

3R – 329

2003 AGWMR

08 / 31 / 2004



188 County Road 4900
Bloomfield, NM 87413
(505) 634-4956 Phone
(505) 632-4780 Fax

August 31, 2004

Mr. William Olson
Hydrologist
NM Oil Conservation Division
1220 S. St. Francis Drive
Santa Fe, NM 87505

RE: 2003 GROUND WATER SUMMARY REPORT

Dear Bill:

Enclosed for your review is the Williams 2003 Ground Water Summary Report. The report provides results of ground water monitoring at several sites in the San Juan Basin historically impacted from the use of unlined surface impoundments. The report includes those sites where monitored natural attenuation is ongoing. Work at these sites continues as previously communicated.

Thank you for taking the time to review this report. If you have any questions or need other information, please contact me or Jim Struhs at 505-634-4956.

Respectfully,

A handwritten signature in black ink, appearing to read "Mark Harvey", written over a horizontal line.

Mark Harvey
Project Coordinator

Enclosure – 2003 Ground Water Summary Report

Cc: Bill Liess, BLM Farmington Office

Site Summary Report

Site Name: Pritchard 2A

Reporting Period: 2003

Location: Unit J, Sec 6, Twn 30N, Rng 8W

Canyon: Pump

Operator: Williams

Vulnerable Class: expanded

OCD Ranking: 40

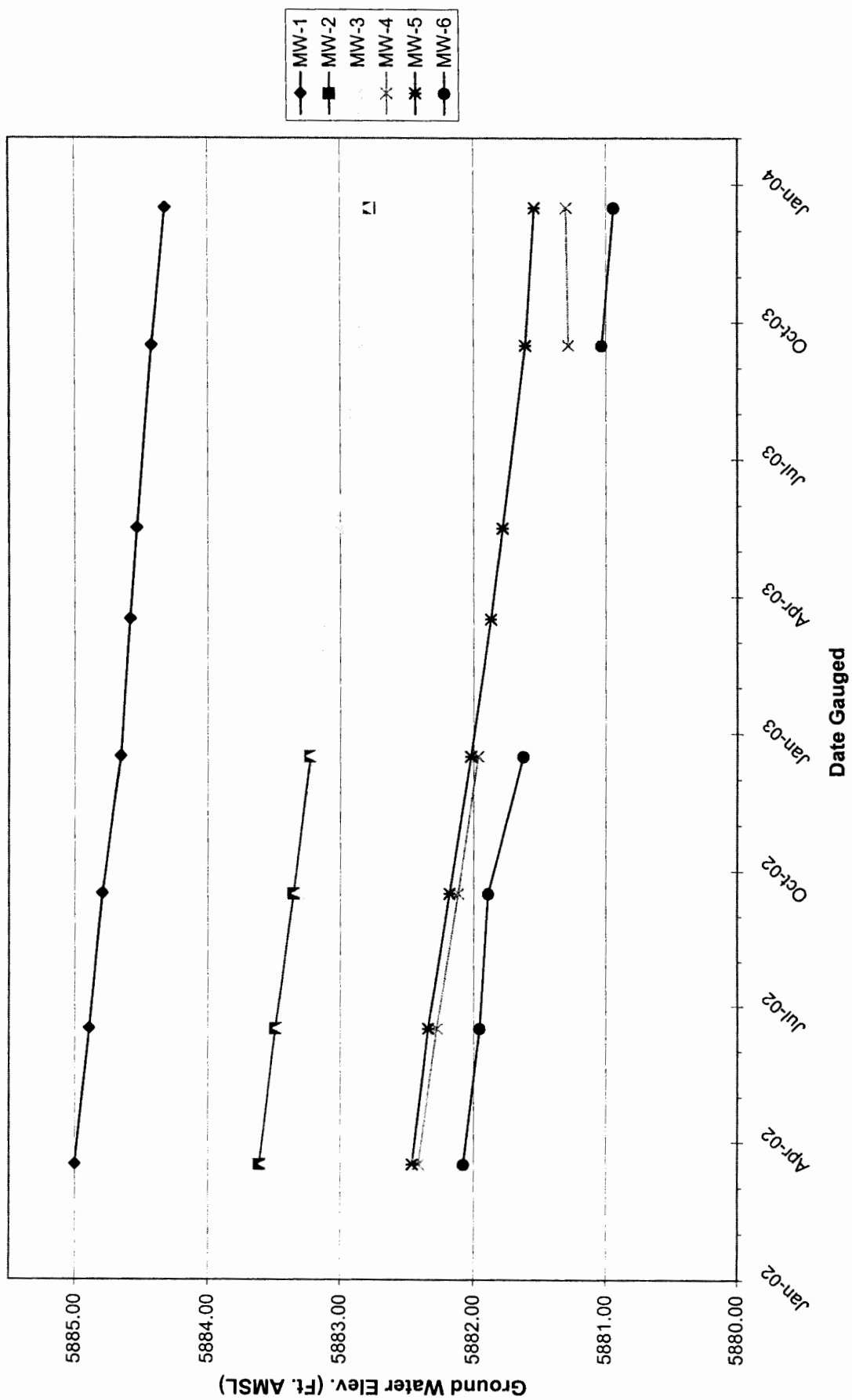
Lead Agency: NMOCD

Status Narrative

The six monitoring wells at this site have been sampled for seventeen quarters. Monitoring wells MW-2, MW-4 and MW-6 contain LNAPL accumulations. To date, a total of approximately 15-liters of LNAPL has been recovered. Concentrations of BTEX in upgradient well MW-1 were below the cleanup standards in the second and third quarters. Benzene exceeded the standard at 16 ppb and 14 ppb in the first and fourth quarters, respectively. Total BTEX concentrations in cross-gradient well MW-3 ranged from 9 ppb to 270 ppb throughout the year. Well MW-5 met the cleanup standards in the second, third and fourth quarters.

Potentiometric surface maps (Figure 2) depict a southeast by south ground water flow direction at an average hydraulic gradient of 0.01. No significant seasonal variations in ground water flow direction or gradient are evident. The enclosed hydrograph shows an overall decrease in the water-table elevation over the past two years.

Pritchard #2A Hydrograph



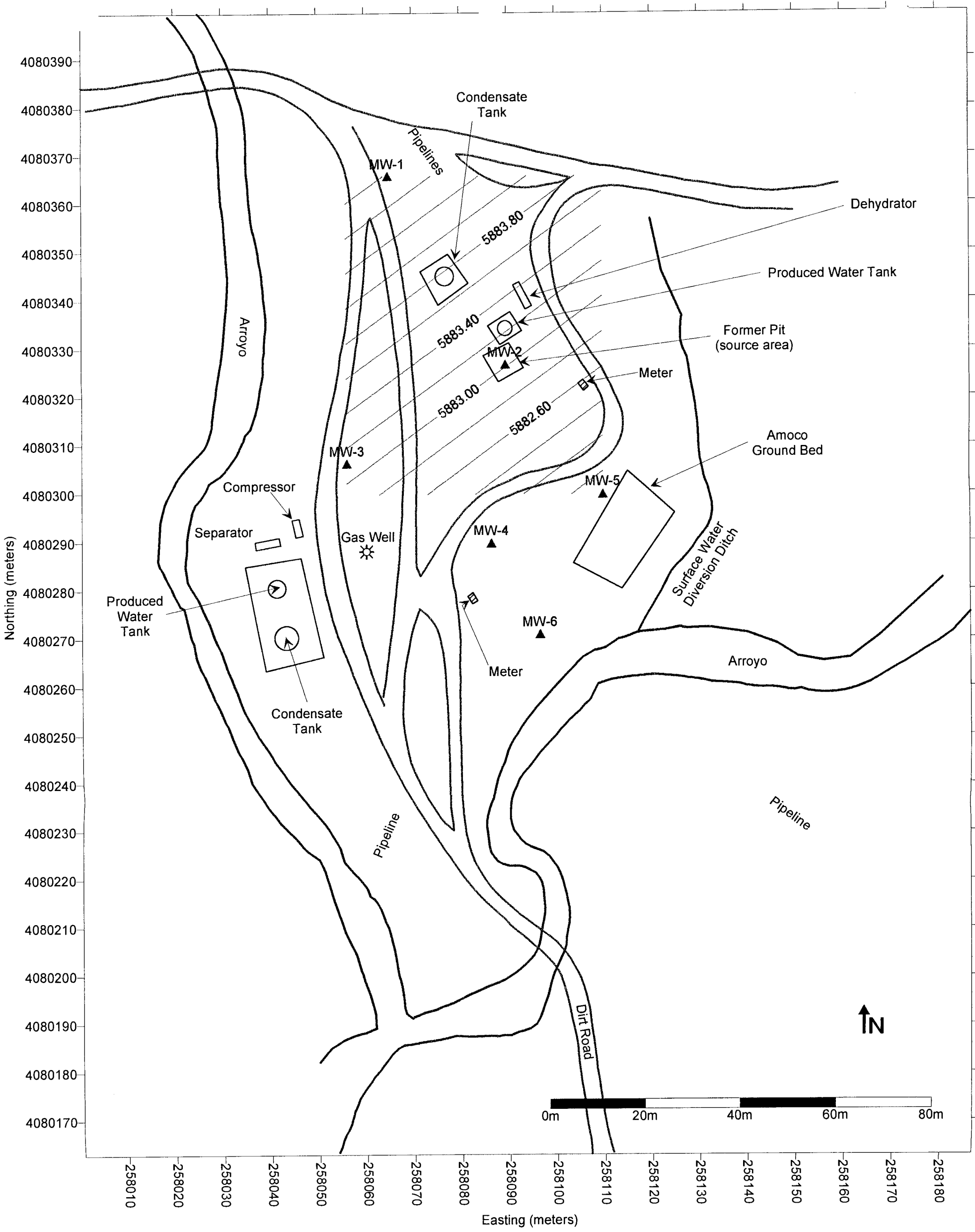


Figure 2
Potentiometric
Surface Map
Pritchard #2
(March 28, 2003)

LEGEND

- MW-2
- Monitoring Well
- 5885.20
- Ground Water Elevation (ft. AMSL)

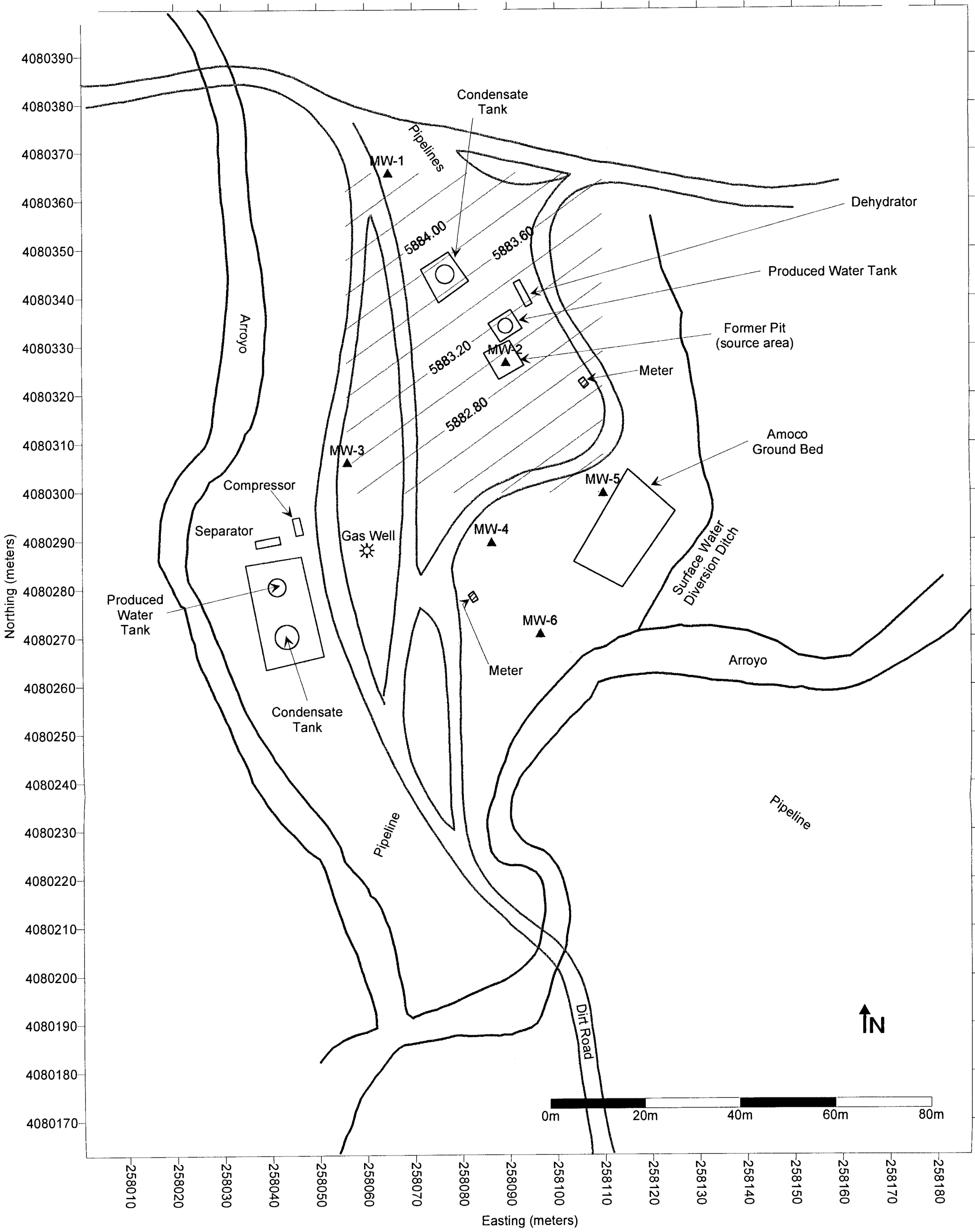


Figure 2
Potentiometric
Surface Map
Pritchard #2
(May 29, 2003)

LEGEND

- MW-2 ▲ Monitoring Well
- 5885.20 --- Ground Water Elevation (ft. AMSL)

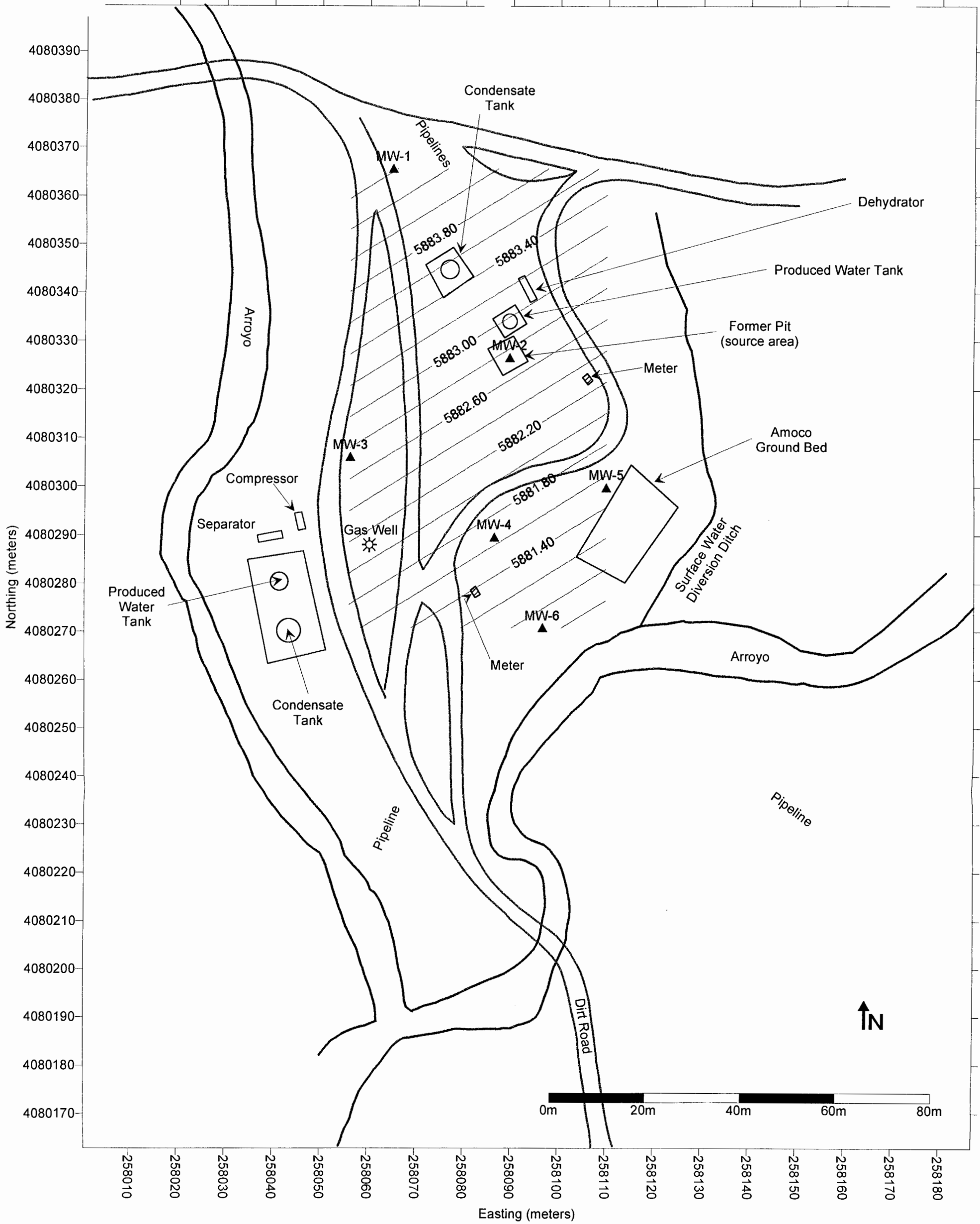


Figure 2
Potentiometric
Surface Map
Pritchard #2
(September 15, 2003)

LEGEND

- MW-2
- Monitoring Well
- 5885.20
- Ground Water Elevation (ft. AMSL)

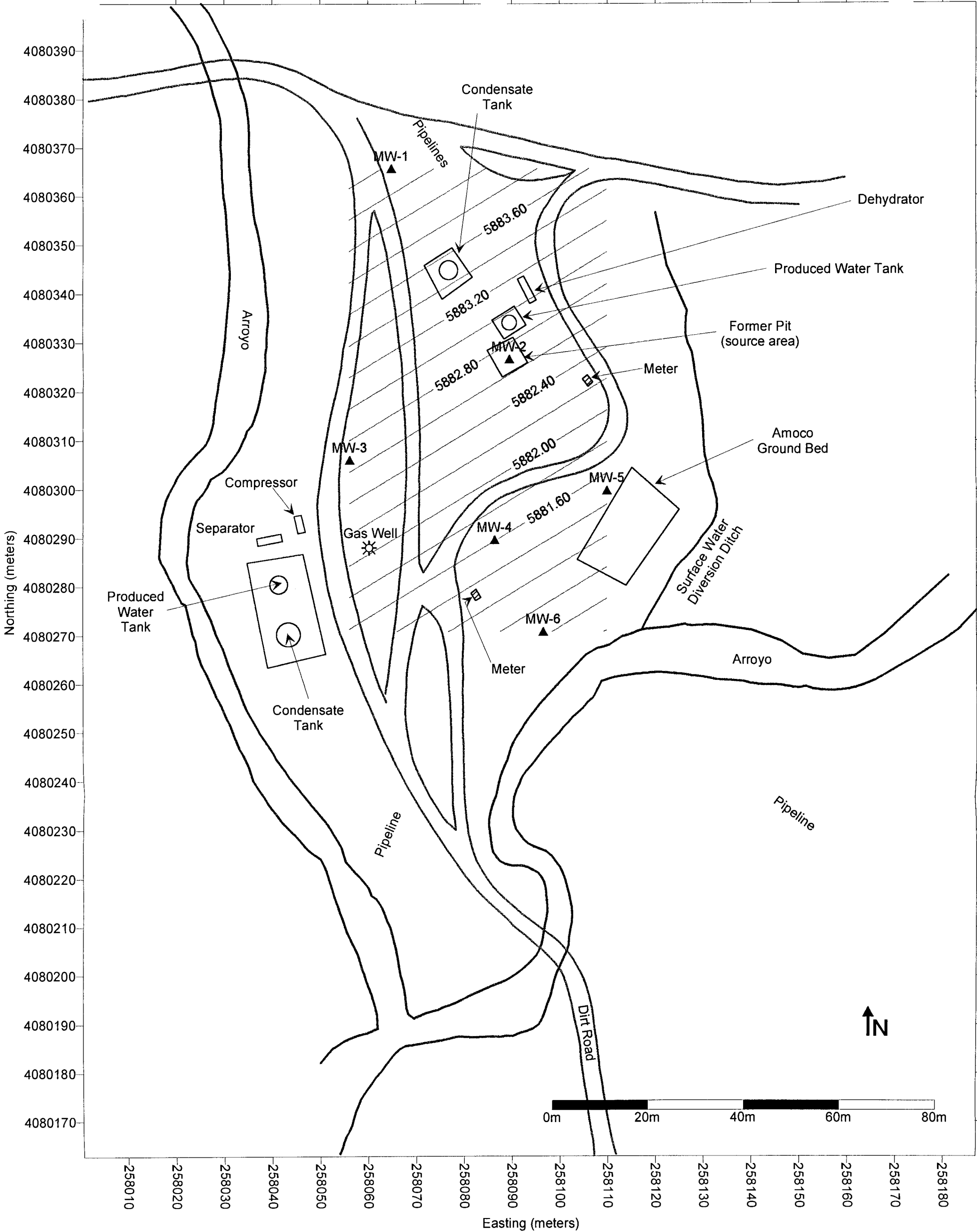


Figure 2
Potentiometric
Surface Map
Pritchard #2
(December 16, 2003)

LEGEND

MW-2
Monitoring Well

5585.20
Ground Water Elevation (ft. AMSL)

Analytical Data Summary

Site Name:

Pritchard 2

Reporting Period:

1/1/03 To 12/31/03

Well ID	Sample Date	Sample ID	Benzene ug/l	Toluene ug/l	Ethylbenzene ug/l	Xylene (Total) ug/l
MW-1						
	3/28/03	125028MAR03	16.	12.	ND	83.
	5/29/03	104229MAY03	ND	ND	ND	18.
	9/15/03	124915SEP03	3.1	2.4	ND	22.
	12/16/03	140216DEC03	14.	8.5	ND	55.
MW-3						
	3/28/03	130428MAR03	51.	ND	ND	5.2
	5/29/03	105129MAY03	270	ND	ND	ND
	9/15/03	125815SEP03	38.	ND	ND	ND
	12/16/03	142716DEC03	9.0	ND	ND	ND
MW-5						
	3/28/03	130828MAR03	27.	33.	3.8	77.
	5/29/03	110129MAY03	2.9	ND	ND	5.5
	9/15/03	130715SEP03	2.6	ND	ND	13.
	12/16/03	141416DEC03	3.1	ND	ND	11.



Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
Phone: 913.599.5665
Fax: 913.599.1759

April 09, 2003

Mr. Jim Struhs
MILE HIGH ENVIRONMENTAL
188 C.R. 4900
Bloomfield, NM 87413

RE: Lab Project Number: 6069059
Client Project ID: SJB-GW/PRTCH2

Dear Mr. Struhs:

Enclosed are the analytical results for sample(s) received by the laboratory on April 2, 2003. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report please feel free to contact me.

Sincerely,

Mary Jane Walls
mjwalls@pacelabs.com
Project Manager

Kansas/NELAP Certification Number E-10116

Enclosures

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
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SAMPLE SUMMARY

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
Phone: 913.599.5665
Fax: 913.599.1759

Lab Project Number: 6069059
Client Project ID: SJB-GW/PRTCH2

Project	Sample				
<u>Sample Number</u>	<u>Number</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Date Collected</u>	<u>Date Received</u>
6069059-001	605958024	125028MAR03	Water	03/28/03 12:50	04/02/03 09:30
6069059-002	605958032	130828MAR03	Water	03/28/03 13:08	04/02/03 09:30
6069059-003	605958040	130428MAR03	Water	03/28/03 13:04	04/02/03 09:30

REPORT OF LABORATORY ANALYSIS

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Lab Project Number: 6069059
Client Project ID: SJB-GW/PRTCH2

Lab Sample No: 605958024 Project Sample Number: 6069059-001 Date Collected: 03/28/03 12:50
Client Sample ID: 125028MAR03 Matrix: Water Date Received: 04/02/03 09:30

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
GC Volatiles									
Aromatic Volatile Organics	Method: EPA 8021								
Benzene	16.	ug/l	2.0	1.0	04/08/03 02:14 SHF		71-43-2		
Ethylbenzene	ND	ug/l	2.0	1.0	04/08/03 02:14 SHF		100-41-4		
Toluene	12.	ug/l	2.0	1.0	04/08/03 02:14 SHF		108-88-3		
Xylene (Total)	83.	ug/l	5.0	1.0	04/08/03 02:14 SHF		1330-20-7		
a,a,a-Trifluorotoluene (S)	101	%		1.0	04/08/03 02:14 SHF		98-08-8		

REPORT OF LABORATORY ANALYSIS

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Lab Project Number: 6069059
Client Project ID: SJB-GW/PRTCH2

Lab Sample No: 605958032 Project Sample Number: 6069059-002 Date Collected: 03/28/03 13:08
Client Sample ID: 130828MAR03 Matrix: Water Date Received: 04/02/03 09:30

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
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GC Volatiles

Aromatic Volatile Organics

Method: EPA 8021

Benzene	27.	ug/l	2.0	1.0	04/08/03 02:43 SHF		71-43-2		
Ethylbenzene	3.8	ug/l	2.0	1.0	04/08/03 02:43 SHF		100-41-4		
Toluene	33.	ug/l	2.0	1.0	04/08/03 02:43 SHF		108-88-3		
Xylene (Total)	77.	ug/l	5.0	1.0	04/08/03 02:43 SHF		1330-20-7		
a,a,a-Trifluorotoluene (S)	101	%		1.0	04/08/03 02:43 SHF		98-08-8		

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Lab Project Number: 6069059

Client Project ID: SJB-GW/PRTCH2

Lab Sample No: 605958040
Client Sample ID: 130428MAR03

Project Sample Number: 6069059-003
Matrix: Water

Date Collected: 03/28/03 13:04
Date Received: 04/02/03 09:30

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
GC Volatiles									
Aromatic Volatile Organics	Method: EPA 8021								
Benzene	51.	ug/l	2.0	1.0	04/08/03 03:12 SHF		71-43-2		
Ethylbenzene	ND	ug/l	2.0	1.0	04/08/03 03:12 SHF		100-41-4		
Toluene	ND	ug/l	2.0	1.0	04/08/03 03:12 SHF		108-88-3		
Xylene (Total)	5.2	ug/l	5.0	1.0	04/08/03 03:12 SHF		1330-20-7		
a,a,a-Trifluorotoluene (S)	99	%		1.0	04/08/03 03:12 SHF		98-08-8		

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PARAMETER FOOTNOTES

Dilution factor shown represents the factor applied to the reported result and reporting limit due to changes in sample preparation, dilution of the extract, or moisture content

ND	Not detected at or above adjusted reporting limit
NC	Not Calculable
J	Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit
MDL	Adjusted Method Detection Limit
(S)	Surrogate

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
Phone: 913.599.5665
Fax: 913.599.1759

Lab Project Number: 6069059
Client Project ID: SJB-GW/PRTCH2

QC Batch: 142326 Analysis Method: EPA 8021
QC Batch Method: EPA 8021 Analysis Description: Aromatic Volatile Organics
Associated Lab Samples: 605958024 605958032 605958040

METHOD BLANK: 605965789
Associated Lab Samples: 605958024 605958032 605958040

Parameter	Units	Blank Result	Reporting Limit	Footnotes
Benzene	ug/l	ND	2.0	
Ethylbenzene	ug/l	ND	2.0	
Toluene	ug/l	ND	2.0	
Xylene (Total)	ug/l	ND	5.0	
a,a,a-Trifluorotoluene (S)	%	91		

LABORATORY CONTROL SAMPLE: 605965797

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Footnotes
Benzene	ug/l	20.00	21.62	108	85-120	
Ethylbenzene	ug/l	20.00	20.87	104	87-114	
Toluene	ug/l	20.00	20.30	101	87-114	
Xylene (Total)	ug/l	60.00	63.11	105	88-115	
a,a,a-Trifluorotoluene (S)				99	86-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 605967553 605967561

Parameter	Units	605958057 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	RPD	Footnotes
Benzene	ug/l	0.9553	20.00	21.70	20.99	104	100	82-121	3	16	
Ethylbenzene	ug/l	0.1301	20.00	20.99	21.08	104	105	84-114	0	14	
Toluene	ug/l	0.3187	20.00	20.19	20.05	99	99	85-112	1	18	
Xylene (Total)	ug/l	0.5420	60.00	62.95	61.91	104	102	83-115	2	16	
a,a,a-Trifluorotoluene (S)						97	96	86-115			

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QUALITY CONTROL DATA PARAMETER FOOTNOTES

Consistent with EPA guidelines, unrounded concentrations are displayed and have been used to calculate % Rec and RPD values.

LCS(D)	Laboratory Control Sample (Duplicate)
MS(D)	Matrix Spike (Duplicate)
DUP	Sample Duplicate
ND	Not detected at or above adjusted reporting limit
NC	Not Calculable
J	Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit
MDL	Adjusted Method Detection Limit
RPD	Relative Percent Difference
(S)	Surrogate

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
Phone: 913.599.5665
Fax: 913.599.1759

June 09, 2003

Mr. Jim Struhs
MILE HIGH ENVIRONMENTAL
188 C.R. 4900
Bloomfield, NM 87413

RE: Lab Project Number: 6071174
Client Project ID: SJBGW-PRCH2

Dear Mr. Struhs:

Enclosed are the analytical results for sample(s) received by the laboratory on June 5, 2003. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report please feel free to contact me.

Sincerely,



Mary Jane Walls
mjwalls@pacelabs.com
Project Manager

Kansas/NELAP Certification Number E-10116

Enclosures

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
Phone: 913.599.5665
Fax: 913.599.1759

Lab Project Number: 6071174
Client Project ID: SJBGW-PRTCH2

Project	Sample				
<u>Sample Number</u>	<u>Number</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Date Collected</u>	<u>Date Received</u>
6071174-001	606131506	105129MAY03	Water	05/29/03 10:51	06/05/03 09:15
6071174-002	606131514	110129MAY03	Water	05/29/03 11:01	06/05/03 09:15
6071174-003	606131522	104229MAY03	Water	05/29/03 10:42	06/05/03 09:15

REPORT OF LABORATORY ANALYSIS

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Lab Project Number: 6071174
Client Project ID: SJBGW-PRCH2

Project			Analysis		Analytes
<u>Sample Number</u>	<u>Sample No</u>	<u>Client Sample ID</u>	<u>Code</u>	<u>Analysis Description</u>	<u>Reported</u>
6071174-001	606131506	105129MAY03	8020 WPAC	Aromatic Volatile Organics	5
6071174-002	606131514	110129MAY03	8020 WPAC	Aromatic Volatile Organics	5
6071174-003	606131522	104229MAY03	8020 WPAC	Aromatic Volatile Organics	5

REPORT OF LABORATORY ANALYSIS

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Lab Project Number: 6071174
Client Project ID: SJBGW-PRTCH2

Lab Sample No: 606131506 Project Sample Number: 6071174-001 Date Collected: 05/29/03 10:51
Client Sample ID: 105129MAY03 Matrix: Water Date Received: 06/05/03 09:15

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
GC Volatiles									
Aromatic Volatile Organics	Method: EPA 8021								
Benzene	270	ug/l	5.0	2.5	06/06/03 23:00 SHF		71-43-2		
Ethylbenzene	ND	ug/l	5.0	2.5	06/06/03 23:00 SHF		100-41-4		
Toluene	ND	ug/l	5.0	2.5	06/06/03 23:00 SHF		108-88-3		
Xylene (Total)	ND	ug/l	12.	2.5	06/06/03 23:00 SHF		1330-20-7		
a,a,a-Trifluorotoluene (S)	103	%		1.0	06/06/03 23:00 SHF		98-08-8		

REPORT OF LABORATORY ANALYSIS

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Lab Project Number: 6071174

Client Project ID: SJBGW-PRTCH2

Lab Sample No: 606131514
Client Sample ID: 110129MAY03

Project Sample Number: 6071174-002
Matrix: Water

Date Collected: 05/29/03 11:01
Date Received: 06/05/03 09:15

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
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GC Volatiles

Aromatic Volatile Organics

Method: EPA 8021

Benzene	2.9	ug/l	2.0	1.0	06/06/03 23:29 SHF		71-43-2		
Ethylbenzene	ND	ug/l	2.0	1.0	06/06/03 23:29 SHF		100-41-4		
Toluene	ND	ug/l	2.0	1.0	06/06/03 23:29 SHF		108-88-3		
Xylene (Total)	5.5	ug/l	5.0	1.0	06/06/03 23:29 SHF		1330-20-7		
a,a,a-Trifluorotoluene (S)	96	%		1.0	06/06/03 23:29 SHF		98-08-8		

REPORT OF LABORATORY ANALYSIS

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Lab Project Number: 6071174
Client Project ID: SJBGW-PRTCH2

Lab Sample No: 606131522 Project Sample Number: 6071174-003 Date Collected: 05/29/03 10:42
Client Sample ID: 104229MAY03 Matrix: Water Date Received: 06/05/03 09:15

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
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GC Volatiles

Aromatic Volatile Organics

Method: EPA 8021

Benzene	ND	ug/l	2.0	1.0	06/06/03 23:58 SHF		71-43-2		
Ethylbenzene	ND	ug/l	2.0	1.0	06/06/03 23:58 SHF		100-41-4		
Toluene	ND	ug/l	2.0	1.0	06/06/03 23:58 SHF		108-88-3		
Xylene (Total)	18.	ug/l	5.0	1.0	06/06/03 23:58 SHF		1330-20-7		
a,a,a-Trifluorotoluene (S)	104	%		1.0	06/06/03 23:58 SHF		98-08-8		

REPORT OF LABORATORY ANALYSIS

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PARAMETER FOOTNOTES

Dilution factor shown represents the factor applied to the reported result and reporting limit due to changes in sample preparation, dilution of the extract, or moisture content

ND Not detected at or above adjusted reporting limit
NC Not Calculable
J Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit
MDL Adjusted Method Detection Limit
(S) Surrogate

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Lab Project Number: 6071174
Client Project ID: SJBGW-PRTH2

QC Batch: 146380 Analysis Method: EPA 8021
QC Batch Method: EPA 8021 Analysis Description: Aromatic Volatile Organics
Associated Lab Samples: 606131506 606131514 606131522

METHOD BLANK: 606132207
Associated Lab Samples: 606131506 606131514 606131522

Parameter	Units	Blank	Reporting	Footnotes
		Result	Limit	
Benzene	ug/l	ND	2.0	
Ethylbenzene	ug/l	ND	2.0	
Toluene	ug/l	ND	2.0	
Xylene (Total)	ug/l	ND	5.0	
a,a,a-Trifluorotoluene (S)	%	107		

LABORATORY CONTROL SAMPLE: 606132215

Parameter	Units	Spike	LCS	LCS	% Rec	Footnotes
		Conc.	Result	% Rec	Limits	
Benzene	ug/l	20.00	21.29	106	85-120	
Ethylbenzene	ug/l	20.00	20.14	101	87-114	
Toluene	ug/l	20.00	20.38	102	87-114	
Xylene (Total)	ug/l	60.00	62.76	105	88-115	
a,a,a-Trifluorotoluene (S)				102	86-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 606134096 606134104

Parameter	Units	606130391	Spike	MS	MSD	MS	MSD	% Rec	Max	Footnotes
		Result	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	
Benzene	ug/l	0.5444	20.00	22.13	23.04	108	112	82-121	4	16
Ethylbenzene	ug/l	0.8704	20.00	20.16	21.10	96	101	84-114	5	14
Toluene	ug/l	0	20.00	21.21	22.01	106	110	85-112	4	18
Xylene (Total)	ug/l	0.7608	60.00	60.03	62.88	99	104	83-115	5	16
a,a,a-Trifluorotoluene (S)						100	102	86-115		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA PARAMETER FOOTNOTES

Consistent with EPA guidelines, unrounded concentrations are displayed and have been used to calculate % Rec and RPD values.

LCS(D)	Laboratory Control Sample (Duplicate)
MS(D)	Matrix Spike (Duplicate)
DUP	Sample Duplicate
ND	Not detected at or above adjusted reporting limit
NC	Not Calculable
J	Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit
MDL	Adjusted Method Detection Limit
RPD	Relative Percent Difference
(S)	Surrogate

REPORT OF LABORATORY ANALYSIS

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September 26, 2003

Mr. Jim Struhs
MILE HIGH ENVIRONMENTAL
188 C.R. 4900
Bloomfield, NM 87413

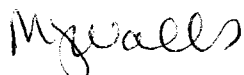
RE: Lab Project Number: 6074786
Client Project ID: PRTCH

Dear Mr. Struhs:

Enclosed are the analytical results for sample(s) received by the laboratory on September 19, 2003. Results reported herein conform to the most current NELAP standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report please feel free to contact me.

Sincerely,



Mary Jane Walls
mjwalls@pacelabs.com
Project Manager

Kansas/NELAP Certification Number E-10116

Enclosures

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
Phone: 913.599.5665
Fax: 913.599.1759

Lab Project Number: 6074786
Client Project ID: PRTCH

Project	Sample				
<u>Sample Number</u>	<u>Number</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Date Collected</u>	<u>Date Received</u>
6074786-001	606436327	124915SEP03	Water	09/15/03 12:49	09/19/03 08:30
6074786-002	606436335	125815SEP03	Water	09/15/03 12:58	09/19/03 08:30
6074786-003	606436343	130715SEP03	Water	09/15/03 13:07	09/19/03 08:30

REPORT OF LABORATORY ANALYSIS

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Lab Project Number: 6074786
Client Project ID: PRTCH

Project			Analysis		Analytes
<u>Sample Number</u>	<u>Sample No</u>	<u>Client Sample ID</u>	<u>Code</u>	<u>Analysis Description</u>	
6074786-001	606436327	124915SEP03	8020 WPAC	Aromatic Volatile Organics	5
6074786-002	606436335	125815SEP03	8020 WPAC	Aromatic Volatile Organics	5
6074786-003	606436343	130715SEP03	8020 WPAC	Aromatic Volatile Organics	5

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Lab Project Number: 6074786

Client Project ID: PRTCH

Lab Sample No: 606436327

Project Sample Number: 6074786-001

Date Collected: 09/15/03 12:49

Client Sample ID: 124915SEP03

Matrix: Water

Date Received: 09/19/03 08:30

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
GC Volatiles									
Aromatic Volatile Organics	Method: EPA 8021								
Benzene	3.1	ug/l	2.0	1.0	09/22/03 19:38 SHF		71-43-2		
Ethylbenzene	ND	ug/l	2.0	1.0	09/22/03 19:38 SHF		100-41-4		
Toluene	2.4	ug/l	2.0	1.0	09/22/03 19:38 SHF		108-88-3		
Xylene (Total)	22.	ug/l	5.0	1.0	09/22/03 19:38 SHF		1330-20-7		
a,a,a-Trifluorotoluene (S)	99	%		1.0	09/22/03 19:38 SHF		98-08-8		

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Lab Project Number: 6074786
Client Project ID: PRTCH

Lab Sample No: 606436335 Project Sample Number: 6074786-002 Date Collected: 09/15/03 12:58
Client Sample ID: 125815SEP03 Matrix: Water Date Received: 09/19/03 08:30

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
GC Volatiles									
Aromatic Volatile Organics	Method: EPA 8021								
Benzene	38.	ug/l	2.0	1.0	09/22/03 20:05 SHF		71-43-2		
Ethylbenzene	ND	ug/l	2.0	1.0	09/22/03 20:05 SHF		100-41-4		
Toluene	ND	ug/l	2.0	1.0	09/22/03 20:05 SHF		108-88-3		
Xylene (Total)	ND	ug/l	5.0	1.0	09/22/03 20:05 SHF		1330-20-7		
a,a,a-Trifluorotoluene (S)	103	%		1.0	09/22/03 20:05 SHF		98-08-8		

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Lab Project Number: 6074786
Client Project ID: PRTCH

Lab Sample No: 606436343 Project Sample Number: 6074786-003 Date Collected: 09/15/03 13:07
Client Sample ID: 130715SEP03 Matrix: Water Date Received: 09/19/03 08:30

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
GC Volatiles									
Aromatic Volatile Organics	Method: EPA 8021								
Benzene	2.6	ug/l	2.0	1.0	09/22/03 20:33 SHF		71-43-2		
Ethylbenzene	ND	ug/l	2.0	1.0	09/22/03 20:33 SHF		100-41-4		
Toluene	ND	ug/l	2.0	1.0	09/22/03 20:33 SHF		108-88-3		
Xylene (Total)	13.	ug/l	5.0	1.0	09/22/03 20:33 SHF		1330-20-7		
a,a,a-Trifluorotoluene (S)	105	%		1.0	09/22/03 20:33 SHF		98-08-8		

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PARAMETER FOOTNOTES

Dilution factor shown represents the factor applied to the reported result and reporting limit due to changes in sample preparation, dilution of the extract, or moisture content

ND Not detected at or above adjusted reporting limit
NC Not Calculable
J Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit
MDL Adjusted Method Detection Limit
(S) Surrogate

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QUALITY CONTROL DATA

Lab Project Number: 6074786
Client Project ID: PRTCH

QC Batch: 153543 Analysis Method: EPA 8021
QC Batch Method: EPA 8021 Analysis Description: Aromatic Volatile Organics
Associated Lab Samples: 606436327 606436335 606436343

METHOD BLANK: 606440816
Associated Lab Samples: 606436327 606436335 606436343

Parameter	Units	Blank Result	Reporting Limit	Footnotes
Benzene	ug/l	ND	2.0	
Ethylbenzene	ug/l	ND	2.0	
Toluene	ug/l	ND	2.0	
Xylene (Total)	ug/l	ND	5.0	
a,a,a-Trifluorotoluene (S)	%	101		

LABORATORY CONTROL SAMPLE: 606440824

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Footnotes
Benzene	ug/l	20.00	20.35	102	85-120	
Ethylbenzene	ug/l	20.00	19.89	99	87-114	
Toluene	ug/l	20.00	19.79	99	87-114	
Xylene (Total)	ug/l	60.00	60.79	101	88-115	
a,a,a-Trifluorotoluene (S)				96	86-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 606442028 606442036

Parameter	Units	606436095 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Footnotes
Benzene	ug/l	0.1547	20.00	19.67	19.48	98	97	82-121	1	16	
Ethylbenzene	ug/l	0.2368	20.00	20.23	19.90	100	98	84-114	2	14	
Toluene	ug/l	0	20.00	19.87	19.42	99	97	85-112	2	18	
Xylene (Total)	ug/l	0.1032	60.00	61.51	60.78	102	101	83-115	1	16	
a,a,a-Trifluorotoluene (S)						99	97	86-115			

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QUALITY CONTROL DATA PARAMETER FOOTNOTES

Consistent with EPA guidelines, unrounded concentrations are displayed and have been used to calculate % Rec and RPD values.

LCS(D) Laboratory Control Sample (Duplicate)
MS(D) Matrix Spike (Duplicate)
DUP Sample Duplicate
ND Not detected at or above adjusted reporting limit
NC Not Calculable
J Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit
MDL Adjusted Method Detection Limit
RPD Relative Percent Difference
(S) Surrogate

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
Phone: 913.599.5665
Fax: 913.599.1759

December 24, 2003

Mr. Jim Struhs
MILE HIGH ENVIRONMENTAL
188 C.R. 4900
Bloomfield, NM 87413

RE: Lab Project Number: 6077814
Client Project ID: SJB-GW *PRTCH*

Dear Mr. Struhs:

Enclosed are the analytical results for sample(s) received by the laboratory on December 19, 2003. Results reported herein conform to the most current NELAP standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report please feel free to contact me.

Sincerely,

Mary Jane Walls
Mary Jane.Walls@pacelabs.com
Project Manager

Kansas/NELAP Certification Number E-10116

Enclosures

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
Phone: 913.599.5665
Fax: 913.599.1759

Lab Project Number: 6077814

Client Project ID: SJB-GW *PRCH*

Project	Sample				
<u>Sample Number</u>	<u>Number</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Date Collected</u>	<u>Date Received</u>
6077814-002	606699098	140216DEC03	Water	12/16/03 14:02	12/19/03 10:20
6077814-003	606699106	142716DEC03	Water	12/16/03 14:27	12/19/03 10:20
6077814-004	606699114	141416DEC03	Water	12/16/03 14:14	12/19/03 10:20

REPORT OF LABORATORY ANALYSIS

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Lab Project Number: 6077814

Client Project ID: SJB-GW *PATCH*

Project			Analysis		Analysis Description	Analytes Reported
Sample Number	Sample No	Client Sample ID	Code			
6077814-002	606699098	140216DEC03	8020	WPAC	Aromatic Volatile Organics	5
6077814-003	606699106	142716DEC03	8020	WPAC	Aromatic Volatile Organics	5
6077814-004	606699114	141416DEC03	8020	WPAC	Aromatic Volatile Organics	5

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Lab Project Number: 6077814

Client Project ID: SJB-GW *PTCH*

Lab Sample No: 606699098

Project Sample Number: 6077814-002

Date Collected: 12/16/03 14:02

Client Sample ID: 140216DEC03

Matrix: Water

Date Received: 12/19/03 10:20

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
GC Volatiles									
Aromatic Volatile Organics	Method: EPA 8021								
Benzene	14.	ug/l	2.0	1.0	12/21/03 15:12		71-43-2		
Ethylbenzene	ND	ug/l	2.0	1.0	12/21/03 15:12		100-41-4		
Toluene	8.5	ug/l	2.0	1.0	12/21/03 15:12		108-88-3		
Xylene (Total)	55.	ug/l	5.0	1.0	12/21/03 15:12		1330-20-7		
a,a,a-Trifluorotoluene (S)	105	%		1.0	12/21/03 15:12		98-08-8		

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Lab Project Number: 6077814

Client Project ID: SJB-GW *PTCH*

Lab Sample No: 606699106
Client Sample ID: 142716DEC03

Project Sample Number: 6077814-003

Matrix: Water

Date Collected: 12/16/03 14:27

Date Received: 12/19/03 10:20

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
GC Volatiles									
Aromatic Volatile Organics	Method: EPA 8021								
Benzene	9.0	ug/l	2.0	1.0	12/21/03 15:40		71-43-2		
Ethylbenzene	ND	ug/l	2.0	1.0	12/21/03 15:40		100-41-4		
Toluene	ND	ug/l	2.0	1.0	12/21/03 15:40		108-88-3		
Xylene (Total)	ND	ug/l	5.0	1.0	12/21/03 15:40		1330-20-7		
a,a,a-Trifluorotoluene (S)	105	%		1.0	12/21/03 15:40		98-08-8		

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Lab Project Number: 6077814

Client Project ID: SJB-GW *PRJCH*

Lab Sample No: 606699114

Project Sample Number: 6077814-004

Date Collected: 12/16/03 14:14

Client Sample ID: 141416DEC03

Matrix: Water

Date Received: 12/19/03 10:20

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
GC Volatiles									
Aromatic Volatile Organics	Method: EPA 8021								
Benzene	3.1	ug/l	2.0	1.0	12/21/03 17:29		71-43-2		
Ethylbenzene	ND	ug/l	2.0	1.0	12/21/03 17:29		100-41-4		
Toluene	ND	ug/l	2.0	1.0	12/21/03 17:29		108-88-3		
Xylene (Total)	11.	ug/l	5.0	1.0	12/21/03 17:29		1330-20-7		
a,a,a-Trifluorotoluene (S)	109	%		1.0	12/21/03 17:29		98-08-8		

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PARAMETER FOOTNOTES

Dilution factor shown represents the factor applied to the reported result and reporting limit due to changes in sample preparation, dilution of the extract, or moisture content

ND Not detected at or above adjusted reporting limit
NC Not Calculable
J Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit
MDL Adjusted Method Detection Limit
(S) Surrogate

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QUALITY CONTROL DATA

Lab Project Number: 6077814
Client Project ID: SJB-GW

QC Batch: 159528 Analysis Method: EPA 8021
QC Batch Method: EPA 8021 Analysis Description: Aromatic Volatile Organics
Associated Lab Samples: 606699098 606699106 606699114

METHOD BLANK: 606701415
Associated Lab Samples: 606699098 606699106 606699114

Parameter	Units	Blank	Reporting	Footnotes
		Result	Limit	
Benzene	ug/l	ND	2.0	
Ethylbenzene	ug/l	ND	2.0	
Toluene	ug/l	ND	2.0	
Xylene (Total)	ug/l	ND	5.0	
a,a,a-Trifluorotoluene (S)	%	105		

LABORATORY CONTROL SAMPLE: 606701423

Parameter	Units	Spike	LCS	LCS	% Rec	Footnotes
		Conc.	Result	% Rec	Limits	
Benzene	ug/l	20.00	19.89	100	85-120	
Ethylbenzene	ug/l	20.00	20.26	101	87-114	
Toluene	ug/l	20.00	19.91	100	87-114	
Xylene (Total)	ug/l	60.00	62.51	104	88-115	
a,a,a-Trifluorotoluene (S)				100	86-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 606701654 606701662

Parameter	Units	606699338	Spike	MS	MSD	MS	MSD	% Rec	Max	Footnotes
		Result	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	
Benzene	ug/l	0.09755	20.00	19.65	19.85	98	99	82-121	1	16
Ethylbenzene	ug/l	0	20.00	19.98	20.15	100	101	84-114	1	14
Toluene	ug/l	0.1050	20.00	19.51	19.85	97	99	85-112	2	18
Xylene (Total)	ug/l	0.1039	60.00	61.18	62.10	102	103	83-115	1	16
a,a,a-Trifluorotoluene (S)						101	100	86-115		

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QUALITY CONTROL DATA PARAMETER FOOTNOTES

Consistent with EPA guidelines, unrounded concentrations are displayed and have been used to calculate % Rec and RPD values.

LCS(D) Laboratory Control Sample (Duplicate)
MS(D) Matrix Spike (Duplicate)
DUP Sample Duplicate
ND Not detected at or above adjusted reporting limit
NC Not Calculable
J Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit
MDL Adjusted Method Detection Limit
RPD Relative Percent Difference
(S) Surrogate

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