

MEETING WITH OPERABLE UNIT 2 (PENETROMETER TESTING)

09/30/94

DOE-2493-94
DOE-FN EPAS
0
OU2

FERMCO OU2



Department of Energy
Fernald Environmental Management Project
P. O. Box 398705
Cincinnati, Ohio 45239-8705
(513) 648-3155

Oct 4 3 11 PM '94

SEP 30 1994
DOE-2493-94

Mr. James Saric, Remedial Project Director
U. S. Environmental Protection Agency
Region V-5HRE-8J
77 W. Jackson Boulevard
Chicago, Illinois 60604-3590

Mr. Tom Schneider, Project Manager
Ohio Environmental Protection Agency
401 East 5th Street
Dayton, Ohio 45402-2911

Dear Mr. Saric and Mr. Schneider:

MEETING WITH OPERABLE UNIT 2

This letter is being sent as a follow-up to our meeting in Chicago on September 23, 1994. The purpose is to request the Ohio Environmental Protection Agency (OEPA) and United States Environmental Protection Agency (U. S. EPA) approval of the Fernald Environmental Restoration Management Corporation's (FERMCO) plan to conduct penetrometer testing in the eastern part of the Fernald Environmental Management Project (FEMP).

The motivation for the testing is to complete preliminary scoping studies for the disposal facility pre-design investigation using the least intrusive techniques possible. The following penetrometer studies, locations for soil sampling, lysimeter installations, and piezometer construction will be selected. The workplan for these activities will be provided later for formal review.

Sample locations were selected on Figure 1 according to the following criteria:

Cone Penetrometer Test (CPT) CPT-1 through CPT-30 are in areas of few existing borings, although existing data suggest a potentially homogenous and clay predominant area. Additional samples are proposed to test this hypothesis;

CPT-31 through CPT-43 are proposed in areas where sands apparently occur, but the limits of the area are not currently defined by the conflicting data. There are potentially heterogenous sand and clay areas and the proposed samples are intended to define the limits of the areas;

Six additional locations are discretionary and may be used as needed to complete the study as time allows, and

Four CPT borings will be used as Quality Control, being selected in the field adjacent to existing borings to check on the correlation between the existing boring log data and the penetrometer data

Enclosed please find copies of the computer graphics presented at the meeting on September 23. These were requested by you as examples of the logic we used in defining uncertainty. These are preliminary results and are subject to change based upon additional data.

We intend to complete as many of the proposed penetrometer points as possible during October 1994 based on equipment availability and locations approved by the state historic preservation officer. Any locations not sampled will be considered during the Pre-Design Investigation, which is currently scheduled for December 1994.

All penetrometer holes will be abandoned according to American Society of Testing and Materials (ASTM) D5299-92 "Standard Guide for Decommissioning of Ground Water Wells, Vadose Zone Monitoring Devices, Boreholes, and Other Devices for Environmental Activities" using a non-shrinking cement grout (Type K or Volclay).

If you have any questions or require additional information, please contact me at (513) 648-3139. Thank you for your time and cooperation in this matter.

Sincerely,

John Hall for

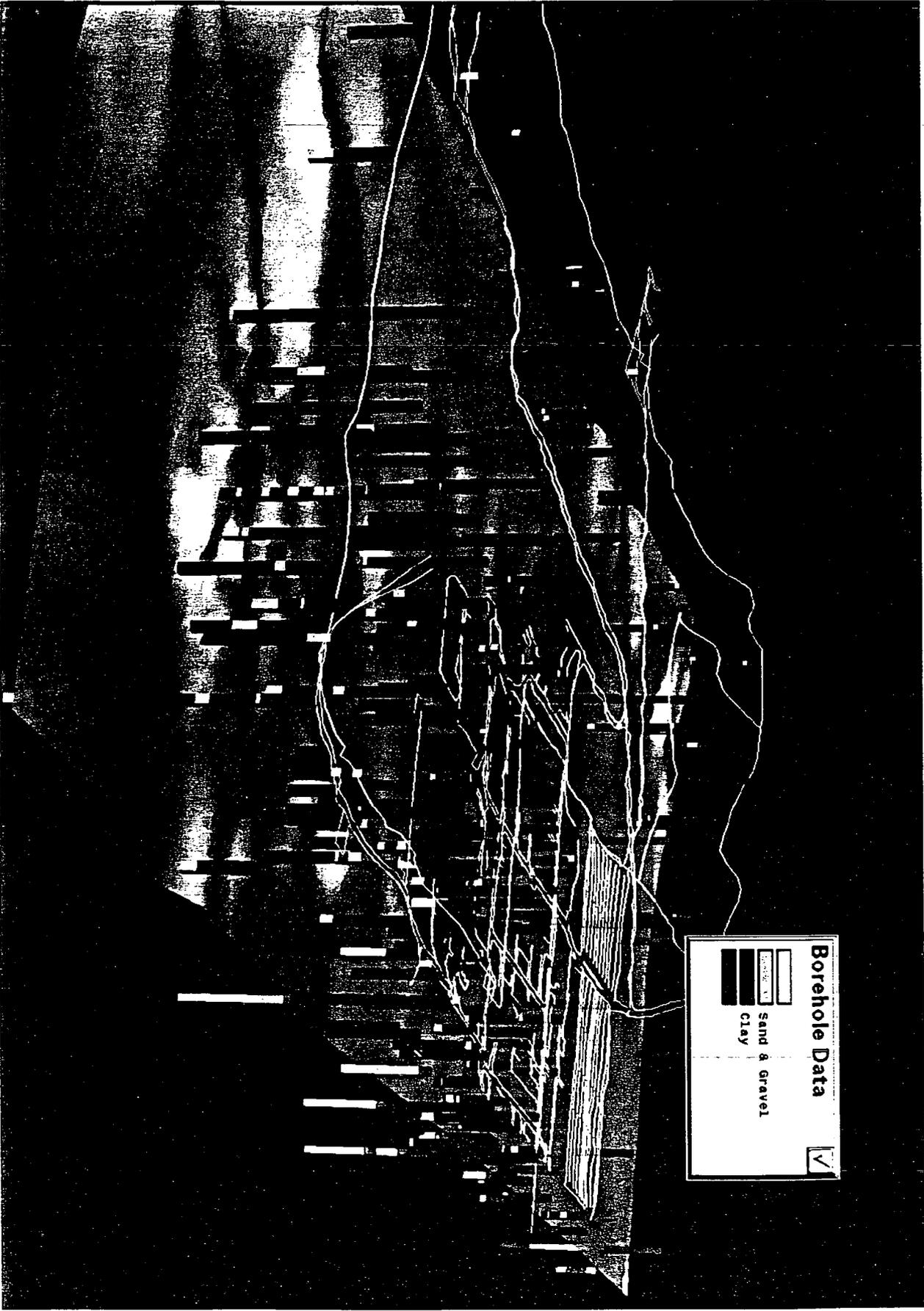
Johnny Reising
Acting Associate Director,
Environmental Management

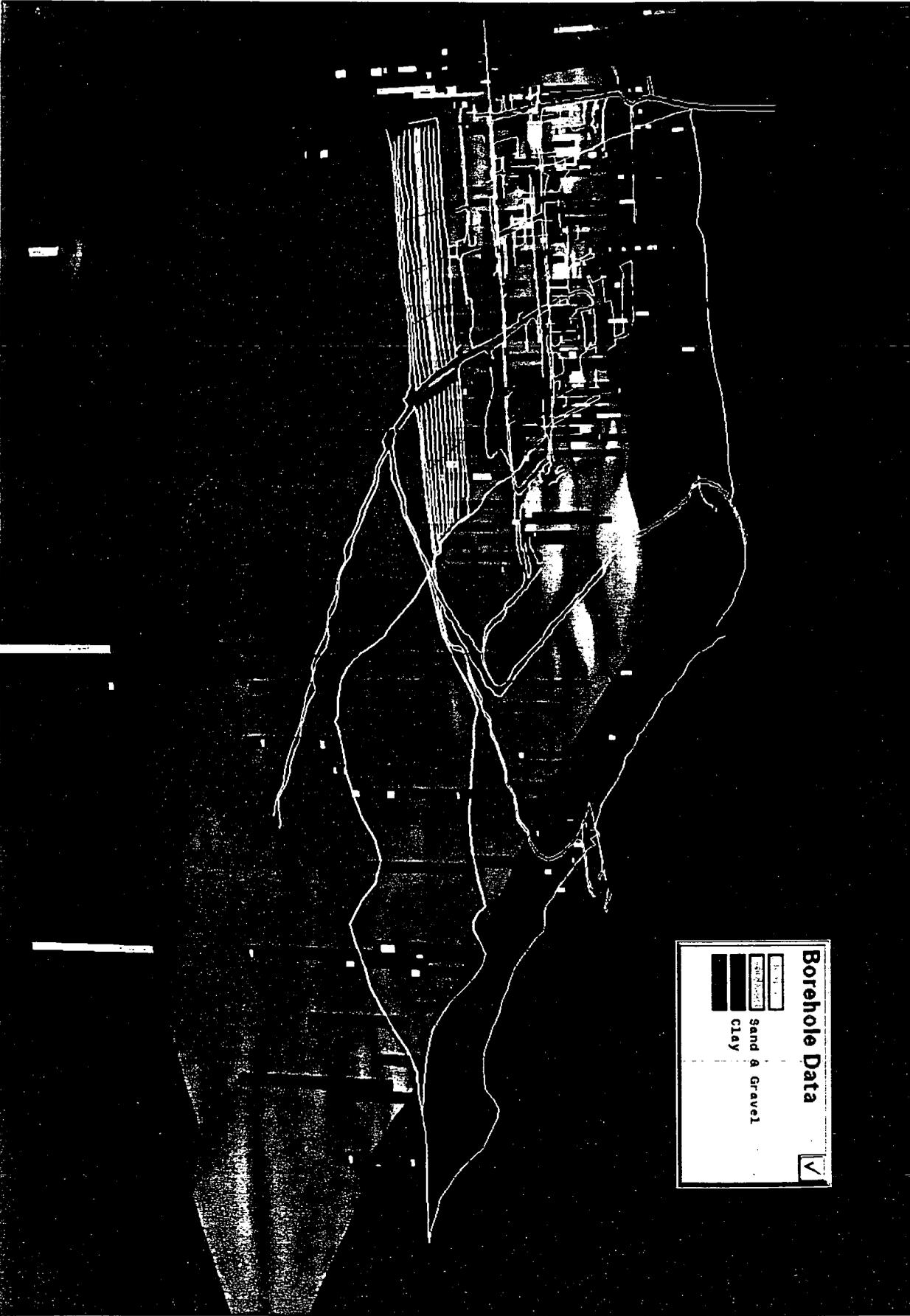
FN:Reising

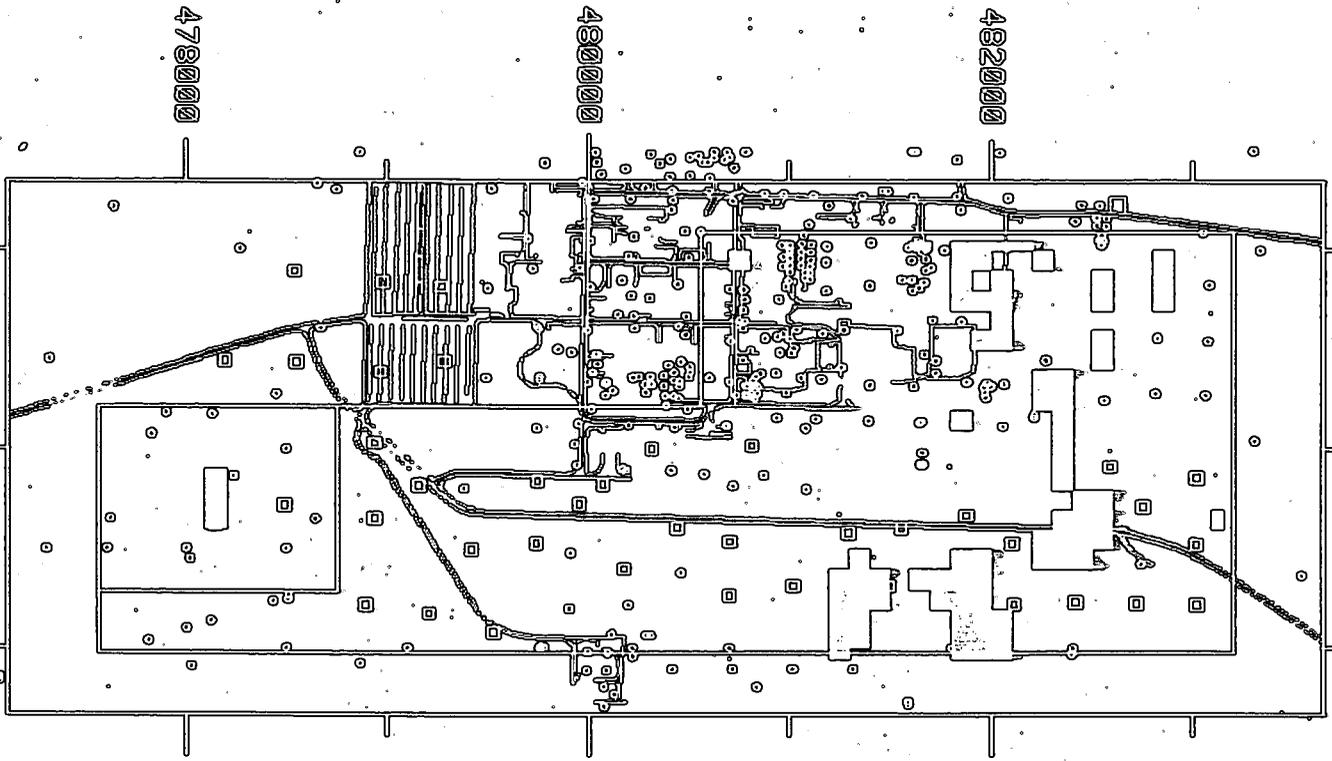
Enclosure: As Stated

cc w/o enc:

J. R. Craig, DOE-FN
R. Warner, DOE-FN
S. Gifford, FERMCO/51-2
J. B. Williams, FERMCO/51-2

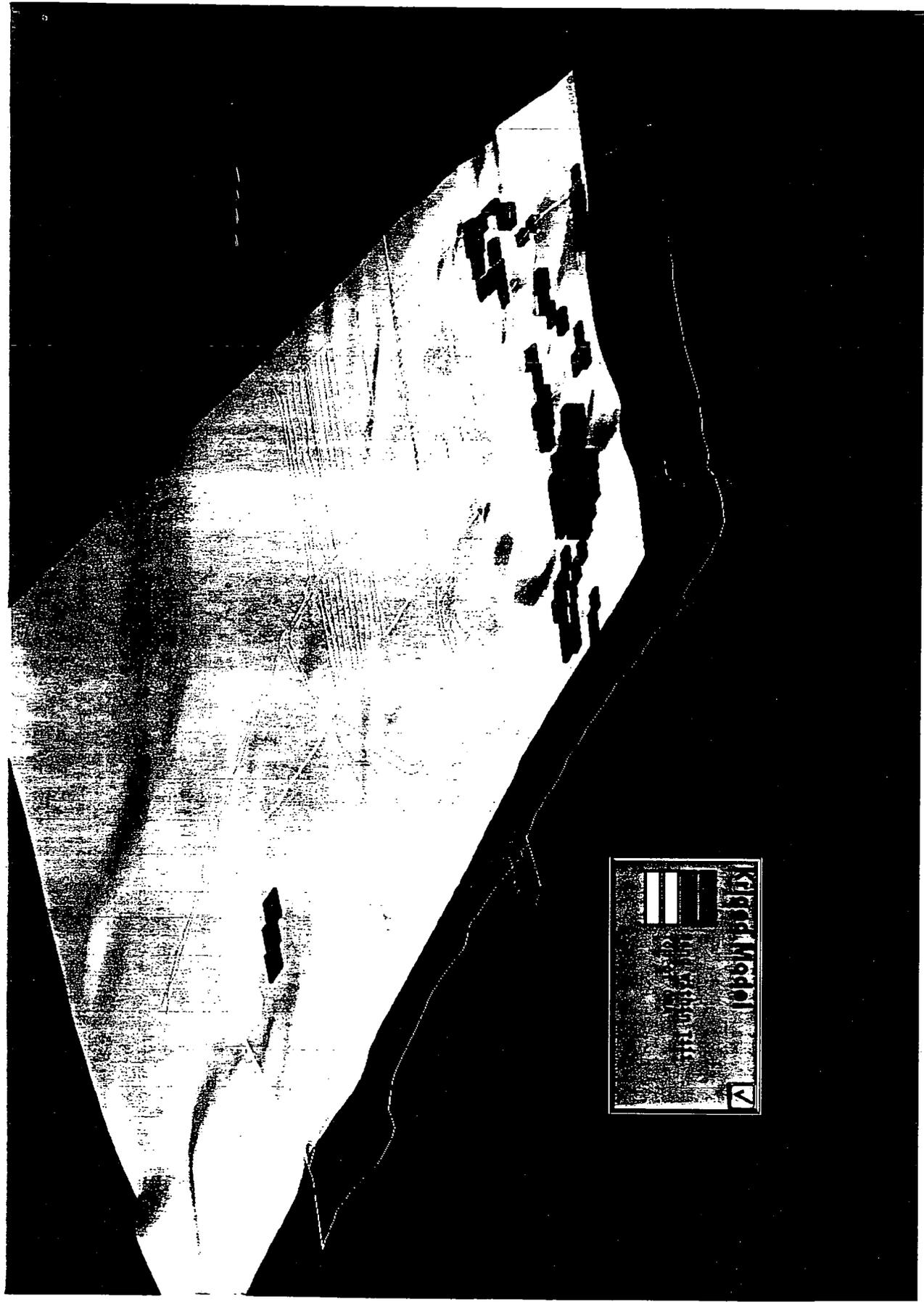


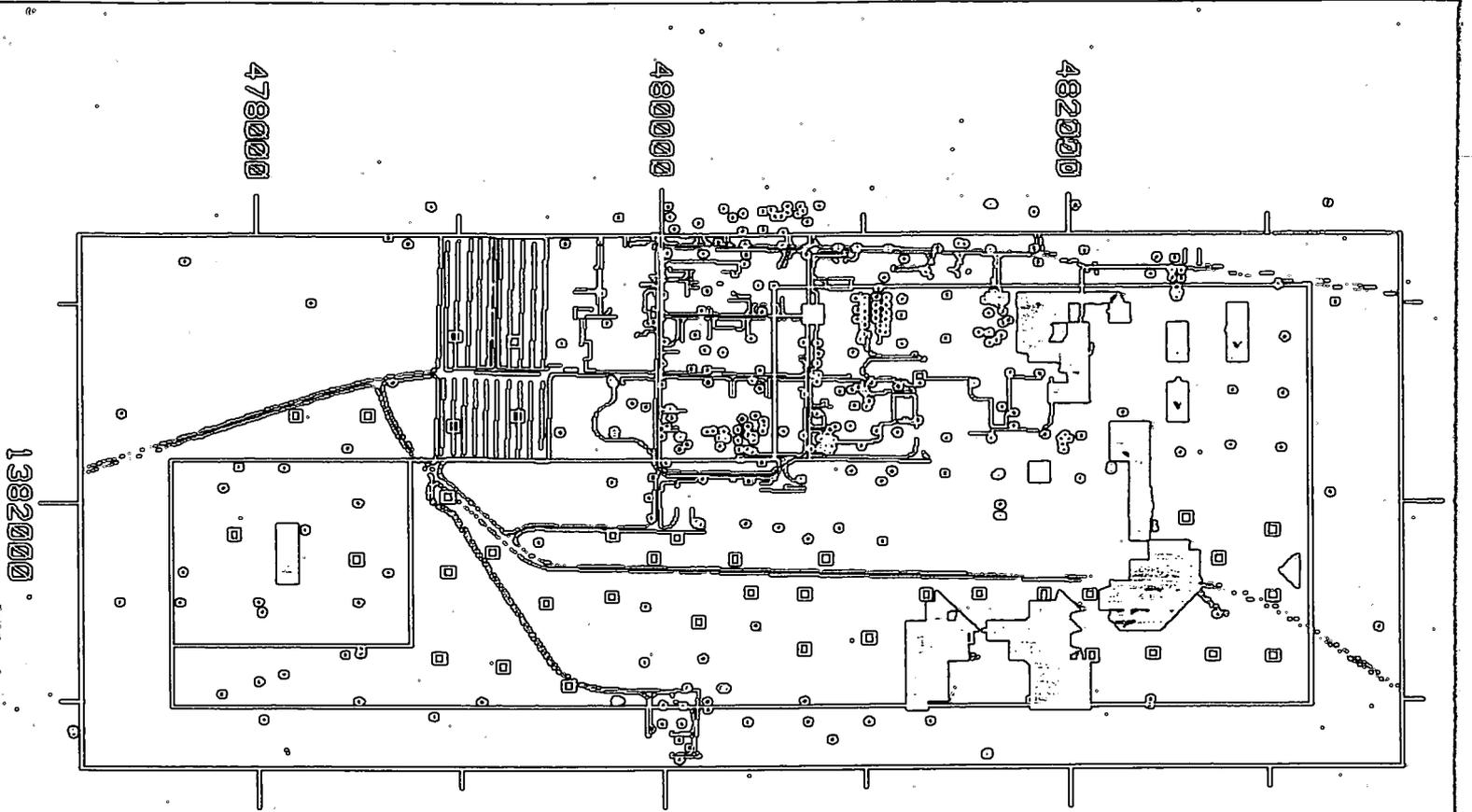




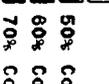
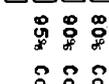
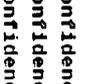
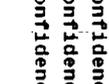
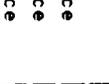
Areas of Predicted Sand

Within Brown/Gray Clay





Sand Location Envelopes by Confidence Level

	70% Confidence		80% Confidence
	80% Confidence		90% Confidence
	90% Confidence		95% Confidence
	95% Confidence		

482000

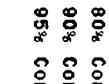
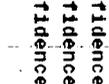
480000

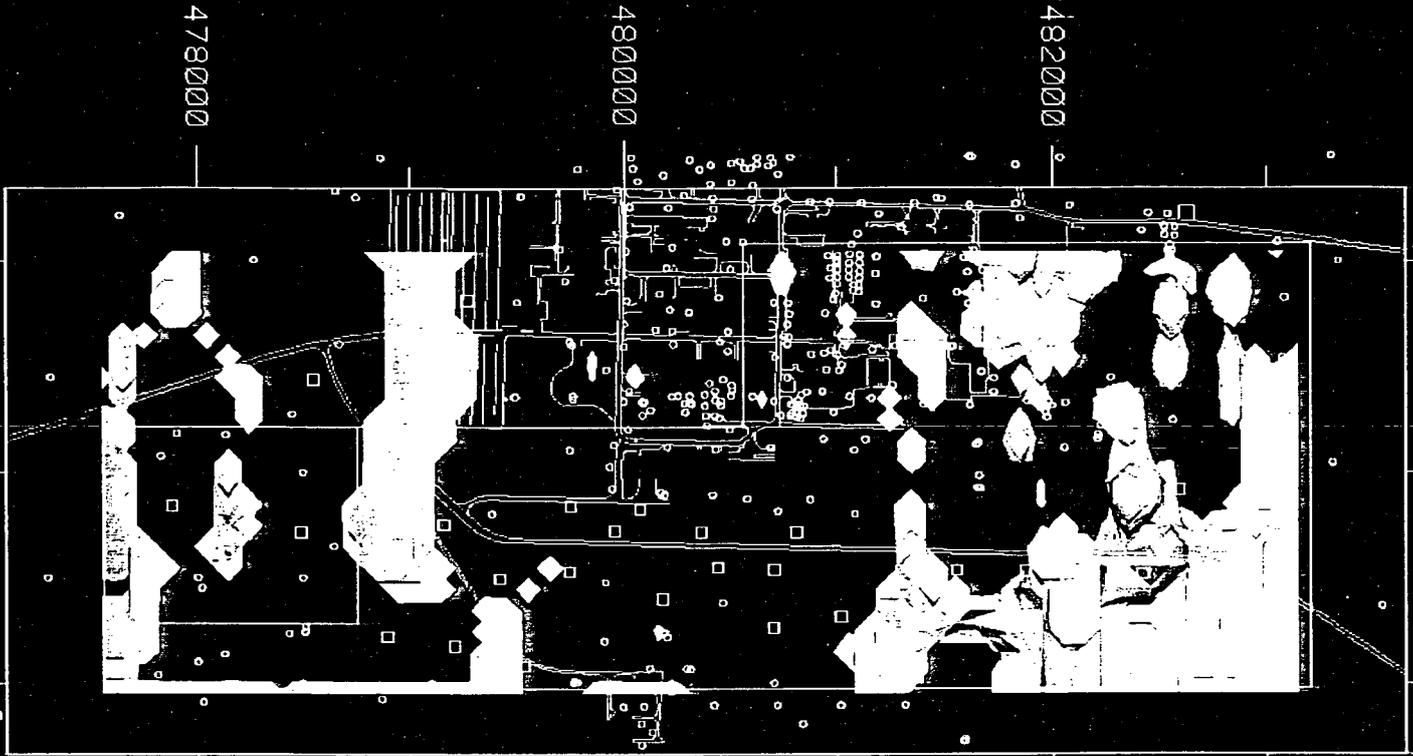
478000



1382000

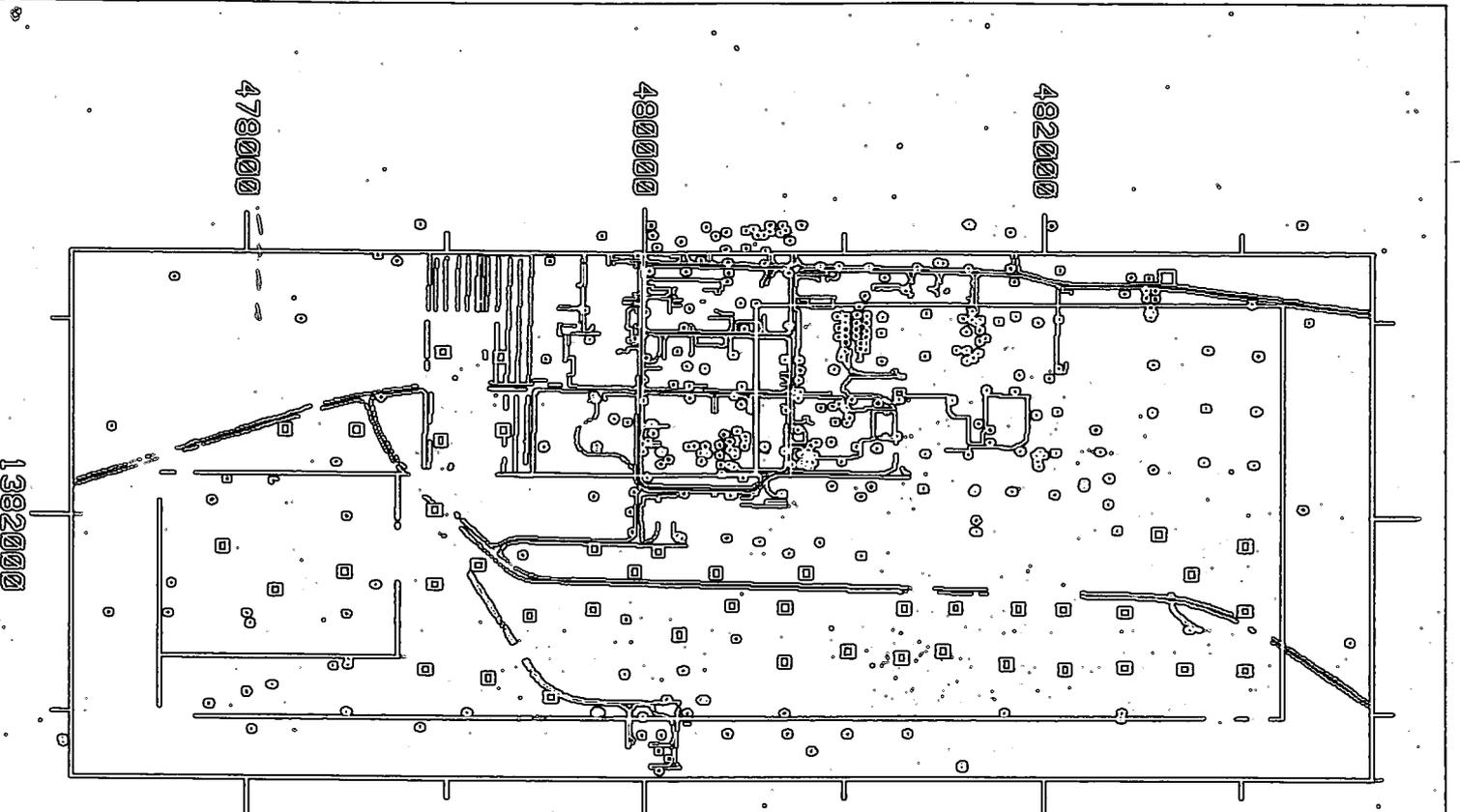
Sand Location Envelopes by Confidence Level

	100% Confidence		80% Confidence
	50% Confidence		90% Confidence
	60% Confidence		95% Confidence
	70% Confidence		



Sand Location Envelopes by Confidence Level

	50% Confidence		80% Confidence
	60% Confidence		90% Confidence
	70% Confidence		95% Confidence



Sand Location Envelopes by Confidence Level ✓

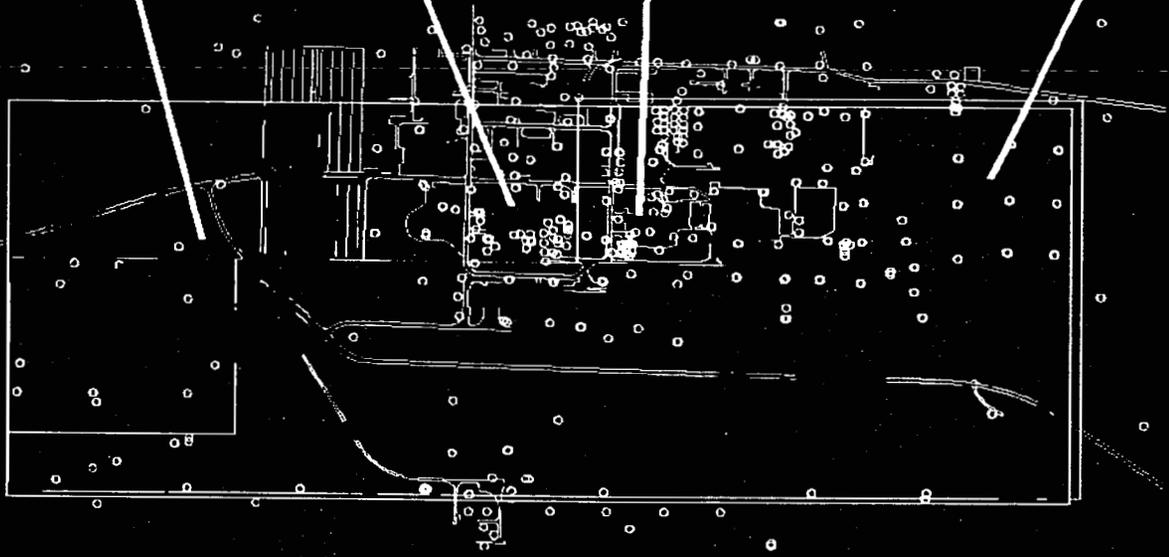
	50% Confidence		80% Confidence
	60% Confidence		90% Confidence
	70% Confidence		95% Confidence

CONSISTENT DATA
FEW SAMPLES

INCONSISTENT DATA
MANY SAMPLES

CONSISTENT DATA
MANY SAMPLES

INCONSISTENT DATA
FEW SAMPLES



Sand Location Envelopes by Confidence Level

	80% Confidence		80% Confidence
	60% Confidence		90% Confidence
	60% Confidence		95% Confidence
	70% Confidence		95% Confidence