3R - 317

REPORTS

DATE:
1998

Public Service Company
of New Mexico
Alvarado Square MS 0408
Albuquerque, NM 87158

April 2, 1998

Mr. William Olson
Hydrogeologist
Oil Conservation Division
2040 So. Pacheco
Santa Fe, New Mexico 87505

RE: 1998 SAN JUAN BASIN ANNUAL GROUNDWATER REPORT

Dear Bill:

PNM is pleased to submit the 1998 Annual Groundwater Report on Unlined Surface Impoundments in the San Juan Basin. Pursuant to PNM's Groundwater Management Program for Unlined Surface Impoundment Closures, the report details the ongoing investigation/remedial activities at unlined surface impoundments having groundwater contamination as identified by PNM. A list of groundwater sites reported in this document is provided below.

Cozzens B1
Dogie Compressor Station East Pit
Dogie Compressor Station North Pit
Florance 32A
Florance Z 40 M
Florance 44
Florance 47X
Florance 124
Hampton 4M
Honolulu Loop Line Drip
Ice Canyon Drip
Jacques 2A
Mangum 1E
McClanahan 22
McClanahan A2E
McCoy Gas Com A1
Miles Federal 1E
Miles Federal 1E Drip
Randleman 1
Reid 16 Drip
Sammons 2
Turner 1A
Turner 3
Zachry 18E

PNM plans to request closure of two of the above sites, the Cozzens B1 and the Sammons 2, in our April 30, 1998 filing of the San Juan Pit Closure Reports to the OCD Santa Fe office. If you have any questions regarding the contents of the report, please contact me at (505) 241-2974.

Sincerely,

Maureen Gannon
Project Manager

Attachment

cc: Ingrid Deklau, WFS
Denny Foust, OCD-Aztec Office
Bill VonDrehle, WFS

bcc: Colin Adams (w/o analytical results)
Kathy Juckes
Ron Johnson (w/o analytical results)
Mark Sikelianos

PNMGS Well Site: Florance 47X

Groundwater Site Summary Report

Copies: WFS(1)
Operator (1)
NMOCD District Office (1)
NMOCD Santa Fe (1)

Quarter/Year: 2nd/97, 3rd/97, 4th/97 & 1st/98

Operator: Amoco
Sec: 5 **Twn:** 30N **Rng:** 9W **Unit:** G
Canyon: Crow

Vulnerable Class: Original
OCD Ranking: 0
Lead Agency: NMOCD

Topo Map: previously submitted
Well Completion Diagram: previously submitted
Site Map with Analytical Results: Figure 1
Groundwater Contour Map: Figure 2 (June 1997), Figure 3 (September 1997), Figure 4 (December 1997) & Figure 5 (March 1998)
Hydrograph: Figure 6
Full-Suite Groundwater Sampling Results: Table 1
Analytical Results: attached

Activities for First Quarter 1997:

PNM conducted quarterly groundwater sampling at the Florance 47X on June 26, September 24 and December 23, 1997, and again on March 9, 1998. Prior to sampling, water level measurements were taken in each of the three wells. During all events, PNM was only able to collect a groundwater sample in MW-1 due to the presence of free phase product in both MW-2 and -3. Samples from MW-1 were analyzed for benzene, toluene, ethylbenzene, and xylenes (BTEX). In addition, during the June 26, 1997 sampling event, MW-1 was also sampled for Water Quality Control Commission (WQCC) metals (dissolved) and major cations/anions. Sampling was performed in strict compliance with EPA protocol. PNM delivered the samples to OnSite Technologies, Farmington, New Mexico for chemical analysis of the following:

- BTEX using EPA Method 8020
- major cations/anions using various EPA methods
- WQCC metals- filtered (As, Ba, Cd, Cr, Pb, Se, and Ag using inductively coupled plasma (ICP) for heavy metals and atomic absorption spectroscopy (AAS) for Hg and Se).

Results:

Figure 1 is a site map of the Florance 47X and includes groundwater analytical results. The benzene concentration in MW-1 has been above WQCC standard for the past four quarters since installation of the well. In MW-2, PNM has detected a slight presence of straw-colored free phase product. A darker, brownish free phase was observed and measured (currently at a 1.2' depth) in MW-3. The water quality analysis in MW-2 showed elevated levels of sulfate in groundwater in this area.

Figure(s) 2, 3, 4 and 5 are groundwater contour maps of the months of June, September, and December 1997 and March 1998, respectively. Groundwater flows in a southwesterly direction beneath the site. Figure 6 is the hydrograph of the site; the groundwater elevation in all wells remain fairly constant.

Further Action:

PNM will continue to monitor the groundwater gradient and perform quarterly groundwater sampling at the site. In addition, a separate report on this site detailing the latest findings and proposed actions will be filed with the OCD by April 30, 1998.

Public Service Company of New Mexico - Gas Services
Environmental Services Division - Alvarado Square, MS-0408
Albuquerque, NM 87158

Contact: Maureen Gannon **Telephone: 505-241-2974**

Figure 1. Florance 47X Site Map

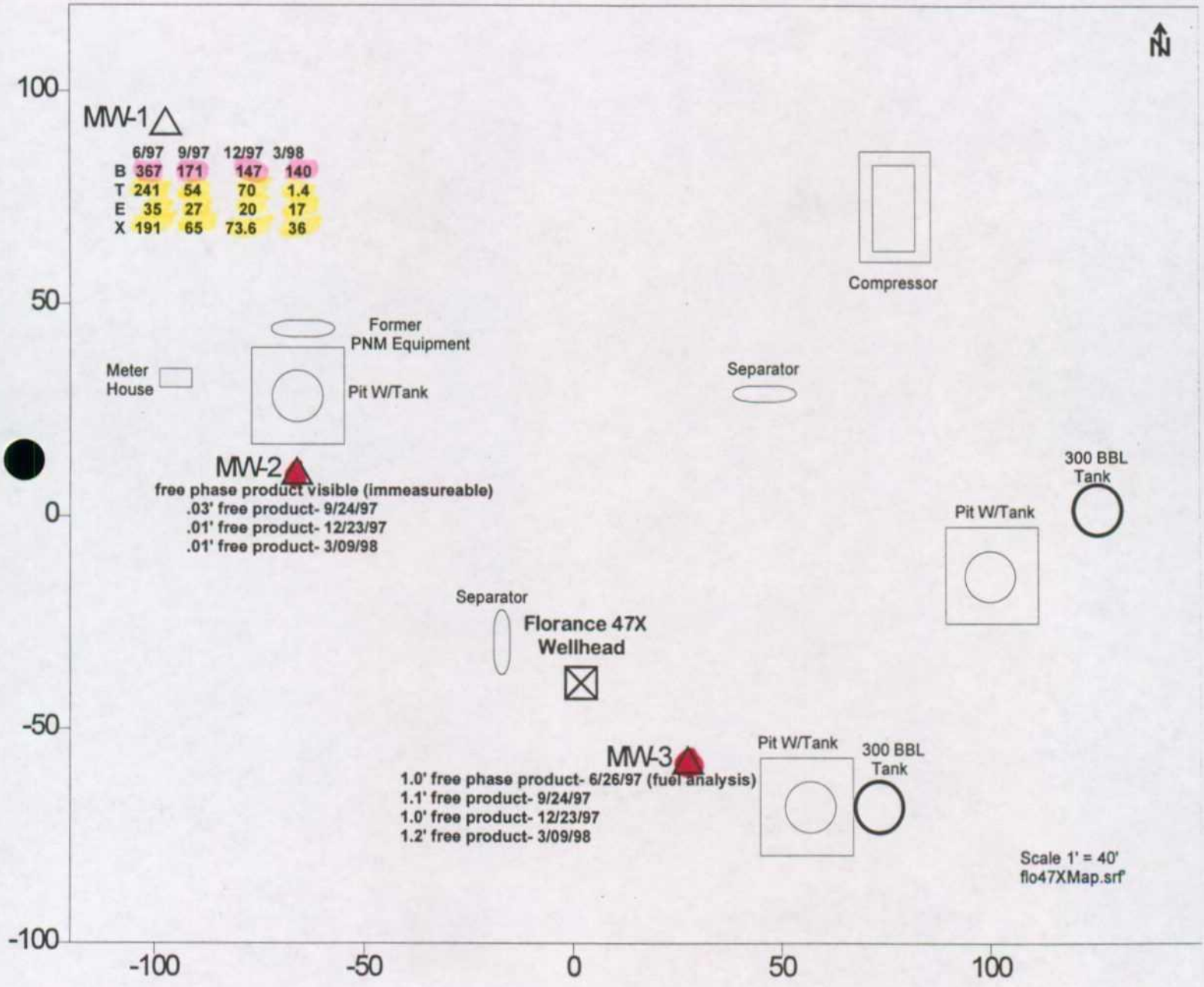

Figure 2. Florance 47X Groundwater Contour Map (June26, 1997)

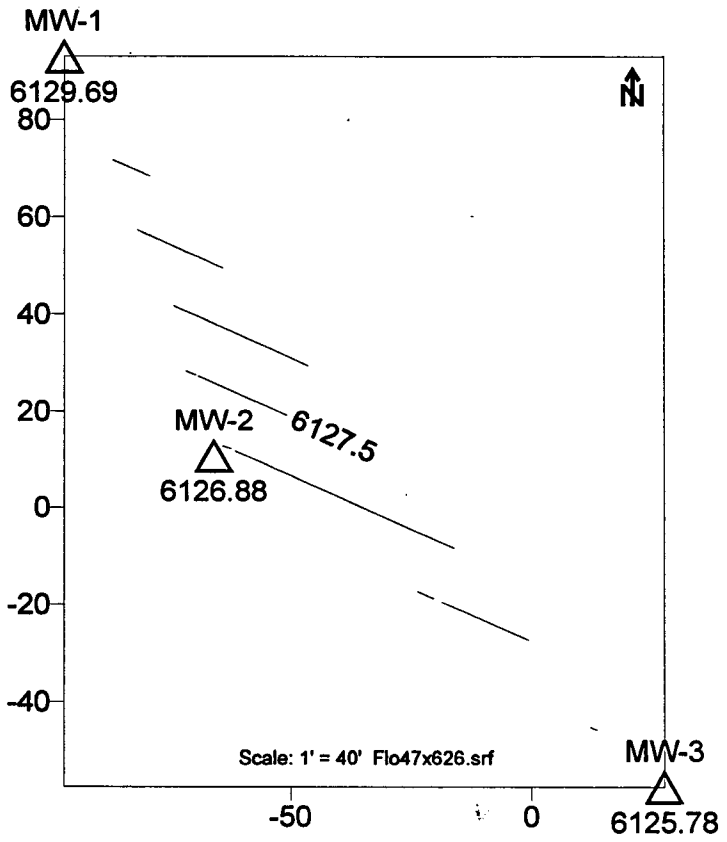

Figure 3. Florance 47X Groundwater Contour Map (September 24, 1997)

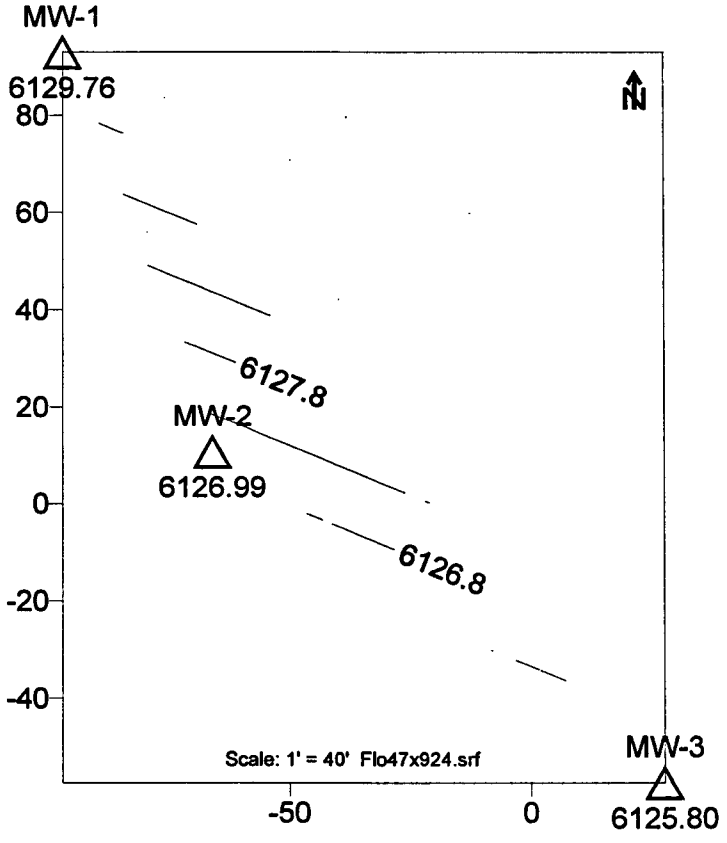

Figure 4. Florance 47X Groundwater Contour Map (December 23, 1997)

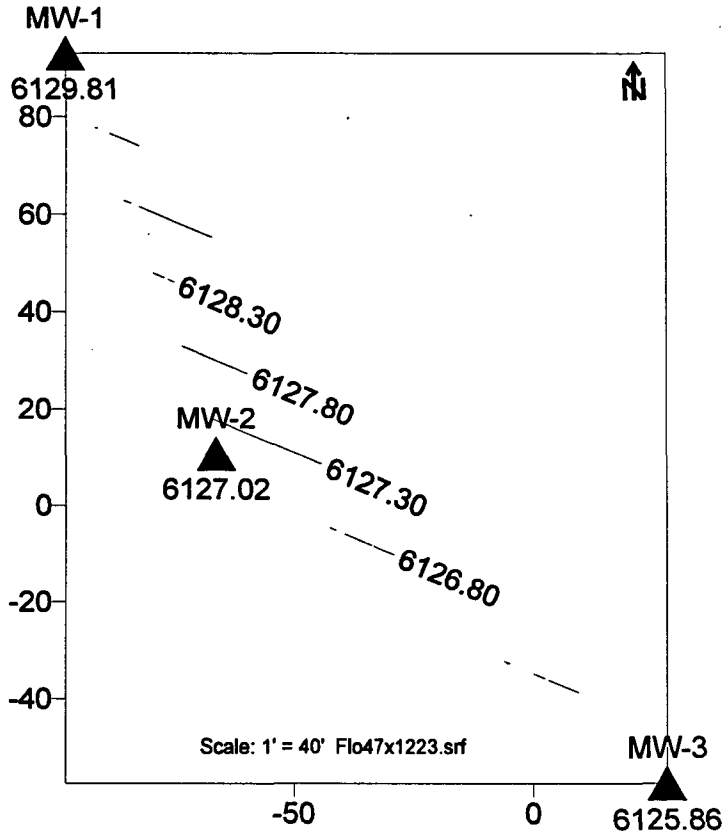

Figure 5. Florance 47X Groundwater Contour Map (March 9, 1998)

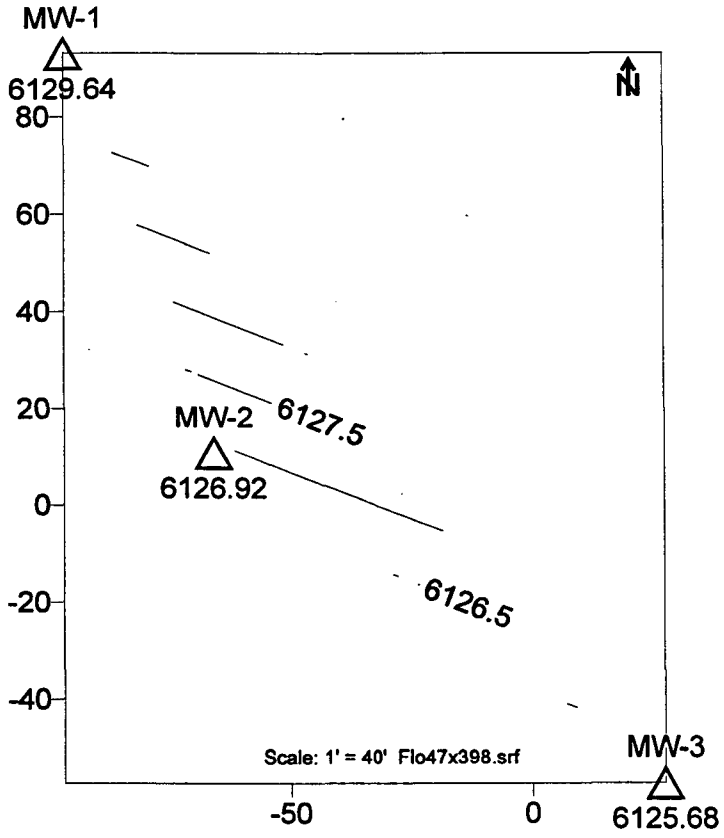

Figure 6. Florance 47X Hydrograph
(Water Level vs. Time)

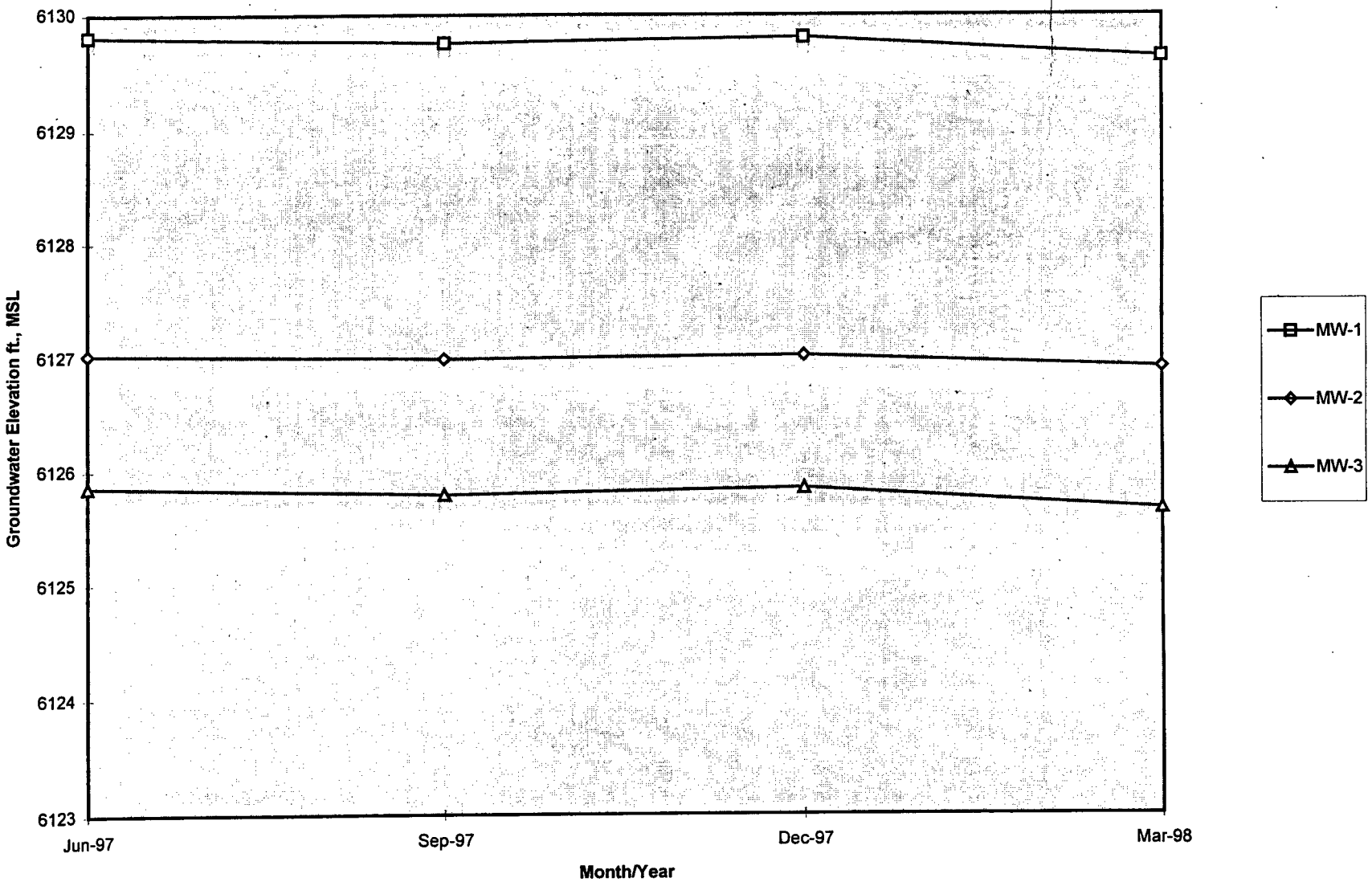

Table 1. FLORANCE 47X GROUNDWATER SAMPLING RESULTS, mg/l (6/26/97)

Constituent	WQCC Stds.	MW-1
B	0.01	0.3670
T	0.75	0.2410
E	0.75	0.0350
X	0.62	0.1910
PAHs	0.03	NA
Metals		
As	NA	<0.030
Ba	NA	0.118
Cd	NA	<0.004
Cr	NA	<0.010
Pb	NA	<0.040
Se	NA	<0.006
Ag	NA	<0.006
Hg	NA	<0.0001
Cations/Anions		
Na	NA	110
Ca	NA	409
Mg	NA	110.0
K	NA	12.8
Cl	NA	16
SO4	NA	1722
CO3	NA	<1
HCO3	NA	183
OH	NA	<1
Cation/Anion Balance		
Difference Cation-Anion	NA	4.73
Total Cation-Anion	NA	73.88
% Difference	NA	6.4
TDS, calc	NA	2563
TDS, meas	NA	2762
Hardness as CaCO3	NA	1474

NA: Not Applicable
BDL: Below Detection Limit
NS: Not Sampled
** Out of Acceptable Range, % Diff. +/-5
P Free Product

s:\gaspits\flo47Xtb.doc

OFF: (505) 325-5667

ON SITE
TECHNOLOGIES, LTD.

LAB: (505) 325-1556

24 July 1997

Denver Bearden
PNM Gas Services
603 W. Elm Street
Farmington, NM 87401

Reference:
Project Name: *Florance 47X*
Project Loc.: *MW-1, MW-3*
On Site ID: *COC Record No.5566*

Dear Denver,

Enclosed please find the analytical results for your project referenced above. This includes the parameters sub-contracted to Mountain States Analytical and Southern Petroleum Laboratory for dissolved metals and fuel fingerprinting, respectively.

We trust you will find all in order and should you have any questions regarding these results please contact me at any time, (505) 325-2432.

Thank you once again for your consideration.

Sincerely,

On Site Technologies, Ltd.
David Cox
Laboratory Manager

cc: Maureen Gannon, PNM Gas Services

OFF: (505) 325-5667

ON SITE

LAB: (505) 325-1556

TECHNOLOGIES, LTD.

ANALYTICAL REPORT

Attn:	*Denver Bearden*	Date:	13-Jul-97
Company:	*PNM Gas Services*	COC No.:	*5566*
Address:	*603 W. Elm*	Sample No.:	*15118*
City, State:	*Farmington, NM 87401*	Job No.:	*2-1000*

Project Name:	***PNM Gas Services - Florance 47X***				
Project Location:	***9706261100; MW-1***				
Sampled by:	MS/MG/BK	Date:	26-Jun-97	Time:	11:00
Analyzed by:	DC	Date:	7-Jul-97		
Sample Matrix:	*Liquid*				

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
Benzene	367	ug/L	2	ug/L
Toluene	241	ug/L	2	ug/L
Ethylbenzene	35	ug/L	2	ug/L
m,p-Xylene	161	ug/L	2	ug/L
o-Xylene	30	ug/L	2	ug/L
TOTAL	834	ug/L		

ND - Not Detected at Limit of Quantitation

Method - *SW-846 EPA Method 8020A Aromatic Volatile Organics by Gas Chromatography*

Approved By: DaC

Date: 7/14/97

OFF: (505) 325-5667

ON SITE
TECHNOLOGIES, LTD.

LAB: (505) 325-1556

QUALITY ASSURANCE REPORT

for EPA Method 8020

Date Analyzed: 7-Jul-97

Internal QC No.: 0527-STD
Surrogate QC No.: 0528-STD
Reference Standard QC No.: 0529/30-QC

Method Blank

Parameter	Result	Unit of Measure
Average Amount of All Analytes In Blank	<0.2	ppb

Calibration Check

Parameter	Unit of Measure	True Value	Analyzed Value	% Diff	Limit
Benzene	ppb	20.0	19.8	1	15%
Toluene	ppb	20.0	20.2	1	15%
Ethylbenzene	ppb	20.0	20.4	2	15%
m,p-Xylene	ppb	40.0	39.5	1	15%
o-Xylene	ppb	20.0	20.3	2	15%

Matrix Spike

Parameter	1- Percent Recovered	2 - Percent Recovered	Limit	%RSD	Limit
Benzene	102	91	(39-150)	5	20%
Toluene	91	84	(46-148)	4	20%
Ethylbenzene	100	92	(32-160)	5	20%
m,p-Xylene	99	91	(35-145)	5	20%
o-Xylene	100	94	(35-145)	5	20%

Surrogate Recoveries

Laboratory Identification	S1 Percent Recovered	S2 Percent Recovered	Laboratory Identification	S1 Percent Recovered	S2 Percent Recovered
Limit Percent Recovered	(70-130)		Limit Percent Recovered	(70-130)	
15118-5566	92				
					(DC)
					7/14/97

S1: Flourobenzene

OFF: (505) 325-5667

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Attn:	*Denver Bearden*	Date:	21-Jul-97
Company:	*PNM Gas Services*	COC No.:	*5566*
Address:	*603 W. Elm*	Sample ID.:	*15118*
City, State:	*Farmington, NM 87401*	Job No.:	*2-1000*

Project Name:	***PNM Gas Services - Florance 47X***				
Project Location:	***9706261100; MW-1***				
Sampled by:	MS/MG/BK	Date:	26-Jun-97	Time:	11:00
Analyzed by:	HR	Date:	7-Jul-97		

Laboratory Analysis

Parameter		Results as Received	Unit of Measure		Results as Received	Unit of Measure	
Cations							
Sodium	*Na*	110	mg/L		4.78	me/L	
Calcium	*Ca*	409	mg/L		20.41	me/L	
Magnesium	*Mg*	110.0	mg/L		9.05	me/L	
Potassium	*K*	12.8	mg/L		0.33	me/L	
Anions							
Chloride	*Cl*	16	mg/L		0.45	me/L	
Sulfate	*SO4*	1722	mg/L		35.85	me/L	
Carbonate	*CO3 as CaCO3*	<1	mg/L		<0.01	me/L	
Bicarbonate	*HCO3 as CaCO3*	183	mg/L		3.00	me/L	
Hydroxide	*OH as CaCO3*	<1	mg/L		<0.01	me/L	
Total Dissolved Solids Calculated, Sum of Cation/Anion		2563	mg/L				
Total Dissolved Solids Dried @ 180 C		2762	mg/L				
pH		6.51					
Conductivity @ 25 C		2680	uS/cm				
Total Hardness as CaCO3		1474	mg/L				

Cation-Anion Balance

4.73 *Difference Cation-Anion, me/L*

73.88 *Total Cation-Anion, me/L*

6.4 *% Difference Cation-Anion*

Comments

Approved by:

Date: 7.21.97

OFF: (505) 325-5667

ON SITE
TECHNOLOGIES, LTD.

LAB: (505) 325-1556

QUALITY ASSURANCE REPORT

Cation/Anion Balance

Date: 7-Jul-97

Quality Control Sample

Parameter	*Laboratory Identification*	*True Value*	*Analyzed Value*	*Unit of Measure*	*% Diff*	*Limit % Diff*
Sodium, Na	0451-QC	2.32	2.36	mg/L	2	10
Calcium, Ca	0465-QC	2.18	2.16	mg/L	-1	10
Magnesium, Mg	0465-QC	2.86	3.00	mg/L	5	10
Potassium, K	0451-QC	1.33	1.30	mg/L	-2	10
Chloride, Cl	0437-QC	150	147	mg/L	-2	10
Sulfate, SO4	0541-QC	78	79	mg/L	2	10
Alkalinity	0541-QC	159	167	mg/L	5	10
pH	0541-QC	9.13	9.13		0	10
Conductivity	0541-QC	740	733	uS/cm	-1	15
Total Dissolved Solids, 180C	0541-QC	642	620	uS/cm	-3	15

Matrix Spike

Parameter	*Laboratory Identification*	*Analyzed Value*	*Matrix Spike*	*Spike Value*	*Unit of Measure*	*Spike Recovery*
Sodium, Na	15121-5567	1.46	0.50	2.02	mg/L	103%
Calcium, Ca	15120-5567	0.88	0.50	1.48	mg/L	107%
Magnesium, Mg	15121-5567	0.92	0.50	1.50	mg/L	106%
Potassium, K	15121-5567	0.76	0.50	1.30	mg/L	103%

Method Blank

Parameter	*Laboratory Identification*	*Analyzed Value*	*Unit of Measure*
Sodium, Na	LF-Blank	< 0.2	mg/L
Calcium, Ca	LF-Blank	< 0.05	mg/L
Magnesium, Mg	LF-Blank	< 0.05	mg/L
Potassium, K	LF-Blank	< 0.05	mg/L
Chloride, Cl	LF-Blank	< 3 X DL	mg/L
Sulfate, SO4	LF-Blank	< 1	mg/L
Conductivity	LF-Blank	< 2	uS/cm

MC 7/21/97

Mountain States Analytical, Inc.

July 16, 1997

Mr. David Cox
On Site Technologies, Ltd.
612 E Murray Drive
Farmington, NM 87401

Reference:
Project: Florance 47X
MSAI Group: 16923

Dear Mr. Cox:

Enclosed are the analytical results for your project referenced above. The following sample is included in the report.

15118-5566 Dissolved 970626 1100 Well-1 (DK)

All holding times were met for the tests performed on these samples.

If the report is acceptable, please approve the enclosed invoice and forward it for payment.

Thank you for selecting Mountain States Analytical, Inc. to serve as your analytical laboratory on this project. If you have any questions concerning these results, please feel free to contact me at any time.

We look forward to working with you on future projects.

With Regards,

Rolf E. Larsen

Rolf E. Larsen
Project Manager

Analytical Report

RECEIVED JUL 2 1 1997

Mountain States Analytical, Inc.
The Quality Solution

On Site Technologies, Ltd.
612 E Murray Drive
Farmington, NM 87401

Attn: Mr. David Cox
Project: Florance 47X

MSAI Sample: 65258
MSAI Group: 16923
Date Reported: 07/16/97
Discard Date: 08/15/97
Date Submitted: 07/01/97
Date Sampled: 06/23/97
Collected by:
Purchase Order: 5566
Project No.:

Sample ID: 15118-5566 Dissolved 9706261100 Mul-1
Matrix: Waste Water

Test	Analysis	Results as Received	Units	Method Detection Limit
0259B	Mercury by CVAA, w/ww, 7470 Method: SW-846 7470	ND	mg/l	0.0001
0392I	Flame/ICP Prep, w/ww, 3005A Method: SW-846 3005A	Completed		
0392M	Mercury Prep CVAA, w/ww, 7470 Method: SW-846 7470	Complete		
01	Prep for HAA, w/ww, 7062/7742 Method: SW-846 7062/7742	Complete		
1451	Selenium by HAA, w/ww, 7742 Method: SW-846 7742	ND	mg/l	0.006
7245	Arsenic by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.030
7246	Barium by ICP, w/ww, 6010A Method: SW-846 6010A	0.118	mg/l	0.003
7249	Cadmium by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.004
7251	Chromium by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.010
7255	Lead by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.040
7266	Silver by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.006

Mountain States Analytical, Inc.
The Quality Solution

On Site Technologies, Ltd.

MSAI Sample: 65258
MSAI Group: 16923

Sample ID: 15118-5566 Dissolved 970626 1100 MW-1

Test	Analysis	Results as Received	Units	Method Detection Limit
0939	Sample Filtering, ww, MSAI Method: IN HOUSE MSAI	Complete		

Respectfully Submitted,
Reviewed and Approved by:

Rolf E. Larsen
Project Manager

Mountain States Analytical, Inc.
Daily QC Batching Data
Data Released for Reporting

07/14/97
13:37:28
Group: 16923

Analysis Batch Number : 02598 07/09/97-107 -1
Batch Identification : 02598-Mercury by CVAA, w/ww, 7470 Sequence : 0259B-1
Number of Samples : 10
Batch Data-Date/Time : 07/09/97 , 16:25:59

BLANK#	ANALYTE	CONC FOUND #	CONC LIMIT
PBW1-359	Mercury	0.0100	0.1000

SPIKE

SAMPLE#	ANALYTE	CONC ADDED	CONC SAMPLE	CONC SPIKE	% REC #	QC LIMITS LOWER	QC LIMITS UPPER
16955-65345	Mercury	1.0000	0.0400	1.0600	102.0	80.0	120.0

MSD

SAMPLE#	ANALYTE	CONC ADDED	CONC SAMPLE	RESULT 2	%REC2 #	QC LIMITS LOWER	QC LIMITS UPPER	RPD #	LIMIT
16955-65345	Mercury	1.0000	0.0400	1.0500	101.0	80.0	120.0	1.0	20.0

DUPLICATE

SAMPLE#	ANALYTE	RESULT 1	RESULT 2	RPD #	LIMIT	DILUTION
16955-65345	Mercury	0.0400	0.0500	22.2(11)	20.0	1.00

CONTROL

SAMPLE#	ANALYTE	CONC FOUND	CONC KNOWN	% REC #	QC LIMITS LOWER	QC LIMITS UPPER
LCSW-359	Mercury	2.3500	2.5000	94.0	80.0	120.0

CCV #	ANALYTE	TRUE VALUE	BATCH READ	% REC #	QC LIMITS LOWER	QC LIMITS UPPER
CCV-1	Mercury	3.0000	3.1000	103.3	90.0	110.0
CCV-2	Mercury	5.0000	4.8300	96.6	80.0	120.0
CCV--3	Mercury	5.0000	4.7600	95.2	80.0	120.0
CCV--4	Mercury	5.0000	4.7200	94.4	80.0	120.0

CCB#	ANALYTE	CONC FOUND #	CONC LIMIT
ICB-	Mercury	-0.0500	0.1000
CCB-	Mercury	-0.0100	0.1000
CCB-	Mercury	0.0500	0.1000
CCB-	Mercury	-0.0400	0.1000

---------- Result Footnotes ----------
(11) - Both Duplicate results are less than the MDL.

Groups & Samples

16921-65234 16921-65246 16923-65258 16924-65259 16924-65260 16938-65303 16938-65304 16938-65305
16938-65306 16938-65345

Mountain States Analytical, Inc.
Daily QC Batching Data
Data Released for Reporting

07/14/97
13:37:31
Group: 16923

Analysis Batch Number: ICPWA-07/10/97-061 -3
Method Identification : ICPWA-Metals by ICP
Number of Samples : 7
Batch Data-Date/Time : 07/10/97 / 17:48:04

Sequence : DATC191

BLANK#	ANALYTE	CONC FOUND #	CONC LIMIT
PBW-348	Silver	0.0007	0.0060
	Barium	ND	0.0030
	Beryllium	ND	0.0002
	Calcium	0.0297	0.4000
	Cadmium	ND	0.0040
	Chromium	ND	0.0100
	Copper	ND	0.0100
	Iron	0.0041	0.2000
	Magnesium	0.0124	0.0500
	Molybdenum	0.0127	0.0300
	Nickel	ND	0.0300
	Lead	ND	0.0400
	Selenium	ND	0.0700
	Zinc	0.0040	0.0300

SPIKE

SAMPLE#	ANALYTE	CONC ADDED	CONC SAMPLE	CONC SPIKE	% REC #	QC LIMITS LOWER	QC LIMITS UPPER
16939-65307	Silver	0.0500	-0.0028	0.0481	101.8	80.0	120.0
	Barium	2.0000	0.0384	1.9142	93.8	80.0	120.0
	Beryllium	0.0500	0.0000	0.0495	99.0	80.0	120.0
	Calcium	2.0000	86.3924	86.4119	1.0(2a)	80.0	120.0
	Cadmium	0.0500	-0.0020	0.0448	93.6	80.0	120.0
	Chromium	0.2000	-0.0027	0.1976	100.2	80.0	120.0
	Copper	0.2500	-0.0036	0.2394	97.2	80.0	120.0
	Iron	1.0000	0.0672	1.0533	98.6	80.0	120.0
	Magnesium	2.0000	61.7820	62.3159	26.7(2a)	80.0	120.0
	Molybdenum	0.5000	0.0188	0.5086	98.0	80.0	120.0
	Nickel	0.5000	0.0083	0.4915	96.6	80.0	120.0
	Lead	0.5000	0.0026	0.4837	96.2	80.0	120.0
	Selenium	2.0000	-0.0434	1.9466	99.5	80.0	120.0
	Zinc	0.5000	0.0100	0.5190	101.8	80.0	120.0

MSD

SAMPLE#	ANALYTE	CONC ADDED	CONC SAMPLE	RESULT 2	%REC2 #	QC LIMITS LOWER	QC LIMITS UPPER	RPD #	LIMIT
16939-65307	Silver	0.0500	-0.0028	0.0503	106.2	80.0	120.0	4.2	20.0
	Barium	2.0000	0.0384	1.9193	94.0	80.0	120.0	0.2	20.0
	Beryllium	0.0500	0.0000	0.0498	99.6	80.0	120.0	0.6	20.0
	Calcium	2.0000	86.3924	88.5230	106.5	80.0	120.0	196.3(1a)	20.0
	Cadmium	0.0500	-0.0020	0.0455	95.0	80.0	120.0	1.5	20.0
	Chromium	0.2000	-0.0027	0.1971	99.9	80.0	120.0	0.3	20.0
	Copper	0.2500	-0.0036	0.2378	96.6	80.0	120.0	0.6	20.0
	Iron	1.0000	0.0672	1.1618	109.5	80.0	120.0	10.5	20.0
	Magnesium	2.0000	61.7820	63.4749	84.6	80.0	120.0	104.0(1a)	20.0
	Molybdenum	0.5000	0.0188	0.5141	99.1	80.0	120.0	1.1	20.0
	Nickel	0.5000	0.0083	0.4784	94.0	80.0	120.0	2.7	20.0
	Lead	0.5000	0.0026	0.4859	96.7	80.0	120.0	0.5	20.0
	Selenium	2.0000	-0.0434	1.9902	101.7	80.0	120.0	2.2	20.0
	Zinc	0.5000	0.0100	0.5143	100.9	80.0	120.0	0.9	20.0

Mountain States Analytical, Inc.
Daily QC Batching Data
Data Released for Reporting

07/14/97
13:37:32
Group: 16923

Analysis Batch Number : ICPWA-07/10/97-061 -3
Test Identification : ICPWA-Metals by ICP
Number of Samples : 7
Batch Data-Date/Time : 7/10/97 17:48:04

Sequence : DATC191

DUPLICATE

SAMPLE#	ANALYTE	RESULT 1	RESULT 2	RPD #	LIMIT	DILUTION
16939-65307	Silver	-0.0028	0.0000	200.0(11)	20.0	1.00
	Barium	0.0384	0.0372	3.2	20.0	1.00
	Beryllium	0.0000	0.0000	0.0	20.0	1.00
	Calcium	86.3924	85.0027	1.6	20.0	1.00
	Cadmium	-0.0020	0.0000	200.0(11)	20.0	1.00
	Chromium	-0.0027	0.0000	200.0(11)	20.0	1.00
	Copper	-0.0036	0.0000	200.0(11)	20.0	1.00
	Iron	0.0672	0.0000	200.0(11)	20.0	1.00
	Magnesium	61.7820	61.0093	1.3	20.0	1.00
	Molybdenum	0.0188	0.0250	28.3(11)	20.0	1.00
	Nickel	0.0083	0.0090	8.1	20.0	1.00
	Lead	0.0026	0.0041	44.8(11)	20.0	1.00
	Selenium	-0.0434	0.0000	200.0(11)	20.0	1.00
	Zinc	0.0100	0.0146	37.4(11)	20.0	1.00

CONTROL

SAMPLE#	ANALYTE	CONC FOUND	CONC KNOWN	% REC #	QC LIMITS LOWER	QC LIMITS UPPER
LCSW-348	Silver	0.0546	0.0500	109.2	80.0	120.0
	Barium	1.9191	2.0000	96.0	80.0	120.0
	Beryllium	0.0500	0.0500	100.0	80.0	120.0
	Calcium	2.0202	2.0000	101.0	80.0	120.0
	Cadmium	0.0466	0.0500	93.2	80.0	120.0
	Chromium	0.1980	0.2000	99.0	80.0	120.0
	Copper	0.2438	0.2500	97.5	80.0	120.0
	Iron	0.9976	1.0000	99.8	80.0	120.0
	Magnesium	2.0176	2.0000	100.9	80.0	120.0
	Molybdenum	0.5003	0.5000	100.1	80.0	120.0
	Nickel	0.4950	0.5000	99.0	80.0	120.0
	Lead	0.4853	0.5000	97.1	80.0	120.0
	Selenium	1.9582	2.0000	97.9	80.0	120.0
	Zinc	0.5049	0.5000	101.0	80.0	120.0

CCV #	ANALYTE	TRUE VALUE	BATCH READ	% REC #	QC LIMITS LOWER	QC LIMITS UPPER
ICV-	Silver	0.4000	0.3802	95.0	90.0	110.0
	Barium	4.0000	3.6894	92.2	90.0	110.0
	Beryllium	0.4000	0.3891	97.3	90.0	110.0
	Calcium	40.0000	39.2943	98.2	90.0	110.0
	Cadmium	4.0000	3.8005	95.0	90.0	110.0
	Chromium	4.0000	3.8931	97.3	90.0	110.0
	Copper	4.0000	3.7408	93.5	90.0	110.0
	Iron	4.0000	3.9100	97.8	90.0	110.0
	Magnesium	20.0000	19.6684	98.3	90.0	110.0
	Molybdenum	20.0000	19.5090	97.5	90.0	110.0
	Nickel	8.0000	7.6585	95.7	90.0	110.0
	Lead	20.0000	18.8092	94.0	90.0	110.0
	Selenium	1.6000	1.5154	94.7	90.0	110.0
	Zinc	4.0000	3.8687	96.7	90.0	110.0
CCV1--2	Silver	0.4000	0.3767	94.2	90.0	110.0

Mountain States Analytical, Inc.
Daily QC Batching Data
Data Released for Reporting

07/14/97
13:37:33
Group: 16923

Analysis Batch Number : ICPWA-07/10/97-061 -3
Identification : ICPWA-Metals by ICP
Number of Samples :
Batch Data-Date/Time : 07/10/97 / 17:48:04

Sequence : DATC191

CCV #	Analyte	TRUE VALUE	BATCH READ	% REC #	QC LIMITS LOWER	QC LIMITS UPPER
CCV1--2	Barium	4.0000	3.6922	92.3	90.0	110.0
	Beryllium	0.4000	0.3881	97.0	90.0	110.0
	Calcium	40.0000	38.8853	97.2	90.0	110.0
	Cadmium	4.0000	3.7802	94.5	90.0	110.0
	Cobalt	4.0000	3.8600	96.5	90.0	110.0
	Chromium	4.0000	3.7528	93.8	90.0	110.0
	Copper	4.0000	3.8906	97.3	90.0	110.0
	Iron	20.0000	19.6898	98.4	90.0	110.0
	Magnesium	20.0000	19.3015	96.5	90.0	110.0
	Manganese	8.0000	7.5882	94.9	90.0	110.0
	Nickel	20.0000	18.7379	93.7	90.0	110.0
	Lead	1.6000	1.5432	96.4	90.0	110.0
	Selenium	4.0000	3.8584	96.5	90.0	110.0
	Zinc	0.4000	0.3840	96.0	90.0	110.0
CCV2--3	Silver	4.0000	3.8026	95.1	90.0	110.0
	Arsenic	0.4000	0.3999	100.0	90.0	110.0
	Barium	40.0000	39.5944	99.0	90.0	110.0
	Beryllium	4.0000	3.8616	96.5	90.0	110.0
	Calcium	4.0000	3.9356	98.4	90.0	110.0
	Cadmium	4.0000	3.8680	96.7	90.0	110.0
	Cobalt	4.0000	3.9457	98.6	90.0	110.0
	Chromium	20.0000	20.1030	100.5	90.0	110.0
	Copper	20.0000	19.7958	99.0	90.0	110.0
	Iron	8.0000	7.7643	97.1	90.0	110.0
	Magnesium	20.0000	19.0176	95.1	90.0	110.0
	Manganese	1.6000	1.5716	98.2	90.0	110.0
	Nickel	4.0000	3.9206	98.0	90.0	110.0
CCV3--4	Lead	0.4000	0.3785	94.6	90.0	110.0
	Selenium	4.0000	3.6341	90.9	90.0	110.0
	Silver	0.4000	0.3901	97.5	90.0	110.0
	Arsenic	40.0000	39.7141	99.3	90.0	110.0
	Barium	4.0000	3.8432	96.1	90.0	110.0
	Beryllium	4.0000	3.9153	97.9	90.0	110.0
	Calcium	4.0000	3.6893	92.2	90.0	110.0
	Cadmium	4.0000	3.9736	99.3	90.0	110.0
	Cobalt	20.0000	19.6759	98.4	90.0	110.0
	Chromium	20.0000	19.6636	98.3	90.0	110.0
	Copper	8.0000	7.7123	96.4	90.0	110.0
	Iron	20.0000	18.9438	94.7	90.0	110.0
	Magnesium	1.6000	1.4722	92.0	90.0	110.0
	Manganese	4.0000	3.9217	98.0	90.0	110.0
	Nickel					
	Lead					
	Selenium					
	Zinc					

CCB#	Analyte	CONC FOUND #	CONC LIMIT
ICB-	Silver	ND	0.0060
	Barium	0.0003	0.0030
	Beryllium	ND	0.0002
	Calcium	0.0062	0.4000
	Cadmium	ND	0.0040
	Cobalt	ND	0.0100

Mountain States Analytical, Inc.
Daily QC Batching Data
Data Released for Reporting

07/14/97
13:37:34
Group: 16923

[redacted]ysis Batch : [illegible]
[redacted]Identifier : [illegible] ICP
Sequence : DATC191
Number of Samples : 7
Batch Data-Date/Time : 07/10/97 / 17:48:04

CCB#	ANALYTE	CONC FOUND #	CONC LIMIT
ICB-	Copper	ND	0.0100
	Iron	0.0035	0.2000
	Magnesium	ND	0.0500
	Molybdenum	0.0088	0.0300
	Nickel	ND	0.0300
	Lead	0.0018	0.0400
	[illegible]	ND	0.0700
	Zinc	0.0002	0.0300
CCB1-	[illegible]	ND	0.0060
	Barium	0.0001	0.0030
	Beryllium	ND	0.0002
	Calcium	0.0098	0.4000
	Cadmium	ND	0.0040
	[illegible]	0.0020	0.0100
	[illegible]	ND	0.0100
	Iron	ND	0.2000
	Magnesium	0.0167	0.0500
	[illegible]	0.0132	0.0300
	[illegible]	0.0055	0.0300
	[illegible]	ND	0.0400
[redacted]	Selenium	ND	0.0700
	Zinc	0.0019	0.0300
CCB2-	Silver	0.0022	0.0060
	Barium	0.0003	0.0030
	Beryllium	ND	0.0002
	Calcium	0.0067	0.4000
	Cadmium	ND	0.0040
	Chromium	0.0028	0.0100
	Copper	ND	0.0100
	[illegible]	0.0009	0.2000
	Magnesium	0.0072	0.0500
	Molybdenum	0.0064	0.0300
	Nickel	0.0017	0.0300
	Lead	0.0060	0.0400
	Selenium	ND	0.0700
	Zinc	0.0001	0.0300
CCB3-	Silver	0.0002	0.0060
	Barium	0.0008	0.0030
	Beryllium	ND	0.0002
	Calcium	0.0399	0.4000
	Cadmium	ND	0.0040
	Chromium	0.0021	0.0100
	Copper	0.0003	0.0100
	Iron	ND	0.2000
	Magnesium	0.0306	0.0500
[redacted]	Molybdenum	ND	0.0300
	Nickel	ND	0.0300
	Lead	0.0104	0.0400
	Selenium	0.0009	0.0700
	Zinc	0.0001	0.0300

Mountain States Analytical, Inc.
Daily QC Batching Data
Data Released for Reporting

07/14/97
13:37:35
Group: 16923

ysis Batch [illegible] : ICPA-07/10/97-061 -3
Identificati[illegible] : ICPAA-Metals by ICP Sequence : DATC191
Number of Samples : 7
Batch Data-Date/Time : 07/10/97 / 17:49:04

---------- ----- -- Result Footnotes ----------
(2a) - Recovery [illegible] acceptable because sample conc. is >4x spike added.
(1a) - RPD has [illegible] due to insignificant spikes.
(11) - Both Dup [illegible] less than the MDL.

Groups & [illegible]						
16849-64971	16921-65239	16921-65240	16923-65258	16924-65259	16924-65260	16939-65307

Mountain States Analytical, Inc.
Daily QC Batching Data
Data Released for Reporting

07/14/97
13:37:37
Group: 16923

Analysis Batch Number: ICPWA-07/10/97-061 -4
Method Identification : ICPWA-Metals by ICP
Number of Samples : 8
Batch Data-Date/Time : 07/11/97 / 10:44:50

Sequence : DATF191

BLANK#	ANALYTE	CONC FOUND #	CONC LIMIT
PBW-348	Arsenic	0.0003	0.0300
	Potassium	0.0605	0.1000
	Sodium	0.0891	0.2000

SPIKE

SAMPLE#	ANALYTE	CONC ADDED	CONC SAMPLE	CONC SPIKE	% REC #	QC LIMITS LOWER	QC LIMITS UPPER
16939-65307	Arsenic	2.0000	-0.0040	1.9531	97.9	80.0	120.0
	Potassium	10.0000	4.6917	14.5836	98.9	80.0	120.0
	Sodium	3.0000	66.1699	66.8673	23.2(2a)	80.0	120.0

MSD

SAMPLE#	ANALYTE	CONC ADDED	CONC SAMPLE	RESULT 2	%REC2 #	QC LIMITS LOWER	QC LIMITS UPPER	RPD #	LIMIT
16939-65307	Arsenic	2.0000	-0.0040	1.9688	98.6	80.0	120.0	0.7	20.0
	Potassium	10.0000	4.6917	15.0645	103.7	80.0	120.0	4.7	20.0
	Sodium	3.0000	66.1699	69.3435	105.8	80.0	120.0	128.1(2a)	20.0

DUPLICATE

SAMPLE#	ANALYTE	RESULT 1	RESULT 2	RPD #	LIMIT	DILUTION
16939-65307	Arsenic	-0.0040	0.0126	386.0(11)	20.0	1.00
	Potassium	4.6917	4.6337	1.2	20.0	1.00
	Sodium	66.1699	64.6447	2.3	20.0	1.00

CONTROL

SAMPLE#	ANALYTE	CONC FOUND	CONC KNOWN	% REC #	QC LIMITS LOWER	QC LIMITS UPPER
LCSW-348	Arsenic	1.8896	2.0000	94.5	80.0	120.0
	Potassium	9.9704	10.0000	99.7	80.0	120.0
	Sodium	3.3926	3.0000	113.1	80.0	120.0

CCV #	ANALYTE	TRUE VALUE	BATCH READ	% REC #	QC LIMITS LOWER	QC LIMITS UPPER
ICV-	Arsenic	1.6000	1.5334	95.8	90.0	110.0
	Potassium	40.0000	40.8083	102.0	90.0	110.0
	Sodium	40.0000	41.7806	104.5	90.0	110.0
CCV1--2	Arsenic	1.6000	1.5356	96.0	90.0	110.0
	Potassium	40.0000	40.2876	100.7	90.0	110.0
	Sodium	40.0000	41.0704	102.7	90.0	110.0
CCV2--3	Arsenic	1.6000	1.5225	95.2	90.0	110.0
	Potassium	40.0000	40.7369	101.8	90.0	110.0
	Sodium	40.0000	40.8427	102.1	90.0	110.0
CCV3--4	Arsenic	1.6000	1.4989	93.7	90.0	110.0
	Potassium	40.0000	39.9136	99.8	90.0	110.0
	Sodium	40.0000	40.4596	101.1	90.0	110.0
CCV4--5	Arsenic	1.6000	1.6039	100.2	90.0	110.0
	Potassium	40.0000	39.9675	99.9	90.0	110.0
	Sodium	40.0000	40.6287	101.6	90.0	110.0
CCV5--6	Arsenic	1.6000	1.5909	99.4	90.0	110.0
	Potassium	40.0000	39.9105	99.8	90.0	110.0
	Sodium	40.0000	41.5958	104.0	90.0	110.0

Mountain States Analytical, Inc.
Daily QC Batching Data
Data Released for Reporting

07/14/97
13:37:38
Group: 16923

Analysis Batch Number: ICPWA-07/10/97-061 -4
Method Identification : ICPWA-Metals by ICP Sequence : DATF191
Number of Samples : 8
Batch Data-Date/Time : 07/10/97 10:44:50

CCB#	Analyte	CONC FOUND #	CONC LIMIT
ICB-	Arsenic	0.0011	0.0300
	Potassium	ND	0.1000
	Sodium	0.0292	0.2000
CCB1-	Arsenic	ND	0.0300
	Potassium	ND	0.1000
	Sodium	0.0379	0.2000
CCB2-	Arsenic	ND	0.0300
	Potassium	ND	0.1000
	Sodium	0.0372	0.2000
CCB3-	Arsenic	0.0027	0.0300
	Potassium	ND	0.1000
	Sodium	0.0819	0.2000
CCB4-	Arsenic	ND	0.0300
	Potassium	0.0480	0.1000
	Sodium	ND	0.2000
CCB5-	Arsenic	ND	0.0300
	Potassium	0.0218	0.1000
	Sodium	0.0348	0.2000

---------- Result Footnotes ----------
(#) - Recovery not calculated because sample conc. is 4x spike added.
(##) - Both Duplicate results less than the MDL.

Groups & Samples
---------- ----------
16849-64971 16921-65239 16921-65240 16923-65258 16924-65259 16924-65260 16939-65307

CHAIN OF CUSTODY RECORD

6605

ON SITE TECHNOLOGIES, LTD.
657 W. Maple • P. O. Box 2606 • Farmington NM 87499
LAB: (505) 325-5667 • FAX: (505) 325-6256

Date: 6/30/97

Purchase Order No.: 5566 | Job No.:

SEND INVOICE TO
Name: ACCOUNTS REC.
Company: ON SITE | Dept.:
Address:
City, State, Zip:

REPORT RESULTS TO
Name: DAVID COX | Title:
Company: ON SITE
Mailing Address:
City, State, Zip:
Telephone No.: 505 325-2132 | Telefax No.: 6256

Sampling Location: FLORANCE #AX

Sampler: MG/MS

ANALYSIS REQUESTED: WQCC METALS DISSOLVED

9°C

SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	MATRIX	PRES.	Number of Containers	WQCC METALS DISSOLVED								LAB ID
9706231100 MW-1	6/23/97	1100	H_2O	cool	1	✓								15118-5566

Relinquished by:	Date/Time	Received by:	Date/Time
[signature]	6/30/97 1530	Nicrai Mauxn	7/01/97 1140

Method of Shipment:

Authorized by: [signature] Date 6/30/97
(Client Signature Must Accompany Request)

Rush | 24-48 Hours | 10 Working Days | Special Instructions:

Distribution: White - On Site Yellow - LAB Pink - Sampler Goldenrod - Client

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. 9707029-01A

Company: On Site Technologies
ID: 9706261200 MW-3

Date: July 9, 1997

ATTN:

COLOR: Dark Straw
SP. GR. 0.7784
@ 60 F

ODOR: Condensate
API 50.27
@ 60 F

CARBON RANGE	C_5 - C_{25}		MAJOR RANGE	C_7 - C_9	
PARAFFIN	22.003	Wt.%	N-HEXANE	0.774	Wt.%
ISOPARAFFINS	25.300	Wt.%	BENZENE	ND	Wt.%
NAPHTHENICS	*37.064	Wt.%	ETHYL BENZENE	0.227	Wt.%
AROMATICS	9.670	Wt.%	TOLUENE	0.931	Wt.%
OLEFINS	3.007	Wt.%	META XYLENE	2.876	Wt.%
UNKNOWNS	2.914	Wt.%	PARA XYLENE	1.444	Wt.%
2,2,4-TRI METHYLPENTANE	N/D	Wt.%	ORTHO XYLENE	0.757	Wt.%
			XYLENES	5.077	Wt.%
RESEARCH OCTANE	69.80	Wt.%	EDB	N/A	Wt.%
LEAD	N/A	Wt.%	EDC	N/A	Wt.%
MTBE	N/A	Wt.%	ETHANOL	N/A	Wt.%
C_{17}	0.291	Wt.%	C_{18}	0.178	Wt.%
PRISTANE	0.157	Wt.%	PHYTANE	0.151	Wt.%
NAPHTHALENE	0.017	Wt.%	2-METHYL NAPHTHALENE	0.037	Wt.%
1-METHYL NAPHTHALENE	0.103	Wt.%			

__ GASOLINE RANGE: C_4-C_{13} INDICATORS: 2,2,4-TMP; MTBE; OLEFINS, LEAD

__ DIESEL RANGE: C_7-C_{20} INDICATORS: NO OLEFINS, PRISTANE, PHYTANE

X_ CONDENSATE RANGE: C_2-C_{25}+INDICATORS: NO OLEFINS, LIGHT & HEAVIES

__ HEAVY OIL: C_{20}+

COMMENTS: *High Naphthalenics
Major C_7-C_9 in Condensate Range

Certificate of Analysis No. 9707029-01A

Company: On Site Technologies
ID: 9706261200 MW-3

Date: July 9, 1997

ATTN:

COLOR: Dark Straw
SP. GR. 0.7784
@ 60 F

ODOR: Condensate
API 50.27
@ 60 F

CARBON RANGE	C_5 - C_{25}		MAJOR RANGE	C_7 - C_9	
PARAFFIN	22.003	Wt.%	N-HEXANE	0.774	Wt.%
ISOPARAFFINS	25.300	Wt.%	BENZENE	ND	Wt.%
NAPHTHENICS	*37.064	Wt.%	ETHYL BENZENE	0.227	Wt.%
AROMATICS	9.670	Wt.%	TOLUENE	0.931	Wt.%
OLEFINS	3.007	Wt.%	META XYLENE	2.876	Wt.%
UNKNOWNS	2.914	Wt.%	PARA XYLENE	1.444	Wt.%
2,2,4-TRI METHYLPENTANE	N/D	Wt.%	ORTHO XYLENE	0.757	Wt.%
			XYLENES	5.077	Wt.%
RESEARCH OCTANE	69.80	Wt.%	EDB	N/A	Wt.%
LEAD	N/A	Wt.%	EDC	N/A	Wt.%
MTBE	N/A	Wt.%	ETHANOL	N/A	Wt.%
C_{17}	0.291	Wt.%	C_{18}	0.178	Wt.%
PRISTANE	0.157	Wt.%	PHYTANE	0.151	Wt.%
NAPHTHALENE	0.017	Wt.%	2-METHYL NAPHTHALENE	0.037	Wt.%
1-METHYL NAPHTHALENE	0.103	Wt.%			

__ GASOLINE RANGE: C_4-C_{13} INDICATORS: 2,2,4-TMP; MTBE; OLEFINS, LEAD

__ DIESEL RANGE: C_7-C_{20} INDICATORS: NO OLEFINS, PRISTANE, PHYTANE

X_ CONDENSATE RANGE: C_2-C_{25}+INDICATORS: NO OLEFINS, LIGHT & HEAVIES

__ HEAVY OIL: C_{20}+

COMMENTS: *High Naphthalenics
Major C_7-C_9 in Condensate Range

SOUTHERN PETROLEUM LABORATORIES, INC.

RECEIVED JUL 14 1997

Sample: 9707029-01A MW-3
File: CAPH1
Calibration File: NW_LIQ

Analyzed on: 07-08-1997
Normalized to 100.00%
Processed 229 Peaks

Composite Report

Hydrocarbon Totals by Group Type

Type	Wt %	Vol %	Mol %
Total Paraffins:	22.003	23.048	19.898
Total Iso-paraffins:	25.300	26.765	24.540
Total Naphthenes:	37.064	36.057	40.096
Total Aromatics:	9.570	8.309	9.725
Total Olefins:	3.007	3.074	3.172
Total C26	0.042	0.040	0.013
Total Unknowns:	2.914	2.707	2.556
Total:	100.000	100.000	100.000

Totals by Carbon Number

Group	Wt %	Vol %	Mol %	Ave. Mw.	Ave. Sp Gr.
Methane	0.000	0.000	0.000	0.000	0.000
Ethane	0.000	0.000	0.000	0.000	0.000
Propane	0.000	0.000	0.000	0.000	0.000
Butanes:	0.000	0.000	0.000	0.000	0.000
Pentanes:	0.231	0.278	0.364	72.151	0.622
Hexanes:	5.171	5.401	6.931	85.003	0.717
Heptanes:	27.131	27.676	31.042	99.572	0.734
Octanes:	32.342	31.908	32.943	111.847	0.759
Nonanes:	16.290	16.511	14.568	127.394	0.739
Decanes:	8.714	8.585	7.067	140.480	0.760
C11's:	2.946	2.840	2.179	154.111	0.777
C12's:	1.147	1.081	0.781	167.390	0.795
C13's:	0.543	0.538	0.335	184.470	0.756
C14's:	0.621	0.610	0.357	198.390	0.763
C15's:	0.445	0.433	0.238	212.420	0.769
C16's:	0.267	0.258	0.134	226.448	0.773
C17's:	0.291	0.281	0.138	240.475	0.777
C18's:	0.178	0.172	0.080	254.500	0.778
C19's:	0.151	0.143	0.064	268.529	0.789
C20's:	0.121	0.113	0.049	282.556	0.800
C21's:	0.120	0.112	0.046	296.000	0.800
C22's:	0.110	0.103	0.041	310.000	0.800
C23's:	0.085	0.080	0.030	324.000	0.800
C24's:	0.079	0.074	0.027	338.000	0.800
C25's:	0.059	0.056	0.019	352.000	0.800
C26's:	0.000	0.000	0.000	0.000	0.000
C26	0.042	0.040	0.013		
Unknowns:	2.914	2.707	2.556		
Total:	100.000	100.000	100.000	114.339	0.727

Sample: 9707029-01A MW-3
File: CAPH1
Calibration File: NW_LIQ

Analyzed on: 07-08-1997
Normalized to 100.00%
Processed 229 Peaks

Types by Carbon Number

Paraffins:	C1	0.000	0.000	0.000
	C2	0.000	0.000	0.000
	C3	0.000	0.000	0.000
	C4	0.000	0.000	0.000
	C5	0.087	0.104	0.138
	C6	0.774	0.879	1.023
	C7	3.936	4.312	4.475
	C8	6.068	6.491	6.071
	C9	3.998	3.173	3.551
	C10	2.267	2.326	1.815
	C11	1.212	1.220	0.883
	C12	0.605	0.602	0.405
	C13	0.509	0.504	0.314
	C14	0.621	0.610	0.357
	C15	0.445	0.433	0.238
	C16	0.267	0.258	0.134
	C17	0.291	0.281	0.138
	C18	0.178	0.172	0.080
	C19	0.151	0.143	0.064
	C20	0.121	0.113	0.049
	C21	0.120	0.112	0.046
	C22	0.110	0.103	0.041
	C23	0.085	0.080	0.030
	C24	0.079	0.074	0.027
	C25	0.059	0.056	0.019
	C26	0.000	0.000	0.000
Iso-paraffins:	C4	0.000	0.000	0.000
	C5	0.144	0.174	0.227
	C6	1.413	1.608	1.868
	C7	5.460	5.976	6.209
	C8	5.217	5.566	5.203
	C9	7.635	7.923	6.782
	C10	4.280	4.319	3.387
	C11	1.037	1.038	0.757
	C12	0.129	0.129	0.087
	C13	0.034	0.033	0.021
	C14	0.000	0.000	0.000
	C15	0.000	0.000	0.000
	C16	0.000	0.000	0.000
	C17	0.000	0.000	0.000
	C18	0.000	0.000	0.000
	C19	0.000	0.000	0.000
	C20	0.000	0.000	0.000
	C21	0.000	0.000	0.000
	C22	0.000	0.000	0.000
	C23	0.000	0.000	0.000
	C24	0.000	0.000	0.000
	C25	0.000	0.000	0.000
	C26	0.000	0.000	0.000
Aromatics:	C6	0.000	0.000	0.000
	C7	0.931	0.804	1.151
	C8	5.304	4.589	5.692
	C9	0.690	0.587	0.655
	C10	1.735	1.490	1.474
	C11	0.626	0.515	0.485
	C12	0.385	0.324	0.270
	C13	0.000	0.000	0.000
	C14	0.000	0.000	0.000
	C15	0.000	0.000	0.000
	C16	0.000	0.000	0.000
	C17	0.000	0.000	0.000
	C18	0.000	0.000	0.000

	C21	0.000	0.000	0.000
	C22	0.000	0.000	0.000
	C23	0.000	0.000	0.000
	C24	0.000	0.000	0.000
	C25	0.000	0.000	0.000
	C26	0.000	0.000	0.000
Naphthenes:	C5	0.000	0.000	0.000
	C6	2.984	2.915	4.040
	C7	14.013	13.721	16.259
	C8	15.518	15.049	15.754
	C9	3.968	3.828	3.580
	C10	0.482	0.451	0.391
	C11	0.071	0.067	0.052
	C12	0.029	0.026	0.019
	C13	0.000	0.000	0.000
	C14	0.000	0.000	0.000
	C15	0.000	0.000	0.000
	C16	0.000	0.000	0.000
	C17	0.000	0.000	0.000
	C18	0.000	0.000	0.000
	C19	0.000	0.000	0.000
	C20	0.000	0.000	0.000
	C21	0.000	0.000	0.000
	C22	0.000	0.000	0.000
	C23	0.000	0.000	0.000
	C24	0.000	0.000	0.000
	C25	0.000	0.000	0.000
	C26	0.000	0.000	0.000
Olefins:	C4	0.000	0.000	0.000
	C5	0.000	0.000	0.000
	C6	0.000	0.000	0.000
	C7	2.791	2.863	2.948
	C8	0.216	0.211	0.223
	C9	0.000	0.000	0.000

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Sample: 9707029-01A MW-3
File: CAPH1
Calibration File: NW_LIQ

Analyzed on: 07-08-1997
Normalized to 100.00%
Processed 229 Peaks

Boiling Point Distribution Data

Wt. Percent Off	deg.F.	Vol. Percent Off	deg.F.
IBP (0.5%)	140.47	IBP (0.5%)	136.36
10.0	197.10	10.0	195.39
20.0	213.67	20.0	213.67
30.0	224.31	30.0	219.25
40.0	243.77	40.0	243.77
50.0	258.22	50.0	258.22
60.0	276.80	60.0	271.22
70.0	289.90	70.0	289.90
80.0	306.24	80.0	303.48
90.0	345.47	90.0	345.47
FBP (99.5%)	>420.00	FBP (99.5%)	>420.00

Research Octane Number = 69.80

(Calculated from Individual Component Values)

Contribution to Total by:

Paraffins:	8.71
Iso-paraffins:	13.56
Aromatics:	11.74
Naphthenes:	30.56
Olefins:	2.35

WT% Hydrogen = Not Calculated

SOUTHERN PETROLEUM LABORATORIES, INC.

Sample: 9707029-01A MW-3
File: CAPH1
Calibration File: NW_LIQ

Analyzed on: 07-08-1997
Normalized to 100.00%
Processed 229 Peaks

Components Listed in Chromatographic Order

pk#	Min.	Index	Component	Area	Wt%	Vol%	Mol%	Sh.F.
1	11.38	480.7	i-Pentane	10753	0.144	0.174	0.227	0.1
2	12.88	500.0	n-Pentane	6436	0.087	0.104	0.136	0.1
3	14.48	535.2	2,2-Dimethylbutane	2892	0.037	0.043	0.049	0.1
4	16.27	565.1	2,3-Dimethylbutane	14607	0.192	0.207	0.241	0.1
5	16.53	568.9	2-Methylpentane	48896	0.634	0.727	0.833	0.1
6	17.58	583.1	3-Methylpentane	42506	0.560	0.631	0.719	0.1
7	19.02	600.0	n-Hexane	73837	0.974	0.979	1.120	0.1
8	21.33	626.1	2,2-Dimethylpentane	11813	0.151	0.168	0.172	0.1
9	21.58	628.7	Methylcyclopentane	85466	1.126	1.126	1.324	0.1
10	21.97	632.4	2,4-Dimethylpentane	21891	0.277	0.309	0.315	0.1
11	22.55	638.0	2,2,3-Trimethylbutane	3452	0.044	0.047	0.052	0.1
12	24.57	655.7	3-Methylhexene-1	1469	0.019	0.020	0.022	0.1
13	24.82	657.7	3,3-Dimethylpentane	8013	0.103	0.111	0.117	0.1
14	25.28	661.5	Cyclohexane	148814	1.959	1.788	2.516	0.1
15	26.42	670.1	2-Methylhexane	149877	1.934	2.104	2.108	0.1
16	26.62	671.6	2,3-Dimethylpentane	48483	0.605	0.652	0.680	0.1
17	26.97	674.1	1,1-Dimethylcyclopentane	35630	0.443	0.440	0.514	0.1
18	27.55	678.2	3-Methylhexane	167132	2.168	2.363	2.464	0.1
19	28.37	683.7	1c,3-Dimethylcyclopentane	57956	0.712	0.716	0.838	0.1
20	28.73	686.1	1t,3-Dimethylcyclopentane	55610	0.725	0.726	0.842	0.1
21	28.88	687.1	3-Ethylpentane	13556	0.179	0.192	0.200	0.1
22	29.10	688.5	1t,2-Dimethylcyclopentane	85796	1.068	1.065	1.239	0.1
23	30.97	700.0	n-Heptane	305699	3.926	4.312	4.475	0.1
24	33.95	721.0	Methylcyclohexane	832309	10.341	10.068	11.999	0.1
25	34.25	723.0	2,2-Dimethylhexane	64614	0.824	0.887	0.921	0.1
26	35.52	731.1	035	26248	0.338	0.346	0.392	0.1
27	35.68	732.2	036	46072	0.593	0.607	0.688	0.1
28	36.00	734.1	Ethylcyclopentane	58381	0.723	0.707	0.839	0.1
29	36.30	739.5	037	47623	0.613	0.627	0.711	0.1
30	37.12	740.8	1c,2t,4-Trimethylcyclopentane	15486	0.191	0.197	0.194	0.1
31	38.10	746.5	1t,2c,3-Trimethylcyclopentane	41560	0.522	0.507	0.530	0.1
32	38.60	749.4	039	2989	0.051	0.053	0.060	0.1
33	39.28	753.2	Toluene	80312	0.931	0.804	1.151	0.1
34	40.53	759.9	?	54620	0.703	0.608	0.860	UNK
35	41.77	766.3	2-Methylheptane	239813	3.100	3.327	3.092	0.1
36	42.00	767.5	3,4-Dimethylhexane	82082	1.057	1.101	1.054	0.1
37	42.30	769.0	4-Methylheptane	18346	0.236	0.251	0.236	0.1
38	42.80	771.5	1c,2c,3-Trimethylcyclopentane	7075	0.091	0.090	0.092	0.1
39	43.32	774.0	1t,3-Dimethylcyclohexane	202681	2.610	2.564	2.649	0.1
40	43.62	775.4	1c,2t,4-Trimethylcyclopentane	298178	3.839	3.733	3.898	0.1

pk#	Min.	Index	Component	Area	Wt%	Vol%	Mol%	Shift
41	43.97	777.1	1t,4-Dimethylcyclohexane	124785	1.607	1.578	1.631	0.2[illegible]
42	44.95	781.7	1,1-Dimethylcyclohexane	42693	0.550	0.527	0.558	0.3[illegible]
43	45.33	783.5	2,2,5-Trimethylhexane	6690	0.086	0.091	0.077	0.5[illegible]
44	45.70	785.2	3c-Ethylmethylcyclopentane	9921	0.128	0.125	0.130	0.0[illegible]
45	46.17	787.3	3t-Ethylmethylcyclopentane	8701	0.112	0.109	0.114	0.3[illegible]
46	46.42	788.4	1,4-Octadiene	16771	0.216	0.211	0.223	0.1[illegible]
47	46.87	790.4	Octene-1	6178	0.080	0.083	0.081	0.3[illegible]
48	47.55	793.4	1,1-Methylethylcyclopentane	114130	1.469	1.410	1.492	0.2[illegible]
49	49.10	800.0	n-Octane	481488	6.088	6.491	6.071	0.1[illegible]
50	50.88	809.9	i-Propylcyclopentane	6237	0.080	0.077	0.082	0.3[illegible]
51	52.30	817.5	2,2,3,4-Tetramethylpentane	3502	0.045	0.046	0.040	0.2[illegible]
52	52.83	820.3	c-Octene-2	4717	0.061	0.063	0.062	0.5[illegible]
53	53.37	823.1	2,2,4-Trimethylhexane	1271	0.016	0.017	0.015	0.2[illegible]
54	53.75	825.0	N2	20311	0.262	0.251	0.235	0.0[illegible]
55	54.87	830.7	1c,2-Dimethylcyclohexane	53454	0.688	0.648	0.699	0.1[illegible]
56	55.37	833.2	?	1228	0.016	0.015	0.016	UNK
57	56.28	837.6	n-Propylcyclopentane	187351	2.412	2.329	2.449	0.0[illegible]
58	56.52	838.8	2,5-Dimethylheptane	69003	0.888	0.929	0.739	0.3[illegible]
59	56.98	841.0	2,4-Dimethylheptane	3537	0.046	0.043	0.040	0.2[illegible]
60	57.52	843.5	Ethylcyclohexane	65621	0.845	0.807	0.858	0.3[illegible]
61	58.05	846.0	3,3-Dimethylheptane	94352	1.215	1.254	1.079	0.1[illegible]
62	58.42	847.7	1c,3c,5-Trimethylcyclohexane	20057	0.258	0.251	0.233	0.3[illegible]
63	58.67	848.9	2,6-Dimethylheptane	3082	0.040	0.042	0.035	0.2[illegible]
64	58.97	850.3	N5	6751	0.087	0.083	0.088	0.0[illegible]
65	59.35	852.0	N6	2030	0.026	0.025	0.027	0.3[illegible]
66	60.20	855.9	?	1714	0.022	0.021	0.022	UNK
67	60.50	857.2	Ethylbenzene	18703	0.227	0.196	0.244	0.2[illegible]
68	60.93	859.1	1,1,4-Trimethylcyclohexane	56291	0.725	0.703	0.654	0.2[illegible]
69	61.75	862.7	N8	3146	0.040	0.039	0.037	0.3[illegible]
70	62.37	865.3	m-Xylene	235159	2.876	2.493	3.087	0.05
71	62.55	866.1	p-Xylene	118036	1.444	1.256	1.549	0.0[illegible]
72	62.98	868.0	3,5-Dimethylheptane	8307	0.107	0.111	0.095	0.0[illegible]
73	63.13	868.6	3,4-Dimethylheptane	10275	0.132	0.135	0.118	0.1[illegible]
74	63.38	869.7	4-Ethylheptane	18299	0.236	0.242	0.209	0.08
75	63.57	870.5	N9	10713	0.138	0.132	0.124	0.1[illegible]
76	64.23	873.2	4-Methyloctane	74707	0.962	1.000	0.854	0.0[illegible]
77	64.48	874.3	2-Methyloctane	98113	1.199	1.259	1.065	0.0[illegible]
78	65.03	876.5	N11	5107	0.066	0.063	0.059	0.53
79	65.48	878.4	3-Ethylheptane	15095	0.194	0.200	0.173	0.3[illegible]
80	65.80	879.7	3-Methyloctane	108083	1.392	1.447	1.236	0.05
81	66.47	882.3	3,3-Diethylpentane	6687	0.086	0.086	0.076	0.3[illegible]
82	66.75	883.5	o-Xylene	61205	0.757	0.644	0.812	0.0[illegible]
83	67.02	884.5	1,1,2-Trimethylcyclohexane	6002	0.077	0.072	0.070	0.1[illegible]
84	67.30	885.6	I6	3665	0.047	0.048	0.042	0.2[illegible]
85	67.88	887.9	N12	13946	0.180	0.172	0.162	0.0[illegible]
86	68.12	888.8	I8	73315	0.944	0.969	0.838	0.13
87	68.50	890.3	1-Nonene	53249	0.686	0.704	0.619	0.00
88	69.03	892.3	N14	1350	0.017	0.017	0.016	0.25
89	69.28	893.3	N15	1529	0.020	0.019	0.018	0.10
90	70.27	897.0	t-Nonene-3	10230	0.132	0.135	0.119	0.02

pk#	Min.	Index	Component	Area	Wt%	Vol%	Mol%	Sh
91	70.73	898.8	N17	4368	0.056	0.054	0.051	0.
92	71.07	900.0	n-Nonane	318480	3.998	4.173	3.551	0.
93	71.47	903.0	1,1-Methylethylcyclohexane	44890	0.578	0.587	0.522	0.
94	71.93	906.5	t-Nonene-2	14534	0.187	0.192	0.169	0.
95	72.97	914.1	i-Propylbenzene	2913	0.032	0.029	0.031	0.
96	73.27	916.3	N19	34850	0.449	0.425	0.405	0.
97	73.60	918.7	N20	14404	0.185	0.173	0.167	0.
98	73.78	920.1	I10	6020	0.078	0.080	0.069	0.
99	74.13	922.6	1-Propylcyclohexane	22782	0.293	0.274	0.264	0.
100	74.32	923.9	I11	9172	0.118	0.121	0.095	0.
101	74.50	925.2	2,2-Dimethyloctane	1249	0.017	0.016	0.014	1.
102	75.03	929.0	N22	11932	0.154	0.146	0.139	0.
103	75.35	931.2	2,5-Dimethyloctane	84324	1.086	1.114	0.983	0.
104	75.57	932.8	n-Propylcyclohexane	6980	0.090	0.085	0.081	0.
105	75.92	935.3	?	12870	0.166	0.158	0.150	UN
106	76.08	936.4	I12	11392	0.153	0.157	0.122	0.
107	76.67	940.5	n-Butylcyclopentane	49806	0.641	0.612	0.579	0.
108	76.83	941.6	?	10122	0.130	0.125	0.118	UN
109	77.13	943.7	I13	4240	0.055	0.054	0.049	0.
110	77.45	945.9	I14	2388	0.031	0.032	0.025	0.
111	77.77	948.0	3,3-Dimethyloctane	8804	0.113	0.115	0.091	0.
112	78.02	949.8	n-Propylbenzene	2319	0.026	0.023	0.025	0.
113	78.30	951.7	3,6-Dimethyloctane	1675	0.022	0.022	0.017	0.
114	78.42	952.5	3-Methyl-5-ethylheptane	3044	0.039	0.040	0.031	0.
115	78.63	953.9	N25	21892	0.282	0.264	0.229	0.
116	78.82	955.2	1-Methyl-3-ethylbenzene	12517	0.148	0.123	0.141	0.
117	79.08	956.9	1-Methyl-4-ethylbenzene	1253	0.014	0.012	0.013	0.
118	79.52	959.8	2,3-Dimethyloctane	12997	0.167	0.170	0.134	0.
119	79.75	961.4	?	65132	0.839	0.852	0.671	UNK
120	80.15	964.0	I16	3953	0.051	0.052	0.041	0.
121	80.47	966.1	5-Methylnonane	24539	0.316	0.323	0.253	0.
122	80.72	967.8	4-Methylnonane	35892	0.462	0.473	0.370	0.
123	81.08	970.1	1-Methyl-2-ethylbenzene	37009	0.477	0.355	0.396	0.
124	81.57	973.3	3-Ethyloctane	7046	0.091	0.092	0.073	0.
125	81.80	974.8	N28	3409	0.044	0.041	0.036	0.
126	82.00	976.1	3-Methylnonane	44658	0.575	0.587	0.460	0.
127	82.40	978.6	N29	7191	0.093	0.087	0.075	0.
128	82.82	981.3	I18	772	0.010	0.010	0.008	0.
129	82.02	982.6	I19	1148	0.015	0.013	0.012	0.
130	83.22	983.9	t-Butylbenzene	17467	0.538	0.468	0.456	0.
131	83.40	985.0	I20	31736	0.409	0.414	0.327	0.
132	83.78	987.4	I22	22265	0.287	0.290	0.230	0.
133	84.10	989.4	I23	1599	0.021	0.021	0.016	0.
134	84.47	991.7	1-Decene	2456	0.032	0.032	0.026	0.
135	84.95	994.7	1t-Methyl-2-n-propylcyclohexane	4934	0.064	0.059	0.052	0.
136	85.17	996.0	I25	9043	0.116	0.118	0.093	0.
137	85.47	997.8	?	1556	0.020	0.020	0.016	UNK
138	85.60	998.7	sec-Butylbenzene	3317	0.037	0.032	0.031	0.17
139	85.82	1000.0	n-Decane	180779	2.267	2.326	1.815	0.00
140	86.20	1003.6	I26	4599	0.059	0.060	0.043	0.29

pk#	Min.	Index	Component	Area	Wt%	Vol%	Mol%	Shift
141	86.60	1007.4	N31	3862	0.050	0.047	0.037	0.47
142	86.87	1009.9	1-Methyl-3-i-propylbenzene	5203	0.059	0.051	0.050	0.07
143	87.08	1011.9	N32	1658	0.021	0.020	0.016	0.79
144	87.40	1014.8	1-Methyl-4-i-propylbenzene	589	0.007	0.006	0.006	0.17
145	87.65	1017.2	I27	3710	0.048	0.048	0.035	0.15
146	87.77	1018.2	I28	2807	0.036	0.037	0.026	0.09
147	88.20	1022.2	I29	1626	0.021	0.021	0.015	0.22
148	88.38	1023.9	2,3-Dihydroindene	3974	0.051	0.040	0.049	0.11
149	88.79	1027.1	1-Methyl-2-i-propylbenzene	29723	0.324	0.277	0.275	0.33
150	89.35	1032.7	?	8015	0.103	0.088	0.088	UNK
151	89.50	1034.1	3-Ethylnonane	22490	0.290	0.292	0.211	0.04
152	90.00	1038.6	I31	3238	0.042	0.042	0.030	0.36
153	90.12	1039.6	I32	11058	0.142	0.133	0.105	0.11
154	90.47	1042.8	1,3-Diethylbenzene	3224	0.037	0.032	0.031	0.25
155	90.62	1044.1	1-Methyl-3-n-propylbenzene	6962	0.079	0.068	0.067	0.32
156	90.77	1045.4	?	2499	0.032	0.028	0.027	UNK
157	90.88	1046.5	I33	1803	0.023	0.024	0.017	0.33
158	91.45	1051.6	n-Butylbenzene	7358	0.083	0.072	0.071	0.38
159	91.82	1054.7	1,2-Diethylbenzene	2729	0.028	0.024	0.024	0.11
160	92.12	1057.3	I34	14634	0.188	0.191	0.137	0.44
161	92.65	1062.0	1-Methyl-2-n-propylbenzene	12847	0.145	0.124	0.123	0.09
162	93.00	1065.0	I37	11435	0.147	0.149	0.107	0.47
163	93.38	1068.3	1,3,5-Dimethyl-4-ethylbenzene	13983	0.157	0.134	0.133	0.23
164	94.10	1074.5	1,4-Dimethyl-2-ethylbenzene	11436	0.130	0.111	0.110	0.40
165	94.73	1079.9	1,2-Dimethyl-4-ethylbenzene	4480	0.051	0.043	0.043	0.33
166	94.90	1081.3	I41	1840	0.024	0.024	0.017	0.21
167	95.10	1083.0	I42	1334	0.017	0.017	0.013	0.29
168	95.29	1084.6	?	647	0.008	0.008	0.006	UNK
169	95.58	1087.1	1-Methyl-4-t-butylbenzene	3614	0.100	0.088	0.077	0.02
170	96.05	1091.0	?	4355	0.056	0.049	0.043	UNK
171	96.25	1092.7	?	3552	0.046	0.040	0.035	UNK
172	96.48	1094.6	?	2143	0.028	0.024	0.021	UNK
173	96.65	1096.0	1,2-Dimethyl-3-ethylbenzene	3074	0.036	0.030	0.030	0.49
174	96.92	1098.2	1-Ethyl-2-i-propylbenzene	5523	0.064	0.054	0.049	0.13
175	97.13	1100.0	n-Undecane	97341	1.212	1.220	0.883	0.00
176	97.63	1105.5	1,2,4,5-Tetramethylbenzene	925	0.010	0.009	0.009	0.24
177	98.02	1109.8	?	1630	0.022	0.019	0.018	UNK
178	98.48	1114.9	1-t-Butyl-2-methylbenzene	8672	0.098	0.082	0.079	0.01
179	99.07	1121.3	?	6906	0.089	0.075	0.068	UNK
180	99.37	1124.5	A2	1445	0.017	0.014	0.013	0.02
181	99.63	1127.4	?	3089	0.039	0.033	0.030	UNK
182	100.02	1131.5	I43	4319	0.053	0.053	0.036	0.04
183	100.17	1133.2	A3	6463	0.079	0.062	0.056	0.73
184	100.70	1138.9	1-Ethyl-2-n-propylbenzene	10511	0.119	0.100	0.092	0.03
185	101.35	1149.0	1,3-Di-i-propylbenzene	2074	0.023	0.020	0.016	0.03
186	101.83	1150.9	?	1355	0.017	0.015	0.012	UNK
187	102.18	1154.6	n-Pentylbenzene	1334	0.015	0.013	0.012	0.50
188	102.53	1158.3	1t-M-2-(4-MP)cyclopentane	2167	0.028	0.026	0.019	0.17
189	103.02	1163.3	1,4-Di-i-propylbenzene	5794	0.066	0.055	0.046	0.02
190	103.40	1167.3	?	7647	0.098	0.083	0.069	UNK

9

pk#	Min.	Index	Component	Area	Wt%	Vol%	Mol%	St.d
191	103.88	1172.3	Naphthalene	1434	0.017	0.012	0.015	0.0
192	104.03	1173.9	I44	4201	0.052	0.052	0.035	0.1
193	104.98	1183.6	I47	1933	0.024	0.024	0.016	0.1
194	105.43	1188.4	?	3782	0.049	0.048	0.033	0.0
195	105.67	1190.6	1,3-Di-n-propylbenzene	6391	0.072	0.061	0.051	0.1
196	106.15	1195.5	A5	2554	0.029	0.024	0.020	0.1
197	106.60	1200.0	n-Dodecane	48904	0.605	0.602	0.405	0.1
198	107.53	1211.8	?	621	0.007	0.007	0.004	0.0
199	107.78	1214.7	?	997	0.013	0.013	0.009	0.0
200	107.98	1217.1	1,3,5-Triethylbenzene	11489	0.131	0.110	0.092	0.1
201	108.35	1221.6	?	1016	0.017	0.014	0.012	0.0
202	108.72	1226.1	1t-Butyl-4-ethylbenzene	968	0.012	0.010	0.008	0.1
203	109.32	1233.4	?	1909	0.026	0.022	0.015	0.0
204	109.62	1237.1	?	999	0.012	0.010	0.008	0.0
205	110.00	1241.7	?	865	0.011	0.009	0.008	0.0
206	110.28	1245.1	1-Methyl-4-n-pentylbenzene	4504	0.052	0.044	0.037	0.1
207	110.50	1247.7	?	1495	0.019	0.016	0.014	0.0
208	111.20	1256.1	?	1662	0.021	0.018	0.015	0.0
209	111.37	1258.1	?	2195	0.022	0.024	0.020	0.0
210	111.77	1262.8	I49	2618	0.034	0.033	0.021	0.1
211	112.12	1267.0	?	2985	0.038	0.038	0.024	0.0
212	112.70	1273.8	2-Methylnaphthalene	2953	0.037	0.027	0.022	0.1
213	113.00	1277.4	1-Methylnaphthalene	9016	0.103	0.076	0.062	0.1
214	114.95	1300.0	n-Tridecane	39545	0.509	0.504	0.314	0.1
215	122.02	1400.0	C14	48259	0.621	0.610	0.357	0.1
216	128.07	1500.0	C15	34537	0.445	0.433	0.238	0.1
217	133.38	1600.0	C16	20704	0.267	0.258	0.134	0.1
218	138.32	1700.0	C17	22631	0.291	0.281	0.138	0.1
219	138.90	1711.8	Pristane	12160	0.157	0.151	0.074	0.0
220	143.22	1800.0	C18	13850	0.178	0.172	0.080	0.1
221	143.90	1816.7	Phytane	6328	0.081	0.079	0.038	0.0
222	147.35	1900.0	C19	11720	0.151	0.143	0.064	0.1
223	151.33	2000.0	C20	9372	0.121	0.113	0.049	0.1
224	155.55	2100.0	C21	9298	0.120	0.112	0.046	0.0
225	160.33	2200.0	C22	8565	0.110	0.103	0.041	0.1
226	165.97	2300.0	C23	6629	0.085	0.080	0.030	0.0
227	172.77	2400.0	C24	6131	0.079	0.074	0.027	0.1
228	181.08	2500.0	C25	4619	0.059	0.056	0.019	0.1
229	191.35	2600.0	C26	3278	0.042	0.040	0.013	0.1

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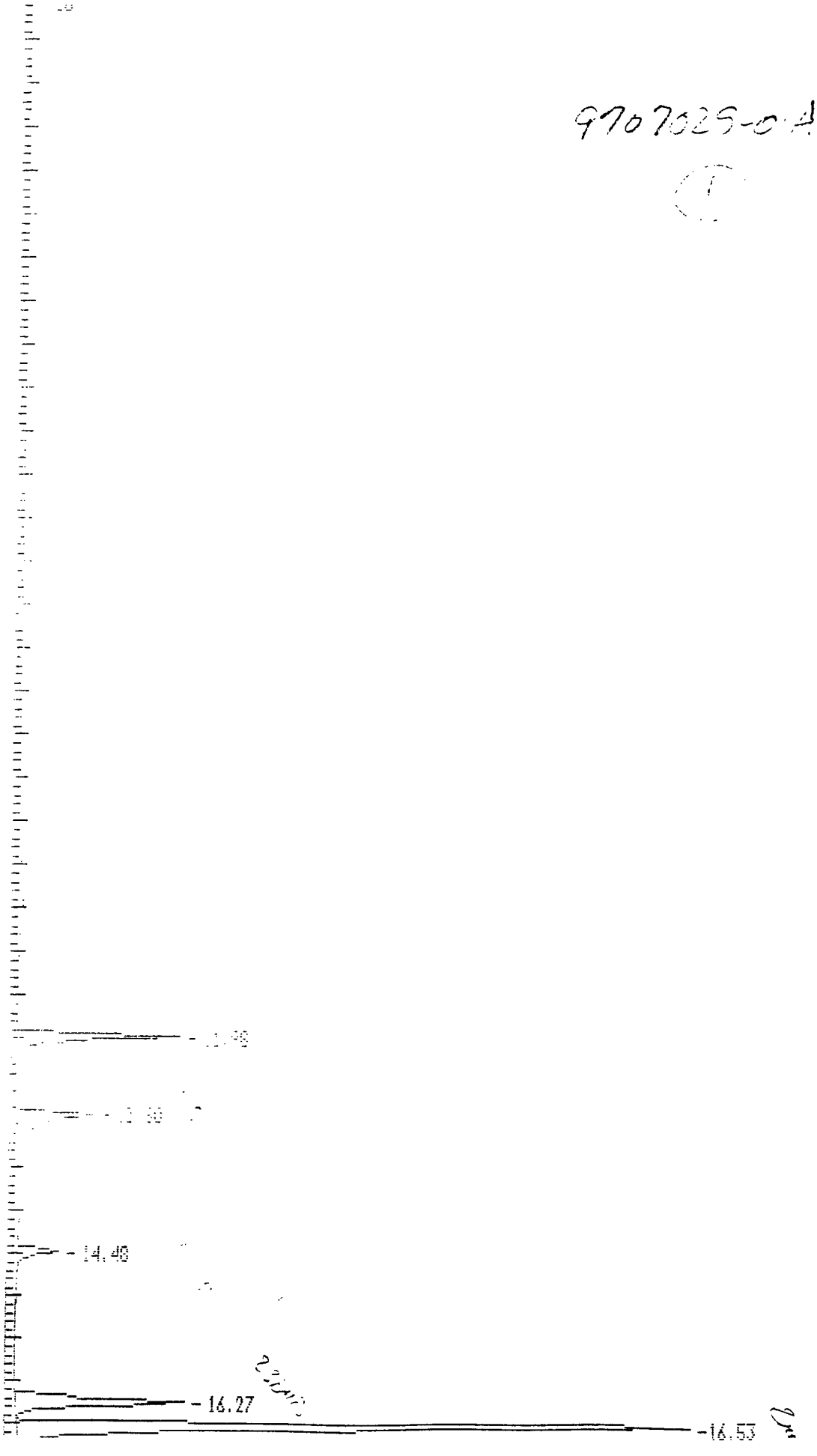

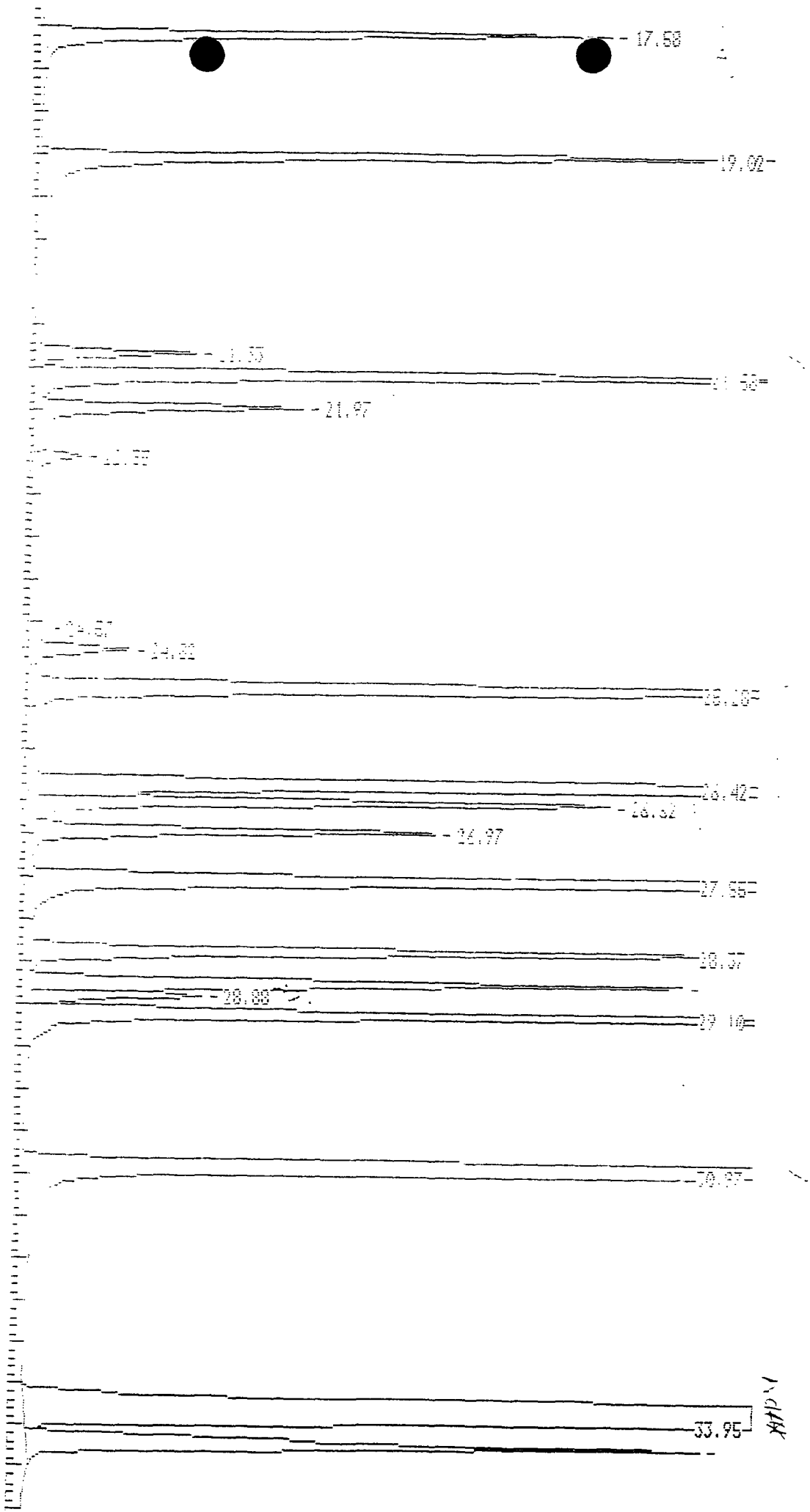
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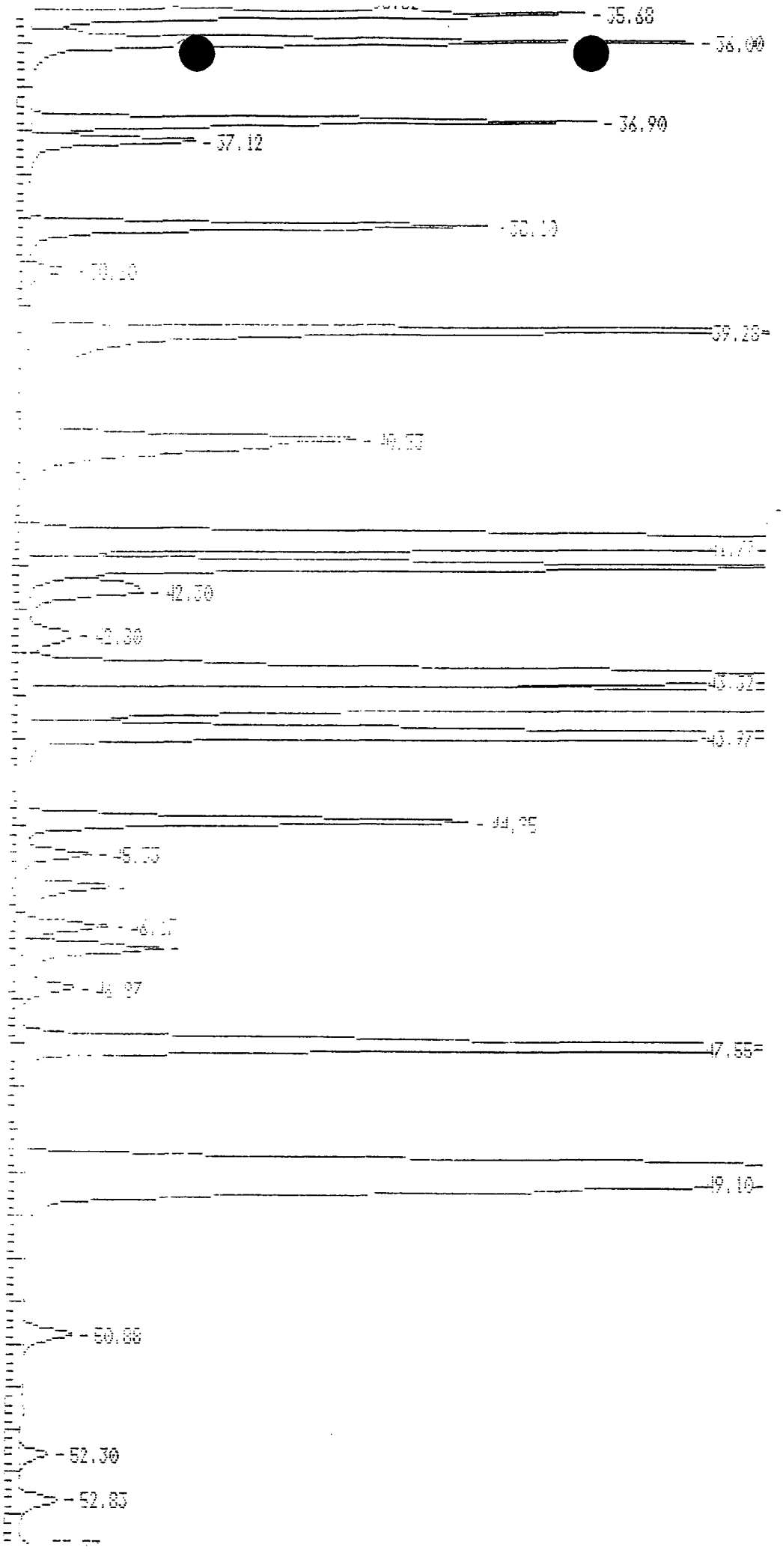
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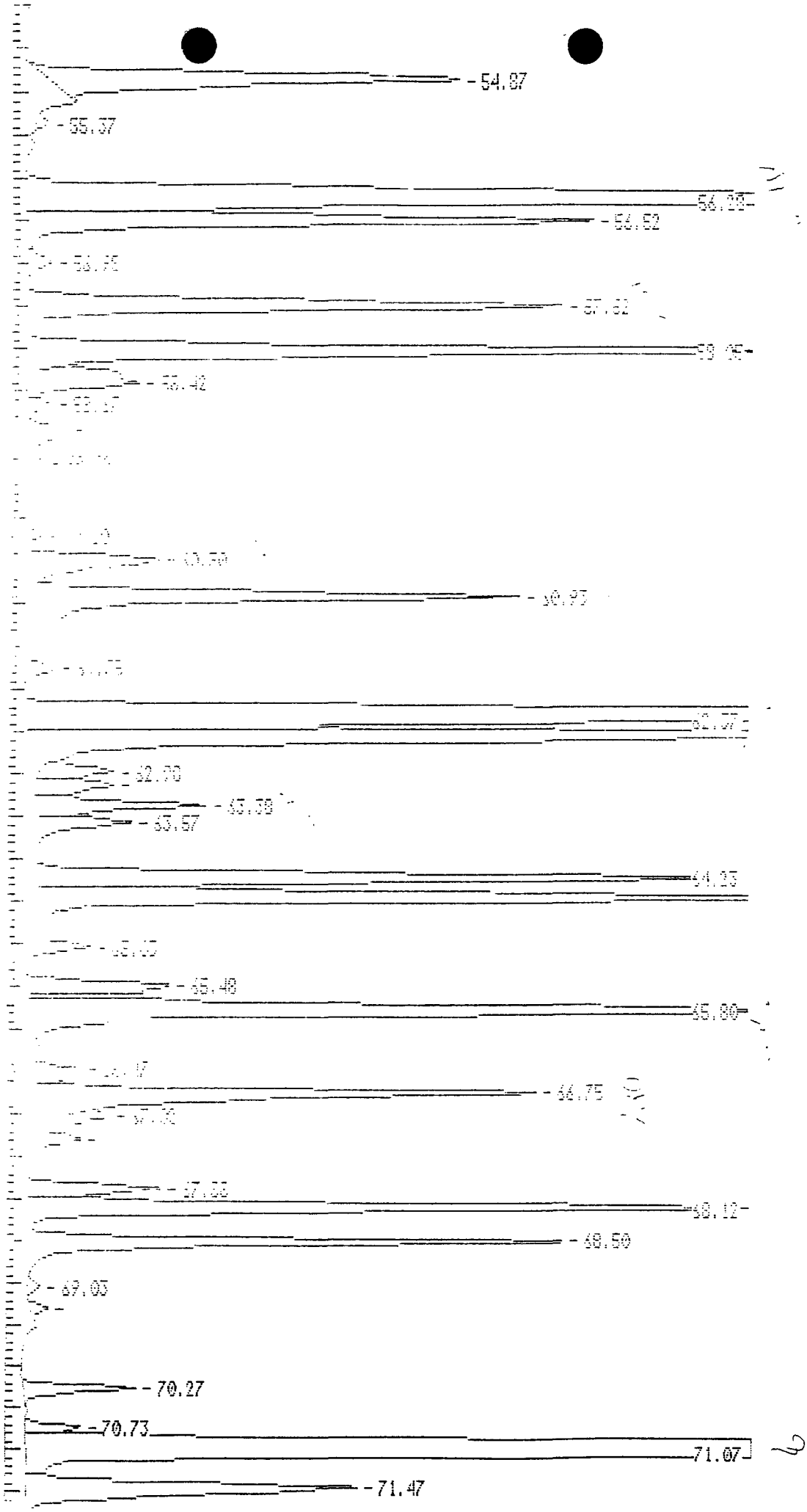
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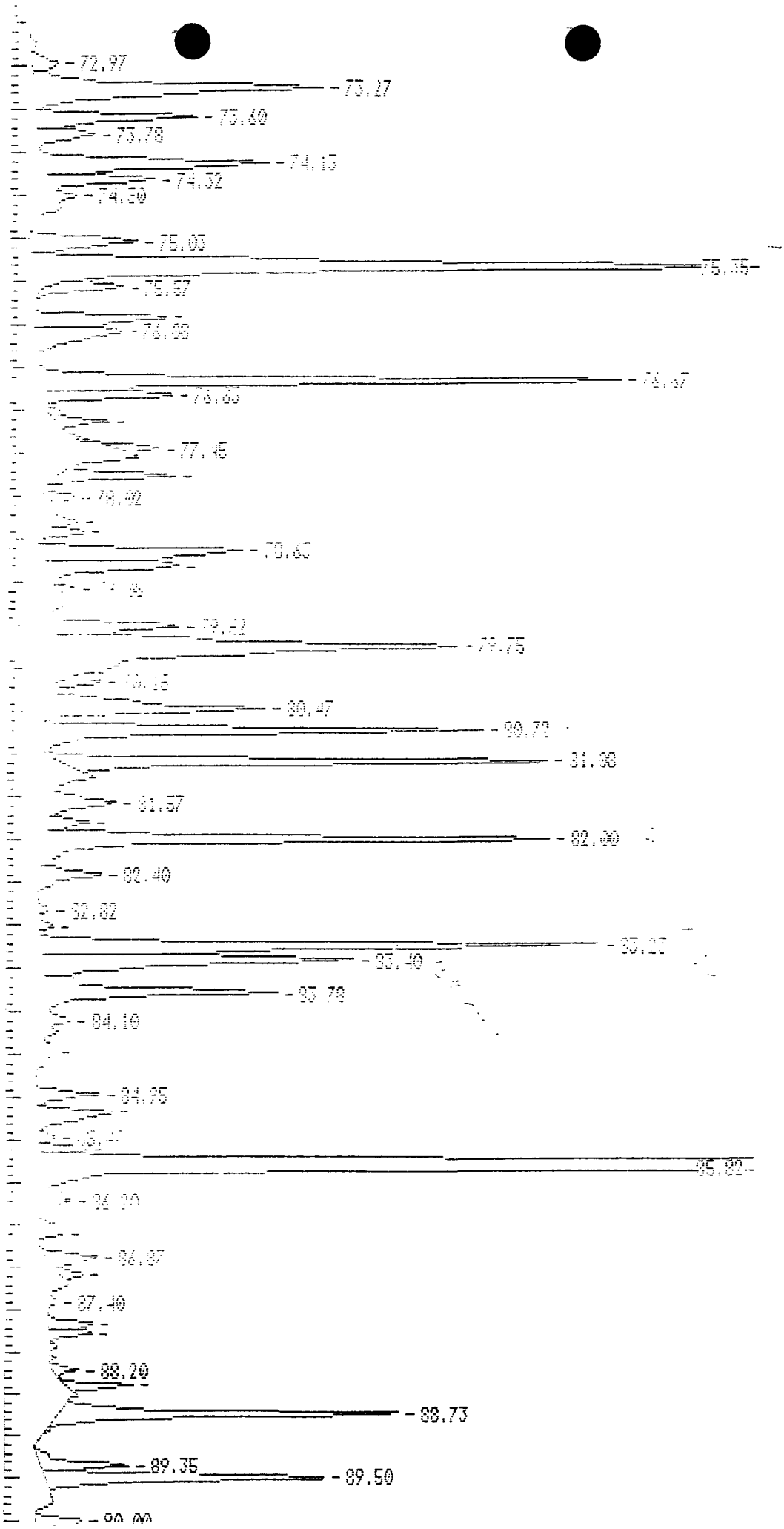
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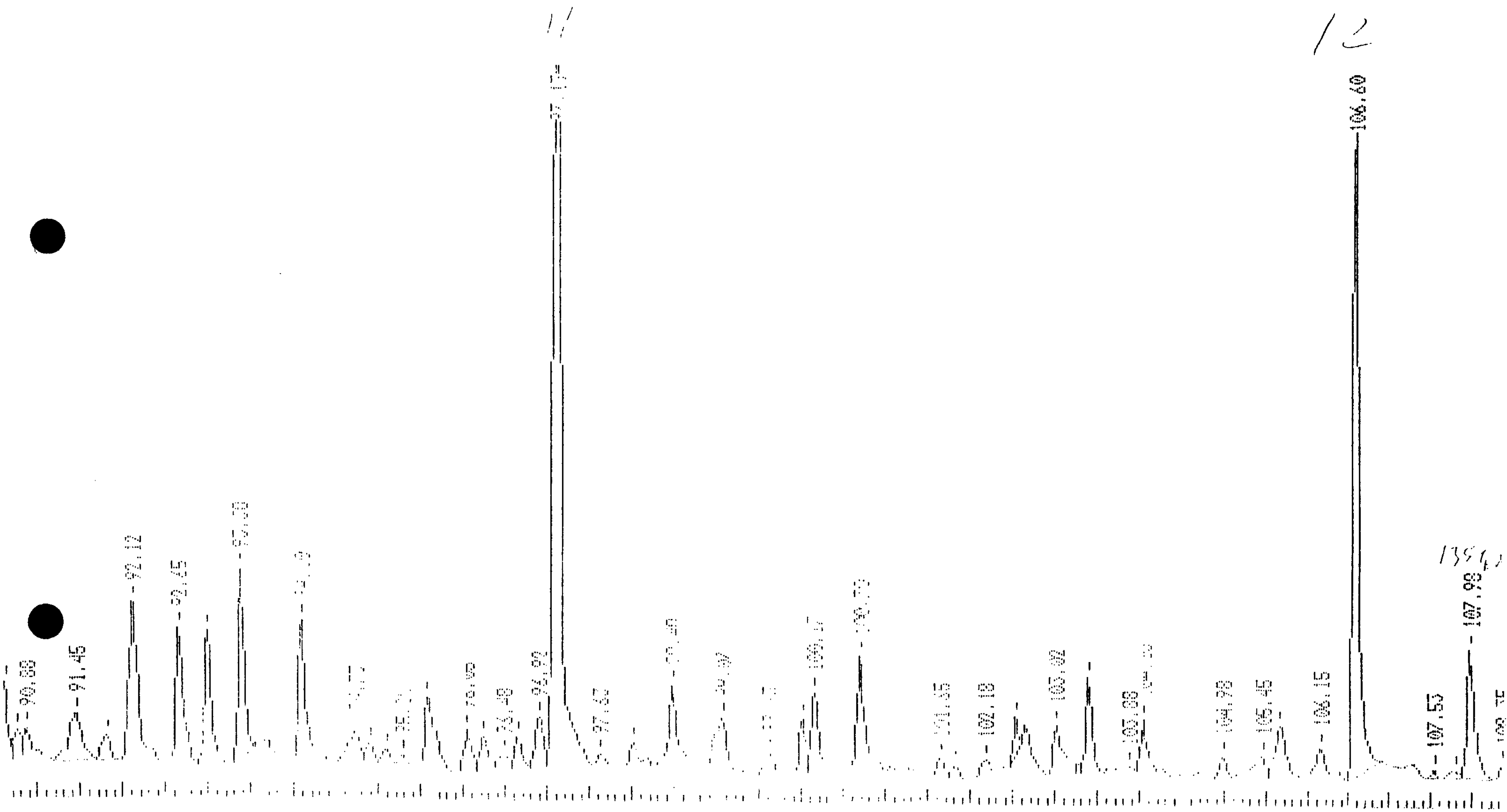

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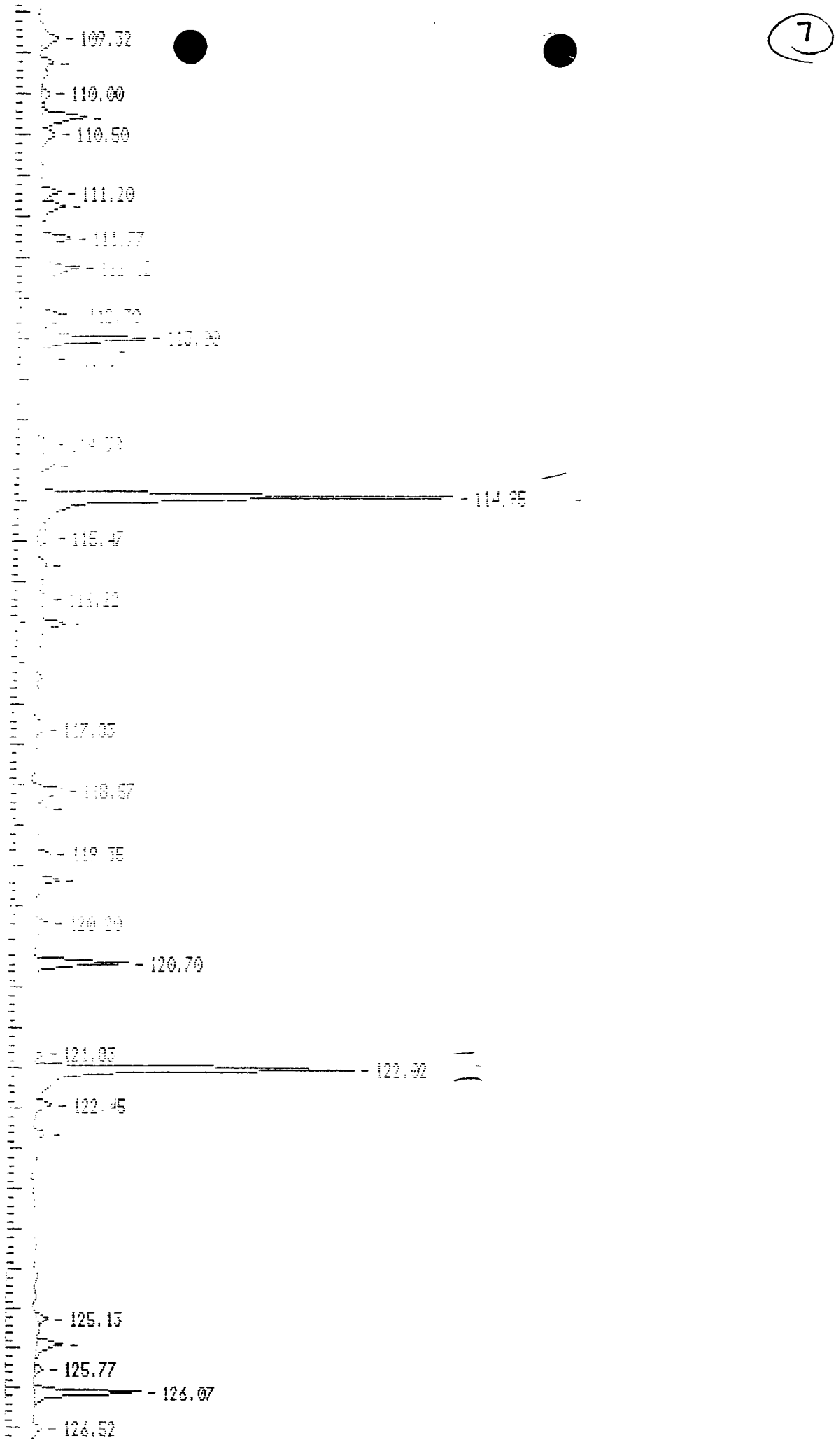
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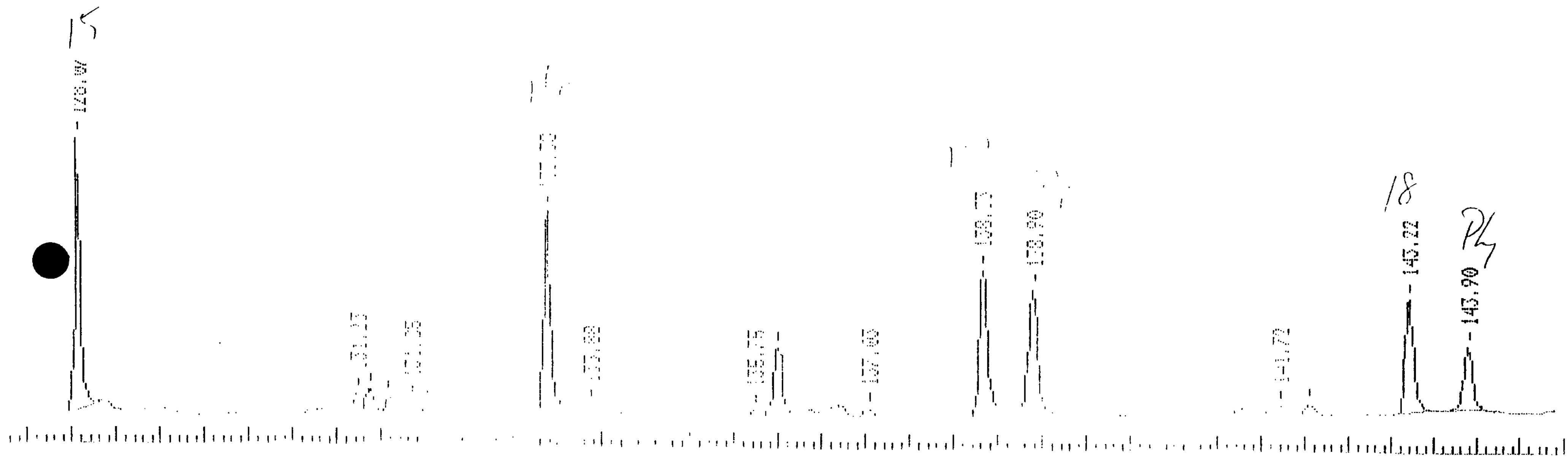

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25

CHAIN OF CUSTODY RECORD

5566

ON SITE TECHNOLOGIES, LTD.

657 W. Maple • P. O. Box 2606 • Farmington NM 87499
LAB: (505) 325-5667 • FAX: (505) 325-6256

Date: 6/26/97

Page 1 of 1

Purchase Order No.: | Job No.

SEND INVOICE TO

Name: Denver Bearden
Company: PNM Gas Services | Dept. 324-3763
Address: 603 W. Elm Street
City, State, Zip: Farmington, NM 87401

REPORT RESULTS TO

Name: Maureen Gannon | Title:
Company: PNM Gas Services
Mailing Address: Alverado Square, Mail Stop 0408
City, State, Zip: Albuquerque, NM 87158
Telephone No.: 505-848-2974 | Telefax No.:

Sampling Location: FLORANCE 47X

Sampler: M Gannon / M Sikelianos / B Killough

ANALYSIS REQUESTED

SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	MATRIX	PRES.	Number of Containers	BTEX 8020	CATS/ANIONS *	WQCC Metals *	FUEL ANIONS *	LAB ID
9706261100 MW-1	6/26/97			ICE/HCl	3	X	X	X		15118 - 5566
9706261200 MW-3	6/26/97			ICE	1				X	15119

Relinquished by: Maureen Gannon	Date/Time 6/26/97 1750	Received by:	Date/Time 6/26/97 1750
Relinquished by:	Date/Time	Received by:	Date/Time
Relinquished by:	Date/Time	Received by:	Date/Time

Method of Shipment:

Authorized by: Maureen Gannon (Client Signature Must Accompany Request) Date 6-26-97

Rush	24-48 Hours	10 Working Days	Special Instructions:
			Results to be sent to both parties.

Distribution: White – On Site Yellow – LAB Pink – Sampler Goldenrod – Client

* Collected in 1-L Amber

OFF: (505) 325-5667

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Attn:	*Denver Bearden*	Date:	1-Oct-97
Company:	*PNM Gas Services*	COC No.:	*5844*
Address:	*603 W. Elm*	Sample No.:	*16376*
City, State:	*Farmington, NM 87401*	Job No.:	*2-1000*

Project Name:	***PNM Gas Services - Florance 47X***				
Project Location:	***9709241830; MW-1***				
Sampled by:	MS/MG	Date:	24-Sep-97	Time:	18:30
Analyzed by:	DC	Date:	30-Sep-97		
Sample Matrix:	*Liquid*				

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
Benzene	171	ug/L	1	ug/L
Toluene	54	ug/L	1	ug/L
Ethylbenzene	27	ug/L	1	ug/L
m,p-Xylene	55	ug/L	1	ug/L
o-Xylene	10	ug/L	1	ug/L
TOTAL	318	ug/L		

ND - Not Detected at Limit of Quantitation

Method - *SW-846 EPA Method 8020A Aromatic Volatile Organics by Gas Chromatography*

Approved By:
Date: 10/1/97

OFF: (505) 325-5667

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

QUALITY ASSURANCE REPORT

for EPA Method 8020

Date Analyzed: 30-Sep-97

Internal QC No.: 0527-STD
Surrogate QC No.: 0528-STD
Reference Standard QC No.: 0529/30-QC

Method Blank

Parameter	Result	Unit of Measure
Average Amount of All Analytes In Blank	<0.2	ppb

Calibration Check

Parameter	Unit of Measure	True Value	Analyzed Value	RPD	Limit
Benzene	ppb	20.0	18.9	6	15%
Toluene	ppb	20.0	20.1	0	15%
Ethylbenzene	ppb	20.0	20.1	0	15%
m,p-Xylene	ppb	40.0	39.1	2	15%
o-Xylene	ppb	20.0	20.2	1	15%

Matrix Spike

Parameter	1- Percent Recovered	2 - Percent Recovered	Limit	RPD	Limit
Benzene	97	92	(39-150)	4	20%
Toluene	101	97	(46-148)	3	20%
Ethylbenzene	99	96	(32-160)	3	20%
m,p-Xylene	100	95	(35-145)	3	20%
o-Xylene	98	95	(35-145)	3	20%

Surrogate Recoveries

Laboratory Identification	S1 Percent Recovered	S2 Percent Recovered	Laboratory Identification	S1 Percent Recovered	S2 Percent Recovered
Limit Percent Recovered	(70-130)		Limit Percent Recovered	(70-130)	
16376-5844	94				
				JLR 10/10/97	(RE) 10/1/97

S1: *Flourobenzene*

ON SITE TECHNOLOGIES, LTD.

CHAIN OF CUSTODY RECORD

844

Date: 9/24/97

Page 1 of 1

657 W. Maple • P. O. Box 2606 • Farmington NM 87499
LAB: (505) 325-5667 • FAX: (505) 325-6256

Purchase Order No.: | Job No.

SEND INVOICE TO

Name: **Denver Bearden**
Company: **PNM Gas Services** | Dept. **324-3763**
Address: **603 W. Elm Street**
City, State, Zip: **Farmington, NM 87401**

REPORT RESULTS TO

Name: **Maureen Gannon** | Title
Company: **PNM Gas Services**
Mailing Address: **Alverado Square, Mail Stop 0408**
City, State, Zip: **Albuquerque, NM 87158**
Telephone No.: **505-848-2974** | Telefax No.

Sampling Location: Florance 47X

Sampler: M Gannon
M Sikelianos

ANALYSIS REQUESTED

SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	MATRIX	PRES.	Number of Containers	BTEX 8020	LAB ID
9709241830 MW-1			H2O	Acc	2	X	16376-5844

Relinquished by: M Gannon — Date/Time 9/26/97 1410 — Received by: [signature] — Date/Time 9/26/97 1410
Relinquished by: — Date/Time — Received by: — Date/Time
Relinquished by: — Date/Time — Received by: — Date/Time

Method of Shipment:

Authorized by: [signature] Date 9/26/97
(Client Signature Must Accompany Request)

Rush | 24-48 Hours | 10 Working Days

Special Instructions:
Results to be sent to both parties.

Distribution: White – On Site Yellow – LAB Pink – Sampler Goldenrod – Client

OFF: (505) 325-5667

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Attn:	*Denver Bearden*	Date:	6-Jan-98
Company:	*PNM Gas Services*	COC No.:	*7167*
Address:	*603 W. Elm*	Sample No.:	*17234*
City, State:	*Farmington, NM 87401*	Job No.:	*2-1000*

Project Name:	***PNM Gas Services - Florance 47X***				
Project Location:	***9712231200; MW-1***				
Sampled by:	MS/RD/MG	Date:	23-Dec-97	Time:	12:00
Analyzed by:	DC	Date:	5-Jan-98		
Sample Matrix:	*Liquid*				

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
Benzene	147	ug/L	1	ug/L
Toluene	70.0	ug/L	0.2	ug/L
Ethylbenzene	20.0	ug/L	0.2	ug/L
m,p-Xylene	62.6	ug/L	0.2	ug/L
o-Xylene	11.0	ug/L	0.2	ug/L
TOTAL	310	ug/L		

ND - Not Detected at Limit of Quantitation

Method - *SW-846 EPA Method 8020A Aromatic Volatile Organics by Gas Chromatography*

Approved By:

Date: 1/6/98

ON SITE

OFF: (505) 325-5667 LAB: (505) 325-1556

TECHNOLOGIES, LTD.

March 25, 1998

Maureen Gannon
PNM - Public Service Company of NM
Alvarado Square Mail Stop 0408
Albuquerque, NM 87158
TEL: (505) 241-2974
FAX (505) 241-2340

RE: Florance 47X Order No.: 9803031

Dear Maureen Gannon,

On Site Technologies, LTD. received 1 sample on 3/10/98 for the analyses presented in the following report.

The Samples were analyzed for the following tests:
BTEX (SW8020A)

There were no problems with the analyses and all data for associated QC met EPA or laboratory specifications except where noted in the Case Narrative.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

David Cox

ON SITE

OFF: (505) 325-5667

LAB: (505) 325-1556

TECHNOLOGIES, LTD.

Date: *25-Mar-98*

CLIENT: PNM - Public Service Company of NM
Project: Florance 47X
Lab Order: 9803031

CASE NARRATIVE

Samples were analyzed using the methods outlined in the following references:

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition

All method blanks, laboratory spikes, and/or matrix spikes met quality assurance objectives.

P.O. BOX 2606 • FARMINGTON, NM 87499

ON SITE

OFF: (505) 325-5667 LAB: (505) 325-1556

TECHNOLOGIES, LTD.

ANALYTICAL REPORT

Date: *25-Mar-98*

Client:	PNM - Public Service Company of NM	**Client Sample Info:**	Florance 47X
Work Order:	9803031	**Client Sample ID:**	9803091815; MW-1
Lab ID:	9803031-01A **Matrix:** AQUEOUS	**Collection Date:**	3/9/98 6:15:00 PM
Project:	Florance 47X	**COC#:**	7183

Parameter	Result	Limit	Qual	Units	DF	Date Analyzed
BTEX		**SW8020A**				Analyst: **DC**
Benzene	140	0.5		µg/L	1	3/18/98
Toluene	1.4	0.5		µg/L	1	3/18/98
Ethylbenzene	17	0.5		µg/L	1	3/18/98
m,p-Xylene	31	1		µg/L	1	3/18/98
o-Xylene	5	0.5		µg/L	1	3/18/98
Surr: Fluorobenzene	90.7	70-130		%REC	1	3/18/98
Surr: 1,4-Difluorobenzene	91.0	70-130		%REC	1	3/18/98
Surr: 4-Bromochlorobenzene	90.0	70-130		%REC	1	3/18/98

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

B - Analyte detected in the associated Method Blank

* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

P.O. BOX 2606 • FARMINGTON, NM 87499

On Site Technologies, LTD.

Date: *25-Mar-98*

CLIENT: PNM - Public Service Company of NM
Work Order: 9803031
Project: Florance 47X

QC SUMMARY REPORT
Method Blank

Sample ID: **MB1** Batch ID: **GC-1_980318** Test Code: **SW8020A** Units: **µg/L** Analysis Date: **3/18/98** Prep Date:

Client ID: **9803031** Run ID: **GC-1_980318A** SeqNo: **67**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	.0822	0.5									J
Ethylbenzene	.1129	0.5									J
m,p-Xylene	.3057	1									J
o-Xylene	.1097	0.5									J
Toluene	.1684	0.5									J

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: *25-Mar-98*

CLIENT: PNM - Public Service Company of NM
Work Order: 9803031
Project: Florance 47X

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID: **9803032-04AMS** Batch ID: **GC-1_980318** Test Code: **SW8020A** Units: **µg/L** Analysis Date: **3/18/98** Prep Date:
Client ID: **9803031** Run ID: **GC-1_980318A** SeqNo: **68**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	940.2	10	800	99.31	105.1%	56	128				
Ethylbenzene	923	10	800	97.04	103.2%	78	107				
m,p-Xylene	2384	20	1600	756.9	101.7%	67	118				
o-Xylene	956.3	10	800	127.2	103.6%	78	107				
Toluene	935.7	10	800	109	103.3%	74	116				

Sample ID: **9803032-04AMSD** Batch ID: **GC-1_980318** Test Code: **SW8020A** Units: **µg/L** Analysis Date: **3/18/98** Prep Date:
Client ID: **9803031** Run ID: **GC-1_980318A** SeqNo: **69**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	904.3	10	800	99.31	100.6%	56	128	940.2	3.9%	15	
Ethylbenzene	890.2	10	800	97.04	99.1%	78	107	923	3.6%	15	
m,p-Xylene	2301	20	1600	756.9	96.5%	67	118	2384	3.6%	15	
o-Xylene	925.2	10	800	127.2	99.7%	78	107	956.3	3.3%	15	
Toluene	903.1	10	800	109	99.3%	74	116	935.7	3.6%	15	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte de ected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: *25-Mar-98*

CLIENT: PNM - Public Service Company of NM
Work Order: 9803031
Project: Florance 47X

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID: **LCS WATER** Batch ID: **GC-1_980318** Test Code: **SW8020A** Units: **µg/L** Analysis Date: **3/18/98** Prep Date:

Client ID: **9803031** Run ID: **GC-1_980318A** SeqNo: **66**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	42.86	0.5	40	0.0822	107.0%	39	150				
Ethylbenzene	43.87	0.5	40	0.1129	109.4%	32	160				
m,p-Xylene	83.96	1	80	0.3057	104.6%	35	145				
o-Xylene	42.89	0.5	40	0.1097	107.0%	35	145				
Toluene	42.54	0.5	40	0.1684	105.9%	46	148				

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: *25-Mar-98*

CLIENT: PNM - Public Service Company of NM
Work Order: 9803031
Project: Florance 47X

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: **CCV1 QC0529/30** Batch ID: **GC-1_980318** Test Code: **SW8020A** Units: **µg/L** Analysis Date: **3/18/98** Prep Date:

Client ID: **9803031** Run ID: **GC-1_980318A** SeqNo: **63**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	21.39	0.5	20	0	106.9%	85	115				
Ethylbenzene	22.04	0.5	20	0	110.2%	85	115				
m,p-Xylene	41.93	1	40	0	104.8%	85	115				
o-Xylene	21.58	0.5	20	0	107.9%	85	115				
Toluene	21.22	0.5	20	0	106.1%	85	115				
1,4-Difluorobenzene	93.58	0	100	0	93.6%	70	130				
4-Bromochlorobenzene	90.62	0	100	0	90.6%	70	130				
Fluorobenzene	92.53	0	100	0	92.5%	70	130				

Sample ID: **CCV2 QC0529/30** Batch ID: **GC-1_980318** Test Code: **SW8020A** Units: **µg/L** Analysis Date: **3/18/98** Prep Date:

Client ID: **9803031** Run ID: **GC-1_980318A** SeqNo: **64**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	21.34	0.5	20	0	106.7%	85	115				
Ethylbenzene	21.91	0.5	20	0	109.6%	85	115				
m,p-Xylene	41.5	1	40	0	103.8%	85	115				
o-Xylene	21.36	0.5	20	0	106.8%	85	115				
Toluene	21.11	0.5	20	0	105.6%	85	115				
1,4-Difluorobenzene	93.14	0	100	0	93.1%	70	130				
4-Bromochlorobenzene	90.04	0	100	0	90.0%	70	130				
Fluorobenzene	92.38	0	100	0	92.4%	70	130				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: PNM - Public Service Company of NM
Work Order: 9803031
Project: Florance 47X

QC SUMMARY REPORT
Continuing Calibration Verification Standard

Sample ID: **CCV3 QC0529/30** Batch ID: **GC-1_980318** Test Code: **SW8020A** Units: **µg/L** Analysis Date: **3/18/98** Prep Date:

Client ID: **9803031** Run ID: **GC-1_980318A** SeqNo: **65**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.7	0.5	20	0	103.5%	85	115				
Ethylbenzene	21.21	0.5	20	0	106.1%	85	115				
m,p-Xylene	40.18	1	40	0	100.4%	85	115				
o-Xylene	20.82	0.5	20	0	104.1%	85	115				
Toluene	20.52	0.5	20	0	102.6%	85	115				
1,4-Difluorobenzene	93.39	0	100	0	93.4%	70	130				
4-Bromochlorobenzene	88.96	0	100	0	89.0%	70	130				
Fluorobenzene	92.26	0	100	0	92.3%	70	130				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CHAIN OF CUSTODY RECORD

Date: 7/7/98

Page: 1 of 1

ON SITE TECHNOLOGIES, LTD.

612 E. Murphy Dr. • P.O. Box 2606 • Farmington, NM 87499
LAB: (505) 325-5667 • FAX: (505) 325-6256

Purchase Order No.:		Job No.	
SEND INVOICE TO	Name	**Denver Bearden**	
	Company	**PNM Gas Services**	Dept. **324-3763**
	Address	**603 W. Elm Street**	
	City, State, Zip	**Farmington, NM 87401**	

REPORT RESULTS TO	Name	**Maureen Gannon**	Title
	Company	**PNM Gas Services**	
	Mailing Address	**Alverado Square, Mail Stop 0408**	
	City, State, Zip	**Albuquerque, NM 87158**	
	Telephone No.	**505-848-2974**	Telefax No.

Sampling Location: Florance 47 X

Sampler: R Redrick

SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	MATRIX	PRES.	Number of Containers	ANALYSIS REQUESTED	LAB ID
980709 1815	7/9						

Relinquished by:	Date/Time 7/9/98	Received by:	Date/Time
Relinquished by:	Date/Time	Received by:	Date/Time
Relinquished by:	Date/Time	Received by:	Date/Time

Method of Shipment:

Authorized by: Date 7/9/98

(Client Signature Must Accompany Request)

Rush	24-48 Hours	10 Working Days	Special Instructions:
			Results to be sent to both parties.

Distribution: White - On Site Yellow - LAB Pink - Sampler Goldenrod - Client

Public Service Company
of New Mexico
Alvarado Square MS. 0408
Albuquerque, NM 87158

April 15, 1997

Mr. William Olson
Hydrogeologist
Oil Conservation Division
2040 So. Pacheco
Santa Fe, New Mexico 87505

RE: 1997 SAN JUAN BASIN ANNUAL GROUNDWATER REPORT

Dear Bill:

PNM is pleased to submit the 1997 Annual Groundwater Report on Unlined Surface Impoundments in the San Juan Basin. Pursuant to PNM's Groundwater Management Program for Unlined Surface Impoundment Closures, the report details the ongoing investigation/remedial activities at unlined surface impoundments having groundwater contamination as identified by PNM. A list of groundwater sites reported in this document is provided below.

Cozzens B1
Florance 32A
Florance 40
Florance 44
Florance 47X
Florance 124
Hampton 4M
Honolulu Loop-Line Drip
Jacques 2A
Kaufmann 1
Mangum 1E
McClanahan A2E
McClanahan 22
McCoy A1A
Reid 16 Drip
Templeton 1E
Zachry 18E

PNM plans to request closure of two of the above sites, the Florance 124 and the Templeton 1E, in our April 30, 1997 filing of the San Juan Pit Closure Reports to the OCD Santa Fe office. We did not report on our newest groundwater site, the Sammons 2, since this was discovered in the second quarter of 1997. If you have any questions regarding the contents of the report, please contact me at (505) 241-2974.

Sincerely,

Maureen Gannon
Project Manager

Attachment

cc: Denver Bearden, PNMGS
Denny Foust, OCD-Aztec Office
Robin Prisk, WFS

97rptltr.doc

PNM 1997 San Juan Basin Groundwater Report
April 15, 1997

Prepared for:

New Mexico Oil Conservation Division
2040 South Pacheco
Santa Fe, New Mexico 87505

Prepared by:

Public Service Company of New Mexico
Environmental Services Department
Alvarado Square - MS 0408
Albuquerque, New Mexico 87158

PNMGS Well Site: **Florance 47X**

Groundwater Site Summary Report

Copies: WFS(1)
Operator (1)
NMOCD District Office (1)
NMOCD Santa Fe (1)

Quarter/Year: 1/97

Operator: Amoco
Sec: 5 **Twn:** 30N **Rng:** 9W **Unit:** G
Canyon: Crow

Vulnerable Class: Original
OCD Ranking: 0
Lead Agency: NMOCD

Topo Map: previously submitted
Well Completion Diagram: Figure 1
Site Map with Analytical Results: NA
Groundwater Contour Map: NA
Groundwater Contour Map: NA
Hydrograph: NA
Full-Suite Groundwater Sampling Results: NA
Analytical Results: NA

Activities for First Quarter 1997:

PNM installed groundwater monitoring wells at the Florance 47X on February 6, 1997. No other activities were performed during the first quarter of 1997.

Results:

NA

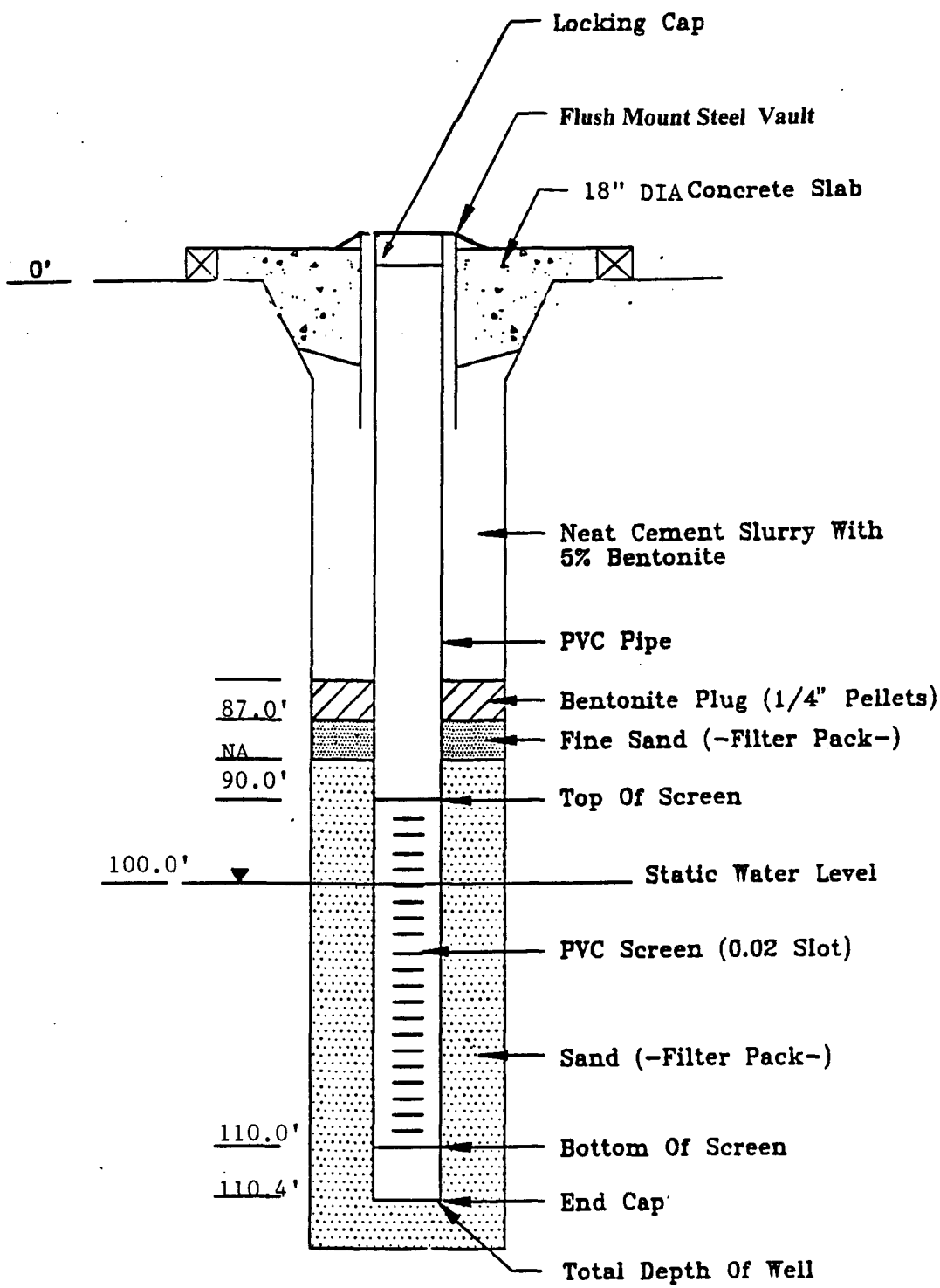
Future Actions:

PNM will commence quarterly monitoring at the Florance 47X during the second quarter of 1997.

PNMGS Well Site: **Jacques 2A**

Public Service Company of New Mexico - Gas Services
Environmental Services Division - Alvarado Square, MS-0408
Albuquerque, NM 87158

Contact: Maureen Gannon **Telephone: 505-241-2974**



PNM Gas Services	CLIENT: PNM	
	DATE:	REV. NO.: 0
	AUTHOR: M.D.G.	DRAWN BY: M.P.
	CK'D BY: M.D.G.	FILE: .DWG

Figure 1
Well Completion Diagram