SECOR
International Incorporated

15 September 1997

Dr. Ronald R. Bellamy, Chief
Decommissioning and Lab Branch
U.S. Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, PA 19406

Re: Monthly Status Report
Period of Work: July 1 through July 31, 1997
Former EPEC Polymers Facility Located at
Industrial Avenue, Fords, New Jersey

Dear Dr. Bellamy:

This report contains sections summarizing instrument calibrations, removal activities, site surveys and screening, materials handling, air concentrations, personal dosimetry, miscellaneous activities, site visitors, and future on-site plans. Relevant figures and tables are also provided and referenced in the report.

During the month of July 1997, SECOR International Incorporated (*SECOR*) continued radioactive decontamination/removal activities at the former EPEC Polymers facility located on Industrial Avenue in Fords, New Jersey (Figure 1). Removal activities were focused in the first and second floors of the Catalyst Preparation Room (CPR) in the west end of Building 12, the Converter Room in the east end of Building 12, inside Building 12A, and outside the southwest corner of Building 12. The activities in the CPR consisted of decontamination of the metal floor and removal of a door on the 2nd floor; decontamination of the brick walls, support beams, and concrete floor on the 1st floor; and, removal of concrete around cold-joints on the 1st floor. Activities in the Converter Room consisted of removal of overhead pipes and fixtures and exhaust fans on the north and south walls. Activities in Building 12A included removal of concrete pads and a portion of drain pipe. Outside activities near the southwest corner of Building 12 included excavation of the Building 12 drain pipes and surrounding soil.

Survey and screening activities consisted of gamma spectroscopy analyses of a mixed gamma source, drum contents, soils, respirator cartridges, and miscellaneous samples. Direct surface readings were collected from the 1st and 2nd floor of the CPR and in Building 12A.

Four drums of radioactive waste were packaged during the month of July. There are a total of 36 drums of radioactive material stored in Building 31.

111-A North Gold Drive, Robbinsville, NJ 08691-1603 (609) 259-6424 (609) 259-0520 FAX

B/28

I. Calibration

- Table 1 provides the gamma spectroscopy results of the Isotope Products mixed gamma source that was used to calibrate the gamma spec. The source is used to check the energy and efficiency calibration of the instrument. The cobalt-60 and cesium-137 peaks are checked for proper energy and efficiency calibration on a daily basis when possible. The average percent deviation from the certificate file value (provided by Isotope Products) is 0.95 percent for cobalt-60 and 3.0 percent for cesium-137 during the month of July 1997. The analysis confirms that the measured values for these isotopes are within the acceptable percentage of 5 percent of the certificate values.

II. Removal Activities

The following section summarizes the removal activities in the CPR for the month of July 1997:

- Radioactive surface contamination in excess of the field guideline of 280 counts per minute (cpm) averaged over a one square meter (m^2) surface and the maximum field guideline of 840 cpm was identified on the metal plate floor on the 2nd floor. The decontamination was performed with scraping tools, grinding wheels, and a sand blaster. The contaminated blasting sand was collected in a vacuum and placed in a drum. The sand will be sifted through a screen to remove loose radioactive contamination allowing the sand to be reused for other decontamination efforts. The recovered debris will be screened and contaminated debris will be segregated from clean debris. Contaminated debris will be placed in a drum and stored in Building 31. A final survey of the floor will be provided in the August 1997 report.

- The door on the east wall on the 2nd floor was removed with a torch to allow access to the brick wall for survey purposes. The door, the frame, and the brick wall behind the frame were below the 280 and 840 cpm field guidelines.

- Further radioactive surface contamination was identified on the walls of the 1st floor in excess of the 280 and 840 cpm field guidelines. The contaminated areas were scabbled with a rotary hammer. The scabbled brick pieces were collected, screened, and contaminated pieces were segregated from clean pieces. Contaminated brick pieces were placed in a drum and stored in Building 31. A final survey of the walls will be provided in the August 1997 report.

- Further radioactive surface contamination was identified on the support beams on the 1st floor in excess of the 280 and 840 cpm field guidelines. The beams were sand blasted and the contaminated blasting sand was collected in a vacuum and placed in a drum. The sand will be sifted through a screen to remove loose radioactive contamination allowing the sand to be reused for other decontamination efforts. The recovered debris will be screened and contaminated debris will be segregated from clean debris. Contaminated debris will be placed in a drum and stored in Building 31. A final survey of the support beams will be provided in the August 1997 report.

- Radioactive surface contamination was identified on the concrete floor and the footer around the perimeter on the 1st floor in excess of the 280 and 840 cpm field guidelines. The concrete floor

was decontaminated with a scabbling machine. The footer was scabbled with a rotary hammer. The concrete dust and chips were screened and contaminated concrete pieces were segregated from the clean concrete pieces. The contaminated concrete pieces were placed in a drum and stored in Building 31.

The concrete floor around the perimeter of the 1st floor was cut with a walk-behind saw to expose the cold-joints at the junction of the footer and the floor. The concrete was removed in order to investigate the cold-joints as a possible pathway for migration of radioactive contamination into the underlying soils. The concrete slabs were removed, screened, and decontaminated with a rotary hammer to below the 280 and 840 cpm field guidelines. The concrete dust and chips were screened and contaminated concrete pieces were segregated from the clean concrete pieces. The contaminated concrete pieces were placed in a drum and stored in Building 31. A final survey of the concrete floor, footer, and exposed soils will be provided in the August 1997 report.

The following section summarizes the removal activities in the Converter Room for the month of July 1997:

- Pipes, lighting fixtures, and other fixtures were removed from the Converter Room ceiling with a band saw and torch after several areas were found exhibiting radioactive surface contamination in excess of the 280 and 840 cpm field guidelines. Removal of these fixtures also cleared obstructions allowing easier access with a scaffold. Decontamination of the pipes and fixtures was performed by removing contaminated sections with a torch. The pipe decontamination effort cleaned approximately 1.5 yd^3 of contaminated steel. Two drums were filled with contaminated pipe and fixture sections and are stored in Building 31.

- Radioactive surface contamination was identified on the exhaust fans attached to the north and south walls in excess of the 280 and 840 cpm field guidelines. The fans were removed from the wall, dismantled with a torch, and are stored in a drum in Building 31 as radioactive waste.

The following section summarizes the removal activities in Building 12A for the month of July 1997:

- Radioactive surface contamination was identified on the concrete floor in excess of the 280 and 840 cpm field guidelines. Four concrete pads that supported a converter vessel that was used in the manufacture of benzaldehyde exhibited the highest measurements around the cold-joints. The pads were removed with a jackhammer. The concrete chips were screened and contaminated concrete pieces were segregated from the clean concrete pieces. The contaminated concrete pieces were placed in a drum and stored in Building 31.

- A portion of six inch-diameter cast-iron drain pipe was removed from the floor. Material inside the pipe was contaminated above the 100-cpm guideline for loose soil and concrete, and the interior surface of the pipe exhibited readings in excess of the 280 and 840 cpm guidelines. The pipe was placed in a drum and is stored in Building 31. The remainder of the pipe continues south outside the building and will be investigated at a later date.

The following section summarizes outdoor removal activities:

- The CPR drain pipes were removed from outside the southwest corner of Building 12 with an excavator. The drain pipes did not connect to any other lines and were open to the surrounding soils. Approximately 15 yd^3 of contaminated soil was removed, placed on plastic sheets next to the excavation, and covered with plastic sheets. Approximately 30 linear feet of clay pipe was removed. The clay pipe exhibited measurements above all guidelines and was placed in a drum and stored in Building 31. The excavation is approximately 4 ft deep and covers an area of approximately 360 ft^2.

III. Site Surveys and Screening

The following section summarizes site survey and screening activities that include gamma spectroscopy analyses and surface contamination surveys. The surface contamination surveys were performed using a Ludlum Model 2221 equipped with the Ludlum Model 44-40 G-M detector:

- Table 2 lists drum samples that were analyzed with the gamma spectrometry system. The results confirm that all drums packaged in July contain only radioactive waste and not clean material. Radioactive waste is defined by *SECOR* as waste equal to or greater than 100 cpm with the Ludlum Model 2221 scaler ratemeter attached to the Ludlum Model 44-40 G-M detector. The 100 cpm guidelines equates to 35 picocuries per gram (pCi/g) using the gamma spectroscopy system as determined by experiment. Clean material is defined by *SECOR* as material less than 100 cpm using the G-M. The screening and segregation efforts are properly identifying contaminated material and radioactive waste is not being placed in drums as clean waste.

- Table 3 provides gamma spectroscopy results and grid locations from soil sampling. The frequency and location of the sampling were conducted in accordance with NUREG/CR-5849. Figures 2, 3, and 4 show the soil sampling locations to date. All the soil samples collected in July 1997 were below the 35 pCi/g guideline activity. The locations indicated with an "x" are impacted with radioactive contamination greater than or equal to the guideline activity. The results indicate that most of the perimeter soil contains uranium contamination below the guideline. However, samples SS-7, SS-8, SS-9, SS-11, SS-12, SS-15, and SS-16 are all above the guideline. Samples SS-11, SS-12, and SS-15 were collected from the potentially affected area (Area 2000).

- Table 4 provides gamma spectroscopy results for miscellaneous samples that include blasting sand, concrete dust from scabbling, soil, and oil found in the trench excavated on the southwest corner of Building 12 (EXC1).

  The SAND sample results indicate that the blasting sand used in decontamination activities is contaminated with radioactive materials. The sand will be sifted and re-used as described in the Removal Activities section of this report.

  Samples UNSIFT1, UNSIFT2, and SIFT1 provide the results of an impromptu sifting experiment conducted on contaminated soil from the excavation outside the southwest corner of Building 12. The contaminated soil was sifted through the screen that was used to sift blasting

sand. The results indicate that sifting does not remove the contamination from impacted soils with the screen used to sift blasting sand. The mesh size of the screen is approximate to that of a window screen.

Sample SIFT2 provides the result of sifting contaminated concrete chips to separate clean soil from contaminated concrete. Sifting of the debris was successful at removing contaminated concrete that was mixed with clean soil; this procedure will be utilized when it is appropriate.

The results for DUST1 indicate that concrete dust scabbled from the CPR floor is above the 35 pCi/g guideline. All workers wear respirators and dust migration controls are put into place when dust is generated.

Samples CPRE02.5 and CPRE03.5 were collected from beneath concrete slabs in the 1st floor of the CPR around the perimeter of the room. The samples were collected as part of the investigation to determine whether contamination migrated through the cold-joint that runs along the perimeter of the room. The samples were collected at the east end of the room at grid location 02-5 and 03-5 and the results indicate that contamination did not migrate through the cold-joint in those areas. The full results of the sampling effort will be provided after the analysis has been concluded.

Sample 3-7 and 3-8 were collected from clean segregated soil that is stored in Building 31. The results indicate these soils are below the 35 pCi/g guidelines proving that segregation activities are identifying and separating clean soil from contaminated soil.

Sample TROIL1 provides the results of an oil and water sample collected from EXC1. The results indicate that the oil and water were not impacted with radioactive materials.

- Table 5 provides gamma spectroscopy results for respirator cartridges used during remediation and material segregation activities. The table also lists the activities that were performed during use of the cartridges. The results indicate that some remediation activities, particularly jack hammering and concrete cutting, generate dusts that contain measurable quantities of uranium. All workers wear respirators equipped with cartridges that remove radionuclides whenever remediation activities generate dust.

- Figure 5 provides the results of the final survey for the horizontal ledges of the ceiling I-beams on the 2nd floor of the CPR. Out of the 210 measurements collected from the I-beams, only nine measurements were greater than or equal to the 280 cpm average field guideline. However, when these measurements were averaged within the 1 m^2 grid area, the results were below 280 cpm. All 210 measurements were below the maximum guideline of 840 cpm. The readings ranged from 17 cpm to 770 cpm with an average of 76 cpm for the entire surveyed area. Therefore, the results indicate that the I-beams have been decontaminated to below field guidelines.

- Figures 6 provides the results of the initial survey of the north wall on the 2nd floor of the CPR. Out of the 109 total measurements collected from the wall, only 12 measurements were greater than or equal to the 280 cpm average field guideline. Out of those 12 measurements, only one was greater than or equal to the 840 cpm maximum field guideline. The readings ranged from 36

cpm to 1,300 cpm with an average of 190 cpm for the entire surveyed areal. The window sills and wall areas immediately beneath the window sills will be decontaminated with a rotary hammer during August 1997. The final survey results will be provided in the August 1997 report.

- Figure 7 provides the results of the initial survey of the south wall on the 2nd floor of the CPR. Out of the 94 total measurements collected from the wall, only nine measurements were greater than or equal to the 280 cpm average field guideline. Out of those nine measurements, only one was greater than or equal to the 840 cpm maximum field guideline. The readings ranged from 25 cpm to 1,500 cpm with an average of 180 cpm for the entire surveyed area. The window sills and wall areas immediately beneath the window sills will be decontaminated with a rotary hammer during August 1997. The final survey results will be provided in the August 1997 report.

- Figure 8 provides the results of the initial survey of the west wall on the 2nd floor of the CPR. Out of the 123 total measurements collected from the wall, only 13 measurements were greater than or equal to the 280 cpm average field guideline. Out of those 13 measurements, nine were greater than or equal to the 840 cpm maximum field guideline. The readings ranged from 45 cpm to 3,000 cpm with an average of 240 cpm for the entire surveyed area. The window sills will be decontaminated with a rotary hammer during August 1997. The final survey results will be provided in the August 1997 report.

- Figure 9 provides the results of the initial survey of east wall on the 2nd floor of the CPR. Out of the 88 measurements collected from the wall, only four measurements were greater than or equal to the 280 cpm average field guideline. However, when these measurements were averaged within the 1 m^2 grid area, the results were below 280 cpm. All 88 measurements were below the maximum guideline of 840 cpm. The readings ranged from 20 cpm to 340 cpm with an average of 140 cpm for the entire surveyed area. Therefore, the results indicate that the east wall was not impacted with radioactive contamination and required no decontamination.

- Figure 10 provides the results of the initial survey of the floor on the 2nd floor of the CPR. Out of the 60 measurements collected from the floor, 33 measurements were greater than or equal to the 280 cpm average field guideline. Out of those 33 measurements, three were greater than or equal to the 840 cpm maximum field guidelines. The readings ranged from 65 cpm to 1,100 cpm with an average of 340 cpm for the entire surveyed area. The floor was decontaminated as described in the Removal Activities section of this report. The final survey results will be provided in the August 1997 report.

- Figure 11 provides the results of the initial survey of the floor on the 1st floor of the CPR. Out of the 103 measurements collected from the floor, 38 measurements were greater than or equal to the 280 cpm average field guideline. Out of those 38 measurements, 16 were greater than or equal to the 840 cpm maximum field guidelines. The readings ranged from 60 cpm to 35,000 cpm with an average of 950 cpm for the entire surveyed area. The floor was decontaminated as described in the Removal Activities section of this report. The final survey results will be provided in the August 1997 report.

- Figure 12 provides the results of the initial survey of the floor in Building K-12A. Out of the 65 measurements collected from the floor, 17 measurements were greater than or equal to the 280

cpm average field guideline. Out of those 17 measurements, six were greater than or equal to the 840 cpm maximum field guidelines. The readings ranged from 45 cpm to 10,000 cpm with an average of 570 cpm for the entire surveyed area. The higher measurements were concentrated around the cold-joints of the concrete pads. The pads were removed as described in the Removal Activities section of this report.

IV. Materials Handling

Four drums of radioactive waste were packaged in July 1997. Thirty-six drums of radioactive waste have been packaged to date. Approximately 0.5 yd^3 of clean soil was segregated from contaminated soil in July 1997 and 2 yd^3 have been segregated to date. Approximately 2.5 yd^3 of clean concrete was segregated from contaminated concrete in July 1997 and 5 yd^3 have been segregated to date. Approximately 1.5 yd^3 of clean metal was segregated from contaminated metal and 3 yd^3 have been segregated to date.

V. Air Concentrations

There are no air concentration results available to provide in this report because the air sample analysis results have not been received as of this reporting period. Further air concentration results will be provided in a future report.

VI. Personal Dosimetry

Personal dosimetry results will be provided after the wear period ends in September 1997.

VII. Miscellaneous Activities

- Dr. James E. Johnson, *SECOR*'s Certified Health Physicist, provided the 8 hour radiation training course to 2 new workers as specified in the health and safety plan.

VIII. Site Visitors

Table 6 provides a list of people that have visited the site and the purpose of the visit.

IX. Future Plans

Activities that will be performed in August 1997 include:

- Completion of the remediation and survey of the walls and floor on the 2nd floor of the CPR.

- Completion of the remediation and survey of the walls, floor, and trenches on the 1st floor of the CPR.

- Start remediation and survey work in the east end of Building 12.

If you have any questions regarding the information provided herein, please call me or Paul Lazaar at (609) 259-6424.

Sincerely,
SECOR International Inc.

Ravi Gupta
Principal-In-Charge

Attachments

c: Project File
R. Towe, EPEC Polymers
T. Jackson, USNRC
J. Wray, USNRC
J. Moone, NJDEP
P. Lazaar, *SECOR*

FIGURES

1 ..... Site Plan

2 ..... Soil Sampling Locations for Area 1000

3 ..... Soil Sampling Locations for Area 2000

4 ..... Soil Sampling Locations for Area 3000

5 ..... Catalyst Preparation Room - 2nd Floor - Final Ceiling I-Beam Survey

6 ..... Catalyst Preparation Room - 2nd Floor - North Wall Initial Survey

7 ..... Catalyst Preparation Room - 2nd Floor - South Wall Initial Survey

8 ..... Catalyst Preparation Room - 2nd Floor - West Wall Initial Survey

9 ..... Catalyst Preparation Room - 2nd Floor - East Wall Initial Survey

10 ..... Catalyst Preparation Room - 2nd Floor - Initial Floor Survey

11 ..... Catalyst Preparation Room - 1st Floor - Initial Floor Survey

12 ..... Building K-12A - Initial Floor Survey

TABLES

1 ..... Gamma Spec Sample Log - Isotope Products Mixed Gamma Source

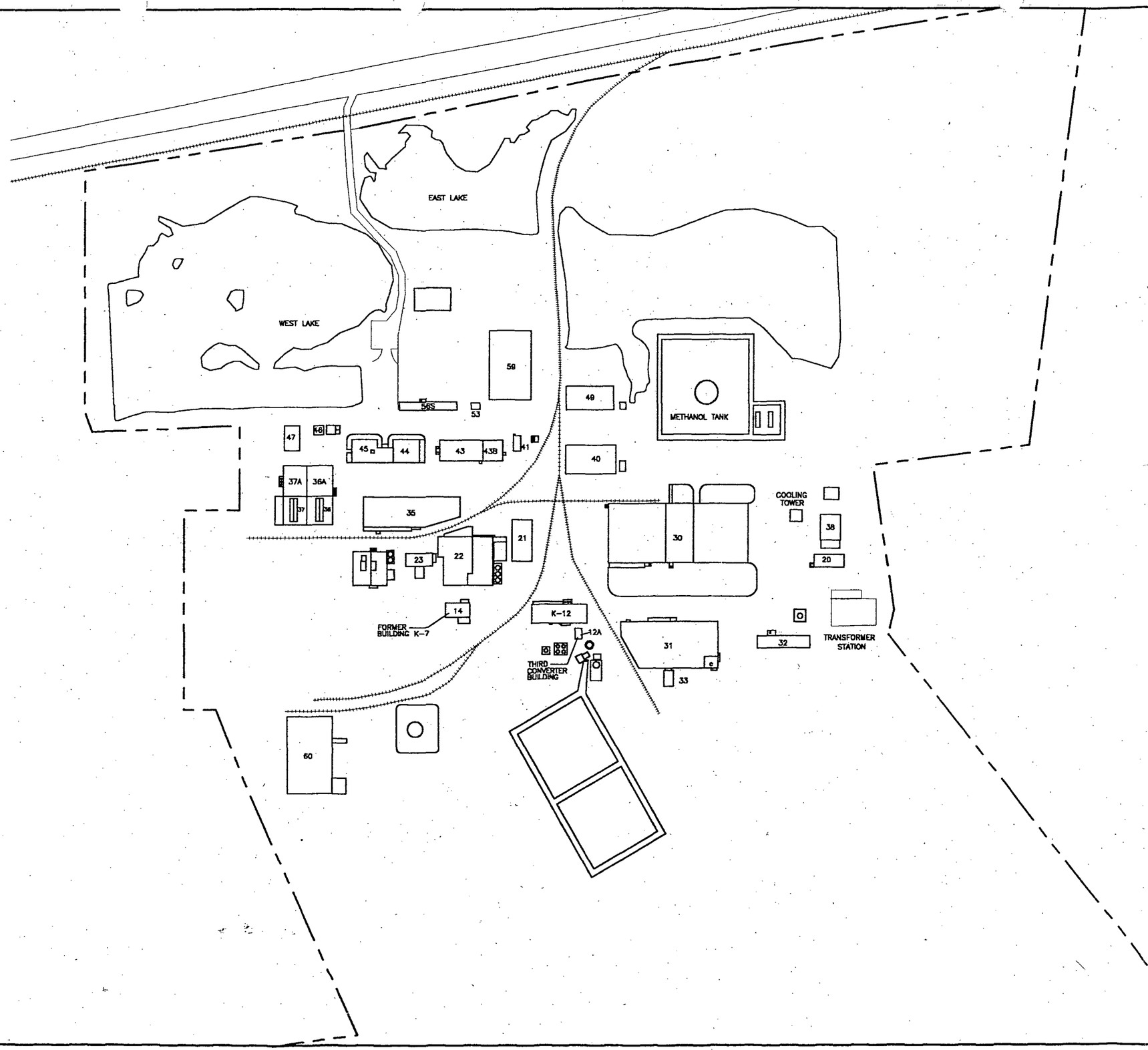
2 ..... Gamma Spec Sample Log - Drum Samples

3 ..... Gamma Spec Sample Log - Soil Samples

4 ..... Gamma Spec Sample Log - Miscellaneous Samples

5 ..... Gamma Spec Sample Log - Respirator Cartridges

6 ..... On-site Visitors for July 1997



NOTE:

DEVELOPED FROM ESCM CONSULTING ENGINEERS, DRAWING NO. TNFD-0001 DATED 3/16/82 AND HEYDEN NEWPORT CHEMICAL CORP. DRAWING FILE 11147-9 DATED 9/1/60.

N

0 100 200

SCALE IN FEET

SIGNATURE	DATE
REVIEW ENGR:	
PROJECT ENGR:	
PROJECT MGR:	
CLIENT:	

PREPARED BY:

SECOR INTERNATIONAL INCORPORATED

SECOR

355 UNION BOULEVARD
SUITE 200
LAKEWOOD, COLORADO 80228

PREPARED FOR:

EPEC POLYMERS, INC.

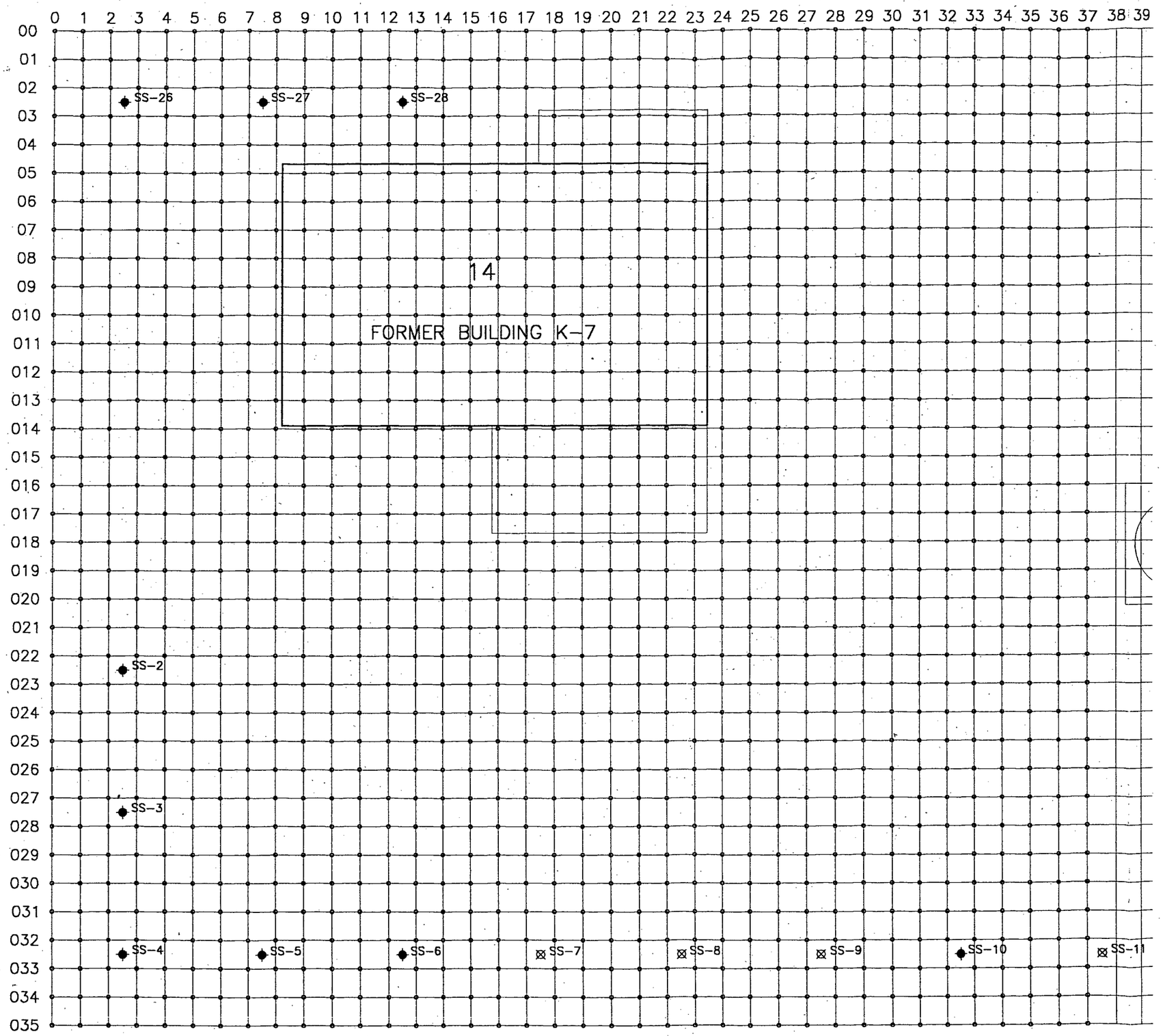
FORDS, NEW JERSEY

SITE PLAN

DESIGNED BY:	DETAILED BY:	CHECKED BY:
T. KREUTZ	SHL	

DATE: 03/11/97	ACAD FILE: BAS-0011
PROJECT NO.: 80136-001-01	PLOT SCALE: 1" = 100'

FIGURE 1



LEGEND

SOIL SAMPLE LOCATIONS BELOW 35 pCi/g

SOIL SAMPLE LOCATIONS ABOVE OR EQUAL TO 35 pCi/g

N

0 6 12

SCALE IN FEET

SIGNATURE	DATE
REVIEW ENGR:	
PROJECT ENGR:	
PROJECT MGR:	
CLIENT:	

PREPARED BY:

SECOR INTERNATIONAL INCORPORATED

SECOR

355 UNION BOULEVARD
SUITE 200
LAKEWOOD, COLORADO 80228

PREPARED FOR:

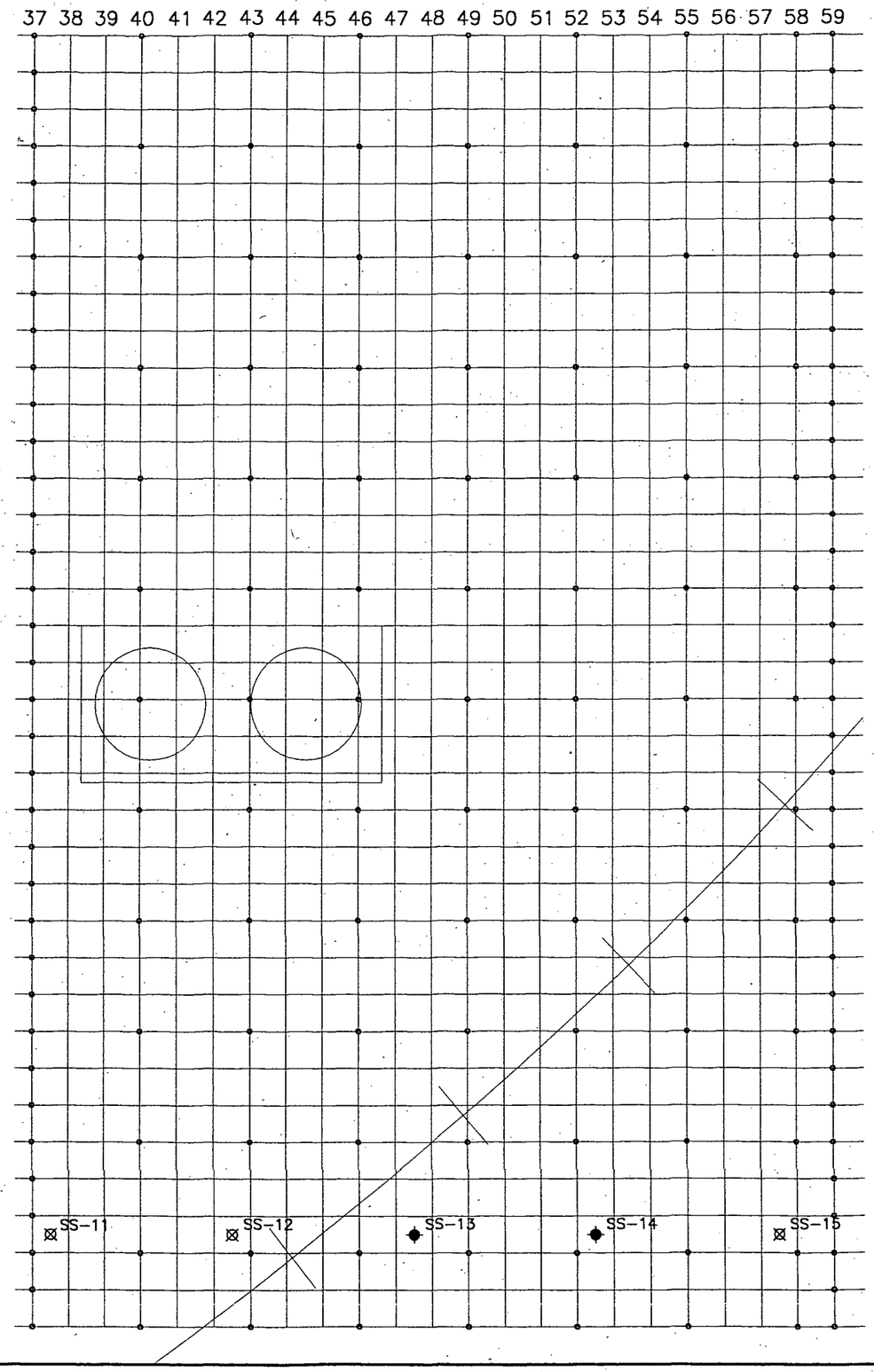
EPEC POLYMERS, INC.

FORDS, NEW JERSEY

SOIL SAMPLING LOCATIONS FOR AREA 1000

DESIGNED BY:	DETAILED BY: SHL	CHECKED BY:
DATE: 08/11/97	ACAD FILE: LOC-0560	
PROJECT NO.: Z0122-001-01	PLOT SCALE: 1" = 20'	

FIGURE 2



LEGEND

SOIL SAMPLE LOCATIONS BELOW 35 pCi/g

SOIL SAMPLE LOCATIONS ABOVE OR EQUAL TO 35 pCi/g

N

0 6 12

SCALE IN FEET

SIGNATURE	DATE
REVIEW ENGR:	
PROJECT ENGR:	
PROJECT MGR:	
CLIENT:	

PREPARED BY:

SECOR INTERNATIONAL INCORPORATED

SECOR

355 UNION BOULEVARD
SUITE 200
LAKEWOOD, COLORADO 80228

PREPARED FOR:

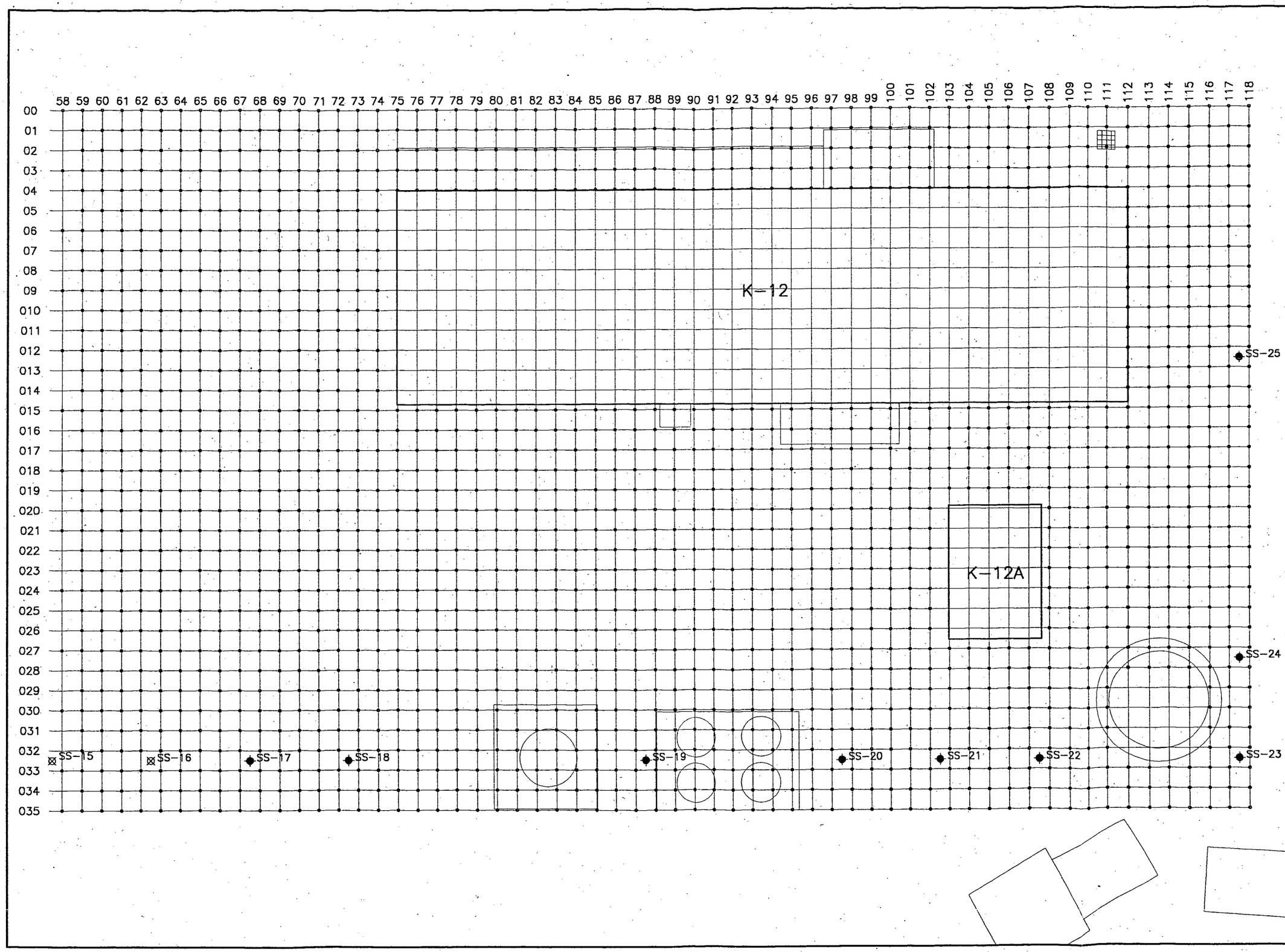
EPEC POLYMERS, INC.

FORDS, NEW JERSEY

SOIL SAMPLING LOCATIONS FOR AREA 2000

DESIGNED BY:	DETAILED BY: SHL	CHECKED BY:
DATE: 05/06/97	ACAD FILE: LOC-0544	
PROJECT NO.: Z0122-001-01	PLOT SCALE: 1" = 20'	

FIGURE 3



LEGEND

SOIL SAMPLE LOCATIONS BELOW 35 pCi/g

SOIL SAMPLE LOCATIONS ABOVE OR EQUAL TO 35 pCi/g

SIGNATURE	DATE
REVIEW ENGR:	
PROJECT ENGR:	
PROJECT MGR:	
CLIENT:	

PREPARED BY:

SECOR INTERNATIONAL INCORPORATED

SECOR

355 UNION BOULEVARD
SUITE 200
LAKEWOOD, COLORADO 80228

PREPARED FOR:

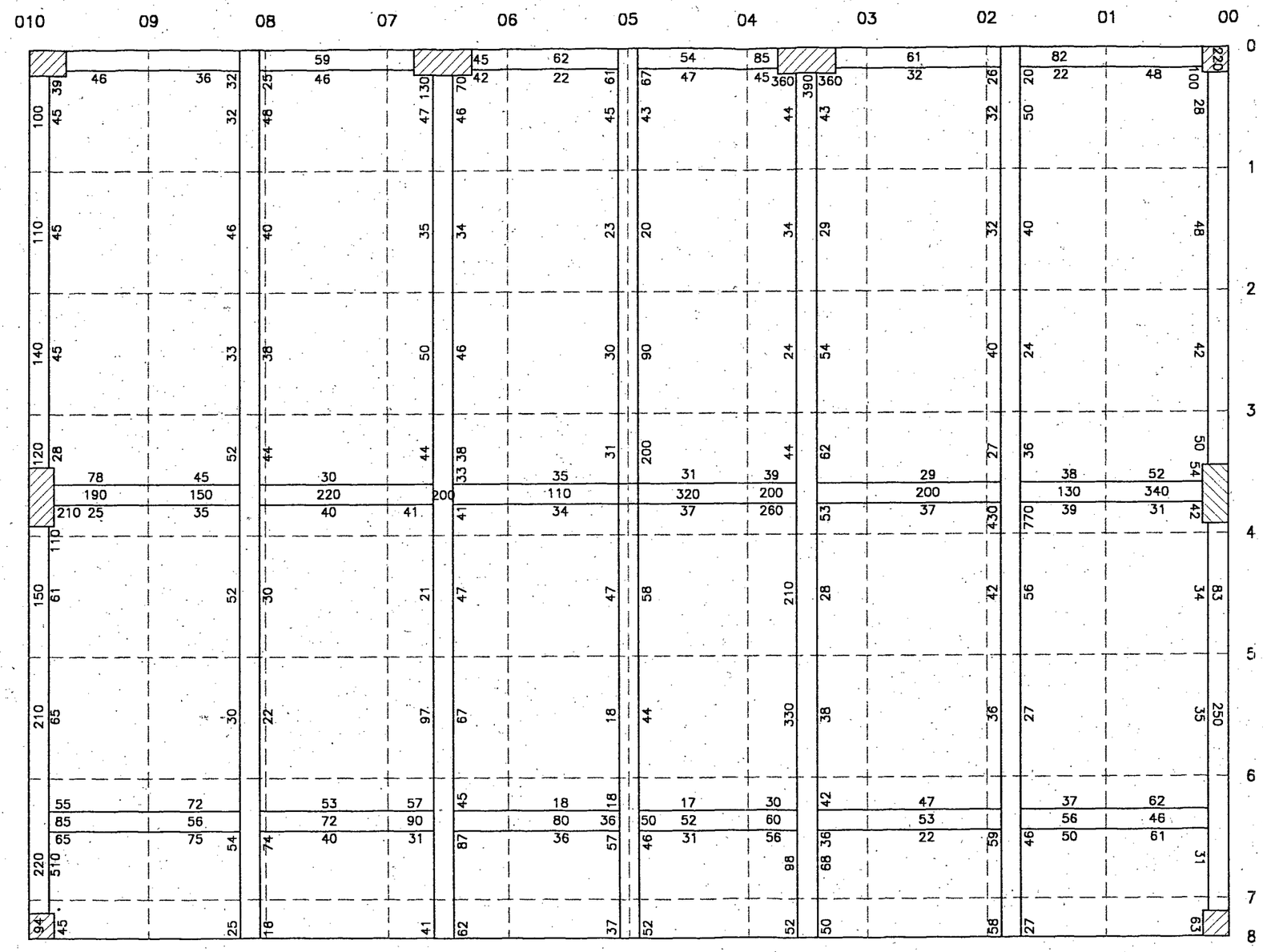
EPEC POLYMERS, INC.

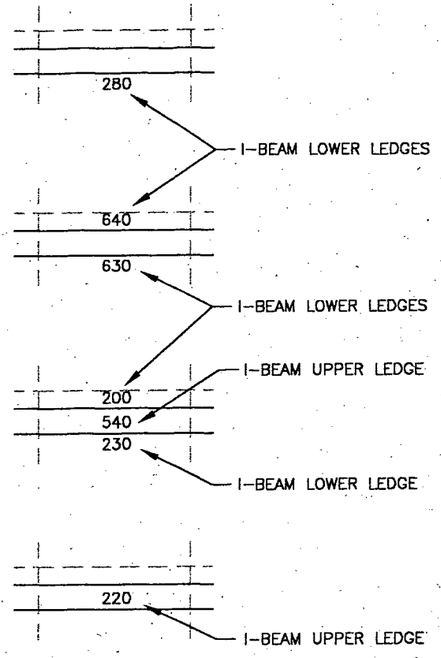
FORDS, NEW JERSEY

SOIL SAMPLING LOCATIONS FOR AREA 3000

DESIGNED BY:	DETAILED BY: SHL	CHECKED BY:
DATE: 08/11/97	ACAD FILE: LOC-0581	
PROJECT NO.: Z0122-001-01	PLOT SCALE: 1" = 20'	

FIGURE 4





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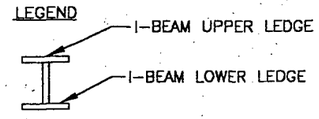
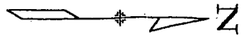


NOTES:

1. UNLESS SPECIFIED, ALL MEASUREMENTS TAKEN WITH A LUDLUM MODEL 2221 RATE METER EQUIPPED WITH A LUDLUM MODEL 44-40 G-M DETECTOR.

2. ALL MEASUREMENTS IN COUNTS PER MINUTE (CPM).



SCALE IN METERS

DWN	SHL
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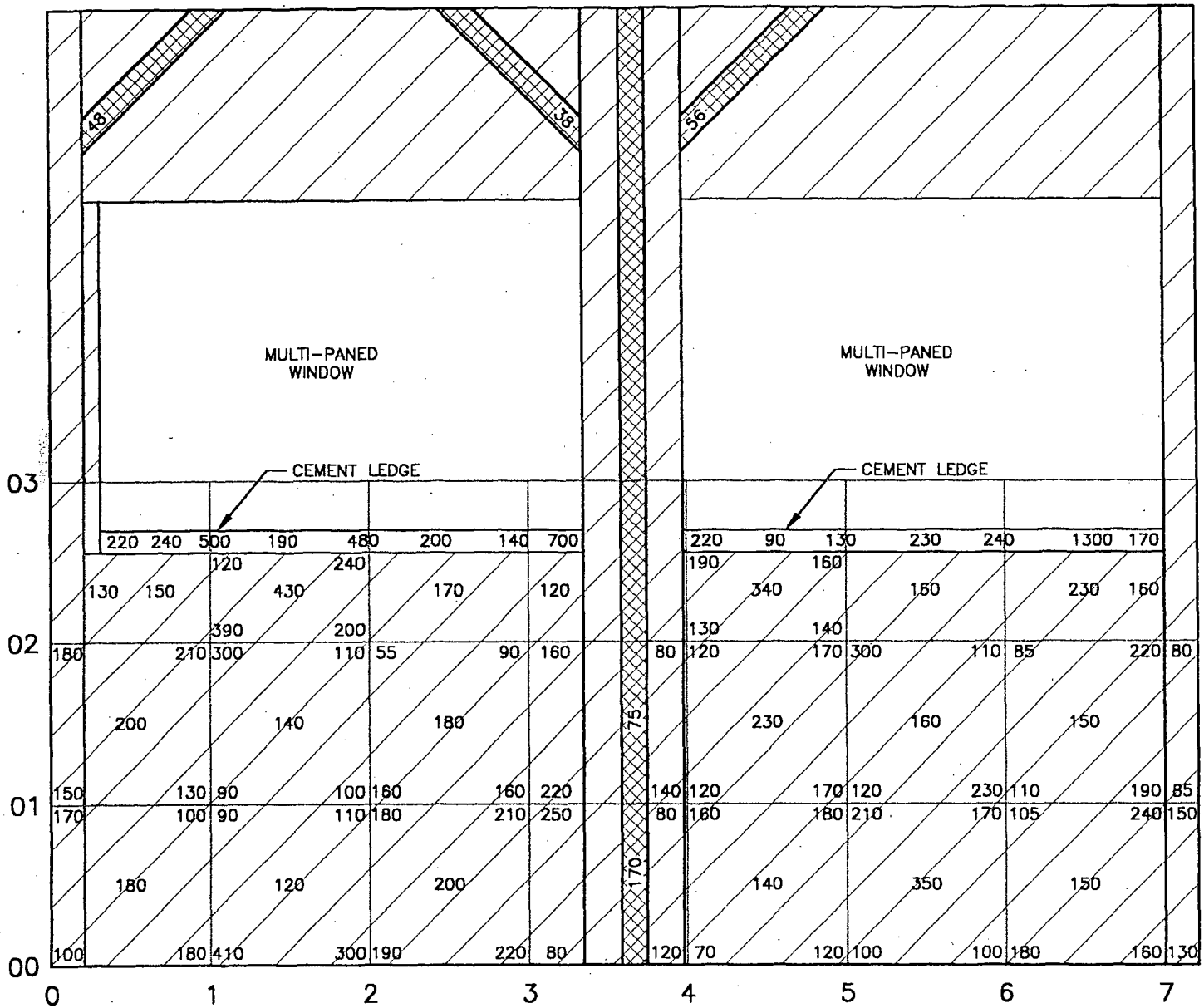
DATE	08/07/97
JOB NO.	Z0122-001-01
CAD FILE	DET-0119

SECOR
111-A North Gold Drive
Robbinsville, NJ 08691

EPEC POLYMERS, INC.
Fords, New Jersey

Figure 5
Catalyst Preparation Room
2nd Floor
Final Ceiling I-Beam Survey



LEGEND

BRICK WALL

I-BEAM

NOTES:

1. UNLESS SPECIFIED, ALL MEASUREMENTS TAKEN WITH A LUDLUM MODEL 2221 RATE METER EQUIPPED WITH A LUDLUM MODEL 44-40 G-M DETECTOR.

2. ALL MEASUREMENTS IN COUNTS PER MINUTE (cpm).

0 1 2

SCALE IN METERS

DWN	SHL
APPR	
DATE	08/05/97
JOB NO.	Z0122-001-01
CAD FILE	DET-0115

SECOR

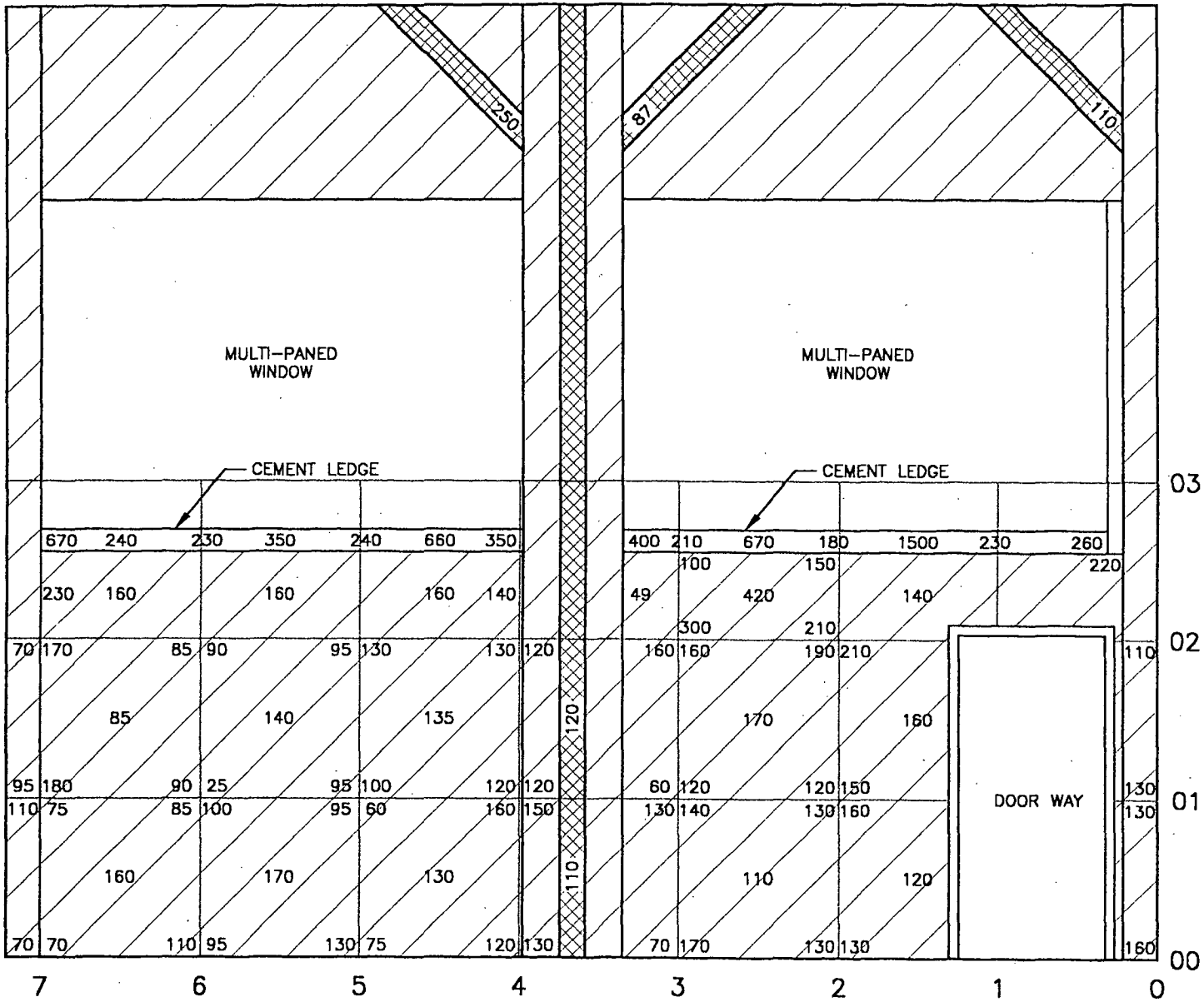
111-A North Gold Drive
Robbinsville, NJ 08691

EPEC POLYMERS INC.

Fords, New Jersey

Figure 6

Catalyst Preparation Room 2nd Floor North Wall Initial Survey



LEGEND

BRICK WALL

I-BEAM

NOTES:
1. UNLESS SPECIFIED, ALL MEASUREMENTS TAKEN WITH A LUDLUM MODEL 2221 RATE METER EQUIPPED WITH A LUDLUM MODEL 44-40 G-M DETECTOR.

2. ALL MEASUREMENTS IN COUNTS PER MINUTE (cpm).

0 1 2
SCALE IN METERS

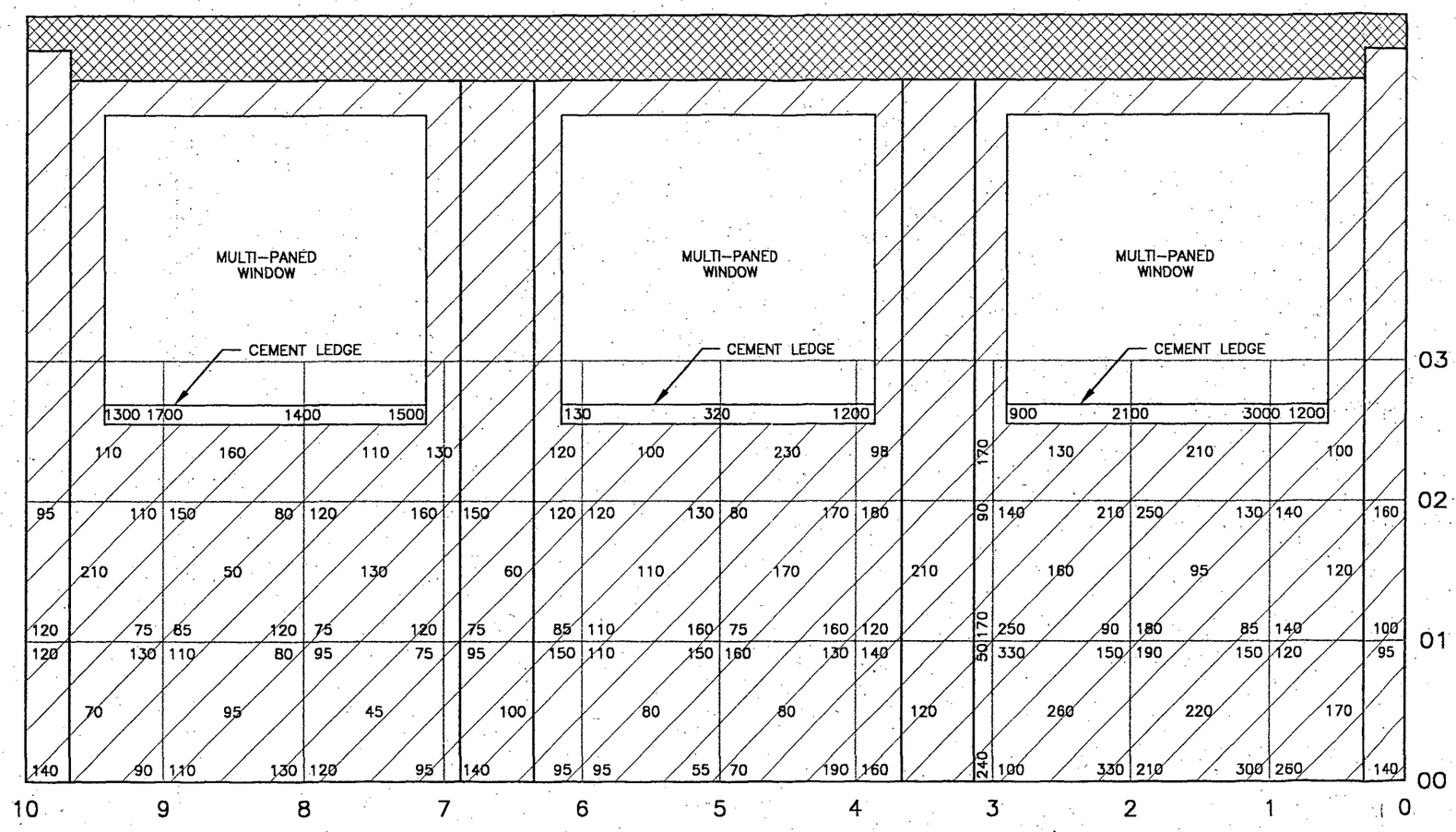
DWN	SHL
APPR	
DATE	08/05/97
JOB NO.	Z0122-001-01
CAD FILE	DET-0114

SECOR
111-A North Gold Drive
Robbinsville, NJ 08691

EPEC POLYMERS INC.
Fords, New Jersey

Figure 7

Catalyst Preparation Room 2nd Floor South Wall Initial Survey



LEGEND

BRICK WALL

I-BEAM

NOTES:
1. UNLESS SPECIFIED, ALL MEASUREMENTS TAKEN WITH A LUDLUM MODEL 2221 RATE METER EQUIPPED WITH A LUDLUM MODEL 44-40 G-M DETECTOR.

2. ALL MEASUREMENTS IN COUNTS PER MINUTE (cpm).

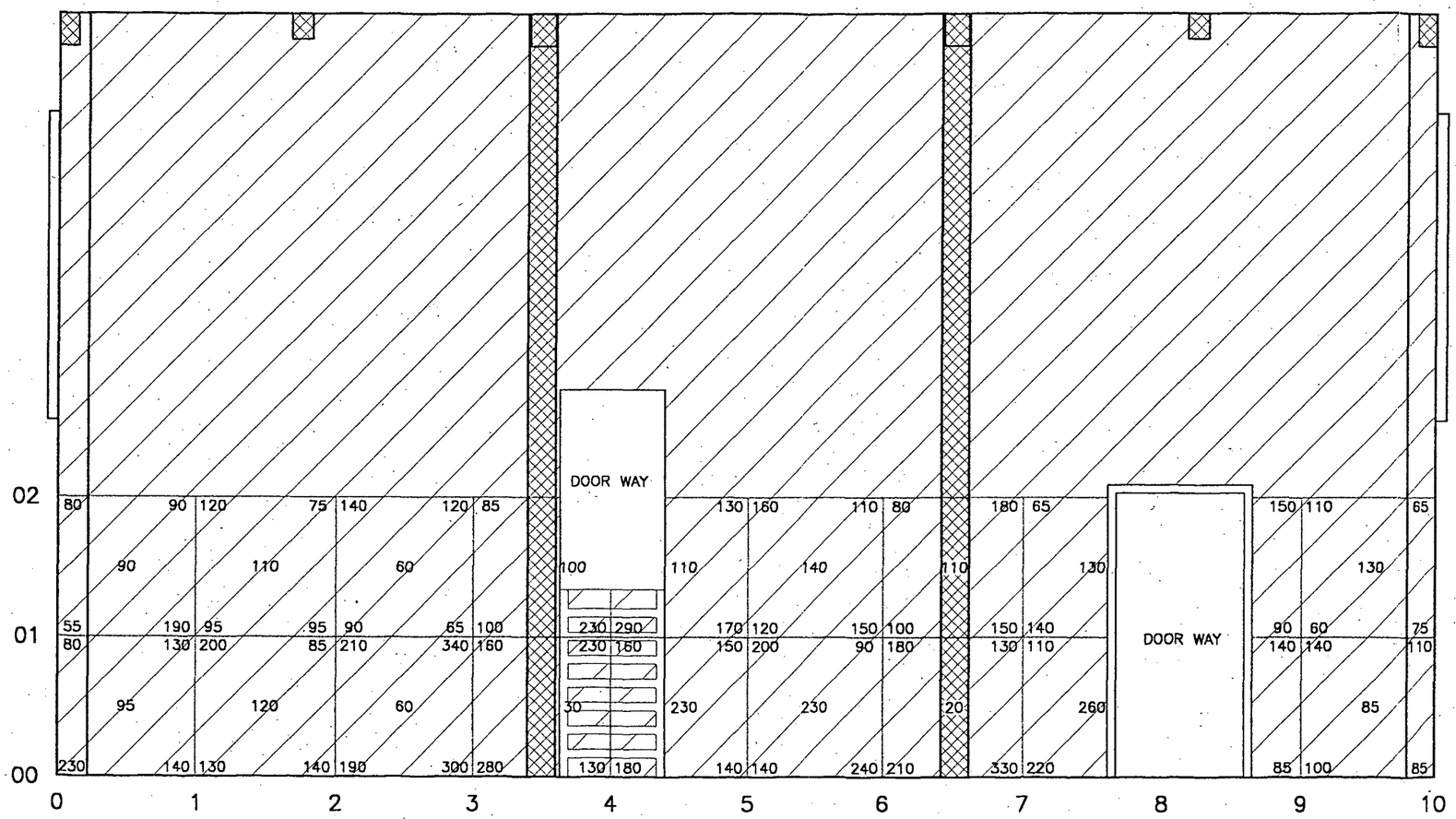
0 1 2
SCALE IN METERS

DWN	SHL
APPR	
DATE	08/05/97
JOB NO.	Z0122-001-01
CAD FILE	DET-0116

SECOR
111-A North Gold Drive
Robbinsville, New Jersey

EPIC POLYMERS INC.
Fords, New Jersey

Figure 8
Catalyst Preparation Room
2nd Floor
West Wall Initial Survey



LEGEND

BRICK WALL

I-BEAM

NOTES:
1. UNLESS SPECIFIED, ALL MEASUREMENTS TAKEN WITH A LUDLUM MODEL 2221 RATE METER EQUIPPED WITH A LUDLUM MODEL 44-40 G-M DETECTOR.

2. ALL MEASUREMENTS IN COUNTS PER MINUTE (cpm).

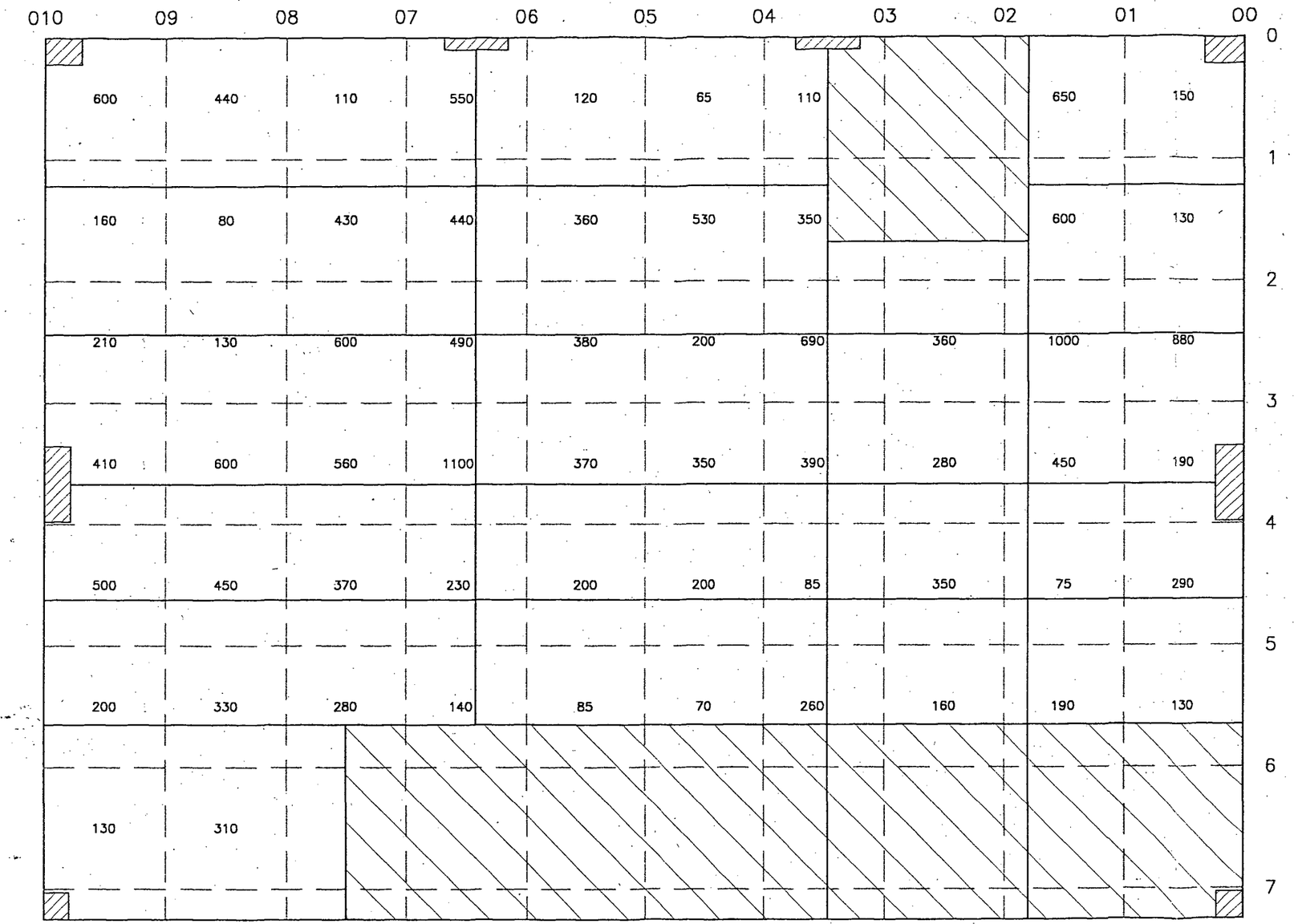
0 1 2
SCALE IN METERS

DWN	SHL
APPR	
DATE	08/05/97
JOB NO.	Z0122-001-01
CAD FILE	DET-0117

SECOR
111-A North Gold Drive
Robbinsville, New Jersey

EPIC POLYMERS INC.
Fords, New Jersey

Figure 9
Catalyst Preparation Room
2nd Floor
East Wall Initial Survey



LEGEND

OPEN AREAS

BRICK

NOTES:
1. UNLESS SPECIFIED, ALL MEASUREMENTS TAKEN WITH A LUDLUM MODEL 2221 RATE METER EQUIPPED WITH A LUDLUM MODEL 44-40 G-M DETECTOR.

2. ALL MEASUREMENTS IN COUNTS PER MINUTE (cpm).

N

0 1 2

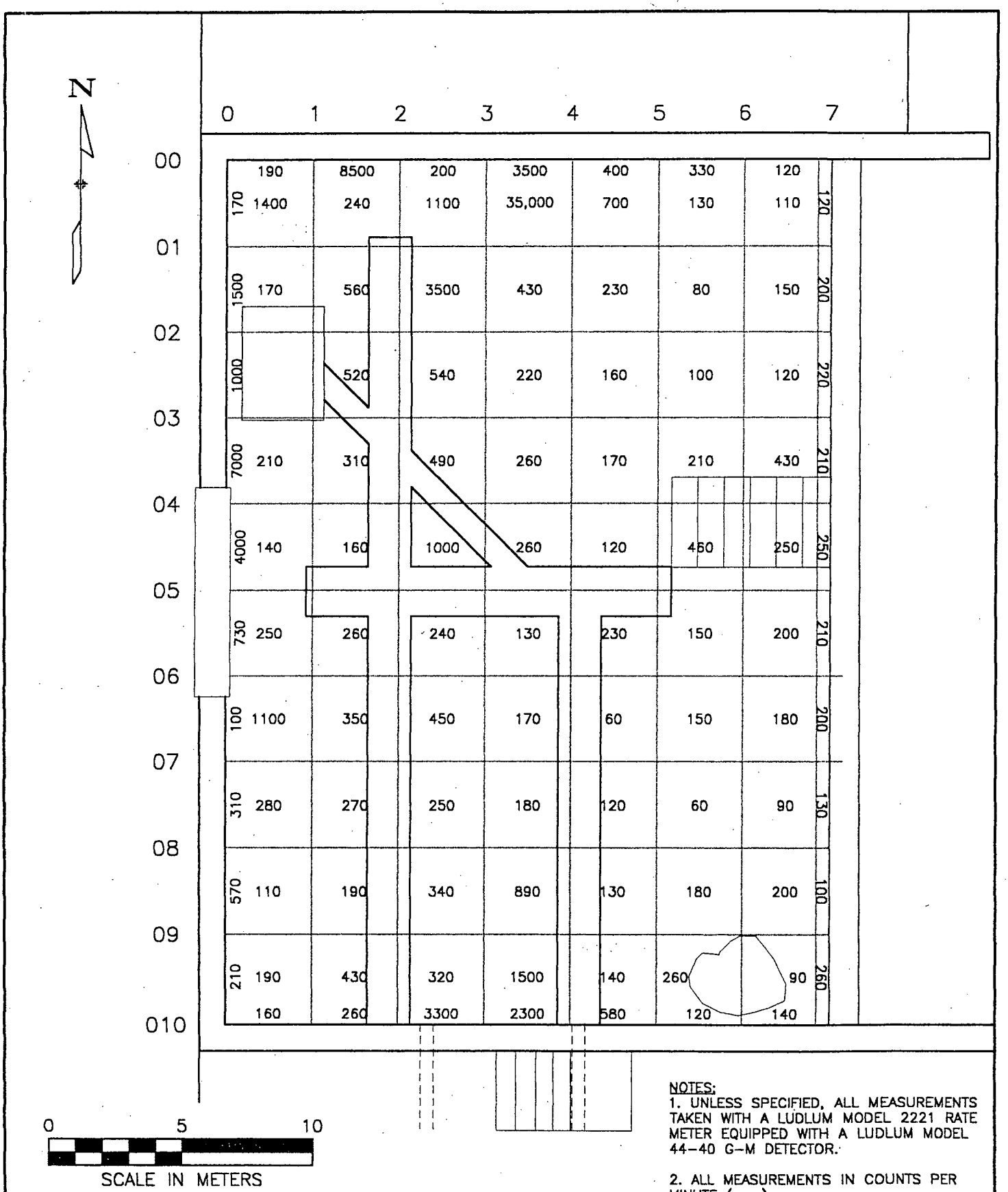
SCALE IN METERS

DWN	SHL
APPR	
DATE	08/05/97
JOB NO.	Z0122-001-01
CAD FILE	DET-0120

SECOR
111-A North Gold Drive
Robbinsville, New Jersey

EPIC POLYMERS INC.
Fords, New Jersey

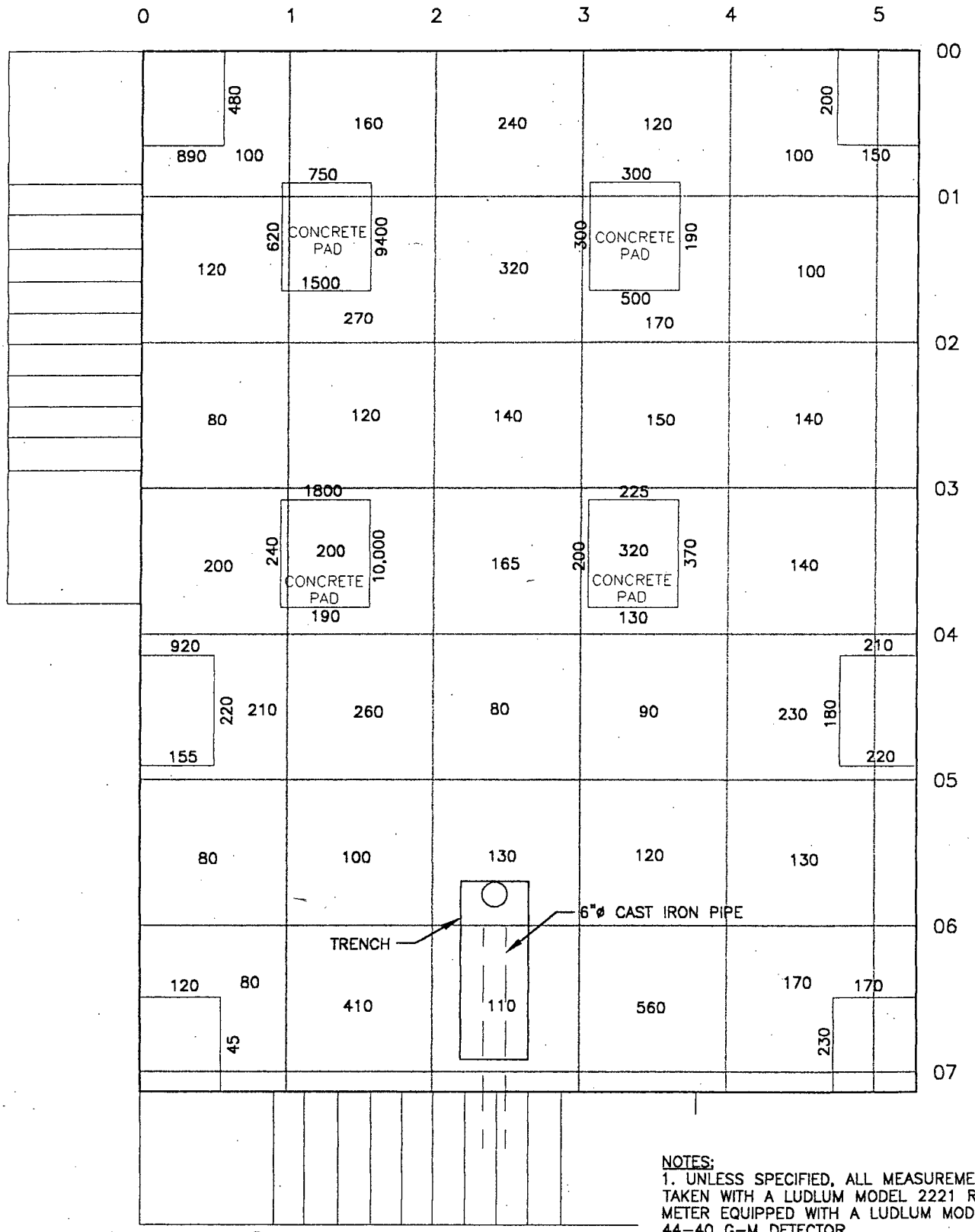
Figure 10
Catalyst Preparation Room
2nd Floor
Initial Floor Survey



NOTES:
1. UNLESS SPECIFIED, ALL MEASUREMENTS TAKEN WITH A LUDLUM MODEL 2221 RATE METER EQUIPPED WITH A LUDLUM MODEL 44-40 G-M DETECTOR.

2. ALL MEASUREMENTS IN COUNTS PER MINUTE (cpm).

DWN SHL APPR DATE 08/12/97 JOB NO. Z0122-001-01 CAD FILE DET-0121	**SECOR** 111-A North Gold Drive Robbinsville, NJ 08691-1603	EPEC POLYMERS, INC. Fords, New Jersey	Figure 11 ***Catalyst Preparation Room*** ***1st Floor*** ***Initial Floor Survey***



NOTES:
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2. ALL MEASUREMENTS IN COUNTS PER MINUTE (cpm).

0 1 2

SCALE IN METERS

DWN SHL APPR DATE 08/14/97 JOB NO. Z0122-001-01 CAD FILE DET-0122	**SECOR** 111-A North Gold Drive Robbinsville, NJ 08691	EPEC POLYMERS, INC. Fords, New Jersey	Figure 12 ***Building K-12A Initial Floor Survey***

Table 1
Gamma Spec Sample Log
Isotope Products Mixed Gamma Source
Former EPEC Polymers Facility
Industrial Avenue
Fords, Middlesex County, New Jersey

Radionuclide (uCi)		
Sample ID	Co-60	Cs-137
Certificate	0.152	0.131
SRCE0701	0.154	0.135
SRCE0707	0.154	0.134
SRCE0709	0.153	0.135
SRCE0710	0.152	0.135
SRCE0711	0.154	0.135
SRCE0721	0.153	0.134
SRCE0722	0.154	0.136
SRCE0723	0.153	0.133
SRCE0724	0.154	0.134
SRCE0725	0.153	0.135
SRCE0729	0.154	0.135
SRCE0730	0.153	0.136
SRCE0731	0.154	0.136

Table 2
Gamma Spec Sample Log
Drum Samples
Former EPEC Polymers Facility
Industrial Avenue
Fords, Middlesex County, New Jersey

	Radionuclide (pCi/g)						Minimum Detectable Activity (pCi/g)						Exp. Rate[2]
Sample ID	U-235	Pa-234m[1]	Th-234	Ra-226	Pb-214	Bi-214	U-235	Pa-234m	Th-234	Ra-226	Pb-214	Bi-214	(uR/hr)
DRM1-33B	(1.02 +/- 0.07) E+1	(7.5 +/- 0.4) E+2	(4.2 +/- 1.1) E+2	(2 +/- 2) E+1	<MDA	(4 +/- 2) E-1	2.0 E-1	2.3 E+1	7.7 E+0	3.2 E+0	4.2 E-1	3.3 E-1	38/38
DRM1-34B	(2.9 +/- 0.4) E+0	(1.2 +/- 0.2) E+2	(5.0 +/- 1.6) E+1	(1.1 +/- 0.9) E+1	(1.86 +/- 0.16) E+0	(1.4 +/- 0.2) E+0	1.3 E-1	2.1 E+1	3.3 E+0	2.1 E+0	2.5 E-1	2.8 E-1	24/20
DRM1-35B	(2.6 +/- 0.3) E+0	(8 +/- 2) E+1	(8 +/- 3) E+1	RIA	<MDA	<MDA	1.8 E-1	2.9 E+1	4.7 E+0	3.0 E+0	5.2 E-1	6.0 E-1	17/14
DRM1-36A	(1.22 +/- 0.07) E+1	(7.0 +/- 0.3) E+2	(3.7 +/- 1.0) E+2	(3 +/- 3) E+1	<MDA	<MDA	1.7 E-1	2.2 E+1	6.1 E+0	2.7 E+0	3.8 E-1	4.3 E-1	NA

[1] Pa-234m is the isotope used to infer the U-238 concentration.
[2] The exposure rate at the drum opening with the lid unattached and attached, respectively.
<MDA = Less than Minimum Detectable Activity or less than background.
NA = Not Applicable
RIA = Nuclide rejected by the interference analysis.

Table 3
Gamma Spec Sample Log
Soil Samples
Former EPEC Polymers Facility
Industrial Avenue
Fords, Middlesex County, New Jersey

		Radionuclide (pCi/g)						Minimum Detectable Activity (pCi/g)					
Sample ID	Grid Location	U-235	Pa-234m[1]	Th-234	Ra-226	Pb-214	Bi-214	U-235	Pa-234m	Th-234	Ra-226	Pb-214	Bi-214
SS-22	107.5, 032.5	US	<MDA	<MDA	US	(4.6 +/- 0.6) E-1	(3.4 +/- 1.0) E-1	4.5 E-2	1.2 E+1	9.7 E-1	7.4 E-1	1.3 E-1	1.6 E-1
SS-23	117.5, 032.5	<MDA	<MDA	<MDA	<MDA	<MDA	<MDA	1.4 E-1	3.0 E+1	2.3 E+0	2.3 E+0	3.3 E-1	4.0 E-1
SS-24	117.5, 027.5	<MDA	<MDA	<MDA	<MDA	<MDA	<MDA	1.3 E-1	2.7 E+1	2.1 E+0	2.2 E+0	3.0 E-1	3.6 E-1
SS-25	117.5, 012.5	US	<MDA	<MDA	US	(1.2 +/- 0.2) E+0	(7 +/- 4) E-1	2.0 E-1	5.5 E+1	5.0 E+0	3.2 E+0	4.4 E-1	5.4 E-1
SS-26	2.5, 02.5	US	<MDA	<MDA	US	(9.2 +/- 0.9) E-1	(7.7 +/- 1.5) E-1	7.1 E-2	1.8 E+1	1.6 E+0	1.2 E+0	1.8 E-1	2.3 E-1
SS-27	7.5, 02.5	<MDA	<MDA	<MDA	<MDA	<MDA	(3 +/- 2) E-1	1.6 E-1	3.2 E+1	2.6 E+0	2.6 E+0	3.6 E-1	3.1 E-1
SS-28	12.5, 02.5	(4.4 +/- 0.4) E-1	(1.0 +/- 0.5) E+1	(7 +/- 2) E+0	(1.2 +/- 1.1) E+0	(1.22 +/- 0.05) E+0	(1.15 +/- 0.09) E+0	1.6 E-2	8.1 E+0	4.8 E-1	2.6 E-1	5.3 E-2	1.5 E-1

[1] Pa-234m is the isotope used to infer the U-238 concentration.
US = This nuclide is part of an undetermined solution due to interference with another nuclide.
<MDA = Less than Minimum Detectable Activity or less than background.

Table 4
Gamma Spec Sample Log
Miscellaneous Samples
Former EPEC Polymers Facility
Industrial Avenue
Fords, Middlesex County, New Jersey

	Radionuclide (pCi/g)						Minimum Detectable Activity (pCi/g)					
Sample ID	U-235	Pa-234m[1]	Th-234[2]	Ra-226	Pb-214	Bi-214	U-235	Pa-234m	Th-234	Ra-226	Pb-214	Bi-214
SAND2	(2.03 +/- 0.07) E+0	(7.6 +/- 0.4) E+1	(4.7 +/- 1.3) E+1	(5 +/- 4) E+0	(1.27 +/- 0.05) E+0	(1.14 +/- 0.08) E+0	1.8 E-2	7.0 E+0	6.1 E-1	2.9 E-1	5.8 E-2	1.2 E-1
SAND2-1	(1.3 +/- 0.3) E+0	(4.1 +/- 1.3) E+1	(2.8 +/- 0.9) E+1	(7 +/- 6) E+0	(3.1 +/- 0.2) E+0	(2.7 +/- 0.2) E+0	1.2 E-1	1.9 E+1	2.5 E+0	2.0 E+0	2.3 E-1	2.8 E-1
SAND2-2	(8.5 +/- 0.7) E-1	(3.0 +/- 0.4) E+1	(1.7 +/- 0.5) E+1	(5 +/- 2) E+0	(2.55 +/- 0.07) E+0	(2.37 +/- 0.09) E+0	2.9 E-2	6.8 E+0	8.0 E-1	4.8 E-1	8.3 E-2	1.1 E-1
UNSIFT1	(8.4 +/- 0.3) E+1	(4.48 +/- 0.13) E+3	(3.2 +/- 0.9) E+3	(2 +/- 2) E+2	<MDA	<MDA	3.5 E-1	2.8 E+1	1.5 E+1	5.8 E+0	6.1 E-1	6.1 E-1
UNSIFT2	(8.2 +/- 0.4) E+1	(3.97 +/- 0.12) E+3	(2.7 +/- 0.7) E+3	RIA	<MDA	(7 +/- 3) E-1	3.3 E-1	2.8 E+1	1.6 E+1	5.5 E+0	6.1 E-1	4.6 E-1
SIFT1	(7.1 +/- 0.2) E+1	(4.40 +/- 0.11) E+3	(3.2 +/- 0.8) E+3	(1.3 +/- 1.4) E+2	<MDA	<MDA	1.3 E-1	1.2 E+1	6.4 E+0	2.2 E+0	2.4 E-1	2.4 E-1
SIFT2	(3.0 +/- 0.4) E-1	(1.0 +/- 0.5) E+1	(1.2 +/- 0.4) E+1	RIA	(4.2 +/- 0.5) E-1	(2.7 +/- 0.9) E-1	4.0 E-2	8.7 E+0	1.0 E+0	6.5 E-1	1.1 E-1	1.4 E-1
DUST1	(2.48 +/- 0.15) E+0	(1.02 +/- 0.07) E+2	(5.7 +/- 1.6) E+1	(5 +/- 5) E+0	(5.1 +/- 0.5) E-1	(3.7 +/- 0.9) E-1	4.4 E-2	9.1 E+0	1.3 E+0	7.3 E-1	1.1 E-1	1.4 E-1
CPRE02.5	US	<MDA	(6 +/- 2) E+0	US	<MDA	<MDA	9.7 E-2	3.0 E+1	2.3 E+0	1.6 E+0	3.2 E-1	3.9 E-1
CPRE03.5	(2.9 +/- 0.4) E-1	(5 +/- 5) E+0	(7 +/- 2) E+0	RIA	(3.3 +/- 0.5) E-1	<MDA	4.0 E-2	8.9 E+0	1.0 E+0	6.6 E-1	1.0 E-1	1.5 E-1
3-7	US	<MDA	(1.1 +/- 0.4) E+1	US	<MDA	<MDA	9.0 E-2	2.5 E+1	1.8 E+0	1.5 E+0	2.7 E-1	3.3 E-1
3-8	(3.5 +/- 0.4) E-1	(1.1 +/- 0.4) E+1	(1.2 +/- 0.3) E+1	(1.2 +/- 1.0) E+0	(3.6 +/- 0.3) E-1	<MDA	1.9 E-2	6.8 E+0	6.0 E-1	3.1 E-1	6.3 E-2	6.9 E-2

	Radionuclide (pCi/ml)						Minimum Detectable Activity (pCi/ml)					
Sample ID	U-235	Pa-234m[1]	Th-234	Ra-226	Pb-214	Bi-214	U-235	Pa-234m	Th-234	Ra-226	Pb-214	Bi-214
TROIL1	US	<MDA	<MDA	US	<MDA	<MDA	1.4 E-1	4.3 E+1	3.6 E+0	2.4 E+0	4.6 E-1	5.6 E-1

[1] Pa-234m is the isotope used to infer the U-238 concentration.
[2] Th-234 is the isotope used to infer the U-238 concentration when a low Pa-234m MDA cannot be obtained.
<MDA = Less than Minimum Detectable Activity or less than background.
US = This nuclide is part of an undetermined solution due to interference with another nuclide.
RIA = Nuclide rejected by the interference analysis.

Table 5
Gamma Spec Sample Log
Respirator Cartridges
Former EPEC Polymers Facility
Industrial Avenue
Fords, Middlesex County, New Jersey

		Radionuclide (pCi/cartridge)						Minimum Detectable Activity (pCi/cartridge)					
Sample ID	Activity	U-235	Pa-234m[1]	Th-234[2]	Ra-226	Pb-214	Bi-214	U-235	Pa-234m	Th-234	Ra-226	Pb-214	Bi-214
RESP8	J, H, 12A	US	(7 +/- 4) E+3	(2.1 +/- 0.7) E+3	US	(9 +/- 3) E+1	<MDA	2.5 E+1	6.8 E+3	6.5 E+2	4.2 E+2	8.2 E+1	1.0 E+2
RESP9	J, H, 12A, CC, CPR	US	<MDA	(5 +/- 4) E+2	US	<MDA	<MDA	2.5 E+1	7.5 E+3	6.3 E+2	4.2 E+2	8.0 E+1	9.9 E+1
RESP10	MISC	<MDA	<MDA	<MDA	<MDA	<MDA	<MDA	5.6 E+1	1.3 E+4	8.8 E+2	9.2 E+2	1.3 E+2	1.6 E+2
RESP11	MISC	US	<MDA	(1.3 +/- 0.6) E+3	US	<MDA	<MDA	3.3 E+1	9.4 E+3	7.4 E+2	5.5 E+2	1.0 E+2	1.2 E+2

[1] Pa-234m is the isotope used to infer the U-238 concentration.
[2] Th-234 is the isotope used to infer the U-238 concentration when a low Pa-234m MDA cannot be obtained.
US = This nuclide is part of an undetermined solution due to interference with another nuclide.
<MDA = Less than Minimum Detectable Activity or less than background.
JH = Jackhammer
CC = Concrete cutting
12A = Building 12A
CPR = 1st floor of the Catalyst Preparation Room
MISC = Miscellaneous activities

Table 6
On-site Visitors for May 1997
Former EPEC Polymers Facility
Industrial Avenue
Fords, Middlesex County, New Jersey

Name	Company/Organization	Dates On-site	Purpose of Visit(s)
Brian Dobis	SECOR	1, 7 - 12, 14 - 27	Remediation of radioactive contamination.
Andrew Schwartz	SECOR	7 - 11, 21 - 25, 29 - 31	Remediation of radioactive contamination.
David Evans	SECOR	8, 11, 12, 14, 16, 17, 22 - 30	Remediation of radioactive contamination.
Gary Ackerman	SECOR	7 - 12, 14 - 31	Remediation of radioactive contamination.
Ken Smith	SECOR	12, 14, 21 - 25, 27 - 31	Remediation of radioactive contamination.
Paul Laazar	SECOR	23	Inspection of remediation activities.
Ravi Gupta	SECOR	23	Inspection of remediation activities.
Jim Johnson	CSU	7 - 12	Remediation of radioactive contamination.
Roger Towe	EPEC	18, 29	Oversight.
Gerry Malone	EPEC	2, 8, 15, 16, 22, 23, 28, 29	Oversight.
Sam Mark	ESCM	8, 9, 23	Environmental systems maintenance.
Zack Nickell	ESCM	1	Environmental systems maintenance.
Brian Merkley	ESCM	31	Environmental systems maintenance.
Bruce McGinnis	Philip Services	30	Demolition bid.
Teresa Royek	Philip Services	30	Demolition bid.
Bruce Doremus	Doremus Engineering	8, 18	Groundwater monitoring.