SECOR
International Incorporated

13 August 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: June 2 through June 30, 1997
Former EPEC Polymers Facility Located at
Industrial Avenue, Fords, New Jersey

Dear Dr. Bellamy:

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

During the month of June 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 activities in the CPR consisted of removal and decontamination of pipes and fixtures on the ceiling of the second floor and decontamination of ceiling I-beams on the first and second floors. Survey and screening activities consisted of gamma spectroscopy analysis of drum, soil, and sludge samples, initial exposure rate survey of the CPR's 2nd floor, an initial survey of I-beams on the ceiling of the CPR's 2nd floor, and a final survey of the I-beams on the ceiling of the CPR's 1st floor. One drum of contaminated material was packaged in June.

I. Calibration

- A technetium-99 source was used to construct a voltage plateau graph for the Ludlum Model 2221 scaler rate meters equipped with Ludlum Model 44-40 G-M detectors. Construction of the voltage plateau allowed *SECOR* to confirm that the instruments are operated at the most efficient voltage. The technetium-99 source is also being used for a daily instrument check. The optimum operating voltage for the Ludlum Model 12 rate meter equipped with the Ludlum

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B/27

Model 44-7 end-window probe has already been set by a technician employed by our Certified Health Physicist.

A strontium/yttrium-90 source was used to determine the efficiencies of the G-M detectors. This type of source was selected due to a similar beta energy frequency distribution with protactinium-234m. The efficiencies of the Ludlum Model 44-40 and 44-7 is 17.8 and 6.39 percent, respectively. Therefore, the new field criteria for surface contamination is now 280 counts per minute (cpm) averaged over 1 m^2 and 840 cpm maximum for any location.

- 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 now 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 0.33 percent for cobalt-60 and 1.9 percent for cesium-137 during the month of June. The analysis confirms that the measured values for these isotopes are within an acceptable percentage of the certificate values.

II. Removal Activities

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

- The decontamination of the 1st floor ceiling I-beams has been completed. The decontamination was performed with scraping tools, grinding wheels, and a sand blaster. The decontamination was conducted due to identification of fixed and loose radioactive surface contamination above the field guideline of 280 cpm averaged over a 1 square meter (m^2) surface and the maximum field guideline of 840 cpm using the Ludlum Model 2221 equipped with the Ludlum Model 44-40 G-M detector. The contaminated blasting sand was collected in a vacuum and sifted through a screen to remove loose radioactive contamination. The sifting activity cleaned 2 drums of contaminated sand to below the 35 pCi/g guideline. Approximately 0.5 ft^3 of radioactive waste was recovered from the sand and placed in a drum for disposal.

- Contaminated pipes, lighting fixtures, a heating unit, and other fixtures were removed from the 2nd floor ceiling with a band saw and torch due to identification of several areas exhibiting radioactive surface contamination above the 280 and 840 cpm field guidelines. Removal of these fixtures also removed obstructions allowing easier access to the ceiling with a scaffold. The pipe and fixtures were moved to Building 31 for decontamination of the surfaces. Decontamination was performed by removing contamination with a wire brush. Contaminated joints and intersections that could not be cleaned were removed from the clean section with a torch and placed in a drum. The pipe decontamination effort cleaned approximately 7 ft^3 contaminated steel. One drum was filled with contaminated pipe and fixture sections.

- Steel shelves on the 2nd floor of the CPR were identified with surface contamination above the 280 and 840 cpm field guidelines. The shelves were decontaminated and moved to Building 31 to be stored as clean material.

- The ceiling I-beams on the 2nd floor of the CPR were decontaminated. The process was similar to the decontamination effort on the 1st floor of the CPR. Approximately 0.5 ft^3 of contaminated material was recovered from the blasting sand and placed in a drum for disposal.

- The door on the east wall of the CPR was removed with a torch due to identification of radioactive surface contamination above the average field guideline of 280 cpm. Removal of the door also allowed access to the brick wall for survey purposes. The door and the frame were sand blasted to remove surface contamination to below the field guideline.

III. Site Surveys and Screening

The following section summarizes site survey and screening activities that include gamma spectroscopy analyses, exposure rate surveys, surface contamination surveys, general screening activities, and other related activities:

- The lower 2 meters of the 2nd floor walls in the CPR were gridded after decontamination of the ceiling I-beams and removal of the plastic sheeting. Scoping of the upper walls has not identified surface contamination above the 280 and 840 cpm field guidelines. Therefore, *SECOR* will only survey the lower 2 meters of the walls and any nonvertical surfaces above the 2 meter grid. The grid will be expanded to include the upper walls if surface contamination is identified on the lower walls above the field guidelines.

- Table 2 lists samples that were analyzed with the gamma spectrometry system. The results confirm that Drum No. 1-32 contains 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. Clean material is defined by *SECOR* as material less than 100 cpm using this instrument. 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 from soil samples. Soil samples were collected at the west and south perimeter of the affected and potentially affected area approximately 2.5 meters from the edge of the grid and spaced every 5 meters. The frequency and location of the sampling was conducted in accordance with NUREG/CR-5849. Figures 2, 3, and 4 provide show the soil sampling locations. The locations indicated with an "x" are impacted with radioactive contamination greater than or equal to the guideline level of 35 picocuries per gram (pCi/g). The results indicate that most of the perimeter soil contains uranium contamination below the 35 pCi/g guideline. However, samples SS-7, SS-9, SS-11, SS-12, SS-15, and SS-16 are all above the guideline value. Samples SS-11, SS-12, and SS-15 were collected from the potentially affected area.

- Table 4 provides gamma spectroscopy results for miscellaneous samples that include sump sludges, blasting sand, and soil. The results of the sump analysis indicate that sludge from Sump Nos. 2, 7, and 8 contains radioactive materials above the guideline of 35 pCi/g. Figure 5 provides the location of the sumps. These sumps will be decontaminated once activities move outdoors. Sump 3 was not sampled because it did not contain sludge and Sump 6 was not

sampled because the sludge at the bottom of this sump could not be accessed safely. A sample from Sump 6 will be collected with an extension tool that allows collection of a sludge sample.

The analysis for SAND1 indicated that the sifted blasting sand is below the 35 pCi/g guideline. This confirms that sifting activities are removing radioactive contamination from blasting sand which reduces the amount of contaminated material disposed.

The analysis of RAD#1 indicated that the amount of uranium contamination in the soil near the southwest corner of Building 12 is greater than the NRC guideline of 35 pCi/g. These results were provided to a contract laboratory as part of the laboratory requirements for chemical analysis of the soil.

- Table 5 provides gamma spectroscopy results for respirator cartridges used during remediation and material segregation activities. The results indicate that the concentration of uranium in the cartridges is below the minimum detectable activity except for RESP7. Respirators equipped with cartridges that remove radionuclides are used at the site whenever remediation activities generate dust.

- Table 6 provides screening results for the shelves from the 2nd floor of the CPR and the door on the east wall on the 1st floor of the CPR.

- Table 7 provides wipe sample results for removable contamination from the north and south beams on the 1st floor of the CPR. Each wipe was counted for 200 minutes on a Canberra gas-flow proportional alpha/beta counter. The wipes were collected on the inaccessible lower horizontal I-beam surface between the wall and the beam. The results indicate that the amount of removable contamination on the beams is significantly below the 1,000 disintegration per minute per 100 square centimeter (dpm/100 cm^2) guideline.

- Figure 6 provides the results of the final survey for the ceiling I-beams in the CPR. The results indicate that the I-beams have been decontaminated to below field guidelines.

- Figure 7 provides the results of the initial survey of the ceiling I-beams on the 2nd floor of the CPR. The results indicate there are several areas that exceed the 280 and 840 cpm guidelines. Therefore, the ceiling I-beams were decontaminated as described in the Removal Activities section of this report.

- Figure 8 provides the exposure rate survey results for the 2nd floor of the CPR. The results indicate that most of the exposure rate measurements are slightly above the 9 microroentgen per hour (μR/hr) background.

IV. Materials Handling

One drum of radioactive waste has been packaged in June. Thirty-three drums of radioactive waste have been packaged to date.

V. Air Concentrations

There are no air concentration results to provide in this report since the air sampling equipment was not needed during this reporting period. Further air concentration results will be provided in a future report.

VI. Personal Dosimetry

Table 8 provides the personal dosimeter results for worker use. Two CaF_2 (Dy) TLD chips are included in each packet. The mean of the two chips is determined on a Harshaw 2000 TLD reader. A background chip kept in the site office is used as a control. The TLD system is calibrated in an annular chamber containing uranium ore. This produces a primary and scattered gamma-ray spectrum almost identical to environmental conditions (i.e. from U-238 and Th-232 decay series). The exposure rate in the chamber was calibrated by using Victoreen condenser - R meters traceable to NIST.

It can be seen from the results that no significant gamma-ray produced exposure rate has been experienced by any of the SECOR workers or visitors during the exposure period from March 14 through June 24, 1997. The maximum allowable exposure rate for Radiation Workers is 5,000 mR/year or 2.5 mR/hour (above background). However, the allowable exposure rate for *SECOR* personnel is more conservatively set at 1 mR/hour above background.

VII. Miscellaneous Activities

- Vegetation that was regrowing in the affected and potentially affected outdoor areas was retreated with a weed killer to allow for more efficient remediation of those areas.
- A sloped frame was placed over the open areas on the 2nd floor of the CPR to keep contamination from migrating to the 1st floor.
- The sample preparation area was moved to Building 31 to allow for greater efficiency of sample preparation.
- A 100 amp circuit breaker and ground fault circuit outlets were installed in Building 12 to allow for greater use of electrical tools.
- Plastic sheets were placed around all openings on the second floor to prevent migration of contamination.

VIII. Site Visitors

Table 9 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 July and/or August include:

- Completion of the remediation and survey of the walls and floor on the 2nd floor of the CPR.
- Completion of the remediation of walls, floors, and trenches on the 1st floor of the CPR.

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

Sincerely,
SECOR International Inc.

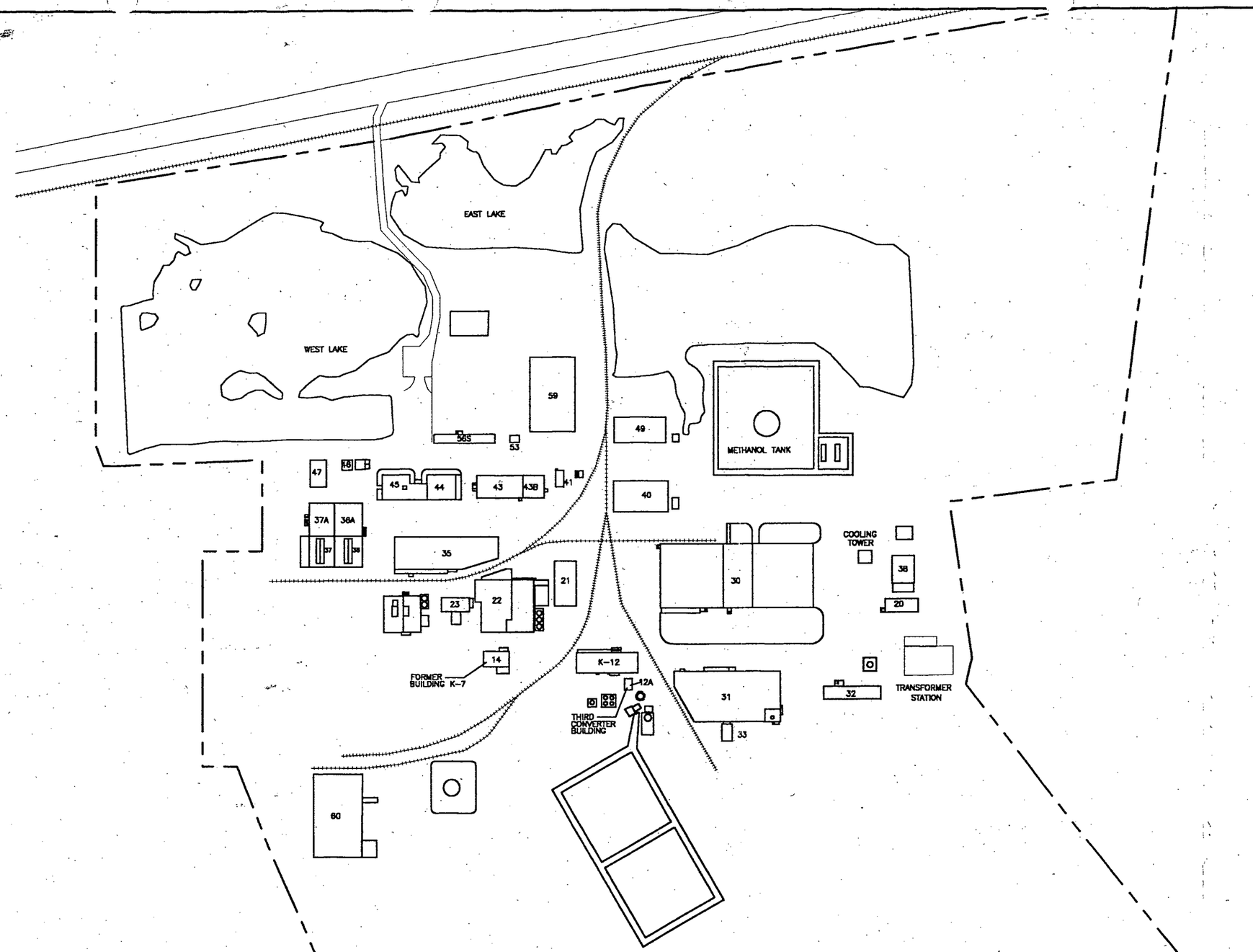
Ravi Gupta
Principal-In-Charge

Attachments

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

FIGURES

TABLES



NOTE:

DEVELOPED FROM ESCM CONSULTING ENGINEERS, DRAWING NO. TNFD-0001 DATED 3/18/92 AND HEYDEN NEWPORT CHEMICAL CORP. DRAWING FILE 11147-9 DATED 9/1/80.

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

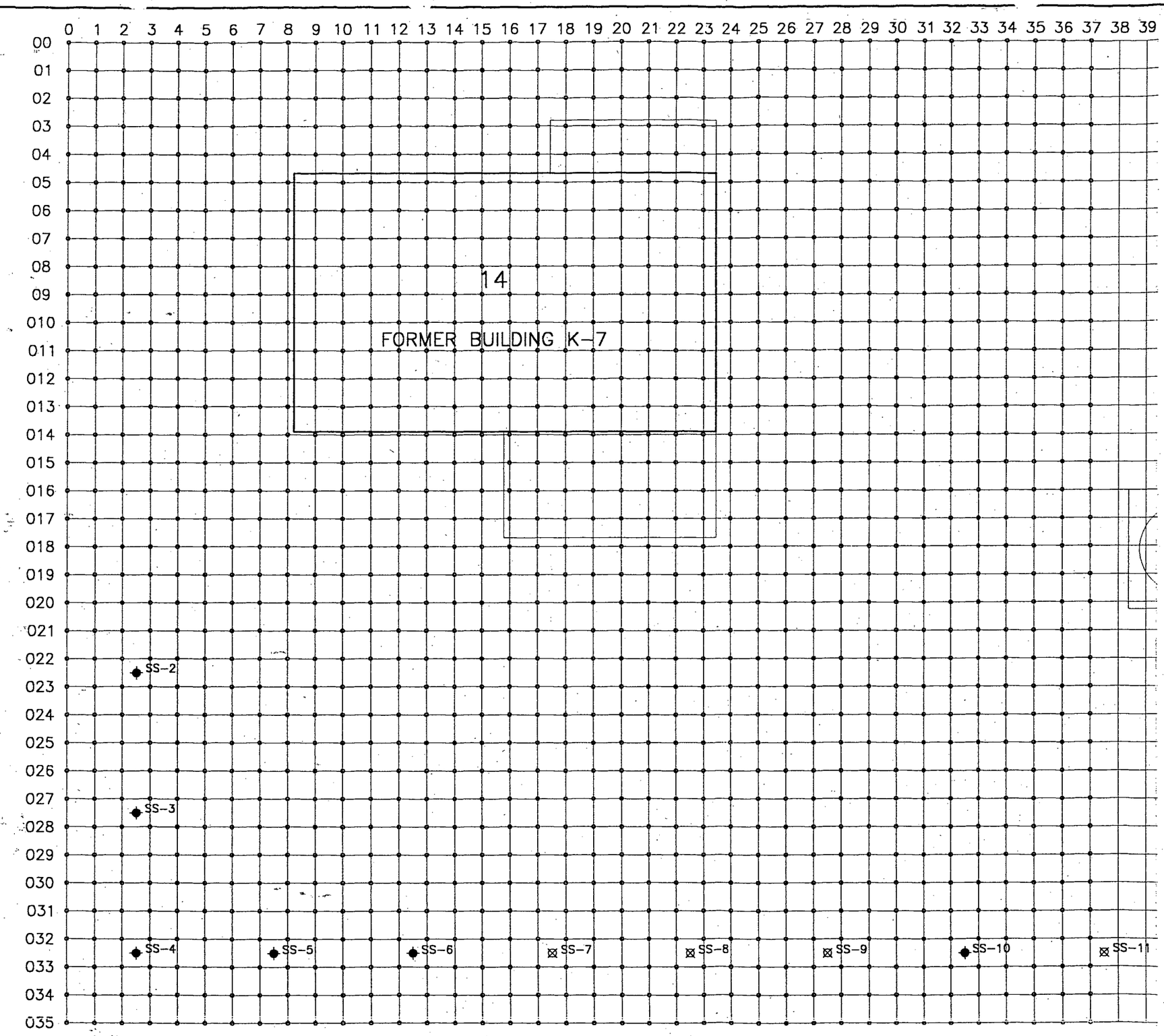
SITE PLAN

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

DATE:	ACAD FILE:
03/11/97	BAS-0011

PROJECT NO.:	PLOT SCALE:
80136-001-01	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:

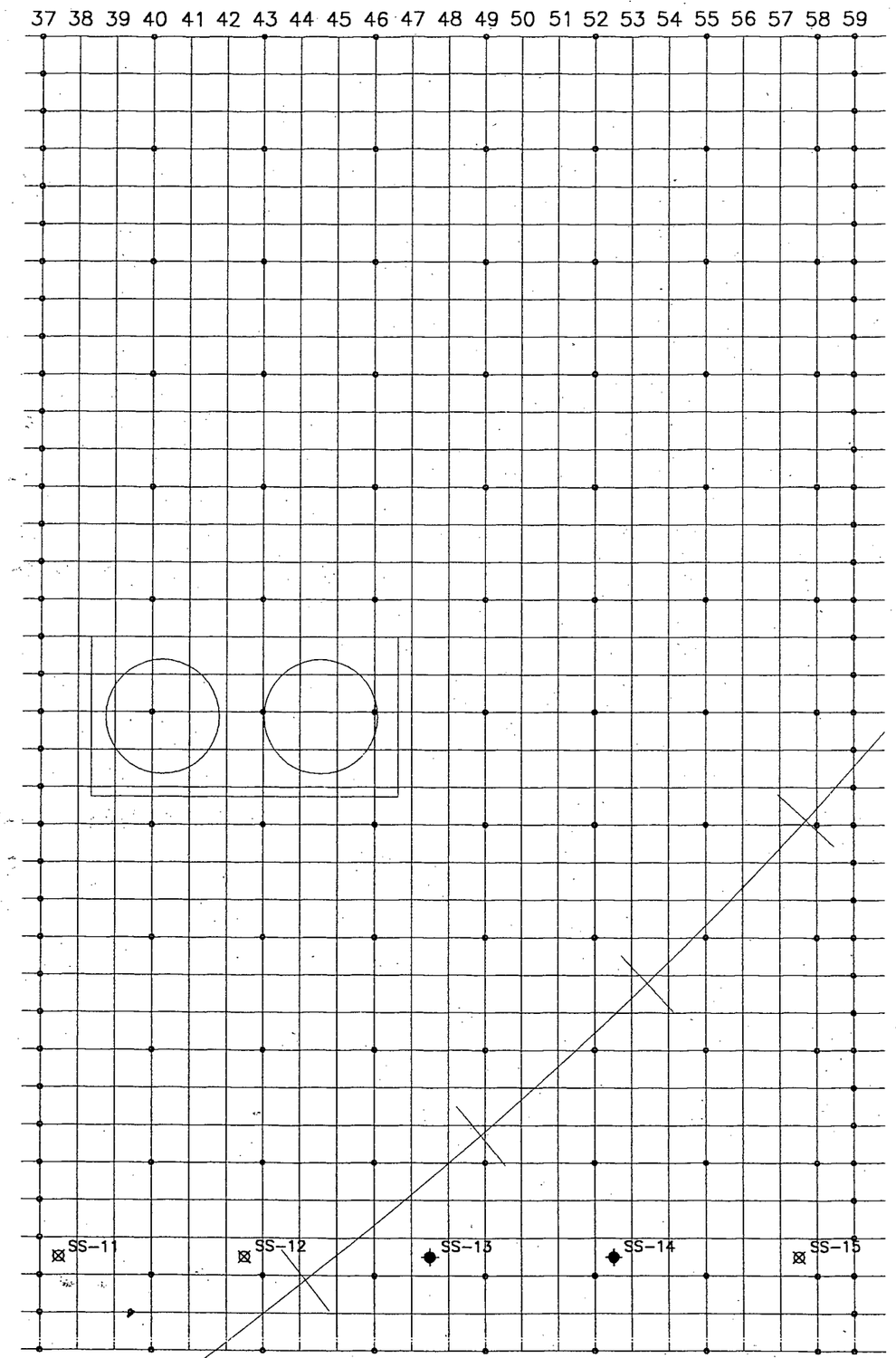
EPEC POLYMERS, INC.

FORDS, NEW JERSEY

SOIL SAMPLING LOCATIONS FOR AREA 1000

DESIGNED BY:	DETAILED BY: SHL	CHECKED BY:
DATE: 05/06/97	ACAD FILE: LOC-0543	
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 80226

PREPARED FOR:

EPEC POLYMERS, INC.

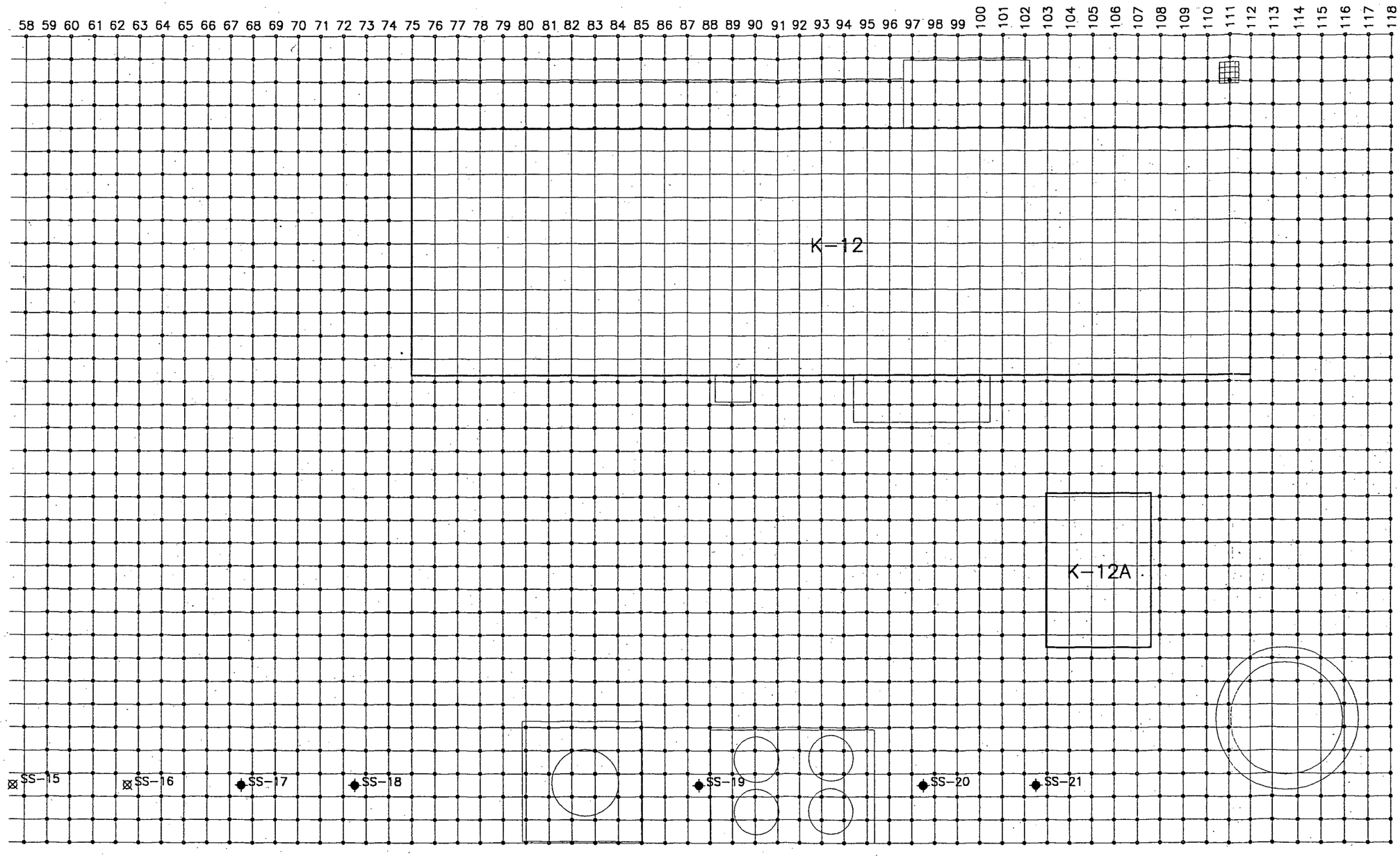
FORDS, NEW JERSEY

SOIL SAMPLING LOCATIONS FOR AREA 2000

DESIGNED BY:	DETAILED BY:	CHECKED BY:
	SHL	

DATE:	ACAD FILE:
05/06/97	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

N

0 7.5 15

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:

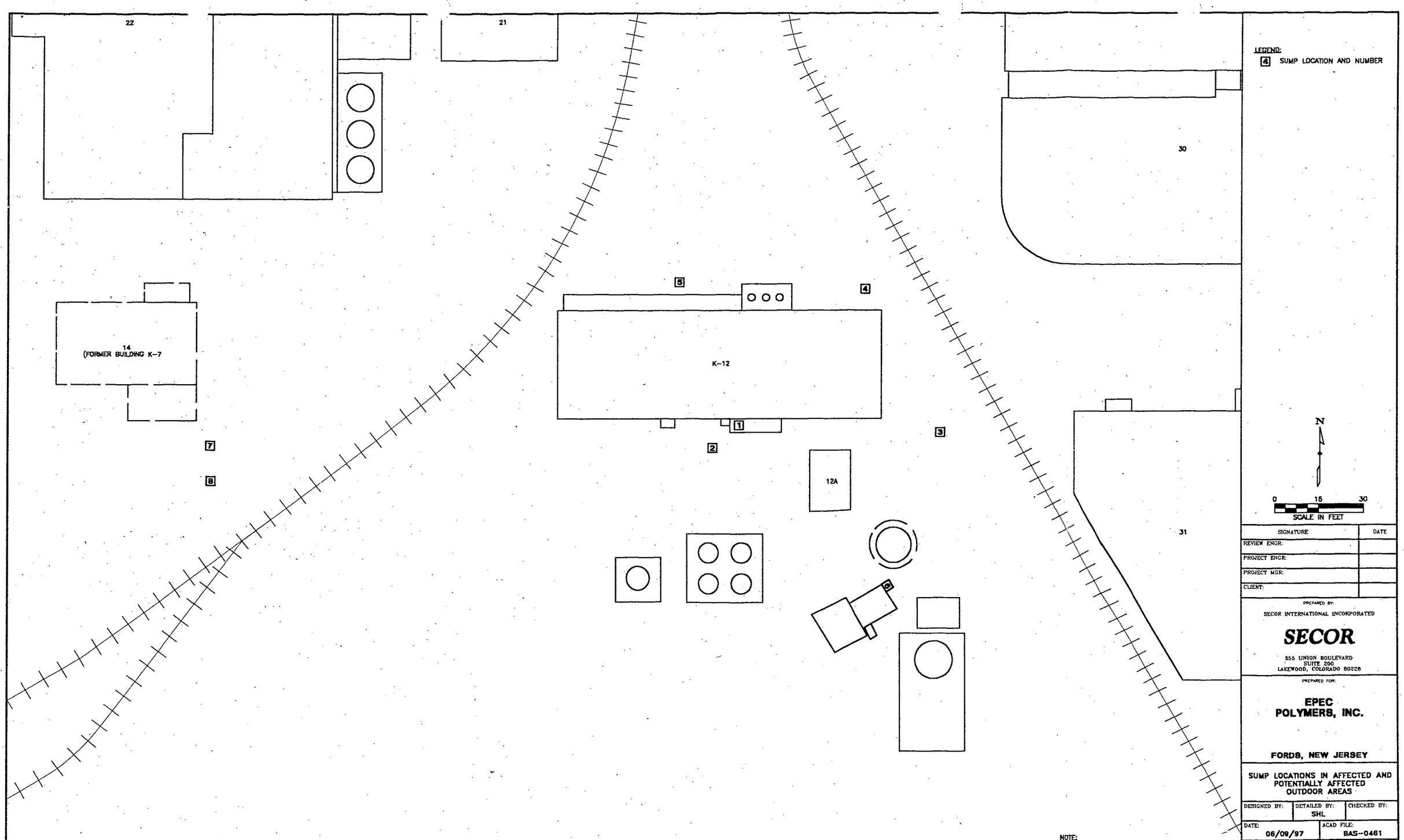
EPEC POLYMERS, INC.

FORDS, NEW JERSEY

SOIL SAMPLING LOCATIONS FOR AREA 3000

DESIGNED BY:	DETAILED BY: SHL	CHECKED BY:
DATE: 05/07/97		ACAD FILE: LOC-0545
PROJECT NO.: Z0122-001-01		PLOT SCALE: 1" = 20'

FIGURE 4



LEGEND:
4 SUMP LOCATION AND NUMBER

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

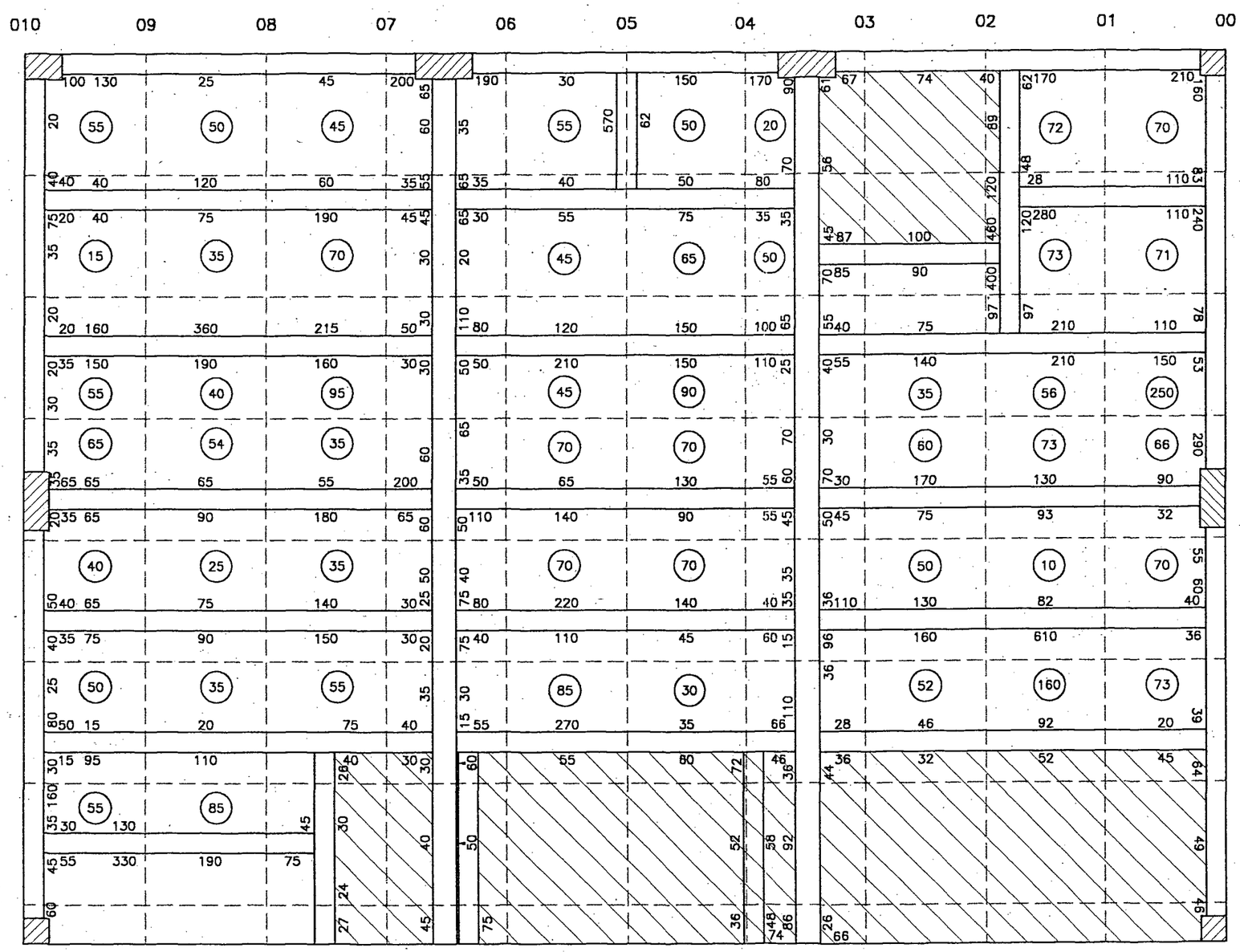
SUMP LOCATIONS IN AFFECTED AND POTENTIALLY AFFECTED OUTDOOR AREAS

DESIGNED BY:	DETAILED BY:	CHECKED BY:
	SHL	

DATE:	ACAD FILE:
06/09/97	BAS-0461
PROJECT NO.:	PLOT SCALE:
Z0122-001-01	1" = 15'

FIGURE 5

NOTE:
DEVELOPED FROM ESCM CONSULTING ENGINEERS, DRAWING NO. TNFD-0001 DATED 3/18/92 AND HEYDEN NEWPORT CHEMICAL CORP. DRAWING FILE 11147-9 DATED 9/1/80.



OPEN AREAS

LEGEND

I–BEAM LOWER LEDGES

60 CEILING SURFACE MEASUREMENTS

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).

3. ALL MEASUREMENTS, OTHER THAN CEILING MEASUREMENTS, WERE TAKEN ON THE I–BEAM LOWER LEDGES.

N

0 1 2

SCALE IN METERS

DWN	SHL
APPR	
DATE	07/23/97
JOB NO.	Z0122–001–01
CAD FILE	CHT–0028

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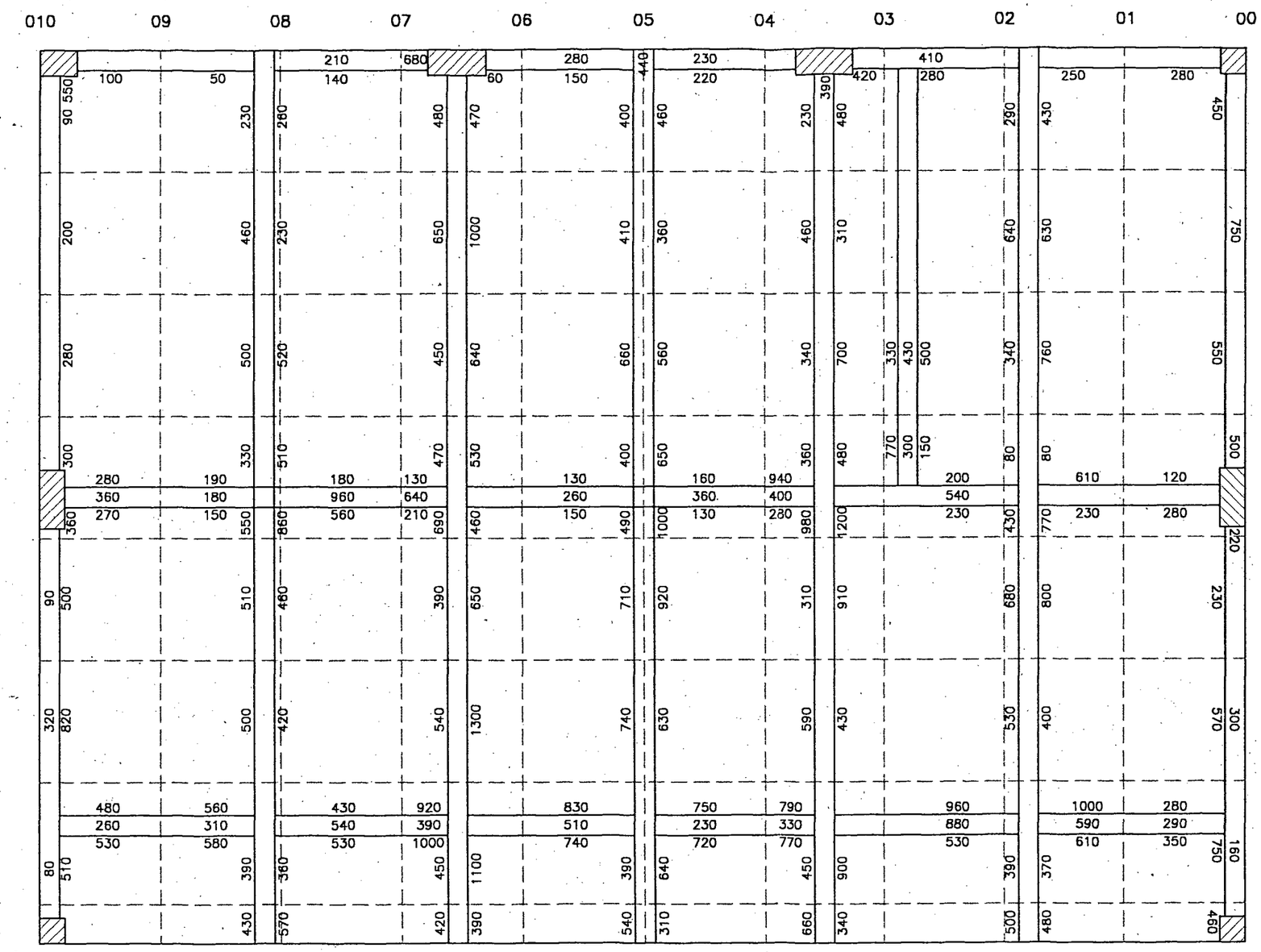
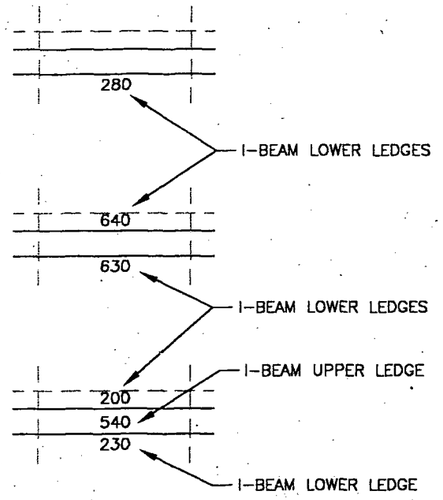
Robbinsville, NJ 08691

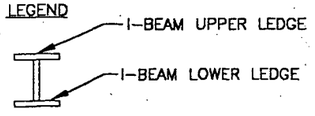
EPEC POLYMERS, INC.
Fords, New Jersey

Figure 6
Catalyst Preparation Room (1st Floor) Final Ceiling I–Beam and Ceiling Survey





LEGEND



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	07/08/97
JOB NO.	Z0122-001-01
CAD FILE	CHT-0027

SECOR
111-A North Gold Drive
Robbinsville, NJ 08691

EPEC POLYMERS, INC.
Fords, New Jersey

Figure 7
Catalyst Preparation Room (2nd Floor) Initial Ceiling I-Beam 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
SRCE0602	0.154	0.132
SRCE0606	0.151	0.133
SRCE0609	0.152	0.133
SRCE0610	0.152	0.134
SRCE0611	0.152	0.133
SRCE0613	0.152	0.134
SRCE0617	0.152	0.134
SRCE0623	0.152	0.133
SRCE0625	0.153	0.134
SRCE0626	0.153	0.133
SRCE0627	0.152	0.134
SRCE0630	0.153	0.135

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)
DRM1-32A	(1.05 +/- 0.03) E+1	(4.43 +/- 0.16) E+2	(3.08 +/- 0.12) E+2	(7 +/- 8) E+0	(6.7 +/- 0.9) E-1	<MDA	7.5 E-2	1.4 E+1	2.6 E+0	1.2 E+0	1.7 E-1	2.2 E-1	NA
DRM1-32B	(1.40 +/- 0.03) E+2	(5.29 +/- 0.15) E+3	(4.1 +/- 1.2) E+3	(1.1 +/- 0.9) E+2	<MDA	<MDA	2.6 E-1	2.2 E+1	1.4 E+1	4.3 E+0	4.5 E-1	4.4 E-1	38/32

[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 = Minimum Detectable Activity
NA = Not Applicable

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 (x, y)	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
SS-2	2.5, 022.5	(3.1 +/- 1.3) E-1	(1.1 +/- 0.7) E+1	(1.29 +/- 0.11) E+1	(2 +/- 2) E+0	(7.3 +/- 0.7) E-1	(6.5 +/- 1.2) E-1	5.0 E-2	1.1 E+1	1.4 E+0	8.2 E-1	1.4 E-1	1.8 E-1
SS-3	2.5, 027.5	<MDA	<MDA	<MDA	<MDA	(8 +/- 2) E-1	(5 +/- 3) E-1	1.9 E-1	4.0 E+1	3.6 E+0	3.2 E+0	3.3 E-1	3.9 E-1
SS-4	2.5, 032.5	US	<MDA	(4.6 +/- 1.5) E+0	US	(9.3 +/- 1.4) E-1	(7 +/- 2) E-1	9.6 E-2	2.9 E+1	2.5 E+0	1.6 E+0	2.4 E-1	3.0 E-1
SS-5	7.5, 032.5	(2.0 +/- 1.1) E-1	(6 +/- 7) E+0	(6.8 +/- 0.9) E+0	(2 +/- 2) E+0	(8.6 +/- 0.7) E-1	(7.7 +/- 1.2) E-1	4.9 E-2	1.1 E+1	1.3 E+0	8.1 E-1	1.4 E-1	1.8 E-1
SS-6	12.5, 032.5	US	(2.5 +/- 1.3) E+1	(2.8 +/- 0.9) E+1	US	(4.7 +/- 1.3) E-1	<MDA	1.1 E-1	2.0 E+1	2.6 E+0	1.8 E+0	2.4 E-1	3.9 E-1
SS-7	17.5, 032.5	(1.47 +/- 0.07) E+0	(6.5 +/- 0.4) E+1	(5.1 +/- 0.2) E+1	(2.2 +/- 1.5) E+0	(5.3 +/- 0.3) E-1	(4.4 +/- 0.7) E-1	2.2 E-2	7.2 E+0	8.7 E-1	3.6 E-1	8.2 E-2	1.2 E-1
SS-8	22.5, 032.5	(1.10 +/- 0.14) E+0	(4.8 +/- 1.5) E+1	(4.2 +/- 1.5) E+1	RIA	(7.8 +/- 1.3) E-1	(5 +/- 2) E-1	1.1 E-1	2.2 E+1	3.0 E+0	1.8 E+0	1.4 E-1	2.9 E-1
SS-9	27.5, 032.5	(1.92 +/- 0.10) E+0	(7.7 +/- 0.8) E+1	(8.0 +/- 0.4) E+1	RIA	(7.8 +/- 0.8) E-1	(6.5 +/- 1.3) E-1	5.5 E-2	1.2 E+1	1.6 E+0	9.1 E-1	1.5 E-1	1.9 E-1
SS-10	32.5, 032.5	US	<MDA	(9.3 +/- 1.0) E+0	US	(9.5 +/- 0.8) E-1	<MDA	5.2 E-2	1.4 E+1	1.3 E+0	8.6 E-1	1.5 E-1	1.9 E-1
SS-11	37.5, 032.5	(1.08 +/- 0.08) E+0	(4.3 +/- 0.9) E+1	(2.6 +/- 0.8) E+1	RIA	(9.4 +/- 0.8) E-1	(8.1 +/- 1.3) E-1	5.9 E-2	1.3 E+1	1.5 E+0	9.7 E-1	1.5 E-1	2.0 E-1
SS-12	42.5, 032.5	(1.09 +/- 0.12) E+0	(4 +/- 2) E+1	(4.8 +/- 0.4) E+1	RIA	(1.0 +/- 0.2) E+0	(7 +/- 3) E-1	1.4 E-1	2.7 E+1	3.4 E+0	2.3 E+0	3.2 E-1	3.8 E-1
SS-13	47.5, 032.5	(7.1 +/- 0.6) E-1	(3.0 +/- 0.6) E+1	(3.08 +/- 0.16) E+1	(1.3 +/- 1.2) E+0	(9.7 +/- 0.4) E-1	<MDA	2.5 E-2	9.2 E+0	1.0 E+0	4.2 E-1	8.9 E-2	9.4 E-2
SS-14	52.5, 032.5	US	(3.1 +/- 1.5) E+1	(3.8 +/- 1.2) E+1	US	(6.3 +/- 1.4) E-1	<MDA	1.1 E-1	2.3 E+1	2.7 E+0	1.8 E+0	2.6 E-1	4.2 E-1
SS-15	57.5, 032.5	(1.7 +/- 0.2) E+0	(5.1 +/- 1.5) E+1	(5.0 +/- 1.6) E+1	RIA	(7.1 +/- 1.3) E-1	(6 +/- 2) E-1	1.1 E-1	2.1 E+1	2.9 E+0	1.9 E+0	2.4 E-1	2.9 E-1
SS-16	62.5, 032.5	(1.8 +/- 0.2) E+0	(5 +/- 2) E+1	(4.5 +/- 1.3) E+1	RIA	(9.4 +/- 1.5) E-1	(6 +/- 2) E-1	1.3 E-1	2.3 E+1	3.1 E+0	2.1 E+0	2.8 E-1	3.4 E-1
SS-17	67.5, 032.5	(1.00 +/- 0.10) E+0	(3.4 +/- 0.8) E+1	(2.7 +/- 0.8) E+1	RIA	(9.4 +/- 0.7) E-1	(7.3 +/- 1.1) E-1	5.4 E-2	1.2 E+1	1.4 E+0	8.8 E-1	1.4 E-1	1.8 E-1
SS-18	72.5, 032.5	(1.18 +/- 0.11) E+0	(2.9 +/- 0.7) E+1	(2.9 +/- 0.9) E+1	RIA	(1.05 +/- 0.08) E+0	(8.6 +/- 1.2) E-1	5.6 E-2	1.1 E+1	1.4 E+0	9.2 E-1	1.4 E-1	1.8 E-1
SS-19	87.5, 032.5	<MDA	<MDA	<MDA	<MDA	(5.5 +/- 1.0) E-1	<MDA	1.1 E-1	2.2 E+1	1.8 E+0	1.8 E+0	2.0 E-1	3.0 E-1
SS-20	97.5, 032.5	(3.3 +/- 0.6) E-1	(1.1 +/- 0.5) E+1	(1.2 +/- 0.3) E+1	(1.5 +/- 1.2) E+0	(4.0 +/- 0.4) E-1	(3.0 +/- 0.9) E-1	2.5 E-2	8.4 E+0	8.3 E-1	4.1 E-1	8.6 E-2	1.4 E-1
SS-21	102.5, 032.5	US	<MDA	<MDA	US	(3.9 +/- 1.2) E-1	<MDA	9.9 E-2	2.7 E+1	2.3 E+0	1.6 E+0	2.3 E-1	3.7 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.
US = This nuclide is part of an undetermined solution due to interference with another nuclide.
RIA = Nuclide rejected by the interference analysis.
MDA = Minimum Detectable Activity

Table 4
Gamma Spec Sample Log
Miscellaneous Environmental 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
SUMP1	US	<MDA	(1.8 +/- 0.6) E+1	US	<MDA	<MDA	1.3 E-1	4.0 E+1	3.1 E+0	2.1 E+0	4.3 E-1	5.1 E-1
SUMP2	(1.83 +/- 0.15) E+0	(5 +/- 2) E+1	(4.1 +/- 1.4) E+1	RIA	<MDA	<MDA	1.2 E-1	2.3 E+1	3.0 E+0	2.1 E+0	3.9 E-1	4.8 E-1
SUMP4	US	<MDA	(1.9 +/- 0.6) E+1	US	(5.6 +/- 1.1) E-1	<MDA	8.3 E-2	2.4 E+1	2.2 E+0	1.4 E+0	2.4 E-1	3.0 E-1
SUMP5	US	(1.6 +/- 0.9) E+1	(5 +/- 2) E+0	US	<MDA	(1.4 +/- 1.3) E-1	6.4 E-2	1.2 E+1	1.3 E+0	1.1 E+0	2.1 E-1	1.9 E-1
SUMP7	(5.6 +/- 0.3) E+0	(2.20 +/- 0.16) E+2	(1.8 +/- 0.5) E+2	(6 +/- 6) E+0	<MDA	<MDA	7.3 E-2	1.7 E+1	2.5 E+0	1.2 E+0	2.2 E-1	2.7 E-1
SUMP8	(1.18 +/- 0.11) E+1	(3.6 +/- 0.5) E+2	(3.9 +/- 1.1) E+2	RIA	<MDA	<MDA	3.2 E-1	6.0 E+1	9.8 E+0	5.2 E+0	9.2 E-1	1.1 E+0
SAND1	US	<MDA	<MDA	US	(2.3 +/- 0.2) E+0	(1.9 +/- 0.2) E+0	1.3 E-1	3.1 E+1	3.4 E+0	2.1 E+0	2.4 E-1	2.9 E-1
#1RAD	(3.6 +/- 0.2) E+1	(1.09 +/- 0.06) E+3	(8 +/- 2) E+2	RIA	<MDA	<MDA	3.3 E-1	4.1 E+1	1.3 E+1	5.5 E+0	7.3 E-1	8.1 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.
US = This nuclide is part of an undetermined solution due to interference with another nuclide.
RIA = Nuclide rejected by the interference analysis.
MDA = Minimum Detectable Activity

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	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
RESP5	<MDA	<MDA	<MDA	<MDA	<MDA	<MDA	8.0 E+1	1.8 E+4	1.4 E+3	1.3 E+3	1.9 E+2	2.2 E+2
RESP6	US	<MDA	<MDA	US	<MDA	<MDA	5.7 E+1	1.9 E+4	1.5 E+3	9.4 E+2	1.9 E+2	2.3 E+2
RESP7	US	<MDA	(1.0 +/- 0.5) E+3	US	(1.0 +/- 0.3) E+2	<MDA	1.9 E+1	5.4 E+3	5.0 E+2	3.1 E+2	6.2 E+1	6.7 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.
US = This nuclide is part of an undetermined solution due to interference with another nuclide.
MDA = Minimum Detectable Activity

Table 6
Screening Log
Former EPEC Polymers Facility
Industrial Avenue
Fords, Middlesex County, New Jersey

Sreening Location	average cpm
Door (upper left corner)	690
Door (upper right corner)	420
Door (middle)	360
Door (lower left corner)	510
Door (lower right corner)	910
2nd Floor CPR Shelves	800

Notes:

All areas screened with the Ludlum 2221 attached to the Ludlum 44-40 probe

The door is located on the 1st floor of the CPR area on the east wall.

Table 7
Wipe Results for North and South Beam Inaccessible Areas
1st Floor Catalyst Preparation Room
Former EPEC Polymers Facility
Industrial Avenue
Fords, Middlesex County, New Jersey

Wipe No.	Date Collected	Location	Alpha (dpm/100 cm^2)	Beta (dpm/100 cm^2)
1	5/16/97	N (0,00)	1.67	4.69
2	5/16/97	N (1,00)	6.82	27.26
3	5/16/97	N (2,00)	3.27	8.88
4	5/16/97	N (3,00)	7.78	19.14
5	5/16/97	N (4,00)	5.76	19.55
6	5/16/97	N (5,00)	2.16	4.71
7	5/16/97	N (6,00)	0.98	2.74
8	5/16/97	N (7,00)	1.13	2.93
9	5/16/97	S (0, 010)	1.44	2.05
10	5/16/97	S (1, 010)	0.82	2.26
11	5/16/97	S (2, 010)	2.89	5.95
12	5/16/97	S (3, 010)	3.18	13.88
13	5/16/97	S (4, 010)	2.44	7.93
14	5/16/97	S (5, 010)	1.60	3.40
15	5/16/97	S (6, 010)	2.16	6.45
16	5/16/97	S (7, 010)	0.89	5.33

Table 8
Personal Exposure Rates
Former EPEC Polymers Facility
Industrial Avenue
Fords, Middlesex County, New Jersey

Name	mR/day for Exposure Period
Brian Dobis	0.24
Ravi Gupta	0.20
Ken Sackson	0.17
Andy Schwartz	0.31
J.E. Johnson	0.28
Dave Evans	0.24
SITE CONTROL	0.27
LAB CONTROL	0.34

Exposure Period - 3/14/97 to 6/24/97

Table 9
On-site Visitors for June 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	2 - 14, 16 - 21, 23 - 30	Remediation of radioactive contamination.
Andrew Schwartz	SECOR	2 - 6, 9 - 13, 17 - 20, 23 - 27, 30	Remediation of radioactive contamination.
David Evans	SECOR	3, 4, 7 - 14, 18 - 21, 23 - 29, 30	Remediation of radioactive contamination.
Ken Sakson	SECOR	5, 6	Remediation of radioactive contamination.
Roger Towe	EPEC	6, 25	Oversight.
Gerry Malone	EPEC	3, 4, 11, 18, 19, 25 - 27	Oversight.
Sam Mark	ESCM	17	Landfill maintenance.
Zack Nickell	ESCM	2 - 5	Landfill maintenance.
Brian Merkley	ESCM	2, 4, 26	Landfill maintenance.
Ed Shaw	ESCM	3, 6, 10	Landfill inspection.
David Payne	ESCM	2, 3	Landfill maintenance.
J. Ross	ESCM	3	Landfill maintenance.
E. Benton	ESCM	3	Landfill maintenance.
J. Ely	CTEC	3	Unknown.
D. DiGirolamo	D. DiGirolamo Construction	25	Environmental construction.
Carmine Nesti	Cardell	2	Unknown.
Bruce Doremus	Doremus Engineering	9, 10, 12, 13, 16, 25	Groundwater monitoring.