3R - 276

GENERAL CORRESPONDENCE

YEAR(S): 2003 - 2000

3R276

BLAGG ENGINEERING, INC.
P.O. Box 87, Bloomfield, New Mexico 87413
Phone: (505)632-1199 Fax: (505)632-3903

December 19, 2003

RECEIVED

DEC 26 2003

Oil Conservation Division
Environmental Bureau

Mr. William Olson
New Mexico Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87504

Re: Annual Monitoring Report
Manana Gas, Inc.
Nancy Hartman No. 1E
NE/4 NE/4 (A) Sec 22 - T29N - R11W
San Juan County, New Mexico

Dear Mr. Olson:

Enclosed, please find an annual groundwater monitoring report for the captioned well location. This report has been prepared by Blagg Engineering, Inc. on behalf of Manana Gas, Inc. Please direct any questions you may have concerning this site to myself at (505)632-1199 or to Mr. Ed Hartman of Manana at (505)856-1084.

Respectfully submitted,
Blagg Engineering, Inc.

Jeffrey C. Blagg

Jeffrey C. Blagg, President
NMPE 11607

cc: Mr. Denny Foust, NMOCD - Aztec
Dr. Harry Hayes, Bloomfield School District
Mr. Ed Hartman, Manana Gas Inc.

File: manana3.rpt

BLAGG ENGINEERING, INC.
P.O. Box 87, Bloomfield, New Mexico 87413
Phone: (505)632-1199 Fax: (505)632-3903

October 10, 2001

Mr. William Olson
New Mexico Oil Conservation Division
1220 St. Francis Drive
Santa Fe, New Mexico 87504

Re: Annual Monitoring Report
Manana Gas, Inc.
Nancy Hartman No. 1E
NE/4 NE/4 (A) Sec 22 - T29N - R11W
San Juan County, New Mexico

Dear Mr. Olson:

Enclosed, please find an annual groundwater monitoring report for the captioned well location. This report has been prepared by Blagg Engineering, Inc. on behalf of Manana Gas, Inc. Please direct any questions you may have concerning this site to myself at (505)632-1199.

Respectfully submitted,
Blagg Engineering, Inc.

Jeffrey C. Blagg, President
NMPE 11607

cc: Mr. Denny Foust, NMOCD - Aztec
Dr. Harry Hayes, Bloomfield School District
Mr. Ed Hartman, Manana Gas Inc.

File: manana2.rpt

276

BLAGG ENGINEERING, INC.

P.O. Box 87, Bloomfield, NM 87413
Phone:(505)632-1199 Fax:(505)632-3903

FACSIMILE COVER PAGE

Date: 10/02/01

To: William Olson

Company: NMOCD

Fax No.: (505)476- 3462

From: Jeff Blagg

No. Pages, Including Cover: 5

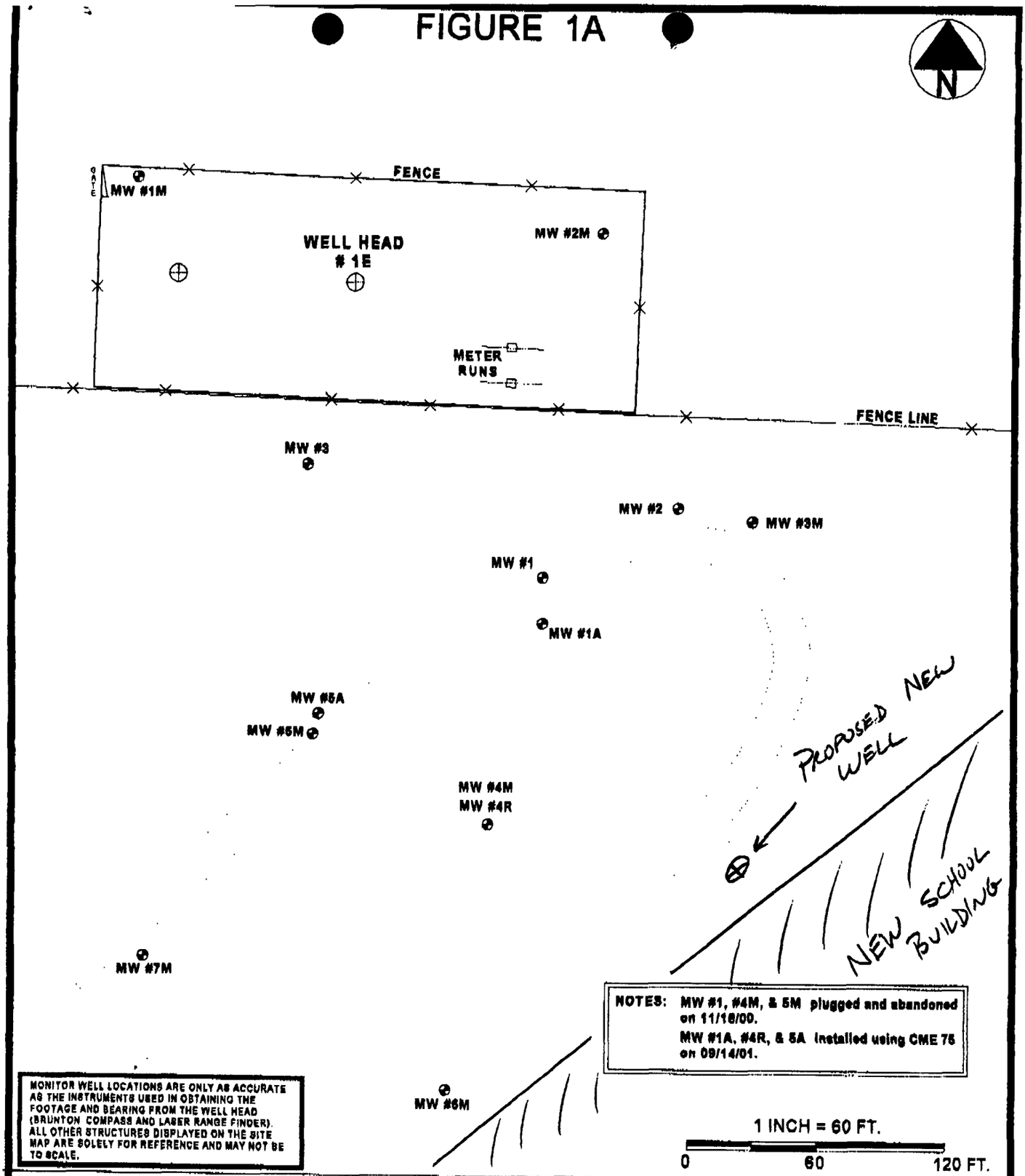
Message: Following is preliminary environmental monitoring data for the Manana Nancy Hartman #1 (A) Sec. 22 - T29N - R11W, San Juan County, NM. As previously discussed, we would appreciate your comments on our proposed location for an additional groundwater monitoring well to be located southeast of the source area. Please let us know if our proposed location meets NMOCD needs.

Thanks,
Jeff

Verbal approval to Nelson Velez on 10/3/01

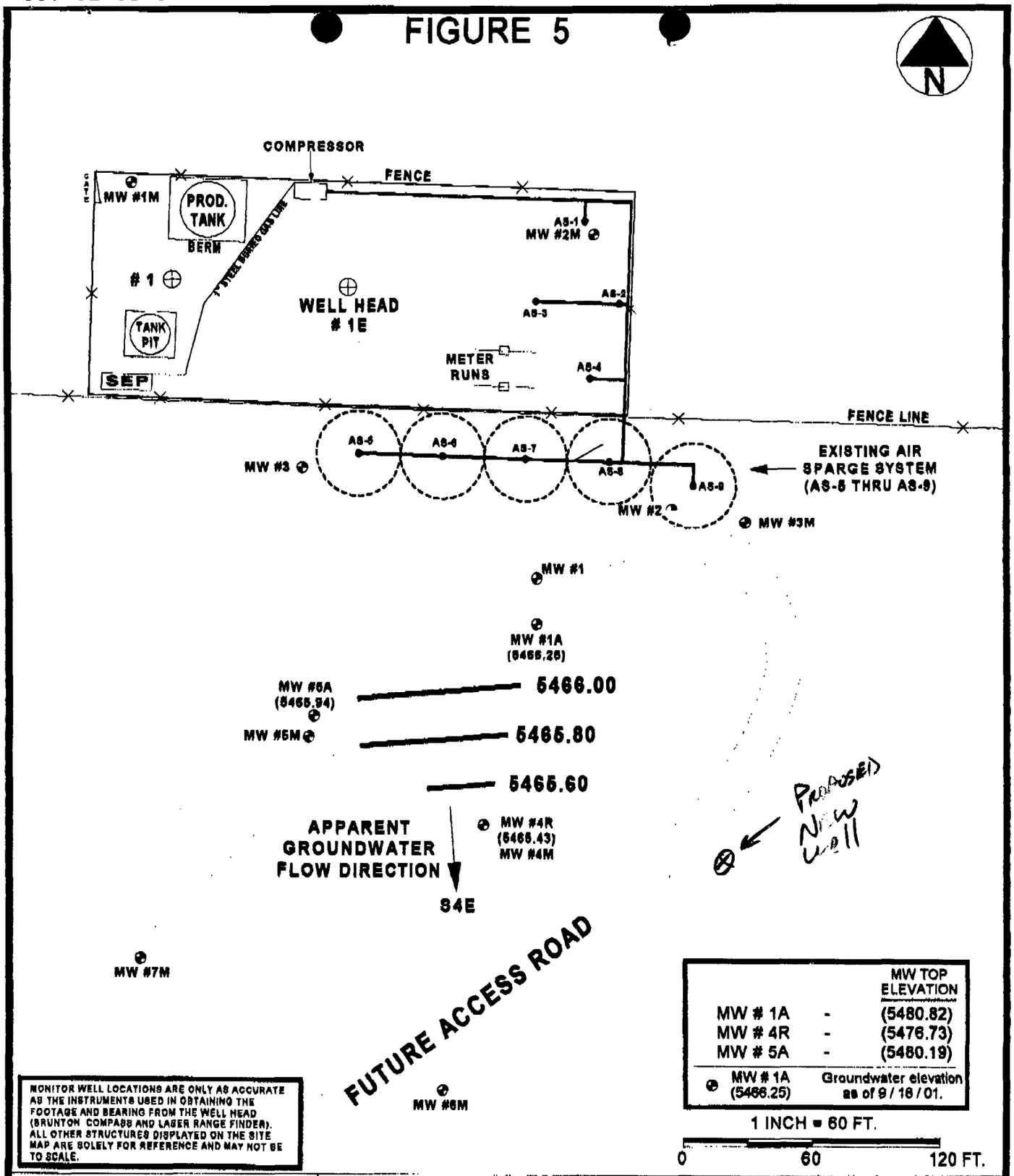
WO

FIGURE 1A



MANANA GAS, INC. NANCY HARTMAN # 1 & # 1E NE/4 NE/4 SEC. 22, T29N, R11W SAN JUAN COUNTY, NEW MEXICO	B LAGG ENGINEERING, I NC. CONSULTING PETROLEUM / RECLAMATION SERVICES P.O. BOX 87 BLOOMFIELD, NEW MEXICO 87413 PHONE: (505) 632-1199	PROJECT: MW INSTALL. DRAWN BY: NJV FILENAME: 09-14-SM.SKF REVISED: 09/16/01	SITE MAP 09/01

FIGURE 5



		MW TOP ELEVATION
MW # 1A	-	(5480.82)
MW # 4R	-	(5476.73)
MW # 5A	-	(5480.19)
MW # 1A (5466.25)		Groundwater elevation as of 9 / 18 / 01.

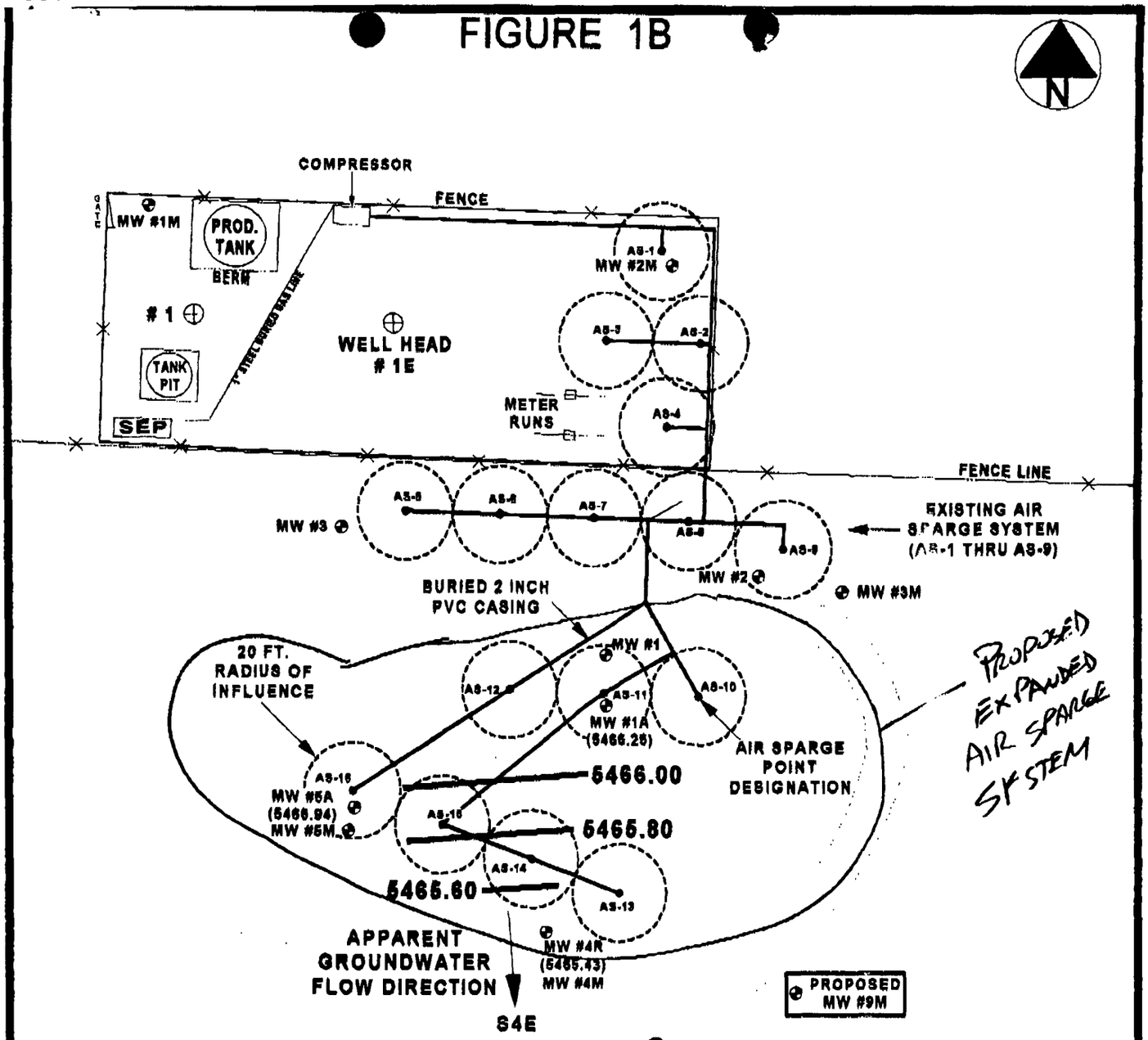
1 INCH = 60 FT.

0 60 120 FT.

MONITOR WELL LOCATIONS ARE ONLY AS ACCURATE AS THE INSTRUMENTS USED IN OBTAINING THE FOOTAGE AND BEARING FROM THE WELL HEAD (BRUNTON COMPASS AND LASER RANGE FINDER). ALL OTHER STRUCTURES DISPLAYED ON THE SITE MAP ARE SOLELY FOR REFERENCE AND MAY NOT BE TO SCALE.

MANANA GAS, INC. NANCY HARTMAN # 1 & # 1E NE/4 NE/4 SEC. 22, T29N, R11W SAN JUAN COUNTY, NEW MEXICO	BLAGG ENGINEERING, INC. CONSULTING PETROLEUM / RECLAMATION SERVICES P.O. BOX 87 BLOOMFIELD, NEW MEXICO 87413 PHONE: (505) 632-1199	PROJECT: GW REMEDIATION DRAWN BY: NJV FILENAME: 09-18-GW.SKF REVISED: 09/28/01	GROUNDWATER CONTOUR MAP 09/01

FIGURE 1B



NOTES: MW #1, #4M, & 6M plugged and abandoned on 11/16/00.
MW #1A, #4R, & 5A Installed on 09/14/01.

		MW TOP ELEVATION
MW # 1A	-	(5480.82)
MW # 4R	-	(5476.73)
MW # 5A	-	(5480.19)
MW # 1A (5466.25)		Groundwater elevation as of 9 / 18 / 01.

MONITOR WELL LOCATIONS ARE ONLY AS ACCURATE AS THE INSTRUMENTS USED IN OBTAINING THE FOOTAGE AND BEARING FROM THE WELL HEAD (BRUNTON COMPASS AND LASER RANGE FINDER). ALL OTHER STRUCTURES DISPLAYED ON THE SITE MAP ARE SOLELY FOR REFERENCE AND MAY NOT BE TO SCALE.

MANANA GAS, INC. NANCY HARTMAN # 1 & # 1E NE/4 NE/4 SEC. 22, T29N, R11W SAN JUAN COUNTY, NEW MEXICO	BLAGG ENGINEERING, INC. CONSULTING PETROLEUM / RECLAMATION SERVICES P.O. BOX 87 BLOOMFIELD, NEW MEXICO 87413 PHONE: (505) 632-1199	PROJECT: GW REMEDIATION DRAWN BY: NJV FILENAME: 09-28-PRS.SKF REVISED: 09/28/01	GROUNDWATER CONTOURS & PROPOSED REMEDIATION SYSTEM ADDITION 09/01

MANANA GAS, INC. GROUNDWATER MONITOR WELL LAB RESULTS

SUBMITTED BY BLAGG ENGINEERING, INC.

NANCY HARTMAN #1E
UNIT A, SEC. 22, T29N, R11W

REVISED DATE: SEPTEMBER 28, 2001

FILENAME: (NH-3QR01.WK4) NJV

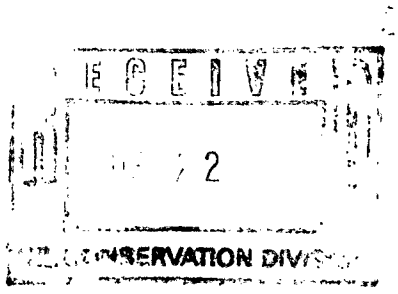
SAMPLE DATE	MONITOR WELL #	D.T.W. (ft)	T.D. (ft)	TDS mg/L	COND. (umhos/cm)	pH	PRODUCT (ft)	BTEX EPA METHOD 8260 or 8021 (ppb) Benzene	Toluene	Ethyl Benzene	Total Xylene
06-Nov-00	MW #1	14.79	22.36		1,778	6.83					
18-Sep-01	MW #1A	14.57	25.00		900	7.17					
11-Dec-00	MW #1M	16.00	24.00		1,200	7.37		ND	ND	ND	ND
06-Nov-00	MW #2	14.84	22.71		1,200	7.21			ND	ND	ND
19-Feb-01		16.75			1,200	7.21			ND	ND	0.56
21-May-01		17.10			600	8.10		ND	ND	ND	ND
21-Aug-01		15.26			500	8.44		ND	ND	ND	ND
11-Dec-00	MW #2M	16.49	23.50		1,300	7.34					
19-Feb-01		17.91			1,300	7.24					
21-May-01		18.21			1,000	8.04		ND	96	1[illegible]	280
21-Aug-01		16.13			900	8.10		ND	64	1[illegible]	330
19-Feb-01	MW #3	17.09	23.14		1,400	7.66		ND	ND	ND	ND
21-May-01		18.21			1,000	7.48		ND	ND	ND	ND
06-Dec-00	MW #3M	14.24	23.50		901	7.10		ND	ND	ND	ND
19-Feb-01		16.13			1,000	7.41		ND	ND	ND	ND
21-May-01		16.39			700	7.87		ND	ND	ND	ND
06-Nov-00	MW #4M	13.67	25.00		1,512	6.92			ND	ND	ND
18-Sep-01	MW #4R	11.30	25.00		900	7.55		ND	ND	ND	ND
06-Nov-00	MW #5M	15.34	25.00		1,010	7.02				3[illegible]	
18-Sep-01	MW #5A	14.25	25.00		1,000	7.38				3[illegible]	
15-Nov-00	MW #6M	14.27	24.00		1,300	7.43		ND	ND	ND	ND
19-Feb-01		15.70			1,100	7.41		ND	ND	ND	ND
21-May-01		15.79			1,100	7.19		2.0	ND	ND	ND
21-Aug-01		14.37			1,300	7.27		1.5	ND	ND	ND
15-Nov-00	MW #7M	14.14	19.00		1,200	7.23		ND	ND	ND	ND
19-Feb-01		15.62			1,200	7.30		ND	ND	ND	ND
21-May-01		15.74			1,200	7.18		ND	ND	ND	ND
15-Nov-00	MW #8M	14.67	25.00		900	7.68		ND	ND	ND	ND

NOTES:
1) MW #'s 1, 4M, & 5M plugged and abandoned on November 16, 2000.
2) MW # 8M top of casing damaged by construction crew.
3) MW #'s [illegible] possibly are effected by air sparge [illegible]
4) MW # 1M - background monitor well.
5) MW # 2M - monitor well within 1 of 2 probable source areas.
6) MW # 6M - furthest down gradient monitor well from source areas.
7) MW #'s 7M & 8M - down gradient, but lateral on west perimeter of plume.
8) Air sparge system start up initiated on March 9, 2001.

BLAGG ENGINEERING, INC.
P.O. Box 87, Bloomfield, New Mexico 87413
Phone: (505)632-1199 Fax: (505)632-3903

December 20, 2000

Mr. William C. Olson - Hydrologist
State of New Mexico Oil Conservation Division
2040 South Pacheco
State Land Office Building
Santa Fe, NM 87505



RE: MANANA GAS, INC. - Nancy Hartman #1E
Unit A, Section 22, T29N, R11W, NMPM, San Juan County, New Mexico
Proposed Reclamation Plan

Dear Mr. Olson:

Blagg Engineering, Inc. (BEI), on behalf of Manana Gas, Inc., respectfully submits the attached proposed reclamation plan for the Nancy Hartman #1E well site.

The reclamation systems recommended within this document is based on the enclosed information and BEI's past experience and successes with the installation and operation of such systems.

If you have any questions, please call and contact either myself or Jeffrey C. Blagg. Thank you for your cooperation and assistance.

Sincerely,
BLAGG ENGINEERING, INC.

Nelson Velez
Staff Geologist

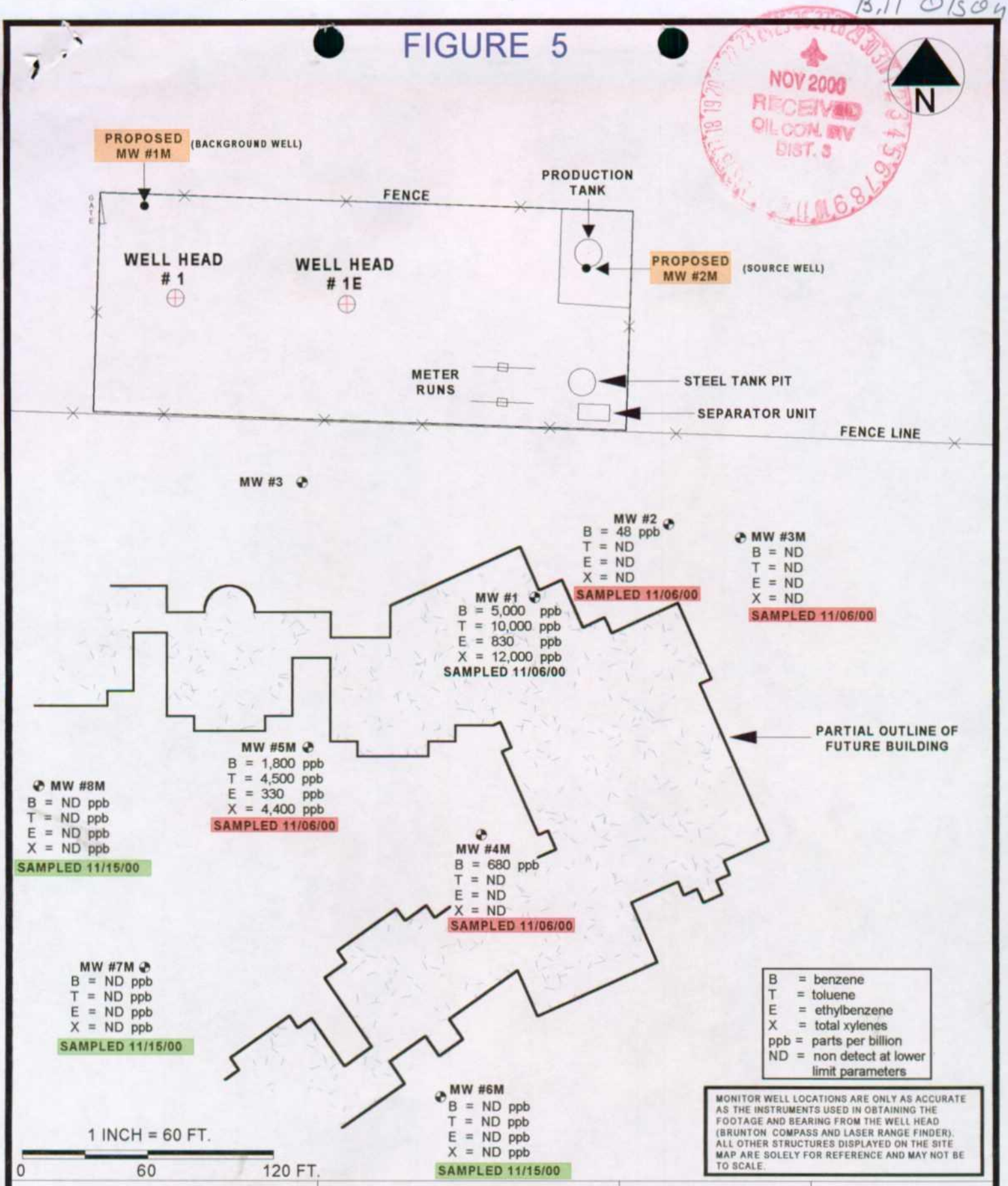
Attachment: Proposed Reclamation Plan

cc: Denny Foust, Environmental Geologist, New Mexico Oil Conservation Division, Aztec, NM
Ed Hartman, Manana Gas, Inc., Albuquerque, NM
Dr. Harry Hayes, Bloomfield School District, Bloomfield, NM
Robert Finch, Property Owner, Farmington, NM

NV/nv MAN-PRP.CVL

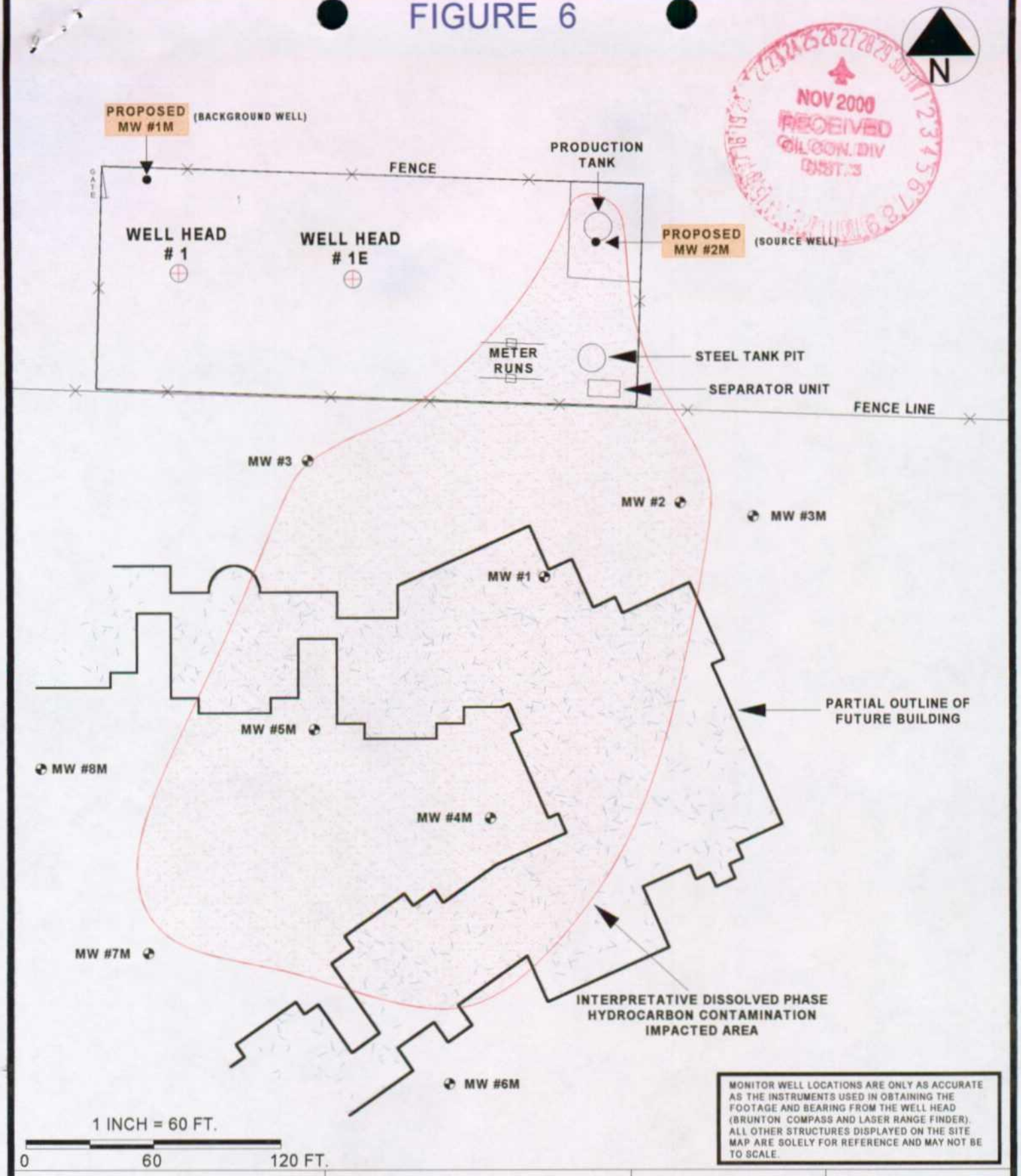
Bill Olson

FIGURE 5



MANANA GAS, INC. NANCY HARTMAN # 1 & # 1E NE/4 NE/4 SEC. 22, T29N, R11W SAN JUAN COUNTY, NEW MEXICO	BLAGG ENGINEERING, INC. CONSULTING PETROLEUM / RECLAMATION SERVICES P.O. BOX 87 BLOOMFIELD, NEW MEXICO 87413 PHONE: (505) 632-1199	PROJECT: GW INVESTIGATION DRAWN BY: NJV FILENAME: MANA-BC1.SKF REVISED: 11/21/00	BTEX CONCENTRATION SCHEMATIC 11/00

FIGURE 6



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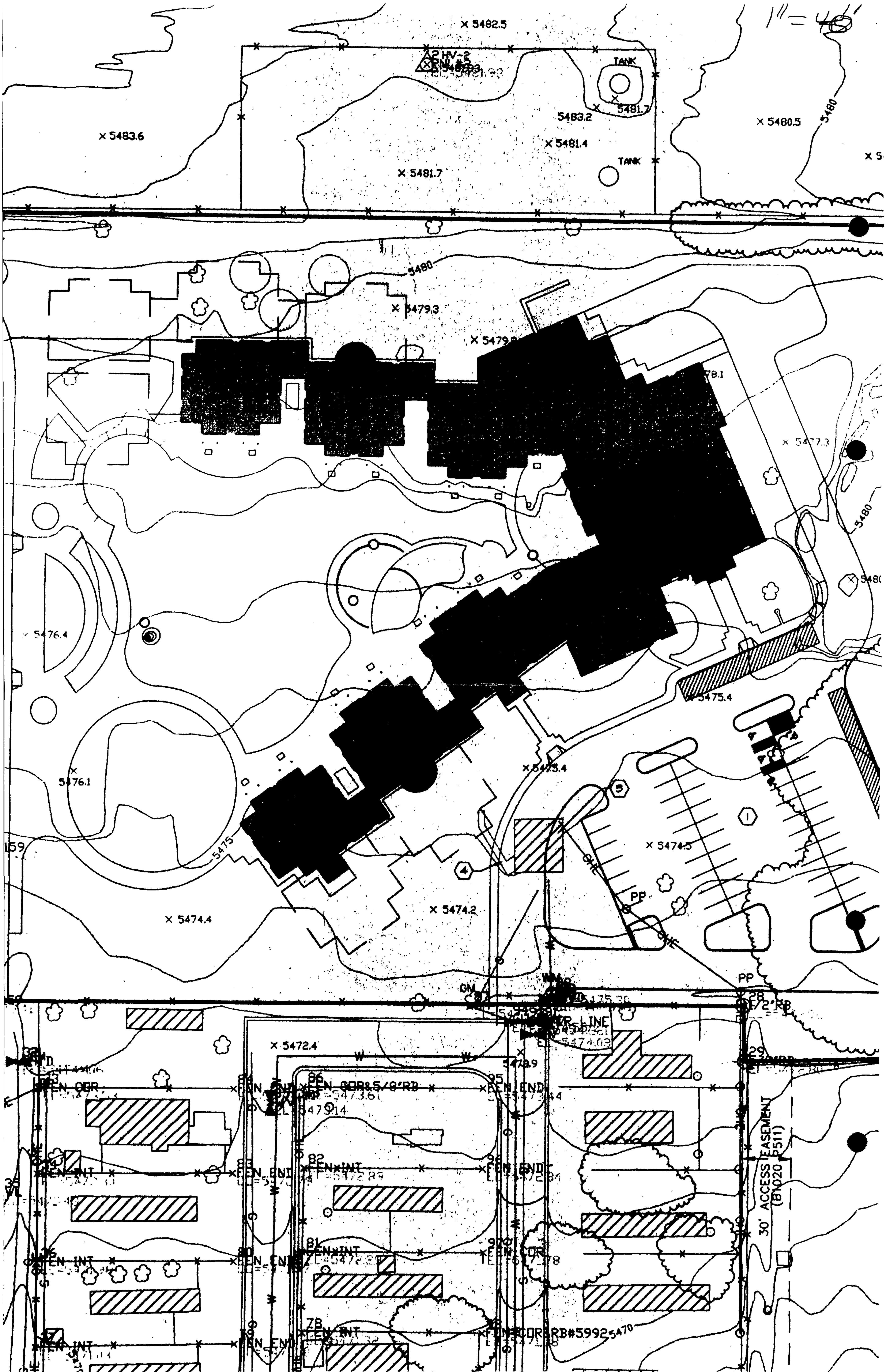
MANANA GAS, INC. NANCY HARTMAN # 1 & # 1E NE/4 NE/4 SEC. 22, T29N, R11W SAN JUAN COUNTY, NEW MEXICO	B LAGG ENGINEERING, I NC. CONSULTING PETROLEUM / RECLAMATION SERVICES P.O. BOX 87 BLOOMFIELD, NEW MEXICO 87413 PHONE: (505) 632-1199	PROJECT: GW INVESTIGATION DRAWN BY: NJV FILENAME: MANA-HP6.SKF REVISED: 11/21/00	INTERPRETATIVE HYDROCARBON IMPACTED AREA SCHEMATIC 11/00


1" = 40'
× 5482.5
HV-2
TANK
5481.7
5483.2
× 5481.4
TANK
× 5480.5
5480
× 5483.6
× 5481.7
5480
× 5479.3
78.1
× 5477.3
5480
× 5476.4
5476.1
159
5475
× 5474.4
× 5474.2
5475.4
× 5474.5
4
5
1
OHE
PP
PP
GM
WTR LINE
28
29
× 5472.4
5473.9
FEN COR
86 FEN COR&5/8"RB
95 FEN END
82 FEN×INT
83 FEN END
98 FEN END
81 FEN×INT
80 FEN END
97 FEN COR
78 FEN INT
FEN INT
FEN COR RB#5992
5470
30' ACCESS EASEMENT
(B1020 P511)

amec

Bill Olson

PHASE II ENVIRONMENTAL EVALUATION

PROPOSED EARLY CHILDHOOD CENTER
BLOOMFIELD, NEW MEXICO

Submitted To:

Bloomfield Schools
325 North Bergin Lane
Bloomfield, New Mexico 87413

Submitted By:

AMEC Earth & Environmental, Inc.
8519 Jefferson, N.E.
Albuquerque, New Mexico 87113

6 October 2000

AMEC Project No. 0-517-000110

Manana Wells
North of Fence Line

6 October 2000
AMEC Project No. 0-517-000110

Bloomfield Schools
325 North Bergin Lane
Bloomfield, New Mexico 87413

Attention: Mr. Adam Rogers

RE: PHASE II ENVIRONMENTAL EVALUATION
PROPOSED EARLY CHILDHOOD CENTER
BLOOMFIELD, NEW MEXICO

AMEC Earth & Environment, Inc. (AMEC) was contracted to perform a subsurface environmental evaluation for the Subject Property located on La Jara Street in Bloomfield, New Mexico shown on the Vicinity Map (Appendix A). Our exploratory drilling and analytical testing program for the subsurface environmental evaluation has been completed. Our scope of work consisted of drilling, field screening and sampling of subsurface soils, chemical analyses and reporting.

The objective of the assessment was to provide subsurface information concerning the reported presence of petroleum products in the soils underlying portions of the referenced property. The key elements of the scope of services for the site are as follows:

- Prepare a site specific health and safety plan;
- Evaluate near subsurface soils and groundwater as to the presence of petroleum related hydrocarbons through a limited sampling and analysis program;
- Report our findings;
- Provide recommendations regarding the requirements for additional site characterization and remediation, if necessary.

INTRODUCTION AND BACKGROUND

The Subject Property is the proposed site of a new Early Childhood Center located adjacent to an existing gas and oil field facility. Selected site photographs are presented in Appendix A. On 4 August, 2000, our field engineer noted an apparent hydrocarbon odor in a geotechnical boring drilled near the northern portion of the Site. As a result of encountering these odors, AMEC recommended that soils and groundwater beneath portions of the site be sampled and tested for the presence of hydrocarbons. Our scope of services included the following:

FIELD INVESTIGATION

Exploratory Drilling and Investigation Procedures

A health and safety meeting was held at the site. A copy of AMEC's Health & Safety Plan - Signature Page is presented in Appendix A. Prior to drilling, AMEC contacted New Mexico One Call for utility clearance.

A drill rig and AMEC Field Engineer was mobilized to the site on 21 September, 2000. Exploratory drilling consisted of the advancement of two (2) soil borings near the north perimeter of the Subject Property and one (1) soil boring located approximately 65 feet south of the property's northern perimeter. Soil Borings MW-1 and MW-2 were drilled to 21 feet below ground surface (bgs) and soil boring MW-3 was drilled to 22.5 feet bgs. Locations of the exploratory borings are shown on the Site Plan (Figure 2, Appendix A). As the soil borings were advanced, soil characteristics were examined, visually classified, and logged. Logs of the exploratory borings are presented in Appendix A.

Drilling was performed utilizing a truck-mounted CME drill rig equipped with 6-1/2 inch OD hollow-stem auger. Penetration resistance and soil samples were obtained by 2.42-inch diameter split spoon samplers at five (5) foot intervals to total depth for each soil boring. The drill rig and hollow-stem augers were steam cleaned prior to use on the site.

Drilling and sampling activities were completed in accordance with our standard Quality Assurance/Quality Control (QA/QC) procedures. These procedures have been designed to ensure that sampling is performed in a manner to minimize cross-contamination between samples and to collect representative samples that provide reliable, reproducible laboratory results.

Well Installation

A total of three (3) groundwater monitor wells (MW-1, -2 and -3) were installed within Borings MW-1, -2 and -3, respectively during this evaluation. Well MW-1 was installed in the vicinity where the apparent hydrocarbon odors were encountered during the previous geotechnical study. Wells MW-2 and -3 were installed to evaluate hydrocarbon impacts that may be attributed to nearby gas and oil field activities.

The well screens extended approximately 7 feet into the saturated sediments of the upper transmissive zone. The wells were constructed of new, 2-inch diameter Schedule 40 PVC. Each well was equipped with 10 feet of 0.010 slot screen. The well screens extended about 3 feet above the top of the saturated zone (as noted during drilling) to allow for fluctuations in water levels. A 10-20 silica sand pack was installed in the annulus between the well casing and the boring, and extended 2 to 3 feet above the top of the screen interval. A 5-foot thick bentonite seal was placed on top of the sand pack and hydrated in place prior to the installation of a bentonite-cement sanitary seal. Well completion diagrams for wells completed during this evaluation have been included as Appendix A of this report.

Well Development

The monitor wells were developed after the grout seal was set with a dedicated, disposable bailer to minimize the potential for cross contamination. Development continued until the wells were producing water substantially free of sediments.

Groundwater Sampling

Prior to bailing the wells for sampling, AMEC personnel measured water levels and collected standard indicator parameter readings, (temperature, conductivity, and pH). Water level measurements along with the standard indicator parameter readings measured during well purging have been included as Table 1 of this report. Disposable bailers were used to obtain groundwater samples and to minimize cross-contamination between wells. All groundwater samples were labeled, placed on ice and submitted to AMEC Analytical Laboratory for chemical analysis under chain-of-custody.

Surveying

Surveying at the three on-site monitor wells was performed by representatives of Greer/Stafford/ SJCF, Inc.

Soil Analyses and Results

Seven (7) soil samples were collected and submitted for analysis by U.S. Environmental Protection Agency (EPA) methods. The selected soil samples were analyzed for gasoline, diesel and heavy oil range total petroleum hydrocarbons (TPH) in accordance with EPA Method 3545/8015B (modified) and for volatile organic compounds by EPA Method 8260. Copies of the chain-of-custodies and requests for chemical analyses for soil samples are provided with the laboratory reports in Appendix B.

Results of field headspace measurements of soil samples collected above the groundwater surface were below instrument detection limits. One sample, collected at the groundwater surface in MW-1, measured a headspace reading at greater than 2000 parts per million (ppm).

Results of analytical testing of selected soil samples revealed the presence of Benzene, Toluene, Ethyl benzene and Total Xylenes (BTEX) in MW-1 at the groundwater surface at a depth of 14.5 feet bgs. BTEX concentrations were 24, 230, 29 and 347 ppm, respectively. BTEX concentrations above laboratory detection limits were not reported in the remaining samples submitted for analysis. TPH concentrations (gasoline range) were measured in MW-1 at 14.5 feet bgs at 2,000

ppm. TPH concentrations of gasoline, diesel and heavy oil were not reported in the remaining samples submitted for analysis.

Groundwater Analyses and Results

Four (4) groundwater (one from each monitor well, plus a duplicate) samples were collected and submitted for analysis by U.S. Environmental Protection Agency (EPA) methods. Groundwater samples were analyzed for the same constitutents as soil samples, including TPH in accordance with EPA Method 3545/8015B modified and for volatile organic compounds by EPA Method 8260. Copies of the chain-of-custodies and chemical analyses for groundwater samples are provided with the laboratory reports in Appendix B. A summary of these test results are presented in Table 2.

The analytical test results show the presence of gasoline related hydrocarbons in each of the three on-site monitor wells. The highest levels of gasoline related hydrocarbons as measured by the presence of BTEX were encountered in the southern most well, MW-1. Levels of BTEX in MW-1 were reported at 6300, 15000, 910 and 12000 micrograms per liter or parts per billion (ppb), respectively. TPH concentrations (gasoline range) were reported as 41 ppm in MW-1. Concentrations of BTEX in MW-2 were reported at 116, 1.01 ppb and nondetect (ND) for Ethylbenzene and total Xylenes. MW-3 revealed BTEX levels at less than 1, 2.59, ND and less than 3 ppb, respectively. Results of groundwater TPH analysis did not indicate the presence of petroleum related hydrocarbons in the diesel or heavy oil ranges.

Numerical action levels have been established by the New Mexico Water Quality Control Commission (NMWQCC) for BTEX, but not for TPH. At the present time, the NMWQCC action levels for BTEX are 10 ppb, 750 ppb, 750 ppb and 620 ppb, respectively. Comparison of the analytical test results and the current standards reveal that groundwater sampled at MW-1 has exceeded the NMWQCC standard for BTEX, while the benzene concentration in groundwater collected from MW-2 is above the standard. Although MW-3 has apparently been impacted by gasoline, BTEX concentrations do not exceed the standard.

CONCLUSIONS

The following evidence was observed and recorded during our evaluation.

- Subsurface soils beneath the site consist predominantly of silty sands which are fine to medium grained and nonplastic.

- Groundwater underlying the northern portion of the property was encountered at a depth of about 16 to 17 feet bgs.

- Local groundwater flow direction, determined through measurements in the on-site monitor wells, is southwest.

- Field headspace testing along with chemical analysis of selected soil and groundwater samples revealed the presence of gasoline range petroleum hydrocarbons beneath portions of the site. Of the 3 existing on-site sampling locations, groundwater encountered at MW-1 appears to be most impacted to a greater degree than at the other well locations.

- As evidenced by non-detect headspace and analytical testing results of selected soils above the groundwater table, it would appear that the source of gasoline hydrocarbon has not been identified.

- Levels of BTEX exceeding State of New Mexico (NMWQCC) standards were encountered in MW-1 and MW-2.

- The lateral and vertical extent of subsurface contamination has not been defined.

RECOMMENDATIONS

AMEC recommends that further site characterization activities be performed in order to determine the source of contamination as well to assess the extent of the hydrocarbon plume in groundwater. The following are suggestions to accomplish these tasks. These items are presented in a phased approach and are intended to maximize the amount of information obtained with minimal costs.

- Notify the New Mexico Environment Department of the findings of this report.

- Perform a Phase I Environmental Site Assessment of the property to identify potential sources of contamination. This assessment should be performed prior to conducting further field investigations.

- Perform a magnetic survey of the area in an attempt to locate possible abandoned UST buried beneath the property. We recommend starting with a 200 x 200 foot grid centered near MW-1 and expanded as necessary.

- Based on results of the Phase I and magnetic survey, further on-site activities may become necessary. These activities may include the removal of on-site tanks, and more extensive soil and groundwater sampling programs.

Should any questions arise concerning this report, we would be pleased to discuss them with you.

Respectively submitted,

AMEC Earth & Environmental, Inc.

Fred Schelby, P.E.
Engineering Manager

Reviewed by:

Otto C. Holmquist, P.E.
Geotechnical Manager

FTS:rrg

Copies: Addressee (3)

AMEC Earth & Environmental, Inc.
8519 Jefferson, N.E.
Albuquerque, New Mexico 87113
Telephone: 505/821-1801
Fax: 505/821-7371
www.amec.com

APPENDIX A

AMEC's Health and Safety Plan - Signature Page

Exploratory Boring Logs

Well Completion Logs

Field Procedures

Table 1 - Summary of Analytical Testing Results - Soil
Table 2 - Summary of Analytical Testing Results - Groundwater

Figure 1 - Vicinity Map
Figure 2 - Site Plan
Figure 3 - Groundwater Flow Direction
Figure 4 - Groundwater Contaminant Concentration Map

Recent Site Photographs

Bloomfield

AGRA Earth and Environmental

Daily Safety Meeting

Project Name: Childhood Early Development Ctr

Project #: 0517-000110

Site Supervisor: Jim Cuss

Time: 10:15

Location: Bloomfield, NM

Date: 9-22-00

Planned Activities

Auger + drill 3 borings to 20' w 30
Set 3 wells

Safety Topics Presented

PRINT NAME	SIGNATURE
	Robert J Lamkin
	Demetri Mills

AGRA
ENGINEERING GLOBAL SOLUTIONS

PROJECT Phase II Environmental Evaluation Proposed Early Childhood Center
Bloomfield, New Mexico

LOG OF TEST BORING NO. MW-1

JOB NO. 0-517-000110 **DATE** 9/22/00

LOCATION Bloomfield, New Mexico
RIG TYPE CME 75-Auto
BORING TYPE 6½" HSA
SURFACE ELEV.
DATUM

Depth in Feet	Continuous Penetration Resistance	Graphic Soil Log	Sample	Sample Type	Blows/6-in. 140 lb. 30" free-fall drop hammer	Downhole LEL/PID (%/ppm)	Headspace PID (ppm)	Unified Soil Classification	ANALYTICAL SAMPLE NUMBER	VISUAL CLASSIFICATION
0								SM		**SILTY SAND**, predominantly fine, nonplastic, light brown
5				A	12	0	0		MW1-110-01	
10				A	6	0	0		MW1-110-02	
								SM		**SILTY SAND AND CLAY**, low plasticity, light brown
15				A	4	0	>2000		MW1-110-03	
▽								SM		**SILTY SAND**, predominantly fine to medium, nonplastic, grayish brown
20										
										Stopped Sampler @ 16' Stopped Auger @ 21'
25										

ENV BH NO WELL 0517-110.GPJ AGRA_ALB.GDT 10/6/00

GROUNDWATER

	DEPTH	HOUR	DATE
▽	15.7	9:45	9/23/00
▼			

SAMPLE TYPE
A-ANALYTICAL SAMPLE
S-STRATIGRAPHIC SAMPLE
SC-SONIC CORE

amec

PROJECT Phase II Environmental Evaluation Proposed Early Childhood Center
Bloomfield, New Mexico

JOB NO. 0-517-000110 **DATE** 9/22/00

LOG OF TEST BORING NO. MW-2

LOCATION Bloomfield, New Mexico
RIG TYPE CME 75-Auto
BORING TYPE 6½" HSA
SURFACE ELEV.
DATUM

Depth in Feet	Continuous Penetration Resistance	Graphic Soil Log	Sample	Sample Type	Blows/6-in. 140 lb. 30" free-fall drop hammer	Downhole LEL/PID (%/ppm)	Headspace PID (ppm)	Unified Soil Classification	ANALYTICAL SAMPLE NUMBER	VISUAL CLASSIFICATION
0								SM		**SILTY SAND**, predominantly fine, nonplastic, light brown
5				A	5	0/0	0		MW2-110-01	
10				A	4	0/0	0	SM	MW2-110-02	**SILTY SAND**, very fine, trace of clay, low to no plasticity, light brown
15				S	5	0/0	0			
▽								SM		**SILTY SAND**, predominantly fine to medium, nonplastic, grayish brown
20										
25										Stopped Sampler @ 16' Stopped Auger @ 22'

ENV BH NO WELL 0517-110.GPJ AGRA_ALB.GDT 10/6/00

GROUNDWATER

	DEPTH	HOUR	DATE
▽	15.8	12:00	9/23/00
▼			

SAMPLE TYPE

A-ANALYTICAL SAMPLE
S-STRATIGRAPHIC SAMPLE
SC-SONIC CORE

amec

PROJECT Phase II Environmental Evaluation Proposed Early Childhood Center
Bloomfield, New Mexico

JOB NO. 0-517-000110 **DATE** 9/22/00

LOG OF TEST BORING NO. MW-3

LOCATION Bloomfield, New Mexico
RIG TYPE CME 75-Auto
BORING TYPE 6½" HSA
SURFACE ELEV.
DATUM

Depth in Feet	Continuous Penetration Resistance	Graphic Soil Log	Sample	Sample Type	Blows/6-in. 140 lb. 30" free-fall drop hammer	Downhole LEL/PID (%/ppm)	Headspace PID (ppm)	Unified Soil Classification	ANALYTICAL SAMPLE NUMBER	VISUAL CLASSIFICATION
0								SM		**SILTY SAND**, predominantly fine, nonplastic, light brown
5				A	4	0/0	0		MW3-110-01	
10				A	5	0/0	0		MW3-110-02	
								SC		**CLAYEY SAND**, low plasticity, brown
15				S	3	0/0	0			
▽										
								SM		**SILTY SAND**, predominantly fine to medium, nonplastic, grayish to brown
20										
25										Stopped Sampler @ 16' Stopped Auger @ 24.5'

ENV BH NO WELL 0517-110.GPJ AGRA_ALB.GDT 10/6/00

GROUNDWATER

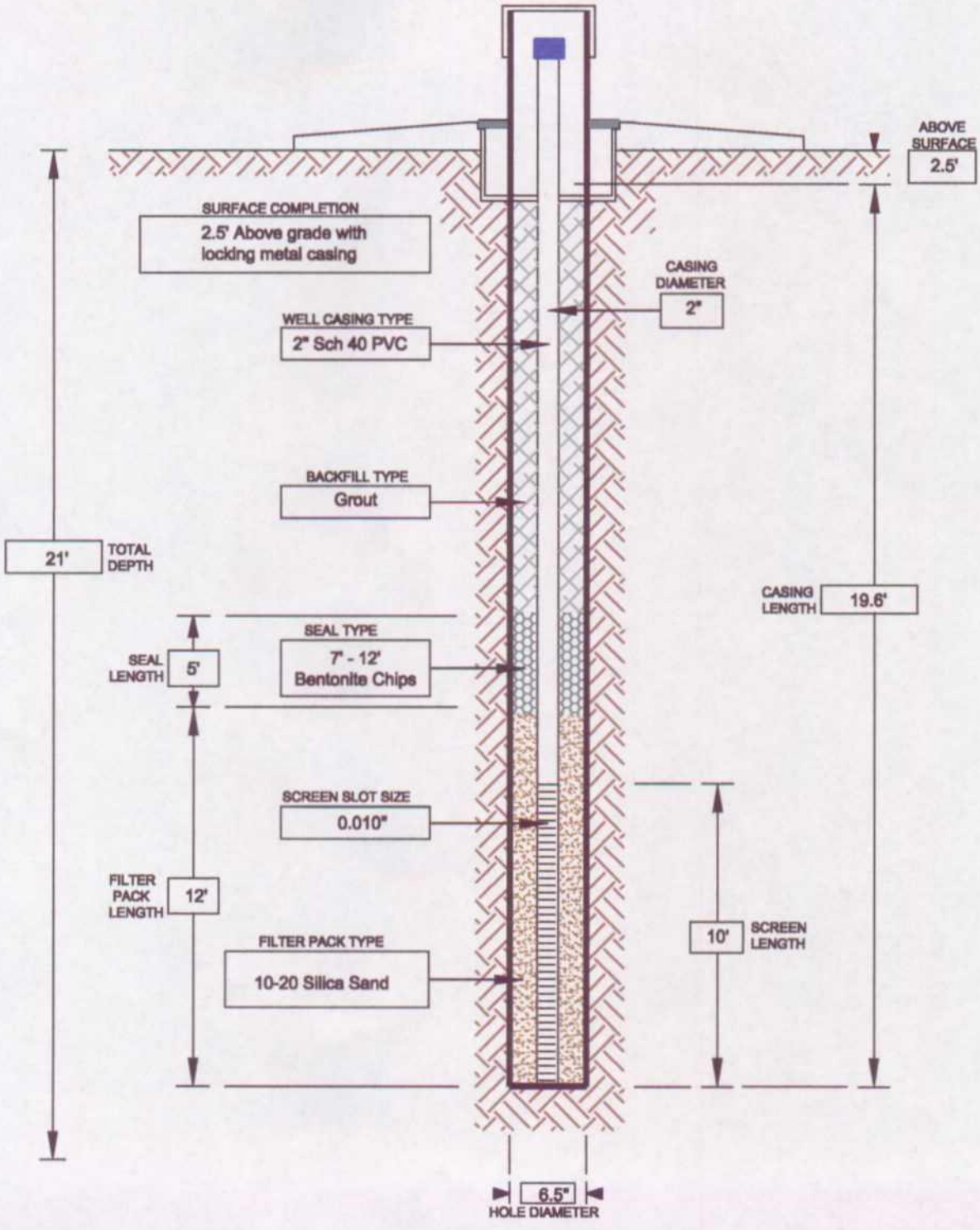
	DEPTH	HOUR	DATE
▽	17.1	11:00	9/23/00
▼			

SAMPLE TYPE
A-ANALYTICAL SAMPLE
S-STRATIGRAPHIC SAMPLE
SC-SONIC CORE

amec

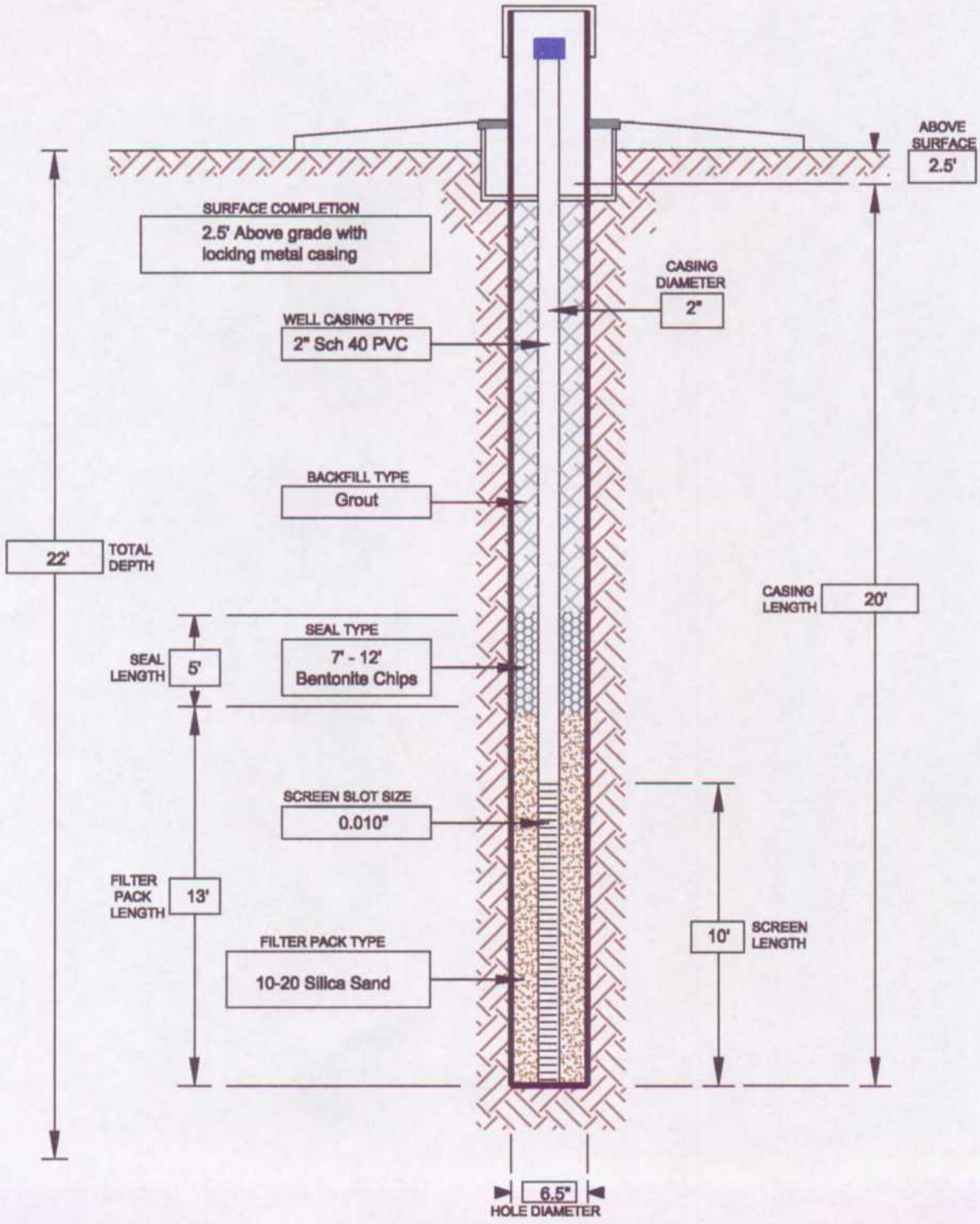
WELL COMPLETION LOG

PROJECT: Phase II Environmental Evaluation, Proposed Early Childhood Center
WELL NUMBER: MW-1
JOB NO.: 0-517-000110
DATE INSTALLED: 9-23-00
DEVELOPMENT:
FORMATION OF COMPLETION: Silty Sand
COMMENTS:
DRILLER: Phillips
GW DEPTH/DATE: 15.72' 9-23-00
TOP OF CASING ELEVATION: 5481.38
SURVEY DATE: Week of 9-26-00 BY: 65
DRILL METHOD: HSA



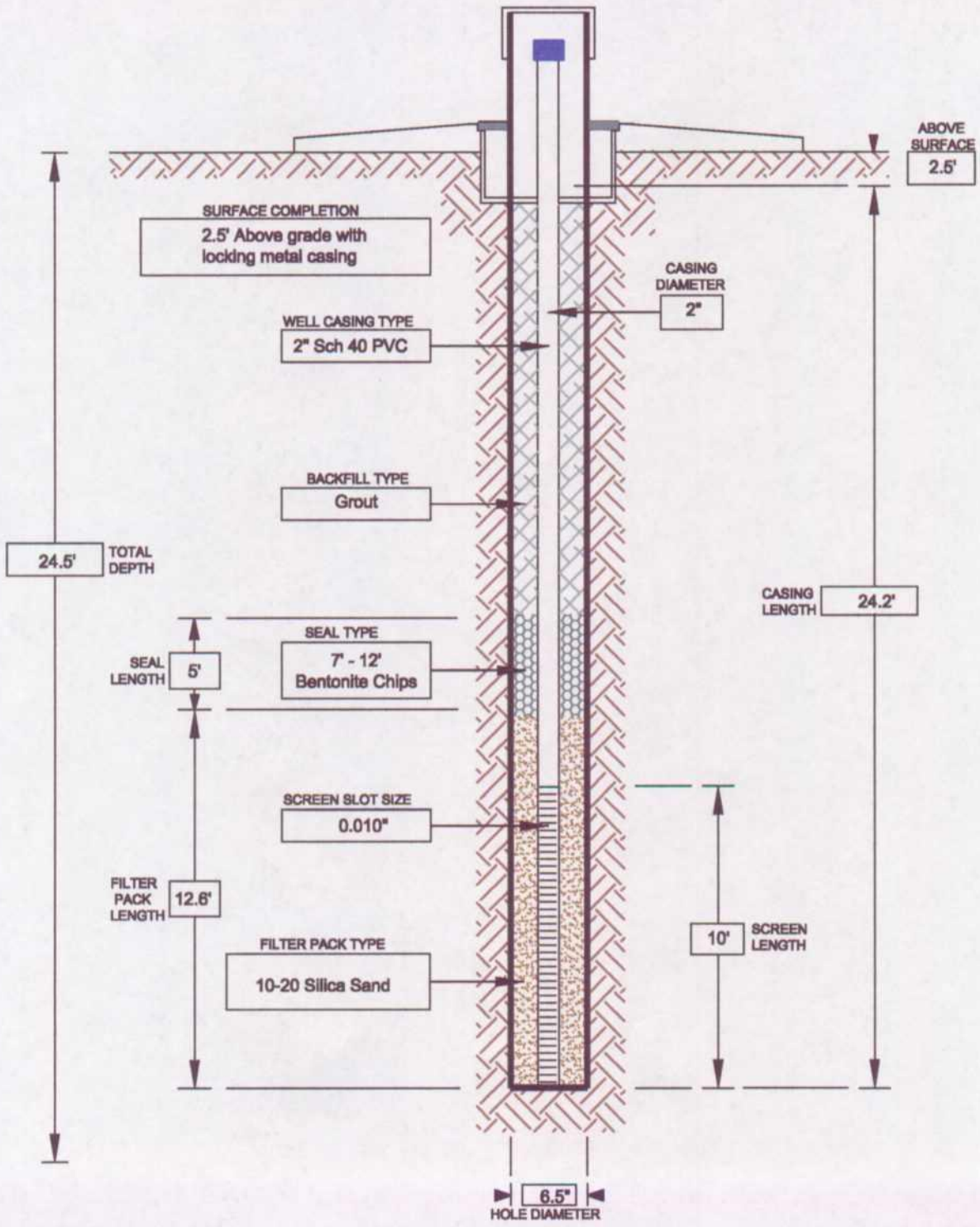
WELL COMPLETION LOG

PROJECT: Phase II Environmental Evaluation, Proposed Early Childhood Center
WELL NUMBER: MW-2
JOB NO.: 0-517-000110
DATE INSTALLED: 9-23-00
DEVELOPMENT:
FORMATION OF COMPLETION: Silty Sand
COMMENTS:
DRILLER: Phillips
GW DEPTH/DATE: 15.83' 9-22-00
TOP OF CASING ELEVATION: 5481.88
SURVEY DATE: Week of 9-26-00 BY: 65
DRILL METHOD: HSA



WELL COMPLETION LOG

PROJECT: Phase II Environmental Evaluation, Proposed Early Childhood Center
WELL NUMBER: MW-3
JOB NO.: 0-517-000110
DATE INSTALLED: 9-23-00
DEVELOPMENT:
FORMATION OF COMPLETION: Silty Sand
COMMENTS:
DRILLER: Phillips
GW DEPTH/DATE: 17.12' 9-23-00
TOP OF CASING ELEVATION: 5482.62
SURVEY DATE: Week of 9-26-00 BY: 65
DRILL METHOD: HSA



FIELD PROCEDURES

Field testing would include using a photoionization detector to qualitatively identify the presence of volatile and semi-volatile petroleum-related hydrocarbons. Samples would be collected and measured using the heated headspace test method.

All borings would be abandoned with auger cuttings after sampling and field screening is completed. In the event that contamination is encountered in a boring(s), the boring(s) will be abandoned with a cement bentonite slurry at a slight additional cost.

All drilling and sampling will be completed in accordance with our standard Quality Assurance/ Quality Control (QA/QC) procedures. These procedures have been designed to ensure that sampling will be performed in a manner to prevent cross-contamination between samples and to provide reliable laboratory results. Selected QA/QC procedures that would be applicable to this project are summarized below:

Drilling Procedures

- Steam cleaning of auger prior to beginning work.
- Cleaning of used auger between each hole.
- No use of any petroleum-based oil or grease on auger.
- Only Teflon grease will be used.

Sampling Procedures

- Only cleaned sampling equipment will be used in the hole.
- Sampling equipment will be cleaned between each sample by washing thoroughly in a Liqui-nox or equivalent solution, then rinsing in two clean water baths.
- All soil samples will be kept in 4-ounce glass jars supplied by the testing laboratory. Jars will be filled completely to reduce headspace.
- Groundwater samples will be kept in pre-preserved containers provided by the analytical laboratory.

Each jar will be labeled with the following information:

- Hole number.
- Sample depth.
- Date and time.
- Job number.
- Name of sampler.
- Chain-of-custody report form will be completed for each sample taken.
- Sample jars and containers will be stored in an ice chest; temperature will be kept at about 40 degrees Fahrenheit.

TABLE 1

Summary of Groundwater Field Data

Location	Surveyed Elevation [1,2]	Depth to Water (feet)	Groundwater Elevation [1]	Stabilized Field Measurements		
				pH	Conductivity µS[3]	Temperature °C[4]
MW-1	5481.38	15.72	5465.66	7.29	1021	13.7
MW-2	5481.88	15.83	5466.05	7.11	1131	14.1
MW-3	5482.62	17.12	5465.50	7.42	1108	13.2

Notes:
(1) Elevation in feet above mean sea level
(2) Survey performed by others
(3) µS = Micro Siemens per cubic centimeter
(4) °C = degrees Celsius

TABLE 2

Summary of Analytical Testing Results
Groundwater [1] Concentrations in ug/l (ppb)[2]

Sample No.	Benzene	Toluene	Ethyl benzene	Xylenes	TPH Gasoline ppm[3]
MW-1	6,300	15,000	910	12,000	41
MW-2	116	1.0	ND	ND	<0.25
MW-3	0.63	2.6	ND	2.6	<0.25
NMWQCC[5]	10	750	750	620	---

Notes:
(1) Selected soil samples were analyzed by EPA Methods 8260 and 8015 Modified. Reports of test results provided by the analytical laboratory are presented in Appendix B.
(2) ppb - parts per billion or micrograms per liter.
(3) ppm - parts per million or milligrams/kilogram
(4) ND - compound not detected
(5) Shaded concentrations exceeded New Mexico Water Quality Control Commission (NMWQCC) regulatory standards.

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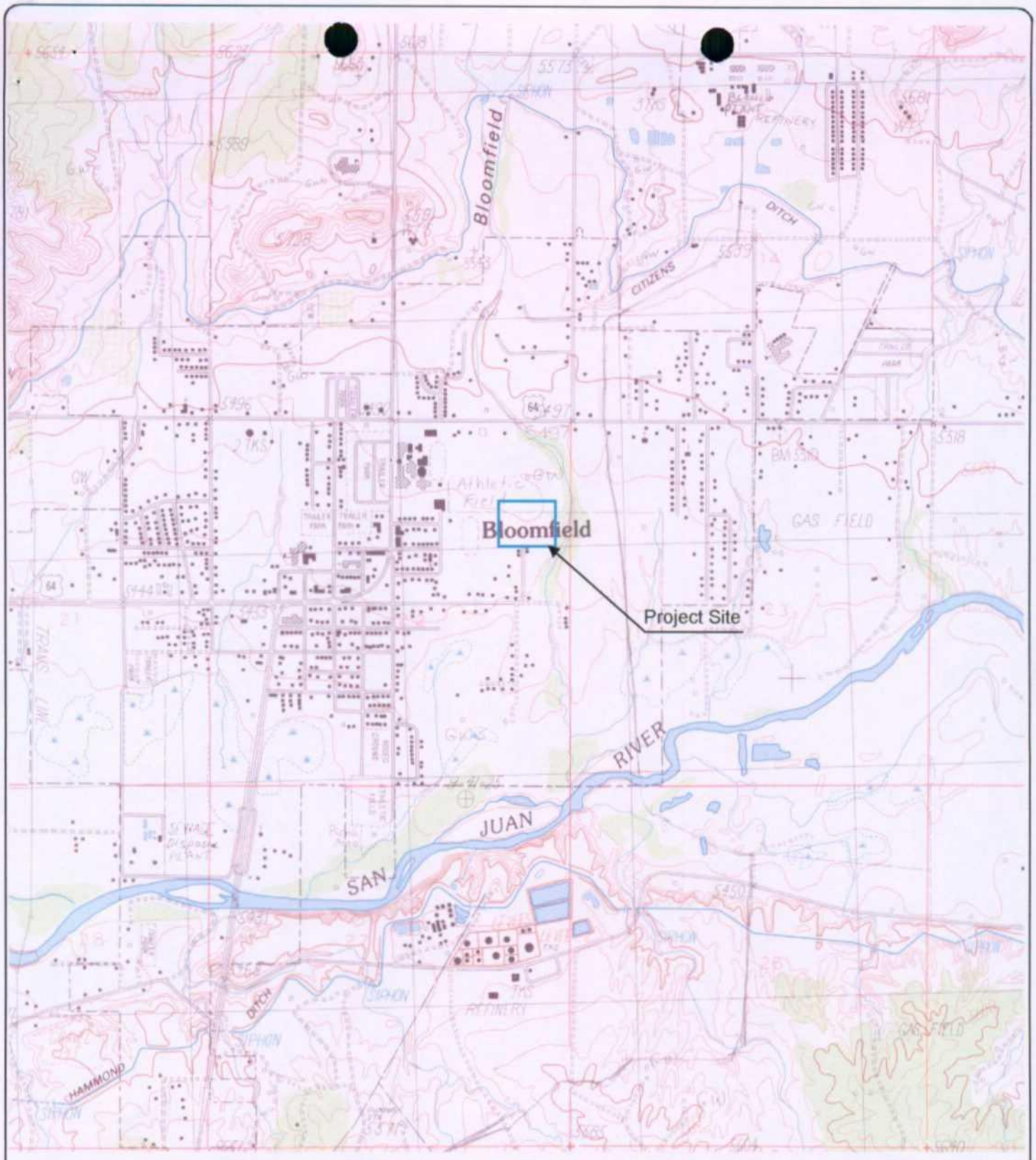

Taken from USGS
Topographic Map:
Bloomfield, New Mexico
Photorevised 1985.

Approximate Scale
1 Inch = 2000 Feet
0 2000 4000

Note: All boundaries and locations are approximate

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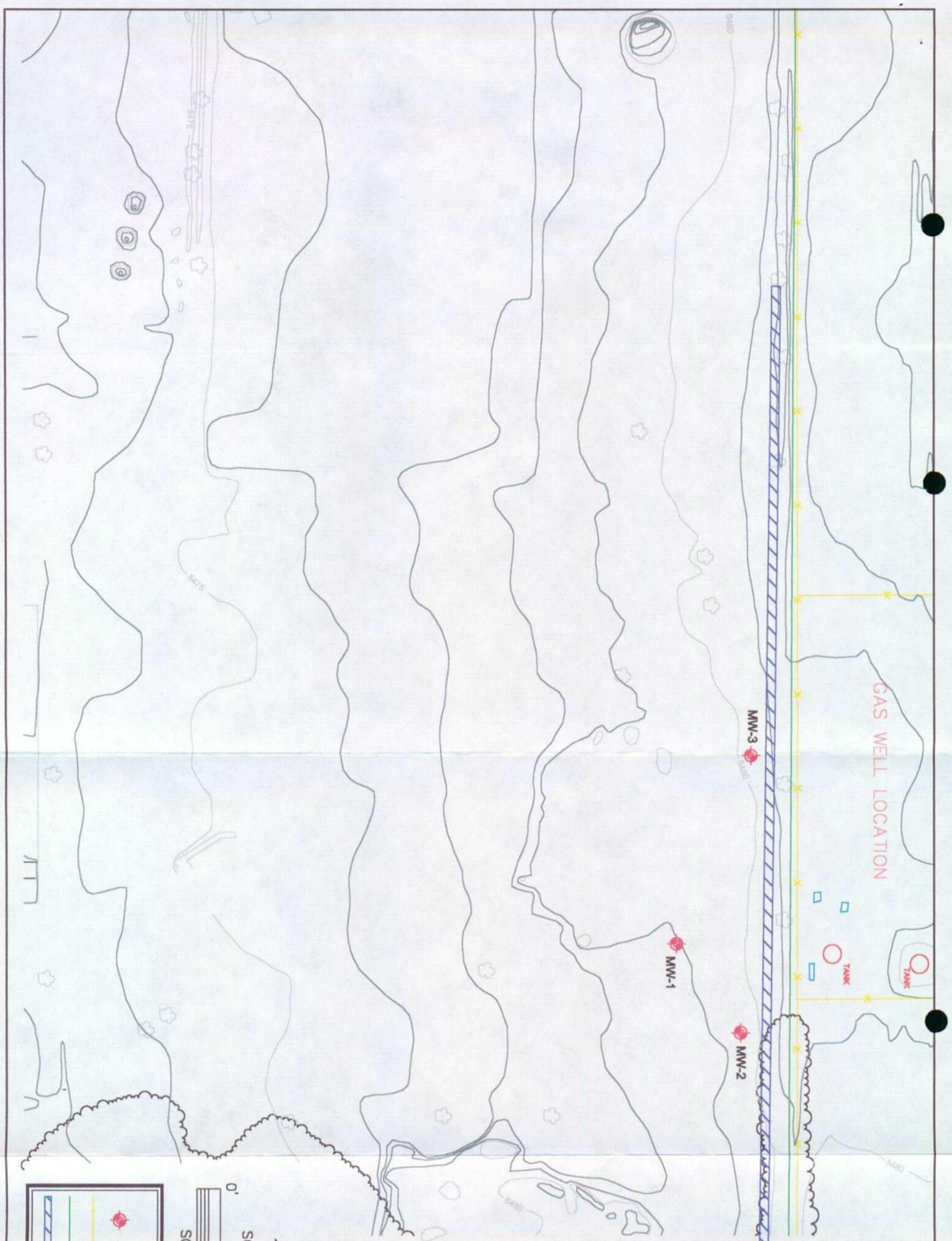
Project Number 0-517-000110 October 2000

Phase II Environmental Evaluation
Proposed Early Childhood Center
Bloomfield, New Mexico

VICINITY MAP

Topographic Map



Phase II Environmental Evaluation
Proposed Early Childhood Center
Bloomfield, New Mexico
AMEC Project No. 0-517-000110

amec
8519 Jefferson, NE
Albuquerque, New Mexico 87113

SHEET TITLE: Site Plan

3 Oct. 2000
6 Oct. 2000

DRAWN BY: RJT

CHECKED BY: FTS

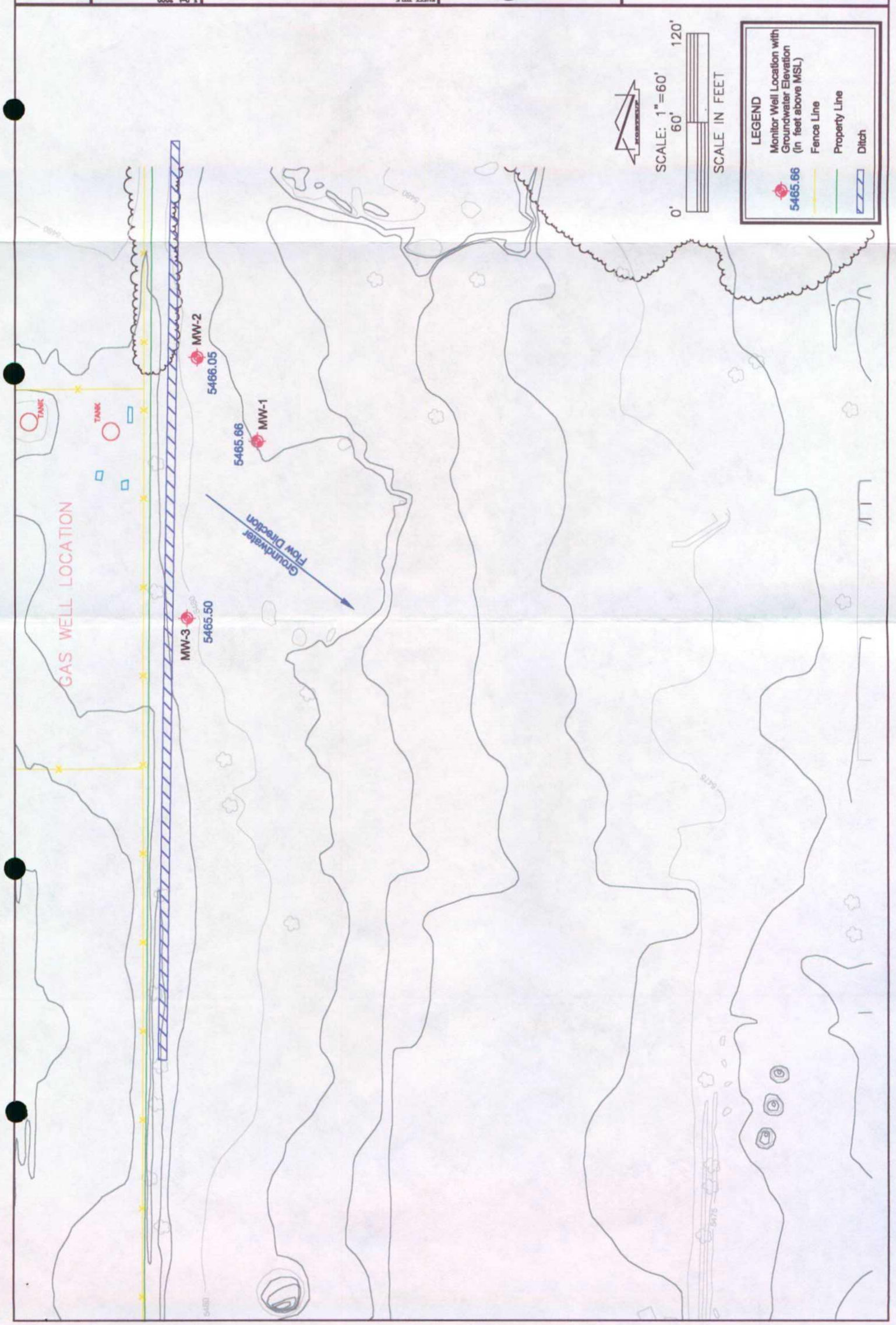
FIGURE 2

Phase II Environmental Evaluation
Proposed Early Childhood Center
Bloomfield, New Mexico
AMEC Project No. 0-517-000110

amec
8519 Jefferson, NE
Albuquerque, New Mexico 87113

SHEET TITLE
Groundwater Flow Direction

5 Oct. 2000	FIGURE 3
DRAWN BY: RJT	
CHECKED BY: FTS	



GAS WELL LOCATION

TANK

TANK

NOTE

Benzene (ppb)
Toluene (ppb)
Ethylbenzene (ppb)
Total Xylene (ppb)
Total Petroleum (ppm)
Hydrocarbons

MW-3

B	0.6
T	2.6
E	ND
X	2.6
TPH	<0.25

MW-2

B	116
T	1.0
E	ND
X	ND
TPH	<0.25

MW-1

B	6,300
T	15,000
E	910
X	11,000
TPH	41

5480

5475

NORTH

SCALE: 1"=60'

0' 60' 120'

SCALE IN FEET

LEGEND

- Monitor Well Location
- Fence Line
- Property Line
- Ditch

FIGURE 4

3 Oct. 2000 — 6 Oct. 2000

DRAWN BY: RJT

CHECKED BY: FTS

SHEET TITLE

Groundwater Contaminant Concentration Map

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8519 Jefferson, NE
Albuquerque, New Mexico 87113

Phase II Environmental Evaluation
Proposed Early Childhood Center
Bloomfield, New Mexico
AMEC Project No. 0-517-000110

Facing west along the adjacent gas well easment

Installation of monitor well No. 1

Facing east along gas well easement

Monitor well No. 2 - Facing west

Gas well located on adjacent property to the north

Facing northwest from the north perimeter of the property: Note the former ditch along the property boundary

APPENDIX B

Laboratory Test Results

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September 29, 2000

AMEC Earth & Environmental
8519 Jefferson NE
Albuquerque, NM 87113

Attention: Fred Schelby

Dear Mr. Schelby:

RE: Analytical Results for Project 0-517-000110

Attached are the results for the samples submitted on September 26, 2000 from the above referenced project. For your reference, our project number associated with these samples is NM000552.

The samples were analyzed at the AMEC Environmental Chemistry Laboratory. This report shall not be reproduced, except in its entirety, without written approval of the laboratory.

All analyses were conducted in accordance with applicable QA/QC guidelines. The results apply only to the samples submitted.

Please feel free to contact me if you have any questions regarding this report, or if I can be of any assistance in any other matter.

Respectfully submitted,

AMEC Earth & Environmental

Sean Gormley
Laboratory Manager

AMEC Earth & Environmental, Inc.
7477 SW Tech Center Drive
Portland, Oregon USA 97223

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Tel +1 (503) 639-3400
Fax +1 (503) 620-7892

Project: Early Childhood Center-Bloomfield
Project No.: 0-517-000110
Project Manager: Fred Schelby
Sample Matrix: Soil

Service Request No.: NM000552
Report Date: 09/28/00
Report No.: 00055201
C.O.C. No.: 4105, 4103

Volatile Organic Compounds by GC/MSD
EPA Methods 5030B/8260B
mg/kg(ppm)

Sample Name:	MW1-110-01	MW1-110-02	MW1-110-03 (a)	MW2-110-01	MW2-110-02	MW3-110-01	Reporting
Lab Code:	552-1	552-2	552-3	552-4	552-5	552-6	Limit
Dichlorodifluoromethane	ND	ND	<2.0	ND	ND	ND	0.1
Chloromethane	ND	ND	<2.0	ND	ND	ND	0.1
Vinyl Chloride	ND	ND	<2.0	ND	ND	ND	0.1
Bromomethane	ND	ND	<2.0	ND	ND	ND	0.1
Chloroethane	ND	ND	<2.0	ND	ND	ND	0.1
Trichlorofluoromethane	ND	ND	<2.0	ND	ND	ND	0.1
1,1-Dichloroethene	ND	ND	<2.0	ND	ND	ND	0.1
Acetone	ND	ND	<40	ND	ND	ND	2.0
Carbon Disulfide	ND	ND	<2.0	ND	ND	ND	0.1
Methylene Chloride	ND	ND	<10	ND	ND	ND	0.5
trans-1,2-Dichloroethene	ND	ND	<2.0	ND	ND	ND	0.1
MTBE	ND	ND	<2.0	ND	ND	ND	0.1
1,1-Dichloroethane	ND	ND	<2.0	ND	ND	ND	0.1
2,2-Dichloropropane	ND	ND	<2.0	ND	ND	ND	0.1
cis-1,2-Dichloroethene	ND	ND	<2.0	ND	ND	ND	0.1
2-Butanone(MEK)	ND	ND	<20	ND	ND	ND	1.0
Bromochloromethane	ND	ND	<2.0	ND	ND	ND	0.1
Chloroform	ND	ND	<10	ND	ND	ND	0.5
1,1,1-Trichloroethane	ND	ND	<2.0	ND	ND	ND	0.1
Carbon Tetrachloride	ND	ND	<2.0	ND	ND	ND	0.1
1,1-Dichloropropene	ND	ND	<2.0	ND	ND	ND	0.1
Benzene	ND	ND	24	ND	ND	ND	0.1
1,2-Dichloroethane	ND	ND	<2.0	ND	ND	ND	0.1
Trichloroethene	ND	ND	<2.0	ND	ND	ND	0.1
1,2-Dichloropropane	ND	ND	<2.0	ND	ND	ND	0.1
Dibromomethane	ND	ND	<2.0	ND	ND	ND	0.1
Bromodichloromethane	ND	ND	<2.0	ND	ND	ND	0.1
cis-1,3-Dichloropropene	ND	ND	<2.0	ND	ND	ND	0.1
4-Methyl-2-Pentanone(MIBK)	ND	ND	<20	ND	ND	ND	1.0
Toluene	ND	ND	230	ND	ND	ND	0.1
trans-1,3-Dichloropropene	ND	ND	<2.0	ND	ND	ND	0.1
1,1,2-Trichloroethane	ND	ND	<2.0	ND	ND	ND	0.1
Tetrachloroethene	ND	ND	<2.0	ND	ND	ND	0.1
2-Hexanone	ND	ND	<20	ND	ND	ND	1.0
1,3-Dichloropropane	ND	ND	<2.0	ND	ND	ND	0.1
Dibromochloromethane	ND	ND	<2.0	ND	ND	ND	0.1
1,2-Dibromoethane	ND	ND	<2.0	ND	ND	ND	0.1
Chlorobenzene	ND	ND	<2.0	ND	ND	ND	0.1
1,1,1,2-Tetrachloroethane	ND	ND	<2.0	ND	ND	ND	0.1
Ethylbenzene	ND	ND	29	ND	ND	ND	0.1
m,p-Xylene	ND	ND	290	ND	ND	ND	0.2
o-Xylene	ND	ND	57	ND	ND	ND	0.1
Styrene	ND	ND	<2.0	ND	ND	ND	0.1

ND Not Detected
(a) Results are from a 1:20 dilution. Note elevated reporting limits.

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Project: Early Childhood Center-Bloomfield
Project No.: 0-517-000110
Project Manager: Fred Schelby
Sample Matrix: Soil

Service Request No.: NM000552
Report Date: 09/28/00
Report No.: 00055201b
C.O.C. No.: 4105, 4103

Volatile Organic Compounds by GC/MSD
EPA Methods 5030B/8260B
mg/kg(ppm)

Sample Name:	MW1-110-01	MW1-110-02	MW1-110-03	MW2-110-01	MW2-110-02	MW3-110-01	Reporting
Lab Code:	552-1	552-2	552-3	552-4	552-5	552-6	Limit
Bromoform	ND	ND	<10	ND	ND	ND	0.5
Isopropylbenzene	ND	ND	5.0	ND	ND	ND	0.1
Bromobenzene	ND	ND	<2.0	ND	ND	ND	0.1
1,1,2,2-Tetrachloroethane	ND	ND	<2.0	ND	ND	ND	0.1
1,2,3-Trichloropropane	ND	ND	<2.0	ND	ND	ND	0.1
n-Propylbenzene	ND	ND	7.7	ND	ND	ND	0.1
2-Chlorotoluene	ND	ND	<2.0	ND	ND	ND	0.1
4-Chlorotoluene	ND	ND	<2.0	ND	ND	ND	0.1
1,3,5-Trimethylbenzene	ND	ND	29	ND	ND	ND	0.1
tert-Butylbenzene	ND	ND	<2.0	ND	ND	ND	0.1
1,2,4-Trimethylbenzene	ND	ND	49	ND	ND	ND	0.1
sec-Butylbenzene	ND	ND	1.8J	ND	ND	ND	0.1
1,3-Dichlorobenzene	ND	ND	<2.0	ND	ND	ND	0.1
4-Isopropyltoluene	ND	ND	2.2	ND	ND	ND	0.1
1,4-Dichlorobenzene	ND	ND	<2.0	ND	ND	ND	0.1
1,2-Dichlorobenzene	ND	ND	<2.0	ND	ND	ND	0.1
n-Butylbenzene	ND	ND	<10	ND	ND	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	ND	<10	ND	ND	ND	0.5
1,2,4-Trichlorobenzene	ND	ND	<50	ND	ND	ND	2.5
Hexachlorobutadiene	ND	ND	<50	ND	ND	ND	2.5
Naphthalene	ND	ND	10J	ND	ND	ND	2.5
1,2,3-Trichlorobenzene	ND	ND	<50	ND	ND	ND	2.5
Sample Date:	09/22/00	09/22/00	09/22/00	09/22/00	09/22/00	09/22/00	
Extraction Date:	09/26/00	09/26/00	09/26/00	09/26/00	09/26/00	09/26/00	
Analysis Date:	09/27/00	09/27/00	09/27/00	09/27/00	09/27/00	09/27/00	
Surrogate Recoveries:							**Control Limits**
Dibromofluoromethane:	98%	98%	(a)	94%	100%	91%	89%-115%
Toluene-d_8:	100%	99%	(a)	97%	103%	94%	89%-124%
4-Bromofluorobenzene:	105%	105%	(a)	101%	109%	96%	90%-127%

ND Not Detected
J - Estimated value because the analyte concentration is between the method reporting limit and the detection limit.
(a) Not applicable because the analysis of the sample required a dilution that reduced the surrogate concentration below the analytical detection limit.

Signature of Chemist

QA/QC Review

amec

Project: Early Childhood Center-Bloomfield
Project No.: 0-517-000110
Project Manager: Fred Schelby
Sample Matrix: Soil

Service Request No.: NM000552
Report Date: 09/28/00
Report No.: 00055202
C.O.C. No.: 4105, 4103

Volatile Organic Compounds by GC/MSD
EPA Methods 5030B/8260B
mg/kg(ppm)

Sample Name:	MW3-110-02	Lab Blank	**Reporting**
Lab Code:	552-7	552-MB	**Limit**
Dichlorodifluoromethane	ND	ND	0.1
Chloromethane	ND	ND	0.1
Vinyl Chloride	ND	ND	0.1
Bromomethane	ND	ND	0.1
Chloroethane	ND	ND	0.1
Trichlorofluoromethane	ND	ND	0.1
1,1-Dichloroethene	ND	ND	0.1
Acetone	ND	ND	2.0
Carbon Disulfide	ND	ND	0.1
Methylene Chloride	ND	ND	0.5
trans-1,2-Dichloroethene	ND	ND	0.1
MTBE	ND	ND	0.1
1,1-Dichloroethane	ND	ND	0.1
2,2-Dichloropropane	ND	ND	0.1
cis-1,2-Dichloroethene	ND	ND	0.1
2-Butanone(MEK)	ND	ND	1.0
Bromochloromethane	ND	ND	0.1
Chloroform	ND	ND	0.5
1,1,1-Trichloroethane	ND	ND	0.1
Carbon Tetrachloride	ND	ND	0.1
1,1-Dichloropropene	ND	ND	0.1
Benzene	ND	ND	0.1
1,2-Dichloroethane	ND	ND	0.1
Trichloroethene	ND	ND	0.1
1,2-Dichloropropane	ND	ND	0.1
Dibromomethane	ND	ND	0.1
Bromodichloromethane	ND	ND	0.1
cis-1,3-Dichloropropene	ND	ND	0.1
4-Methyl-2-Pentanone(MIBK)	ND	ND	1.0
Toluene	ND	ND	0.1
trans-1,3-Dichloropropene	ND	ND	0.1
1,1,2-Trichloroethane	ND	ND	0.1
Tetrachloroethene	ND	ND	0.1
2-Hexanone	ND	ND	1.0
1,3-Dichloropropane	ND	ND	0.1
Dibromochloromethane	ND	ND	0.1
1,2-Dibromoethane	ND	ND	0.1
Chlorobenzene	ND	ND	0.1
1,1,1,2-Tetrachloroethane	ND	ND	0.1
Ethylbenzene	ND	ND	0.1
m,p-Xylene	ND	ND	0.2
o-Xylene	ND	ND	0.1
Styrene	ND	ND	0.1

ND Not Detected

amec

Project: Early Childhood Center-Bloomfield
Project No.: 0-517-000110
Project Manager: Fred Schelby
Sample Matrix: Soil

Service Request No.: NM000552
Report Date: 09/28/00
Report No.: 00055202b
C.O.C. No.: 4105, 4103

Volatile Organic Compounds by GC/MSD
EPA Methods 5030B/8260B
mg/kg(ppm)

Sample Name:	MW3-110-02	Lab Blank	**Reporting**
Lab Code:	552-7	552-MB	**Limit**
Bromoform	ND	ND	0.5
Isopropylbenzene	ND	ND	0.1
Bromobenzene	ND	ND	0.1
1,1,2,2-Tetrachloroethane	ND	ND	0.1
1,2,3-Trichloropropane	ND	ND	0.1
n-Propylbenzene	ND	ND	0.1
2-Chlorotoluene	ND	ND	0.1
4-Chlorotoluene	ND	ND	0.1
1,3,5-Trimethylbenzene	ND	ND	0.1
tert-Butylbenzene	ND	ND	0.1
1,2,4-Trimethylbenzene	ND	ND	0.1
sec-Butylbenzene	ND	ND	0.1
1,3-Dichlorobenzene	ND	ND	0.1
4-Isopropyltoluene	ND	ND	0.1
1,4-Dichlorobenzene	ND	ND	0.1
1,2-Dichlorobenzene	ND	ND	0.1
n-Butylbenzene	ND	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	ND	0.5
1,2,4-Trichlorobenzene	ND	ND	2.5
Hexachlorobutadiene	ND	ND	2.5
Naphthalene	ND	ND	2.5
1,2,3-Trichlorobenzene	ND	ND	2.5
Sample Date:	09/22/00	09/26/00	
Extraction Date:	09/26/00	09/26/00	
Analysis Date:	09/27/00	09/27/00	
Surrogate Recoveries:			**Control Limits**
Dibromofluoromethane:	102%	101%	89%-115%
Toluene-d_8:	101%	101%	89%-124%
4-Bromofluorobenzene:	108%	106%	90%-127%

ND Not Detected

Signature of Chemist

QA/QC Review

amec

Project: Early Childhood Center-Bloomfield
Project No.: 0-517-000110
Project Manager: Fred Schelby
Sample Matrix: Soil

Service Request No.: NM000552
Report Date: 09/28/00
Report No.: 00055203
C.O.C. No.: 4105, 4103

QC Data Report
BS/BSD Summary
Volatile Organic Compounds by GC/MSD
EPA Methods 5030B/8260B
mg/kg(ppm)

Sample Name: / **Lab Code:**	Lab Blank 552-MB	Spike Level (mg/kg)	Blank Spike	Percent Recovery (BS)	Blank Spike Duplicate	Percent Recovery (BSD)	% Recovery Control Criteria	Relative Percent Difference (RPD)
1,1 - Dichloroethene	<0.1	2.5	2.6	104	2.7	108	82% - 126%	4
Benzene	<0.1	2.5	2.6	104	2.6	104	96% - 115%	<1
Trichloroethene	<0.1	2.5	2.5	100	2.6	104	91% - 107%	4
Toluene	<0.1	2.5	2.6	104	2.6	104	96% - 116%	<1
Chlorobenzene	<0.1	2.5	2.6	104	2.6	104	97% - 112%	<1
Sample Date:	09/26/00	~	09/26/00	~	09/26/00	~		
Extraction Date:	09/26/00	~	09/26/00	~	09/26/00	~		
Analysis Date:	09/27/00	~	09/27/00	~	09/27/00	~		
Surrogate Recovery:							**Control Limits**	
Dibromofluoromethane:	101%	~	99%	~	99%	~	89%-115%	
Toluene-d_8:	101%	~	98%	~	101%	~	89%-124%	
4-Bromofluorobenzene:	106%	~	104%	~	105%	~	90%-127%	

ND Not Detected

Spike Source: Accustandard, M-502, Lot B0010296.
Accustandard, S-078, Lot A8100179.
Accustandard, AS-E0285, Lot A8120333.
Accustandard, M-8260-ADD, Lot B0050106.

Signature of Chemist

QA/QC Review

amec

Project: Early Childhood Center-Bloomfield
Project No.: 0-517-000110
Project Manager: Fred Schelby
Sample Matrix: Soil

Service Request No.: NM000552
Report Date: 09/28/00
Report No.: 00055204
C.O.C. No.: 4105, 4103

QC Data Report
MS/MSD Summary
Volatile Organic Compounds by GC/MSD
EPA Methods 5030B/8260B
mg/kg(ppm)

Sample Name: / **Lab Code:**	Batch QC 548-2	Spike Level (mg/kg)	Matrix Spike	Percent Recovery (MS)	Matrix Spike Duplicate	Percent Recovery (MSD)	% Recovery Control Criteria	Relative Percent Difference (RPD)
1,1 - Dichloroethene	<0.1	2.5	2.6	104	2.7	108	61% - 119%	4
Benzene	<0.1	2.5	2.6	104	2.6	104	73% - 113%	<1
Trichloroethene	<0.1	2.5	2.6	104	2.6	104	72% - 113%	<1
Toluene	<0.1	2.5	2.6	104	2.6	104	70% - 117%	<1
Chlorobenzene	<0.1	2.5	2.6	104	2.6	104	73% - 114%	<1
Sample Date:	09/21/00	~	09/21/00	~	09/21/00	~		
Extraction Date:	09/26/00	~	09/26/00	~	09/26/00	~		
Analysis Date:	09/27/00	~	09/27/00	~	09/27/00	~		
Surrogate Recovery:							**Control Limits**	
Dibromofluoromethane:	99%	~	100%	~	101%	~	89%-115%	
Toluene-d_8:	98%	~	100%	~	101%	~	89%-124%	
4-Bromofluorobenzene:	105%	~	105%	~	106%	~	90%-127%	

ND Not Detected
Spike Source: Ultra Scientific, CLP-100N, Lot M-1791.

Signature of Chemist

QA/QC Review

amec

Project: Early Childhood Center-Bloomfield
Project No.: 0-517-000110
Project Manager: Fred Schelby
Sample Matrix: Soil

Service Request No.: NM000552
Report Date: 09/28/00
Report No.: 00055207
C.O.C. No.: 4105, 4103

Total Petroleum Hydrocarbons - Gasoline, Diesel and Heavy Oil Ranges
EPA Methods 3545/8015B
mg/kg (ppm)

Sample Name	Lab Code	Sample Date	Extraction Date	Analysis Date	Gasoline Result	Diesel Result	Heavy Oil Result	Surrogate Recovery	
								4-BFB	O-Terphenyl
MW1-110-01	552-1	09/22/00	09/26/00	09/28/00	<25	<25	<100	67	57
MW1-110-02	552-2	09/22/00	09/26/00	09/28/00	<25	<25	<100	71	57
MW1-110-03	552-3	09/22/00	09/26/00	09/28/00	2000(a)	<125(b)	<100	(c)	56
MW2-110-01	552-4	09/22/00	09/26/00	09/28/00	<25	<25	<100	63	51
MW2-110-02	552-5	09/22/00	09/26/00	09/28/00	<25	<25	<100	61	52
MW3-110-01	552-6	09/22/00	09/26/00	09/28/00	<25	<25	<100	87	52
MW3-110-02	552-7	09/22/00	09/28/00	09/28/00	<25	<25	<100	81	66
Lab Blank	552-MB1	09/26/00	09/26/00	09/27/00	<25	<25	<100	88	61
Lab Blank	552-MB2	09/28/00	09/28/00	09/28/00	<25	<25	<100	72	63

Control Limits: 44%-111% 50%-125%

(a) Results are from a 1:5 dilution.
(b) Method reporting limit is elevated because the sample required dilution.
(c) Not applicable because the analysis of the sample required a dilution that reduced the surrogate concentration below the analytical detection limit.

Signature of Chemist

QA/QC Review

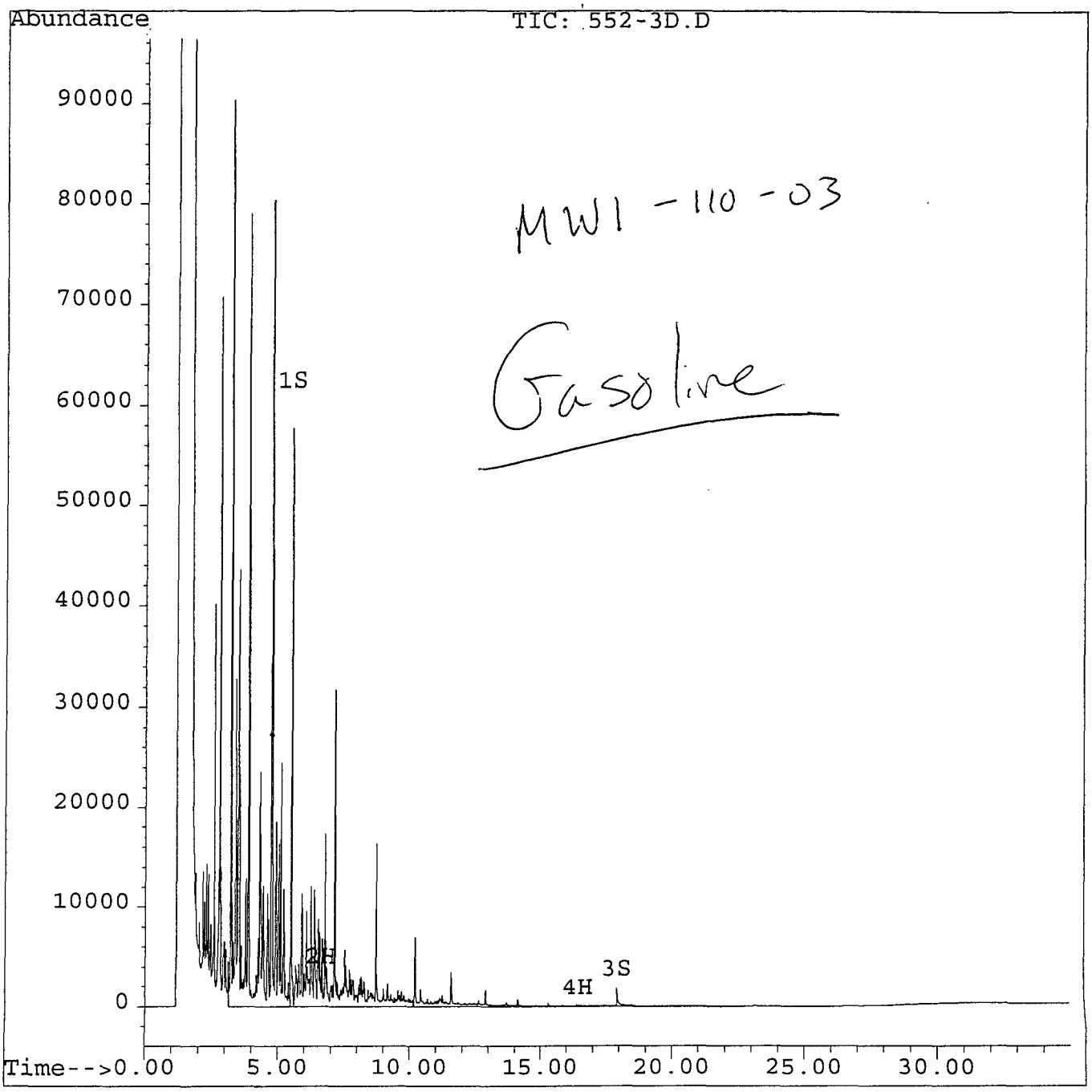
Quantitation Report

Data File : C:\HPCHEM\5\DATA\092700\552-3D.D
Acq On : 28 Sep 00 12:03 PM
Sample : 8015 soil 1:5
Misc :
Quant Time: Sep 28 13:05 2000

Vial: 21
Operator: MLB/dth
Inst : HP GC/FID
Multiplr: 1.00

Method : C:\HPCHEM\5\METHODS\TPH0918.M
Title :
Last Update : Tue Sep 19 12:46:35 2000
Response via : Multiple Level Calibration

Volume Inj. :
Signal Phase :
Signal Info :



MW1 -110 -03

Gasoline

amec

Project: Early Childhood Center-Bloomfield
Project No.: 0-517-000110
Project Manager: Fred Schelby
Sample Matrix: Soil

Service Request No.: NM000552
Report Date: 09/28/00
Report No.: 00055208
C.O.C. No.: 4105, 4103

QC Data Report - Blank Spike Recoveries
Total Petroleum Hydrocarbons by GC/FID
EPA Methods 3545/8015B
mg/kg(ppm)

Sample Name: / **Lab Code:**	Lab Blank 552-MB1	Spike Level (mg/kg)	Blank Spike	Percent Recovery (BS)	Blank Spike Duplicate	Percent Recovery (BSD)	Relative Percent Difference
Diesel:	<25	250	160	64	190	76	17
Acceptance Limits:	~	~	~	60%-125%	~	60%-125%	<25
Extraction Date:	09/26/00	~	09/26/00	~	09/26/00	~	~
Analysis Date:	09/27/00	~	09/27/00	~	09/27/00	~	~
Surrogate Recovery:							**Control Limits**
4-Bromofluorobenzene:	88%	~	80%	~	77%	~	44%-111%
O-Terphenyl:	61%	~	81%	~	80%	~	50%-125%

Spike Source: #2 Diesel Fuel (AEE Lot #00-06-27-1).

Signature of Chemist

QA/QC Review

amec

Project: Early Childhood Center-Bloomfield
Project No.: 0-517-000110
Project Manager: Fred Schelby
Sample Matrix: Soil

Service Request No.: NM000552
Report Date: 09/29/00
Report No.: 00055213
C.O.C. No.: 4105, 4103

QC Data Report - Blank Spike Recoveries
Total Petroleum Hydrocarbons by GC/FID
EPA Methods 3545/8015B
mg/kg(ppm)

Sample Name:	Lab Blank	Spike Level	Blank Spike	Percent Recovery	Blank Spike Duplicate	Percent Recovery	Relative Percent
Lab Code:	552-MB2	(mg/kg)		(BS)		(BSD)	Difference
Diesel:	<25	250	190	76	210	84	10
Acceptance Limits:	~	~	~	60%-125%	~	60%-125%	<25
Extraction Date:	09/28/00	~	09/28/00	~	09/28/00	~	~
Analysis Date:	09/28/00	~	09/28/00	~	09/28/00	~	~
Surrogate Recovery:							**Control Limits**
4-Bromofluorobenzene:	72%	~	81%	~	91%	~	44%-111%
O-Terphenyl:	63%	~	77%	~	88%	~	50%-125%

Spike Source: #2 Diesel Fuel (AEE Lot #00-06-27-1).

Signature of Chemist

QA/QC Review

Project: Early Childhood Center-Bloomfield
Project No.: 0-517-000110
Project Manager: Fred Schelby
Sample Matrix: Soil

Service Request No.: NM000552
Report Date: 09/28/00
Report No.: 00055209
C.O.C. No.: 4105, 4103

QC Data Report - Duplicate Summary
Total Petroleum Hydrocarbons by GC/FID
EPA Methods 3545/8015B
mg/kg(ppm)

Sample Name: / **Lab Code:**	MW2-110-02 552-5	Sample Duplicate	Relative Percent Difference
Gasoline:	<25	<25	(a)
Diesel:	<25	<25	(a)
Heavy Oil:	<100	<100	(a)
Acceptance Limits:	~	~	<25
Sample Date:	09/22/00	09/22/00	~
Extraction Date:	09/26/00	09/26/00	~
Analysis Date:	09/28/00	09/28/00	~
Surrogate Recovery:			**Control Limits**
4-Bromofluorobenzene:	61%	82%	44%-111%
O-Terphenyl:	52%	66%	50%-125%

ND Not Detected

(a) Not applicable when sample concentration is less than the method reporting limit.

Signature of Chemist

QA/QC Review

amec

Project: Early Childhood Center-Bloomfield
Project No.: 0-517-000110
Project Manager: Fred Schelby
Sample Matrix: Soil

Service Request No.: NM000552
Report Date: 09/29/00
Report No.: 00055214
C.O.C. No.: 4105, 4103

QC Data Report - Duplicate Summary
Total Petroleum Hydrocarbons by GC/FID
EPA Methods 3545/8015B
mg/kg(ppm)

Sample Name: / **Lab Code:**	MW3-110-02 552-7	Sample Duplicate	Relative Percent Difference
Gasoline:	<25	<25	(a)
Diesel:	<25	<25	(a)
Heavy Oil:	<100	<100	(a)
Acceptance Limits:	~	~	<25
Sample Date:	09/22/00	09/22/00	~
Extraction Date:	09/28/00	09/28/00	~
Analysis Date:	09/28/00	09/28/00	~
Surrogate Recovery:			**Control Limits**
4-Bromofluorobenzene:	81%	85%	44%-111%
O-Terphenyl:	66%	76%	50%-125%

ND Not Detected

(a) Not applicable when sample concentration is less than the method reporting limit.

Signature of Chemist

QA/QC Review

amec

Project: Early Childhood Center-Bloomfield
Project No.: 0-517-000110
Project Manager: Fred Schelby
Sample Matrix: Water

Service Request No.: NM000552
Report Date: 09/28/00
Report No.: 00055210
C.O.C. No.: 4105, 4103

Volatile Organic Compounds by GC/MSD
EPA Methods 5030B/8260B
µg/L(ppb)

Sample Name:	(a) MW1 -110-101	MW2 -110-101	MW3 -110-101	TEMP -BH-4	Blank	Lab Blank	Reporting
Lab Code:	552-9	552-10	552-11	552-12	552-13	552-MB	**Limit**
Dichlorodifluoromethane	<100	ND	ND	ND	ND	ND	1.0
Chloromethane	<100	ND	ND	ND	ND	ND	1.0
Vinyl Chloride	<100	ND	ND	ND	ND	ND	1.0
Bromomethane	<100	ND	ND	ND	ND	ND	1.0
Chloroethane	<100	ND	ND	ND	ND	ND	1.0
Trichlorofluoromethane	<100	ND	ND	ND	ND	ND	1.0
1,1-Dichloroethene	<100	ND	ND	ND	ND	ND	1.0
Acetone	<2000	ND	ND	ND	ND	ND	20
Carbon Disulfide	<100	ND	ND	ND	ND	ND	1.0
Methylene Chloride	<500	ND	ND	ND	ND	ND	5.0
trans-1,2-Dichloroethene	<100	ND	ND	ND	ND	ND	1.0
MTBE	<100	ND	ND	ND	ND	ND	1.0
1,1-Dichloroethane	<100	ND	ND	ND	ND	ND	1.0
2,2-Dichloropropane	<100	ND	ND	ND	ND	ND	1.0
cis-1,2-Dichloroethene	<100	ND	ND	ND	ND	ND	1.0
2-Butanone(MEK)	<1000	ND	ND	ND	ND	ND	10
Bromochloromethane	<100	ND	ND	ND	ND	ND	1.0
Chloroform	<500	ND	2.10J	2.10J	ND	ND	5.0
1,1,1-Trichloroethane	<100	ND	ND	ND	ND	ND	1.0
Carbon Tetrachloride	<100	ND	ND	ND	ND	ND	1.0
1,1-Dichloropropene	<100	ND	ND	ND	ND	ND	1.0
Benzene	6300	116	0.63J	0.54J	ND	ND	1.0
1,2-Dichloroethane	<100	ND	ND	ND	ND	ND	1.0
Trichloroethene	<100	ND	ND	ND	ND	ND	1.0
1,2-Dichloropropane	<100	ND	ND	ND	ND	ND	1.0
Dibromomethane	<100	ND	ND	ND	ND	ND	1.0
Bromodichloromethane	<100	ND	ND	ND	ND	ND	1.0
cis-1,3-Dichloropropene	<100	ND	ND	ND	ND	ND	1.0
4-Methyl-2-Pentanone(MIBK)	<1000	ND	ND	ND	ND	ND	10
Toluene	15,000	1.01	2.59	2.31	ND	ND	1.0
trans-1,3-Dichloropropene	<100	ND	ND	ND	ND	ND	1.0
1,1,2-Trichloroethane	<100	ND	ND	ND	ND	ND	1.0
Tetrachloroethene	<100	ND	ND	ND	ND	ND	1.0
2-Hexanone	<1000	ND	ND	ND	ND	ND	10
1,3-Dichloropropane	<100	ND	ND	ND	ND	ND	1.0
Dibromochloromethane	<100	ND	ND	ND	ND	ND	1.0
1,2-Dibromoethane	<100	ND	ND	ND	ND	ND	1.0
Chlorobenzene	<100	ND	ND	ND	ND	ND	1.0
1,1,1,2-Tetrachloroethane	<100	ND	ND	ND	ND	ND	1.0
Ethylbenzene	910	ND	ND	ND	ND	ND	1.0
m,p-Xylene	9600	ND	2.07	1.85J	ND	ND	2.0
o-Xylene	2400	ND	0.49J	0.41J	ND	ND	1.0
Styrene	<100	ND	ND	ND	ND	ND	1.0

ND Not Detected
J - Estimated value because the analyte concentration is between the method reporting limit and the detection limit.
(a) Results are from a 1:100 dilution. Note elevated reporting limits.

Project: Early Childhood Center-Bloomfield
Project No.: 0-517-000110
Project Manager: Fred Schelby
Sample Matrix: Water

Service Request No.: NM000552
Report Date: 09/28/00
Report No.: 00055210b
C.O.C. No.: 4105, 4103

Volatile Organic Compounds by GC/MSD
EPA Methods 5030B/8260B
µg/L(ppb)

Sample Name: / **Lab Code:**	MW1 -110-101 552-9	MW2 -110-101 552-10	MW3 -110-101 552-11	TEMP -BH-4 552-12	Blank 552-13	Lab Blank 552-MB	**Reporting Limit**
Bromoform	<500	ND	ND	ND	ND	ND	5.0
Isopropylbenzene	74J	1.81	ND	ND	ND	ND	1.0
Bromobenzene	<100	ND	ND	ND	ND	ND	1.0
1,1,2,2-Tetrachloroethane	<100	ND	ND	ND	ND	ND	1.0
1,2,3-Trichloropropane	<100	ND	ND	ND	ND	ND	1.0
n-Propylbenzene	95J	ND	ND	ND	ND	ND	1.0
2-Chlorotoluene	<100	ND	ND	ND	ND	ND	1.0
4-Chlorotoluene	<100	ND	ND	ND	ND	ND	1.0
1,3,5-Trimethylbenzene	460	ND	ND	ND	ND	ND	1.0
tert-Butylbenzene	<100	ND	ND	ND	ND	ND	1.0
1,2,4-Trimethylbenzene	910	ND	ND	ND	ND	ND	1.0
sec-Butylbenzene	<100	ND	ND	ND	ND	ND	1.0
1,3-Dichlorobenzene	<100	ND	ND	ND	ND	ND	1.0
4-Isopropyltoluene	<100	ND	ND	ND	ND	ND	1.0
1,4-Dichlorobenzene	<100	ND	ND	ND	ND	ND	1.0
1,2-Dichlorobenzene	<100	ND	ND	ND	ND	ND	1.0
n-Butylbenzene	<500	ND	ND	ND	ND	ND	5.0
1,2-Dibromo-3-Chloropropane	<500	ND	ND	ND	ND	ND	5.0
1,2,4-Trichlorobenzene	<2500	ND	ND	ND	ND	ND	25
Hexachlorobutadiene	<2500	ND	ND	ND	ND	ND	25
Naphthalene	<2500	ND	ND	ND	ND	ND	25
1,2,3-Trichlorobenzene	<2500	ND	ND	ND	ND	ND	25
Sample Date:	09/23/00	09/23/00	09/23/00	09/23/00	09/18/00	09/28/00	
Analysis Date:	09/28/00	09/28/00	09/28/00	09/28/00	09/28/00	09/28/00	
Surrogate Recoveries:							**Control Limits**
Dibromofluoromethane:	98%	97%	99%	97%	96%	98%	81%-115%
Toluene-d_8:	97%	99%	100%	99%	97%	100%	88%-106%
4-Bromofluorobenzene:	101%	104%	106%	105%	101%	104%	88%-111%

ND Not Detected

Signature of Chemist

QA/QC Review

Project: Early Childhood Center-Bloomfield
Project No.: 0-517-000110
Project Manager: Fred Schelby
Sample Matrix: Water

Service Request No.: NM000552
Report Date: 09/29/00
Report No.: 00055211
C.O.C. No.: 4105, 4103

QC Data Report
BS/BSD Summary
Volatile Organic Compounds by GC/MSD
EPA Methods 5030B/8260B
µg/L(ppb)

Sample Name: / **Lab Code:**	Lab Blank 552-MB	Spike Level (µg/L)	Blank Spike	Percent Recovery (BS)	Blank Spike Duplicate	Percent Recovery (BSD)	% Recovery Control Criteria	Relative Percent Difference (RPD)
1,1 - Dichloroethene	<1.0	50.0	55.3	111	54.7	109	88% - 125%	1
Benzene	<1.0	50.0	50.8	102	50.6	101	91% - 115%	<1
Trichloroethene	<1.0	50.0	52.6	105	52.5	105	90% - 111%	<1
Toluene	<1.0	50.0	50.8	102	50.4	101	96% - 111%	<1
Chlorobenzene	<1.0	50.0	52.1	104	52.0	104	95% - 110%	<1
Sample Date:	09/28/00	~	09/28/00	~	09/28/00	~		
Analysis Date:	09/28/00	~	09/28/00	~	09/28/00	~		
Surrogate Recovery:							**Control Limits**	
Dibromofluoromethane:	98%	~	98%	~	98%	~	81%-115%	
Toluene-d_8:	100%	~	99%	~	99%	~	88%-106%	
4-Bromofluorobenzene:	104%	~	98%	~	98%	~	88%-111%	

ND Not Detected

Spike Source: Accustandard, M-502, Lot B0010296.
Accustandard, S-078, Lot A8100179.
Accustandard, AS-E0285, Lot A8120333.
Accustandard, M-8260-ADD, Lot B0050106.

Signature of Chemist

QA/QC Review

Project: Early Childhood Center-Bloomfield
Project No.: 0-517-000110
Project Manager: Fred Schelby
Sample Matrix: Water

Service Request No.: NM000552
Report Date: 09/29/00
Report No.: 00055212
C.O.C. No.: 4105, 4103

QC Data Report
MS/MSD Summary
Volatile Organic Compounds by GC/MSD
EPA Methods 5030B/8260B
µg/L(ppb)

Sample Name: / Lab Code:	TEMP-BH-4 552-12	Spike Level (µg/L)	Matrix Spike	Percent Recovery (MS)	Matrix Spike Duplicate	Percent Recovery (MSD)	% Recovery Control Criteria	Relative Percent Difference (RPD)
1,1 - Dichloroethene	<1.0	50.0	53.1	106	50.4	101	84% - 136%	5
Benzene	0.54J	50.0	51.8	103	51.0	101	92% - 112%	2
Trichloroethene	<1.0	50.0	50.2	100	49.3	99	86% - 116%	2
Toluene	2.31	50.0	53.2	102	52.4	100	79% - 116%	2
Chlorobenzene	<1.0	50.0	52.1	104	51.4	103	90% - 111%	1
Sample Date:	09/23/00	~	09/23/00	~	09/23/00	~		
Analysis Date:	09/28/00	~	09/28/00	~	09/28/00	~		
Surrogate Recovery:							**Control Limits**	
Dibromofluoromethane:	97%	~	97%	~	99%	~	81%-115%	
Toluene-d_8:	99%	~	98%	~	99%	~	88%-106%	
4-Bromofluorobenzene:	105%	~	106%	~	106%	~	88%-111%	

ND Not Detected
Spike Source: Ultra Scientific, CLP-100N, Lot M-1791.

J - Estimated value because the analyte concentration is between the method reporting limit and the detection limit.

Signature of Chemist

QA/QC Review

Project: Early Childhood Center-Bloomfield
Project No.: 0-517-000110
Project Manager: Fred Schelby
Sample Matrix: Water

Service Request No.: NM000552
Report Date: 09/28/00
Report No.: 00055205
C.O.C. No.: 4105, 4103

Total Petroleum Hydrocarbons - Gasoline, Diesel and Heavy Oil Ranges
EPA Methods 3510/8015B
mg/L (ppm)

Sample Name	Lab Code	Sample Date	Extraction Date	Analysis Date	Gasoline Result	Diesel Result	Heavy Oil Result	Surrogate Recovery	
								4-BFB	O-Terphenyl
MW1-110-101	552-9	9/23/00	9/26/00	9/28/00	41(a)	<6.2(b)	<12(b)	(c)	(c)
MW2-110-101	552-10	9/23/00	9/26/00	9/27/00	<0.25	<0.25	<0.50	66	70
MW3-110-101	552-11	9/23/00	9/26/00	9/27/00	<0.25	<0.25	<0.50	68	94
Temp-BH-4	552-12	9/23/00	9/26/00	9/27/00	<0.25	<0.25	<0.50	61	81
Lab Blank	552-MB	9/26/00	9/26/00	9/27/00	<0.25	<0.25	<0.50	61	74
							Control Limits:	37%-88%	45%-132%

(a) Result is from a 1:25 dilution.
(b) Method reporting limit is elevated because the sample required dilution.
(c) Not applicable because the analysis of the sample required a dilution that reduced the surrogate concentration below the analytical detection limit.

Signature of Chemist

QA/QC Review

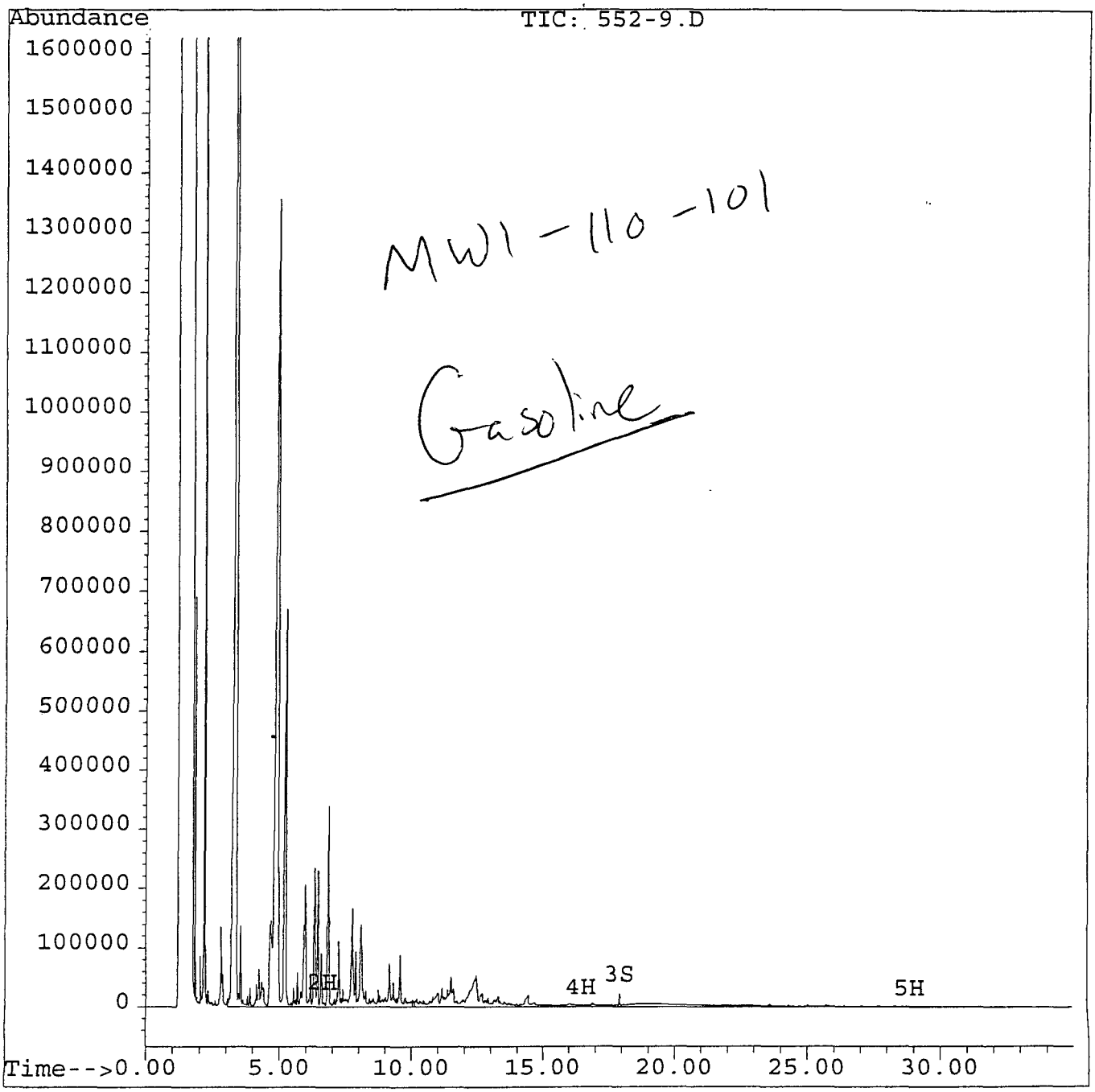
Quantitation Report

Data File : C:\HPCHEM\5\DATA\092700\552-9.D
Acq On : 27 Sep 00 09:16 PM
Sample : 8015 water
Misc :
Quant Time: Sep 28 7:36 2000

Vial: 7
Operator: MLB/dth
Inst : HP GC/FID
Multiplr: 1.00

Method : C:\HPCHEM\5\METHODS\TPH0918.M
Title :
Last Update : Tue Sep 19 12:46:35 2000
Response via : Multiple Level Calibration

Volume Inj. :
Signal Phase :
Signal Info :



MW1-110-101

Gasoline

amec

Project: Early Childhood Center-Bloomfield
Project No.: 0-517-000110
Project Manager: Fred Schelby
Sample Matrix: Water

Service Request No.: NM000552
Report Date: 09/28/00
Report No.: 00055206
C.O.C. No.: 4105, 4103

QC Data Report - Blank Spike Recoveries
Total Petroleum Hydrocarbons by GC/FID
EPA Methods 3510/8015B
mg/L(ppm)

Sample Name: / **Lab Code:**	Lab Blank 552-MB	Spike Level (mg/L)	Blank Spike	Percent Recovery (BS)	Blank Spike Duplicate	Percent Recovery (BSD)	Relative Percent Difference
Diesel:	<0.25	1.0	0.81	81	0.77	77	5
Acceptance Limits:	~	~	~	71%-112%	~	71%-112%	<25
Extraction Date:	09/26/00	~	09/26/00	~	09/26/00	~	~
Analysis Date:	09/27/00	~	09/27/00	~	09/27/00	~	~
Surrogate Recovery:							**Control Limits**
4-Bromofluorobenzene:	61%	~	57%	~	58%	~	37%-88%
O-Terphenyl:	74%	~	85%	~	82%	~	45%-132%

ND Not Detected
Spike Source: Diesel Fuel (AEE Lot #00-06-27-1).

Signature of Chemist

QA/QC Review

AGRA Earth & Environmental Portland Chemistry Laboratory

Sample Receipt Documentation Form

Project: Early Childhood Center-	Cooler Temperatures
SR No.: NM000552 Bloomfield	8.3°C 2.7°C
Date: 9/20/00	0.7°C
Time: 1230	
Temperature of Cooler Upon Receipt (Record to the Right):	0.2°C 1.6°C
Received By: KD	

Section One: Shipping/Delivery Issues

1.	Method of Sample Delivery: UPS			
2.	Airbill or Courier Receipt Number: 1Z 96E 188 22 1000 2151			
3.	Is a copy of the airbill or courier receipt available to be placed in the job file?	(Yes)	No	NA

Section Two: Sample Custody Issues

4.	Are custody seals on the shipping container intact?	Yes	No	(NA)
5.	Is a COC or other sample transmittal document present?	(Yes)	No	NA
6.	Is the COC complete?	(Yes)	No	NA
7.	Are the sample seals intact?	Yes	No	(NA)
8.	Does the COC match the samples received?	(Yes)	No	NA

Section Three: Sample Integrity Issues

9.	Are all sample containers intact and not leaking?	(Yes)	No	NA
10.	Are all samples preserved properly?	(Yes)	No	NA
11.	Are all samples within holding time for the required tests?	(Yes)	No	NA
12.	*Were all samples received at the proper temperature?	Yes	(No)	NA
13.	Are samples for volatiles and other headspace sensitive parameters free of headspace or bubbles?	Yes	(No)	NA

Section Four: Sample Containers Received:

14.	4 oz. glass jars: 1	19.	2oz. amber (MeOH):
15.	8 oz. glass jars: 7	20.	Encore samplers:
16.	40ml VOA vials: 14	21.	500ml plastic:
17.	1 liter glass: 4	22.	1liter plastic:
18.	Other (describe):		

*Temperatures for: soil and water = 4°C-6°C, MeOH jars = 25°C, air = not required

(6) Original (white copy) not present

(12) None were frozen

(13) 552-10b+c & 552-13b bubbles < .25"

Reviewed By:

Laboratory Manager or Designee

AGRA
ENGINEERING GLOBAL SOLUTIONS
7477 SW Tech Center Drive
Portland, Oregon, U.S.A. 97223-8025
Tel (503)639-3400 Fax (503) 620-7892

4105

NM0000552

CHAIN OF CUSTODY

PROJECT	PROJECT No.
Early Childhood Ctr - Bloomfield	0-517-000110
REPORT TO: Fred Schelby	PHONE No. 505-871-1801
PROJECT MANGER "	PHONE No. "
SAMPLER'S NAME (please print) Jim Criss	PHONE No. "
SAMPLER'S SIGNATURE Jim Criss	

ANALYSIS REQUESTED (circle, check box or write preferred method in box)

SAMPLE I.D.	DATE	TIME	MATRIX	PRESERVATIVE	CONTAINERS No.	CONTAINERS VOL.	BTEX by EPA 602 / 8021	TPH-G	BTEX / TPH-G	TPH-HCID	TPH-D / TPH-D EXTENDED	TPH by EPA 8015 MODIFIED 8015B	TPH-418.1 MODIFIED	TPH by EPA 418.1	GC / MS EPA 624 / EPA 8260 Volatiles	GC / MS EPA 625 / 8270 Semi-volatiles	VOCS EPA 601 / 602 or EPA 8021	PCBs EPA 608 / 8081 / 8082	LEAD EPA 6010 / EPA 7421 Total / Dissolved	TOTAL METALS	TCLP
1. MW-1-110-01	9-22	945	Soil									X			X						
2. MW-1-110-02		1000																			
3. MW-1-110-03		1015																			
4. MW-2-110-01		1153																			
5. MW-2-110-02		1210																			
6. MW-3-110-01	9-23	1415										X			X						
7. MW-3-110-02	V 9-22	1430	V									X			X						
8. Composite	9-22	1410		Please Hold For Instructions																	
9.																					
10.																					

SAMPLE RECEIPT	LABORATORY	TURNAROUND TIME	QC Reporting Requirements (Add'l charges may apply)	COMMENTS / INSTRUCTION
TOTAL # CONTAINERS	SHIPPING I.D. / AIRBILL #	☐ 8 HOUR	☐ LEVEL I	
CONDITION OF CONTAINERS	CARRIER	☐ 24 HOUR ☐ 1 WEEK 9-26	☐ LEVEL II	
CONDITION OF SEALS	DOT DESIGNATION	☐ 2 WEEK (standard)	☐ LEVEL II w/project specific Duplicates/Spikes	
		☐ OTHER ____	☐ Level III (Full validation package)	

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
1. Jim Criss	9-25-97	11:30	1.		
2.			2.		
3.			3. Kimberly A Davis AMEC	9/26/97	1230

0022

PAGE ____ OF ____

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4103

NM0000552

CHAIN OF CUSTODY

PROJECT: Early Childhood Ctr - Bloomfield	PROJECT No.: 0-517-000110
REPORT TO: Fred Schelby	PHONE No.: 505-821-1801
PROJECT MANGER: "	PHONE No.: "
SAMPLER'S NAME (please print): Jim Cruss	PHONE No.: "
SAMPLER'S SIGNATURE: Jim Cruss	

ANALYSIS REQUESTED (circle, check box or write preferred method in box)

SAMPLE I.D.	DATE	TIME	MATRIX	PRESERVATIVE	CONTAINERS No.	CONTAINERS VOL.	BTEX by EPA 602 / 8021	TPH-G	BTEX / TPH-G	TPH-HCID	TPH-D / TPH-D EXTENDED	TPH by EPA 8015 MODIFIED / 8015B	TPH-418.1 MODIFIED	TPH by EPA 418.1	GC / MS EPA 624 / EPA 8260 Volatiles	GC / MS EPA 625 / 8270 Semi-volatiles	VOCS EPA 601 / 602 or EPA 8021	PCBs EPA 608 / 8081 / 8082	LEAD EPA 6010 / EPA 7421 Total / Dissolved	TOTAL METALS	TCLP			
1. ~~MW1-PAT~~																								
2. MW1-110-101	9-23	11:15	AQ	HCL	4	3-40ml VOA		~~Lead~~ Pb				X			X			=			X			
3. MW2-110-101		10:00			4	40ml VOA		Pb																
4. MW3-110-101		10:50			4																			
5. Temp-131-4		9:45			4							X			X									
6.												~~X~~			~~X~~									
7. Blank					2							~~X~~			X									
8.																								
9.																								
10.																								

SAMPLE RECEIPT	LABORATORY	TURNAROUND TIME	QC Reporting Requirements (Add'l charges may apply)	COMMENTS / INSTRUCTIONS
TOTAL # CONTAINERS	SHIPPING I.D. / AIRBILL #	☐ 8 HOUR	☐ LEVEL I	AQ Sample From MW-1 exceeded 2000 ppm on PID
CONDITION OF CONTAINERS	CARRIER	☐ 24 HOUR ☐ 1 WEEK 9-28	☐ LEVEL II	
CONDITION OF SEALS	DOT DESIGNATION	☐ 2 WEEK (standard)	☐ LEVEL II w/project specific Duplicates/Spikes	
		☐ OTHER ____	☐ Level III (Full validation package)	

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
1. Jim Cruss (Jim Cruss)	9-27-00	11:30	1.		
2.			2.		
3.			3. Kimberly A. Davis AMEC	9/28/00	1230

0023

PAGE ____ OF ____