

**Appendix E**  
**Test-Pit Technical Memorandum**

## **TECHNICAL MEMORANDUM**

**CH2M HILL**

**TO:** Mary Manto/CH2M HILL/NJO  
Scott Vozza/CH2M HILL/NJO

**FROM:** Mary Kate Dwyer/CH2M HILL/NJO  
John Longo/CH2M HILL/NJO

**DATE:** January 26, 1993

**SUBJECT:** Stepan Company and Sears and Adjacent Properties RI,  
Test-Pit Program

**PROJECT:** NJO22948.ST.TP

### **1.0 Introduction and Background**

Starting in September 1991 and ending in March 1992, a surface geophysics investigation using a magnetometer was conducted on the Stepan, Sears, DeSaussure, Sunoco, Gulf, AMP, SWS, and Federal Express properties. The survey was conducted as part of the remedial investigation (RI) to identify areas of buried metal, which may have been potential sources of chemical contamination. The results of the magnetometer investigations were used to select locations for test pits used to characterize the buried material.

The technical memoranda describing the investigations were submitted previously to the United States Environmental Protection Agency (EPA) and EPA's oversight contractor TRC (formerly Alliance).

Test-pit locations were investigated on the Stepan, Sears, DeSaussure, Sunoco, AMP, SWS, and Federal Express properties from March 25 to May 21, 1992. Test pits were excavated on all the properties that were investigated with surface geophysics, except for the Gulf property. One hundred and twenty-nine test-pits were excavated during the field program. The test-pit team consisted of the CH2M HILL test-pit coordinator, sample manager, and industrial hygienist, the Bechtel site superintendent, health physicist (TMA Eberline), the construction/immediate response contractor (Conti Environmental), and the EPA oversight contractor TRC (formerly Alliance).

The purpose of the test-pit program was to physically investigate anomalous areas of potential buried metal identified during the surface geophysics survey. Test-pits were excavated to determine the source of the magnetic anomalies. An anomalous area was defined by either of the following criteria:

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- Anomalies greater than 100 gammas extending over two or more adjacent survey lines (20 feet)
- One-line anomalies in which data on adjacent lines are inconclusive or missing because of known surface or subsurface interferences; the anomalies were exceptionally strong (several hundred gammas); and the shape of the anomalies suggested that the long dimensions of the anomalies were parallel to the survey line, in which case optimum resolution might not have been obtained

The test pits chosen for excavation were located above the strongest anomaly within each area suspected to contain buried metal. The typical area of each test pit consisted of a 10-by-10-foot excavation, unless the metal detector registered a strong response over a smaller or larger area. By concentrating on the strongest anomalies within the test-pit areas, the type of materials producing the largest anomalies were documented.

If no metal was located to explain the anomaly after the excavation was completed, no further excavation occurred within the area, which differed from the procedure specified in the workplan. The original planned approach was to continue excavating until the source of the magnetic anomaly was found. However, this approach was later modified and subsequently approved by EPA, because if no metal was found beneath the strongest anomaly, it was unlikely that metal would be found in other portions of the area. In addition, the large number of closely spaced anomalies made it infeasible to excavate every anomaly. Therefore, the anomaly exhibiting the greatest strength within a group of closely spaced anomalies was excavated and characterized.

As described in Section 2.0, all anomalies were field-screened with a metal detector to confirm the location identified during the geophysics survey. All anomalous areas were not investigated on each property as was originally proposed in the workplan, because there were a large number of anomalous areas found. On the Stepan property, Stepan amended property, and Sears property, a select number of anomalous areas were chosen for the test-pit program. These areas contained some of the strongest and most extensive anomalies and were chosen to provide sufficient areal coverage of the properties. On the DeSaussure, Sunoco, AMP, SWS, and Federal Express properties, all anomalous areas were investigated, except those located above gaslines or known utilities. No test pits were recommended on Gulf, because the two anomalies identified were thought to be caused by underground

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utilities and overhead powerlines. The EPA reviewed the selection of all areas that were recommended for test pitting and approved the locations selected and the recommended approach.

EPA requested that a number of test pits be excavated at the end of the program. These test pits had previously been deleted from the program after they had been field-screened. No source of metal could be verified with a metal detector in these locations. The following areas were excavated at the request of EPA: Stepan (Area 65), AMP (Area 2), DeSaussure (Area 15), Federal Express (Areas 2 and 6), and Sears (Areas 1090E, 1970N; 900E, 1630N; 14; 15; and 1280E, 790N).

A total of 129 test pits was excavated during the field program. The number of test-pits investigated on each property is listed below:

- Stepan-22
- Stepan Amended-11
- Desaussure-12
- Sunoco-11
- AMP-5
- Federal Express-7
- SWS-11
- Sears-50

Figures 1-1 through 1-8 in Attachment 1 show the test-pit locations on each of the properties.

### **2.0 Field Investigation Methods and Procedures**

Anomalous areas were field screened with a metal detector before excavation to accurately locate the position and extent of buried metal. If no metal was detected in areas where a potential source of interference was present, the anomaly was attributed to the cultural source and the anomaly was not investigated by test pitting (except at the locations where EPA requested test pits to be excavated).

### **2.1 Health and Safety**

After the location of the source of the buried metal was determined and staked out, an exclusion zone was established around the perimeter of the proposed test-pit location. Data from previous investigations and onsite monitoring were used to determine the necessary level of personal protective equipment (PPE). Most test pits were initiated in a minimum of Level C personal protection. Where data from

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previous investigations indicated increased potential for high levels of chemical contamination and/or the presence of drums, operations were initiated in Level B protection. If appropriate, levels of protection were downgraded for backfilling. TMA Eberline monitored health and safety for CH2M HILL and CH2M HILL-subcontractor personnel, as specified in Revision 1 of the project-specific CH2M HILL health and safety plan amendment of March 1992.

PPE that was not indicated as contaminated by the field instrument screening was double bagged and disposed of in the municipal dumpster located on the property where the PPE was generated. PPE suspected to be chemically contaminated was bagged and drummed and stored on the property where it was generated. PPE that was potentially contaminated with radiological materials (as indicated by hand-held portable scanners) was bagged separately and relinquished to the United States Department of Energy (DOE) through Bechtel personnel.

## 2.2 Excavation

Test pits were excavated with a rubber tire JCB-1700B combination backhoe that was capable of excavating to a maximum depth of 10 feet below grade. Test pits were logged for soil type and stratigraphy logs are provided in Attachment 2. Chemical and radiological monitoring data were collected. Test pit logs are provided in Attachment 2. Excavated soil with elevated levels of chemical or radiological contamination was placed on poly sheeting until the test pit was backfilled. In areas where chemical or radiological contamination did not appear to be elevated with respect to the surrounding and adjacent surface, soils were piled on the ground surface adjacent to the test pit during the excavation. Test pits were terminated when one of the following occurred:

- A sufficient quantity of buried ferromagnetic material was encountered to explain the anomaly.
- Saturated soils, bedrock, or native soil was reached.
- The metal detector indicated that no metal was present in the excavation.

Any metal present in the excavation was documented as it was manually removed or excavated, and it was photographed either on the surface or in the test pit, if the metal could not be removed. In a large number of test pits, soil excavation continued until native soils were encountered, in accordance with the procedure in the workplan, in order to determine the thickness of the fill material. In some cases, the

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test pit was terminated at a shallower depth when a sufficient quantity of buried metal was removed and the metal detector showed no response over the excavation. EPA agreed with this criteria for termination.

The one buried container that was ruptured as a result of test pitting activities was removed and overpacked. Drums that appeared to have leaked were left in place. Because the objective of the test-pit program was to determine the presence of drums rather than remediate those drums, EPA agreed that degraded containers could be left in the excavation. During test-pitting, one container encountered in test pit 104 (Sears) was inadvertently damaged with the backhoe bucket. This container was removed and overpacked on May 15, 1992. The overpacked drum is being stored at Sears. In excavations where degraded containers were encountered, sorbent materials were placed around the potentially leaking container to absorb any free liquids.

When the excavation of each test pit was complete, the excavated soil was used to backfill the test pit. Backfilling was completed in compacted one-foot lifts. The backhoe bucket was used to compact soils in test pits excavated to a greater depth than four feet below grade. Soils placed in shallower test pits were compacted with the backhoe bucket or a mechanical vibrating plate. Excess soil was contained in drums and labeled by location. Soil is being stored on the property where it was generated.

In areas where radiologically and/or chemically contaminated soils were encountered, clean fill was placed on the top of the excavation to prevent contact with contaminated material. In grassy areas, clean top soil, grass seed, and hay were placed over backfilled soils. In paved areas, a layer of 2-inch quarry-processed gravel was placed and compacted over the test pits. Test pits in paved areas will be restored at a later date. No test pit excavations were left open overnight.

### **2.3 Equipment Decontamination**

The backhoe and bucket were field screened for radiological contamination by TMA Eberline before being moved to the next location and before leaving each property. If radiological readings were obtained at levels above surrounding background levels, visible soil material was scraped and/or brushed from the backhoe before it was moved to the following test-pit location. Visible soil removal continued until background radiological levels were measured. The backhoe bucket was chemically decontaminated between test pit locations when the bucket was suspected to be chemically contaminated. The EPA approved of this decontamination approach as long as visible soil was removed from the bucket before it was moved to the next test-pit area on the same property.

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The backhoe bucket was also chemically decontaminated before leaving each property, before proceeding to test-pit locations at another property.

Decontamination consisted of the following:

- Scraping and brushing bucket to remove visible soil
- Rinsing and scrubbing with deionized water
- Rinsing with 10% nitric acid
- Rinsing with deionized water
- Rinsing/wiping with pesticide-grade methanol
- Rinsing/wiping with pesticide-grade hexane
- Air drying

### **2.4 Sampling Activities**

Samples were collected to characterize suspect contents of buried containers or drums, and/or soils potentially impacted by drum contents. Samples were collected from test pits that satisfied the following criteria:

- A release of material from a buried container was observed.
- A buried container was accessible and contained sufficient quantity of material for analytical testing.
- Soil appeared to be significantly contaminated (e.g., presence of free product, extensive staining).
- An unusual material such as sludge was encountered.
- The geologist or test-pit coordinator determined that analytical data was required to adequately characterize the test pit (i.e., there was an abundance of miscellaneous fill material).

Samples were collected for analyses specified in Section 4.3.8 of the RI/FS workplans and operational plans for Stepan Company and Sears and adjacent properties. Samples were not collected from every drum encountered during the investigation, as was originally stated in the workplan. However, representative samples were collected for each type of material that was found in the drums that were located. When a number of drums were found containing a similar type of material, one or two samples were collected to characterize the contents. This modified approach was approved by TRC and EPA during the test-pit program. A total of 20 samples was

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collected during the test-pit program (not including field equipment blanks, matrix spike/matrix spike duplicates [MS/MSDs], and field duplicates). An additional six samples were collected for quality assurance/quality control (QA/QC).

### ***2.4.1 Analytical Parameters***

Samples were analyzed for the following parameters:

- Target Compound List (TCL) volatile organic compounds (VOCs)
- TCL semi-volatile organic compounds
- TCL pesticides and PCBs
- $\alpha$ -pinene, *d*-limonene, and caffeine
- Target Analyte List (TAL) metals and cyanide
- Toxicity Characteristic Leaching Procedure (TCLP) volatiles, semivolatiles, pesticides, and herbicides
- TCLP metals
- Gross alpha and beta, radium-226, radium-228, thorium-230, thorium-232, uranium-234, uranium-235, and uranium-238

Headspace analysis was used to field screen samples for organic vapors with an OVM and an OVA (Section 2.5). Samples were also screened in the field laboratory for thorium-232 and/or radium-226 activity, using the Tennelec Model 6000 multichannel pulse height analyzer. Sample screening results were used to determine proper Department of Transportation (DOT) sample shipping procedures and to provide the laboratories with sample radioactivity documentation and information on the magnitude of VOC contamination.

### ***2.4.2 Sampling Procedures***

Samples were collected using laboratory-decontaminated stainless-steel bowls, trowels, and spoons. Whenever possible, samples were collected directly from drums or the sidewalls of the excavation. Samples collected from the backhoe bucket (at depths greater than four feet below grade) consisted only of sample material that had not contacted the bucket.

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Samples collected directly from a buried container or drum were collected with trowels and placed into a stainless-steel bowl. Headspace and VOC samples were collected, prior to sample homogenization. Headspace samples were placed into a 16-ounce nalgene jar, covered with aluminum foil, and screened with a field organic-vapor monitor 10 minutes after the time of collection. The headspace sample was then used by the field laboratory for radiological screening.

After the collection of headspace and VOC samples, the sample was homogenized within the stainless-steel bowl using a trowel and the remainder of the samples were placed in jars. Samples sent for laboratory analyses were placed in laboratory-decontaminated sample jars.

Samples collected for radiological analyses were shipped by overnight courier to Core Laboratories, Inc., of Casper, Wyoming. Samples collected for inorganic and organic analyses were shipped via overnight courier to TCT St. Louis Laboratories, Inc., of St. Louis, Missouri. Both Core and TCT Laboratories maintain active Nuclear Regulatory Commission (NRC) radioactive materials licenses.

### *2.4.3 Sample Equipment Decontamination*

Equipment used to collect samples during the test-pit program was decontaminated using the following:

- Phosphate-free detergent scrub and wash
- Deionized-water rinse
- 10% nitric acid rinse
- Deionized-water rinse
- Pesticide-grade methanol rinse
- Pesticide-grade hexane rinse
- Air drying
- Demonstrated analyte-free (HPLC grade) water rinse
- Air drying
- Aluminum foil wrap

Decontamination fluids generated on each property were drummed and subsequently stored on that property.

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### **2.4.4 QA/QC Samples**

QA/QC samples were collected as specified in Section 4.2.3.5 of the RI/FS workplans and operational plans for Stepan Company and Sears and adjacent properties, at the following frequencies:

- **Field duplicates:** 1 per 20 sample locations, or 1 per 2-week period; whichever was sooner.
- **Field equipment rinse blanks:** 1 per decontamination event, 1 per 20 samples collected, or 1 per 2-week period, whichever was sooner.
- **MS/MSDs:** 1 per 20 samples or 1 per 2-week period, whichever was sooner. MS/MSD samples were collected for laboratory QA/QC.

### **2.5 Field Monitoring**

Field monitoring for organic vapors and radiological contamination was conducted throughout the test-pitting program. The monitoring was conducted in accordance with health and safety procedures, and also as part of field characterizing the soil from test pits for radiological and chemical contaminants.

The following equipment was used to monitor for organic vapors and explosive conditions: a Century OVA, Model 128 and/or a TMA OVM, Model 580B (with a 10.6 eV bulb); and Exotox, Model 400F; and Drager tubes. Organic vapor monitoring was conducted by CH2M HILL's subcontracted industrial hygienist TMA Eberline.

### **3.0 Results of the Test-Pit Program**

The results of the test-pit program are summarized in the tables contained in Attachment 3. Table 3-1 summarizes the metal found and the field monitoring results in each test pit for all properties, and indicates whether a sample was collected from the test-pit. Table 3-2 summarizes the samples collected from each property, the date of collection, sample depth, and headspace analysis result from each sample. Test pits where drums were encountered are indicated on Figures 1-1 through 1-8 (Attachment 1). Drums or containers containing residual materials were found only on the Sears property.

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## **4.0 Summary and Conclusions**

Analytical results from the test-pit sampling program are presented in Section 4.0 of the RI reports for Stepan Company and Sears and adjacent properties. In the section of the RI report that presents test-pit results, drum contents found on the Sears property have been categorized into distinct groups based on visual observations. Some degree of correlation between group type and similar analytical results was identified. A description of drum contents and their impact on surrounding soils is provided in the results section of the RI reports.

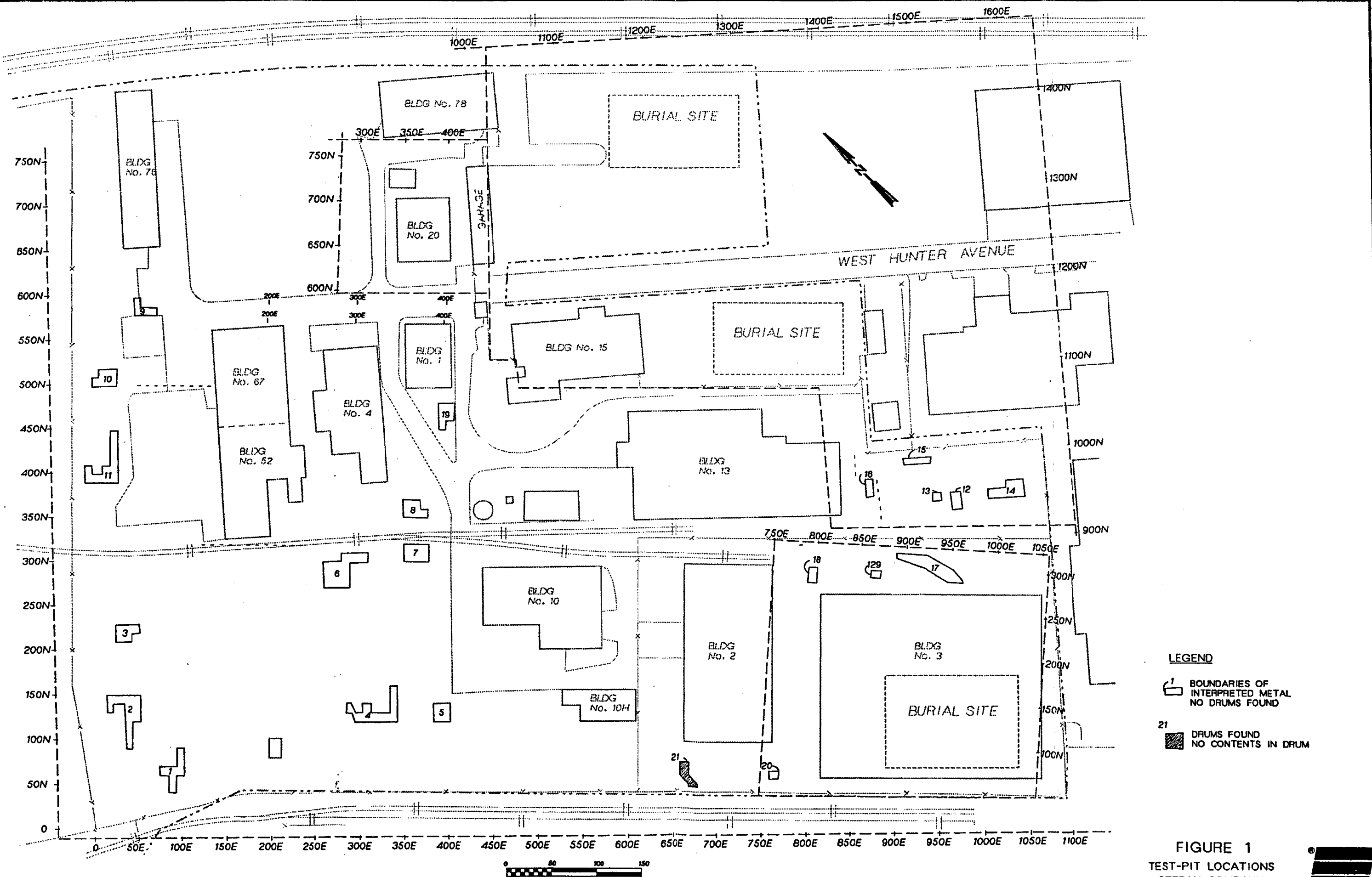


FIGURE 1  
TEST-PIT LOCATIONS  
STEPAN COMPANY  
MAYWOOD, NJ



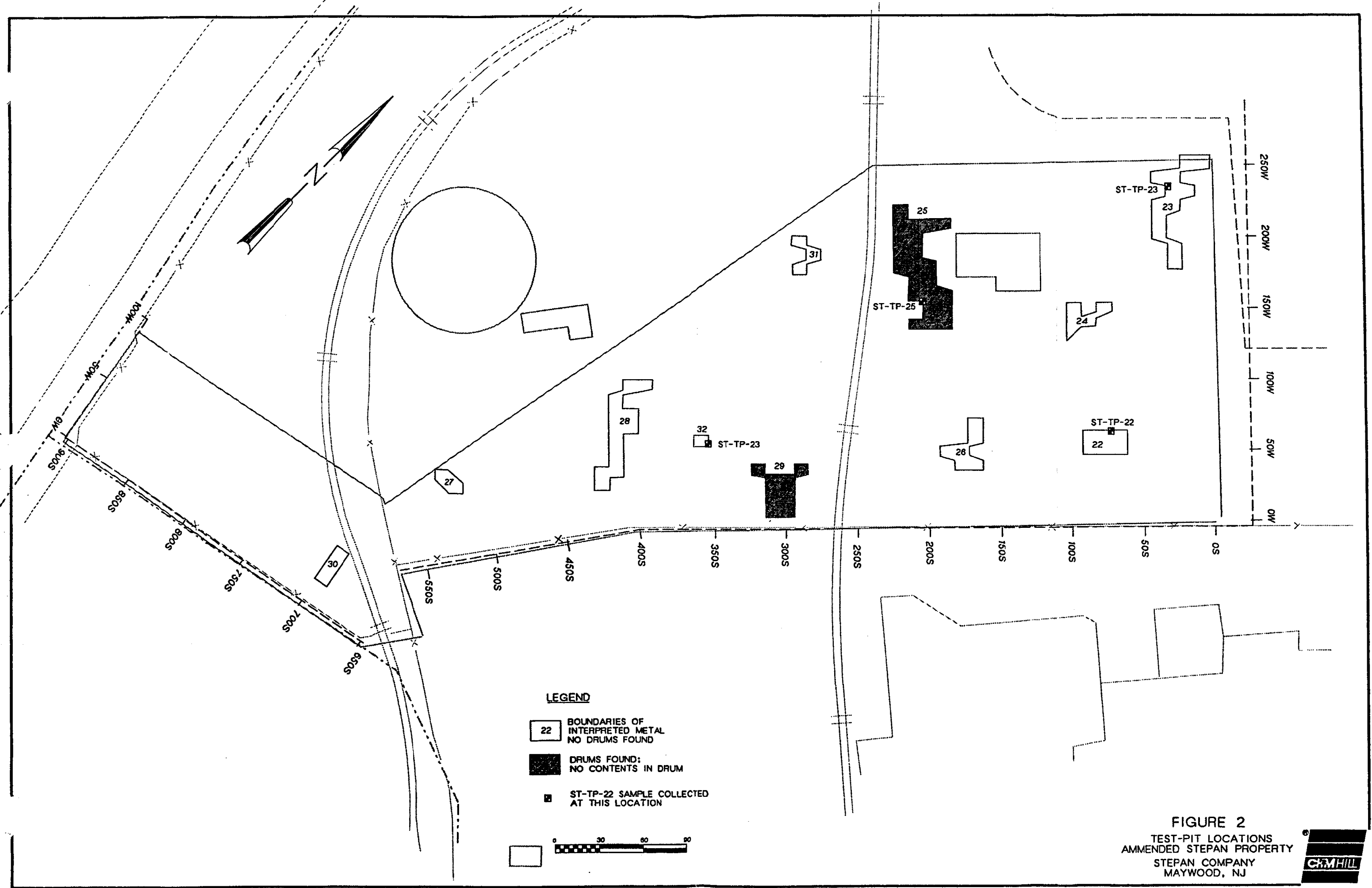
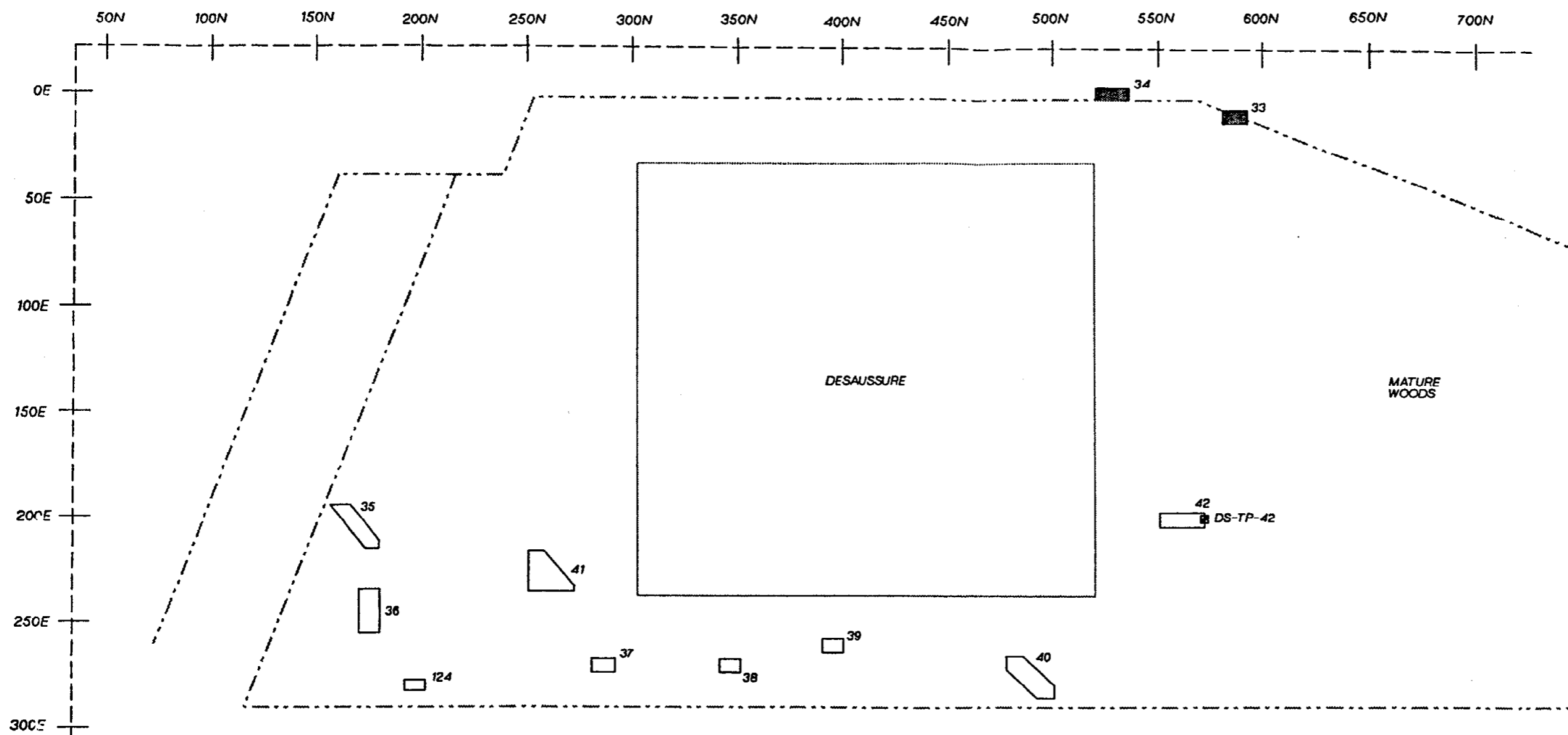


FIGURE 2  
TEST-PIT LOCATIONS  
AMMENDED STEPAN PROPERTY  
STEPAN COMPANY  
MAYWOOD, NJ





# LEGEND




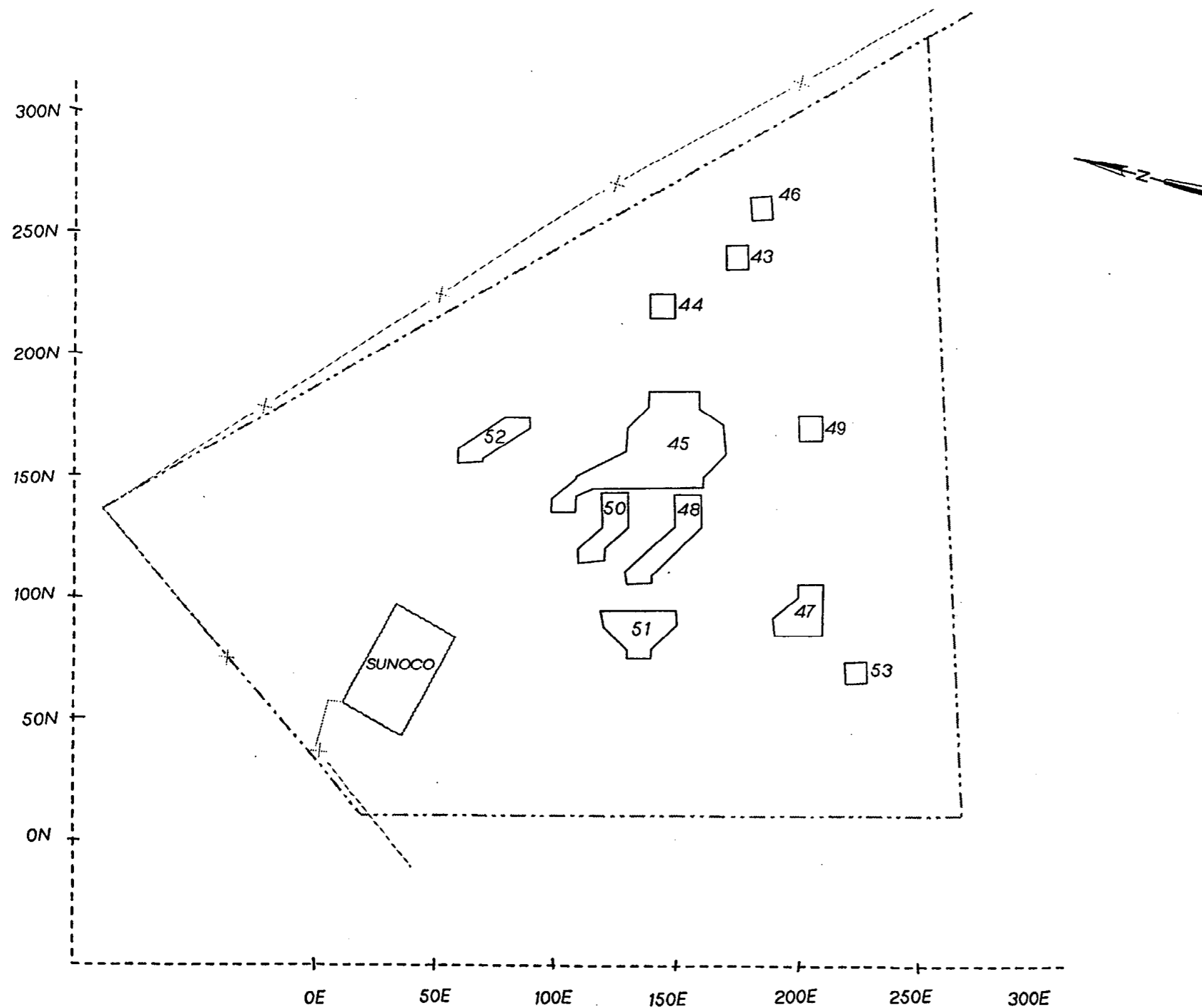
- PROPERTY LINE
-  35 BOUNDARIES OF INTERPRETED METAL  
NO DRUMS FOUND
-  DRUMS FOUND:  
NO CONTENTS IN DRUMS
-  DS-TP-42 SAMPLE COLLECTED  
AT THIS LOCATION



FIGURE 3  
TEST-PIT LOCATIONS  
DESAUSSURE PROPERTY  
MAYWOOD, NJ





# LEGEND

— SURVEY LINE

x FENCE LINE

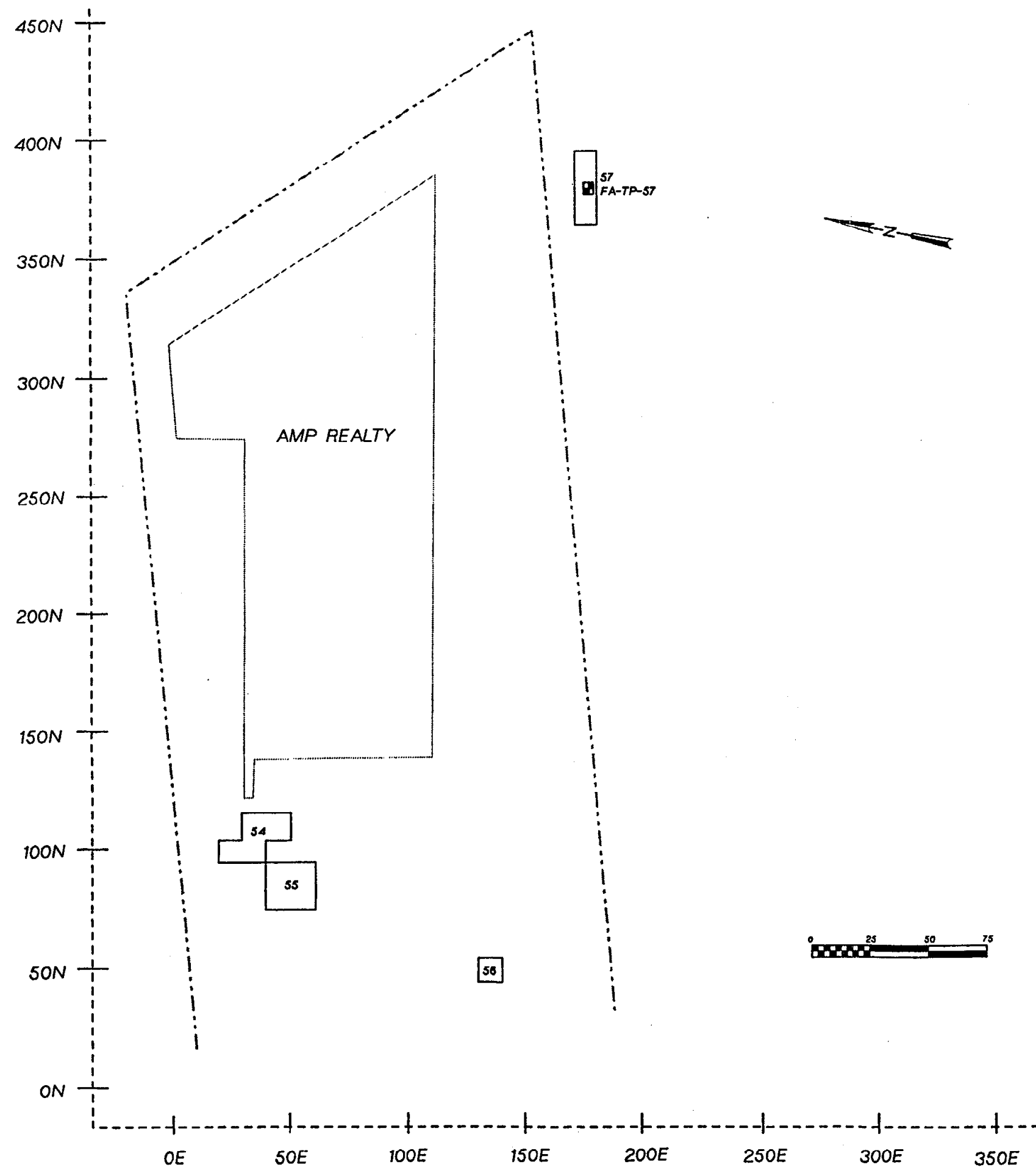
- - - PROPERTY LINE

44 BOUNDARIES OF INTERPRETED METAL NO DRUMS FOUND

NOTE:  
NO DRUMS FOUND ON  
SUNOCO PROPERTY

FIGURE 4  
TEST-PIT LOCATIONS  
SUNOCO PROPERTY  
MAYWOOD, NJ





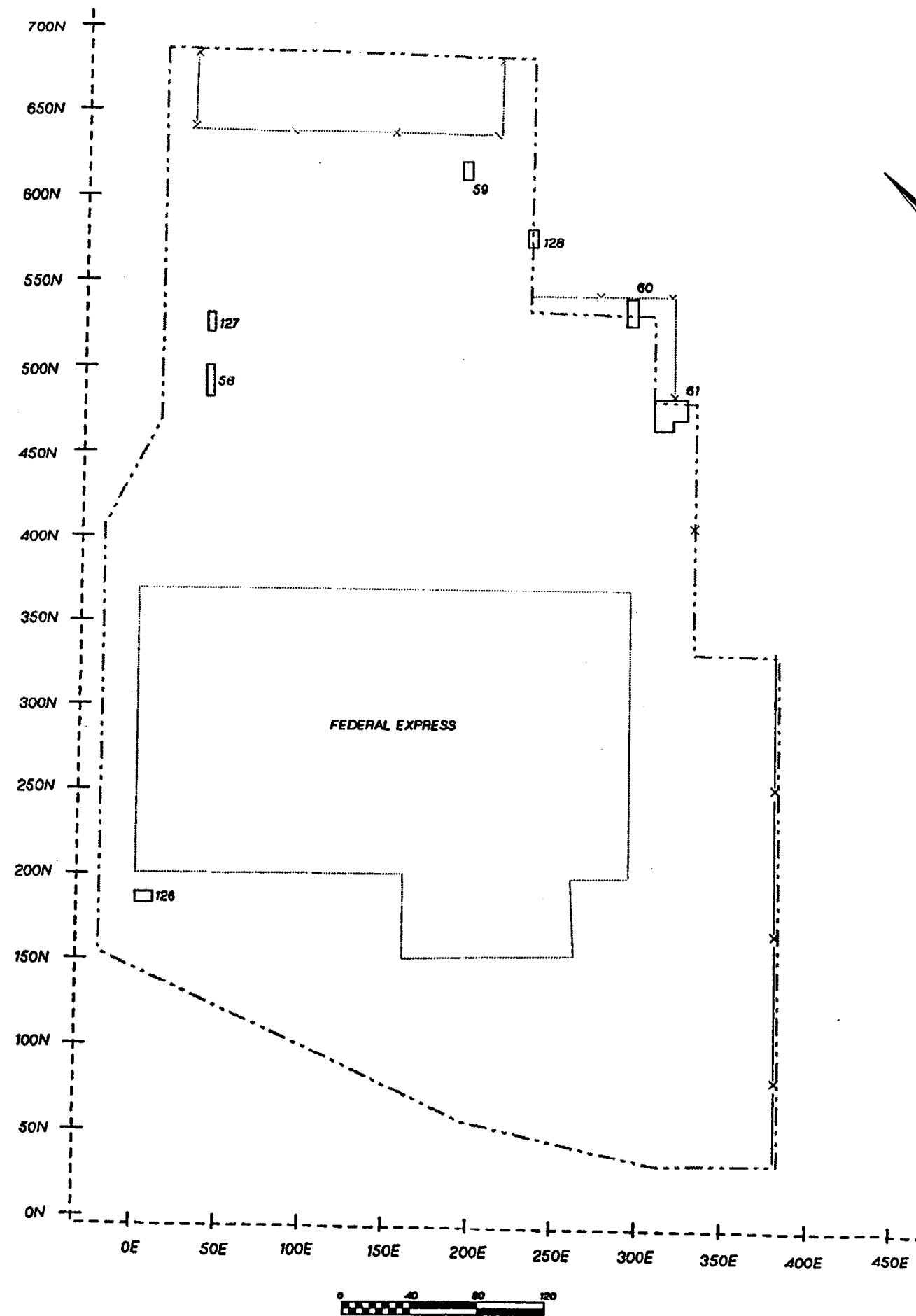
# **LEGEND**

- x--- FENCE LINE
- -- PROPERTY LINE
- [54] BOUNDARIES OF INTERPRETED METAL NO DRUMS FOUND
- [57] FA-TP-57 SAMPLE COLLECTED AT THIS LOCATION

NOTE:  
NO DRUMS FOUND ON  
AMP REALTY PROPERTY

**FIGURE 5**  
TEST-PIT LOCATIONS  
AMP REALTY  
MAYWOOD, NJ





# **LEGEND**

—x— FENCE LINE

--- PROPERTY LINE

58 BOUNDARIES OF INTERPRETED METAL  
NO DRUMS FOUND

NOTE:  
NO DRUMS FOUND ON  
FEDERAL EXPRESS PROPERTY

**FIGURE 6**  
TEST-PIT LOCATIONS  
FEDERAL EXPRESS PROPERTY  
MAYWOOD, NJ



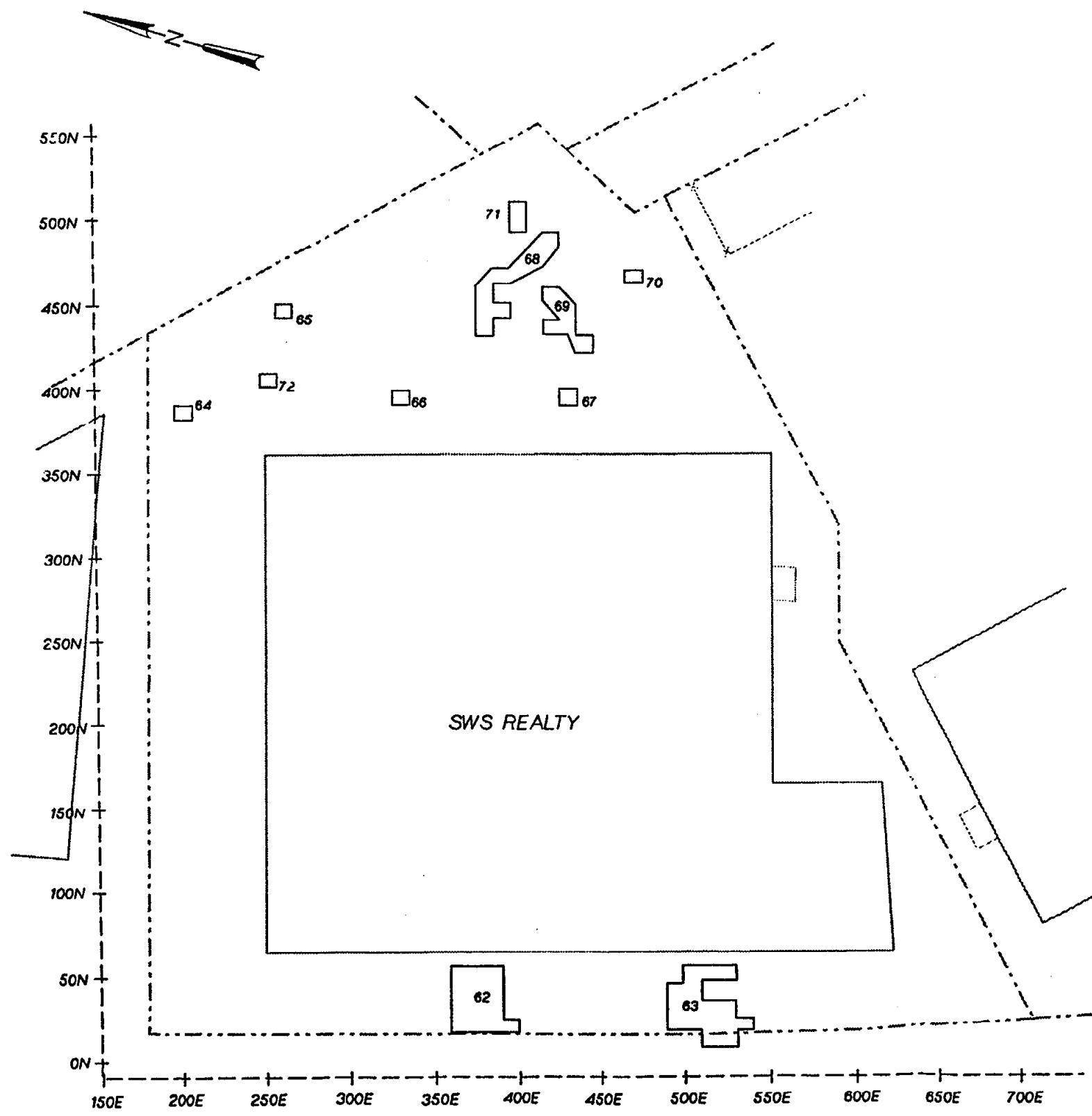


FIGURE 7  
TEST-PIT LOCATIONS  
SWS REALTY PROPERTY  
MAYWOOD, NJ



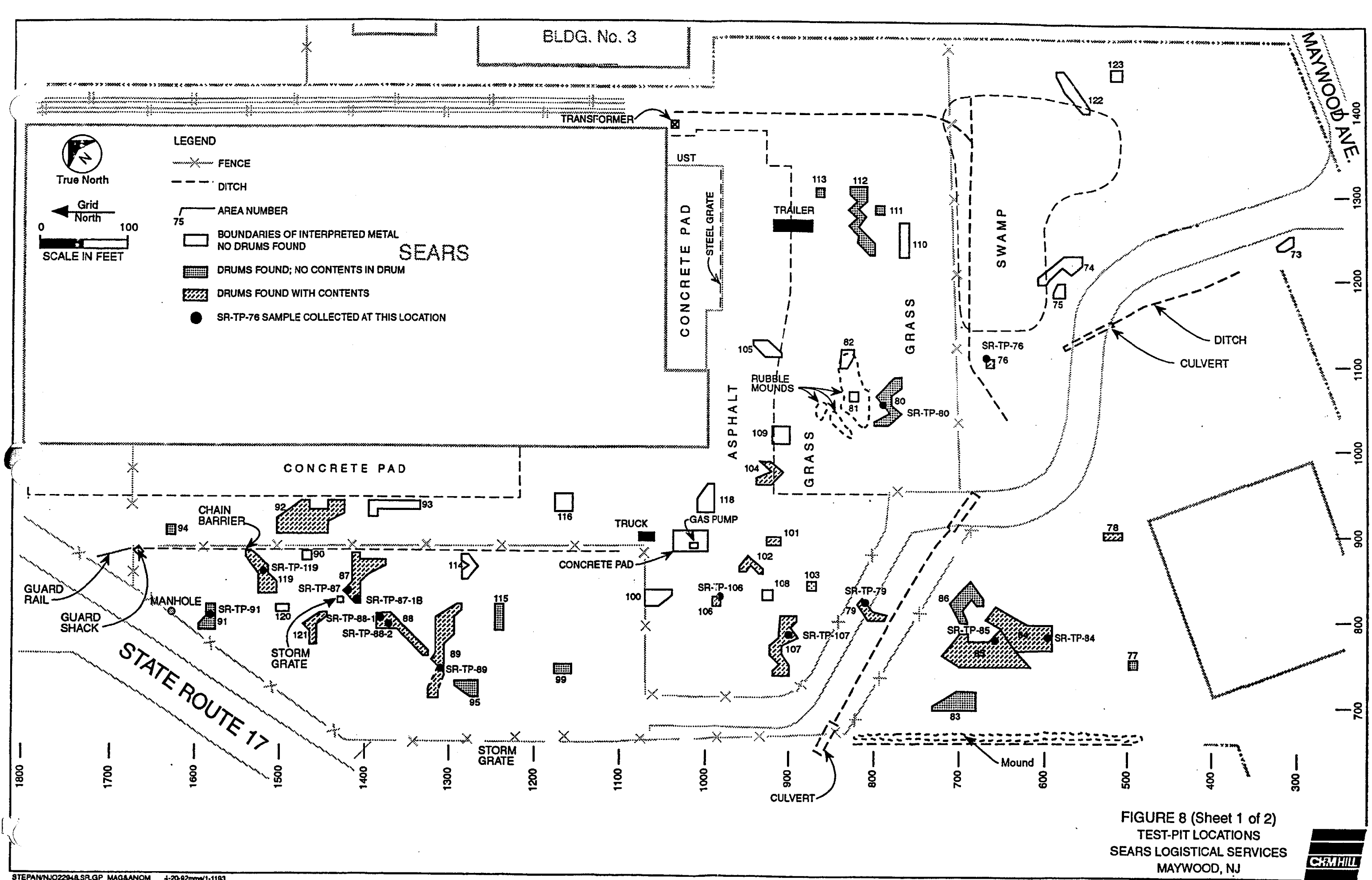
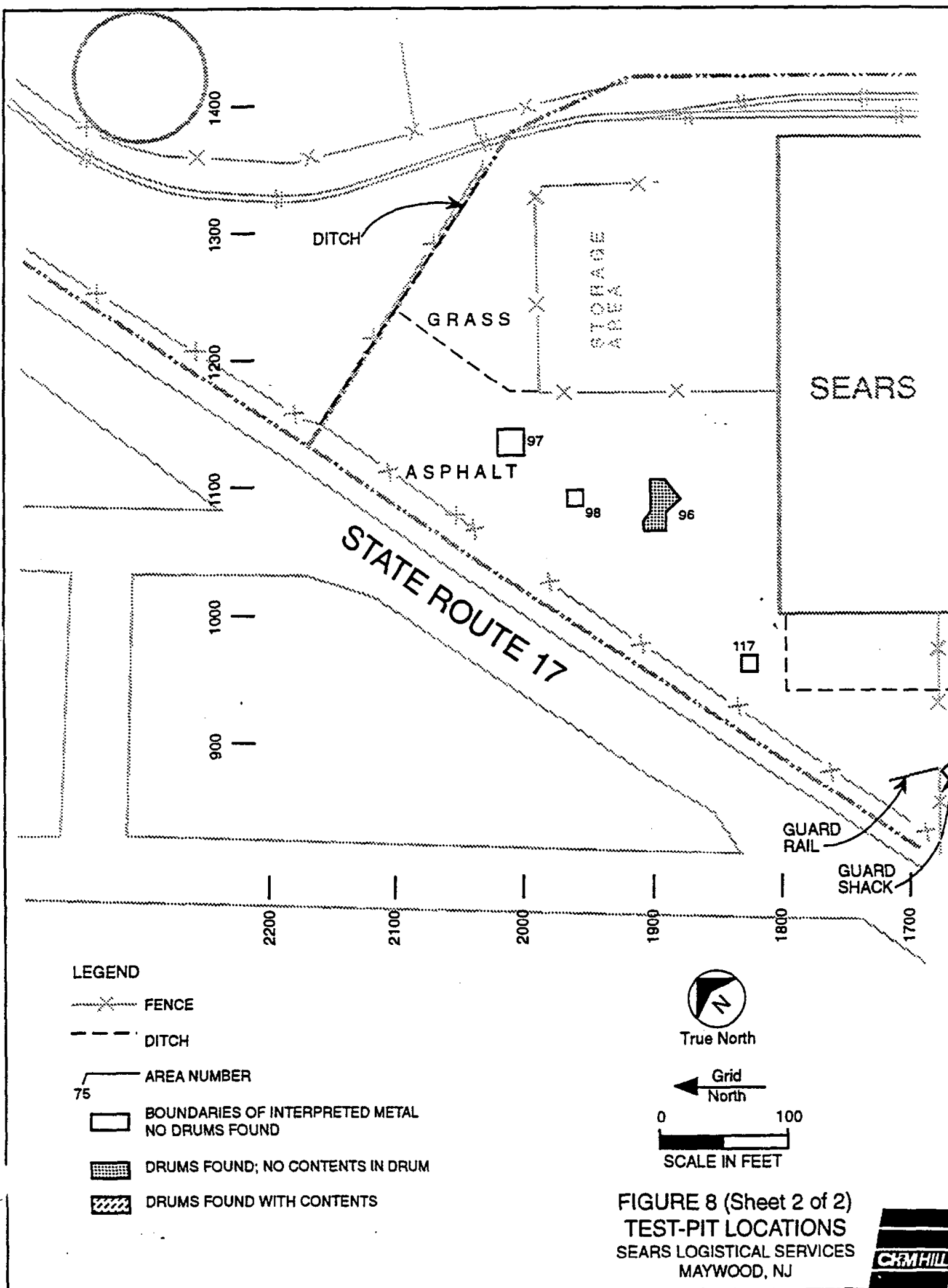


FIGURE 8 (Sheet 1 of 2)  
TEST-PIT LOCATIONS  
SEARS LOGISTICAL SERVICES  
MAYWOOD, NJ



PROJECT NUMBER NJO 22948.ST.TP	TEST PIT NO.: 1 (AREA 40)	SHEET: 1
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## TEST PIT LOG

PROJECT: STEPAN COMPANY	LOCATION: MAYWOOD, NJ	LOGGER: MK DWYER
ELEVATION: 50-55 FT.	CONTRACTOR: CONTI ENVIRONMENTAL	
EXCAVATION EQUIPMENT: JCB-1700B COMBINATION BACKHOE	DATE EXCAVATED: 3-25-92	
WATER LEVEL AND DATE: WET AT 4.5'	APPROX. DIMENSIONS: Length: 7' Width: 15' Maximum Depth: 5.5'	

[illegible]

PROJECT NUMBER	NJO 22948.ST.TP	TEST PIT NO.: 2 (AREA 33)	SHEET:	1
TEST PIT LOG				

[illegible]



1

WATER LEVEL AND DATE: NOT ENCOUNTERED APPROX.DIMENSIONS:Length: 16' Width: 5' Maximum Depth: 4.0'

TPLSYN 06/06/88





PROJECT NUMBER	NJO 22948.ST.TP	TEST PIT NO.: 7 (AREA 9)	SHEET:	1
TEST PIT LOG				

[illegible]

**SHEET: 1**

# TEST PIT LOG

**PROJECT: STEPAN COMPANY**

LOCATION:MAYWOOD, NJ

LOGGER: MK DWYER

ELEVATION: 50-55 FT.

CONTRACTOR: CONTI ENVIRONMENTAL

**EXCAVATION EQUIPMENT:**

JCB-1700B COMBINATION BACKHOE      DATE EXCAVATED: 3-27-92

WATER LEVEL AND DATE:

NOT ENCOUNTERED APPROX.DIMENSIONS:Length: 10' Width: 5' Maximum Depth: 4.0'

[illegible]



1

3

**SHEET:** 1

### TEST PIT LOG

**PROJECT: STEPAN COMPANY**

LOCATION:MAYWOOD, NJ

LOGGER: MK DWYER

ELEVATION: 50-55 FT.

**CONTRACTOR:****CONTI ENVIRONMENTAL**

**EXCAVATION EQUIPMENT:**

JCB-1700B COMBINATION BACKHOE

DATE EXCAVATED: 3-31-92

WATER LEVEL AND DATE:

NOT ENCOUNTERED

APPROX.DIMENSIONS:Length: 8' Width: 3' Maximum Depth: 0.3'

[illegible]



1

DAMP-WET AT 4.5' APPROX.DIMENSIONS:Length: 6' Width: 3' Maximum Depth: 4.5'

TPLSYN 06/06/88



# TEST PIT LOG

**PROJECT: STEPAN COMPANY**

LOCATION:MAYWOOD, NJ

LOGGER: MK DWYER

|ELEVATION:50-55 FT.

CONTRACTOR: CONTI ENVIRONMENTAL

**EXCAVATION EQUIPMENT:**

**JCB-1700B COMBINATION BACKHOE**

DATE EXCAVATED: 3-31-92

WATER LEVEL AND DATE:

NOT ENCOUNTERED    APPROX.DIMENS

APPROX.DIMENSIONS:Length: 6' Width: 3' Maximum Depth: 4.0'

[illegible]

SHEET: 1

### TEST PIT LOG

**PROJECT: STEPAN COMPANY**

LOCATION: MAYWOOD, NJ

LOGGER: MK DWYER

ELEVATION: 50-55 FT.

CONTRACTOR: CONTI ENVIRONMENTAL

**EXCAVATION EQUIPMENT:**

**JCB-1700B COMBINATION BACKHOE**

DATE EXCAVATED: 4-1-92

WATER LEVEL AND DATE:

**SEEPS AT 5-6'**

APPROX.DIMENSIONS:Length: 10' Width: 4' Maximum Depth: 6.0'

[illegible]

TPLSYM 06/06/88

SHEET: 1

LOGGER: R. JACKSON

**CONTI ENVIRONMENTAL**

DATE EXCAVATED: 4-1-92

WATER LEVEL AND DATE: NOT ENCOUNTERED APPROX.DIMENSIONS:Length: 10' Width: 10' Maximum Depth: 2.0'

TPLSYM 06/06/88

CH2M HILL  
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**SHEET: 1**

PROJECT: STEPAN COMPANY	LOCATION: MAYWOOD, NJ	LOGGER: R. JACKSON
ELEVATION: 50-55 FT.	CONTRACTOR: CONTI ENVIRONMENTAL	
EXCAVATION EQUIPMENT: JCB-1700B COMBINATION BACKHOE	DATE EXCAVATED: 4-1-92	
WATER LEVEL AND DATE: NOT ENCOUNTERED	APPROX. DIMENSIONS: Length: 4' Width: 5' Maximum Depth: 1.0'	

TPLSYM 06/06/88

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APPROX.DIMENSIONS:Length: 8' Width: 5' Maximum Depth: 3.0'

**SHEET: 1**

# TEST PIT LOG

**PROJECT: STEPAN COMPANY**

LOCATION:MAYWOOD, NJ

LOGGER: MK DWYER

ELEVATION: 50-55 FT.

**CONTRACTOR: CONTI ENVIRONMENTAL**

**EXCAVATION EQUIPMENT:**

**JCB-1700B COMBINATION BACKHOE**

**DATE EXCAVATED: 4-2-92**

WATER LEVEL AND DATE:

**NOT ENCOUNTERED**

**APPROX.DIMENSIONS:Length: 10' Width: 7' Maximum Depth: 1.5'**

[illegible]

TPLSYN 06/06/88

PROJECT NUMBER	NJO 22948.ST.TP	TEST PIT NO.: 21 (AREA 18)	SHEET:	1
TEST PIT LOG				

[illegible]



1

NOT ENCOUNTERED APPROX.DIMENSIONS:Length: 10' Width: 4' Maximum Depth: 5.0'





SHEET: 1

# TEST PIT LOG

LOGGER: R. JACKSON

ELEVATION: 50-55 FT.

**CONTRACTOR: CONTI ENVIRONMENTAL**

EXCAVATION EQUIPMENT: JCB-17008 COMBINATION BACKHOE DATE EXCAVATED: 4-3-92

WATER LEVEL AND DATE: NOT ENCOUNTERED APPROX.DIMENSIONS:Length: 8' Width: 6' Maximum Depth: 2.0'

[illegible]

SHEET: 1

LOGGER: R. JACKSON

CONTRACTOR: CONTI ENVIRONMENTAL

**JCB-1700B COMBINATION BACKHOE**

**DATE EXCAVATED: 4-3-92**

**NOT ENCOUNTERED**

APPROX.DIMENSIONS:Length: 10' Width: 14' Maximum Depth: 0.5'

TPLSYN 06/06/88



WATER LEVEL AND DATE: NOT ENCOUNTERED APPROX.DIMENSIONS:Length: 20' Width: 10' Maximum Depth: 1.0'

TPLSYM 06/06/88

# TEST PIT LOG

**PROJECT: STEPAN COMPANY**

LOCATION: MAYWOOD, NJ

LOGGER: R. JACKSON

ELEVATION: 50-55 FT.

CONTRACTOR: CONTI ENVIRONMENTAL

**EXCAVATION EQUIPMENT:**

JCB-1700B COMBINATION BACKHOE      DATE EXCAVATED: 4-6-92

WATER LEVEL AND DATE:

NOT ENCOUNTERED APPROX.DIMENSIONS:Length: 10' Width: 6' Maximum Depth: 3.0'

[illegible]



**SHEET: 1**

## TEST PIT LOG

LOGGER: R. JACKSON

CONTRACTOR: CONTI ENVIRONMENTAL

**EXCAVATION EQUIPMENT: JCB-1700B COMBINATION BACKHOE DATE EXCAVATED: 4-6-92**

WATER LEVEL AND DATE: NOT ENCOUNTERED APPROX.DIMENSIONS:Length: 10' Width: 4' Maximum Depth: 3.0'

[illegible]



1





SHEET: 1

## TEST PIT LOG

PROJECT: DESAUSSURE PROPERTY	LOCATION: MAYWOOD, NJ	LOGGER: MK DWYER
ELEVATION: 50-55 FT.	CONTRACTOR: CONTI ENVIRONMENTAL	
EXCAVATION EQUIPMENT: JCB-1700B COMBINATION BACKHOE	DATE EXCAVATED: 4-7-92	
WATER LEVEL AND DATE: WET AT 3.0'	APPROX. DIMENSIONS: Length: 10' Width: 4'	Maximum Depth: 3.0'

[illegible]

**SHEET:** 1

# TEST PIT LOG

PROJECT: DESAUSSURE PROPERTY	LOCATION: MAYWOOD, NJ	LOGGER: MK DWYER
ELEVATION: 50-55 FT.	CONTRACTOR: CONTI ENVIRONMENTAL	
EXCAVATION EQUIPMENT: JCB-1700B COMBINATION BACKHOE	DATE EXCAVATED: 4-7-92	
WATER LEVEL AND DATE: WET AT 3.0'	APPROX. DIMENSIONS: Length: 10' Width: 6'	Maximum Depth: 3.0'

[illegible]

1

**SHEET:** 1

## TEST PIT LOG

LOGGER: MK DWYER

**CONTRACTOR: CONTI ENVIRONMENTAL**

EXCAVATION EQUIPMENT: JCB-1700B COMBINATION BACKHOE DATE EXCAVATED: 4-7-92

WATER LEVEL AND DATE: NOT ENCOUNTERED APPROX.DIMENSIONS:Length: 5' Width: 3' Maximum Depth: 1.5'

[illegible]



# TEST PIT LOG

PROJECT: DESAUSSURE PROPERTY	LOCATION: MAYWOOD, NJ	LOGGER: MK DWYER
ELEVATION: 50-55 FT.	CONTRACTOR: CONTI ENVIRONMENTAL	
EXCAVATION EQUIPMENT: JCB-1700B COMBINATION BACKHOE	DATE EXCAVATED: 4-7-92	
WATER LEVEL AND DATE: WATER AT 3.0'	APPROX. DIMENSIONS: Length: 10' Width: 10' Maximum Depth: 3.0'	

[illegible]



## TEST PIT LOG

LOGGER: MK DWYER

**CONTRACTOR: CONTI ENVIRONMENTAL**

EXCAVATION EQUIPMENT: JCB-1700B COMBINATION BACKHOE DATE EXCAVATED: 4-8-92

WATER LEVEL AND DATE: NOT ENCOUNTERED APPROX.DIMENSIONS:Length: 6' Width: 3' Maximum Depth: 4.0'

[illegible]

**3. 结论**

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NOT ENCOUNTERED APPROX.DIMENSIONS:Length: 5' Width: 10' Maximum Depth: 4.0'

TPLSYN 06/06/88





CH2M HILL

1

PROJECT NUMBER NJO 22948.SC.TP	TEST PIT NO.: 48 (AREA 10)	SHEET:	1
TEST PIT LOG			

PROJECT: SUNOCO PROPERTY	LOCATION: MAYWOOD, NJ	LOGGER: J. LONGO
ELEVATION: 50-55 FT.	CONTRACTOR: CONTI ENVIRONMENTAL	
EXCAVATION EQUIPMENT: JCB-1700B COMBINATION BACKHOE	DATE EXCAVATED: 4-9-92	
WATER LEVEL AND DATE: NOT ENCOUNTERED	APPROX. DIMENSIONS: Length: 5' Width: 5' Maximum Depth: 2.0'	

[illegible]

TPLSYM 06/06/88

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APPROX.DIMENSIONS:Length: 6' Width: 4' Maximum Depth: 4.0'

SHEET: 1

### TEST PIT LOG

LOGGER: J. LONGO

ELEVATION: 50-55 FT.

CONTRACTOR: CONTI ENVIRONMENTAL

EXCAVATION EQUIPMENT:

JCB-1700B COMBINATION BACKHOE

**DATE EXCAVATED: 4-9-92**

WATER LEVEL AND DATE:

**NOT ENCOUNTERED**

APPROX.DIMENSIONS:Length: 8' Width: 4' Maximum Depth: 2.0'

[illegible]

**SHEET: 1**

# TEST PIT LOG

LOGGER: MK DWYER

CONTRACTOR: CONTI ENVIRONMENTAL

EXCAVATION EQUIPMENT: JCB-1700B COMBINATION BACKHOE DATE EXCAVATED: 4-9-92

WATER LEVEL AND DATE: NOT ENCOUNTERED APPROX.DIMENSIONS:Length: 7' Width: 14' Maximum Depth: 3.0'

[illegible]

TPLSYM 06/06/88

**SHEET: 1**

## TEST PIT LOG

LOGGER: MK DWYER

ELEVATION: 50-55 FT.

**CONTRACTOR:**

**CONTI ENVIRONMENTAL**

**EXCAVATION EQUIPMENT:**

**JCB-1700B COMBINATION BACKHOE**

**DATE EXCAVATED: 4-9-92**

WATER LEVEL AND DATE:

**NOT ENCOUNTERED**

APPROX.DIMENSIONS:Length: 6' Width: 3' Maximum Depth: 3.0'

[illegible]

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WATER LEVEL AND DATE: NOT ENCOUNTERED APPROX.DIMENSIONS:Length: 6' Width: 4' Maximum Depth: 6.0'

TPLSYM 06/06/88





# TEST PIT LOG

PROJECT: AMP REALTY PROPERTY	LOCATION: MAYWOOD, NJ	LOGGER: J. LONGO
ELEVATION: 50-55 FT.	CONTRACTOR: CONTI ENVIRONMENTAL	
EXCAVATION EQUIPMENT: JCB-1700B COMBINATION BACKHOE	DATE EXCAVATED: 4-10-92	
WATER LEVEL AND DATE: WET AT 2-2.5'	APPROX. DIMENSIONS: Length: 8' Width: 4'	Maximum Depth: 2.0'

[illegible]

**SHEET:** 1

## TEST PIT LOG

PROJECT: FEDERAL EXPRESS PROPERTY	LOCATION: MAYWOOD, NJ	LOGGER: MK DWYER
ELEVATION: 50-55 FT.	CONTRACTOR: CONTI ENVIRONMENTAL	
EXCAVATION EQUIPMENT: JCB-1700B COMBINATION BACKHOE	DATE EXCAVATED: 4-13-92	
WATER LEVEL AND DATE: NOT ENCOUNTERED	APPROX. DIMENSIONS: Length: 10' Width: 6' Maximum Depth: 4.0'	

[illegible]



**SHEET: 1**

# TEST PIT LOG

PROJECT: FEDERAL EXPRESS PROPERTY	LOCATION: MAYWOOD, NJ	LOGGER: MK DWYER
ELEVATION: 50-55 FT.	CONTRACTOR: CONTI ENVIRONMENTAL	
EXCAVATION EQUIPMENT: JCB-1700B COMBINATION BACKHOE	DATE EXCAVATED: 4-13-92	
WATER LEVEL AND DATE: NOT ENCOUNTERED	APPROX. DIMENSIONS: Length: 10' Width: 4' Maximum Depth: 4.0'	

DEPTH		SOIL DESCRIPTION	S Y	COMMENTS
DEPTH BELOW SURFACE	INTERVAL	TYPE AND NUMBER	SOIL NAME, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL	M L B O O G L
0			0-0.5' Dark brown silty organic sand, root matter.	METAL ENCOUNTERED: No metal found.
1			0.5-4.0' Reddish-brown silty sand, some clay.	Anomaly probably due to fence.
2				
3				
4			BOTTOM OF EXCAVATION AT 4.0 FEET	
5				
				FIELD MONITORING RESULTS:
				OVA: 0 PPM (in hole)
				0 PPM in breathing zone
				LEL: 0 %
				OXYGEN: 20.9 %
				SPA-3: 12,000 CPM (4.0')
				No samples collected.

PROJECT NUMBER	NJO 22948.FA.TP	TEST PIT NO.: 61 (AREA 9)	SHEET:	1
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# TEST PIT LOG

PROJECT: FEDERAL EXPRESS PROPERTY	LOCATION: MAYWOOD, NJ	LOGGER: MK DWYER
ELEVATION: 50-55 FT.	CONTRACTOR: CONTI ENVIRONMENTAL	
EXCAVATION EQUIPMENT: JCB-1700B COMBINATION BACKHOE	DATE EXCAVATED: 4-13-92	
WATER LEVEL AND DATE: NOT ENCOUNTERED	APPROX. DIMENSIONS: Length: 10' Width: 7' Maximum Depth: 8.0'	

[illegible]

# TEST PIT LOG

PROJECT: SHS REALTY PROPERTY		LOCATION: MAYWOOD, NJ	LOGGER: MK DWYER
ELEVATION: 50-55 FT.		CONTRACTOR: CONTI ENVIRONMENTAL	
EXCAVATION EQUIPMENT:	JCB-1700B COMBINATION BACKHOE	DATE EXCAVATED: 4-14-92	
WATER LEVEL AND DATE:	NOT ENCOUNTERED	APPROX. DIMENSIONS: Length: 20' Width: 2' Maximum Depth: 5.0'	

[illegible]

SHEET: 1

# TEST PIT LOG

PROJECT: SWS REALTY PROPERTY		LOCATION: MAYWOOD, NJ		LOGGER: MK DWYER	
ELEVATION: 50-55 FT.		CONTRACTOR: CONTI ENVIRONMENTAL			
EXCAVATION EQUIPMENT:	JCB-1700B	COMBINATION BACKHOE	DATE EXCAVATED: 4-14-92		
WATER LEVEL AND DATE:	WET AT 5'	APPROX. DIMENSIONS: Length: 10' Width: 3'		Maximum Depth:	5.0'

[illegible]



CH2M HILL

PROJECT NUMBER NJO 22948.FH.TP

TEST PIT NO.: 65 (AREA 20)

**SHEET:** 1

TEST PIT LOG

PROJECT: SWS REALTY PROPERTY

LOCATION:MAYWOOD, NJ

LOGGER: MK DWYER

ELEVATION: 50-55 FT.

CONTRACTOR: CONTI ENVIRONMENTAL

EXCAVATION EQUIPMENT: JCB-1700B COMBINATION BACKHOE DATE EXCAVATED: 4-14-92

WATER LEVEL AND DATE: NOT ENCOUNTERED APPROX.DIMENSIONS:Length: 10' Width: 4' Maximum Depth: 3.5'

[illegible]

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WATER LEVEL AND DATE: NOT ENCOUNTERED APPROX.DIMENSIONS:Length: 6' Width: 3' Maximum Depth: 3.5'

# TEST PIT LOG

PROJECT: SWS REALTY PROPERTY	LOCATION: MAYWOOD, NJ	LOGGER: MK DWYER
ELEVATION: 50-55 FT.	CONTRACTOR: CONTI ENVIRONMENTAL	
EXCAVATION EQUIPMENT: JCB-1700B	COMBINATION BACKHOE	DATE EXCAVATED: 4-14-92
WATER LEVEL AND DATE: WET AT 2'	APPROX. DIMENSIONS: Length: 10' Width: 7'	Maximum Depth: 3.0'

[illegible]



# TEST PIT LOG

**PROJECT: SWS REALTY PROPERTY**

LOCATION:MAYWOOD, NJ

LOGGER: MK DWYER

**ELEVATION:50-55 FT.**

CONTRACTOR: CONTI ENVIRONMENTAL

**EXCAVATION EQUIPMENT:**

JCB-1700B COMBINATION BACKHOE

**DATE EXCAVATED: 4-15-92**

WATER LEVEL AND DATE: WET AT 5'

APPROX.DIMENSIONS:Length: 7' Width: 4' Maximum Depth: 5.0'

[illegible]

**参考文献**

**SHEET:**

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LOGGER: MK DWYER

**CONTRACTOR:**

**CONTI ENVIRONMENTAL**

JCB-17008

DATE EXCAVATED: 4-15-92

NOT ENCOUNTERED

APPROX.DIMENSIONS:Length: 7'

Width: 4'

**Maximum Depth:**

7.0'

TPLSYM 06/06/88

PROJECT NUMBER NJO 22948.FH.TP	TEST PIT NO.: 71 (AREA 22)	SHEET: 1
TEST PIT LOG		

[illegible]



PROJECT NUMBER	NJO 22948.SR.TP	TEST PIT NO.: 73 (AREA 76)	SHEET:	1
TEST PIT LOG				

DEPTH		SOIL DESCRIPTION	S	COMMENTS
DEPTH BELOW SURFACE	INTERVAL	TYPE AND NUMBER	Y M L B O O G L	
0		0-0.5' Grass cover and root matter, organic soil.		METAL ENCOUNTERED: No metal found.
1		0.5-2.5' Medium brown silty sand, trace gravel.		
2		2.5-4.0' Black soils.		
3				
4		4.0-5.0' Grey silt and clay. 5.0-6.0' Brown and grey silt.		
5				
6				
7		BOTTOM OF EXCAVATION AT 6.0 FEET		FIELD MONITORING RESULTS:
8				OVA: 0 PPM (in hole)
9				0 PPM in breathing zone
10				LEL: 0 %
				OXYGEN: 20.9 %
				SPA-3: 88,000 CPM (2.0')
				No samples collected.



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CH2M HILL  
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PROJECT NUMBER NJO 22948.SR.TP	TEST PIT NO.: 75 (AREA 67)	SHEET: 1
TEST PIT LOG		

PROJECT: SEARS LOGISTICAL SERVICES LOCATION: MAYWOOD, NJ LOGGER: MK DWYER  
 ELEVATION: 50-55 FT. CONTRACTOR: CONTI ENVIRONMENTAL  
 EXCAVATION EQUIPMENT: JCB-1700B COMBINATION BACKHOE DATE EXCAVATED: 5-4-92  
 WATER LEVEL AND DATE: NOT ENCOUNTERED APPROX. DIMENSIONS: Length: 18' Width: 4' Maximum Depth: 6.0'

DEPTH BELOW SURFACE	DEPTH		SOIL DESCRIPTION  SOIL NAME, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL	S Y M B O L	COMMENTS
	INTERVAL	TYPE AND NUMBER			
0			0-0.5' Grass cover and organic silt, roots.		METAL ENCOUNTERED:
--			0.5-5.0' Medium brown to black silt and sand.		No metal found.
1					--
--					--
2					--
--					--
3					--
--					--
4					--
--					--
5			5.0-6.0' Blue grey to brown clayey silt.		--
--					--
6					--
--					--
7			BOTTOM OF EXCAVATION AT 6.0 FEET		FIELD MONITORING RESULTS:
--					--
8					QVM: 2.4 PPM (in hole)
--					0 PPM in breathing zone
9					LEL: 0 %
--					OXYGEN: 20.9 %
10					SPA-3: 91,000 CPM (2.0')
--					--
--					--
--					No samples collected.
--					--
--					--
--					--
--					--
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APPROX.DIMENSIONS:Length: 5' Width: 3' Maximum Depth: 4.0'

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PROJECT NUMBER	NJO 22948.SR.TP	TEST PIT NO.: 79 (AREA 51)	SHEET:	1
TEST PIT LOG				

[illegible]

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PROJECT: SEARS LOGISTICAL SERVICES	LOCATION: MAYWOOD, NJ	LOGGER: MK DWYER
ELEVATION: 50-55 FT.	CONTRACTOR: CONTI ENVIRONMENTAL	
EXCAVATION EQUIPMENT: JCB-1700B COMBINATION BACKHOE	DATE EXCAVATED: 5-5-92	
WATER LEVEL AND DATE: NOT ENCOUNTERED	APPROX. DIMENSIONS: Length: 2' Width: 2' Maximum Depth: 0.5'	

[illegible]

## TEST PIT LOG

LOGGER: MK DWYER

**CONTRACTOR: CONTI ENVIRONMENTAL**

EXCAVATION EQUIPMENT: JCB-1700B COMBINATION BACKHOE DATE EXCAVATED: 5-5-92

WATER LEVEL AND DATE: NOT ENCOUNTERED APPROX.DIMENSIONS:Length: 10' Width: 5' Maximum Depth: 5.5'

[illegible]

CH2M HILL

PROJECT NUMBER NJO 22948.SR.TP

TEST PIT NO.: 83 (AREA 54)

SHEET: 1

## TEST PIT LOG

**PROJECT: SEARS LOGISTICAL SERVICES**

LOCATION:MAYWOOD, NJ

LOGGER: MK DWYER

ELEVATION: 50-55 FT.

CONTRACTOR: CONTI ENVIRONMENTAL

**EXCAVATION EQUIPMENT:**

JCB-1700B COMBINATION BACKHOE

DATE EXCAVATED: 5-6-92

WATER LEVEL AND DATE:

NOT ENCOUNTERED

APPROX.DIMENSIONS:Length: 13' Width: 4' Maximum Depth: 3.0'

[illegible]

TPLSYN 06/06/88

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CH2M HILL

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PROJECT NUMBER NJO 22948.SR.TP

TEST PIT NO.: 86 (AREA 56)

SHEET: 1

## TEST PIT LOG

**PROJECT: SEARS LOGISTICAL SERVICES**

LOCATION: MAYWOOD, NJ

LOGGER: MK DWYER

ELEVATION: 50-55 FT.

**CONTRACTOR: CONTI ENVIRONMENTAL**

EXCAVATION EQUIPMENT: JCB-1700B COMBINATION BACKHOE DATE EXCAVATED: 5-6-92

WATER LEVEL AND DATE: NOT ENCOUNTERED APPROX.DIMENSIONS:Length: 10' Width: 6' Maximum Depth: 2.5'

[illegible]

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CH2M HILL

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PROJECT NUMBER NJO 22948.SR.TP

TEST PIT NO.: 88 (AREA 11)

SHEET: 1

TEST PIT LOG

PROJECT: SEARS LOGISTICAL SERVICES

LOCATION: MAYWOOD, NJ

LOGGER: MK DWYER

ELEVATION: 50-55 FT.

CONTRACTOR: CONTI ENVIRONMENTAL

EXCAVATION EQUIPMENT:

JCB-1700B

COMBINATION BACKHOE

DATE EXCAVATED: 5-7-92

WATER LEVEL AND DATE:

NOT ENCOUNTERED

APPROX. DIMENSIONS: Length: 12' Width: 7' Maximum Depth: 2.5'

DEPTH BELOW SURFACE	DEPTH		SOIL DESCRIPTION  SOIL NAME, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL	S Y M B O L	COMMENTS
	INTERVAL	TYPE AND NUMBER			
0			0-0.5' Asphalt and gravel base.		METAL ENCOUNTERED:
--			0.5-2.5' Reddish-brown and black sandy silt, some gravel.		1.0-2.5' 2 crushed drums.
1					
--					
2					
--					
3					
--					
4					
--					
5					
--					
6					
--					
7					FIELD MONITORING RESULTS:
--					
8					GVA: >1000 PPM (in hole)
--					0 PPM in breathing zone
9					LEL: 0 %
--					OXYGEN: 20.9 %
10					SPA-3: 50,000 CPM (0.5')
--					
--					
--					Sample 1 collected of purple and black soil-like material in first drum.
--					Sample 2 of wet black soils in second drum.
--					
--					Sample # SR-TP-88-1'
--					SR-TP-88-2'
--					
--					
--					
--					
--					
--					

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TEST PIT NO.: 89 (AREA 12)

**SHEET:**

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# TEST PIT LOG

LOCATION: MAYWOOD, NJ

LOGGER: NK DWYER

CONTRACTOR: CONTI ENVIRONMENTAL

DATE EXCAVATED: 5-7-92

NOT ENCOUNTERED APPROX.DIMENSIONS:Length: 14' Width: 7' Maximum Depth: 5.0'

[illegible]

## TEST PIT LOG

PROJECT: SEARS LOGISTICAL SERVICES	LOCATION: MAYWOOD, NJ	LOGGER: MK DWYER
ELEVATION: 50-55 FT.	CONTRACTOR: CONTI ENVIRONMENTAL	
EXCAVATION EQUIPMENT: JCB-1700B COMBINATION BACKHOE	DATE EXCAVATED: 5-8-92	
WATER LEVEL AND DATE: NOT ENCOUNTERED	APPROX. DIMENSIONS: Length: 14' Width: 5' Maximum Depth: 5.0'	

[illegible]

SHEET: 1

WATER AT 5-5.5' APPROX.DIMENSIONS:Length: 8' Width: 4' Maximum Depth: 6.0'

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APPROX.DIMENSIONS:Length: 20' Width: 4' Maximum Depth: 5.0'

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WATER LEVEL AND DATE: NOT ENCOUNTERED APPROX.DIMENSIONS:Length: 5' Width: 4' Maximum Depth: 4.0'

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CH2M HILL

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PROJECT NUMBER NJO 22948.SR.TP	TEST PIT NO.: 94 (AREA 900E,1630N) SHEET: 1
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TEST PIT LOG

PROJECT: SEARS LOGISTICAL SERVICES	LOCATION: MAYWOOD, NJ	LOGGER: MK DWYER
ELEVATION: 50-55 FT.	CONTRACTOR: CONTI ENVIRONMENTAL	
EXCAVATION EQUIPMENT: JCB-1700B COMBINATION BACKHOE	DATE EXCAVATED: 5-11-92	
WATER LEVEL AND DATE: NOT ENCOUNTERED	APPROX. DIMENSIONS: Length: 5' Width: 4' Maximum Depth: 2.0'	

DEPTH BELOW SURFACE	DEPTH		SOIL DESCRIPTION	S Y M B O L	COMMENTS
	INTERVAL	TYPE AND NUMBER			
0			0-0.2' Asphalt.		METAL ENCOUNTERED:
--			0.2-1.0' Concrete pad.		1.0-2.0' Crushed drum.
1			1-2' Medium to dark brown very fine sandy silt.		--
--					--
2					--
--					--
3					--
--					--
4					--
--					--
5					--
--					--
6					--
--					--
7					FIELD MONITORING RESULTS:
--					--
8					OVA: 20 PPM (in hole)
--					0 PPM in breathing zone
9					LEL: 0 %
--					OXYGEN: 20.9 %
10					SPA-3: 98,000 CPM (2.0')
--					--
--					--
--					--
--					--
--					--
--					No sample collected.
--					--
--					--
--					--
--					--
--					--
--					--

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WATER LEVEL AND DATE: SEEPS AT 1' APPROX.DIMENSIONS:Length: 8' Width: 5' Maximum Depth: 3.0'

===== CH2M HILL =====		PROJECT NUMBER NJO 22948.SR.TP	TEST PIT NO.: 96 (AREA 3)	SHEET: 1	
TEST PIT LOG					
PROJECT: SEARS LOGISTICAL SERVICES ELEVATION: 50-55 FT.		LOCATION: MAYWOOD, NJ CONTRACTOR: CONTI ENVIRONMENTAL		LOGGER: MK DWYER	
EXCAVATION EQUIPMENT: JCB-1700B		COMBINATION BACKHOE		DATE EXCAVATED: 5-12-92	
WATER LEVEL AND DATE: WET AT 5'		APPROX. DIMENSIONS: Length: 8' Width: 7' Maximum Depth: 5.0'			
DEPTH BELOW SURFACE	DEPTH		SOIL DESCRIPTION  SOIL NAME, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL	S Y M B O L	COMMENTS
	INTERVAL	TYPE AND NUMBER			
0			0-0.5' Asphalt and gravel base.		METAL ENCOUNTERED:
--			0.5-1.0' Red-brown very fine sand and silt		1.0' Sheet metal on E side of pit. --
1			1.0-4.0' Light to medium brown coarse sand		2-3' Sheet metal throughout pit. --
--					Large volume. --
2					3' Crushed remains of drum. --
--					Total metal= 5'x 5'x 4' pile. --
3			4-5' Medium brown clayey silt.		--
--			5' Native grey clayey silt.		--
4					--
--					--
5					--
--					--
6					--
--					--
7					FIELD MONITORING RESULTS: --
--					--
8					OVA: >1000 PPM (in hole) --
--					40 PPM in breathing zone --
9					LEL: 0 % --
--					OXYGEN: 20.9 % --
10					SPA-3: 32,000 CPM (2.0') --
--					--
--					--
--					--
--					No sample collected. --
--					--
--					--
--					--
--					--
--					--
--					--



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CH2M HILL

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PROJECT NUMBER NJO 22948.SR.TP	TEST PIT NO.: 98(AREA 1090E,1970N) SHEET: 1
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TEST PIT LOG

PROJECT: SEARS LOGISTICAL SERVICES	LOCATION: MAYWOOD, NJ	LOGGER: MK DWYER
ELEVATION: 50-55 FT.	CONTRACTOR: CONTI ENVIRONMENTAL	
EXCAVATION EQUIPMENT: JCB-1700B COMBINATION BACKHOE	DATE EXCAVATED: 5-12-92	
WATER LEVEL AND DATE: NOT ENCOUNTERED	APPROX. DIMENSIONS: Length: 10' Width: 6' Maximum Depth: 3.5'	

DEPTH BELOW SURFACE	DEPTH		SOIL DESCRIPTION  SOIL NAME, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL	S Y M B O L	COMMENTS
	INTERVAL	TYPE AND NUMBER			
0			0-0.5' Asphalt and gravel base.		METAL ENCOUNTERED:
--			0.5-3.5' Medium to red-brown very fine		1.5' 1.5" diameter, 1.5' long pipe. --
1			sandy silt, some gravel.		--
--					--
2					--
--					--
3					--
--					--
4			BOTTOM OF EXCAVATION AT 3.5 FEET		--
--					--
5					--
--					--
6					--
--					--
7					FIELD MONITORING RESULTS:
--					--
8					OVA: 4 PPM (in hole)
--					0 PPM in breathing zone --
9					LEL: 0 %
--					--
10					OXYGEN: 20.9 %
--					SPA-3: 51,000 CPM (1.0') --
--					--
--					--
--					--
--					No sample collected. --
--					--
--					--
--					--
--					--
--					--
--					--

1

**SHEET:** 1

## TEST PIT LOG

PROJECT: SEARS LOGISTICAL SERVICES	LOCATION: MAYWOOD, NJ	LOGGER: MK DWYER
ELEVATION: 50-55 FT.	CONTRACTOR: CONTI ENVIRONMENTAL	
EXCAVATION EQUIPMENT: JCB-1700B COMBINATION BACKHOE	DATE EXCAVATED: 5-12-92	
WATER LEVEL AND DATE: NOT ENCOUNTERED	APPROX. DIMENSIONS: Length: 15' Width: 4' Maximum Depth: 4.5'	

[illegible]

PROJECT NUMBER WJO 22948.SR.TP | TEST PIT NO.: 101 (AREA 890E, 910N) SHEET: 1

## TEST PIT LOG

PROJECT: SEARS LOGISTICAL SERVICES	LOCATION: MAYWOOD, NJ	LOGGER: MK DWYER
ELEVATION: 50-55 FT.	CONTRACTOR: CONTI ENVIRONMENTAL	
EXCAVATION EQUIPMENT: JCB-1700B COMBINATION BACKHOE	DATE EXCAVATED: 5-13-92	
WATER LEVEL AND DATE: NOT ENCOUNTERED	APPROX. DIMENSIONS: Length: 6' Width: 5' Maximum Depth: 3.5'	

[illegible]





SHEET: 1

## TEST PIT LOG

PROJECT: SEARS LOGISTICAL SERVICES	LOCATION: MAYWOOD, NJ	LOGGER: MK DWYER
ELEVATION: 50-55 FT.	CONTRACTOR: CONTI ENVIRONMENTAL	
EXCAVATION EQUIPMENT: JCB-1700B COMBINATION BACKHOE	DATE EXCAVATED: 5-13-92	
WATER LEVEL AND DATE: NOT ENCOUNTERED	APPROX. DIMENSIONS: Length: 15' Width: 7' Maximum Depth: 3.5'	

[illegible]



CH2M HILL

PROJECT NUMBER NJO 22948.SR.TP

TEST PIT NO.: 106 (AREA 820E.980W) SHEET:

1

# TEST PIT LOG

**PROJECT: SEARS LOGISTICAL SERVICES**

LOCATION: MAYWOOD, NJ

LOGGER: MK DWYER

ELEVATION: 50-55 FT.

**CONTRACTOR: CONTI ENVIRONMENTAL**

**EXCAVATION EQUIPMENT:**

**JCB-1700B COMBINATION BACKHOE**

**DATE EXCAVATED: 5-14-92**

WATER LEVEL AND DATE:

**NOT ENCOUNTERED**

APPROX.DIMENSIONS:Length: 10' Width: 9' Maximum Depth: 3.0'

[illegible]

TPLSYN 06/06/88

PROJECT NUMBER	NJO 22948.SR.TP	TEST PIT NO.: 107 (AREA 32)	SHEET:	1
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## TEST PIT LOG

PROJECT: SEARS LOGISTICAL SERVICES	LOCATION: MAYWOOD, NJ	LOGGER: MK DWYER
ELEVATION: 50-55 FT.	CONTRACTOR: CONTI ENVIRONMENTAL	
EXCAVATION EQUIPMENT: JCB-1700B COMBINATION BACKHOE	DATE EXCAVATED: 5-14-92	
WATER LEVEL AND DATE: NOT ENCOUNTERED	APPROX. DIMENSIONS: Length: 10' Width: 6' Maximum Depth: 5.0'	

[illegible]

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CH2M HILL  
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PROJECT NUMBER NJO 22948.SR.TP

TEST PIT NO.: 108 (AREA 830E,920N)SHEET:

1

TEST PIT LOG

PROJECT: SEARS LOGISTICAL SERVICES

LOCATION: MAYWOOD, NJ

LOGGER: MK DWYER

ELEVATION: 50-55 FT.

CONTRACTOR:

CONTI ENVIRONMENTAL

EXCAVATION EQUIPMENT:

JCB-1700B COMBINATION BACKHOE

DATE EXCAVATED: 5-14-92

WATER LEVEL AND DATE:

NOT ENCOUNTERED

APPROX.DIMENSIONS: Length: 5' Width: 4' Maximum Depth: 5.0'

DEPTH BELOW SURFACE	DEPTH		SOIL DESCRIPTION  SOIL NAME, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL	S Y M B O L	COMMENTS
	INTERVAL	TYPE AND NUMBER			
0			0-0.5' Asphalt and gravel base.		METAL ENCOUNTERED:
--			0.5-5.0' Medium brown to black sandy silt, some gravel, bricks, timbers, and scrap wood. Some oily looking horizons.		No metal found.
1					--
--					--
2					--
--					--
3					--
--					--
4					--
--					--
5			5.0' Grey native silt.		--
--					--
6			BOTTOM OF EXCAVATION AT 5.0 FEET		--
--					--
7					FIELD MONITORING RESULTS:
--					--
8					OVA: 600 PPM (in hole)
--					10 PPM in breathing zone
9					LEL: 0 %
--					OXYGEN: 20.9 %
10					SPA-3: 140,000 CPM (1.0')
--					--
--					--
--					--
--					No sample collected.
--					--
--					--
--					--
--					--
--					--
--					--
--					--

**SHEET: 1**

TEST PIT LOG

PROJECT: SEARS LOGISTICAL SERVICES	LOCATION: MAYWOOD, NJ	LOGGER: MK DWYER
ELEVATION: 50-55 FT.	CONTRACTOR: CONTI ENVIRONMENTAL	
EXCAVATION EQUIPMENT: JCB-1700B COMBINATION BACKHOE	DATE EXCAVATED: 5-15-92	
WATER LEVEL AND DATE: NOT ENCOUNTERED	APPROX. DIMENSIONS: Length: 15' Width: 5' Maximum Depth: 4.0'	

[illegible]

**SHEET:** 1

## TEST PIT LOG

LOGGER: MK DWYER

ELEVATION: 50-55 FT.

**CONTRACTOR: CONTI ENVIRONMENTAL**

**EXCAVATION EQUIPMENT:**

**JCB-1700B COMBINATION BACKHOE**

**DATE EXCAVATED: 5-15-92**

WATER LEVEL AND DATE:

NOT ENCOUNTERED

APPROX.DIMENSIONS:Length: 10' Width: 4' Maximum Depth: 0.5'

[illegible]

CH2M HILL

PROJECT NUMBER NJO 22948.SR.TP

TEST PIT NO.: 111 (AREA 1280E, 790N) SHEET:

1

TEST PIT LOG

PROJECT: SEARS LOGISTICAL SERVICES

LOCATION: HAYWOOD, NJ

LOGGER: MK DWYER

ELEVATION: 50-55 FT.

CONTRACTOR: CONTI ENVIRONMENTAL

**EXCAVATION EQUIPMENT:**

**JCB-17008 COMBINATION BACKHOE**

DATE EXCAVATED: 5-15-92

WATER LEVEL AND DATE:

**NOT ENCOUNTERED**

APPROX.DIMENSIONS:Length: 8' Width: 5' Maximum Depth: 4.0'

4-0'

[illegible]

TPLSYM 06/06/88

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 CH2M HILL  
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PROJECT NUMBER NJO 22948.SR.TP	TEST PIT NO.: 112 (AREA 45)	SHEET: 1
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TEST PIT LOG

PROJECT: SEARS LOGISTICAL SERVICES	LOCATION: MAYWOOD, NJ	LOGGER: MK DWYER
ELEVATION: 50-55 FT.	CONTRACTOR: CONTI ENVIRONMENTAL	
EXCAVATION EQUIPMENT: JCB-1700B COMBINATION BACKHOE	DATE EXCAVATED: 5-15-92	
WATER LEVEL AND DATE: WATER AT 4.5'	APPROX. DIMENSIONS: Length: 10' Width: 6' Maximum Depth: 5.0'	

DEPTH BELOW SURFACE	DEPTH		SOIL DESCRIPTION  SOIL NAME, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL	S Y M B O L	COMMENTS
	INTERVAL	TYPE AND NUMBER			
0			0-0.5' Grass cover, organic silt, and roots		METAL ENCOUNTERED:
--			0.5-1.5' Red brown clayey silt, trace gravel.		1.0' 4"x 0.5", 4' long bar at SW pit. --
1					2.0' Crushed metal drum in middle pit. --
--			1.5-5.0' Black silt with organic material.		4' 2-1" diameter, 6-8' long pipes --
2					running E-W through pit. Other scrap --
--					metal. --
3					--
--					--
4					--
--					--
5					--
--					--
6			BOTTOM OF EXCAVATION AT 5.0 FEET		--
--					--
7					--
--					--
8					FIELD MONITORING RESULTS: --
--					--
9					OVA: >1000 PPM (in hole) --
--					350 PPM in breathing zone --
10					LEL: 0 % --
--					OXYGEN: 20.9 % --
--					SPA-3: 74,000 CPM (2.5') --
--					--
--					No sample collected. --
--					--
--					--
--					--
--					--
--					--
--					--
--					--

1

APPROX.DIMENSIONS:Length: 10' Width: 5' Maximum Depth: 2.0'

4

NOT ENCOUNTERED APPROX.DIMENSIONS:Length: 10' Width: 7' Maximum Depth: 3.0'

## TEST PIT LOG

**PROJECT: SEARS LOGISTICAL SERVICES**

LOCATION: MAYWOOD, NJ

LOGGER: MK DWYER

ELEVATION: 50-55 FT.

CONTRACTOR: CONTI ENVIRONMENTAL

**EXCAVATION EQUIPMENT:**

**JCB-1700B COMBINATION BACKHOE**

DATE EXCAVATED: 5-18-92

WATER LEVEL AND DATE:

NOT ENCOUNTERED

APPROX.DIMENSIONS:Length: 6' Width: 5' Maximum Depth: 2.0'

[illegible]

CH2M HILL

PROJECT NUMBER NJO 22948.SR.TP

TEST PIT NO.: 116 (AREA 20)

**SHEET: 1**

TEST PIT LOG

PROJECT: SEARS LOGISTICAL SERVICES  
ELEVATION: 50-55 FT.

LOCATION: MAYWOOD, NJ  
CONTRACTOR: CONTI ENVIRONMENTAL

LOGGER: MK DWYER

EXCAVATION EQUIPMENT:	JCB-1700B
WATER LEVEL AND DATE:	NOT ENCOUNTERED

DATE EXCAVATED: 5-18-92  
APPROX. DIMENSIONS: Length: 8' Width: 5'

WATER LEVEL AND DATE: NOT ENCOUNTERED

JCB-1700B COMBINATION BACKHOE DATE EXCAVATED: 5-18-92  
NOT ENCOUNTERED APPROX.DIMENSIONS:Length: 8' Width: 5' Maximum Depth: 3.5'

[illegible]

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WATER LEVEL AND DATE: NOT ENCOUNTERED APPROX.DIMENSIONS:Length: 4' Width: 5' Maximum Depth: 3.0'

TPLSYN 06/06/88

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CH2M HILL

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PROJECT NUMBER NJO 22948.SR.TP

TEST PIT NO.: 119 (AREA 6)

SHEET: 1

TEST PIT LOG

PROJECT: SEARS LOGISTICAL SERVICES

LOCATION: MAYWOOD, NJ

LOGGER: MK DWYER

ELEVATION: 50-55 FT.

CONTRACTOR: CONTI ENVIRONMENTAL

EXCAVATION EQUIPMENT:

JCB-1700B COMBINATION BACKHOE

DATE EXCAVATED: 5-19-92

WATER LEVEL AND DATE:

WATER AT 4.0'

APPROX. DIMENSIONS: Length: 6' Width: 6' Maximum Depth: 4.0'

DEPTH BELOW SURFACE	DEPTH		SOIL DESCRIPTION  SOIL NAME, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL	S Y M B O L	COMMENTS
	INTERVAL	TYPE AND NUMBER			
0			0-0.5' Asphalt and gravel base.		METAL ENCOUNTERED:
--			0.5-2.0' Dark brown to black very fine sandy silt, wood debris, brick, and broken glass.		0.5' 1" diameter, 1.5' long metal strip--
1					2.0' Sheet metal on N and S side pit.
--					2.0' Crushed drum on NW side of pit. --
2			2.0-2.5' Buff colored silt, dense.		Moss-green and black, oily material on
--			2.5-4.0' Black silt and very fine sand, wood, and brick debris.		soils associated with drum. --
3					3-4' Crushed drum in SW side pit. --
--					--
4			BOTTOM OF EXCAVATION AT 4.0 FEET		--
--					--
5					--
--					--
6					--
--					--
7					--
--					--
8					FIELD MONITORING RESULTS: --
--					--
9					OVA: >1000 PPM (in hole) --
--					20 PPM in breathing zone --
10					LEL: 0 % --
--					OXYGEN: 21.1 % --
--					SPA-3: 188,000 CPM (1.0') --
--					--
--					Sample collected of black/green soil. --
--					Sample # SR-TP-119-3-4' --
--					--
--					--
--					--
--					--
--					--
--					--

1

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CH2M HILL

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PROJECT NUMBER NJO 22948.SR.TP

TEST PIT NO.: 121 (AREA 8)

SHEET:

1

TEST PIT LOG

PROJECT: SEARS LOGISTICAL SERVICES

LOCATION: HAYWOOD, NJ

LOGGER: MK DWYER

ELEVATION: 50-55 FT.

CONTRACTOR: CONTI ENVIRONMENTAL

EXCAVATION EQUIPMENT:

JCB-1700B COMBINATION BACKHOE

DATE EXCAVATED: 5-19-92

WATER LEVEL AND DATE:

NOT ENCOUNTERED

APPROX. DIMENSIONS: Length: 12' Width: 6' Maximum Depth: 4.5'

DEPTH BELOW SURFACE	DEPTH		SOIL DESCRIPTION  SOIL NAME, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL	S Y M B O L	COMMENTS
	INTERVAL	TYPE AND NUMBER			
0			0-0.5' Asphalt and gravel base.		METAL ENCOUNTERED:
--			0.5-4.5' Medium brown to dark grey and		1.0' Crushed metal in center of pit. --
1			white flecked fine sand and silt,		1-2' 4", 5' long piece of angle iron --
--			some gravel, wood debris, brick,		from SE corner of pit. --
2			and concrete.		2-3' Nearly intact drum on S side pit
--					filled with surrounding soils. --
3					Another crushed drum encountered in SE
--					corner. --
4			BOTTOM OF EXCAVATION AT 4.5 FEET		2-3' Third crushed drum from NW corner
--					of pit. --
5					--
--					--
6					--
--					--
7					--
--					--
8					--
--					--
9					FIELD MONITORING RESULTS: --
--					--
10					OVA: 400 PPM (in hole) --
--					20-30 PPM in breathing zone --
--					LEL: 0 % --
--					OXYGEN: 20.9 % --
--					SPA-3: 247,000 CPM (2.0') --
--					--
--					--
--					No sample collected. --
--					No materials encountered in pit or --
--					associated with drums that have not --
--					already been sampled. --
--					--
--					--
--					--
--					--
--					--
--					--

**SHEET: 1**

PROJECT: SEARS LOGISTICAL SERVICES	LOCATION: MAYWOOD, NJ	LOGGER: MK DWYER
ELEVATION: 50-55 FT.	CONTRACTOR: CONTI ENVIRONMENTAL	
EXCAVATION EQUIPMENT: JCB-1700B COMBINATION BACKHOE	DATE EXCAVATED: 5-20-92	
WATER LEVEL AND DATE: SEEPS AT 0.5'	APPROX. DIMENSIONS: Length: 10' Width: 5'	Maximum Depth: 2.0'

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CH2M HILL

PROJECT NUMBER NJO 22948.SR.TP

TEST PIT NO.: 123 (AREA1440E.520N) SHEET:

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### TEST PIT LOG

PROJECT: SEARS LOGISTICAL SERVICES

LOCATION:MAYWOOD, NJ

LOGGER: MK DWYER

ELEVATION: 50-55 FT.

CONTRACTOR: CONTI ENVIRONMENTAL

**EXCAVATION EQUIPMENT:**

JCB-1700B

## COMBINATION BACKHOE

**DATE EXCAVATED: 5-20-92**

WATER LEVEL AND DATE:

**SEEPS AT 1.5'**

**APPROX. DIMENSIONS:** Length: 5'

Width: 6'

**Maximum Depth:**

1.5'

[illegible]

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## TEST PIT LOG

LOGGER: MK DWYER

ELEVATION: 50-55 FT.

CONTRACTOR: CONTI ENVIRONMENTAL

**EXCAVATION EQUIPMENT:**

JCB-1700B COMBINATION BACKHOE

DATE EXCAVATED: 5-20-92

WATER LEVEL AND DATE:

NOT ENCOUNTERED

APPROX.DIMENSIONS:Length: 10' Width: 4' Maximum Depth: 4.0'

[illegible]





CH2M HILL

# TEST PIT LOG

PROJECT: FEDERAL EXPRESS PROPERTY	LOCATION: MAYWOOD, NJ	LOGGER: MK DWYER
ELEVATION: 50-55 FT.	CONTRACTOR: CONTI ENVIRONMENTAL	
EXCAVATION EQUIPMENT: JCB-1700B COMBINATION BACKHOE	DATE EXCAVATED: 5-21-92	
WATER LEVEL AND DATE: NOT ENCOUNTERED	APPROX. DIMENSIONS: Length: 10' Width: 4' Maximum Depth: 5.0'	

[illegible]

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\*\*\*\*\*  
CH2M HILL  
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PROJECT NUMBER NJO 22948.FA.TP

TEST PIT NO.: 128 (AREA 6)

SHEET: 1

TEST PIT LOG

PROJECT: FEDERAL EXPRESS PROPERTY

LOCATION: MAYWOOD, NJ

LOGGER: MK DWYER

ELEVATION: 50-55 FT.

CONTRACTOR: CONTI ENVIRONMENTAL

EXCAVATION EQUIPMENT: JCB-17008 COMBINATION BACKHOE DATE EXCAVATED: 5-21-92

WATER LEVEL AND DATE: NOT ENCOUNTERED APPROX. DIMENSIONS: Length: 10' Width: 4' Maximum Depth: 4.0'

DEPTH BELOW SURFACE	DEPTH		SOIL DESCRIPTION  SOIL NAME, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL	S Y M B O L	COMMENTS
	INTERVAL	TYPE AND NUMBER			
0			0-0.5' Asphalt and gravel base.		METAL ENCOUNTERED:
--			0.5-3.0' Orange-brown very fine sandy silt		No metal found.
1					--
--					--
2			3.0-4.0' Red brown silt, with sandstone bedrock fragments.		--
--					--
3					--
--					--
4			BOTTOM OF EXCAVATION AT 4.0 FEET		--
--					--
5					--
--					--
6					--
--					--
7					--
--					--
8					--
--					--
9					FIELD MONITORING RESULTS:
--					--
10					OVA: 0 PPM (in hole)
--					0 PPM in breathing zone
--					LEL: 0 %
--					OXYGEN: 20.9 %
--					SPA-3: 13,000 CPM (3.0')
--					--
--					No sample collected.
--					--
--					--
--					--
--					--
--					--
--					--

1

# TEST PIT LOG

APPROX.DIMENSIONS:Length: 4' Width: 10' Maximum Depth: 2.0'

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***ATTACHMENT 3***  
***TABLES***

**Table 1**  
**Test-Pit Summary Table: Metal Encountered and Field Monitoring Results**

Page 1 of 7

Pit No.	Area No. from Geophysics Investigation; Location	Metal Found	Field Monitoring*	
			Organic Vapors <sup>b</sup> (ppm)	Radiological Measurement <sup>c</sup> (cpm)
STEPAN (Figure 1)				
1	40; 91-98E, 62-68N	rebar, pipes, sheet metal	15	45,000
2	33; 36-42E, 144-153N	4 sewer pipes, sheet metal	0	100,000
3	11; 42-48E, 210-220N	pipe, reinforced foundation	4	19,000
4	3; 325-330E, 126-130N	metal beam, pipe, foundation	15	45,000
5	15; 395-405E, 123-130N	metal sheets, pipes, foundation	0.9 <sup>d</sup>	20,000
6	2; 280-290E, 280-290N	building foundation	0	22,000
7	9; 362-365E, 300-310N	4 pipelines	5 <sup>d</sup>	29,000
8	10; 360E, 350-370N	3 pipes, reinforced foundation	0	27,000
9	16; 578-582N, 50-60E	pipeline, building foundation	200	350,000
10	13; 10E, 500-510N	2 pipes	0	34,000
11A	32; 42-48E, 208-212N	reinforced concrete foundation	0	16,000
11B	32; 42-48E, 218-220N	reinforced concrete foundation	0	16,000
12	50; 940N, 1500-1510E	railroad tracks	0	6,000
13	88; 950N, 1480-1490N	railroad tracks, rebar	0	15,000
14	43; 960N, 1560-1570E	railroad tracks	0	8,000
15	79; 990-995N, 1465-1470E	metal band tie	0	21,000
16	56; 1410E, 950-970N	metal pipe	0	16,000
17	29; 300-306N, 920-930E	2 pipes, railroad track	0	21,000
18	53; 288-290N, 790-794E	reinforced concrete	0	7,000
19	42; 402-409E, 458-466N	4 pipes	0	31,000
20	72; 60N, 764-770E	railroad track, pipe, reinforced concrete	0.5 <sup>d</sup>	29,000
21	18; 62-67N, 663-670E	sheet metal, rebar, 3 pipes, crushed drum	35 <sup>d</sup>	25,000

**Table 1**  
**Test-Pit Summary Table: Metal Encountered and Field Monitoring Results**

Page 2 of 7

Pit No.	Area No. from Geophysics Investigation; Location	Metal Found	Field Monitoring*	
			Organic Vapors <sup>b</sup> (ppm)	Radiological Measurement <sup>c</sup> (cpm)
129	65; 290N, 860-870E	metal pipe	100	13,000
<b>STEPAN AMENDED PROPERTY (Figure 2)</b>				
22*	19; 60-67W, 55-59S	3 metal pipes	0 <sup>d</sup>	28,000
23*	4; 232-240W, 37-43S	metal pipe	0 <sup>d</sup>	36,000
24	10; 90-100S, 140-147W	no metal found	0 <sup>d</sup>	28,000
25*	1; 158-163W, 200-207S	4 crushed drums	0 <sup>d</sup>	27,000
26	11; 40-47W, 174-180S	metal rebar, railroad tracks	0 <sup>d</sup>	21,000
27	29; 25-32W, 520-527S	reinforced concrete slab	0 <sup>d</sup>	31,000
28	2; 68-72W, 410-418S	metal pipe	8 <sup>d</sup>	14,000
29	5; 10-15W, 297-307S	crushed drum, reinforced concrete pad	0 <sup>d</sup>	18,000
30	39; 17-23N, 688-692S	2 metal pipes	0	30,000
31	16; 188-192W, 270-280S	2 metal pipes	0	20,000
32*	31; 58-62W, 344-352S	metal pipe	0	18,000
<b>DESAUSSURE (Figure 3)</b>				
33	1; 7-13E, 580-584N	2 crushed drums	0	300,000
34	2; 3W-0E, 517-523N	3 crushed drums, metal slug	0.2	137,000
35	12; 217-222E, 160-165N	reinforced concrete pipe	30	9,000
36	14; 246-250E, 170-180N	metal pipe	0 <sup>d</sup>	10,000
37	9; 265-270E, 282-285N	ground wire	0	11,000
38	8; 266-274E, 345-350N	metal bar	0	7,000
39	6; 260E, 390-400N	reinforced concrete	0	9,000
40	5; 268-273E, 486-490N	reinforced concrete	0	7,000
41	10; 220-227E, 256-265N	metal sewer pipe	0	10,000

**Table 1**  
**Test-Pit Summary Table: Metal Encountered and Field Monitoring Results**

Page 3 of 7

Pit No.	Area No. from Geophysics Investigation; Location	Metal Found	Field Monitoring <sup>a</sup>	
			Organic Vapors <sup>b</sup> (ppm)	Radiological Measurement <sup>c</sup> (cpm)
42*	4; 196-202E, 550-560N	no metal found	0	5,000
124	15; 280E, 190-200N	metal bar	0	9,000
<b>SUNOCO (Figure 4)</b>				
43	4; 240N, 180-190E	metal debris, wire	0	15,000
44	5; 220N, 140-150E	metal sheet	0	50,000
45	7; 160N, 136-141E	scrap metal, pipes	0	56,000
46	2; 260N, 180-190E	scrap metal, pipes	0	50,000
47	12; 86-90N, 187-190E	pipe, scrap metal	75 <sup>d</sup>	18,000
48	10; 128-133N, 154-160E	scrap metal, reinforced concrete	0	53,000
49	8; 170-176N, 204-210E	scrap metal	0	28,000
50	9; 128-133N, 120-130E	2 pipes, rebar	0	740,000
51	11; 90-100N, 123-130E	metal bar, plate, reinforced concrete	75	710,000
52	6; 160N, 60-68E	sheet metal, metal debris	0	65,000
53	13; 70N, 220-230E	no metal found	0	15,000
<b>AMP (Figure 5)</b>				
54	3; 110N, 30-40E	crowbar	120	13,000
55	5; 90N, 40-60E	metal pipe	150	12,000
56	6; 50N, 136-145E	no metal found	>1,000	7,000
57*	1; 380N, 170-180E	wire mesh	100	12,000
125	2; 20E, 180N	2 metal pipes	300	8,000
<b>FEDERAL EXPRESS (Figure 6)</b>				
58	3; 40E, 480-490N	metal cable, wire, pipe	25	12,000
59	5; 190E, 610-620N	no metal found	44	13,000

**Table 1**  
**Test-Pit Summary Table: Metal Encountered and Field Monitoring Results**

Page 4 of 7

Pit No.	Area No. from Geophysics Investigation; Location	Metal Found	Field Monitoring <sup>a</sup>	
			Organic Vapors <sup>b</sup> (ppm)	Radiological Measurement <sup>c</sup> (cpm)
60	8; 290E, 520-530N	no metal found	0	12,000
61	9; 310E, 470-480N	no metal found	0	14,000
126	depression pit <sup>e</sup>	scrap metal	0	10,000
127	2; 40E, 520-530N	no metal found	200	13,000
128	6; 230E, 570-580N	no metal found	0	13,000
<i>SWS (Figure 7)</i>				
62	9; 50N, 370-390E	no metal found	300	13,000
63	10; 50N, 510-520E	no metal found	33	13,000
64	14; 380N, 200-210E	no metal found	28	18,000
65	20; 439-442N, 265-270E	scrap metal	0	20,000
66	15; 390N, 426-432E	metal pipe	43	19,000
67	16; 385-390N, 426-432E	metal pipe	343 <sup>d</sup>	16,000
68	18; 460N, 390-400E	sheet metal, pipe	210	15,000
69	19; 450N, 422-426E	pipe, manhole, reinforced concrete	178 <sup>d</sup>	12,000
70	21; 460N, 467-470E	metal rod, wire, debris	90	14,000
71	22; 488-492N, 404-410E	2 pipes	93	15,000
72	17; 400N, 250-260E	metal pipe	0	16,000
<i>SEARS (Figure 8)</i>				
73	76; 1247-1252E, 310-320N	no metal found	0 <sup>d</sup>	88,000
74	68; 1208-1212E, 594-600N	no metal found	0 <sup>d</sup>	20,000
75	67; 1180E, 582-590N	no metal found	2.4 <sup>d</sup>	91,000
76*	1100E, 660N <sup>f</sup> ; 1100-1106E, 658-663N	sheet metal or drum	0 <sup>d</sup>	39,000

**Table 1**  
**Test-Pit Summary Table: Metal Encountered and Field Monitoring Results**

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Pit No.	Area No. from Geophysics Investigation; Location	Metal Found	Field Monitoring*	
			Organic Vapors <sup>b</sup> (ppm)	Radiological Measurement <sup>c</sup> (cpm)
77	750E, 490N <sup>f</sup> ; 747-750E, 490-495N	crushed drum	0.2 <sup>d</sup>	103,000
78	900E, 510N; 895-900E, 515-520N	remains of 3 crushed drums	0.8 <sup>d</sup>	90,000
79*	51; 860-864N, 810-815E	crushed drum	0 <sup>d</sup>	120,000
80*	43; 1048-1053E, 775-785N	crushed drum	>1,000	78,000
81	1060E, 820N <sup>f</sup> ; 1058-1062E, 820-823N	reinforced concrete	0 <sup>d</sup>	80,000
82	42; 1107-1113E, 830-840N	no metal found	0 <sup>d</sup>	39,000
83	54; 708-712E, 702-710N	crushed drums	0.6	120,000
84*	55B; 780E, 605-610N	6 crushed drums	1,088 <sup>d</sup>	198,000
85*	55A; 770E, 658-672N	1 or 2 crushed drums	>1,000	108,000
86	56; 798-803E, 688-700N	3 crushed drums	0	178,000
87*	9; 827-833E, 1406-1413N	3-4 drums or 1 tank	>1,000	77,000
88*	11; 800-806E, 1375-1387N	2 crushed drums	>1,000	50,000
89*	12; 742-753E, 1312-1319N	2 crushed drums	>1,000	178,000
90	870E, 1470N <sup>f</sup> ; 868-872E, 1468-1482N	scrap metal, bar	>1,000	37,000
91*	5; 802-805E, 1580-1586N	crushed drum, sheet metal	>1,000	117,000
92	7; 908-912E, 1469-1492N	3 crushed drums, container, bar	>1,000	255,000
93	14; 928-932E, 1340-1350N	no metal found	70	73,000
94	900E, 1630N <sup>f</sup> ; 895-899E, 1630-1635N	crushed drum	20	98,000
95	13; 710-716E, 1278-1285N	crushed drum, wire, pipe	100	230,000
96	3; 1088-1095E, 1870-1879N	sheet metal, drum	>1,000	32,000
97	2; 1137-1143E, 2000-2010N	possible drum	>1,000	82,000

**Table 1**  
**Test-Pit Summary Table: Metal Encountered and Field Monitoring Results**

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Pit No.	Area No. from Geophysics Investigation; Location	Metal Found	Field Monitoring <sup>a</sup>	
			Organic Vapors <sup>b</sup> (ppm)	Radiological Measurement <sup>c</sup> (cpm)
98	1090E, 1970N <sup>f</sup> ; 1086-1092E, 1970-1980N	metal pipe	4	51,000
99	740E, 1170N <sup>f</sup> ; 738-741E, 1178-1181N	crushed drum	0	508,000
100	23; 818-822E, 1050-1070N	pipe	>1,000	267,000
101	890E, 910N <sup>f</sup> ; 897E, 907-912N	drum, metal debris	>1,000	230,000
102	30; 858-863E, 930-935N	crushed drum	>1,000	121,000
103	840E, 870N <sup>f</sup> ; 840E, 869-878N	drum remains	>1,000	116,000
104	36; 968-973E, 913-924N	4 crushed drums	>1,000	61,000
105	40; 1119-1123E, 920-928N	wire mesh	>1,000	21,000
106*	820E, 980N <sup>f</sup> ; 820-828E, 974-982N	2 crushed drums	200	209,000
107*	32; 780E, 890-910N	crushed drum	>1,000	56,000
108	830E, 920N <sup>f</sup> ; 828-832E, 916-920N	no metal found	600	140,000
109	38; 1016-1022E, 897-904N	rebar, wire	900	21,000
110	46; 1238-1243E, 767-773N	metal mesh, post, plate	8	13,000
111	1280E, 790N <sup>f</sup> ; 1275-1285E, 794-800N	crushed drum	>1,000	57,000
112	45; 1297-1303E, 810-820N	1 drum, 2 pipes, bar	>1,000	74,000
113	1300E, 860N <sup>f</sup> ; 1298-1302E, 857-866N	crushed drum	100	64,000
114	15; 847-853E, 1280-1290N	scrap metal	>1,000	101,000
115	17; 787-793E, 1240-1246N	crushed drum	>1,000	270,000
116	20; 927-933E, 1160-1167N	no metal found	50	14,000
117	960E, 1820N <sup>f</sup> ; 956-964E, 1822-1828N	no metal found	90	42,000

**Table 1**  
**Test-Pit Summary Table: Metal Encountered and Field Monitoring Results**

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Pit No.	Area No. from Geophysics Investigation; Location	Metal Found	Field Monitoring <sup>a</sup>	
			Organic Vapors <sup>b</sup> (ppm)	Radiological Measurement <sup>c</sup> (cpm)
118	27; 928-933E, 1000-1010N	no metal found	90	26,000
119*	6; 846-851E, 1518-1524N	2 drums, sheet metal	>1,000	188,000
120	810E, 1500N <sup>d</sup> ; 807-812E, 1503-1510N	no metal found	65	66,000
121	8; 787-798E, 1460-1470N	3 drums, crushed metal	400	247,000
122	71; 1440E, 580-588N	no metal found	0	11,000
123	1440E, 520N <sup>d</sup> ; 1440E, 515-520N	no metal found	0	11,000

<sup>a</sup>Indicates the highest organic vapor and radiological measurements detected within an excavation.

<sup>b</sup>Obtained using a Century OVA model 128, unless otherwise noted.

<sup>c</sup>Obtained using an Eberline model PRS-1 count rate meter with an Eberline model SPA-3 (unshielded) probe.

<sup>d</sup>Obtained using a TMA OVM model 580B with a 10.6 eV bulb.

\*One of three depression pits located off the southwest corner (approximately 30E, 180N) of the Federal Express building was excavated. The determination to excavate the depression pit was based on the peculiarity of the depression and a positive field metal-detector response.

<sup>e</sup>Coordinates assigned as area numbers.

Notes: ppm = parts per million  
cpm = counts per minute

<sup>f</sup>Denotes sample location

**Table 2**  
**Test-Pit Sample Summary**

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Sample Designation	Pit Number	Sample Date	Property	Sample Depth <sup>a</sup> (foot)	Sample Matrix	Head Space Measurement <sup>b</sup> (ppm)	Remarks
ST-TP-22-02	22	4-2-92	Stepan Amended	2	Sludge	0 <sup>c</sup>	MS/MSD; purple/blue colored fibrous material
ST-TP-22-02-D	22	4-2-92	Stepan Amended	2	Sludge	NT	Duplicate of ST-TP-22-02
ST-TP-23-3.5	23	4-3-92	Stepan Amended	3.5	Sludge	4.2 <sup>c</sup>	Tan colored, hard chalky material
ST-TP-25-6	25	4-3-92	Stepan Amended	0.6	Soil	0 <sup>c</sup>	Soils associated with crushed drum
ST-TP-32-3	32	4-6-92	Stepan Amended	3	Sludge	0	White, soft, paste-like material adjacent to buried pipe
DS-TP-42-1	42	4-7-92	DeSaussure	1	Sludge	0 <sup>c</sup>	Blue-gray colored, chalk-like material
FA-TP-57-2	57	4-10-92	AMP	2	Soil	1.5	Soils associated with crushed bucket remains
SR-TP-76-1	76	5-4-92	Sears	1	Soil	10.8 <sup>c</sup>	MS/MSD; black-green colored soils from within folds of crushed drum
SR-TP-79-1	79	5-5-92	Sears	1	Sludge	2.9 <sup>c</sup>	Hard, caramel-colored resin from within folds of drum; some soil included in sample
SR-TP-79-1-D	79	5-5-92	Sears	1	Sludge	NT	Duplicate of SR-TP-79-1
SR-TP-84-2	84	5-6-92	Sears	2	Sludge	475 <sup>c</sup>	Very viscous, caramel-colored resin from within crushed drum
SR-TP-85-1.5	85	5-6-92	Sears	1.5	Soil	25.3	Black-green colored soils associated with crushed drum
SR-TP-87-1	87	5-7-92	Sears	1	Sludge	700 <sup>d</sup>	Very viscous, black oil-like material from within drum or tank
SR-TP-87-1B	87	5-7-92	Sears	1	Soil	>1,000	Visibly impacted soils from above drum or tank
SR-TP-88-1	88	5-7-92	Sears	1	Soil	1,000	Low-density, black/light purple, with gray "marbling" soils, from within drum
SR-TP-88-2	88	5-7-92	Sears	2	Soil	640	Similar to soil sample SR-TP-88-1, from within separate drum
SR-TP-89-1	89	5-7-92	Sears	1	Soil	740	Soil impacted by hard, white material (from within drum)
SR-TP-91-3	91	5-8-92	Sears	3	Sludge	0.5	White, silty material

**Table 2**  
**Test-Pit Sample Summary**

Page 2 of 2

Sample Designation	Pit Number	Sample Date	Property	Sample Depth <sup>a</sup> (foot)	Sample Matrix	Head Space Measurement <sup>b</sup> (ppm)	Remarks
SR-TP-106-2	106	5-14-92	Sears	2	Sludge	350	Viscous, brown/caramel-colored resin from within drum
SR-TP-107-3	107	5-14-92	Sears	3	Sludge	180	Hard, tan-colored, chalky material from drum. Soils associated with material appeared to be petroleum contaminated
SR-TP-119-3-4	119	5-19-92	Sears	3-4	Soil	5	MS/MSD; soils impacted by black, oil-like substance associated with crushed drum
SR-TP-80-2	80	5-20-92	Sears	2	Soil	200	Soils from beneath drum
SR-TP-80-2-D	80	5-20-92	Sears	2	Soil	100	Duplicate of SR-TP-80-2

<sup>a</sup>Depth below ground surface.

<sup>b</sup>Obtained using a Century OVA Model 128, unless otherwise noted.

<sup>c</sup>Obtained using a TMA OVM Model 580B, with 10.6 eV bulb.

<sup>d</sup>10-minute holding time was exceeded by 15 minutes; headspace was probably higher than reported value.

Notes: ppm = parts per million

MS/MSD = matrix spike/matrix spike duplicate

NT = not taken

NA = not applicable