

December 17, 2013

New Mexico Environment Department  
Petroleum Storage Tank Program  
2905 Rodeo Park Drive East, Building 1  
Santa Fe, New Mexico 87505

Attn: Ms. Susan von Gonten, CPG  
Phone: (505) 476-4389  
E-mail: susan.vongonten@state.nm.us

Re: Report of NAPL Recovery  
Former Fairview Station  
1626 North Riverside Drive  
Española, New Mexico  
Facility # 28779 / Release ID # 4657 / Work Plan ID # 16821  
Terracon Project No. 66127029.2

Dear Ms. von Gonten:

Terracon Consultants, Inc. (Terracon) is pleased to provide this report of three bi-weekly events of non-aqueous phase liquid (NAPL) recovery at the above-referenced site. Our services were performed in accordance with our Work Plan dated July 24, 2013 and the Petroleum Storage Tank Bureau (PSTB) Work Plan approval dated August 15, 2013. NAPL gauging and recovery activities were performed on October 29, 2013, November 12, 2013 and November 26, 2013. In general, the NAPL thicknesses increased during the three events and averaged 1.14 feet in MW-1, 5.56 feet in MW-2, and 6.80 feet in MW-3. Terracon conducted NAPL recovery during each of the three events using hand bailing. A total of approximately 2.1 gallons of NAPL was removed from MW-1, approximately 9.3 gallons of NAPL were recovered from MW-2, and approximately 16.3 gallons of NAPL were removed from MW-3. In addition, approximately 9.0 gallons of NAPL was removed from newly installed monitoring well MW-8. The ground water flow direction was toward the southwest during the October 29, 2013 gauging event, toward a depression in the vicinity of the former tank hold during the November 12, 2013 gauging event, and toward the south during the November 26, 2013 sampling event. Attached Exhibit 1 is a Site Diagram of the site and adjoining properties. Exhibits 2-4 depict the NAPL thicknesses during each of the three events and attached Exhibits 5-7 depict the direction of ground water flow. The recovered NAPL was stored on-site in a 55-gallon drum, which was labeled to note hazardous contents.

Terracon Consultants, Inc. 4905 Hawkins NE Albuquerque, NM 87109  
P (505) 797 4287 F (505) 797 4288 [terracon.com](http://terracon.com)



## NAPL Recovery Report

Former Fairview Station ■ Espanola, New Mexico

December 17, 2013 ■ Terracon Project No. 66127029.2



Terracon recommends continued remedial actions at the site to remove the NAPL and reduce dissolved-phase hydrocarbon concentrations in the on-site aquifer.

If you should have any questions or comments regarding this report, please contact Mark Hillier at (505) 797-4287.

Sincerely,

**Terracon**

A handwritten signature in blue ink, appearing to read "Julie A. Smith".

Julie A. Smith  
Environmental Scientist

A handwritten signature in blue ink, appearing to read "Mark R. Hillier".

Mark R. Hillier, P.G. (TX)  
Department Manager

Attachments: Table 1 – Ground Water and NAPL Measurements  
Exhibit 1 – Site Diagram  
Exhibits 2-4 – NAPL Thickness Maps  
Exhibits 5-7 – Ground Water Gradient Maps

**TABLE 1**  
**GROUND WATER AND NAPL MEASUREMENTS**  
**Fairview Station - Facility # 28779, Release ID# 4657, WP ID# 16613**  
**1626 N. Riverside Drive**  
**1626 N. Riverside Drive, Espanola, New Mexico**

Monitor Well	Gauging Date	Total Depth From TOC <sup>1</sup> (feet)	Screened Interval (feet)	Top of Casing Elevation (feet)	Depth to Groundwater From TOC (feet)	Depth to NAPL (feet)	NAPL Thickness (feet)	NAPL Removed (gallons)	Cumulative NAPL Removed (gallons)	Groundwater Elevation <sup>2</sup> (feet)
MW-1	2/1/2013	28	13-28	5622.71	not measured	not measured		0.0	0.0	
	2/4/2013			5622.71	not measured	not measured		0.0	0.0	
	2/27/2013			5622.71	14.40	14.06	0.34	0.0	0.0	5608.56
	6/3/2013			5622.71	14.20	13.92	0.28	0.5	0.5	5608.71
	6/27/2013			5622.71	14.80	14.43	0.37	0.1	0.6	5608.18
	7/10/2013			5622.71	14.45	14.21	0.24	0.0	0.6	5608.43
	10/29/2013			5622.71	15.25	13.36	1.89	1.5	2.1	5608.84
	11/12/2013			5622.71	15.83	15.37	0.46	0.3	2.4	5607.22
	11/26/2013			5622.71	14.90	13.82	1.08	0.3	2.7	5608.60
MW-2	2/1/2013	28	13-28	5622.99	not measured	not measured		4.5	4.5	
	2/4/2013			5622.99	not measured	not measured		5.0	9.5	
	2/27/2013			5622.99	18.56	13.11	5.45	0.0	9.5	5608.40
	6/3/2013			5622.99	17.39	13.42	3.97	4.5	14.0	5608.49
	6/27/2013			5622.99	18.20	13.98	4.22	3.0	17.0	5607.87
	7/10/2013			5622.99	17.50	13.67	3.83	2.5	19.5	5608.28
	10/29/2013			5622.99	18.68	12.66	6.02	3.5	23.0	5608.70
	11/12/2013			5622.99	19.40	14.34	5.06	2.8	25.8	5607.28
	11/26/2013			5622.99	18.56	12.95	5.61	3.0	28.8	5608.52

**TABLE 1 Con't.**  
**GROUND WATER AND NAPL MEASUREMENTS**  
**Fairview Station - Facility # 28779, Release ID# 4657, WP ID# 16613**  
**1626 N. Riverside Drive**  
**1626 N. Riverside Drive, Espanola, New Mexico**

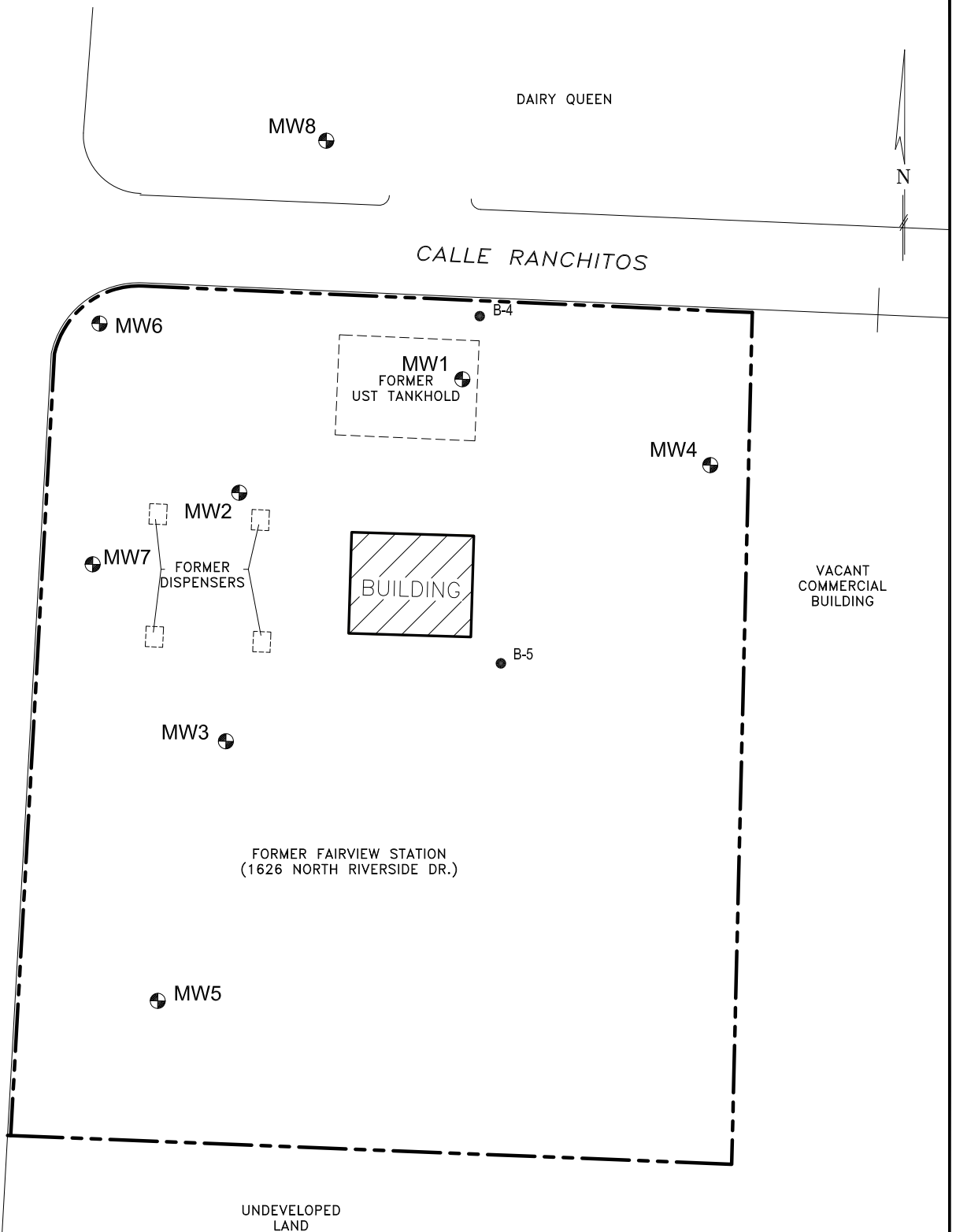
Monitor Well	Gauging Date	Total Depth From TOC <sup>1</sup> (feet)	Screened Interval (feet)	Top of Casing Elevation (feet)	Depth to Groundwater From TOC (feet)	Depth to NAPL (feet)	NAPL Thickness (feet)	NAPL Removed (gallons)	Cumulative NAPL Removed (gallons)	Groundwater Elevation <sup>2</sup> (feet)
MW-3	2/1/2013	28	13-28	5623.02	not measured	not measured		0.5	0.5	
	2/4/2013			5623.02	not measured	not measured		2.0	2.5	
	2/27/2013			5623.02	16.69	13.80	2.89	0.0	2.5	5608.44
	6/3/2013			5623.02	17.57	13.46	4.11	4.5	7.0	5608.45
	6/27/2013			5623.02	18.33	13.88	4.45	3.5	10.5	5607.93
	7/10/2013			5623.02	17.68	13.70	3.98	3.0	13.5	5608.24
	10/29/2013			5623.02	19.46	12.50	6.96	7.0	20.5	5608.63
	11/12/2013			5623.02	20.62	13.19	7.43	5.0	25.5	5607.82
	11/26/2013			5623.02	19.02	13.02	6.00	4.3	29.8	5608.37
MW-4	10/29/2013	27	12-27	5623.67	14.13	14.13	0.00	0.0		5609.54
	11/12/2013			5623.67	15.12	15.12	0.00	0.0		5608.55
	11/26/2013			5623.67	15.20	15.20	0.00	0.0		5608.47
MW-5	10/29/2013	25	10-25	5622.41	13.77	13.77	0.00	0.0		5608.64
	11/12/2013			5622.41	13.93	13.93	0.00	0.0		5608.48
	11/26/2013			5622.41	14.07	14.07	0.00	0.0		5608.34
MW-6	10/29/2013	25	10-25	5622.80	13.97	13.97	0.00	0.0		5608.83
	11/12/2013			5622.80	14.40	14.39	0.01	0.0		5608.41
	11/26/2013			5622.80	14.33	14.31	0.02	0.0		5608.48
MW-7	10/29/2013	25	10-25	5622.86	14.17	14.17	0.00	0.0		5608.69
	11/12/2013			5622.86	14.62	14.62	0.00	0.0		5608.24
	11/26/2013			5622.86	14.50	14.50	0.00	0.0		5608.36
MW-8	10/29/2013	27	12-27	5623.90	17.35	13.80	3.55	2.5	2.5	5609.14
	11/12/2013			5623.90	21.03	14.49	6.54	3.0	5.5	5607.64
	11/26/2013			5623.90	18.30	14.05	4.25	3.5	9.0	5608.70

1 - TOC = Top-of-Casing elevation above mean sea level surveyed by a NM Licensed Surveyor.

2 - Product density value of 0.729 used for purpose of calculating water column overburden.

N:\CAD\new mexico\66127029-2.dwg Layout: SITE Current Layer: -Grad nov 12 2013

NORTH RIVERSIDE DRIVE



THIS DRAWING SHOULD  
NOT BE USED SEPARATELY  
FROM ORIGINAL REPORT.



NOTE: BORING LOCATIONS ARE APPROXIMATE.

Project Mngt:	MH
Drawn By:	JJD
Checked By:	MH
Approved By:	MH

Project No.	66127029.2
Scale:	AS SHOWN
Date:	12/17/13

**Terracon**  
Consulting Engineers and Scientists  
4905 Hawkins NE Albuquerque, New Mexico 87109  
PH. (505) 797-4287 FAX. (505) 797-4288

## SITE DIAGRAM

FAIRVIEW STATION  
1626 NORTH RIVERSIDE DRIVE  
ESPANOLA, RIO ARriba COUNTY, NEW MEXICO

EXHIBIT

1

Date: 12/16/13 N:\CAD\new mexico\66127729-2.dwg Layout: NAPL Current Layer: -NAPL oct 29 2013

NORTH RIVERSIDE DRIVE

MW8  
3.55

DAIRY QUEEN

CALLE RANCHITOS

MW6  
0.00

MW1  
FORMER  
UST  
TANKHOLD

B-1/MW-1  
1.89

MW4  
0.00

6.02  
B-2/MW-2

MW2

MW7  
0.00

FORMER  
DISPENSERS

BUILDING

B-5

MW3

B-3/MW-3  
6.96

FORMER FAIRVIEW STATION  
(1626 NORTH RIVERSIDE DR.)

MW5  
0.00

VACANT  
COMMERCIAL  
BUILDING

UNDEVELOPED  
LAND

LEGEND:

1.89 NAPL Thickness (ft)

THIS DRAWING SHOULD  
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FROM ORIGINAL REPORT.

0 15 30 feet  
APPROXIMATE SCALE

NOTE: BORING LOCATIONS ARE APPROXIMATE.

Project Mgr:	MH
Drawn By:	JJD
Checked By:	MH
Approved By:	MH

Project No:	66127029.2
Scale:	AS SHOWN
Date:	12/16/13

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## NAPL THICKNESS MAP 10-29-13

FAIRVIEW STATION  
1626 NORTH RIVERSIDE DRIVE  
ESPANOLA, RIO ARriba COUNTY, NEW MEXICO

EXHIBIT

2

Date: 12/16/13 N:\CAD\new mexico\66127729-2.dwg Layout: NAPL Current Layer: -NAPL nov 12 2013

NORTH RIVERSIDE DRIVE

MW8  
6.54

DAIRY QUEEN

CALLE RANCHITOS

MW6  
0.01

MW1  
FORMER  
UST TANKHOLD

B-1/MW-1  
0.46

MW4  
0.00

5.06  
B-2/MW-2

MW2

MW7  
0.00

FORMER  
DISPENSERS

BUILDING

B-5

MW3

B-3/MW-3  
7.43

FORMER FAIRVIEW STATION  
(1626 NORTH RIVERSIDE DR.)

MW5  
0.00

VACANT  
COMMERCIAL  
BUILDING

UNDEVELOPED  
LAND

LEGEND:

0.46 NAPL Thickness (ft)

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0 15 30 feet  
APPROXIMATE SCALE

NOTE: BORING LOCATIONS ARE APPROXIMATE.

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Drawn By:	JJD
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Approved By:	MH

Project No.	66127029.2
Scale:	AS SHOWN
Date:	12/16/13

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## NAPL THICKNESS MAP 11-12-13

FAIRVIEW STATION  
1626 NORTH RIVERSIDE DRIVE  
ESPANOLA, RIO ARriba COUNTY, NEW MEXICO

EXHIBIT

3

Date: 12/16/13 N:\CAD\new mexico\66127729-2.dwg Layout: NAPL Current Layer: -NAPL nov 26 2013

NORTH RIVERSIDE DRIVE

MW8  
4.25

DAIRY QUEEN

CALLE RANCHITOS

MW6  
0.02

MW1  
FORMER  
UST  
TANKHOLD

B-1/MW-1  
1.08

MW4  
0.00

5.61  
B-2/MW-2

MW2

MW7  
0.00

FORMER  
DISPENSERS

BUILDING

B-5

MW3

B-3/MW-3  
6.00

FORMER FAIRVIEW STATION  
(1626 NORTH RIVERSIDE DR.)

MW5  
0.00

VACANT  
COMMERCIAL  
BUILDING

UNDEVELOPED  
LAND

LEGEND:

1.89 NAPL Thickness (ft)

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0 15 30 feet  
APPROXIMATE SCALE

NOTE: BORING LOCATIONS ARE APPROXIMATE.

Project Mgr:	MH
Drawn By:	JJD
Checked By:	MH
Approved By:	MH

Project No.	66127029.2
Scale:	AS SHOWN
Date:	12/16/13

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## NAPL THICKNESS MAP 11-26-13

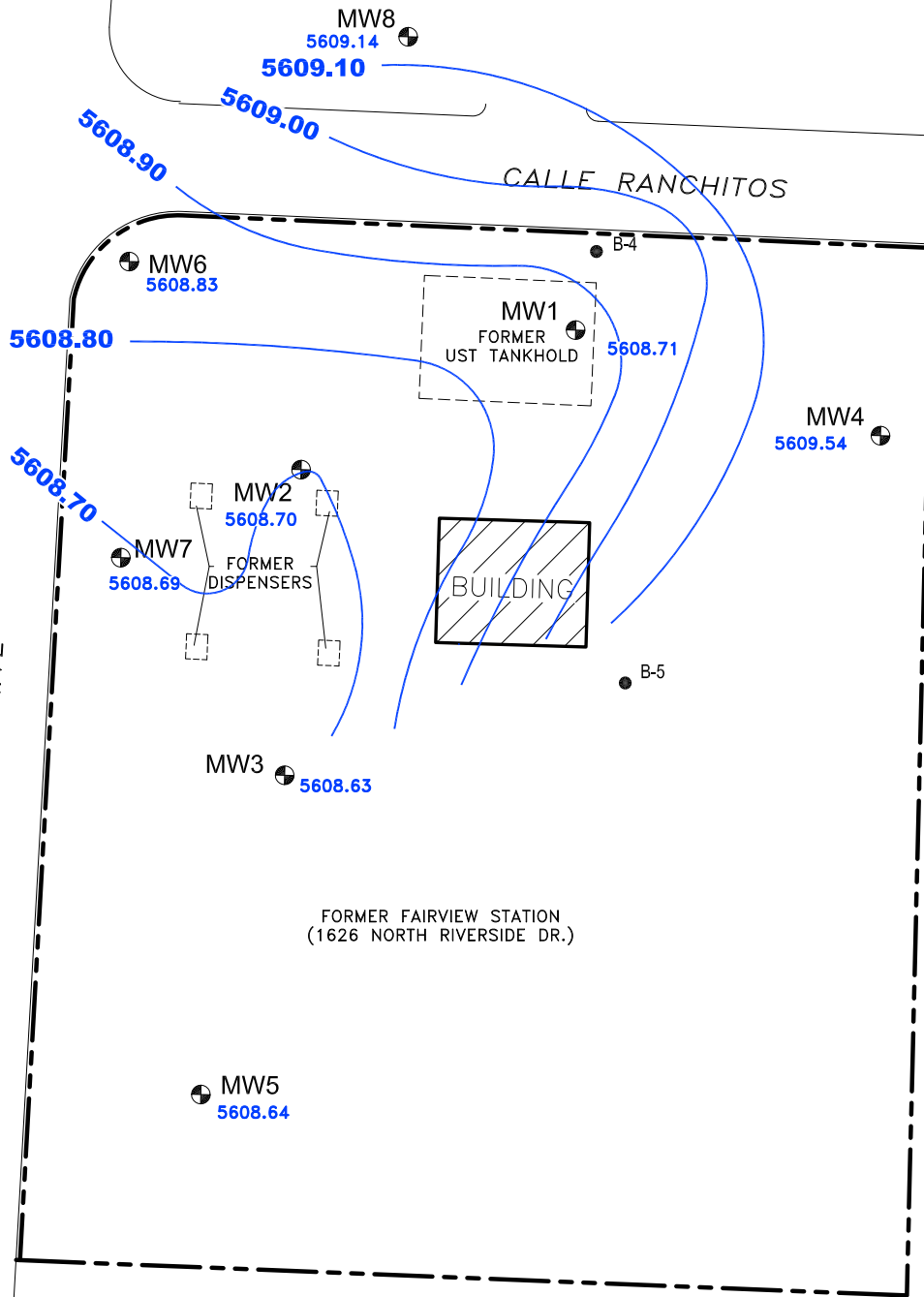
FAIRVIEW STATION  
1626 NORTH RIVERSIDE DRIVE  
ESPANOLA, RIO ARriba COUNTY, NEW MEXICO

EXHIBIT
4



N:\CAD\new mexico\66127729-2.dwg Layout: GW GRAD Current Layer: -Grad oct 29 2013 Date: 12/16/13

NORTH RIVERSIDE DRIVE



THIS DRAWING SHOULD  
NOT BE USED SEPARATELY  
FROM ORIGINAL REPORT.



NOTE: BORING LOCATIONS ARE APPROXIMATE.

LEGEND:

5609.14 GROUNDWATER ELEVATION IN FEET  
ABOVE MSL

Project Mngt:	MH
Drawn By:	JJD
Checked By:	MH
Approved By:	MH

Project No:	66127029.2
Scale:	AS SHOWN
Date:	12/16/13

**Terracon**  
Consulting Engineers and Scientists  
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**GROUNDWATER GRADIENT MAP 10-29-13**

FAIRVIEW STATION  
1626 NORTH RIVERSIDE DRIVE  
ESPANOLA, RIO ARriba COUNTY, NEW MEXICO

EXHIBIT

5

N:\CAD\new mexico\66127729-2.dwg Layout: GW GRAD Current Layer: -Grad nov 12 2013

Date: 12/16/13

NORTH RIVERSIDE DRIVE

MW8  
5607.64

CALLE RANCHITOS

MW6  
5608.41

MW1  
FORMER  
UST TANKHOLD  
5607.25

MW4  
5608.55

MW7  
5608.24  
FORMER  
DISPENSERS

MW2  
5607.28

BUILDING

MW3  
5607.82

FORMER FAIRVIEW STATION  
(1626 NORTH RIVERSIDE DR.)

MW5  
5608.48

UNDEVELOPED  
LAND

VACANT  
COMMERCIAL  
BUILDING

LEGEND:

5609.14 GROUNDWATER ELEVATION IN FEET  
ABOVE MSL

THIS DRAWING SHOULD  
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FROM ORIGINAL REPORT.

0 15 30 feet  
APPROXIMATE SCALE

NOTE: BORING LOCATIONS ARE APPROXIMATE.

Project Mgr: MH  
Drawn By: JJD  
Checked By: MH  
Approved By: MH

Project No. 66127029.2  
Scale: AS SHOWN  
Date: 12/16/13

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## GROUNDWATER GRADIENT MAP 11-12-13

FAIRVIEW STATION  
1626 NORTH RIVERSIDE DRIVE  
ESPANOLA, RIO ARriba COUNTY, NEW MEXICO

EXHIBIT

6

Date: 12/16/13 N:\CAD\new mexico\66127729-2.dwg Layout: GW GRAD Current Layer: -Grad nov 26 2013

NORTH RIVERSIDE DRIVE

CALLE RANCHITOS

MW8  
5608.70

MW6  
5608.48

MW1  
FORMER  
UST TANKHOLD  
5608.60

5608.60

5608.50

MW4  
5608.47

5608.40

MW7  
5608.36

MW2  
5608.52

FORMER  
DISPENSERS

BUILDING

MW3  
5608.37

FORMER FAIRVIEW STATION  
(1626 NORTH RIVERSIDE DR.)

MW5  
5608.34

VACANT  
COMMERCIAL  
BUILDING

UNDEVELOPED  
LAND

LEGEND:

5609.14 GROUNDWATER ELEVATION IN FEET  
ABOVE MSL

THIS DRAWING SHOULD  
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0 15 30 feet  
APPROXIMATE SCALE

NOTE: BORING LOCATIONS ARE APPROXIMATE.

Project Mngt:	MH	Project No:	66127029.2
Drawn By:	JJD	Scale:	AS SHOWN
Checked By:	MH	Date:	12/16/13
Approved By:	MH		

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**GROUNDWATER GRADIENT MAP 11-26-13**

FAIRVIEW STATION  
1626 NORTH RIVERSIDE DRIVE  
ESPANOLA, RIO ARriba COUNTY, NEW MEXICO

EXHIBIT

7