

State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Tommy G. Thompson, Governor
George E. Meyer, Secretary
Ruthe E. Badger, Regional Director

South Central Region Headquarters
3911 Fish Hatchery Road
Fitchburg, Wisconsin 53711-5397
Telephone 608-275-3266
FAX 608-275-3338
TDD 608-275-3231

November 26, 1999

File Ref: 03-53-111805

Ms. Joan Buhmeyer
244 West Mill Street
Richland Center, WI 53581

Subject: Closure of Buhmeyer's, Inc. Site, 244 West Mill Street, Richland Center; Richland County

Dear Ms. Buhmeyer:

On April 12, 1999, the South Central Region Closure Committee reviewed your site for closure. This committee reviews environmental remediation cases for compliance with state laws and standards to maintain consistency in the closure of these cases. On April 14, 1999, you were notified that the Closure Committee had granted conditional closure to this case.

On May 10 and November 18, 1999, the Department received correspondence indicating that you have complied with the conditions of closure. We received a copy of a groundwater use restriction recorded at the Richland County Register of Deeds and also documentation that the groundwater monitoring and recovery wells have been properly abandoned. Based on the correspondence and data provided, it appears that your site has been remediated to Department standards in accordance with s. NR 726.05, Wis. Adm. Code. The Department considers this case closed and no further investigation, remediation or other action is required at this time.

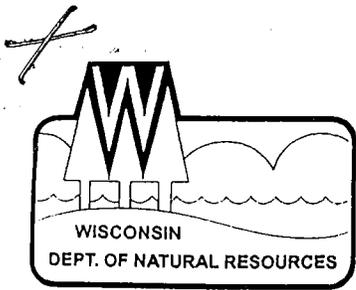
However, please be aware that this case may be reopened pursuant to s. NR 726.09, Wis. Adm. Code, if additional information regarding site conditions indicates that contamination on or from the site poses a threat to public health, safety or welfare, or the environment.

The Department appreciates your efforts to restore the environment at this site. If you have any questions regarding this letter, please contact me at the number below.

Sincerely,

Harlan H. Kuehling, P.G.
Remediation & Redevelopment Program Hydrogeologist
(608) 275-3286
kuehlh@dnr.state.wi.us

cc: Dave Lyshek, Ramaker & Associates, Inc.



State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Tommy G. Thompson, Governor
George E. Meyer, Secretary
Ruthe E. Badger, Regional Director

South Central Region Headquarters
3911 Fish Hatchery Road
Fitchburg, Wisconsin 53711-5397
Telephone 608-275-3266
FAX 608-275-3338
TDD 608-275-3231

May 20, 1999

File Ref: 03-53-111805

Ms. Joan Buhmeyer
244 West Mill Street
Richland Center, WI 53581

Subject: Conditional Site Closure: Buhmeyer's, Inc., 244 West Mill Street, Richland Center;
Richland County

Dear Ms. Buhmeyer:

We received a copy of the deed for the property of the site named above. We have also received documentation of the abandonment of the groundwater monitoring wells on the property.

Please review the enclosed draft groundwater use restriction for the site property. If the current owners of the property approve of the content of the document, instruct them to sign it and have it notarized, and then have it recorded by the Richland County Register of Deeds. After you or the current owners have submitted a copy of the recorded document to the Department, a final case closure letter will be sent to you.

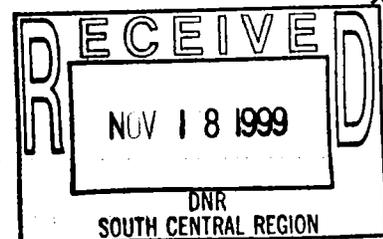
We appreciate your efforts to restore the environment at this site. If you have any questions regarding this letter, please contact me at the address listed above or as indicated below.

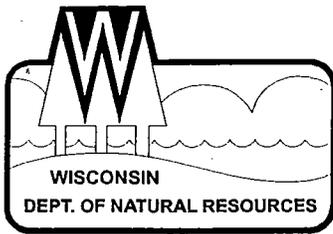
Sincerely,

Harlan Kuehling, P.G.
Remediation & Redevelopment Program Hydrogeologist
(608) 275-3286
e-mail: kuehlih@dnr.state.wi.us

enclosure

cc: Dave Lyshek - Raymaker & Associates, Inc.





State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Tommy G. Thompson, Governor
George E. Meyer, Secretary
Ruthe E. Badger, Regional Director

South Central Region Headquarters
3911 Fish Hatchery Road
Fitchburg, Wisconsin 53711-5397
Telephone 608-275-3266
FAX 608-275-3338
TDD 608-275-3231

April 14, 1999

File Ref.: 03-53-111805

Ms. Joan Buhmeyer
244 West Mill Street
Richland Center, WI 53581

Subject: Conditional Site Closure: Buhmeyer's, Inc., 244 West Mill Street, Richland Center;
Richland County

Dear Ms. Buhmeyer:

On April 13, 1999, your request for closure of the site named above was reviewed by the South Central Region Closure Committee. This committee reviews environmental remediation cases for compliance with state laws and standards to maintain consistency in the closure of these cases. The contamination on the site property appears to have been remediated to the extent practicable under site conditions. Your case will be granted closure under s. NR 726.05, Wis. Adm. Code, when the following conditions have been met.

MONITORING WELL ABANDONMENT The monitoring wells and recovery well RW-1 at the site must be properly abandoned in compliance with ch. NR 141, Wis. Adm. Code. Documentation of well abandonment must be submitted to us on forms provided by the Department.

GROUNDWATER USE RESTRICTION The closure committee has required that a groundwater use restriction be prepared and recorded at the county register of deeds office to address the issue of remaining groundwater contamination associated with the site. The purpose of this document is to restrict the use of groundwater that may be contaminated in the vicinity of the site. A sample of a groundwater use restriction is attached.

To assist us in the preparation of the groundwater use restriction document, you must submit a copy of the property deed to me within 30 days of the date of this letter. This information will be used to prepare a draft groundwater use restriction that will be sent to you for review. If you approve of its content, you will sign it, have it recorded by the Richland County Register of Deeds, and submit a copy with the proof of filing to the Department.

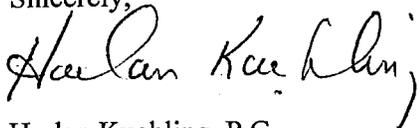
The groundwater use restriction is an option that the Department can offer to you in order to close this site. If you choose not to accept this option, you may perform additional investigation and cleanup of the remaining contamination. Note that this additional work may not be eligible for reimbursement through the Petroleum Environmental Cleanup Fund Award (PECFA) Program. You should contact the Department of Commerce to determine eligibility of the additional work for reimbursement.

When the above conditions have been met, a final case closure letter will be sent to you.

Please be aware that the site case may be reopened pursuant to s. NR 726.09, Wis. Adm. Code, if additional information regarding site conditions indicates that contamination on or from the sites poses a threat to public health, safety, or welfare or to the environment.

We appreciate your efforts to restore the environment at this site. If you have any questions regarding this letter, please contact me at the address listed above or as indicated below.

Sincerely,



Harlan Kuehling, P.G.
Remediation & Redevelopment Program Hydrogeologist
(608) 275-3286
kuehlh@dnr.state.wi.us

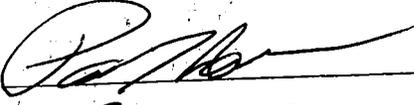
Attachment

cc: Dave Lyshek – Ramaker & Associates, Inc.

or persons who violate or are proposing to violate the covenant, to prevent the proposed violation or to recover damages for such violation.

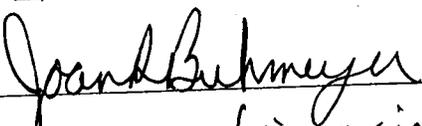
Any person who is or becomes owner of the property described above may request that the Wisconsin Department of Natural Resources or its successor issue a determination that the restrictions set forth in this covenant are no longer required. Upon receipt of such a request, the Wisconsin Department of Natural Resources shall determine whether or not the restrictions contained herein can be extinguished. If the Department determines that the restrictions can be extinguished, an affidavit can be recorded to give notice that this groundwater use restriction is no longer binding.

IN WITNESS WHEREOF, the owner of the property has executed this Declaration of Restrictions, this 17 day of Nov, 1999.

Signature: 

Printed Name: Paul J. Romlow

Subscribed and sworn to before me
this 17 day of Nov, 1999.



Notary Public, State of Wisconsin

My commission 2-10-2002

This document was drafted by the Wisconsin Department of Natural Resources

282199

Document Number

WARRANTY DEED

VOL 301 PAGE 39

RECORDED

AT 3:30 O'CLOCK P.M.

DEC 29 1998

VOL 301 of Records PAGE 39

REGISTER OF DEEDS

RICHLAND COUNTY, WISCONSIN

BY Kay Peterson, Deputy

Recording Area

Name and Return Address

Amy L. Clough
440 Science Drive
Madison, WI 53711

300.00
FEE

276-2100-0450, 276-2100-481
(Parcel Identification Number)

Lot Five (5); the West 62 feet of Lot Eight (8); and a parcel 13 feet 5 inches wide off the North side of the East 70 feet of Lot Eight (8); all in Block Four (4), City of Richland Center, as laid out and platted by Ira S. Haseltine, June 6, 1851, on the Northwest quarter (NW1/4) of Section Twenty-one (21), Township Ten (10) North, Range One (1) East, Richland County, Wisconsin.

and

Commencing Twenty-eight (28) feet and Seven (7) inches North of the Southeast corner of Lot No. Eight (8) in Block No. Four (4) of the Original Plat of the City of Richland Center, thence North Twenty-four (24) feet, thence West Seventy (70) feet, thence South Twenty-four (24) feet and thence East Seventy (70) feet to place of beginning, being part of Lot Eight (8) in said Block Four (4) in said City of Richland Center, subject to a reservation of one-half interest in partition wall and stone foundation on South side of building and water rights as reserved by Grantors in Deed recorded in Volume 63 of Deeds, page 501, in the office of the Register of Deeds of said County.

Exception to warranties: all easements and restrictions of record.

This is not homestead property.

Dated this 22 day of December, 1998.

Joan R. Buhmeyer attorney in fact
Francis J. Buhmeyer, by Attorney in
Fact Joan R. Buhmeyer

AUTHENTICATION

Signature(s) Joan R. Buhmeyer, Attorney
in Fact for Francis J. Buhmeyer
authenticated this 22nd day of December, 1998.

Amy L. Clough
signature
type or print name

TITLE: MEMBER STATE BAR OF WISCONSIN
(If not, _____
authorized by § 706.06, Wis. Stats.)

THIS INSTRUMENT WAS DRAFTED BY
Amy L. Clough
Tomlinson, Gillman & Travers, S.C.

ACKNOWLEDGMENT

STATE OF WISCONSIN
RICHLAND COUNTY
Personally came before me this ___ day of December, 1998,* the above named Joan R. Buhmeyer to me known to be the person(s) who executed the foregoing instrument and acknowledge the same.

signature
type or print name

Notary Public Richland County, Wisconsin
My commission is permanent. (If not, state expiration date: _____.)

*Names of persons signing in any capacity should be typed or printed below their signatures.

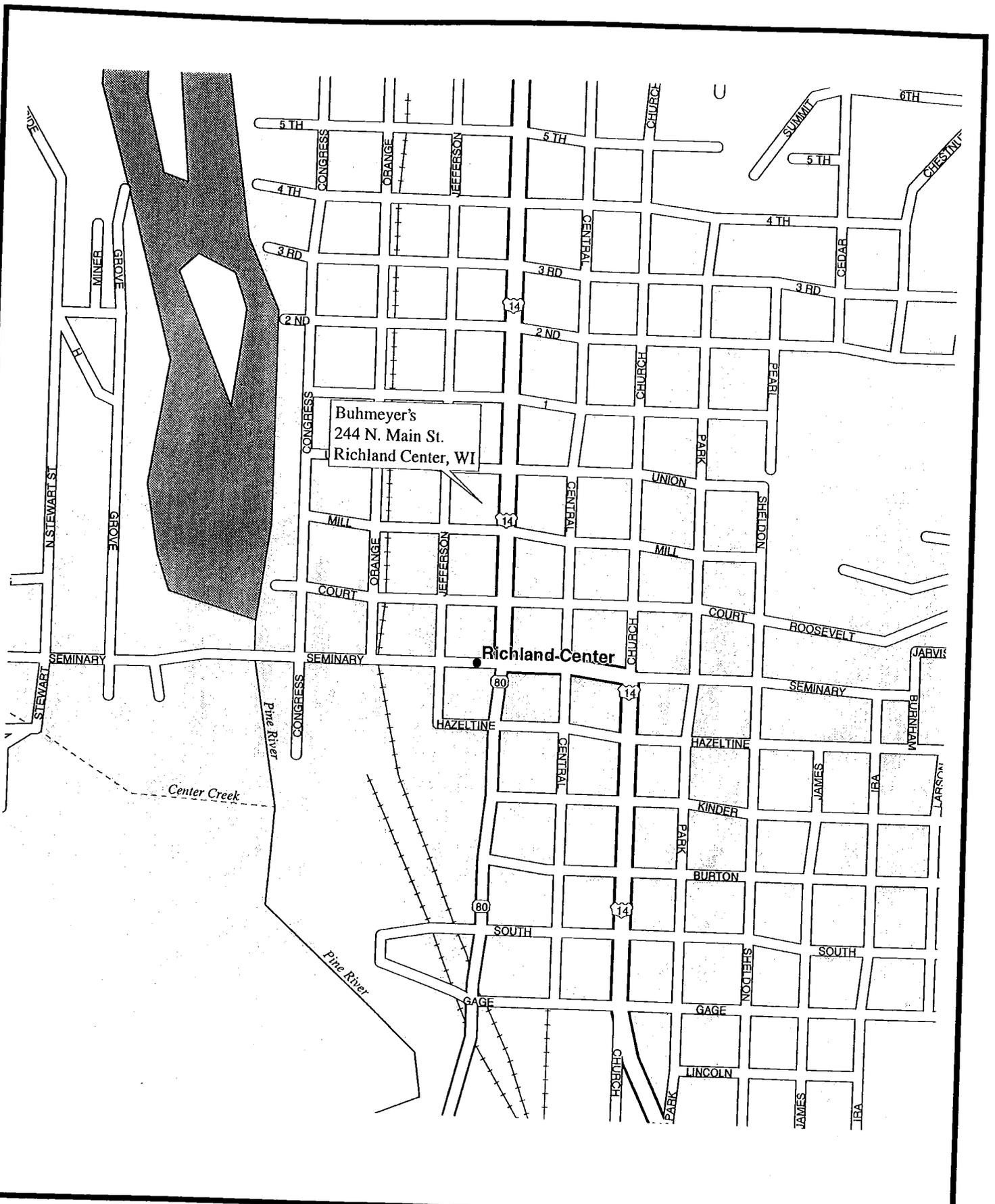
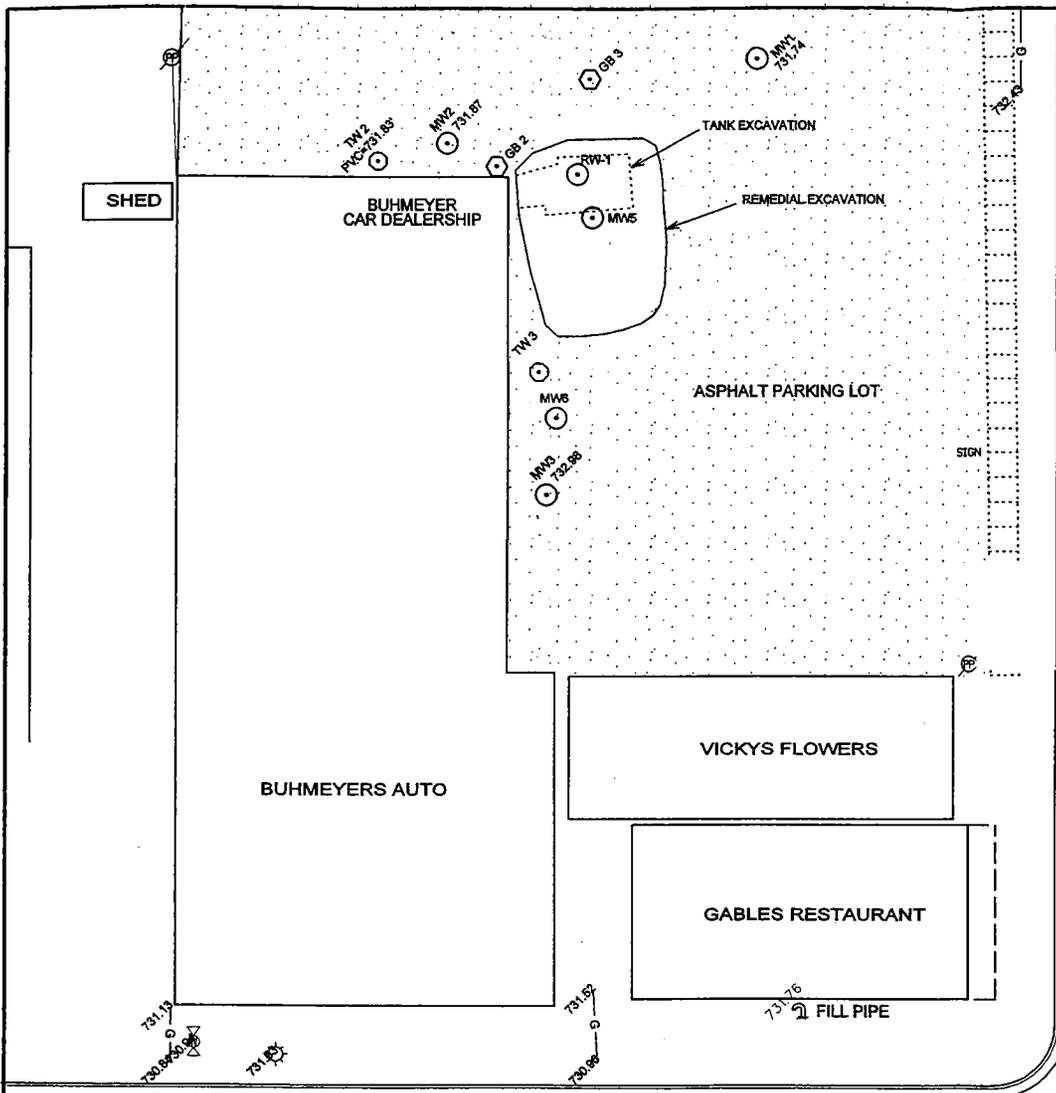


FIGURE 2 - DELORME STREET MAP, 1" = 0.12 MILES

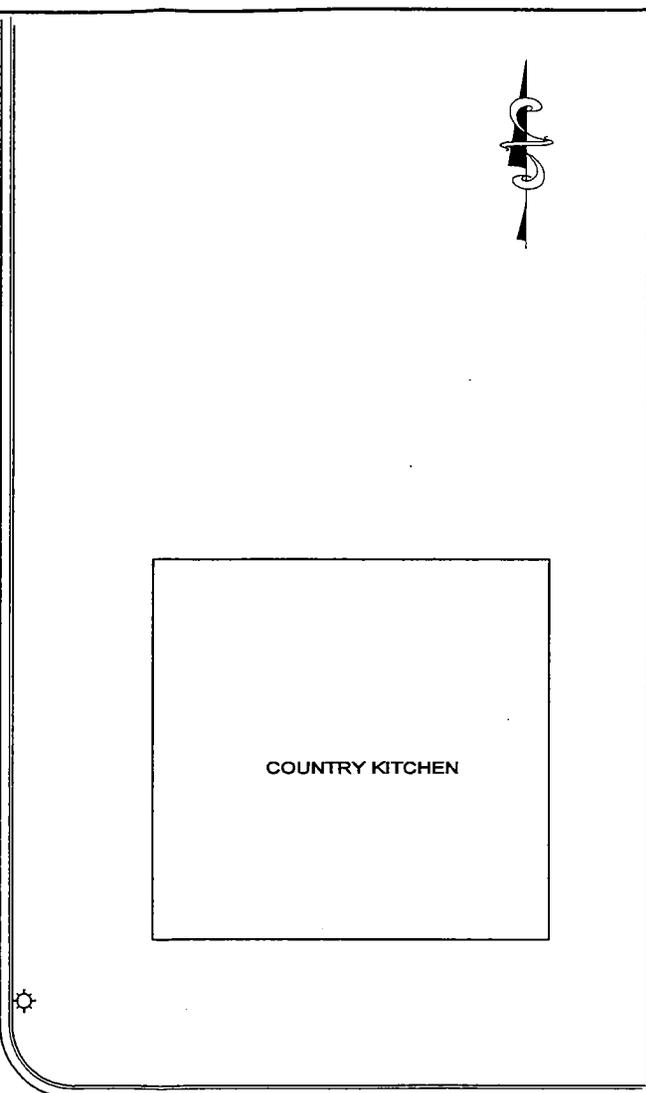
JOB NAME: Bumeyer
JOB NUMBER: 2724-97
ADDRESS: 244 W. Mill St.
 Richland Center, Wisconsin

R AMAKER
& ASSOCIATES, INC.
CIVIL & ENVIRONMENTAL ENGINEERS

806 Water Street, Sauk City, WI 53583
 Tel: 608-643-4100 Fax: 608-643-7999



MAIN STREET



MILL STREET

 RAMAKER & ASSOCIATES, INC. Consulting Engineers <small>101 Water Street South City, Missouri 63103 Phone: 616-445-4500 Fax: 616-445-7379 Web: http://www.ramaker.com</small>	SITE MAP		<small>REVISIONS</small>		
	<small>FILE PATH</small>	<small>JOB NO.</small>	<small>NO.</small>	<small>DATE</small>	<small>REMARKS</small>
	REMDSOURCE.DGN	2124			
	<small>DRAWN BY</small>	<small>DATE</small>	<small>SHEET</small>	<small>FILE NAME</small>	
DCL	05/21/98	2 of 5	2124-REMDSOURCE.DGN		
<small>CHECKED BY</small>	<small>SCALE</small>	<small>F = 20'-0"</small>			
RB					

**BUHMEYER
CAR DEALERSHIP**

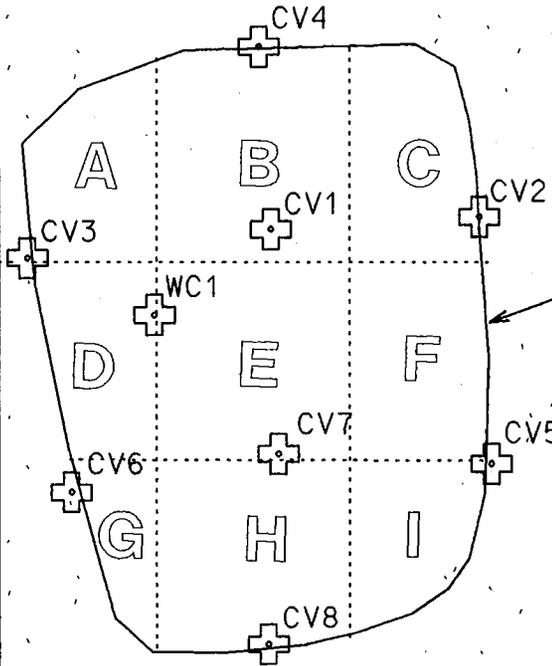
MW1

GB 3

MW2

TW2

GB 2



REMEDIAL EXCAVATION

ASPHALT PARKING LOT



GRAB SAMPLE
LOCATION



REFERENCE LOCATION
FOR FIELD
SCREEN SAMPLES

R
RAMAKER
& ASSOCIATES, INC.
Consulting Engineers
806 Water Street
Souk City, Wisconsin 53583
Voice: 608-643-8000
Fax: 608-643-1999
Web: <http://www.ramaker.com>

REMEDIAL SAMPLE LOCATION PLAN

BUHMEYER PROPERTY
224 NORTH MAIN STREET
RICHLAND CENTER, WI

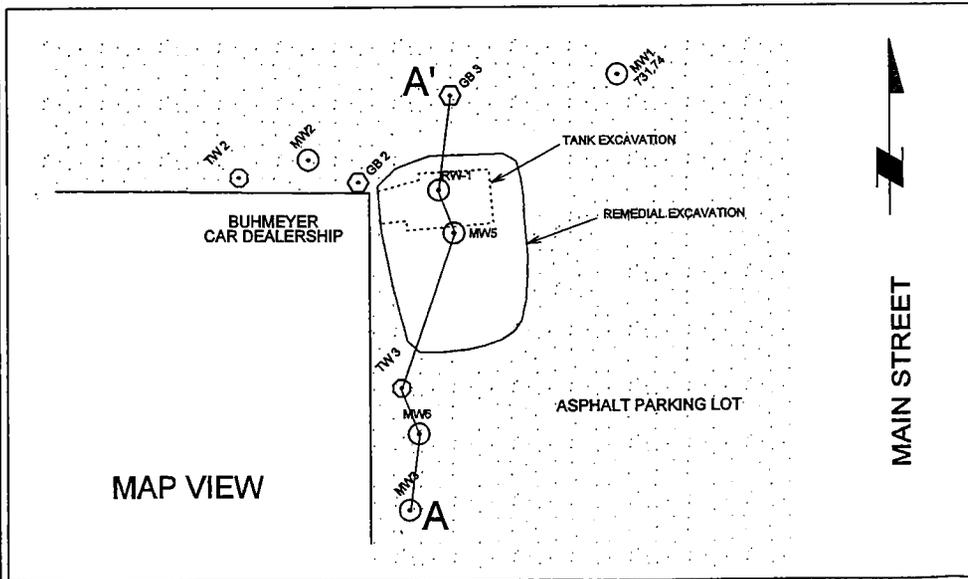
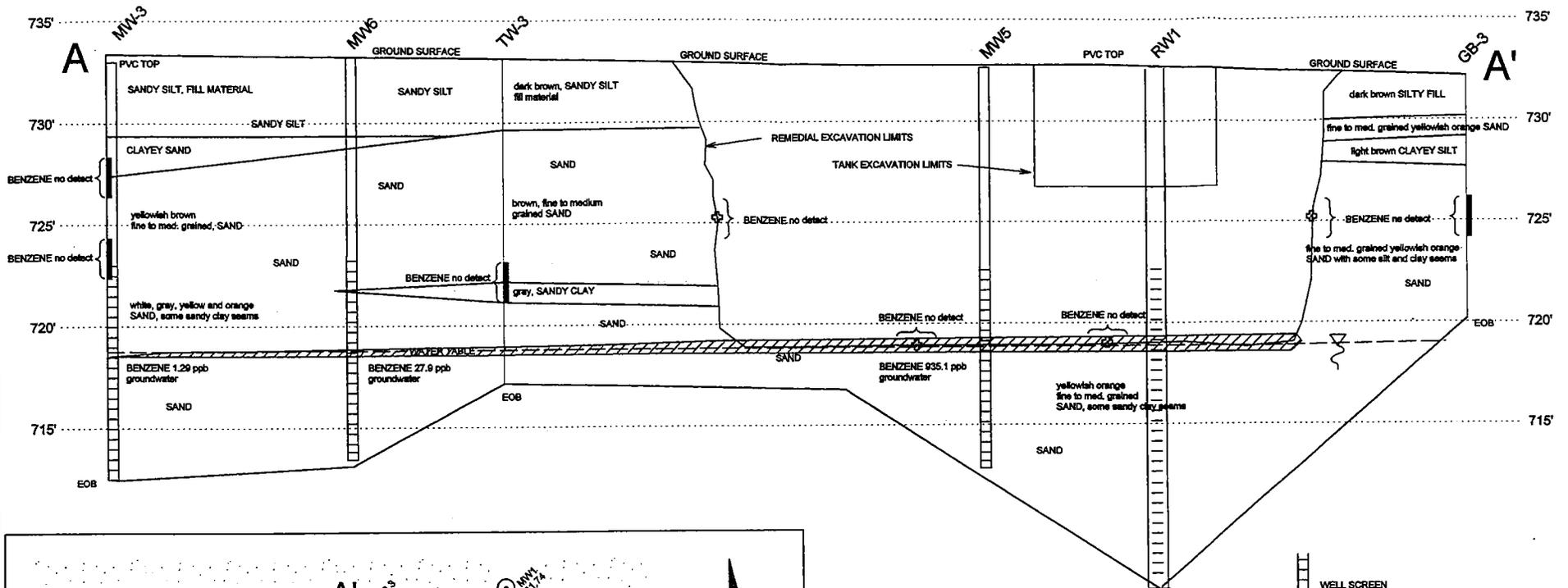
FILE PATH	2724/DGN	JOB NO.	2724
DRAFTER	DCL	DATE	05/28/98
CHECKED	DCL	SCALE	1" = 10'-0"

REVISIONS		
NO.	DATE	REMARKS

SHEET	FILE NAME
3 of 5	2724RETRIEVED.DGN

ELEVATION FT. (MSL)

ELEVATION FT. (MSL)

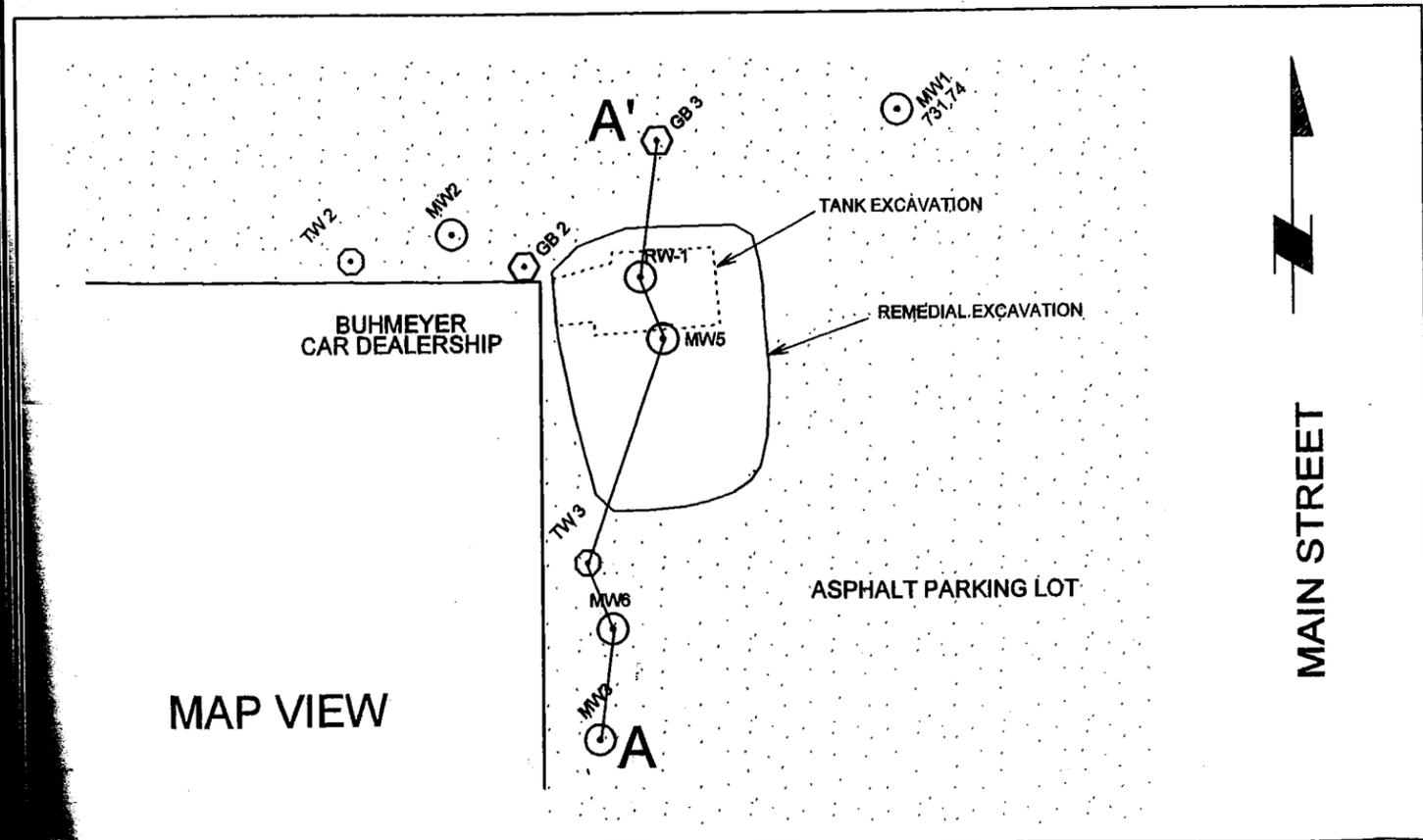
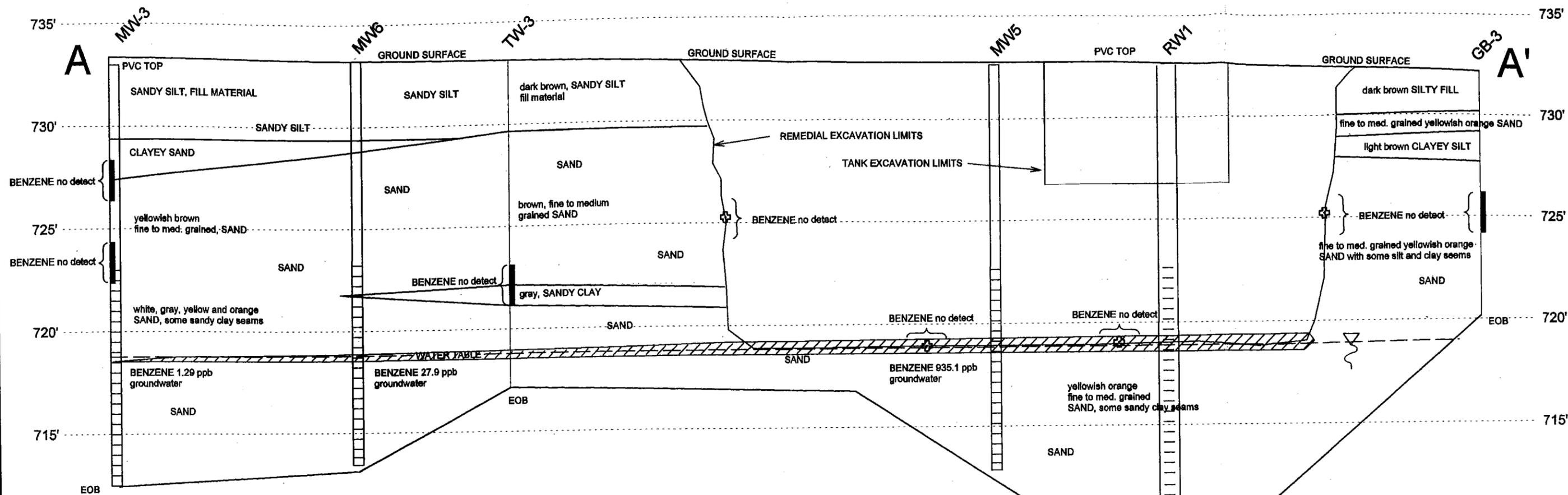


- WELL SCREEN
- SPLIT SPOON LABORATORY SOIL SAMPLE LOCATION
- GRAB SAMPLE LOCATION
- EOB END OF BORING
- GROUNDWATER IMPACTS

 RAMAKER & ASSOCIATES, INC. <i>Consulting Engineers</i> <small>806 Water Street South City, Wisconsin 53583 Voice 608-643-400 Fax 608-643-1999 Web http://www.ramaker.com</small>	A - A' CROSS SECTION		REVISIONS		
	BUHMEYER'S, INC. 224 NORTH MAIN RICHLAND CENTER, WI 53581		NO.	DATE	REMARKS
FILE PATH 2724-361272-01SECTREMO.DGN	JOB NO. 2724-01SECTREMO.DGN	DRAFTER DCL	DATE 6/1/98	SHEET 4	FILE NAME 2724-36
CHECKED T.J.R.	SCALE	4 of 5			

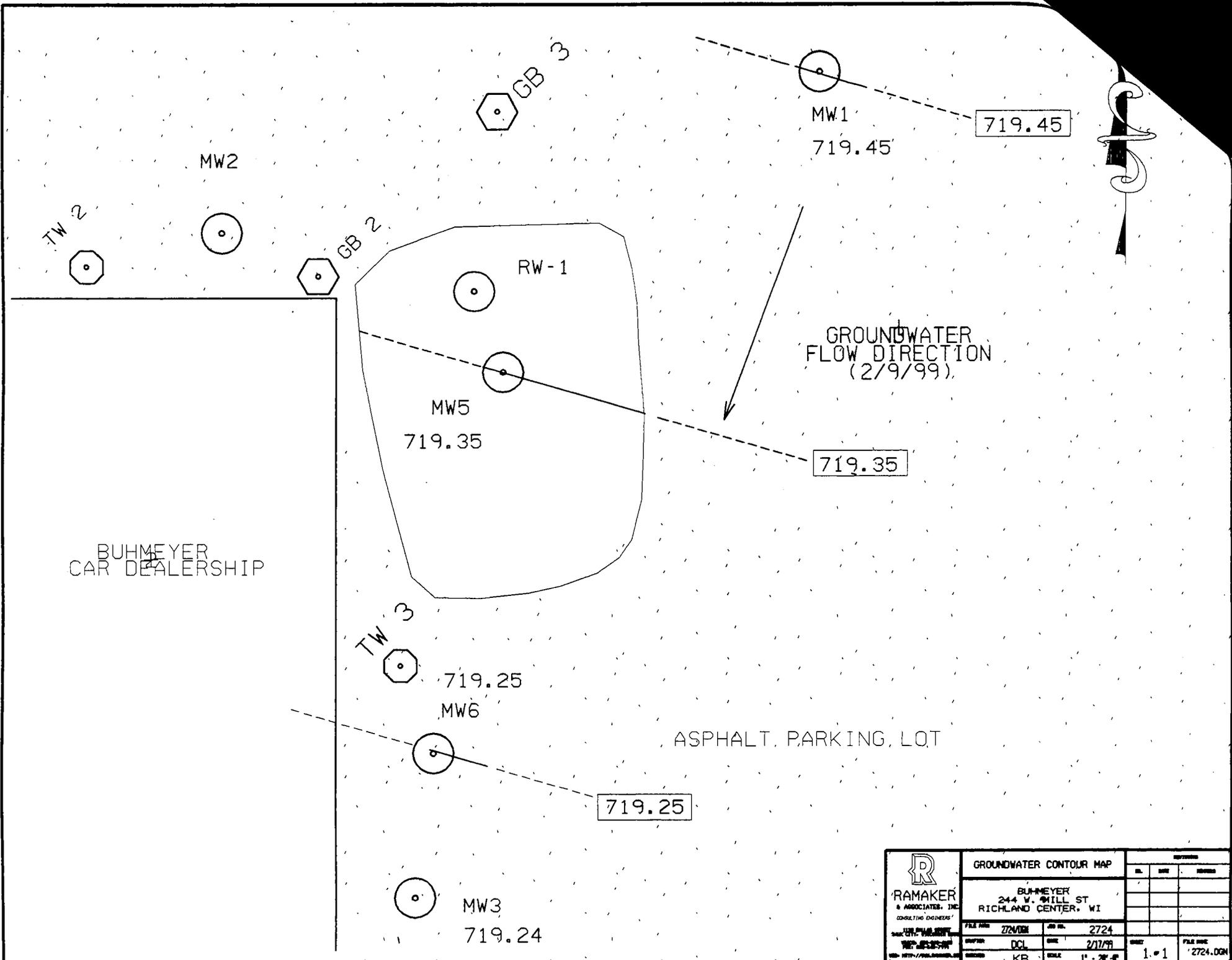
ELEVATION FT. (MSL)

ELEVATION FT. (MSL)

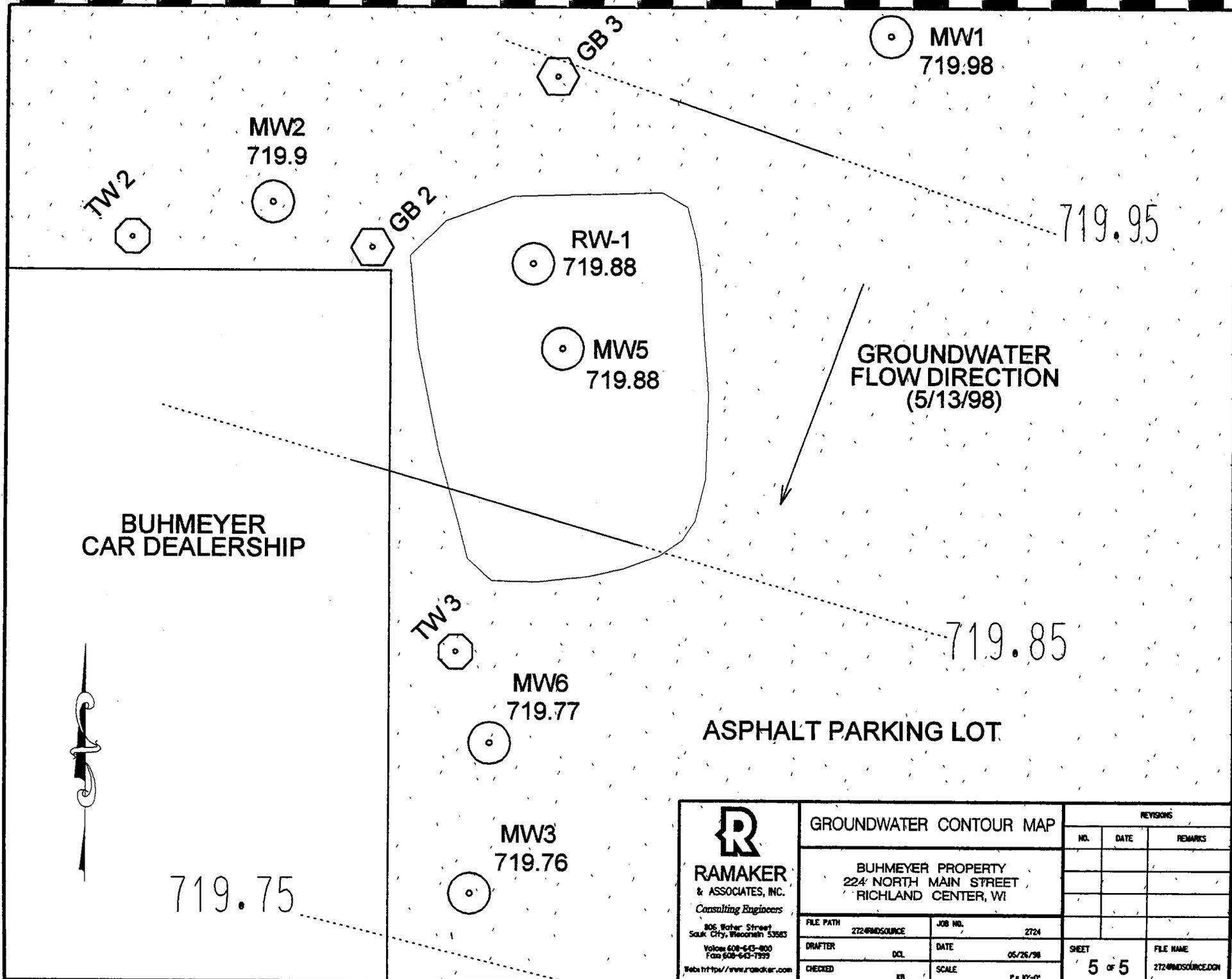


- WELL SCREEN
- SPLIT SPOON LABORATORY SOIL SAMPLE LOCATION
- GRAB SAMPLE LOCATION
- EOB END OF BORING
- GROUNDWATER IMPACTS

 RAMAKER & ASSOCIATES, INC. Consulting Engineers 806 Water Street Sauk City, Wisconsin 53583 Voice: 608-643-4100 Fax: 608-643-7999 Web: http://www.ramaker.com	A - A' CROSS SECTION		REVISIONS		
			NO.	DATE	REMARKS
	BUHMEYER'S, INC. 224 NORTH MAIN RICHLAND CENTER, WI 53581				
	FILE PATH 2724-96\2724XSECTREMD.DGN	JOB NO. 2724XSECTREMD.DGN			
DRAFTER DCL	DATE 6/1/98	SHEET 4	OF 5	FILE NAME 2724-96	
CHECKED TJR	SCALE				



 RAMAKER & ASSOCIATES, INC. <small>CONSULTING ENGINEERS</small>	GROUNDWATER CONTOUR MAP		<small>REVISIONS</small>	
	BUHMEYER 244 W. MILL ST RICHLAND CENTER, WI		<small>NO.</small>	<small>DATE</small>
	<small>FILE NO.</small> 2724	<small>JOB NO.</small> 2724	<small>NO.</small>	<small>DATE</small>
	<small>DESIGNER</small> DCL	<small>DATE</small> 2/17/99	<small>SCALE</small> 1" = 20'-0"	<small>FILE NAME</small> '2724.DGN'



TW2

MW2
719.9

GB2

GB3

MW1
719.98

RW-1
719.88

MW5
719.88

719.95

GROUNDWATER
FLOW DIRECTION
(5/13/98)

BUHMEYER
CAR DEALERSHIP

TW3

MW6
719.77

719.85

ASPHALT PARKING LOT



719.75

MW3
719.76

 RAMAKER & ASSOCIATES, INC. <i>Consulting Engineers</i> 806 Weber Street Sauk City, Wisconsin 53583 Voice 608-643-8000 Fax 608-643-7999 Web: http://www.ramaker.com	GROUNDWATER CONTOUR MAP		REVISIONS		
	BUHMEYER PROPERTY 224 NORTH MAIN STREET RICHLAND CENTER, WI		NO.	DATE	REMARKS
	FILE PATH 272#MDSOURCE	JOB NO. 2724			
	DRAFTER DCL	DATE 05/26/98	SHEET 5 of 5	FILE NAME 272#MDSOURCE.DGN	
CHECKED KB	SCALE P = 10'-0"				



RAMAKER & ASSOCIATES, INC.
Consulting Engineers

Groundwater Analytical Results
Buhmeyer
Project #: 2724

Sample No.	Sampling Date	Lead	BTEX					MTBE	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	1,2-Dichloroethane	Isopropylbenzene	Naphthalene	n-Propylbenzene	n-Butylbenzene	sec-Butylbenzene	tert-Butylbenzene	p-Isopropyltoluene	Isopropyl Ether
			Benzene	Toluene	Ethylbenzene	m & p Xylene	o-Xylene												
		ES 16	<1	343	700	620 Total		60	*	*	5	*	40	*	*	*	*	*	*
		PAL 1.5	<0.5	68.6	140	124 Total		12	*	*	0.5	*	8	*	*	*	*	*	*
			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
TW1	06/09/97	<1	<1	66	20	108	70.3	18.3	99.7	33.3	<1	2.34	26.7	5.46	36.1	2.07	<1	1.17	1.89
TW1	08/18/97	<1	<1	41.4	5.99	28.2	33.5	19.1	28.7	9.78	<5	<5	7.47	<5	9.86	<5	<5	<5	<5
TW2	06/09/97	<1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	**	<1	<1	<1	**
TW2	08/18/97	<1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
TW3	06/09/97	<1	<1	5.63	16.6	3.82	<1	146	2.01	6.05	12.7	4.24	8.64	3.02	**	1.83	<1	<1	**
TW3	08/18/97	<1	<0.5	<1	<1	<1	<1	118	<1	<1	3.26	<1	<1	<1	<1	<1	<1	<1	<1
MW1	08/18/97	<1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
MW1	05/13/98	**	<0.50	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
MW2	08/18/97	<1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
MW2	05/13/98	**	<0.50	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
MW3	08/18/97	<1	2.78	<1	<1	<1	<1	9.46	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
MW3	05/13/98	**	1.296	<1.00	<1.00	<1.00	<1.00	22.13	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
MW4	08/18/97	<1	70.6	224	42.5	186	189	12.6	199	80	<1	4.39	58.3	12.7	134	4.35	1.37	3.19	2.2
MW4(Dup)	08/18/97	<1	55.2	219	38.4	182	178	9.66	196	76	<1	4.12	51.6	11.5	131	4.24	1.45	3.02	2.05
MW5	05/13/98	**	936	2,095.3	259.2142	2,411.2	2,018.6	417.2	1053.2	319.2	<20.0	<20.0	149.0	35.6	<20.0	<20.0	<20.0	<20.0	<20.0
MW6	05/13/98	**	27.5	<1.00	<1.00	<1.00	2.697	44.48	<1.00	<1.00	1.71	<1.00	1.6	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
Trip Blank	06/09/97	<1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	**	<1	<1	<1	<1	**
Trip Blank	08/18/97	<1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	1.66	<1	<1	<1	<1	<1	<1
Trip Blank	05/13/98	**	<0.50	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00

NOTE: Original lab reports can be found in the appendices of this report. Quality control data for samples is available upon request. Only detected constituents are shown.

LEGEND:	
*	No PAL or ES has been established for this compound, but notification to the WDNR is required per LUST Release News Vol. 2, No. 1, January 1992.
**	A measurement for this parameter was not made.
<1.0	Any contamination is below the limit of detection.
1.0 Q	Measurement is between limit of detection and limit of quantitation.
1.0	Detection below PAL
1.0	Detection above Preventive Action Limit (PAL)
1.0	Detection above Enforcement Standard (ES)



RAMAKER
 & ASSOCIATES, INC.
 Consulting Engineers

Groundwater Analytical Results
 Quarterly Monitoring
 Buhmeyer
 Project #: 2724

		VOC									
		PVOC									Naphthalene
Sample No.	Sampling Date	BTEX					MTBE	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene		Naphthalene
		Benzene	Toluene	Ethylbenzene	m & p Xylene	o-Xylene					
	ES	5	343	700	620 Total		60	*	*	40	
	PAL	0.5	68.6	140	124 Total		12	*	*	8	
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	
MW3	08/18/97	2.78	<1	<1	<1	<1	9.46	<1	<1	<1	
MW3	05/13/98	1.296	<1.00	<1.00	<1.00	<1.00	22.13	<1.00	<1.00	<1.00	
MW3	08/27/98	<0.5	<1.00	<1.00	<1.00	<1.00	4.8	<1.00	<1.00	<1.00	
MW3	12/11/98	<0.5	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	
MW3	02/09/99	<0.5	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	
MW5	05/13/98	935.1	2,895.3	259.2142	2,411.2	2,018.6	417.2	1053.2	319.2	149.0	
MW5	08/27/98	237.0	104.0	137	1,020.0	706.0	<50	718.0	254.0	18.3	
MW5	12/11/98	103.0	59.6	148	224.0	98.2	<40	308.0	99.1	72.1	
MW5	02/09/99	31.0	10.5	13.1	60.2	47.2	<5.0	147	61.2	19.3	
MW6	05/13/98	27.9	<1.00	<1.00	<1.00	2.697	44.48	<1.00	<1.00	1.6	
MW6	08/27/98	0.7	<1.00	<1.00	<1.00	<1.00	19.3	<1.00	<1.00	<1.00	
MW6	12/11/98	<0.5	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	
MW6	02/09/99	<0.5	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	
Trip Blank	06/09/97	<.05	<1	<1	<1	<1	<1	<1	<1	<1	
Trip Blank	08/18/97	<0.5	<1	<1	<1	<1	<1	<1	<1	1.66	
Trip Blank	05/13/98	<0.50	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	
Trip Blank	08/27/98	<0.50	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	
MW3	12/11/98	<0.5	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	

NOTE: Original lab reports can be found in the appendices of this report. Quality control data for samples is available upon request.
 Only detected constituents are shown.
 First round of quarterly monitoring data (post remediation) begins 5/13/98

LEGEND:	
*	No PAL or ES has been established for this compound, but notification to the WDNR is required per LUST Release News Vol. 2, No. 1, January 1992.
**	A measurement for this parameter was not made.
<1.0	Any contamination is below the limit of detection.
1.0 Q	Measurement is between limit of detection and limit of quantitation.
1.0	Detection below PAL
1.0	Detection above Preventive Action Limit (PAL)
1.0	Detection above Enforcement Standard (ES)



RAMAKER
& ASSOCIATES, INC.
Consulting Engineers

Groundwater Natural Attenuation Parameters

Buhmeyer Property

Project #: 2724

Sample No.	Sampling Date	Oxidation Reduction Potential	Dissolved Oxygen	Nitrate	Iron (II)	Sulfate	Temperature	pH	Total PVOC plus Naphthalene
		(Probe)	(Probe)	(Lab)	(Test Kit)	(Lab)	(Probe)	(Probe)	(Lab)
		mV	mg/L	ppm	mg/L	ppm	°C		µg/L
*Relative Indication of Natural Attenuation		Decreased value near source	Decreased value near source	Decreased value near source	Increased value near source	Decreased value near source			
MW1	5/13/98	+045	5.30	8.21	ND	48.0	10.6	7.06	0.0
MW1	8/27/98	**	3.27	15.10	ND	52.8	17.4	7.08	0.0
MW1	12/11/98	+200	5.73	5.64	ND	63.0	14.9	7.02	0.0
MW1	2/9/99	+215	5.87	6.19	ND	54.80	**	6.93	0.0
MW2	5/13/98	+085	6.62	2.95	ND	15.30	10.50	7.10	0.0
MW3	5/13/98	+040	1.82	2.92	ND	29.60	12.00	6.97	23.4
MW3	8/27/98	**	2.22	5.77	ND	37.50	16.00	**	4.8
MW3	12/11/98	+160	4.06	3.60	ND	36.30	14.80	7.16	0.0
MW3	2/9/99	+190	4.25	4.06	0.00	43.20	**	7.06	0.0
MW5	5/13/98	+025	0.29	2.82	0.40	56.40	11.30	7.11	10458.0
MW5	8/27/98	**	0.48	6.33	7.00	105.00	16.00	6.94	3194.0
MW5	12/11/98	-055	1.30	2.30	5.80	95.40	14.60	7.18	1112.0
MW5	2/9/99	+030	4.36	6.01	1.80	46.20	**	7.10	389.5
MW6	5/13/98	+105	1.78	4.29	ND	20.90	12.00	7.02	76.6
MW6	8/27/98	**	0.61	10.70	ND	58.50	15.90	7.03	20.0
MW6	12/11/98	+175	0.92	10.50	ND	98.10	14.70	7.14	0.0
MW6	2/9/99	+195	2.04	9.13	ND	93.1	**	6.97	0.0

LEGEND:

** A measurement for this parameter was not made.
<1.0 No detection
1.0 Detection Level