

3RP-339

Reports

Date: 2002

Done
10-23-15KE
47

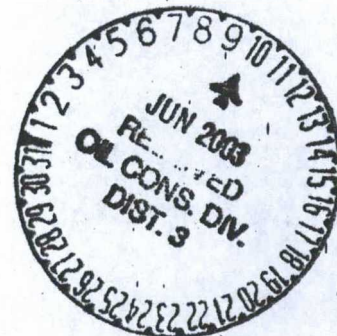


Environmental Services
188 County Road 4900
Bloomfield, New Mexico 87413
(505) 634-4956 (office)
(505) 632-4781 (fax)

June 6, 2003

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

District Copy
For Scanning Only
Has NOT been processed.



RE: 2002 GROUND WATER SUMMARY REPORT

Dear Mr. Olson:

Enclosed for your review is the 2002 Ground Water Summary Report. The report presents monitoring data for eleven sites having petroleum hydrocarbon impacted ground water, which resulted from the past use of unlined surface impoundments. The sites included in the report are listed in Table 1.

In 2002, seven sites achieved four or more consecutive quarters of water quality data meeting NMWQCC standards for BTEX. Williams submitted final closure reports for four of these sites and has received OCD closure approval on three of the sites. At your request, Williams has submitted a revised potentiometric surface map for the fourth site to allow completion of the OCD review. Final closure reports for the remaining three sites are currently being prepared and will be submitted soon. Table 2 lists the sites that have met the cleanup objectives in 2002.

Of the eleven active sites, seven have accumulations of LNAPL in one or more monitoring well. In 2002, passive collection devices were deployed in all wells containing measurable accumulations of LNAPL. Periodic emptying of the collection devices along with active bailing of LNAPL during the quarterly sampling events continues.

The remaining four active sites consist of three sites with concentrations of dissolved BTEX in excess of cleanup standards. At each of these sites, only the source area well exceeds the standards. The fourth site, Wilmerding 1M, has had dry wells since May 2001. The samples collected at that time contained no detectable BTEX. The hay field surrounding this site is being irrigated this season and it is anticipated that ground water levels will rise sufficiently to allow sample collection.

Thank you for your time to review this submittal. If you have any questions regarding the report, you may call me at (505) 634-4956.

Respectfully,

James P. Struhs 6/6/03
JAMES P. STRUHS
(FOR MARK B. HARVEY)

Mark B. Harvey
Project Manager

Attachments
Enclosure

c: Denny Foust, OCD Aztec District Office
Bill Liess, BLM Farmington District Office

Table 1. List of Active Sites for 2002 Report

Count	Site Name	Unit Letter	Section	Township	Range	Longitude	Latitude	OCD Initial Notification
1	Chamberlain 1	F	14	32N	12W	-108.068853	36.990549	30-Sep-99
2	Davis 1	E	11	31N	12W	-108.068919	36.916257	2-Mar-99
3	Dogie East Pit	D	4	25N	6W	-107.478874	36.434196	7-Jul-97
4	Florance 40	G	21	30N	8W	-107.67775	36.800088	27-Jan-97
5	Florance M 47X	G	5	30N	9W	-107.799823	36.843166	27-Jan-97
6	Honolulu Drip	B	15	26N	4W	-107.238469	36.492341	18-Jun-96
7	Ice Canyon Drip	J	13	26N	7W	-107.52226	36.484972	1-Dec-97
8	Jicarilla Contract 147-6	C	6	25N	5W	-107.402363	36.433963	13-Aug-98
9	Patterson A Com A1	G	2	31N	12W	-108.061165	36.930755	2-Mar-99
10	Pritchard 2	J	6	30N	8W	-107.712068	36.837817	22-Feb-99
11	Wilmerding 1M	C	10	31N	13W	-108.193158	36.91846	5-Jun-98

Table 2. List of Sites Closed in 2002

Count	Site Name	Unit Letter	Section	Township	Range	Longitude	Latitude	OCD Initial Notification	Status
1	Blanco Wash Drip	J	31	27N	8W	-107.721574	36.530995	19-Feb-99	Approved
2	Dogie North Pit	D	4	25N	6W	-107.479158	36.435784	7-Jul-97	Report Pending
3	Florance 124	C	27	29N	9W	-107.76698	36.70209	12-Aug-96	Pending Approval
4	Grenier 4A	M	7	31N	11W	-108.036001	36.910167	18-Oct-99	Report Pending
5	Kaufman 1	H	33	31N	13W	-108.202128	36.860121	9-Mar-00	Approved
6	O' Shea 1M	F	3	31N	13W	-108.193596	36.932228	6-Jun-98	Report Pending
7	Zachry 18E	O	11	28N	10W	-107.860007	36.670885	6-Sep-96	Approved

Site Summary Report

Site Name: Pritchard 2A

Reporting Period: 2002

Location: Unit J, Sec 6, Twn 30N, Rng 8W
Canyon: Pump
Operator: Williams

Vulnerable Class: expanded
OCD Ranking: 40
Lead Agency: NMOCD

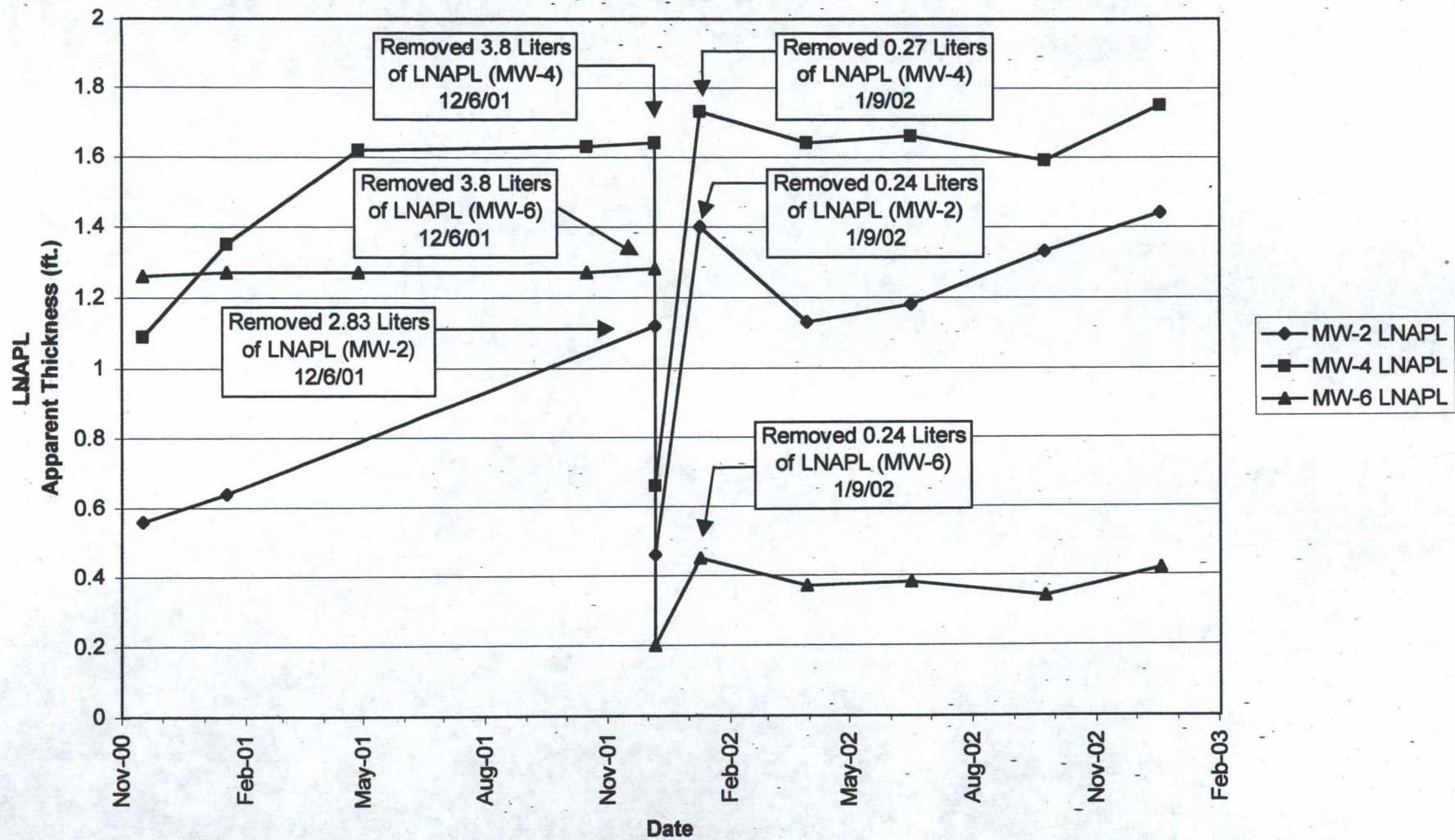
Status Narrative

The six monitoring wells at this site have been sampled for thirteen quarters. Monitoring wells MW-2, MW-4 and MW-6 contain LNAPL accumulations. A plot of LNAPL thickness over time in each of these wells is enclosed. To date, a total of 11.18 liters of LNAPL has been recovered. Concentrations of BTEX in upgradient well MW-1 dropped below the cleanup standards for the first time during the fourth quarter. Total BTEX concentrations in cross-gradient well MW-3 increased from 12.6 ppb in the first quarter to 54.3 ppb in the fourth quarter. The current monitoring well network no longer defines the extent of the contaminant plume. Therefore, Williams plans to install additional monitoring points in 2003.

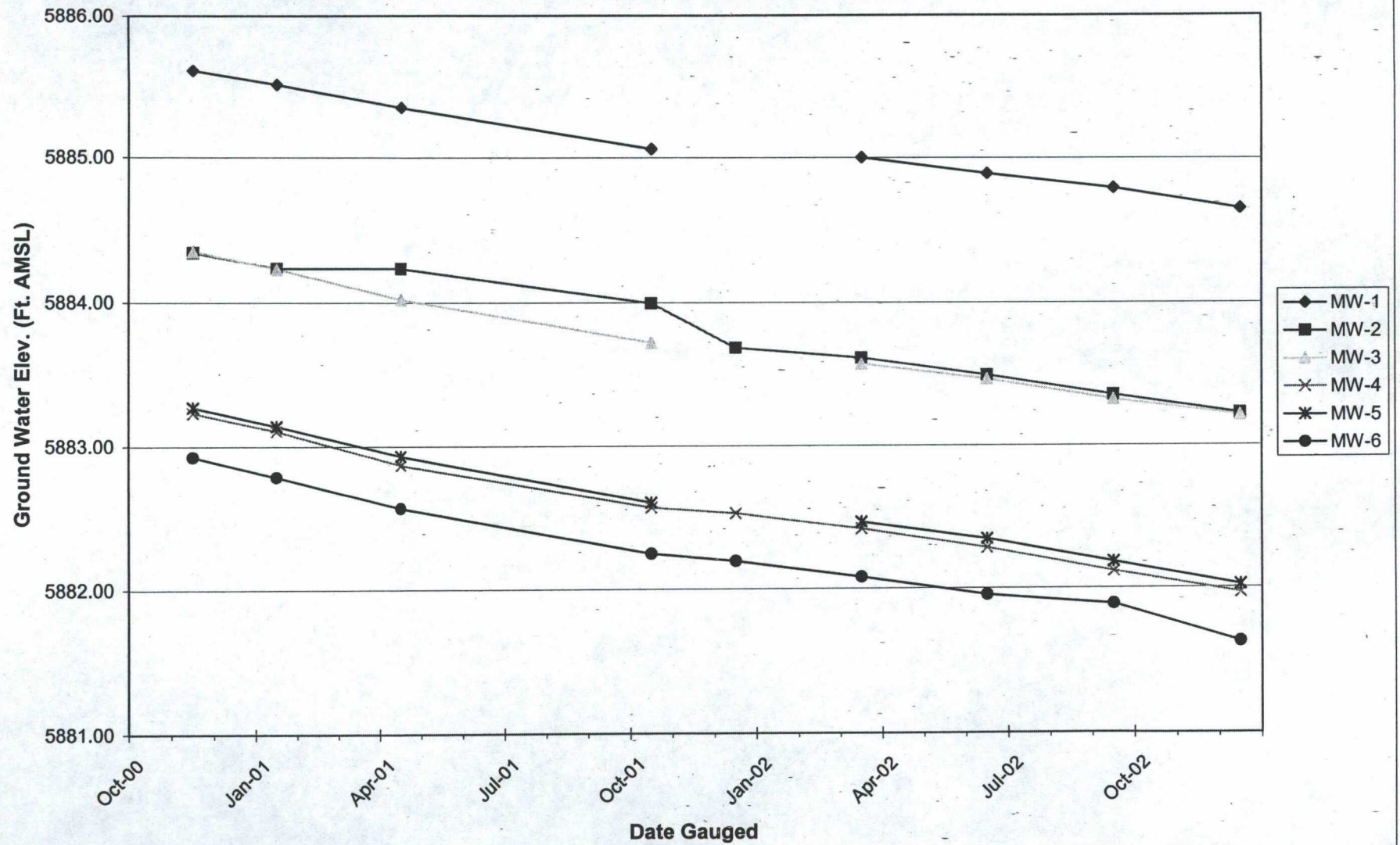
Potentiometric surface maps (Figure 2) depict a southeast by south ground water flow direction at an average hydraulic gradient of 0.01. No significant seasonal variations in ground water flow direction or gradient are evident. The enclosed hydrograph shows an overall decrease in the water-table elevation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



Pritchard-2 LNAPL Thickness



Pritchard #2 Hydrograph



Analytical Data Summary

Site Name:

Pritchard 2

Reporting Period:

1/1/02 To 12/31/02

Well ID	Sample Date	Sample ID	Benzene ug/l	Toluene ug/l	Ethylbenzene ug/l	Xylene (Total) ug/l
MW-1						
	3/30/02	130130MAR02	120	150	ND	270
	6/16/02	102716JUN02	79.	20.	ND	110
	9/24/02	113524SEP02	88.	58.	ND	180
	12/19/02	111719DEC02	6.9	27.	ND	67.
MW-3						
	3/30/02	130430MAR02	3.6	ND	ND	9.0
	6/16/02	104216JUN02	15.	2.6	ND	10.
	9/24/02	114524SEP02	19.	2.0	ND	6.4
	12/19/02	112819DEC02	36.	2.3	ND	16.
MW-5						
	3/30/02	130930MAR02	15.	19.	ND	71.
	6/16/02	110316JUN02	23.	30.	4.4	56.
	9/24/02	115524SEP02	22.	27.	4.2	47.
	12/19/02	113519DEC02	3.9	16.	2.5	40.

January 03, 2003

Mr. Jim Struhs
MILE HIGH ENVIRONMENTAL
187 C.R. 4980
Bloomfield, NM 87413

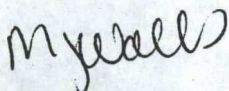
RE: Lab Project Number: 6066151
Client Project ID: SJB-GW/PRTCH1A

Dear Mr. Struhs:

Enclosed are the analytical results for sample(s) received by the laboratory on December 26, 2002. 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: 6066151
Client Project ID: SJB-GW/PRTCH1A

<u>Project</u> <u>Sample Number</u>	<u>Sample</u> <u>Number</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Date Collected</u>	<u>Date Received</u>
6066151-001	605710359	112819DEC02	Water	12/19/02 11:28	12/26/02 08:55
6066151-002	605710367	111719DEC02	Water	12/19/02 11:17	12/26/02 08:55
6066151-003	605710375	113519DEC02	Water	12/19/02 11:35	12/26/02 08:55

REPORT OF LABORATORY ANALYSIS

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Lab Project Number: 6066151

Client Project ID: SJB-GW/PRTCH1A

Lab Sample No: 605710359
Client Sample ID: 112819DEC02Project Sample Number: 6066151-001
Matrix: WaterDate Collected: 12/19/02 11:28
Date Received: 12/26/02 08:55

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
GC Volatiles									
Aromatic Volatile Organics		Method: EPA 8021							
Benzene	36.	ug/l	2.0	1.0	12/30/02 20:32 SHF		71-43-2		
Ethylbenzene	ND	ug/l	2.0	1.0	12/30/02 20:32 SHF		100-41-4		
Toluene	2.3	ug/l	2.0	1.0	12/30/02 20:32 SHF		108-88-3		
Xylene (Total)	16.	ug/l	5.0	1.0	12/30/02 20:32 SHF		1330-20-7		
a,a,a-Trifluorotoluene (S)	110	%		1.0	12/30/02 20:32 SHF		98-08-8		

Date: 01/03/03

Page: 1 of 6

REPORT OF LABORATORY ANALYSISThis report shall not be reproduced, except in full,
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Lab Project Number: 6066151
Client Project ID: SJB-GW/PRTCH1A

Lab Sample No: 605710367
Client Sample ID: 111719DEC02

Project Sample Number: 6066151-002
Matrix: Water

Date Collected: 12/19/02 11:17
Date Received: 12/26/02 08:55

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
GC Volatiles									
Aromatic Volatile Organics	Method: EPA 8021								
Benzene	6.9	ug/l	2.0	1.0	12/30/02 21:01 SHF		71-43-2		
Ethylbenzene	ND	ug/l	2.0	1.0	12/30/02 21:01 SHF		100-41-4		
Toluene	27.	ug/l	2.0	1.0	12/30/02 21:01 SHF		108-88-3		
Xylene (Total)	67.	ug/l	5.0	1.0	12/30/02 21:01 SHF		1330-20-7		
a,a,a-Trifluorotoluene (S)	97	%		1.0	12/30/02 21:01 SHF		98-08-8		

Date: 01/03/03

Page: 2 of 6

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Lab Project Number: 6066151
Client Project ID: SJB-GW/PRTCH1A

Lab Sample No: 605710375
Client Sample ID: 113519DEC02

Project Sample Number: 6066151-003
Matrix: Water

Date Collected: 12/19/02 11:35
Date Received: 12/26/02 08:55

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
GC Volatiles									
Aromatic Volatile Organics	Method: EPA 8021								
Benzene	3.9	ug/l	2.0		1.0 12/30/02 21:29 SHF		71-43-2		
Ethylbenzene	2.5	ug/l	2.0		1.0 12/30/02 21:29 SHF		100-41-4		
Toluene	16.	ug/l	2.0		1.0 12/30/02 21:29 SHF		108-88-3		
Xylene (Total)	40.	ug/l	5.0		1.0 12/30/02 21:29 SHF		1330-20-7		
a,a,a-Trifluorotoluene (S)	106	%			1.0 12/30/02 21:29 SHF		98-08-8		

Date: 01/03/03

Page: 3 of 6

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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: 6066151

Client Project ID: SJB-GW/PRTCH1A

QC Batch: 136428 Analysis Method: EPA 8021
QC Batch Method: EPA 8021 Analysis Description: Aromatic Volatile Organics
Associated Lab Samples: 605710359 605710367 605710375

METHOD BLANK: 605712934
Associated Lab Samples: 605710359 605710367 605710375

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)	%	96		

LABORATORY CONTROL SAMPLE: 605712942

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Footnotes
Benzene	ug/l	20.00	22.95	115	84-122	
Ethylbenzene	ug/l	20.00	20.21	101	85-117	
Toluene	ug/l	20.00	20.62	103	87-117	
Xylene (Total)	ug/l	60.00	61.00	102	85-119	
a,a,a-Trifluorotoluene (S)				101	83-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 605712991 605713007

Parameter	Units	605691906 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Footnotes
Benzene	ug/l	0.3015	20.00	22.72	22.56	112	111	82-123	1	10	
Ethylbenzene	ug/l	0.3460	20.00	19.99	19.73	98	97	84-118	1	10	
Toluene	ug/l	0.3426	20.00	20.53	20.18	101	99	82-117	2	10	
Xylene (Total)	ug/l	0.8121	60.00	60.52	59.21	100	97	84-121	2	13	
a,a,a-Trifluorotoluene (S)						100	99	83-115			

Date: 01/03/03

Page: 5 of 6

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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October 07, 2002

Mr. Jim Struhs
MILE HIGH ENVIRONMENTAL
187 C.R. 4980
Bloomfield, NM 87413

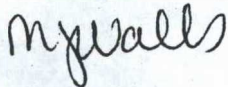
RE: Lab Project Number: 6063155
Client Project ID: PRTCH2

Dear Mr. Struhs:

Enclosed are the analytical results for sample(s) received by the laboratory on September 26, 2002. 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

Lab Project Number: 6063155
Client Project ID: PRTCH2

<u>Project</u> <u>Sample Number</u>	<u>Sample</u> <u>Number</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Date Collected</u>	<u>Date Received</u>
6063155-001	605467950	113524SEP02	Water	09/24/02 11:35	09/26/02 09:15
6063155-002	605467968	114524SEP02	Water	09/24/02 11:45	09/26/02 09:15
6063155-003	605467976	115524SEP02	Water	09/24/02 11:55	09/26/02 09:15

REPORT OF LABORATORY ANALYSIS

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Lab Project Number: 6063155
Client Project ID: PRTCH2

Project			Analysis		Analysis Description	Analytes Reported
<u>Sample Number</u>	<u>Sample No</u>	<u>Client Sample ID</u>	<u>Code</u>			
6063155-001	605467950	113524SEP02	8020	WPAC	Aromatic Volatile Organics	5
6063155-002	605467968	114524SEP02	8020	WPAC	Aromatic Volatile Organics	5
6063155-003	605467976	115524SEP02	8020	WPAC	Aromatic Volatile Organics	5

REPORT OF LABORATORY ANALYSIS

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Lab Project Number: 6063155
Client Project ID: PRTCH2

Lab Sample No: 605467950
Client Sample ID: 113524SEP02

Project Sample Number: 6063155-001
Matrix: Water

Date Collected: 09/24/02 11:35
Date Received: 09/26/02 09:15

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
GC Volatiles									
Aromatic Volatile Organics	Method: EPA 8021								
Benzene	88.	ug/l	2.0	1.0	10/03/02 08:49		71-43-2		
Ethylbenzene	ND	ug/l	2.0	1.0	10/03/02 08:49		100-41-4		
Toluene	58.	ug/l	2.0	1.0	10/03/02 08:49		108-88-3		
Xylene (Total)	180	ug/l	5.0	1.0	10/03/02 08:49		1330-20-7		
a,a,a-Trifluorotoluene (S)	102	%		1.0	10/03/02 08:49		98-08-8		

Date: 10/07/02

Page: 1

REPORT OF LABORATORY ANALYSIS

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Lab Project Number: 6063155
Client Project ID: PRTCH2

Lab Sample No: 605467968
Client Sample ID: 114524SEP02

Project Sample Number: 6063155-002
Matrix: Water

Date Collected: 09/24/02 11:45
Date Received: 09/26/02 09:15

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	ReqLmt
GC Volatiles									
Aromatic Volatile Organics	Method: EPA 8021								
Benzene	19.	ug/l	2.0	1.0	10/03/02 09:23		71-43-2		
Ethylbenzene	ND	ug/l	2.0	1.0	10/03/02 09:23		100-41-4		
Toluene	2.0	ug/l	2.0	1.0	10/03/02 09:23		108-88-3		
Xylene (Total)	6.4	ug/l	5.0	1.0	10/03/02 09:23		1330-20-7		
a,a,a-Trifluorotoluene (S)	101	%		1.0	10/03/02 09:23		98-08-8		

Date: 10/07/02

Page: 2

REPORT OF LABORATORY ANALYSIS

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Lab Project Number: 6063155
Client Project ID: PRTCH2

Lab Sample No: 605467976
Client Sample ID: 115524SEP02

Project Sample Number: 6063155-003
Matrix: Water

Date Collected: 09/24/02 11:55
Date Received: 09/26/02 09:15

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	ReqLmt
GC Volatiles									
Aromatic Volatile Organics	Method: EPA 8021								
Benzene	22.	ug/l	2.0	1.0	10/03/02 14:23		71-43-2		
Ethylbenzene	4.2	ug/l	2.0	1.0	10/03/02 14:23		100-41-4		
Toluene	27.	ug/l	2.0	1.0	10/03/02 14:23		108-88-3		
Xylene (Total)	47.	ug/l	5.0	1.0	10/03/02 14:23		1330-20-7		
a,a,a-Trifluorotoluene (S)	101	%		1.0	10/03/02 14:23		98-08-8		

Date: 10/07/02

Page: 3

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

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

Lab Project Number: 6063155

Client Project ID: PRTCH2

QC Batch: 130969 Analysis Method: EPA 8021
QC Batch Method: EPA 8021 Analysis Description: Aromatic Volatile Organics
Associated Lab Samples: 605467950 605467968 605467976

METHOD BLANK: 605485416
Associated Lab Samples: 605467950 605467968 605467976

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)	%	102		

LABORATORY CONTROL SAMPLE: 605485424

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Footnotes
Benzene	ug/l	20.00	22.31	112	84-122	
Ethylbenzene	ug/l	20.00	19.84	99	85-117	
Toluene	ug/l	20.00	20.22	101	87-117	
Xylene (Total)	ug/l	60.00	62.25	104	85-119	
a,a,a-Trifluorotoluene (S)				101	83-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 605487255 605487263

Parameter	Units	605451343 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Max RPD	Footnotes
Benzene	ug/l	0	20.00	20.82	21.15	104	106	82-123	2	10	
Ethylbenzene	ug/l	0	20.00	19.56	19.64	98	98	84-118	0	10	
Toluene	ug/l	0	20.00	20.14	20.45	101	102	82-117	2	10	
Xylene (Total)	ug/l	0	60.00	59.82	60.35	100	101	84-121	1	13	
a,a,a-Trifluorotoluene (S)						101	100	83-115			

Date: 10/07/02

Page: 5

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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June 26, 2002

Mr. Jim Struhs
MILE HIGH ENVIRONMENTAL
187 C.R. 4980
Bloomfield, NM 87413

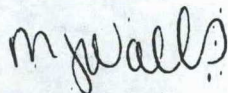
RE: Lab Project Number: 6059945
Client Project ID: PRTCH

Dear Mr. Struhs:

Enclosed are the analytical results for sample(s) received by the laboratory on June 20, 2002. 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: 6059945

Client Project ID: PRTCH

<u>Project</u>	<u>Sample</u>				
<u>Sample Number</u>	<u>Number</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Date Collected</u>	<u>Date Received</u>
6059945-001	605212414	102716JUNE02	Water	06/16/02 10:27	06/20/02 09:00
6059945-002	605212422	104216JUNE02	Water	06/16/02 10:42	06/20/02 09:00
6059945-003	605212430	110316JUNE02	Water	06/16/02 11:03	06/20/02 09:00

REPORT OF LABORATORY ANALYSIS

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Lab Project Number: 6059945

Client Project ID: PRTCH

Lab Sample No: 605212414
Client Sample ID: 102716JUNE02

Project Sample Number: 6059945-001

Matrix: Water

Date Collected: 06/16/02 10:27

Date Received: 06/20/02 09:00

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	RegLmt
GC Volatiles								
Aromatic Volatile Organics	Method: EPA 8021							
Benzene	79.	ug/l	2.0	06/21/02 18:01	JPR	71-43-2		
Ethylbenzene	ND	ug/l	2.0	06/21/02 18:01	JPR	100-41-4		
Toluene	20.	ug/l	2.0	06/21/02 18:01	JPR	108-88-3		
Xylene (Total)	110	ug/l	5.0	06/21/02 18:01	JPR	1330-20-7		
a,a,a-Trifluorotoluene (S)	156	%		06/21/02 18:01	JPR	98-08-8	1	

Date: 06/26/02

Page: 1

REPORT OF LABORATORY ANALYSISThis report shall not be reproduced, except in full,
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Lab Project Number: 6059945

Client Project ID: PRTCH

Lab Sample No: 605212422

Project Sample Number: 6059945-002

Date Collected: 06/16/02 10:42

Client Sample ID: 104216JUNE02

Matrix: Water

Date Received: 06/20/02 09:00

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	RegLmt
GC Volatiles								
Aromatic Volatile Organics	Method: EPA 8021							
Benzene	15.	ug/l	2.0	06/21/02 18:33	JPR	71-43-2		
Ethylbenzene	ND	ug/l	2.0	06/21/02 18:33	JPR	100-41-4		
Toluene	2.6	ug/l	2.0	06/21/02 18:33	JPR	108-88-3		
Xylene (Total)	10.	ug/l	5.0	06/21/02 18:33	JPR	1330-20-7		
a,a,a-Trifluorotoluene (S)	137	%		06/21/02 18:33	JPR	98-08-8	1	

Date: 06/26/02

Page: 2

REPORT OF LABORATORY ANALYSIS

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Lab Project Number: 6059945

Client Project ID: PRTCH

Lab Sample No: 605212430
Client Sample ID: 110316JUNE02Project Sample Number: 6059945-003
Matrix: WaterDate Collected: 06/16/02 11:03
Date Received: 06/20/02 09:00

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	ReqLmt
GC Volatiles								
Aromatic Volatile Organics		Method: EPA 8021						
Benzene	23.	ug/l	2.0	06/21/02 19:05	JPR	71-43-2		
Ethylbenzene	4.4	ug/l	2.0	06/21/02 19:05	JPR	100-41-4		
Toluene	30.	ug/l	2.0	06/21/02 19:05	JPR	108-88-3		
Xylene (Total)	56.	ug/l	5.0	06/21/02 19:05	JPR	1330-20-7		
a,a,a-Trifluorotoluene (S)	121	%		06/21/02 19:05	JPR	98-08-8	1	

Date: 06/26/02

Page: 3

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30

PARAMETER FOOTNOTES

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
[1] Surrogate recovery outside of acceptance window confirmed as a matrix effect by the analysis of a duplicate or MS/MSD on this sample.

REPORT OF LABORATORY ANALYSIS

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Lab Project Number: 6059945
Client Project ID: PRTCH

QC Batch: 124770 Analysis Method: EPA 8021
QC Batch Method: EPA 8021 Analysis Description: Aromatic Volatile Organics
Associated Lab Samples: 605212414 605212422 605212430

METHOD BLANK: 605214832
Associated Lab Samples: 605212414 605212422 605212430

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: 605214840

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Footnotes
Benzene	ug/l	20.00	20.49	102	84-122	
Ethylbenzene	ug/l	20.00	20.37	102	85-117	
Toluene	ug/l	20.00	19.96	100	87-117	
Xylene (Total)	ug/l	60.00	61.70	103	85-119	
a,a,a-Trifluorotoluene (S)				99	83-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 605217454 605217462

Parameter	Units	605212554 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Max RPD	Footnotes
Benzene	ug/l	0.5846	20.00	21.03	20.26	102	98	82-123	4	10	
Ethylbenzene	ug/l	0	20.00	20.48	19.62	102	98	84-118	4	10	
Toluene	ug/l	0.6244	20.00	20.22	19.35	98	94	82-117	4	10	
Xylene (Total)	ug/l	1.350	60.00	61.60	58.65	100	96	84-121	5	13	
a,a,a-Trifluorotoluene (S)						101	101	83-115			

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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April 10, 2002

Mr. Jim Struhs
MILE HIGH ENVIRONMENTAL
187 C.R. 4980
Bloomfield, NM 87413

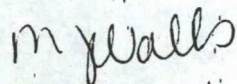
RE: Lab Project Number: 6057618
Client Project ID: SJB-GW /PRTCH

Dear Mr. Struhs:

Enclosed are the analytical results for sample(s) received by the laboratory on April 2, 2002. 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: 6057618

Client Project ID: SJB-GW /PRTCH

<u>Project</u>	<u>Sample</u>				
<u>Sample Number</u>	<u>Number</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Date Collected</u>	<u>Date Received</u>
6057618-001	605018563	130930MAR02	Water	03/30/02 13:09	04/02/02 09:00
6057618-002	605018571	130430MAR02	Water	03/30/02 13:04	04/02/02 09:00
6057618-003	605018589	130130MAR02	Water	03/30/02 13:01	04/02/02 09:00

REPORT OF LABORATORY ANALYSIS

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Lab Project Number: 6057618

Client Project ID: SJB-GW /PRTCH

Project			Analysis		Analysis Description	Analytes Reported
Sample Number	Sample No	Client Sample ID	Code			
6057618-001	605018563	130930MAR02	8020	WPAC	Aromatic Volatile Organics	5
6057618-002	605018571	130430MAR02	8020	WPAC	Aromatic Volatile Organics	5
6057618-003	605018589	130130MAR02	8020	WPAC	Aromatic Volatile Organics	5

REPORT OF LABORATORY ANALYSIS

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MILE HIGH ENVIRONMENTAL

187 C.R. 4980

Bloomfield, NM 87413

Lab Project Number: 6057618

Client Project ID: SJB-GW /PRTCH

Attn: Mr. Jim Struhs

Phone: (505)632-4457

Lab Sample No: 605018563
Client Sample ID: 130930MAR02Project Sample Number: 6057618-001
Matrix: WaterDate Collected: 03/30/02 13:09
Date Received: 04/02/02 09:00

Parameters	Results	Units	Report Limit	Analyzed by	CAS No.	Ftnote	Reg Limit
GC Volatiles							
Aromatic Volatile Organics		Prep/Method: EPA 8021 / EPA 8021					
Benzene	15.	ug/l	2.0	04/08/02 16:40	71-43-2		
Ethylbenzene	ND	ug/l	2.0	04/08/02 16:40	100-41-4		
Toluene	19.	ug/l	2.0	04/08/02 16:40	108-88-3		
Xylene (Total)	71.	ug/l	5.0	04/08/02 16:40	1330-20-7		
a,a,a-Trifluorotoluene (S)	96	%		04/08/02 16:40	2164-17-2		

Date: 04/10/02

Page: 1

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Lab Project Number: 6057618
Client Project ID: SJB-GW /PRTCH

Lab Sample No: 605018571 Project Sample Number: 6057618-002 Date Collected: 03/30/02 13:04
Client Sample ID: 130430MAR02 Matrix: Water Date Received: 04/02/02 09:00

Parameters	Results	Units	Report Limit	Analyzed by	CAS No.	Ftnote	Reg Limit
GC Volatiles							
Aromatic Volatile Organics	Prep/Method: EPA 8021 / EPA 8021						
Benzene	3.6	ug/l	2.0	04/08/02 17:10	71-43-2		
Ethylbenzene	ND	ug/l	2.0	04/08/02 17:10	100-41-4		
Toluene	ND	ug/l	2.0	04/08/02 17:10	108-88-3		
Xylene (Total)	9.0	ug/l	5.0	04/08/02 17:10	1330-20-7		
a,a,a-Trifluorotoluene (S)	101	%		04/08/02 17:10	2164-17-2		

Date: 04/10/02

Page: 2

REPORT OF LABORATORY ANALYSIS

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Lab Project Number: 6057618
Client Project ID: SJB-GW /PRTCH

Lab Sample No: 605018589
Client Sample ID: 130130MAR02

Project Sample Number: 6057618-003
Matrix: Water

Date Collected: 03/30/02 13:01
Date Received: 04/02/02 09:00

Parameters	Results	Units	Report Limit	Analyzed by	CAS No.	Ftnote	Reg Limit
GC Volatiles							
Aromatic Volatile Organics	Prep/Method: EPA 8021 / EPA 8021						
Benzene	120	ug/l	2.0	04/08/02 17:40	71-43-2		
Ethylbenzene	ND	ug/l	2.0	04/08/02 17:40	100-41-4		
Toluene	150	ug/l	2.0	04/08/02 17:40	108-88-3		
Xylene (Total)	270	ug/l	5.0	04/08/02 17:40	1330-20-7		
a,a,a-Trifluorotoluene (S)	99	%		04/08/02 17:40	2164-17-2		

Date: 04/10/02

Page: 3

REPORT OF LABORATORY ANALYSIS

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Lab Project Number: 6057618
Client Project ID: SJB-GW /PRTCH

PARAMETER FOOTNOTES

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
(S) Surrogate

Date: 04/10/02

Page: 4

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: 6057618
Client Project ID: SJB-GW /PRTCH

QC Batch: 120300
QC Batch Method: EPA 8021
Associated Lab Samples: 605018563 605018571 605018589

Analysis Method: EPA 8021
Analysis Description: Aromatic Volatile Organics

METHOD BLANK: 605022995
Associated Lab Samples: 605018563 605018571 605018589

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: 605023027

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Footnotes
Benzene	ug/l	20	20.14	101	84-122	
Ethylbenzene	ug/l	20	19.50	98	85-117	
Toluene	ug/l	20	20.31	102	87-117	
Xylene (Total)	ug/l	60	62.20	104	85-119	
a,a,a-Trifluorotoluene (S)				100	83-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 605023134 605023142

Parameter	Units	605018654 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Footnotes
Benzene	ug/l	0	20.00	19.42	19.96	97	100	82-123	3	10	
Ethylbenzene	ug/l	0.8044	20.00	19.21	19.46	92	93	84-118	1	10	
Toluene	ug/l	0.1659	20.00	19.83	20.20	98	100	82-117	2	10	
Xylene (Total)	ug/l	0.7264	60.00	60.46	61.97	100	102	84-121	2	13	
a,a,a-Trifluorotoluene (S)						99	99	83-115			

Date: 04/10/02

Page: 5

REPORT OF LABORATORY ANALYSIS

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Lab Project Number: 6057618
Client Project ID: SJB-GW /PRTCH

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

RPD Relative Percent Difference

(S) Surrogate

Date: 04/10/02

Page: 6

REPORT OF LABORATORY ANALYSIS

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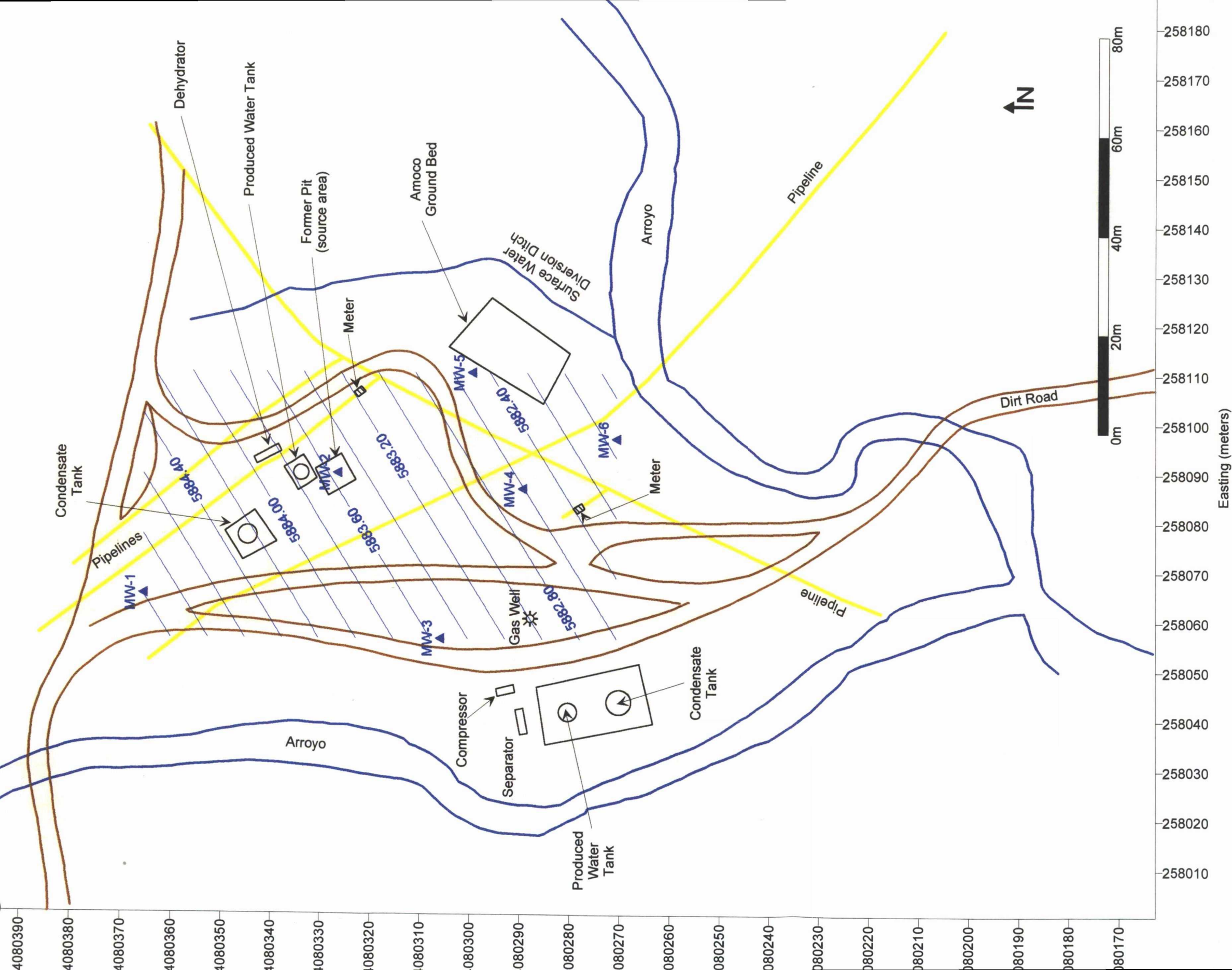


Figure 2
Potentiometric
Surface Map
Pritchard #2
(March 20, 2002)

LEGEND

MW-2
 ▲ Monitoring Well

5585.20
 — Ground Water Elevation (ft. AMSL)

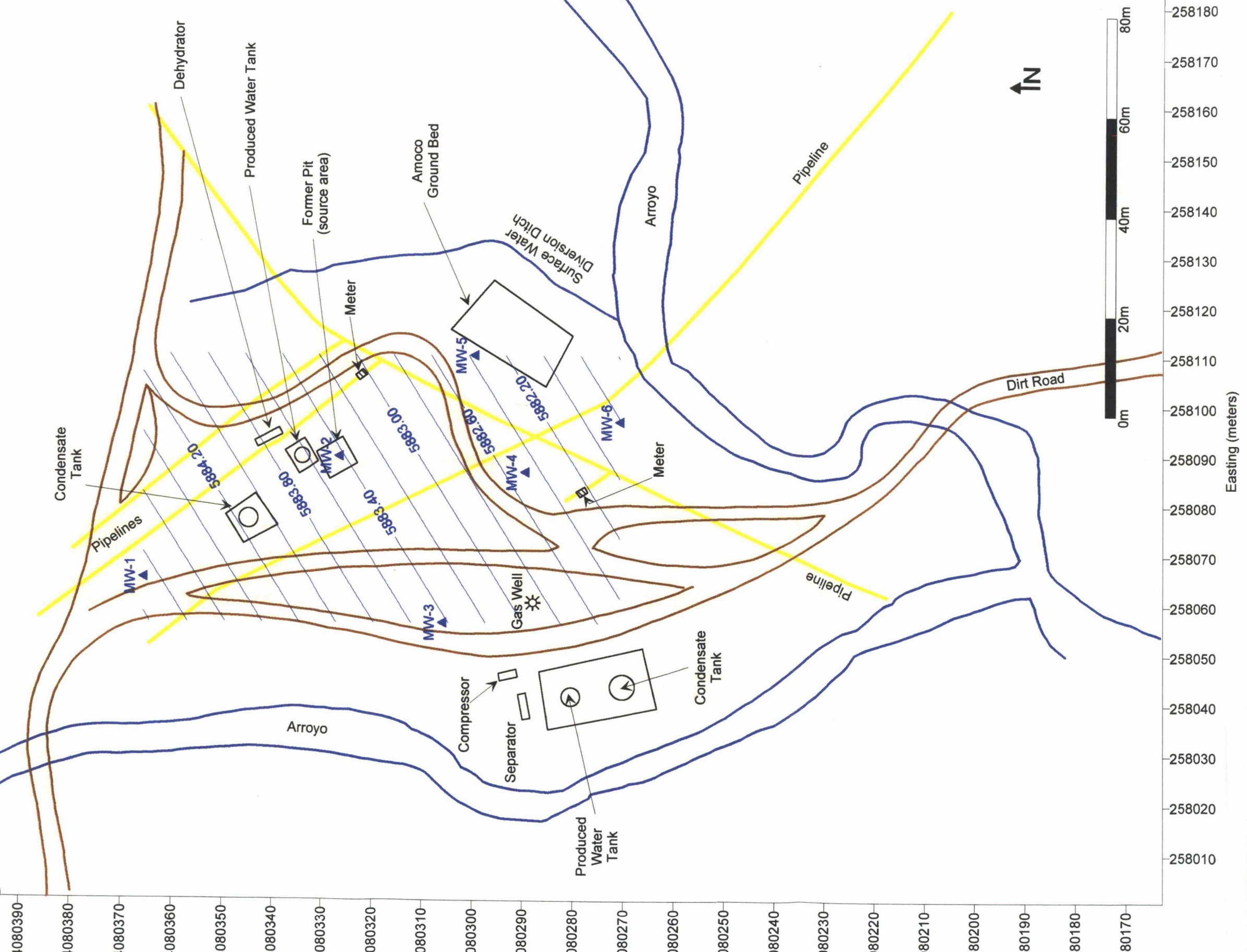


Figure 2
Potentiometric
Surface Map
Pritchard #2
(June 16, 2002)

LEGEND

- MW-2 ▲ Monitoring Well
- 5585.20 — Ground Water Elevation (ft. AMSL)

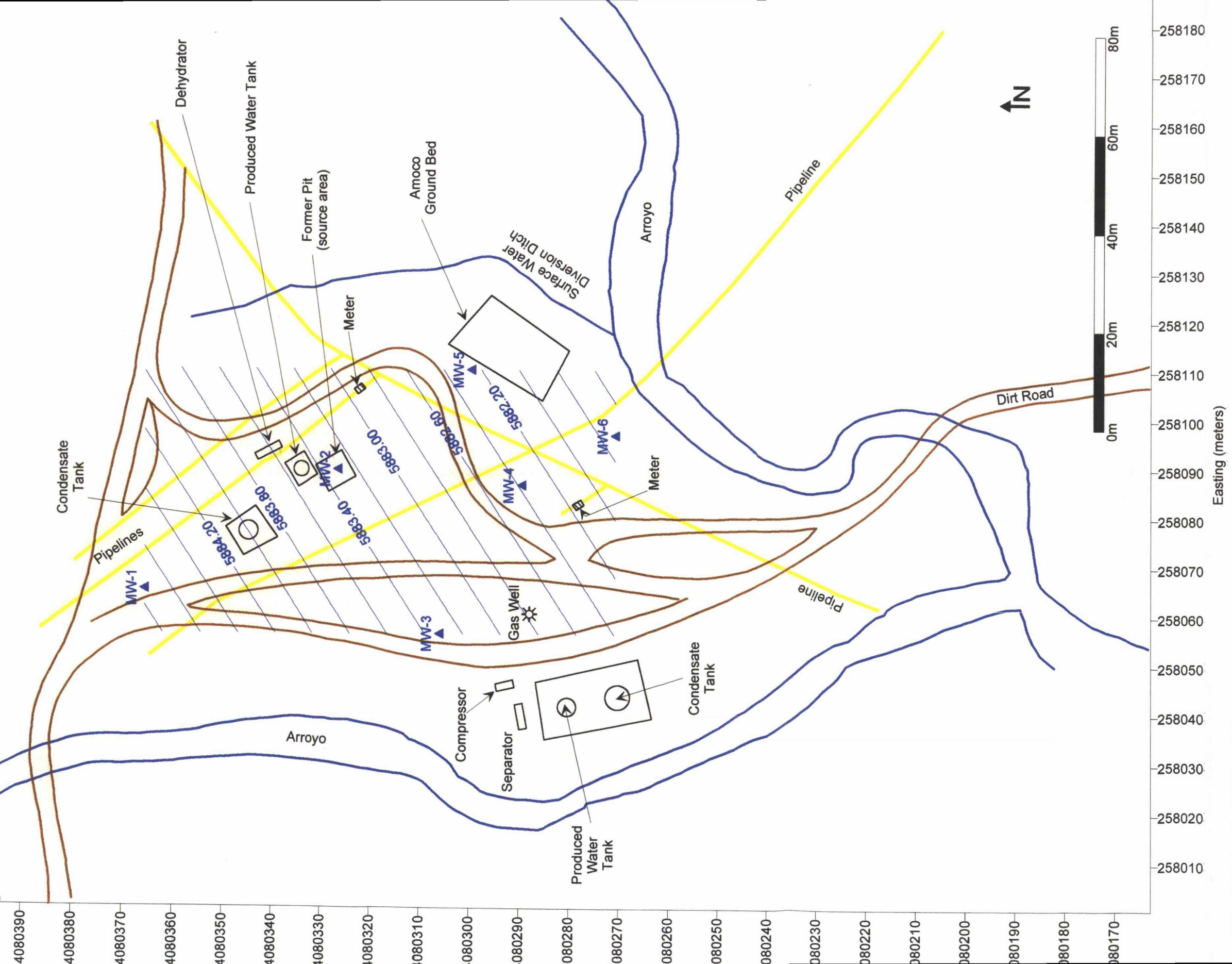


Figure 2
Potentiometric
Surface Map
Pritchard #2
September 24, 2002)

LEGEND

- MW-2
▲ Monitoring Well
- 5585.20
— Ground Water Elevation (ft. AMSL)

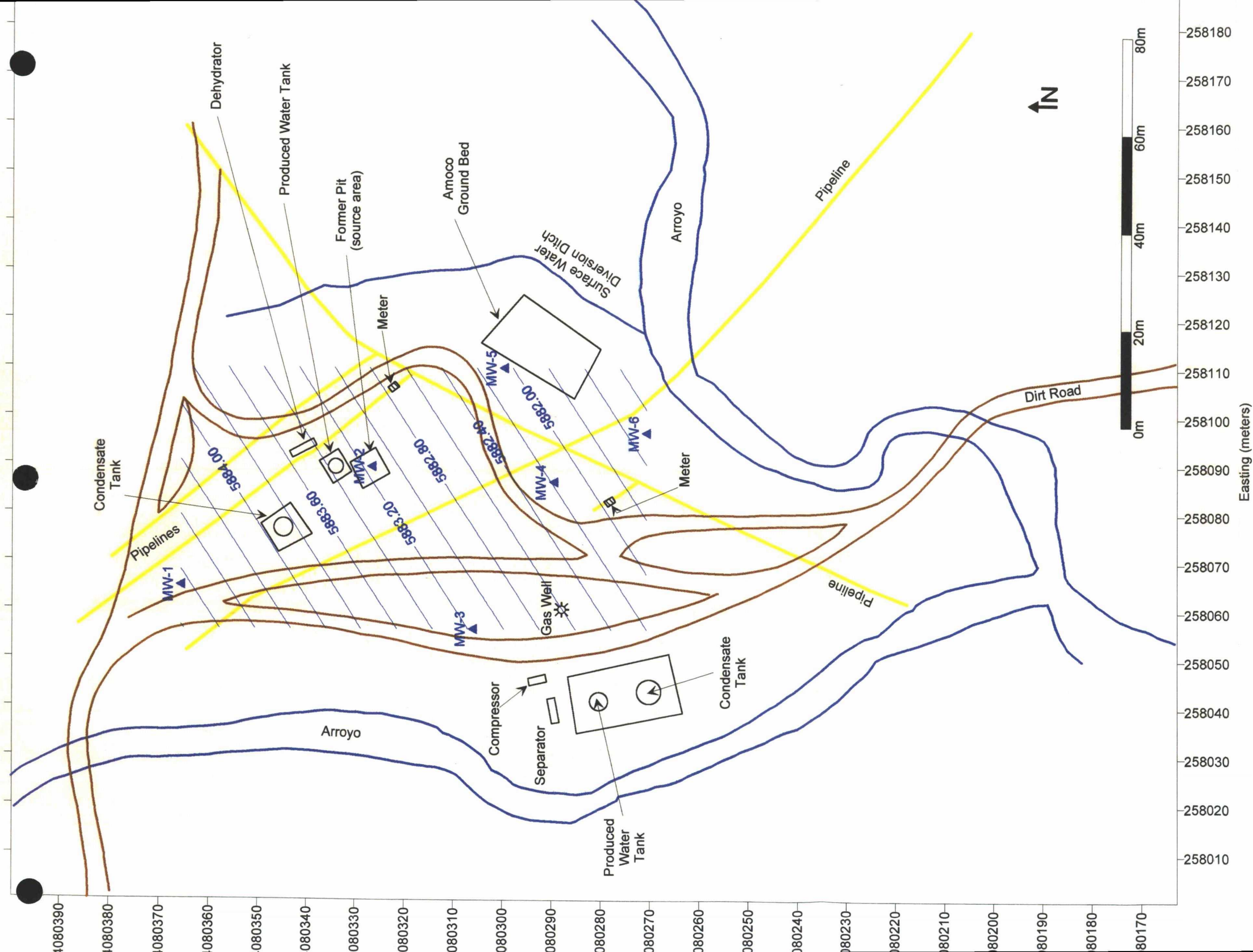


Figure 2
Potentiometric
Surface Map
Pritchard #2
(December 19, 2002)

LEGEND

- MW-2
▲ Monitoring Well
- 5585.20
— Ground Water Elevation (ft. AMSL)