

1R - 208

REPORTS

DATE:

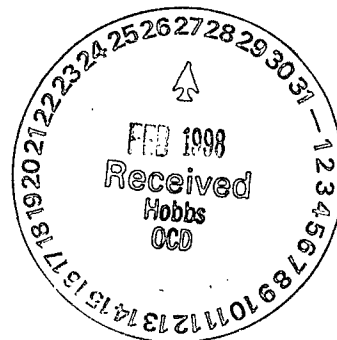
2-20-1998

American Environmental Network, Inc.

AEN I.D. 802328

February 20, 1998

NM-OCD
PO Box 1980
Hobbs NM 88241



Project Name POLARIS
Project Number SHELTON F-26-14-37

Attention: WAYNE PRICE

On 2/7/98 American Environmental Network (NM), Inc. (ADHS License No. AZ0015), received a request to analyze **non-aq** samples. The samples were analyzed with EPA methodology or equivalent methods. The results of these analyses and the quality control data, which follow each set of analyses, are enclosed.

Chlorides were analyzed by American Environmental Network (OR) Inc., Portland, OR.

All other methods were analyzed by American Environmental Network (NM) Inc., Albuquerque, NM.

If you have any questions or comments, please do not hesitate to contact us at (505)344-3777.

Kimberly D. McNeill
Project Manager

H. Mitchell Rubenstein, Ph. D.
General Manager

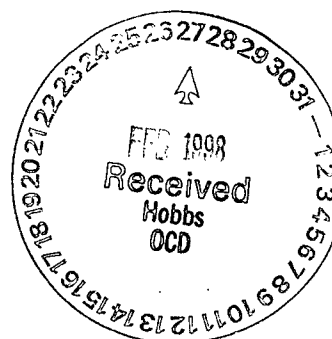
MR: mt

Enclosure

American Environmental Network, Inc.

CLIENT	: NM-OCD	AEN I.D.	: 802328
PROJECT #	: SHELTON F-26-14-37	DATE RECEIVED	: 2/7/98
PROJECT NAME	: POLARIS	REPORT DATE	: 2/20/98

AEN ID. #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
01	9802060948 SS1-4' DEEP	NON-AQ	2/6/98
02	9802061008 SS2-3' DEEP	NON-AQ	2/6/98
03	9802061018 SS2-8' DEEP	NON-AQ	2/6/98
04	9802061026 SS3-BERM	NON-AQ	2/6/98



American Environmental Network, Inc.

GENERAL CHEMISTRY RESULTS

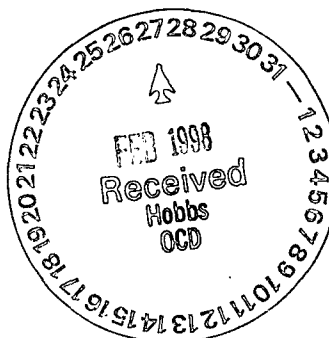
418.1

CLIENT : NM-OCD AEN I.D. : 802328
PROJECT # : SHELTON F-26-14-37 DATE RECEIVED : 2/7/98
PROJECT NAME : POLARIS

SAMPLE			DATE	DATE	DATE	DIL.
ID. #	CLIENT I.D.	MATRIX	SAMPLED	EXTRACTED	ANALYZED	FACTOR
01	9802060948	NON-AQ	2/6/98	2/11/98	2/11/98	10
02	9802061008	NON-AQ	2/6/98	2/11/98	2/11/98	50
03	9802061018	NON-AQ	2/6/98	2/11/98	2/11/98	50
PARAMETER		DET. LIMIT	UNITS	01	02	03
PETROLEUM HYDROCARBONS, IR		20	MG/KG	840	21000	27000

CHEMIST NOTES:

N/A



American Environmental Network, Inc.

GENERAL CHEMISTRY RESULTS

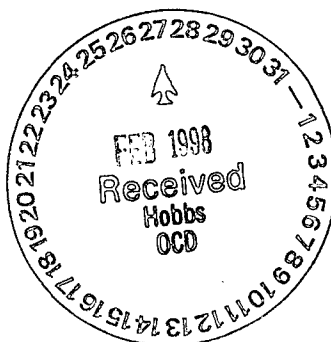
418.1

CLIENT : NM-OCD AEN I.D. : 802328
PROJECT # : SHELTON F-26-14-37 DATE RECEIVED : 2/7/98
PROJECT NAME : POLARIS

SAMPLE			DATE	DATE	DATE	DIL.
ID. #	CLIENT I.D.	MATRIX	SAMPLED	EXTRACTED	ANALYZED	FACTOR
04	9802061026	NON-AQ	2/6/98	2/11/98	2/11/98	200
PARAMETER		DET. LIMIT	UNITS	04		
PETROLEUM HYDROCARBONS, IR		20	MG/KG	73000		

CHEMIST NOTES:

N/A



American Environmental Network, Inc.

GENERAL CHEMISTRY - REAGENT BLANK

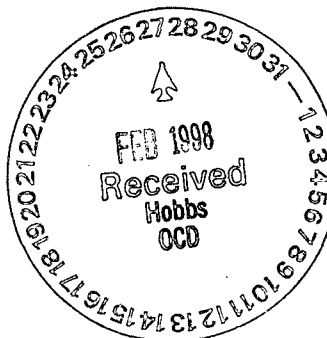
418.1

CLIENT	: NM-OCD	AEN I.D.	: 802328
PROJECT #	: SHELTON F-26-14-37	SAMPLE MATRIX	: NON-AQ
PROJECT NAME	: POLARIS	UNITS	: MG/KG

PARAMETER	AEN I.D.	SAMPLE RESULT
PETROLEUM HYDROCARBONS	021198	<20

CHEMIST NOTES:

N/A



American Environmental Network, Inc.

GENERAL CHEMISTRY - QUALITY CONTROL

418.1

CLIENT : NM-OCD
PROJECT # : SHELTON F-26-14-37
PROJECT NAME : POLARIS

AEN I.D. : 802328
SAMPLE MATRIX : NON-AQ
UNITS : MG/KG

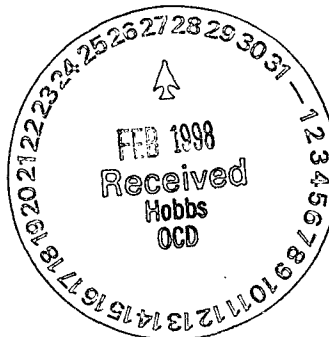
PARAMETER	AEN I.D.	SAMPLE RESULT	DUP. RESULT	% RPD	SPIKED SAMPLE	SPIKE CONC.	% REC
PETROLEUM HYDROCARBONS	021198	<20	<20	NA	160	150	107%

CHEMIST NOTES:

N/A

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative Percent Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$



GAS CHROMATOGRAPHY RESULTS

TEST : BTEX, MTBE (EPA 8021)
CLIENT : NM-OCD
PROJECT # : SHELTON F-26-14-37
PROJECT NAME : POLARIS

AEN I.D.: 802328

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
01	9802060948	SS1-4' DEEP	2/6/98	2/12/98	2/12/98	1
02	9802061008	SS2-3' DEEP	2/6/98	2/12/98	2/13/98	50
03	9802061018	SS2-8' DEEP	2/6/98	2/12/98	2/13/98	50

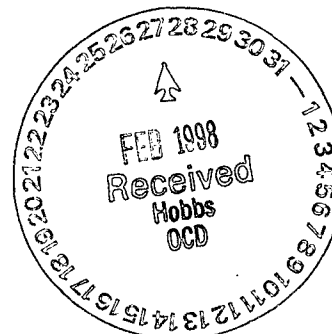
PARAMETER	DET. LIMIT	UNITS	01	02	03
BENZENE	0.025	MG/KG	< 0.025	< 1.3	< 1.3
TOLUENE	0.025	MG/KG	< 0.025	7.5	2.6
ETHYLBENZENE	0.025	MG/KG	0.13	8.3	7.5
TOTAL XYLENES	0.025	MG/KG	0.70	81	64
METHYL-t-BUTYL ETHER	0.13	MG/KG	< 0.13	< 6.5	< 6.5

SURROGATE:

BROMOFLUOROBENZENE (%)	94	NA *	NA *
SURROGATE LIMITS (65 - 120)			

CHEMIST NOTES:

* - DUE TO NECESSARY SAMPLE DILUTION, SURROGATE RECOVERY WAS NOT OBTAINABLE.



GAS CHROMATOGRAPHY RESULTS

TEST : BTEX, MTBE (EPA 8021)
CLIENT : NM-OCD
PROJECT # : SHELTON F-26-14-37
PROJECT NAME : POLARIS

AEN I.D.: 802328

PROJECT NAME		PROJECT NO.		DATE	DATE	DATE	DIL.
SAMPLE ID. #	CLIENT I.D.	MATRIX	SAMPLED	EXTRACTED	ANALYZED	FACTOR	
04	9802061026	SS3-BERM	NON-AQ	2/6/98	2/12/98	2/12/98	1
PARAMETER		DET. LIMIT	UNITS	04			
BENZENE		0.025	MG/KG	< 0.025			
TOLUENE		0.025	MG/KG	< 0.025			
ETHYLBENZENE		0.025	MG/KG	< 0.025			
TOTAL XYLENES		0.025	MG/KG	0.15			
METHYL-t-BUTYL ETHER		0.13	MG/KG	< 0.13			

SURROGATE:

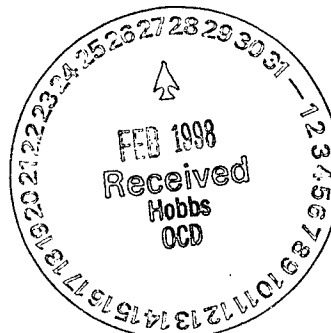
BROMOFLUOROBENZENE (%)

85

SURROGATE LIMITS (65 - 120)

CHEMIST NOTES:

N/A

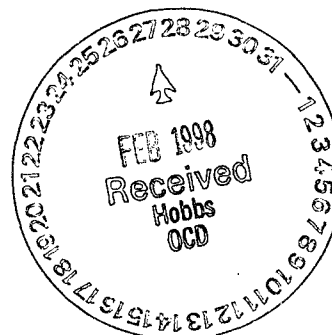


GAS CHROMATOGRAPHY RESULTS
REAGENT BLANK

TEST	: BTEX, MTBE (EPA 8021)	AEN I.D.	: 802328
BLANK I. D.	: 021298	DATE EXTRACTED	: 2/12/98
CLIENT	: NM-OCD	DATE ANALYZED	: 2/12/98
PROJECT #	: SHELTON F-26-14-37	SAMPLE MATRIX	: NON-AQ
PROJECT NAME	: POLARIS		

PARAMETER	UNITS	
BENZENE	MG/KG	<0.025
TOLUENE	MG/KG	<0.025
ETHYLBENZENE	MG/KG	<0.025
TOTAL XYLENES	MG/KG	<0.025
METHYL-t-BUTYL ETHER	MG/KG	<0.13

SURROGATE:
BROMOFLUOROBENZENE (%) 93
SURROGATE LIMITS: (80 - 120)
CHEMIST NOTES:
N/A



American Environmental Network, Inc.

GAS CHROMATOGRAPHY QUALITY CONTROL
MSMSD

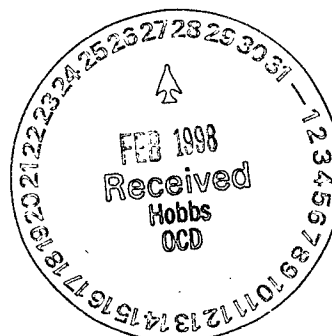
TEST	: BTEX, MTBE (EPA 8021)	AEN I.D.	: 802328
MSMSD #	: 021298	DATE EXTRACTED	: 2/12/98
CLIENT	: NM-OCD	DATE ANALYZED	: 2/12/98
PROJECT #	: SHELTON F-26-14-37	SAMPLE MATRIX	: NON-AQ
PROJECT NAME	: POLARIS	UNITS	: MG/KG

PARAMETER	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD	REC LIMITS	RPD LIMITS
BENZENE	<0.025	1.00	0.91	91	0.90	90	1	(68 - 120)	20
TOLUENE	<0.025	1.00	0.93	93	0.93	93	0	(64 - 120)	20
ETHYLBENZENE	<0.025	1.00	1.00	100	1.00	100	0	(49 - 127)	20
TOTAL XYLENES	<0.025	3.00	2.93	98	2.93	98	0	(58 - 120)	20
METHYL-t-BUTYL ETHER	<0.13	2.00	1.81	91	1.86	93	3	(66 - 120)	20

CHEMIST NOTES:
N/A

% Recovery = $\frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$

RPD (Relative Percent Difference) = $\frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$



American Environmental Network, Inc.

17400 SW Upper Boones Ferry Road • Suite 270 • Portland, OR 97224 • (503) 684-0447

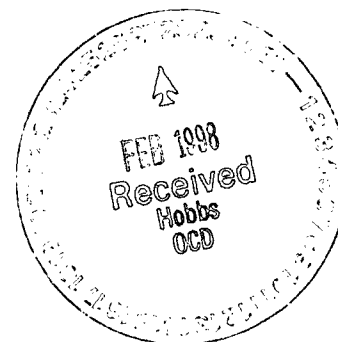
Kim McNeill
AEN - Albuquerque
2709-D Pan American Fwy NE
Albuquerque, NM 87107

Date: 02/11/1998
AEN Account No.: 90147
AEN Job Number: 98.00277

Project: 802328/NMOCD
Location: SHELTON F-26-14-37/POLARIS

Sample analysis in support of the project referenced above has been completed and results are presented on the following pages. Should you have questions regarding procedures or results, please feel welcome to contact Client Services.

Sample Number	Sample Description	Matrix Type	Date Taken	Date Received
90191	9802060948 551-4' DEEP (802328-01)	SOIL	02/06/1998	02/10/1998
90192	9802061008 552-3' DEEP (802328-02)	SOIL	02/06/1998	02/10/1998
90193	9802061018 552-8' DEEP (802328-03)	SOIL	02/06/1998	02/10/1998



Approved by:


Andi Hoevet
Project Manager
AEN, INC.


Technical Review
AEN, INC.

The results from these samples relate only to the items tested. This report shall not be reproduced, except in full, without the written approval of the laboratory.

ANALYTICAL REPORT

Kim McNeill
AEN - Albuquerque
2709-D Pan American Fwy NE
Albuquerque, NM 87107

02/11/1998
Job No.: 98.00277

Page: 2

Project Name: 802328/NMOCD
Date Received: 02/10/1998

Sample Number Sample Description
90191 9802060948 551-4' DEEP (802328-01)

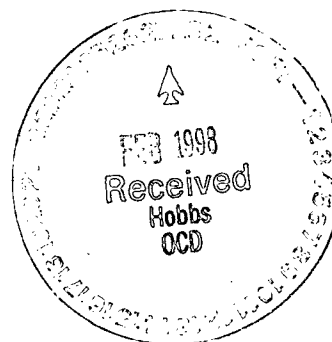
<u>PARAMETERS</u>	<u>METHODS</u>	<u>RESULTS</u>	<u>REPORT LIMIT</u>	<u>UNITS</u>	<u>DATE ANALYZED</u>	<u>FLAG</u>
Chloride	325.3	840	100	mg/Kg	02/11/1998	DIL,Q

Sample Number Sample Description
90192 9802061008 552-3' DEEP (802328-02)

<u>PARAMETERS</u>	<u>METHODS</u>	<u>RESULTS</u>	<u>REPORT LIMIT</u>	<u>UNITS</u>	<u>DATE ANALYZED</u>	<u>FLAG</u>
Chloride	325.3	430	100	mg/Kg	02/11/1998	DIL,Q

Sample Number Sample Description
90193 9802061018 552-8' DEEP (802328-03)

<u>PARAMETERS</u>	<u>METHODS</u>	<u>RESULTS</u>	<u>REPORT LIMIT</u>	<u>UNITS</u>	<u>DATE ANALYZED</u>	<u>FLAG</u>
Chloride	325.3	1400	100	mg/Kg	02/11/1998	DIL,Q



A sample result of ND indicates the parameter was Not Detected at the reporting limit.

American Environmental Network, Inc. (503) 684-0447 (503) 620-0393 FAX
17400 SW Upper Boones Ferry Rd., Suite 270, Portland, OR 97224

QUALITY CONTROL REPORT CONTINUING CALIBRATION VERIFICATION

AEN - Albuquerque
2709-D Pan American Fwy NE
Albuquerque, NM 87107

Date: 02/11/1998

Job Number: 98.00277

Contact: Kim McNeill
Project: 802328/NMOCD

Analyte	CCV		Percent Recovery	Date Analyzed
	True Concentration	Concentration Found		
Chloride	10.0	9.63	96.3	02/11/1998
Chloride	10.0	10.6	106.0	02/11/1998



CCV - Continuing Calibration Verification

American Environmental Network, Inc. (503) 684-0447 (503) 620-0393 FAX
17400 SW Upper Boones Ferry Rd., Suite 270, Portland, OR 97224

QUALITY CONTROL REPORT BLANKS

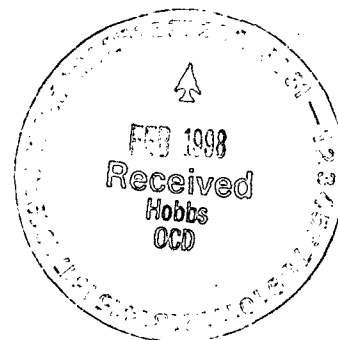
AEN - Albuquerque
2709-D Pan American Fwy NE
Albuquerque, NM 87107

Date: 02/11/1998
Job Number: 98.00277

Contact: Kim McNeill
Project: 802328/NMOCD
Location: SHELTON F-26-14-37/POLARIS

Analyte	Blank Analysis	Report Limit	Units	Date Analyzed
Chloride	ND	10	mg/Kg	02/11/1998

American Environmental Network, Inc. (503)684-0447 (503)620-0393 FAX
17400 SW Upper Boones Ferry Rd., Portland, OR 97224



FLAG GLOSSARY

A This sample does not have a typical gasoline pattern.

B1 This sample does not have a typical diesel pattern.

B Analyte found in the associated blank as well as the sample.

C The sample contains a lighter hydrocarbon than gasoline.

CN See case narrative

CS Outside control limits or unusual matrix; see case narrative.

D The sample extends to a heavier hydrocarbon range than gasoline.

d Results on a dry weight basis

DIL Result was calculated from dilution.

E The sample extends to a lighter hydrocarbon range than diesel.

F The sample extends to a heavier hydrocarbon range than diesel.

G The positive result for gasoline is due to single component contamination.

I The oil pattern for this sample is not typical.

J The result for this compound is an estimated concentration.

L The LCS recovery exceeded control limits. See the LCS page of this report.

LM The LCS recovery exceeded control limits; the MS/MSD were in control validating the batch.

M MS and/or MSD percent recovery exceeds control limits.

MD Unable to calculate MS/MSD recovery due to high amount of analyte; greater than 4 times spike level.

MR The MS/MSD RPD is greater than method criteria. The sample was re-extracted and re-analyzed with similar results indicating a non-homogeneous sample.

MM The Matrix Spike exceeded control limits; LCS/LCS-D were in control validating the batch.

MI Outside control limits due to matrix interference.

N Manual integration performed on sample for quantification.

N/A Not Applicable.

NC Not calculable.

NO Not Analyzed.

P A post digestion spike was analyzed, and recoveries were within control limits.

Q Detection limits elevated due to sample matrix.

Q1 Detection limits elevated due to high levels of non-target compounds. Sample(s) run at a dilution.

R The duplicate RPD was greater than 20%. The sample was re-extracted and re-analyzed with similar results. This indicates a matrix interference in the sample, likely a non-homogeneity of the sample.

RD RPD not applicable for results less than five times the reporting limit.

RP MS/MSD RPD is greater than 20%

SR Surrogate recovery outside control limits. See the surrogate page of the report.

SD Unable to quantitate surrogate due to sample dilution.

SC Sample not provided to laboratory in proper sampling container.

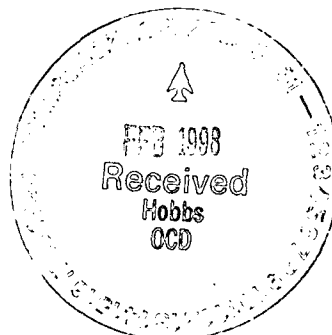
V Volatile analysis was requested, sample container received with headspace.

X1 The duplicate RPD was greater than 20%. Due to insufficient sample, re-analysis was not possible.

X Sample was analyzed outside recommended holding times.

Y The result for this parameter was greater than the TCLP regulatory limit.

Z The pattern seen for the parameter being analyzed is not typical.



Interlab Chain of Custody

DATE: 2/5/98 PAGE: 1 OF 1

NETWORK PROJECT MANAGER: KIMBERLY D. McNEILL

COMPANY: American Environmental Network
ADDRESS: 2709-D Pan American Freeway, NE
Albuquerque, NM 87107

CLIENT PROJECT MANAGER:

Kim McNeill

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	Metals - TAL	Metals - PP List	Metals - RCRA	RCRA Metals by TCLP (1311)	Chlorides	TOX	TOC	Gen Chemistry	Oil and Grease	BOD	COD	Pesticides/PCB (608/8080)	Herbicides (615/8150)	Base/Neutral Acid Compounds GC/MS (625/8270)	Volatile Organics GC/MS (624/8240)	Polynuclear Aromatics (610/8310)	8240 (TCLP 1311) ZHE	8270 (TCLP 1311)	TO-14	Gross Alpha/Beta	NUMBER OF CONTAINERS
8023328-01	2/6/98	0848	NAR	90191					X																
-02		1008		90192					X																
-03		1018		90193					X																

PROJECT INFORMATION

SAMPLE RECEIPT

SAMPLES SENT TO:

RELINQUISHED BY:

RELINQUISHED BY:

PROJECT NUMBER: 8023328

TOTAL NUMBER OF CONTAINERS

SAN DIEGO

Signature: [Signature] Time: 1700

Signature: _____ Time: _____

PROJECT NAME: NMCD

CHAIN OF CUSTODY SEALS

RENTON

Printed Name: John Caldwell Date: 2-9-98

Printed Name: _____ Date: _____

QC LEVEL: STD IV

INTACT?

PENSACOLA

Signature: _____ Time: _____

Signature: _____ Time: _____

QC REQUIRED: MS MSD BLANK

RECEIVED GOOD COND/COLD

PORTLAND

Signature: [Signature] Time: 3:20

Signature: _____ Time: _____

TAT: STANDARD RUSH

LAB NUMBER 98.02277

PHOENIX

Signature: [Signature] Time: 3:20

Signature: _____ Time: _____

DUE DATE: 2/19/98

RUSH SURCHARGE: _____

CLIENT DISCOUNT: _____

SPECIAL CERTIFICATION REQUIRED: ☐ YES ☐ NO

Labs: San Diego (619) 456-9141 • Phoenix (602) 456-4400 • Seattle (206) 228-8335 • Pensacola (904) 474-1001 • Portland (503) 684-0447 • Albuquerque (505) 344-3777

RECHECKED BY: _____

DISTRIBUTION: White, Canary • AEN Pink • ORIGINATOR

CHAIN OF CUSTODY

DATE: 2/6/78 PAGE: 1 OF 1

AEN LAB I.D. 802328

PROJECT MANAGER: ZAYNE PREZ

COMPANY:

ADDRESS:

PHONE:

FAX:

BILL TO:

COMPANY:

ADDRESS:

SAMPLE ID

DATE

TIME

MATRIX

LAB I.D.

Petroleum Hydrocarbons (418.1) TRPH
 (MOD.8015) Diesel/Direct/Inject

(M8015) Gas/Purge & Trap

Gasoline/BTEX & MTBE (M8015/8020)

BTXE/MTBE (8020)

BTEX & Chlorinated Aromatics (602/8020)

BTEX/MTBE/EDC & EDB (8020/8010/Short)

Chlorinated Hydrocarbons (601/8010)

504 EDB ☐ / DBCP ☐

Polynuclear Aromatics (610/8310)

Volatile Organics (624/8240) GC/MS

Volatile Organics (8260) GC/MS

Pesticides/PCB (608/8080)

Herbicides (615/8150)

Base/Neutral/Acid Compounds GC/MS (625/8270)

General Chemistry:

CHLORIDES

Priority Pollutant Metals (13)

Target Analyte List Metals (23)

RCRA Metals (8)

RCRA Metals by TCLP (Method 1311)

Metals:

NUMBER OF CONTAINERS

PROJECT INFORMATION

PROJ. NO.: SHELTON F-26-A-37

PROJ. NAME: BELARIS

P.O. NO.:

SHIPPED VIA:

SAMPLE RECEIPT

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) ☐ 24hr ☐ 48hr ☐ 72hr ☐ 1 WEEK

(NORMAL) ☒

CERTIFICATION REQUIRED: ☐ NM ☐ SDWA ☐ OTHER

METHANOL PRESERVATION ☐

COMMENTS: FIXED FEE ☐ - SAMPLES ON ICE PAKS

• SAMPLES TRUCK WITH RICE-HOE

• 211055 - GARY HAYDE

• 211055 - NOTE: PLEASE RETURN COOLER

• 211055 - WITH SAMPLE KIT FOR G-40

• 211055 - 320A PM - UNIS (KEL)

RELINQUISHED BY: 1.

Signature: [Signature] Time: 1:00 PM

Printed Name: ZAYNE PREZ Date: 2/6/78

Company: AENCO

SIGNATURE: [Signature]

Signature: [Signature] Time: [Time]

Printed Name: [Name] Date: [Date]

Company: [Company]

RELINQUISHED BY: 2.

Signature: [Signature] Time: [Time]

Printed Name: [Name] Date: [Date]

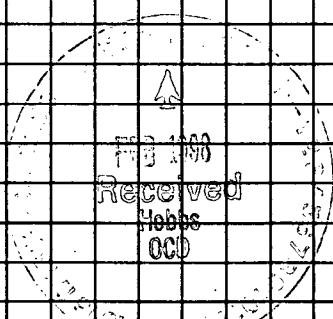
Company: [Company]

RECEIVED BY: (LAB)

Signature: [Signature] Time: [Time]

Printed Name: [Name] Date: [Date]

Company: [Company]



PLEASE FILL THIS FORM IN COMPLETELY.

SHADED AREAS ARE FOR LAB USE ONLY.