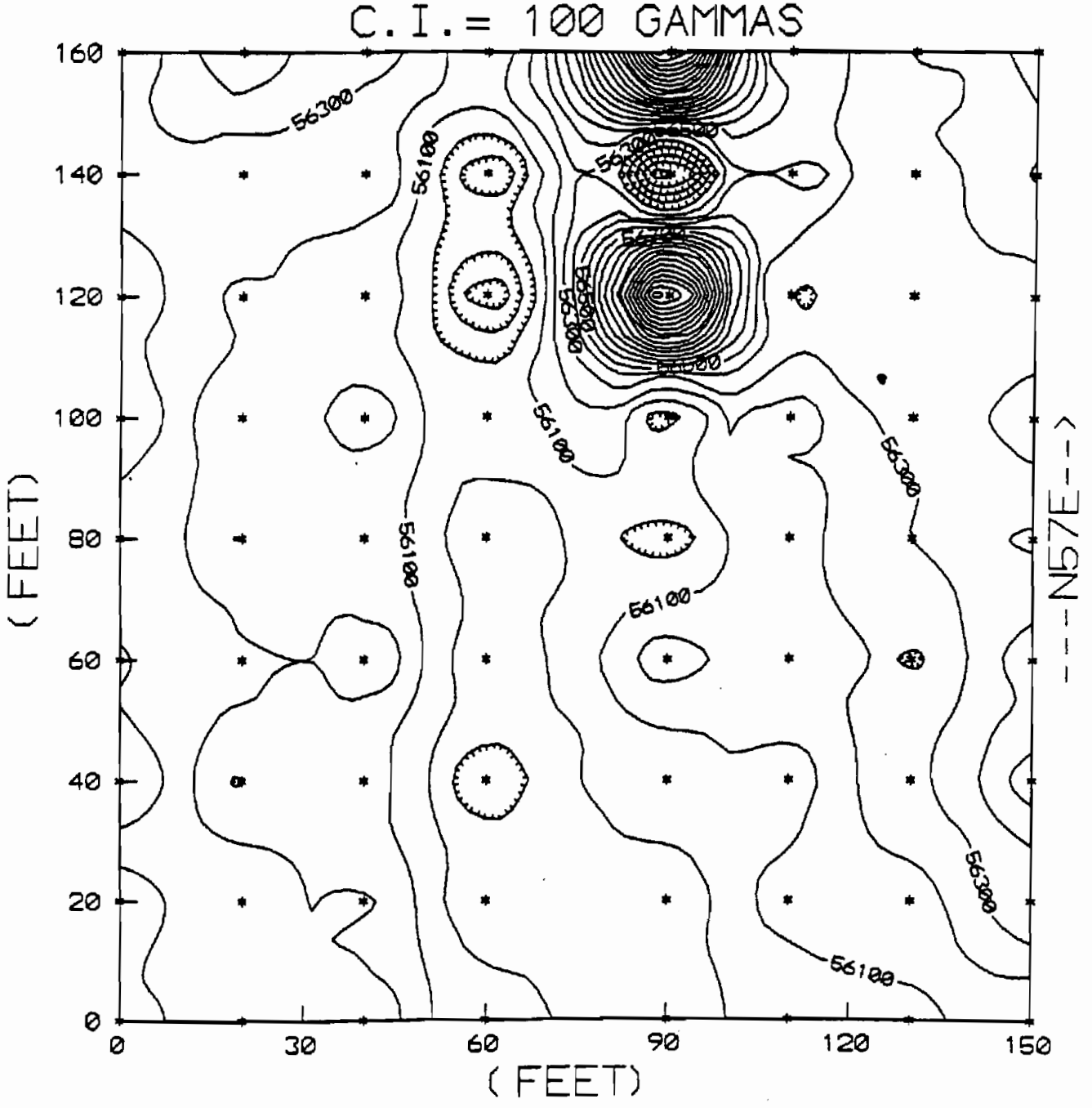
cc: B. Peck
J. Griffis

ATTACHMENT
1
GRID LOCATION MAP


GRID 4
N
GRID 2
STORAGE
REPAIR
BUILDING
EXISTING
LAGOONS
GRID 3
GRID 1
GRID 5
BUILDING
CLOSED
LAGOONS
BUILDING
RANDALL ROAD
OSWEGO RIVER RAILWAY INC.
EXPLANATION:
SUSPECTED DISPOSAL AREA
NON-HAZARDOUS MATERIALS
DISPOSAL AREA
NOTE: EXISTING GROUNDWATER WELLS ARE
NOT INDICATED BECAUSE THERE IS A
DISCREPANCY WITH THE LOCATION OF
THE WELLS. (ALLIED-CHEMICAL LETTER
VS. CALSPAN REPORT).
ENGINEERING-SCIENCE, INC.
IN ASSOCIATION WITH
DAMES & MOORE
NEW YORK STATE DEPARTMENT
OF ENVIRONMENTAL CONSERVATION
PHASE I REPORT
PLOT PLAN
ALLIED CHEMICAL
FIGURE I-2

ATTACHMENT
2
GEOPHYSICAL SURVEY
CONTOUR MAPS

ALLIED MAG GRID 1



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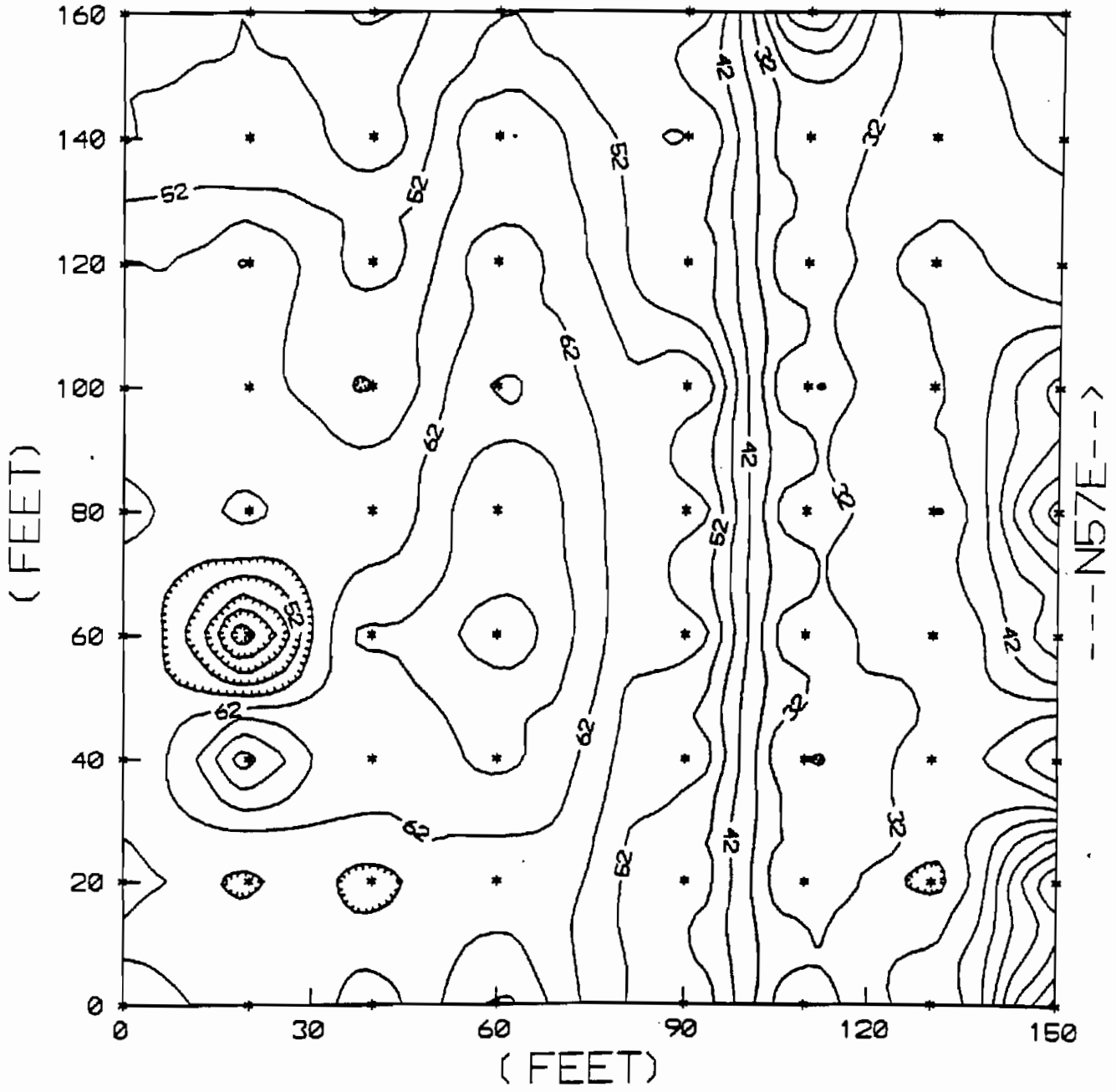
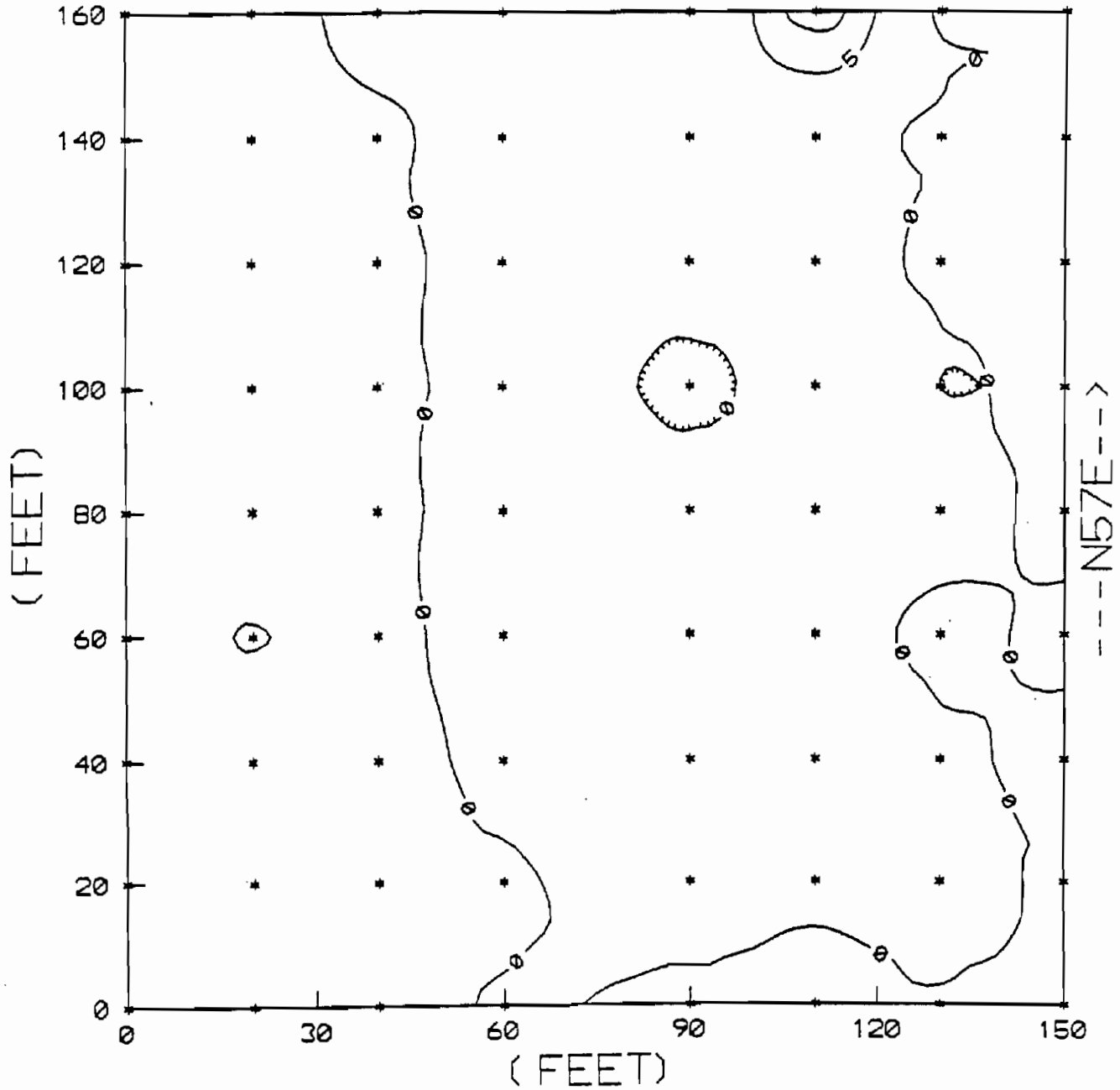


ALLIED V1 IN-PHASE GRID 1

C.I.= 5 PPT



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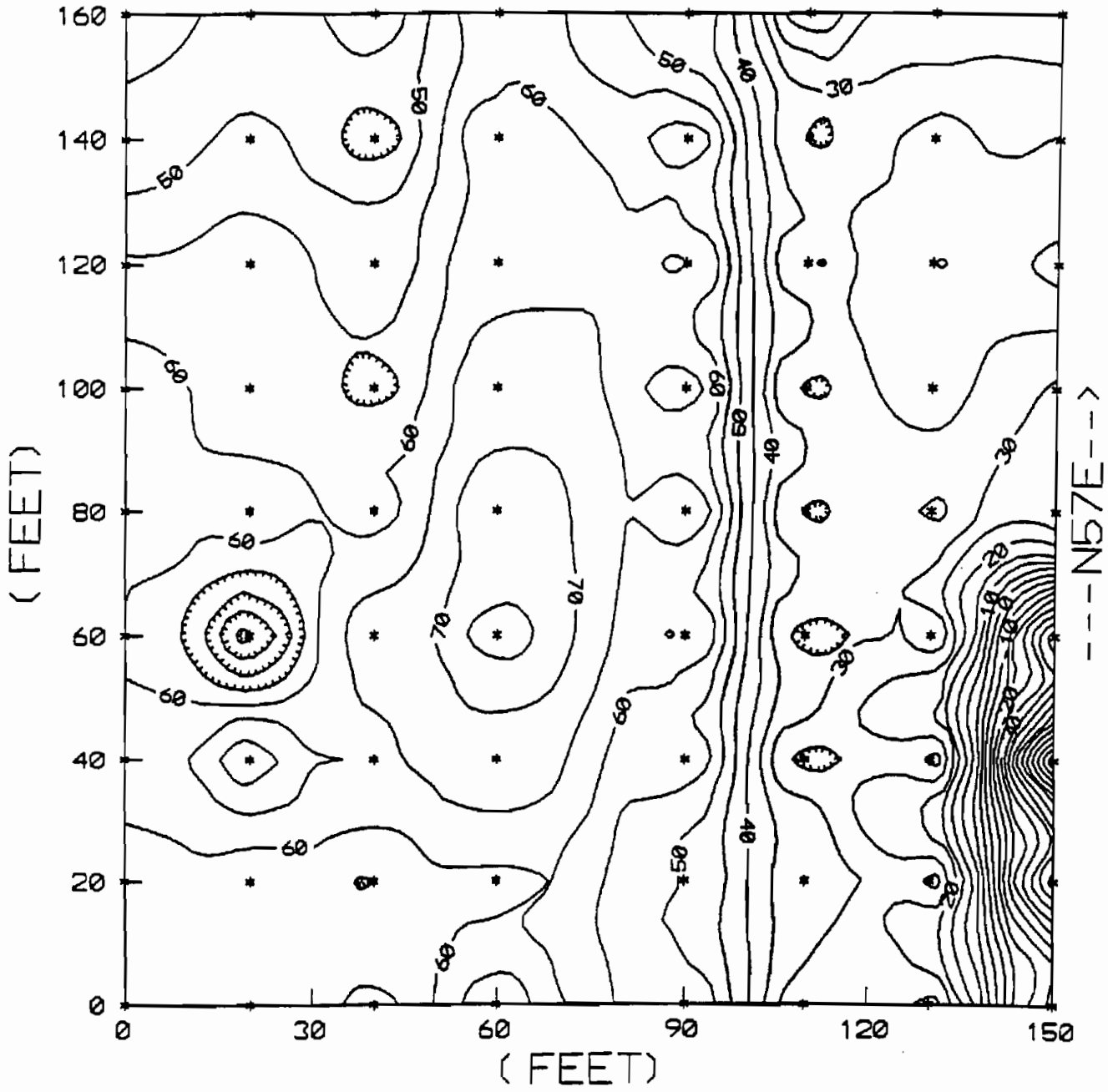
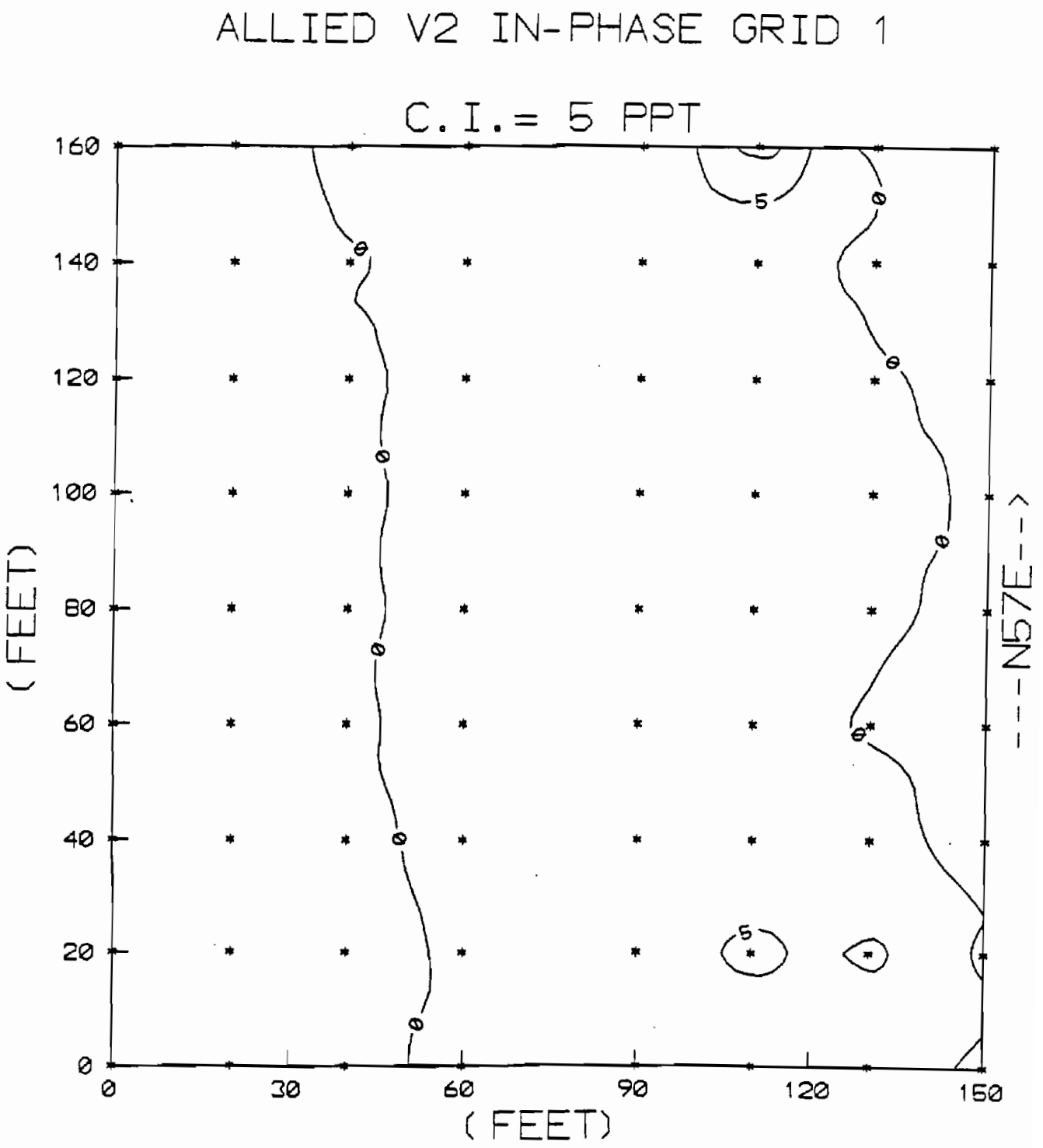
C.I.= 5 MMHOS/M

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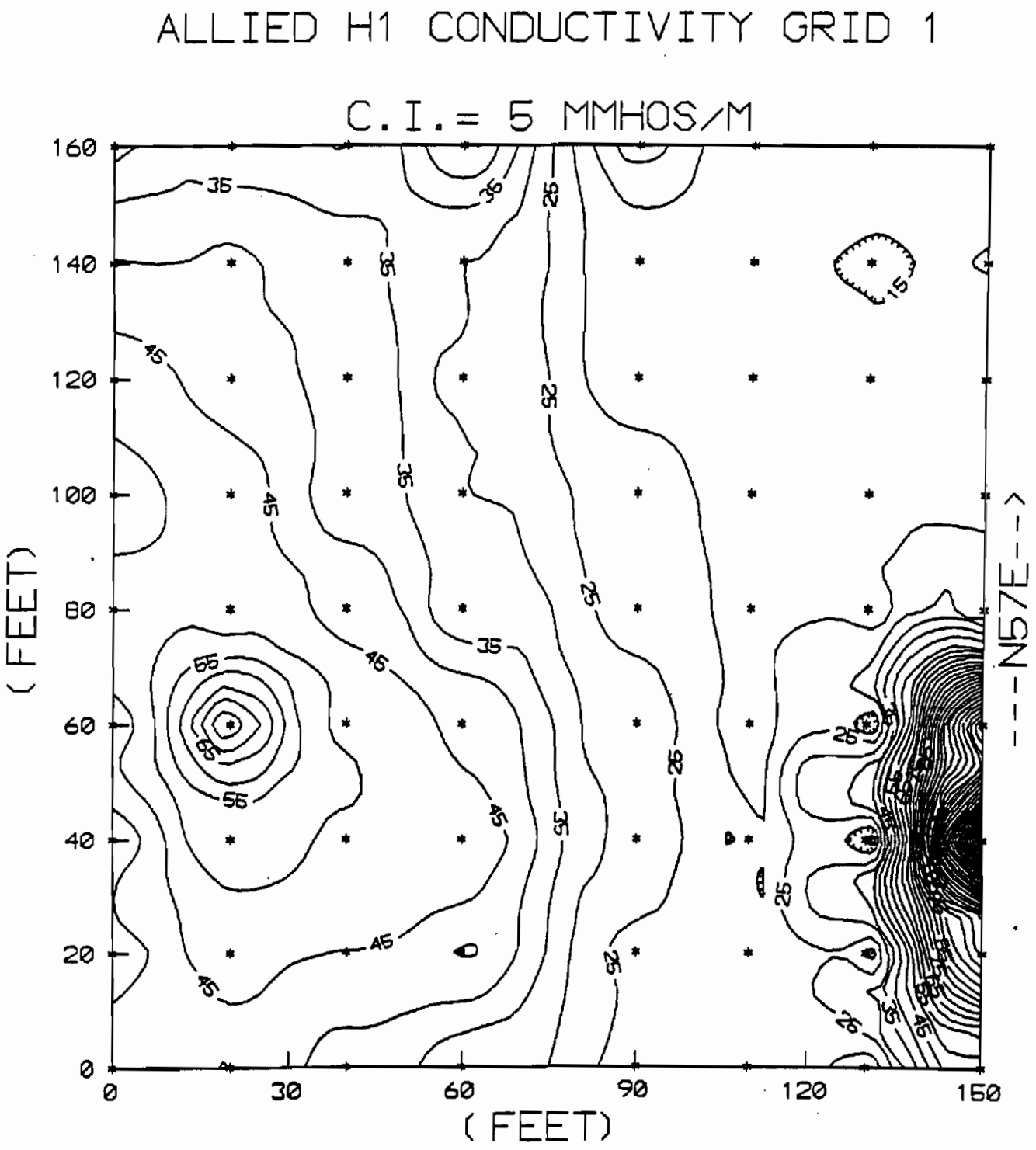
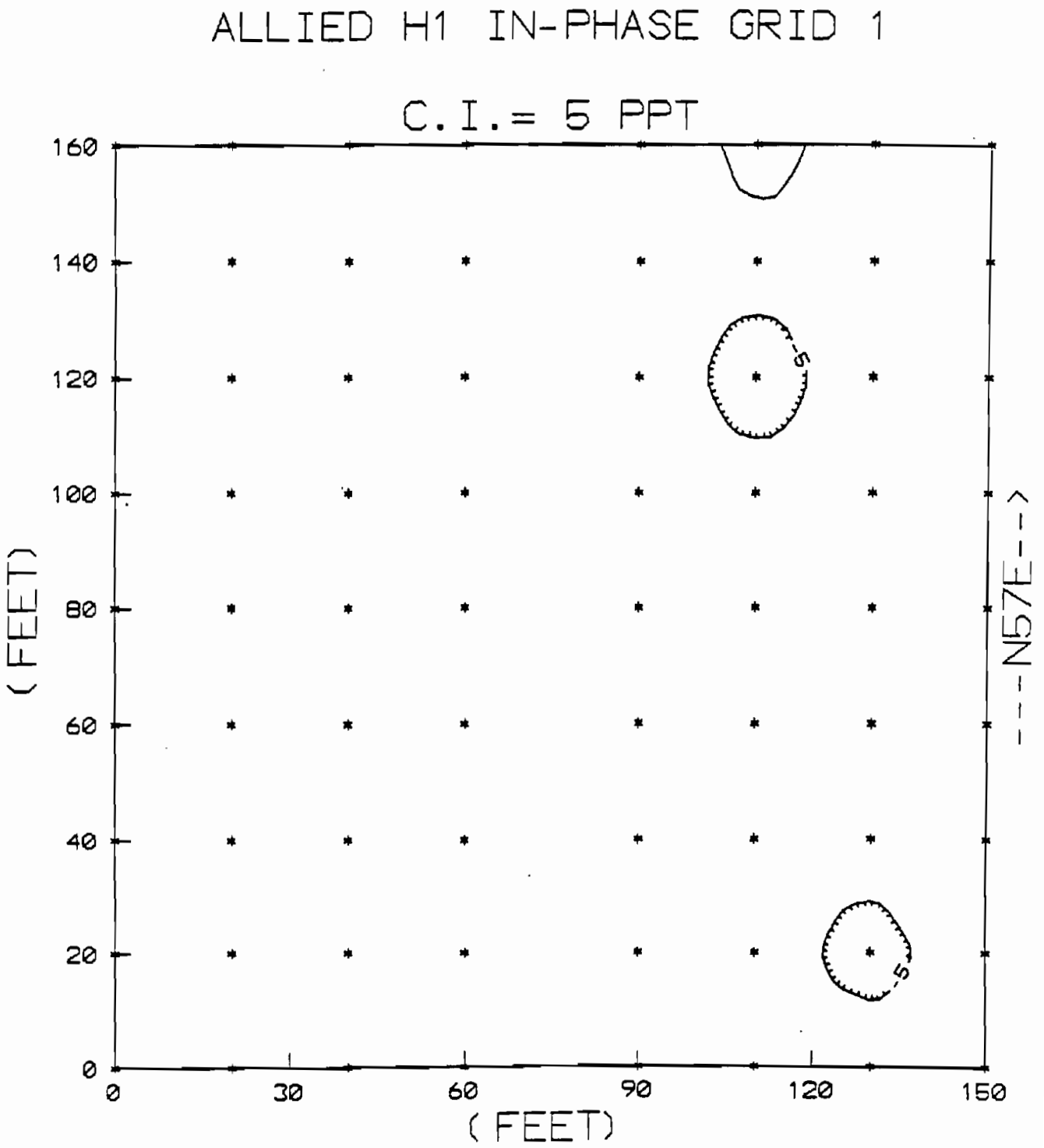
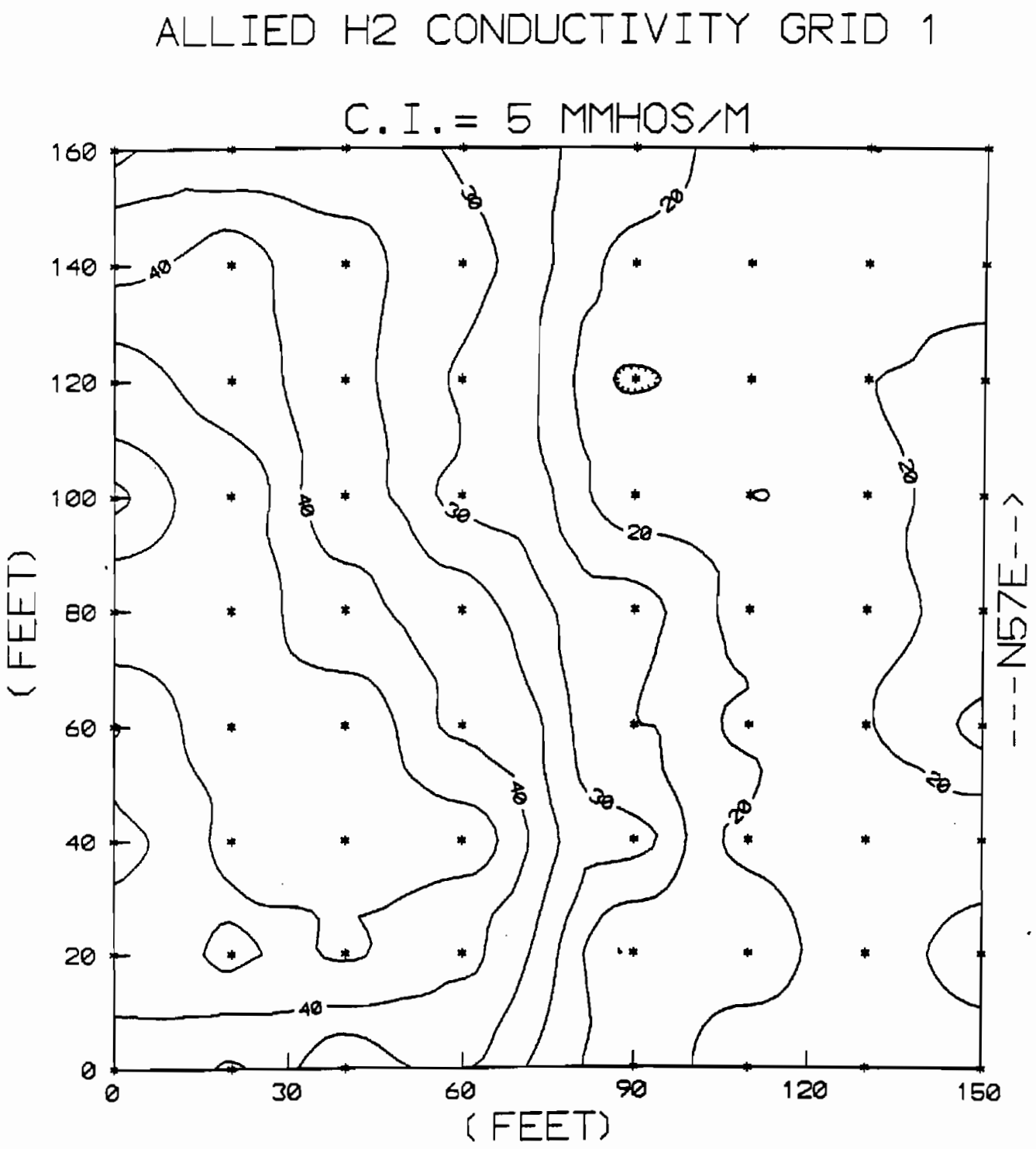
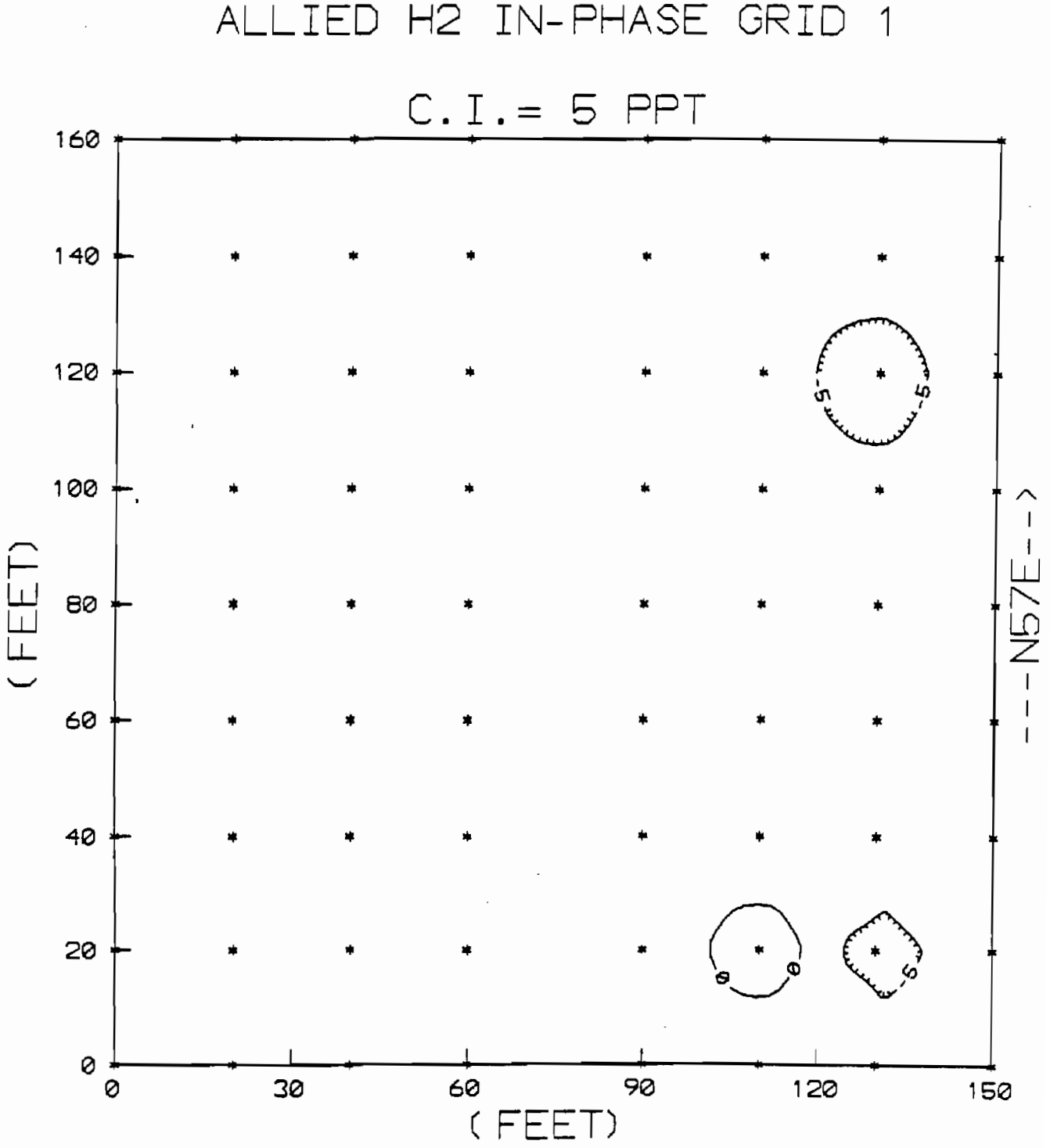
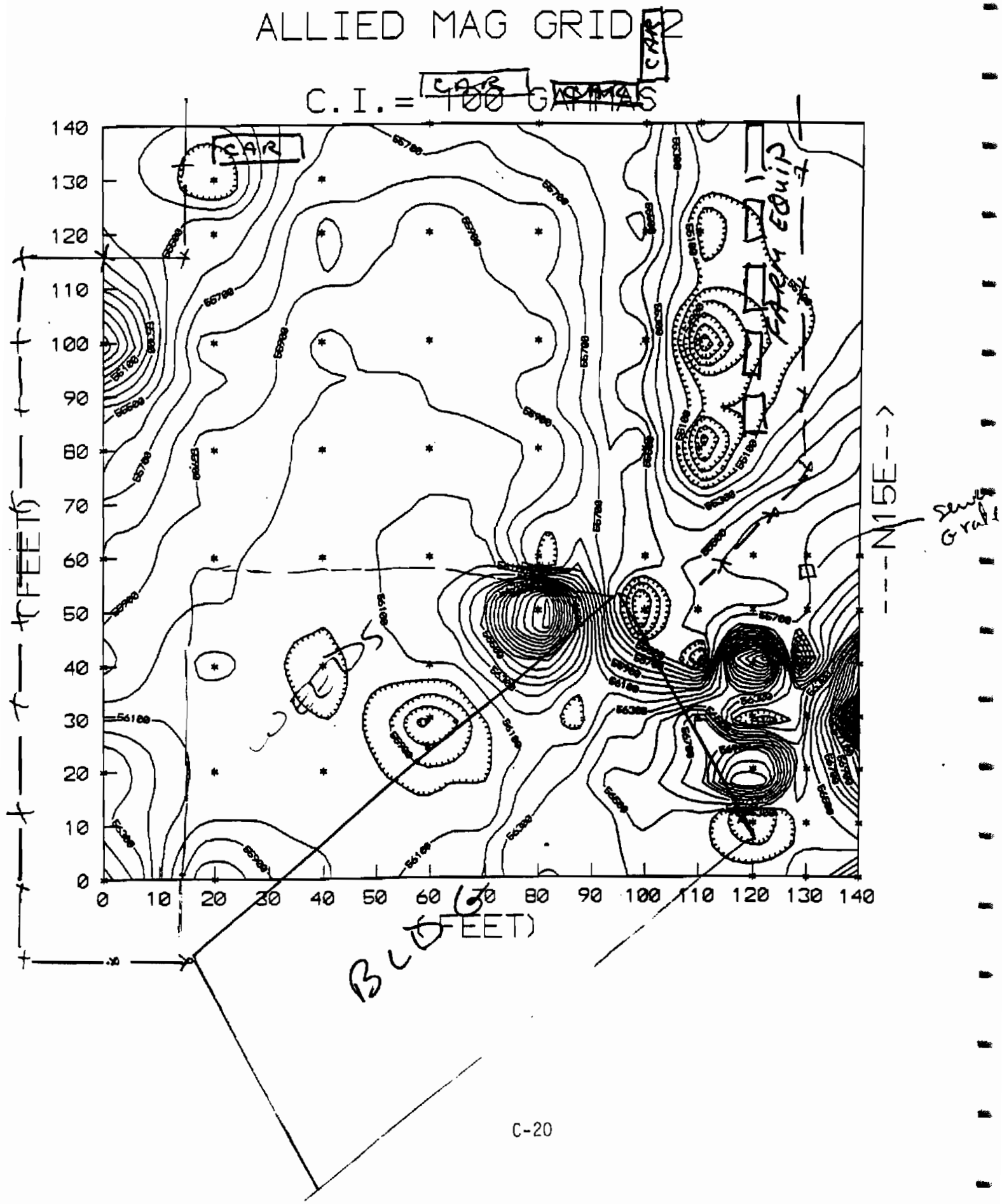
C.I.= 5 PPT
160
140
120
100
80
60
40
20
0
0
30
60
90
120
150
(FEET)
(FEET)
---N57E-->
5
0

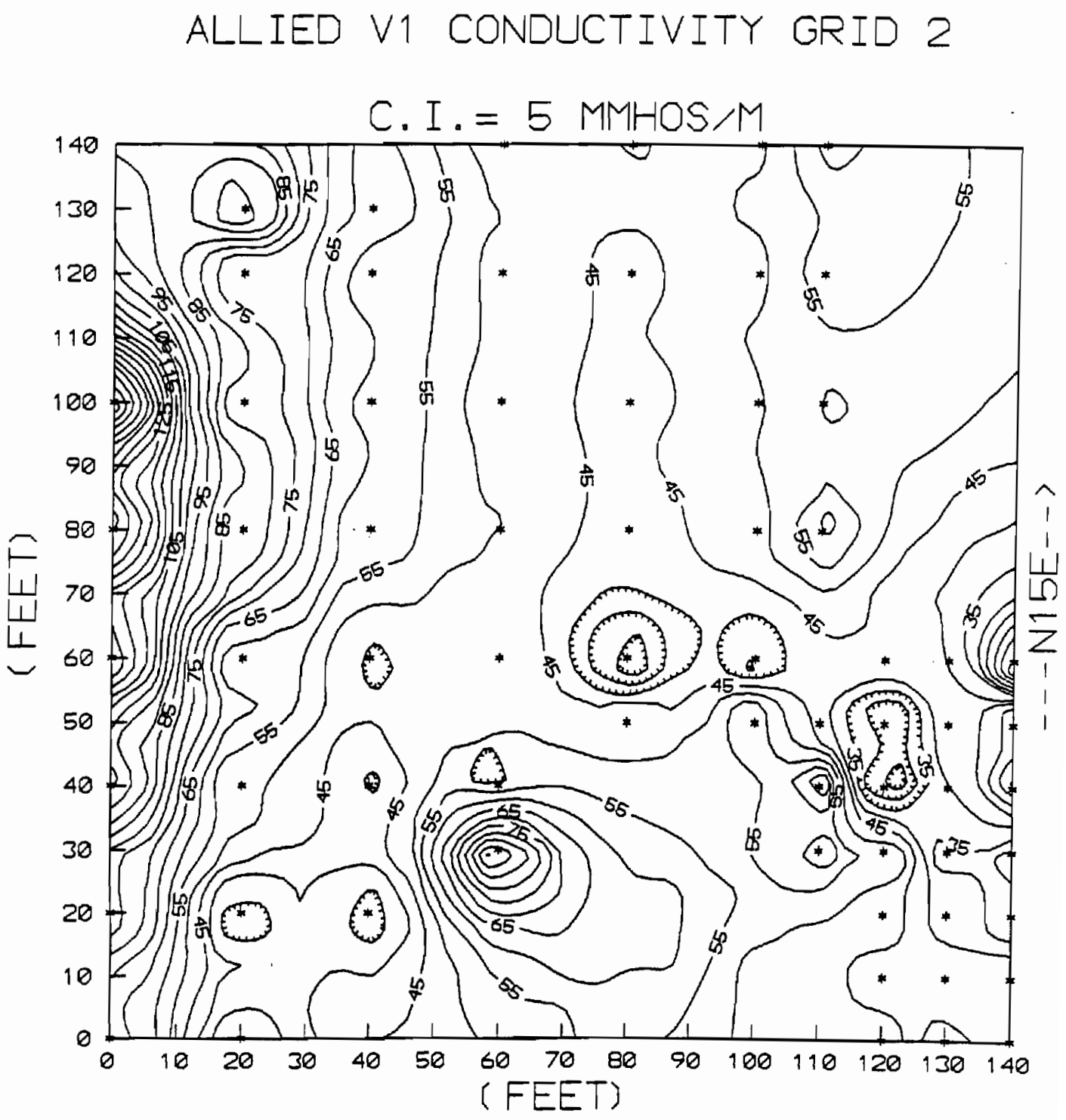

ALLIED H1 CONDUCTIVITY GRID 1
C.I.= 5 MMHOS/M
160
140
120
100
80
60
40
20
0
0
30
60
90
120
150
(FEET)
(FEET)
---N57E-->
35
45
55
56
25
15




ALLIED H2 CONDUCTIVITY GRID 1
C.I.= 5 MMHOS/M
160
140
120
100
80
60
40
20
0
(FEET)
0
30
60
90
120
150
(FEET)
<---N57E-->
40
30
20
0

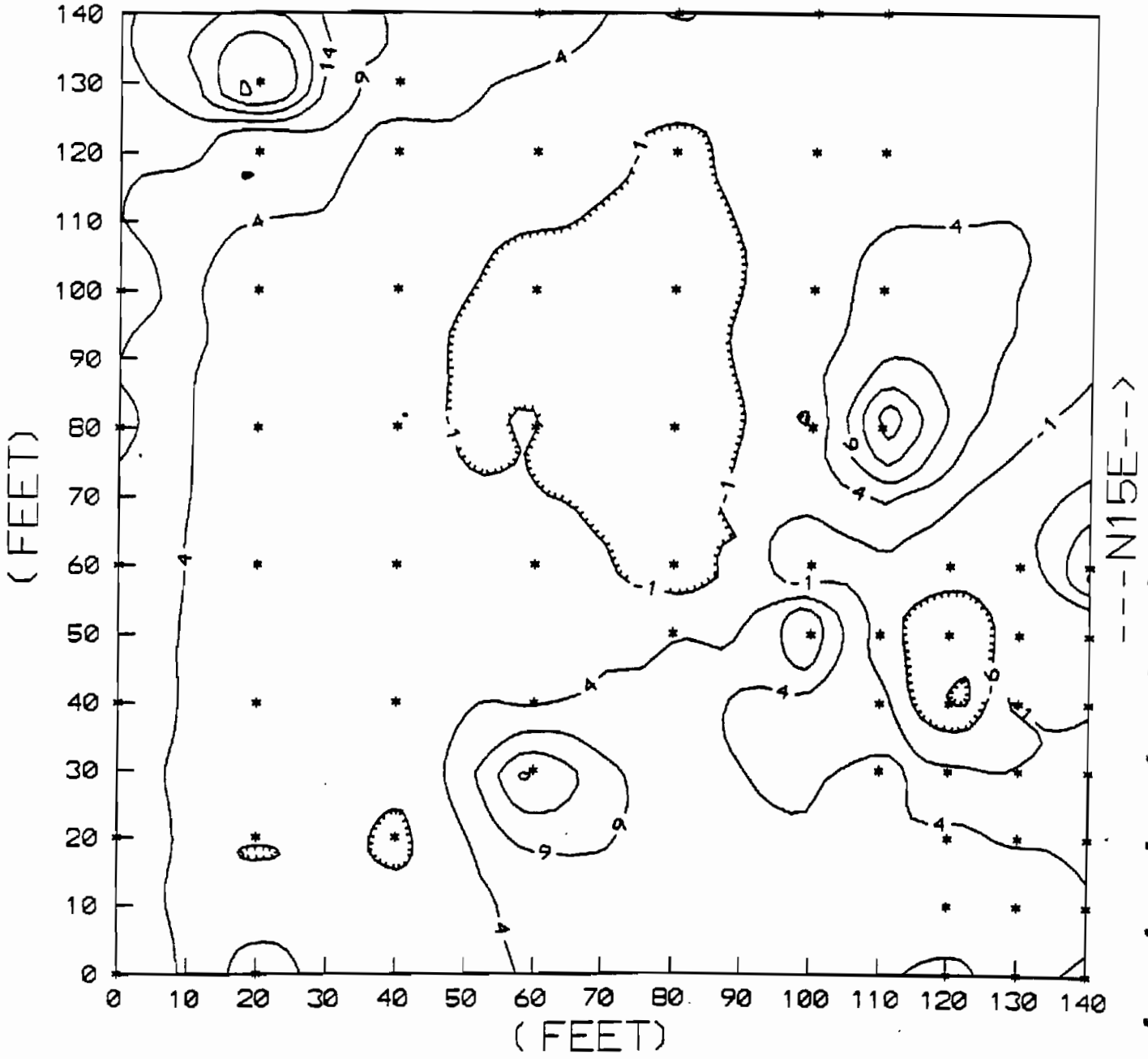



ALLIED MAG GRID 2
C. I. = 100 GAMMAS
CAR
140
130
120
110
100
90
80
70
60
50
40
30
20
10
0
0 10 20 30 40 50 60 70 80 90 100 110 120 130 140
(FEET)
(FEET)
--N15E--
Survey Grid
BLDG



ALLIED V1 IN-PHASE GRID 2

C.I.= 5 PPT



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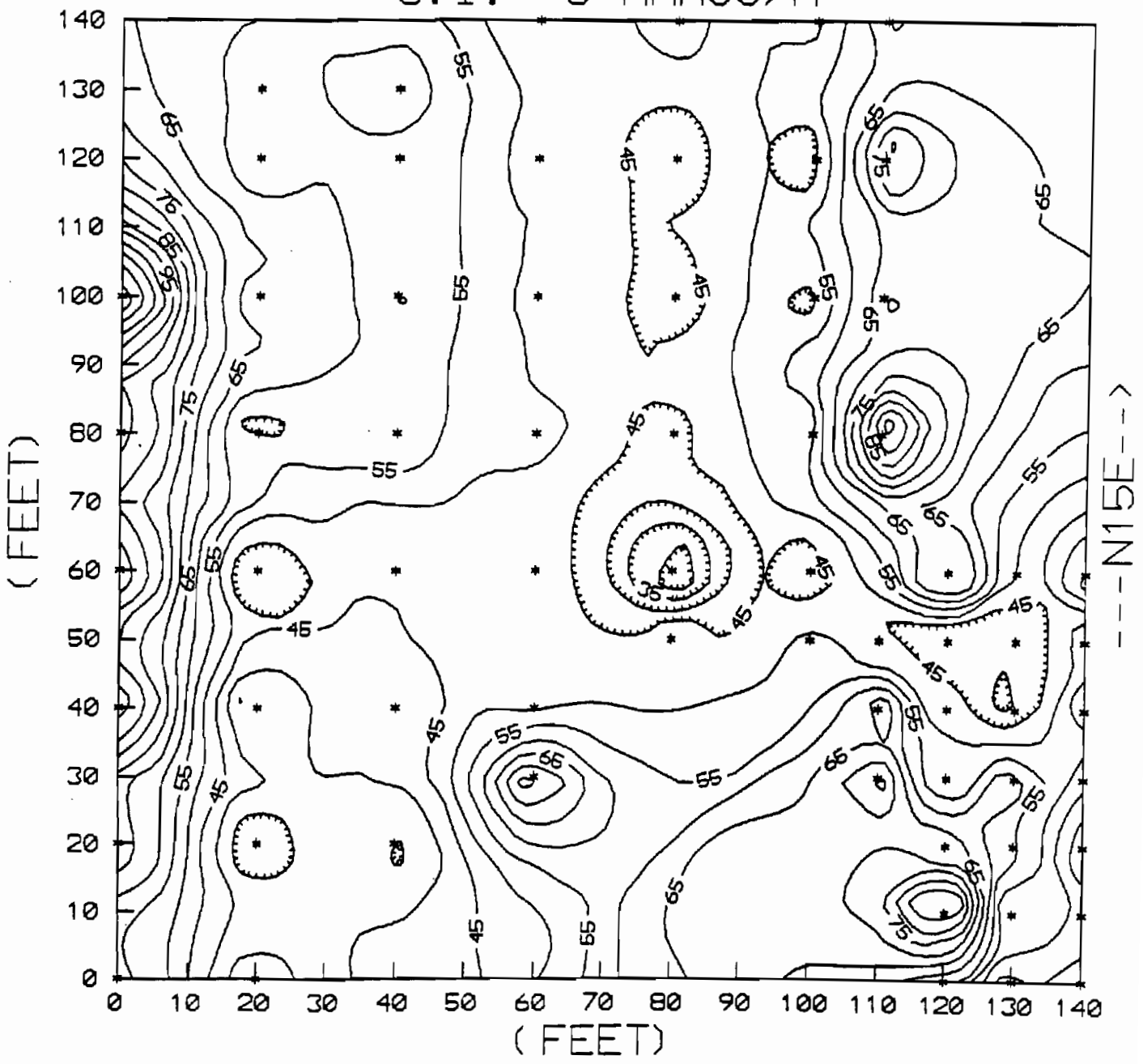

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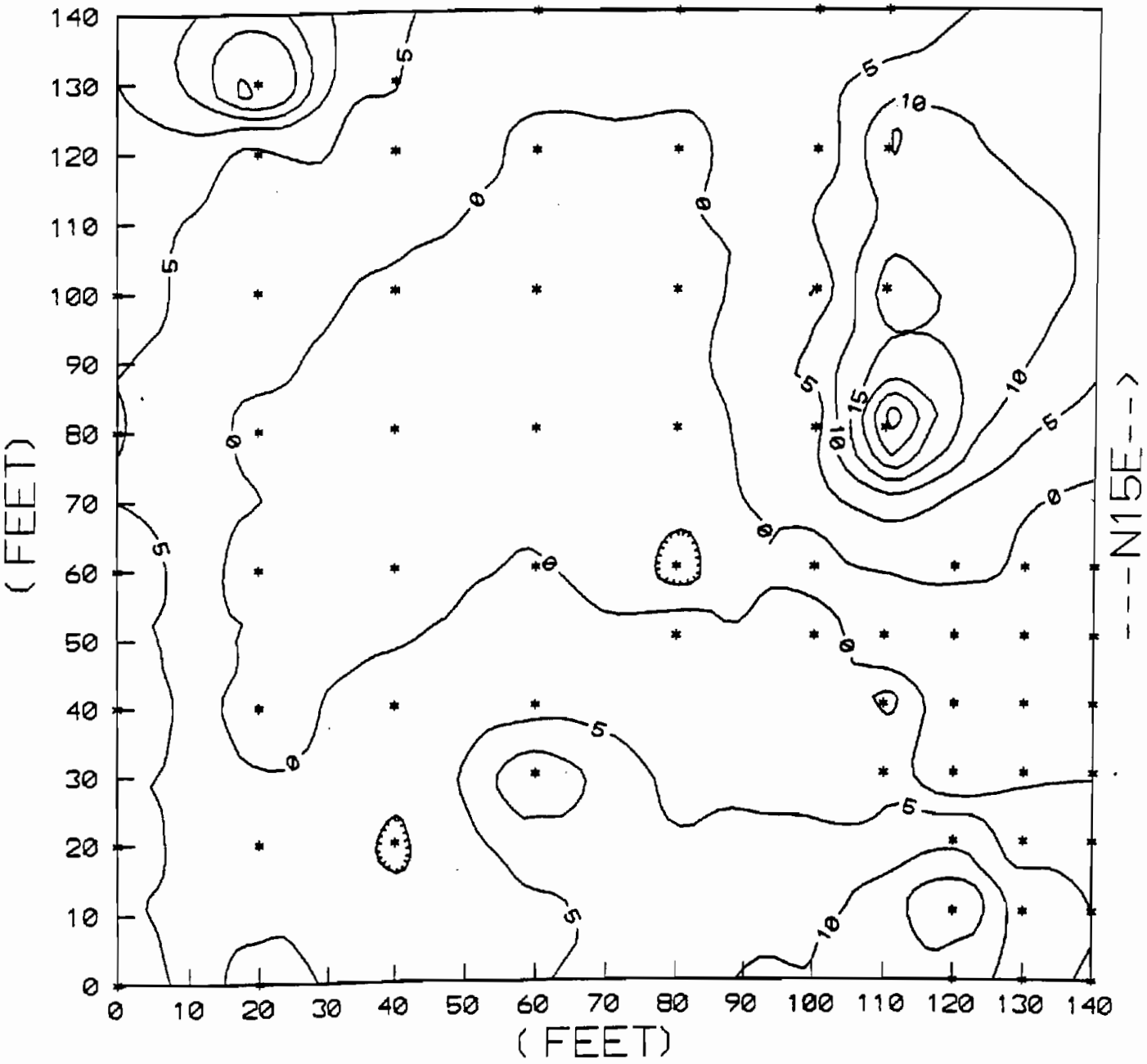

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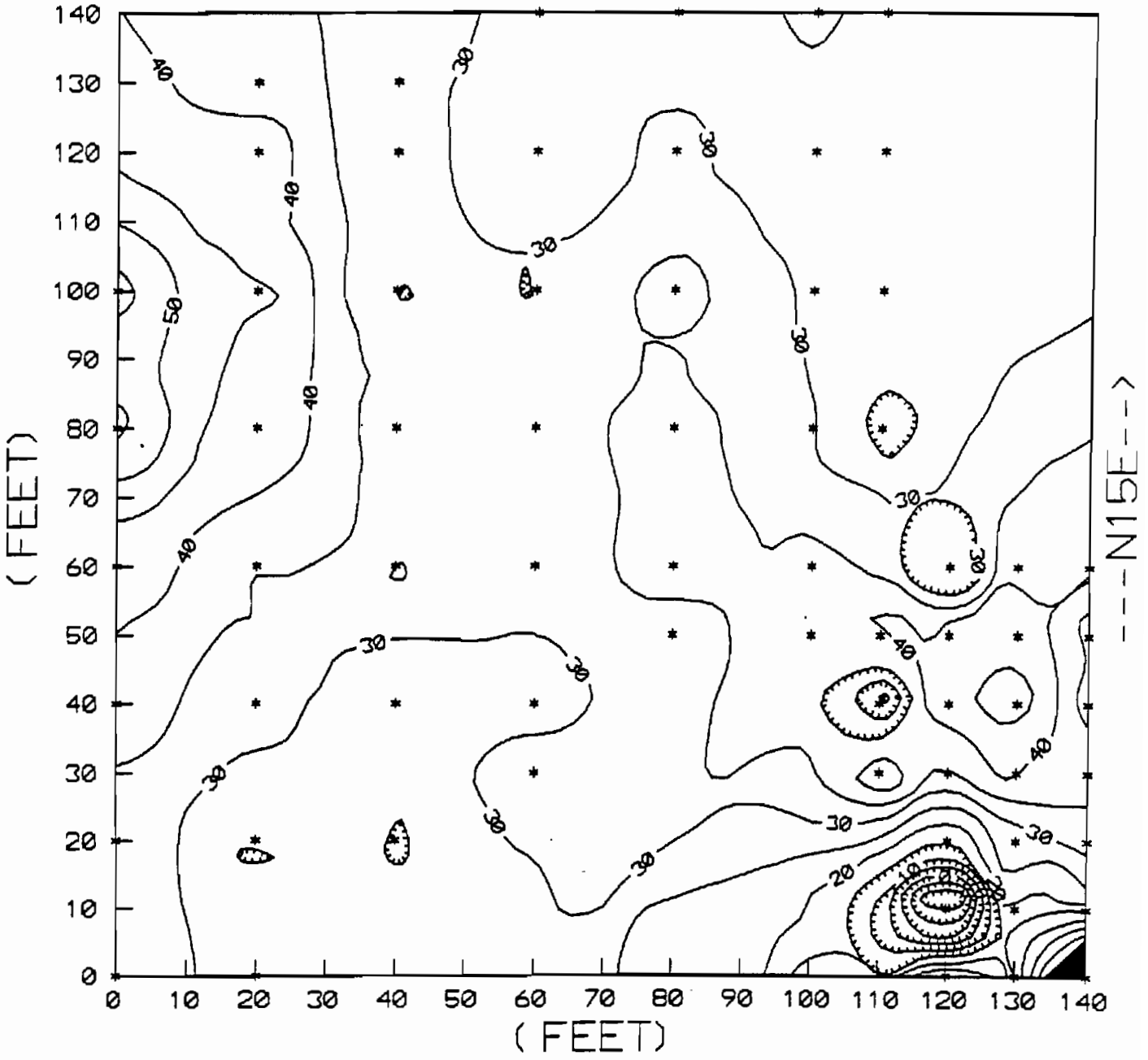

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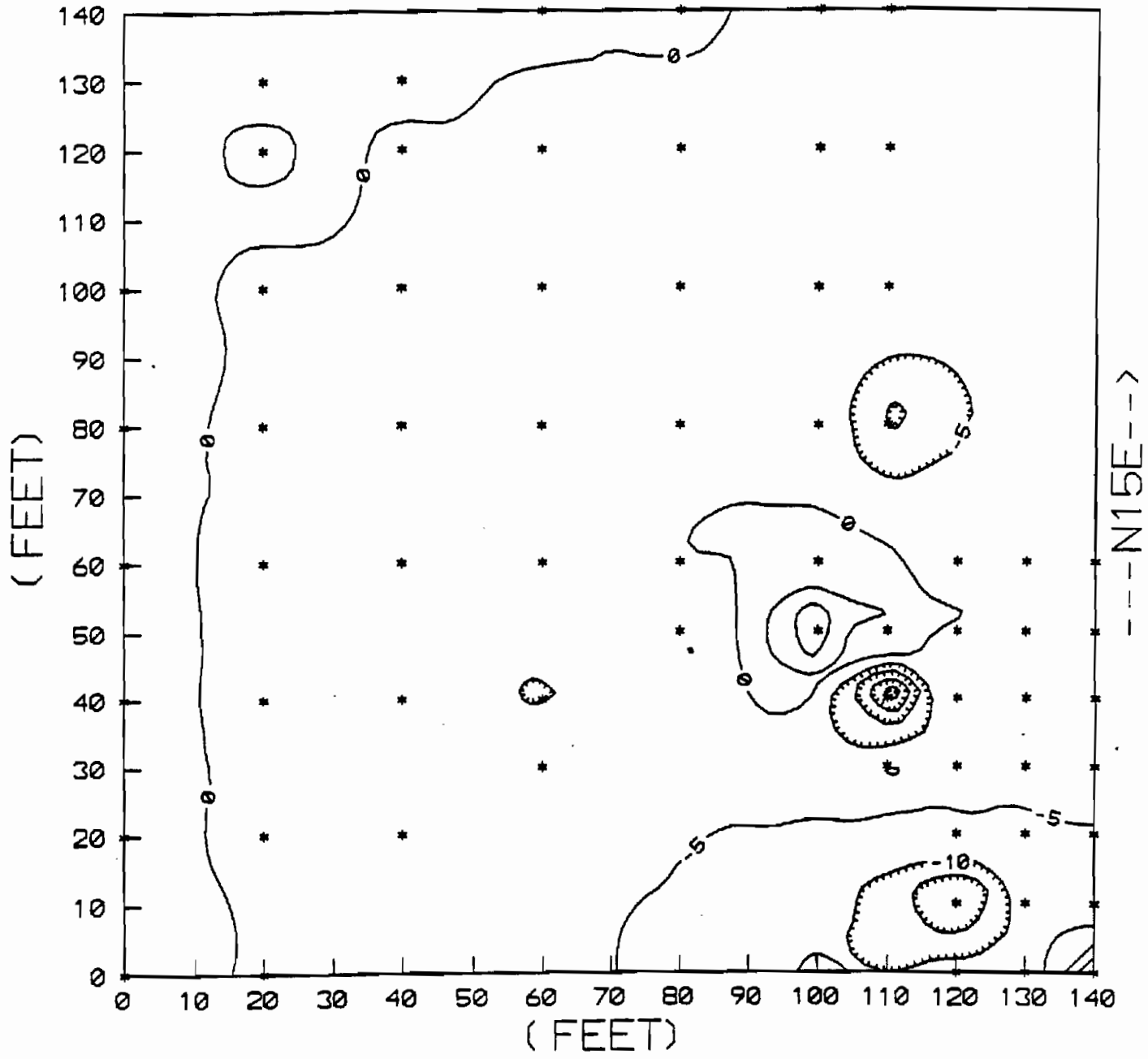

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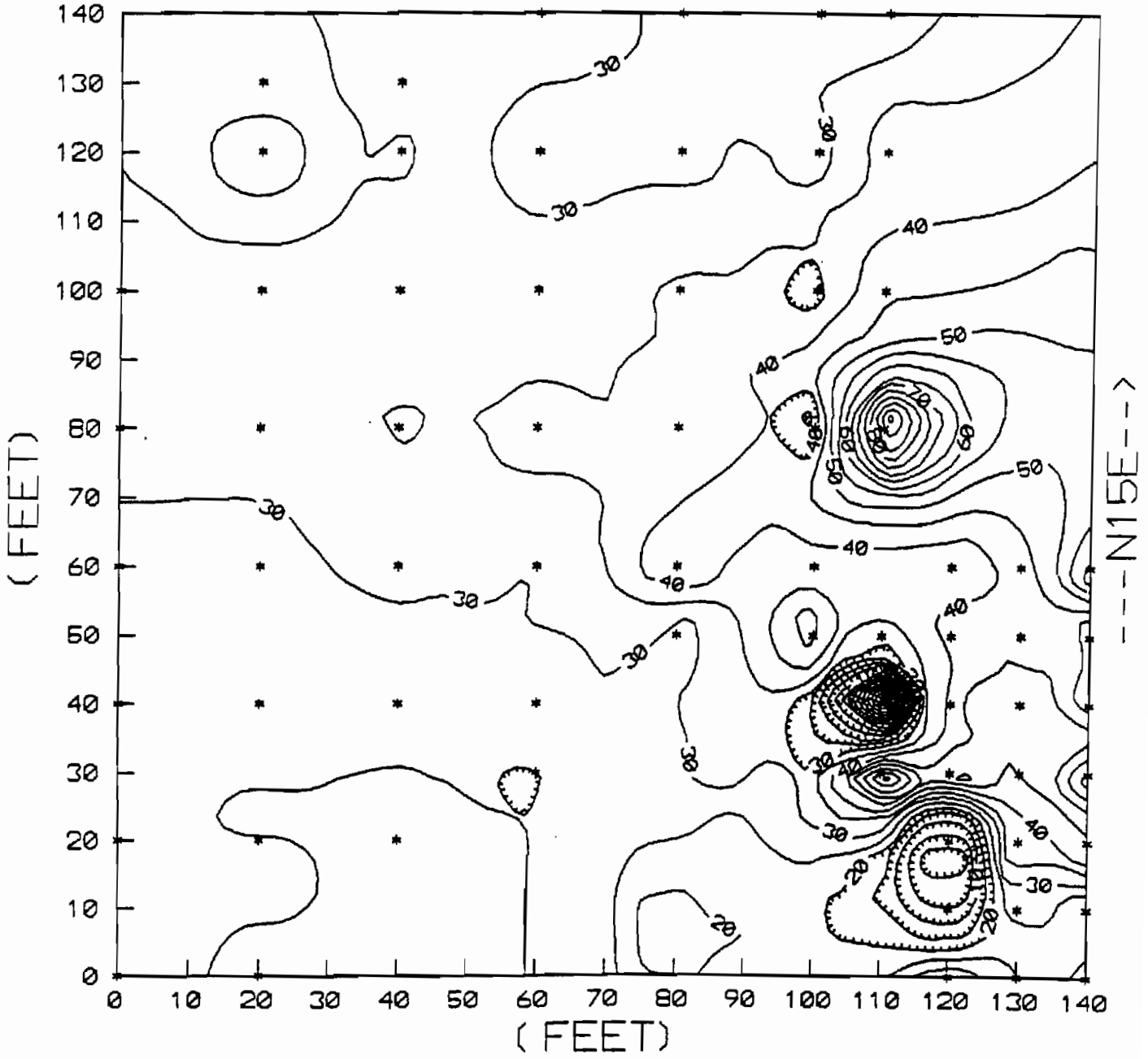

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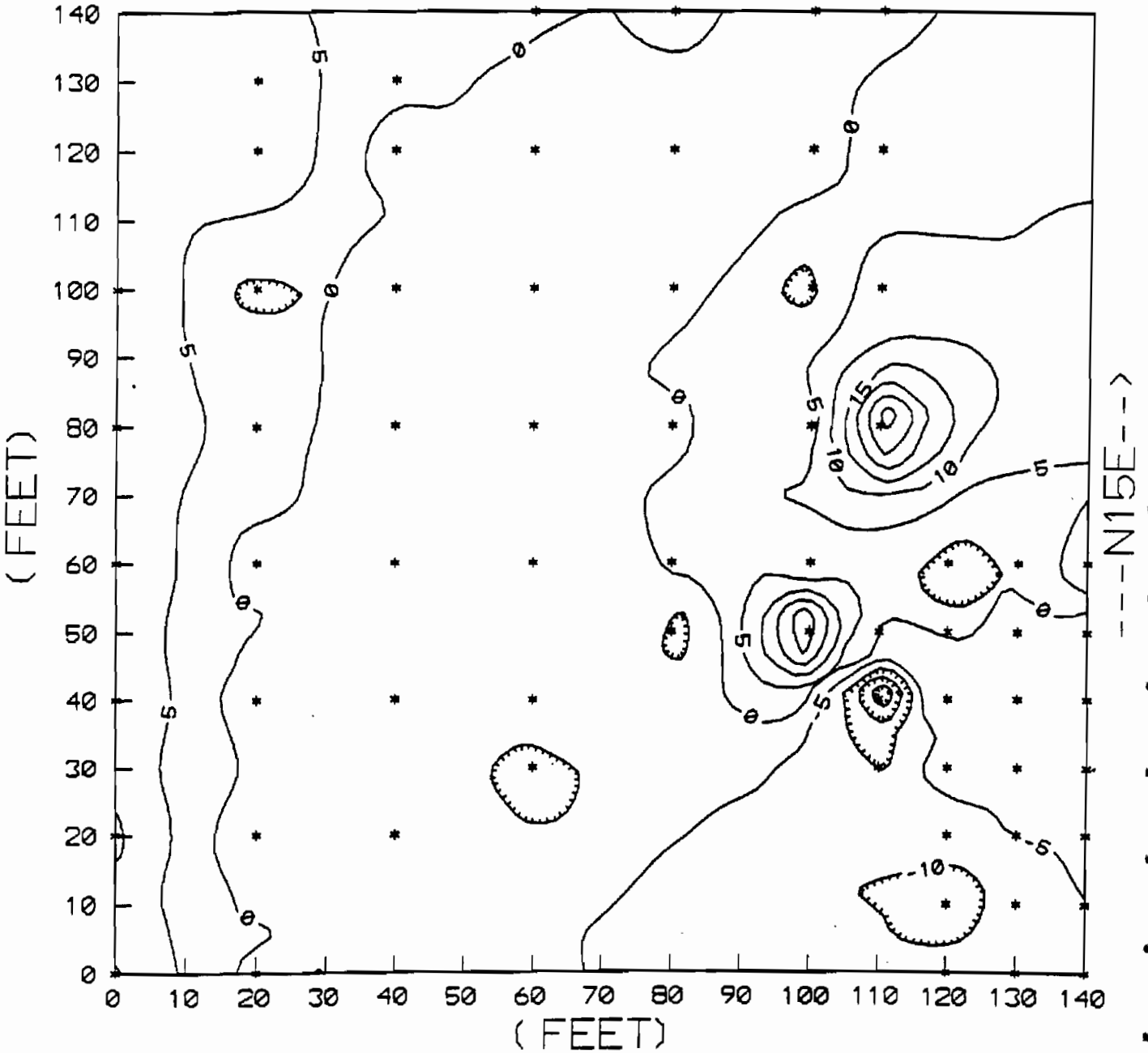

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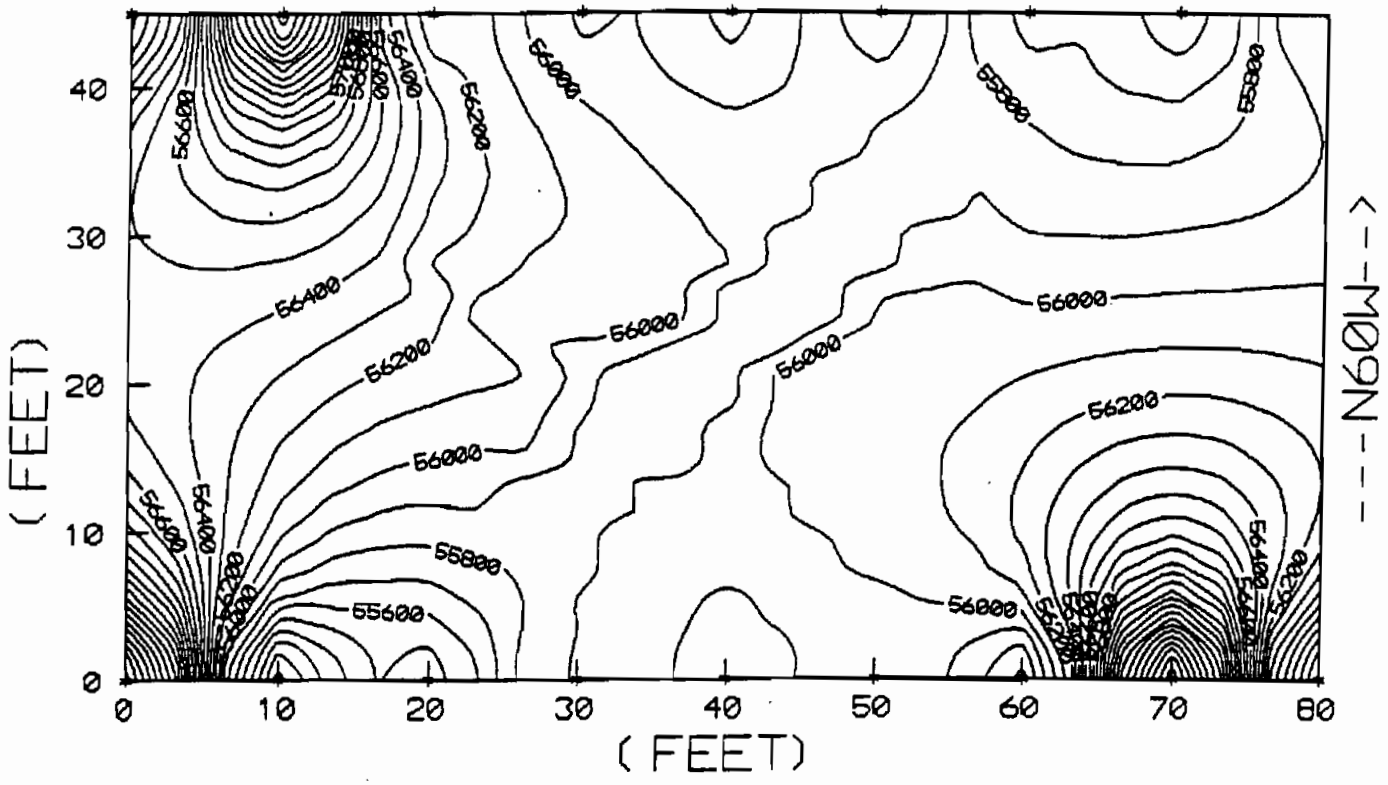

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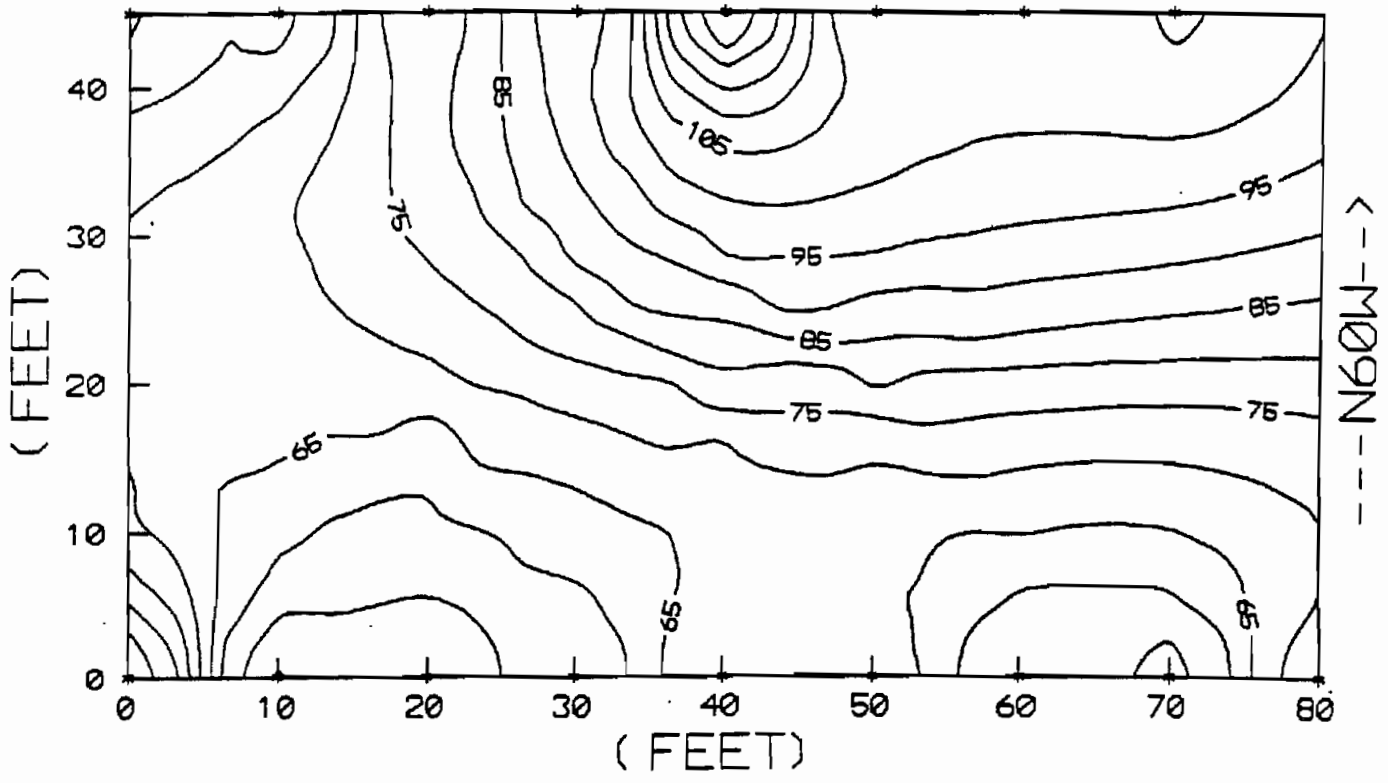

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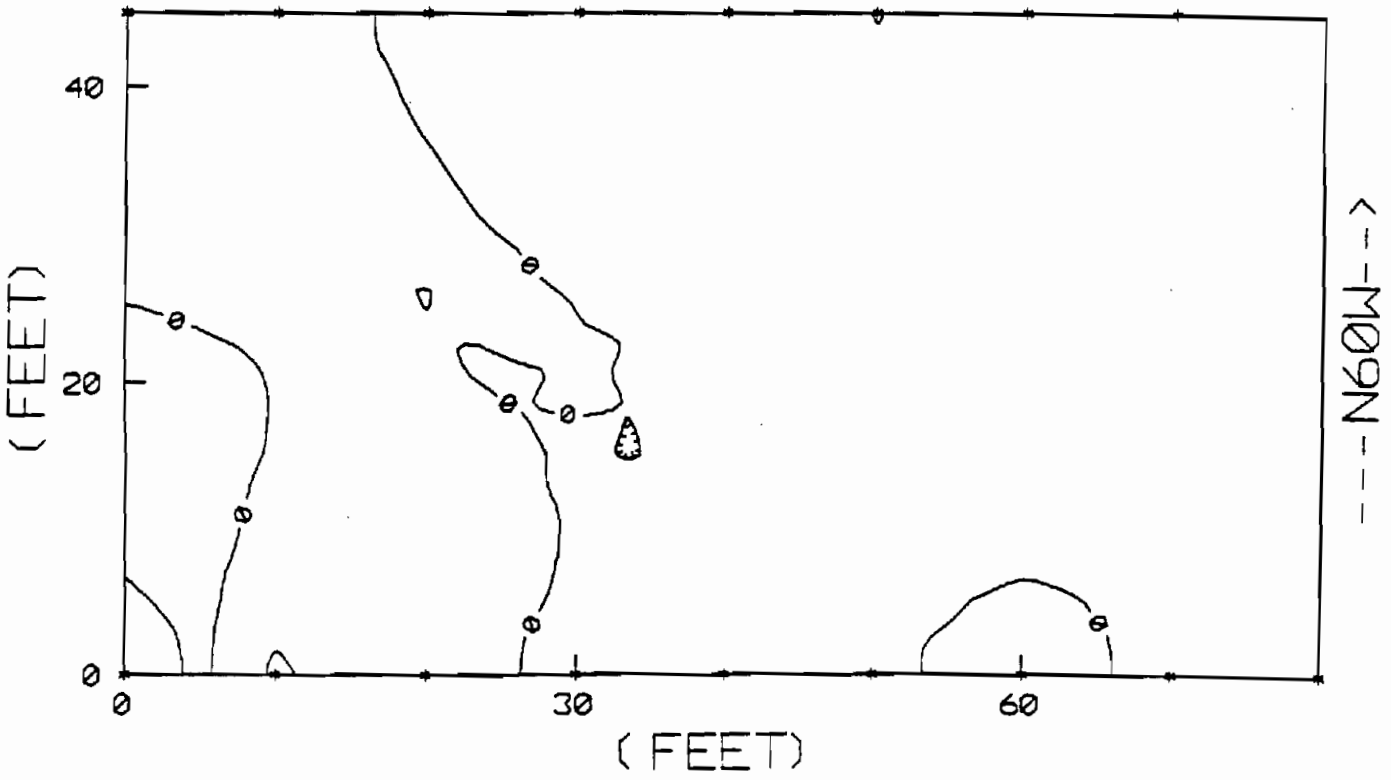

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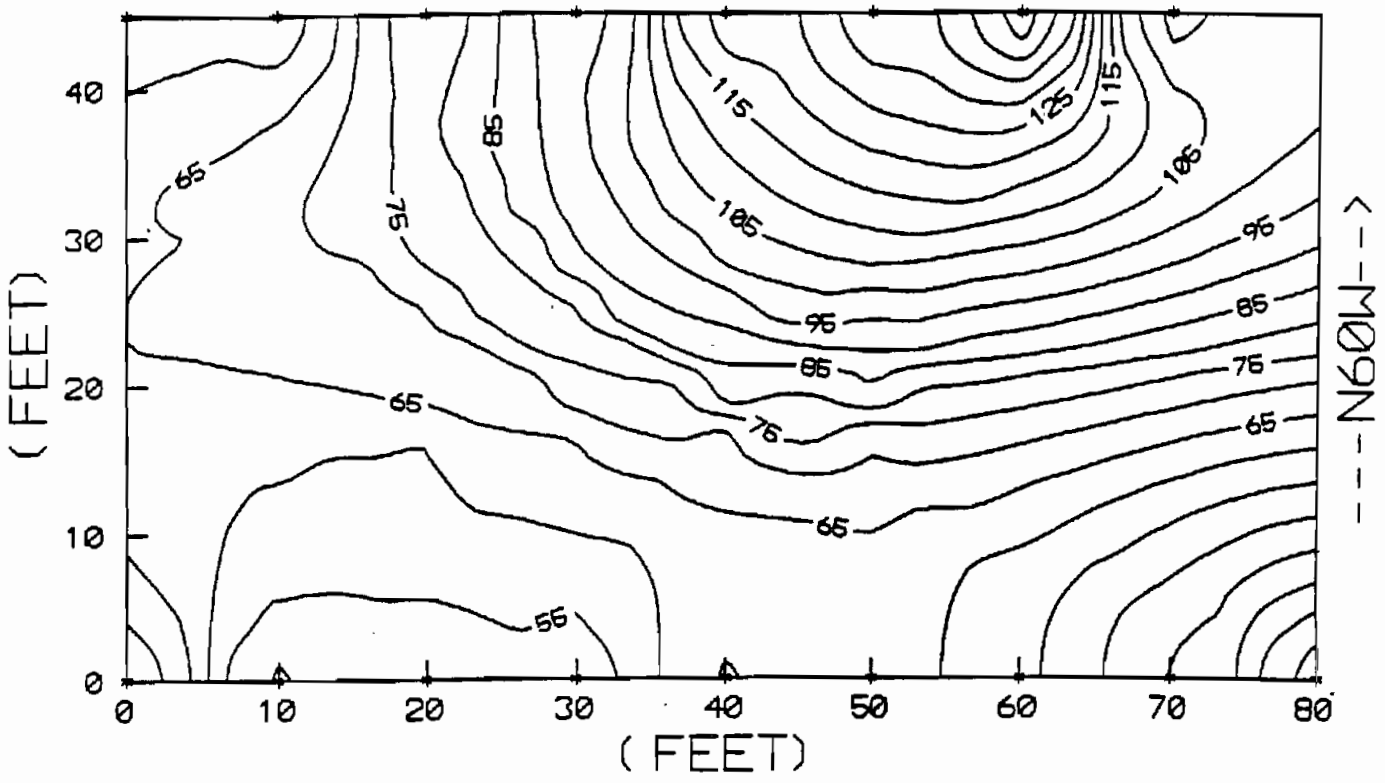
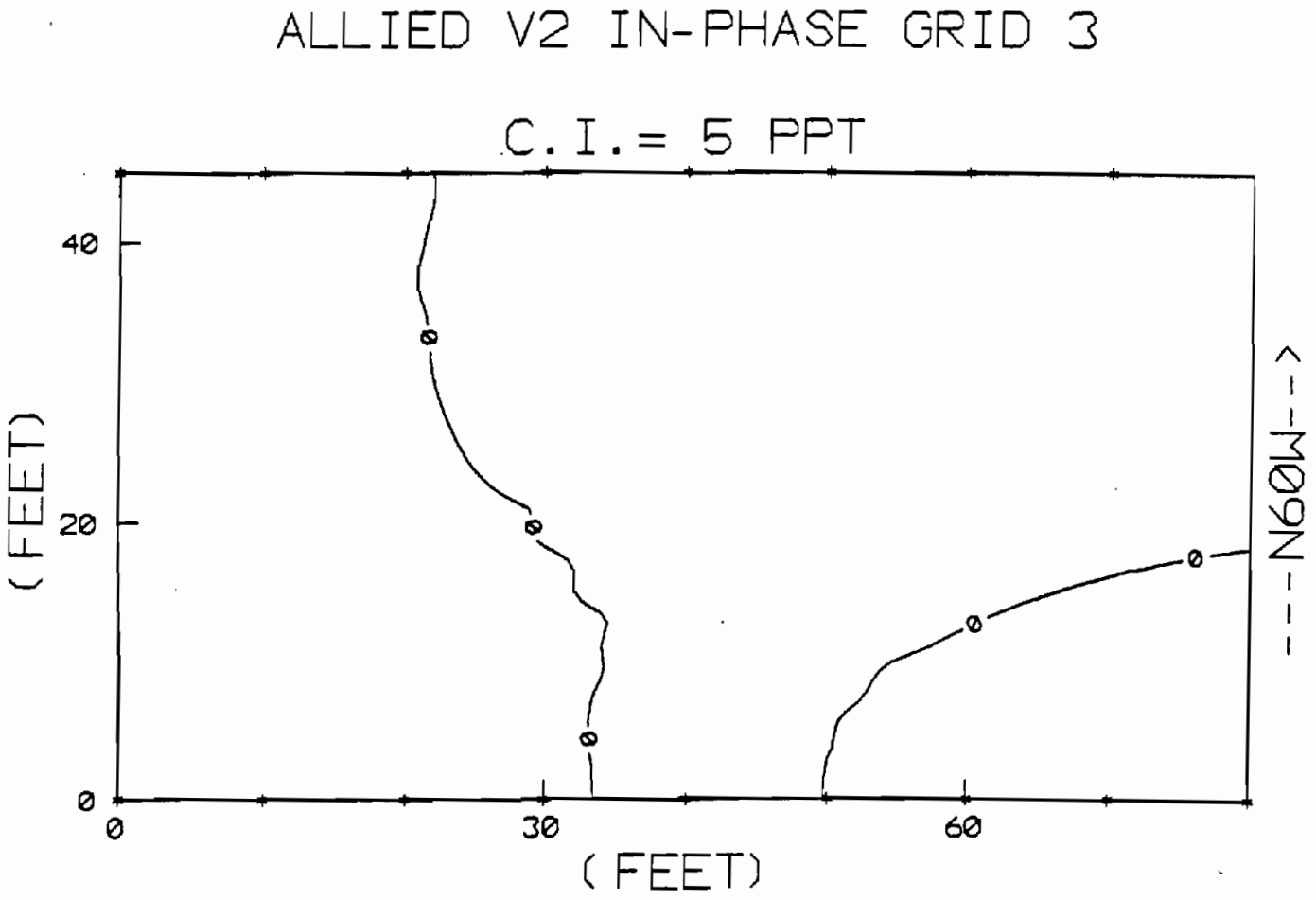
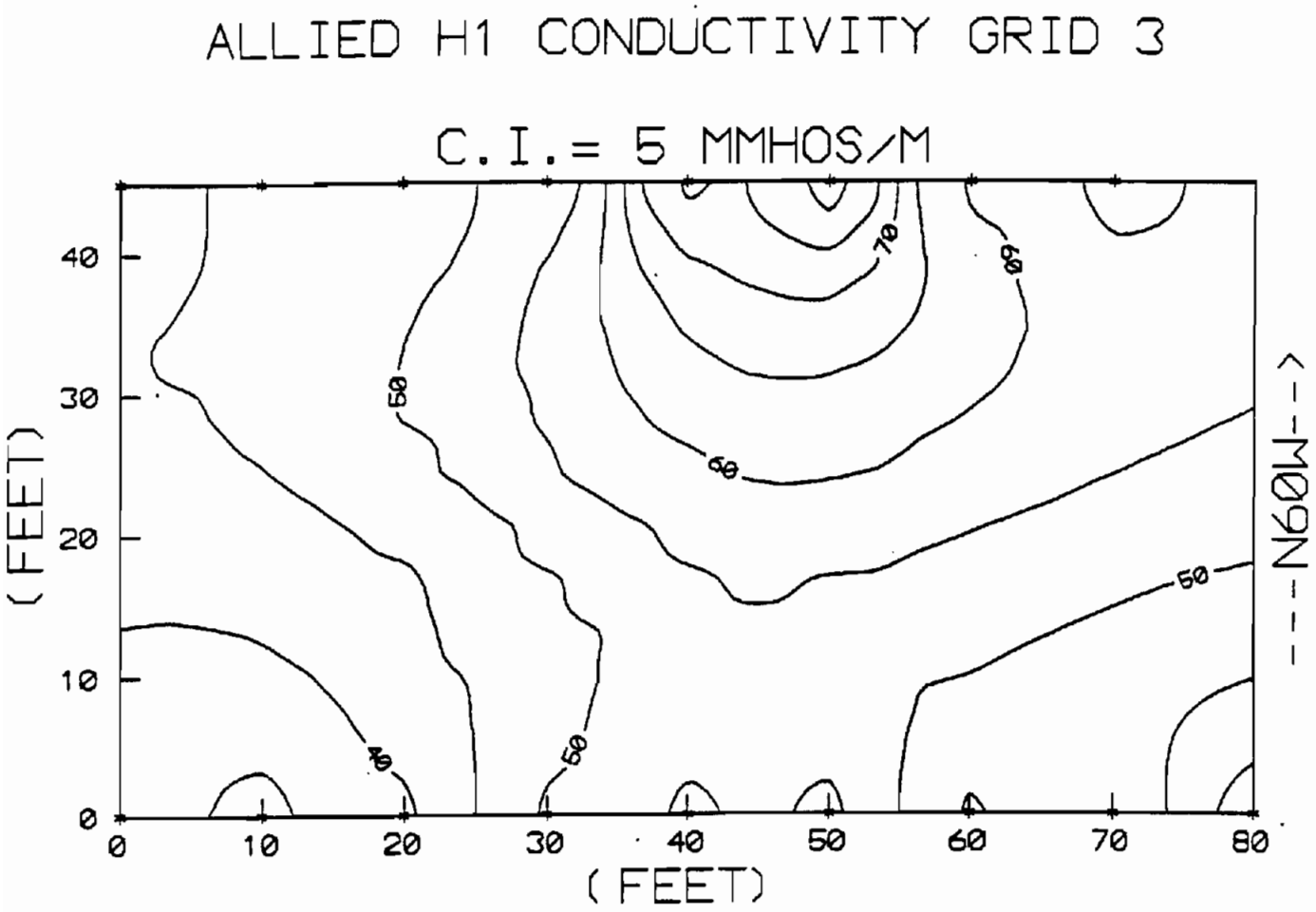
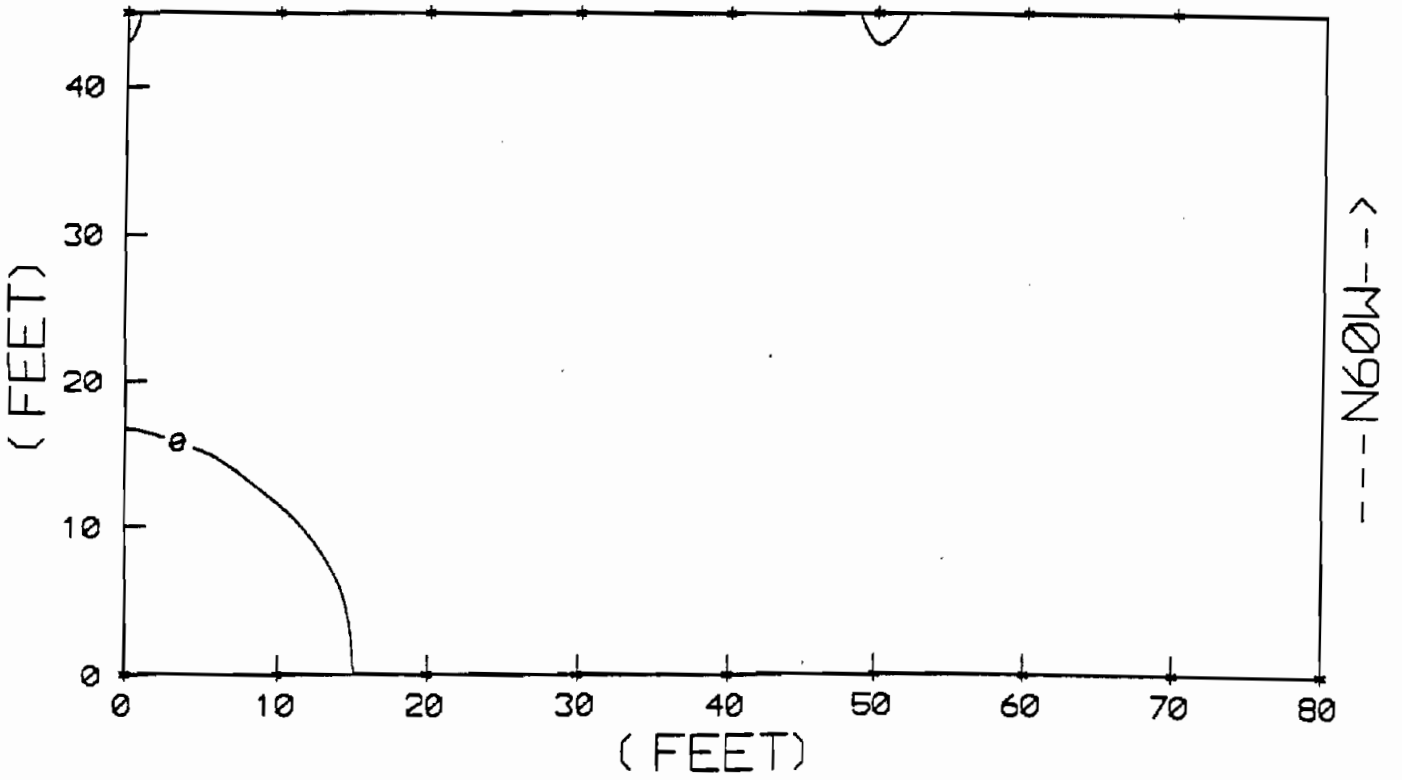





ALLIED H1 CONDUCTIVITY GRID 3
C.I.= 5 MMHOS/M
70
60
50
50
50
50
40
50
0
10
20
30
40
0
10
20
30
40
(FEET)
(FEET)
<--N60W---N60W-->

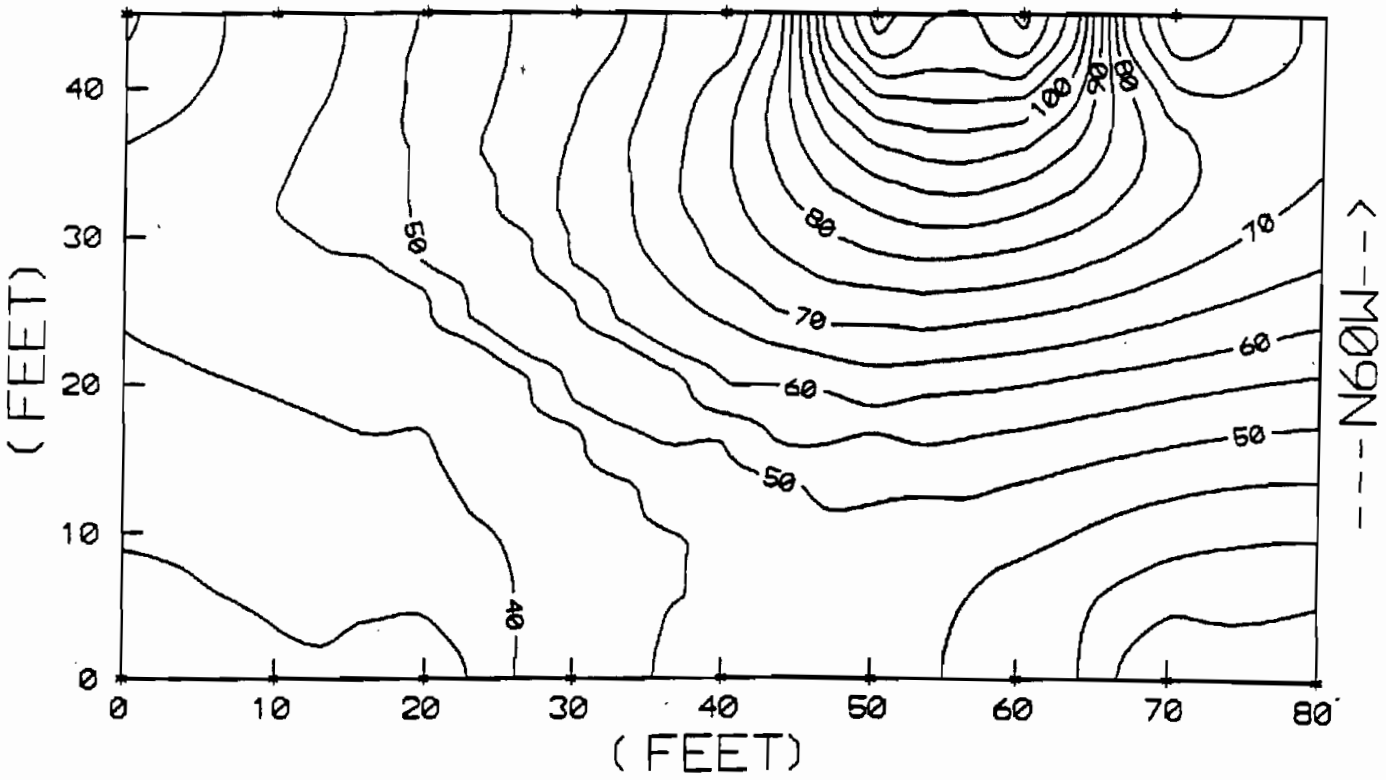
ALLIED H1 IN-PHASE GRID 3

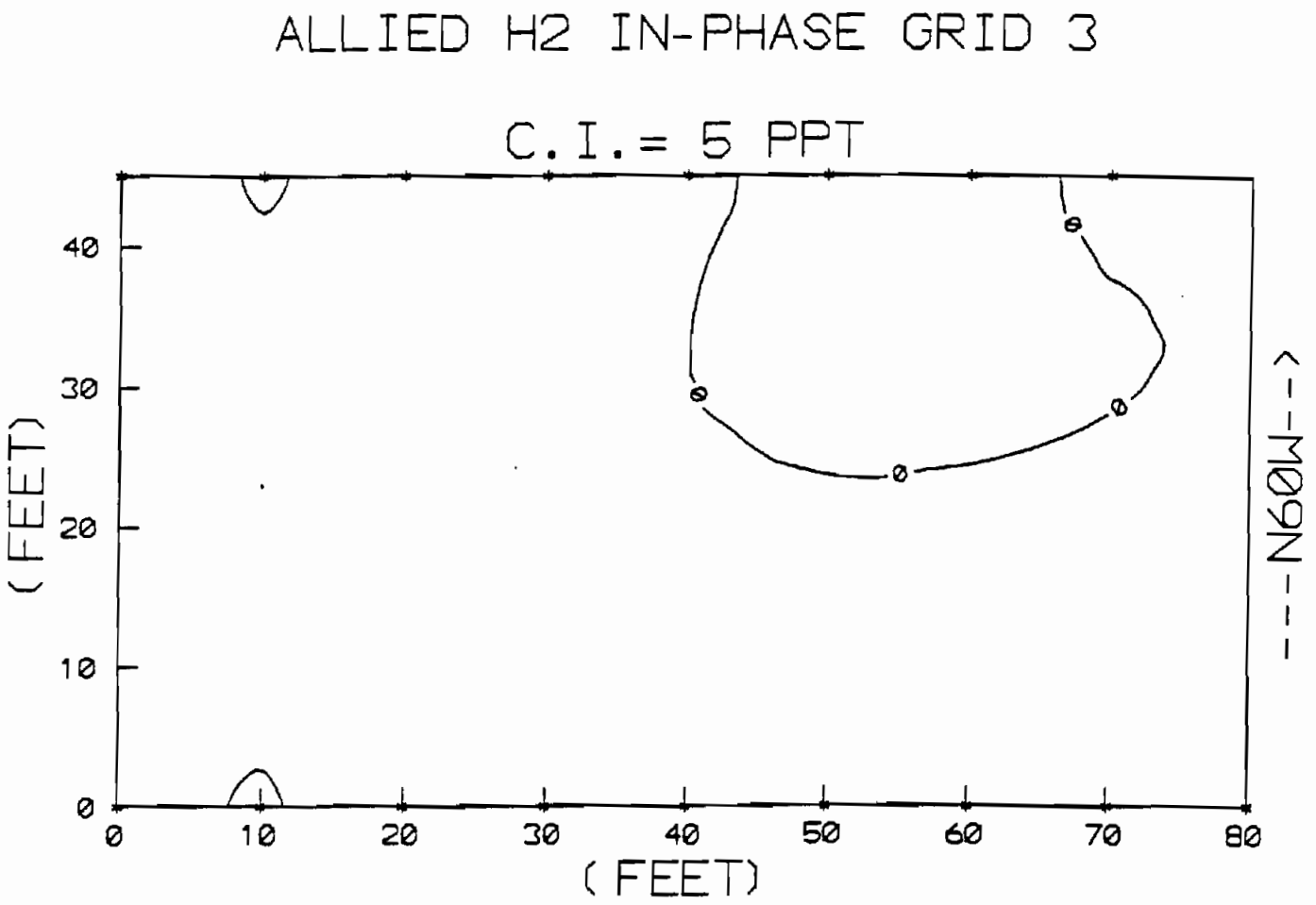
C.I.= 5 PPT



ALLIED H2 CONDUCTIVITY GRID 3

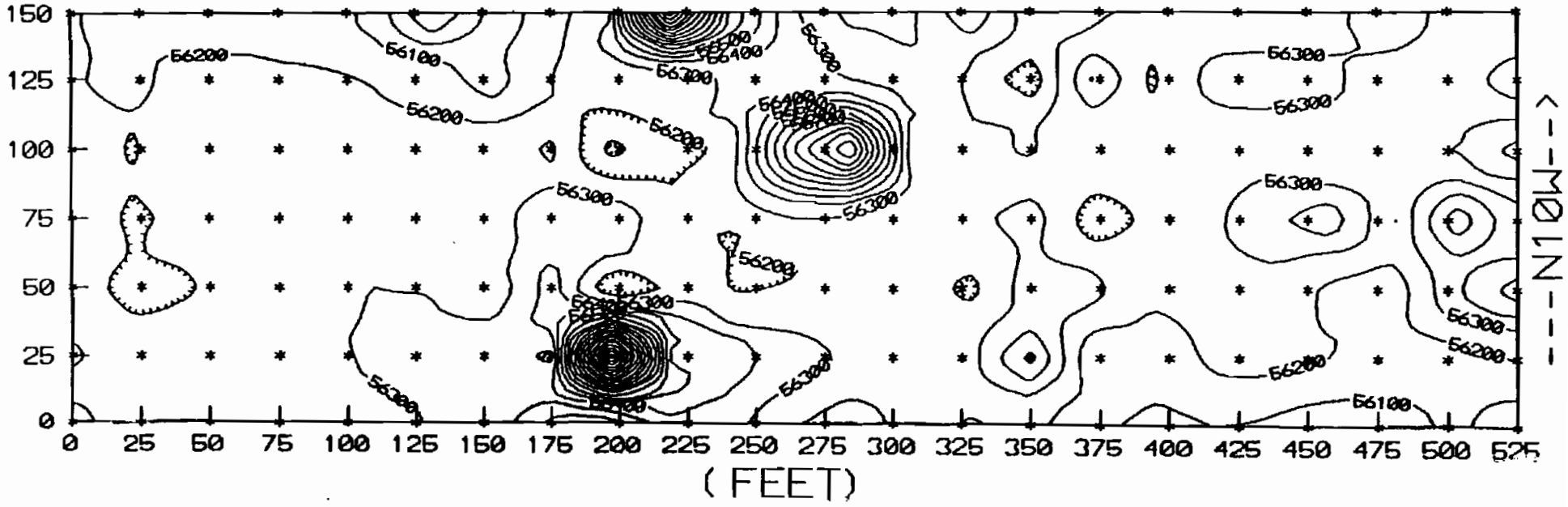
C.I.= 5 MMHOS/M





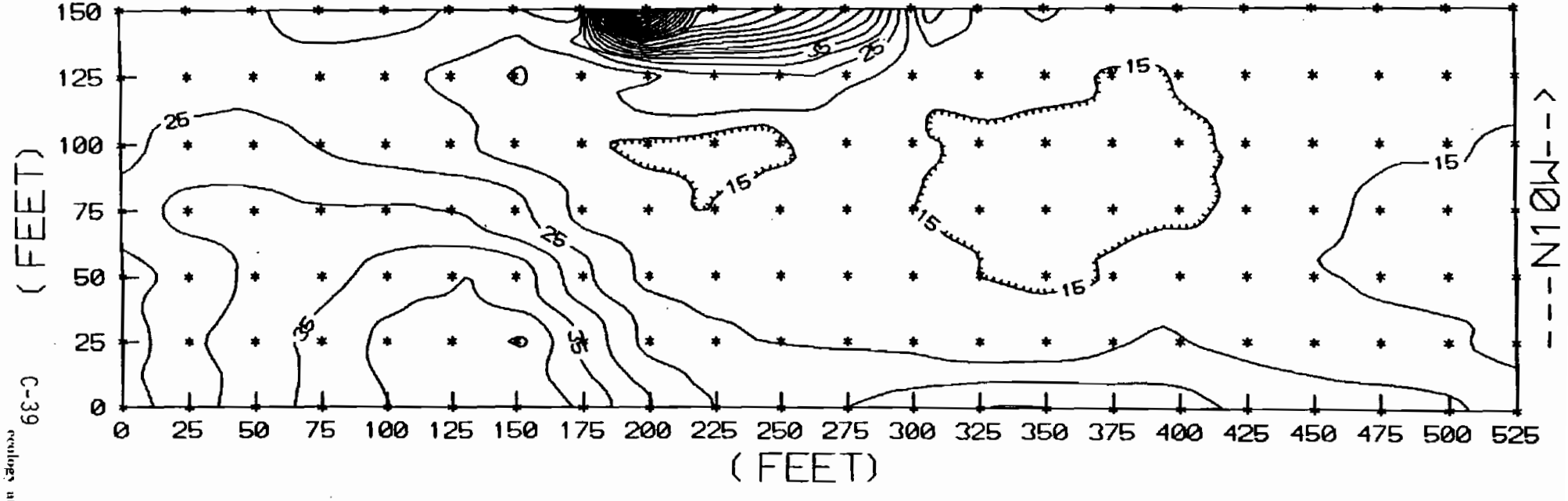
ALLIED MAG GRID 4

C.I.= 100 GAMMAS



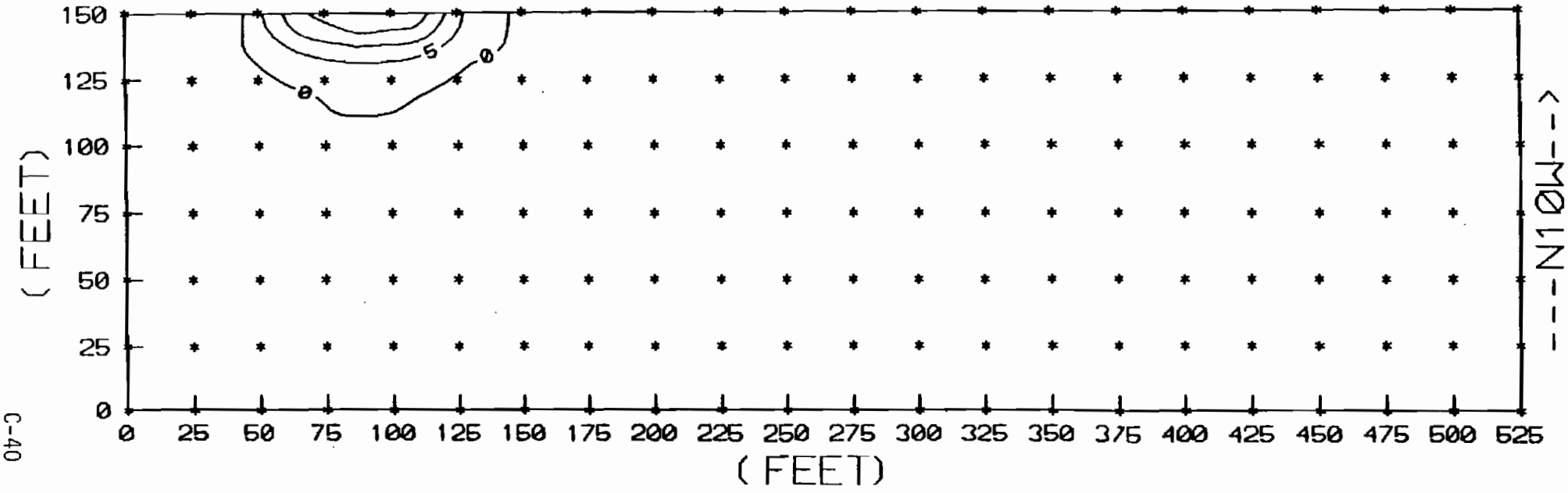
ALLIED V1 CONDUCTIVITY GRID 4

C.I.= 5 MMHOS/M



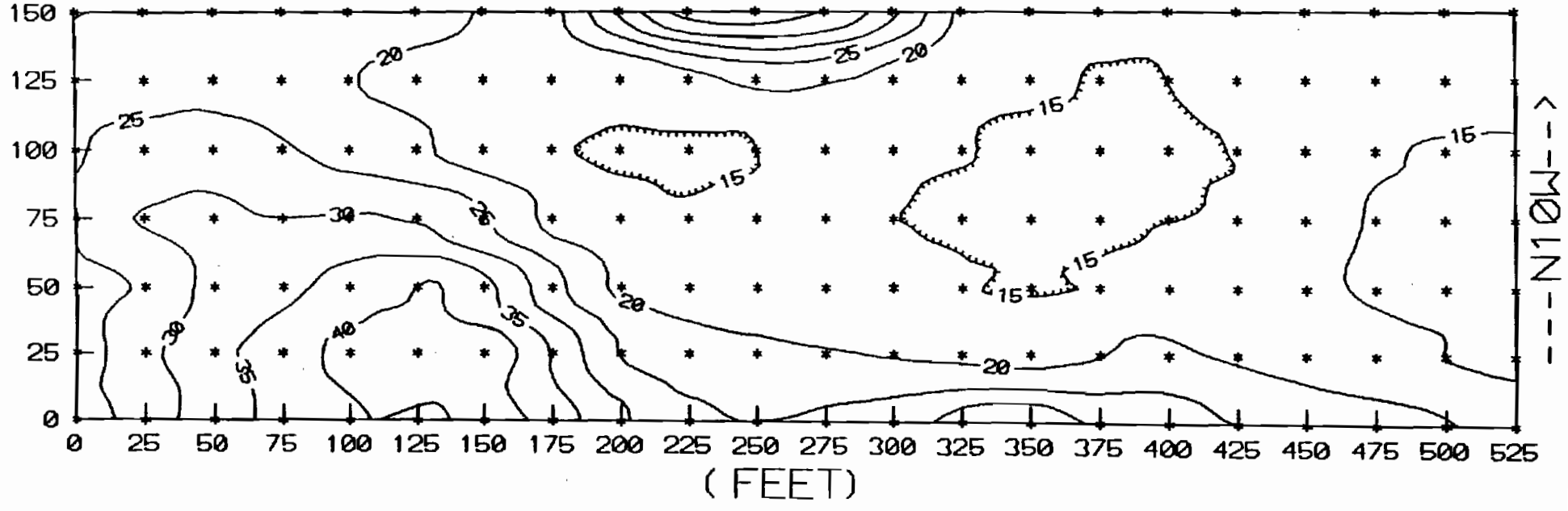
ALLIED V1 IN-PHASE GRID 4

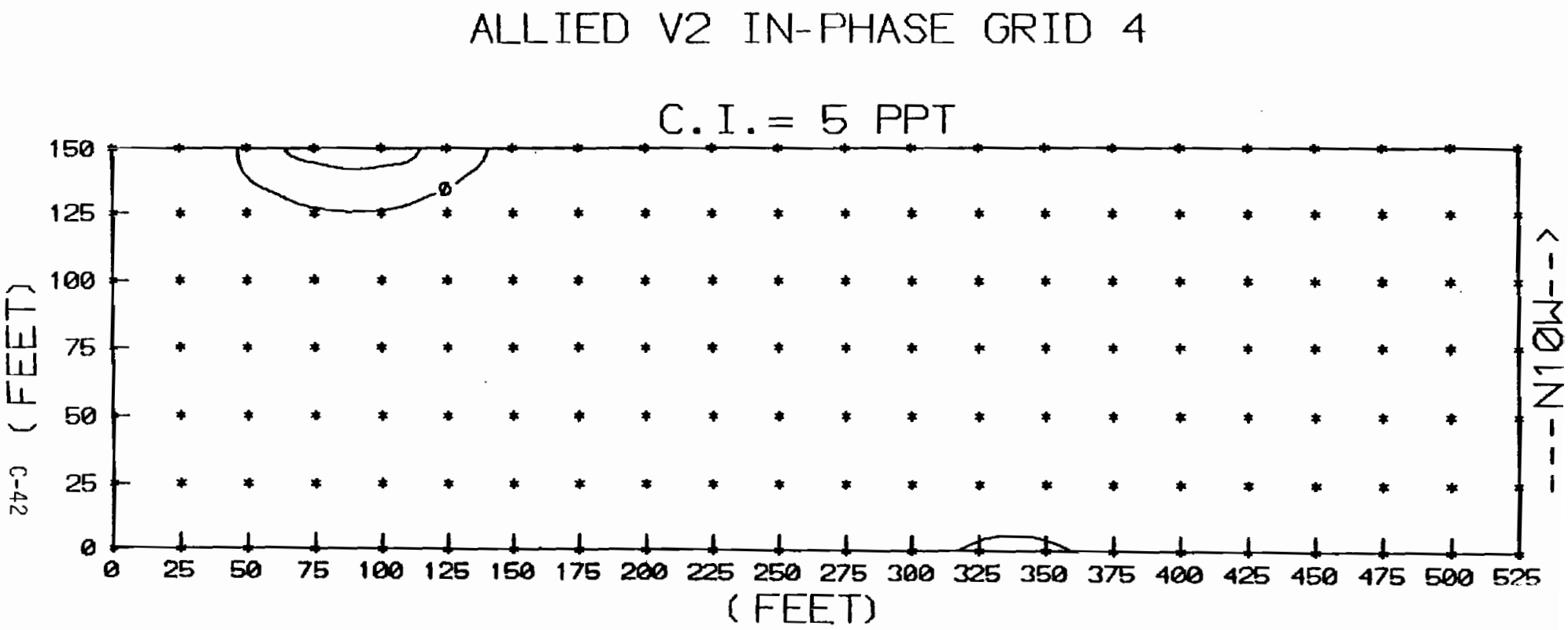
C.I.= 5 PPT



ALLIED V2 CONDUCTIVITY GRID 4

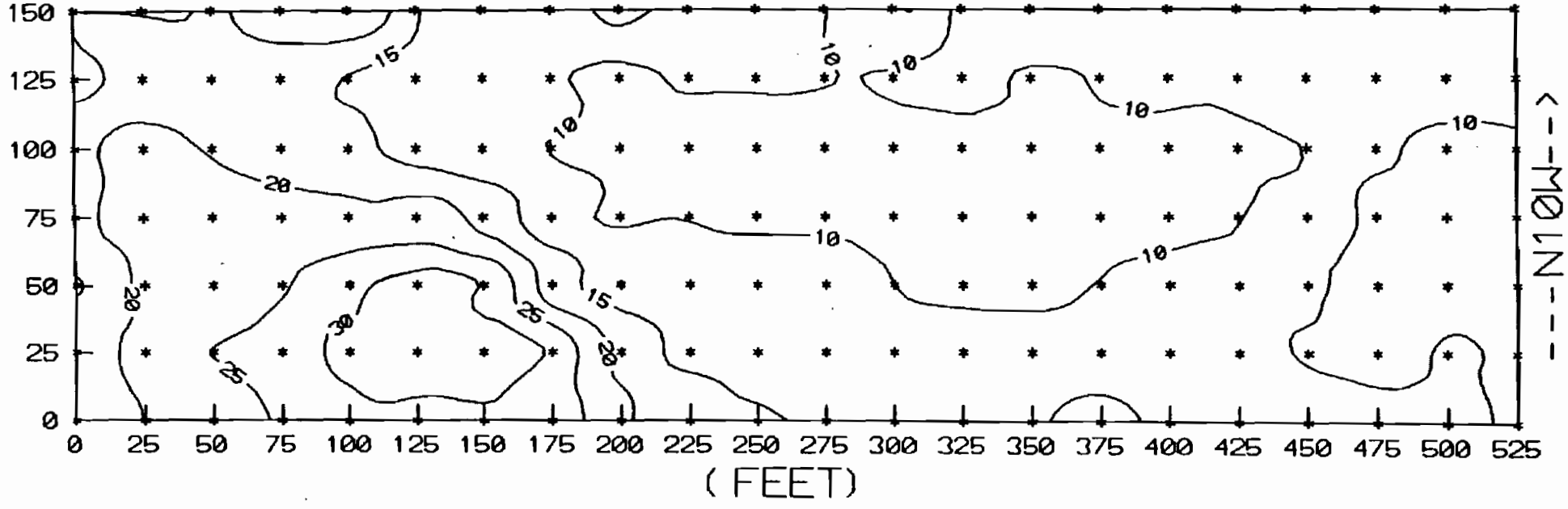
C.I.= 5 MMHOS/M

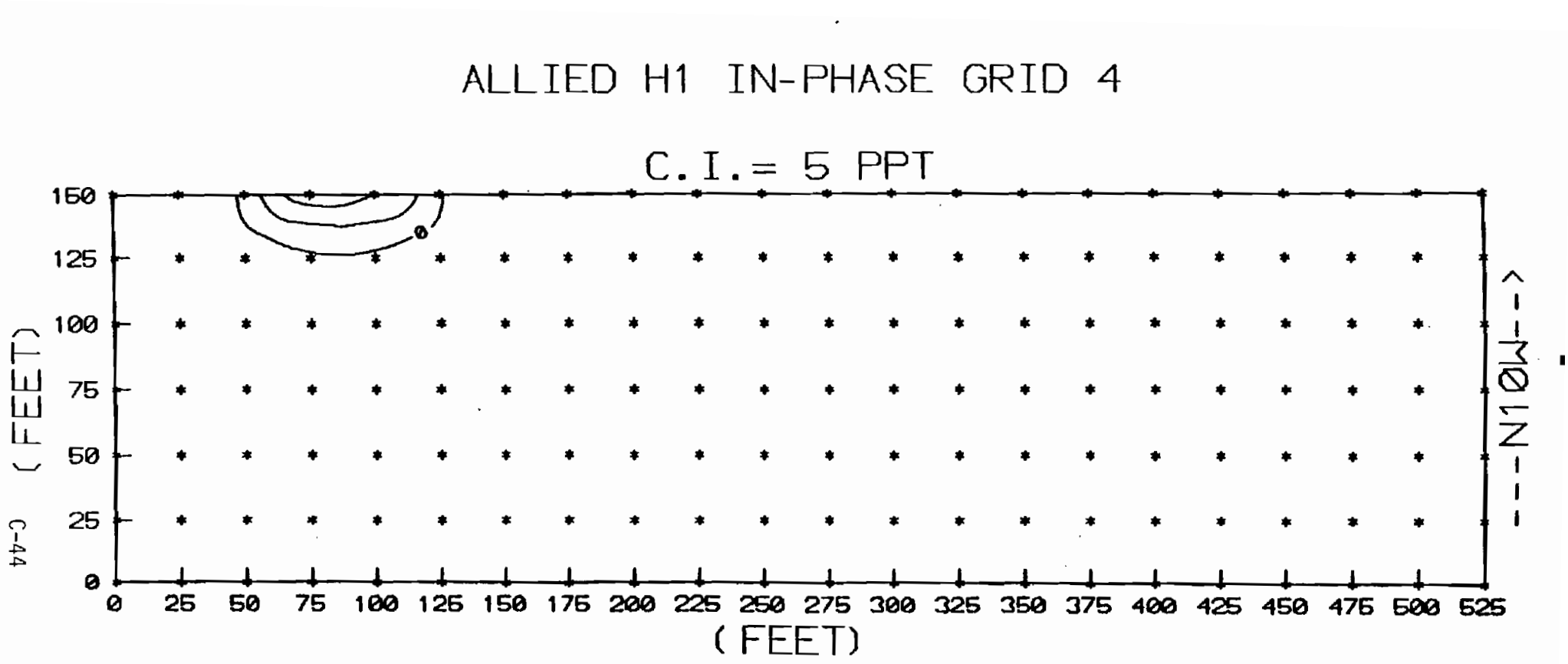



ALLIED V2 IN-PHASE GRID 4
C.I.= 5 PPT
150
125
100
75
50
25
0
0
25
50
75
100
125
150
175
200
225
250
275
300
325
350
375
400
425
450
475
500
525
(FEET)
(FEET)
C-42
<---MOLN---

ALLIED H1 CONDUCTIVITY GRID 4

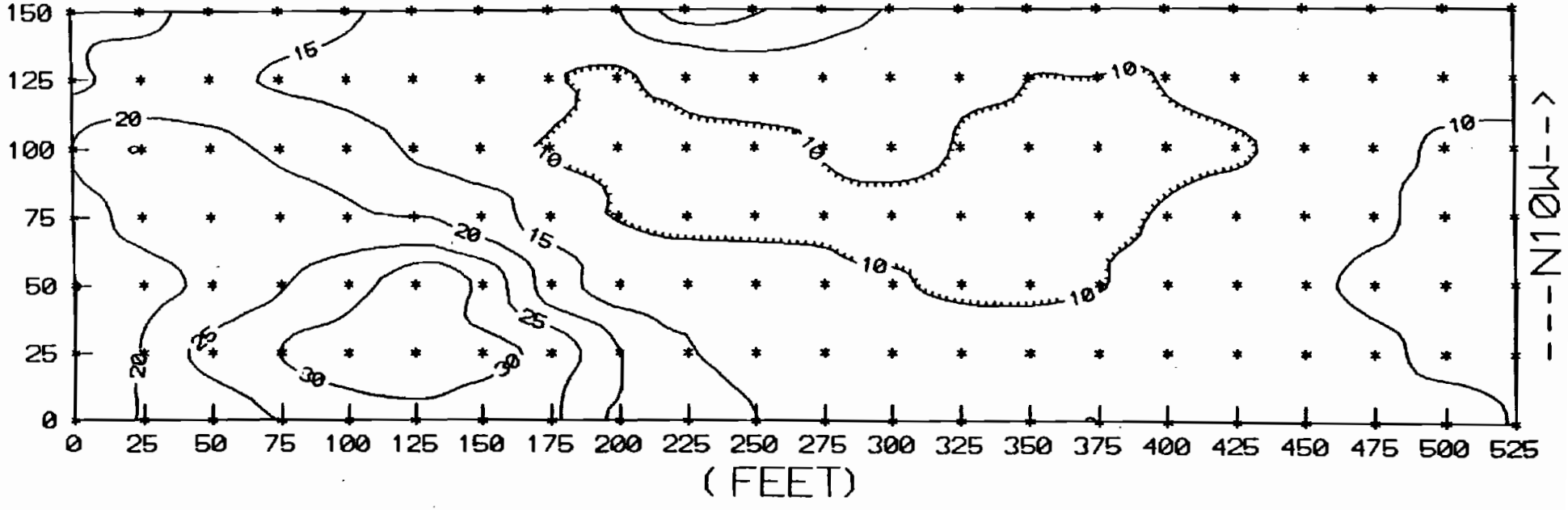
C.I.= 5 MMHOS/M

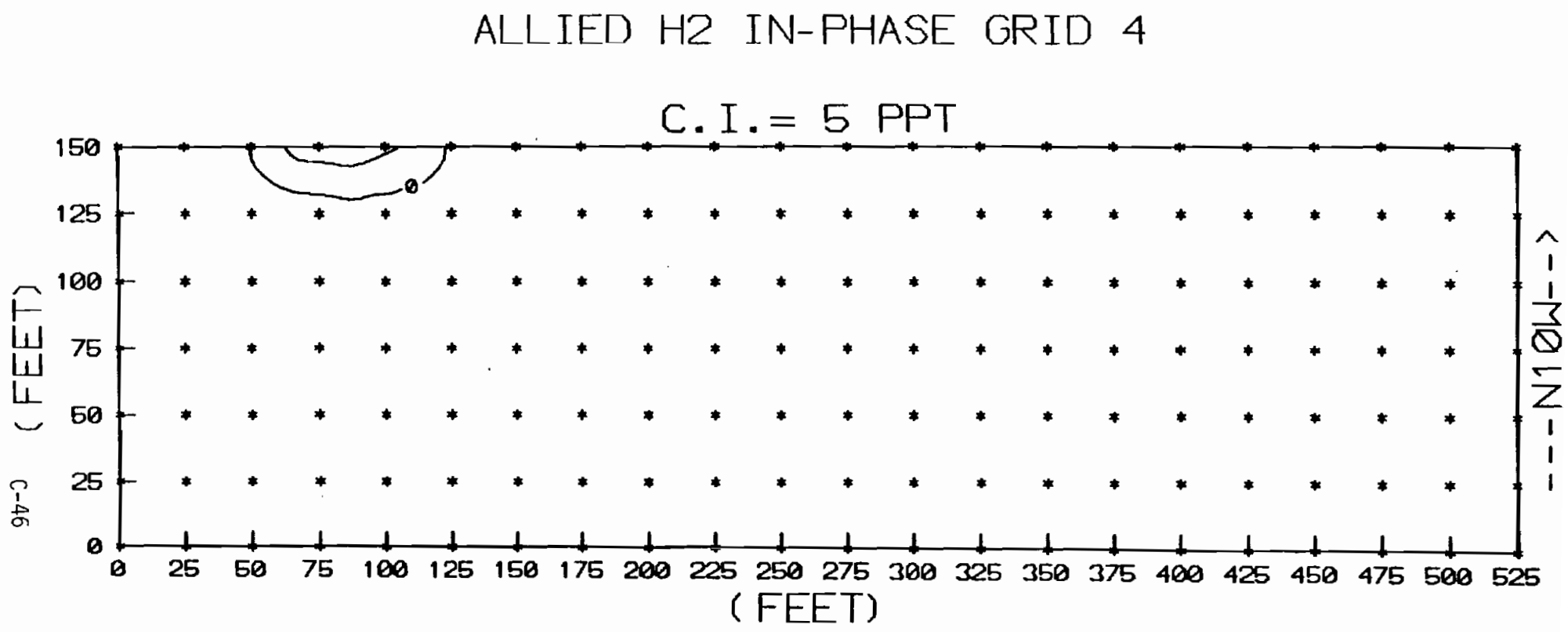



ALLIED H1 IN-PHASE GRID 4
C.I.= 5 PPT
150
125
100
75
50
25
0
(FEET)
0
25
50
75
100
125
150
175
200
225
250
275
300
325
350
375
400
425
450
475
500
525
(FEET)
<--N10W-->

ALLIED H2 CONDUCTIVITY GRID 4

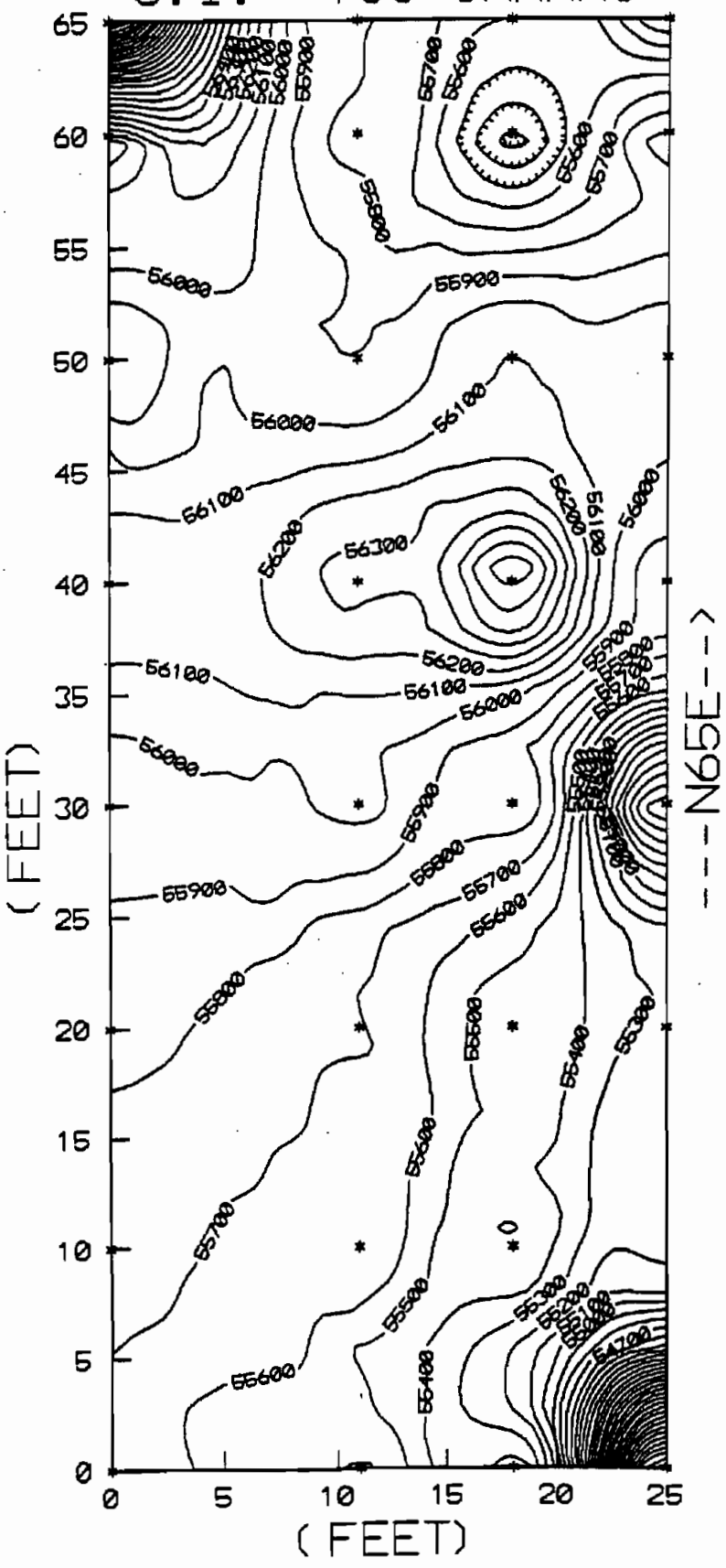
C.I.= 5 MMHOS/M



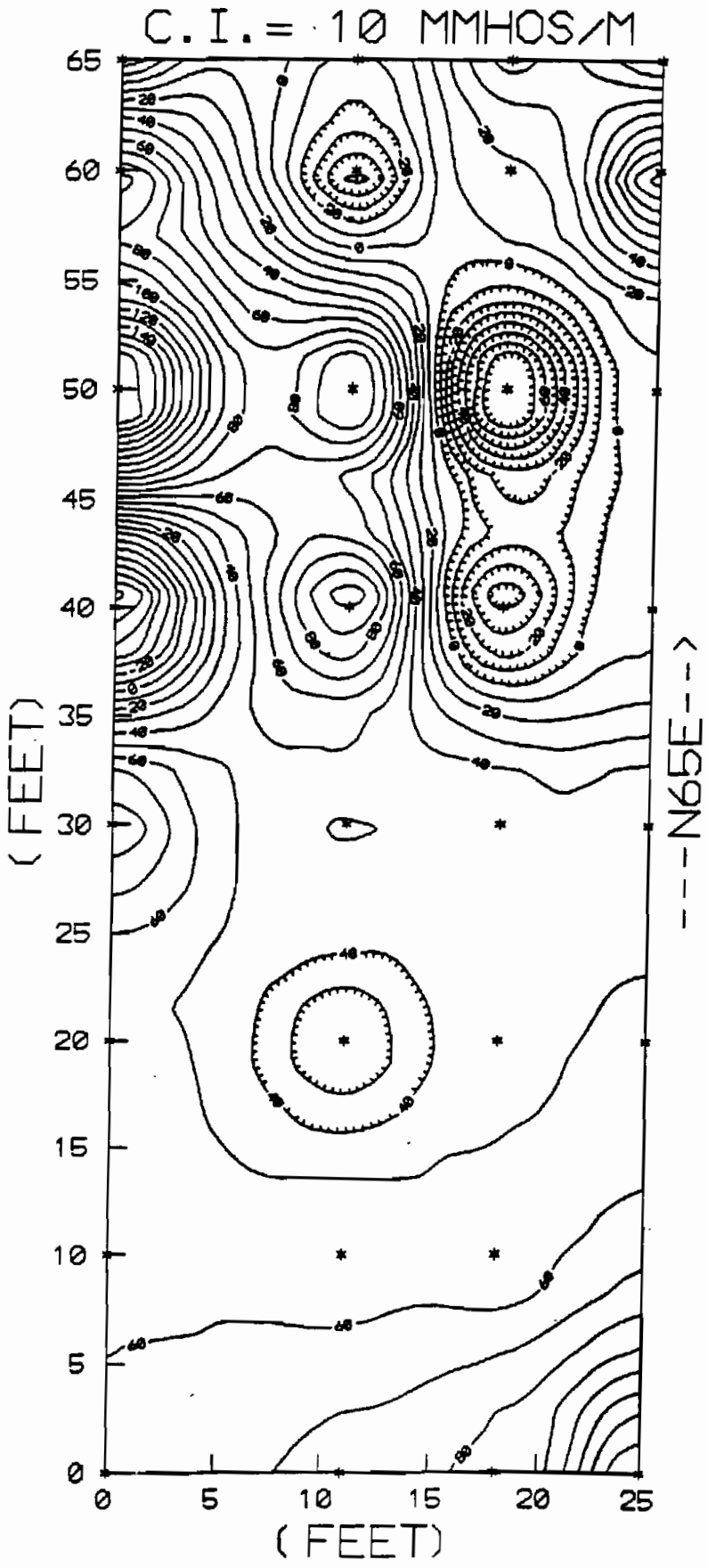

ALLIED H2 IN-PHASE GRID 4
C.I.= 5 PPT
0
150
125
100
75
50
25
0
0 25 50 75 100 125 150 175 200 225 250 275 300 325 350 375 400 425 450 475 500 525
(FEET)
(FEET)
<--N10W-->
C-46

ALLIED MAG GRID 5

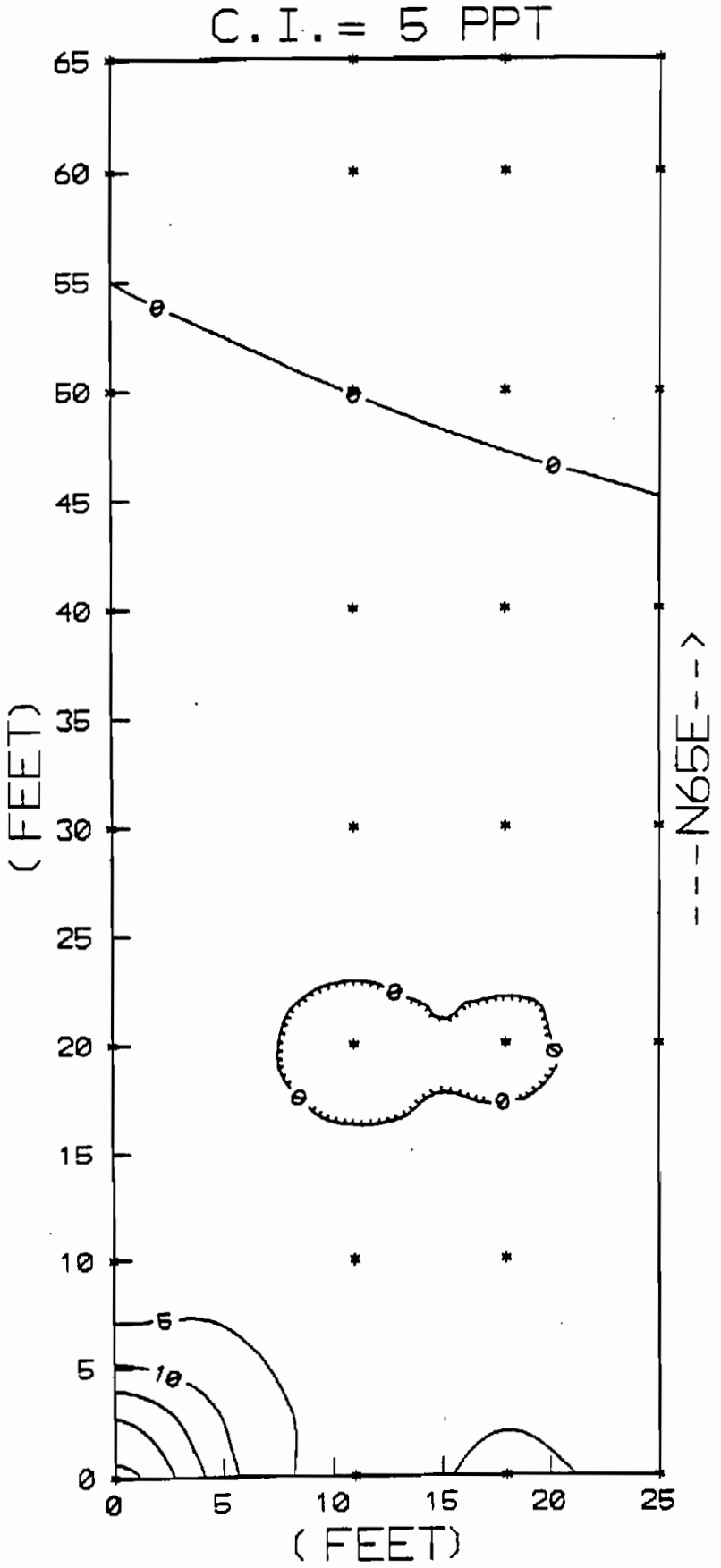
C.I.= 100 GAMMAS



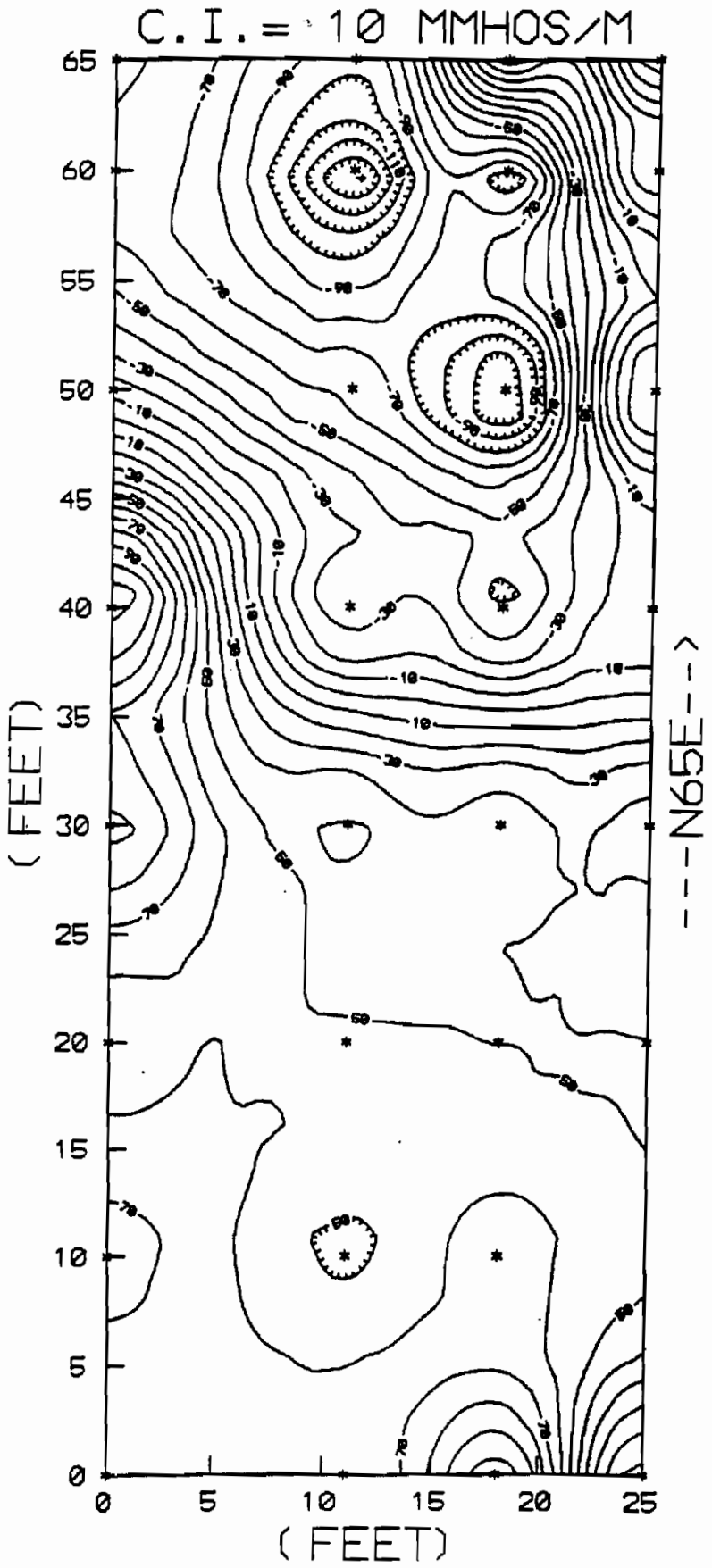
ALLIED V1 CONDUCTIVITY GRID 5



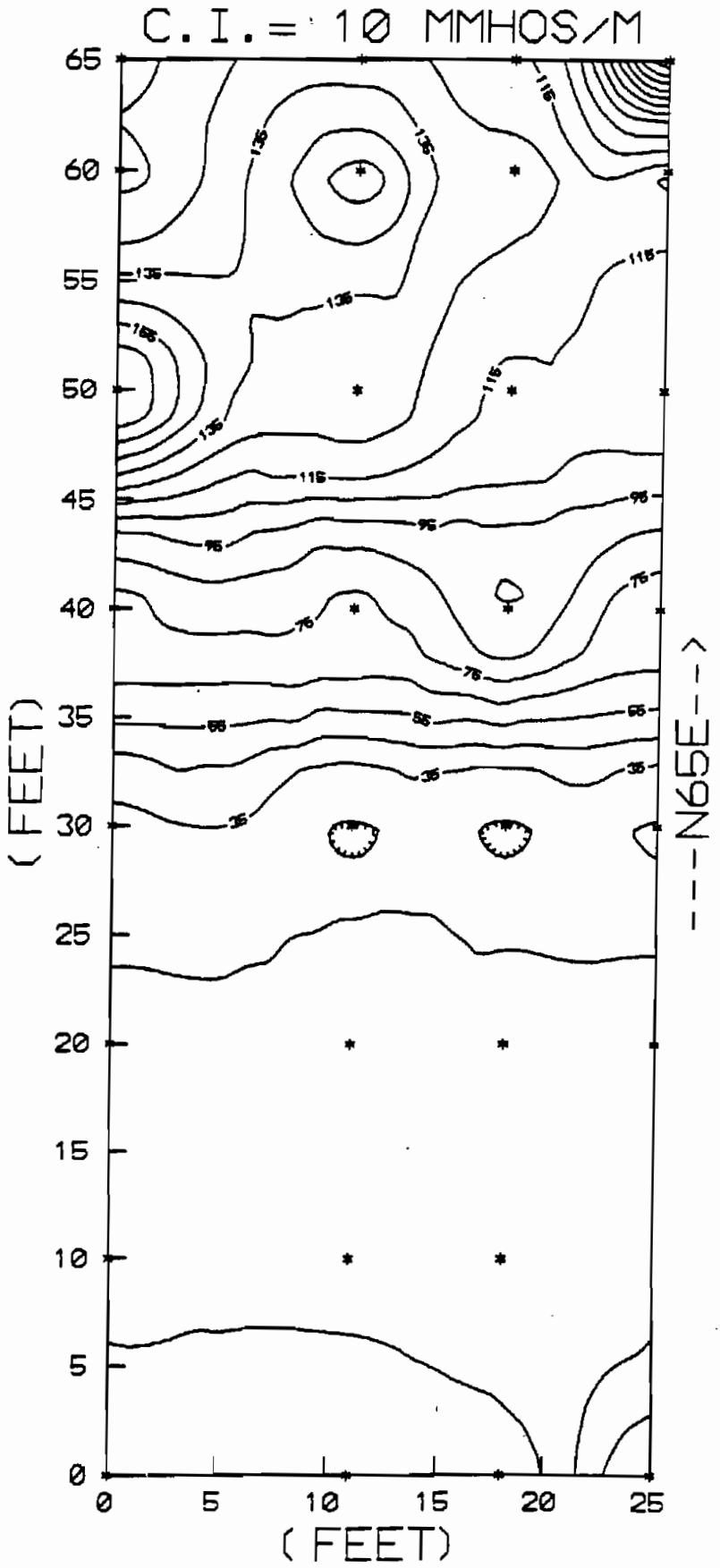
ALLIED V1 IN-PHASE GRID 5



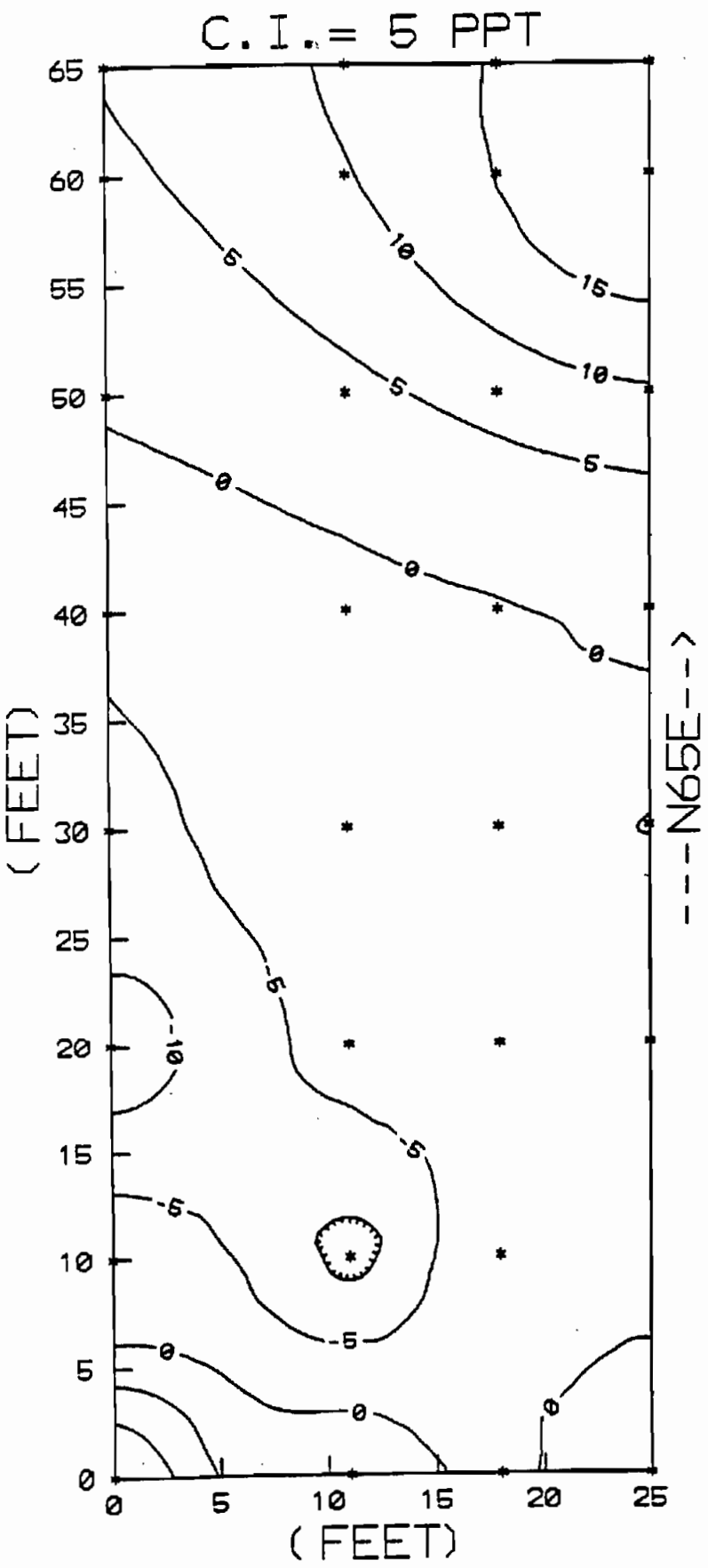
ALLIED V2 CONDUCTIVITY GRID 5



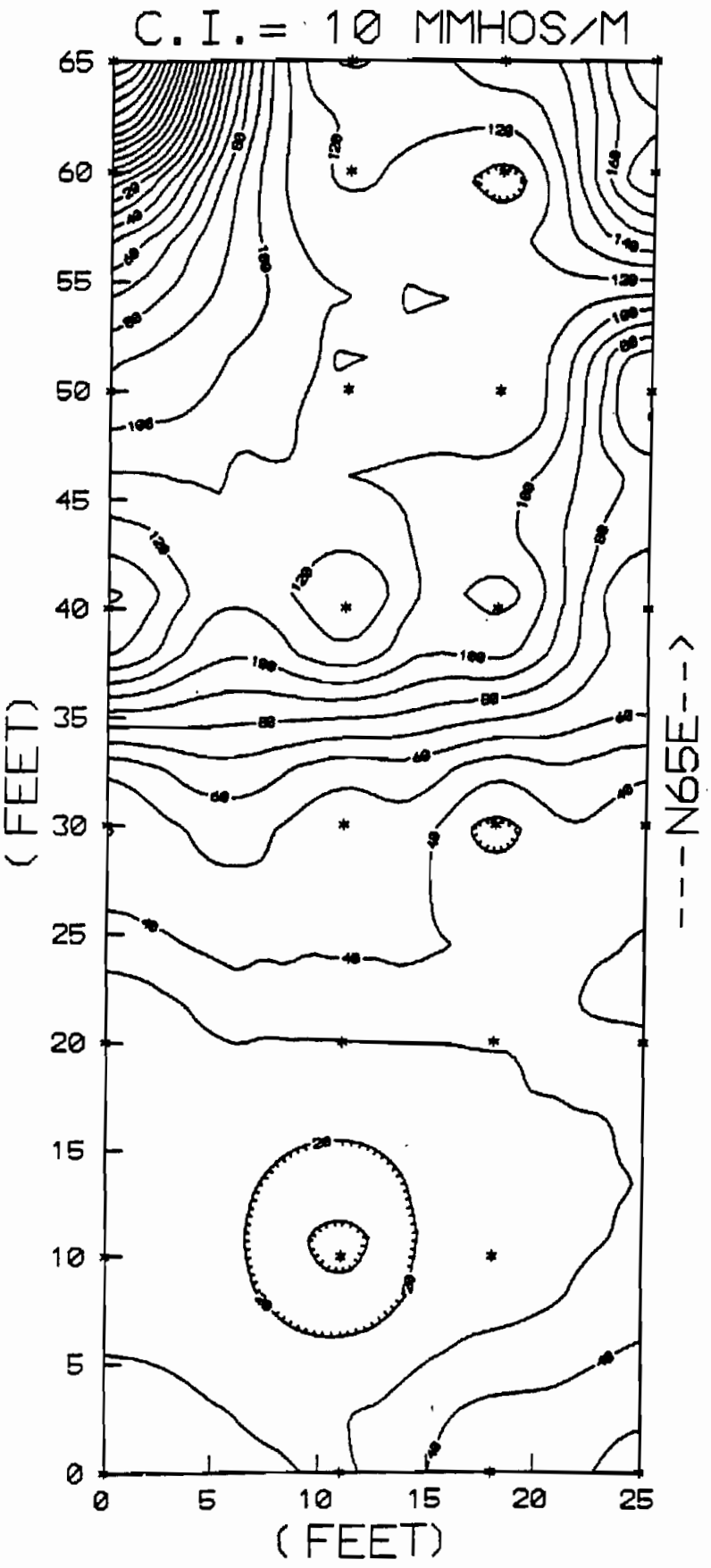
ALLIED H1 CONDUCTIVITY GRID 5



ALLIED H1 IN-PHASE GRID 5



ALLIED H2 CONDUCTIVITY GRID 5

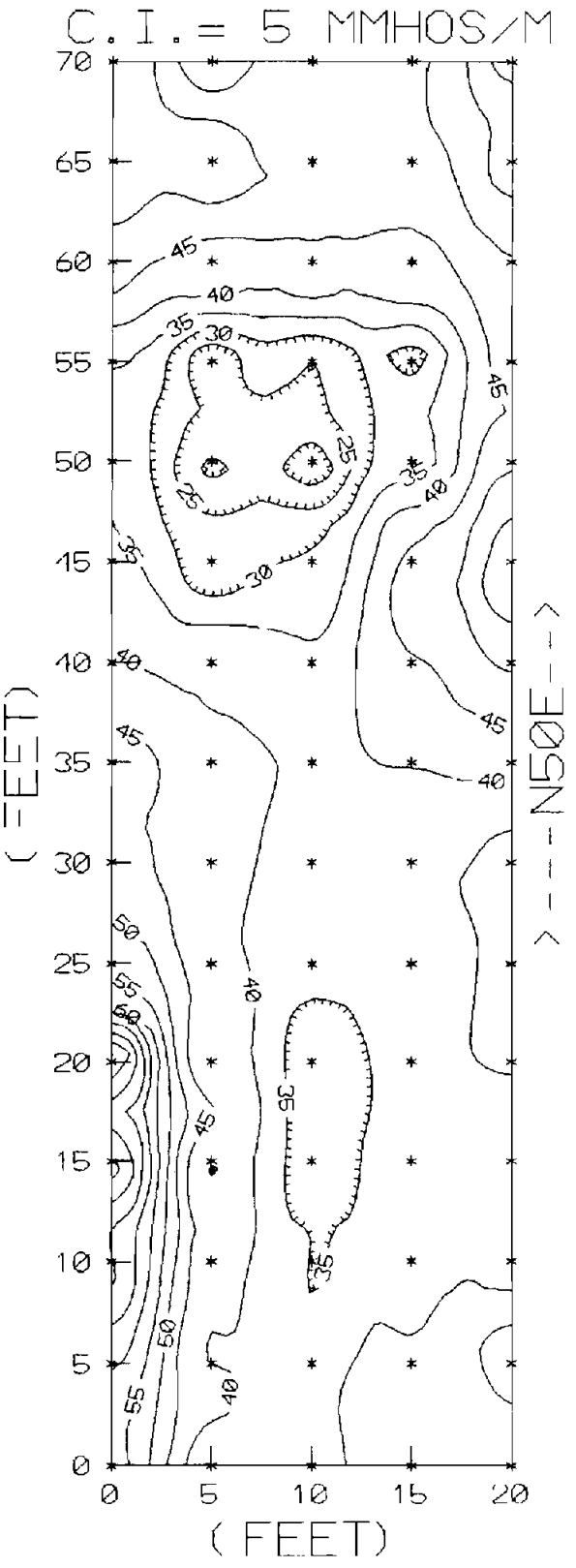


Geophysical Report Addendum - Grid 6

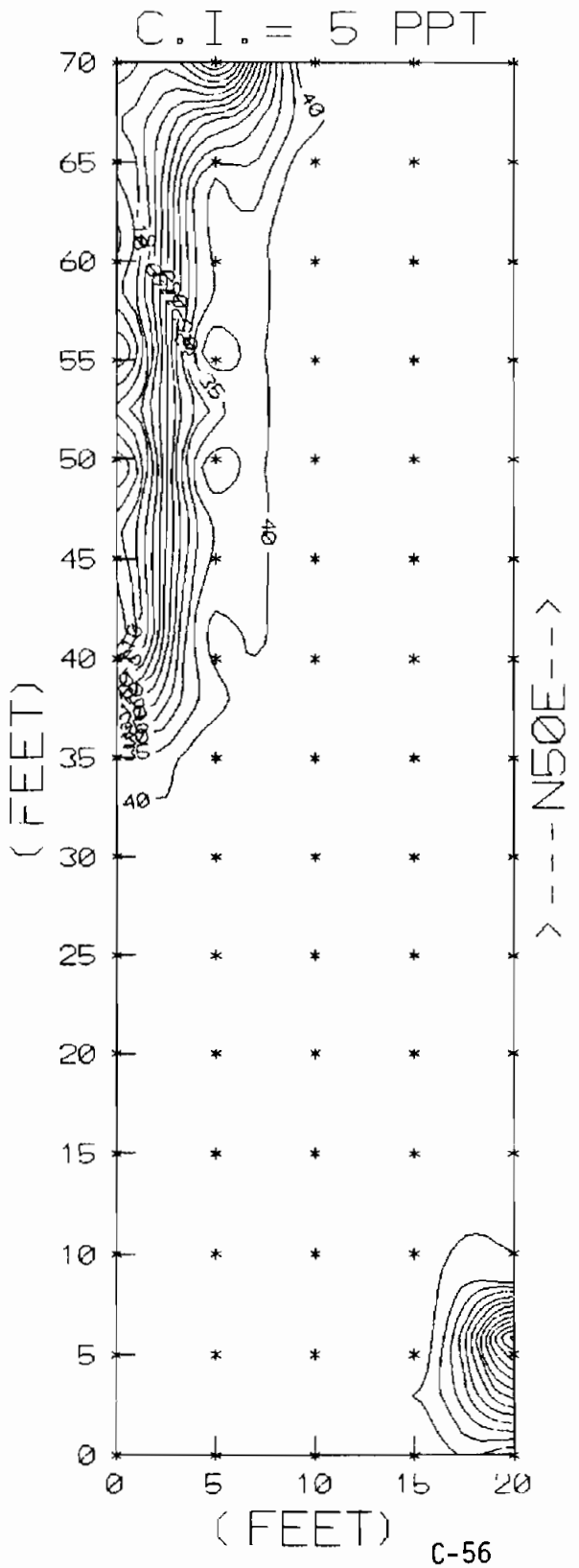
On November 17, 1994, E & E performed an additional geophysical survey (Grid 6) at the Allied-Elberta site, at the request of NYSDEC. The location of Grid 6 is illustrated in the figure on page C-9 of this appendix. The survey was performed with an EM31 ground conductivity meter using the same survey techniques and methods as described in the August 23, 1993 letter report on page C-3 of this appendix. The grid was 70 feet long and 20 feet wide, with a station and line spacing of 5 feet. Because the magnetometer was unavailable at the time of the survey, only the EM31 was initially used for the survey. Based on the preliminary analysis of this data, the magnetometer survey was deemed not necessary for this grid.

The results of the EM31 survey of Grid 6 revealed no significant unexplainable anomalies. The elongated anomaly in the southwest corner of the V1, V2, H1, and H2 conductivity contour plots is due to the presence of a warehouse immediately adjacent to that corner of the grid. The anomaly in the southeast corner of the V1, V2, and H2 in-phase contour plots is due to the presence of a metal grate over a storm sewer. The elongated anomaly in the northwest corner of the V1, V2, H1, and H2 in-phase contour plots is believed to be due to the presence of buried electrical conduit and pipes encountered during the excavation of test pit TP2-2. The poorly defined anomaly in the northeast corner of the V1, V1, and H2 conductivity plots and V1, H1, and H2 in-phase contour plots is due to the presence a portion of the main building. Therefore, there appears to be no significant influence from and subsurface material between the anomalies caused by building interference or known buried utilities. Excavation in this grid area was, therefore, not recommended.

ALLIED V1 CONDUCTIVITY GRID 6

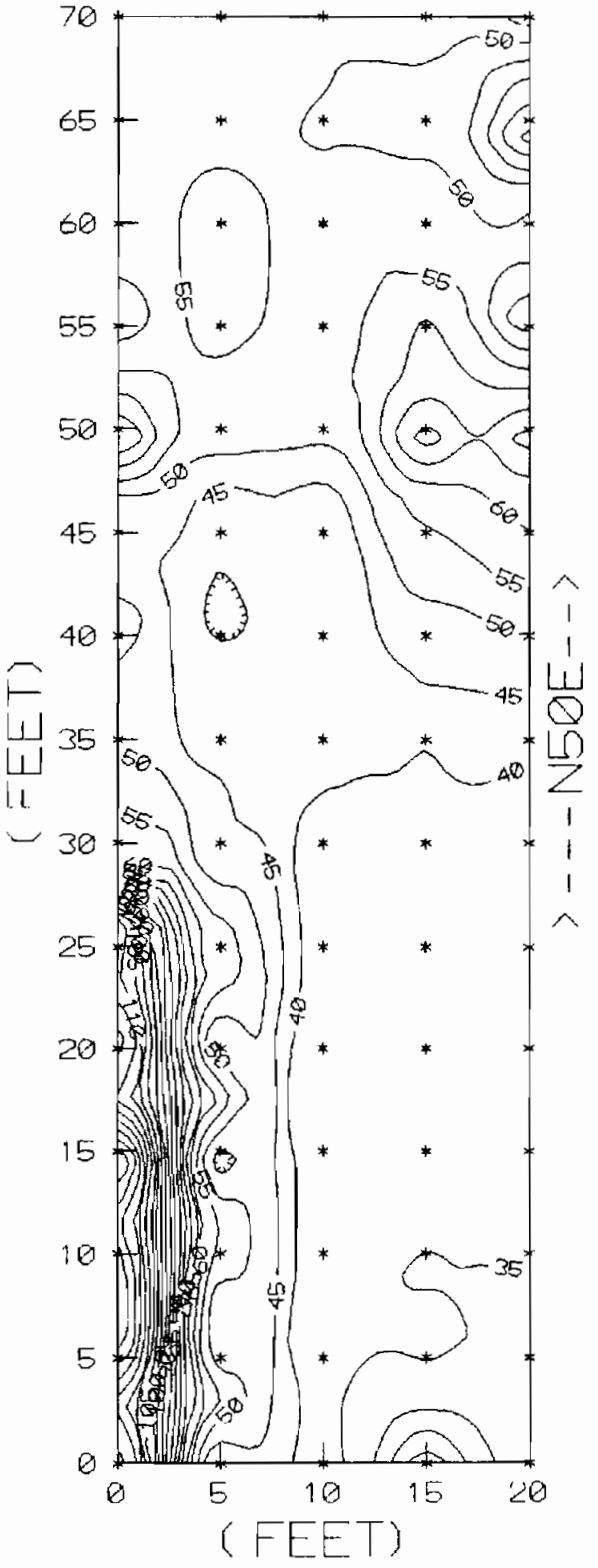


ALLIED V1 IN-PHASE GRID 6

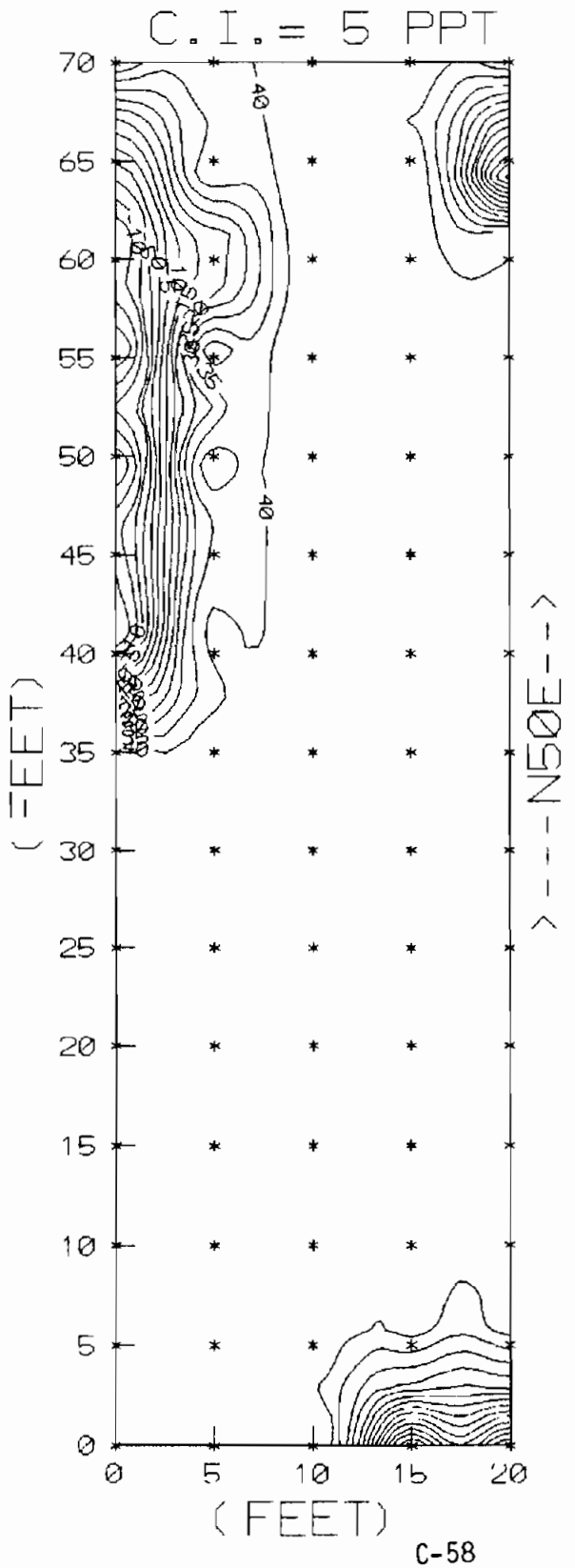


ALLIED V2 CONDUCTIVITY GRID 6

C.I.= 5 MMHOS/M

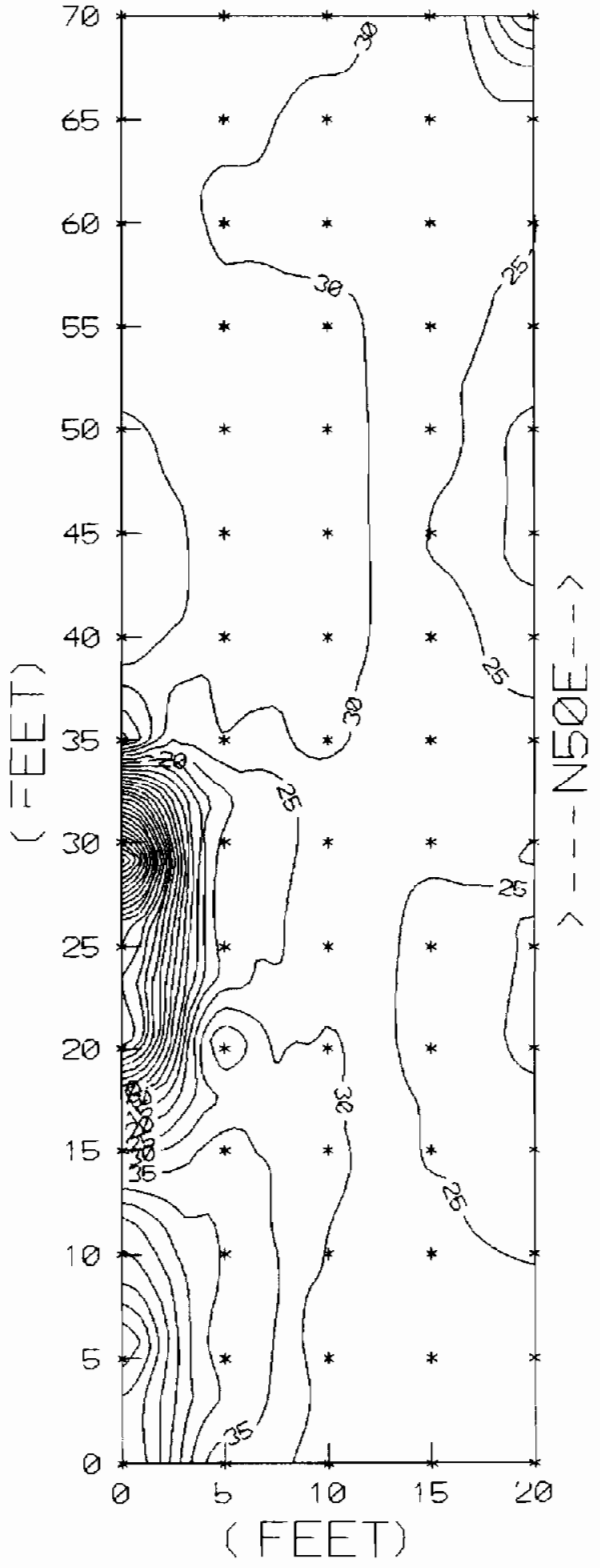


ALLIED V2 IN-PHASE GRID 6

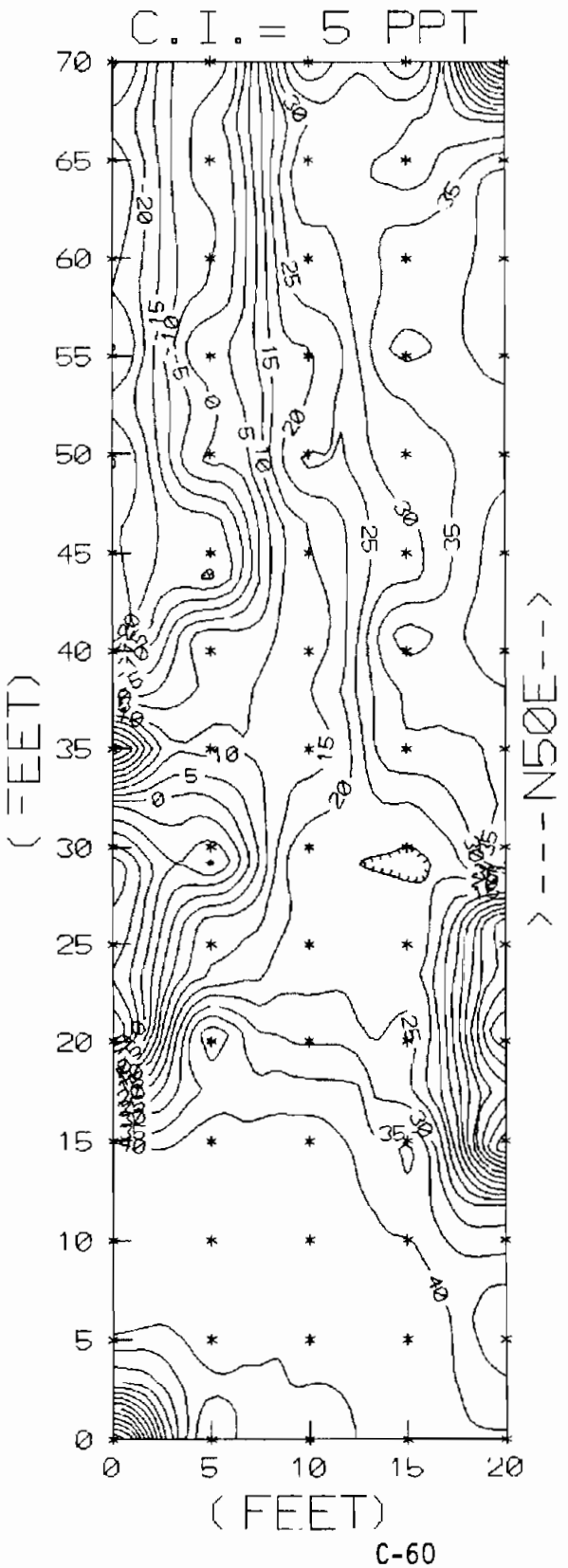


ALLIED H1 CONDUCTIVITY GRID 6

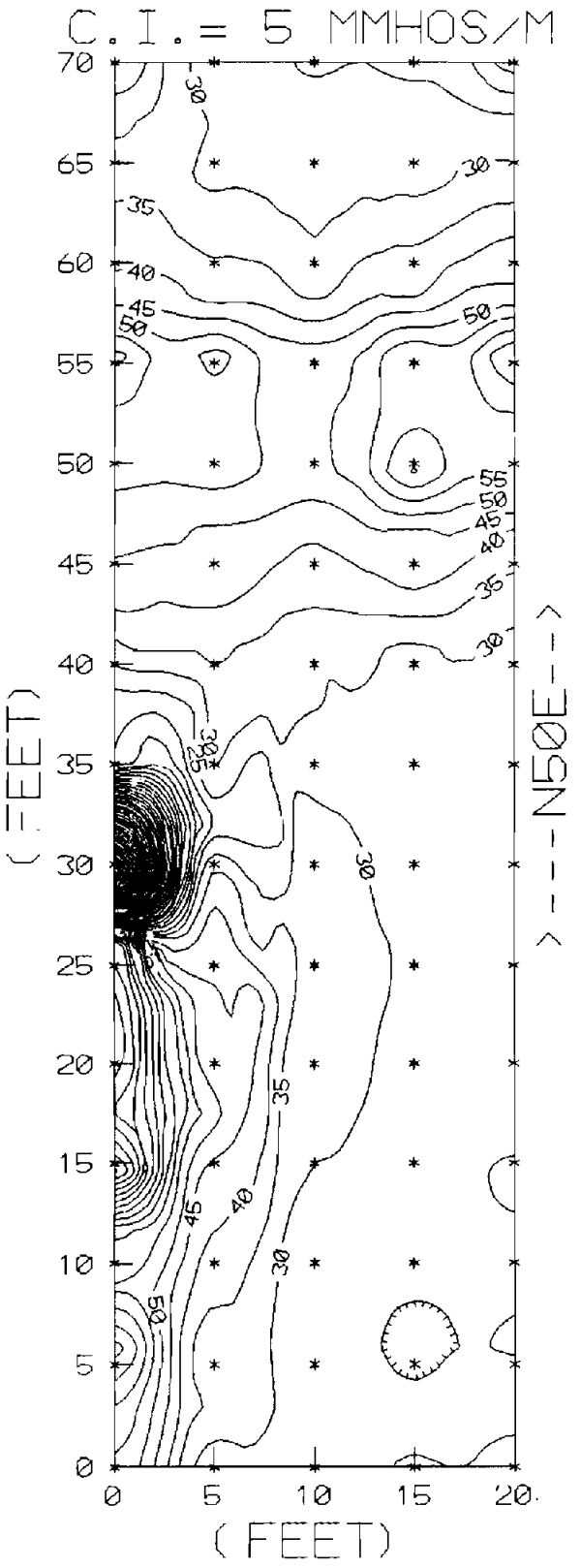
C.I. = 5 MMHOS/M



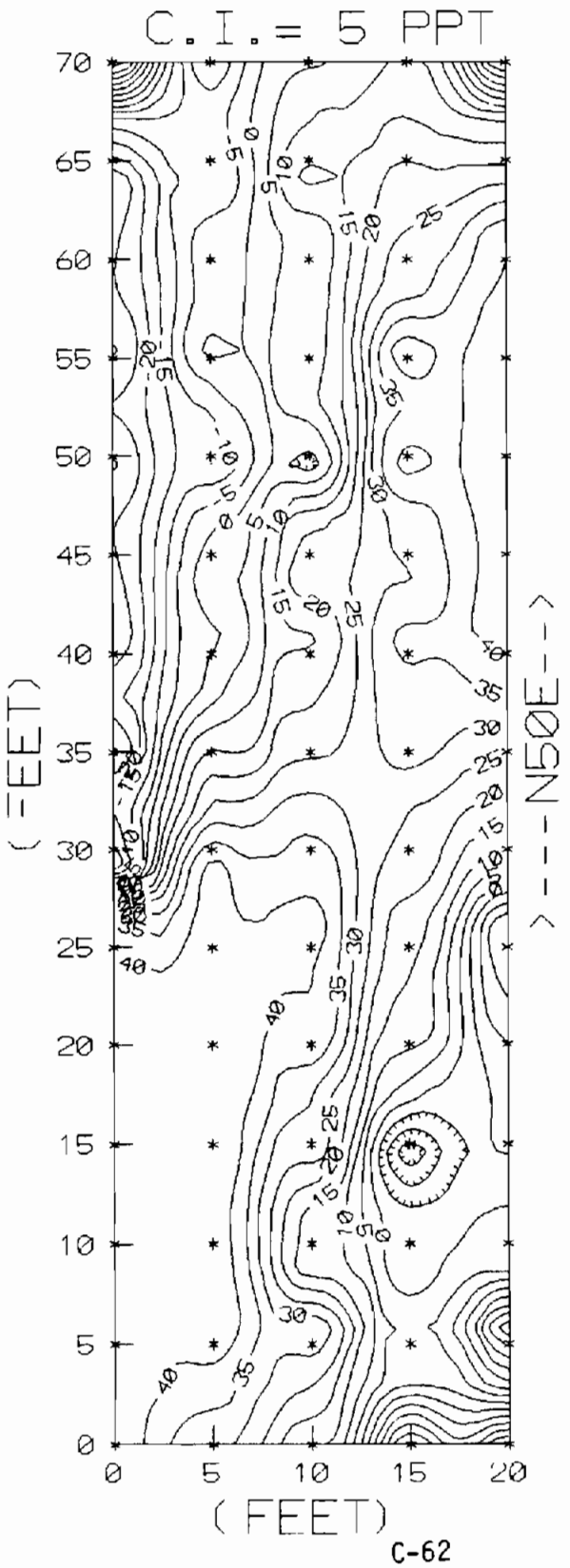
ALLIED H1 IN-PHASE GRID 6



ALLIED H2 CONDUCTIVITY GRID 6



ALLIED H2 IN-PHASE GRID 6



APPENDIX D

DATA SUMMARY FORMS

DATA USABILITY REVIEW

The data usability review for the Allied-Elberta 425site consisted of the following:

- Checking chain-of-custody forms and analytical logs to confirm that samples were analyzed for the parameters requested on the chain-of-custody; and
- Reviewing the data to confirm that NYSDEC and laboratory quality control criteria were met.

These quality control criteria included:

- Holding times;
- Laboratory blank contamination;
- Surrogate recoveries;
- Internal standards area and retention times;
- Matrix spike/matrix spike duplicate (MS/MSD) results;
- Instrument calibration (initial and continuing); and
- For metals, the specific criteria were reviewed and problems noted. These criteria included laboratory method blanks, MS/MSDs, instrument calibration, and ICP interference check samples.

Based on the review described above, a memorandum was generated outlining any problems affecting the usability of the data. This memorandum was submitted to NYSDEC under separate cover as part of the reduced data package. The general problems commented on included blank contamination and holding-time violation, and do not constitute a full data validation effort.

For the Allied-Elberta site, all data were considered usable as qualified by the data review.

Data qualifiers used in the data summary forms are defined below. Table E-1, which follows, provides a list of the PAHs analyzed for (as base/neutral extractables), and indicates which are considered carcinogenic.

Defined Qualifiers

B Analyte is found in the associated blank as well as in the sample.

J Indicates the value is estimated.

UJ Indicates the quantitation limits are estimated.

A Indicates that a TIC is a suspected aldol-condensation product.

N Indicates presumptive evidence of a compound. Used only for TICs where the identification is based on a mass spectral library search.

E Indicates that the instrument calibration range for that compound was exceeded and the value was estimated.

Table E-1 POLYNUCLEAR AROMATIC HYDROCARBON (PAH) ANALYSIS LIST
Naphthalene
2-Methylnaphthalene
2-Chloronaphthalene
Acenaphthylene
Acenaphthene
Fluorene
Phenanthrene
Anthracene
Fluoranthene
Pyrene
Benzo(a)anthracene[a]
Chrysene[a]
Benzo(b)fluoranthene[a]
Benzo(k)fluoranthene[a]
Benzo(a)pyrene[a]
Indeno(1,2,3-cd)pyrene[a]
Dibenz(a,h)anthracene[a]
Benzo(g,h,i)perylene

[a] Considered carcinogenic (Department of Health and Human Services, 1993).

DATA SUMMARY FORM: V O L A T I L E S 1

Site Name: Allied Chemical-Elberta Works

SOIL SAMPLES (µg/Kg)

Case # _____ Sampling Date(s): 11/2/93

To calculate sample quantitation limit:
(CRQL * Dilution Factor) / ((100 - % moisture)/100)

CRQL	COMPOUND	TP1-1-3		TP1-1-12		TP2-1-1-5		TP2-1-3		TP2-2-1-5		TP2-2-2		TP3-1-5		TP3-1-7		TP4-2-6	
	Sample No.	TP1-1-3		TP1-1-12		TP2-1-1-5		TP2-1-3		TP2-2-1-5		TP2-2-2		TP3-1-5		TP3-1-7		TP4-2-6	
	Dilution Factor	1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0	
	% Moisture	13		18		24		17		29		24		19		20		12	
	Location																		
10	Chloromethane																		
10	Bromomethane																		
10	Vinyl Chloride																		
10	Chloroethane																		
10	Methylene Chloride	4	BJ	4	BJ	4	BJ	4	BJ	5	BJ	4	BJ	6	BJ	4	BJ	3	BJ
10	Acetone	57		27						9	J			41					
10	Carbon Disulfide																		
10	1,1-Dichloroethene																		
10	1,1-Dichloroethane																		
10	Total 1,2-Dichloroethene									19									
10	Chloroform									8	J								
10	1,2-Dichloroethane																		
10	2-Butanone	12																	
10	1,1,1-Trichloroethane																		
10	Carbon Tetrachloride															5	J		
10	~~Vinyl Acetate~~																		
10	Bromodichloromethane																		

CRQL = Contract Required Quantitation Limit

SEE NARRATIVE FOR CODE DEFINITIO

*revised 07/

DATA SUMMARY FORM: V O L A T I L E S 1

Site Name: Allied Chemical - Elberta Works

SOIL SAMPLES
(µg/Kg)

Case # _____ Sampling Date(s): 11/2/93

To calculate sample quantitation limit:
(CRQL * Dilution Factor) / ((100 - % moisture)/100)

CRQL	COMPOUND	Sample No.	VBLKW1	VBLKS1	VBLKS2	MSB	TP1-1-12MS	TP1-1-12MSD			
		Dilution Factor	1.0	1.0	1.0	1.0	1.0	1.0			
		% Moisture					18	18			
		Location									
10	Chloromethane										
10	Bromomethane										
10	Vinyl Chloride										
10	Chloroethane										
10	Methylene Chloride			3 J	3 J	3 BJ	5 BJ	3 BJ			
10	Acetone						29				
10	Carbon Disulfide										
10	1,1-Dichloroethene					48	54	44			
10	1,1-Dichloroethane										
10	Total 1,2-Dichloroethene										
10	Chloroform										
10	1,2-Dichloroethane										
10	2-Butanone										
10	1,1,1-Trichloroethane										
10	Carbon Tetrachloride										
10	Vinyl Acetate										
10	Bromodichloromethane										

CRQL = Contract Required Quantitation Limit

SEE NARRATIVE FOR CODE DEFINITIO
revised 07/

DATA SUMMARY FORM: V O L A T I L E S 2

Name : Allied Chemical - Elberta Works

SOIL SAMPLES
(µg/Kg)

#: _____ Sampling Date(s): 11/2/93

To calculate sample quantitation limit:
(CRQL * Dilution Factor) / ((100 - % moisture)/100)

	Sample No.	TP-1-3	TP1-1-12	TP2-1-1.5	TP2-1-3	TP2-2-1.5	TP2-2-2	TP3-1-5	TP3-1-7	TP4-2-6
	Dilution Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	% Moisture	13	18	24	17	29	24	19	20	12
	Location									
QL	COMPOUND									
0	1,2-Dichloropropane									
0	Cis-1,3-Dichloropropene									
0	Trichloroethene					17				
0	Dibromochloromethane									
0	1,1,2-Trichloroethane									
0	Benzene									
0	Trans-1,3-Dichloropropene									
0	Bromoform									
0	4-Methyl-2-pentanone									
0	2-Hexanone									
0	Tetrachloroethene					410 E	32			
0	1,1,2,2,-Tetrachloroethane									
0	Toluene									
0	Chlorobenzene							180		
0	Ethylbenzene									
0	Styrene									
0	Total Xylenes									

QL = Contract Required Quantitation Limit

SEE NARRATIVE FOR CODE DEFINITIONS

revised 07/92

DATA SUMMARY FORM: V O L A T I L E S 2

Name : Allied Chemical - Elberta Works

SOIL SAMPLES
(µg/Kg)

Case #: _____ Sampling Date(s): 11/2/93

To calculate sample quantitation limit:
(CRQL * Dilution Factor) / ((100 - % moisture)/100)

	Sample No.	VBLKW1	VBLKS1	VBLKS2	MSB	TP1-1-12MS	TP1-1-12MSD			
	Dilution Factor	1.0	1.0	1.0	1.0	1.0	1.0			
	% Moisture					18	18			
	Location									
CRQL	COMPOUND									
10	1,2-Dichloropropane									
10	Cis-1,3-Dichloropropene									
10	Trichloroethene				46	49	48			
10	Dibromochloromethane									
10	1,1,2-Trichloroethane									
10	Benzene				46	52	49			
10	Trans-1,3-Dichloropropene									
10	Bromoform									
10	4-Methyl-2-pentanone									
10	2-Hexanone									
10	Tetrachloroethene									
10	1,1,2,2,-Tetrachloroethane									
10	Toluene				46	56	50			
10	Chlorobenzene				46	52	49			
10	Ethylbenzene									
10	Styrene									
10	Total Xylenes									

CRQL = Contract Required Quantitation Limit

SEE NARRATIVE FOR CODE DEFINITIONS

revised 07/92

DATA SUMMARY FORM: TENTATIVELY INDENTIFIED COMPOUNDS

Site Name: Allied Chemical - Elberta Works

Case #: _____ Sampling Date: 11/2/93

SOIL SAMPLES (ug/Kg)

To calculate sample quantitation limit:
(CRQL * Dilution Factor) / ((1 - % moisture/100)

	Sample No.	TP1-1-3		TP1-1-12		TP2-1-1_5		TP2-1-3		TP2-2-1_5		TP2-2-2		TP3-1-5		TP3-1-7		TP4-2-6	
	Dilution Factor	1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0	
	% Moisture	13		18		24		17		29		24		19		20		12	
	Location																		
RT CRQL	COMPOUND																		
	Hexachloroethane									110	JN								
T=24.80	Pentachloropropene ISOMER									170	J								
T=25.63	PENTACHLOROBUTADIENE ISOMER									20	J								
RT=22.74	DICHLOROBENZENE ISOMER													960	J				
RT=22.98	DICHLOROBENZENE ISOMER													720	J				
RT=23.11	DICHLOROBENZENE ISOMER													10	J				
T=25.66	TRICHLOROBENZENE ISOMER													1400	J				
RT=22.72	DICHLOROBENZENE ISOMER															8	J		
RT=22.98	DICHLOROBENZENE ISOMER															7	J		
RT=25.68	TRICHLOROBENZENE ISOMER															37	J		
	Molecular Sulphur	320	JN	3200	JN														
	SULFUR			100	J														
	TRITOLYLPHOSPHATE ISOMER					170	J												
=13.08	PENTACHLOROBUTADIENE ISOMER									790	J								
=12.54	TRICHLOROBENZENE ISOMER													1300	J				
16.27	TETRACHLOROBENZENE ISOMER													570	J				
16.32	TETRACHLOROBENZENE ISOMER													550	J				
19.50	Pentachlorobenzene													1500	JN				
21.64	TETRACHLORO-NITROBENZENE ISO.													180	J				
26.82	Pentachloro(trichloroethenyl)													82	JN				

CRQL = Contract Required Quantitation Limit

DATA SUMMARY FORM: B N A S 1

ite Na :e: Allied Chemical - Elberta Works

ase #: _____ Sampling Date: 11/2/93

SOIL SAMPLES
(µg/Kg)

To calculate sample quantitation limit:
(CRQL * Dilution Factor) / ((1 - % moisture)/100)

CRQL	COMPOUND	Sample No.	TP1-1-3	TP1-1-12	TP2-1-1-5	TP2-1-3	TP2-2-1-5	TP2-2-2	TP3-1-5	TP3-1-5DL	TP3-1-7
		Dilution Factor	1.0	1.0	2.0	1.0	5.0	5.0	1.0	200.0	1.0
		% Moisture	13	18	24	17	29	24	19	19	20
		Location									
330	Phenol										
330	bis(2-Chloroethyl)ether										
330	2-Chlorophenol										
330	1,3-Dichlorobenzene								370 J		
330	1,4-Dichlorobenzene								370 J		
330	1,2-Dichlorobenzene										
330	2-Methylphenol										
330	bis(2-Chloroisopropyl)ether										
330	4-Methylphenol										
330	N-Nitroso-di-n-propylamine										
330	Hexachloroethane										
330	Nitrobenzene										
330	Isophorone										
330	2-Nitrophenol										
330	2,4-Dimethylphenol										
330	bis(2-Chloroethoxy)methane										
330	2,4-Dichlorophenol										
330	1,2,4-Trichlorobenzene								190 J		
330	Naphthalene					38 J		72 J			
330	4-Chloroaniline										

CRQL = Contract Required Quantitation Limit

SEE NARRATIVE FOR CODE DEFINITIO

revised 07/

DATA SUMMARY FORM: B N A S 1

Site Name: Allied Chemical - Elberta Works

Case #: _____ Sampling Date: 11/2/93

SOIL SAMPLES
(µg/Kg)

To calculate sample quantitation limit:
(CRQL * Dilution Factor) / ((1 - % moisture)/100)

CRQL	COMPOUND	TP4-2-6	SBLKS1	MSB	TP1-1-12MS	TP1-1-12MSD				
	Sample No.									
	Dilution Factor	1.0	1.0	1.0	1.0	1.0				
	% Moisture	12			18	18				
	Location									
330	Phenol			1600	1800	1800				
330	bis(2-Chloroethyl)ether									
330	2-Chlorophenol			1500	1700	1700				
330	1,3-Dichlorobenzene									
330	1,4-Dichlorobenzene			990	1100	1200				
330	1,2-Dichlorobenzene									
330	2-Methylphenol									
330	bis(2-Chloroisopropyl)ether									
330	4-Methylphenol									
330	N-Nitroso-di-n-propylamine			1100	1300	1400				
330	Hexachloroethane									
330	Nitrobenzene									
330	Isophorone									
330	2-Nitrophenol									
330	2,4-Dimethylphenol									
330	bis(2-Chloroethoxy)methane									
330	2,4-Dichlorophenol									
330	1,2,4-Trichlorobenzene			1100	1200	1300				
330	Naphthalene									
330	4-Chloroaniline									

CRQL = Contract Required Quantitation Limit

SEE NARRATIVE FOR CODE DEFINITIO

revised 07/

DATA SUMMARY FORM: B N A S 2

Site Name: Allied Chemical - Elberta Works

Case #: _____ Sampling Date(s): 11/2/93

SOIL SAMPLES
(µg/Kg)

To calculate sample quantitation limit:
(CRQL * Dilution Factor) / ((100 - % moisture)/100)

CRQL	COMPOUND	TP1-1-3	TP1-1-12	TP2-1-1_5	TP2-1-3	TP2-2-1_5	TP2-2-2	TP3-1-5	TP3-1-5DL	TP3-1-7
	Sample No.	TP1-1-3	TP1-1-12	TP2-1-1_5	TP2-1-3	TP2-2-1_5	TP2-2-2	TP3-1-5	TP3-1-5DL	TP3-1-7
	Dilution Factor	1.0	1.0	2.0	1.0	5.0	5.0	1.0	200.0	1.0
	% Moisture	13	18	24	17	29	24	19	19	20
	Location									
330	Hexachlorobutadiene			640 J		6000				
330	4-Chloro-3-methylphenol									
330	2-Methylnaphthalene				34 J					
330	Hexachlorocyclopentadiene									
330	2,4,6-Trichlorophenol									
800	2,4,5-Trichlorophenol									
330	2-Chloronaphthalene									
800	2-Nitroaniline									
330	Dimethylphthalate								26000 DJ	
330	Acenaphthylene									
330	2,6-Dinitrotoluene									
800	3-Nitroaniline									
330	Acenaphthene						190 J			
800	2,4-Dinitrophenol									
800	4-Nitrophenol									
330	Dibenzofuran									
330	2,4-Dinitrotoluene									
330	Diethylphthalate							150 J		
330	4-Chlorophenyl-phenylether									
330	Fluorene	46 J								
800	4-Nitroaniline									
800	4,6-Dinitro-2methylphenol									

CRQL = Contract Required Quantitation Limit

SEE NARRATIVE FOR CODE DEFINITI

revised 07

DATA SUMMARY FORM: B N A S 2

Site Name: Allied Chemical - Elberta Works

SOIL SAMPLES
(µg/Kg)

Case #: _____ Sampling Date(s): 11/2/93

To calculate sample quantitation limit:
(CRQL * Dilution Factor) / ((100 - % moisture)/100)

CRQL	COMPOUND	Sample No.	TP4-2-6	SBLKS1	MSB	TP1-1-12MS	TP1-1-12MSD				
		Dilution Factor	1.0	1.0	1.0	1.0	1.0				
		% Moisture	12			18	18				
		Location									
330	Hexachlorobutadiene										
330	4-Chloro-3-methylphenol				1700	1800	1900				
330	2-Methylnaphthalene										
330	Hexachlorocyclopentadiene										
330	2,4,6-Trichlorophenol										
800	2,4,5-Trichlorophenol										
330	2-Chloronaphthalene										
800	2-Nitroaniline										
330	Dimethylphthalate										
330	Acenaphthylene										
330	2,6-Dinitrotoluene										
800	3-Nitroaniline										
330	Acenaphthene				1200	1400	1500				
800	2,4-Dinitrophenol										
800	4-Nitrophenol				1900	2200	2300				
330	Dibenzofuran										
330	2,4-Dinitrotoluene				1200	1300	1400				
330	Diethylphthalate										
330	4-Chlorophenyl-phenylether										
330	Fluorene										
800	4-Nitroaniline										
800	4,6-Dinitro-2methylphenol										

CRQL = Contract Required Quantitation Limit

SEE NARRATIVE FOR CODE DEFINITI

revised 07

DATA SUMMARY FORM: B N A S 3

e Name: Allied Chemical - Elberta Works

e #: _____ Sampling Date(s): 11/2/93

SOIL SAMPLES
(µg/Kg)

To calculate sample quantitation limit:
(CRQL * Dilution Factor) / ((100 - % moisture)/100)

RQL	COMPOUND	Sample No.	TP1-1-3		TP1-1-12		TP2-1-1.5		TP2-1-3		TP2-2-1.5		TP2-2-2		TP3-1-5		TP3-1-5DL		TP3-1-7	
		Dilution Factor	1.0		1.0		2.0		1.0		5.0		5.0		1.0		200.0		1.0	
		% Moisture	13		18		24		17		29		24		19		19		20	
		Location																		
330	N-Nitrosodiphenylamine																			
330	4-Bromophenyl-phenylether																			
330	Hexachlorobenzene		2500		74	J	6900		590		13000		18000	E	79000	E	640000	D	3100	
800	Pentachlorophenol										180	J								
330	Phenanthrene		310	J					370	J			990	J						
330	Anthracene		59	J					63	J			260	J						
330	Carbazole								68	J										
330	Di-n-butylphthalate				30	J									52	J				
330	Fluoranthene		400						670		690	J	1200	J	59	J				
330	Pyrene		380		32	J			700		600	J	980	J	45	J				
330	Butylbenzylphthalate																			
330	3,3'-Dichlorobenzidine																			
330	Benzo(a)anthracene		190	J					520		460	J	820	J						
330	Chrysene		180	J	23	J			640		830	J	820	J	40	J				
330	bis(2-Ethylhexyl)phthalate				22	J	84	J			100	J	140	J	41	J				
330	Di-n-octylphthalate																			
330	Benzo(b)fluoranthene		220	J					1000		840	J	890	J	51	J				
330	Benzo(k)fluoranthene		73	J					280	J	240	J	300	J						
330	Benzo(a)pyrene		150	J					610		250	J	660	J						
330	Indeno(1,2,3-cd)pyrene		110	J					600		260	J	350	J						
330	Dibenz(a,h)anthracene		32	J					170	J			130	J						
330	Benzo(g,h)perylene		100	J					620		210	J	350	J						

RQL = Contract Required Quantitation Limit

SEE NARRATIVE FOR CODE DEFINITIONS
revised 07/92

DATA SUMMARY FORM: B N A S 3

Name: Allied Chemical - Elberta Works

SOIL SAMPLES
(µg/Kg)

#: _____ Sampling Date(s): 11/2/93

To calculate sample quantitation limit:
(CRQL * Dilution Factor) / ((100 - % moisture)/100)

	Sample No.	TP4-2-6		SBLKS1		MSB		TP1-1-12MS		TP1-1-12MSD									
	Dilution Factor	1.0		1.0		1.0		1.0		1.0									
	% Moisture	12						18		18									
	Location																		
RQL	COMPOUND																		
330	N-Nitrosodiphenylamine																		
330	4-Bromophenyl-phenylether																		
330	Hexachlorobenzene							2300		770									
1600	Pentachlorophenol					2100		2200		2400									
330	Phenanthrene																		
330	Anthracene																		
330	Carbazole																		
330	Di-n-butylphthalate																		
330	Fluoranthene																		
330	Pyrene					1400		1300		1500									
330	Butylbenzylphthalate																		
330	3,3'-Dichlorobenzidine																		
330	Benzo(a)anthracene																		
330	Chrysene							77	J	75	J								
330	bis(2-Ethylhexyl)phthalate																		
330	Di-n-octylphthalate																		
330	Benzo(b)fluoranthene							99	J	100	J								
330	Benzo(k)fluoranthene																		
330	Benzo(a)pyrene							49	J	44	J								
330	Indeno(1,2,3-cd)pyrene																		
330	Dibenz(a,h)anthracene																		
330	Benzo(g,h)perylene																		

RQL = Contract Required Quantitation Limit

SEE NARRATIVE FOR CODE DEFINITIONS
revised 07/92

DATA SUMMARY FORM: I N O R G A N I C S

Site Name: Allied - Elberta

SOIL SAMPLES
(mg/Kg)

Case #: 1302.535 Sampling Date(s): 11/2/93

+Due to dilution, sample quantitation limit is affected.
See dilution table for specifics.

CRDL	ANALYTE	Sample No.		TP4-2(6')		TP1-1(3')		TP1-1(12')		TP3-1(5')		TP3-1(7')		TP2-1(1.5')		TP2-1(3')		TP2-2(2')		TP2-2(1.5')		TP1-1(12')	
		Dilution Factor																					
		% Solids		88.3		87.2		82.0		81.1		80.5		76.2		83.1		75.9		70.8		82.0	
		Location																					
																						MS	
40	Aluminum			6690		12,000		7260		8800		6360		18,700		3760		69,700		69,200			
12	Antimony																	17.2				103	
2	*Arsenic			3.9		3.9		3.8	S	3.1		2.3		1.7		6.5		6.7		6.6		12	
40	Barium			93.2		113		77.7		103		82.3				64.9		21.2		60.7		582	
1	Beryllium			0.15		0.54		0.15		0.21		0.31		0.25		0.33		0.48		0.48		11.5	
1	*Cadmium			1.7		2.1		1.5		1.7		1.5		2.3		4.4		4.8		5.9		13.	
1000	Calcium			46,900		24,100		53,700		31,200		14,400		806		33,500		2320		2100			
2	*Chromium			10.4		51.5		65.7		78.3		54.5		43.5		86.5		301		342		114	
10	Cobalt			8.7		10.0		8.5		10.2		8.3		6.4		384		8.4		15.2		123	
5	Copper			35.0		1470		59.4		204		34.2		69.2		381		10,800		4480		122	
20	Iron			15,600		16400		15,500		17,900		14,200		18,700		47,300		15,100		32,900			
0.6	*Lead		N	4.7	N	69.0	N	15.1	/	57.7	N	4.1	N	39.3	N	389	N	545	N	305	N	43	
1000	Magnesium			8400		5750		12,300		7040		9380		588		7160		1490		1060			
3	Manganese			627		687		735		653		597		33.5		872		249		2060		771	
0.2	Mercury															0.23						0.6	
8	*Nickel			16.7		64.4		18.0		24.9		14.4		19.9		3280		633		172		133	
1000	Potassium			702		817		847		792				280						332			
1	Selenium		N												N							2.7	
2	Silver																	4.5				12.	
1000	Sodium					1100		559		1990		162		199				252		175			
2	Thallium			0.26						0.27								0.31	J		W	11.2	
10	Vanadium			16.6		20.6		17.6		19.7		15.8		39.5		75.0		24.5		77.9		129	
4	Zinc			39.5		109		49.1		122		34.9		23.4		121		760		347		168	
2	*Cyanide					2.0																29.5	

CRDL = Contract Required Detection Limit

*Action Level Exists

SEE NARRATIVE FOR CODE DEFINITION

revised 07/9

D-11

DATA SUMMARY FORM: I N O R G A N I C S

Site Name: Allied-Elberta

SOIL SAMPLES
(mg/Kg)

Case #: 9302.535 Sampling Date(s): 11/2/93

+Due to dilution, sample quantitation limit is affected.
See dilution table for specifics.

CRDL	ANALYTE										
	Sample No.	TP1-1(12')									
	Dilution Factor										
	% Solids	82.0									
	Location										
		MSD									
40	Aluminum	7422									
12	Antimony										
2	*Arsenic	4.1									
40	Barium	85.7									
1	Beryllium	0.16									
1	*Cadmium	1.33									
1000	Calcium	60,585									
2	*Chromium	166.3									
10	Cobalt	9.76									
5	Copper	70.8									
20	Iron	15,687									
0.6	*Lead	14.1									
1000	Magnesium	10,473									
3	Manganese	791									
0.2	Mercury										
8	*Nickel	18.8									
1000	Potassium	850									
1	Selenium										
2	Silver										
1000	Sodium	605									
2	Thallium	0.27									
10	Vanadium	17.12									
4	Zinc	68.1									
2	*Cyanide										

CRDL = Contract Required Detection Limit

*Action Level Exists

SEE NARRATIVE FOR CODE DEFINITIO

DATA SUMMARY FORM: PESTICIDES AND PCB'S

te Name Allied Chemical - Elberta Works

SOIL SAMPLES
(µg/Kg)

se #: _____ Sampling Date(s): 11/2/93

To calculate sample quantitation limit:
(CRQL * Dilution Factor) / ((100 - % moisture)/100)

recycled paper

	Sample No.	TP1-1-3	TP1-1-12	TP2-1-1-5	TP2-1-3	TP2-2-1-5	TP2-2-2	TP2-2-2DL	TP3-1-5	TP3-1-7
	Dilution Factor	1.0	1.0	1.0	1.0	2.0	1.0	10.0	1.0	1.0
	% Moisture	13	18	24	17	29	24	24	19	19
	Location									
CRQL	COMPOUND									
1.7	alpha-BHC				5.3 P		84			
1.7	beta-BHC						13 P			
1.7	delta-BHC	2.0				29 P				
1.7	gamma-BHC (Lindane)									
1.7	Heptachlor									
1.7	Aldrin						20 P			
1.7	Heptachlor Epoxide						7.4 P			
1.7	Endosulfan I									
3.3	Dieldrin					32 P	6.4 P			
3.3	4,4'-DDE					24 P	6.8 P			
3.3	Endrin					12	5.7 P			
3.3	Endosulfan II									
3.3	4,4'-DDD						5.9			
3.3	Endosulfan Sulfate									
3.3	4,4'-DDT						23 P			
17	Methoxychlor									
3.3	Endrin Ketone					9.9 P				
3.3	Endrin Aldehyde									
1.7	alpha-Chlordane						4.4 P			
1.7	gamma-Chlordane					3.0 JP	10			
170	Toxaphene									
33	Aroclor-1016									
67	Aroclor-1221									
33	Aroclor-1232									
33	Aroclor-1242									
33	Aroclor-1248									
33	Aroclor-1254				27 JP					
33	Aroclor-1260			110 P		310 P	300 P	430 DJ		

CRQL = Contract Required Quantitation Limit

SEE NARRATIVE FOR CODE DEFINITIONS

revised 07/91

DATA SUMMARY FORM: P E S T I C I D E S A N D P C B ' S .

te Name Allied Chemical - Elberta Works

se #: _____ Sampling Date(s): 11/2/93

SOIL SAMPLES
(µg/Kg)

To calculate sample quantitation limit:
(CRQL * Dilution Factor) / ((100 - % moisture)/100)

recycled paper

CRQL	COMPOUND	Sample No.	TP4-2-6	PBLKS1	PBLKS2	PBLKS3	PBLKS4	TP1-1-12MS	TP1-1-12MSD	MSB1	
		Dilution Factor	1.00	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
		% Moisture	12					18	18	0	
		Location									
1.7	alpha-BHC										
1.7	beta-BHC										
1.7	delta-BHC										
1.7	gamma-BHC (Lindane)							18	17	14	
1.7	Heptachlor							20	18	15	
1.7	Aldrin							19	17	15	
1.7	Heptachlor Epoxide										
1.7	Endosulfan I										
3.3	Dieldrin							40	36	30	
3.3	4,4'-DDE										
3.3	Endrin							45	40	31	
3.3	Endosulfan II										
3.3	4,4'-DDD										
3.3	Endosulfan Sulfate										
3.3	4,4'-DDT							35	32	25	
17	Methoxychlor										
3.3	Endrin Ketone										
3.3	Endrin Aldehyde										
1.7	alpha-Chlordane										
1.7	gamma-Chlordane										
170	Toxaphene										
33	Aroclor-1016										
67	Aroclor-1221										
33	Aroclor-1232										
33	Aroclor-1242										
33	Aroclor-1248										
33	Aroclor-1254										
33	Aroclor-1260										

CRQL = Contract Required Quantitation Limit

SEE NARRATIVE FOR CODE DEFINITION

revised 07/9

DATA SUMMARY FORM: EPTOX (sulfide + metals)

(units of measure - see each analysis)

ame: Hilcd-Elberta

: 9302.535 **Sampling Date(s):** 11/2/93

To calculate sample quantitation limit:
(QL * Dilution Factor) / ((100 - % moisture)/100)

Sample No. / Dilution Factor / Location / COMPOUND	TP1-1(3')	TP1-1(12')	TP3-1(5')	TP2-1(1.5')	TP2-1(3')	TP2-2(2')	TP2-2(1.5')	TP1-1(3')S	TP1-1(2')
								matrix spike	matrix spike
Total Sulfide (mg/kg)			59						
Arsenic (ug/L)								2000	1989
Barium	971	1130	1500	390	1170	2030	1880	2739	2820
Cadmium	7.1		13.2			11.0	3.7	1812	1709
Chromium		12.9	31.3	16.1	94.0	161	28.9	1809	1736
Lead			108		1230	584		1882	1778
Mercury								1.14	NR
Selenium								2190	2342
Silver	5.0	4.8			3.4	3.4		124	124

DS

Quantitation Limit

NR = Not Requested.

SEE NARRATIVE FOR CODE DEFINITIONS
revised 07/90

DATA SUMMARY FORM: EPTOX (metals) [Results in ug/L]

ame: Hilird - Elberta

: 9302.535 Sampling Date(s): 11/2/93

To calculate sample quantitation limit:
(QL * Dilution Factor) / ((100 - % moisture)/100)

Sample No. / Dilution Factor / Location / COMPOUND	TP1-1(12') Matrix Spike	TP3-1(5')	TP2-1(1.5')	TP2-1(3')	TP2-2(2')	TP2-2(1.5')	TP1-1(12') Matrix Spike Duplicate		
Arsenic (ug/L)	1969	1971	1987	1979	1980	1966			
Barium	2832	3170	2249	2807	3814	3993	1152		
Cadmium	1731	1768	1938	1710	1926	1846	2.9		
Chromium	1754	1787	1934	1812	2038	1834	13.5		
Lead	1788	1930	1964	2919	2467	1941			
Mercury	1.0	1.0	1.0	1.0	1.0	1.0			
Selenium	2288	2258	2136	2279	2100	2145			
Silver	123	122	115	123	119	118	4.5		

uantitation Limit

SEE NARRATIVE FOR CODE DEFINITIONS
revised 07/90

APPENDIX E

PA SCORE

OMB Approval Number: 2050-0095
Approved for Use Through: 4/95

PA-Score

PA Scoresheets

Site Name: ALLIED CHEMICAL-ELBERTA WORKS
CERCLIS ID No.: NYD002128544
Street Address: 3119 RANDALL ROAD
City/State/Zip: WILSON, NY 14131

Investigator: E&E ENGINEERING, P.C.
Agency/Organization:
Street Address: 368 PLEASANTVIEW DRIVE
City/State: LANCASTER , NY

Date: 3-1-94

WASTE CHARACTERISTICS

Waste Characteristics (WC) Calculations:

1 LANDFILL	Landfill	Ref: 1	WQ value	maximum
Area	1.00E+00 acres		1.28E+01	1.28E+01

THE LANDFILLS CONSIST OF AN APPROXIMATELY 1-ACRE AREA WHICH RECEIVED AN UNKNOWN QUANTITY OF WASTE. APPROXIMATELY 1500 TONS OF SOLID WASTE INCLUDING REFRACTORY MATERIAL, GRAPHITE, ALUMINUM CHLORIDE, AND ASBESTOS WAS DISPOSED OF BETWEEN 1956 AND 1972
Ref: 1

2 COOLING PONDS	Surface impoundment	Ref: 1	WQ value	maximum
Volume	6.00E+04 cu ft		8.89E+02	8.89E+02

THE TWO COOLING PONDS BUILT IN 1982 WERE REPORTEDLY TO BE 40 FEET IN DIAMETER AND 12 FEET DEEP. EACH POND WOULD HOLD APPROXIMATELY 112,000 GALLONS OR 15,000 CUBIC FEET. ASSUMING ALL FOUR PONDS HAD SIMILAR DIMENSIONS, THE TOTAL VOLUME WOULD BE APPROXIMATELY 60,000 CUBIC FEET.
Ref: 8

WQ total 9.02E+02

** Only First WC Page Is Printed **	Waste Characteristics Score: WC = 32

Ground Water Pathway Criteria List
Suspected Release

Are sources poorly contained? (y/n/u)	Y
Is the source a type likely to contribute to ground water contamination (e.g., wet lagoon)? (y/n/u)	Y
Is waste quantity particularly large? (y/n/u)	U
Is precipitation heavy? (y/n/u)	N
Is the infiltration rate high? (y/n/u)	N
Is the site located in an area of karst terrain? (y/n)	N
Is the subsurface highly permeable or conductive? (y/n/u)	N
Is drinking water drawn from a shallow aquifer? (y/n/u)	U
Are suspected contaminants highly mobile in ground water? (y/n/u)	N
Does analytical or circumstantial evidence suggest ground water contamination? (y/n/u)	Y

Other criteria? (y/n) N

SUSPECTED RELEASE? (y/n) Y

Summarize the rationale for Suspected Release:

DISPOSAL OF ANHYDROUS ALUMINUM CHLORIDE HAS BEEN CONFIRMED AT THIS SITE. IT HAS NOT YET BEEN DETERMINED IF THE ALUMINUM CHLORIDE WAS CONTAINERIZED. THE UNLINED COOLING PONDS ONSITE RECEIVED COOLING WATER AND WATER FROM THE WASHDOWN OF THE ALUMINUM CHLORIDE PACKING ROOM. ONSITE MONITORING WELLS HAVE SHOWN ELEVATED LEVELS OF CHLORIDE.

Ref: 1,2

Ground Water Pathway Criteria List
Primary Targets

Is any drinking water well nearby? (y/n/u)	Y
Has any nearby drinking water well been closed? (y/n/u)	N
Has any nearby drinking water well user reported foul-testing or foul-smelling water? (y/n/u)	N
Does any nearby well have a large drawdown/high production rate? (y/n/u)	N
Is any drinking water well located between the site and other wells that are suspected to be exposed to a hazardous substance? (y/n/u)	N
Does analytical or circumstantial evidence suggest contamination at a drinking water well? (y/n/u)	N
Does any drinking water well warrant sampling? (y/n/u)	N

Other criteria? (y/n) N

PRIMARY TARGET(S) IDENTIFIED? (y/n) N

Summarize the rationale for Primary Targets:

THE SITE AND MOST ADJACENT RESIDENCES ARE SERVICED BY MUNICIPAL WATER FROM THE NIAGARA RIVER, HOWEVER, MUNICIPAL WATER SERVICE WAS REFUSED BY TWO RESIDENTS ALONG BRALEY ROAD, BETWEEN RANDALL AND DANIELS ROADS. THESE RESIDENCES ARE LOCATED APPROXIMATELY 2600 FEET EAST OF THE SITE AND OBTAIN DRINKING WATER FROM PRIVATE WELLS.

Ref: 9

GROUND WATER PATHWAY SCORESHEETS

Pathway Characteristics

		Ref.
Do you suspect a release? (y/n)	Yes	
Is the site located in karst terrain? (y/n)	No	
Depth to aquifer (feet):	3	1
Distance to the nearest drinking water well (feet):	2600	1

LIKELIHOOD OF RELEASE	Suspected Release	No Suspected Release	References
1. SUSPECTED RELEASE	550		
2. NO SUSPECTED RELEASE		0	
LR =	550	0	

Targets

TARGETS	Suspected Release	No Suspected Release	References
3. PRIMARY TARGET POPULATION 0 person(s)	0		
4. SECONDARY TARGET POPULATION Are any wells part of a blended system? (y/n) N	1	0	
5. NEAREST WELL	18	0	
6. WELLHEAD PROTECTION AREA None within 4 Miles	0	0	
7. RESOURCES	5	0	
T =	24	0	

WASTE CHARACTERISTICS

WC =	32	0

GROUND WATER PATHWAY SCORE: 5

Ground Water Target Populations

Primary Target Population Drinking Water Well ID	Dist. (miles)	Population Served	Reference	Value
None				

*** Note : Maximum of 5 Wells Are Printed *** Total

Secondary Target Population Distance Categories	Population Served	Reference	Value
0 to 1/4 mile	0	1	0
Greater than 1/4 to 1/2 mile	7	9	1
Greater than 1/2 to 1 mile	0	1	0
Greater than 1 to 2 miles	0	1	0
Greater than 2 to 3 miles	0	1	0
Greater than 3 to 4 miles	0	1	0

Total 1

Apportionment Documentation for a Blended System

Surface Water Pathway Criteria List
Suspected Release

Is surface water nearby? (y/n/u)	Y
Is waste quantity particularly large? (y/n/u)	U
Is the drainage area large? (y/n/u)	N
Is rainfall heavy? (y/n/u)	N
Is the infiltration rate low? (y/n/u)	Y
Are sources poorly contained or prone to runoff or flooding? (y/n/u)	Y
Is a runoff route well defined(e.g.ditch/channel to surf.water)? (y/n/u)	Y
Is vegetation stressed along the probable runoff path? (y/n/u)	N
Are sediments or water unnaturally discolored? (y/n/u)	Y
Is wildlife unnaturally absent? (y/n/u)	N
Has deposition of waste into surface water been observed? (y/n/u)	U
Is ground water discharge to surface water likely? (y/n/u)	Y
Does analytical/circumstantial evidence suggest S.W. contam? (y/n/u)	Y

Other criteria? (y/n) N

SUSPECTED RELEASE? (y/n) Y

Summarize the rationale for Suspected Release:

THE COOLING PONDS DISCHARGED INTERMITTENTLY TO TWELVE MILE CREEK UP UNTIL 1983. THE COOLING PONDS RECEIVED COOLING WATER AND WASTEWATER FROM THE PROCESS AREA. THERE WAS A COMMON PIPELINE BETWEEN THE PONDS. THIS DISCHARGE TO THE CREEK WAS HALTED WHEN THE SITE OWNERS LEARNED THAT A PERMIT WOULD BE REQUIRED TO CONTINUE. DUE TO SIGNIFICANT RAINFALL IN 1984, THE PONDS REACHED MAXIMUM CAPACITY. THE PONDS WERE SAMPLED AND NYSDEC PERMITTED A ONE-TIME DISCHARGE.

Ref: 1

Surface Water Pathway Criteria List
Primary Targets

Is any target nearby? (y/n/u) If yes: Y
N Drinking water intake
Y Fishery
N Sensitive environment

Has any intake, fishery, or recreational area been closed? (y/n/u) N

Does analytical or circumstantial evidence suggest surface water contamination at or downstream of a target? (y/n/u) N

Does any target warrant sampling? (y/n/u) If yes: N
N Drinking water intake
N Fishery
N Sensitive environment

Other criteria? (y/n) N

PRIMARY INTAKE(S) IDENTIFIED? (y/n) N

Summarize the rationale for Primary Intakes:

NO DRINKING WATER INTAKES ARE KNOWN TO EXIST DOWNSTREAM OF THE SITE WITHIN THE 15-MILE TARGET DISTANCE LIMIT.

Ref: 1
continued -------

continued -------

Other criteria? (y/n) N

PRIMARY FISHERY(IES) IDENTIFIED? (y/n) N

Summarize the rationale for Primary Fisheries:

WASTEWATER FROM THE COOLING PONDS IS KNOWN TO HAVE BEEN DISCHARGED TO TWELVE MILE CREEK. TWELVE MILE CREEK IS A CLASS C STREAM, HOWEVER, IT IS ASSUMED TO BE A FISHERY.

Ref: 1,3

Other criteria? (y/n) N

PRIMARY SENSITIVE ENVIRONMENT(S) IDENTIFIED? (y/n) N

Summarize the rationale for Primary Sensitive Environments:

N/A. NO SENSITIVE ENVIRONMENTS HAVE BEEN IDENTIFIED WITHIN THE VICINITY OF THE SITE

Ref: 7

SURFACE WATER PATHWAY SCORESHEETS

Pathway Characteristics		Ref.
Do you suspect a release? (y/n)	Yes	
Distance to surface water (feet):	5280	4,5
Flood frequency (years):	>500	6
What is the downstream distance (miles) to:		
a. the nearest drinking water intake?	N.A.	1
b. the nearest fishery?	1.0	5
c. the nearest sensitive environment?	5.0	7

LIKELIHOOD OF RELEASE	Suspected Release	No Suspected Release	References
1. SUSPECTED RELEASE	550		
2. NO SUSPECTED RELEASE		0	
LR =	550	0	

Drinking Water Threat Targets

TARGETS	Suspected Release	No Suspected Release	References
3. Determine the water body type, flow (if applicable), and number of people served by each drinking water intake.			
4. PRIMARY TARGET POPULATION 0 person(s)	0		
5. SECONDARY TARGET POPULATION Are any intakes part of a blended system? (y/n): N	0	0	
6. NEAREST INTAKE	0	0	
7. RESOURCES	5	0	
T =	5	0	

Drinking Water Threat Target Populations

Intake Name	Primary (y/n)	Water Body Type/Flow	Population Served	Ref.	Value
1 NONE	N		0	4,5	0

Total Primary Target Population Value 0
Total Secondary Target Population Value 0

*** Note : Maximum of 6 Intakes Are Printed ***

Apportionment Documentation for a Blended System

Human Food Chain Threat Targets

TARGETS	Suspected Release	No Suspected Release	References
8. Determine the water body type and flow for each fishery within the target limit.			
9. PRIMARY FISHERIES	0		
10. SECONDARY FISHERIES	210	0	
T =	210	0	

Human Food Chain Threat Targets

Fishery Name	Primary (y/n)	Water Body Type/Flow	Ref.	Value
1 TWELVE MILE CREEK	N	10-100 cfs	1	30
2 TWELVE MILE CR. E. BRANCH	N	10-100 cfs	1	30

Total Primary Fisheries Value 0
Total Secondary Fisheries Value 210

*** Note : Maximum of 6 Fisheries Are Printed ***

Environmental Threat Targets

TARGETS	Suspected Release	No Suspected Release	References
11. Determine the water body type and flow (if applicable) for each sensitive environment.			
12. PRIMARY SENSITIVE ENVIRONMENTS	0		
13. SECONDARY SENSITIVE ENVIRONS.	0	0	
T =	0	0	

Environmental Threat Targets

Sensitive Environment Name	Primary (y/n)	Water Body Type/Flow	Ref.	Value
1 NONE	N		7	0

Total Primary Sensitive Environments Value 0
Total Secondary Sensitive Environments Value 0

*** Note: Maximum of 6 Sensitive Environments Are Printed ***

Surface Water Pathway Threat Scores

Threat	Likelihood of Release(LR) Score	Targets(T) Score	Pathway Waste Characteristics (WC) Score	Threat Score LR x T x WC / 82,500
Drinking Water	550	5	32	1
Human Food Chain	550	210	32	45
Environmental	550	0	32	0

SURFACE WATER PATHWAY SCORE: 46

Soil Exposure Pathway Criteria List
Resident Population

Is any residence, school, or daycare facility on or within 200 feet of an area of suspected contamination? (y/n/u)	N
Is any residence, school, or daycare facility located on adjacent land previously owned or leased by the site owner/operator? (y/n/u)	U
Is there a migration route that might spread hazardous substances near residences, schools, or daycare facilities? (y/n/u)	Y
Have onsite or adjacent residents or students reported adverse health effects, exclusive of apparent drinking water or air contamination problems? (y/n/u)	N
Does any neighboring property warrant sampling? (y/n/u)	N

Other criteria? (y/n) N

RESIDENT POPULATION IDENTIFIED? (y/n) N

Summarize the rationale for Resident Population:

NO RESIDENT POPULATION IDENTIFIED.

Ref: 1

SOIL EXPOSURE PATHWAY SCORESHEETS

Pathway Characteristics		Ref.
Do any people live on or within 200 ft of areas of suspected contamination? (y/n)	No	2
Do any people attend school or daycare on or within 200 ft of areas of suspected contamination? (y/n)	No	1
Is the facility active? (y/n):	Yes	1

LIKELIHOOD OF EXPOSURE	Suspected Contamination	References
1. SUSPECTED CONTAMINATION LE =	550	

Targets

2. RESIDENT POPULATION 0 resident(s) 0 school/daycare student(s)	0	1 1
3. RESIDENT INDIVIDUAL	0	
4. WORKERS 1 - 100	0	1
5. TERRES. SENSITIVE ENVIRONMENTS	0	
6. RESOURCES	0	
T =	0	

WASTE CHARACTERISTICS

WC = 32

RESIDENT POPULATION THREAT SCORE: 2

NEARBY POPULATION THREAT SCORE: 1

Population Within 1 Mile: 1 - 10,000

SOIL EXPOSURE PATHWAY SCORE: 3

Soil Exposure Pathway Terrestrial Sensitive Environments

Terrestrial Sensitive Environment Name	Reference	Value
1 NONE	7	

Total Terrestrial Sensitive Environments Value

*** Note : Maximum of 7 Sensitive Environments Are Printed ***

Air Pathway Criteria List
Suspected Release

Are odors currently reported? (y/n/u)	N
Has release of a hazardous substance to the air been directly observed? (y/n/u)	N
Are there reports of adverse health effects (e.g., headaches, nausea, dizziness) potentially resulting from migration of hazardous substances through the air? (y/n/u)	N
Does analytical/circumstantial evidence suggest release to air? (y/n/u)	N
Other criteria? (y/n)	N
SUSPECTED RELEASE? (y/n)	N

Summarize the rationale for Suspected Release:

AIR PATHWAY SCORESHEETS

Pathway Characteristics

		Ref.
Do you suspect a release? (y/n)	No	
Distance to the nearest individual (feet):	300	5

LIKELIHOOD OF RELEASE	Suspected Release	No Suspected Release	References
1. SUSPECTED RELEASE	0		
2. NO SUSPECTED RELEASE		500	
LR =	0	500	

Targets

TARGETS	Suspected Release	No Suspected Release	References
3. PRIMARY TARGET POPULATION 0 person(s)	0		
4. SECONDARY TARGET POPULATION	0	3	
5. NEAREST INDIVIDUAL	0	1	
6. PRIMARY SENSITIVE ENVIRONS.	0		
7. SECONDARY SENSITIVE ENVIRONS.	0	0	
8. RESOURCES	0	5	
T =	0	9	

WASTE CHARACTERISTICS

WC =	0	32

AIR PATHWAY SCORE:	2

Air Pathway Secondary Target Populations

Distance Categories	Population	References	Value
Onsite	0		0
Greater than 0 to 1/4 mile	0		0
Greater than 1/4 to 1/2 mile	0		
Greater than 1/2 to 1 mile	141	1	1
Greater than 1 to 2 miles	750	1	1
Greater than 2 to 3 miles	2000	1	1
Greater than 3 to 4 miles	0		0
		Total Secondary Population Value	3

Air Pathway Primary Sensitive Environments

Sensitive Environment Name	Reference	Value
None		

Total Primary Sensitive Environments Value

*** Note : Maximum of 7 Sensitive Environments Are Printed***

Air Pathway Secondary Sensitive Environments

Sensitive Environment Name	Distance	Reference	Value
None			

Total Secondary Sensitive Environments Value

SITE SCORE CALCULATION	SCORE
GROUND WATER PATHWAY SCORE:	5
SURFACE WATER PATHWAY SCORE:	46
SOIL EXPOSURE PATHWAY SCORE:	3
AIR PATHWAY SCORE:	2
SITE SCORE:	23

SUMMARY

1. Is there a high possibility of a threat to any nearby drinking water well(s) by migration of a hazardous substance in ground water? No

   If yes, identify the well(s).

   If yes, how many people are served by the threatened well(s)? 0

2. Is there a high possibility of a threat to any of the following by hazardous substance migration in surface water?
   A. Drinking water intake No
   B. Fishery No
   C. Sensitive environment (wetland, critical habitat, others) No

   If yes, identity the target(s).

3. Is there a high possibility of an area of surficial contamination within 200 feet of any residence, school, or daycare facility? No

   If yes, identify the properties and estimate the associated population(s)

4. Are there public health concerns at this site that are not addressed by PA scoring considerations? No

   If yes, explain:

REFERENCE LIST

1. ECOLOGY AND ENVIRONMENT ENGINEERING, P.C., AUGUST 1991, PRELIMINARY SITE ASSESSMENT, TASK 1 OF THE ALLIED CHEMICAL-ELBERTA WORKS SITE, PREPARED FOR NYSDEC, ALBANY, NEW YORK

2. _____,JULY 1993, SITE INSPECTION OF THE ALLIED CHEMICAL-ELBERTA WORKS SITE

3. STATE OF NEW YORK,1983, OFFICIAL COMPILATION OF CODES, RULES AND REGULATIONS, TITLE 6, ARTICLE 848.4

4. UNITED STATES GEOLOGICAL SURVEY, 1974, 7.5 MINUTE SERIES (TOPOGRAPHIC) QUADRANGLE: SIX-MILE CREEK,NEW YORK, U.S. DEPARTMENT OF THE INTERIOR, WASHINGTON D.C.

5. ---------,1979, 7.5 MINUTE SERIES (TOPOGRAPHIC) QUADRANGLE: WILSON, NEW YORK, U.S. DEPARTMENT OF THE INTERIOR, WASHINGTON D.C.

6. FLOOD INSURANCE RATE MAP, 1981, COMMUNITY PANEL NO. 360514 0015 C FEDERAL EMERGENCY MANAGEMENT AGENCY

7. SPANN, G., 1993, NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, FISH AND WILDLIFE DIVISION

8. ECOLOGY AND ENVIRONMENT ENGINEERING, P.C., 1994, ENGINEERING INVESTIGATIONS AT INACTIVE HAZARDOUS WASTE SITES IN THE STATE OF NEW YORK, PRELIMINARY SITE ASSESSMENT VOLUME I, ALLIED CHEMICAL-ELBERTA WO

9. ALBRIGHT,L., MAY 27,1994, TOWN OF WILSON WATER DEPARTMENT, PERSONAL COMMUNICATION WITH ECOLOGY AND ENVIRONMENT ENGINEERING, P.C.

OMB Approval Number: 2050-0095
Approved for Use Through: 4/95

POTENTIAL HAZARDOUS WASTE SITE PRELIMINARY ASSESSMENT FORM	IDENTIFICATION	
	State: NY	CERCLIS Number: NYD002128544
	CERCLIS Discovery Date:	

1. General Site Information

Name:		Street Address:			
ALLIED CHEMICAL-ELBERTA WORKS		3119 RANDALL ROAD			
City:	State:	Zip Code:	County:	Co. Code:	Cong. Dist:
WILSON	NY	14131	NIAGARA	63	32
Latitude: Longitude:	Approx. Area of Site:	Status of Site:			
43° 15' 51.0" 78° 52' 0.0"	1 acres	Inactive			

2. Owner/Operator Information

Owner:			Operator:		
EVA CORPORATION			PAUL R. FEDKIW		
Street Address:			Street Address:		
3119 RANDALL ROAD			3119 RANDALL ROAD		
City:			City:		
WILSON			WILSON		
State:	Zip Code:	Telephone:	State:	Zip Code:	Telephone:
NY	14131	716/751-6243	NY	14131	716/751-6243
Type of Ownership:			How Initially Identified:		
Private			State/Local Program		

POTENTIAL HAZARDOUS WASTE SITE PRELIMINARY ASSESSMENT FORM	IDENTIFICATION	
	State: NY	CERCLIS Number: NYD002128544
	CERCLIS Discovery Date:	

3. Site Evaluator Information

Name of Evaluator:	Agency/Organization:	Date Prepared:
E&E ENGINEERING, P.C.		3-1-94

Street Address:	City:	State:
368 PLEASANTVIEW DRIVE	LANCASTER	NY

Name of EPA or State Agency Contact:	Telephone:
VALERIE WOODWARD	518/457-9538

Street Address:	City:	State:
50 WOLF ROAD	ALBANY	NY

4. Site Disposition (for EPA use only)

Emergency Response/Removal Assessment Recommendation: No	CERCLIS Recommendation: Lower Priority SI	Signature:
Date:	Date:	Name:
		Position:

POTENTIAL HAZARDOUS WASTE SITE PRELIMINARY ASSESSMENT FORM	IDENTIFICATION	
	State: NY	CERCLIS Number: NYD002128544
	CERCLIS Discovery Date:	

5. General Site Characteristics

Predominant Land Uses Within 1 Mile of Site:	Site Setting:	Years of Operation:
Commercial Residential Forest/Fields Agricultural	Rural	Beginning Year: 1945 Ending Year: 1985

Type of Site Operations:
Manufacturing
Inorganic Chemicals

Waste Generated:
Onsite

Waste Deposition Authorized By: Former Owner

Waste Accessible to the Public
No

Distance to Nearest Dwelling, School, or Workplace:
300 Feet

6. Waste Characteristics Information

Source Type	Quantity		Tier
Landfill	1.00e+00	acres	A
Surface impoundment	6.00e+04	cu ft	V

Tier Legend
C = Constituent W = Wastestream
V = Volume A = Area

General Types of Waste:
Inorganics

Physical State of Waste as Deposited
Solid
Liquid

POTENTIAL HAZARDOUS WASTE SITE PRELIMINARY ASSESSMENT FORM	IDENTIFICATION	
	State: NY	CERCLIS Number: NYD002128544
	CERCLIS Discovery Date:	

7. Ground Water Pathway

Is Ground Water Used for Drinking Water Within 4 Miles: No Type of Ground Water Wells Within 4 Miles: Private	Is There a Suspected Release to Ground Water: Yes Have Primary Target Drinking Water Wells Been Identified: No	List Secondary Target Population Served by Ground Water Withdrawn From:
Depth to Shallowest Aquifer: 3 Feet Karst Terrain/Aquifer Present: No	Nearest Designated Wellhead Protection Area: None within 4 Miles	0 - 1/4 Mile 0 >1/4 - 1/2 Mile 7 >1/2 - 1 Mile 0 >1 - 2 Miles 0 >2 - 3 Miles 0 >3 - 4 Miles 0 Total 7

POTENTIAL HAZARDOUS WASTE SITE PRELIMINARY ASSESSMENT FORM	IDENTIFICATION	
	State: NY	CERCLIS Number: NYD002128544
	CERCLIS Discovery Date:	

8. Surface Water Pathway — Part 1 of 4

Type of Surface Water Draining Site and 15 Miles Downstream:	Shortest Overland Distance From Any Source to Surface Water:
Stream Lake	5280 Feet 1.0 Miles
Is there a Suspected Release to Surface Water: Yes	Site is Located in: > 500 yr floodplain

8. Surface Water Pathway — Part 2 of 4

Drinking Water Intakes Along the Surface Water Migration Path: Yes

Have Primary Target Drinking Water Intakes Been Identified: No

Secondary Target Drinking Water Intakes:

Name	Water Body/Flow(cfs)	Population Served
NONE	minimal stream/ <10	0
	Total Within 15 Miles:	0

POTENTIAL HAZARDOUS WASTE SITE PRELIMINARY ASSESSMENT FORM	IDENTIFICATION	
	State: NY	CERCLIS Number: NYD002128544
	CERCLIS Discovery Date:	

8. Surface Water Pathway — Part 3 of 4

Fisheries Located Along the Surface Water Migration Path: Yes

Have Primary Target Fisheries Been Identified: No

Secondary Target Fisheries:

Fishery Name	Water Body Type/Flow(cfs)
TWELVE MILE CREEK	small-moderate stream/ 10-100
TWELVE MILE CR. E. B	small-moderate stream/ 10-100

8. Surface Water Pathway — Part 4 of 4

Wetlands Located Along the Surface Water Migration Path? (y/n) No

Have Primary Target Wetlands Been Identified? (y/n) No

Secondary Target Wetlands:
None

Other Sensitive Environments Along the Surface Water Migration Path: Yes

Have Primary Target Sensitive Environments Been Identified: No

Secondary Target Sensitive Environments:

Water Body/Flow(cfs)	Sensitive Environment Type
minimal stream/ <10	Habitat for Federally designated endanger

POTENTIAL HAZARDOUS WASTE SITE PRELIMINARY ASSESSMENT FORM	IDENTIFICATION	
	State: NY	CERCLIS Number: NYD002128544
	CERCLIS Discovery Date:	

9. Soil Exposure Pathway

Are People Occupying Residences or Attending School or Daycare on or Within 200 Feet of Areas of Known or Suspected Contamination: No	Number of Workers Onsite: 1 - 100

Have Terrestrial Sensitive Environments Been Identified on or Within 200 Feet of Areas of Known or Suspected Contamination: Yes

Terrestrial Sensitive Environments:

Critical habitat for Federally designated endang/threat species

10. Air Pathway

Total Population on or Within:	
Onsite	0
0 - 1/4 Mile	0
>1/4 - 1/2 Mile	0
>1/2 - 1 Mile	141
>1 - 2 Miles	750
>2 - 3 Miles	2000
>3 - 4 Miles	0
Total	2891

Is There a Suspected Release to Air: No

Wetlands Located Within 4 Miles of the Site: No

Other Sensitive Environments Located Within 4 Miles of the Site: No

Sensitive Environments Within 1/2 Mile of the Site:
None

APPENDIX F

COPIES OF PERTINENT RECORDS

INTERVIEW ACKNOWLEDGMENT FORM

SITE NAME:	Allied Chemical-Elberta Works
PERSON CONTACTED:	Alan Ballantyne
AFFILIATION:	Welland Chemicals, previous owner of site
ADDRESS:	Scott Road, Sarnia, Ontario, Canada
TYPE OF CONTACT:	Telephone interview
I.D. NUMBER:	932003
DATE:	4/19/91
PHONE NUMBER:	(416) 270-3663
CONTACT PERSON(S):	Linda Fischer

INTERVIEW SUMMARY:

Mr. Ballantyne stated that the Wilson, New York facility was sold in August 1989. However, he did not have the name and phone number of the current owner.

Welland Chemicals acquired DAL Specialties in 1985, and ceased all operations at the plant. The equipment was transferred to their main aluminum chloride plant in Sarnia, Canada.

No information regarding landfilling or the lagoon area was available.

ACKNOWLEDGMENT

I have read the above transcript and I agree that it is an accurate summary of the information verbally conveyed to Ecology and Environment Engineering, P.C. interviewer(s) (as revised below, if necessary).
Revisions: (please write in any corrections needed to the above transcript)

Signature _____ Date _____

* As of first draft printing this interview form has not been signed and returned to E & E.

Allied Signal

Allied-Signal Inc.
Engineered Materials Sector
P.O. Box 1139R
Morristown, NJ 07962-1139

June 24, 1991

Ms. Valerie Lauzze
New York State Department of Environmental Conservation
Bureau of Hazardous Site Control
Division of Hazardous Waste Remediation
50 Wolf Road
Albany, NY 12233

Re: Former Allied Chemical
Elberta Works
Ransomville, NY
NYSDEC ID No. 932003

Dear Ms. Lauzze:

Confirming our telephone conversation of June 21, 1991 and in response to your letter dated June 13, 1991, a search of our records revealed the following information:

1. Elberta Chemical Co. manufactured aluminum chloride from 1945-1956.

2. Allied acquired the site in 1956 and manufactured aluminum chloride until 1982.

3. The property was sold to DAL Specialties, Inc. on November 10, 1982.

4. From 1956 through 1972, Allied disposed of approximately 1500 tons of solid waste in two on-site areas. The solid waste included refractory material, graphite, small amounts of aluminum chloride and asbestos, and scrap rubber sealed bins. The two areas have since been covered with a paved parking lot and the construction of a warehouse.

5. It is not known for certain but there is no evidence in our records that aluminum chloride was disposed of on-site in drums.

6. On March 29, 1982, the NYSDEC inspected the plant site regarding on-site disposal of hazardous wastes. No significant environmental problems were observed. The inspection was based upon a hazardous waste disposal site report for the plant contained in the Interagency Task Force Report (attached.)

We trust that the foregoing information will be of assistance in your investigation.

Sincerely,

George Kanelis

jw
Attachment

New York State Department of Environmental Conservation
50 Wolf Road, Albany, New York 12233

AUG 19 1991

Thomas C. Jorling
Commissioner

Mr. Thomas M. Lewandowski, P.E.
Project Manager
Ecology and Environment, P.C.
Buffalo Corporate Center
368 Pleasantview Drive
Lancaster, New York 14086

Dear Mr. Lewandowski:

Re: Contract D002625, Task 1, Preliminary Site Assessments,
Allied Chemicals - Elberta Works Site, NYSDEC I.D.No. 932003

The review of the subject draft report has been completed. For the most part the report meets the requirements scoped for the investigation. A problem with the report is that disposal of hazardous waste at the site is not well documented. Unfortunately, original sources documenting disposal have not been included. For this site, the details of disposal are necessary in order to determine whether the waste for which disposal is documented is indeed hazardous.

Documentation indicates that aluminum chloride is among materials landfilled in the two fill areas on the site. Whether the aluminum chloride is hazardous has not been determined. Aluminum chloride powder is hazardous by the characteristic of reactivity. However, if the waste is hydrated, aluminum chloride hydrate is not reactive and is not hazardous. Citations from the Chemical Dictionary for both chemicals are enclosed.

DAL Specialties, owner of the subject site subsequent to Allied Chemicals, reported in the Community Right-to-Know, that aluminum chloride waste generated between 1979 and 1981 was drummed, and sent to either CECOS or WSA for disposal in a secure landfill as characteristic reactive waste. Allied Chemical owned and operated the plant during the years cited. Disposal practices prior to 1979 were reportedly unknown. A copy of DAL's submission is enclosed. An Industrial Chemical Survey submission regarding past chemical use at the site is also included.

Because of the nature of aluminum chloride, whether the waste was drummed before disposal is likely to be the determining factor in whether the waste present at the site is hazardous. A letter was sent to Mr. George Kanelis of Allied Signal, a source of information for this investigation, asking whether he has any information about whether aluminum chloride was drummed prior to disposal. A copy of the letter is enclosed. Mr. Kanelis' response is also enclosed. His response offers little information in support of the disposal of aluminum chloride-containing drums.

Specific comments on the report are detailed in the enclosed pages. Please make appropriate revisions to the report, incorporating the attached information and comments, prior to final submission. As a reminder, please make all previously-requested generic changes (cover page, purpose description, etc.) as well.

If you have any questions regarding this matter, please contact me at (518) 457-9538.

Sincerely,

Valerie Lauzze
Senior Engineering Geologist
Western Investigation Section
Bureau of Hazardous Site Control
Division of Hazardous Waste
Remediation

Enclosures

cc: L. Knorr
C. Eich
CTF.

Rec'd. 8/21/91
TML

KEF-1

Lewandowski, 1982

Allied Chemical

Delaware Valley Works
Marcus Hook Pennsylvania 19061
(302) 798-0621

August 17, 1982

Mr. Paul Foersch
New York State Department of Conservation
600 Delaware Avenue
Buffalo, New York 14202

Re: Allied Chemical Company
Elberta Works

Dear Mr. Foersch:

In our telephone conversation of August 10, 1982 regarding Allied's Elberta Works cooling water ponds you suggested a written proposal be submitted for review.

The Plant's existing cooling water ponds were installed around 1945 by the Elberta Chemical Company (Allied acquired the plant in April 1956) and have lost their original capacity through the years. The Works utilizes the two unlined ponds for cooling purposes. One pond receives and recycles cooling water and the other receives water from the process area, there is a common pipeline between the two ponds.

Allied proposes to dig two new ponds adjacent to the existing ones, see Attachment 1. The ponds would be approximately 40 feet in diameter and 12 feet deep and be constructed of existing earth. A groundwater study prepared for Allied in 1979 by Calspan Advanced Technology Center indicated the soils were of low permeability. This study was sent to Mr. Robert G. Speed of the NYSDEC on December 19, 1979. The report also went on to say the groundwater quality is slightly alkaline due to the natural high lime content of the glacial till and lake-laid deposits. Also high levels of chlorides can be found in this groundwater due to the bed rock formation. Results of groundwater monitoring since 1979 do not give any indication of contamination from the existing ponds. The low permeability of the soils and natural alkalinity of the groundwater should negate the need for lining the proposed pond.

The water from the existing ponds would be pumped into the new ones, Attachment 2 is an analyses of the water. There will be no discharge to surface waters.

The existing ponds will be filled with the soil from the proposed ponds, Attachment 3 is an analyses of the muds from these ponds.

The results are well within the RCRA EP toxicity limits, i.e. non-hazardous.

Based on this proposal, I believe no permits or approvals by your agency are required. Please advise if you agree with this determination.

If you have any questions or need further information please call me at (215) 485-1857.

Very truly yours,

J. P. Lewandowski
Environmental Supervisor
Pollution Control

JPL/ld
Attach.

cc: Mr. Tom Chrispoffel

CONTACT REPORT

Meeting [ ] Telephone [X] Other [ ]

AGENCY:	Town of Wilson Water Department
ADDRESS:	3360 Wilson - Cambria Road
PHONE NO.:	716/751-6213
PERSON CONTACTED:	Lloyd Albright
TO:	Project File - YR8
FROM:	Gene Florentino
DATE:	5-27-94/0905
SUBJECT:	Municipal water/private well use in the vicinity of the Allied Chemical-Elberta Works site.
XC:	

Municipal water is currently available along Braley Road east of the site to Route 425, and west to the Porter Town Line. This service was recently installed this year. However, two houses between Randall and Daniels Road along Braley Road refused municipal service and are still on private well water.

GF/jw