

3R – 308

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

3R-303

Site Summary Report

Site Name: Chamberlain 1

Reporting Period: 2003

Location: Unit F, Sec 14, Twn 32N, Rng 12W

Canyon: Jaquez Flat

Operator: Burlington

Vulnerable Class: extended

OCD Ranking: 0

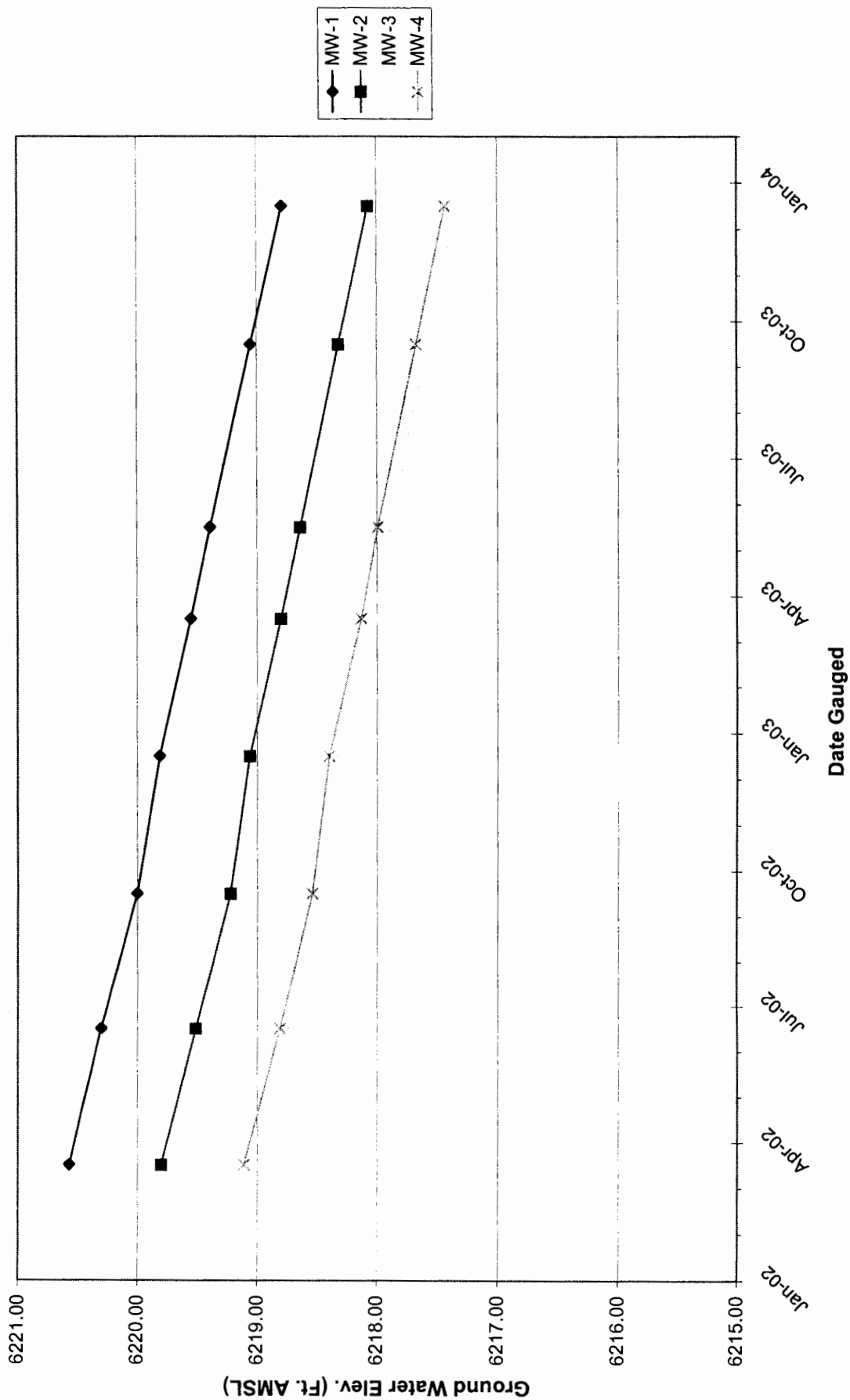
Lead Agency: NMOCD

Status Narrative

Fifteen quarters of water quality data have been collected from the four monitoring wells located at this site. Currently, only monitoring well MW-2 (located in the source area) contains contaminant concentrations in excess of NMWQCC standards. The total BTEX level in MW-2 was 259.5 ppb in the first quarter. This level increased to 1612 and 1140 ppb in the second and third quarters, respectively. The fourth quarter showed a decrease in total BTEX to 866 ppb. Laboratory analytical reports are enclosed along with a table summarizing the results.

Ground water flows to the west-southwest with an average hydraulic gradient of 0.012. No significant seasonal variations in flow direction or gradient occur. Figure 2 shows the potentiometric surface for each of the quarterly sampling events. The hydrograph does not indicate any significant seasonal fluctuations in water table elevation. On the whole, water table elevations have decreased at the site over the past three years.

Chamberlain #1 Hydrograph



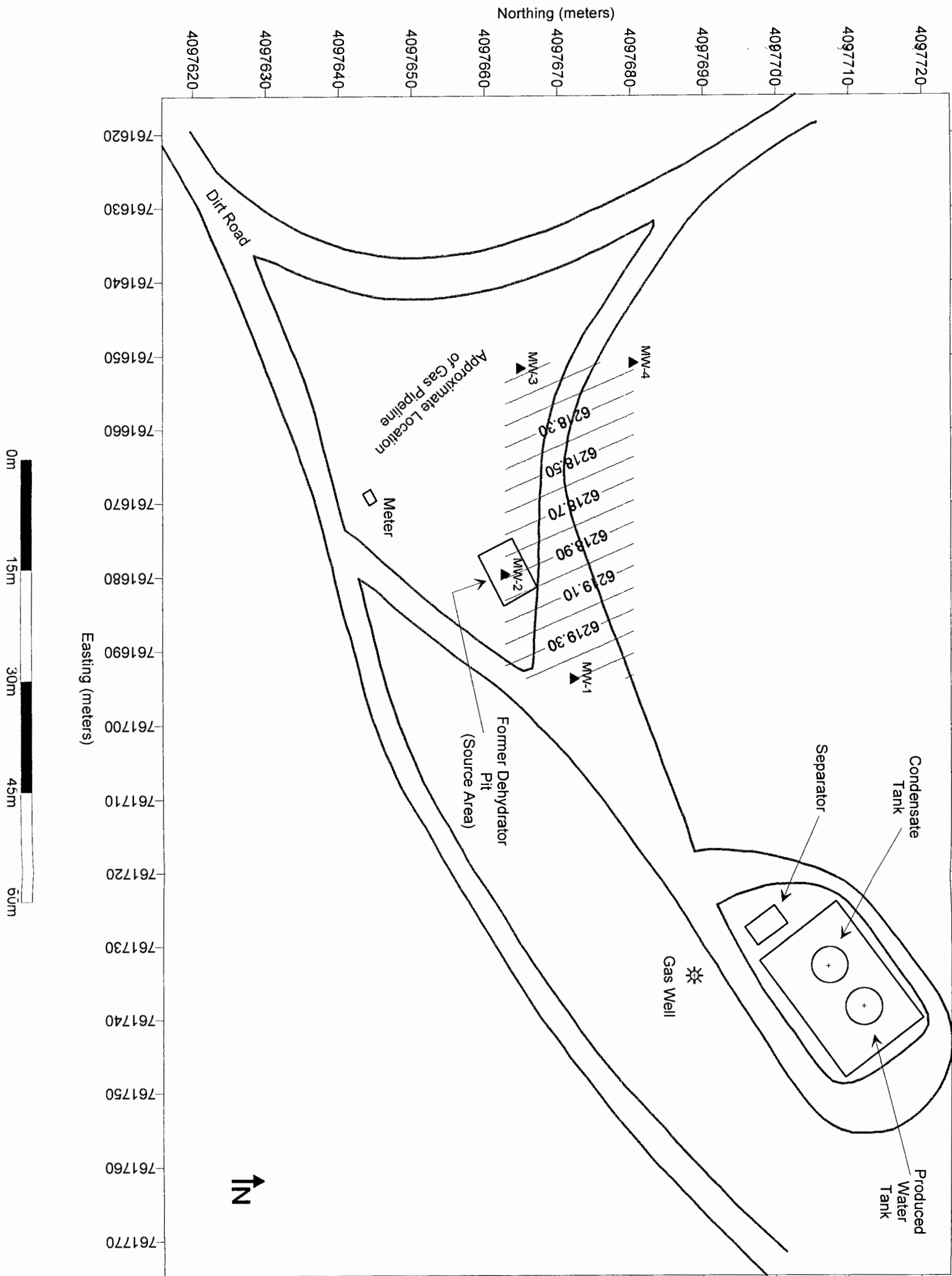


Figure 2
Potentiometric
Surface Map
Chamberlain #1
(March 20, 2003)

LEGEND

MMW-2

▲

Monitoring Well

--- 5585.20 ---

Ground Water Elevation (ft. AMSL)

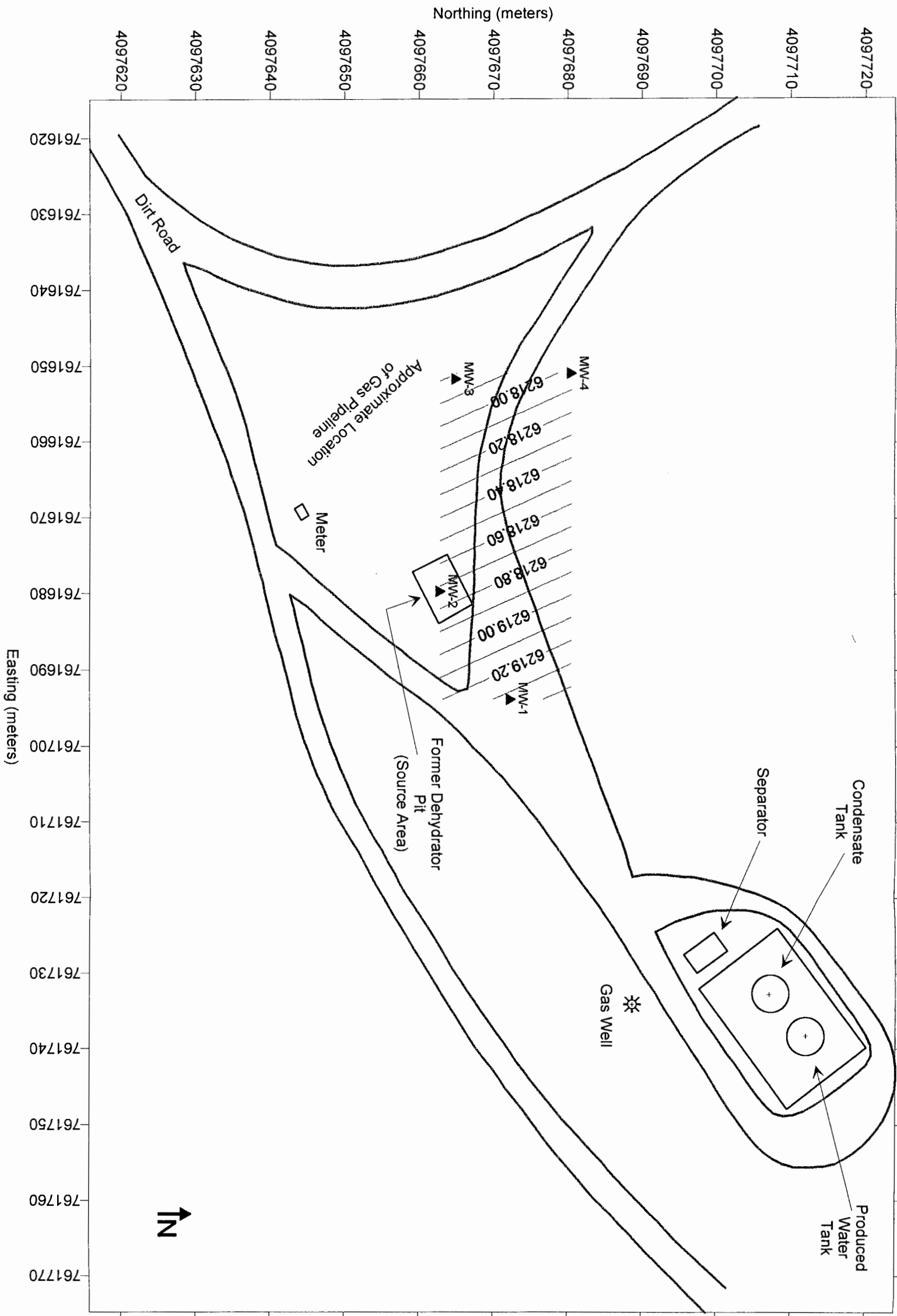


Figure 2
Potentiometric
Surface Map
Chamberlain #1
(May 21, 2003)



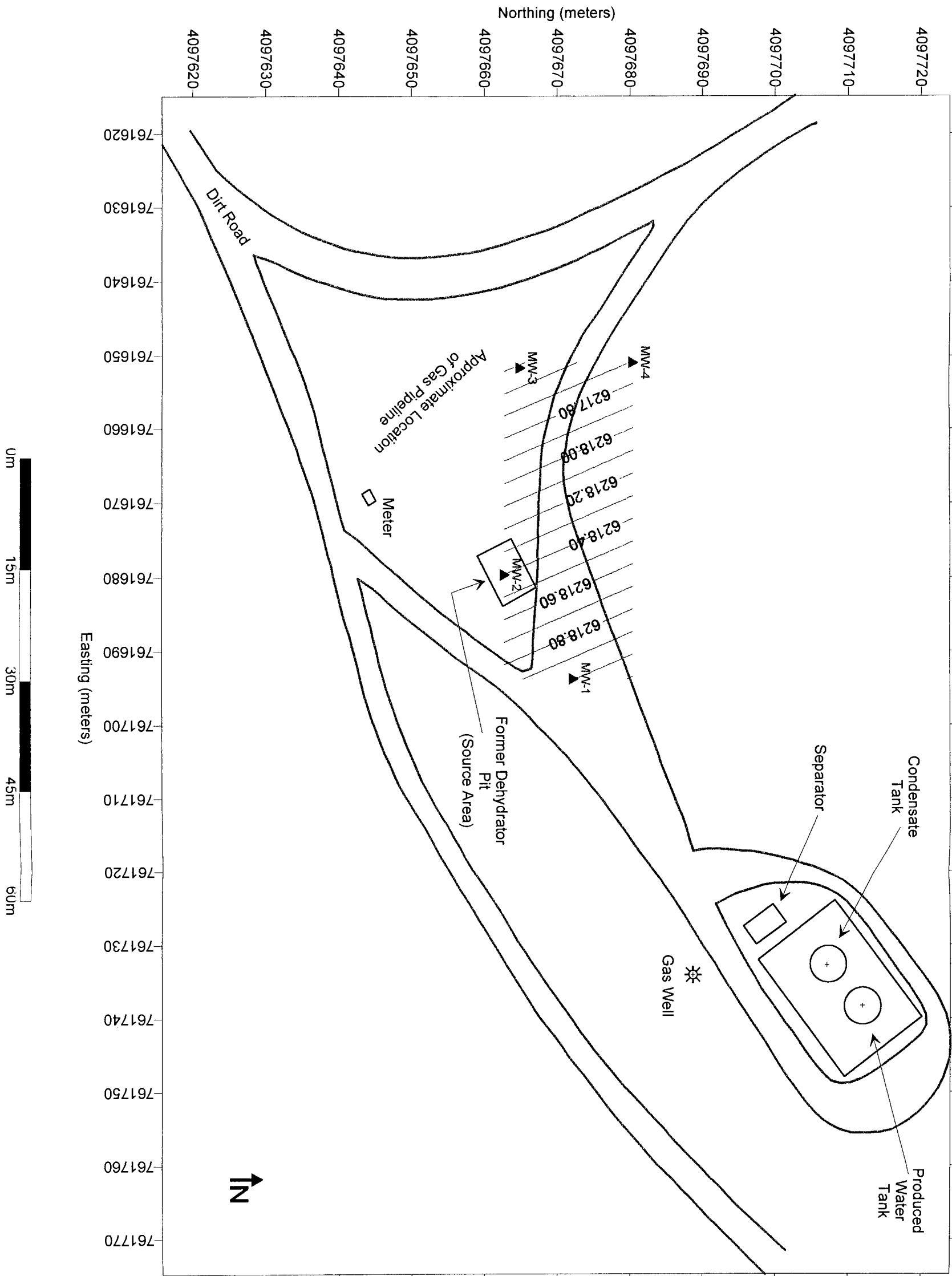


Figure 2
Potentiometric
Surface Map
Chamberlain #1
(September 16, 2003)

LEGEND

MW-2 ▲ Monitoring Well

— 5585.20 — Ground Water Elevation (ft. AMSL)

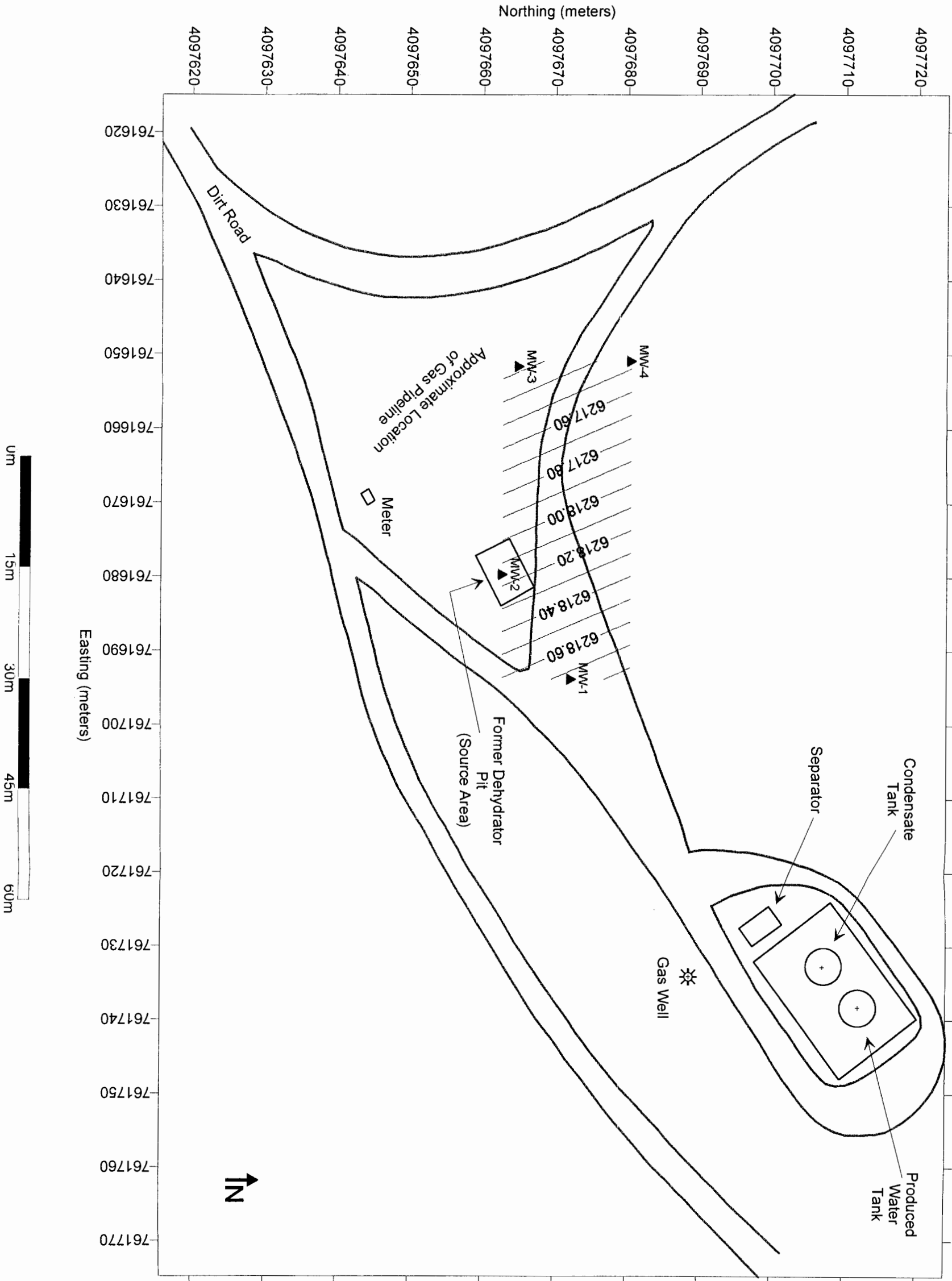


Figure 2
Potentiometric
Surface Map
Chamberlain #1
(December 6, 2003)

Analytical Data Summary

Site Name:
Chamberlain 1

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						
	3/20/03	144220MAR03	ND	ND	ND	ND
	5/21/03	130421MAY03	ND	ND	ND	ND
	12/6/03	102606DEC03	ND	ND	ND	ND
MW-2						
	3/20/03	152020MAR03	180	34.	8.5	37.
	5/21/03	131721MAY03	1100	130	82.	300
	9/16/03	132316SEP03	980	33.	28.	99.
	12/6/03	095306DEC03	680	46.	30.	110
MW-3						
	3/20/03	151120MAR03	ND	ND	ND	ND
	5/21/03	125721MAY03	ND	ND	ND	ND
	12/6/03	100506DEC03	ND	ND	ND	ND
MW-4						
	3/20/03	150020MAR03	ND	ND	ND	ND
	5/21/03	124821MAY03	ND	ND	ND	ND
	12/6/03	101506DEC03	ND	ND	ND	ND



Pace Analytical Services, Inc.

9608 Loiret Blvd.

Lenexa, KS 66219

Phone: 913.599.5665

Fax: 913.599.1759

March 31, 2003

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

RE: Lab Project Number: 6068854
Client Project ID: SJB-GW CHMB

Dear Mr. Struhs:

Enclosed are the analytical results for sample(s) received by the laboratory on March 27, 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,
without the written consent of Pace Analytical Services, Inc.

TESTED IN ACCORDANCE



SAMPLE SUMMARY

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

Lab Project Number: 6068854
Client Project ID: SJB-GW CHMB

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>
6068854-001	605938794	144220MAR03	Water	03/20/03 14:42	03/27/03 09:45
6068854-002	605938802	152020MAR03	Water	03/20/03 15:20	03/27/03 09:45
6068854-003	605938810	150020MAR03	Water	03/20/03 15:00	03/27/03 09:45
6068854-004	605938828	151120MAR03	Water	03/20/03 15:11	03/27/03 09:45

REPORT OF LABORATORY ANALYSIS

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TESTED IN ACCORDANCE
WITH ASTM D 1555-02

SAMPLE ANALYTE COUNT

Pace Analytical Services, Inc.

9608 Loiret Blvd.

Lenexa, KS 66219

Phone: 913.599.5665

Fax: 913.599.1759

Lab Project Number: 6068854

Client Project ID: SJB-GW CHMB

Project			Analysis		Analytes
<u>Sample Number</u>	<u>Sample No</u>	<u>Client Sample ID</u>	<u>Code</u>	<u>Analysis Description</u>	
6068854-001	605938794	144220MAR03	8020 WPAC	Aromatic Volatile Organics	5
6068854-002	605938802	152020MAR03	8020 WPAC	Aromatic Volatile Organics	5
6068854-003	605938810	150020MAR03	8020 WPAC	Aromatic Volatile Organics	5
6068854-004	605938828	151120MAR03	8020 WPAC	Aromatic Volatile Organics	5

REPORT OF LABORATORY ANALYSIS

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Lab Sample No: 605938794

Project Sample Number: 6068854-001

Date Collected: 03/20/03 14:42

Client Sample ID: 144220MAR03

Matrix: Water

Date Received: 03/27/03 09:45

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	03/28/03 16:07	DCKI	71-43-2		
Ethylbenzene	ND	ug/l	2.0	1.0	03/28/03 16:07	DCKI	100-41-4		
Toluene	ND	ug/l	2.0	1.0	03/28/03 16:07	DCKI	108-88-3		
Xylene (Total)	ND	ug/l	5.0	1.0	03/28/03 16:07	DCKI	1330-20-7		
a,a,a-Trifluorotoluene (S)	104	%		1.0	03/28/03 16:07	DCKI	98-08-8		

REPORT OF LABORATORY ANALYSIS

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Lab Sample No: 605938802
Client Sample ID: 152020MAR03

Project Sample Number: 6068854-002
Matrix: Water

Date Collected: 03/20/03 15:20
Date Received: 03/27/03 09:45

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
GC Volatiles									
Aromatic Volatile Organics	Method: EPA 8021								
Benzene	180	ug/l	2.0	1.0	03/28/03 16:36	DCKI	71-43-2		
Ethylbenzene	8.5	ug/l	2.0	1.0	03/28/03 16:36	DCKI	100-41-4		
Toluene	34.	ug/l	2.0	1.0	03/28/03 16:36	DCKI	108-88-3		
Xylene (Total)	37.	ug/l	5.0	1.0	03/28/03 16:36	DCKI	1330-20-7		
a,a,a-Trifluorotoluene (S)	112	%		1.0	03/28/03 16:36	DCKI	98-08-8		

REPORT OF LABORATORY ANALYSIS

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Lab Sample No: 605938810

Project Sample Number: 6068854-003

Date Collected: 03/20/03 15:00

Client Sample ID: 150020MAR03

Matrix: Water

Date Received: 03/27/03 09:45

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	03/28/03 17:06	DCKI	71-43-2		
Ethylbenzene	ND	ug/l	2.0	1.0	03/28/03 17:06	DCKI	100-41-4		
Toluene	ND	ug/l	2.0	1.0	03/28/03 17:06	DCKI	108-88-3		
Xylene (Total)	ND	ug/l	5.0	1.0	03/28/03 17:06	DCKI	1330-20-7		
a,a,a-Trifluorotoluene (S)	105	%		1.0	03/28/03 17:06	DCKI	98-08-8		

REPORT OF LABORATORY ANALYSIS

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Lab Project Number: 6068854
Client Project ID: SJB-GW CHMB

Lab Sample No: 605938828 Project Sample Number: 6068854-004 Date Collected: 03/20/03 15:11
Client Sample ID: 151120MAR03 Matrix: Water Date Received: 03/27/03 09:45

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	03/28/03 17:35	DCKI	71-43-2		
Ethylbenzene	ND	ug/l	2.0	1.0	03/28/03 17:35	DCKI	100-41-4		
Toluene	ND	ug/l	2.0	1.0	03/28/03 17:35	DCKI	108-88-3		
Xylene (Total)	ND	ug/l	5.0	1.0	03/28/03 17:35	DCKI	1330-20-7		
a,a,a-Trifluorotoluene (S)	104	%		1.0	03/28/03 17:35	DCKI	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: 6068854
Client Project ID: SJB-GW CHMB

QC Batch: 141772 Analysis Method: EPA 8021
QC Batch Method: EPA 8021 Analysis Description: Aromatic Volatile Organics
Associated Lab Samples: 605938794 605938802 605938810 605938828

METHOD BLANK: 605939156
Associated Lab Samples: 605938794 605938802 605938810 605938828

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)	%	104		

LABORATORY CONTROL SAMPLE: 605939164

Parameter	Units	Spike	LCS	LCS	% Rec	Footnotes
		Conc.	Result	% Rec	Limits	
Benzene	ug/l	20.00	20.82	104	85-120	
Ethylbenzene	ug/l	20.00	21.20	106	87-114	
Toluene	ug/l	20.00	21.04	105	87-114	
Xylene (Total)	ug/l	60.00	62.49	104	88-115	
a,a,a-Trifluorotoluene (S)				104	86-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 605941186 605941194

Parameter	Units	605938794	Spike	MS	MSD	MS	MSD	% Rec	Max	Footnotes
		Result	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	
Benzene	ug/l	0	20.00	20.17	20.67	101	103	82-121	2	16
Ethylbenzene	ug/l	0	20.00	20.10	20.38	100	102	84-114	1	14
Toluene	ug/l	0	20.00	20.28	20.64	101	103	85-112	2	18
Xylene (Total)	ug/l	0	60.00	59.94	61.27	100	102	83-115	2	16
a,a,a-Trifluorotoluene (S)						104	103	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 03, 2003

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

RE: Lab Project Number: 6070866
Client Project ID: SJBGW-CHMBIM

Dear Mr. Struhs:

Enclosed are the analytical results for sample(s) received by the laboratory on May 28, 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: 6070866
Client Project ID: SJBGW-CHMBIM

Project Sample Number	Sample Number	Client Sample ID	Matrix	Date Collected	Date Received
6070866-001	606106268	125721MAY03	Water	05/21/03 12:57	05/28/03 08:40
6070866-002	606106276	124821MAY03	Water	05/21/03 12:48	05/28/03 08:40
6070866-003	606106284	130421MAY03	Water	05/21/03 13:04	05/28/03 08:40
6070866-004	606106292	131721MAY03	Water	05/21/03 13:17	05/28/03 08:40

REPORT OF LABORATORY ANALYSIS

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Lab Project Number: 6070866
Client Project ID: SJBGW-CHMBIM

Lab Sample No: 606106268 Project Sample Number: 6070866-001 Date Collected: 05/21/03 12:57
Client Sample ID: 125721MAY03 Matrix: Water Date Received: 05/28/03 08:40

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	05/30/03 23:08 SHF		71-43-2		
Ethylbenzene	ND	ug/l	2.0	1.0	05/30/03 23:08 SHF		100-41-4		
Toluene	ND	ug/l	2.0	1.0	05/30/03 23:08 SHF		108-88-3		
Xylene (Total)	ND	ug/l	5.0	1.0	05/30/03 23:08 SHF		1330-20-7		
a,a,a-Trifluorotoluene (S)	91	%		1.0	05/30/03 23:08 SHF		98-08-8		

REPORT OF LABORATORY ANALYSIS

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Lab Project Number: 6070866
Client Project ID: SJBGW-CHMBIM

Lab Sample No: 606106276 Project Sample Number: 6070866-002 Date Collected: 05/21/03 12:48
Client Sample ID: 124821MAY03 Matrix: Water Date Received: 05/28/03 08:40

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
GC Volatiles									
Aromatic Volatile Organics	Method: EPA 8021								
Benzene	ND	ug/l	2.0	1.0	05/30/03 23:37 SHF		71-43-2		
Ethylbenzene	ND	ug/l	2.0	1.0	05/30/03 23:37 SHF		100-41-4		
Toluene	ND	ug/l	2.0	1.0	05/30/03 23:37 SHF		108-88-3		
Xylene (Total)	ND	ug/l	5.0	1.0	05/30/03 23:37 SHF		1330-20-7		
a,a,a-Trifluorotoluene (S)	92	%		1.0	05/30/03 23:37 SHF		98-08-8		

REPORT OF LABORATORY ANALYSIS

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Lab Project Number: 6070866
Client Project ID: SJBGW-CHMBIM

Lab Sample No: 606106284 Project Sample Number: 6070866-003 Date Collected: 05/21/03 13:04
Client Sample ID: 130421MAY03 Matrix: Water Date Received: 05/28/03 08:40

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

GC Volatiles

Aromatic Volatile Organics	Method: EPA 8021								
Benzene	ND	ug/l	2.0	1.0	05/31/03 00:05 SHF		71-43-2		
Ethylbenzene	ND	ug/l	2.0	1.0	05/31/03 00:05 SHF		100-41-4		
Toluene	ND	ug/l	2.0	1.0	05/31/03 00:05 SHF		108-88-3		
Xylene (Total)	ND	ug/l	5.0	1.0	05/31/03 00:05 SHF		1330-20-7		
a,a,a-Trifluorotoluene (S)	93	%		1.0	05/31/03 00:05 SHF		98-08-8		

REPORT OF LABORATORY ANALYSIS

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Lab Project Number: 6070866
Client Project ID: SJBGW-CHMBIM

Lab Sample No: 606106292 Project Sample Number: 6070866-004 Date Collected: 05/21/03 13:17
Client Sample ID: 131721MAY03 Matrix: Water Date Received: 05/28/03 08:40

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
GC Volatiles									
Aromatic Volatile Organics	Method: EPA 8021								
Benzene	1100	ug/l	20.	10.0	06/03/03 07:17 SHF		71-43-2		
Ethylbenzene	82.	ug/l	2.0	1.0	05/31/03 00:34 SHF		100-41-4		
Toluene	130	ug/l	2.0	1.0	05/31/03 00:34 SHF		108-88-3		
Xylene (Total)	300	ug/l	5.0	1.0	05/31/03 00:34 SHF		1330-20-7		
a,a,a-Trifluorotoluene (S)	95	%		1.0	05/31/03 00:34 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

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

Lab Project Number: 6070866
Client Project ID: SJBGW-CHMBIM

QC Batch: 145741 Analysis Method: EPA 8021
QC Batch Method: EPA 8021 Analysis Description: Aromatic Volatile Organics
Associated Lab Samples: 606106268 606106276 606106284 606106292

METHOD BLANK: 606106888
Associated Lab Samples: 606106268 606106276 606106284 606106292

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)	%	93		

LABORATORY CONTROL SAMPLE: 606106896

Parameter	Units	Spike	LCS	LCS	% Rec	Footnotes
		Conc.	Result	% Rec	Limits	
Benzene	ug/l	20.00	20.88	104	85-120	
Ethylbenzene	ug/l	20.00	19.72	99	87-114	
Toluene	ug/l	20.00	19.99	100	87-114	
Xylene (Total)	ug/l	60.00	61.49	102	88-115	
a,a,a-Trifluorotoluene (S)				91	86-115	1

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
[1]	Insufficient sample volume received for the MS/MSD. Acceptable recovery of the LCS indicates the analytical system is in control.

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

October 02, 2003

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

RE: Lab Project Number: 6075059
Client Project ID: CHMB

Dear Mr. Struhs:

Enclosed are the analytical results for sample(s) received by the laboratory on September 26, 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: 6075059
Client Project ID: CHMB

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>
6075059-001	606461481	132316SEP03	Water	09/16/03 13:23	09/26/03 13:23

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Lab Project Number: 6075059
Client Project ID: CHMB

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>
6075059-001	606461481	132316SEP03	8020 WPAC	Aromatic Volatile Organics	5

REPORT OF LABORATORY ANALYSIS

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Lab Project Number: 6075059

Client Project ID: CHMB

Lab Sample No: 606461481
Client Sample ID: 132316SEP03

Project Sample Number: 6075059-001
Matrix: Water

Date Collected: 09/16/03 13:23
Date Received: 09/26/03 13:23

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
GC Volatiles									
Aromatic Volatile Organics	Method: EPA 8021								
Benzene	980	ug/l	10.	5.0	09/30/03 15:35 SHF		71-43-2		
Ethylbenzene	28.	ug/l	2.0	1.0	09/29/03 17:09 SHF		100-41-4		
Toluene	33.	ug/l	2.0	1.0	09/29/03 17:09 SHF		108-88-3		
Xylene (Total)	99.	ug/l	5.0	1.0	09/29/03 17:09 SHF		1330-20-7		
a,a,a-Trifluorotoluene (S)	102	%		1.0	09/29/03 17:09 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

Lab Project Number: 6075059
Client Project ID: CHMB

QC Batch: 154026 Analysis Method: EPA 8021
QC Batch Method: EPA 8021 Analysis Description: Aromatic Volatile Organics
Associated Lab Samples: 606461481

METHOD BLANK: 606462091
Associated Lab Samples: 606461481

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)	%	98		

LABORATORY CONTROL SAMPLE: 606462109

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Footnotes
Benzene	ug/l	20.00	20.55	103	85-120	
Ethylbenzene	ug/l	20.00	19.54	98	87-114	
Toluene	ug/l	20.00	19.89	99	87-114	
Xylene (Total)	ug/l	60.00	57.46	96	88-115	
a,a,a-Trifluorotoluene (S)				95	86-115	1

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Lab Project Number: 6075059

Client Project ID: CHMB

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
[1] The MS and/or MSD compound(s) recovery information is not available due to insufficient sample volume. The LCS demonstrates the analytical system was in control for this QA/QC sample group.

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

December 22, 2003

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

RE: Lab Project Number: 6077646
Client Project ID: SJB-GW/CHMB

Dear Mr. Struhs:

Enclosed are the analytical results for sample(s) received by the laboratory on December 16, 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
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: 6077646
Client Project ID: SJB-GW/CHMB

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>
6077646-001	606685485	100506DEC03	Water	12/06/03 10:05	12/16/03 09:05
6077646-002	606685493	095306DEC03	Water	12/06/03 09:53	12/16/03 09:05
6077646-003	606685501	102606DEC03	Water	12/06/03 10:26	12/16/03 09:05
6077646-004	606685519	101506DEC03	Water	12/06/03 10:15	12/16/03 09:05

REPORT OF LABORATORY ANALYSIS

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Lab Project Number: 6077646
Client Project ID: SJB-GW/CHMB

Project			Analysis		Analysis Description	Analytes Reported
<u>Sample Number</u>	<u>Sample No</u>	<u>Client Sample ID</u>	<u>Code</u>			
6077646-001	606685485	100506DEC03	8020	WPAC	Aromatic Volatile Organics	5
6077646-002	606685493	095306DEC03	8020	WPAC	Aromatic Volatile Organics	5
6077646-003	606685501	102606DEC03	8020	WPAC	Aromatic Volatile Organics	5
6077646-004	606685519	101506DEC03	8020	WPAC	Aromatic Volatile Organics	5

REPORT OF LABORATORY ANALYSIS

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Lab Project Number: 6077646
Client Project ID: SJB-GW/CHMB

Lab Sample No: 606685485 Project Sample Number: 6077646-001 Date Collected: 12/06/03 10:05
Client Sample ID: 100506DEC03 Matrix: Water Date Received: 12/16/03 09:05

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
GC Volatiles									
Aromatic Volatile Organics	Method: EPA 8021								
Benzene	ND	ug/l	2.0	1.0	12/18/03 11:16		71-43-2		
Ethylbenzene	ND	ug/l	2.0	1.0	12/18/03 11:16		100-41-4		
Toluene	ND	ug/l	2.0	1.0	12/18/03 11:16		108-88-3		
Xylene (Total)	ND	ug/l	5.0	1.0	12/18/03 11:16		1330-20-7		
a,a,a-Trifluorotoluene (S)	103	%		1.0	12/18/03 11:16		98-08-8		

REPORT OF LABORATORY ANALYSIS

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Lab Project Number: 6077646
Client Project ID: SJB-GW/CHMB

Lab Sample No: 606685493 Project Sample Number: 6077646-002 Date Collected: 12/06/03 09:53
Client Sample ID: 095306DEC03 Matrix: Water Date Received: 12/16/03 09:05

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	ReqLmt
GC Volatiles									
Aromatic Volatile Organics	Method: EPA 8021								
Benzene	680	ug/l	10.	5.0	12/18/03 16:46		71-43-2		
Ethylbenzene	30.	ug/l	10.	5.0	12/18/03 16:46		100-41-4		
Toluene	46.	ug/l	10.	5.0	12/18/03 16:46		108-88-3		
Xylene (Total)	110	ug/l	25.	5.0	12/18/03 16:46		1330-20-7		
a,a,a-Trifluorotoluene (S)	103	%		1.0	12/18/03 16:46		98-08-8		

REPORT OF LABORATORY ANALYSIS

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Lab Project Number: 6077646
Client Project ID: SJB-GW/CHMB

Lab Sample No: 606685501 Project Sample Number: 6077646-003 Date Collected: 12/06/03 10:26
Client Sample ID: 102606DEC03 Matrix: Water Date Received: 12/16/03 09:05

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	ReqLmt
GC Volatiles									
Aromatic Volatile Organics	Method: EPA 8021								
Benzene	ND	ug/l	2.0	1.0	12/18/03 17:14		71-43-2		
Ethylbenzene	ND	ug/l	2.0	1.0	12/18/03 17:14		100-41-4		
Toluene	ND	ug/l	2.0	1.0	12/18/03 17:14		108-88-3		
Xylene (Total)	ND	ug/l	5.0	1.0	12/18/03 17:14		1330-20-7		
a,a,a-Trifluorotoluene (S)	98	%		1.0	12/18/03 17:14		98-08-8		

REPORT OF LABORATORY ANALYSIS

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Lab Project Number: 6077646
Client Project ID: SJB-GW/CHMB

Lab Sample No: 606685519 Project Sample Number: 6077646-004 Date Collected: 12/06/03 10:15
Client Sample ID: 101506DEC03 Matrix: Water Date Received: 12/16/03 09:05

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
GC Volatiles									
Aromatic Volatile Organics	Method: EPA 8021								
Benzene	ND	ug/l	2.0	1.0	12/18/03 12:39		71-43-2		
Ethylbenzene	ND	ug/l	2.0	1.0	12/18/03 12:39		100-41-4		
Toluene	ND	ug/l	2.0	1.0	12/18/03 12:39		108-88-3		
Xylene (Total)	ND	ug/l	5.0	1.0	12/18/03 12:39		1330-20-7		
a,a,a-Trifluorotoluene (S)	103	%		1.0	12/18/03 12:39		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

Lab Project Number: 6077646
Client Project ID: SJB-GW/CHMB

QC Batch: 159342 Analysis Method: EPA 8021
QC Batch Method: EPA 8021 Analysis Description: Aromatic Volatile Organics
Associated Lab Samples: 606685485 606685493 606685501 606685519

METHOD BLANK: 606690717
Associated Lab Samples: 606685485 606685493 606685501 606685519

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)	%	103		

LABORATORY CONTROL SAMPLE: 606690725

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Footnotes
Benzene	ug/l	20.00	19.87	99	85-120	
Ethylbenzene	ug/l	20.00	20.11	101	87-114	
Toluene	ug/l	20.00	19.71	99	87-114	
Xylene (Total)	ug/l	60.00	62.28	104	88-115	
a,a,a-Trifluorotoluene (S)				103	86-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 606692267 606692275

Parameter	Units	606685485 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Footnotes
Benzene	ug/l	0.1991	20.00	20.08	20.04	99	99	82-121	0	16	
Ethylbenzene	ug/l	0.2674	20.00	20.24	20.35	100	100	84-114	1	14	
Toluene	ug/l	0.1851	20.00	19.71	19.80	98	98	85-112	0	18	
Xylene (Total)	ug/l	0.1585	60.00	62.57	62.41	104	104	83-115	0	16	
a,a,a-Trifluorotoluene (S)						103	103	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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