CY-05-158
Docket No. 50-213

Attachment 2

Haddam Neck Plant
Observations, Sampling and Analysis of Clayey Secondary Mineral Deposits Observed in Bedrock Fractures in the Primary Auxiliary Building, Dated June 16, 2005

June 2005

Observations, Sampling and Analysis of Clayey Secondary Mineral Deposits Observed in Bedrock Fractures in The Primary Auxiliary Building Excavation

PREPARED FOR: Mr. Rich McGrath, CYAPCO

PREPARED BY: CH2M HILL, CW Miller CW Miller

COPIES: Mr. Terrence Peacock, CYAPCO

DATE: June 16, 2005

1. Introduction

An exposure of clayey material was observed in localized fractures during assessment of exposed bedrock conditions following excavation of contaminated soil in the vicinity of the former Primary Auxiliary Building (PAB). This material was evaluated as a potential secondary source of strontium-90 (Sr-90) contamination to groundwater. Although the material exhibited an elevated Sr-90 concentraiton relative to surrounding fill soil, extraction testing performed on the clayey material indicated the Sr-90 is tightly bound and that the material is not, therefore, expected to be a significant continuing source of groundwater contamination. Details of the characterization of this material are described below.

2. Discovery and Initial Sampling and Analysis

The weathered rock and mineral assemblage that includes the clayey material was first observed in bedrock fractures during collection of groundwater seep samples at the locations identified as Seeps #1 and #2 (see Figure 1). A photograph of the general area of the seeps is shown in Figure 2. These seeps exhibited a consistent Sr-90 concentration of approximately 20 pCi/L. As the bedrock was exposed, a single grab sample of weathered rock containing the clayey material was collected during early efforts to uncover the seeps. Close-up photos of the weathered mineral material are shown in Figures 3a through 3d. The sample was analyzed for Sr-90 and found to exhibit a concentration of about 0.6 pCi/g (see Table 1). The analytical data report for this sample is presented in Attachment 1. This concentration substantially exceeded the soil screening concentration of 0.065 pCi/g. Because of its clayey nature, the subject material was assumed to exhibit a high sorption capacity for Sr-90 (i.e., a high distribution coefficient or K_d). Inspection of other exposed bedrock fractures within the excavation did not reveal additional areas of clay fracture fill.

3. Supplemental Sampling and Analysis

Ongoing characterization to identify the Sr-90 source for the concentrations observed in the seeps resulted in additional testing of the clayey materials affinity for Sr-90. The Synthetic Precipitaiton Leaching Procedure (SPLP) method was selected for this analysis. The SPLP

test had previously been performed on a set of soil samples collected during subsurface soil characterization in the vicinity of the PAB and demonstrated results that were comparable to in situ distribution coefficient measurements made using paired soil and groundwater samples. The archived sample of weathered rock collected during the initial clay characterization was submitted for SPLP extraction. The result indicated non-detectable Sr-90 (i.e., less than the laboratory minimum-detectable concentration), as shown in Table 1, in the SPLP extract (the laboratory result for the SPLP extraction of the weathered rock sample are shown in Attachment 2).

Additional samples were collected from the fractures in the vicinity of Seeps #1 and #2. The weathered rock observed in the fractures exhibited gradational contacts from the parent bedrock, to a granular weathered rock, to the reddish clayey material. A composite sample of the weathered rock and clayey material was collected. In addition, separate samples were collected of the granular rock and the clayey material. These three materials (i.e., the weathered rock composite, the granular rock, and clayey material) were further divided into triplicate aliquots of each sample. These nine samples were submitted to the laboratory for analysis of Sr-90 in the SPLP extract. In all cases, the samples exhibited non-detectable Sr-90 in the SPLP extract as shown in Table 1.

The SPLP extraction tests confirm the initial expectations that the weathered rock would exhibit a relatively high K_d and would not be expected to contribute significantly to future groundwater contamination in the area. In addition, a substantial quantity of the visible portion of the material was removed during sample collection.

The extent of the weathered rock material is uncertain due to the placement of the material within bedrock fractures, however, the observed exposure is relatively small. The weathered rock, including the clayey portion, was limited to an exposed fracture set approximately 20 feet long extending from east to west in the vicinity of Seeps #1 and #2. The exposed face of the weathered rock was approximately 3 inches thick. The thickness of the mateial decreased with depth of penetration into the bedrock fractures. Approximately 20 liters of the weathered material were estimated to be present in the fracture set examined. Approximately 4 liters of weathered rock material were removed during sampling activities. Additional material was removed during final cleanup of the bedrock surface prior to backfilling the excavation. The quantity of material remaining in the bedrock system is uncertain, but is expected to be a reduced fraction of the original exposure.

4. Conclusion and Recommendation

Although the weathered rock was determined to contain an elevated concentration of Sr-90, the nuclide is not readily removed from the material. A distribution coefficient (K_d) cannot be derived for the weathered rock because no detectable concentration of Sr-90 was found in the extract. By comparison, SPLP tesing of construction fill soil samples collected in the vicinity of the PAB, Service Building alley, and tank farm exhibited positive detections of Sr-90 in the SPLP extract ranging from 1.4 pCi/L for soil containing 0.12 pCi/g Sr-90 to 49.4 pCi/L for soil containing 37.5 pCi/g Sr-90.

Based on the tests conducted and the relatively small volume of material present, the clayey material observed in bedrock fractures in the vicinity of Seeps #1 and #2 does not qualify as

a significant continuing source of Sr-90 contamination to groundwater. Therefore, no additional actions are indicated with respect to this material.

Figure 1. Location of Seeps in the PAB Excavation Area. Figure 1. Location of Bedrock Seeps in Excavation, Plan View.

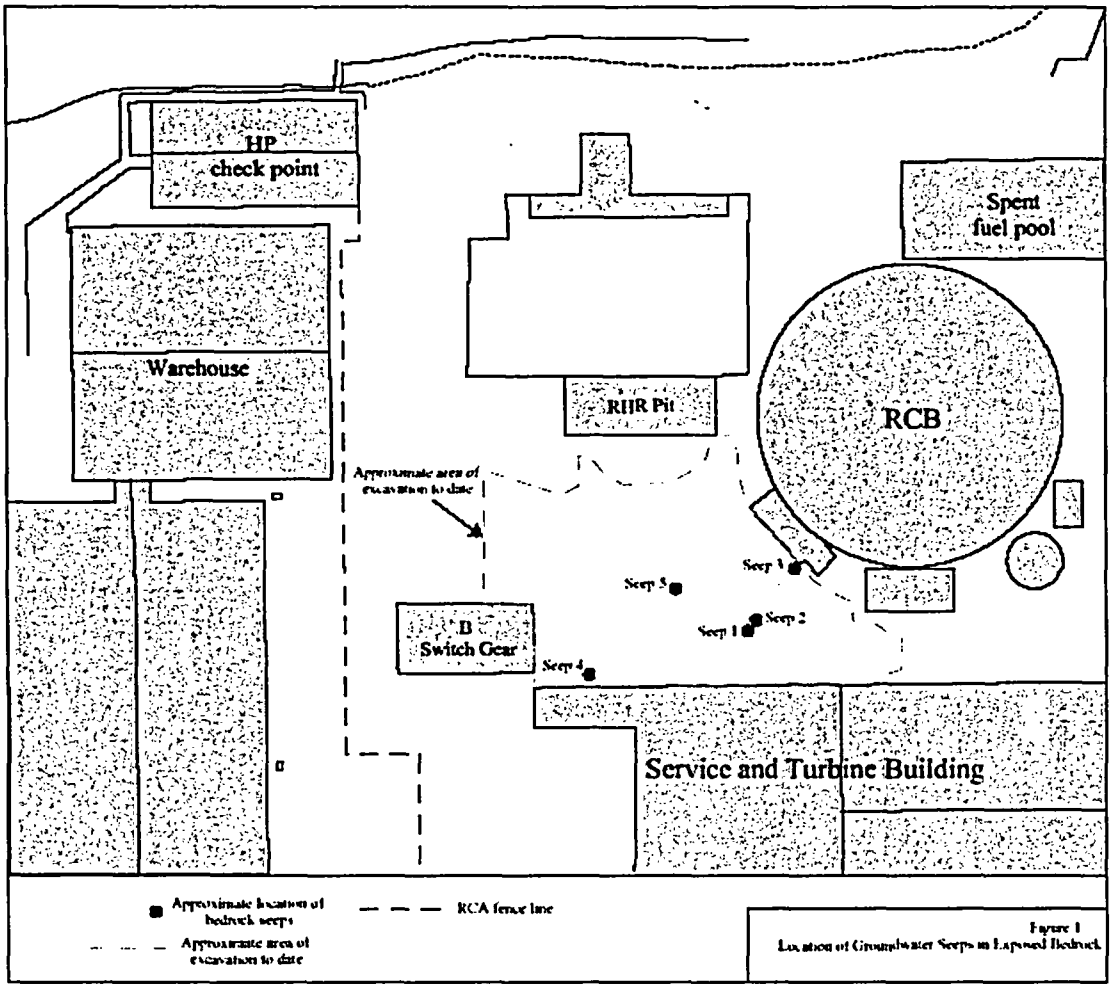

Figure 2. Photograph of Bedrock Seep Locations in Service Alley Excavation.

Figure 3a. Photograph of Weathered Mineral Material in Fractures in Vicinity of Seeps #1 and #2.

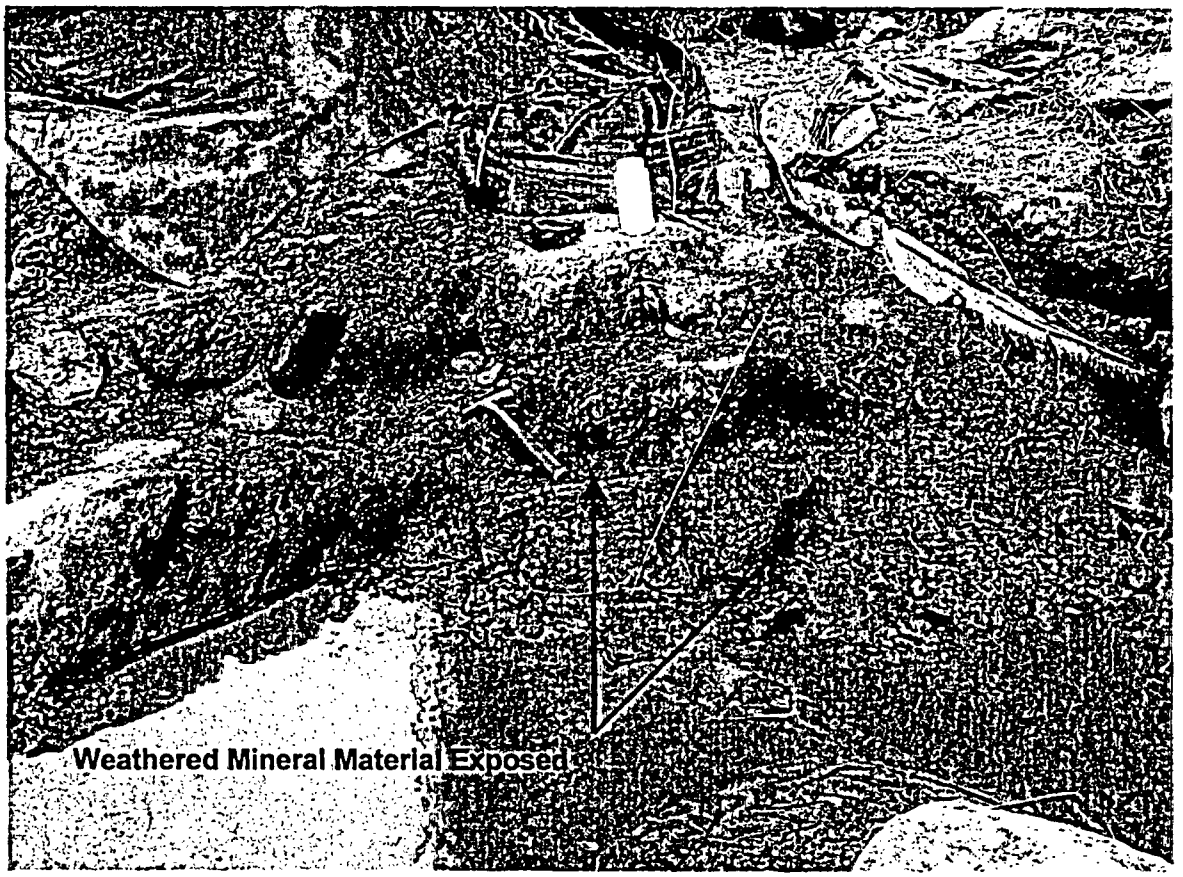

Figure 3b. Exposure of Weathered Mineral Material in Bedrock Fracture in Vicinity of Seeps #1 and #2.

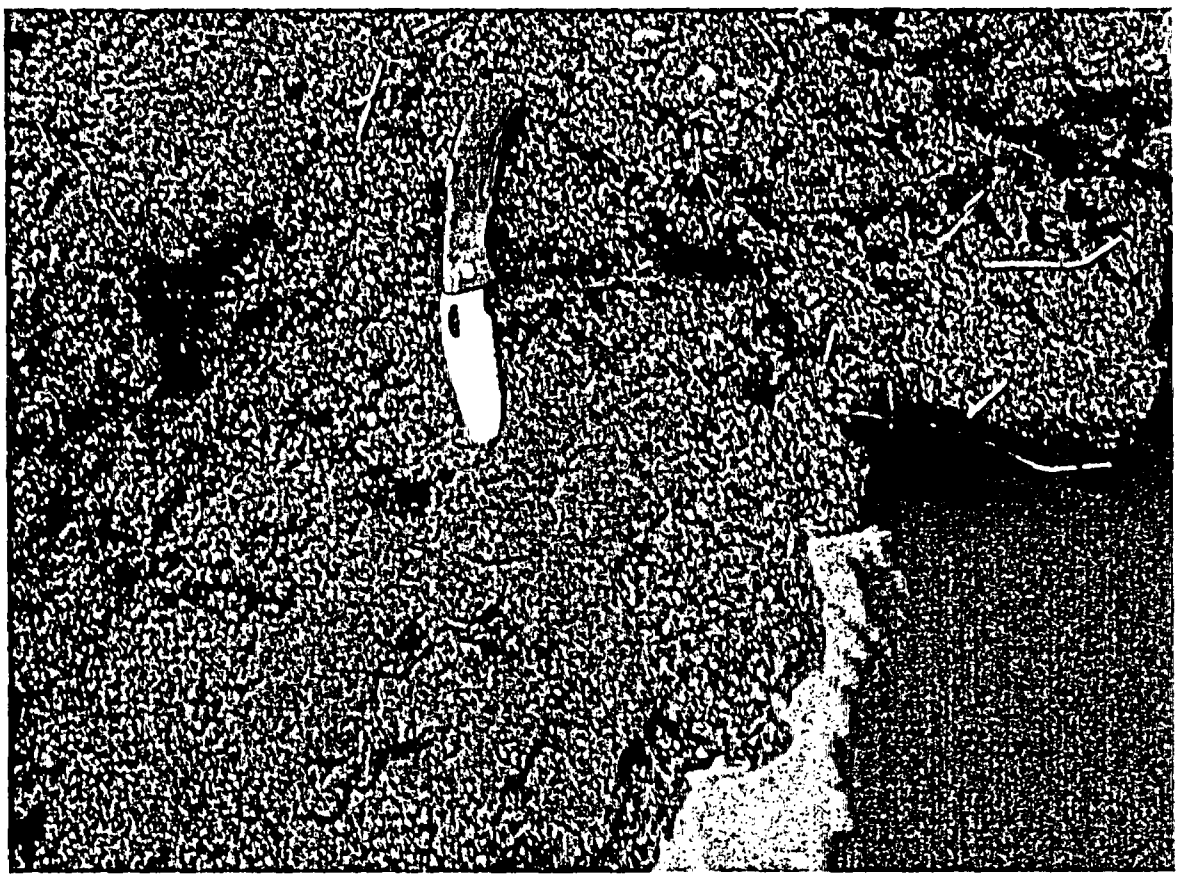

Figure 3c. Weathered Mineral Material Exposed in Fractured Bedrock in Vicinity of Seeps #1 and #2.

Figure 3d. Weathered Mineral Material Removed from Bedrock Fracture in Vicinity of Seeps #1 and #2.

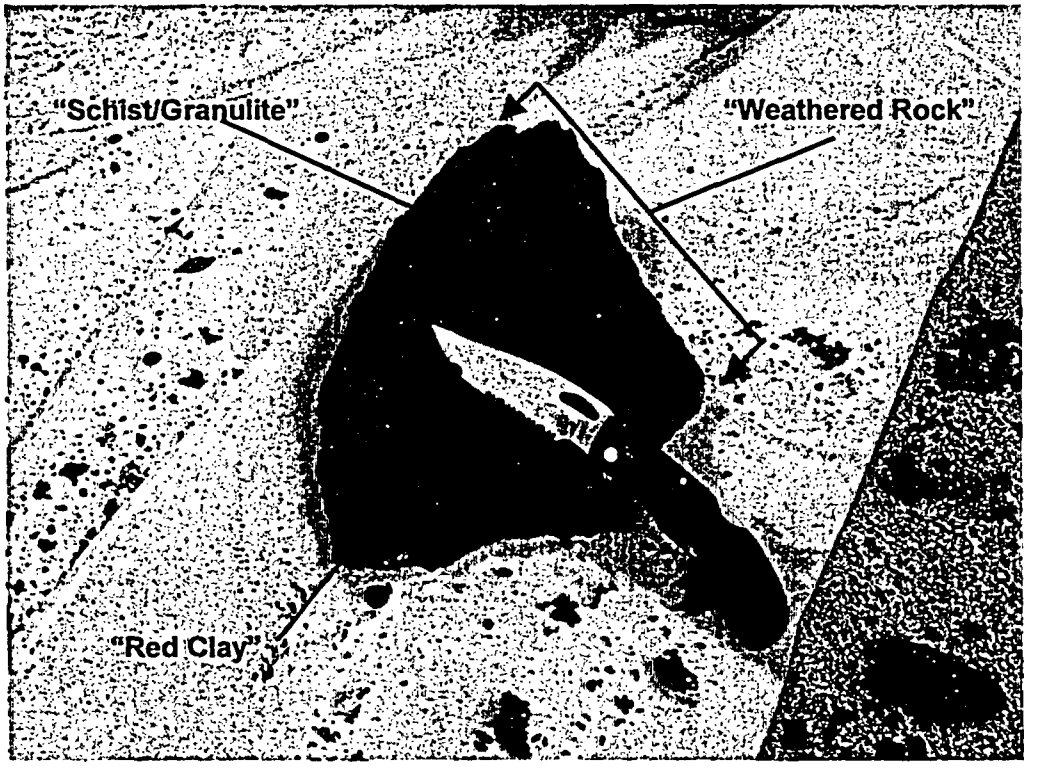

Table 1. Summary of Strontium-90 Analyses of Weathered Rock and Clay Material Collected from Vicinity of Seep #1.

Sample ID	Solid Phase Sr-90 (pCi/g)	SPLP Extract Sr-90 (pCi/L)	Comment
Weathered Rock	0.567 0.604 (Lab duplicate)	ND (<1.69 pCi/L)	Sample composed of weathered rock with clay.
Mixed Clay/Schist	NA	ND (<1.14 pCi/L) ND (<1.33 pCi/L) ND (<1.65 pCi/L)	Composite sample similar to "Weathered Rock" SPLP extraction run in tripilicate
Schist/Granulite	NA	ND (<1.30 pCi/L) ND (<1.42 pCi/L) ND (<1.31 pCi/L)	Coarse material fraction of "Mixed Clay/Schist" SPLP extraction run in tripilicate
Red Clay	NA	ND (<1.22 pCi/L) ND (<1.18 pCi/L) ND (<1.24 pCi/L)	Fine-textured fraction of "Mixed Clay/Schist" SPLP extraction run in tripilicate

ND = Not Detected

NA = Not analyzed

SPLP = Synthetic Precipitation Leaching Procedure

Attachment #1. Laboratory Data Report

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CASE NARRATIVE
For
CONNECTICUT YANKEE
PO# 002337
Work Order: 128921

January 31, 2005

Laboratory Identification:
General Engineering Laboratories, LLC

Mailing Address:
P.O. Box 30712
Charleston, South Carolina 29417

Express Mail Delivery and Shipping Address:
2040 Savage Road
Charleston, South Carolina 29407

Telephone Number:
(843) 556-8171

Summary:

Sample receipt
The samples arrived at General Engineering Laboratories, LLC, (GEL) in Charleston, South Carolina January 14, 2005. All sample containers arrived without any visible signs of tampering or breakage. The chain of custody contained the proper documentation and signatures.

The laboratory prepared the following sample:

Sample ID	Client Sample ID
128921001	Seep #1
128921002	Seep #2
128921003	Seep #1 Weathered Rock

Items of Note:
There are no items to note.

Case Narrative:

Sample analyses were conducted using methodology as outlined in General Engineering Laboratories (GEL) Standard Operating Procedures. Any technical or administrative problems during analysis, data review, and reduction are listed below by analytical parameter.

Analytical Request:

One groundwater sample was analyzed for ALL.
Two groundwater samples were analyzed for ALL, Anions, Cations, & TDS.

Internal Chain of Custody:

Custody was maintained for all of these samples.

Data Package:

The enclosed data package contains the following sections: Case Narrative, Chain of Custody, Cooler Receipt Checklist, and Radiochemistry.

I certify that this data package is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or a designee, as verified by the following signature.

Cheryl Jones
Project Manager

CHAIN OF CUSTODY

Chain of Custody Form

No. 2005-00007

Connecticut Yankee Atomic Power Company
362 Injun Hollow Road, East Hampton, CT 06424
860-267-2556

Project Name: Haddam Neck Decommissioning

Contact Name & Phone:
David Keefer 860-267-2556 (x3085)

Analytical Lab (Name, City, State):
General Engineering Lab (GEL), 2040 Savage Rd, Charleston, SC 29407, 843.556.8171 (Cheryl Jones)

Priority: ☐ 45 D. ☐ 30 D. ☒ 14 D. ☒ 7 D.
Other: 128921 %

Lab Use Only: 128921 %

	Sample Designation	Date	Time	Media Code	Sample Type Code	Container Size-&Type Code	MIX	STND	ALL	Anions	Cations	TDS	Comment, Preservation	Lab Sample ID
003	Seep #1 Weathered Rock	01/10/05	15:00	WG	G	500-ml			X				n.a.	
001	Seep #1	01/11/05	16:05	WG	G	4L,1L			X	X	X	X	2 x 4L w/HNO_3, 1L	
002	Seep #2	01/11/05	16:05	WG	G	4L,1L			X	X	X	X	2 x 4L w/HNO_3, 1L	

NOTES: PO #: 002337 MSR #: 05-0136 ☐ LTP QA ☐ Radwaste QA ☒ Non QA
Requested water analyses to typical groundwater MDC's. Anions from unpreserved sample include Cl^-, CO_3^{-2}, HCO_3^-, SO_4^{-2}. Cations include Ca, Mg, Na, K. Requested TATs for H-3, Gamma & Sr-90 is 7-days, all others are 14-days. Weathered rock sample should be analyzed to FSS Soil MDCs.

Samples Shipped Via:
☒ Fed Ex
☐ UPS
☐ Hand
☐ Other ____
Bill of Lading #

Internal Container Temp.: 14.1 Deg. C

Custody Sealed? Y ☑ N ☐
Custody Seal Intact? Y ☒ N ☐

1) Relinquished By: Matt Daros [signature] Date/Time 1/13/05	2) Received By [signature] Date/Time 1-14-05 9:40
3) Relinquished By Date/Time	4) Received By Date/Time
5) Relinquished By Date/Time	6) Received By Date/Time

COOLER RECEIPT CHECKLIST

Figure 1. Sample Check-in List

Date/Time Received: 1-14-05 940

SDG#: MSR#05-0136

Work Order Number: 128921

Shipping Cohtainer ID: 7908672 2910 Chain of Custody # 2005-00007

1. Custody Seals on shipping container intact? Yes [✓] No [ ]
2. Custody Seals dated and signed? Yes [✓] No [ ]
3. Chain-of-Custody record present? Yes [✓] No [ ]
4. Cooler temperature 14.0°
5. Vermiculite/packing materials is: Wet [ ] Dry [✓]
6. Number of samples in shipping container: 7
7. Sample holding times exceeded? Yes [ ] No [✓]

8. Samples have:

____tape ____hazard labels

✓ custody seals ____appropriate sample labels

9. Samples are:

✓ in good condition ____leaking

____broken ____have air bubbles

10. Were any anomalies identified in sample receipt? Yes [ ] No [✓]
11. Description of anomalies (include sample numbers): _____

Sample Custodian/Laboratory: A. Fuller Date: 1-14-05

Telephoned to:_____ On_____ By_____

SAMPLE RECEIPT & REVIEW FORM

GENERAL ENGINEERING LABORATORIES, LLC

		PM use only
lient:	CT Yankee	SDG/ARCOC/Work Order: 122921
ate Received:		PM(A) Review (ensure non-conforming items are resolved prior to signing):
eceived By:		Cly Thomas 1/14/05

	Sample Receipt Criteria	Conforming	NA	Non-Conforming	Comments/Qualifiers (Required for Non-Conforming Items)
	Shipping containers received intact and sealed?				Circle Applicable: seals broken damaged container leaking container other (describe)
2	Samples requiring cold preservation within (4 +/- 2 C)? Record preservation method.				Circle Coolant # ice bags blue ice dry ice none other(describe)
3	Chain of custody documents included with shipment?				
4	Sample containers intact and sealed?				Circle Applicable: seals broken damaged container leaking container other (describe)
5	Samples requiring chemical preservation at proper pH?				Sample ID's, containers affected and observed pH:
6	VOA vials free of headspace (defined as < 6mm bubble)?				Sample ID's and containers affected:
7	Samples received within holding time?				Id's and tests affected:
8	Sample ID's on COC match ID's on bottles?				Sample ID's and containers affected:
9	Date & time on COC match date & time on bottles?				Sample ID's affected:
10	Number of containers received match number indicated on COC?				Sample ID's affected:
11	COC form is properly signed in relinquished/received sections?				
12	Air Bill ,Tracking #'s, & Additional Comments				

Radiological Information	Non-RAD	RAD	RADII	RSO RAD Receipt #
What is the radiological classification of the samples?		✓		Comments:
Radioactivity Screening Results (maximum observed CPM)	N/A			*If > x2 area background is observed on a non-radioactive sample, contact the RSO to investigate.

PM (or PMA) review of Receiving Rad classification: CAJ Initials 1/14/05 Date:

INORGANIC ANALYSIS

Metals Fractional Narrative
(YANK)
SDG MSR#05-0136

Method/Analysis Information

Analytical Batch:	394577
Prep Batch:	394574
Standard Operating Procedures:	GL-MA-E-013 REV# 10, GL-MA-E-006 REV# 9
Analytical Method:	SW846 6010B
Prep Method:	SW846 3005A

Sample Analysis

Sample ID	Client ID
128921001	Seep #1
128921002	Seep #2
1200772491	Method Blank (MB) ICP
1200772492	Laboratory Control Sample (LCS)
1200772495	128921001(Seep #1L) Serial Dilution (SD)
1200772493	128921001(Seep #1D) Sample Duplicate (DUP)
1200772494	128921001(Seep #1S) Matrix Spike (MS)

Preparation/Analytical Method Verification

The SOP stated above has been prepared based on technical research and testing conducted by General Engineering Laboratories, LLC. and with guidance from the regulatory documents listed in this "Method/Analysis Information" section.

System Configuration

The ICP analysis was performed on a Perkin Elmer 4300 Optima radial/axial-viewing inductively coupled plasma atomic emission spectrometer. The instrument is equipped with a Burgener nebulizer, cyclonic spray chamber, and yttrium or scandium internal standard. Operating conditions for the ICP are set at a power level of 1500 watts. The instrument has a peristaltic pump flow rate of 1.4L/min, argon gas flows of 15 L/min and 0.2 L/min for the torch and auxiliary gases, and a flow setting of 0.65L/min for the

nebulizer.

Calibration Information

Instrument Calibration
All initial calibration requirements have been met for this sample delivery group (SDG).

CRDL Requirements
All CRDL standard(s) met the referenced advisory control limits.

ICSA/ICSAB statement
All interference check samples (ICSA and ICSAB) associated with this SDG met the established acceptance criteria.

Continuing Calibration Blank (CCB) Requirements
All continuing calibration blanks (CCB) bracketing this batch met the established acceptance criteria.

Continuing Calibration Verification (CCV) Requirements
All continuing calibration verifications (CCV) bracketing this SDG met the acceptance criteria.

Quality Control (QC) Information

Method Blank (MB) Statement
The MB analyzed with this SDG met the acceptance criteria.

Laboratory Control Sample (LCS) Recovery
The LCS spike recoveries met the acceptance limits.

Quality Control (QC) Sample Statement
The following sample was selected as the quality control (QC) sample for this batch: 128921001 (Seep #1).

Matrix Spike (MS) Recovery Statement
The percent recoveries (%R) obtained from the MS analyses are evaluated when the sample concentration is less than four times (4X) the spike concentration added. All applicable elements met the acceptance criteria.

Duplicate Relative Percent Difference (RPD) Statement
The RPD obtained from the designated sample duplicate (DUP) is evaluated based on acceptance criteria of 20% when the sample is >5X the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control of RL is used to evaluate the DUP results. All applicable analytes met these requirements.

Serial Dilution % Difference Statement

The serial dilution is used to assess matrix suppression or enhancement. Raw element concentrations that are 25X the IDL for CVAA, 50X the IDL for ICP, and 100X the IDL for ICP-MS analyses are applicable for serial dilution assessment. All applicable analytes except magnesium met the acceptance criteria of less than 10% difference (%D).

Technical Information

Holding Time Specifications

GEL assigns holding times based on the associated methodology, which assigns the date and time from sample collection of sample receipt. Those holding times expressed in hours are calculated in the AlphaLIMS system. Those holding times expressed as days expire at midnight on the day of expiration. All samples in this SDG met the specified holding time.

Preparation/Analytical Method Verification

All procedures were performed as stated in the SOP.

Sample Dilutions

Dilutions are performed to minimize matrix interferences resulting from elevated mineral element concentrations present in soil samples and/or to bring over range target analyte concentrations into the linear calibration range of the instrument. The samples in this SDG did not require dilutions.

Preparation Information

The samples in this SDG were prepared exactly according to the cited SOP.

Miscellaneous Information

Nonconformance Documentation

Nonconformance reports (NCRs) are generated to document procedural anomalies that may deviate from referenced SOP or contractual documents. A NCR was not required for this SDG.

Additional Comments

Additional comments were not required for this SDG.

Certification Statement

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

Review Validation

GEL requires all analytical data to be verified by a qualified data validator. In addition, all data designated for CLP or CLP-like packaging will receive a third level validation

upon completion of the data package.

The following data validator verified the information presented in this case narrative:

Reviewer: Allison H. C **Date:** 1/21/05

GENERAL ENGINEERING LABORATORIES, LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : CYAPCo
Address : Haddam Neck Plant
362 Injun Hollow Road
East Hampton, Connecticut 06424
Contact: Mr. Dave Keefer
Project: **Quarterly Groundwater PO# 002337**

Report Date: January 21, 2005

Client Sample ID:	Seep #1	Project:	YANK01704
Sample ID:	128921001	Client ID:	YANK001
Matrix:	Ground Water		
Collect Date:	11-JAN-05 16:05		
Receive Date:	14-JAN-05		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Metals Analysis-ICP											
6010/3005 ICP SCAN Metals-Ca,Mg,Na,K											
Calcium		68700	5.54	100	ug/L	1	RMJ	01/18/05	1806	394577	1
Magnesium		5980	5.18	100	ug/L	1					
Potassium		8370	16.5	100	ug/L	1					
Sodium		22400	14.4	100	ug/L	1					

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-TRACE SW846 3005A	MXW1	01/18/05	0800	394574

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 3005/6010B	

Notes:
The Qualifiers in this report are defined as follows :

- * Indicates that a quality control analyte recovery is outside of specified acceptance criteria.
- ** Indicates the analyte is a surrogate compound.
- < Result is less than amount reported.
- > Result is greater than amount reported.
- E Concentration of the target analyte exceeds the instrument calibration range.
- H Analytical holding time exceeded.
- J Indicates an estimated value. The result was greater than the detection limit, but less than the reporting limit.
- U Indicates the target analyte was analyzed for but not detected above the detection limit.
- X Lab-specific qualifier-please see case narrative, data summary package or contact your project manager for details.
- h Sample preparation or preservation holding time exceeded.

The above sample is reported on an "as received" basis.

GENERAL ENGINEERING LABORATORIES, LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : CYAPCo
Address : Haddam Neck Plant
362 Injun Hollow Road
East Hampton, Connecticut 06424
Contact: Mr. Dave Keefer
Project: **Quarterly Groundwater PO# 002337**

Report Date: January 21, 2005

Client Sample ID: Seep #1
Sample ID: 128921001

Project: YANK01704
Client ID: YANK001

Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Time	Batch	Method

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the Certificate of Analysis.

This data report has been prepared and reviewed in accordance with General Engineering Laboratories, LLC standard operating procedures. Please direct any questions to your Project Manager, Cheryl Jones.

1/21/05

Reviewed by

GENERAL ENGINEERING LABORATORIES, LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : CYAPCo
Address : Haddam Neck Plant
362 Injun Hollow Road
East Hampton, Connecticut 06424
Contact: Mr. Dave Keefer
Project: Quarterly Groundwater PO# 002337

Report Date: January 21, 2005

Client Sample ID: Seep #2
Sample ID: 128921002
Matrix: Ground Water
Collect Date: 11-JAN-05 16:05
Receive Date: 14-JAN-05
Collector: Client

Project: YANK01704
Client ID: YANK001

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Metals Analysis-ICP											
6010/3005 ICP SCAN Metals-Ca,Mg,Na,K											
Calcium		66400	5.54	100	ug/L	1	RMJ	01/18/05	1828	394577	1
Magnesium		5460	5.18	100	ug/L	1					
Potassium		7870	16.5	100	ug/L	1					
Sodium		21800	14.4	100	ug/L	1					

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-TRACE SW846 3005A	MXW1	01/18/05	0800	394574

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 3005/6010B	

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E Concentration of the target analyte exceeds the instrument calibration range.
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h Sample preparation or preservation holding time exceeded.

The above sample is reported on an "as received" basis.

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This data report has been prepared and reviewed in accordance with General Engineering Laboratories, LLC standard operating procedures. Please direct any questions to your Project Manager, Cheryl Jones.

Reviewed by

GENERAL ENGINEERING LABORATORIES, LLC

2040 Savage Road Charleston, SC 29407 - (843) 556-8171 - www.gel.com

QC Summary

Report Date: January 21, 2005
Page 1 of 2

Client : CYAPCo
Haddam Neck Plant
362 Injun Hollow Road
East Hampton, Connecticut

Contact: Mr. Dave Keefer

Workorder: 128921

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Metals Analysis-ICP										
Batch 394577										
QC1200772493 128921001 DUP										
Calcium		68700		68100	ug/L	1		(0%-20%)	RMJ	01/18/05 18:12
Magnesium		5980		5960	ug/L	0		(0%-20%)		
Potassium		8370		8210	ug/L	2		(0%-20%)		
Sodium		22400		22200	ug/L	1		(0%-20%)		
QC1200772492 LCS										
Calcium	5000			5060	ug/L		101	(80%-120%)		01/18/05 18:01
Magnesium	5000			4990	ug/L		100	(80%-120%)		
Potassium	5000			5080	ug/L		102	(80%-120%)		
Sodium	5000			5090	ug/L		102	(80%-120%)		
QC1200772491 MB										
Calcium			J	7.90	ug/L					01/18/05 17:55
Magnesium			U	ND	ug/L					
Potassium			J	26.7	ug/L					
Sodium			J	64.3	ug/L					
QC1200772494 128921001 MS										
Calcium	5000	68700		72400	ug/L		N/A	(75%-125%)		01/18/05 18:17
Magnesium	5000	5980		10800	ug/L		97	(75%-125%)		
Potassium	5000	8370		13200	ug/L		96	(75%-125%)		
Sodium	5000	22400		26900	ug/L		N/A	(75%-125%)		
QC1200772495 128921001 SDILT										
Calcium		68700		13300	ug/L	3.42				01/18/05 18:22
Magnesium		5980		1070	ug/L	10.5				
Potassium		8370		1650	ug/L	1.62				
Sodium		22400		4330	ug/L	3.21				

Notes:
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- > Result is greater than amount reported.
- E Concentration of the target analyte exceeds the instrument calibration range.
- H Analytical holding time exceeded.
- J Indicates an estimated value. The result was greater than the detection limit, but less than the reporting limit.
- U Indicates the target analyte was analyzed for but not detected above the detection limit.
- X Lab-specific qualifier-please see case narrative, data summary package or contact your project manager for details.
- h Sample preparation or preservation holding time exceeded.

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QC Summary

Workorder: 128921

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more.
^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.
For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

GENERAL CHEMISTRY ANALYSIS

General Chemistry Narrative
Connecticut Yankee Atomic Power Co. (YANK)
SDG MSR#05-0136

Method/Analysis Information

Product: Ion Chromatography

Analytical Batch: 394776 **Method:** EPA 300.0

Sample Analysis

The following samples were analyzed using the analytical protocol as established in EPA 300.0:

Sample ID	Client ID
128921001	Seep #1
128921002	Seep #2

SOP Reference
Procedure for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-GC-E-086 REV# 11.

Preparation/Analytical Method Verification

The SOP stated above has been prepared based on technical research and testing conducted by General Engineering Laboratories, LLC. and with guidance from the regulatory documents listed in this "Method/Analysis Information" section.

Calibration Information

The Ion Chromatography analysis was performed on a Metrohm IC Detector.

Initial Calibration
All initial calibration requirements have been met for this SDG.

Continuing Calibration Blanks
All continuing calibration blanks (CCBs) associated with reported data from this batch were within acceptance limits.

Calibration Verification Information (CCV)
All continuing calibration verification standards (CCVs) associated with reported data from this batch were within acceptance limits.

Quality Control (QC) Information

Method Blank (MB) Statement
The MB analyzed with this SDG met the acceptance criteria.

Laboratory Control Sample (LCS) Recovery
The LCS spike recovery met the acceptance limits.

Quality Control (QC) Designation
QC samples were not designated for this SDG.

Matrix Spike (MS)/Post Spike (PS) Recovery Statement
The spike recovery for sample was outside of the required acceptance limits for chloride and sulfate due to matrix interference. 128921001 (Seep #1).

Duplicate Relative Percent Difference (RPD) Statement
The RPD between the sample and its duplicate met the acceptance limits.

Technical Information

GEL assigns holding times based on the date and time of sample collection. Those holding times expressed in hours are calculated in the AlphaLims system by hours. Those holding times expressed as days expire at midnight on the day of expiration.

Holding Times
All samples in this SDG met the specified holding time.

Preparation/Analytical Method Verification
All procedures were performed as stated in the SOP.

Sample Dilutions
The following samples in this sample group were diluted due to high concentration for this analysis. See the Certificates of Analysis for the individual dilution factors for samples 128921001 (Seep #1) and 128921002 (Seep #2).

Sample Re-analysis
The samples in this SDG did not require re-analysis.

Miscellaneous Information

Nonconformance (NCR) Documentation
NCR ID 174524 was submitted with this batch.

Manual Integrations
Manual integrations were not required for the samples in this SDG.

Additional Comments
Additional comments were not required for this SDG.

Method/Analysis Information

Product: **Solids, Total Dissolved**

Analytical Batch: 396056 **Method:** EPA 160.1

Sample Analysis

The following samples were analyzed using the analytical protocol as established in EPA 160.1:

Sample ID	Client ID
128921001	Seep #1
128921002	Seep #2
129223001	Seep #3
129223002	Seep #3
1200775798	Method Blank (MB)
1200775799	Laboratory Control Sample (LCS)
1200775801	129223001(Seep #3) Sample Duplicate (DUP)

SOP Reference
Procedure for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-GC-E-001 REV# 7.

Preparation/Analytical Method Verification

The SOP stated above has been prepared based on technical research and testing conducted by General Engineering Laboratories, LLC. and with guidance from the regulatory documents listed in this "Method/Analysis Information" section.

Calibration Information

The Solids analysis was performed on a Sartorius Balance.

Initial Calibration
All initial calibration requirements have been met for this SDG.

Quality Control (QC) Information

Method Blank (MB) Statement
The MB analyzed with this SDG met the acceptance criteria.

Laboratory Control Sample (LCS) Recovery
The LCS spike recovery met the acceptance limits.

Quality Control (QC) Designation
Sample 129223001 (Seep #3) was designated for QC analysis.

Duplicate Relative Percent Difference (RPD) Statement
The RPD between the sample and its duplicate met the acceptance limits.

Technical Information

GEL assigns holding times based on the date and time of sample collection. Those holding times expressed in hours are calculated in the AlphaLims system by hours. Those holding times expressed as days expire at midnight on the day of expiration.

Holding Times
The following samples from this sample group were received with insufficient time to prep and/or analyze the samples within the remaining method-specified holding time. The samples were analyzed as soon as possible by the analyst. 128921001 (Seep #1), 128921002 (Seep #2), 129223001 (Seep #3) and 129223002 (Seep #3).

Preparation/Analytical Method Verification
All procedures were performed as stated in the SOP.

Sample Re-analysis
The samples in this SDG did not require re-analysis.

Miscellaneous Information

Nonconformance (NCR) Documentation
NCR ID 175543 was submitted with this batch.

Additional Comments
Additional comments were not required for this SDG.

Method/Analysis Information

Product:	Alkalinity		
Analytical Batch:	394657	**Method:**	SM 2320B

Sample Analysis

The following samples were analyzed using the analytical protocol as established in SM 2320B:

Sample ID	Client ID
128921001	Seep #1
128921002	Seep #2

SOP Reference
Procedure for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-GC-E-033 REV# 3.

Preparation/Analytical Method Verification

The SOP stated above has been prepared based on technical research and testing conducted by General Engineering Laboratories, LLC. and with guidance from the regulatory documents listed in this "Method/Analysis Information" section.

Calibration Information

Initial Standardization
The titrant was properly standardized

Quality Control (QC) Information

Laboratory Control Sample (LCS) Recovery
The LCS spike recoveries met the acceptance limits.

Quality Control (QC) Designation
QC samples were not designated for this SDG.

Matrix Spike (MS)/Post Spike (PS) Recovery Statement
The MS/PS recoveries for this sample set were within the required acceptance limits.

Duplicate Relative Percent Difference (RPD) Statement
The RPD between the sample and its duplicate met the acceptance limits.

Technical Information

GEL assigns holding times based on the date and time of sample collection. Those holding times expressed in hours are calculated in the AlphaLims system by hours. Those holding times expressed as days expire at midnight on the day of expiration.

Holding Times
All samples in this SDG met the specified holding time.

Preparation/Analytical Method Verification
All procedures were performed as stated in the SOP.

Sample Re-analysis
The samples in this SDG did not require re-analysis.

Miscellaneous Information

Nonconformance (NCR) Documentation
A NCR was not required for this SDG.

Additional Comments
Additional comments were not required for this SDG.

Method/Analysis Information

Product:	**Alkalinity**		
Analytical Batch:	395610	**Method:**	SM 2320B

Sample Analysis

The following samples were analyzed using the analytical protocol as established in SM 2320B:

Sample ID	Client ID
129223002	Seep #3
1200774723	Laboratory Control Sample (LCS)
1200775495	129248001(BSP-7) Sample Duplicate (DUP)

SOP Reference
Procedure for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-GC-E-033 REV# 3.

Preparation/Analytical Method Verification

The SOP stated above has been prepared based on technical research and testing conducted by General Engineering Laboratories, LLC. and with guidance from the regulatory documents listed in this "Method/Analysis Information" section.

Calibration Information

Initial Standardization
The titrant was properly standardized

Quality Control (QC) Information

Laboratory Control Sample (LCS) Recovery
The LCS spike recovery met the acceptance limits.

Quality Control (QC) Designation
Sample 129248001 (BSP-7) was designated for QC analysis.

Matrix Spike (MS)/Post Spike (PS) Recovery Statement
The MS/PS recoveries for this sample set were within the required acceptance limits.

Duplicate Relative Percent Difference (RPD) Statement
The RPD between the sample and its duplicate met the acceptance limits.

Technical Information

GEL assigns holding times based on the date and time of sample collection. Those holding times expressed in hours are calculated in the AlphaLims system by hours. Those holding times expressed as days expire at midnight on the day of expiration.

Holding Times
All samples in this SDG met the specified holding time.

Preparation/Analytical Method Verification
All procedures were performed as stated in the SOP.

Sample Re-analysis
The samples in this SDG did not require re-analysis.

Miscellaneous Information

Nonconformance (NCR) Documentation
A NCR was not required for this SDG.

Additional Comments
Additional comments were not required for this SDG.

Certification Statement

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

Review Validation:

GEL requires all analytical data to be verified by a qualified data validator. In addition, all data designated for CLP or CLP-like packaging will receive a third level validation upon completion of the data package.

The following data validator verified the information presented in this case narrative:

Reviewer: Tom Lewis Jr **Date:** 27 JAN 05

General Engineering Laboratories
Form GEL-XXX
Rev. 06/02

NCR Report No.: 174524
Revision No.:

COMPANY - WIDE NONCONFORMANCE REPORT

Mo.Day Yr.	Division:	Quality Criteria:	Type:
20-JAN-05	Industrial	Specifications	Process
Instrument Type:	**Test / Method:**	**Matrix Type:**	**Client Code:**
IC	EPA 300.0	Liquid	YANK
Batch ID:	**Sample Numbers:**		
394776	See Below		

Potentially affected work order(s)(SDG): 128921(MSR#05-0136)

Application Issues:

Failed Recovery for LCS/MS/PS

Specification and Requirements Nonconformance Description:	NRG Disposition:
1. Failed Recovery for LCS/MS/PS: QC 1200772962PS	1.The spike recovery was outside of the required acceptance limits for chloride and sulfate due to matrix interference.

Originator's Name:
Mary Sherwood 20-JAN-05

Data Validator/Group Leader:
Julia Hamilton 24-JAN-05

Quality Review:

Corrective Action:

Director:

Corrective Action ID and Complete Date:

General Engineering Laboratories
Form GEL-XXX
Rev. 06/02

NCR Report No.: 175543
Revision No.:

COMPANY - WIDE NONCONFORMANCE REPORT

Mo.Day Yr.	Division:	Quality Criteria:	Type:
25-JAN-05	Industrial	Specifications	Process
Instrument Type:	**Test / Method:**	**Matrix Type:**	**Client Code:**
BALANCE	EPA 160.1	Liquid	YANK
Batch ID:	**Sample Numbers:**		
396056	See Below		

Potentially affected work order(s)(SDG): 128921(MSR#05-0136),129223(MSR#05-0136),129260,129262

Application Issues:

Sample Analyzed out of Holding

Specification and Requirements Nonconformance Description:	NRG Disposition:
1. Sample Analyzed out of Holding: 128921 001,002 129223 001,002	1. The following samples were logged in with insufficient time for analysis within the remaining method-specified holding time. The samples were analyzed as soon as possible by the analyst.

Originator's Name:
Jennifer Dunagan 25-JAN-05

Data Validator/Group Leader:
Shannon Schalles 25-JAN-05

Quality Review:

Corrective Action:

Director:

Corrective Action ID and Complete Date:

GENERAL ENGINEERING LABORATORIES, LLC

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Certificate of Analysis

Company : CYAPCo
Address : Haddam Neck Plant
362 Injun Hollow Road
East Hampton, Connecticut 06424
Contact: Mr. Dave Keefer
Project: Quarterly Groundwater PO# 002337

Report Date: January 27, 2005

Client Sample ID:	Seep #1	Project:	YANK01704
Sample ID:	128921001	Client ID:	YANK001
Matrix:	Ground Water		
Collect Date:	11-JAN-05 16:05		
Receive Date:	14-JAN-05		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Ion Chromatography										
EPA 300.0 Chloride in Liquid										
Sulfate		22.5	0.193	0.400	mg/L	1	MAR1 01/18/05	1145	394776	1
Chloride		115	0.322	2.00	mg/L	10	MAR1 01/19/05	1713	394776	2
Solids Analysis										
EPA 160.1 Solids, Dissolved										
Total Dissolved Solids	H	399	3.07	10.0	mg/L		JLD1 01/24/05	1101	396056	3
Titration Analysis										
EPA310.1/SM2320B Bicarbonates										
Bicarbonate alkalinity (CaCO3)		77.5	1.45	2.00	mg/L		BEP2 01/17/05	1215	394657	4
Carbonate alkalinity (CaCO3)	U	0.142	1.45	2.00	mg/L					

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 300.0	
3	EPA 160.1	
4	SM 2320B	

Notes:
The Qualifiers in this report are defined as follows :

* Indicates that a quality control analyte recovery is outside of specified acceptance criteria.
** Indicates the analyte is a surrogate compound.
< Result is less than amount reported.
> Result is greater than amount reported.
B Target analyte was detected in the sample as well as the associated blank.
BD Flag for results below the MDC or a flag for low tracer recovery.
E Concentration of the target analyte exceeds the instrument calibration range.
H Analytical holding time exceeded.
J Indicates an estimated value. The result was greater than the detection limit, but less than the reporting limit.
U Indicates the target analyte was analyzed for but not detected above the detection limit.
UI Uncertain identification for gamma spectroscopy.
X Lab-specific qualifier-please see case narrative, data summary package or contact your project manager for details.
h Sample preparation or preservation holding time exceeded.

The above sample is reported on an "as received" basis.

GENERAL ENGINEERING LABORATORIES, LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company: CYAPCo
Address: Haddam Neck Plant
362 Injun Hollow Road
East Hampton, Connecticut 06424
Contact: Mr. Dave Keefer
Project: Quarterly Groundwater PO# 002337

Report Date: January 27, 2005

Client Sample ID: Seep #1
Sample ID: 128921001
Project: YANK01704
Client ID: YANK001

Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Time	Batch	Method

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the Certificate of Analysis.

This data report has been prepared and reviewed in accordance with General Engineering Laboratories, LLC standard operating procedures. Please direct any questions to your Project Manager, Cheryl Jones.

Reviewed by Tom Lewis Jr.

GENERAL ENGINEERING LABORATORIES, LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : CYAPCo
Address : Haddam Neck Plant
362 Injun Hollow Road
East Hampton, Connecticut 06424
Contact: Mr. Dave Keefer
Project: **Quarterly Groundwater PO# 002337**

Report Date: January 27, 2005

Client Sample ID: Seep #2
Sample ID: 128921002
Matrix: Ground Water
Collect Date: 11-JAN-05 16:05
Receive Date: 14-JAN-05
Collector: Client

Project: YANK01704
Client ID: YANK001

Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Ion Chromatography										
EPA 300.0 Chloride in Liquid										
Sulfate		25.8	0.193	0.400	mg/L	1	MAR1 01/18/05	1241	394776	1
Chloride		107	0.322	2.00	mg/L	10	MAR1 01/19/05	1809	394776	2
Solids Analysis										
EPA 160.1 Solids, Dissolved										
Total Dissolved Solids	H	370	3.07	10.0	mg/L		JLD1 01/24/05	1101	396056	3
Titration Analysis										
EPA310.1/SM2320B Bicarbonates										
Bicarbonate alkalinity (CaCO3)		90.6	1.45	2.00	mg/L		BEP2 01/17/05	1249	394657	4
Carbonate alkalinity (CaCO3)	U	0.182	1.45	2.00	mg/L					

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 300.0	
3	EPA 160.1	
4	SM 2320B	

Notes:
The Qualifiers in this report are defined as follows :

* Indicates that a quality control analyte recovery is outside of specified acceptance criteria.
** Indicates the analyte is a surrogate compound.
< Result is less than amount reported.
> Result is greater than amount reported.
B Target analyte was detected in the sample as well as the associated blank.
BD Flag for results below the MDC or a flag for low tracer recovery.
E Concentration of the target analyte exceeds the instrument calibration range.
H Analytical holding time exceeded.
J Indicates an estimated value. The result was greater than the detection limit, but less than the reporting limit.
U Indicates the target analyte was analyzed for but not detected above the detection limit.
UI Uncertain identification for gamma spectroscopy.
X Lab-specific qualifier-please see case narrative, data summary package or contact your project manager for details.
h Sample preparation or preservation holding time exceeded.

The above sample is reported on an "as received" basis.

GENERAL ENGINEERING LABORATORIES, LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : CYAPCo
Address : Haddam Neck Plant
362 Injun Hollow Road
East Hampton, Connecticut 06424
Contact: Mr. Dave Keefer
Project: Quarterly Groundwater PO# 002337

Report Date: January 27, 2005

Client Sample ID: Seep #2
Sample ID: 128921002
Project: YANK01704
Client ID: YANK001

Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Time	Batch	Method

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the Certificate of Analysis.

This data report has been prepared and reviewed in accordance with General Engineering Laboratories, LLC standard operating procedures. Please direct any questions to your Project Manager, Cheryl Jones.

Reviewed by

GENERAL ENGINEERING LABORATORIES, LLC
2040 Savage Road Charleston, SC 29407 - (843) 556-8171 - www.gel.com

QC Summary

Report Date: January 27, 2005

CYAPCo
Haddam Neck Plant
362 Injun Hollow Road
East Hampton, Connecticut

Contact: Mr. Dave Keefer

Workorder: 128921

Parmname	NOM		Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Ion Chromatography											
Batch 394776											
QC1200772964 128921001 DUP											
Chloride			115		115	mg/L	0		(0%-20%)	vIAR1	01/19/05 17:32
Sulfate			22.5		22.6	mg/L	1		(0%-20%)		01/18/05 12:03
QC1200772963 LCS											
Chloride	10.0				10.2	mg/L		102	(90%-110%)		01/18/05 11:26
Sulfate	20.0				20.8	mg/L		104	(90%-110%)		
QC1200772961 MB											
Chloride				U	0.00	mg/L					01/18/05 11:07
Sulfate				U	0.00	mg/L					
QC1200772962 128921001 PS											
Chloride	10.0		11.5		23.6	mg/L		122*	(90%-110%)		01/19/05 17:50
Sulfate	20.0		22.5		45.4	mg/L		115*	(90%-110%)		01/18/05 12:22
Solids Analysis											
Batch 396056											
QC1200775801 129223001 DUP											
Total Dissolved Solids		H	354	H	347	mg/L	2		(0%-10%)	JLD1	01/24/05 11:01
QC1200775799 LCS											
Total Dissolved Solids	300				302	mg/L		101	(95%-105%)		
QC1200775798 MB											
Total Dissolved Solids				U	-4.0	mg/L					
Titration Analysis											
Batch 394657											
QC1200772645 128921001 DUP											
Bicarbonate alkalinity (CaCO3)			77.5		78.5	mg/L	1		(0%-20%)	BEP2	01/17/05 12:19
Carbonate alkalinity (CaCO3)		U	0.142	U	0.147	mg/L	N/A ^		(+/-2.00)		

Notes:
The Qualifiers in this report are defined as follows:

- * Indicates that a quality control analyte recovery is outside of specified acceptance criteria.
- ** Indicates the analyte is a surrogate compound.
- < Result is less than amount reported.
- > Result is greater than amount reported.
- B Target analyte was detected in the sample as well as the associated blank.
- BD Flag for results below the MDC or a flag for low tracer recovery.
- E Concentration of the target analyte exceeds the instrument calibration range.
- H Analytical holding time exceeded.
- J Indicates an estimated value. The result was greater than the detection limit, but less than the reporting limit.
- U Indicates the target analyte was analyzed for but not detected above the detection limit.
- UI Uncertain identification for gamma spectroscopy.

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QC Summary

Workorder: 128921

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time

X Lab-specific qualifier-please see case narrative, data summary package or contact your project manager for details.

h Sample preparation or preservation holding time exceeded.

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more.
^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.
For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

RADIOLOGICAL ANALYSIS

Radiochemistry Case Narrative
Connecticut Yankee Atomic Power Co. (YANK)
SDG MSR#05-0136

Method/Analysis Information

Product:	**Am241,Cm, Liquid-ALL**
Analytical Method:	DOE EML HASL-300, Am-05-RC Modified
Analytical Batch Number:	396298

Sample ID	**Client ID**
128921001	Seep #1
128921002	Seep #2
1200776352	Method Blank (MB)
1200776353	128921002(Seep #2) Sample Duplicate (DUP)
1200776354	128921002(Seep #2) Matrix Spike (MS)
1200776355	Laboratory Control Sample (LCS)

SOP Reference
Procedures for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-011 REV# 13.

Calibration Information:

Calibration Information
All initial and continuing calibration requirements have been met.

Standards Information
Standard solution(s) for these analyses are NIST traceable and used before the expiration date(s).

Sample Geometry
All counting sources were prepared in the same geometry as the calibration standards.

Quality Control (QC) Information:

Blank Information
The blank volume is representative of the sample volume in this batch.

Designated QC
The following sample was used for QC: 128921002 (Seep #2).

QC Information
All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time
All sample procedures for this sample set were performed within the required holding time.

Preparation Information
All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis
Sample 128921001 (Seep #1) was recounted due to poor resolution.

Miscellaneous Information:

NCR Documentation
Nonconformance reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. An NCR was not generated for this SDG.

Manual Integration
No manual integrations were performed on data in this batch.

Qualifier information
Manual qualifiers were not required.

Method/Analysis Information

Product:	**Alphaspec Am241, Cm, Solid ALL FSS**
Analytical Method:	DOE EML HASL-300, Am-05-RC Modified
Prep Method:	Ash Soil Prep
Dry Soil Prep GL-RAD-A-021 Method:	Dry Soil Prep
Analytical Batch Number:	396301
Prep Batch Number:	396273
Dry Soil Prep GL-RAD-A-021 Batch Number:	396272

Sample ID	Client ID
128921003	Seep #1 Weathered Rock
1200776364	Method Blank (MB)
1200776365	128921003(Seep #1 Weathered Rock) Sample Duplicate (DUP)
1200776366	128921003(Seep #1 Weathered Rock) Matrix Spike (MS)
1200776367	Laboratory Control Sample (LCS)

SOP Reference
Procedures for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-011 REV# 13.

Calibration Information:

Calibration Information
All initial and continuing calibration requirements have been met.

Standards Information
Standard solution(s) for these analyses are NIST traceable and used before the expiration date(s).

Sample Geometry
All counting sources were prepared in the same geometry as the calibration standards.

Quality Control (QC) Information:

Blank Information
The blank volume is representative of the sample volume in this batch.

Designated QC
The following sample was used for QC: 128921003 (Seep #1 Weathered Rock).

QC Information
All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time
All sample procedures for this sample set were performed within the required holding time.

Preparation Information
All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis
None of the samples in this sample set required reprep or reanalysis.

Miscellaneous Information:

NCR Documentation
Nonconformance reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. An NCR was not generated for this SDG.

Manual Integration
No manual integrations were performed on data in this batch.

Qualifier information
Manual qualifiers were not required.

Method/Analysis Information

Product:	**Alphaspec Pu, Liquid-ALL**
Analytical Method:	DOE EML HASL-300, Pu-11-RC Modified
Analytical Batch Number:	396299

Sample ID	**Client ID**
128921001	Seep #1
128921002	Seep #2
1200776356	Method Blank (MB)
1200776357	128921002(Seep #2) Sample Duplicate (DUP)
1200776358	128921002(Seep #2) Matrix Spike (MS)
1200776359	Laboratory Control Sample (LCS)

SOP Reference
Procedures for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-011 REV# 13.

Calibration Information:

Calibration Information
All initial and continuing calibration requirements have been met.

Standards Information
Standard solution(s) for these analyses are NIST traceable and used before the expiration date(s).

Sample Geometry
All counting sources were prepared in the same geometry as the calibration standards.

Quality Control (QC) Information:

Blank Information

The blank volume is representative of the sample volume in this batch.

Designated QC
The following sample was used for QC: 128921002 (Seep #2).

QC Information
All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time
All sample procedures for this sample set were performed within the required holding time.

Preparation Information
All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis
Samples 1200776357 (Seep #2) and 128921001 (Seep #1) were recounted due to poor resolution.

Miscellaneous Information:

NCR Documentation
Nonconformance reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. An NCR was not generated for this SDG.

Manual Integration
Manual integrations of alpha spectroscopy spectra 1200776357 (Seep #2) and 128921002 (Seep #2) were performed to fully separate counts in Regions of Interest which would have been biased.

Qualifier information
Manual qualifiers were not required.

Method/Analysis Information

Product:	**Liquid Scint Pu241, Liquid-ALL**
Analytical Method:	DOE EML HASL-300, Pu-11-RC Modified
Analytical Batch Number:	396300

Sample ID	Client ID
128921001	Seep #1
128921002	Seep #2
1200776360	Method Blank (MB)
1200776361	128921002(Seep #2) Sample Duplicate (DUP)
1200776362	128921002(Seep #2) Matrix Spike (MS)
1200776363	Laboratory Control Sample (LCS)

SOP Reference
Procedures for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-035 REV# 5.

Calibration Information:

Calibration Information
All initial and continuing calibration requirements have been met.

Standards Information
Standard solution(s) for these analyses are NIST traceable and used before the expiration date(s).

Sample Geometry
All counting sources were prepared in the same geometry as the calibration standards.

Quality Control (QC) Information:

Blank Information
The blank volume is representative of the sample volume in this batch.

Designated QC
The following sample was used for QC: 128921002 (Seep #2).

QC Information
All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time
All sample procedures for this sample set were performed within the required holding time.

Preparation Information
All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis
None of the samples in this sample set required reprep or reanalysis.

Miscellaneous Information:

NCR Documentation
Nonconformance reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. An NCR was not generated for this SDG.

Manual Integration
Manual integration of alpha spectroscopy spectra 128921001 (Seep #1) was performed to fully separate counts in Regions of Interest which would have been biased.

Qualifier information
Manual qualifiers were not required.

Method/Analysis Information

Product:	**Alphaspec Pu, Solid-ALL FSS**
Analytical Method:	DOE EML HASL-300, Pu-11-RC Modified
Prep Method:	Ash Soil Prep
Dry Soil Prep GL-RAD-A-021 Method:	Dry Soil Prep
Analytical Batch Number:	396302
Prep Batch Number:	396273
Dry Soil Prep GL-RAD-A-021 Batch Number:	396272

Sample ID	Client ID
128921003	Seep #1 Weathered Rock
1200776368	Method Blank (MB)
1200776369	128921003(Seep #1 Weathered Rock) Sample Duplicate (DUP)
1200776370	128921003(Seep #1 Weathered Rock) Matrix Spike (MS)

1200776371 Laboratory Control Sample (LCS)

SOP Reference
Procedures for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-011 REV# 13.

Calibration Information:

Calibration Information
All initial and continuing calibration requirements have been met.

Standards Information
Standard solution(s) for these analyses are NIST traceable and used before the expiration date(s).

Sample Geometry
All counting sources were prepared in the same geometry as the calibration standards.

Quality Control (QC) Information:

Blank Information
The blank volume is representative of the sample volume in this batch.

Designated QC
The following sample was used for QC: 128921003 (Seep #1 Weathered Rock).

QC Information
All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time
All sample procedures for this sample set were performed within the required holding time.

Preparation Information
All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis
None of the samples in this sample set required reprep or reanalysis.

Miscellaneous Information:

NCR Documentation
Nonconformance reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. An NCR was not generated for this SDG.

Manual Integration
No manual integrations were performed on data in this batch.

Qualifier information
Manual qualifiers were not required.

Method/Analysis Information

Product:	**Liquid Scint Pu241, Solid-ALL FSS**
Analytical Method:	DOE EML HASL-300, Pu-11-RC Modified

Prep Method:	Ash Soil Prep
Dry Soil Prep GL-RAD-A-021 Method:	Dry Soil Prep
Analytical Batch Number:	396303
Prep Batch Number:	396273
Dry Soil Prep GL-RAD-A-021 Batch Number:	396272

Sample ID	Client ID
128921003	Seep #1 Weathered Rock
1200776372	Method Blank (MB)
1200776373	128921003(Seep #1 Weathered Rock) Sample Duplicate (DUP)
1200776374	128921003(Seep #1 Weathered Rock) Matrix Spike (MS)
1200776375	Laboratory Control Sample (LCS)

SOP Reference
Procedures for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-035 REV# 5.

Calibration Information:

Calibration Information
All initial and continuing calibration requirements have been met.

Standards Information
Standard solution(s) for these analyses are NIST traceable and used before the expiration date(s).

Sample Geometry
All counting sources were prepared in the same geometry as the calibration standards.

Quality Control (QC) Information:

Blank Information
The blank volume is representative of the sample volume in this batch.

Designated QC
The following sample was used for QC: 128921003 (Seep #1 Weathered Rock).

QC Information
All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time
All sample procedures for this sample set were performed within the required holding time.

Preparation Information
All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis
Sample 1200776372 (MB) was recounted due to a high MDA.
Sample 1200776374 (Seep #1 Weathered Rock) was recounted due to low/high recovery.
The batch was recounted due to a high background count.

Miscellaneous Information:

NCR Documentation

Nonconformance reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. An NCR was not generated for this SDG.

Manual Integration
Manual integration of alpha spectroscopy spectra 1200776374 (Seep #1 Weathered Rock) was performed to fully separate counts in Regions of Interest which would have been biased.

Qualifier information
Manual qualifiers were not required.

Method/Analysis Information

Product:	**Gamma,Solid-FSS GAM & ALL Ra-226 In-growth Waived**
Analytical Method:	EML HASL 300, 4.5.2.3
Prep Method:	Dry Soil Prep
Analytical Batch Number:	396377
Prep Batch Number:	396272

Sample ID	Client ID
128921003	Seep #1 Weathered Rock
1200776535	Method Blank (MB)
1200776536	129311021(5000-0000-107-SI) Sample Duplicate (DUP)
1200776537	Laboratory Control Sample (LCS)

SOP Reference
Procedures for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-013 REV# 10.

Calibration Information:

Calibration Information
All initial and continuing calibration requirements have been met.

Standards Information
Standard solution(s) for these analyses are NIST traceable and used before the expiration date(s).

Sample Geometry
All counting sources were prepared in the same geometry as the calibration standards.

Quality Control (QC) Information:

Blank Information
The blank volume is representative of the sample volume in this batch.

Designated QC
The following sample was used for QC: 129311021 (5000-0000-107-SI).

QC Information
All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time
All sample procedures for this sample set were performed within the required holding time.

Preparation Information
All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis
None of the samples in this sample set required reprep or reanalysis.

Miscellaneous Information:

NCR Documentation
Nonconformance reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. An NCR was not generated for this SDG.

Qualifier information

Qualifier	Reason	Analyte	Sample
UI	Data rejected due to no valid peak.	Manganese-54	128921003
		Thallium-208	128921003

Method/Analysis Information

Product:	**Gammaspec, Gamma,Liquid-ALL,GAM2,STND,MIX,PENN,LF**
Analytical Method:	EPA 901.1
Analytical Batch Number:	396169

Sample ID	Client ID
128921001	Seep #1
128921002	Seep #2
1200776061	Method Blank (MB)
1200776062	128921001(Seep #1) Sample Duplicate (DUP)
1200776063	128921001(Seep #1) Matrix Spike (MS)
1200776064	Laboratory Control Sample (LCS)

SOP Reference
Procedures for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-013 REV# 10.

Calibration Information:

Calibration Information
All initial and continuing calibration requirements have been met.

Standards Information
Standard solution(s) for these analyses are NIST traceable and used before the expiration date(s).

Sample Geometry
All counting sources were prepared in the same geometry as the calibration standards.

Quality Control (QC) Information:

Blank Information
The blank volume is representative of the sample volume in this batch.

Designated QC
The following sample was used for QC: 128921001 (Seep #1).

QC Information
All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time
All sample procedures for this sample set were performed within the required holding time.

Preparation Information
All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis
None of the samples in this sample set required reprep or reanalysis.

Miscellaneous Information:

NCR Documentation
Nonconformance reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. An NCR was not generated for this SDG.

Qualifier information
Manual qualifiers were not required.

Method/Analysis Information

Product:	**Gross A/B, liquid-ALL,STND,MIX,PENN,LF**
Analytical Method:	EPA 900.0
Analytical Batch Number:	396158

Sample ID	Client ID
128921001	Seep #1
128921002	Seep #2
1200776039	Method Blank (MB)
1200776040	128921002(Seep #2) Sample Duplicate (DUP)
1200776041	128921002(Seep #2) Matrix Spike (MS)
1200776042	128921002(Seep #2) Matrix Spike Duplicate (MSD)
1200776043	Laboratory Control Sample (LCS)

SOP Reference
Procedures for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-001 REV# 9.

Calibration Information:

Calibration Information
All initial and continuing calibration requirements have been met.

Standards Information
Standard solution(s) for these analyses are NIST traceable and used before the expiration date(s).

Sample Geometry
All counting sources were prepared in the same geometry as the calibration standards.

Quality Control (QC) Information:

Blank Information
The blank volume is representative of the sample volume in this batch.

Designated QC
The following sample was used for QC: 128921002 (Seep #2).

QC Information
All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time
All sample procedures for this sample set were performed within the required holding time.

Preparation Information
All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis
Samples 1200776040 (Seep #2) and 128921002 (Seep #2) were recounted due to high relative percent difference/relative error ratio.

Chemical Recoveries
All chemical recoveries meet the required acceptance limits for this sample set.

Gross Alpha/Beta Preparation Information
High hygroscopic salt content in evaporated samples can cause the sample mass to fluctuate due to moisture absorption. To minimize this interference, the salts are converted to oxides by heating the sample under a flame until a dull red color is obtained. The conversion to oxides stabilizes the sample weight and ensures that proper alpha/beta efficiencies are assigned for each sample. Volatile radioisotopes of carbon, hydrogen, technetium, polonium and cesium may be lost during sample heating.

Miscellaneous Information:

NCR Documentation
Nonconformance reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. An NCR was not generated for this SDG.

Qualifier information
Manual qualifiers were not required.

Method/Analysis Information

Product:	**GFPC, Sr90, liquid-ALL,MIX**
Analytical Method:	EPA 905.0 Modified
Analytical Batch Number:	396157

Sample ID	Client ID
128921001	Seep #1
128921002	Seep #2
1200776035	Method Blank (MB)
1200776036	128921001(Seep #1) Sample Duplicate (DUP)
1200776037	128921001(Seep #1) Matrix Spike (MS)
1200776038	Laboratory Control Sample (LCS)

SOP Reference
Procedures for preparation, analysis and reporting of analytical data are controlled by General Engineering

Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-004 REV# 9.

Calibration Information:

Calibration Information
All initial and continuing calibration requirements have been met.

Standards Information
Standard solution(s) for these analyses are NIST traceable and used before the expiration date(s).

Sample Geometry
All counting sources were prepared in the same geometry as the calibration standards.

Quality Control (QC) Information:

Blank Information
The blank volume is representative of the sample volume in this batch.

Designated QC
The following sample was used for QC: 128921001 (Seep #1).

QC Information
All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time
All sample procedures for this sample set were performed within the required holding time.

Preparation Information
All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis
None of the samples in this sample set required reprep or reanalysis.

Chemical Recoveries
All chemical recoveries meet the required acceptance limits for this sample set.

Miscellaneous Information:

NCR Documentation
Nonconformance reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. An NCR was not generated for this SDG.

Additional Comments
Samples were verified by recounting at least five days from the separation date.

Qualifier information
Manual qualifiers were not required.

Method/Analysis Information

Product:	**GFPC, Sr90, solid Quick TAT**
Analytical Method:	EPA 905.0 Modified
Prep Method:	Ash Soil Prep

Dry Soil Prep GL-RAD-A-021 Method:	Dry Soil Prep
Analytical Batch Number:	396424
Prep Batch Number:	396273
Dry Soil Prep GL-RAD-A-021 Batch Number:	396272

Sample ID	Client ID
128921003	Seep #1 Weathered Rock
1200776621	Method Blank (MB)
1200776622	128921003(Seep #1 Weathered Rock) Sample Duplicate (DUP)
1200776623	128921003(Seep #1 Weathered Rock) Matrix Spike (MS)
1200776624	Laboratory Control Sample (LCS)

SOP Reference
Procedures for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-004 REV# 9.

Calibration Information:

Calibration Information
All initial and continuing calibration requirements have been met.

Standards Information
Standard solution(s) for these analyses are NIST traceable and used before the expiration date(s).

Sample Geometry
All counting sources were prepared in the same geometry as the calibration standards.

Quality Control (QC) Information:

Blank Information
The blank volume is representative of the sample volume in this batch.

Designated QC
The following sample was used for QC: 128921003 (Seep #1 Weathered Rock).

QC Information
All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time
All sample procedures for this sample set were performed within the required holding time.

Preparation Information
All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis
None of the samples in this sample set required reprep or reanalysis.

Chemical Recoveries
All chemical recoveries meet the required acceptance limits for this sample set.

Miscellaneous Information:

NCR Documentation

Nonconformance reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. An NCR was not generated for this SDG.

Qualifier information
Manual qualifiers were not required.

Method/Analysis Information

Product:	***Liquid Scint Tc99, Liquid-ALL***
Analytical Method:	DOE EML HASL-300, Tc-02-RC Modified
Analytical Batch Number:	396240

Sample ID	**Client ID**
128921001	Seep #1
128921002	Seep #2
1200776249	Method Blank (MB)
1200776250	128921001(Seep #1) Sample Duplicate (DUP)
1200776251	128921001(Seep #1) Matrix Spike (MS)
1200776252	Laboratory Control Sample (LCS)

SOP Reference
Procedures for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-005 REV# 11.

Calibration Information:

Calibration Information
All initial and continuing calibration requirements have been met.

Standards Information
Standard solution(s) for these analyses are NIST traceable and used before the expiration date(s).

Sample Geometry
All counting sources were prepared in the same geometry as the calibration standards.

Quality Control (QC) Information:

Blank Information
The blank volume is representative of the sample volume in this batch.

Designated QC
The following sample was used for QC: 128921001 (Seep #1).

QC Information
All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time
All sample procedures for this sample set were performed within the required holding time.

Preparation Information
All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

None of the samples in this sample set required reprep or reanalysis.

Miscellaneous Information:

NCR Documentation
Nonconformance reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. An NCR was not generated for this SDG.

Additional Comments
The blank result for 1200776249 (MB) is greater than the MDA but less than the detection limit.

Qualifier information
Manual qualifiers were not required.

Method/Analysis Information

Product:	**Liquid Scint Tc99, Solid-ALL FSS**
Analytical Method:	DOE EML HASL-300, Tc-02-RC Modified
Analytical Batch Number:	396242

Sample ID	Client ID
128921003	Seep #1 Weathered Rock
1200776253	Method Blank (MB)
1200776254	128921003(Seep #1 Weathered Rock) Sample Duplicate (DUP)
1200776255	128921003(Seep #1 Weathered Rock) Matrix Spike (MS)
1200776256	Laboratory Control Sample (LCS)

SOP Reference
Procedures for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-005 REV# 11.

Calibration Information:

Calibration Information
All initial and continuing calibration requirements have been met.

Standards Information
Standard solution(s) for these analyses are NIST traceable and used before the expiration date(s).

Sample Geometry
All counting sources were prepared in the same geometry as the calibration standards.

Quality Control (QC) Information:

Blank Information
The blank volume is representative of the sample volume in this batch.

Designated QC
The following sample was used for QC: 128921003 (Seep #1 Weathered Rock).

QC Information
All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time
All sample procedures for this sample set were performed within the required holding time.

Preparation Information
All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis
None of the samples in this sample set required reprep or reanalysis.

Miscellaneous Information:

NCR Documentation
Nonconformance reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. An NCR was not generated for this SDG.

Qualifier information
Manual qualifiers were not required.

Method/Analysis Information

Product:	**Liquid Scint Fe55, Liquid-ALL**
Analytical Method:	DOE RESL Fe-1, Modified
Analytical Batch Number:	396237

Sample ID	Client ID
128921001	Seep #1
128921002	Seep #2
1200776241	Method Blank (MB)
1200776242	128921001(Seep #1) Sample Duplicate (DUP)
1200776243	128921001(Seep #1) Matrix Spike (MS)
1200776244	Laboratory Control Sample (LCS)

SOP Reference
Procedures for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-040 REV# 2.

Calibration Information:

Calibration Information
All initial and continuing calibration requirements have been met.

Standards Information
Standard solution(s) for these analyses are NIST traceable and used before the expiration date(s).

Sample Geometry
All counting sources were prepared in the same geometry as the calibration standards.

Quality Control (QC) Information:

Blank Information
The blank volume is representative of the sample volume in this batch.

Designated QC
The following sample was used for QC: 128921001 (Seep #1).

QC Information
All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time
All sample procedures for this sample set were performed within the required holding time.

Preparation Information
All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis
The following samples were recounted due to high MDAs: 1200776241 (MB), 1200776242 (Seep #1), 128921001 (Seep #1) and 128921002 (Seep #2).

Miscellaneous Information:

NCR Documentation
Nonconformance reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. The following NCR was generated for this SDG:
NCR 176063 was generated due to RDL less than MDA. 1. Samples 128921001, 128921002, 129223002 and 1200776241 failed the required detection limit. Samples were counted for 120 minutes. 2. Reporting results.

Qualifier information
Manual qualifiers were not required.

Method/Analysis Information

Product:	**Liquid Scint Fe55, Solid-ALL FSS**
Analytical Method:	DOE RESL Fe-1, Modified
Prep Method:	Ash Soil Prep
Dry Soil Prep GL-RAD-A-021 Method:	Dry Soil Prep
Analytical Batch Number:	396641
Prep Batch Number:	396273
Dry Soil Prep GL-RAD-A-021 Batch Number:	396272

Sample ID	Client ID
128921003	Seep #1 Weathered Rock
1200777100	Method Blank (MB)
1200777101	128921003(Seep #1 Weathered Rock) Sample Duplicate (DUP)
1200777102	128921003(Seep #1 Weathered Rock) Matrix Spike (MS)
1200777103	Laboratory Control Sample (LCS)

SOP Reference
Procedures for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-040 REV# 2.

Calibration Information:

Calibration Information
All initial and continuing calibration requirements have been met.

Standards Information
Standard solution(s) for these analyses are NIST traceable and used before the expiration date(s).

Sample Geometry
All counting sources were prepared in the same geometry as the calibration standards.

Quality Control (QC) Information:

Blank Information
The blank volume is representative of the sample volume in this batch.

Designated QC
The following sample was used for QC: 128921003 (Seep #1 Weathered Rock).

QC Information
All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time
All sample procedures for this sample set were performed within the required holding time.

Preparation Information
All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis
None of the samples in this sample set required reprep or reanalysis.

Miscellaneous Information:

NCR Documentation
Nonconformance reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. An NCR was not generated for this SDG.

Qualifier information
Manual qualifiers were not required.

Method/Analysis Information

Product:	**Liquid Scint Ni63, Liquid-ALL**
Analytical Method:	DOE RESL Ni-1, Modified
Analytical Batch Number:	396238

Sample ID	**Client ID**
128921001	Seep #1
128921002	Seep #2
1200776245	Method Blank (MB)
1200776246	128921001(Seep #1) Sample Duplicate (DUP)
1200776247	128921001(Seep #1) Matrix Spike (MS)
1200776248	Laboratory Control Sample (LCS)

SOP Reference
Procedures for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-022 REV# 6.

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met.

Standards Information
Standard solution(s) for these analyses are NIST traceable and used before the expiration date(s).

Sample Geometry
All counting sources were prepared in the same geometry as the calibration standards.

Quality Control (QC) Information:

Blank Information
The blank volume is representative of the sample volume in this batch.

Designated QC
The following sample was used for QC: 128921001 (Seep #1).

QC Information
All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time
All sample procedures for this sample set were performed within the required holding time.

Preparation Information
All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis
None of the samples in this sample set required reprep or reanalysis.

Miscellaneous Information:

NCR Documentation
Nonconformance reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. An NCR was not generated for this SDG.

Qualifier information
Manual qualifiers were not required.

Method/Analysis Information

Product:	**Liquid Scint Ni63, Solid-ALL FSS**
Analytical Method:	DOE RESL Ni-1, Modified
Prep Method:	Ash Soil Prep
Dry Soil Prep GL-RAD-A-021 Method:	Dry Soil Prep
Analytical Batch Number:	396642
Prep Batch Number:	396273
Dry Soil Prep GL-RAD-A-021 Batch Number:	396272

Sample ID	Client ID
128921003	Seep #1 Weathered Rock
1200777104	Method Blank (MB)
1200777105	128921003(Seep #1 Weathered Rock) Sample Duplicate (DUP)
1200777106	128921003(Seep #1 Weathered Rock) Matrix Spike (MS)
1200777107	Laboratory Control Sample (LCS)

SOP Reference
Procedures for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-022 REV# 6.

Calibration Information:

Calibration Information
All initial and continuing calibration requirements have been met.

Standards Information
Standard solution(s) for these analyses are NIST traceable and used before the expiration date(s).

Sample Geometry
All counting sources were prepared in the same geometry as the calibration standards.

Quality Control (QC) Information:

Blank Information
The blank volume is representative of the sample volume in this batch.

Designated QC
The following sample was used for QC: 128921003 (Seep #1 Weathered Rock).

QC Information
All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time
All sample procedures for this sample set were performed within the required holding time.

Preparation Information
All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis
None of the samples in this sample set required reprep or reanalysis.

Miscellaneous Information:

NCR Documentation
Nonconformance reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. An NCR was not generated for this SDG.

Qualifier information
Manual qualifiers were not required.

Method/Analysis Information

Product:	**LSC, Tritium Dist, Liquid-ALL,STND,MIX,PENN**
Analytical Method:	EPA 906.0 Modified
Analytical Batch Number:	396165

Sample ID	Client ID
128921001	Seep #1

128921002	Seep #2
1200776055	Method Blank (MB)
1200776056	128921001(Seep #1) Sample Duplicate (DUP)
1200776057	128921001(Seep #1) Matrix Spike (MS)
1200776058	Laboratory Control Sample (LCS)

SOP Reference
Procedures for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-002 REV# 9.

Calibration Information:

Calibration Information
All initial and continuing calibration requirements have been met.

Standards Information
Standard solution(s) for these analyses are NIST traceable and used before the expiration date(s).

Sample Geometry
All counting sources were prepared in the same geometry as the calibration standards.

Quality Control (QC) Information:

Blank Information
The blank volume is representative of the sample volume in this batch.

Designated QC
The following sample was used for QC: 128921001 (Seep #1).

QC Information
All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time
All sample procedures for this sample set were performed within the required holding time.

Preparation Information
All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis
None of the samples in this sample set required reprep or reanalysis.

Miscellaneous Information:

NCR Documentation
Nonconformance reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. An NCR was not generated for this SDG.

Qualifier information
Manual qualifiers were not required.

Method/Analysis Information
Product: **LSC, Tritium Dist, Solid-HTD2,ALL FSS**

Analytical Method: EPA 906.0 Modified
Analytical Batch Number: 396247

Sample ID	Client ID
128921003	Seep #1 Weathered Rock
1200776265	Method Blank (MB)
1200776266	128921003(Seep #1 Weathered Rock) Sample Duplicate (DUP)
1200776267	128921003(Seep #1 Weathered Rock) Matrix Spike (MS)
1200776268	Laboratory Control Sample (LCS)

SOP Reference
Procedures for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-002 REV# 9.

Calibration Information:

Calibration Information
All initial and continuing calibration requirements have been met.

Standards Information
Standard solution(s) for these analyses are NIST traceable and used before the expiration date(s).

Sample Geometry
All counting sources were prepared in the same geometry as the calibration standards.

Quality Control (QC) Information:

Blank Information
The blank volume is representative of the sample volume in this batch.

Designated QC
The following sample was used for QC: 128921003 (Seep #1 Weathered Rock).

QC Information
All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time
All sample procedures for this sample set were performed within the required holding time.

Preparation Information
All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis
Sample 1200776268 (LCS) was recounted due to low/high recovery.

Miscellaneous Information:

NCR Documentation
Nonconformance reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. An NCR was not generated for this SDG.

Qualifier information
Manual qualifiers were not required.

Method/Analysis Information

Product:	**Liquid Scint C14, Liquid-ALL**
Analytical Method:	EPA EERF C-01 Modified
Analytical Batch Number:	396244

Sample ID	**Client ID**
128921001	Seep #1
128921002	Seep #2
1200776257	Method Blank (MB)
1200776258	128921001(Seep #1) Sample Duplicate (DUP)
1200776259	128921001(Seep #1) Matrix Spike (MS)
1200776260	Laboratory Control Sample (LCS)

SOP Reference
Procedures for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-003 REV# 7.

Calibration Information:

Calibration Information
All initial and continuing calibration requirements have been met.

Standards Information
Standard solution(s) for these analyses are NIST traceable and used before the expiration date(s).

Sample Geometry
All counting sources were prepared in the same geometry as the calibration standards.

Quality Control (QC) Information:

Blank Information
The blank volume is representative of the sample volume in this batch.

Designated QC
The following sample was used for QC: 128921001 (Seep #1).

QC Information
All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time
All sample procedures for this sample set were performed within the required holding time.

Preparation Information
All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis
None of the samples in this sample set required reprep or reanalysis.

Miscellaneous Information:

NCR Documentation

Nonconformance reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. An NCR was not generated for this SDG.

Qualifier information
Manual qualifiers were not required.

Method/Analysis Information

Product:	**Liquid Scint C14, Solid FSS**
Analytical Method:	EPA EERF C-01 Modified
Analytical Batch Number:	396246

Sample ID	**Client ID**
128921003	Seep #1 Weathered Rock
1200776261	Method Blank (MB)
1200776262	128921003(Seep #1 Weathered Rock) Sample Duplicate (DUP)
1200776263	128921003(Seep #1 Weathered Rock) Matrix Spike (MS)
1200776264	Laboratory Control Sample (LCS)

SOP Reference
Procedures for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-003 REV# 7.

Calibration Information:

Calibration Information
All initial and continuing calibration requirements have been met.

Standards Information
Standard solution(s) for these analyses are NIST traceable and used before the expiration date(s).

Sample Geometry
All counting sources were prepared in the same geometry as the calibration standards.

Quality Control (QC) Information:

Blank Information
The blank volume is representative of the sample volume in this batch.

Designated QC
The following sample was used for QC: 128921003 (Seep #1 Weathered Rock).

QC Information
All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time
All sample procedures for this sample set were performed within the required holding time.

Preparation Information
All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis
None of the samples in this sample set required reprep or reanalysis.

Miscellaneous Information:

NCR Documentation
Nonconformance reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. An NCR was not generated for this SDG.

Qualifier information
Manual qualifiers were not required.

Certification Statement
Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

Review Validation:
GEL requires all analytical data to be verified by a qualified data validator. In addition, all data designated for CLP or CLP-like packaging will receive a third level validation upon completion of the data package.
The following data validator verified the information presented in this case narrative:

Reviewer: [illegible] 2/3/05

COMPANY - WIDE NONCONFORMANCE REPORT

Mo.Day Yr.	Division:	Quality Criteria:	Type:
27-JAN-05	Radiochemistry	Specifications	Process
Instrument Type:	**Test / Method:**	**Matrix Type:**	**Client Code:**
LSC	DOE RESL Fe-1, Modified	Liquid	YANK
Batch ID:	**Sample Numbers:**		
396237	See Below		

Potentially affected work order(s)(SDG): 128921(MSR#05-0136),129223(MSR#05-0136)

Application Issues:

RDL less than MDA

Specification and Requirements Nonconformance Description:	NRG Disposition:
1. Samples 128921001, 128921002, 129223002 and 1200776241 failed the required detection limit. Samples were counted for 120 minutes.	2. Reporting results.

Originator's Name:
Wendy Hicks 27-JAN-05

Data Validator/Group Leader:
Melanie Aycock 28-JAN-05

Quality Review:

Corrective Action:

Director:

Corrective Action ID and Complete Date:

SAMPLE DATA SUMMARY

GENERAL ENGINEERING LABORATORIES, LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis Report
for

YANK001 Connecticut Yankee Atomic Power Co.

Client SDG: MSR#05-0136 GEL Work Order: 128921

The Qualifiers in this report are defined as follows:

- * Indicates that a quality control analyte recovery is outside of specified acceptance criteria.
- ** Indicates the analyte is a surrogate compound.
- < Result is less than amount reported.
- > Result is greater than amount reported.
- B Target analyte was detected in the sample as well as the associated blank.
- BD Flag for results below the MDC or a flag for low tracer recovery.
- E Concentration of the target analyte exceeds the instrument calibration range.
- H Analytical holding time exceeded.
- J Indicates an estimated value. The result was greater than the detection limit, but less than the reporting limit.
- P The response between the confirmation column and the primary column is >40%D.
- R Sample results are rejected due to sample preservation with HCl.
- U Indicates the target analyte was analyzed for but not detected above the detection limit.
- UI Uncertain identification for gamma spectroscopy.
- X Lab-specific qualifier-please see case narrative, data summary package or contact your project manager for details.
- Y QC Samples were not spiked with this compound.
- h Sample preparation or preservation holding time exceeded.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the Certificate of Analysis.
** Indicates the analyte is a surrogate compound.
This data report has been prepared and reviewed in accordance with General Engineering Laboratories, LLC standard operating procedures. Please direct any questions to your Project Manager, Cheryl Jones.

Reviewed by

GENERAL ENGINEERING LABORATORIES, LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : CYAPCo
Address : Haddam Neck Plant
362 Injun Hollow Road
East Hampton, Connecticut 06424
Contact: Mr. Dave Keefer
Project: Quarterly Groundwater PO# 002337

Report Date: February 2, 2005

Client Sample ID:	Seep #1	Project:	YANK01704
Sample ID:	128921001	Client ID:	YANK001
Matrix:	Ground Water	Vol. Recv.:	
Collect Date:	11-JAN-05		
Receive Date:	14-JAN-05		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	M
Rad Alpha Spec Analysis													
Alphaspec Pu, Liquid-ALL													
Plutonium-238	U	-0.0857	+/-0.112	0.110	+/-0.112	0.259	pCi/L		BJB1	01/27/05	2302	396299	1
Plutonium-239/240	U	0.0285	+/-0.0685	0.047	+/-0.0686	0.133	pCi/L						
Am241,Cm, Liquid-ALL													
Americium-241	U	0.0592	+/-0.128	0.0918	+/-0.128	0.237	pCi/L		BJB1	01/27/05	2302	396298	2
Curium-242	U	-1.010E-08	+/-0.102	0.0855	+/-0.102	0.228	pCi/L						
Curium-243/244	U	-0.178	+/-0.216	0.206	+/-0.216	0.464	pCi/L						
Liquid Scint Pu241, Liquid-ALL													
Plutonium-241	U	1.76	+/-5.70	4.73	+/-5.70	9.75	pCi/L		BJB1	01/27/05	2259	396300	3
Rad Gamma Spec Analysis													
Gammaspec, Gamma,Liquid-ALL,GAM2,STND,MIX,PENN,LF													
Americium-241	U	-7.56	+/-10.5	8.58	+/-10.3	18.0	pCi/L		MJH1	01/23/05	1330	396169	4
Cesium-134	U	1.06	+/-2.12	1.85	+/-2.08	4.05	pCi/L						
Cesium-137	U	0.636	+/-2.07	1.78	+/-2.03	3.87	pCi/L						
Cobalt-60	U	-0.123	+/-1.95	1.59	+/-1.91	3.64	pCi/L						
Europium-152	U	1.51	+/-6.09	5.15	+/-5.97	10.9	pCi/L						
Europium-154	U	-1.82	+/-6.28	4.97	+/-6.15	11.2	pCi/L						
Europium-155	U	-0.533	+/-7.17	5.93	+/-7.03	12.4	pCi/L						
Manganese-54	U	2.67	+/-2.42	1.91	+/-2.38	4.15	pCi/L						
Niobium-94	U	1.12	+/-1.82	1.61	+/-1.79	3.49	pCi/L						
Silver-108m	U	-0.258	+/-1.84	1.48	+/-1.81	3.20	pCi/L						
Rad Gas Flow Proportional Counting													
GFPC, Sr90, liquid-ALL,MIX													
Strontium-90		25.6	+/-1.41	0.516	+/-6.94	1.08	pCi/L		LCW1	01/24/05	1256	396157	5
Gross A/B, liquid-ALL,STND,MIX,PENN,LF													
Alpha		7.34	+/-2.10	0.808	+/-2.40	1.84	pCi/L		EXW1	01/26/05	0214	396158	6
Beta		40.3	+/-3.06	1.36	+/-3.51	2.85	pCi/L						
Rad Liquid Scintillation Analysis													
LSC, Tritium Dist, Liquid-ALL,STND,MIX,PENN													
Tritium		3250	+/-290	170	+/-294	340	pCi/L		DAJ1	01/24/05	1153	396165	7
Liquid Scint C14, Liquid-ALL													
Carbon-14	U	0.345	+/-8.33	6.98	+/-8.33	14.4	pCi/L		LAG1	01/24/05	1854	396244	8
Liquid Scint Fe55, Liquid-ALL													
Iron-55	U	30.2	+/-26.4	17.6	+/-26.4	35.6	pCi/L		DAJ1	01/26/05	1604	396237	9
Liquid Scint Ni63, Liquid-ALL													

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Certificate of Analysis

Company: CYAPCo
Address: Haddam Neck Plant
362 Injun Hollow Road
East Hampton, Connecticut 06424
Contact: Mr. Dave Keefer
Project: Quarterly Groundwater PO# 002337

Report Date: February 2, 2005

Client Sample ID: Seep #1
Sample ID: 128921001

Project: YANK01704
Client ID: YANK001
Vol. Recv.:

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	M
Rad Liquid Scintillation Analysis													
Liquid Scint Ni63, Liquid-ALL													
Nickel-63	U.	0.645	+/-4.72	3.95	+/-4.72	8.07	pCi/L		DAJ1	01/27/05	1302	396238	10
Liquid Scint Tc99, Liquid-ALL													
Technetium-99	U	1.77	+/-3.64	3.00	+/-3.64	6.18	pCi/L		EGD1	01/30/05	0339	396240	11

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005 PREP	FGA	01/24/05	1000	396183
SW846 3005A	ICP-TRACE SW846 3005A	MXW1	01/18/05	0800	394574

The following Analytical Methods were performed

Method	Description
1	DOE EML HASL-300, Pu-11-RC Modified
2	DOE EML HASL-300, Am-05-RC Modified
3	DOE EML HASL-300, Pu-11-RC Modified
4	EPA 901.1
5	EPA 905.0 Modified
6	EPA 900.0
7	EPA 906.0 Modified
8	EPA EERF C-01 Modified
9	DOE RESL Fe-1, Modified
10	DOE RESL Ni-1, Modified
11	DOE EML HASL-300, Tc-02-RC Modified

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Plutonium-242	Alphaspec Pu, Liquid-ALL	101	(15%-125%)
Americium-243	Am241,Cm, Liquid-ALL	84	(25%-125%)
Carrier/Tracer Recovery	Liquid Scint Pu241, Liquid-ALL	103	
Carrier/Tracer Recovery	GFPC, Sr90, liquid-ALL,MIX	87	
Carrier/Tracer Recovery	Liquid Scint Fe55, Liquid-ALL	77	
Carrier/Tracer Recovery	Liquid Scint Ni63, Liquid-ALL	66	
Carrier/Tracer Recovery	Liquid Scint Tc99, Liquid-ALL	99	

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Contact: Mr. Dave Keefer
Project: Quarterly Groundwater PO# 002337

Report Date: February 2, 2005

Client Sample ID: Seep #1
Sample ID: 128921001

Project: YANK01704
Client ID: YANK001
Vol. Recv.:

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	AnalystDate	Time	Batch M

Notes:
The Qualifiers in this report are defined as follows :

* Indicates that a quality control analyte recovery is outside of specified acceptance criteria.
** Indicates the analyte is a surrogate compound.
< Result is less than amount reported.
> Result is greater than amount reported.
B Target analyte was detected in the sample as well as the associated blank.
BD Flag for results below the MDC or a flag for low tracer recovery.
E Concentration of the target analyte exceeds the instrument calibration range.
H Analytical holding time exceeded.
J Indicates an estimated value. The result was greater than the detection limit, but less than the reporting limit.
U Indicates the target analyte was analyzed for but not detected above the detection limit.
UI Uncertain identification for gamma spectroscopy.
X Lab-specific qualifier-please see case narrative, data summary package or contact your project manager for details.
h Sample preparation or preservation holding time exceeded.
The above sample is reported on an "as received" basis.

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Certificate of Analysis

Company : CYAPCo
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362 Injun Hollow Road
East Hampton, Connecticut 06424
Contact: Mr. Dave Keefer
Project: Quarterly Groundwater PO# 002337

Report Date: February 2, 2005

Client Sample ID:	Seep #2	Project:	YANK01704
Sample ID:	128921002	Client ID:	YANK001
Matrix:	Ground Water	Vol. Recv.:	
Collect Date:	11-JAN-05		
Receive Date:	14-JAN-05		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	AnalystDate	Time	Batch M
Rad Alpha Spec Analysis											
Alphaspec Pu, Liquid-ALL											
Plutonium-238	U	-0.0952	+/-0.208	0.188	+/-0.208	0.427	pCi/L		BJB1 01/26/05	1852	396299 1
Plutonium-239/240	U	-0.0571	+/-0.134	0.125	+/-0.135	0.302	pCi/L				
Am241,Cm, Liquid-ALL											
Americium-241	U	0.142	+/-0.203	0.149	+/-0.203	0.346	pCi/L		BJB1 01/26/05	1852	396298 2
Curium-242	U	0.076	+/-0.0912	0.0442	+/-0.0914	0.140	pCi/L				
Curium-243/244	U	0.231	+/-0.234	0.165	+/-0.234	0.378	pCi/L				
Liquid Scint Pu241, Liquid-ALL											
Plutonium-241	U	2.58	+/-6.23	5.16	+/-6.24	10.6	pCi/L		BJB1 01/27/05	2331	396300 3
Rad Gamma Spec Analysis											
Gammaspec, Gamma,Liquid-ALL,GAM2,STND,MIX,PENN,LF											
Americium-241	U	-5.21	+/-15.7	9.41	+/-15.4	19.7	pCi/L		MJH1 01/23/05	1330	396169 4
Cesium-134	U	0.587	+/-2.01	1.69	+/-1.97	3.72	pCi/L				
Cesium-137	U	0.247	+/-1.87	1.56	+/-1.83	3.41	pCi/L				
Cobalt-60	U	3.03	+/-1.95	1.74	+/-1.91	3.92	pCi/L				
Europium-152	U	-1.37	+/-5.41	4.20	+/-5.30	8.98	pCi/L				
Europium-154	U	-4.54	+/-5.04	3.45	+/-4.94	8.10	pCi/L				
Europium-155	U	1.51	+/-7.24	6.17	+/-7.10	12.9	pCi/L				
Manganese-54	U	1.57	+/-1.71	1.55	+/-1.67	3.40	pCi/L				
Niobium-94	U	-0.16	+/-1.69	1.37	+/-1.66	2.99	pCi/L				
Silver-108m	U	-0.156	+/-1.87	1.56	+/-1.83	3.35	pCi/L				
Rad Gas Flow Proportional Counting											
GFPC, Sr90, liquid-ALL,MIX											
Strontium-90		24.8	+/-1.31	0.447	+/-6.50	0.937	pCi/L		LCW1 01/24/05	1256	396157 5
Gross A/B, liquid-ALL,STND,MIX,PENN,LF											
Alpha		1.87	+/-1.17	0.831	+/-1.19	1.77	pCi/L		EXW1 01/28/05	0553	396158 6
Beta		55.4	+/-2.50	1.09	+/-3.45	2.24	pCi/L				
Rad Liquid Scintillation Analysis											
LSC, Tritium Dist, Liquid-ALL,STND,MIX,PENN											
Tritium		3000	+/-293	177	+/-297	354	pCi/L		DAJ1 01/24/05	1256	396165 7
Liquid Scint C14, Liquid-ALL											
Carbon-14	U	0.498	+/-8.42	7.05	+/-8.42	14.5	pCi/L		LAG1 01/24/05	1926	396244 8
Liquid Scint Fe55, Liquid-ALL											
Iron-55	U	3.33	+/-25.2	17.0	+/-25.2	34.4	pCi/L		DAJ1 01/26/05	1805	396237 9
Liquid Scint Ni63, Liquid-ALL											

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Certificate of Analysis

Company: CYAPCo
Address: Haddam Neck Plant
362 Injun Hollow Road
East Hampton, Connecticut 06424
Contact: Mr. Dave Keefer
Project: Quarterly Groundwater PO# 002337

Report Date: February 2, 2005

Client Sample ID: Seep #2
Sample ID: 128921002

Project: YANK01704
Client ID: YANK001
Vol. Recv.:

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	AnalystDate	Time	Batch M
Rad Liquid Scintillation Analysis											
Liquid Scint Ni63, Liquid-ALL											
Nickel-63	U	0.577	+/-5.51	4.62	+/-5.51	9.43	pCi/L		DAJ1 01/27/05	1404	396238 10
Liquid Scint Tc99, Liquid-ALL											
Technetium-99	U	-0.249	+/-3.36	2.83	+/-3.36	5.83	pCi/L		EGD1 01/30/05	0412	396240 11

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005 PREP	FGA	01/24/05	1000	396183
SW846 3005A	ICP-TRACE SW846 3005A	MXW1	01/18/05	0800	394574

The following Analytical Methods were performed

Method	Description
1	DOE EML HASL-300, Pu-11-RC Modified
2	DOE EML HASL-300, Am-05-RC Modified
3	DOE EML HASL-300, Pu-11-RC Modified
4	EPA 901.1
5	EPA 905.0 Modified
6	EPA 900.0
7	EPA 906.0 Modified
8	EPA EERF C-01 Modified
9	DOE RESL Fe-1, Modified
10	DOE RESL Ni-1, Modified
11	DOE EML HASL-300, Tc-02-RC Modified

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Plutonium-242	Alphaspec Pu, Liquid-ALL	89	(15%-125%)
Americium-243	Am241,Cm, Liquid-ALL	80	(25%-125%)
Carrier/Tracer Recovery	Liquid Scint Pu241, Liquid-ALL	95	
Carrier/Tracer Recovery	GFPC, Sr90, liquid-ALL,MIX	94	
Carrier/Tracer Recovery	Liquid Scint Fe55, Liquid-ALL	76	
Carrier/Tracer Recovery	Liquid Scint Ni63, Liquid-ALL	58	
Carrier/Tracer Recovery	Liquid Scint Tc99, Liquid-ALL	101	

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Certificate of Analysis

Company : CYAPCo
Address : Haddam Neck Plant
362 Injun Hollow Road
East Hampton, Connecticut 06424
Contact: Mr. Dave Keefer
Project: Quarterly Groundwater PO# 002337

Report Date: February 2, 2005

Client Sample ID: Seep #2
Sample ID: 128921002

Project: YANK01704
Client ID: YANK001
Vol. Recv.:

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	AnalystDate	Time	Batch M

Notes:
The Qualifiers in this report are defined as follows :

* Indicates that a quality control analyte recovery is outside of specified acceptance criteria.
** Indicates the analyte is a surrogate compound.
< Result is less than amount reported.
> Result is greater than amount reported.
B Target analyte was detected in the sample as well as the associated blank.
BD Flag for results below the MDC or a flag for low tracer recovery.
E Concentration of the target analyte exceeds the instrument calibration range.
H Analytical holding time exceeded.
J Indicates an estimated value. The result was greater than the detection limit, but less than the reporting limit.
U Indicates the target analyte was analyzed for but not detected above the detection limit.
UI Uncertain identification for gamma spectroscopy.
X Lab-specific qualifier-please see case narrative, data summary package or contact your project manager for details.
h Sample preparation or preservation holding time exceeded.
The above sample is reported on an "as received" basis.

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Certificate of Analysis

Company : CYAPCo
Address : Haddam Neck Plant
362 Injun Hollow Road
East Hampton, Connecticut 06424
Contact: Mr. Dave Keefer
Project: Quarterly Groundwater PO# 002337

Report Date: February 2, 2005

Client Sample ID:	Seep #1 Weathered Rock	Project:	YANK01704
Sample ID:	128921003	Client ID:	YANK001
Matrix:	Misc Solid	Vol. Recv.:	
Collect Date:	10-JAN-05		
Receive Date:	14-JAN-05		
Collector:	Client		
Moisture:	16.1%		

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	M
Rad Alpha Spec Analysis													
Alphaspec Am241, Cm, Solid ALL FSS													
Americium-241	U	0.00394	+/-0.0298	0.0277	+/-0.0298	0.0936	pCi/g		JAS1	01/31/05	1019	396301	1
Curium-242	U	0.0154	+/-0.0302	0.00	+/-0.0303	0.0417	pCi/g						
Curium-243/244	U	-0.00338	+/-0.00662	0.016	+/-0.00664	0.0702	pCi/g						
Alphaspec Pu, Solid-ALL FSS													
Plutonium-238	U	-0.0135	+/-0.0175	0.0178	+/-0.0176	0.0428	pCi/g		JAS1	01/29/05	2224	396302	2
Plutonium-239/240	U	0.0027	+/-0.0159	0.0126	+/-0.0159	0.0324	pCi/g						
Liquid Scint Pu241, Solid-ALL FSS													
Plutonium-241	U	-1.04	+/-3.81	3.22	+/-3.81	6.64	pCi/g		JAS1	02/01/05	1344	396303	3
Rad Gamma Spec Analysis													
Gamma,Solid-FSS GAM & ALL Ra-226 In-growth Waived													
Actinium-228	U	0.0867	+/-0.0719	0.0663	+/-0.0705	0.146	pCi/g		AKB	01/26/05	0940	396377	4
Americium-241	U	-0.0243	+/-0.0756	0.060	+/-0.0741	0.127	pCi/g						
Bismuth-212	U	0.130	+/-0.122	0.119	+/-0.119	0.264	pCi/g						
Bismuth-214	U	0.0285	+/-0.0742	0.0409	+/-0.0727	0.0874	pCi/g						
Cesium-134	U	-0.00653	+/-0.0194	0.0152	+/-0.0191	0.0345	pCi/g						
Cesium-137	U	-0.000807	+/-0.0164	0.0137	+/-0.0161	0.0308	pCi/g						
Cobalt-60	U	0.00979	+/-0.0291	0.0192	+/-0.0285	0.0437	pCi/g						
Europium-152	U	0.0152	+/-0.042	0.0386	+/-0.0412	0.0834	pCi/g						
Europium-154	U	0.0045	+/-0.054	0.0462	+/-0.053	0.107	pCi/g						
Europium-155	U	0.00943	+/-0.0491	0.0443	+/-0.0481	0.0934	pCi/g						
Lead-212	U	0.0155	+/-0.041	0.0293	+/-0.0402	0.0615	pCi/g						
Lead-214	U	0.0719	+/-0.0535	0.0392	+/-0.0525	0.0828	pCi/g						
Manganese-54	U	0.00	+/-0.0168	0.00	+/-0.0165	0.00365	pCi/g						
	UI												
Niobium-94	U	-0.00441	+/-0.0154	0.0123	+/-0.0151	0.0277	pCi/g						
Potassium-40		6.63	+/-0.926	0.135	+/-0.908	0.324	pCi/g						
Radium-226	U	0.0285	+/-0.0742	0.0271	+/-0.0727	0.060	pCi/g						
Silver-108m	U	-0.00806	+/-0.0136	0.011	+/-0.0133	0.0244	pCi/g						
Thallium-208	U	0.00	+/-0.0195	0.0128	+/-0.0191	0.0286	pCi/g						
	UI												
Rad Gas Flow Proportional Counting													
GFPC, Sr90, solid Quick TAT													
Strontium-90		0.567	+/-0.0826	0.0556	+/-0.191	0.116	pCi/g		LCW1	01/27/05	2128	396424	5
Rad Liquid Scintillation Analysis													
LSC, Tritium Dist, Solid-HTD2,ALL FSS													

GENERAL ENGINEERING LABORATORIES, LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : CYAPCo
Address : Haddam Neck Plant
362 Injun Hollow Road
East Hampton, Connecticut 06424
Contact: Mr. Dave Keefer
Project: Quarterly Groundwater PO# 002337

Report Date: February 2, 2005

Client Sample ID: Seep #1 Weathered Rock
Sample ID: 128921003

Project: YANK01704
Client ID: YANK001
Vol. Recv.:

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	AnalystDate	Time	Batch	M
Rad Liquid Scintillation Analysis												
LSC, Tritium Dist, Solid-HTD2,ALL FSS												
Tritium	U	7.18	+/-6.66	5.30	+/-6.68	10.6	pCi/g		EGD1 01/24/05	2050	396247	6
Liquid Scint C14, Solid FSS												
Carbon-14	U	0.0343	+/-0.098	0.0807	+/-0.098	0.168	pCi/g		LAG1 01/25/05	0616	396246	7
Liquid Scint Fe55, Solid-ALL FSS												
Iron-55	U	22.4	+/-24.7	16.8	+/-24.7	33.8	pCi/g		DAJ1 01/28/05	1710	396641	8
Liquid Scint Ni63, Solid-ALL FSS												
Nickel-63	U	-4.74	+/-5.40	4.61	+/-5.40	9.38	pCi/g		DAJ1 01/28/05	2053	396642	9
Liquid Scint Tc99, Solid-ALL FSS												
Technetium-99	U	-0.12	+/-0.252	0.215	+/-0.252	0.442	pCi/g		EGD1 01/30/05	1631	396242	10

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Ash Soil Prep	Ash Soil Prep. GL-RAD-A-021B	TC1	01/25/05	1509	396273
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	TC1	01/24/05	1322	396272

The following Analytical Methods were performed

Method	Description
1	DOE EML HASL-300, Am-05-RC Modified
2	DOE EML HASL-300, Pu-11-RC Modified
3	DOE EML HASL-300, Pu-11-RC Modified
4	EML HASL 300, 4.5.2.3
5	EPA 905.0 Modified
6	EPA 906.0 Modified
7	EPA EERF C-01 Modified
8	DOE RESL Fe-1, Modified
9	DOE RESL Ni-1, Modified
10	DOE EML HASL-300, Tc-02-RC Modified

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243	Alphaspec Am241, Cm, Solid ALL	88	(25%-125%)
Plutonium-242	Alphaspec Pu, Solid-ALL FSS	89	(15%-125%)
Carrier/Tracer Recovery	Liquid Scint Pu241, Solid-ALL FS	77	
Carrier/Tracer Recovery	GFPC, Sr90, solid Quick TAT	77	(25%-125%)

GENERAL ENGINEERING LABORATORIES, LLC
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Certificate of Analysis

Company : CYAPCo
Address : Haddam Neck Plant
362 Injun Hollow Road
East Hampton, Connecticut 06424
Contact: Mr. Dave Keefer
Project: Quarterly Groundwater PO# 002337

Report Date: February 2, 2005

Client Sample ID: Seep #1 Weathered Rock
Sample ID: 128921003

Project: YANK01704
Client ID: YANK001
Vol. Recv.:

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	AnalystDate	Time	Batch M
Carrier/Tracer Recovery		Liquid Scint Fe55, Solid-ALL FS			83						
Carrier/Tracer Recovery		Liquid Scint Ni63, Solid-ALL FS			71						
Carrier/Tracer Recovery		Liquid Scint Tc99, Solid-ALL FS			75						

Notes:
The Qualifiers in this report are defined as follows :

- * Indicates that a quality control analyte recovery is outside of specified acceptance criteria.
- ** Indicates the analyte is a surrogate compound.
- B Target analyte was detected in the sample as well as the associated blank.
- BD Flag for results below the MDC or a flag for low tracer recovery.
- E Concentration of the target analyte exceeds the instrument calibration range.
- H Analytical holding time exceeded.
- J Indicates an estimated value. The result was greater than the detection limit, but less than the reporting limit.
- U Indicates the target analyte was analyzed for but not detected above the detection limit.
- UI Uncertain identification for gamma spectroscopy.
- X Lab-specific qualifier-please see case narrative, data summary package or contact your project manager for details.
- h Sample preparation or preservation holding time exceeded.

The above sample is reported on a dry weight basis.

QUALITY CONTROL DATA

GENERAL ENGINEERING LABORATORIES, LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

QC Summary

Report Date: February 3, 2005

Client : CYAPCo
Haddam Neck Plant
362 Injun Hollow Road
East Hampton, Connecticut

Contact: Mr. Dave Keefer

Workorder: 128921

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Alpha Spec										
Batch 396298										
QC1200776353 128921002 DUP										
Americium-241	U	0.142	U	-3.320E-08	pCi/L	N/A		(0% - 100%)	BJB1	01/26/05 18:52
Uncert:		+/-0.203		+/-0.174						
TPU:		+/-0.203		+/-0.174						
Curium-242	U	0.076	U	0.0186	pCi/L	121		(0% - 100%)		
Uncert:		+/-0.0912		+/-0.0632						
TPU:		+/-0.0914		+/-0.0632						
Curium-243/244	U	0.231	U	0.0348	pCi/L	148		(0% - 100%)		
Uncert:		+/-0.234		+/-0.187						
TPU:		+/-0.234		+/-0.187						
QC1200776355 LCS										
Americium-241	27.3			27.3	pCi/L		100	(75%-125%)		
Uncert:				+/-1.25						
TPU:				+/-3.23						
Curium-242			U	-1.770E-09	pCi/L					
Uncert:				+/-0.041						
TPU:				+/-0.041						
Curium-243/244	33.8			34.7	pCi/L		103			
Uncert:				+/-1.40						
TPU:				+/-4.03						
QC1200776352 MB										
Americium-241			U	1.480E-08	pCi/L					01/26/05 18:52
Uncert:				+/-0.149						
TPU:				+/-0.149						
Curium-242			U	-0.0157	pCi/L					
Uncert:				+/-0.0534						
TPU:				+/-0.0535						
Curium-243/244			U	-0.155	pCi/L					
Uncert:				+/-0.143						
TPU:				+/-0.144						
QC1200776354 128921002 MS										
Americium-241	27.3 U	0.142		28.9	pCi/L		105	(75%-125%)		01/26/05 18:52
Uncert:		+/-0.203		+/-1.36						
TPU:		+/-0.203		+/-3.46						
Curium-242	U	0.076	U	0.0178	pCi/L					
Uncert:		+/-0.0912		+/-0.0349						
TPU:		+/-0.0914		+/-0.0349						
Curium-243/244	33.8 U	0.231		35.5	pCi/L		104			
Uncert:		+/-0.234		+/-1.52						
TPU:		+/-0.234		+/-4.20						
Batch 396299										
QC1200776357 128921002 DUP										
Plutonium-238	U	-0.0952	U	0.0951	pCi/L	N/A		(0% - 100%)	BJB1	01/27/05 23:02

QC Summary

Workorder: 128921

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Alpha Spec										
Batch 396299										
	Uncert:	+/-0.208		+/-0.122						
	TPU:	+/-0.208		+/-0.122						
Plutonium-239/240	U	-0.0571	U	-6.470E-09	pCi/L	N/A		(0% - 100%)		
	Uncert:	+/-0.134		+/-0.0753						
	TPU:	+/-0.135		+/-0.0753						
QC1200776359 LCS										
Plutonium-238			U	0.00	pCi/L			(75%-125%)		01/26/05 18:52
	Uncert:			+/-0.134						
	TPU:			+/-0.134						
Plutonium-239/240	23.9			26.2	pCi/L		110	(75%-125%)		
	Uncert:			+/-1.32						
	TPU:			+/-2.88						
QC1200776356 MB										
Plutonium-238			U	-0.0789	pCi/L					
	Uncert:			+/-0.128						
	TPU:			+/-0.128						
Plutonium-239/240			U	-0.0316	pCi/L					
	Uncert:			+/-0.0758						
	TPU:			+/-0.0758						
QC1200776358 128921002 MS										
Plutonium-238	U	-0.0952		0.269	pCi/L			(75%-125%)		
	Uncert:	+/-0.208		+/-0.144						
	TPU:	+/-0.208		+/-0.146						
Plutonium-239/240	23.9 U	-0.0571		25.2	pCi/L		105	(75%-125%)		
	Uncert:	+/-0.134		+/-1.14						
	TPU:	+/-0.135		+/-2.65						
Batch 396300										
QC1200776361 128921002 DUP										
Plutonium-241	U	2.58	U	0.0887	pCi/L	0		(0% - 100%)	BJB1	01/28/05 00:35
	Uncert:	+/-6.23		+/-5.42						
	TPU:	+/-6.24		+/-5.42						
QC1200776363 LCS										
Plutonium-241	138			128	pCi/L		93	(75%-125%)		01/28/05 01:38
	Uncert:			+/-9.25						
	TPU:			+/-16.5						
QC1200776360 MB										
Plutonium-241			U	-2.24	pCi/L					01/28/05 00:03
	Uncert:			+/-5.77						
	TPU:			+/-5.78						
QC1200776362 128921002 MS										
Plutonium-241	138 U	2.58		119	pCi/L		84			01/28/05 01:07
	Uncert:	+/-6.23		+/-9.88						
	TPU:	+/-6.24		+/-16.7						
Batch 396301										
QC1200776365 128921003 DUP										
Americium-241	U	0.00394	U	0.0374	pCi/g	162		(0% - 100%)	JAS1	01/31/05 10:19
	Uncert:	+/-0.0298		+/-0.0951						
	TPU:	+/-0.0298		+/-0.0953						
Curium-242	U	0.0154	U	0.0141	pCi/g	9		(0% - 100%)		

QC Summary

Workorder: 128921

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Alpha Spec										
Batch 396301										
	Uncert:	+/-0.0302		+/-0.0375						
	TPU:	+/-0.0303		+/-0.0376						
Curium-243/244		U -0.00338	U	0.0238	pCi/g	N/A		(0% - 100%)		
	Uncert:	+/-0.00662		+/-0.0808						
	TPU:	+/-0.00664		+/-0.0809						
QC1200776367 LCS										
Americium-241	5.21			5.56	pCi/g		107	(75%-125%)		
	Uncert:			+/-0.582						
	TPU:			+/-0.989						
Curium-242			U	0.0121	pCi/g					
	Uncert:			+/-0.0322						
	TPU:			+/-0.0322						
Curium-243/244	6.44			7.32	pCi/g		114	(75%-125%)		
	Uncert:			+/-0.667						
	TPU:			+/-1.25						
QC1200776364 MB										
Americium-241			U	0.0586	pCi/g					01/31/05 10:19
	Uncert:			+/-0.0616						
	TPU:			+/-0.0622						
Curium-242			U	-0.0038	pCi/g					
	Uncert:			+/-0.00744						
	TPU:			+/-0.00746						
Curium-243/244			U	-0.00374	pCi/g					
	Uncert:			+/-0.00734						
	TPU:			+/-0.00736						
QC1200776366 128921003 MS										
Americium-241	5.33	U 0.00394		5.83	pCi/g		109	(75%-125%)		01/31/05 10:19
	Uncert:	+/-0.0298		+/-0.560						
	TPU:	+/-0.0298		+/-0.984						
Curium-242		U 0.0154	U	0.0116	pCi/g					
	Uncert:	+/-0.0302		+/-0.0307						
	TPU:	+/-0.0303		+/-0.0307						
Curium-243/244	6.60	U -0.00338		7.38	pCi/g		112	(75%-125%)		
	Uncert:	+/-0.00662		+/-0.630						
	TPU:	+/-0.00664		+/-1.20						
Batch 396302										
QC1200776369 128921003 DUP										
Plutonium-238		U -0.0135	U	0.00265	pCi/g	N/A		(0% - 100%)	JAS1	01/29/05 15:07
	Uncert:	+/-0.0175		+/-0.0268						
	TPU:	+/-0.0176		+/-0.0268						
Plutonium-239/240		U 0.0027	U	-5.690E-05	pCi/g	N/A		(0% - 100%)		
	Uncert:	+/-0.0159		+/-0.0137						
	TPU:	+/-0.0159		+/-0.0137						
QC1200776371 LCS										
Plutonium-238			U	0.0189	pCi/g			(75%-125%)		
	Uncert:			+/-0.0255						
	TPU:			+/-0.0256						
Plutonium-239/240	4.56			4.76	pCi/g		104	(75%-125%)		
	Uncert:			+/-0.315						

QC Summary

Workorder: 128921

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Alpha Spec										
Batch 396302										
	TPU:			+/-0.599						
QC1200776368 MB										
Plutonium-238			U	-0.000276	pCi/g					
	Uncert:			+/-0.0298						
	TPU:			+/-0.0298						
Plutonium-239/240			U	0.0221	pCi/g					
	Uncert:			+/-0.0254						
	TPU:			+/-0.0256						
QC1200776370 128921003 MS										
Plutonium-238	U	-0.0135	U	0.0326	pCi/g			(75%-125%)		
	Uncert:	+/-0.0175		+/-0.0459						
	TPU:	+/-0.0176		+/-0.0461						
Plutonium-239/240	4.67 U	0.0027		5.19	pCi/g		111	(75%-125%)		
	Uncert:	+/-0.0159		+/-0.346						
	TPU:	+/-0.0159		+/-0.661						
Batch 396303										
QC1200776373 128921003 DUP										
Plutonium-241	U	-1.04	U	0.315	pCi/g	N/A		(0% - 100%)	JAS1	02/01/05 14:16
	Uncert:	+/-3.81		+/-3.44						
	TPU:	+/-3.81		+/-3.44						
QC1200776375 LCS										
Plutonium-241	66.3			54.5	pCi/g		82	(75%-125%)		02/01/05 15:19
	Uncert:			+/-4.93						
	TPU:			+/-7.53						
QC1200776372 MB										
Plutonium-241			U	1.21	pCi/g					02/02/05 11:56
	Uncert:			+/-2.90						
	TPU:			+/-2.90						
QC1200776374 128921003 MS										
Plutonium-241	67.6 U	-1.04		52.8	pCi/g		78	(75%-125%)		02/01/05 23:44
	Uncert:	+/-3.81		+/-5.19						
	TPU:	+/-3.81		+/-7.65						
Rad Gamma Spec										
Batch 396169										
QC1200776062 128921001 DUP										
Americium-241	U	-7.56	U	-2.94	pCi/L	N/A		(0% - 100%)	MJH1	01/23/05 18:59
	Uncert:	+/-10.5		+/-12.3						
	TPU:	+/-10.3		+/-12.0						
Cesium-134	U	1.06	U	-0.248	pCi/L	N/A		(0% - 100%)		
	Uncert:	+/-2.12		+/-1.87						
	TPU:	+/-2.08		+/-1.83						
Cesium-137	U	0.636	U	0.112	pCi/L	140		(0% - 100%)		
	Uncert:	+/-2.07		+/-1.86						
	TPU:	+/-2.03		+/-1.82						
Cobalt-60	U	-0.123	U	-0.537	pCi/L	N/A		(0% - 100%)		
	Uncert:	+/-1.95		+/-1.96						
	TPU:	+/-1.91		+/-1.92						
Europium-152	U	1.51	U	2.51	pCi/L	50		(0% - 100%)		

QC Summary

Workorder: 128921

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Gamma Spec										
Batch 396169										
	Uncert:	+/-6.09		+/-5.47						
	TPU:	+/-5.97		+/-5.36						
Europium-154	U	-1.82	U	-1.65	pCi/L	N/A		(0% - 100%)		
	Uncert:	+/-6.28		+/-5.51						
	TPU:	+/-6.15		+/-5.40						
Europium-155	U	-0.533	U	7.06	pCi/L	N/A		(0% - 100%)		
	Uncert:	+/-7.17		+/-7.10						
	TPU:	+/-7.03		+/-6.96						
Manganese-54	U	2.67	U	-0.361	pCi/L	N/A		(0% - 100%)		
	Uncert:	+/-2.42		+/-1.75						
	TPU:	+/-2.38		+/-1.72						
Niobium-94	U	1.12	U	-0.712	pCi/L	N/A		(0% - 100%)		
	Uncert:	+/-1.82		+/-1.58						
	TPU:	+/-1.79		+/-1.55						
Silver-108m	U	-0.258	U	-0.861	pCi/L	N/A		(0% - 100%)		
	Uncert:	+/-1.84		+/-1.74						
	TPU:	+/-1.81		+/-1.70						
QC1200776064 LCS										
Americium-241	1170			1210	pCi/L		104	(75%-125%)		01/24/05 08:22
	Uncert:			+/-182						
	TPU:			+/-179						
Cesium-134			U	3.10	pCi/L					
	Uncert:			+/-11.2						
	TPU:			+/-11.0						
Cesium-137	456			492	pCi/L		108	(75%-125%)		
	Uncert:			+/-47.8						
	TPU:			+/-46.9						
Cobalt-60	664			697	pCi/L		105	(75%-125%)		
	Uncert:			+/-61.2						
	TPU:			+/-60.0						
Europium-152			U	9.79	pCi/L					
	Uncert:			+/-25.6						
	TPU:			+/-25.1						
Europium-154			U	-15.3	pCi/L					
	Uncert:			+/-19.7						
	TPU:			+/-19.3						
Europium-155			U	9.69	pCi/L					
	Uncert:			+/-33.6						
	TPU:			+/-32.9						
Manganese-54			U	5.10	pCi/L					
	Uncert:			+/-10.5						
	TPU:			+/-10.3						
Niobium-94			U	-4.47	pCi/L					
	Uncert:			+/-8.70						
	TPU:			+/-8.53						
Silver-108m			U	-2.64	pCi/L					
	Uncert:			+/-9.42						
	TPU:			+/-9.23						
QC1200776061 MB										

QC Summary

Workorder: 128921

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Gamma Spec										
Batch 396169										
Americium-241			U	-5.86	pCi/L					
	Uncert:			+/-12.0						
	TPU:			+/-11.8						
Cesium-134			U	3.00	pCi/L					
	Uncert:			+/-1.51						
	TPU:			+/-1.48						
Cesium-137			U	0.680	pCi/L					
	Uncert:			+/-1.87						
	TPU:			+/-1.83						
Cobalt-60			U	1.42	pCi/L					
	Uncert:			+/-1.84						
	TPU:			+/-1.81						
Europium-152			U	-0.585	pCi/L					
	Uncert:			+/-5.90						
	TPU:			+/-5.78						
Europium-154			U	-2.36	pCi/L					
	Uncert:			+/-4.42						
	TPU:			+/-4.33						
Europium-155			U	7.82	pCi/L					
	Uncert:			+/-6.34						
	TPU:			+/-6.21						
Manganese-54			U	0.850	pCi/L					
	Uncert:			+/-1.97						
	TPU:			+/-1.93						
Niobium-94			U	-2.23	pCi/L					
	Uncert:			+/-1.75						
	TPU:			+/-1.72						
Silver-108m			U	-0.053	pCi/L					
	Uncert:			+/-1.76						
	TPU:			+/-1.73						
QC1200776063 128921001 MS										
Americium-241	9360 U	-7.56		10200	pCi/L		109			01/23/05 19:00
	Uncert:	+/-10.5		+/-1410						
	TPU:	+/-10.3		+/-4230						
Cesium-134	U	1.06	U	132	pCi/L					
	Uncert:	+/-2.12		+/-149						
	TPU:	+/-2.08		+/-155						
Cesium-137	3650 U	0.636		3750	pCi/L		103			
	Uncert:	+/-2.07		+/-470						
	TPU:	+/-2.03		+/-1540						
Cobalt-60	5310 U	-0.123		5570	pCi/L		105			
	Uncert:	+/-1.95		+/-624						
	TPU:	+/-1.91		+/-2270						
Europium-152	U	1.51	U	-97.6	pCi/L					
	Uncert:	+/-6.09		+/-262						
	TPU:	+/-5.97		+/-259						
Europium-154	U	-1.82	U	39.9	pCi/L					
	Uncert:	+/-6.28		+/-297						

QC Summary

Workorder: 128921

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Gamma Spec										
Batch 396169										
	TPU:	+/-6.15		+/-291						
Europium-155	U	-0.533	U	285	pCi/L					
	Uncert:	+/-7.17		+/-177						
	TPU:	+/-7.03		+/-206						
Manganese-54	U	2.67	U	-0.605	pCi/L					
	Uncert:	+/-2.42		+/-128						
	TPU:	+/-2.38		+/-125						
Niobium-94	U	1.12	U	69.6	pCi/L					
	Uncert:	+/-1.82		+/-109						
	TPU:	+/-1.79		+/-110						
Silver-108m	U	-0.258	U	50.0	pCi/L					
	Uncert:	+/-1.84		+/-105						
	TPU:	+/-1.81		+/-104						
Batch 396377										
QC1200776536 129311021 DUP										
Actinium-228		0.546		0.473	pCi/g	14		(0% - 100%)	AKB	01/26/05 11:58
	Uncert:	+/-0.189		+/-0.179						
	TPU:	+/-0.186		+/-0.176						
Americium-241	U	0.0101	U	0.043	pCi/g	124		(0% - 100%)		
	Uncert:	+/-0.246		+/-0.129						
	TPU:	+/-0.241		+/-0.127						
Bismuth-212		0.581	U	0.208	pCi/g	95		(0% - 100%)		
	Uncert:	+/-0.319		+/-0.163						
	TPU:	+/-0.312		+/-0.160						
Bismuth-214		0.425		0.496	pCi/g	16		(0% - 100%)		
	Uncert:	+/-0.124		+/-0.113						
	TPU:	+/-0.122		+/-0.110						
Cesium-134	U	0.0195	U	0.0124	pCi/g	45		(0% - 100%)		
	Uncert:	+/-0.0283		+/-0.0226						
	TPU:	+/-0.0277		+/-0.0221						
Cesium-137	U	-0.0103	U	0.0296	pCi/g	N/A		(0% - 100%)		
	Uncert:	+/-0.0231		+/-0.0213						
	TPU:	+/-0.0226		+/-0.0208						
Cobalt-60	U	0.00294	U	-0.00314	pCi/g	N/A		(0% - 100%)		
	Uncert:	+/-0.0222		+/-0.0217						
	TPU:	+/-0.0218		+/-0.0213						
Europium-152	U	0.0283	U	0.00723	pCi/g	119		(0% - 100%)		
	Uncert:	+/-0.0658		+/-0.0559						
	TPU:	+/-0.0645		+/-0.0547						
Europium-154	U	0.00502	U	-0.0474	pCi/g	N/A		(0% - 100%)		
	Uncert:	+/-0.0653		+/-0.059						
	TPU:	+/-0.064		+/-0.0578						
Europium-155	U	-0.00566	U	0.0421	pCi/g	N/A		(0% - 100%)		
	Uncert:	+/-0.0769		+/-0.0585						
	TPU:	+/-0.0753		+/-0.0573						
Lead-212		0.449		0.482	pCi/g	7		(0% - 100%)		
	Uncert:	+/-0.0801		+/-0.0729						
	TPU:	+/-0.0785		+/-0.0714						

QC Summary

Workorder: 128921

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Gamma Spec										
Batch 396377										
Lead-214		0.560		0.535	pCi/g	5		(0% - 20%)		
	Uncert:	+/-0.118		+/-0.0971						
	TPU:	+/-0.116		+/-0.0951						
Manganese-54	U	-0.0126	U	0.0175	pCi/g	N/A		(0% - 100%)		
	Uncert:	+/-0.0254		+/-0.0189						
	TPU:	+/-0.0249		+/-0.0185						
Niobium-94	U	-0.00569	U	0.0135	pCi/g	N/A		(0% - 100%)		
	Uncert:	+/-0.0232		+/-0.0193						
	TPU:	+/-0.0228		+/-0.0189						
Potassium-40		13.0		12.8	pCi/g	2		(0% - 20%)		
	Uncert:	+/-1.36		+/-1.44						
	TPU:	+/-1.33		+/-1.41						
Radium-226		0.425		0.496	pCi/g	16		(0% - 100%)		
	Uncert:	+/-0.124		+/-0.113						
	TPU:	+/-0.122		+/-0.110						
Silver-108m	U	0.00781	U	-0.0029	pCi/g	N/A		(0% - 100%)		
	Uncert:	+/-0.0218		+/-0.0183						
	TPU:	+/-0.0214		+/-0.0179						
Thallium-208		0.190		0.163	pCi/g	15		(0% - 100%)		
	Uncert:	+/-0.0464		+/-0.0385						
	TPU:	+/-0.0455		+/-0.0377						
QC1200776537 LCS										
Actinium-228			U	0.918	pCi/g					01/26/05 09:44
	Uncert:			+/-1.29						
	TPU:			+/-1.26						
Americium-241	23.4			23.0	pCi/g		98	(75%-125%)		
	Uncert:			+/-1.92						
	TPU:			+/-1.88						
Bismuth-212			U	-0.606	pCi/g					
	Uncert:			+/-1.54						
	TPU:			+/-1.51						
Bismuth-214			U	0.372	pCi/g					
	Uncert:			+/-0.307						
	TPU:			+/-0.301						
Cesium-134			U	-0.135	pCi/g					
	Uncert:			+/-0.177						
	TPU:			+/-0.174						
Cesium-137	9.11			9.56	pCi/g		105	(75%-125%)		
	Uncert:			+/-0.979						
	TPU:			+/-0.960						
Cobalt-60	13.2			13.0	pCi/g		99	(75%-125%)		
	Uncert:			+/-1.12						
	TPU:			+/-1.10						
Europium-152			U	-0.0335	pCi/g					
	Uncert:			+/-0.343						
	TPU:			+/-0.336						
Europium-154			U	0.226	pCi/g					
	Uncert:			+/-0.345						

QC Summary

Workorder: 128921

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Gamma Spec										
Batch 396377										
	TPU:			+/-0.338						
Europium-155			U	-0.0621	pCi/g					
	Uncert:			+/-0.344						
	TPU:			+/-0.337						
Lead-212			U	0.103	pCi/g					
	Uncert:			+/-0.179						
	TPU:			+/-0.176						
Lead-214			U	0.042	pCi/g					
	Uncert:			+/-0.252						
	TPU:			+/-0.247						
Manganese-54			U	0.102	pCi/g					
	Uncert:			+/-0.178						
	TPU:			+/-0.175						
Niobium-94			U	0.0413	pCi/g					
	Uncert:			+/-0.145						
	TPU:			+/-0.142						
Potassium-40			U	0.380	pCi/g					
	Uncert:			+/-1.16						
	TPU:			+/-1.13						
Radium-226			U	0.372	pCi/g			(75%-125%)		
	Uncert:			+/-0.307						
	TPU:			+/-0.301						
Silver-108m			U	0.00745	pCi/g					
	Uncert:			+/-0.140						
	TPU:			+/-0.137						
Thallium-208			U	-0.00224	pCi/g					
	Uncert:			+/-0.164						
	TPU:			+/-0.161						
QC1200776535 MB										
Actinium-228			U	0.0898	pCi/g					01/26/05 09:43
	Uncert:			+/-0.176						
	TPU:			+/-0.173						
Americium-241			U	-0.0868	pCi/g					
	Uncert:			+/-0.138						
	TPU:			+/-0.135						
Bismuth-212			U	0.178	pCi/g					
	Uncert:			+/-0.246						
	TPU:			+/-0.241						
Bismuth-214			U	0.00454	pCi/g					
	Uncert:			+/-0.0669						
	TPU:			+/-0.0656						
Cesium-134			U	-0.00296	pCi/g					
	Uncert:			+/-0.0339						
	TPU:			+/-0.0332						
Cesium-137			U	0.00562	pCi/g					
	Uncert:			+/-0.032						
	TPU:			+/-0.0313						
Cobalt-60			U	-0.0268	pCi/g					

QC Summary

Workorder: 128921

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Gamma Spec										
Batch 396377										
	Uncert:			-/-0.0432						
	TPU:			-/-0.0424						
Europium-152			U	-0.0354	pCi/g					
	Uncert:			+/-0.0908						
	TPU:			+/-0.089						
Europium-154			U	0.0157	pCi/g					
	Uncert:			+/-0.0824						
	TPU:			+/-0.0807						
Europium-155			U	-0.00784	pCi/g					
	Uncert:			+/-0.0738						
	TPU:			+/-0.0724						
Lead-212			U	0.0585	pCi/g					
	Uncert:			+/-0.0465						
	TPU:			+/-0.0456						
Lead-214			U	0.0249	pCi/g					
	Uncert:			+/-0.0551						
	TPU:			+/-0.054						
Manganese-54			U	-0.0253	pCi/g					
	Uncert:			+/-0.0284						
	TPU:			+/-0.0278						
Niobium-94			U	-0.0115	pCi/g					
	Uncert:			+/-0.0279						
	TPU:			+/-0.0273						
Potassium-40			U	0.426	pCi/g					
	Uncert:			+/-0.337						
	TPU:			+/-0.331						
Radium-226			U	0.00454	pCi/g					
	Uncert:			+/-0.0669						
	TPU:			+/-0.0656						
Silver-108m			U	0.00992	pCi/g					
	Uncert:			+/-0.0255						
	TPU:			+/-0.025						
Thallium-208			U	0.0186	pCi/g					
	Uncert:			+/-0.0376						
	TPU:			+/-0.0369						
Rad Gas Flow										
Batch 396157										
QC1200776036 128921001 DUP										
Strontium-90		25.6		24.4	pCi/L	5		(0% - 20%)	LCW1	01/24/05 12:56
	Uncert:	+/-1.41		+/-1.35						
	TPU:	+/-6.94		+/-7.30						
QC1200776038 LCS										
Strontium-90	60.4			49.4	pCi/L		82	(75%-125%)		01/24/05 09:48
	Uncert:			+/-3.73						
	TPU:			+/-14.4						
QC1200776035 MB										
Strontium-90			U	-0.0921	pCi/L					01/24/05 12:56
	Uncert:			+/-0.586						

QC Summary

Workorder: 128921

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Gas Flow										
Batch 396157										
	TPU:			+/-0.587						
QC1200776037 128921001 MS										
Strontium-90	121	25.6		129	pCi/L		86	(75%-125%)		01/24/05 09:48
	Uncert:	+/-1.41		+/-8.21						
	TPU:	+/-6.94		+/-31.7						
Batch 396158										
QC1200776040 128921002 DUP										
Alpha		1.87		2.95	pCi/L	45		(0% - 100%)	EXW1	01/28/05 05:53
	Uncert:	+/-1.17		+/-1.01						
	TPU:	+/-1.19		+/-1.48						
Beta		55.4		50.0	pCi/L	10		(0% - 20%)		
	Uncert:	+/-2.50		+/-2.41						
	TPU:	+/-3.45		+/-5.51						
QC1200776043 LCS										
Alpha	108			114	pCi/L		106	(75%-125%)		01/26/05 12:36
	Uncert:			+/-12.0						
	TPU:			+/-16.2						
Beta	362			330	pCi/L		91	(75%-125%)		
	Uncert:			+/-15.0						
	TPU:			+/-18.5						
QC1200776039 MB										
Alpha			U	0.0578	pCi/L					01/26/05 02:14
	Uncert:			+/-0.844						
	TPU:			+/-0.846						
Beta			U	1.24	pCi/L					
	Uncert:			+/-1.58						
	TPU:			+/-1.58						
QC1200776041 128921002 MS										
Alpha	108	1.87		111	pCi/L		101	(75%-125%)		01/26/05 20:05
	Uncert:	+/-1.17		+/-13.8						
	TPU:	+/-1.19		+/-16.7						
Beta	362	55.4		412	pCi/L		99	(75%-125%)		
	Uncert:	+/-2.50		+/-17.7						
	TPU:	+/-3.45		+/-22.7						
QC1200776042 128921002 MSD										
Alpha	108	1.87		135	pCi/L	19*	123	(75%-125%)		01/26/05 12:36
	Uncert:	+/-1.17		+/-15.0						
	TPU:	+/-1.19		+/-22.8						
Beta	362	55.4		403	pCi/L	2*	96	(75%-125%)		
	Uncert:	+/-2.50		+/-17.6						
	TPU:	+/-3.45		+/-24.6						
Batch 396424										
QC1200776622 128921003 DUP										
Strontium-90		0.567		0.604	pCi/g	6		(0% - 20%)	CW1	01/27/05 21:28
	Uncert:	+/-0.0826		+/-0.0773						
	TPU:	+/-0.191		+/-0.202						
QC1200776624 LCS										
Strontium-90	4.53			5.36	pCi/g		118	(75%-125%)		01/27/05 21:13
	Uncert:			+/-0.352						

QC Summary

Workorder: 128921

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Gas Flow										
Batch 396424										
	TPU:			+/-1.55						
QC1200776621 MB										
Strontium-90			U	0.0127	pCi/g					01/27/05 21:28
	Uncert:			+/-0.0453						
	TPU:			+/-0.0454						
QC1200776623 128921003 MS										
Strontium-90	8.69	0.567		9.75	pCi/g		106	(75%-125%)		01/27/05 21:13
	Uncert:	+/-0.0826		+/-0.683						
	TPU:	+/-0.191		+/-2.89						
Rad Liquid Scintillation										
Batch 396165										
QC1200776056 128921001 DUP										
Tritium		3250		3360	pCi/L	3		(0% - 20%)	DAJ1	01/24/05 15:01
	Uncert:	+/-290		+/-307						
	TPU:	+/-294		+/-311						
QC1200776058 LCS										
Tritium	3150			3320	pCi/L		105	(75%-125%)		01/24/05 16:05
	Uncert:			+/-404						
	TPU:			+/-407						
QC1200776055 MB										
Tritium			U	-129	pCi/L					01/24/05 13:58
	Uncert:			+/-200						
	TPU:			+/-200						
QC1200776057 128921001 MS										
Tritium	3160	3250		6480	pCi/L		102	(75%-125%)		01/24/05 15:33
	Uncert:	+/-290		+/-482						
	TPU:	+/-294		+/-493						
Batch 396237										
QC1200776242 128921001 DUP										
Iron-55	U	30.2		38.3	pCi/L	24		(0% - 100%)	DAJ1	01/27/05 00:08
	Uncert:	+/-26.4		+/-26.0						
	TPU:	+/-26.4		+/-26.1						
QC1200776244 LCS										
Iron-55	452			439	pCi/L		97*	(0%-%)		01/27/05 04:08
	Uncert:			+/-29.7						
	TPU:			+/-34.3						
QC1200776241 MB										
Iron-55			U	-4.01	pCi/L					01/26/05 22:07
	Uncert:			+/-24.1						
	TPU:			+/-24.1						
QC1200776243 128921001 MS										
Iron-55	452 U	30.2		445	pCi/L		92*	(0%-%)		01/27/05 02:09
	Uncert:	+/-26.4		+/-28.3						
	TPU:	+/-26.4		+/-33.2						
Batch 396238										
QC1200776246 128921001 DUP										
Nickel-63	U	0.645	U	4.36	pCi/L	0		(0% - 100%)	DAJ1	01/27/05 17:12
	Uncert:	+/-4.72		+/-5.36						
	TPU:	+/-4.72		+/-5.37						

QC Summary

Workorder: 128921

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Liquid Scintillation										
Batch 396238										
QC1200776248 LCS										
Nickel-63	364			392	pCi/L		108	(75%-125%)		01/27/05 18:27
	Uncert:			+/-15.0						
	TPU:			+/-20.0						
QC1200776245 MB										
Nickel-63			U	3.71	pCi/L					01/27/05 16:09
	Uncert:			+/-4.78						
	TPU:			+/-4.79						
QC1200776247 128921001 MS										
Nickel-63	364 U	0.645		371	pCi/L		102	(75%-125%)		01/27/05 17:55
	Uncert:	+/-4.72		+/-12.7						
	TPU:	+/-4.72		+/-17.8						
Batch 396240										
QC1200776250 128921001 DUP										
Technetium-99	U	1.77	U	0.418	pCi/L	0		(0% - 100%)	EGD1	01/30/05 05:16
	Uncert:	+/-3.64		+/-3.69						
	TPU:	+/-3.64		+/-3.69						
QC1200776252 LCS										
Technetium-99	362			387	pCi/L		107	(75%-125%)		01/30/05 06:20
	Uncert:			+/-10.4						
	TPU:			+/-13.5						
QC1200776249 MB										
Technetium-99				7.20	pCi/L					01/30/05 04:44
	Uncert:			+/-3.75						
	TPU:			+/-3.75						
QC1200776251 128921001 MS										
Technetium-99	362 U	1.77		365	pCi/L		100	(75%-125%)		01/30/05 05:48
	Uncert:	+/-3.64		+/-10.3						
	TPU:	+/-3.64		+/-13.2						
Batch 396242										
QC1200776254 128921003 DUP										
Technetium-99	U	-0.12	U	-0.0714	pCi/g	N/A		(0% - 100%)	EGD1	01/30/05 17:36
	Uncert:	+/-0.252		+/-0.280						
	TPU:	+/-0.252		+/-0.280						
QC1200776256 LCS										
Technetium-99	19.0			19.9	pCi/g		105	(75%-125%)		01/30/05 18:40
	Uncert:			+/-0.604						
	TPU:			+/-0.775						
QC1200776253 MB										
Technetium-99			U	-0.0734	pCi/g					01/30/05 17:03
	Uncert:			+/-0.225						
	TPU:			+/-0.225						
QC1200776255 128921003 MS										
Technetium-99	19.2 U	-0.12		20.2	pCi/g		105	(75%-125%)		01/30/05 18:08
	Uncert:	+/-0.252		+/-0.689						
	TPU:	+/-0.252		+/-0.848						
Batch 396244										
QC1200776258 128921001 DUP										
Carbon-14	U	0.345	U	-2.47	pCi/L	N/A		(0% - 100%)	LAG1	01/24/05 20:29

QC Summary

Workorder: 128921

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Liquid Scintillation										
Batch 396244										
	Uncert:	+/-8.33		+/-8.22						
	TPU:	+/-8.33		+/-8.22						
QC1200776260 LCS										
Carbon-14	438			442	pCi/L		101	(75%-125%)		01/24/05 21:32
	Uncert:			+/-18.8						
	TPU:			+/-33.2						
QC1200776257 MB										
Carbon-14			U	0.00	pCi/L					01/24/05 19:57
	Uncert:			+/-8.45						
	TPU:			+/-8.45						
QC1200776259 128921001 MS										
Carbon-14	438 U	0.345		463	pCi/L		106	(75%-125%)		01/24/05 21:00
	Uncert:	+/-8.33		+/-19.2						
	TPU:	+/-8.33		+/-34.5						
Batch 396246										
QC1200776262 128921003 DUP										
Carbon-14	U	0.0343	U	0.0073	pCi/g	0		(0% - 100%)	LAG1	01/25/05 08:21
	Uncert:	+/-0.098		+/-0.0906						
	TPU:	+/-0.098		+/-0.0906						
QC1200776264 LCS										
Carbon-14	8.15			8.25	pCi/g		101	(75%-125%)		01/25/05 09:26
	Uncert:			+/-0.420						
	TPU:			+/-0.439						
QC1200776261 MB										
Carbon-14			U	-0.0609	pCi/g					01/25/05 07:19
	Uncert:			+/-0.0933						
	TPU:			+/-0.0933						
QC1200776263 128921003 MS										
Carbon-14	8.15 U	0.0343		8.30	pCi/g		101	(75%-125%)		01/25/05 08:54
	Uncert:	+/-0.098		+/-0.429						
	TPU:	+/-0.098		+/-0.448						
Batch 396247										
QC1200776266 128921003 DUP										
Tritium	U	7.18	U	4.05	pCi/g	0		(0% - 100%)	EGD1	01/24/05 21:53
	Uncert:	+/-6.66		+/-6.75						
	TPU:	+/-6.68		+/-6.76						
QC1200776268 LCS										
Tritium	70.4			80.0	pCi/g		114	(75%-125%)		01/25/05 14:04
	Uncert:			+/-9.64						
	TPU:			+/-11.4						
QC1200776265 MB										
Tritium			U	4.67	pCi/g					01/24/05 21:22
	Uncert:			+/-6.46						
	TPU:			+/-6.47						
QC1200776267 128921003 MS										
Tritium	70.4 U	7.18		81.9	pCi/g		106	(75%-125%)		01/24/05 22:25
	Uncert:	+/-6.66		+/-9.50						
	TPU:	+/-6.68		+/-11.3						
Batch 396641										

QC Summary

Workorder: 128921

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Liquid Scintillation										
Batch 396641										
QC1200777101 128921003 DUP										
Iron-55	U	22.4		38.7	pCi/g	53		(0% - 100%)	DAJ1	01/28/05 18:14
	Uncert:	+/-24.7		+/-23.5						
	TPU:	+/-24.7		+/-23.6						
QC1200777103 LCS										
Iron-55	652			699	pCi/g		107	(75%-125%)		01/28/05 19:18
	Uncert:			+/-26.0						
	TPU:			+/-37.3						
QC1200777100 MB										
Iron-55			U	18.2	pCi/g					01/28/05 17:42
	Uncert:			+/-20.8						
	TPU:			+/-20.8						
QC1200777102 128921003 MS										
Iron-55	660 U	22.4		644	pCi/g		94	(75%-125%)		01/28/05 18:46
	Uncert:	+/-24.7		+/-29.2						
	TPU:	+/-24.7		+/-38.2						
Batch 396642										
QC1200777105 128921003 DUP										
Nickel-63	U	-4.74	U	-1.02	pCi/g	N/A		(0% - 100%)	DAJ1	01/28/05 23:56
	Uncert:	+/-5.40		+/-5.43						
	TPU:	+/-5.40		+/-5.43						
QC1200777107 LCS										
Nickel-63	532			469	pCi/g		88	(75%-125%)		01/29/05 03:00
	Uncert:			+/-11.3						
	TPU:			+/-19.4						
QC1200777104 MB										
Nickel-63			U	1.80	pCi/g					01/28/05 22:25
	Uncert:			+/-5.53						
	TPU:			+/-5.53						
QC1200777106 128921003 MS										
Nickel-63	532 U	-4.74		465	pCi/g		87	(75%-125%)		01/29/05 01:28
	Uncert:	+/-5.40		+/-12.3						
	TPU:	+/-5.40		+/-19.9						

Notes:
The Qualifiers in this report are defined as follows:

- * Indicates that a quality control analyte recovery is outside of specified acceptance criteria.
- ** Indicates the analyte is a surrogate compound.
- < Result is less than amount reported.
- > Result is greater than amount reported.
- B Target analyte was detected in the sample as well as the associated blank.
- BD Flag for results below the MDC or a flag for low tracer recovery.
- E Concentration of the target analyte exceeds the instrument calibration range.
- H Analytical holding time exceeded.
- J Indicates an estimated value. The result was greater than the detection limit, but less than the reporting limit.
- U Indicates the target analyte was analyzed for but not detected above the detection limit.

QC Summary

Workorder: 128921

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time

UI Uncertain identification for gamma spectroscopy.

X Lab-specific qualifier-please see case narrative, data summary package or contact your project manager for details.

h Sample preparation or preservation holding time exceeded.

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more.
** Indicates analyte is a surrogate compound.
^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptence criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.
For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

Attachment #2. Laboratory Data Report

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CASE NARRATIVE

CASE NARRATIVE
For
CONNECTICUT YANKEE
PO# 002337
Work Order: 134923

April 26, 2005

Laboratory Identification:
General Engineering Laboratories, LLC

Mailing Address:
P.O. Box 30712
Charleston, South Carolina 29417

Express Mail Delivery and Shipping Address:
2040 Savage Road
Charleston, South Carolina 29407

Telephone Number:
(843) 556-8171

Summary:

Sample receipt
The samples arrived at General Engineering Laboratories, LLC, (GEL) in Charleston, South Carolina on January 14 th, 2005. The samples listed below were requested for reanalysis on April 21, 2004. All sample containers arrived without any visible signs of tampering or breakage. The chain of custody contained the proper documentation and signatures.

The laboratory prepared the following sample:

Sample ID	Client Sample ID
134923001	Seep #1 Weathered Rock
134923002	Seep #1 Weathered Rock

Items of Note:
Reanalysis was requested via email on April 21, 2005 by Dave Keefer.

Case Narrative:

Sample analyses were conducted using methodology as outlined in General Engineering Laboratories (GEL) Standard Operating Procedures. Any technical or administrative problems during analysis, data review, and reduction are listed below by analytical parameter.

Analytical Request:

One sediment sample was leached per SPLP methodology and the leachate subsequently was analyzed for Sr-90.

Internal Chain of Custody:

Custody was maintained for this sample.

Data Package:

The enclosed data package contains the following sections: Case Narrative, Chain of Custody, Cooler Receipt Checklist, and Radiochemistry.

I certify that this data package is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or a designee, as verified by the following signature.

Cheryl Jones
Project Manager

CHAIN OF CUSTODY

Chain of Custody Form

No. 2005-00007

Connecticut Yankee Atomic Power Company
362 Injun Hollow Road, East Hampton, CT 06424
860-267-2556

Relog: % 134923

Project Name: Haddam Neck Decommissioning

Contact Name & Phone:
David Keefer 860-267-2556 (x3085)

Analytical Lab (Name, City, State):
General Engineering Lab (GEL), 2040 Savage Rd, Charleston, SC 29407, 843.556.8171 (Cheryl Jones)

Priority: ☐ 45 D. ☐ 30 D. ☒ 14 D. ☒ 7 D.
Other: 128921 %

Lab Use Only: 128921 %

	Sample Designation	Date	Time	Media Code	Sample Type Code	Container Size-&Type Code	MIX	STND	ALL	Anions	Cations	TDS	Comment, Preservation	Lab Sample ID
105	Seep #1 Weathered Rock	01/10/05	15:00	WG	G	500-ml			X				n.a.	
001	Seep #1	01/11/05	16:05	WG	G	4L,1L			X	X	X	X	2 x 4L w/HNO_3, 1L	
002	Seep #2	01/11/05	16:05	WG	G	4L,1L			X	X	X	X	2 x 4L w/HNO_3, 1L	

NOTES: PO #: 002337 MSR #: 05-0136 ☐ LTP QA ☐ Radwaste QA ☒ Non QA
Requested water analyses to typical groundwater MDC's. Anions from unpreserved sample include Cl^-, CO_3^{-2}, HCO_3^-, SO_4^{-2}. Cations include Ca, Mg, Na, K. Requested TATs for H-3, Gamma & Sr-90 is 7-days, all others are 14-days. Weathered rock sample should be analyzed to FSS Soil MDCs.

Samples Shipped Via:
☒ Fed Ex
☐ UPS
☐ Hand
☐ Other ____
Bill of Lading #

Internal Container Temp: 14.0 Deg. C
Custody Sealed? Y ☑ N ☐
Custody Seal Intact? Y ☑ N ☐

1) Relinquished By: Matt Daros — Date/Time 1/13/05	2) Received By — Date/Time 1-14-05 940
3) Relinquished By — Date/Time	4) Received By — Date/Time
5) Relinquished By — Date/Time	6) Received By — Date/Time

COOLER RECEIPT CHECKLIST

SAMPLE RECEIPT & REVIEW FORM

PM use only

t: CT Yankee	SDG/ARCOC/Work Order: 122921
Received:	PM(A) Review (ensure non-conforming items are resolved prior to signing):
ived By:	Cliff Jones 1/14/05

Sample Receipt Criteria	Conforming	NA	Non-Conforming	Comments/Qualifiers (Required for Non-Conforming Items)
hipping containers received ntact and sealed?				Circle Applicable: seals broken damaged container leaking container other (describe)
amples requiring cold reservation within (4 +/- 2 C)? ecord preservation method.				Circle Coolant # ice bags blue ice dry ice none other(describe)
hain of custody documents cluded with shipment?				
ample containers intact and ealed?				Circle Applicable: seals broken damaged container leaking container other (describe)
amples requiring chemical reservation at proper pH?				Sample ID's, containers affected and observed pH:
OA vials free of headspace defined as < 6mm bubble)?				Sample ID's and containers affected:
amples received within holding ime?				Id's and tests affected:
ample ID's on COC match ID's n bottles?				Sample ID's and containers affected:
ate & time on COC match date & time on bottles?				Sample ID's affected:
umber of containers received natch number indicated on COC?				Sample ID's affected:
OC form is properly signed in elinquished/received sections?				
ir Bill ,Tracking #'s, & dditional Comments				

Radiological Information	Non-RAD	RAD	RADI	RSO RAD Receipt #
What is the radiological classification of the samples?				Comments
Radioactivity Screening Results (maximum observed CPM)				*If > x2 area background is observed on a non-radioactive sample, contact the RSO to investigate.

PM (or PMA) review of Receiving Rad classification: CAJ Initials 1/14/05 Date:

RADIOLOGICAL ANALYSIS

Radiochemistry Case Narrative
Connecticut Yankee Atomic Power Co. (YANK)
SDG MSR#05-0136

Method/Analysis Information

Product:	**GFPC, Sr90, liquid-ALL,MIX**
Analytical Method:	EPA 905.0 Modified
Analytical Batch Number:	419308

Sample ID	***Client ID***
134923002	Seep #1 Weathered Rock
1200831171	Method Blank (MB)
1200831172	134924002(Seep #2) Sample Duplicate (DUP)
1200831173	134924002(Seep #2) Matrix Spike (MS)
1200831174	Laboratory Control Sample (LCS)

SOP Reference
Procedure for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-004 REV# 9.

Calibration Information:

Calibration Information
All initial and continuing calibration requirements have been met.

Standards Information
Standard solution(s) for these analyses are NIST traceable and used before the expiration date(s).

Sample Geometry
All counting sources were prepared in the same geometry as the calibration standards.

Quality Control (QC) Information:

Blank Information
The blank volume is representative of the sample volume in this batch.

Designated QC
The following sample was used for QC: 134924002 (Seep #2).

QC Information
All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time
All sample procedures for this sample set were performed within the required holding time.

Preparation Information
All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis
None of the samples in this sample set required reprep or reanalysis.

Chemical Recoveries

All chemical recoveries meet the required acceptance limits for this sample set.

Miscellaneous Information:

NCR Documentation
Nonconformance reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. An NCR was not generated for this SDG.

Qualifier information
Manual qualifiers were not required.

Certification Statement
Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

Review Validation:
GEL requires all analytical data to be verified by a qualified data validator. In addition, all data designated for CLP or CLP-like packaging will receive a third level validation upon completion of the data package.
The following data validator verified the information presented in this case narrative:

Reviewer: Heather G Lucow 4/28/05

SAMPLE DATA SUMMARY

GENERAL ENGINEERING LABORATORIES, LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : CYAPCo
Address : Haddam Neck Plant
362 Injun Hollow Road
East Hampton, Connecticut 06424
Contact: Dave Keefer
Project: SPLP PO# 002337

Report Date: April 28, 2005

Client Sample ID:	Seep #1 Weathered Rock	Project:	YANK01904
Sample ID:	134923002	Client ID:	YANK001
Matrix:	SE	Vol. Recv.:	
Collect Date:	10-JAN-05		
Receive Date:	14-JAN-05		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	AnalystDate	Time	Batch	Mtd.
Rad Gas Flow Proportional Counting												
GFPC, Sr90, liquid-ALL,MIX												
Strontium-90	U	-0.825	+/-0.675	0.798	+/-0.675	1.69	pCi/L		LCW1 04/27/05	1751	419308	1

The following Analytical Methods were performed

Method	Description
1	EPA 905.0 Modified

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Carrier/Tracer Recovery	GFPC, Sr90, liquid-ALL,MIX	84	

Notes:
The Qualifiers in this report are defined as follows :

- * Indicates that a quality control analyte recovery is outside of specified acceptance criteria.
- ** Indicates the analyte is a surrogate compound.
- B Target analyte was detected in the sample as well as the associated blank.
- BD Results below the MDC or low tracer recovery.
- E Concentration of the target analyte exceeds the instrument calibration range.
- H Analytical holding time exceeded.
- J Indicates an estimated value.
- U Target analyte was analyzed for but not detected above the MDL or LOD.
- UI Uncertain identification for gamma spectroscopy.
- X Lab-specific qualifier, see case narrative, data summary package or contact your project manager for details.
- h Sample preparation or preservation holding time exceeded.

The above sample is reported on an "as received" basis.

This data report has been prepared and reviewed in accordance with General Engineering Laboratories, LLC standard operating procedures. Please direct any questions to your Project Manager, Cheryl Jones.

Reviewed by

TCLP LOGBOOK

Report run on: April 26, 2005 10:40 AM

Batch Id: 419809

Reagent / Spike ID	Amount	Units	Description
1005618	2000	mL	SPLP EASTERN EXTRACTION FLUID

Employee ID: Monifa Morant

Sop ID: GL-LB-E-024

Extraction Start Date: 25-APR-05 16:30:51 @ C

Extraction Stop Date: 26-APR-05 08:30:59 @ C

Filtration Complete Date: 26-APR-05 10:15:59 @ C

Sample Id	Matrix	Inst. ID	Inst. Speed	Sample Properties	Aliquot	Weight of Container	Weight of Filtrate	Initial Ph	pH Temp C	2nd pH	20 X % wet solid X wt.sample	Volume of Filtrate	pH of Filtrate	Positive Pressure (Y/N)	Extraction Vessel number
1200832382 TB	m	TCLP01	28	Water	0g	N/A	N/A	N/A	N/A	N/A	N/A	2000	6	N/A	N/A
134923001	m	TCLP01	28	Solid without Partical Size Reduction	100g	N/A	N/A	N/A	N/A	N/A	N/A	2000	6	N/A	N/A
134924003	m	TCLP01	28	Solid without Partical Size Reduction	100g	N/A	N/A	N/A	N/A	N/A	N/A	2000	6	N/A	N/A
134924004	m	TCLP01	28	Solid without Partical Size Reduction	100g	N/A	N/A	N/A	N/A	N/A	N/A	2000	6	N/A	N/A
134924005	m	TCLP01	28	Solid without Partical Size Reduction	100g	N/A	N/A	N/A	N/A	N/A	N/A	2000	6	N/A	N/A
134924006	m	TCLP01	28	Solid without Partical Size Reduction	55.7g	N/A	N/A	N/A	N/A	N/A	N/A	1000	6	N/A	N/A
134924007	m	TCLP01	28	Solid without Partical Size Reduction	55.5g	N/A	N/A	N/A	N/A	N/A	N/A	1000	6	N/A	N/A
134924008	m	TCLP01	28	Solid without Partical Size Reduction	55.2g	N/A	N/A	N/A	N/A	N/A	N/A	1000	6	N/A	N/A
134924009	m	TCLP01	28	Solid without Partical Size Reduction	100g	N/A	N/A	N/A	N/A	N/A	N/A	2000	6	N/A	N/A
134924010	m	TCLP01	28	Solid without Partical Size Reduction	100g	N/A	N/A	N/A	N/A	N/A	N/A	2000	6	N/A	N/A
134924011	m	TCLP01	28	Solid without Partical Size Reduction	100g	N/A	N/A	N/A	N/A	N/A	N/A	2000	6	N/A	N/A

13

Bottle Lot Number: C210901L

Filter Lot Number 441131

Note: The aliquot for metals matrix QC is taken from the parent sample filtrate.

QUALITY CONTROL DATA

GENERAL ENGINEERING LABORATORIES, LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

QC Summary

Report Date: April 28, 2005

Client : CYAPCo
Haddam Neck Plant
362 Injun Hollow Road
East Hampton, Connecticut

Contact: Dave Keefer

Workorder: 134923

Parmname		NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Gas Flow											
Batch	419308										
QC1200831172	134924002 DUP										
Strontium-90			19.3		21.6	pCi/L	12		(0% - 20%)	LCW1	04/27/05 19:57
		Uncert:	+/-1.64		+/-1.79						
		TPU:	+/-1.70		+/-1.85						
QC1200831174	LCS										
Strontium-90		60.0			73.4	pCi/L		122	(75%-125%)		04/27/05 19:57
		Uncert:			+/-4.77						
		TPU:			+/-5.05						
QC1200831171	MB										
Strontium-90				U	0.435	pCi/L					04/27/05 19:57
		Uncert:			+/-0.712						
		TPU:			+/-0.712						
QC1200831173	134924002 MS										
Strontium-90		120	19.3		139	pCi/L		100	(75%-125%)		04/27/05 19:57
		Uncert:	+/-1.64		+/-7.82						
		TPU:	+/-1.70		+/-8.51						

Notes:
The Qualifiers in this report are defined as follows:

- * Indicates that a quality control analyte recovery is outside of specified acceptance criteria.
- ** Indicates the analyte is a surrogate compound.
- B Target analyte was detected in the sample as well as the associated blank.
- BD Results below the MDC or low tracer recovery.
- E Concentration of the target analyte exceeds the instrument calibration range.
- H Analytical holding time exceeded.
- J Indicates an estimated value.
- U Target analyte was analyzed for but not detected above the MDL or LOD.
- UI Uncertain identification for gamma spectroscopy.
- X Lab-specific qualifier, see case narrative, data summary package or contact your project manager for details.
- h Sample preparation or preservation holding time exceeded.

QC Summary

Workorder: 134923

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more.
** Indicates analyte is a surrogate compound.
^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptence criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.
For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

Attachment #3. Laboratory Data Report

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CASE NARRATIVE

CASE NARRATIVE
For
CONNECTICUT YANKEE
PO# 002337
Work Order: 134924

April 26, 2005

Laboratory Identification:
General Engineering Laboratories, LLC

Mailing Address:
P.O. Box 30712
Charleston, South Carolina 29417

Express Mail Delivery and Shipping Address:
2040 Savage Road
Charleston, South Carolina 29407

Telephone Number:
(843) 556-8171

Summary:

Sample receipt
The samples arrived at General Engineering Laboratories, LLC, (GEL) in Charleston, South Carolina April 22, 2005. All sample containers arrived without any visible signs of tampering or breakage. The chain of custody contained the proper documentation and signatures.

The laboratory prepared the following samples:

Sample ID	Client Sample ID
134924001	Seep #1
134924002	Seep #2
134924003	Seep #1 schist/granulite
134924004	Seep #1 schist/granulite
134924005	Seep #1 schist/granulite
134924006	Seep #1 red clay
134924007	Seep #1 red clay
134924008	Seep #1 red clay
134924009	Seep #1 mixed clay/schist
134924010	Seep #1 mixed clay/schist
134924011	Seep #1 mixed clay/schist
134924012	Seep #1 schist/granulite
134924013	Seep #1 schist/granulite
134924014	Seep #1 schist/granulite

134924015	Seep #1 red clay
134924016	Seep #1 red clay
134924017	Seep #1 red clay
134924018	Seep #1 mixed clay/schist
134924019	Seep #1 mixed clay/schist
134924020	Seep #1 mixed clay/schist

Items of Note:
At the request of David Keefer via email dated April 21,2005, the sediment samples received under MSR#05-1216 were logged in triplicate and analyzed per the requests on the chain of custody. Also sample Seep #1 red clay was noted as less than the required 300 grams and therefore was analyzed in three equal aliquot sizes for the requested tests.

Case Narrative:
Sample analyses were conducted using methodology as outlined in General Engineering Laboratories (GEL) Standard Operating Procedures. Any technical or administrative problems during analysis, data review, and reduction are listed below by analytical parameter.

Analytical Request:
Two groundwater samples were analyzed for Gamma, Sr-90, Boron, and Tritium. Three sediment samples were leached per SPLP methodology and the leachate subsequently was analyzed for Sr-90 in triplicate.

Internal Chain of Custody:

Custody was maintained for all of these samples.

Data Package:

The enclosed data package contains the following sections: Case Narrative, Chain of Custody, Cooler Receipt Checklist, Inorganics and Radiochemistry.

I certify that this data package is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or a designee, as verified by the following signature.

Cheryl Jones
Project Manager

CHAIN OF CUSTODY

Chain of Custody Form

Connecticut Yankee Atomic Power Company
362 Injun Hollow Road, East Hampton, CT 06424
860-267-2556

No. 2005-00151

134924'1.

Project Name: Haddam Neck Decommissioning

Contact Name & Phone:
David Keefer 860-267-2556 (x3085)

Analytical Lab (Name, City, State):
General Engineering Lab (GEL), 2040 Savage Rd, Charleston, SC 29407
843.556.8171 (Cheryl Jones)

Priority: ☐ 45 D. ☐ 30 D. ☐ 14 D. ☒ 7 D.
Other:

Lab Use Only

Sample Designation	Date	Time	Media Code	Sample Type Code	Container Size-&Type Code	MDX	STND	γ-Isotopic, Sr-90, Boron	H-3	SPLP for Sr-90		Comment, Preservation	Lab Sample ID
Seep #1	04/20/05	14:32	WG	G	4L,1L			X	X			4L w/HNO_3, 1L	
Seep #2	04/20/05	14:08	WG	G	4L,1L			X	X			4L w/HNO_3, 1L	
Seep #1 schist/granulite	04/20/05	14:00	SE	G	250-ml					X		none (~318 grams)	
Seep #1 red clay	04/20/05	14:00	SE	G	250-ml					X		none (~184 grams)	
Seep #1 mixed clay/schist	04/20/05	14:00	SE	G	250-ml					X		none (~426 grams)	

NOTES: PO #: 002337 MSR #: 05-1216 ☐ LTP QA ☐ Radwaste QA ☒ Non QA
Requested water analyses to typical groundwater MDC's. Requested TATs are 7-days. SPLP samples should be processed in triplicate (3 replicate analyses).

Samples Shipped Via:
☒ Fed Ex
☐ UPS
☐ Hand
☐ Other ____
Bill of Lading #

Internal Container Temp.: ____ Deg. C

Custody Sealed? Y ☐ N ☐
Custody Seal Intact? Y ☐ N ☐

1) Relinquished By:	Date/Time	2) Received By L. Dallen	Date/Time 4/22/05 900
3) Relinquished By	Date/Time	4) Received By	Date/Time
5) Relinquished By	Date/Time	6) Received By	Date/Time

COOLER RECEIPT CHECKLIST

Figure 1. Sample Check-in List

Date/Time Received: April 22, 2005 9:00 AM

SDG#: MSR# 05-1216

Work Order Number: 134924

Shipping Container ID: fed EX 7909 9659 2582 Chain of Custody # 2005-00151

1. Custody Seals on shipping container intact? Yes [X] No [ ]
2. Custody Seals dated and signed? Yes [X] No [ ]
3. Chain-of-Custody record present? Yes [X] No [ ]
4. Cooler temperature 20°C
5. Vermiculite/packing materials is: Wet [ ] Dry [X]
6. Number of samples in shipping container: 7
7. Sample holding times exceeded? Yes [ ] No [X]

8. Samples have:

____tape ____hazard labels

____custody seals X appropriate sample labels

9. Samples are:

X in good condition ____leaking

____broken ____have air bubbles

10. Were any anomalies identified in sample receipt? Yes [ ] No [X]
11. Description of anomalies (include sample numbers): _____

Sample Custodian/Laboratory: L Lacoi Date: 4/22/05 9:00AM

Telephoned to:_____ On_____ By_____

SAMPLE RECEIPT & REVIEW FORM

GENERAL ENGINEERING LABORATORIES, LLC

PM use only

Client: Connecticut Yankee	SDG/ARCOC/Work Order: 134924
Date Received: 4/22/2005	PM(A) Review (ensure non-conforming items are resolved prior to signing):
Received By: L. Sallire	

	Sample Receipt Criteria	Conforming	NA	Non-Conforming	Comments/Qualifiers (Required for Non-Conforming Items)
1	Shipping containers received intact and sealed?	✓			Circle Applicable: seals broken damaged container leaking container other (describe)
2	Samples requiring cold preservation within (4 +/- 2 C)? Record preservation method.		✓	✓	Circle Coolant # ice bags blue ice dry ice none other(describe) cdy 20°C
3	Chain of custody documents included with shipment?	✓			
4	Sample containers intact and sealed?	✓			Circle Applicable: seals broken damaged container leaking container other (describe)
5	Samples requiring chemical preservation at proper pH?	✓			Sample ID's, containers affected and observed pH:
6	VOA vials free of headspace (defined as < 6mm bubble)?		✓		Sample ID's and containers affected:
7	Samples received within holding time?	✓			Id's and tests affected:
8	Sample ID's on COC match ID's on bottles?	✓			Sample ID's and containers affected:
9	Date & time on COC match date & time on bottles?	✓			Sample ID's affected:
10	Number of containers received match number indicated on COC?	✓			Sample ID's affected:
11	COC form is properly signed in relinquished/received sections?			✓	COC not signed
12	Air Bill ,Tracking #'s, & Additional Comments	fed Ex 7904 9659 2580			

Radiological Information	Non-RAD	RAD	RADII	RSO RAD Receipt #
What is the radiological classification of the samples?		X		Comments
Radioactivity Screening Results (maximum observed CPM)	100 cpm			*If > x2 area background is observed on a non-radioactive sample, contact the RSO to investigate.

PM (or PMA) review of Receiving Rad classification: cdy Initials 4/21/05 Date:

INORGANIC ANALYSIS

Metals Fractional Narrative
(YANK)
Work Order 134924

Method/Analysis Information

Analytical Batch:	419461
Prep Batch:	419460
SPLP Prep Batch:	419809
Standard Operating Procedures:	GL-MA-E-014 REV# 9, GL-LB-E-024 REV# 3, GL-MA-E-006 REV# 9
Analytical Method:	SW846 6020
Prep Method:	SW846 3005A
SPLP Prep Method:	EPA 1312

Sample Analysis

Sample ID	Client ID
134924001	Seep #1
134924002	Seep #2
1200831568	Method Blank (MB) ICP-MS
1200831569	Laboratory Control Sample (LCS)
1200831572	134924001(Seep #1L) Serial Dilution (SD)
1200831570	134924001(Seep #1D) Sample Duplicate (DUP)
1200831571	134924001(Seep #1S) Matrix Spike (MS)

Preparation/Analytical Method Verification

The SOP stated above has been prepared based on technical research and testing conducted by General Engineering Laboratories, LLC. and with guidance from the regulatory documents listed in this "Method/Analysis Information" section.

System Configuration

The ICP-MS analysis was performed on a Perkin Elmer Elan 6100E inductively coupled plasma mass spectrometer (ICP-MS). The instrument is equipped with a cross-flow nebulizer, quadrupole mass spectrometer, and dual mode electron multiplier detector.

Internal standards of scandium, germanium, indium, and tantalum were utilized to cover the mass spectrum. Operating conditions are set at 1400W power and combined argon pressures of 3607 kPa for the plasma and auxiliary gases, and 0.85 L/min carrier gas flow, and an initial lens voltage of 5.2.

Calibration Information

Instrument Calibration
All initial calibration requirements have been met for this sample delivery group (SDG).

CRDL Requirements
All CRDL standard(s) met the referenced advisory control limits.

ICSA/ICSAB statement
All interference check samples (ICSA and ICSAB) associated with this SDG met the established acceptance criteria.

Continuing Calibration Blank (CCB) Requirements
All continuing calibration blanks (CCB) bracketing this batch met the established acceptance criteria.

Continuing Calibration Verification (CCV) Requirements
All continuing calibration verifications (CCV) bracketing this SDG met the acceptance criteria.

Quality Control (QC) Information

Method Blank (MB) Statement
The MB analyzed with this SDG met the acceptance criteria.

Laboratory Control Sample (LCS) Recovery
The LCS spike recoveries met the acceptance limits.

Quality Control (QC) Sample Statement
The following sample was selected as the quality control (QC) sample for this batch: 134924001 (Seep #1).

Matrix Spike (MS) Recovery Statement
The percent recoveries (%R) obtained from the MS analyses are evaluated when the sample concentration is less than four times (4X) the spike concentration added. All applicable elements met the acceptance criteria.

Duplicate Relative Percent Difference (RPD) Statement
The RPD obtained from the designated sample duplicate (DUP) is evaluated based on acceptance criteria of 20% when the sample is >5X the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control

of RL is used to evaluate the DUP results. All applicable analytes met these requirements.

Serial Dilution % Difference Statement
The serial dilution is used to assess matrix suppression or enhancement. Raw element concentrations 25x the IDL for CVAA, 50X the IDL for ICP and 100X the IDL for ICP-MS analyses are applicable for serial dilution assessment. Boron did not meet the established criteria of less than 10% difference (%D).

Technical Information

Holding Time Specifications
GEL assigns holding times based on the associated methodology, which assigns the date and time from sample collection of sample receipt. Those holding times expressed in hours are calculated in the AlphaLIMS system. Those holding times expressed as days expire at midnight on the day of expiration. All samples in this SDG met the specified holding time.

Preparation/Analytical Method Verification
All procedures were performed as stated in the SOP.

Sample Dilutions
Dilutions are performed to minimize matrix interferences resulting from elevated mineral element concentrations present in soil samples and/or to bring over range target analyte concentrations into the linear calibration range of the instrument. The samples in this SDG did not require dilutions.

Preparation Information
The samples in this SDG were prepared exactly according to the cited SOP.

Miscellaneous Information

Nonconformance Documentation
Nonconformance reports (NCRs) are generated to document procedural anomalies that may deviate from referenced SOP or contractual documents. A NCR was not required for this SDG.

Additional Comments
Additional comments were not required for this SDG.

Certification Statement

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

Review Validation

GEL requires all analytical data to be verified by a qualified data validator. In addition, all data designated for CLP or CLP-like packaging will receive a third level validation upon completion of the data package.

The following data validator verified the information presented in this case narrative

Reviewer: _____ **Date:** 4/28/05

GENERAL ENGINEERING LABORATORIES, LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : CYAPCo
Address : Haddam Neck Plant
362 Injun Hollow Road
East Hampton, Connecticut 06424
Contact: Dave Keefer
Project: SPLP PO# 002337

Report Date: April 28, 2005

Client Sample ID: Seep #1
Sample ID: 134924001
Matrix: WG
Collect Date: 20-APR-05 14:32
Receive Date: 22-APR-05
Collector: Client

Project: YANK01904
Client ID: YANK001

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Metals Analysis-ICP-MS											
3005/6020 Boron-ALL,STND,MIX											
Boron		474	4.00	16.0	ug/L	1	PRB	04/27/05	1251	419461	1

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005 PREP	CQH1	04/23/05	1604	419460

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 3005/6020	

Notes:
The Qualifiers in this report are defined as follows :

* Indicates that a quality control analyte recovery is outside of specified acceptance criteria.
** Indicates the analyte is a surrogate compound.
B Target analyte was detected in the sample as well as the associated blank.
BD Results below the MDC or low tracer recovery.
E Concentration of the target analyte exceeds the instrument calibration range.
H Analytical holding time exceeded.
J Indicates an estimated value.
U Target analyte was analyzed for but not detected above the MDL or LOD.
UI Uncertain identification for gamma spectroscopy.
X Lab-specific qualifier, see case narrative, data summary package or contact your project manager for details.
h Sample preparation or preservation holding time exceeded.

The above sample is reported on an "as received" basis.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the Certificate of Analysis.

This data report has been prepared and reviewed in accordance with General Engineering Laboratories, LLC standard operating procedures. Please direct any questions to your Project Manager, Cheryl Jones.

Reviewed by

GENERAL ENGINEERING LABORATORIES, LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : CYAPCo
Address : Haddam Neck Plant
362 Injun Hollow Road
East Hampton, Connecticut 06424
Contact: Dave Keefer
Project: **SPLP PO# 002337**

Report Date: April 28, 2005

Client Sample ID: Seep #2
Sample ID: 134924002
Matrix: WG
Collect Date: 20-APR-05 14:08
Receive Date: 22-APR-05
Collector: Client

Project: YANK01904
Client ID: YANK001

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Metals Analysis-ICP-MS											
3005/6020 Boron-ALL,STND,MIX											
Boron		484	4.00	16.0	ug/L	1	PRB	04/27/05	1302	419461	1

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005 PREP	CQH1	04/23/05	1604	419460

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 3005/6020	

Notes:
The Qualifiers in this report are defined as follows :

* Indicates that a quality control analyte recovery is outside of specified acceptance criteria.
** Indicates the analyte is a surrogate compound.
B Target analyte was detected in the sample as well as the associated blank.
BD Results below the MDC or low tracer recovery.
E Concentration of the target analyte exceeds the instrument calibration range.
H Analytical holding time exceeded.
J Indicates an estimated value.
U Target analyte was analyzed for but not detected above the MDL or LOD.
UI Uncertain identification for gamma spectroscopy.
X Lab-specific qualifier, see case narrative, data summary package or contact your project manager for details.
h Sample preparation or preservation holding time exceeded.

The above sample is reported on an "as received" basis.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the Certificate of Analysis.

This data report has been prepared and reviewed in accordance with General Engineering Laboratories, LLC standard operating procedures. Please direct any questions to your Project Manager, Cheryl Jones.

Reviewed by

GENERAL ENGINEERING LABORATORIES, LLC

2040 Savage Road Charleston, SC 29407 - (843) 556-8171 - www.gel.com

QC Summary

Report Date: April 28, 2005
Page 1 of 1

CYAPCo
Haddam Neck Plant
362 Injun Hollow Road
East Hampton, Connecticut

Contact: Dave Keefer

Workorder: 134924

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Metals Analysis - ICPMS											
Batch 419461											
QC1200831570 134924001 DUP											
Boron		474		474	ug/L	0		(0%-20%)	PRB	04/27/05	12:54
QC1200831569 LCS											
Boron	100			103	ug/L		103	(80%-120%)		04/27/05	12:48
QC1200831568 MB											
Boron			U	ND	ug/L					04/27/05	12:46
QC1200831571 134924001 MS											
Boron	100	474		596	ug/L		N/A	(75%-125%)		04/27/05	12:56
QC1200831572 134924001 SDILT											
Boron		474		116	ug/L	22.7				04/27/05	12:59

Notes:
The Qualifiers in this report are defined as follows:

- * Indicates that a quality control analyte recovery is outside of specified acceptance criteria.
- ** Indicates the analyte is a surrogate compound.
- B Target analyte was detected in the sample as well as the associated blank.
- BD Results below the MDC or low tracer recovery.
- E Concentration of the target analyte exceeds the instrument calibration range.
- H Analytical holding time exceeded.
- J Indicates an estimated value.
- U Target analyte was analyzed for but not detected above the MDL or LOD.
- UI Uncertain identification for gamma spectroscopy.
- X Lab-specific qualifier, see case narrative, data summary package or contact your project manager for details.
- h Sample preparation or preservation holding time exceeded.

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more.
^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.
For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

RADIOLOGICAL ANALYSIS

Radiochemistry Case Narrative
Connecticut Yankee Atomic Power Co. (YANK)
SDG MSR#05-1216

Method/Analysis Information

Product:	**Gammaspec, Gamma, Liquid-GAM2 WG**
Analytical Method:	EPA 901.1
Analytical Batch Number:	419621

Sample ID	Client ID
134924001	Seep #1
134924002	Seep #2
1200831913	Method Blank (MB)
1200831914	134924001(Seep #1) Sample Duplicate (DUP)
1200831915	134924001(Seep #1) Matrix Spike (MS)
1200831916	Laboratory Control Sample (LCS)

SOP Reference
Procedure for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-013 REV# 10.

Calibration Information:

Calibration Information
All initial and continuing calibration requirements have been met.

Standards Information
Standard solution(s) for these analyses are NIST traceable and used before the expiration date(s).

Sample Geometry
All counting sources were prepared in the same geometry as the calibration standards.

Quality Control (QC) Information:

Blank Information
The blank volume is representative of the sample volume in this batch.

Designated QC
The following sample was used for QC: 134924001 (Seep #1).

QC Information
All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time
All sample procedures for this sample set were performed within the required holding time.

Preparation Information
All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis
Sample 134924001 (Seep #1) was recounted due to analyst error.

Miscellaneous Information:

NCR Documentation
Nonconformance reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. An NCR was not generated for this SDG.

Qualifier information
Manual qualifiers were not required.

Method/Analysis Information

Product:	**GFPC, Sr90, liquid-ALL,MIX**
Analytical Method:	EPA 905.0 Modified
Analytical Batch Number:	419308

Sample ID	Client ID
134924001	Seep #1
134924002	Seep #2
134924012	Seep #1 schist/granulite
134924013	Seep #1 schist/granulite
134924014	Seep #1 schist/granulite
134924015	Seep #1 red clay
134924016	Seep #1 red clay
134924017	Seep #1 red clay
134924018	Seep #1 mixed clay/schist
134924019	Seep #1 mixed clay/schist
134924020	Seep #1 mixed clay/schist
1200831171	Method Blank (MB)
1200831172	134924002(Seep #2) Sample Duplicate (DUP)
1200831173	134924002(Seep #2) Matrix Spike (MS)
1200831174	Laboratory Control Sample (LCS)

SOP Reference
Procedure for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-004 REV# 9.

Calibration Information:

Calibration Information
All initial and continuing calibration requirements have been met.

Standards Information
Standard solution(s) for these analyses are NIST traceable and used before the expiration date(s).

Sample Geometry
All counting sources were prepared in the same geometry as the calibration standards.

Quality Control (QC) Information:

Blank Information
The blank volume is representative of the sample volume in this batch.

Designated QC
The following sample was used for QC: 134924002 (Seep #2).

QC Information
All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time
All sample procedures for this sample set were performed within the required holding time.

Preparation Information
All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis
None of the samples in this sample set required reprep or reanalysis.

Chemical Recoveries
All chemical recoveries meet the required acceptance limits for this sample set.

Miscellaneous Information:

NCR Documentation
Nonconformance reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. An NCR was not generated for this SDG.

Qualifier information
Manual qualifiers were not required.

Method/Analysis Information

Product:	**LSC, Tritium Dist, Liquid-ALL,STND,MIX,PENN WG**
Analytical Method:	EPA 906.0 Modified
Analytical Batch Number:	419320

Sample ID	Client ID
134924001	Seep #1
134924002	Seep #2
1200831279	Method Blank (MB)
1200831280	134924001(Seep #1) Sample Duplicate (DUP)
1200831281	134924001(Seep #1) Matrix Spike (MS)
1200831282	Laboratory Control Sample (LCS)

SOP Reference
Procedure for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-002 REV# 10.

Calibration Information:

Calibration Information
All initial and continuing calibration requirements have been met.

Standards Information
Standard solution(s) for these analyses are NIST traceable and used before the expiration date(s).

Sample Geometry
All counting sources were prepared in the same geometry as the calibration standards.

Quality Control (QC) Information:

Blank Information
The blank volume is representative of the sample volume in this batch.

Designated QC
The following sample was used for QC: 134924001 (Seep #1).

QC Information
All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time
All sample procedures for this sample set were performed within the required holding time.

Preparation Information
All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis
None of the samples in this sample set required reprep or reanalysis.

Miscellaneous Information:

NCR Documentation
Nonconformance reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. An NCR was not generated for this SDG.

Qualifier information
Manual qualifiers were not required.

Certification Statement
Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

Review Validation:
GEL requires all analytical data to be verified by a qualified data validator. In addition, all data designated for CLP or CLP-like packaging will receive a third level validation upon completion of the data package.
The following data validator verified the information presented in this case narrative:

Reviewer: Heather G Clicon 4/28/05

SAMPLE DATA SUMMARY

TCLP LOGBOOK

Report run on: April 26, 2005 10:40 AM

Batch Id: 419809

Reagent / Spike ID	Amount	Units	Description
1005618	2000	mL	SPLP EASTERN EXTRACTION FLUID

Employee ID: Monifa Morant

Sop ID: GL-LB-E-024

Extraction Start Date: 25-APR-05 16:30:51 @ C

Extraction Stop Date: 26-APR-05 08:30:59 @ C

Filtration Complete Date: 26-APR-05 10:15:59 @ C

Sample Id	Matrix	Inst. ID	Inst. Speed	Sample Properties	Aliquot	Weight of Container	Weight of Filtrate	Initial Ph	pH Temp C	2nd pH	20 X % wet solid X wt.sample	Volume of Filtrate	pH of Filtrate	Positive Pressure (Y/N)	Extraction Vessel number
1200832382 TB	m	TCLP01	28	Water	0g	N/A	N/A	N/A	N/A	N/A	N/A	2000	6	N/A	N/A
134923001	m	TCLP01	28	Solid without Partical Size Reduction	100g	N/A	N/A	N/A	N/A	N/A	N/A	2000	6	N/A	N/A
134924003	m	TCLP01	28	Solid without Partical Size Reduction	100g	N/A	N/A	N/A	N/A	N/A	N/A	2000	6	N/A	N/A
134924004	m	TCLP01	28	Solid without Partical Size Reduction	100g	N/A	N/A	N/A	N/A	N/A	N/A	2000	6	N/A	N/A
134924005	m	TCLP01	28	Solid without Partical Size Reduction	100g	N/A	N/A	N/A	N/A	N/A	N/A	2000	6	N/A	N/A
134924006	m	TCLP01	28	Solid without Partical Size Reduction	55.7g	N/A	N/A	N/A	N/A	N/A	N/A	1000	6	N/A	N/A
134924007	m	TCLP01	28	Solid without Partical Size Reduction	55.5g	N/A	N/A	N/A	N/A	N/A	N/A	1000	6	N/A	N/A
134924008	m	TCLP01	28	Solid without Partical Size Reduction	55.2g	N/A	N/A	N/A	N/A	N/A	N/A	1000	6	N/A	N/A
134924009	m	TCLP01	28	Solid without Partical Size Reduction	100g	N/A	N/A	N/A	N/A	N/A	N/A	2000	6	N/A	N/A
134924010	m	TCLP01	28	Solid without Partical Size Reduction	100g	N/A	N/A	N/A	N/A	N/A	N/A	2000	6	N/A	N/A
134924011	m	TCLP01	28	Solid without Partical Size Reduction	100g	N/A	N/A	N/A	N/A	N/A	N/A	2000	6	N/A	N/A

Bottle Lot Number: C210901L

Filter Lot Number 441131

Note: The aliquot for metals matrix QC is taken from the parent sample filtrate.

GENERAL ENGINEERING LABORATORIES, LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis Report
for

YANK001 Connecticut Yankee Atomic Power Co.

Client SDG: MSR#05-1216 GEL Work Order: 134924

The Qualifiers in this report are defined as follows:

* Indicates that a quality control analyte recovery is outside of specified acceptance criteria.
** Indicates the analyte is a surrogate compound.
< Result is less than amount reported.
> Result is greater than amount reported.
B Target analyte was detected in the sample as well as the associated blank.
BD Results below the MDC or low tracer recovery.
E Concentration of the target analyte exceeds the instrument calibration range.
H Analytical holding time exceeded.
J Indicates an estimated value.
P The response between the confirmation and the primary columns is >40% Different.
R Sample results are rejected.
U Target analyte was analyzed for but not detected above the MDL or LOD.
UI Uncertain identification for gamma spectroscopy.
X Lab-specific qualifier, see case narrative, data summary package or contact your project manager for details.
Y QC Samples were not spiked with this compound.
Z Paint Filter qualifier: Particulates passed through the filter. No free liquids were observed.
h Sample preparation or preservation holding time exceeded.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the Certificate of Analysis.
** Indicates the analyte is a surrogate compound.
This data report has been prepared and reviewed in accordance with General Engineering Laboratories, LLC standard operating procedures. Please direct any questions to your Project Manager, Cheryl Jones.

Reviewed by

GENERAL ENGINEERING LABORATORIES, LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : CYAPCo
Address : Haddam Neck Plant
362 Injun Hollow Road
East Hampton, Connecticut 06424
Contact: Dave Keefer
Project: SPLP PO# 002337

Report Date: April 28, 2005

Client Sample ID:	Seep #1	Project:	YANK01904
Sample ID:	134924001	Client ID:	YANK001
Matrix:	WG	Vol. Recv.:	
Collect Date:	20-APR-05		
Receive Date:	22-APR-05		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	AnalystDate	Time	Batch	M
Rad Gamma Spec Analysis												
Gammaspec, Gamma, Liquid-GAM2 WG												
Actinium-228	U	7.75	+/-13.3	12.0	+/-13.1	26.8	pCi/L		AKB 04/27/05	1010	419621	1
Americium-241	U	4.06	+/-1.99	4.62	+/-1.95	9.77	pCi/L					
Bismuth-212	U	9.34	+/-27.9	24.4	+/-27.3	54.4	pCi/L					
Bismuth-214	U	10.6	+/-11.4	8.57	+/-11.1	18.3	pCi/L					
Cesium-134	U	-1.19	+/-3.76	2.97	+/-3.69	6.78	pCi/L					
Cesium-137	U	3.95	+/-3.12	3.09	+/-3.06	6.89	pCi/L					
Cobalt-60	U	-2.39	+/-4.28	2.60	+/-4.20	6.30	pCi/L					
Europium-152	U	2.29	+/-8.31	7.05	+/-8.14	15.4	pCi/L					
Europium-154	U	4.64	+/-9.41	8.44	+/-9.22	19.9	pCi/L					
Europium-155	U	5.29	+/-8.58	7.17	+/-8.41	15.2	pCi/L					
Lead-212	U	2.78	+/-6.66	4.78	+/-6.52	10.1	pCi/L					
Lead-214		12.1	+/-10.3	5.01	+/-10.0	10.9	pCi/L					
Manganese-54	U	0.0476	+/-3.35	2.79	+/-3.28	6.32	pCi/L					
Niobium-94	U	1.48	+/-2.95	2.66	+/-2.90	5.95	pCi/L					
Potassium-40	U	1.53	+/-36.4	30.7	+/-35.7	72.4	pCi/L					
Silver-108m	U	0.0696	+/-3.05	2.47	+/-2.98	5.45	pCi/L					
Thallium-208	U	1.23	+/-3.75	3.11	+/-3.67	6.86	pCi/L					
Rad Gas Flow Proportional Counting												
GFPC, Sr90, liquid-ALL,MIX												
Strontium-90		20.0	+/-1.73	0.633	+/-1.79	1.36	pCi/L		LCW1 04/27/05	1751	419308	2
Rad Liquid Scintillation Analysis												
LSC, Tritium Dist, Liquid-ALL,STND,MIX,PENN WG												
Tritium		2750	+/-251	141	+/-256	292	pCi/L		EGD1 04/25/05	2048	419320	3

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005 PREP	CQH1	04/23/05	1604	419460

The following Analytical Methods were performed

Method	Description
1	EPA 901.1
2	EPA 905.0 Modified
3	EPA 906.0 Modified

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Certificate of Analysis

Company : CYAPCo
Address : Haddam Neck Plant
362 Injun Hollow Road
East Hampton, Connecticut 06424
Contact: Dave Keefer
Project: SPLP PO# 002337

Report Date: April 28, 2005

Client Sample ID: Seep #1
Sample ID: 134924001

Project: YANK01904
Client ID: YANK001
Vol. Recv.:

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	AnalystDate	Time	Batch M

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Carrier/Tracer Recovery	GFPC, Sr90, liquid-ALL.MIX	83	

Notes:
The Qualifiers in this report are defined as follows :

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- H Analytical holding time exceeded.
- J Indicates an estimated value.
- U Target analyte was analyzed for but not detected above the MDL or LOD.
- UI Uncertain identification for gamma spectroscopy.
- X Lab-specific qualifier, see case narrative, data summary package or contact your project manager for details.
- h Sample preparation or preservation holding time exceeded.

The above sample is reported on an "as received" basis.

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Certificate of Analysis

Company : CYAPCo
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East Hampton, Connecticut 06424
Contact: Dave Keefer
Project: SPLP PO# 002337

Report Date: April 28, 2005

Client Sample ID:	Seep #2	Project:	YANK01904
Sample ID:	134924002	Client ID:	YANK001
Matrix:	WG	Vol. Recv.:	
Collect Date:	20-APR-05		
Receive Date:	22-APR-05		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	AnalystDate	Time	Batch	M
Rad Gamma Spec Analysis												
Gammaspec, Gamma, Liquid-GAM2 WG												
Actinium-228	U	3.04	+/-9.60	8.12	+/-9.40	18.5	pCi/L		AKB 04/25/05	1236	419621	1
Americium-241	U	-5.83	+/-19.9	14.6	+/-19.5	31.6	pCi/L					
Bismuth-212	U	-12.4	+/-22.2	16.3	+/-21.7	37.0	pCi/L					
Bismuth-214	U	5.65	+/-5.41	5.02	+/-5.30	11.0	pCi/L					
Cesium-134	U	1.55	+/-2.52	2.20	+/-2.47	5.07	pCi/L					
Cesium-137	U	0.201	+/-2.49	2.06	+/-2.44	4.70	pCi/L					
Cobalt-60	U	1.85	+/-2.37	2.32	+/-2.33	5.51	pCi/L					
Europium-152	U	0.788	+/-6.94	5.95	+/-6.80	13.1	pCi/L					
Europium-154	U	-4.26	+/-5.72	3.49	+/-5.61	9.33	pCi/L					
Europium-155	U	-1.12	+/-8.13	6.67	+/-7.96	14.4	pCi/L					
Lead-212	U	1.07	+/-7.22	3.11	+/-7.07	6.77	pCi/L					
Lead-214	U	6.97	+/-8.19	5.07	+/-8.03	11.0	pCi/L					
Manganese-54	U	-0.434	+/-2.02	1.54	+/-1.98	3.67	pCi/L					
Niobium-94	U	-0.604	+/-2.86	2.25	+/-2.80	5.01	pCi/L					
Potassium-40	U	17.6	+/-48.1	9.72	+/-47.2	28.1	pCi/L					
Silver-108m	U	1.23	+/-2.32	2.07	+/-2.28	4.59	pCi/L					
Thallium-208	U	-0.31	+/-2.94	2.39	+/-2.88	5.30	pCi/L					
Rad Gas Flow Proportional Counting												
GFPC, Sr90, liquid-ALL,MIX												
Strontium-90		19.3	+/-1.64	0.532	+/-1.70	1.15	pCi/L		LCW1 04/27/05	1751	419308	2
Rad Liquid Scintillation Analysis												
LSC, Tritium Dist, Liquid-ALL,STND,MIX,PENN WG												
Tritium		2600	+/-247	141	+/-251	292	pCi/L		EGD1 04/25/05	2151	419320	3

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005 PREP	CQH1	04/23/05	1604	419460

The following Analytical Methods were performed

Method	Description
1	EPA 901.1
2	EPA 905.0 Modified
3	EPA 906.0 Modified

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East Hampton, Connecticut 06424
Contact: Dave Keefer
Project: SPLP PO# 002337

Report Date: April 28, 2005

Client Sample ID: Seep #2
Sample ID: 134924002

Project: YANK01904
Client ID: YANK001
Vol. Recv.:

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	AnalystDate	Time	Batch M

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Carrier/Tracer Recovery	GFPC, Sr90, liquid-ALL.MIX	83	

Notes:
The Qualifiers in this report are defined as follows :

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- ** Indicates the analyte is a surrogate compound.
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- BD Results below the MDC or low tracer recovery.
- E Concentration of the target analyte exceeds the instrument calibration range.
- H Analytical holding time exceeded.
- J Indicates an estimated value.
- U Target analyte was analyzed for but not detected above the MDL or LOD.
- UI Uncertain identification for gamma spectroscopy.
- X Lab-specific qualifier, see case narrative, data summary package or contact your project manager for details.
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Certificate of Analysis

Company : CYAPCo
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362 Injun Hollow Road
East Hampton, Connecticut 06424
Contact: Dave Keefer
Project: SPLP PO# 002337

Report Date: April 28, 2005

Client Sample ID:	Seep #1 schist/granulite	Project:	YANK01904
Sample ID:	134924012	Client ID:	YANK001
Matrix:	SE	Vol. Recv.:	
Collect Date:	20-APR-05		
Receive Date:	22-APR-05		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	AnalystDate	Time	Batch	M
Rad Gas Flow Proportional Counting												
GFPC, Sr90, liquid-ALL.MIX												
Strontium-90	U	0.596	+/-0.633	0.601	+/-0.633	1.30	pCi/L		LCW1 04/27/05	1752	419308	1

The following Analytical Methods were performed

Method	Description
1	EPA 905.0 Modified

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Carrier/Tracer Recovery	GFPC, Sr90, liquid-ALL.MIX	78	

Notes:
The Qualifiers in this report are defined as follows :

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- ** Indicates the analyte is a surrogate compound.
- B Target analyte was detected in the sample as well as the associated blank.
- BD Results below the MDC or low tracer recovery.
- E Concentration of the target analyte exceeds the instrument calibration range.
- H Analytical holding time exceeded.
- J Indicates an estimated value.
- U Target analyte was analyzed for but not detected above the MDL or LOD.
- UI Uncertain identification for gamma spectroscopy.
- X Lab-specific qualifier, see case narrative, data summary package or contact your project manager for details.
- h Sample preparation or preservation holding time exceeded.

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East Hampton, Connecticut 06424
Contact: Dave Keefer
Project: SPLP PO# 002337

Report Date: April 28, 2005

Client Sample ID:	Seep #1 schist/granulite	Project:	YANK01904
Sample ID:	134924013	Client ID:	YANK001
Matrix:	SE	Vol. Recv.:	
Collect Date:	20-APR-05		
Receive Date:	22-APR-05		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	AnalystDate	Time	Batch M
Rad Gas Flow Proportional Counting											
GFPC, Sr90, liquid-ALL,MIX											
Strontium-90	U	0.298	+/-0.654	0.665	+/-0.654	1.42	pCi/L		LCW1 04/27/05	1752	419308 1

The following Analytical Methods were performed

Method	Description
1	EPA 905.0 Modified

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Carrier/Tracer Recovery	GFPC, Sr90, liquid-ALL,MIX	82	

Notes:
The Qualifiers in this report are defined as follows :

- * Indicates that a quality control analyte recovery is outside of specified acceptance criteria.
- ** Indicates the analyte is a surrogate compound.
- B Target analyte was detected in the sample as well as the associated blank.
- BD Results below the MDC or low tracer recovery.
- E Concentration of the target analyte exceeds the instrument calibration range.
- H Analytical holding time exceeded.
- J Indicates an estimated value.
- U Target analyte was analyzed for but not detected above the MDL or LOD.
- UI Uncertain identification for gamma spectroscopy.
- X Lab-specific qualifier, see case narrative, data summary package or contact your project manager for details.
- h Sample preparation or preservation holding time exceeded.

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362 Injun Hollow Road
East Hampton, Connecticut 06424
Contact: Dave Keefer
Project: SPLP PO# 002337

Report Date: April 28, 2005

Client Sample ID:	Seep #1 schist/granulite	Project:	YANK01904
Sample ID:	134924014	Client ID:	YANK001
Matrix:	SE	Vol. Recv.:	
Collect Date:	20-APR-05		
Receive Date:	22-APR-05		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	AnalystDate	Time	Batch	M
Rad Gas Flow Proportional Counting												
GFPC, Sr90, liquid-ALL.MIX												
Strontium-90	U	0.447	+/-0.622	0.602	+/-0.622	1.31	pCi/L		LCW1 04/27/05	1754	419308	1

The following Analytical Methods were performed

Method	Description
1	EPA 905.0 Modified

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Carrier/Tracer Recovery	GFPC, Sr90, liquid-ALL.MIX	69	

Notes:
The Qualifiers in this report are defined as follows :

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- ** Indicates the analyte is a surrogate compound.
- B Target analyte was detected in the sample as well as the associated blank.
- BD Results below the MDC or low tracer recovery.
- E Concentration of the target analyte exceeds the instrument calibration range.
- H Analytical holding time exceeded.
- J Indicates an estimated value.
- U Target analyte was analyzed for but not detected above the MDL or LOD.
- UI Uncertain identification for gamma spectroscopy.
- X Lab-specific qualifier, see case narrative, data summary package or contact your project manager for details.
- h Sample preparation or preservation holding time exceeded.

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Certificate of Analysis

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East Hampton, Connecticut 06424
Contact: Dave Keefer
Project: SPLP PO# 002337

Report Date: April 28, 2005

Client Sample ID:	Seep #1 red clay	Project:	YANK01904
Sample ID:	134924015	Client ID:	YANK001
Matrix:	SE	Vol. Recv.:	
Collect Date:	20-APR-05		
Receive Date:	22-APR-05		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	AnalystDate	Time	Batch	M
Rad Gas Flow Proportional Counting												
GFPC, Sr90, liquid-ALL,MIX												
Strontium-90	U	0.805	+/-0.622	0.559	+/-0.623	1.22	pCi/L		LCW1 04/27/05	1754	419308	1

The following Analytical Methods were performed

Method	Description
1	EPA 905.0 Modified

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Carrier/Tracer Recovery	GFPC, Sr90, liquid-ALL,MIX	78	

Notes:
The Qualifiers in this report are defined as follows :

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- ** Indicates the analyte is a surrogate compound.
- B Target analyte was detected in the sample as well as the associated blank.
- BD Results below the MDC or low tracer recovery.
- E Concentration of the target analyte exceeds the instrument calibration range.
- H Analytical holding time exceeded.
- J Indicates an estimated value.
- U Target analyte was analyzed for but not detected above the MDL or LOD.
- UI Uncertain identification for gamma spectroscopy.
- X Lab-specific qualifier, see case narrative, data summary package or contact your project manager for details.
- h Sample preparation or preservation holding time exceeded.

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Certificate of Analysis

Company : CYAPCo
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362 Injun Hollow Road
East Hampton, Connecticut 06424
Contact: Dave Keefer
Project: SPLP PO# 002337

Report Date: April 28, 2005

Client Sample ID:	Seep #1 red clay	Project:	YANK01904
Sample ID:	134924016	Client ID:	YANK001
Matrix:	SE	Vol. Recv.:	
Collect Date:	20-APR-05		
Receive Date:	22-APR-05		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	AnalystDate	Time	Batch	M
Rad Gas Flow Proportional Counting												
GFPC, Sr90, liquid-ALL,MIX												
Strontium-90	U	0.992	+/-0.623	0.547	+/-0.623	1.18	pCi/L		LCW1 04/27/05	1754	419308	1

The following Analytical Methods were performed

Method	Description
1	EPA 905.0 Modified

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Carrier/Tracer Recovery	GFPC, Sr90, liquid-ALL,MIX	88	

Notes:
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- E Concentration of the target analyte exceeds the instrument calibration range.
- H Analytical holding time exceeded.
- J Indicates an estimated value.
- U Target analyte was analyzed for but not detected above the MDL or LOD.
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- X Lab-specific qualifier, see case narrative, data summary package or contact your project manager for details.
- h Sample preparation or preservation holding time exceeded.

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Certificate of Analysis

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362 Injun Hollow Road
East Hampton, Connecticut 06424
Contact: Dave Keefer
Project: SPLP PO# 002337

Report Date: April 28, 2005

Client Sample ID:	Seep #1 red clay	Project:	YANK01904
Sample ID:	134924017	Client ID:	YANK001
Matrix:	SE	Vol. Recv.:	
Collect Date:	20-APR-05		
Receive Date:	22-APR-05		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	AnalystDate	Time	Batch	M
Rad Gas Flow Proportional Counting												
GFPC, Sr90, liquid-ALL.MIX												
Strontium-90	U	0.977	+/-0.644	0.574	+/-0.644	1.24	pCi/L		LCW1 04/27/05	1754	419308	1

The following Analytical Methods were performed

Method	Description
1	EPA 905.0 Modified

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Carrier/Tracer Recovery	GFPC, Sr90, liquid-ALL.MIX	87	

Notes:
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- E Concentration of the target analyte exceeds the instrument calibration range.
- H Analytical holding time exceeded.
- J Indicates an estimated value.
- U Target analyte was analyzed for but not detected above the MDL or LOD.
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- X Lab-specific qualifier, see case narrative, data summary package or contact your project manager for details.
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Certificate of Analysis

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362 Injun Hollow Road
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Contact: Dave Keefer
Project: SPLP PO# 002337

Report Date: April 28, 2005

Client Sample ID:	Seep #1 mixed clay/schist	Project:	YANK01904
Sample ID:	134924018	Client ID:	YANK001
Matrix:	SE	Vol. Recv.:	
Collect Date:	20-APR-05		
Receive Date:	22-APR-05		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	AnalystDate	Time	Batch M
Rad Gas Flow Proportional Counting											
GFPC, Sr90, liquid-ALL.MIX											
Strontium-90	U	0.274	+/-0.526	0.526	+/-0.526	1.14	pCi/L		LCW1 04/27/05	1800	419308 1

The following Analytical Methods were performed

Method	Description
1	EPA 905.0 Modified

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Carrier/Tracer Recovery	GFPC, Sr90, liquid-ALL.MIX	88	

Notes:
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- E Concentration of the target analyte exceeds the instrument calibration range.
- H Analytical holding time exceeded.
- J Indicates an estimated value.
- U Target analyte was analyzed for but not detected above the MDL or LOD.
- UI Uncertain identification for gamma spectroscopy.
- X Lab-specific qualifier, see case narrative, data summary package or contact your project manager for details.
- h Sample preparation or preservation holding time exceeded.

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Certificate of Analysis

Company : CYAPCo
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362 Injun Hollow Road
East Hampton, Connecticut 06424
Contact: Dave Keefer
Project: SPLP PO# 002337

Report Date: April 28, 2005

Client Sample ID:	Seep #1 mixed clay/schist	Project:	YANK01904
Sample ID:	134924019	Client ID:	YANK001
Matrix:	SE	Vol. Recv.:	
Collect Date:	20-APR-05		
Receive Date:	22-APR-05		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	AnalystDate	Time	Batch	M
Rad Gas Flow Proportional Counting												
GFPC, Sr90, liquid-ALL.MIX												
Strontium-90	U	0.897	+/-0.679	0.617	+/-0.680	1.33	pCi/L		LCW1 04/27/05	1800	419308	1

The following Analytical Methods were performed

Method	Description
1	EPA 905.0 Modified

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Carrier/Tracer Recovery	GFPC, Sr90, liquid-ALL.MIX	80	

Notes:
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- E Concentration of the target analyte exceeds the instrument calibration range.
- H Analytical holding time exceeded.
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- h Sample preparation or preservation holding time exceeded.

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Certificate of Analysis

Company : CYAPCo
Address : Haddam Neck Plant
362 Injun Hollow Road
East Hampton, Connecticut 06424
Contact: Dave Keefer
Project: SPLP PO# 002337

Report Date: April 28, 2005

Client Sample ID:	Seep #1 mixed clay/schist	Project:	YANK01904
Sample ID:	134924020	Client ID:	YANK001
Matrix:	SE	Vol. Recv.:	
Collect Date:	20-APR-05		
Receive Date:	22-APR-05		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	AnalystDate	Time	Batch	M
Rad Gas Flow Proportional Counting												
GFPC, Sr90, liquid-ALL,MIX												
Strontium-90	U	-0.714	+/-0.671	0.783	+/-0.671	1.65	pCi/L		LCW1 04/27/05	1957	419308	1

The following Analytical Methods were performed

Method	Description
1	EPA 905.0 Modified

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Carrier/Tracer Recovery	GFPC, Sr90, liquid-ALL,MIX	83	

Notes:
The Qualifiers in this report are defined as follows :

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- ** Indicates the analyte is a surrogate compound.
- B Target analyte was detected in the sample as well as the associated blank.
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- E Concentration of the target analyte exceeds the instrument calibration range.
- H Analytical holding time exceeded.
- J Indicates an estimated value.
- U Target analyte was analyzed for but not detected above the MDL or LOD.
- UI Uncertain identification for gamma spectroscopy.
- X Lab-specific qualifier, see case narrative, data summary package or contact your project manager for details.
- h Sample preparation or preservation holding time exceeded.

The above sample is reported on an "as received" basis.

QUALITY CONTROL DATA

QC Summary

Report Date: April 28, 2005

Client : CYAPCo
Haddam Neck Plant
362 Injun Hollow Road
East Hampton, Connecticut
Contact: Dave Keefer

Workorder: 134924

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Gamma Spec										
Batch 419621										
QC1200831914 134924001 DUP										
Actinium-228	U	7.75	U	8.61	pCi/L	11		(0% - 100%)	AKB	04/25/05 17:39
	Uncert:	+/-13.3		+/-10.9						
	TPU:	+/-13.1		+/-10.7						
Americium-241	U	4.06	U	11.8	pCi/L	98		(0% - 100%)		
	Uncert:	+/-1.99		+/-17.4						
	TPU:	+/-1.95		+/-17.0						
Bismuth-212	U	9.34	U	3.64	pCi/L	88		(0% - 100%)		
	Uncert:	+/-27.9		+/-17.0						
	TPU:	+/-27.3		+/-16.6						
Bismuth-214	U	10.6	U	7.61	pCi/L	32		(0% - 100%)		
	Uncert:	+/-11.4		+/-8.97						
	TPU:	+/-11.1		+/-8.79						
Cesium-134	U	-1.19	U	-0.108	pCi/L	N/A		(0% - 100%)		
	Uncert:	+/-3.76		+/-2.32						
	TPU:	+/-3.69		+/-2.27						
Cesium-137	U	3.95	U	0.124	pCi/L	188		(0% - 100%)		
	Uncert:	+/-3.12		+/-2.70						
	TPU:	+/-3.06		+/-2.64						
Cobalt-60	U	-2.39	U	-1.19	pCi/L	N/A		(0% - 100%)		
	Uncert:	+/-4.28		+/-3.18						
	TPU:	+/-4.20		+/-3.12						
Europium-152	U	2.29	U	0.311	pCi/L	152		(0% - 100%)		
	Uncert:	+/-8.31		+/-7.53						
	TPU:	+/-8.14		+/-7.38						
Europium-154	U	4.64	U	-3.7	pCi/L	N/A		(0% - 100%)		
	Uncert:	+/-9.41		+/-8.09						
	TPU:	+/-9.22		+/-7.93						
Europium-155	U	5.29	U	-2.82	pCi/L	N/A		(0% - 100%)		
	Uncert:	+/-8.58		+/-9.47						
	TPU:	+/-8.41		+/-9.28						
Lead-212	U	2.78	U	0.838	pCi/L	107		(0% - 100%)		
	Uncert:	+/-6.66		+/-7.50						
	TPU:	+/-6.52		+/-7.35						
Lead-214		12.1		10.7	pCi/L	13		(0% - 100%)		
	Uncert:	+/-10.3		+/-9.39						
	TPU:	+/-10.0		+/-9.20						
Manganese-54	U	0.0476	U	-1.69	pCi/L	N/A		(0% - 100%)		
	Uncert:	+/-3.35		+/-2.28						
	TPU:	+/-3.28		+/-2.24						
Niobium-94	U	1.48	U	-0.465	pCi/L	N/A		(0% - 100%)		
	Uncert:	+/-2.95		+/-2.18						
	TPU:	+/-2.90		+/-2.14						

QC Summary

Workorder: 134924

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Gamma Spec										
Batch 419621										
Potassium-40	U	1.53	U	31.6	pCi/L	182		(0% - 100%)		
	Uncert:	-/-36.4		+/-44.3						
	TPU:	+/-35.7		+/-43.4						
Silver-108m	U	0.0696	U	-2.86	pCi/L	N/A		(0% - 100%)		
	Uncert:	+/-3.05		+/-2.59						
	TPU:	+/-2.98		+/-2.54						
Thallium-208	U	1.23	U	2.11	pCi/L	53		(0% - 100%)		
	Uncert:	+/-3.75		+/-2.84						
	TPU:	+/-3.67		+/-2.79						
QC1200831916 LCS										
Actinium-228			U	-47.4	pCi/L					04/26/05 07:28
	Uncert:			+/-44.0						
	TPU:			+/-43.1						
Americium-241	1170			1290	pCi/L		110	(75%-125%)		
	Uncert:			+/-155						
	TPU:			-/-152						
Bismuth-212			U	1.37	pCi/L					
	Uncert:			+/-65.5						
	TPU:			+/-64.1						
Bismuth-214			U	1.48	pCi/L					
	Uncert:			+/-16.5						
	TPU:			+/-16.2						
Cesium-134			U	10.8	pCi/L					
	Uncert:			+/-10.4						
	TPU:			+/-10.2						
Cesium-137	453			481	pCi/L		106	(75%-125%)		
	Uncert:			+/-44.5						
	TPU:			+/-43.6						
Cobalt-60	640			698	pCi/L		109	(75%-125%)		
	Uncert:			+/-59.1						
	TPU:			+/-57.9						
Europium-152			U	3.97	pCi/L					
	Uncert:			+/-23.3						
	TPU:			+/-22.8						
Europium-154			U	2.81	pCi/L					
	Uncert:			+/-18.3						
	TPU:			+/-17.9						
Europium-155			U	-1.04	pCi/L					
	Uncert:			+/-29.1						
	TPU:			+/-28.5						
Lead-212			U	13.9	pCi/L					
	Uncert:			+/-18.9						
	TPU:			+/-18.5						
Lead-214			U	-3.0	pCi/L					
	Uncert:			+/-16.7						
	TPU:			+/-16.4						
Manganese-54			U	-0.625	pCi/L					
	Uncert:			+/-9.70						

QC Summary

Workorder: 134924

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gamma Spec											
Batch 419621											
	TPU:			+/-9.50							
Niobium-94			U	-2.41	pCi/L						
	Uncert:			+/-7.60							
	TPU:			+/-7.45							
Potassium-40			U	50.2	pCi/L						
	Uncert:			+/-58.5							
	TPU:			+/-57.4							
Silver-108m			U	-0.818	pCi/L						
	Uncert:			+/-7.74							
	TPU:			+/-7.59							
Thallium-208			U	5.57	pCi/L						
	Uncert:			+/-8.75							
	TPU:			+/-8.58							
QC1200831913 MB											
Actinium-228			U	8.30	pCi/L					04/25/05	12:37
	Uncert:			+/-12.3							
	TPU:			+/-12.0							
Americium-241			U	-11.6	pCi/L						
	Uncert:			+/-21.1							
	TPU:			+/-20.7							
Bismuth-212			U	-0.15	pCi/L						
	Uncert:			+/-26.1							
	TPU:			+/-25.6							
Bismuth-214			U	-1.52	pCi/L						
	Uncert:			+/-7.01							
	TPU:			+/-6.87							
Cesium-134			U	2.92	pCi/L						
	Uncert:			+/-3.32							
	TPU:			+/-3.25							
Cesium-137			U	1.67	pCi/L						
	Uncert:			+/-3.16							
	TPU:			+/-3.09							
Cobalt-60			U	-0.194	pCi/L						
	Uncert:			+/-2.27							
	TPU:			+/-2.22							
Europium-152			U	7.18	pCi/L						
	Uncert:			+/-8.90							
	TPU:			+/-8.72							
Europium-154			U	3.76	pCi/L						
	Uncert:			+/-9.09							
	TPU:			+/-8.91							
Europium-155			U	2.18	pCi/L						
	Uncert:			+/-10.4							
	TPU:			+/-10.2							
Lead-212			U	9.67	pCi/L						
	Uncert:			+/-5.81							
	TPU:			+/-5.69							
Lead-214			U	2.41	pCi/L						

QC Summary

Workorder: 134924

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Gamma Spec										
Batch 419621										
	Uncert:			+/-6.51						
	TPU:			+/-6.38						
Manganese-54			U	-0.541	pCi/L					
	Uncert:			+/-3.13						
	TPU:			+/-3.07						
Niobium-94			U	-1.45	pCi/L					
	Uncert:			+/-3.21						
	TPU:			+/-3.15						
Potassium-40			U	33.6	pCi/L					
	Uncert:			+/-31.4						
	TPU:			+/-30.8						
Silver-108m			U	0.862	pCi/L					
	Uncert:			+/-3.14						
	TPU:			+/-3.08						
Thallium-208			U	0.718	pCi/L					
	Uncert:			+/-3.53						
	TPU:			+/-3.46						
QC1200831915 134924001 MS										
Actinium-228	U	7.75	U	207	pCi/L					04/25/05 12:37
	Uncert:	+/-13.3		+/-664						
	TPU:	+/-13.1		+/-656						
Americium-241	4680 U	4.06		5770	pCi/L		123			
	Uncert:	+/-1.99		+/-1330						
	TPU:	+/-1.95		+/-2610						
Bismuth-212	U	9.34	U	545	pCi/L					
	Uncert:	+/-27.9		+/-923						
	TPU:	+/-27.3		+/-929						
Bismuth-214	U	10.6	U	-38.2	pCi/L					
	Uncert:	+/-11.4		+/-241						
	TPU:	+/-11.1		+/-237						
Cesium-134	U	-1.19	U	-27.8	pCi/L					
	Uncert:	+/-3.76		+/-138						
	TPU:	+/-3.69		+/-136						
Cesium-137	1810 U	3.95		1650	pCi/L		91			
	Uncert:	+/-3.12		+/-413						
	TPU:	+/-3.06		+/-762						
Cobalt-60	2560 U	-2.39		2750	pCi/L		107			
	Uncert:	+/-4.28		+/-521						
	TPU:	+/-4.20		+/-1190						
Europium-152	U	2.29	U	287	pCi/L					
	Uncert:	+/-8.31		+/-326						
	TPU:	+/-8.14		+/-339						
Europium-154	U	4.64	U	80.4	pCi/L					
	Uncert:	+/-9.41		+/-358						
	TPU:	+/-9.22		+/-353						
Europium-155	U	5.29	U	101	pCi/L					
	Uncert:	+/-8.58		+/-373						
	TPU:	+/-8.41		+/-368						

QC Summary

Workorder: 134924

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Gamma Spec										
Batch 419621										
Lead-212	U	2.78	U	74.0	pCi/L					
	Uncert:	+/-6.66		+/-385						
	TPU:	+/-6.52		+/-379						
Lead-214		12.1	U	37.0	pCi/L					
	Uncert:	+/-10.3		+/-285						
	TPU:	+/-10.0		+/-280						
Manganese-54	U	0.0476	U	-66.6	pCi/L					
	Uncert:	+/-3.35		+/-151						
	TPU:	+/-3.28		+/-150						
Niobium-94	U	1.48	U	11.4	pCi/L					
	Uncert:	+/-2.95		+/-127						
	TPU:	+/-2.90		+/-125						
Potassium-40	U	1.53	U	-44.2	pCi/L					
	Uncert:	+/-36.4		+/-1040						
	TPU:	+/-35.7		+/-1020						
Silver-108m	U	0.0696	U	7.80	pCi/L					
	Uncert:	+/-3.05		+/-110						
	TPU:	+/-2.98		+/-108						
Thallium-208	U	1.23		274	pCi/L					
	Uncert:	+/-3.75		+/-147						
	TPU:	+/-3.67		+/-180						
Rad Gas Flow										
Batch 419308										
QC1200831172 134924002 DUP										
Strontium-90		19.3		21.6	pCi/L	12		(0% - 20%)	LCW1	04/27/05 19:57
	Uncert:	+/-1.64		+/-1.79						
	TPU:	+/-1.70		+/-1.85						
QC1200831174 LCS										
Strontium-90	60.0			73.4	pCi/L		122	(75%-125%)		04/27/05 19:57
	Uncert:			+/-4.77						
	TPU:			+/-5.05						
QC1200831171 MB										
Strontium-90			U	0.435	pCi/L					04/27/05 19:57
	Uncert:			+/-0.712						
	TPU:			+/-0.712						
QC1200831173 134924002 MS										
Strontium-90	120	19.3		139	pCi/L		100	(75%-125%)		04/27/05 19:57
	Uncert:	+/-1.64		+/-7.82						
	TPU:	+/-1.70		+/-8.51						
Rad Liquid Scintillation										
Batch 419320										
QC1200831280 134924001 DUP										
Tritium		2750		2700	pCi/L	2		(0% - 20%)	EGD1	04/25/05 23:56
	Uncert:	+/-251		+/-254						
	TPU:	+/-256		+/-258						
QC1200831282 LCS										
Tritium	3100			3320	pCi/L		107	(75%-125%)		04/26/05 02:00
	Uncert:			+/-270						

QC Summary

Workorder: 134924

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Liquid Scintillation										
Batch 419320										
	TPU:			+/-276						
QC1200831279 MB										
Tritium			U	136	pCi/L					04/25/05 22:53
	Uncert:			+/-178						
	TPU:			+/-178						
QC1200831281 134924001 MS										
Tritium	3110	2750		5550	pCi/L		90	(75%-125%)		04/26/05 00:58
	Uncert:	+/-251		+/-311						
	TPU:	+/-256		+/-325						

Notes:
The Qualifiers in this report are defined as follows:

- * Indicates that a quality control analyte recovery is outside of specified acceptance criteria.
- ** Indicates the analyte is a surrogate compound.
- B Target analyte was detected in the sample as well as the associated blank.
- BD Results below the MDC or low tracer recovery.
- E Concentration of the target analyte exceeds the instrument calibration range.
- H Analytical holding time exceeded.
- J Indicates an estimated value.
- U Target analyte was analyzed for but not detected above the MDL or LOD.
- UI Uncertain identification for gamma spectroscopy.
- X Lab-specific qualifier, see case narrative, data summary package or contact your project manager for details.
- h Sample preparation or preservation holding time exceeded.

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more.
** Indicates analyte is a surrogate compound.
^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptence criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.
For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

Microsoft Excel - ISFSI.xls [Read-Only]

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	A	B	C	D	E	F
1	NUMBER	TITLE	DATE	OWNER	ISSUED DATE	MEDIA / LOCATION
2	24265-500-DCP-00001-000	ISFSI CIVIL INSTALL	8/22/2000	GAVIN	N/A	
3	24265-500-DCP-00002-000	ISFSI ELECT AND INSTRUMENT INST.	8/22/2000	GAVIN	N/A	
4	24265-500-DCP-00003-000	ISFSI SECURITY INSTALL (safeguards)	8/22/2000	GAVIN	N/A	
5	24265-500-DCP-00008-000	VEHICLE BARRIER SYSTEM (safeguards)				
6	CY-DCR-00-009-04	ISFSI COMPOUND SECURITY SYSTEM UPGRADE	11/16/2004			
7	CY-DCR-00-011-04	REPLACEMENT OF EEE BUILDING UPS BUCK-BOOST TRANSFORMER	9/20/2004			
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DCP-DCR / DRAWINGS / FCR / FSK / CALCS-EJEE / SPECS / REPORTS / OTHER

Ready NUM

Start ISFSI Microsoft Excel - ISF... 9:49 AM Thursday

CY Today

No. 1636 June 16, 2005 Days W/O LTA: 1791 Editor: Greg Wilson

Work days without any OSHA recordable safety incidents: 56

People Profiles

Nick Guarna - TSSD
Project Manager - Containment

Nick Guarna

"As Project Manager, it is my responsibility to coordinate removal and demolition activities between the various departments that work in containment (Health Physics, Safety, Rad Engineering, and Waste) to make sure all are on board with the projects going on," says Nick Guarna, Containment Project Manager. "Our major goals are to complete this job safely, and to meet the schedule and budget for the project. Acting as the liaison, Nick reviews scheduling with the demolition contractor (Manafort) and provides oversight of all their work activities in containment. Every day he attends department and pre-job briefing meetings. Nick also coordinates Stone and Webster's work activities in containment and is involved in planning work evolutions and setting schedules for the workers in containment.

The removal of the last pieces of equipment from containment is occurring this week and the washdown of the interior of the containment is tentatively scheduled to start this week. "No chemicals are being used in this process," explained Nick. The water used will be filtered and reused. The washdown activity will take approximately one week to complete, working two shifts. "Our goal is to minimize contamination before demolition begins," said Nick, "so that when interior demolition activities are complete, the equipment used to conduct the interior demolition can be cleaned and used again later."

After the washdown is completed, the interior of containment will be coated with a linseed oil-based fixative product to lock in place any remaining loose contamination. Then the demolition of the interior of containment can begin.

"I work with a lot of great people," said Nick. "My job is made easier by the tremendous support of the people who work here."

Nick was born and raised in Montreal, Canada. After graduating high school, he attended Concordia University in downtown Montreal and graduated with a Bachelor of Science Degree in Civil Engineering. He quickly set his sights on the United States and took a position with Duke Engineering as a field engineer at Yankee Rowe. One year later, in September 1999, Nick came to CY and began working for Bechtel in the engineering department. After a period of time Nick became a field engineer. Nick stayed on with CY, continuing his role as a field engineer. For the entire time he has been at CY, Nick has been involved with the removal of equipment from containment. This includes the removal of large components like the reactor coolant pumps and the reactor pressure vessel. He was also involved in concrete cutting, the reactor cavity decontamination project, reactor coolant piping removal, and the cutting of the neutron shield with the grant machine.

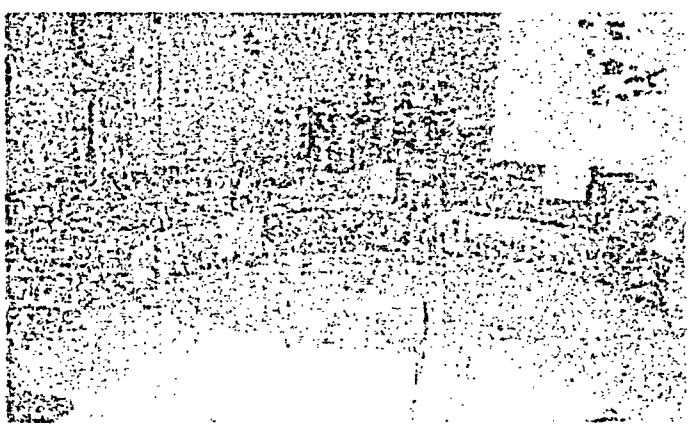


Photo: Location where a steam generator once stood in containment.

Nick travels 350 miles (5 1/2 hours one way) back to Montreal almost every weekend. Spending time with his family and friends is important to Nick. "I am very close with my family and I spend as much time as I can with them and my many friends," said Nick. "Together we enjoy the pleasures of Montreal." His major project at home is restoring a 1978 Corvette. Nick and his fiancée, Nadia, are planning for their wedding in April 2006. Nick is also going through the process of becoming a US citizen.

So Nick, is it true you have a fear of golf carts?

Sale of Company Items to Site Personnel

IMPORTANT REMINDER

Procedure MPM 1.3-1 has recently been revised to better address the sale of CY items to site personnel. This revision incorporates a form (Attachment 3) that all personnel must use in order to bid on, or otherwise identify their interest in, purchasing company items. Copies of these forms will be available at the site access point, on the O-Drive, or in the procedure libraries located upstairs in Building 140, the 8-Plex and the Old Control Room. Anyone who is interested in purchasing company items should take a few minutes to review and understand the CY Terms and Conditions of any sale prior to submitting a request. These terms and conditions can be found in MPM 1.3-01.

With respect to availability of company items for sale, the sorting out process is just getting underway with items being screened for further use in the project, potential ownership by other subcontractors, etc. It is expected that sometime this summer periodic auctions, as well as posting of items for sale, will begin. If you have any questions please contact Barry Moyer (ext. 3686) or Chris Lloyd (ext. 3562).

June CDAC Meeting Rescheduled

The June 21st Community Decommissioning Advisory Committee (CDAC) meeting has been rescheduled for Tuesday, July 19, 2005. The date change was made to accommodate the attendance of a representative from the Nuclear Regulatory Commission (NRC) who will provide the committee an update on the latest NRC inspection report.

Flu Shot Sign up

To ensure that CY will receive a supply of flu vaccine this year, the vaccine must be ordered earlier than ever before. Therefore, the medical department must place this year's order to the medical supplier by July 1st. If you wish to receive the vaccine this year, you must reserve your shot in advance.

Please contact medical at extension 3610 or stop by the medical department ASAP to put your name on the reservation list. **The closing date for taking reservations is JUNE 30th. *The vaccine will be available only to those who have reserved a shot.** The price of the shot will be at cost.

Condition Reports (CRs)

CR05-0467: The wooden guardrail on the drive through scale is broken.
CR05-0468: The south RCA boundary posting on a moveable barrier fence was attached backwards.
CR05-0469: While conducting work in the switchgear cubicles, wiring going to a charged capacitor was contacted.
CR05-0470: The wrong MSDS labeling was found on a product being used onsite.
CR05-0471: Fire inspections were conducted in containment in May, but the summary form was not completed /submitted.
CR05-0472: Safety issue identified with the south RCA stockpile.
CR05-0473: An audit identified three deficiencies with supplier providing safety related services to CY.
CR05-0474: A drain in the RCA has the potential to impact an area outside the Industrial Area.
CR05-0475: A conduit support along a section of the yard crane structure is damaged.
CR05-0476: Training records for CY employees trained at Millstone are not located in the CY records system.
CR05-0477: Red danger tape was placed less than the minimum required distance form the hazard.
CR05-0478: Extension cords borrowed from one job location to another are not being returned.
CR05-0479: The wrecking ball wire rope is damaged.
CR05-0480: A monitoring instrument on a VCC failed.
CR05-0481: A caution tape identifying a tripping hazard is still in place even though the work activity ended ten days ago.
CR05-0482: An employee entered a work area without wearing the required visibility vest.
CR05-0483: The design control process was not invoked for the proposed modification to the ISFSI support facility.

Catch of the Week

Week of June 6, 2005 - Craig Lieneck
CR05-0463: Residual sludge was found in turbine building subslab pipe.

Humor For The Day . . .

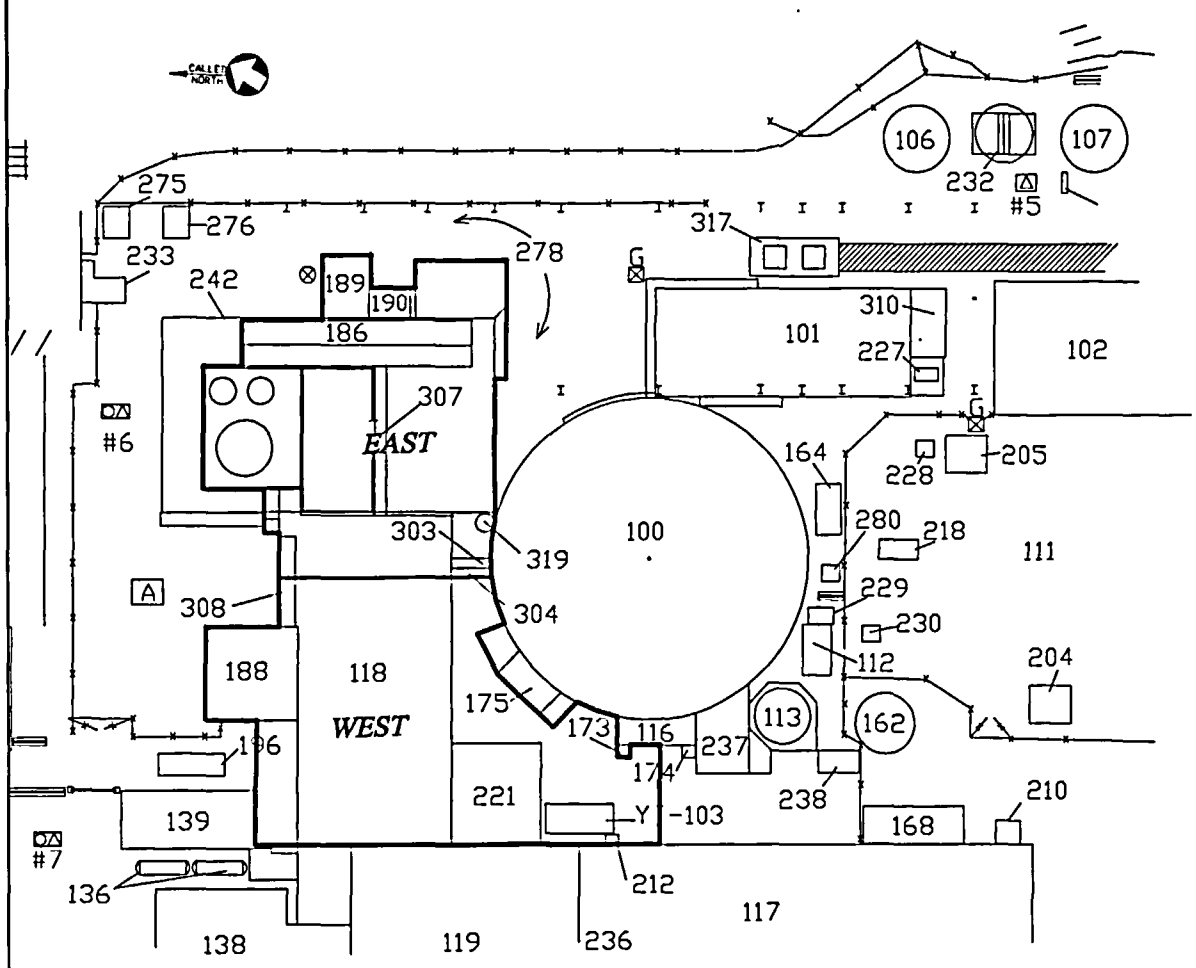
An Old Farmer's Advice:

- Most of the stuff people worry about ain't never gonna happen anyway.
- Don't judge folks by their relatives.
- Remember that silence is sometimes the best answer.
- Live a good, honorable life. Then when you get older and think back, you'll enjoy it a second time.
- Don't interfere with something that ain't bothering you none.
- Timing has a lot to do with the outcome of a rain dance.
- If you find yourself in a hole, the first thing to do is stop digging.
- The biggest troublemaker you'll probably ever have to deal with watches you from the mirror every morning.
- Good judgment comes from experience, and a lot of that comes from bad judgment.
- Letting the cat outta the bag is a whole lot easier than putting it back in.
- If you get to thinking you're a person of some influence, try ordering somebody else's dog around.

Attachment 5.1

Connecticut Yankee Plot Plan

(2 pages including cover)



NOTES:

1) THIS DRAWING IS FOR GENERAL INFORMATION ONLY. DIMENSIONS ARE APPROXIMATE. FOR DETAILS, SEE REFERENCE AND OTHER DRAWINGS AS NECESSARY.

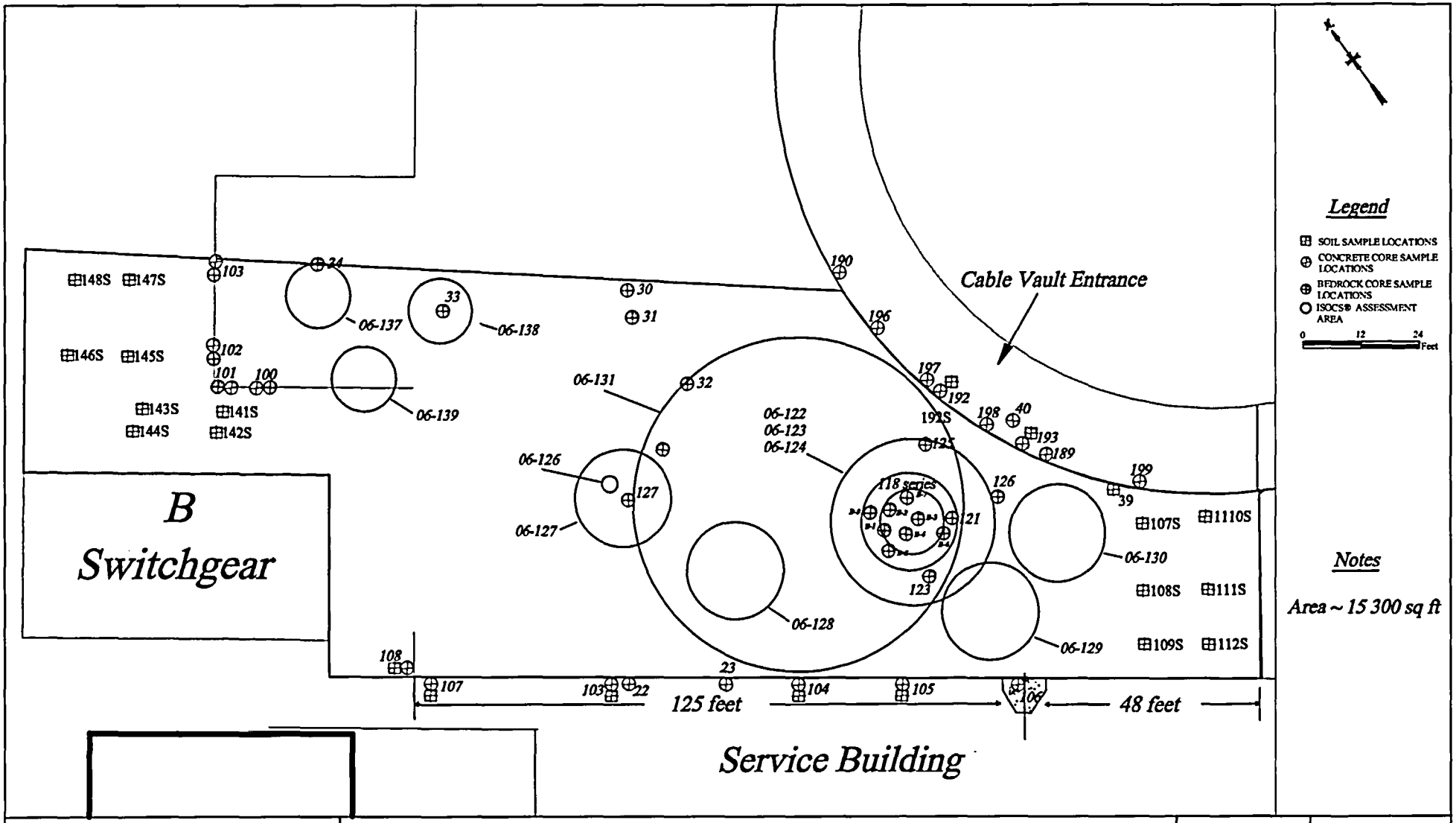
100 CONTAINMENT BUILDING
101 SPENT FUEL BUILDING
102 RADWASTE REDUCTION FACILITY (RRF)
106 BUTLER BLDG. MAINT.STORAGE (NOT SIZED) PAD
107 HYDROCK FABRICATION SHOP PAD
111 "W" MAKE-UP WATER TANK(TK-29-1A)
112 "P" MAKE-UP WATER TANK (TK-62-1A)
113 FABRICATION SHOP PAD
162 HYDROGEN STORAGE TK. CONCRETE BARRIER
164 LIQUID NITROGEN PAD
168 115-KV SWYD. STRUCTURES & PADS
175 ELECTRIC FEED PUMP HOUSE
188 BURN. WATER STORAGE TANK (TK-F3-1A)
189 DIESEL FUEL STOR. TANK (TK-333
190 DISCHARGE CANAL
196 TURBY TURBINE BUILDING
204 SERVICE BUILDING
205 PRIMARY AUXILIARY BUILDING (PAB)
218 CONTROL ROOM (CR)
221 4.16KV BUS 10
227 TURBINE BUILDING
228 AUXILIARY BOILER ROOM
229 AUX BOILER STACK
230 345-KV TRANSFORMER AREA PADS & SUMP
232 SPARE EDU SMALL TRANSFORMER PAD
236 PENINSULA / BONE YARD
237 CONTROL BUILDING FOR SEPTIC
238 SEPTIC SAND FILTERS
239 345-KV TOWER
240 INTAKE / SCREENHOUSE
241 NEW CONTROL ROOM SEPTIC TK(-132-1A & PUMPS
242 ADMINISTRATION BUILDING
243 SECURITY OFFICE PAD
244 DIESEL GEN. SUMP GAL USTs&CD
245 DIESEL GENERATOR BUILDING W/ USTs
246 OFFICE BUILDING #3 & PAD
247 WAREHOUSE #2 (PAB)
248 BUS 13 PAD
249 WARNING / RE-ICING LINE ISOLATION VALVE
250 STORM WATER ACCUMULATION BASIN
251 CONCRETE BRIC WALLS / PAD & EQUIP.
252 GATEHOUSE
253 27K GAL. TK. 345KV XFMR FAIL COL OVRFLO
254 RE GAL SUMP/ Pump. 345KV XFMR FAIL COL NTL
255 3000 GAL. SEPTIC TKS AT (BASE)
256 14,000 GAL. SEPTIC TK. - (BELOW GRADE)
257 ABANDONED SEPTIC FIELD
258 18K GAL. RECIRCULATION TK. - (BELOW GRADE)
259 EFFLUENT PUMP STATION - (BELOW GRADE)
260 OLD OFFICE TRAILER
261 S-F3 ON BLOCKS
262 "TRAILER CITY" POWER DIST. HOUSE
263 3-PHASE POWER CENTERS
264 SEPTIC SYSTEM PUMP PIT / PUMPS
265 MET. TOWER SHACK
266 WELL & PUMP F3-1C
267 WELL & PUMP F3-1D
268 WELL & PUMP F3-1A
269 WELL & PUMP F3-1B
270 YT-486 ASB. REMP. CLEAN TRAILER
271 AES BECON TRAILER
272 VALVE CHAMBER
273 OLD CANAL DRAINAGE SPOILS PILE
274 CW/ SW LINES (CONNEC. TO TB (BELOW GRADE)
275 PVR STEL DUCT BANKS/MANHOLES TO 345KV SWYD (BELOW & ABOVE GRADE)
276 WARNING / RE-ICING LINE (BELOW GRADE)
277 CONTAINMENT WING WALL BLOCKS
278 HOT TOOL CRIB
279 SEAWAR STORAGE SHED
280 HILLSIDE STAIRS
281 HILLSIDE STAIRS
282 LARGE CONCRETE PAD-RPV TRANSFER
283 YARD CRANE
284 CONTAINMENT MAT SUMP/ PUMPS
285 SEWAGE EJECTOR
286 GREASE PIT
287 WAREHOUSE #1
288 RCA ACCESS POINT (NEW)
289 LOADING DOCK
290 INFORMATION CENTER
291 MOTORCYCLE PARKING PAD
292 PARKING AREA
293 ADDITIONAL PARKING
294 EMERGENCY OPERATIONS CENTER
295 POND
296 ACCESS ROAD
297 CHEMICAL STORAGE WAREHOUSE
298 BLDG MAINTENANCE EQUIP WAREHOUSE
299 CONCRETE STORAGE TANK (TK-F3-1B)
300 UNCONDITIONAL REL. FAC. SUMP PAD
301 SECURITY DIESEL PAD
302 STORAGE SHED W/PAD
303 MATERIAL STORAGE (SEA-VAND W/PAD
304 ACCESS ROAD (SOUTH)
305 FITNESS CENTER PAD
306 AUX FEED PUMP ENCLOSURE 1A
307 AUX FEED PUMP ENCLOSURE 1B
308 CABLE VAULT
309 HP PROJECT TRAILER
310 MAIN ENTRANCE BYPASS ROAD
311 BOTTLED GAS STORAGE AREA
312 P.C.S. BUILDING
313 RECORDS
314 STEAM GEN REPAIR BLDG
315 FIRE ARMS TRAINING SIMULATOR W/ PAD
316 SECURITY DIESEL TRANSFORMER PAD
317 COMPACTOR & DUMPSTER W/ PAD
318 DUMPSTER W/ PAD
319 ION EXCHANGE STRUCTURE
320 3PP TRANSFORMER W/ PAD
321 WASTE DISPOSAL BLDG
322 SPENT RESIN STORAGE
323 SPENT RESIN FACILITY
324 BUTLER BLDG. FUEL SHOP & STORAGE W/ PAD
325 DIESEL FUEL TK. & PORTABLE DIKE
326 GASOLINE TK. & PORTABLE DIKE
327 HELIPAD LIGHTS
328 EOF SEPTIC FIELD
329 WELL
330 SIGNAL CONE'S & PAD
331 COMMUNICATIONS SHED & PAD
332 WELL
333 TRANSFORMER
334 POWER & COMMUNICATIONS PANELS
335 EOF SEPTIC TANK (BELOW GRADE)
336 DOCK
337 DISCHARGE STRUCTURE
338 FISH POND & FOUNTAIN
339 VCC FABRICATION PAD
340 SEWAGE EJECTOR
341 OLD RCA SHOWER DRAINS COLLECTION TK.
342 OLD RCA SHOWER DRAINS OVERFLOW TK.
343 UNIT 1 DISCHARGE TUNNEL(BELOW GRADE)
344 UNIT 2 DISCHARGE TUNNEL(BELOW GRADE)
345 CONTAMINATED (C) PIPE TRENCH
346 NON CONTAMINATED (W) PIPE TRENCH
347 SEPTIC TANK (BELOW GRADE)
348 FLOW SPLITTER BOX (AT GRADE)
349 PAD-ION EXCHANGE PIPE TRENCH
350 VOB- TANK FARM PIPE TRENCH
351 EXISTING SEPTIC FIELD
352 SPENT FUEL AUXILIARY BLDG.
353 CLSP POWER POLES (TYP.)
354 CLSP 23 KV OVERHEAD LINES
355 SEISMIC MONITOR
356 ABANDONED 3K GAL. SEPTIC TK(BELOW GRADE)
357 ABANDONED SEPTIC FIELD
358 RIP-RAP WEIR
359 TF & PREP BUILDING
360 HEAVY HAUL ROUTE-To Barge Landing And South Access Road
361 PRIMARY VENTILATION STACK
362 AIR COOLED DIESEL GEN. PAD
363 480 V BUS 30 SWGR W/PAD
364 115-KV TOWER
365 6 PLEX MODULAR
366 PBX ROOM
367 PBX TRANSFORMER
368 DIESEL FUEL STOR. TANK (TK-126-1A)
369 STATION SERVICE XFMR LSR-E25 (3PP)
370 STATION SERVICE XFMR LSR-E15 (3PP)
371 TRASH STORAGE
372 LIQUIFIED PETROLEUM GAS TANK PAD
373 CHEM LAB GAS STORAGE BOTTLES PAD
374 STORAGE SHED
374A HTG. OIL TK. 275 GAL.W/ PORTABLE DIKE
374B HTG. OIL TK. 275 GAL.W/ PORTABLE DIKE
375 WASTE OIL TANK W/ PORTABLE DIKE
376 115-KV TIE BUS.
377 HP FACILITY
378 BARGE LANDING
379 POWER DIST. EQUIP.PAD SOUTH EAST YARD
380 POWER DIST. EQUIP SOUTH YARD W/ PAD
381 EG-8 W/ PAD
382 BUS 13 TRANSFORMER
383 480V BUS 16
384 BUS 16 TRANSFORMER
385 HEAT TRACE PANEL W/ PAD
386 RAD WASTE "C" VAN W/VALSPHERE PAD
387 RCA ACCESS POINT
388 BICRON TRUCK RAD MONITOR
389 WEATHER STATION
390 AUXILIARY BAY
391 ALT. CONTAINMENT ACCESS
392 CLEAN STORAGE SHED W/ PAD
393 HTG OIL TK. 1000 GAL. W/PORTABLE DIKE
394 6 - PLEX OFFICES
394A SHELTER
394B SHELTER
395 TANK FARM TEMPORARY SHELTER
396 ABANDONED SEPTIC TANK(BELOW GRADE)
397 SEWAGE EJECTOR

Attachment 5.1	Connecticut Yankee Atomic Power Company Connecticut Yankee Plot Plan	Date	By
		May 2005	J McCarthy

Attachment 5.2

Survey and Sample Measurement Locations

(2 pages including cover)

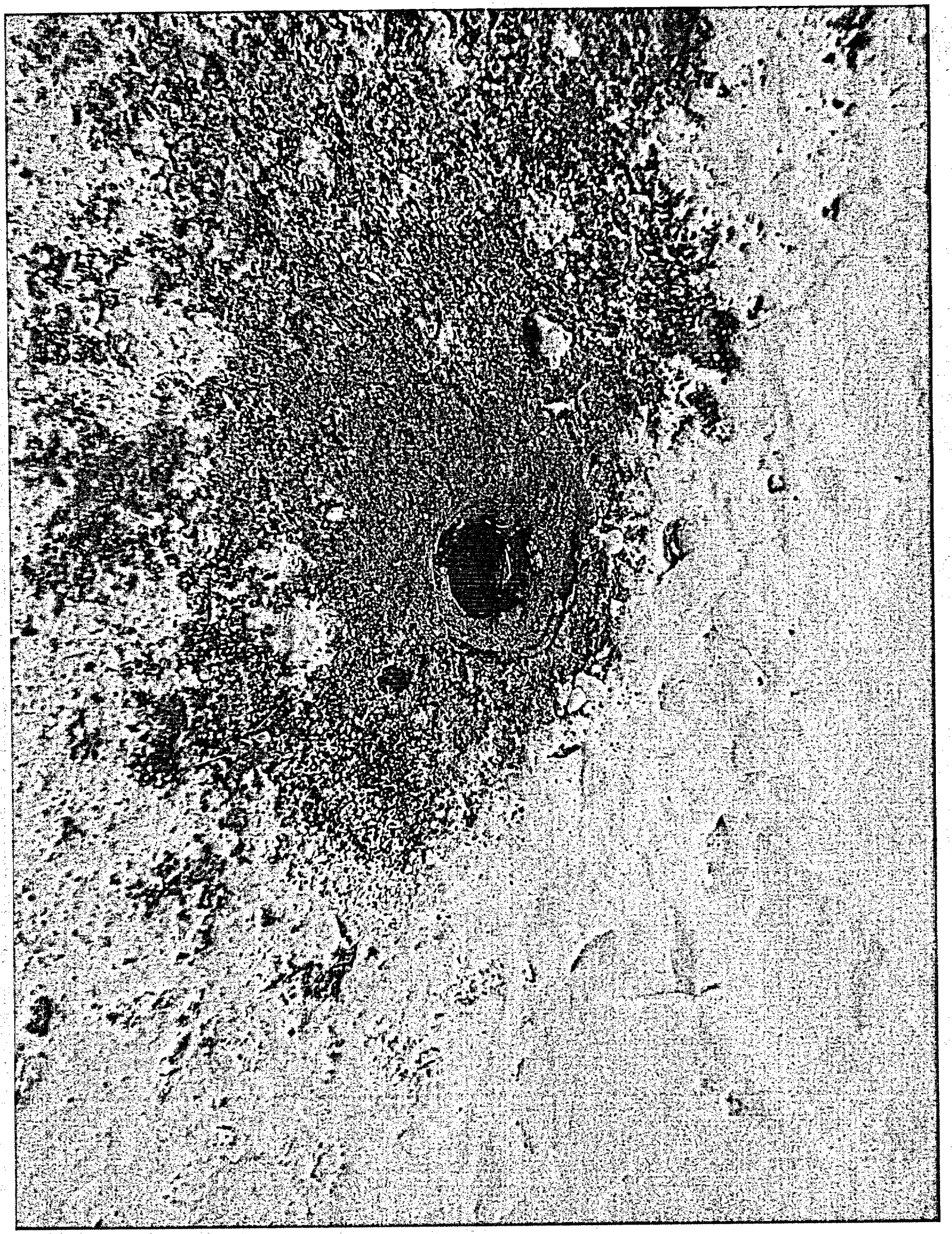


Attachment 5.2	Connecticut Yankee Atomic Power Company Survey and Sample Measurement Locations	Date	By
		May 2005	P Hollenbeck J McCarthy

Attachment 5.3

Photographs of Project and Survey and Sampling

(41 pages including cover)



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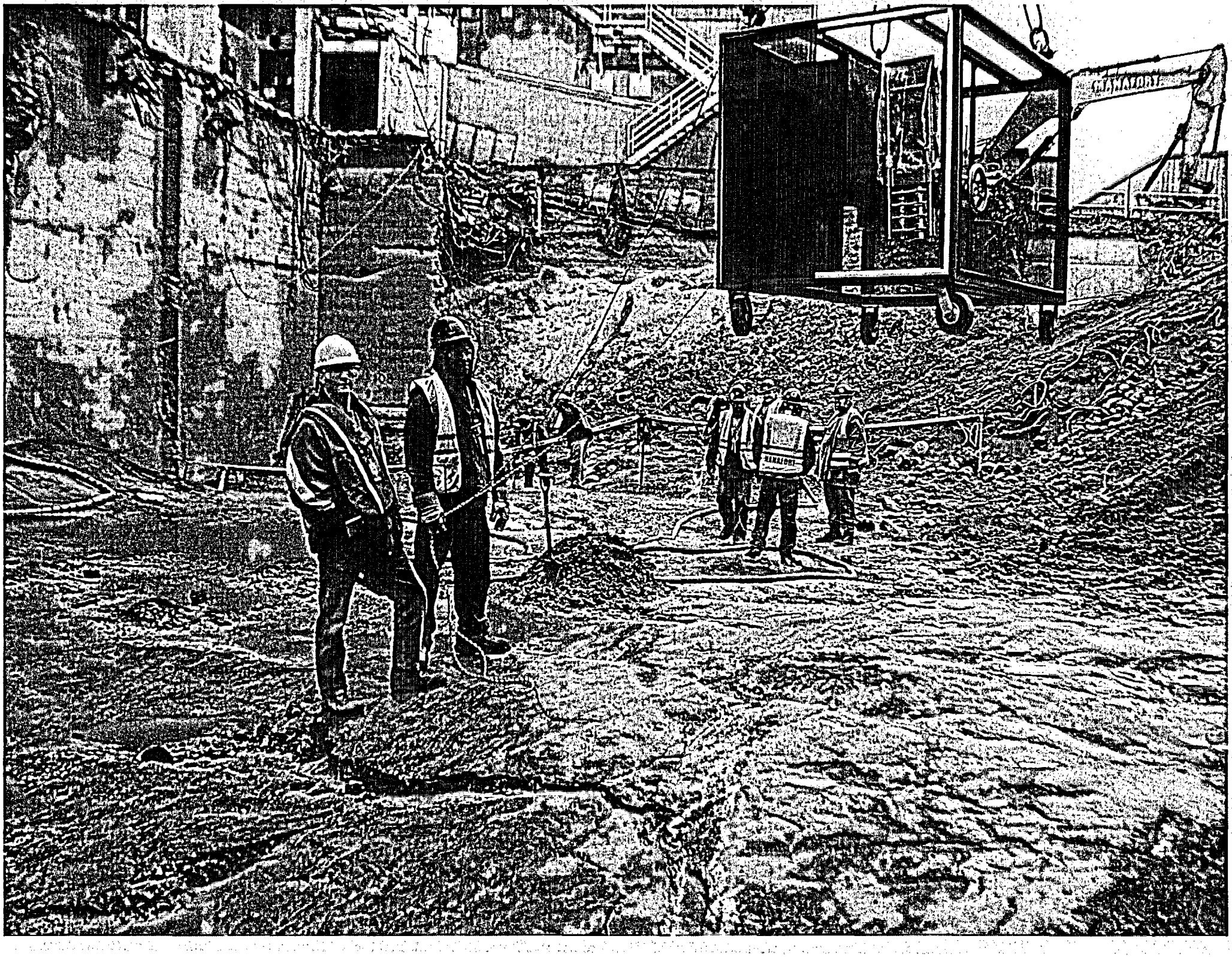
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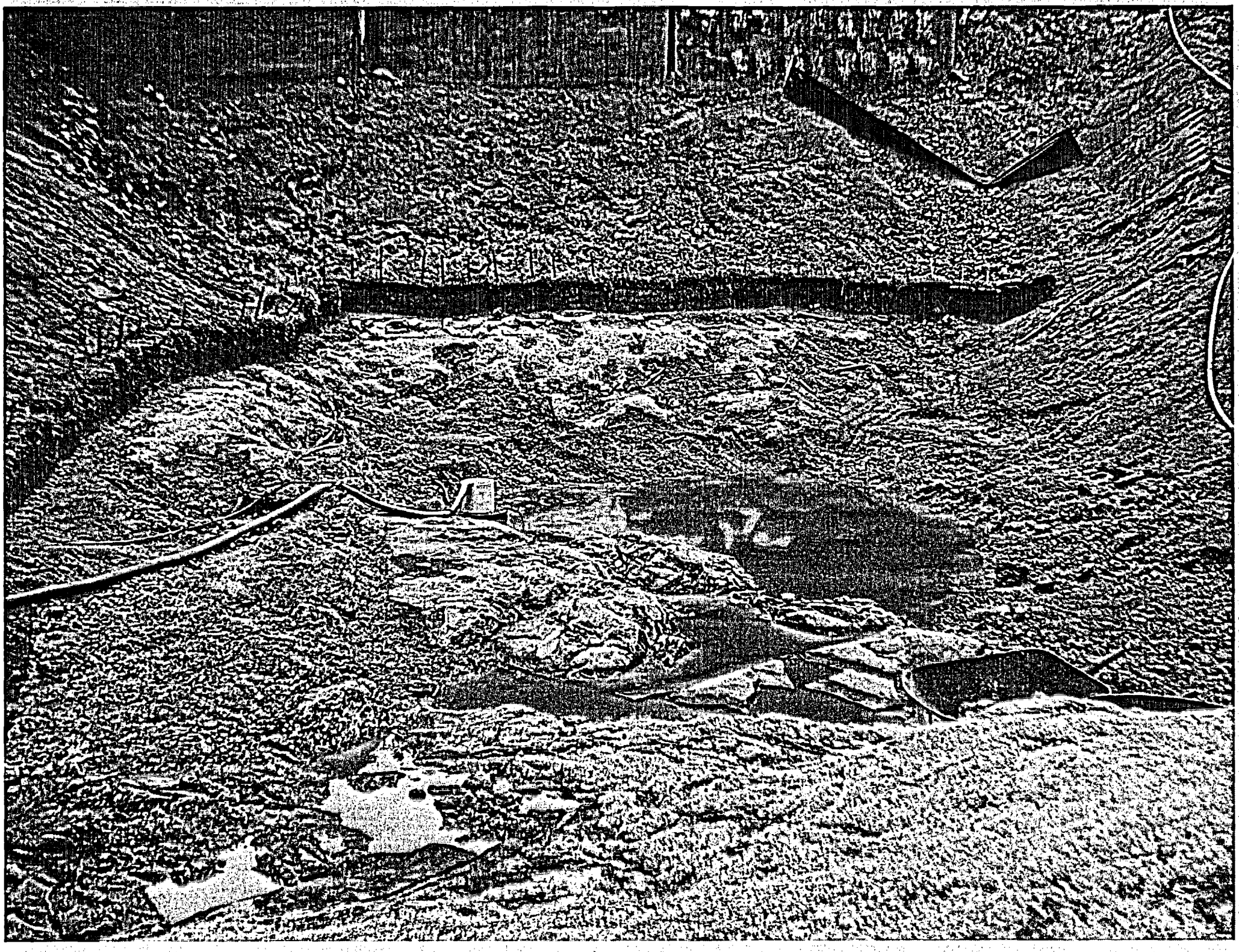

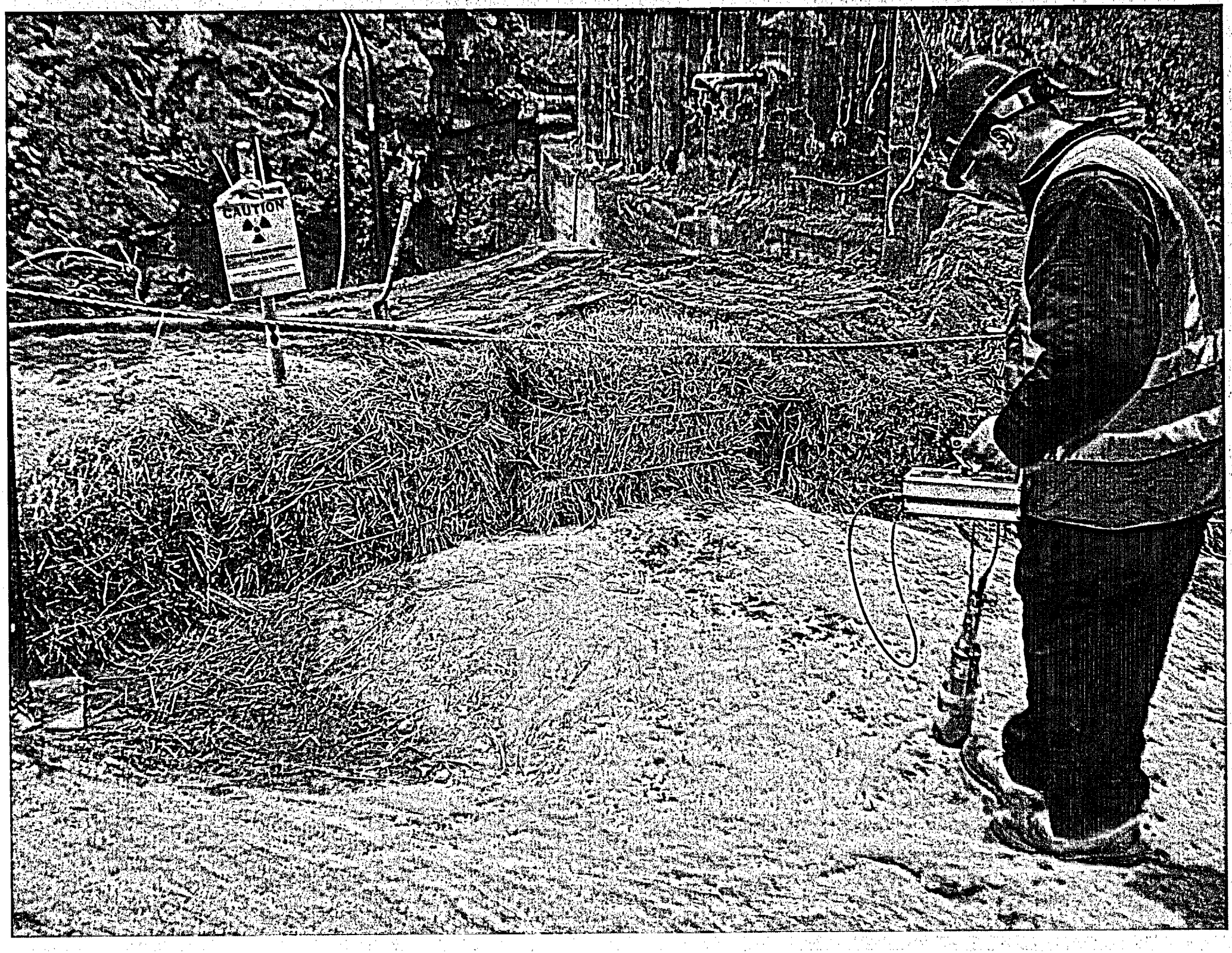
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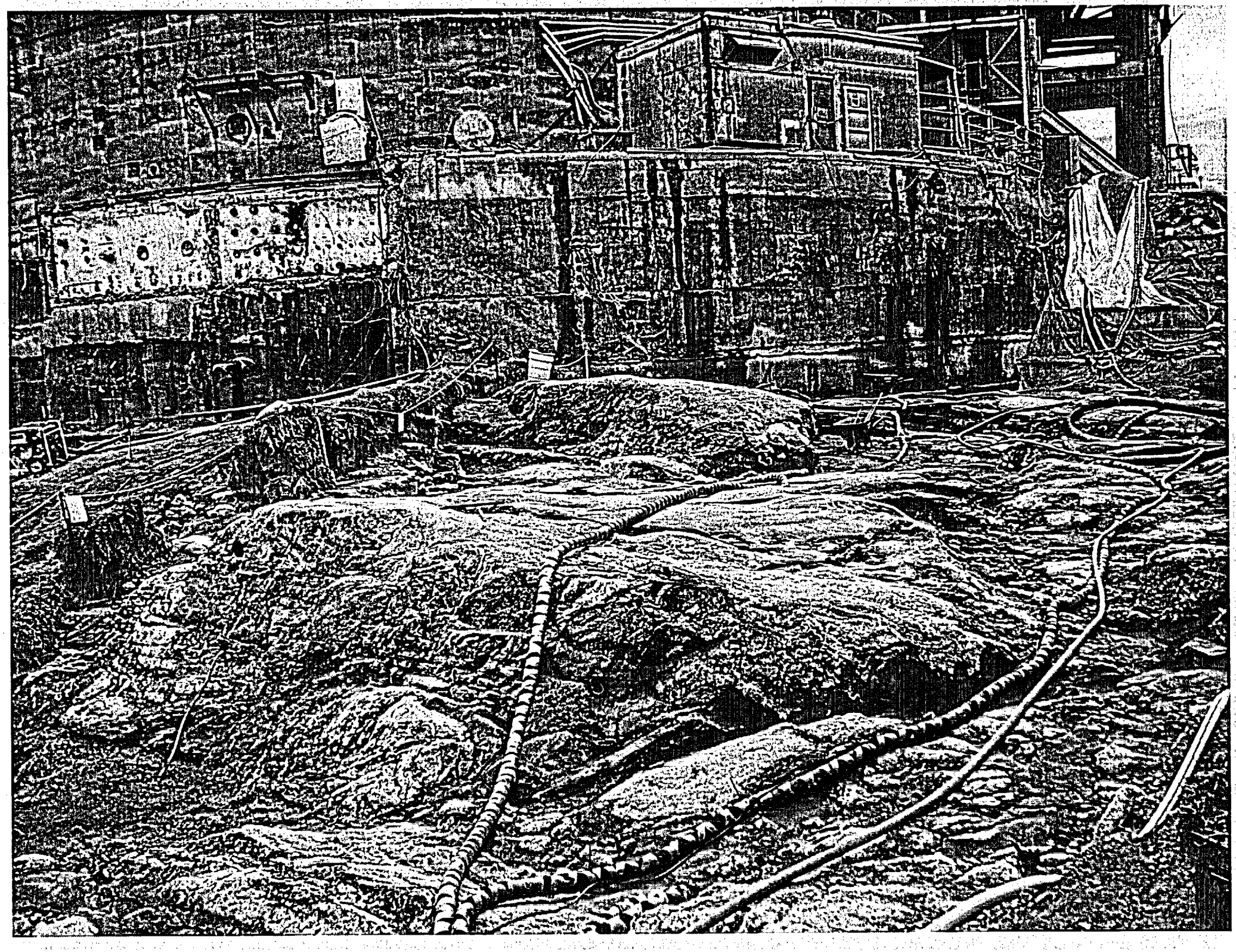

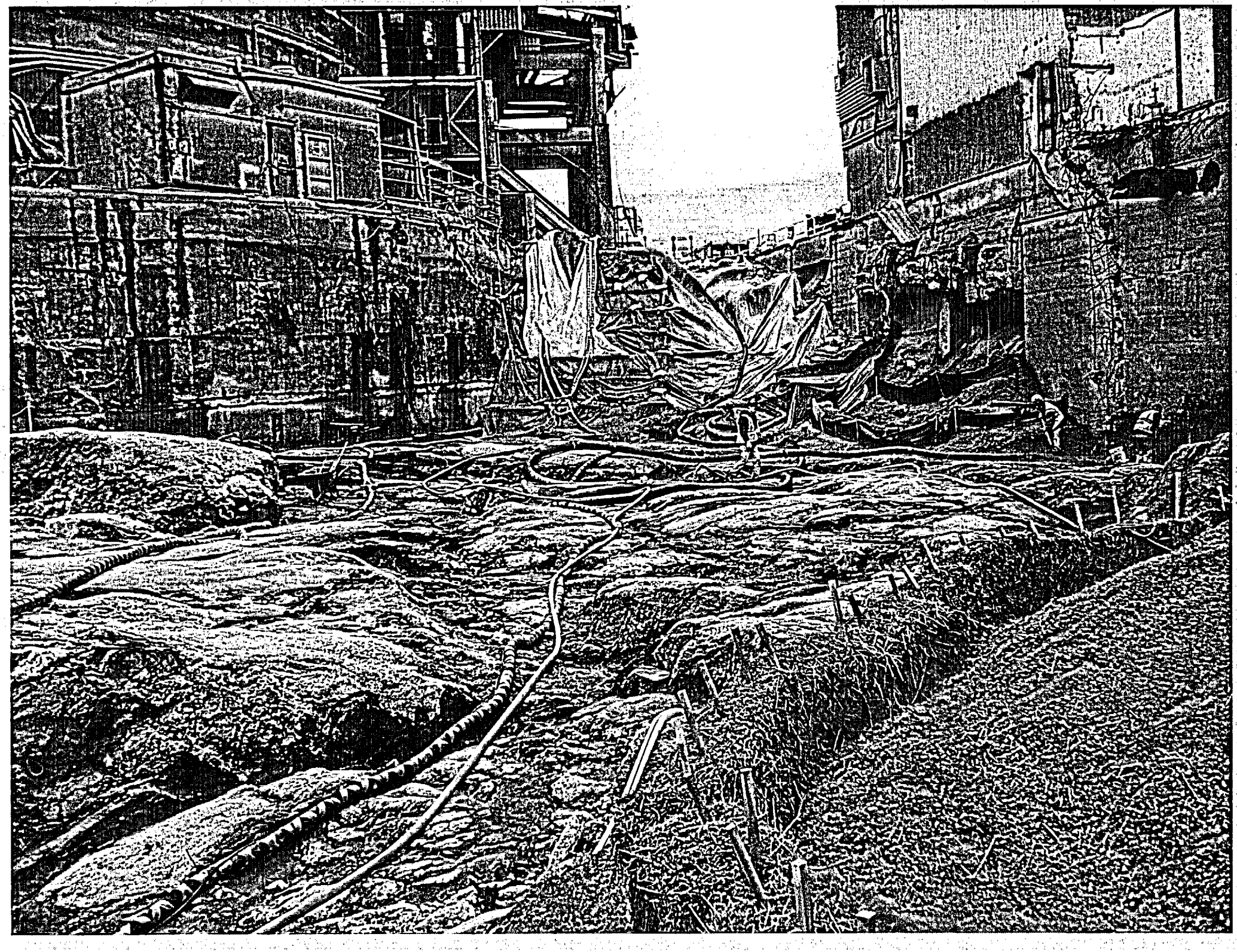

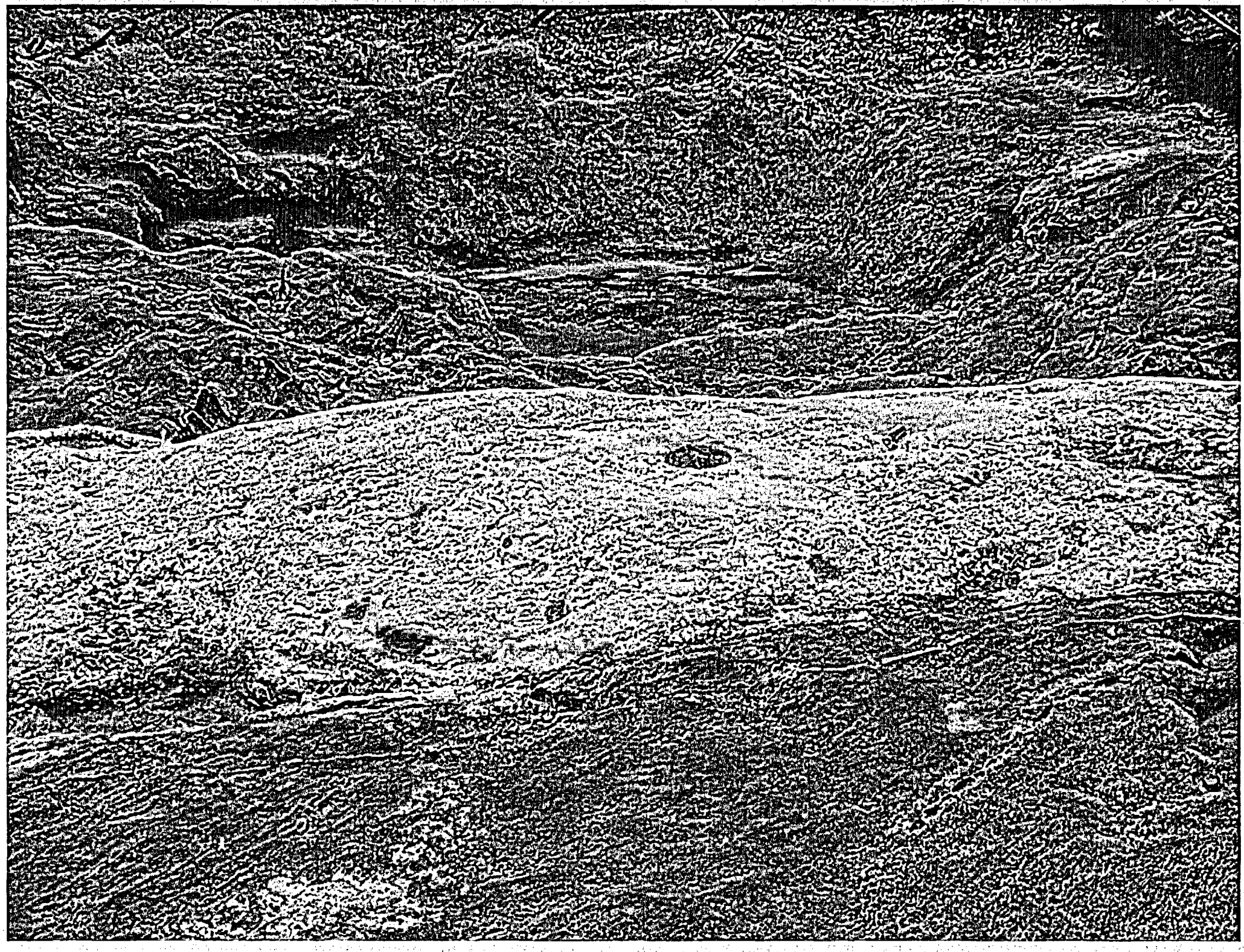

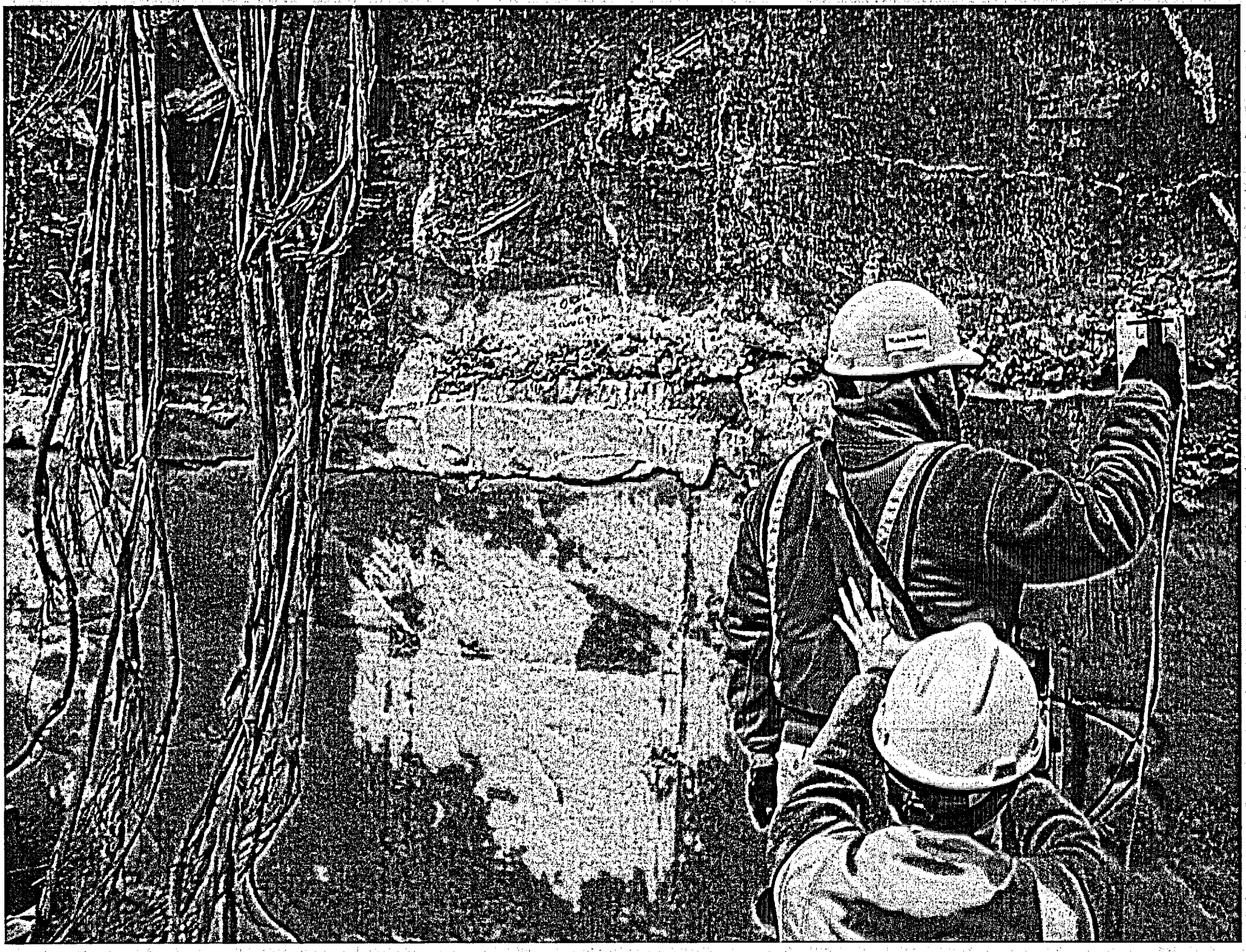

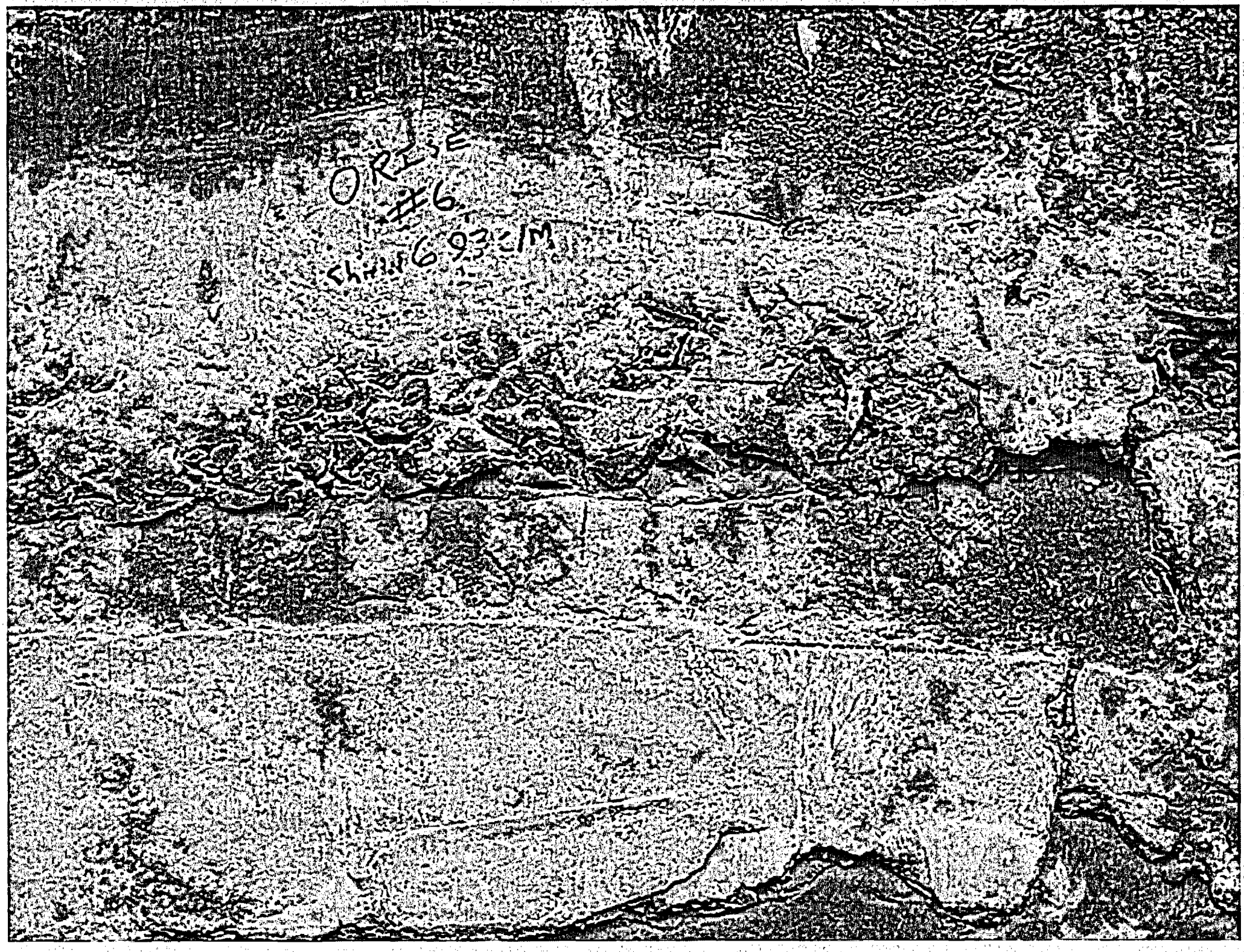
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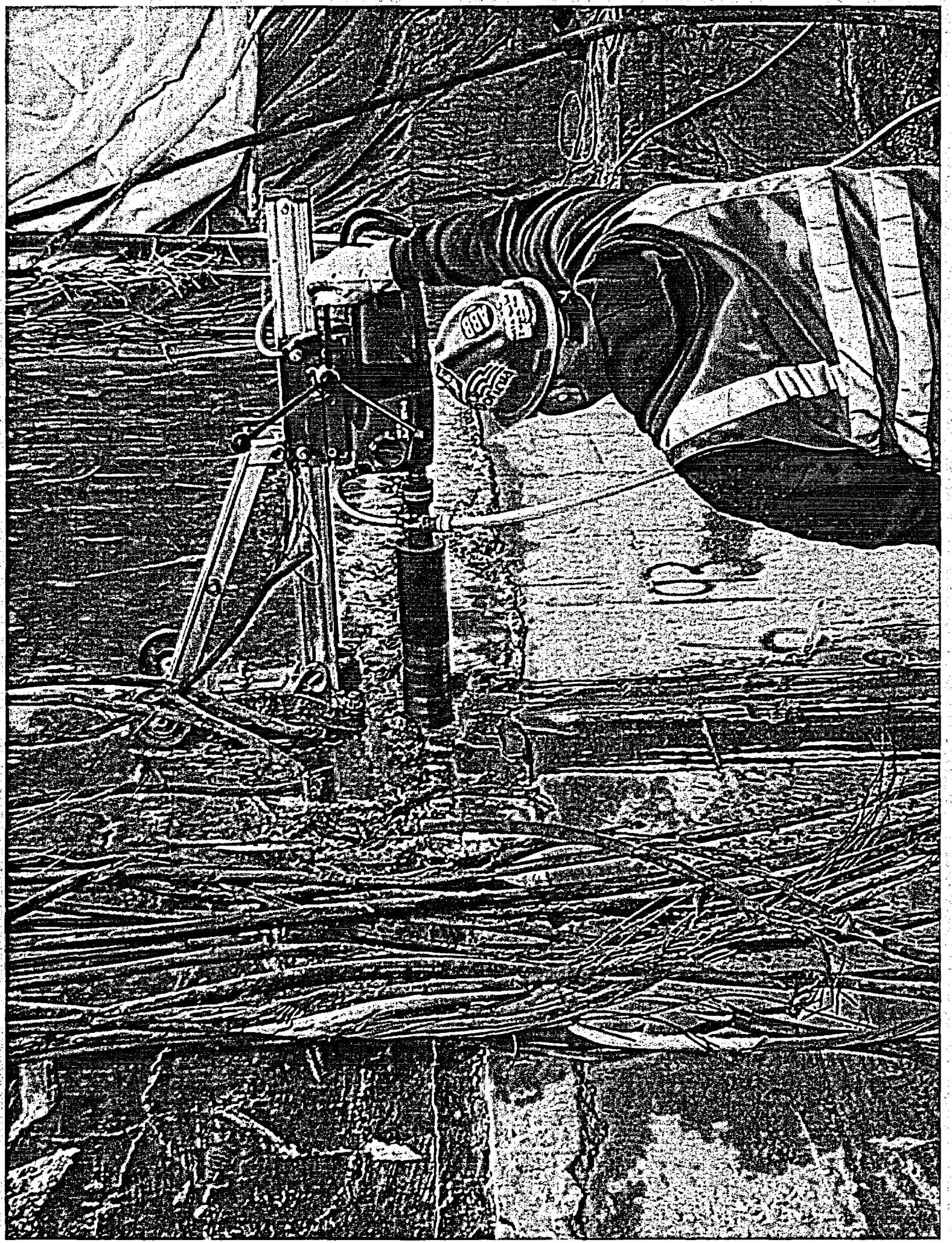

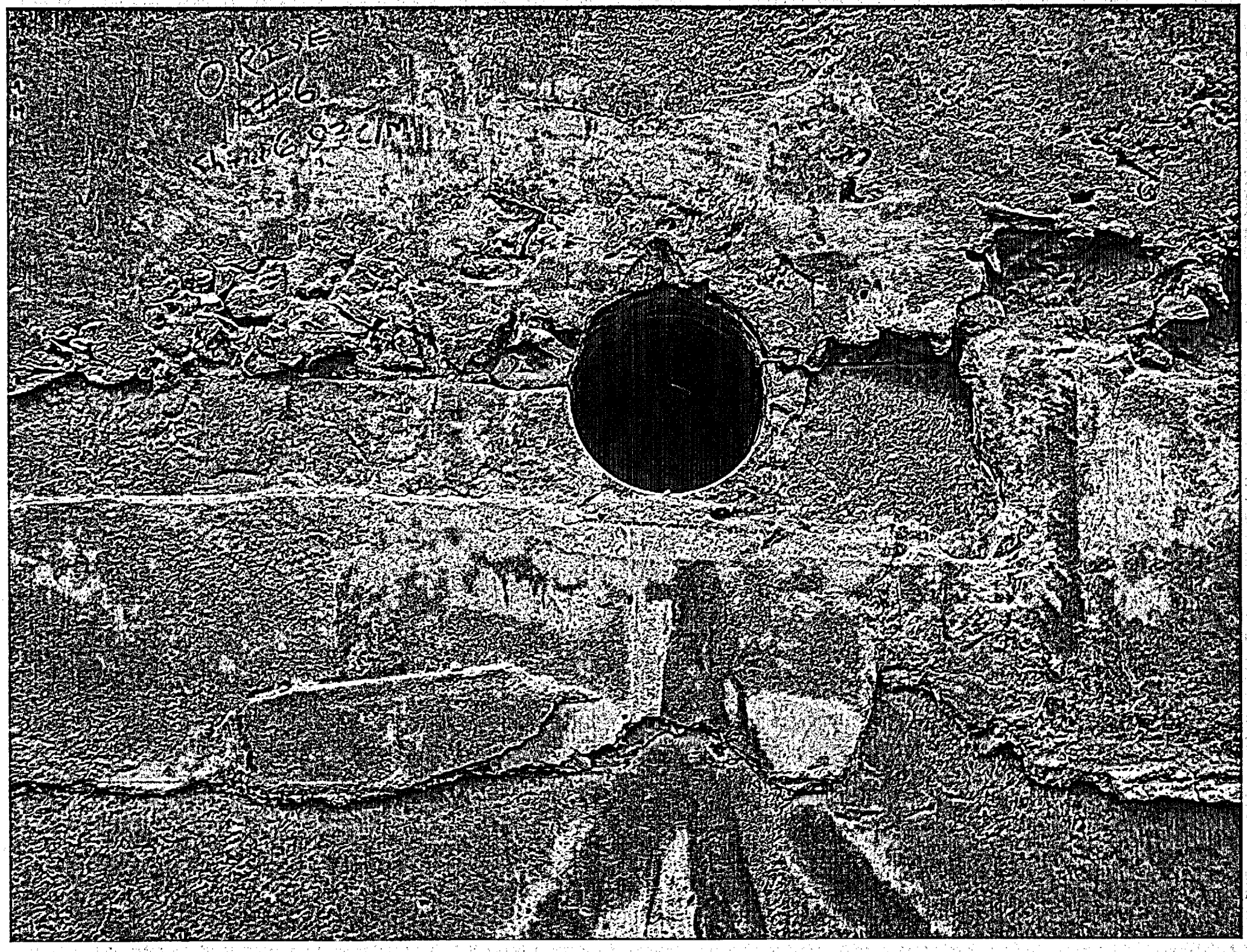
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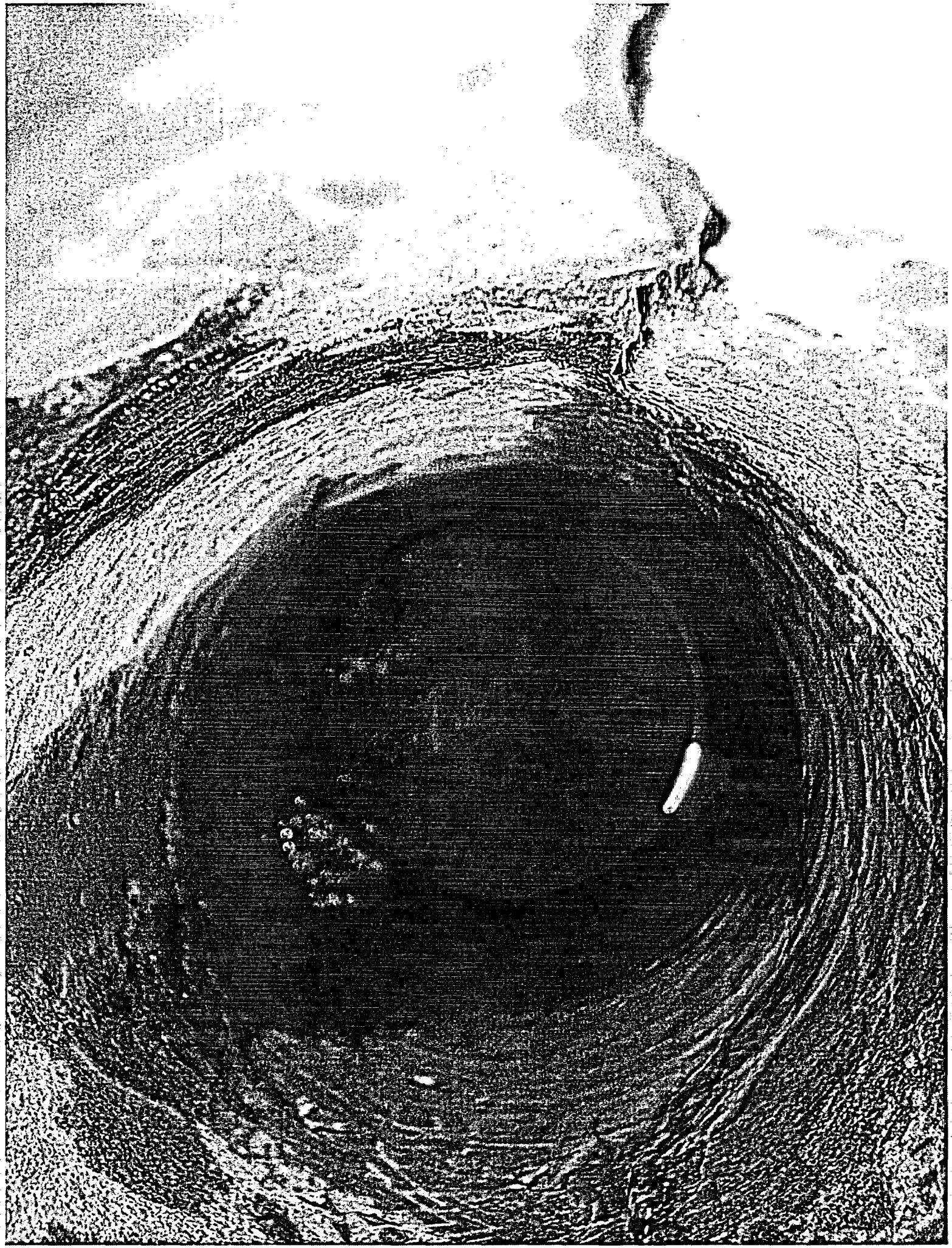

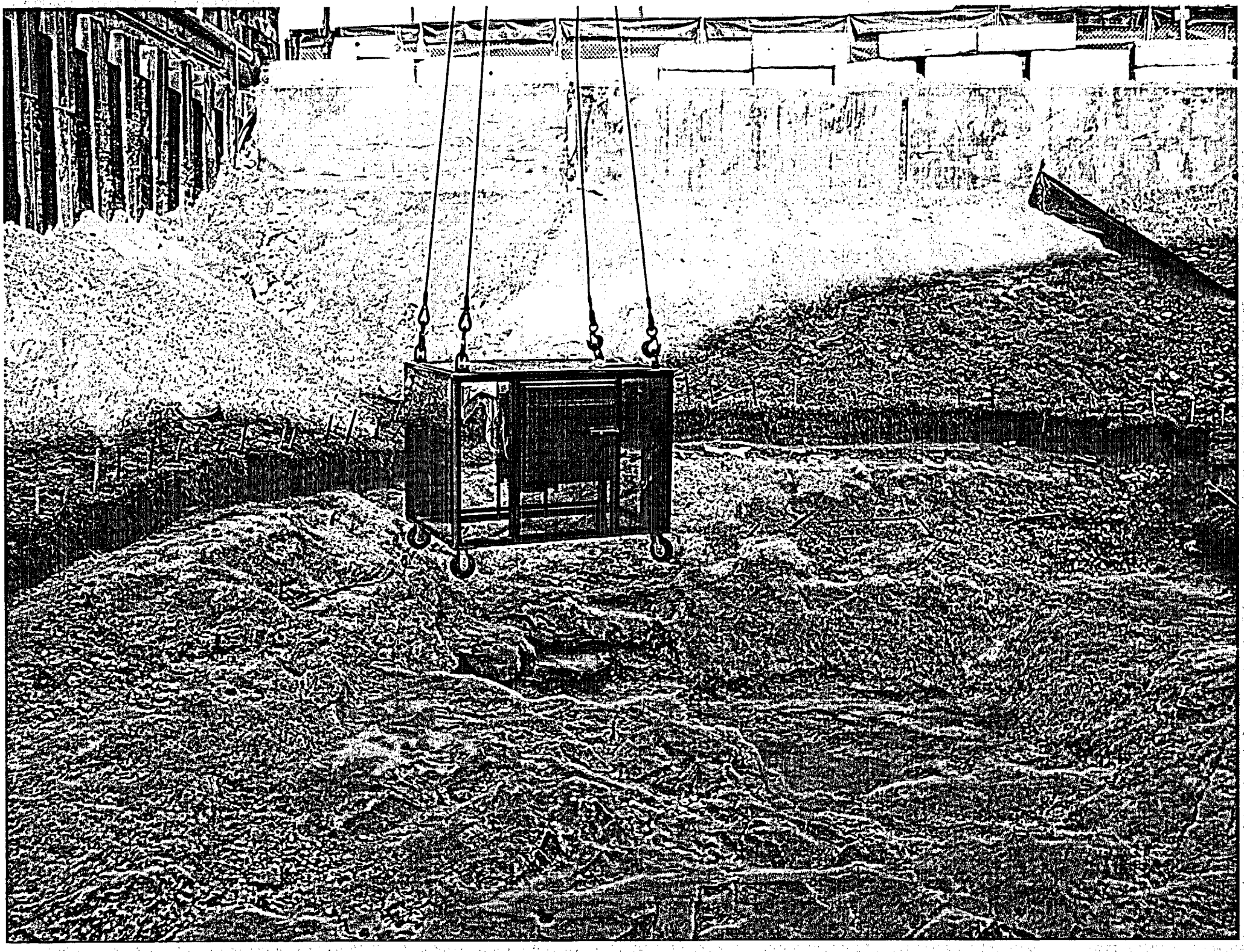

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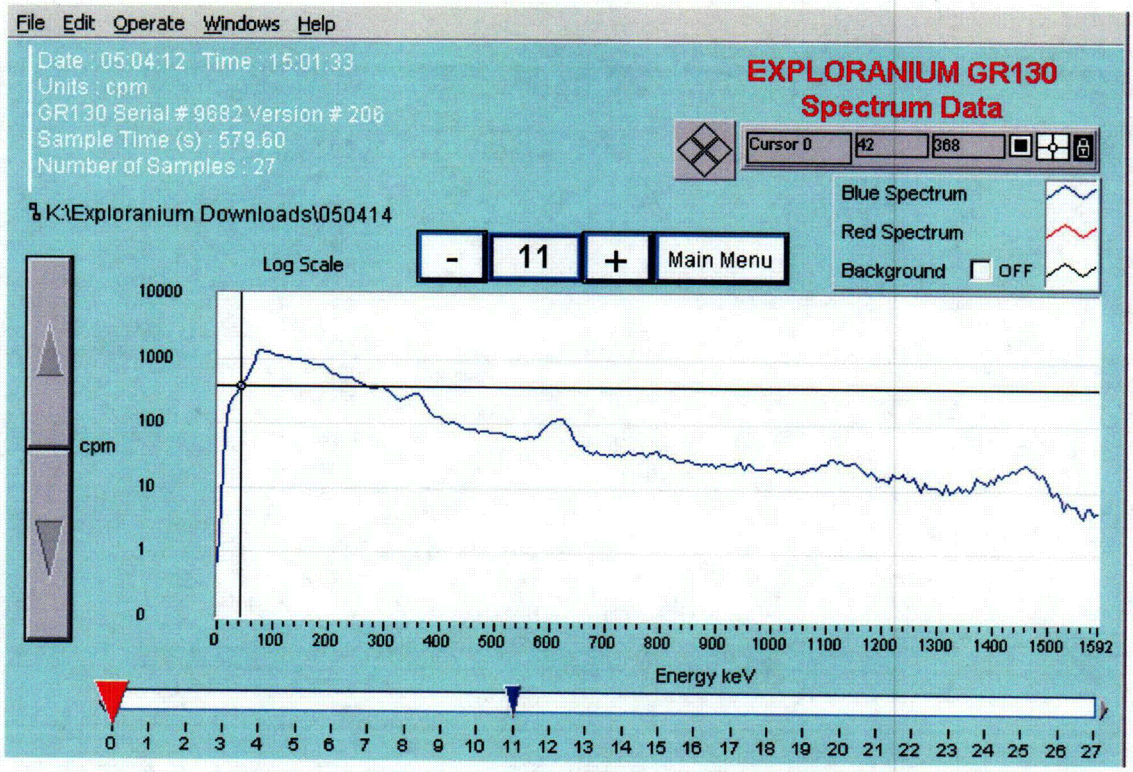
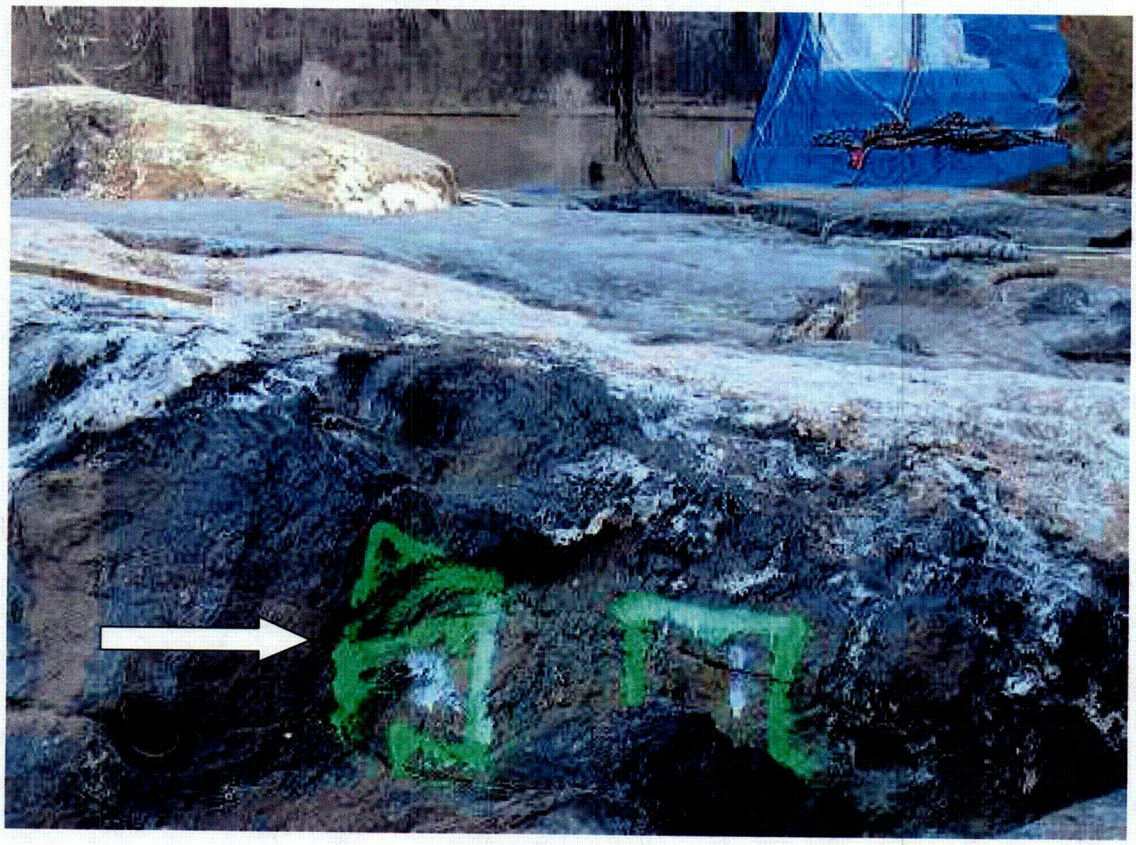


Peak Energy Line:	352 keV	609 keV	1120 keV	1461 keV
Number of Counts:	5115	5664	1098	1477
Associated Radionuclide [1]:	Pb-214	Bi-214	Bi-214	K-40

[1] Reference: Gerhard Erdtmann, Werner Soyka – The Gamma Rays of the Radionuclides



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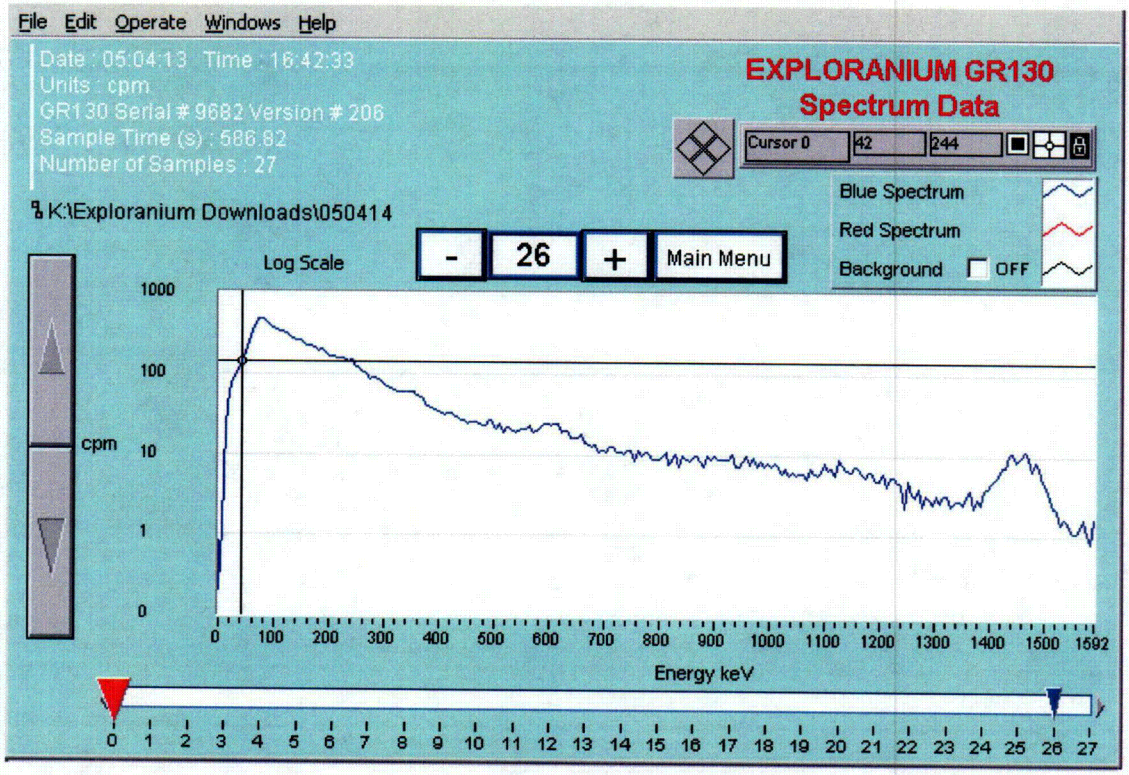
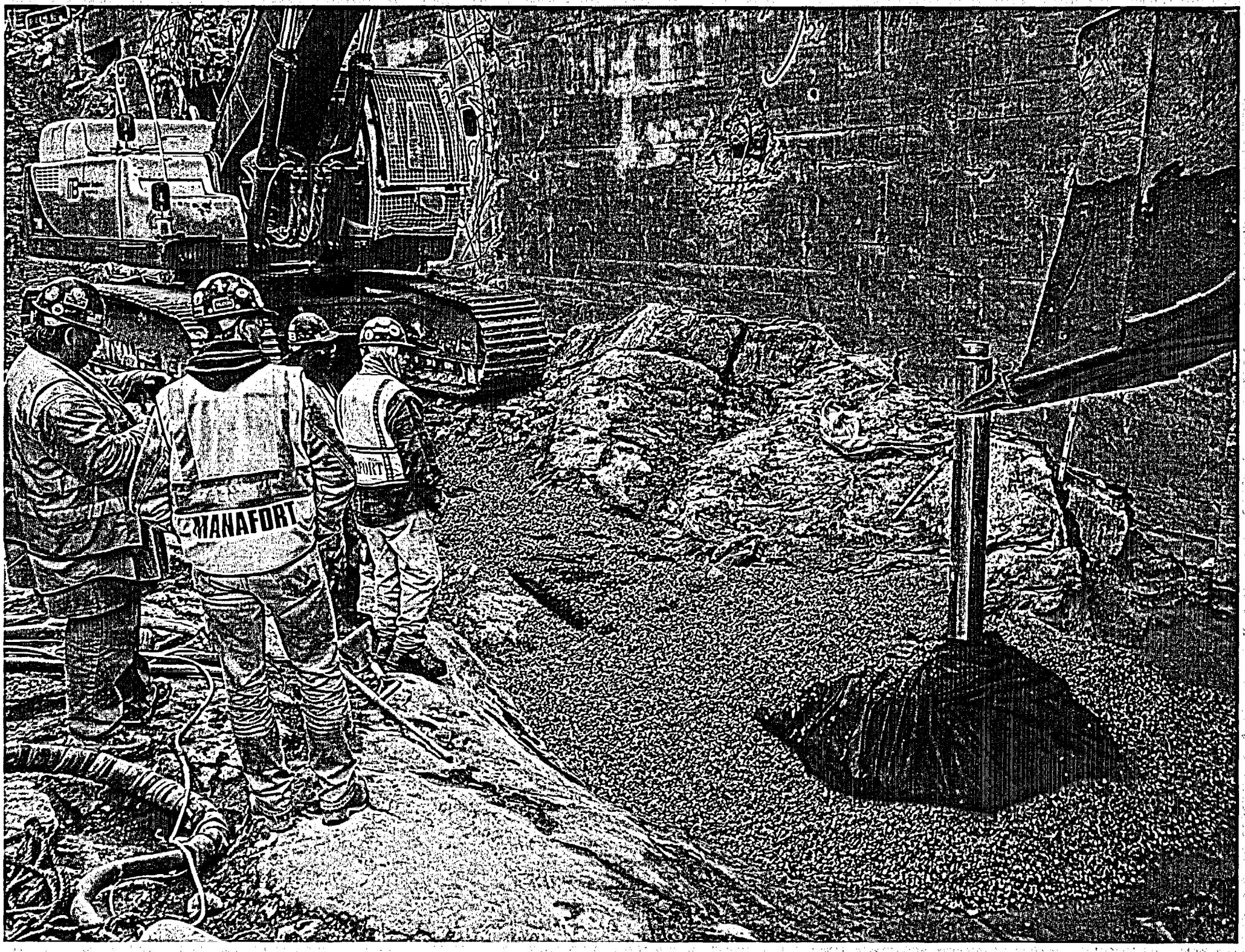
ORISE Location Bedrock #15



Peak Energy Line:	352 keV	609 keV	1120 keV	1461 keV
Number of Counts:	-----	424	-----	876
Associated Radionuclide [1]:	Pb-214	Bi-214	Bi-214	K-40

[1] Reference: Gerhard Erdtmann, Werner Soyka – The Gamma Rays of the Radionuclides

C02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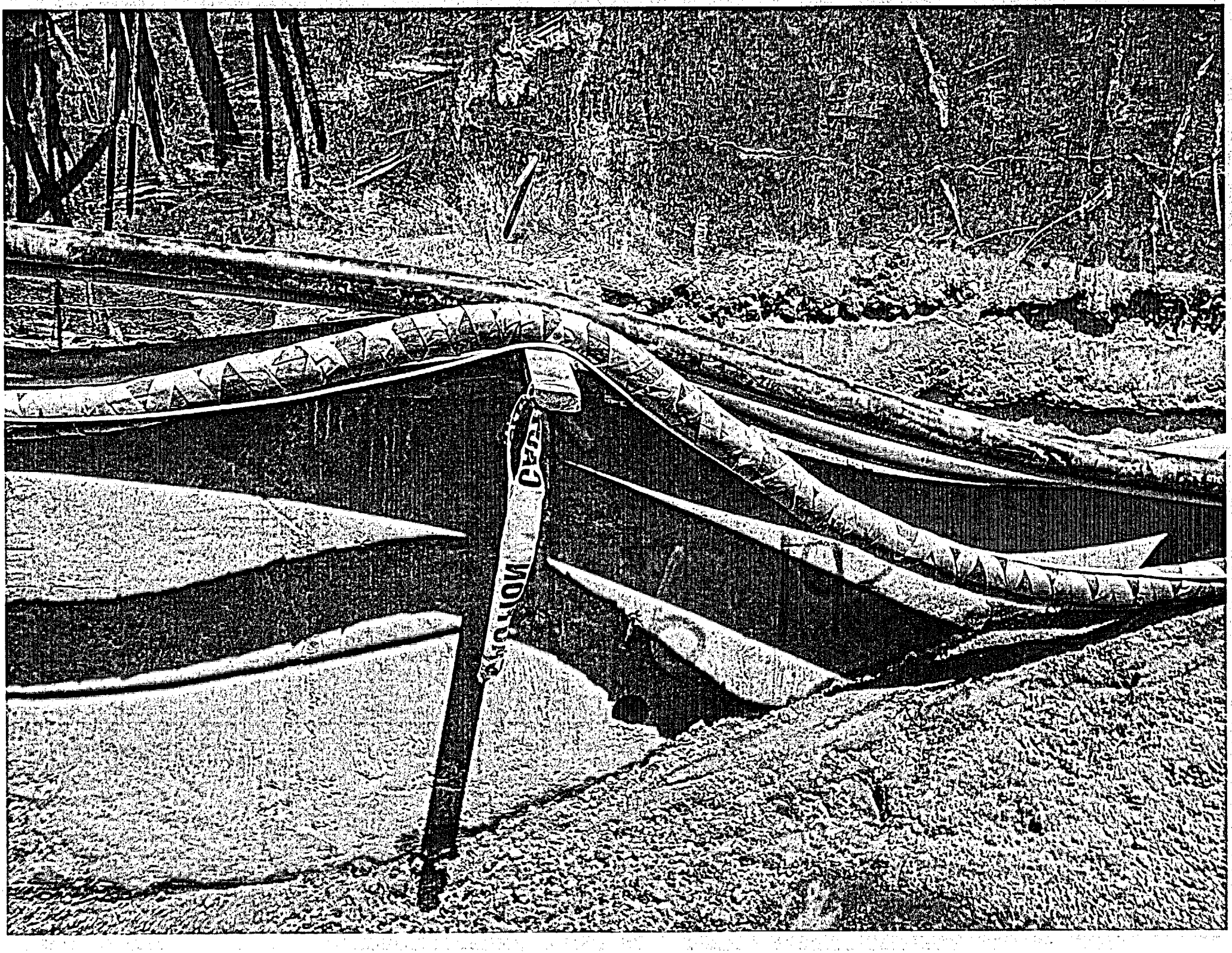

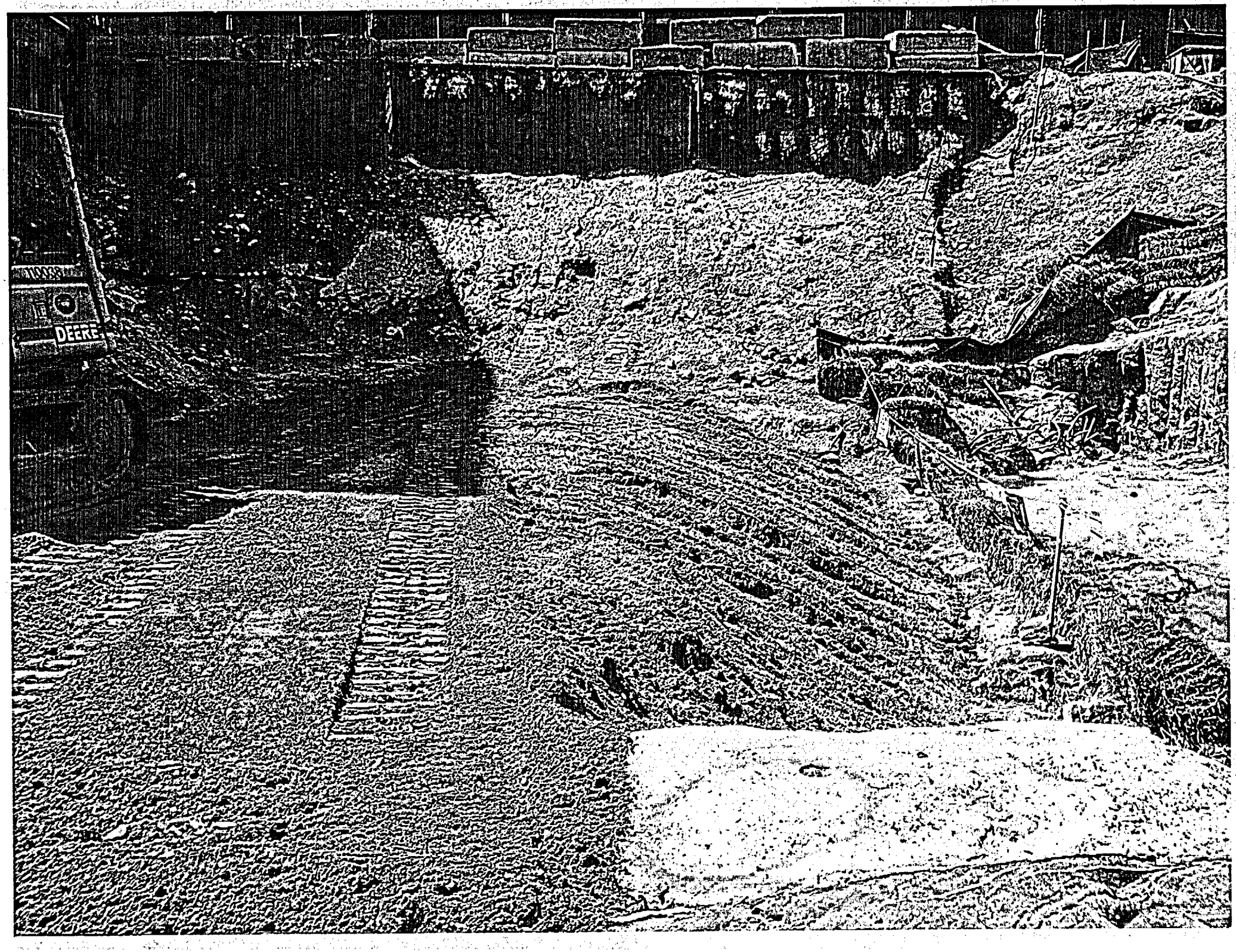
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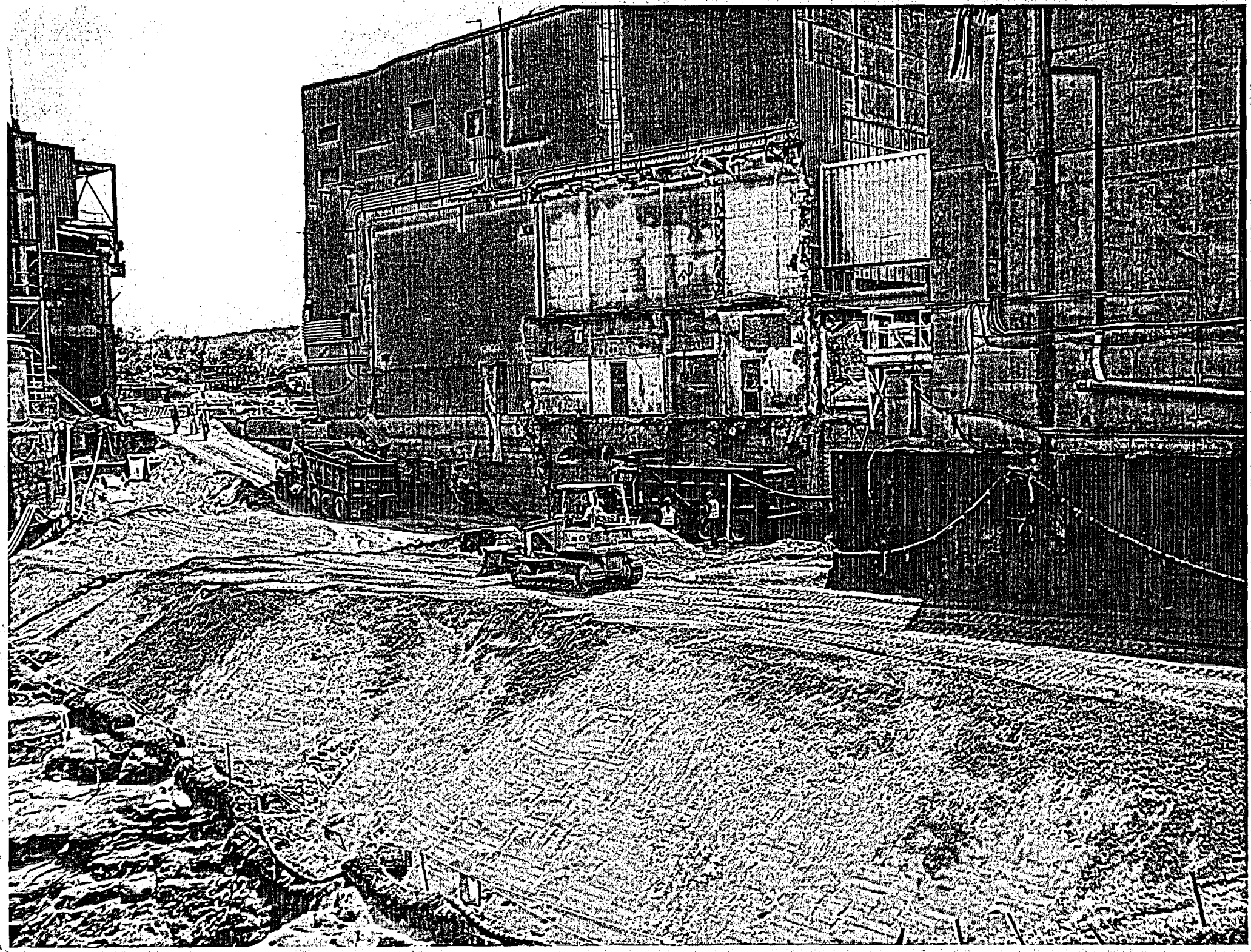
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