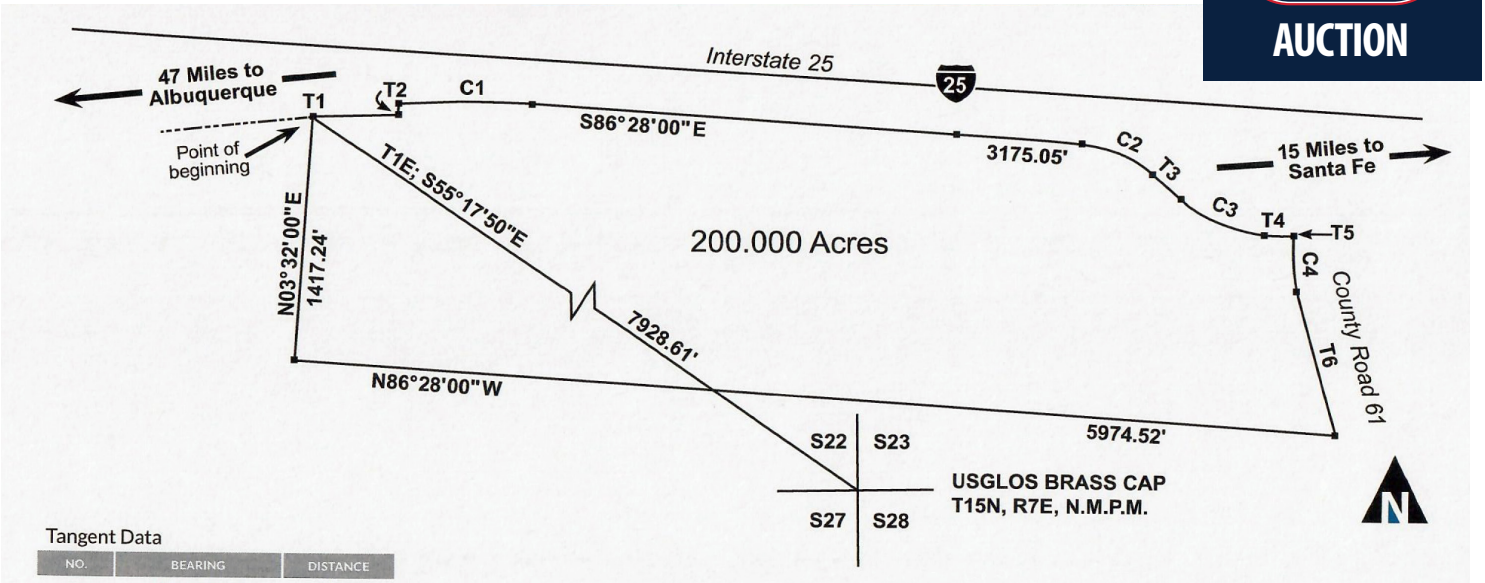
PROPERTY INFORMATION

Est. 1902 J.P. WEIGAND & SONS INC. REALTORS®

AUCTION



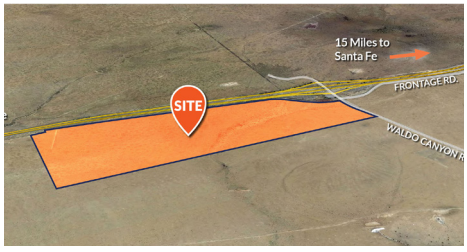
Tangent Data

NO.	BEARING	DISTANCE
T1	N85°34'00"E	477.67
T2	N04°26'00"W	51.02
T3	S48°28'00"E	193.45
T4	S86°28'00"E	165.00
T5	S06°32'00"W	48.77
T6	S16°01'00"E	874.85

Curve Data

NO.	ARC	RADIUS	DELTA	CHG. BRG.	CHORD	TANGENT
C1	786.24	5654.58	07°58'00"	N89°33'00"E	785.61	393.75
C2	456.92	688.94	38°00'00"	S67°28'00"E	448.59	237.22
C3	556.41	838.94	38°00'00"	S67°28'00"E	546.26	288.87
C4	277.73	813.94	19°33'00"	S06°14'30"E	276.38	140.23

JOHNSON Commercial Real Estate
505.831.3333 ▪ jcrenm.com



200 ± ACRES Off I-25 & Waldo Canyon Rd.

360° PANORAMIC MOUNTAIN VIEWS

NEAR LA BAJADA OVERLOOK

SITE SIZE:
200 ± acres

2023 TAXES:
GENERALS: $10.00

Online Only Auction

September 5 - Closing Beginning @ 2:00 PM MDT

No Minimum No Reserve

KAA AUCTIONEER

Kevin Howell, Certified Auctioneer
316-292-3971 | khowell@weigand.com

NAA Auctioneer

AUCTION

TABLE OF CONTENTS

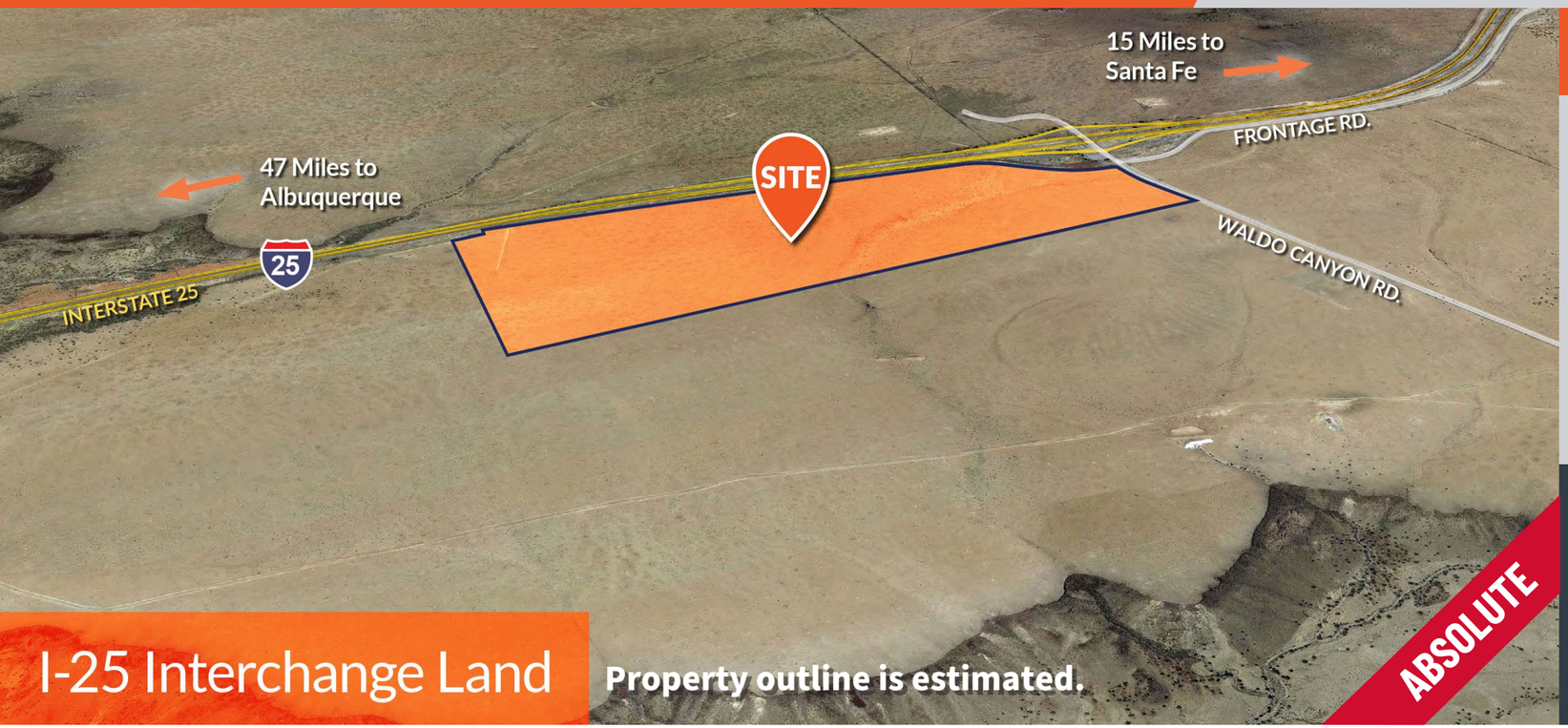
Kevin Howell, Certified Auctioneer
316-292-3971 | khowell@weigand.com

WEIGAND ABSOLUTE AUCTION – 200 ± ACRES

Interstate 25 & Waldo Canyon Rd. – Interchange Exit 267 | Santa Fe County, NM

ONLINE ONLY Register & Bid Online at WeigandAuctions.com

Bidding Ends Thursday, September 5, 2024 @ 2:00 PM, MDT



NO MINIMUM | NO RESERVE

Weigand Auction is proud to offer 200± acres of agricultural/ranch land between Santa Fe and Albuquerque, NM at Absolute Auction.

Situated on a mesa at the top of La Bajada Hill, the property is located 15 miles southwest of Santa Fe, NM and 47 miles from Albuquerque, NM. Don't miss your opportunity to invest today!

HIGHLIGHTS:

- Great Interstate access and visibility.
- Stunning 360° panoramic mountain views.
- Zoned Agricultural/Ranching – Santa Fe County – 1 dwelling per 160 acres.

FOR MORE DETAILS, VISIT
WEIGANDAUCTIONS.COM
OR SCAN THE QR CODE.

Terry L. Johnson, SIOR
505-710-8415 | NM Lic. 4124
terry@jcrenm.com

Johnson Commercial RE
4811 Hardware Dr. NE, Suite C-5
Albuquerque, NM 87109

JOHNSON
Commercial Real Estate
505-831-3333

Est. 1902 J.P. WEIGAND & SONS, INC. REALTORS®
AUCTION

J.P. Weigand & Sons, Inc. – Auction
150 N. Market Wichita, KS 67202
WeigandAuctions.com

KAA AUCTIONEER

NAA Auctioneer

Kevin Howell, Auctioneer
316-292-3971
khowell@weigand.com

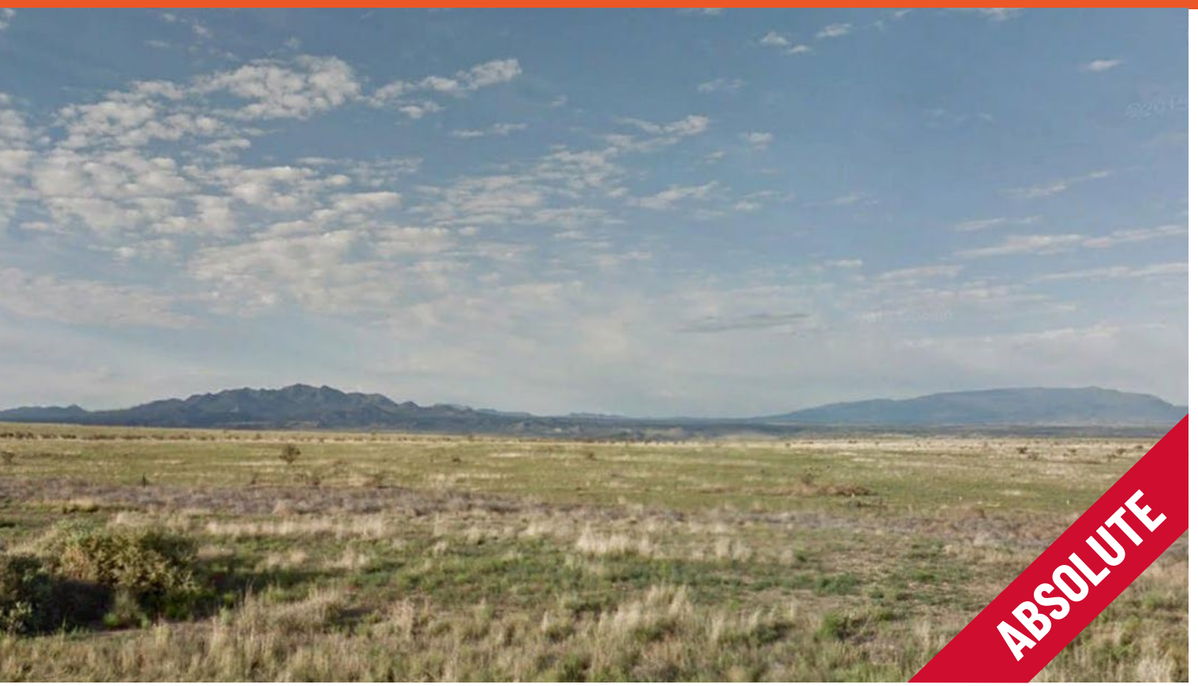
Grant Tidemann, SIOR
316-292-3908
tidemann@weigand.com

WEIGAND ABSOLUTE AUCTION – 200 ± ACRES

Interstate 25 & Waldo Canyon Rd. – Interchange Exit 267 | Santa Fe County, NM

ONLINE ONLY Register & Bid Online at WeigandAuctions.com

Bidding Ends Thursday, September 5, 2024 @ 2:00 PM, MDT



SITE SIZE
200± ACRES

2023 ESTIMATED TAXES
$10.00

PROPERTY HIGHLIGHTS

- Located on the SW/c of I-25 (formerly Route 66) and Waldo Canyon Rd.; Interchange Exit 267 at the top of La Bajada Mesa.
- Stunning 360° panoramic mountain views.
- Excellent visibility along the I-25 also known as the CanAm Highway, an international highway that connects Mexico to Canada through the United States.
- Situated along the El Camino Real de Tierra Adentro trail.
- Close to the Bajada overlook, one of New Mexico's most spectacular natural landmarks: https://www.nps.gov/places/la-bajada-mesa.htm

Terry L. Johnson, SIOR
505-710-8415 | NM Lic. 4124
terry@jcrenm.com

Johnson Commercial RE
4811 Hardware Dr. NE, Suite C-5
Albuquerque, NM 87109

JOHNSON Commercial Real Estate
505-831-3333

Est. 1902 J.P. WEIGAND & SONS INC. REALTORS® AUCTION

KAA AUCTIONEER

J.P. Weigand & Sons, Inc. – Auction
150 N. Market Wichita, KS 67202
WeigandAuctions.com

NAA Auctioneer

Kevin Howell, Auctioneer
316-292-3971
khowell@weigand.com

Grant Tidemann, SIOR
316-292-3908
tidemann@weigand.com

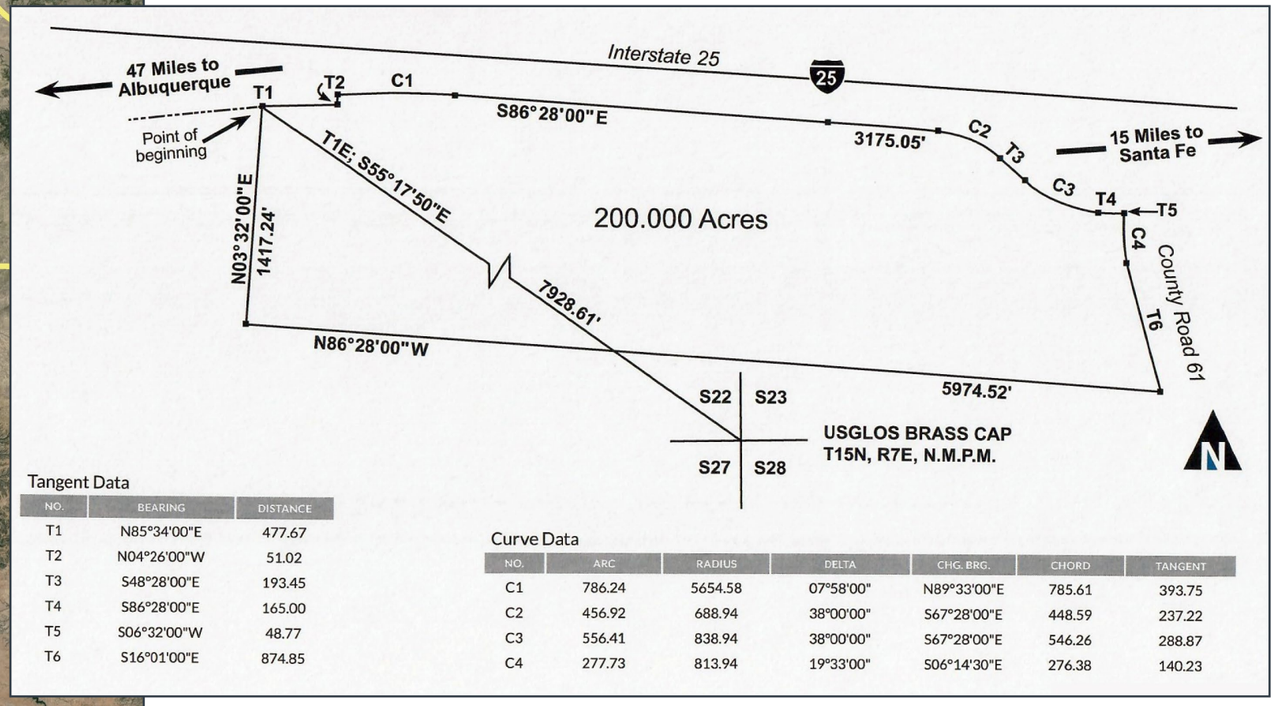
WEIGAND ABSOLUTE AUCTION – 200 ± ACRES

Interstate 25 & Waldo Canyon Rd. – Interchange Exit 267 | Santa Fe County, NM

ONLINE ONLY Register & Bid Online at WeigandAuctions.com

Bidding Ends Thursday, September 5, 2024 @ 2:00 PM, MDT

SURVEY



Tangent Data

NO.	BEARING	DISTANCE
T1	N85°34'00"E	477.67
T2	N04°26'00"W	51.02
T3	S48°28'00"E	193.45
T4	S86°28'00"E	165.00
T5	S06°32'00"W	48.77
T6	S16°01'00"E	874.85

Curve Data

NO.	ARC	RADIUS	DELTA	CHG. BRG.	CHORD	TANGENT
C1	786.24	5654.58	07°58'00"	N89°33'00"E	785.61	393.75
C2	456.92	688.94	38°00'00"	S67°28'00"E	448.59	237.22
C3	556.41	838.94	38°00'00"	S67°28'00"E	546.26	288.87
C4	277.73	813.94	19°33'00"	S06°14'30"E	276.38	140.23

Terry L. Johnson, SIOR
505-710-8415 | NM Lic. 4124
terry@jcrenm.com

Johnson Commercial RE
4811 Hardware Dr. NE, Suite C-5
Albuquerque, NM 87109

JOHNSON Commercial Real Estate
505-831-3333

Est. 1902 J.P. WEIGAND & SONS, INC. REALTORS® AUCTION

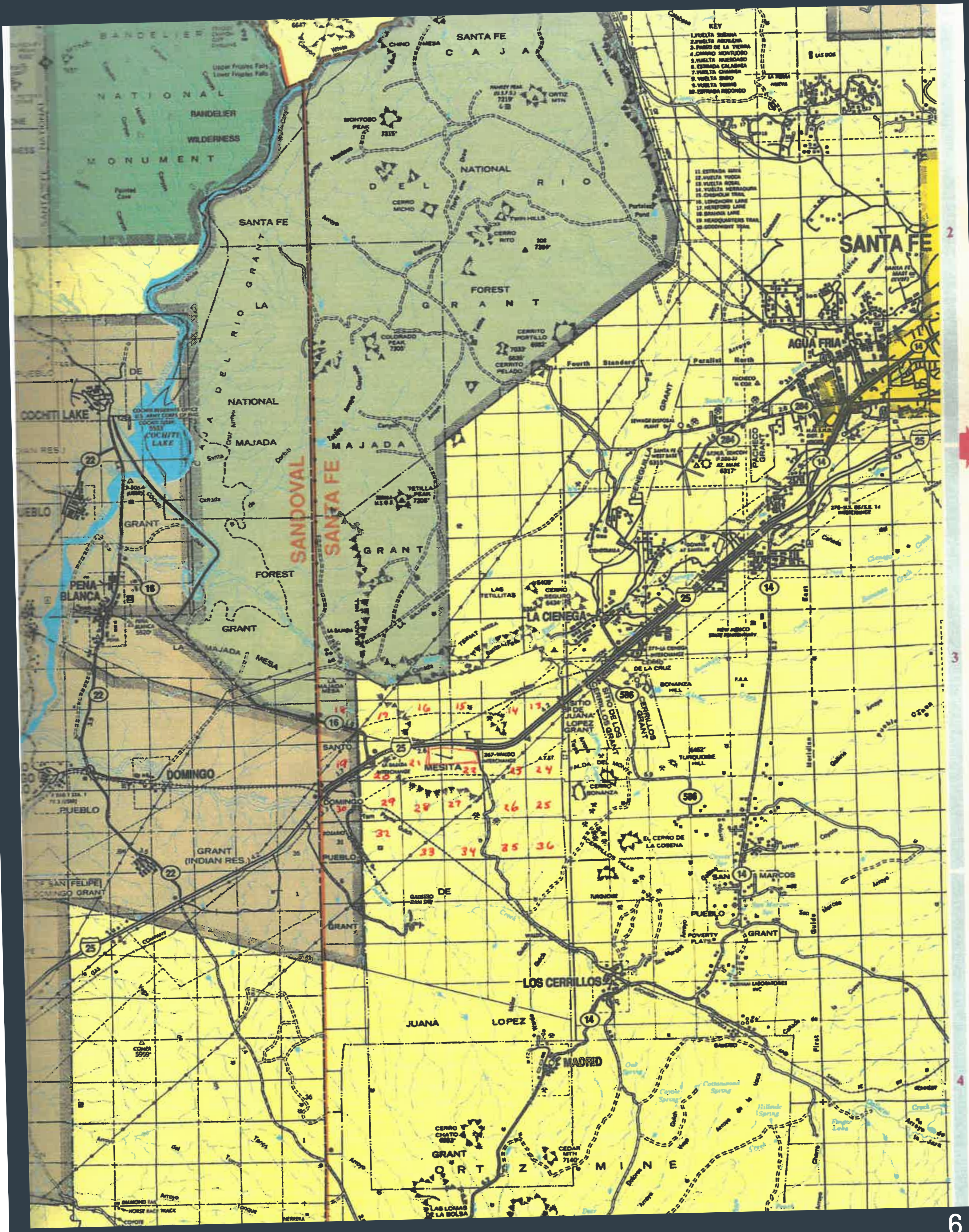
KAA AUCTIONEER

J.P. Weigand & Sons, Inc. – Auction
150 N. Market Wichita, KS 67202
WeigandAuctions.com

NAA Auctioneer

Kevin Howell, Auctioneer
316-292-3971
khowell@weigand.com

Grant Tidemann, SIOR
316-292-3908
tidemann@weigand.com



BANDELIER
NATIONAL
MONUMENT
BANDELIER WILDERNESS
SANTA FE
CAJA
DEL
RIO
NATIONAL
FOREST
GRANT
SANTA FE
LA
MAJADA
DEL RIO GRANT
NATIONAL
FOREST
GRANT
LA MAJADA MESA
SANDOVAL
SANTA FE
COCHITI LAKE
PENA BLANCA
DOMINGO
PUEBLO
GRANT (INDIAN RES.)
SANTO
DOMINGO
PUEBLO
DE
GRANT
SANTA FE
AGUA FRIA
LA CIENEGA
LAS TETILLITAS
CERRO SEGUIDO
DE LA CRUZ
BONANZA HILL
TURQUOISE HILL
MESITA
CERRILLOS GRANT
SITIO DE JUANA LOPEZ GRANT
EL CERRO DE LA COBENA
SAN MARCOS
PUEBLO
GRANT
POVERTY FLAT
LOS CERRILLOS
JUANA LOPEZ
MADRID
CERRO CHATO
GRANT
CEDAR MTN 7140'
ORTIZ MINE
LAS LOMAS DE LA BOLSA
MONTOSO PEAK 7315'
CERRO MICHO
TWIN HILLS
CERRO RITO
COLORADO PEAK 7305'
CERRITO PORTILLO
CERRITO PELADO
TETILLA PEAK 7206'
Fourth Standard Parallel North
KEY
2
3
4
14
16
22
25
284
586

ISAIAH F. ROMERO
SANTA FE COUNTY ASSESSOR
100 CATRON ST.
PO BOX 126
SANTA FE, NM 87504-0126

2024 NOTICE OF VALUE

Office of the Santa Fe County Assessor
Phone (505) 986-6300
assessor@santafecountynm.gov
www.santafecountynm.gov/assessor

THIS IS NOT A TAX BILL

Property Listed and Valued as of JANUARY 1, 2024. THIS VALUE WILL BE A FACTOR IN DETERMINING YOUR 2024 PROPERTY TAX BILL.

Account Number	Official Mailing Date	Protest Deadline	Online Protest - Key Code
79001416	May 01, 2024	May 31, 2024	

79001416 REAL PROPERTY
72702*217**G50**0.6855**1/2*********AUTOALL FOR AADC 800
THE HARRIS FAMILY TRUST
1032 SNOW LILY CT
CASTLE PINES CO 80108-8275

THIS IS THE ONLY NOTICE OF VALUE YOU WILL RECEIVE UNLESS YOU ARE THE OWNER OF PERSONAL PROPERTY OR TAXABLE LIVESTOCK. FOR ADDITIONAL INFORMATION ON HOW TO CHANGE AN ADDRESS, CLAIM AN EXEMPTION, REPORT A CHANGE TO PROPERTY, RENDER LIVESTOCK, MOBILE HOMES AND BUSINESS PERSONAL PROPERTY, OR FOR ADDITIONAL INFORMATION PLEASE VISIT OUR WEBSITE AT WWW.SANTAFECOUNTYNM.GOV/ASSESSOR OR CALL OUR OFFICE AT (505) 986-6300.

▼ NET TAXABLE VALUES WILL BE ALLOCATED TO GOVERNMENTAL UNITS IN SCHOOL DISTRICT

District	UPC Code	Property Class
CO-N	1-040-087-220-360-000-000	VACANT

Property Location
0 UNASSIGNED, SANTA FE

Property Legal Description
T15N R7E S21 & S 22, 200.93 AC

2023 (Previous Year's) Property Value and Tax Information These values reflect analysis of 2022 market value			2024 (Current Year's) Property Value Information These values reflect analysis of 2023 market value		
Assessed Value - Land:	$	0	Assessed Value - Land:	$	0
Agricultural Land:	$	1,080	Agricultural Land:	$	1,080
Assessed Value - Structures:	$	0	Assessed Value - Structures:	$	0
Previous Year's Assessed Value:	**$**	**1,080**	**Current Year's Assessed Value: (Amount used in protests)**	**$**	**1,080**
Previous Year's Taxable Value:	**$**	**359**	**Current Year Taxable Value:**	**$**	**359**
Head of Family Exemption:	$	0	Head of Family Exemption:	$	0
Veteran's Exemption:	$	0	Veteran's Exemption:	$	0
Previous Year's Net Taxable Value:	**$**	**359**	**Current Year's Net Taxable Value:** *Residential valuation limitation (NMSA 7-36-21.2) may apply.	**$**	**359**
Value Freeze:			Value Freeze:		
Disabled Veteran's Exemption:			Disabled Veteran's Exemption:		
2023 (Previous Year's) Tax Rate:		0.0286590	*2024 Estimated Tax Rate:		0.0286590
2023 (Previous Year's) Tax Amount:	$	10.00	*2024 **Estimated** Tax Amount:	$	10.00

Instructions for calculating estimated taxes (NMSA 7-38-20): (Current year's net taxable value) X (Previous year's tax rate) = Estimated current year taxes. This calculation is an estimate. Actual taxes may be higher or lower than the estimate as tax rates are subject to change annually.

"FULL VALUE" MEANS THE VALUE DETERMINED FOR PROPERTY TAXATION PURPOSES. "TAXABLE VALUE" IS 33 1/3% OF "FULL VALUE". "NET TAXABLE VALUE" IS "TAXABLE VALUE" LESS EXEMPTIONS AND IS THE VALUE UPON WHICH TAX IS IMPOSED. THIS DOCUMENT CONSTITUTES A PROPERTY OWNER'S NOTICE OF VALUATION AS REQUIRED UNDER SECTION 7-38-20 OF THE NEW MEXICO PROPERTY TAX CODE.

Protesting Valuation: (NMSA 7-38-24) A property owner may protest the value or classification determined by the county assessor for his property for property taxation purposes, the assessor's allocation of value of his property to a particular governmental unit or denial of a claim for an exemption or for a limitation on increase in value by filing a petition with the assessor. Petitions of protest to the County Assessor are required to be filed with the county assessor no later than thirty (30) days after the mailing by the assessor of the Notice of Valuation.

LIMITATION ON INCREASE IN VALUE FOR SINGLE-FAMILY DWELLINGS OCCUPIED BY LOW-INCOME OWNERS SIXTY-FIVE YEARS OF AGE OR OLDER OR DISABLED: (NMSA 7-36-21.3) Applications for valuation limitations may be picked up from the Assessor's Office. An owner who applies for the limitation of value specified in this section and files proof of income eligibility for the three consecutive years immediately prior to the tax year for which the application is made need not claim the limitation for subsequent tax years if there is no change in eligibility. The previous year's modified gross household income must be $41,900 per year or less and the applicant must be disabled or 65 years of age in the year in which the application is made.

3-25-24_v2

Retain this portion for your records.

Please fold on perforation BEFORE tearing

79001416 REAL PROPERTY
THE HARRIS FAMILY TRUST
1032 SNOW LILY CT
CASTLE PINES CO 80108-8275

For mailing address change and/ or Head of Family exemption, please complete, sign and date.

Correct Name & Mailing Address

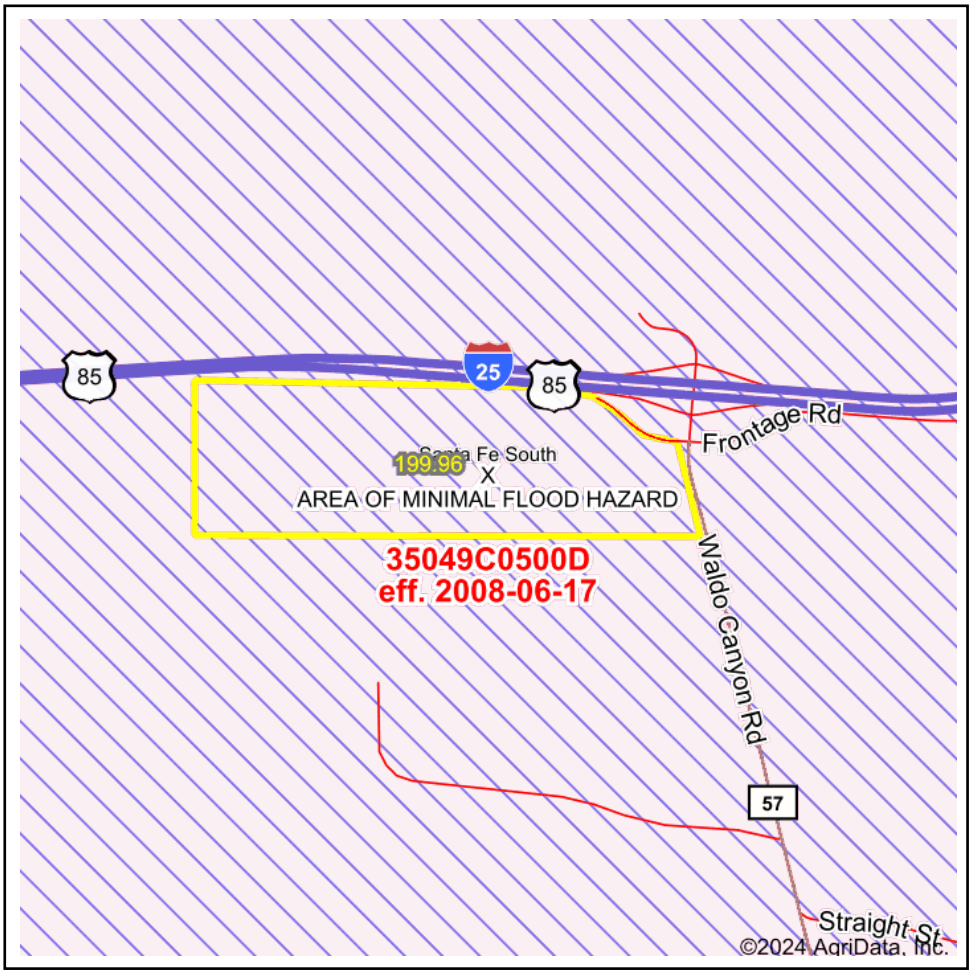
Name		
Mailing Address		
City	State	Zip Code
Telephone	Email	
Acct: 79001416		
Signature	Date	

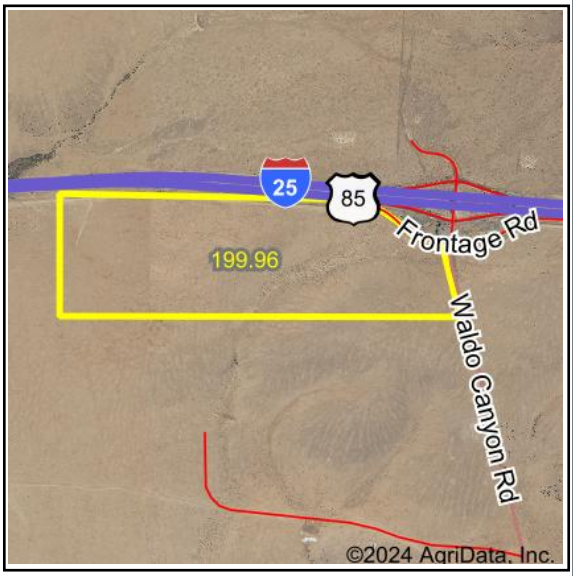
Head of Family Exemption

I hereby certify that I am a resident of New Mexico as of January 1 of this year and the "Head of Family" as that term is defined in Section 7-37-4 of the Property Tax Code, and I hereby claim the exemption from the taxable value of the property. I certify that the information herein is true an correct and this exemption is not being claimed in any other county.

☐ **I CLAIM "HEAD OF FAMILY" EXEMPTION**

1/1 72702





Map Center: 35° 31' 5.65, -106° 11' 16.06

State: NM Acres: 199.96

County: Santa Fe Date: 7/22/2024

Location: 22-15N-7E

Township: Santa Fe South

Est. 1902 J.P. WEIGAND & SONS INC. REALTORS®

Maps Provided By: surety® CUSTOMIZED ONLINE MAPPING

 www.AgriDataInc.com

N W E S

Name	Number	County	NFIP Participation	Acres	Percent
Santa Fe County Unincorporated Areas	350069	Santa Fe	Regular	199.96	100%
			Total	199.96	100%

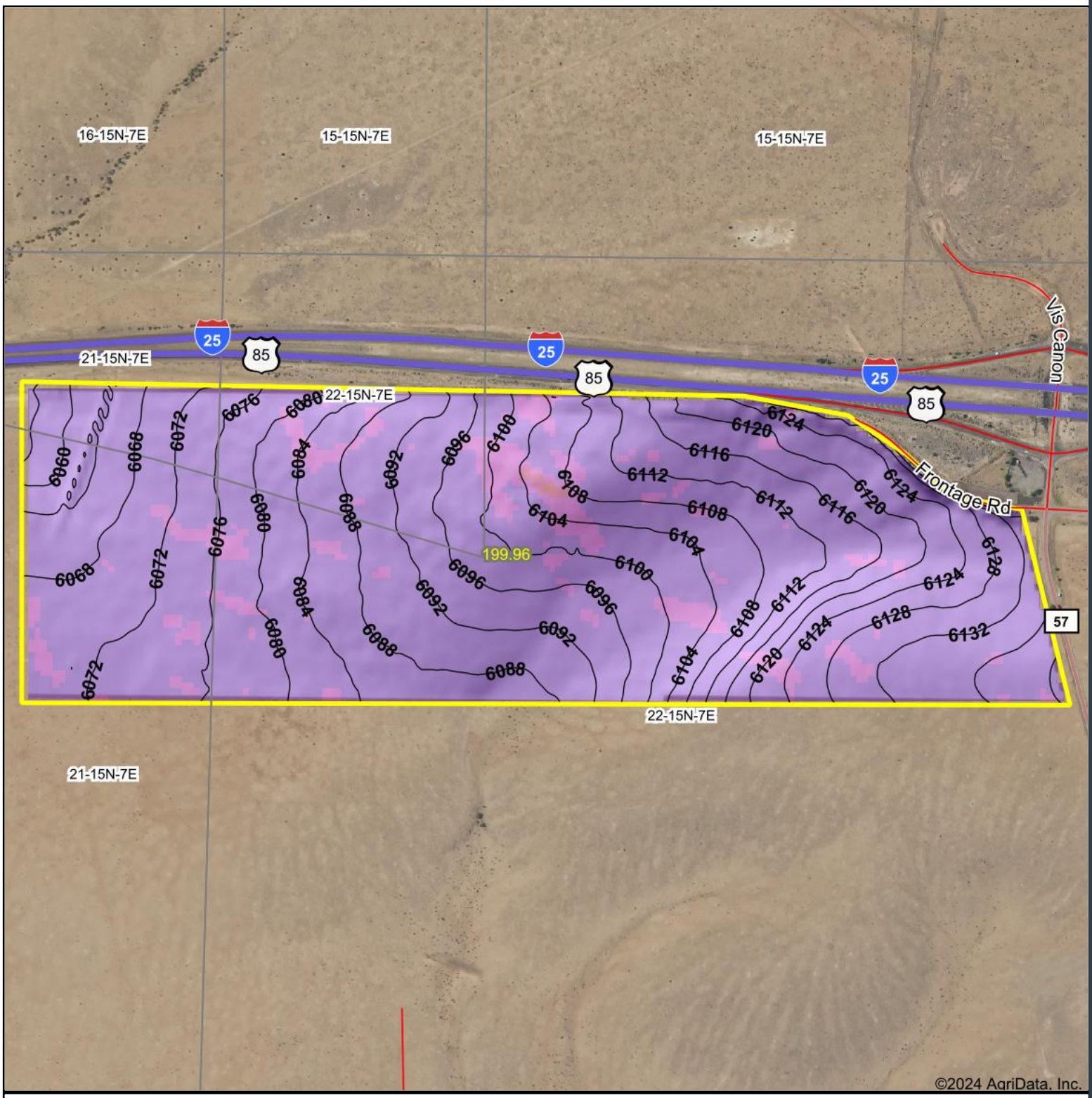
Map Change	Date	Case No.	Acres	Percent
No			0	0%

Zone	SubType	Description	Acres	Percent
X	AREA OF MINIMAL FLOOD HAZARD	Outside 500-year Floodplain	199.96	100%
X	AREA OF MINIMAL FLOOD HAZARD	Outside 500-year Floodplain	0.00	0%
		Total	199.96	100%

Panel	Effective Date	Acres	Percent
35049C0500D	6/17/2008	199.96	100%
	Total	199.96	100%

Flood related information provided by FEMA

Hillshade Maximum NDVI 2023



Low Relative Biomass High

Crop: Shrubland - 100%

*USDA CropScape

0ft 830ft 1660ft

Elevation Min: 6,054.8
Max: 6,141.1
Range: 86.3
Average: 6,097.0
Standard Deviation: 20.87 ft

7/22/2024

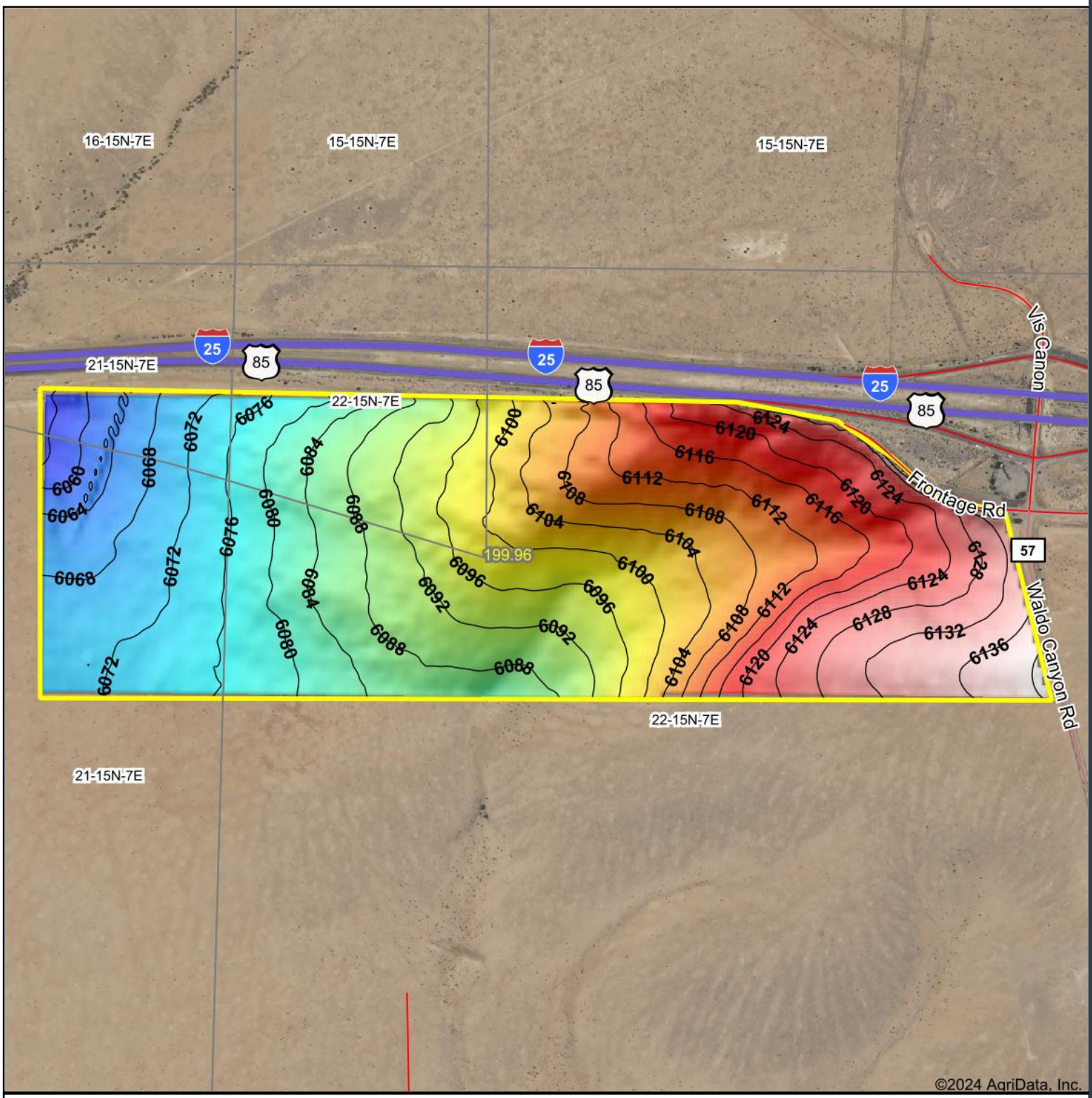
22-15N-7E
Santa Fe County
New Mexico

Boundary Center:
35° 31' 8.46, -106° 11' 21.52

Maps Provided By:

www.AgriDataInc.com

Topography Hillshade



Low Elevation High

Source: USGS 10 meter dem
Interval(ft): 4
Min: 6,054.8
Max: 6,141.1
Range: 86.3
Average: 6,097.0
Standard Deviation: 20.87 ft

0ft 860ft 1721ft

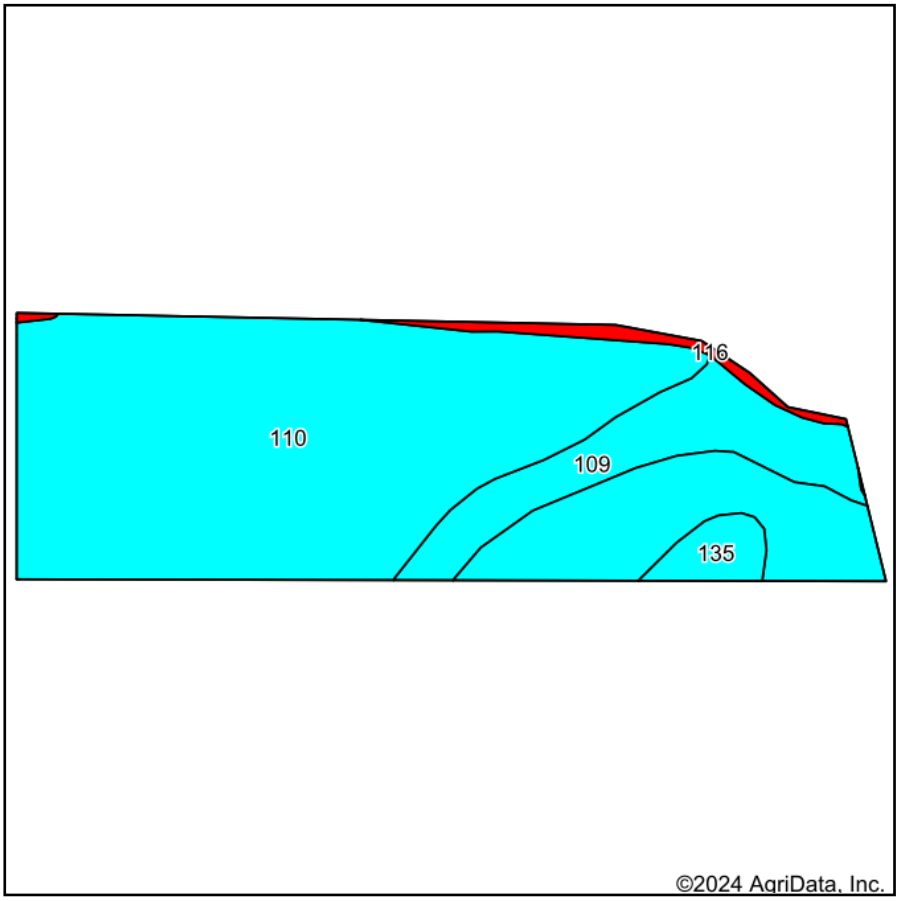
N W E S

7/22/2024

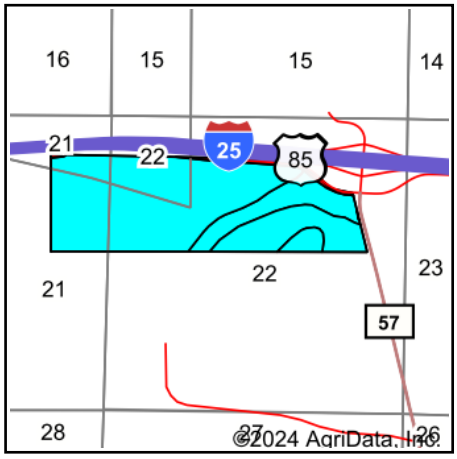
22-15N-7E
Santa Fe County
New Mexico

Boundary Center: 35° 31' 8.46, -106° 11' 21.52

Maps Provided By:
surety® CUSTOMIZED ONLINE MAPPING
 www.AgriDataInc.com



Soils data provided by USDA and NRCS.



State: **New Mexico**
County: **Santa Fe**
Location: **22-15N-7E**
Township: **Santa Fe South**
Acres: **199.96**
Date: **7/22/2024**

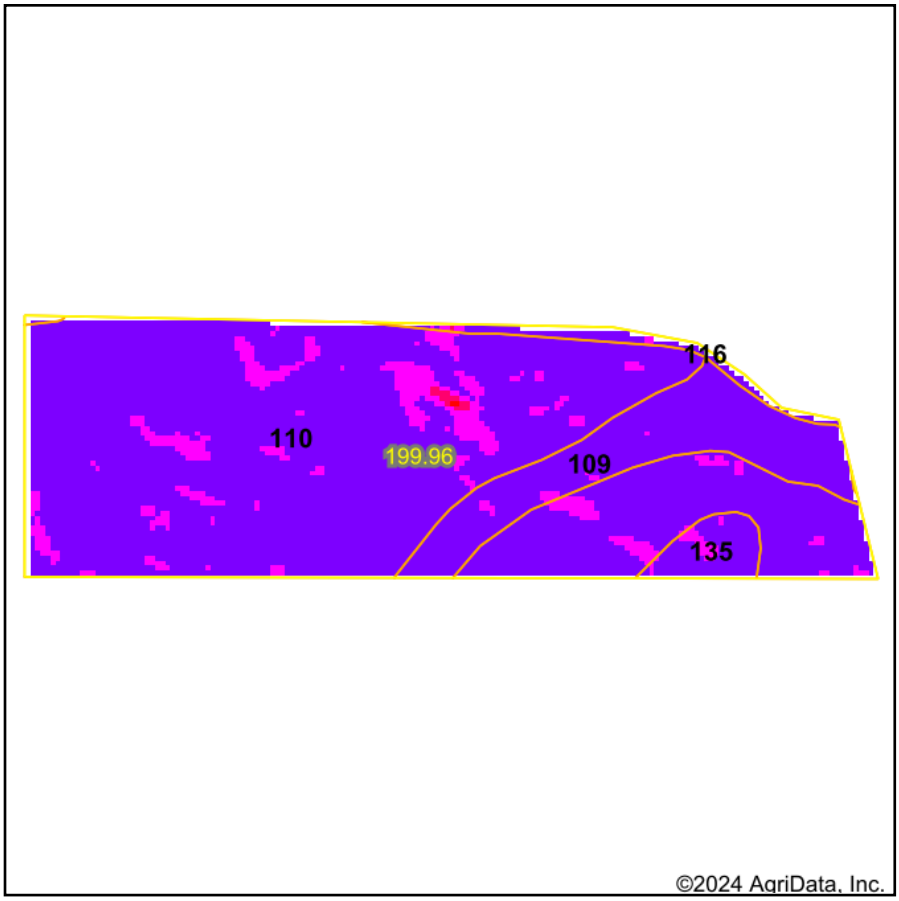
Maps Provided By:
surety® CUSTOMIZED ONLINE MAPPING
© AgriData, Inc. 2023 www.AgriDataInc.com

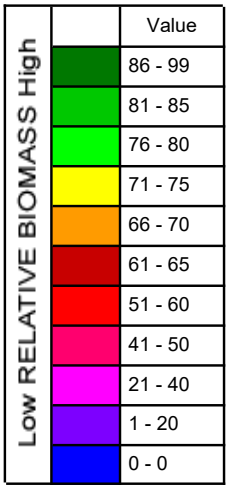
Area Symbol: NM687, Soil Area Version: 15

Code	Soil Description	Acres	Percent of field	Non-Irr Class Legend	Non-Irr Class *c	Range Production (lbs/acre/yr)	*n NCCPI Overall	*n NCCPI Small Grains	*n NCCPI Soybeans
110	Calabasas loam, 1 to 3 percent slopes	162.51	81.3%		VIc	720	16	16	6
109	Tetilla loam, 1 to 5 percent slopes	27.11	13.6%		VIc	558	19	19	7
135	Tsinat gravelly loam, 1 to 6 percent slopes	5.69	2.8%		VIc	557	11	11	4
116	Arents-Urban land-Orthents complex, 1 to 60 percent slopes	4.65	2.3%		VIIIe	0	2	2	1
			Weighted Average		**6.05**	**676.7**	***n 15.9**	***n 15.9**	***n 6**

*n: The aggregation method is "Weighted Average using all components"
*c: Using Capabilities Class Dominant Condition Aggregation Method

Soils data provided by USDA and NRCS.





State: **New Mexico**
County: **Santa Fe**
Location: **22-15N-7E**
Township: **Santa Fe South**
Acres: **199.96**
Date: **7/22/2024**

Crop:

Shrubland - 100%

*USDA CropScape

Maps Provided By:

www.AgriDataInc.com

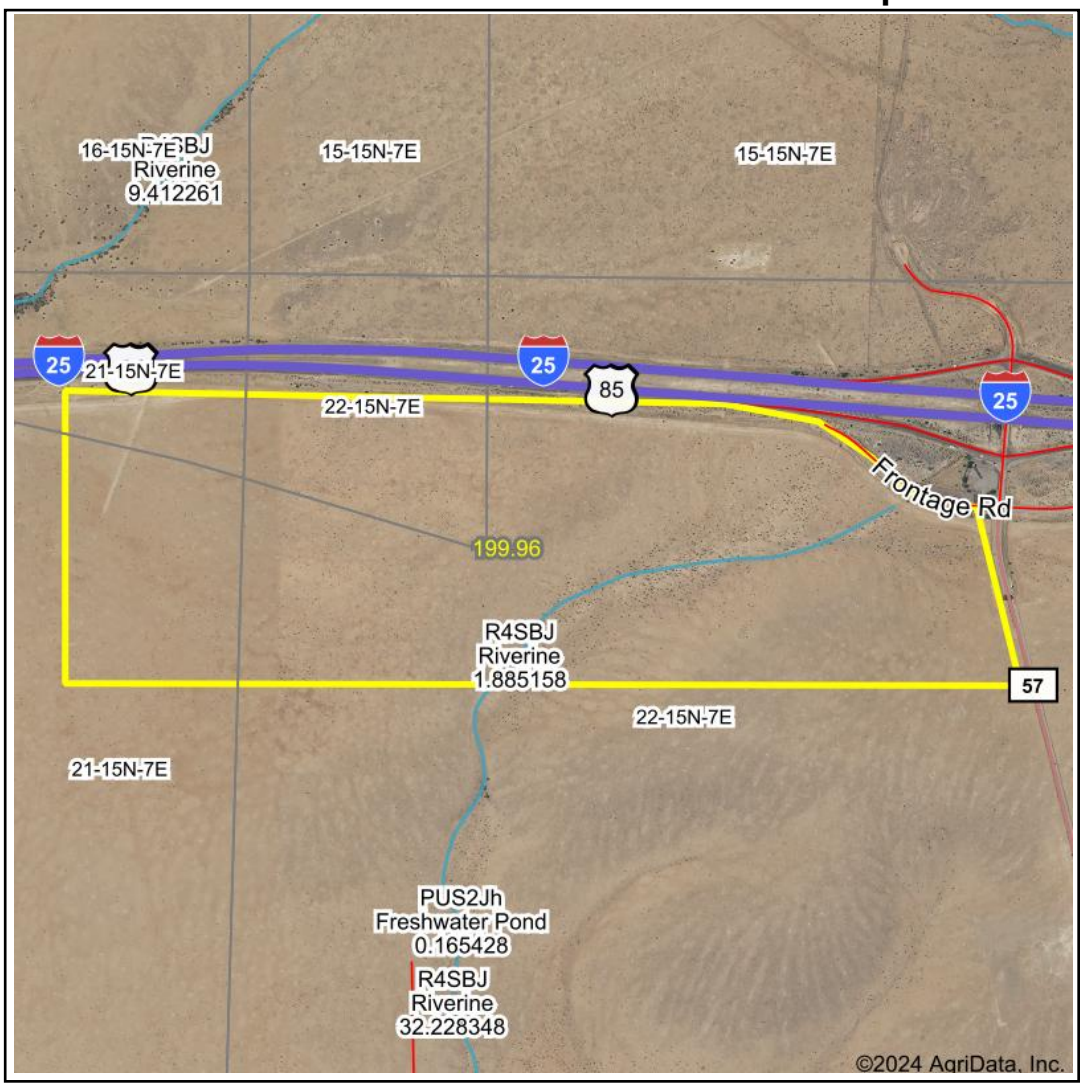
Soils data provided by USDA and NRCS.

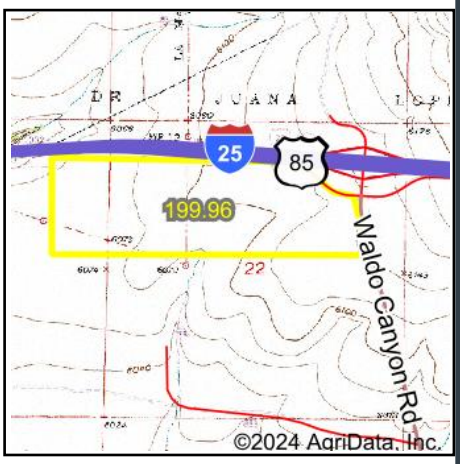
Area Symbol: NM687, Soil Area Version: 15

Code	Soil Description	Acres	Percent of field	Soil Drainage	Non-Irr Class *c	*n NCCPI Overall	NDVI 2023
110	Calabasas loam, 1 to 3 percent slopes	162.51	81.3%	Well drained	VIc	16	16.3
109	Tetilla loam, 1 to 5 percent slopes	27.11	13.6%	Well drained	VIc	19	15.1
135	Tsinat gravelly loam, 1 to 6 percent slopes	5.69	2.8%	Well drained	VIc	11	15.5
116	Arents-Urban land-Orthents complex, 1 to 60 percent slopes	4.65	2.3%	Well drained	VIIIe	2	16.2
				Weighted Average	**6.05**	***n 15.9**	

*n: The aggregation method is "Weighted Average using all components"
*c: Using Capabilities Class Dominant Condition Aggregation Method

Wetlands Map





State: **New Mexico**
Location: **22-15N-7E**
County: **Santa Fe**
Township: **Santa Fe South**
Date: **7/22/2024**

Maps Provided By:

www.AgriDataInc.com

N
W E
S

0ft 1295ft 2590ft

	Classification Code	Type	Acres
	R4SBJ	Riverine	1.21
		Total Acres	1.21

Data Source: National Wetlands Inventory website. U.S. DoI, Fish and Wildlife Service, Washington, D.C. http://www.fws.gov/wetlands/

13.14.18.13 NM FORM 6 COMMITMENT FOR TITLE INSURANCE

ISSUED BY
STEWART TITLE GUARANTY COMPANY

NOTICE

IMPORTANT - READ CAREFULLY: THIS COMMITMENT IS AN OFFER TO ISSUE ONE OR MORE TITLE INSURANCE POLICIES. ALL CLAIMS OR REMEDIES SOUGHT AGAINST THE COMPANY INVOLVING THE CONTENT OF THIS COMMITMENT OR THE POLICY MUST BE BASED SOLELY IN CONTRACT.

THIS COMMITMENT IS NOT AN ABSTRACT OF TITLE, REPORT OF THE CONDITION OF TITLE, LEGAL OPINION, OPINION OF TITLE, OR OTHER REPRESENTATION OF THE STATUS OF TITLE. THE PROCEDURES USED BY THE COMPANY TO DETERMINE INSURABILITY OF THE TITLE, INCLUDING ANY SEARCH AND EXAMINATION, ARE PROPRIETARY TO THE COMPANY, WERE PERFORMED SOLELY FOR THE BENEFIT OF THE COMPANY, AND CREATE NO EXTRACONTRACTUAL LIABILITY TO ANY PERSON, INCLUDING A PROPOSED INSURED.

THE COMPANY'S OBLIGATION UNDER THIS COMMITMENT IS TO ISSUE A POLICY TO A PROPOSED INSURED IDENTIFIED IN SCHEDULE A IN ACCORDANCE WITH THE TERMS AND PROVISIONS OF THIS COMMITMENT. THE COMPANY HAS NO LIABILITY OR OBLIGATION INVOLVING THE CONTENT OF THIS COMMITMENT TO ANY OTHER PERSON.

COMMITMENT TO ISSUE POLICY

Subject to the Notice; Schedule B, Part I - Requirements; Schedule B, Part II - Exceptions; and the Commitment Conditions, STEWART TITLE GUARANTY COMPANY, a Texas corporation (the "Company"), commits to issue the Policy according to the terms and provisions of this Commitment. This Commitment is effective as of the Commitment Date shown in Schedule A for each Policy described in Schedule A, only when the Company has entered in Schedule A both the specified dollar amount as the Proposed Policy Amount and the name of the Proposed Insured.

If all of the Schedule B, Part I - Requirements have not been met within six (6) months after the Commitment Date, this Commitment terminates and the Company's liability and obligation end.

Authorized Countersignature
Stewart Title Company, Santa Fe Division
433 Paseo De Peralta
Santa Fe, NM 87501

STEWART TITLE GUARANTY COMPANY INCORPORATED 1908 TEXAS

Frederick H. Eppinger
President and CEO

David Hisey
Secretary

This page is only a part of a 2016 ALTA® Commitment for Title Insurance. This Commitment is not valid without the Notice; the Commitment to Issue Policy; the Commitment Conditions; Schedule A; Schedule B, Part I - Requirements; and Schedule B, Part II - Exceptions; and a countersignature by the Company or its issuing agent that may be in electronic form.

COMMITMENT CONDITIONS

1. DEFINITIONS

(a) "Knowledge" or "Known": Actual or imputed knowledge, but not constructive notice imparted by the Public Records.

(b) "Land": The land described in Schedule A and affixed improvements that by law constitute real property. The term "Land" does not include any property beyond the lines of the area described in Schedule A, nor any right, title, interest, estate, or easement in abutting streets, roads, avenues, alleys, lanes, ways, or waterways, but this does not modify or limit the extent that a right of access to and from the Land is to be insured by the Policy.

(c) "Mortgage": A mortgage, deed of trust, or other security instrument, including one evidenced by electronic means authorized by law.

(d) "Policy": Each contract of title insurance, in a form adopted by the American Land Title Association, issued or to be issued by the Company pursuant to this Commitment.

(e) "Proposed Insured": Each person identified in Schedule A as the Proposed Insured of each Policy to be issued pursuant to this Commitment.

(f) "Proposed Policy Amount": Each dollar amount specified in Schedule A as the Proposed Policy Amount of each Policy to be issued pursuant to this Commitment.

(g) "Public Records": Records established under state statutes at the Commitment Date for the purpose of imparting constructive notice of matters relating to real property to purchasers for value and without Knowledge.

(h) "Title": The estate or interest described in Schedule A.

2. If all of the Schedule B, Part I - Requirements have not been met within the time period specified in the Commitment to Issue Policy, this Commitment terminates and the Company's liability and obligation end.

3. The Company's liability and obligation is limited by and this Commitment is not valid without:

(a) the Notice;

(b) the Commitment to Issue Policy;

(c) the Commitment Conditions;

(d) Schedule A;

(e) Schedule B, Part I - Requirements;

(f) Schedule B, Part II - Exceptions; and

(g) a countersignature by the Company or its issuing agent that may be in electronic form.

4. COMPANY'S RIGHT TO AMEND

The Company may amend this Commitment at any time. If the Company amends this Commitment to add a defect, lien, encumbrance, adverse claim, or other matter recorded in the Public Records prior to the Commitment Date, any liability of the Company is limited by Commitment Condition 5. The Company shall not be liable for any other amendment to this Commitment.

5. LIMITATIONS OF LIABILITY

(a) The Company's liability under Commitment Condition 4 is limited to the Proposed Insured's actual expense incurred in the interval between the Company's delivery to the Proposed Insured of the Commitment and the delivery of the amended Commitment, resulting from the Proposed Insured's good faith reliance to:

(i) comply with the Schedule B, Part I - Requirements;

(ii) eliminate, with the Company's written consent, any Schedule B, Part II - Exceptions; or

(iii) acquire the Title or create the Mortgage covered by this Commitment.

(b) The Company shall not be liable under Commitment Condition 5(a) if the Proposed Insured requested the amendment or had Knowledge of the matter and did not notify the Company about it in writing.

(c) The Company will only have liability under Commitment Condition 4 if the Proposed Insured would not have incurred the expense had the Commitment included the added matter when the Commitment was first delivered to the Proposed Insured.

(d) The Company's liability shall not exceed the lesser of the Proposed Insured's actual expense incurred in good faith and described in Commitment Conditions 5(a)(i) through 5(a)(iii) or the Proposed Policy Amount.
(e) The Company shall not be liable for the content of the Transaction Identification Data, if any.
(f) In no event shall the Company be obligated to issue the Policy referred to in this Commitment unless all of the Schedule B, Part I - Requirements have been met to the satisfaction of the Company.
(g) In any event, the Company's liability is limited by the terms and provisions of the Policy.

6. LIABILITY OF THE COMPANY MUST BE BASED ON THIS COMMITMENT

(a) Only a Proposed Insured identified in Schedule A, and no other person, may make a claim under this Commitment.
(b) Any claim must be based in contract and must be restricted solely to the terms and provisions of this Commitment.
(c) Until the Policy is issued, this Commitment, as last revised, is the exclusive and entire agreement between the parties with respect to the subject matter of this Commitment and supersedes all prior commitment negotiations, representations, and proposals of any kind, whether written or oral, express or implied, relating to the subject matter of this Commitment.
(d) The deletion or modification of any Schedule B, Part II - Exception does not constitute an agreement or obligation to provide coverage beyond the terms and provisions of this Commitment or the Policy.
(e) Any amendment or endorsement to this Commitment must be in writing and authenticated by a person authorized by the Company.
(f) When the Policy is issued, all liability and obligation under this Commitment will end and the Company's only liability will be under the Policy.

7. IF THIS COMMITMENT HAS BEEN ISSUED BY AN ISSUING AGENT

The issuing agent is the Company's agent only for the limited purpose of issuing title insurance commitments and policies. The issuing agent is not the Company's agent for the purpose of providing closing or settlement services.

8. PRO-FORMA POLICY

The Company may provide, at the request of a Proposed Insured, a pro-forma policy illustrating the coverage that the Company may provide. A pro-forma policy neither reflects the status of Title at the time that the pro-forma policy is delivered to a Proposed Insured, nor is it a commitment to insure.

STEWART TITLE GUARANTY COMPANY

All notices required to be given the Company and any statement in writing required to be furnished the Company shall be addressed to it at P.O. Box 2029, Houston, Texas 77252-2029.

This page is only a part of a 2016 ALTA® Commitment for Title Insurance. This Commitment is not valid without the Notice; the Commitment to Issue Policy; the Commitment Conditions; Schedule A; Schedule B, Part I - Requirements; and Schedule B, Part II - Exceptions; and a countersignature by the Company or its issuing agent that may be in electronic form.

Pursuant to the New Mexico title insurance law Section 59A-30-4 NMSA 1978, and title insurance rule 13.14.18.9 NMAC, no part of any title insurance commitment, policy or endorsement form promulgated by the New Mexico superintendent of insurance may be added to, altered, inserted in or typed upon, deleted or otherwise changed from the title insurance form promulgated by the New Mexico superintendent of insurance, nor issued by a person or company not licensed with regard to the business of title insurance by the New Mexico superintendent of insurance, nor issued by a person or company who does not own, operate or control an approved title abstract plant as defined by New Mexico law and regulations for the county wherein the property is located, except as authorized by law.

13.14.18.13 NM FORM 6 COMMITMENT FOR TITLE INSURANCE SCHEDULE A

ISSUED BY
STEWART TITLE GUARANTY COMPANY

Transaction Identification Data for reference only:

Issuing Agent:	Stewart Title Company, Santa Fe Division
Issuing Office:	433 Paseo De Peralta, Santa Fe, NM 87501
Issuing Office's ALTA® Registry ID:	
Loan ID Number:	
Commitment Number:	2137105
Issuing Office File Number:	2137105
Property Address:	0 Waldo Canyon Road, Cerrillos, NM 87010
Revision Number:	

1. Commitment Date: May 10, 2024 at 8:00AM

2. Policy to be issued: Proposed Policy Amount

   (a) ALTA Owner's Standard
   Proposed Insured: TBD TBD

   (b) ALTA Loan Standard
   Proposed Insured:

3. The estate or interest in the Land described or referred to in this Commitment is:

   FEE SIMPLE

4. The Title is, at the Commitment Date, vested in:

   Debra H. Ortiz Trust, dated June 11, 2013, Ronald G. Harris and Sheila S. Harris, and G. Thomas Harris, trustee of The Harris Family Trust dated February 3, 1994

5. The Land is described as follows:

   See Exhibit "A" Attached Hereto

STEWART TITLE GUARANTY COMPANY

Authorized Countersignature

13.14.18.13 NM FORM 6 COMMITMENT FOR TITLE INSURANCE
EXHIBIT "A"
LEGAL DESCRIPTION

ISSUED BY
STEWART TITLE GUARANTY COMPANY

File No.: 2137105

A certain tract of land situate in the Mesita de Juana Lopez Grant, within the northern one-half (1/2) of projected Sections 21 and 22, T.15N., R. 7E., N.M.P.M., Santa Fe County, New Mexico, and being more particularly described from County Road No. 61 easement as recorded in the Office of the County Clerk of Santa Fe County, New Mexico in Book 227, page 93, on July 20, 1965, township plats, New Mexico State Highway Commission right-of-way maps of Interstate Highway 25 for Project I-25-5 (23) 260, and a survey by Samuel P. Davalos, as follows:

Beginning at a point on the southerly right-of-way of said Interstate 25, whence the section corner common to Sections 22, 23, 26 and 27, T. 15 N., R. 7 E., N.M.P.M., a USGLOS brass cap bears S. 55° 17' 50" E., 7926.61 feet, and from said point of beginning, running thence along said southerly right-of-way of Interstate 25, N. 85° 34' 00" E., 477.67 feet to a point; thence N. 04° 26' 00thence" W., 51.02 feet to a point on a curve; thence 786.24 feet along the arc of a curve to the right having a radius of 5654.58 feet and a chord bearing N. 89° 33' 00" E., 785.61 feet to a point of tangency; thence S. 86° 28' 00" E., 3127.05 feet to a point of curvature; thence, 456.92 feet along the arc of a curve to the right having a radius of 688.94 feet and a chord bearing S. 67° 28' 00" E., 448.59 feet to a point of tangency; thence S. 48°28' 00" E., 193.45 feet to a point of curvature; thence 556.41 feet along the arc of a curve to the left having a radius of 838.94 feet and a chord bearing S. 67° 28' 00" E., 546.26 feet to a point of tangency; thence S. 86° 28' 00" E., 165.00 feet to the northeast corner of the herein described tract of land, a point on the westerly right-of-way of said County Road No. 61; thence running along said right-of-way, S. 03° 32' 00" W., 48.77 feet to a point of curvature; thence 277.73 feet along the arc of a curve to the left having a radius of 813.94 feet and a chord bearing S. 06° 14' 30" E., 276.38 feet to a point of tangency; thence S. 16° 01' 00" E., 874.85 feet to the southeast corner of the tract herein described, a point on the westerly right-of-way of said County Road No. 61; thence leaving said right-of-way and running along the southerly boundary of the tract herein described , N. 86° 28' 00" W., 5974.52 feet to the southwest corner of the tract; thence running along the westerly boundary of the tract herein described N. 03° 32' 00" E., 1417.24 feet to the point and place of beginning.

13.14.18.13 NM FORM 6 COMMITMENT FOR TITLE INSURANCE SCHEDULE B PART I

ISSUED BY
STEWART TITLE GUARANTY COMPANY

File No.: 2137105

Requirements

All of the following Requirements must be met:

1. The Proposed Insured must notify the Company in writing of the name of any party not referred to in this Commitment who will obtain an interest in the Land or who will make a loan on the Land. The Company may then make additional Requirements or Exceptions.

2. Pay the agreed amount for the estate or interest to be insured.

3. Pay the premiums, fees, and charges for the Policy to the Company.

4. Documents satisfactory to the Company that convey the Title or create the Mortgage to be insured, or both, must be properly authorized, executed, delivered, and recorded in the Public Records.

5. Payment of the full consideration to, or for the account of, the grantors or mortgagors.

6. Payment of all taxes, charges, assessments, levied and assessed against subject premises, which are due and payable.

7. Satisfactory evidence should be had that improvements and/or repairs or alterations thereto are completed; that contractor, subcontractors, labor and materialmen are all paid.

8. Instruments necessary to create the estate or interest to be insured must be properly executed, delivered and duly filed for record, to wit:

9. Provide this Company with official identification of all parties involved in this transaction before or at closing.

10. Pay all ad valorem taxes, account number 79001416.

11. Submit a certified copy of the Death Certificate for Martha Harris, and a copy of the Trust Agreement of the Debra Ortiz and Thomas and Ronald Harris Trust dated February 10, 1982, and any amendments thereto enacted on or before July 2, 2015 (in order to confirm that Debra Ortiz had authority to execute and deliver the Quitclaim Deed recorded as Instrument No. 1769161 in her capacity as Trustee or Successor Trustee. NOTE: There may be additional Requirements or Exceptions added upon receipt and review of the these instruments.

12. Submit a current Certificate of Trust of the Debra H. Ortiz Trust dated June 11, 2013 and a current Certificate of Trust of the Harris Family Trust dated February 3, 1994, and any amendments thereto for our examination. NOTE: There may be additional Requirements or Exceptions added upon receipt and review of these Certificates of Trust.

13.14.18.13 NM FORM 6 COMMITMENT FOR TITLE INSURANCE SCHEDULE B PART I

ISSUED BY
STEWART TITLE GUARANTY COMPANY

13. Record properly executed Warranty Deed from Trustee of the Debra H, Ortiz Trust dated June 11, 2013, Ronald G. Harris and Sheila S, Harris, husband and wife, and G. Thomas Harris,Trustee of The Harris Family Trust dated February 3, 1994 to buyer to be determined.

13.14.18.13 NM FORM 6 COMMITMENT FOR TITLE INSURANCE SCHEDULE B PART II

ISSUED BY
STEWART TITLE GUARANTY COMPANY

Exceptions

File No.: 2137105

THIS COMMITMENT DOES NOT REPUBLISH ANY COVENANT, CONDITION, RESTRICTION, OR LIMITATION CONTAINED IN ANY DOCUMENT REFERRED TO IN THIS COMMITMENT TO THE EXTENT THAT THE SPECIFIC COVENANT, CONDITION, RESTRICTION, OR LIMITATION VIOLATES STATE OR FEDERAL LAW BASED ON RACE, COLOR, RELIGION, SEX, SEXUAL ORIENTATION, GENDER IDENTITY, HANDICAP, FAMILIAL STATUS, OR NATIONAL ORIGIN.

Standard exceptions 1, 2, 3, and or 4, may be deleted from any policy upon compliance with all provisions of the applicable rules, upon payment of all additional premiums required by the applicable rules, upon receipt of the required documents and upon compliance with the company's underwriting standards for each such deletion. Standard exception 5 may be deleted from the policy if the named insured in the case of an owner's policy, or the vestee, in the case of a leasehold or loan policy, is a corporation, a partnership, or other artificial entity, or a person holding title as trustee. Except for the issuance of a U.S. policy form (NM form 7 or NM form 34), any policy to be issued pursuant to this commitment will be endorsed or modified in Schedule B by the company to waive its right to demand arbitration pursuant to the conditions and stipulations of the policy at no cost or charge to the insured. The endorsement or the language added to schedule B of the policy shall read: "In compliance with Subsection D of 13.14.18.10 NMAC, the company hereby waives its right to demand arbitration pursuant to the title insurance arbitration rules of the American Land Title Association. Nothing herein prohibits the arbitration of all arbitrable matters when agreed to by both the company and the insured."

The Policy will not insure against loss or damage resulting from the terms and provisions of any lease or easement identified in Schedule A, and will include the following Exceptions unless cleared to the satisfaction of the Company:

1. Right or claims of parties in possession not shown by the public records.

2. Easements or claims of easements, not shown by the public records.

3. Encroachments, overlaps, conflicts in boundary lines, shortages in area, or other matters which would be disclosed by an accurate survey and inspection of the premises.

4. Any lien, claim or right to a lien, for services, labor or material heretofore or hereafter furnished, imposed by law and not shown by the public records.

5. Community property, survivorship, or homestead rights, if any, of any spouse of the insured (or vestee in a leasehold or loan policy)

6. Water rights, claims or title to water.

7. Taxes for the year 2023, and thereafter.

8. Defects, liens, encumbrances, adverse claims or other matters, if any, created first appearing in the public records or attaching subsequent to the Effective Date hereof but prior to the date the

proposed Insured acquires for value of record the estate or interest or mortgage thereon covered by the Commitment.

9. Minerals of whatsoever kind, subsurface and surface substances, including but not limited to coal, lignite, oil, gas, uranium, clay, rock, sand and gravel in, on, under and that may be produced from the Land, together with all rights, privileges, and immunities relating thereto, whether or not appearing in the Public Records or listed in Schedule B. The Company makes no representation as to the present ownership of any such interests. There may be leases, grants, exceptions or reservations of interests that are not listed.

10. Right of Way Grant from Southwest Land Corporation to Southern Union Gas Company, and rights incident thereto, as contained in recorded September 11, 1970 in Book 275 Misc., Page 308, and transferred to Public Service Company of New Mexico by "Assignments" recorded in Book 511 Misc., page 959 and in Book 542 Misc., page 425, records of Santa Fe County, New Mexico.

11. New Mexico Gas Company Grant of Easement and rights incident thereto, executed by G. Thomas Harris, Trustee of The Harris Family Trust dated February 3, 1994, Debra H. Ortiz Trustee of the Debra H. Ortiz Trust, Ronald G. Harris and Sheila S. Harris, recorded December 2, 2019, as Instrument # 1903166, records of Santa Fe County, New Mexico.

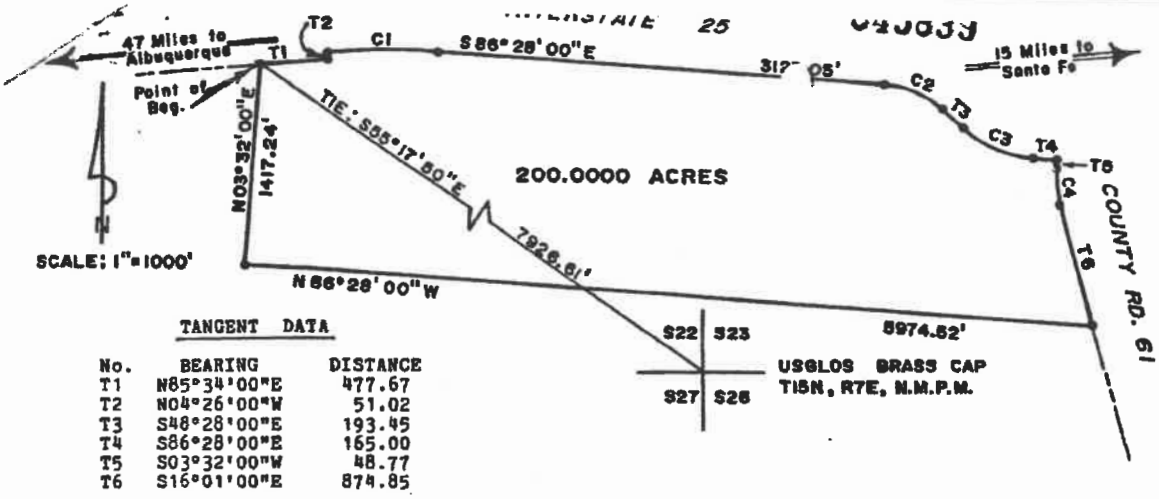
12. Terms, provisions and conditions contained in Order of the Santa Fe County Planning Commission in Case No. CUP 19-5200, NMGC Gas Transmission Pipeline Project recorded April 21, 2020, as Instrument # 1914499, records of Santa Fe County, New Mexico.

13. Notes and conditions as shown on New Mexico Gas Company Conditional Use Permit, recorded May 12, 2021, in Plat Book 877, Page 40, as # 1952938, records of Santa Fe County, New Mexico.

14. Title to land lying within the right of way of County/State Road No. 61 known as "Waldo Canyon Road".

15. Title to land lying within the right of way of NMP I-25-5(23)260 and NMP I-25-5(24)263 known as "Interstate 25 ".

16. Terms and provisions of paragraph entitled "Public Notice", and paragraph entitled "FEMA Information", as shown on plat of survey entitled "Boundary Survey Plat (Corrected 4/9/2024) Prepared for Children of Martha J. Harris, (deceased) ...", recorded April 15, 2024, in Plat Book 911, Page 40- 41, as # 2031869, records of Santa Fe County, New Mexico.



TANGENT DATA

No.	BEARING	DISTANCE
T1	N85°34'00"E	477.67
T2	N04°26'00"W	51.02
T3	S48°28'00"E	193.45
T4	S86°28'00"E	165.00
T5	S03°32'00"W	48.77
T6	S16°01'00"E	874.85

CURVE DATA

NUMBER	ARC	RADIUS	DELTA	CHD.BRG.	CHORD	TANGENT
C1	786.24	5654.58	07°58'00"	N89°33'00"E	785.61	393.75
C2	456.92	688.94	38°00'00"	S67°28'00"E	448.59	237.22
C3	556.41	838.94	38°00'00"	S67°28'00"E	546.26	288.87
C4	277.73	813.94	19°33'00"	S06°14'30"E	276.38	140.23

DESCRIPTION

A certain tract of land situate in the Mesita de Juana Lopez Grant, within the northern one-half (1/2)of projected Sections 21 and 22, T15N, R7E, N.M.P.M., Santa Fe County, New Mexico and being more particularly described from County Road No. 61 easement as recorded in the office of the County Clerk of Santa Fe County, New Mexico, in Book 227, Page 93, on July 20, 1965, township plats, New Mexico State Highway Commission right-of-way maps of Interstate Highway 25 for Project I-025-5(23)260, and a survey by Samuel P. Davalos, as follows:

BEGINNING at a point on the southerly right-of-way of said Interstate 25, whence the section corner common to Sections 22, 23, 26 and 27, T15N, R7E, N.M.P.M., a USGLOS brass cap, bears S55°17'50"E, 7926.61 feet, and from said point of beginning running thence along said southerly right-of-way of Interstate 25, N85°34'00"E, 477.67 feet to a point; thence,
N04°26'00"W, 51.02 feet to a point on a curve; thence,
786.24 feet along the arc of a curve to the right having a radius of 5654.58 feet and a chord bearing N89°33'00"E, 785.61 feet to a point of tangency; thence ,
S86°28'00"E, 3127.05 feet to a point of curvature; thence,
456.92 feet along the arc of a curve to the right having a radius of 688.94 feet and a chord bearing S67°28'00"E, 448.59 feet to a point of tangency; thence,
S48°28'00"E, 193.45 feet to a point of curvature; thence,
556.41 feet along the arc of a curve to the left having a radius of 838.94 feet and a chord bearing S67°28'00"E, 546.26 feet to a point of tangency; thence,
S86°28'00"E, 165.00 feet to the northeast corner of the herein described tract of land, a point on the westerly right-of-way of said County Road No. 61; thence running along said right-of-way,
S03°32'00"W, 48.77 feet to a point of curvature; thence,
277.73 feet along the arc of a curve to the left having a radius of 813.94 feet and a chord bearing S06°14'30"E, 276.38 feet to a point of tangency; thence,
S16°01'00"E, 874.85 feet to the southeast corner of the tract herein described, a point on the westerly right-of-way of said County Road No. 61; thence leaving said right-of-way and running along the southerly boundary of the tract herein described,
N86°28'00"W, 5974.52 feet to the southwest corner of the tract; thence running along the westerly boundary of the tract herein described,
N03°32'00"E, 1417.24 feet to the point and place of beginning.

Tract contains 200.0000 acres, more or less.

A. DWAIN WEAVER NEW MEXICO 6544 REGISTERED PROFESSIONAL LAND SURVEYOR

Bohannan-Huston, Inc.
Courtyard I
7500 Jefferson Street, N.E.
Albuquerque, NM 87109

A. Dwain Weaver
N.M.P.L.S. No. 6544

June 13, 1988
Job No. 88240.01

EXHIBIT "A"

JAMES E. CORBIN, PE

8 Descanso Road
Santa Fe, New Mexico 87508
Phone: (505) 466-4605
E-Mail: JameCorbin@aol.com

Terry Johnson
T. Johnson Management
7550 Meridian Place NW
Albuquerque, NM 87121

January 2, 2019

LETTER REPORT – WATER AVAILABILITY 200 ACRE LA BAJADA PARCEL

Mr. Johnson:

Apologize for the delay in providing this material. My fault but sometimes we are not in control of our own schedule.

What follows is a Letter Report that utilizes the attached Shomaker Report providing my professional opinion on water availability at the 200 acre parcel located at the top of La Bajada Hill south of I25, see Enclosure 1 (Map) attached.

The Report is based on over 50 years of Engineering, Construction Management, and Water Resources Consulting including the past 25 years in the Greater Santa Fe Area, New Mexico, and the Southwest dealing in the development of water resources, water rights, and water availability, see Enclosure 2 (Summary Resume), attached. I have considerable experience in the area in question having developed test wells in the general area on land adjacent to the property in question for the Pepplers who owned/own several thousand acres of property in the general area abutting the 200 acre parcel on the eastern edge.

I have based most of the Report on work published by Shomaker & Associates on over 4000 acres of land located adjacent to the property in question north of I25 between I25 and Santa Fe River published in 1994, see Enclosure 3. They developed seven (7) test wells running from the western edge of the Mesa to the western edge of the La Cienega Area, see Enclosure 4, General Area Map.

John Shomaker, PhD, is the best Geo-Hydrologist I have encountered in this part of the United States and has excellent people working for him. The Report I referenced is the best available work on water availability and quality in this specific area.

The Shomaker Report, Enclosure 6, is used as the major source document for this Letter Report because it involved an extensive effort and thousands of dollars of work detailing water availability and quality in the area immediately north of the 200 acre parcel. It provides the best available geo-hydrology data on the area and is based on known USGS and other geological and water availability/quality reports for the area in the preceding

thirty (30) years. The driller who drilled the wells is someone who completed many wells for me in the last 25 years, and who does excellent work.

The Shomaker Report is based on seven (7) wells located in five (5) areas delineated to control the effort since over 4000 acres needed to be subdivided in the report for reasons of content and clarity. There has been considerable volcanic activity in the general area as evidenced by a cinder cone located just to the northeast of the 200 acres. The Santa Fe River Canyon/ Santa Fe River to the north of the 4000+ acres runs east to west emptying into the Cochiti Reservoir/Rio Grande River; and the edge of the La Bajada Mesa located a few hundred yards to the west gives an excellent look at the geological makeup of the general area.

As to sources of water in the general area, in addition to the seven (7) wells in the Shomaker Report there is an old stage coach well of a depth of about 250 feet approximately 2 miles to the south and east of the 200 acres that has provided a continual source of water for over 100 years, currently for livestock; and three test wells that I oversaw the drilling of a little farther to the east drilled for the Pepplers about 15 years ago, one of which utilizes a windmill to provide water to the Cook Rock Quarry. The other two appear to have been destroyed when the Rail Runner Line was constructed across the Mesa. All of those referenced wells had water at the 200-300 foot depth. The source of water appears to be ground water from snow melt (primary source) moving from the mountains on the eastern edge of the Mesa with some augmentation by surface water from the few intermittent rains in the area.

I went out to the 200 acres twice during minor rain events and observed the area during the rains. Water in the 200 acre area and the area adjacent to the east and south appeared to be absorbed into the ground quite quickly with little runoff. There was not much in the way of runoff from the area and only minor evidence of erosion. The geology of the material in the area is fairly loose and conducive to the absorption of water.

Based on a recon of the area the 200 acres appears to be similar and is a natural extension of Area 3 of the Shomaker Report which includes Wells #3 and #4 with geology and geo-hydrology that should be similar to that outlined in the Shomaker Report for Area 3.. The 200 acres is located directly south of Area 3 and appears to be a natural extension of the material and properties that encompass Wells #3 & #4, Enclosure #6. I have concentrated on those two wells to develop the likely geo-hydology of the 200 acres and what the water availability is like ly to be in the 200 acres. There is the possibility with minor faulting from the volcanic activity in the area that there could be some interruption or diversion of ground water flow by sub-surface structures. However, the Shomaker Report appears to minimize any significant effects on the ground water in the area and indicates that any lava flow dikes are to the north of the Cinder Cone.

Based on wells #3 and #4 of the Shomaker Report it appears that the water table should be encountered at a depth of 160 feet to 200 feet with a flow rate of approximately 2 gpm to 5 gpm. The driller indicated that Well 3 produced water at 18 gpm to 20 gpm; but that seems a bit heavy and it is likely in the 200 acre parcel that the yields will be less. It is

conceivable that greater flow rates could be achieved but that would be very specific to a given well in the 200 acre parcel.

Shomaker utilized a "common sense approach" to develop a 100 year water supply which I also used in the same general time frame. That approach takes into account that there will be recharge over time to the water table. The County does not accept that approach. They view the water in storage in the ground as a reservoir that is depleted over time which receives "no recharge" from any source. While totally unrealistic and no self-respecting geo-hydrologist would ever adopt that approach it serves the County's purpose to "worst case" every analysis and to limit development, sometimes very severely, based on water availability. Based on that criteria any developmental decisions become political.

Since we do not know what use is to be made of the 200 acre parcel, I have adopted an analysis based on single family domestic lots. Using the Shomaker Analysis figured at a usage rate per lot of 0.75 ac-ft per year assuming some recharge about 18% of the available ground water in storage would be depleted over a 100 year period. Using the County's system of no recharge the ground water depletion would be 26% over a 100 year period. Both figures are well inside of the permissible depletion criteria. I have not gone in to more effort here because any water usage, recharge, depletion analysis can become quite expensive, particularly in light of the County's potential efforts to limit use of the area.

I AM CONFIDENT THAT THERE IS MORE THAN ENOUGH WATER AVAILABLE, EVEN GIVEN THE COUNTY'S RESTRICTIVE CRITERIA, TO SUPPORT ANY NORMAL DEVELOPMENT OF THE 200 ACRE PARCEL.

THE BOTTOM LINE IS THAT TO GAIN APPROVAL FROM THE COUNTY TO DEVELOP THE 200 ACRE PARCEL SOMEONE WILL HAVE TO DRILL AND DEVELOP A TEST WELL TO PROVE WATER AVAILABILITY TO GAIN APPROVAL FOR A SPECIFIC DEVELOPMENT OF THE 200 ACRE PARCEL.

A final note, I have not gone in to a water quality analysis but water quality is usually poor in the Santa Fe Area, and the water quality analysis presented with the Shomaker Report bears out that fact. The water quality analysis they provided is quite normal for the general Santa Fe Area and can be brought within National Safe Drinking Water Standards.

Without a specific use of the area and a well located and drilled in the area, the preceding analysis is about the best I can do at this time. If someone wants me to proceed further, please me know, and we will see what can be done.

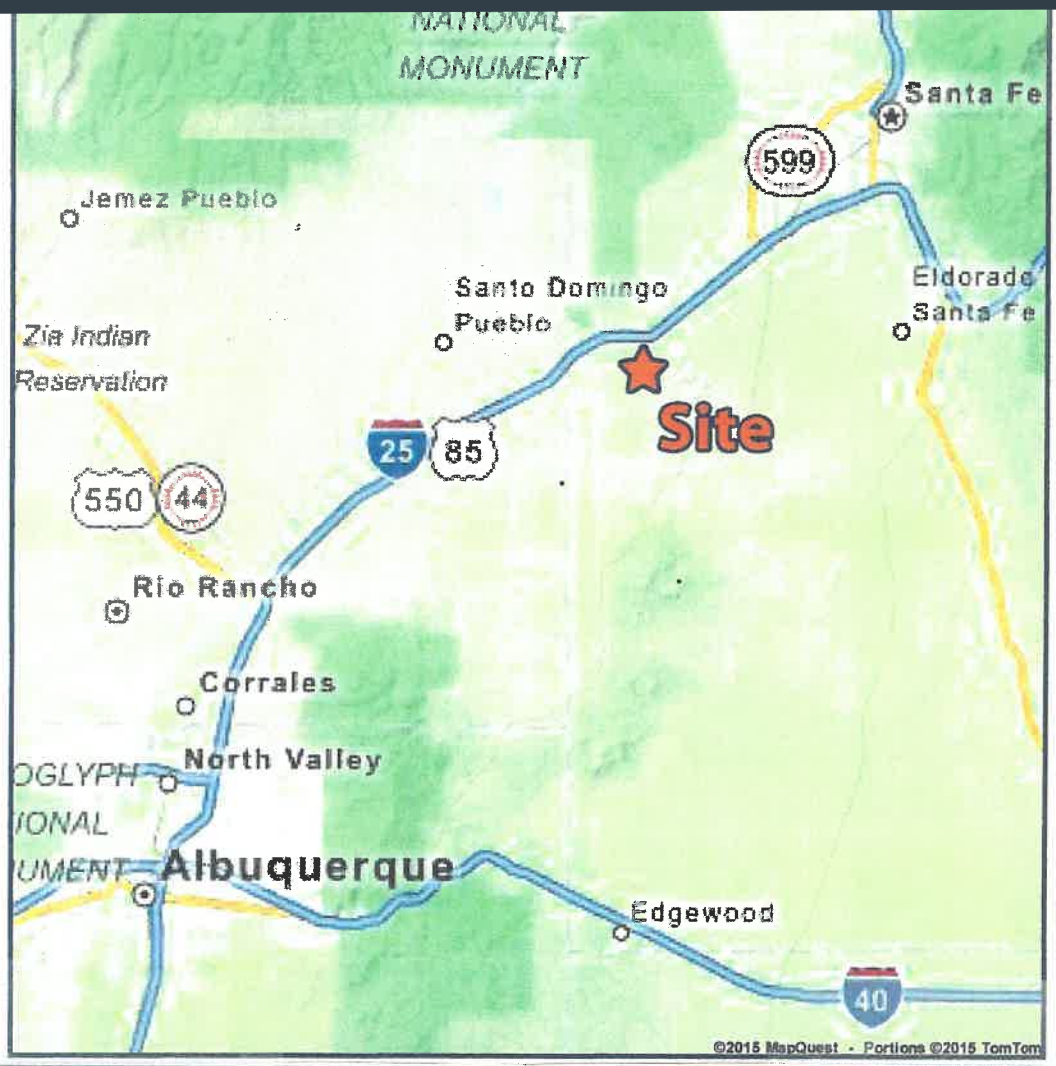
Very much appreciate the opportunity to be of service! Please let me know if you have questions or need more discussion.

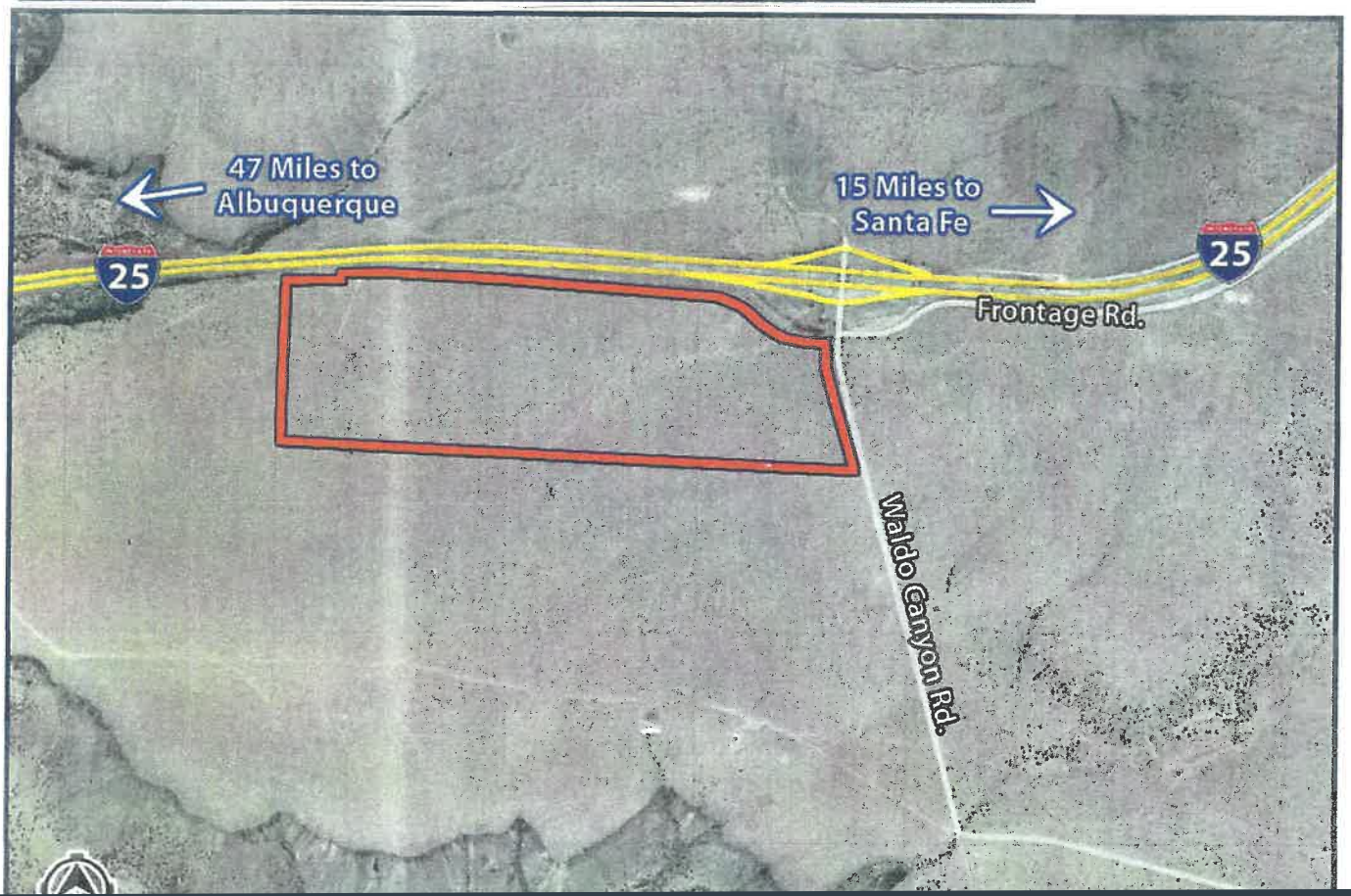
Sincerely,

James E. Corbin, PE

ENCLOSURE #1

GENERAL AREA LOCATION


MONUMENT
Santa Fe
599
Jemez Pueblo
Santo Domingo Pueblo
Eldorado Santa Fe
Zia Indian Reservation
Site
25
85
550
44
Rio Rancho
Corrales
North Valley
Albuquerque
Edgewood
40
©2015 MapQuest - Portions ©2015 TomTom


47 Miles to Albuquerque
15 Miles to Santa Fe
25
25
Frontage Rd.
Waldo Canyon Rd.

ENCLOSURE #2

SUMMARY RESUME
JAMES E. (JIM) CORBIN

(NOTE: A LICENSED PROFESSIONAL ENGINEER SINCE 1980, CURRENTLY LICENSED IN NEW MEXICO)

SUMMARY RESUME

James E. (Jim) Corbin

Education:

Civilian – BS/Civil Engineering (1966) - University of Washington (Seattle, WA)

Civilian – MS/Civil Engineering& Construction Management - (1971) Stanford University (Stanford, CA)

Military – Basic Engineering Officer Course (1966) Ft Belvoir, VA

Military – Armor Officer Advanced Course (1972) Ft Knox, KY

Military – Command & General Staff School (1978) Ft Leavenworth, KS

Military – Army War College (1985) Carlisle Barracks, PA

Military – Contract Management (1988) Corps of Engineers, Huntsville, AL

Water Resources

1969-1970 – Buffalo District (Corps of Engineers) Niagara Falls Project/District Comptroller

1972-1974 – Philadelphia District (Corps of Engineers), Area Engineer Northern Half of the District

1988-1991 – St. Louis District (Corps of Engineers), District Engineer Mel Price Locks and Dam (1 Billion Dollar Project} Eastern Missouri/Western Illinois - 5 major dams and lakes, Mississippi River - junction with Ohio River to Hannibal, MO.

1995-1997 – In charge of design, construction, and operation of the Santa Fe County's Initial Water System

1997-2019 – Corbin Consulting, Inc. (Owner) – Water Resources Development (Water Rights - all facets, Water Systems - design, construction and operations, Water Quality Testing and Operations, Completed over 100 Geo-Hydro Reports, Developed, Bought & Sold Several Million Dollars worth of water rights, Expert Witness in Local, State, and Federal Courts on Water Rights and all facets of Water Resources

Military (1966 – 1991) – Retired as a Full Colonel (06)

1987-1988 – Combat Maneuver Division Commander – Pentagon

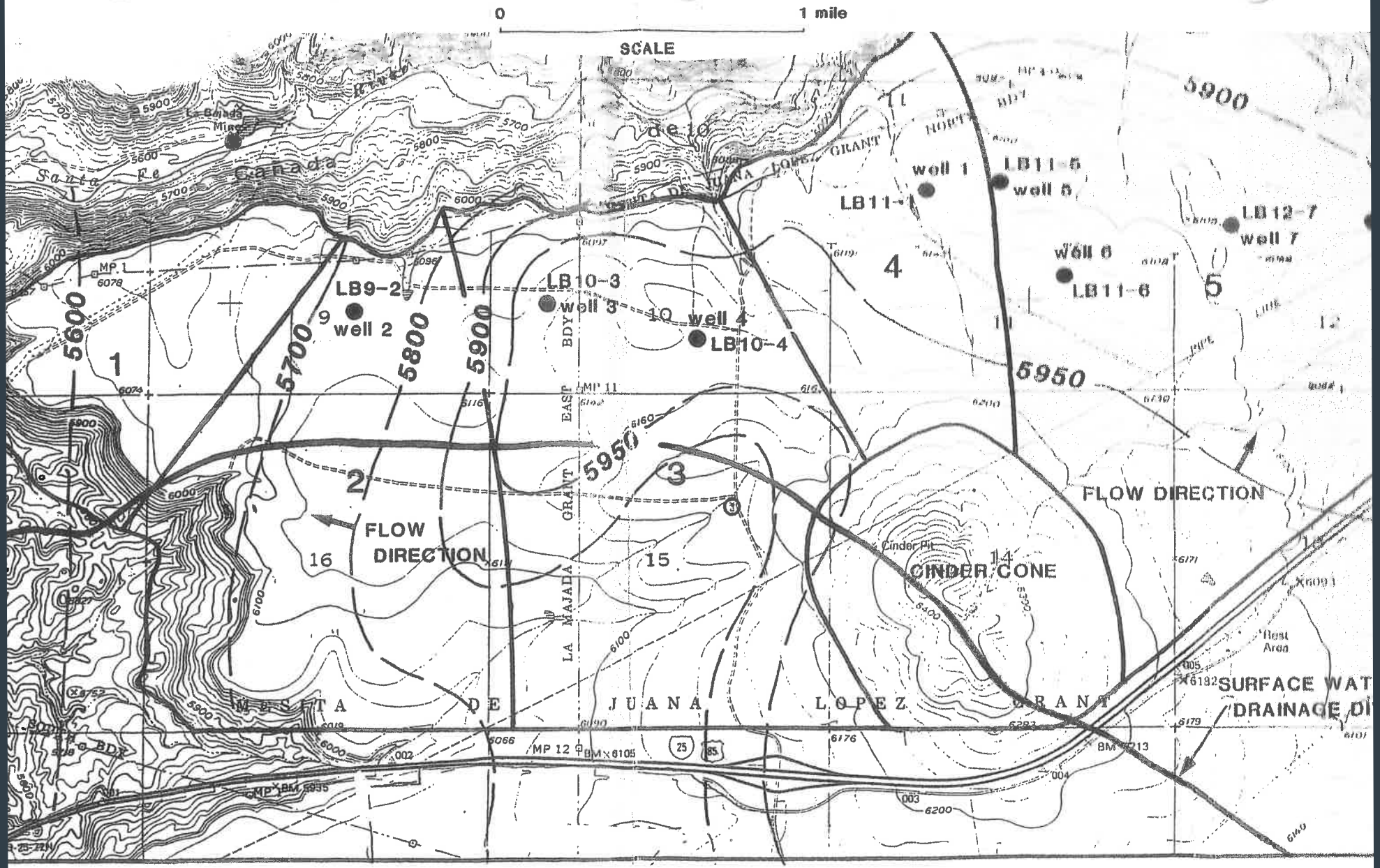
1985-1986 – In Charge of Development of all Engineer Materiel Systems

1981-1984 – Combat Engineer Battalion Commander – 9th High Tech Division (Developing systems & tactics for war in the

ENCLOSURE #3

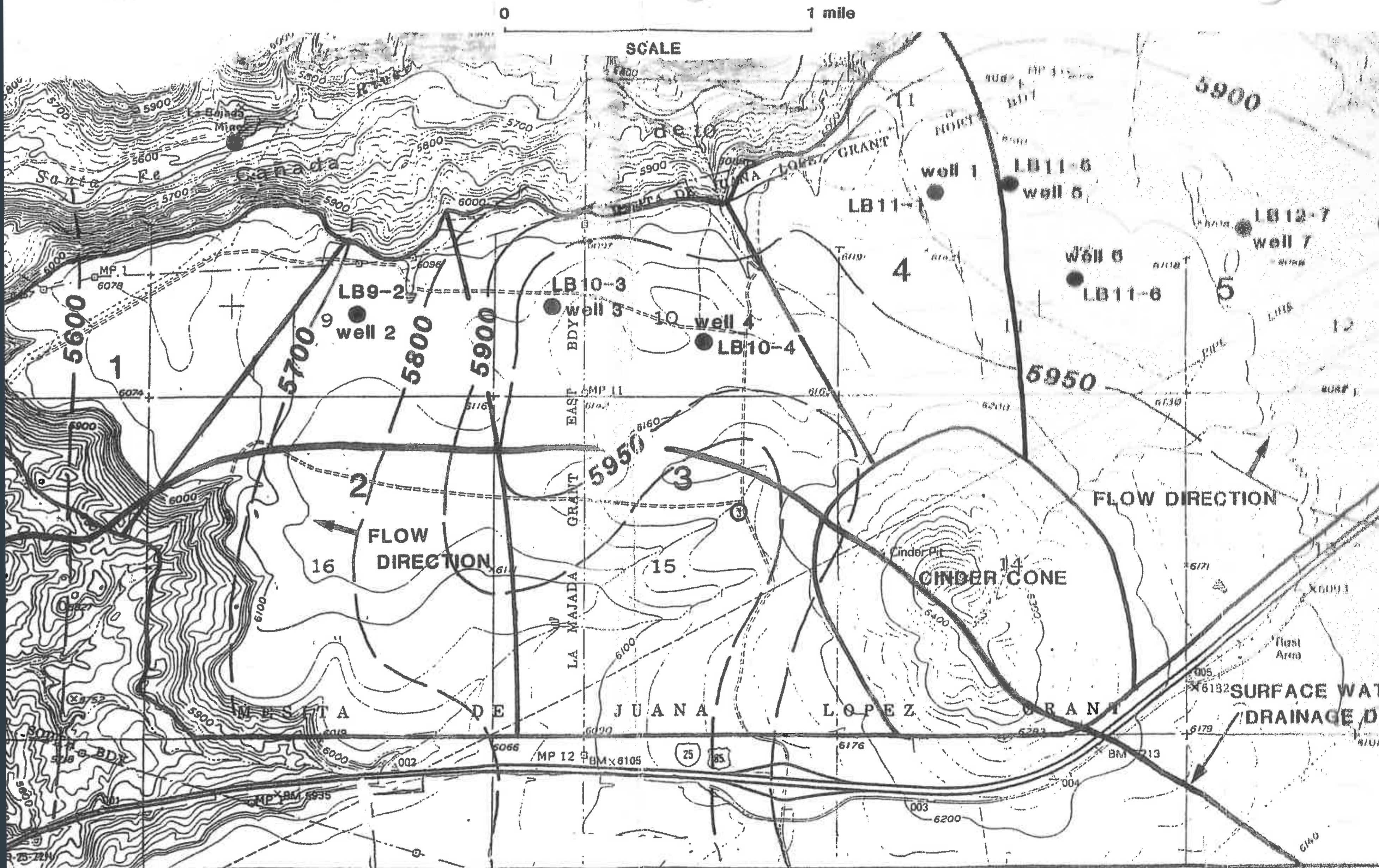
GENERAL AREA

MAP


0
1 mile
SCALE
Santa Fe
Canada
LB9-2
well 2
LB10-3
well 3
well 4
LB10-4
well 1
LB11-5
well 5
LB11-1
well 6
LB11-6
LB12-7
well 7
FLOW DIRECTION
FLOW DIRECTION
CINDER CONE
Cinder Pit
SURFACE WAT
DRAINAGE DI
MESETA
DE
JUANA
LOPEZ
GRANT
LA MAJADA
EASP
BDY
MP 1
MP 11
MP 12
5600
5700
5800
5900
5950
6000
6100
6200

ENCLOSURE #4

SHOMAKER WELLS

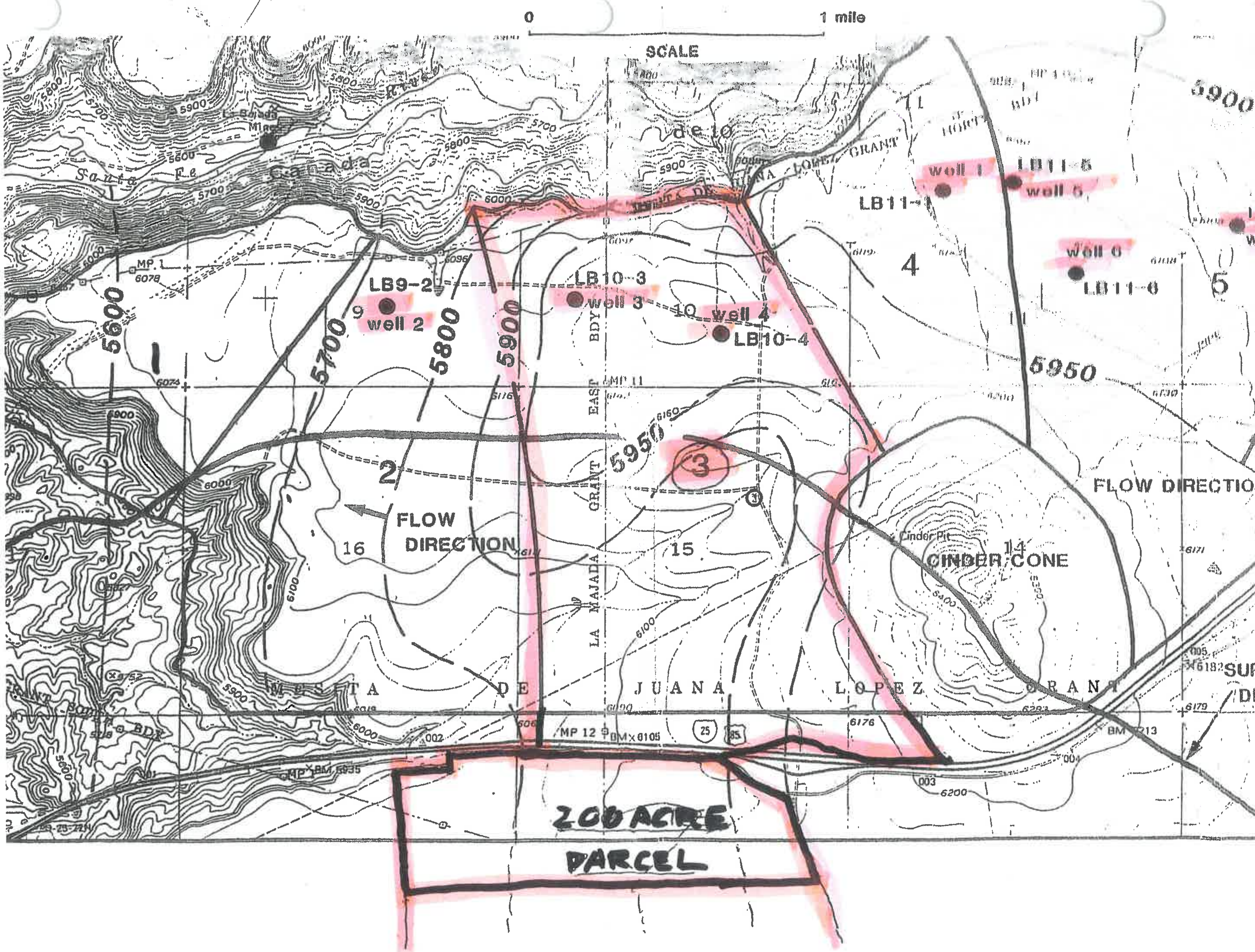


0
1 mile
SCALE
5600
5700
5800
5900
5950
6000
LB9-2
well 2
LB10-3
well 3
well 4
LB10-4
well 1
LB11-1
LB11-5
well 5
well 6
LB11-6
LB12-7
well 7
1
2
3
4
5
FLOW DIRECTION
FLOW DIRECTION
CINDER CONE
Cinder Pit
SURFACE WAT
DRAINAGE DI
MESITA DE JUANA LOPEZ GRANT
LA MAJADA GRANT EAST BDY
Santa Fe
Cañada
La Bajada Mine
Rest Area
MP 1
MP 11
MP 12
BM×6105
25
85

ENCLOSURE #5

AREA 3

(Wells #3 & #4)


0
1 mile
SCALE
Santa Fe
Canada de los
LB9-2
well 2
LB10-3
well 3
well 4
LB10-4
well 1
LB11-1
LB11-5
well 5
well 6
LB11-6
5950
5900
5800
5700
5600
FLOW DIRECTION
FLOW DIRECTION
CINDER CONE
Cinder Pit
MESITA DE JUANA LOPEZ GRANT
LA MAJADA GRANT EAST BDY
200 ACRE PARCEL

ENCLOSURE #6

SHOMAKER REPORT

HYDROGEOLOGY
AND
WATER-RESOURCE ASSESSMENT
PROPOSED LA BAJADA RANCH SUBDIVISION
SANTA FE COUNTY
NEW MEXICO

by

Roger L. Peery

John W. Pearson

JOHN SHOMAKER & ASSOCIATES, INC.
Albuquerque, New Mexico

for

Los Atrevidos, Ltd.
Santa Fe, New Mexico

August 1994

CONTENTS

CONTENTS
(continued)

TABLES

(follow text)

ILLUSTRATIONS

(follow tables)

APPENDICES

(follow text)

Appendix 1. Photographs of Chip-Boards and Lithologic Logs.
2. Well Completion Diagrams.
3. Drawdown and Recovery Plots.
4. Analytical Results (raw data).
5. Aquifer Test Data (raw data).

HYDROGEOLOGY AND WATER RESOURCE ASSESSMENT
PROPOSED LA BAJADA RANCH SUBDIVISION
SANTA FE COUNTY, NEW MEXICO

EXECUTIVE SUMMARY

John Shomaker & Associates, Inc. (JSAI), performed a hydrogeologic investigation at the proposed La Bajada Ranch subdivision between May 4 and July 24, 1994. The proposed subdivision will include 98 lots on 4,300 acres, of which 1,630 will remain permanent open space. Ground-water diversion per lot is estimated at 0.75 acre-feet per annum with low-flow fixtures and restrictions on outside irrigation.

The hydrogeologic study included completing seven test wells, performing five aquifer tests, verifying geology in the field, and reviewing published geologic and hydrogeologic data. JSAI divided the proposed subdivision area into five hydrogeologic areas based on data collected during the study and from published reports. The western, east-central, and eastern portions of the study area (Areas 1, 4 and 5; see Fig. 5) have the greatest quantity of available ground water in storage. The central and west-central portions of the study area (Areas 2 and 3) have the least amount of available ground water in storage. Initial development is proposed for the eastern portion of the subdivision. There is a 100-year supply of available ground water in storage beneath the site for the number of lots proposed for each hydrogeologic area based on data collected for and during this investigation.

INTRODUCTION

Los Atrevidos, Ltd., retained John Shomaker & Associates, Inc. (JSAI) in May, 1994 to perform a hydrogeologic study for a proposed subdivision. The proposed subdivision is on the Mesita de Juana Lopez and the La Majada Grants, Township 15 North, Range 7 East, within portions of Sections 8 through 16 (Fig. 1). The subdivision area is about 4,300 acres (ac). The area includes 98 lots ranging in size from about 11.6 to 97.5 ac. Approximately 1,630 ac will be dedicated as permanent open-space areas.

Water supply for the proposed subdivision would be provided entirely by ground water. Water for each lot would be supplied by an individual well, or one well may provide a water supply for up to four lots.

The hydrogeologic investigation was conducted between May 4 and July 24, 1994. As part of the study, seven wells were completed by Thompson Water Wells of Santa Fe, New Mexico; five aquifer tests were performed; and ground-water samples were collected for laboratory analyses.

This report describes the hydrogeology and the availability of ground-water resources for the proposed subdivision based on published data and data collected during this investigation. This report includes information required by the Santa Fe County Land Development Code.

PHYSIOGRAPHY

Ground-surface elevations range from about 6,495 feet (ft) at the top of the cider cone at the southeastern portion of the site, to 6,000 ft along the top edge of the mesa (Fig. 2). Slopes range from about 24 percent on the north end of the cinder cone to 11 percent along the western portion of the site. The north and northeast portion of the site slopes steeply towards the Santa Fe River, and the western portion of the site slopes steeply at the edge of the mesa. Slopes from the edge of the site into the Santa Fe River range from about 25 to 53 percent.

Surface-water runoff on the northern and eastern portions of the site drains northward toward the Santa Fe River. Runoff from the southwestern portion of the property drains south and west toward Galisteo Creek. The surface-water drainage divide is shown on Figure 2.

SOILS

Soils at the site consist of the Apache series, Basalt rock land, Clovis series, and Montoso series. The Apache series is a stony fine-grained sandy loam present along the edges of the mesa, and extends south and east from the base of the cinder cone. The soil has a permeability of 0.63 to 2.0 inches per hour (in./hr), an available water-holding capacity of 1.5 to 3 in., a low shrink-swell capacity, and is about 1 to 1.5 ft thick (Folks, 1975).

Basalt rock land (Folks, 1975) is not a soil type but rather consists of areas of basalt outcrops and boulders mapped during the soil survey. These areas include the steep slopes along the edge of the mesa where the basalt crops out.

The Clovis series consists of loam, and is the predominate soil found in the study area, encompassing most of the gently sloping areas. The soil's permeability is 0.63 to 2.0 in./hr, but may be as high as 6.3 in./hr in areas with higher sand content. The soil has available water-holding capacity of 5 to 6.5 in., and a low to moderate shrink-swell capacity, and is generally greater than 5 ft thick (Folks, 1975).

The Montoso series consists of a gravelly silt loam and is present from the top of the cinder cone downslope. This soil series ends where the topography becomes more gentle. The soil has a permeability of 0.63 to 2.0 in./hr, an available water holding capacity of 2 to 4 in., and a low to moderate shrink-swell capacity, and is generally greater than 5 ft thick (Folks, 1975).

PRECIPITATION, TEMPERATURE, AND EVAPORATION

Precipitation, temperature, and evaporation data for the site are not available. Data from the Santa Fe CAA Airport, at an elevation of 6,312 ft above mean sea level, will be assumed to represent similar conditions. Records for this site were available from 1941 to 1958 (Gabin and Lesperance, 1977). Mean annual precipitation and temperature at this station for the period of record were 9.87 in. and 51 degrees Fahrenheit, respectively.

Weather data were also available from the National Oceanographic and Atmospheric Administration Santa Fe College station. The station has and elevation of 6,800 ft above mean sea level and data were available from 1982 through 1992. Mean annual precipitation and temperature for the period of record was 16.52 in. and 56.4 degrees Fahrenheit, respectively. The precipitation is higher than that recorded at the CAA Airport because the station is at a higher elevation. However, the temperature was also higher which was unexpected. This is likely the result of variations due to the period of record.

Evaporation data were not available from either of the above sources.

SANTA FE RIVER FLOW

The U.S. Geological Survey (USGS) gages the flow in the Santa Fe River near the western end of the site at Township 15 North, Range 7 East, northwest quarter of Section 8. Flow in the river has been gaged at this point from March, 1970 to present. The drainage area above the gage is reported by the USGS as 231 square miles. The gage is 5,505 ft above mean sea level.

The annual average discharge in the river for water years 1970 through 1993 is 11.4 cubic feet per second (ft^3/sec) (8,258 acre-feet per annum). The maximum discharge for water years 1970 through 1993 was 11,400 ft^3/s on July 26, 1971, and the minimum was no surface flow in the river from July 16 to 18, 1971 (Cruz, et al., 1993).

REGIONAL GEOLOGY AND HYDROGEOLOGY

The proposed La Bajada Ranch subdivision is within the Espanola geologic basin (Kelley, 1978). The regional geology is dominated by the north-south trending Rio Grande Rift System, a semi-continuous chain of down-dropped blocks extending from the San Luis Valley in southern Colorado to as far south as El Paso, Texas. The proposed subdivision is located in the north-central portion of the rift valley chain, at the north end of the Albuquerque structural basin (Kelley, 1977).

In the north-central Rio Grande Underground Water Basin, in the vicinity of the study area, the most important and productive aquifer is the late-Tertiary-age Santa Fe Group of sediments, which includes the Tesuque and Ancha Formations (Spiegel and Baldwin, 1963). These sedimentary units accumulated as uplifted Precambrian granitic and metamorphic rocks weathered over time to create basin-fill deposits in the valley of the ancestral Rio Grande.

Of lesser importance regionally are localized aquifers in the Espinaso Formation, Galisteo Formation, and Mancos Shale. These formations have been reported to yield limited quantities of water of good to poor quality, although localized favorable conditions governing well yields and water quality may exist (Wilson and Jenkins, 1979).

At the proposed subdivision, the Ancha Formation, Galisteo Formation, and Mancos Shale are the primary aquifer-bearing units. The regional direction of ground-water flow is westward, from recharge areas near the Sangre de Cristo Mountains, toward discharge areas along the Rio Grande (Wilson and Jenkins, 1979).

Geologic Units

The geology of the study area reflects the influences of Laramide thrust faulting (late Cretaceous to early Tertiary-age), and Rio Grande rifting (Tertiary to present). Basement rocks composed of Precambrian granitic and metamorphic rocks, upon which younger sedimentary rocks rest, are exposed north of the La Bajada property in the Sangre De Cristo Mountains near Santa Fe, and to the south in the Sandia Mountains (Kelley, 1978). The stratigraphy of the north-central portion of the Rio Grande Basin is dominated by late Mesozoic and Cenozoic silts, clays, sands, and gravels. The late Cretaceous Mancos Shale and Mesaverde Formation, and the early Tertiary Galisteo Formation form the bedrock upon which the Tertiary Santa Fe Group sediments lie. Other significant rocks of the area are the

Cenozoic igneous rocks exposed in Los Cerrillos, and the Ortiz, San Pedro, and South Mountains (Stearns, 1953), and the local Quaternary-age eruptive centers comprising Tetilla Peak, Las Tetillitas, Cerro Seguro, Cerro Bonanza, and the cinder cone on the La Bajada property.

Rocks that crop out (see Fig. 3) or underlie the proposed La Bajada Ranch subdivision, most of which were penetrated during the drilling of the seven test wells, are Quaternary-age basalt, the Quaternary-Tertiary-age Ancha Formation, the Tertiary-age Tesuque Formation, Espinaso Formation, and Galisteo Formation, and the Cretaceous-age Mesaverde Group and Mancos Shale (Fig. 4).

The basalt which is exposed at the surface of the property varies in thickness from approximately 20 ft along the mesa rim to 182 ft in one drill hole. Basalt intersected during the drilling of the seven test wells ranges in texture from vesicular to crystalline, is black to reddish-brown, and exhibits thickness from 60 ft in Well 2 to 182 ft in Well 6. Variations in the texture of the basalt in individual drill holes may be evidence that multiple flows occurred in the La Bajada area during the period of active volcanism. During the drilling, the basalt was found to contain numerous voids, and some ground water above the regional water table.

At the drilled locations, sediments probably belonging to the Ancha Formation were found to immediately underlie the basalt cap. The Ancha consists of arkosic and volcanic-rock fragment sands, gravels, and cobbles, and is fairly widespread, occurring throughout most of the Espanola Basin (Kelley, 1978). At the study area, the Ancha Formation intersected by the drilling was found to consist of yellow-brown to reddish brown, clayey arkosic and volcaniclastic sands to coarse gravels. Clasts range in texture from subrounded to subangular. The Ancha Formation ranges in thickness from about 40 ft in Well 3 to about 165 ft in Well 1. The thick sequence of Ancha gravels in Well 1 appears to be due to deposition during the downward movement of the eastern block of the large northwest trending fault in Section 10. Otherwise, the Ancha gravels at the study area were found to range in thickness from about 40 to 75 ft.

The Tesuque Formation was not intersected by the drilling of the test wells, but should underlie portions of Sections 8 and 9 on the western portion of the property. The Tesuque Formation crops out in the canyon of the Santa Fe River, just north of the western end of the property. Near the town of La Bajada, the Tesuque was observed to contain thin alternating beds of white, fine-grained sandstones, mudstones, and ash. Kelley (1978) reports that the Tesuque Formation may reach a thickness in excess of 9,000 ft.

The Espinaso Formation crops out in the canyon of the Santa Fe River in Sections 1 and 2 just north of the eastern end of the property, and just off the western end of the mesa, in Sections 8 and 17. In outcrop the Espinaso was observed to consist of andesitic conglomeratic rocks and basaltic flows. This formation is reported to reach a thickness of about 1,300 ft (Kautz et al., 1981). Approximately 100 to 130 ft of what is interpreted to be the Espinaso Formation was intersected during the drilling of Wells 3 and 4, and is described as a black-gray clayey shale with some thin sandy intervals. The Espinaso Formation at Well 4 also includes a vesicular basalt flow at the contact with the Mancos Shale. At both Wells 3 and 4, the Espinaso Formation occurs beneath the water table.

At the study area, the Galisteo Formation occurs in outcrop in Section 17 off of the western end of the mesa, and in Sections 2, 3, and 10, in the canyon of the Santa Fe River. This formation consists of a distinctly red package of clayey arkosic sands, clean sands and fine gravels, and red to yellow sandstones. The Galisteo Formation is reported to range in thickness from 900 to 4,500 ft (Stearns, 1953). Wells 1, 5, 6, and 7 intersect and are completed in what is interpreted to be the Galisteo Formation. The lower contact of the Galisteo Formation with the Mancos Shale was not found in these wells.

The Mesaverde Formation is mapped in outcrop off of the southwestern edge of the mesa in Section 16, and off of the northern edge of the mesa in the valley of the Santa Fe River in Sections 9 and 10 (Kelley, 1978). This formation consists primarily of massive buff-white to brown sandstone, with some brown or black carbonaceous shale, and coal. The maximum thickness of this unit is approximately 1,000 ft (Stearns, 1953). The test-well drilling seems not to have intersected this formation.

The Mancos Shale occurs in outcrop off of the southwestern rim of the mesa, in Section 16, and off of the northern rim of the mesa, in Sections 9 and 10. As found in the drilling, this formation consists of dark gray shale and mudstone beds, with varying amounts of gray clay. The total thickness of the Mancos Shale is reported to exceed 2,000 ft (Stearns, 1953). Wells 2, 3, and 4 are interpreted to be completed in the Mancos Shale. The thickness of the Mancos Shale as it occurs at the study area was not determined.

TEST WELL DRILLING AND CONSTRUCTION

Seven bore holes were drilled using direct rotary methods, and completed as exploratory test wells. Test wells LB 11-1 (Well 1), LB 10-3 (Well 3), LB 11-5 (Well 5), and LB 12-7 (Well 7) were advanced through the basalt using an air-hammer. Wells LB 9-2 (Well 2), LB 10-4 (Well 4), and LB 11-6 (Well 6) were advanced through the basalt using carbide-button bits. Bore-hole depths ranged from about 360 to 700 ft below ground surface. Well completion diagrams are appended.

Air, or drilling fluid consisting of water, foam, bentonite and/or a drilling polymer were used when advancing the borings through the basalt. Drilling fluid consisting of water, bentonite, and/or polymer was used to advance the bore holes through rocks underlying the basalt.

Well 1

The bore hole for Well 1 was drilled between May 17 and 20, 1994. The bore hole was advanced to 325 ft using a 6-1/2-in.-diameter bit and an air-hammer. The hole would not stay open using air or foam below about 325 ft and subsequently collapsed back to about 210 ft. The hole was then drilled to 360 ft using a drilling fluid consisting of bentonite and polymer, with a tricone bit.

The well was completed on May 20, 1994 using 5-in. outside diameter (OD), Schedule 40 PVC casing and screen. The casing had bell-end joints which were connected with PVC cement; screws were placed into the joint to help prevent it from separating. The casing string was 340 ft long and included 280 ft of blank casing and 60 ft of screen. The screen section was placed at the bottom of the casing string. Openings in the screen section were horizontal, machine-cut slots, 0.032 in. wide.

The annulus was gravel packed with a 6-14 gradation silica sand from the bottom of the screen to about 200 ft below ground surface. A 10 ft bentonite seal was placed in the annulus above the gravel pack and the annulus was then backfilled to ground surface with 0.25-in. diameter gravel.

Well 2

The bore hole for Well 2 was drilled between June 30 and July 11, 1994, to 700 ft using a 7-7/8-in.-diameter bit. The bore hole was drilled using air to 110 ft, and with a drilling fluid consisting of bentonite and polymer from 110 to 700 ft.

The well was completed on July 11, 1994 using 5-in. OD, Schedule 40 PVC casing and screen. The casing had bell-end joints which were connected with PVC cement. Screws were placed into the joint to help prevent it from separating. The casing string was 690 ft long and included 20 ft of blank on the bottom, 100 ft of screen above the blank, and 570 ft of blank above the screen. Openings in the screen section were horizontal, machine-cut slots, 0.032 in. wide.

The annulus was gravel packed with an 8-12 gradation silica sand from the bottom of the bore hole to about 340 ft below ground surface and 0.25-in. diameter gravel to about 200 ft below ground surface. A bentonite seal was placed in the annulus above the gravel pack and the annulus was then backfilled to ground surface with 0.25-in. diameter gravel.

Well 3

The bore hole for Well 3 was drilled between May 23 and June 8, 1994. The bore hole was drilled to 150 ft using an 8-1/2-in.-diameter bit and air-hammer, and from 150 to 640 ft using a 7-7/8-in.-diameter bit with a drilling fluid consisting of bentonite and polymer.

The hole was drilled to about 400 ft by May 30, 1994. On May 31, 1994 the driller lost circulation at about 80 ft below ground surface. Twenty sacks of bentonite chips were poured into the bore hole and then circulated in an attempt to plug off voids and/or fractures which were creating lost circulation problems within the basalt. The driller was unable to regain circulation.

The bore hole was then bridged off at 80 ft with paper sacks, and plugged back to surface with a cement/bentonite mixture on June 1, 1994. The plug was drilled out on June 2, 1994, but circulation was again lost. The bore hole was then packed off at 100 ft and cemented to about 30 ft below ground surface. The plug was drilled out on June 3, 1994, but circulation was again lost and the hole was plugged to near ground surface with cement. The last plug was drilled out on June 6, 1994, and circulation was maintained as drilling continued.

The well was completed on June 8, 1994 using 5-in. OD, Schedule 40 PVC casing and screen. The casing had bell-end joints which were connected with PVC cement. Screws were placed into the joint to help prevent it from separating. The casing string was 630 ft long and screen sections were placed from 450 to 470, 490 to 510, 530 to 550, and 570 to 630 ft. Openings in the screen section were horizontal, machine-cut slots, 0.032 in. wide.

The annulus was gravel packed with an 8-12 gradation silica sand from the bottom of the bore hole to about 280 ft below ground surface. A 10-ft-thick bentonite seal was placed above the gravel pack and the annulus was then backfilled to ground surface with 0.25-in.-diameter gravel.

Well 4

The bore hole for Well 4 was drilled between May 23 and June 1, 1994. The bore hole was drilled to 640 ft using a 7-7/8-in.-diameter bit and a drilling fluid consisting of water and polymer. Some minor lost circulation problems existed during drilling.

The well was completed on June 1, 1994 using 5-in. OD, Schedule 40 PVC casing and screen. The casing had bell-end joints which were connected with PVC cement; then screws were placed into the joint to help prevent it from separating. The casing string was 635 ft long and included 20 ft of blank on the bottom, 60 ft of screen above the blank, and 555 ft of blank above the screen. Openings in the screen section were horizontal, machine-cut, 0.032 in. wide.

The annulus was gravel packed with a 6-14 gradation silica sand from the bottom of the bore hole to about 355 ft below ground surface. A 10-foot-thick bentonite seal was placed in the annulus above the gravel pack and the annulus was then backfilled to ground surface with 0.25-in.-diameter gravel.

Well 5

The bore hole for Well 5 was drilled between June 13 and 17, 1994 to 475 ft using a 7-7/8-in.-diameter bit. The bore hole was drilled to 140 ft using air, from 140 to 180 ft using foam, and from 180 to 475 ft using a drilling fluid consisting of water, bentonite, and polymer.

The well was completed on June 17, 1994 using 5-in. OD, Schedule 40 PVC casing and screen. The casing had bell-end joints which were connected with PVC cement. Screws were placed into the joint to help prevent it from separating. The casing string was 460 ft long and included 20 ft of blank on the bottom. Screen sections were placed from 200 to 220, 320 to 340, and 400 to 440 ft below ground surface. Openings in the screen section were horizontal, machine-cut slots, 0.032 in. wide.

The annulus was gravel packed with an 8-12 gradation silica sand from the bottom of the bore hole to about 130 ft below ground surface. A 10-foot-thick bentonite seal was placed in the annulus above the gravel pack and the annulus was then backfilled to ground surface with 0.25-in.-diameter gravel.

Well 6

The bore hole for Well 6 was drilled between June 3 and 9, 1994 to 470 ft using a 7-7/8-in. diameter bit. The bore hole was drilled using a drilling fluid consisting of water, bentonite, and polymer. Lost circulation was a problem once the bore hole was drilled below about 80 ft. Lost-circulation problems were reduced by adding bentonite chips to the drilling fluid.

The well was completed on June 10, 1994 using 5-in. OD, Schedule 40 PVC casing and screen. The casing had bell-end joints which were connected with PVC cement. Screws were placed into the joint to help prevent it from separating. The casing string was 465 ft long and included 20 ft of blank on the bottom. Screen sections were placed from 245 to 265, 305 to 325, 365 to 385, and 425 to 445 ft below ground surface. Openings in the screen section were horizontal, machine-cut slots, 0.032 in. wide.

The annulus was gravel packed with an 8-12 gradation silica sand from the bottom of the bore hole to about 190 ft below ground surface. A 30-foot-thick bentonite seal was placed in the annulus above the gravel pack and the annulus was then backfilled to ground surface with 0.25-in.-diameter gravel.

Well 7

The bore hole for Well 7 was drilled between June 23 and 28, 1994 to 460 ft using 7-7/8-in. diameter bits. The bore hole was drilled using an air hammer to 180 ft, and from 180 to 460 ft using a tricone bit and drilling fluid consisting of water, bentonite, and polymer. Lost circulation was not a problem at this location.

The well was completed on June 28, 1994 using 5-in. OD, Schedule 40 PVC casing and screen. The casing had bell-end joints which were connected with PVC cement; screws were placed into the joint to help prevent it from separating. The casing string was 460 ft long and included 20 ft of blank on the bottom. Screen sections were placed from 400 to 440, and 260 to 300 ft below ground surface. Openings in the screen section were horizontal, machine-cut slots, 0.032 in. wide.

The annulus was gravel packed with an 8-12 gradation silica sand from the bottom of the bore hole to about 170 ft below ground surface. A 10-foot-thick bentonite seal was placed in the annulus above the gravel pack and the annulus was then backfilled to ground surface with 0.25-in.-diameter gravel.

TEST HOLE LITHOLOGY

Samples from drill cuttings were collected at 10 ft intervals as each bore hole was drilled. Samples were used to interpret the geologic units present at the site. Samples were affixed to "chip-boards" to provide physical logs of the samples. Contacts between geologic units are shown on the photographs of the chip-boards which are included in Appendix 1. Field notes describing lithology for each well are also included in Appendix 1.

Figure 4 is a cross-section showing the geology at each well; the line of section A-A' is shown on Figure 5. All of the wells are either on the line of section or have been projected into the cross-section.

WELL DEVELOPMENT

Well 1

Well 1 was pumped by air-lifting for about 3 hours, and produced about 3 gallons per minute (gpm). Further development was attempted with a 5-horsepower (hp) submersible pump on June 1, 1994. Water produced from the well was very turbid, red, and contained fine sand. The well was able to produce a constant flow rate of about 1 gpm. Development continued for 25 minutes at which time the pump sand-locked. Gravel pack material and fine sand were found in the pump when it was removed.

The drilling company was unable to set the pump below about 320 ft because of an obstruction within the well and subsequently had difficulty removing the pump. Further development was attempted using air-lifting methods. However, the well would not produce more than about 1 gpm. It is likely that the casing separated at about 320 ft and/or the screen was damaged during completion or initial air-lift development, either of which would have allowed gravel pack into the well.

We anticipated well yields from Well 1 would be substantially greater than 1 gpm, probably on the order of 20 to 40 gpm, because it was completed in saturated sand and gravel. Therefore, we decided that a test of Well 1 would not be representative of the actual conditions in this area.

Well 2

Well 2 was developed for about 2 hours using air-lifting techniques after the well was completed on July 11, 1994. The tubing for air-lifting was staged into the well from 300 to 680 ft. Air-lift development produced 20 to 30 gpm from 680 ft.

Development was also accomplished by pumping with a 5-hp submersible pump on July 18, 1994. The well was pumped at 24 gpm for 173 minutes, and the discharge at the end of pumping was grey and cloudy.

Well 3

Well 3 was developed for several hours using air-lifting techniques after the well was completed on June 8, 1994. The tubing for air-lifting was staged into the well to unload the drilling fluid. The driller reported the well produced 15 to 20 gpm during air-lift development. The well was not developed by pumping.

Well 4

Well 4 was developed for about 1.5 hours using air-lifting techniques after the well was completed on June 1, 1994, and for about 20 minutes on June 2, 1994. The tubing for air-lifting was staged into the well and development produced about 5 gpm. Discharge was very turbid, grey, and contained 0.2 parts per million (ppm) sand.

Further development was accomplished by pumping with a 5-hp submersible pump on June 13, and 14, 1994. The well was pumped for about 99 minutes on June 13, 1994, at which time the pump failed and had to be replaced. The well was pumped for 158 minutes on June 14, 1994, at which time the pump failed. At this time discharge was very turbid with 0.2 ppm sand. A 1.5-hp pump was then placed in the well. The well was pumped for about 13 minutes on June 28, 1994 when the pump failed. A second 1.5-hp pump was set in the well and the well was pumped for about 2 hours on July 5, 1994. Discharge from the well at the end of development was slightly turbid.

Well 5

Well 5 was developed for about 45 minutes using air-lifting techniques after the well was completed on June 17, 1994. The tubing for air-lifting was staged into the well and development produced 25 to 35 gpm. Discharge was very turbid, red, and contained fine sand.

Development by pumping was accomplished using a 2.5-hp submersible pump on June 29, 1994. The well was pumped for 121 minutes at 18.75 gpm and the discharge was clear at the end of pumping.

Well 6

Well 6 was developed for about 1 hour using air-lifting techniques after the well was completed on June 10, 1994. The tubing for air-lifting was set at 300 ft and development produced about 30 gpm.

Additional development was accomplished by pumping with a 5-hp submersible pump on June 21, 1994. The well was pumped for 42 minutes, at which time the pump failed. The discharge was clear at the end of pumping.

Well 7

Well 7 was developed for about 1 hour using air-lifting techniques after the well was completed on June 28, 1994. Further development was accomplished by pumping with a 1.5-hp submersible pump on July 12, 1994. The well was pumped for 85 minutes and the discharge was slightly turbid and red at the end of pumping.

AQUIFER TESTS

Aquifer tests were conducted in Wells 2, 4, 5, 6, and 7. An aquifer test was not performed at Well 1 because the well was damaged either as it was being completed or during air-lift development. Well 3 was not tested because it was completed in material similar to Well 4 and produced similar quantities of water during air-lift development.

Constant-rate pumping tests were conducted for about 48 hours each at Wells 2, 4, 5, and 6. A variable-flow-rate pumping test was conducted in Well 7 for 48 hours. Flow from the wells was measured using both a flow meter and a 5-gallon bucket.

Static water levels were measured in test wells prior to pumping development and aquifer testing using a dual-line well sounder. A fiberglass tape was strapped to the well sounder and measurements were made to the nearest 0.01 ft.

A well sounder was used to measure water levels during pumping and recovery for the aquifer tests. A data logger was used to collect water-level recovery measurements in Wells 5 and 6 after about 40 minutes.

Drawdown and recovery data from aquifer tests were plotted on semi-logarithmic plots, except for Well 2. Data were analyzed using the Cooper-Jacob (1946) "straight-line" method to assess the transmissivity near pumping wells. The Birsoy-Summers method (1980)was used to analyze pumping data from Well 7 because it was pumped at a variable rate. Plots of drawdown and recovery data are included in Appendix 3.

Well 2

Well 2 produces from the Mancos Shale in Area 2 (see Figs. 4 and 5) The well was pumped for 2,849 minutes (47.5 hours) at a constant flow rate of 20 gpm beginning July 19, 1994. Recovery measurements were collected for 4,605 minutes beginning July 21, 1994. The static water level was measured at 403.19 ft below the top-of-casing (TOC). The pumping level in the well at the end of the test was 481.10 ft below TOC and the drawdown was 77.91 ft. Specific capacity of the well at the end of the test was 0.26 gallons per minute per foot of drawdown (gpm/ft).

Drawdown data were curvilinear when plotted on a semi-log plot. A straight-line approximation of the data would not yield an accurate transmissivity value. An arithmetic plot of drawdown versus the square root of time yielded a straight line, indicating that flow to the well is linear rather than radial (Jenkins and Prentice, 1982). Therefore, flow to the well is probably through a fracture, rather than radially from the aquifer. It is likely that the fracturing was created by the intrusion of the rhyolitic dike that was penetrated at 670 ft below ground surface.

Jenkins and Prentice (1982) suggest the following equation to determine the transmissivity when flow to the pumped well is linear and no data are available from observation wells, which is the case for the Well 2 aquifer test.

$$L(TS)^{1/2} = \frac{Q(t)^{1/2}}{s(3.1416)^{1/2}}$$

where:

L = fracture length
T = transmissivity
S = storage coefficient
Q = pumping rate, 21.4 gpm (4,120 ft^3/d)
t = time since pumping began, 2,849 mins (1.99 d)
s = drawdown, 77.91 ft

The fracture length is unknown; therefore, a unique transmissivity value cannot be defined (Jenkins and Prentice, 1982). However, we solved for $L(TS)^{1/2}$ as follows.

$$L(TS)^{1/2} = \frac{4{,}120\ ft^3/d \times (1.99\ d)^{1/2}}{77.91\ ft \times (3.1416)^{1/2}} = 42.1\ ft^2/d$$

Recovery data were also curvilinear when plotted on a semilog plot. The well recovered slowly and was within 38.73 ft of static after 345 minutes and to within 19.32 ft of the static water level, 4,605 minutes after pumping stopped.

Based on the relatively large production of the well, linear flow conditions, and the form of the recovery plot, it appears that the well produces water from a fracture, or fracture zone, which is recharged slowly by the surrounding aquifer.

Not all wells drilled in Area 2 can be expected to be completed in fractures. Where the aquifer is unfractured, wells can probably be expected to have yields on the order of 1 to 5 gpm.

Well 4

Well 4 produces from the Mancos Shale in Area 3. The well was pumped for 2,942 minutes (49 hours) at a constant flow rate of 2.75 gpm beginning July 6, 1994. Recovery measurements were collected for 2,855 minutes beginning July 8, 1994. The static water level was measured at 190.53 ft below TOC. The pumping level in the well at the end of the test was 353.42 ft below TOC and the drawdown was 162.89 ft. Specific capacity of the well at the end of the test was 0.02 gpm/ft.

Drawdown data were analyzed using the Cooper-Jacob (1946) "straight-line" method. A straight-line approximation of the data from 100 minutes until the end of the test yielded a transmissivity near the well of 2.2 ft^2/d.

Recovery data were also analyzed. The well recovered to within 18.71 ft of the static water level after 380 minutes, and to within 4.19 ft, 1,270 minutes after pumping stopped. The well had recovered to static when the last recovery measurement was collected 2,855 minutes after pumping stopped.

Wells completed in this area can be expected to have short-term yields ranging from about 2 to 5 gpm. Wells should be completed as deep as is practicable to take advantage of as much saturated thickness as possible.

Well 5

Well 5 is completed in the Galisteo Formation in Area 5. The well was pumped for 2,880 minutes (48 hours) at a constant flow rate of 18.75 gpm beginning June 30, 1994. Recovery measurements were collected for 5,756 minutes (96 hours) beginning July 2, 1994.

The static water level was measured at 165.18 ft below the TOC. The pumping level in the well at the end of the test was 176.24 ft below the TOC and the drawdown was 11.06 ft. Specific capacity of the well at the end of the test was 1.7 gpm/ft.

Drawdown data were analyzed using the Cooper-Jacob (1946) "straight-line" method. A straight-line approximation of the data from 100 minutes after pumping started until the end of the test yielded a transmissivity near the well of 235 ft^2/d.

Recovery data were also analyzed. The well recovered to static within 191 minutes after pumping stopped. The form of the recovery plot indicates the nearby presence of a source of recharge.

The drawdown in Well 5 during the aquifer test was only about 11 ft. Therefore, the well would have been capable of producing more than 18.75 gpm if a larger pump had been used for the test. Wells completed near Well 5 should be capable of yielding at least 20 gpm.

Well 6

Well 6 is completed in the Galisteo Formation in Area 5. The well was pumped for 2,809 minutes (46.8 hours) at a constant flow rate of 18.75 gpm beginning June 23, 1994. Recovery measurements were collected for 2,730 minutes beginning June 25, 1994. The static water level was measured at 210.45 ft below TOC. The pumping level in the well at the end of the test was 225.80 ft below TOC and the drawdown was 15.35 ft. Specific capacity of the well at the end of the test was 1.2 gpm/ft.

Drawdown data were analyzed using the Cooper-Jacob (1946) "straight-line" method. A straight-line approximation of the data from 3 to 40 minutes after pumping started led to a transmissivity near the well of 410 ft^2/d.

Recovery data were also analyzed using a straight-line approximation. A straight-line approximation from $t/t'=100$ to $t/t'=500$ suggests a transmissivity of 830 ft^2/d. The well recovered to within 0.51 ft of the static water level, 105 minutes after pumping stopped.

The aquifer near the well has a relatively high transmissivity. Drawdown data after about 50 minutes, and the latter portion of recovery data, may indicate a nearby recharge source. The drawdown in the well was only about 15 ft during the aquifer test. The well is capable of producing greater quantities of water. Wells completed near Well 6 should be capable of producing about 20 gpm, provided they are completed deep enough in the aquifer.

Well 7

Well 7 is completed in the Galisteo Formation in Area 5. The well was pumped for 2,878 minutes (48 hours) at a variable rate beginning July 13, 1994. The well was not pumped at a constant flow because the water level in the well drew down to near the pump after pumping 3.9 gpm for 319 minutes. The flow rate was then reduced and an attempt was made to pump the well at 3 gpm for the remainder of the test. However, the flow rate fluctuated several tenths of a gpm until the end of the test. Difficulty maintaining a steady flow rate is likely the result of the decreasing efficiency of the pump as it pumps against a greater head.

The static water level was measured at 140.63 ft below TOC. The pumping level in the well at the end of the test was 372.70 ft below TOC, and the drawdown was 232.07 ft. Specific capacity of the well at 319 minutes after pumping started was 0.02 gpm/ft and was 0.01 gpm/ft at the end of the test.

Drawdown data were analyzed using the Birsoy-Summers (1980) method for variable pumping rate. Data plotted in six distinct zones using the Birsoy-Summers method. Two of the zones were during the first step and the remaining during the second step. The two separate zones in the first pumping step are likely the result of flow rate fluctuations. The data during the second step plotted with a great degree of irregularity, which is likely the result of the inconsistent flow rate, and were ignored.

A straight-line approximation of the data near the end of the first pumping step yielded a transmissivity of 0.7 ft^2/d near the well. A straight-line approximation of the data near the end of the test yielded a transmissivity of 0.4 ft^2/d near the well. The change in slope may mark the presence of a low-hydraulic conductivity boundary.

Recovery measurements were collected for 4,284 minutes beginning July 15, 1994, at which time the well recovered to within 0.35 ft of static. Recovery data are probably not interpretable because of the irregular pumping rate in the later part of the test.

Well 7 had a low transmissivity, based on pumping data, and a low specific capacity. The well is not capable of yielding more than about 3 gpm. Wells completed near Well 7 may also be low producing wells. However, Wells 5 and 6 are capable of producing in excess of 20 gpm.

GROUND-WATER SAMPLING

Ground-water samples were collected for laboratory analyses from Wells 2, 4, 5, 6, and 7 during pumping tests. Water temperature, specific conductance, and pH were monitored during pump tests. Samples collected for metal analyses were filtered into 500-milliliter bottles preserved with nitric acid. Samples collected for other parameters were placed directly into unpreserved 1-gallon containers. Sample containers were provided by the laboratory. Samples were immediately placed on ice after collection and stored on ice until delivered to Albuchemist, Inc., Albuquerque, New Mexico for analyses.

SUMMARY OF WATER-LEVEL MEASUREMENTS

Water levels were measured in test wells prior to beginning aquifer tests. During aquifer tests, nearby wells were monitored for water-level changes. However, pumping wells did not measurably affect water levels in observation wells. Water levels measured during the hydrogeologic study and the aquifer in which the wells are completed, and water level data from the New Mexico State Engineer Office well records, are listed in Table 1.

SITE HYDROGEOLOGY

The site has been divided into five hydrogeologic areas (Fig. 5) based on data collected from the seven test wells, five aquifer tests, and published geology (Kelley, 1978; and Stearns, 1953). No wells were completed in the western most portion of the site, Area 1, which was mapped as containing the Tertiary-age Espinaso, Galisteo, and Tesuque Formations by Kelley (1978). Table 2 summarizes transmissivity values and specific capacity data from the test wells.

The Mancos Shale is the principal aquifer in Area 2 and is the lower most aquifer penetrated by wells in Area 3. The thickness of the Mancos may exceed 2,000 ft in this area (Stearns, 1953). Wells in Areas 2 and 3 penetrated dark grey shales and mudstones with varying amounts of clay. Borings did not penetrate any portion of the Mancos that we could

define as a specific member, such as the Carlile Shale or the Greenhorn Limestone, both of which are near the bottom of the Mancos. In Area 2 the aquifer appears to be under confined conditions near Well 2. In this case we assumed that the confined specific storage (Ss) was 1 X 10^{-6} /ft. For Area 3, the Mancos appears to be unconfined and we assumed a specific yield (Sy) of 0.01. The Sy of the Mancos may be much higher than 0.01. However, we assume that a Sy of 0.01 provides a reasonable estimate of the water that can be efficiently released from storage.

The Tertiary-age Galisteo Formation is the principal aquifer in Area 5 and is present in Areas 1 and 4. The Galisteo consists of variegated sandstone, sand, clay, shale, and contains some conglomeratic beds. Reported thickness ranges from 900 to 4,000 ft (Stearns, 1953). We assumed a Sy of 0.15 for the Galisteo based on reported lithology, cuttings, and acceptable published values for similar rocks (Kruseman and de Ridder, 1992).

The Espinaso Formation was found only in Area 3, but is also likely present in Area 1. The Espinaso consists of "water-laid immature volcaniclastic sandstones, conglomerates and boulder conglomerates interbedded with matrix supported, pebble to boulder, debris-flow deposits" (Kautz, et al., 1991). Based on data collected in the field and the above geologic description we assumed the Sy is 0.01. The thickness of the Espinaso in Area 1 is unknown but may be similar to that found in Area 3 (150 ft).

The Tesuque Formation is likely the principal aquifer in Area 1. No borings were drilled through the Tesuque during this study. Spiegel and Baldwin (1963) describe the Tesuque as "several thousand feet of pinkish-tan soft arkosic, silty sandstone and minor conglomerate and siltstone." Therefore, we assume wells in Area 1 can be expected to penetrate at least 600 ft of saturated Tesuque. We assume the Tesuque will have an average Sy of 0.15.

The Quaternary/Tertiary Ancha Formation in the study area consists of gravel, sand, and silt. The Ancha was present in all of the borings at the site. The Ancha was saturated in Areas 3, 4, and 5. The maximum thickness penetrated was about 165 ft in Area 5. We assume the Sy of the Ancha in this area is 0.15.

GROUND-WATER FLOW

Direction of ground-water flow in the eastern portion of the study area (Areas 4 and 5) is northeast (Fig. 2). Ground-water flow from southeast of the study area appears to recharge Areas 4 and 5. Ground water in these Areas then discharges northeast toward Alamo Creek and the Santa Fe River. The ground-water gradient in Areas 4 and 5 is about 0.01 ft/ft.

Direction of ground-water flow is generally west in the central and western portions of the study area (Areas 1, 2, and 3). Ground-water elevations decrease abruptly from Area 3 to Area 2. This is likely the result of ground-water flow being impeded by the fault between the two areas (Fig. 4). Ground water in Areas 1 and 3 appears to discharge to the Santa Fe River. Ground water in Area 2 may not discharge to, or may discharge slowly to, the Santa Fe River, if it is present under confined conditions. The gradient in Area 3 is about 0.025 ft/ft and 0.046 ft/ft in Areas 1 and 2.

GROUND-WATER CHEMISTRY

We evaluated the ground-water quality in the La Bajada area by reviewing the analyses of ground-water samples collected from the test wells and those reported for wells in the area which are included in the summary by Mourant (1980). We also assessed the spatial distribution of water quality relative to the hydrogeologic conditions at the site. Seasonal and shorter term variations in ground-water quality, although not evaluated, were not expected to be significant.

The quality of ground water in the area appears to be affected, to a large extent by the rocks through which the ground water has flowed. It is also affected by proximity to recharge points, length of flow paths from recharge areas, and the hydraulic conductivity of the aquifer.

Three basic types of ground water were noted: 1) ground water with low chemical conductivity, low total dissolved solids (TDS) and calcium, and sodium and bicarbonate as the dominant ions; 2) ground water with high chemical conductivity, high TDS and sodium, and bicarbonate and chloride as the dominant ions; and, 3) ground water with high chemical conductivity, high TDS, high sodium, high sulfate, and with bicarbonate as the dominant ions. The latter samples were collected from wells open to the Cretaceous-age Mancos Shale.

The sample collected from Well 2 had a TDS of 3,452 milligrams per liter (mg/l). Sulfate, fluoride, and TDS exceeded water-quality standards outlined in the Santa Fe County regulations.

The ground water from Well 4 had a TDS concentration of 2,252 mg/l. Sulfate was not detected, and sulfur in the water was probably in solution as sulfide, which was not analyzed. The concentration of fluoride, chloride, and TDS exceeded County water-quality standards.

The quality of ground water from Wells 5, 6 and 7 were similar to each other. These had TDS concentrations ranging from 216 to 272 mg/l. Of the constituents analyzed, none exceeded County water-quality standards. Water from these wells was produced from the Ancha and Galisteo Formations. Ground-water quality data is summarized in Table 3.

GROUND-WATER RESOURCE ASSESSMENT

Ground-water resources available to the site have been evaluated in two ways: one is based on methods described in the Santa Fe County Development Code (Code). The other is based directly on data collected by JSAI during drilling and aquifer testing. Assumptions for assessing the water in storage at the site are: faults are vertical, dike thicknesses are negligible, aquifers are consistent throughout each area, and ground water is not available around the immediate cinder-cone area.

Resource Assessment Based on Santa Fe County Regulations

Ground-water resource assessments for the site will generally be conservatively low using the Code. This is because we are assuming that the saturated zone beneath a given area is only as thick as the deepest well within that area; future wells could be completed deeper than those completed during this study. Based on published geologic data for the area, it is likely that the saturated thickness in each area is greater than was penetrated by the wells that were completed during the hydrogeologic study.

The site is located within the Basin Zone as described by the Code. The Code assumes recharge from ground water is entirely committed, and therefore not available to the proposed subdivision. The Code requires that the water in storage beneath each lot be large enough to supply water for 100 years. Assuming a ground-water diversion of 0.75 ac-ft/an, there must be at least 75 ac-ft of available ground water below each lot. The Code defines density-zoning by determining the minimum lot size (MLS) using the relation below.

$$MLS = U / A$$

where:

U = water use per lot, 75 ac-ft per 100 years
A = water availability per acre = Ac/S

where:

Ac = size of the tract in acres
S = ground water in storage

The water available per acre (A) is determined by estimating the ground water in storage. The Code specifies the equation below for estimating S beneath a site:

$$S = Ac \times Sy \times ST \times RL \times RC$$

where:

Ac = size of the tract in acres
Sy = specific yield
ST = saturated thickness
RL = reliability factor, 0.7
RC = recovery potential, 0.8

The Code specifies that the saturated thickness (ST) is equal to that present at the shallowest wells proposed for the development. However, as mentioned above, the ST for a given area will be estimated using the deepest well completed in each area during this study. Specific yields (Sy) were estimated based on lithology described by Stearns (1953), and Spiegel and Baldwin (1963), drill cuttings, and acceptable ranges from Kruseman and de Ridder (1992), as mentioned in the `Site Hydrogeology` section of this report.

Area 1. Ground water in Area 1 is likely present primarily within the Tertiary Tesuque Formation and to some degree within the Tertiary Espinaso and Galisteo Formations. No wells were completed in this area during the study. We expect wells in this area to penetrate 600 ft of saturated material. However, for a conservatively low estimate of water availability in Area 1, we will assume 400 ft of saturated material with an average Sy of 0.15. The horizontal extent of the aquifer is 440 acres. Ground water available in storage is estimated below.

$$S = 440\ Ac \times 0.15 \times 400\ ft \times 0.7 \times 0.8 = 14{,}784\ ac\text{-}ft$$

Area 2. Ground water is present in the Cretaceous Mancos Shale in Area 2 at 403 ft below ground surface. Well 2 penetrates 560 ft of the shale to a depth 670 ft below ground surface and 30 ft of a rhyolite dike within the shale. The Mancos was present at 110 ft below ground surface and had a plastic texture to about 580 ft below ground surface. It is possible that this portion of the shale acts as a confining layer for the lower more competent shale below 480 ft. Assuming the dike is within the Mancos at the total depth of the boring, the minimum aquifer thickness for this area would be 220 ft (480 to 700 ft). The horizontal extent of the aquifer is 795 ac.

Assuming the aquifer is confined in this area, the confined specific storage (Ss) is assumed to be 1×10^{-6}. The confined storage (Sc) for the aquifer is the product of the aquifer thickness and the Ss, which is given below.

$$Sc = Ss \times \text{aquifer thickness}$$
$$Sc = 1 \times 10^{-6} \times 220 \text{ ft} = 0.0002$$

Available water in storage is estimated as follows:

$$S = 795 \text{ ac} \times 0.0002 \times 220 \text{ ft} \times 0.7 \times 0.8 = 20 \text{ ac-ft}$$

If the ground water in this area is not present under confined conditions, the minimum saturated thickness would be about 400 ft. Using a Sy of 0.01, the available ground water in storage in this area is 1,781 ac-ft.

Area 3. Ground water in Area 3 is present in the Ancha Formation, Espinaso Formation, and Mancos Shale. The horizontal extent of the saturated zone is 947 ac. Wells 3 and 4 penetrated about 50 ft of saturated Ancha. Well 3 penetrated about 150 ft of Espinaso. Well 4 penetrated about 50 ft of Espinaso underlain by 70 ft of vesicular basalt.

The basalt flow was assumed to be 200 ft wide, and to be present from the cinder cone to the north boundary of the area, which is about 3,875 ft^2 (18 ac). Therefore, the Espinaso was divided into two separate saturated units, one above the vesicular basalt flow having a saturated thickness of 50 ft and the other west of the flow having a saturated thickness of 150 ft. Ground water available in storage is estimated below.

- Ancha Formation

$$S = 947 \text{ Ac} \times 0.15 \times 50 \text{ ft} \times 0.7 \times 0.8 = 3{,}977 \text{ ac-ft}$$

- Espinaso Formation

S = 929 Ac X 0.01 X 150 ft X 0.7 X 0.8 = 780 ac-ft

S = 18 Ac X 0.01 X 50 ft X 0.7 X 0.8 = 5 ac-ft

- Basalt

S = 18 Ac X 0.001 X 70 ft X 0.7 X 0.8 = 1 ac-ft

- Mancos Shale

S = 947 Ac X 0.01 X 140 ft X 0.7 X 0.8 = 743 ac-ft

Total = 5,506 ac-ft

Area 4. Ground water in Area 4 is present in the Ancha and Galisteo Formations. The horizontal extent of the saturated zone is 422 ac. Well 1 penetrated about 165 ft of saturated Ancha and 30 ft of saturated Galisteo. Ground water available in storage is estimated below.

- Ancha Formation

S = 422 Ac X 0.15 X 165 ft X 0.7 X 0.8 = 5,849 ac-ft

- Galisteo Formation

S = 422 Ac X 0.15 X 30 ft X 0.7 X 0.8 = 1,063 ac-ft

Total = 6,912 ac-ft

Area 5. Ground water in Area 5 is present in the Ancha and Galisteo Formations. The horizontal extent of the saturated zone is 1,408 ac. Wells 5, 6, and 7 penetrated about 30 ft of saturated Ancha. Well 7 penetrated about 260 ft of saturated Galisteo. Ground water available in storage is estimated below.

- Ancha Formation

S = 1,408 Ac X 0.15 X 30 ft X 0.7 X 0.8 = 3,548 ac-ft

- Galisteo Formation

S = 1,408 Ac X 0.15 X 260 ft X 0.7 X 0.8 = 30,751 ac-ft

Total = 34,299 ac-ft

Water Availability per Acre and Minimum Lot Size Based on Code Estimate: Water availability per acre and the minimum lot size were estimated for each hydrogeologic area. The results are listed in Table 4.

JSAI Ground-Water Resource Estimates

JSAI estimated ground-water resources beneath the site using a different method than that prescribed in the Code. The main difference is that we assumed the thicknesses of the saturated zones are greater than what was penetrated by the test wells. Thickness estimates were based on published geology of the area (Kelley, 1978; Stearns, 1953; and Spiegel and Baldwin, 1963) and data collected as borings were drilled for test wells.

We assessed the ground water available per acre by estimating the water available in storage using the following equation.

$$S = Ac \times Sy \times ST \times RC$$

where:

Ac = size of the tract in acres
Sy = specific yield
ST = saturated thickness
RC = recovery potential, 0.5

This equation does not have a reliability factor such as that used in the Code. However, we assume the recovery potential is 0.5 rather than 0.7.

Area 1. We estimate wells within this area will be able to penetrate at least 600 ft of saturated material. We again assume an average Sy of 0.15 for the area. The horizontal extent of the aquifer is 440 acres. Ground water available in storage is estimated below.

$$S = 440 \text{ ac} \times 0.15 \times 600 \text{ ft} \times 0.5 = 19{,}800 \text{ ac-ft}$$

Area 2. The aquifer test at Well 2 indicated that flow to the well was linear rather than radial. Therefore, flow to the well is through a fracture(s), rather than radially in the aquifer. Fracturing is probably the result of the dike intruding the shale. Ground water is likely available to wells in Area 2 from fracturing and from water released from storage in the Mancos Shale that is not highly fractured.

Based on the aquifer test we were able to determine that $L(TS)^{1/2} = 42.1$ ft^2/d. Flow (Q) available from the well can be estimated if we assume that water in the aquifer can be drawn down to the bottom of the screen section at 670 ft below ground surface (267 ft). The ground water available per day to the well is estimated below, using the method previously described by Jenkins and Prentice (1982), assuming that the well will be pumped for 100 years.

$$L(TS)^{1/2} = \frac{Q(t)^{1/2}}{s(3.1416)^{1/2}}$$

$$Q = \frac{L(TS)^{1/2} \text{ X } s(3.1416)^{1/2}}{(t)^{1/2}}$$

$$Q = \frac{42.1 \text{ ft}^2/\text{d} \text{ X } 267 \text{ ft } (3.1416)^{1/2}}{(36{,}525 \text{ d})^{1/2}} = 104 \text{ ft}^3/\text{d}$$

$$Q = 778 \text{ gpd}$$

Based on the above estimate, Well 2 is capable of producing about 0.54 gpm constant for 100 years. Additional wells completed in Area 2 not may not be completed in fractured portions of the aquifer. In this case wells will likely have similar yields to Well 4, which was completed in the Mancos Shale. Therefore, ground water available to Area 2 will be estimated assuming flow to wells will be radial rather than from fractures. The horizontal extent of the aquifer is 795 acres.

Assuming the aquifer is confined by the low permeability shale present from about 110 to 480 ft, the Ss is assumed to be $1 \text{ X } 10^{-6}$. The Mancos can be several thousand feet thick in this area. The boring for Well 2 did not penetrate any portion of the section that we could define as a specific member, such as the Carlile Shale or the Greenhorn Limestone. Both of which are near the bottom of the Mancos Shale. Therefore, we assume the wells were completed above the Carlile Shale and the Greenhorn Limestone, and that the available saturated thickness in this area will be 1,000 ft. The Sc and available ground water in storage are calculated below.

$$Sc = 1 \text{ X } 10^{-6} \text{ X } 1{,}000 \text{ ft} = 0.001$$

$$S = 795 \text{ ac X } 0.001 \text{ X } 1{,}000 \text{ ft X } 0.5 = 398 \text{ ac-ft}$$

Area 3. Saturated thickness for Area 3 was divided in the same manner used in the ground-water resource assessment for the Code, with the exception of the Mancos. As in Area 2, borings did not penetrate members which we could identify as being near the bottom of the Mancos Shale. Therefore, we assume the saturated thickness of the Mancos will be at least 800 ft. Ground water available in storage is estimated below.

- Ancha Formation

S = 947 Ac X 0.15 X 50 ft X 0.5 = 3,551 ac-ft

- Espinaso Formation

S = 929 Ac X 0.01 X 150 ft X 0.5 = 697 ac-ft

S = 18 Ac X 0.01 X 50 ft X 0.5 = 5 ac-ft

- Basalt

S = 18 Ac X 0.001 X 70 ft X 0.5 = 1 ac-ft

- Mancos Shale

S = 947 Ac X 0.01 X 800 ft X 0.5 = 3,788 ac-ft

Total = 8,042 ac-ft

Area 4. We estimate the saturated thickness in the Galisteo Formation to be 800 ft. Spiegel and Baldwin (1963) report the thickness of the Galisteo Formation as 1,300 ft, and Stearns (1953) estimates the thickness as between 900 and 4,500 ft. Ground water available in storage is estimated below.

- Ancha Formation

S = 422 Ac X 0.15 X 165 ft X 0.5 = 5,222 ac-ft

- Galisteo Formation

S = 422 Ac X 0.15 X 800 ft X 0.5 = 25,320 ac-ft

Total = 30,542 ac-ft

Area 5. Ground water in Area 5 is present in the Ancha and Galisteo formations. As with Area 4, we assumed the saturated thickness of the Galisteo Formation to be 800 ft. The horizontal extent of the saturated zone is 1,408 ac. Ground water available in storage is estimated below.

- Ancha Formation

S = 1,408 Ac X 0.15 X 30 ft X 0.5 = 3,168 ac-ft

- Galisteo Formation

S = 1,408 Ac X 0.15 X 800 ft X 0.5 = 84,480 ac-ft

Total = 87,648 ac-ft

Water Availability per Acre and Minimum Lot Size Based on JSAI Estimate: Water availability per acre and the minimum lot size were estimated for each hydrogeologic area. The results are listed in Table 5.

GROUND-WATER DEVELOPMENT

Lot sizes in the subdivision area may range from about 12 to 98 ac. The developer estimates that water use for each lot will be 0.75 ac-ft/an. Low-flow fixtures and restrictions on outside landscaping should help reduce ground-water consumption.

The developer is proposing to complete ground-water supply wells in Area 1 to supply Area 2. This is proposed because the quality of water in Area 2 is relatively poor and the availability is relatively small.

Assuming diversion for each lot of 0.75 ac-ft/an, the total ground-water diversions for each hydrogeologic area after 100 years of pumping are listed below.

hydrogeologic area	proposed lots	ground water diverted after 100 years (ac-ft)
1	10	750
2[a]	4	300
3	19	1,425
4	20	1,500
5	45	3,375

[a] water for this area will be diverted from Area 1

However, since the ground-water supply for Area 2 will be diverted from Area 1, the diversion from Area 1 will be 1,050 ac-ft after 100 years of pumping.

GROUND-WATER AVAILABILITY AFTER 100 YEARS OF PUMPING

Ground-water resources available after 100 years of pumping from each zone have been estimated by subtracting proposed 100-year withdrawals from the available resource prior to development based on both JSAI and Code estimates (Table 6). Recharge to the area was not considered in the following estimates because the site is within the Basin Zone as described in the Code. The Code assumes recharge from ground water is entirely committed and therefore, not available to proposed subdivisions.

The percentage of ground water diverted from storage from each hydrogeologic area after 100 years of maximum pumping based on JSAI and Code estimates is listed below.

hydrogeologic area	percent ground water diverted per JSAI estimated	percent ground water diverted per Code estimated
1	5	7
2	0	0
3	18	26
4	5	22
5	4	10

CONCLUSIONS

There appears to be a 100-year supply of ground water available in storage beneath each hydrogeologic area to support the number of lots proposed for the subdivision based on JSAI and Code estimates. Ground-water availability estimates using the Code provide a conservatively low estimate of available ground water in storage. This is because JSAI assumed that the deepest well completed in each hydrogeologic area penetrated the maximum available saturated thickness.

The ground water diverted ranges from 0 to 26 from hydrogeologic Areas 2 and 3, respectively. The estimates provided in this report assume that no recharge to any of the aquifers occurs, per the requirements of the Code. However, it is likely that some ground-water inflow does occur. Therefore, ground-water availability estimates after 100 years of pumping likely represent a conservatively low estimate of the remaining ground-water resource.

Although the developer proposes to supply water to Area 2 from Area 1, there is an ample supply of ground-water for two lots beneath Area 2. However, the water would have to be treated prior to potable use because of its poor quality.

Ground-water quality from test Wells 5, 6 and 7 had TDS concentrations ranging from 216 to 272 mg/l. Of the constituents analyzed from these wells, none exceeded Santa Fe County water-quality standards. Ground-water quality from Wells 2 and 4 had TDS concentrations of 3,452 and 2,252 mg/l, respectively, which exceed Santa Fe County water-quality standards. Concentrations of sulfate and fluoride in Well 2, and fluoride and chloride concentration in Well 4 exceeded Santa Fe County water-quality standards. It should be possible to improve water quality prior to consumption in Areas 2 and 3 with domestic treatment units

REFERENCES

Birsoy, Y. K., and Summers, W. K., 1980, Determination of aquifer parameters from step tests and intermittent pumping data: Ground Water, 18, p. 137-146.

Cooper, H. H., and Jacob, C. E., 1946, A generalized graphical method for evaluating formation constants and summarizing well field history: Amer. Geophysical Union, Transactions, v. 27, p. 526-534.

Cruz, R. R., De Wees, R. K., Funderburg, D. E., and others, 1993, Water Resources Data, New Mexico, Water Year 1993: U.S. Geological Survey Water-Data Report NM-93-1.

Folks, J. J., 1975, Soil survey of Santa Fe area, New Mexico, Santa Fe County and Part of Rio Arriba County: United States Department of Agriculture, Soil Conservation Service.

Gabin, V. L., and Lesperance, L. E., 1977, New Mexico Climatological data, precipitation, temperature, evaporation, and wind, monthly and annual means, 1850 - 1975: W. K. Summers and Associates, Socorro, New Mexico.

Jenkins, N. A., and Prentice, J., K., 1982, Theory for aquifer test analysis in fractured rocks under linear (nonradial) flow conditions: Ground Water, v. 20, no. 1, p. 12-21.

Kautz P. F., Ingersoll, R. V., Baldridge, W. S., and others, 1981, Geology of the Espinaso Formation (Oligocene), north-central New Mexico: Summary: Geological Society of America Bulletin, Part I, v. 92, p. 980-983.

Kelley, V. C., 1977, Geology of Albuquerque Basin, New Mexico: New Mexico Bureau of Mines and Mineral Resources Memoir 33.

Kelley, V. C., 1978, Geology of Espanola Basin, New Mexico: N. M. Bureau of Mines and Mineral Resources Geologic Map 48.

Kruseman, G. P., and de Ridder, N. A., 1992, Analysis and evaluation of pumping test data: International Institute for Land Reclamation and Improvement, Publication 47.

Mourant, W. A., 1980, Hydrologic maps and data for Santa Fe County, New Mexico: N. M. State Engineer Office Basic Data Report.

Spiegel, Z., and Baldwin, B., 1963, Geology and Water Resources of the Santa Fe Area, New Mexico: U.S. Geological Survey Water-Supply Paper 1525

Sorensen, E.F., 1982, Water use by categories in New Mexico Counties and River Basins, and irrigated acreage in 1980: New Mexico State Engineer Technical Report 44, 51 pp.

Stearns, C. E., 1953, Tertiary Geology of the Galisteo-Tonque Area, New Mexico: Bulletin, Geological Society of America, v. 64, pp. 459-508

Wilson, L. and Jenkins, D. N. 1979, Ground-water resources of Santa Fe Country: New Mexico Geol. Soc. Guidebook, 30th Field Conf., Santa Fe Country, p.293-298.

TABLES

able 1. Summary of static water levels measured during the hydrogeologic study and water levels in nearby wells reported on New Mexico State Engineer Office well records

location	owner/well name	measurement date	depth (ft)	water-bearing unit	water elevation (ft)	TOC elevation (ft)	SEO file/RG no
15.7.15.23242	L. Thompson	10/19/74	550.00	Km		5761	
15.7.15.23242	L. Thompson	7/15/94			5874		
15.7.13.4212	E. Cummins	4/30/75		QTa	5855	5951	
15.7.13. S1/2	Brown Bros.		348.00				6002.00
15.7.13.223	Brown Bros.		362.00				31524-expl
15.7.12.421	Brown	12/02/62	54.00		5908	5940	8246.00
x531400,y1653400	L. Thompson	4/29/75	55.00	QTa	5881	5913	
15.7.12.24	L. Thompson	4/02/90	405.00		5820	5900	
15.7.17.310	L. Thompson	4/25/83	440.00		5493	5668	36982-expl
15.7.12.240	Union Carbide	10/21/77	420.00				29242-x
x531400,y1653700	L. Thompson	4/29/75	8.00	Qb		5908	
15.7.6.231	E. Lucero	11/07/73	207.00				24229.00
15.7.9.1	monitor well	5/04/94				5587	
15.7.9.4312	W.Thompson, LB9-2	7/19/94	403.19	Km	5707	6110	
15.7.10.3143	W.Thompson, LB10-3	8/9/94	159.53	Km	5975	6135	
15.7.10.4314	W.Thompson, LB10-4	8/9/94	155.33	Km	5990	6145	
15.7.11.1431	W.Thompson, LB11-1	8/9/94	192.48	Tg, Qa	5933	6125	
15.7.11.1442	W.Thompson, LB11-5	8/9/94	163.97	Tg, Qa	5858	6122	
15.7.11.4141	W.Thompson, LB11-6	8/9/94	208.78	Tg, Qa	5934	6133	
15.7.12.3121	W.Thompson, LB12-7	8/9/94	140.20	Tg	5940	6085	

Table 2. Summary of water quality data from test wells 2, 4, 5, 6, and 7 at the proposed La Bajada Ranch subdivision.

well	date	field pH	temp. degree C	field conductivity micromhos/cm	field alkalinity CaCO3	lab pH	lab conductivity micromhos/cm	total dissolved solids mg/l
2	07/19/94	6.21	23.5	2800	830	6.76	5300	3452
4	07/08/94	7.63	22.0	2200		8.01	5200	2252
5	07/01/94	7.89	17.3	265		7.77	540	216
6	07/01/94	7.87	18.2	385		7.52	480	248
7	07/13/94	7.64	18.9	400	200	7.58	560	272
15.7.7.E1/2	05/04/94	6.8	15.6	1000				
15.7.15.23242	05/04/94	7.5	21.1	4000				
15.7.15.23242	10/19/74			3500				
a.						6 – 9		1000

well	date	Ca mg/l	Mg mg/l	Na mg/l	K mg/l	HCO3 mg/l	CO3 mg/l	Cl mg/l	SO4 mg/l	F mg/l	NO3–N mg/l	SiO2 mg/l
2	07/19/94	290	47.1	696	88.8	1170	–1	146	1540	4.95	0.03	34.6
4	07/08/94	16.8	9.6	773	13.4	923	–1	861	–2	4.21	0.04	16.8
5	07/01/94	25.7	13.8	37	4.6	172	–1	10	44	1.00	0.64	19.8
6	07/01/94	25.0	11.8	41	5.3	173	–1	11	48	1.00	0.73	17.8
7	07/13/94	23.7	10.8	60	4.3	192	–1	12	55	1.18	0.71	20.4
15.7.7.E1/2	05/04/94											
15.7.15.23242	05/04/94											
15.7.15.23242	10/19/74											
a.		200	125	250				250	250	1.4 – 2.4	10	

well	date	Fe mg/l	As mg/l	Ba mg/l	Se mg/l	Mn mg/l	Zn mg/l	turbidity NTU	odor
2	07/19/94	2.86	0.043	–0.25	–0.005	0.38	0.012	14	none
4	07/08/94	0.28	0.015	–0.25	0.008	0.03	–0.01	0.10	none
5	07/01/94	–0.0	0.008	–0.25	–0.005	–0.02	–0.01	0.10	none
6	07/01/94	0.11	0.006	–0.25	–0.005	–0.02	–0.01	0.15	none
7	07/13/94	–0.0	0.011	–0.25	0.006	–0.02	–0.01	0.25	none
15.7.7.E1/2	05/04/94								
15.7.15.23242	05/04/94								
15.7.15.23242	10/19/74								
a.		0.3	0.05	1.0	0.01	0.05	5.0	5	none

negative values indicates those less than the detection limit
a. Santa Fe subdivision water–quality maximum allowable limits

Table 3. Water availability per acre and the minimum lot size for each hydrogeologic area based on estimates developed per the Santa Fe County Land Development Code, assuming U=75 ac-ft per 100 years

hydrogeologic area	acres	total ground-water available, S (ac-ft)	ground-water availability, A (ac-ft/ac)	minimum lot size, MLS (ac)
1	440	14,784	33.6	2.2
2	795	1,781	2.2	34.1
3	947	5,506	5.8	12.9
4	422	6,912	16.4	4.6
5	1,408	34,299	24.4	3.1

Table 4. Water availability per acre and the minimum lot size for each hydrogeologic area based on estimates developed per John Shomaker & Associates, Inc., assuming U= 75 ac-ft per 100 years

hydrogeologic area	acres	total ground-water available, S (ac-ft)	ground-water availibility, A (ac-ft/ac)	minimum lot size, MLS (ac)
1	440	19,800	45.0	1.7
2	795	398	0.5	150
3	947	8,042	8.5	8.8
4	422	30,542	72.4	1.1
5	1,408	87,648	62.3	1.2

Table 5. Summary of ground-water availability based on Santa Fe County Development Code and JSAI estimates and ground water remaining after 100 years of pumping

ydrogeologic area	ground-water diversion per 100 yrs (ac-ft)	ground-water availability per Code (ac-ft)	ground-water availability per JSAI (ac-ft)	ground-water remaining per Code (ac-ft)	ground-water remaining per JSAI (ac-ft)
1	1050	14,784	19,800	1,3734	18,750
2	0	1,781	398	1,781	398
3	1425	5,506	8,042	4,081	6,617
4	1500	6,912	30,542	5,412	29,042
5	3375	34,299	87,648	30,924	84,273

ILLUSTRATIONS

NO SCALE

Figure 1. Location map showing proposed subdivision area, Santa Fe County, New Mexico (from J. L. Williams, 1986).

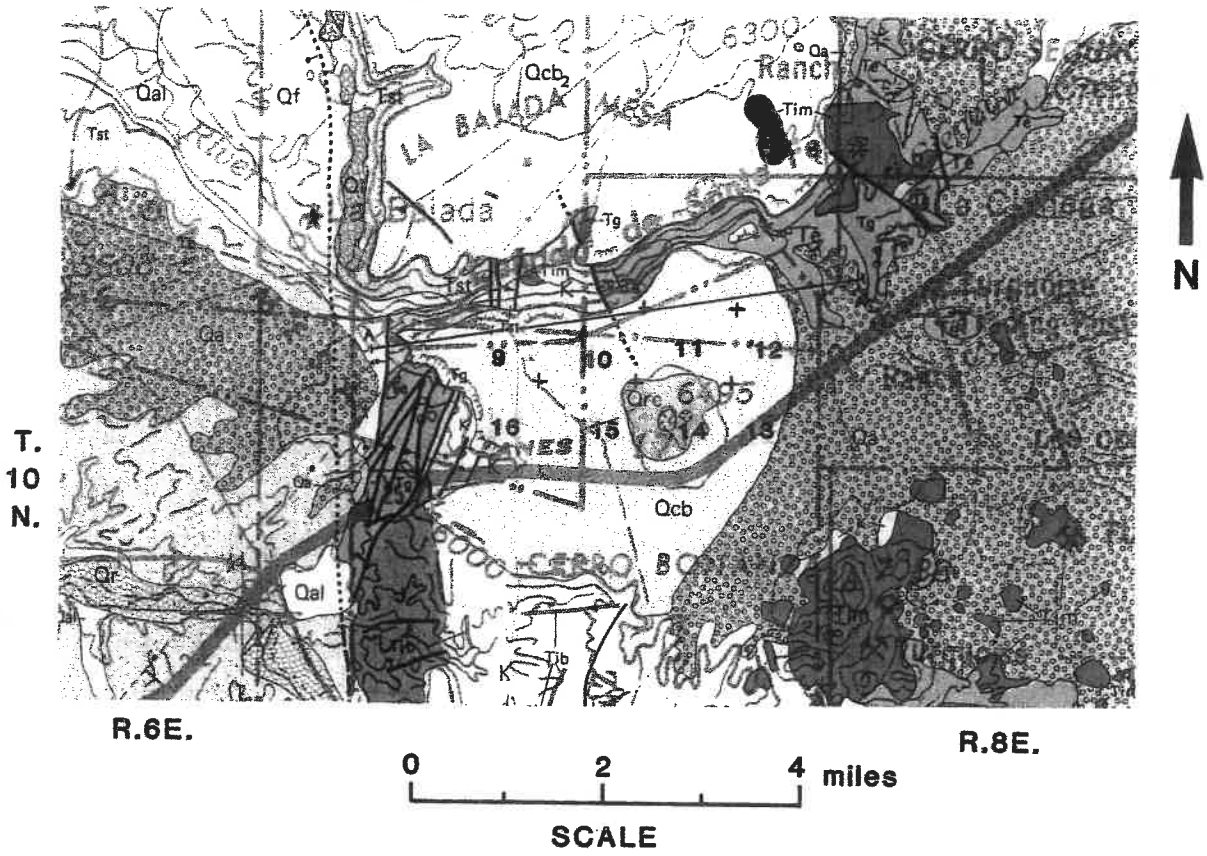


Figure 3. Geologic map of the proposed subdivision area and line of section A-A'.

EXPLANATION

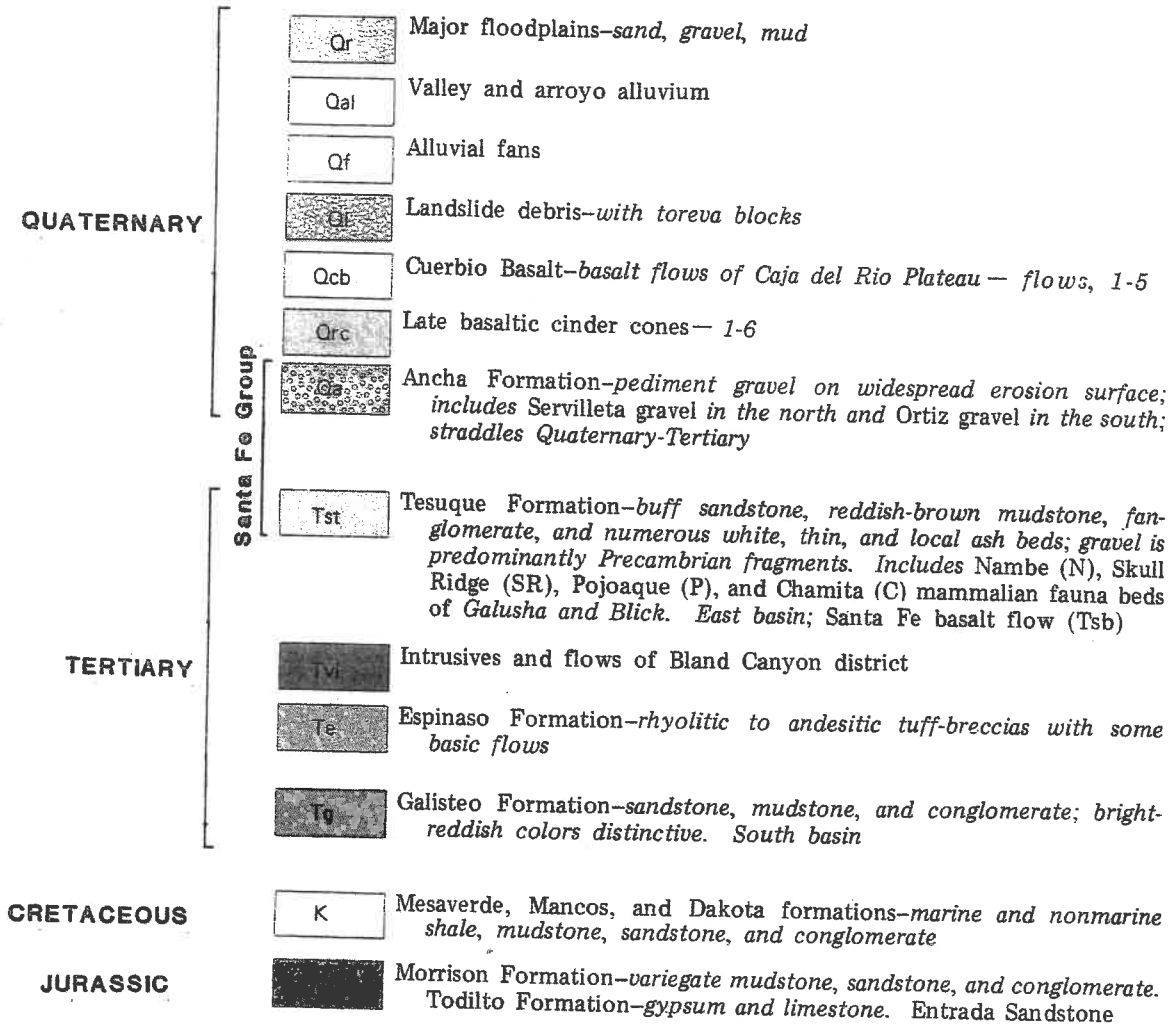
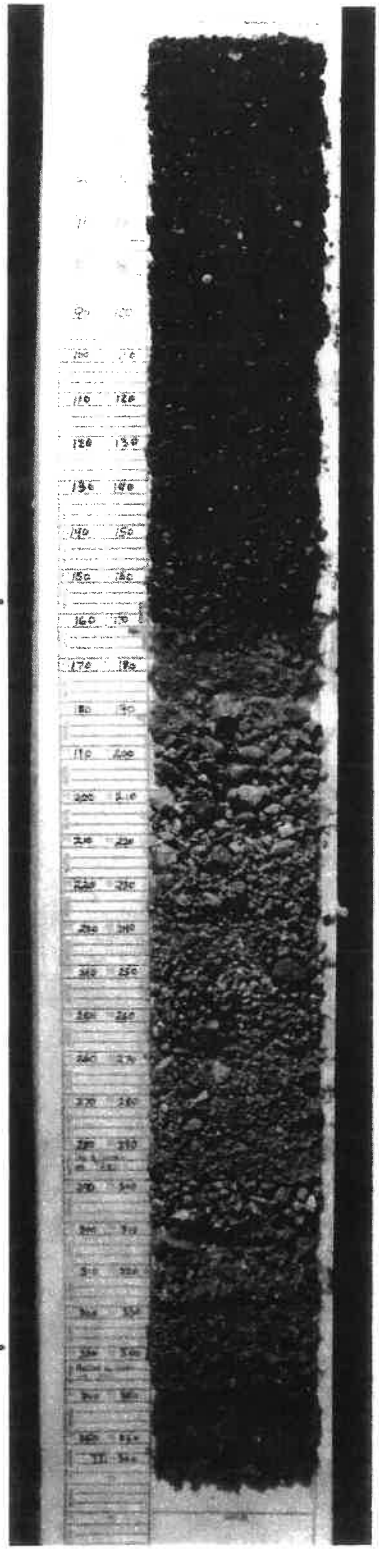


Figure 3. Explanation of geologic map of the proposed subdivision area. (Geologic map and explanation from Kelley, 1978)

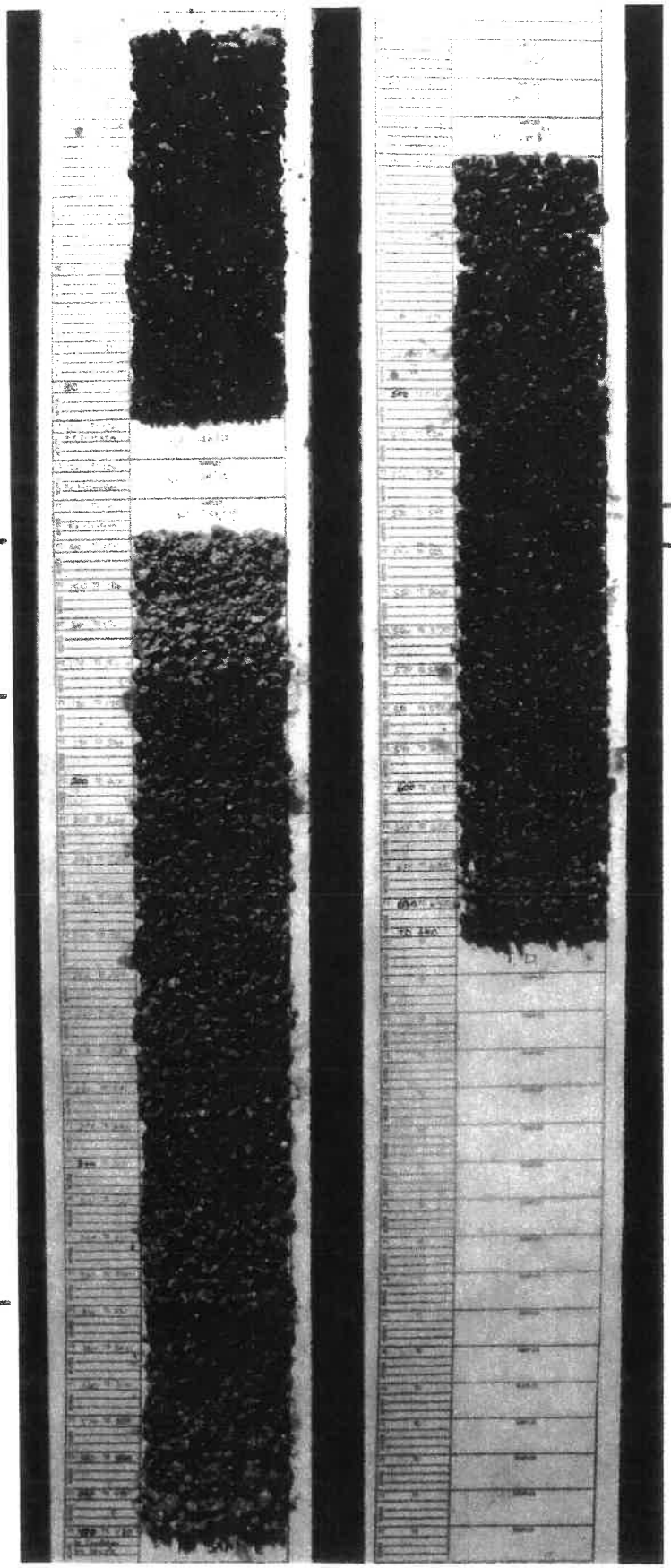
APPENDICES

APPENDIX 1.

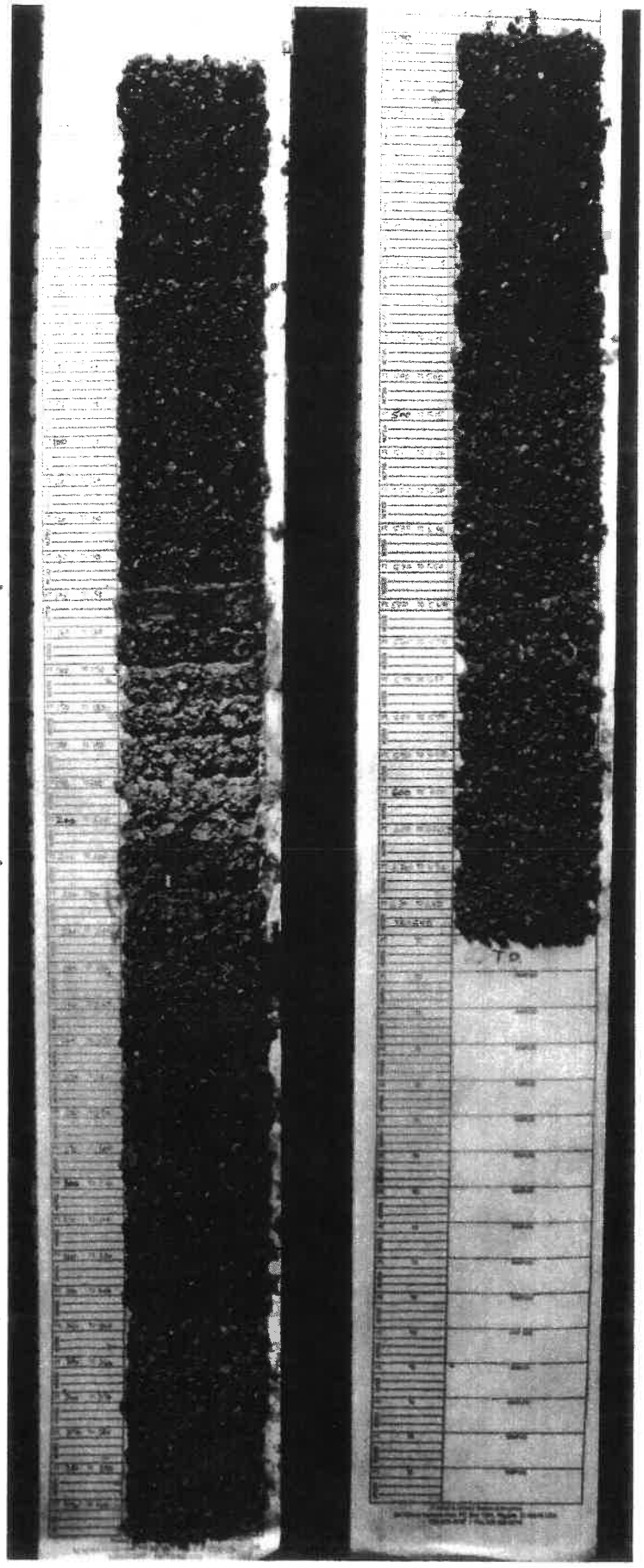
Photographs of Chip-Boards and Lithologic Logs



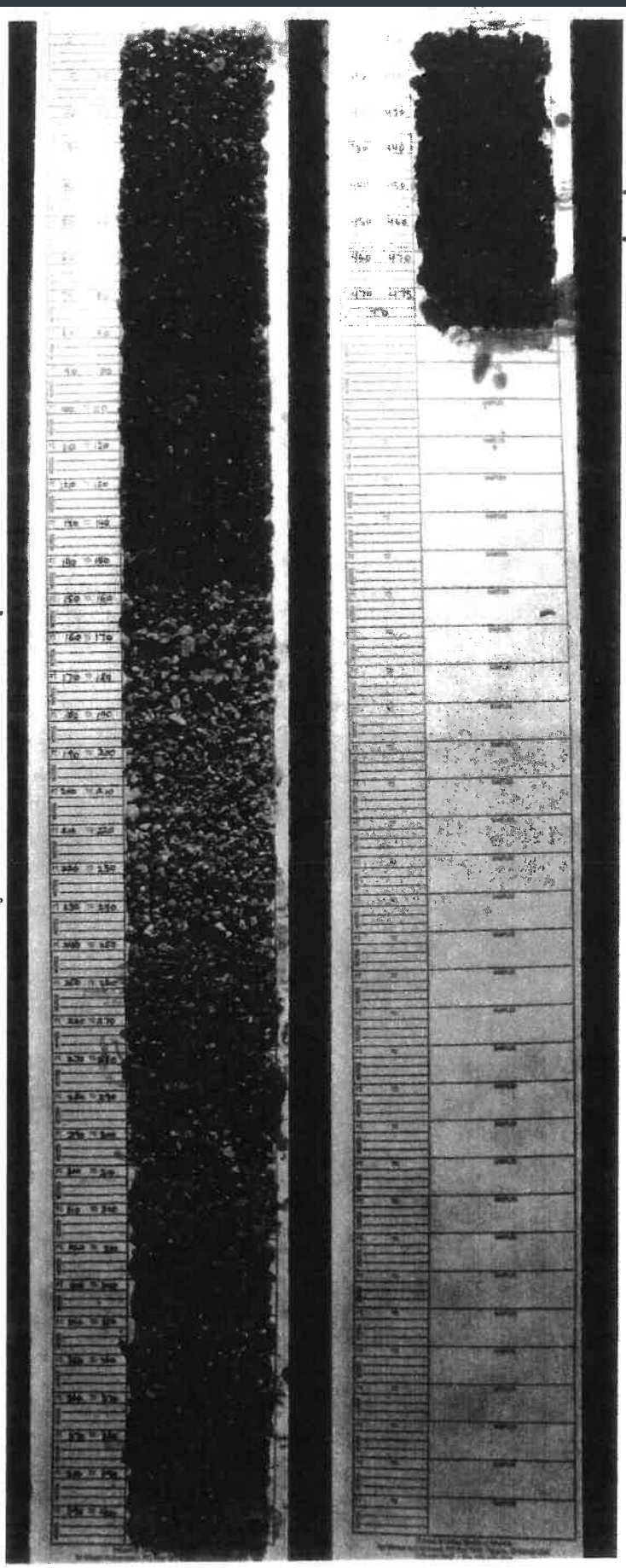
La Bajada test well LB 11-1, May 1994



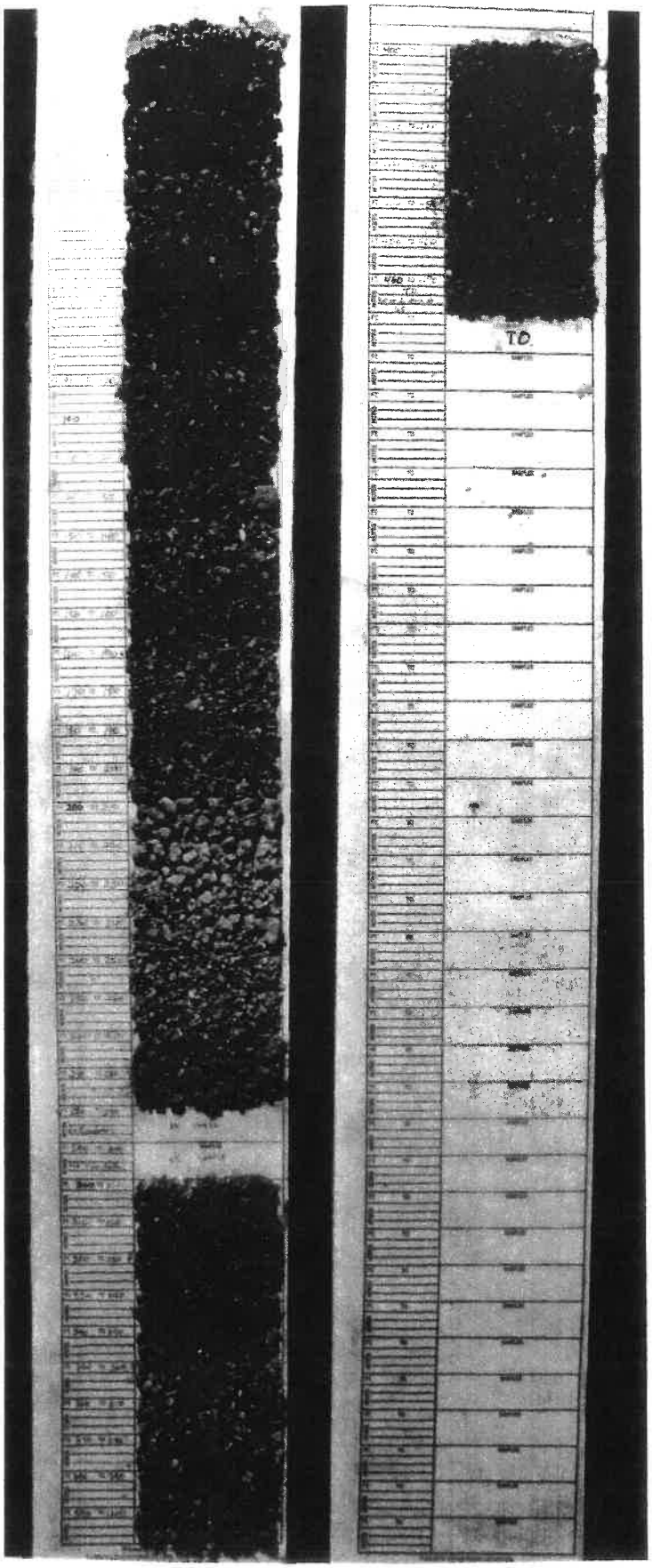
La Bajada test well LB 10-3, June 1994



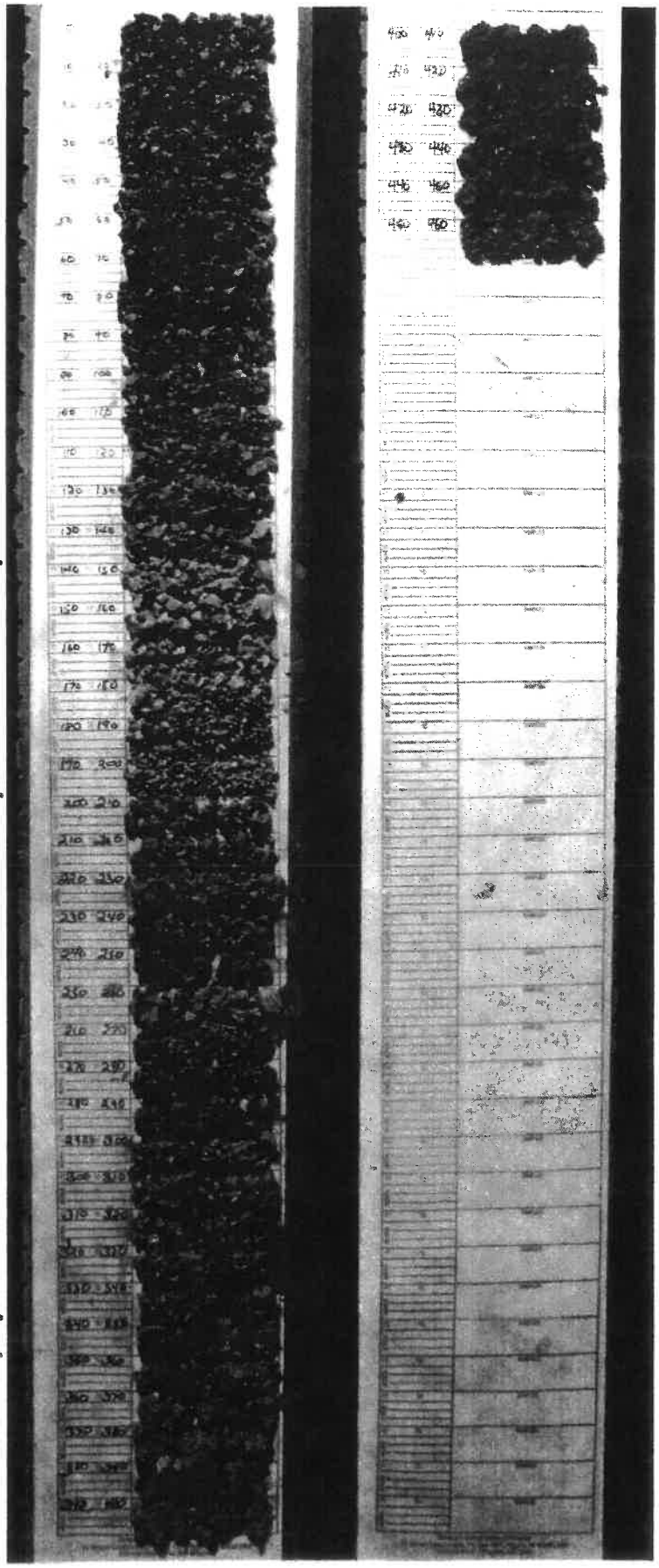
La Bajada test well LB 10-4, June 1994



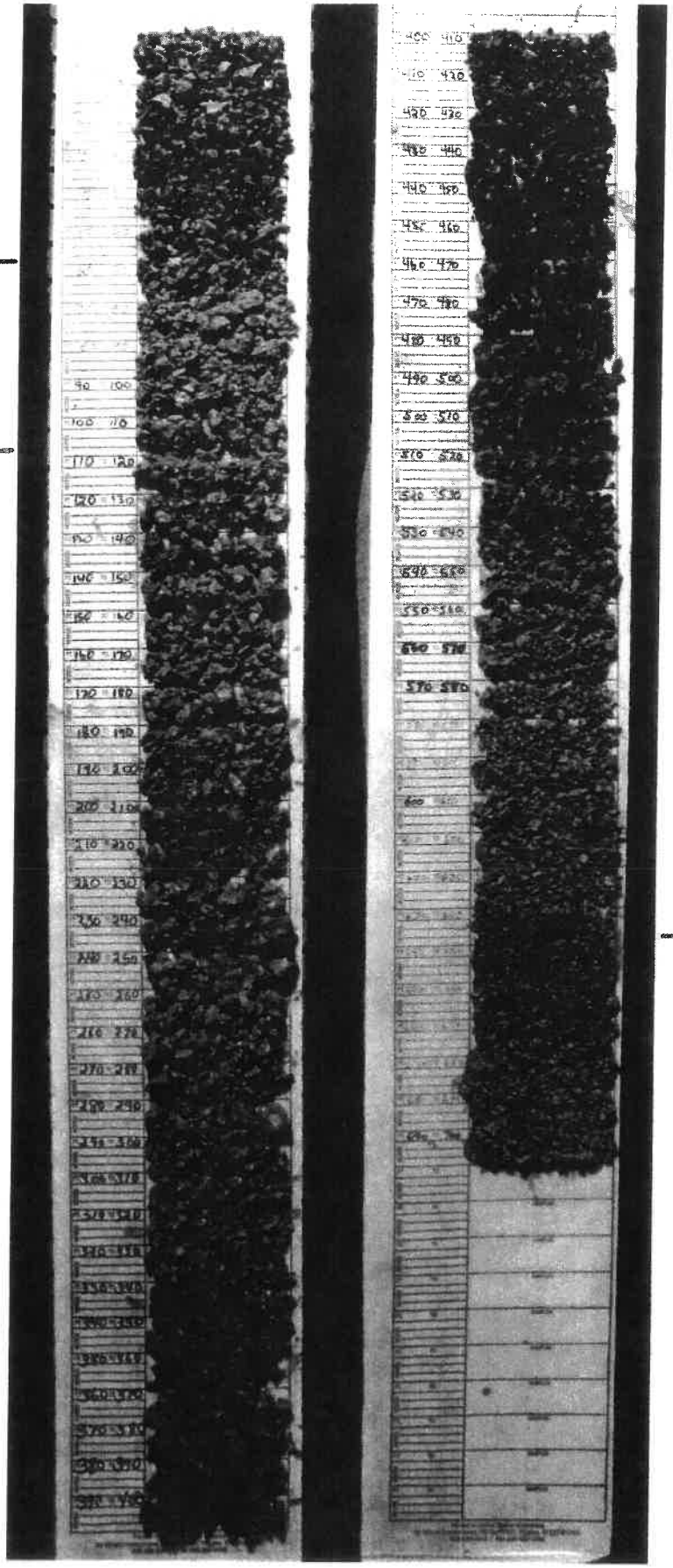
La Bajada test well LB 11-5, June 1994



La Bajada test well LB 11-6, June 1994



La Bajada test well LB 12-7, June 1994



La Bajada test well LB 9-2, July 1994

(505) 345-3407

WELL NO. 1

NW 1/4 SEC. 11 TWP. 15N RGE. 7E

DATE 5-17-94 ELEV.(GL) _____ (KB) _____

Core No	Sample	DEPTH FROM	DEPTH TO	THICKNESS	LITHOLOGY	REMARKS
		0	4	4	Topsoil and decomposed basalt.	
		4	30	26	Vesicular basalt.	
		30	165	135	Crystalline basalt.	Minor formation water @
		165	180	15	Red-brown clay and decomposed granite.	Ancha gravels
		180	185	5	Fresh pink crystalline granite and minor amounts of red clay.	
		185	230	45	Red-pink arkosic conglomerate with well to subrounded pebbles of granite and volcanic rock with brown clay, possibly on fractures.	increased formation wate @ 185 ft.
		230	240	10	Sandy conglomerate with arkosic, volcanic, and metamorphic well rounded to subangular clasts and minor amounts of red clay.	
		240	245	5	Red-brown clay and fine arkosic sand.	
		245	255	10	Arkosic sand and gravel and minor red clay	
		255	260	5	Red-brown clay with arkosic sand and minor amounts of gravel.	
		260	290	30	Red-brown medium grained arkosic sand with minor amounts of medium gravel and red clay.	
		290	325	35	Medium arkosic sand and fine gravel containing clasts of granite, quartzite, and volcanic rocks and traces of clay.	
		325	330	5	Medium arkosic sand and clay	Hole caving
		330	345	15	Red, clayey arkosic sand	Galisteo Formation
		345	360	15	Brown-red clay with minor arkosic sand and black mafic igneous fragments.	
			TD			

(505) 345-3407

PAGE 1 OF

WELL NO. 2

SE 1/4 SEC. 9 TWP. 15N RGE. 7E

DATE 7-6-94

ELEV.(GL) _____ (KB) _____

Core No	Sample	DEPTH FROM	DEPTH TO	THICKNESS	LITHOLOGY	REMARKS
		0	50	50	Basalt.	
		50	60	10	Basalt with tan gravels.	
		60	90	30	Tan subrounded gravels.	
		90	110	20	Pink arkosic gravels.	
		110	400	290	Dark gray clay.	
		400	410	10	Dark gray clay with some yellow-brown clay.	
		410	500	90	Dark gray clay and shale.	480-500' harder litho
		500	510	10	Dark gray shale and clay and some yellow clay.	
		510	640	130	Dark gray hard shale.	
		640	670	30	Dark gray shale and rhyolitic phaneritic-aphanitic rock with minor quartz veining.	
		670	700	30	Light gray, very fine textured rhyolite.	
			TD			

WELL NO. 3

SW 1/4 SEC. 10 TWP. 15N RGE. 7E

DATE 5-23-94

ELEV.(GL) _____ (KB) _____

Core No	Sample	DEPTH FROM	DEPTH TO	THICKNESS	LITHOLOGY	REMARKS
		0	5	5	Topsoil.	
		5	140	135	Black vesicular basalt.	
		140	150	10	Coarse arkosic and basaltic sands and clay.	
		150	160	10	Coarse arkosic, quartzose, volcanic sands and gravels.	
		160	180	20	Coarse arkosic, quartzose sands and gravels with mottled clay increasing with depth.	
		180	200	20	Black clayey shale.	
		200	210	10	Black clayey shale and minor arkosic sand.	
		210	220	10	Black clayey shale and trace arkosic sand.	
		220	230	10	Black-gray shaley clay and trace arkosic sand.	
		230	240	10	Black-gray shale and clay with some red clay and some fine to coarse grained quartzose sand pockets.	
		240	310	70	Dark gray shale and clay.	
		310	340	30	Dark gray shale and mottled clay and coarse grained arkosic, quartzose sand.	
		340	360	20	Dark gray shale and clay.	
		360	530	170	Mottled shale and clay.	
		530	540	10	Black mafic dike with trace disseminated sulfide (pyrite) and sulfide in minor quartz veins. Minor clay alteration on dike margins.	
		540	560	20	Gray shale, mudstone, and clay.	
		560	570	10	Gray mudstone with minor quartz veining. Traces of native copper on bedding planes.	
		570	640	70	Gray mudstone, shale, and clay.	
			TD			

(503) 345-1407

WELL NO. 4

SE 1/4 SEC. 10 TWP. 15N RGE. 7E

DATE 5-23-94

ELEV.(GL) _____ (KB) _____

Core No	Sample	DEPTH FROM	DEPTH TO	THICKNESS	LITHOLOGY	REMARKS
		0	5	5	Topsoil.	
		5	35	30	Black vesicular basalt.	
		35	135	100	Black vesicular basalt with minor amounts of brown clay in voids.	2ft. void at 35 ft Loss of circulation
		135	140	5	Black basalt with some red clay.	large void at 50 ft
		140	150	10	Red sticky clay and minor black basalt.	
		150	160	10	Light brown clay.	
		160	170	10	Tan clay with minor amounts of arkosic-volcanic, subrounded to subangular, poorly sorted, medium grained sand.	
		170	200	30	Yellow ochre clay and medium sands and fine gravel composed of arkose, quartzite, and volcanics. Clay content increases with depth.	
		200	210	10	Yellow ochre clay and gray clay with basalt fragments.	
		210	230	20	Gray clay and basalt.	
		230	240	10	Gray clay, crystalline basalt, and thinly laminated gray siltstone.	
		240	260	20	Gray clay and gray, thinly laminated very fine grained sand and siltstone.	
		260	300	40	Black, friable, very fine textured crystalline volcanic rock and gray clay.	
		300	340	40	Black vesicular basalt and gray clay.	
		340	480	140	Gray clay and gray siltstone.	
		480	640	160	Dark gray fractured siltstone with red clay on the fractures.	Loss of circulation at 490 ft.
			TD			

(505) 345-3407

PAGE 1 OF 1

WELL NO. 5

N ½ SEC. 11 TWP. 15N RGE. 7E

DATE 6-13-94

ELEV.(GL) _____ (KB) _____

Core No	Sample	DEPTH FROM	DEPTH TO	THICKNESS	LITHOLOGY	REMARKS
		0	10	10	Topsoil and arkosic gravel.	
		10	20	10	Arkosic gravel and basalt.	
		20	110	90	Gray basalt.	some uphole gravel cont
		110	130	20	Red-brown and gray iron oxidized basalt.	
		130	155	25	Gray basalt.	
		155	160	5	Gray basalt with minor brown-tan clay.	Ancha gravels
		160	170	10	Red coarse grained arkosic gravel and minor basalt.	
		170	230	60	Medium to coarse grained, subrounded, arkosic gravel and subrounded volcanic gravel.	
		230	240	10	Medium to coarse grained arkosic gravel and minor red clay	Galisteo Formatio
		240	260	20	Red clay and medium grained arkosic-volcanic gravel	
		260	290	30	Red-brown clay and minor arkosic-volcanic gravel.	
		290	300	10	Medium grained volcanic gravel and minor red clay.	
		300	420	120	Red-brown clay and minor arkosic-volcanic sand	some harder clay belo
		420	440	20	Red-brown fine grained sandstone and minor red. clay.	330 ft. depth.
		440	445	5	Red-brown clayey sandstone.	
		445	455	10	Black hard mafic igneous rock.	dike
		455	475	20	Red-brown clayey sandstone.	
			TD			

WELL NO. 6

NE ¼ SEC. 11 TWP. 15N RGE. 7E

DATE 6-3-94

ELEV.(GL) _____ (KB) _____

Core No	Sample	DEPTH FROM	DEPTH TO	THICKNESS	LITHOLOGY	REMARKS
		0	8	8	Topsoil.	
		8	40	32	Black vesicular basalt.	small vesicles
		40	60	20	Black crystalline basalt.	
		60	80	20	Black - reddish-black vesicular basalt.	small vesicles
		80	100	20	Red-black fractured vesicular basalt, iron oxide staining on fractures, trace clay, xenoliths.	large vesicles
		100	190	90	Black fractured crystalline basalt.	
		190	240	50	Tan-red-brown clay and medium grained arkosic sand.	Ancha gravels
		240	260	20	Red-brown arkosic sand	
		260	280	20	Red-brown clay and medium grained arkosic sand.	Galisteo Formation
		280	300	20	NO SAMPLE (Hard drilling 295-300 feet.)	Loss of circulation
		300	320	20	Red-brown clay and minor sand.	
		320	350	30	Red fine grained sandstone and minor clay.	
		350	410	60	Red-yellow fine grained sandstone and trace clay.	
		410	430	20	Red-brown fine grained sandstone with some clay interbeds.	
		430	460	30	Red-brown-tan fine sandstone and trace red clay.	
		460	470	10	Red-brown fine grained sandstone with no clay.	
			TD			

PAGE 1 OF

WELL NO. 7

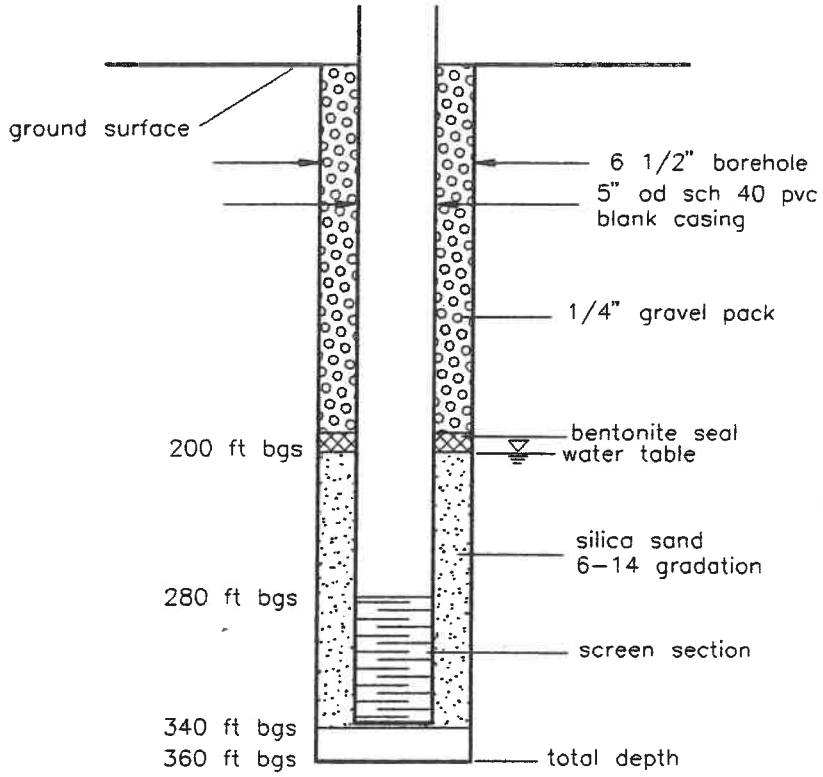
NW¼ SEC. 12 TWP. 15N RGE. 7E

DATE 6-25-94 ELEV.(GL) _____ (KB) _____

Core No	Sample	DEPTH FROM	DEPTH TO	THICK-NESS	LITHOLOGY	REMARKS
		0	10	10	Black-gray vesicular basalt and arkosic clasts.	
		10	120	110	Basalt.	
		120	140	20	Basalt with light brown clay.	
		140	160	20	Light brown clay and silt with fine arkosic gravels.	Ancha gravels
		160	200	40	Fine subrounded arkosic gravel.	
		200	260	60	Red clay and minor amount (<10%) of fine gravel.	Galisteo Formati
		260	340	80	Red clay and moderate amount (~25%) of fine subrounded gravel.	
		340	350	10	Black mafic volcanic rock.	
		350	460	110	Red clay and fine subrounded gravel with gravel content increasing with depth to >25%.	
			TD			

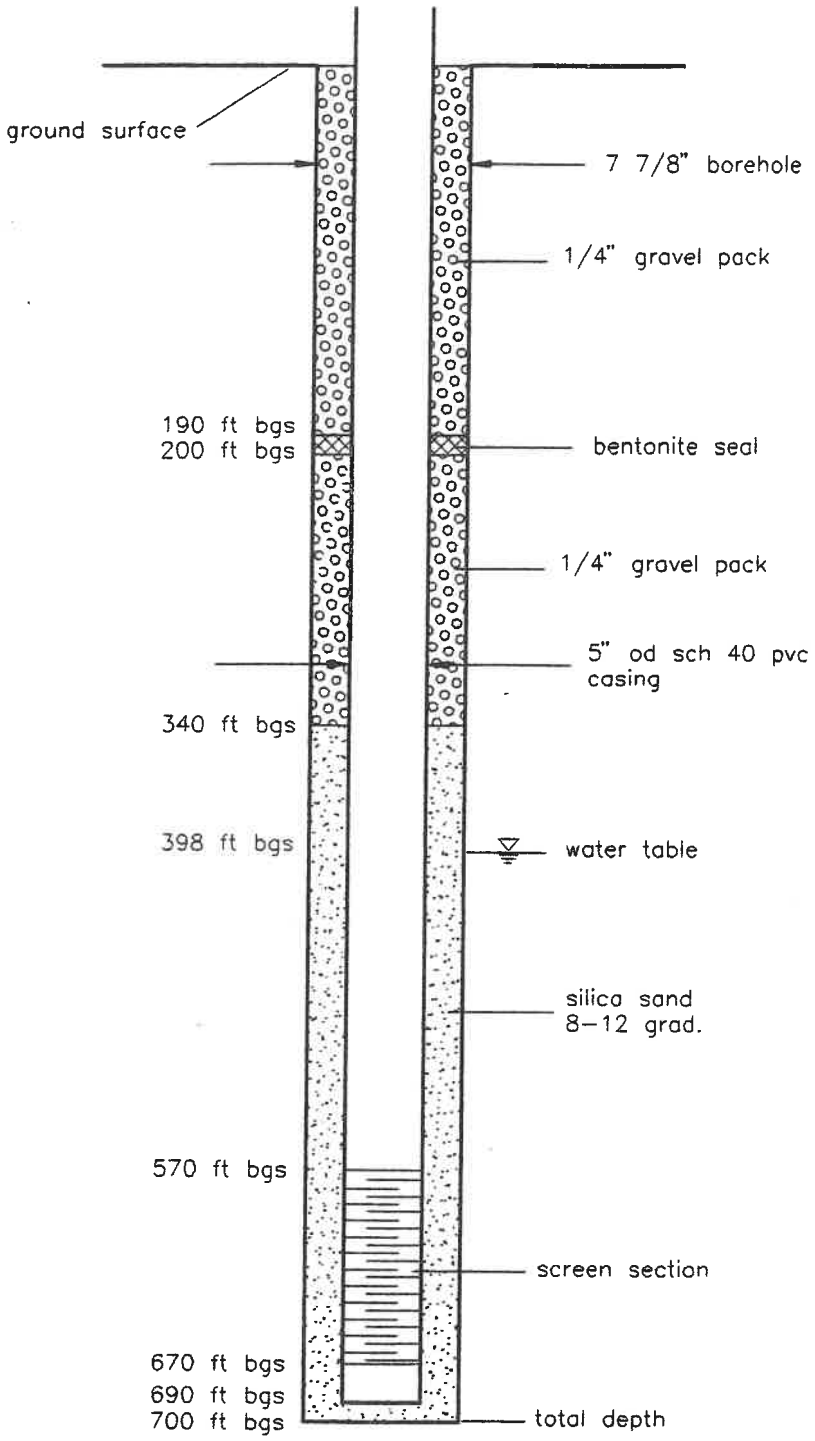
APPENDIX 2.

Well Completion Diagrams



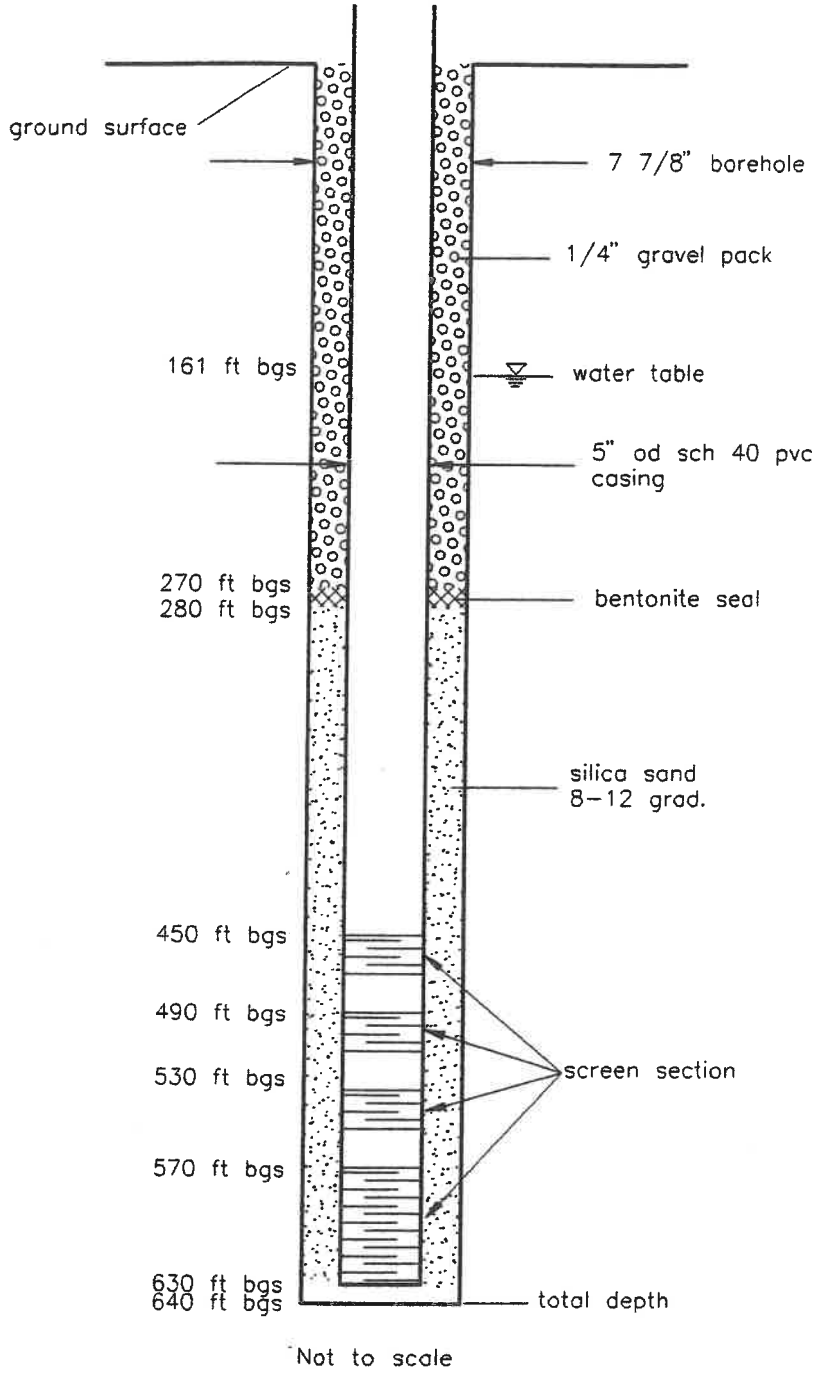
Not to scale

Well LB 11–1
(Well 1)

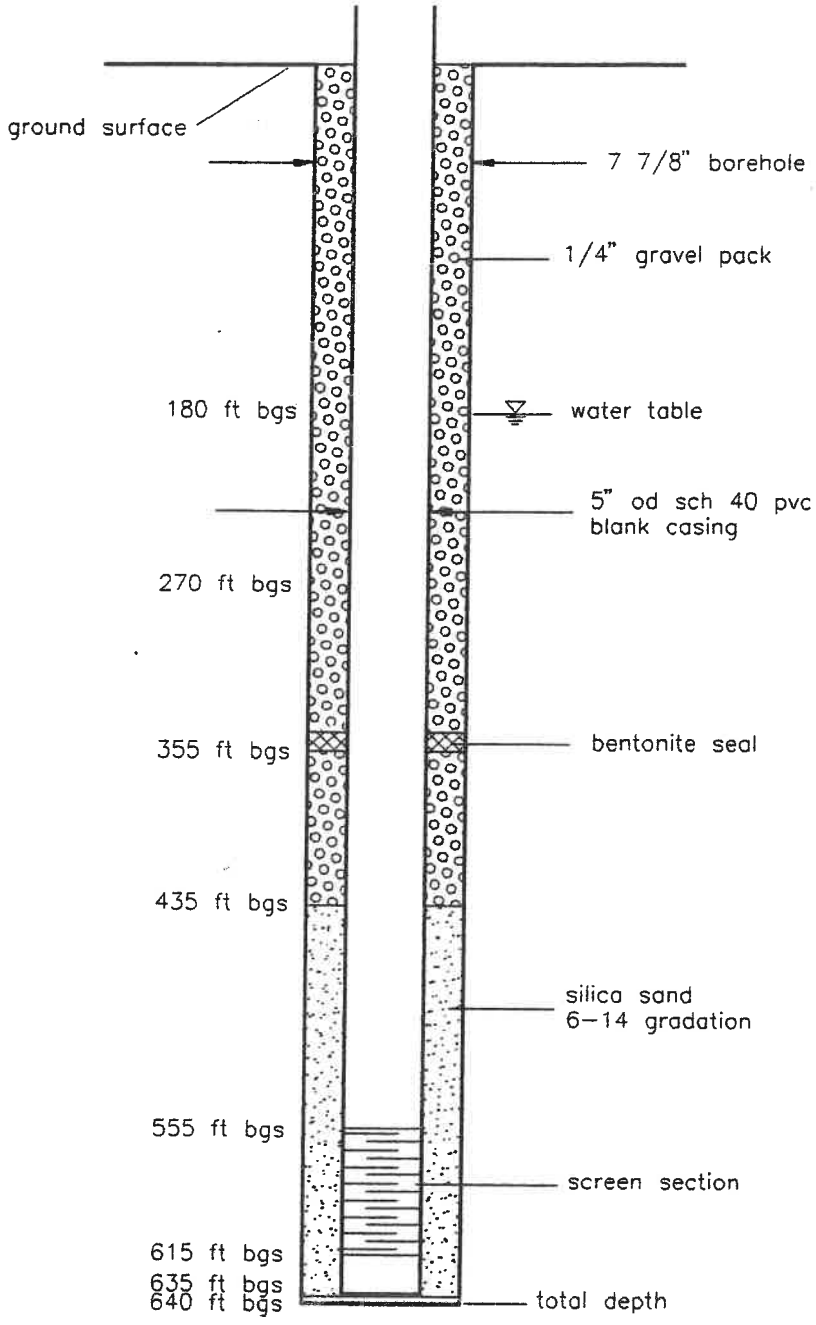


Not to Scale

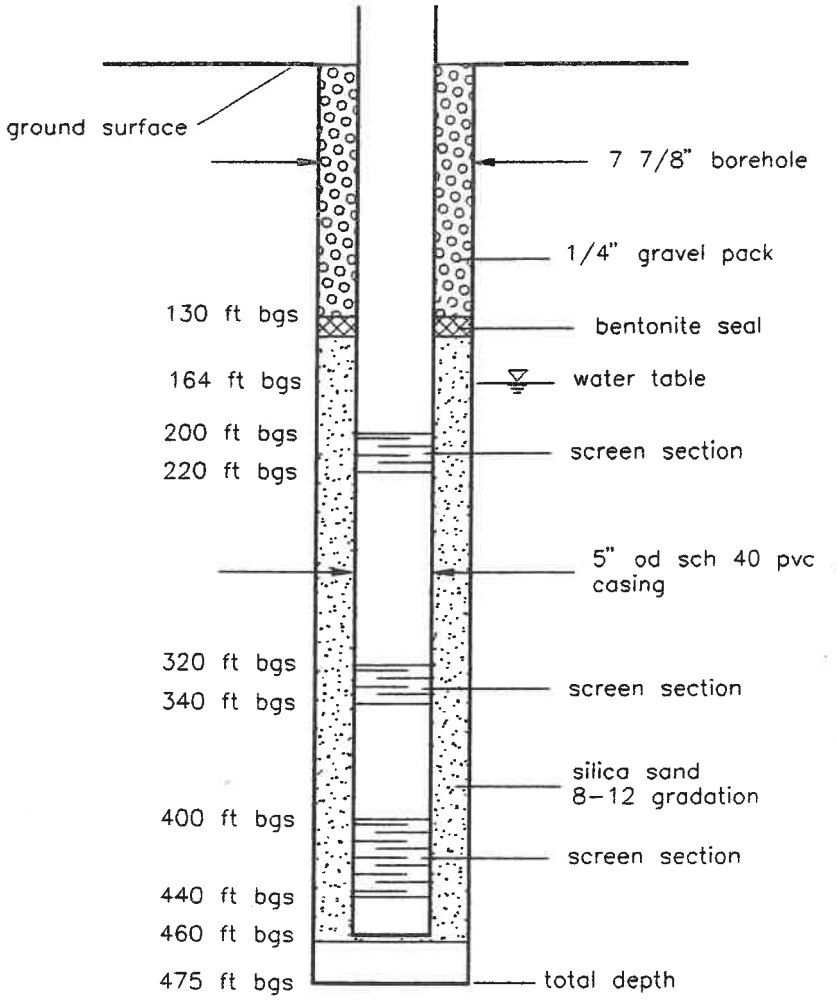
Well LB 9–2
(Well 2)



Well LB 10–3
(Well 3)

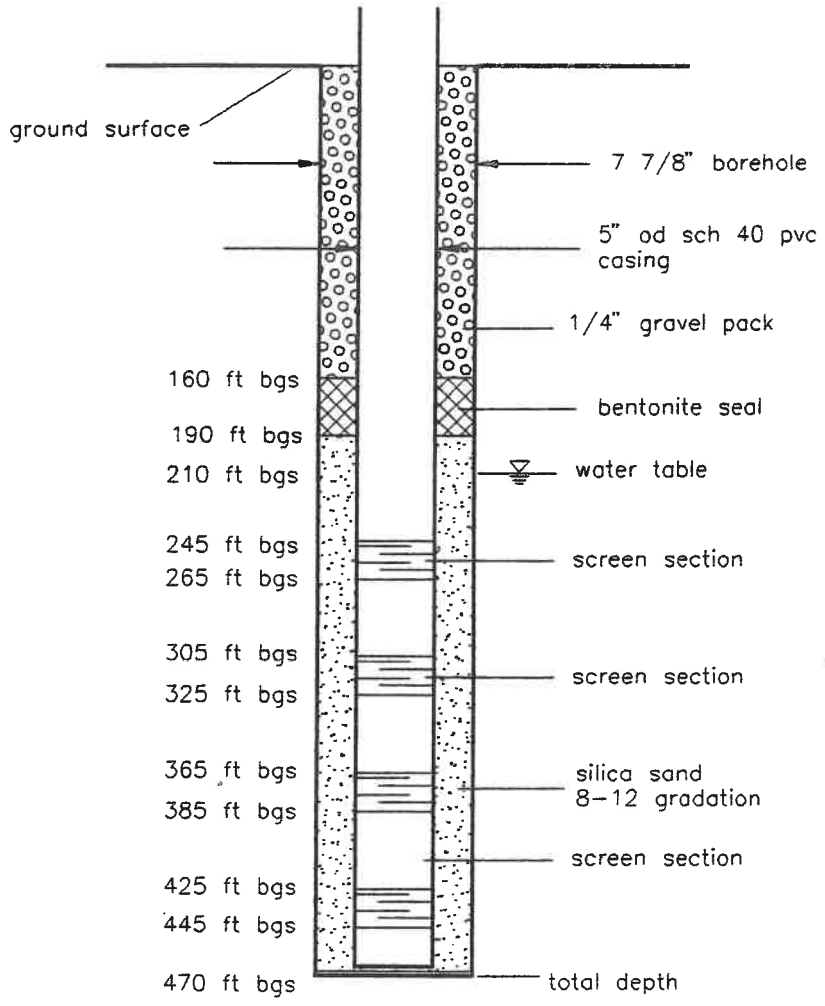


Well LB 10–4
(Well4)



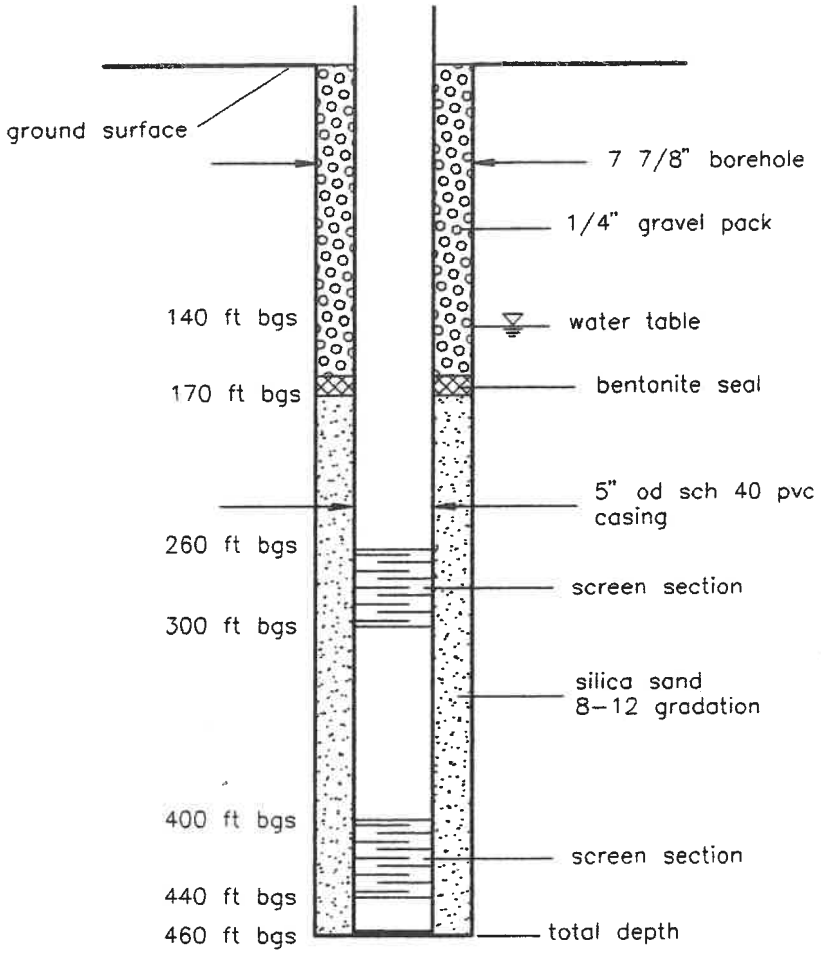
Not to scale

Well No. 11-5
(Well 5)



Not to scale

Well No. 11–6
(Well 6)



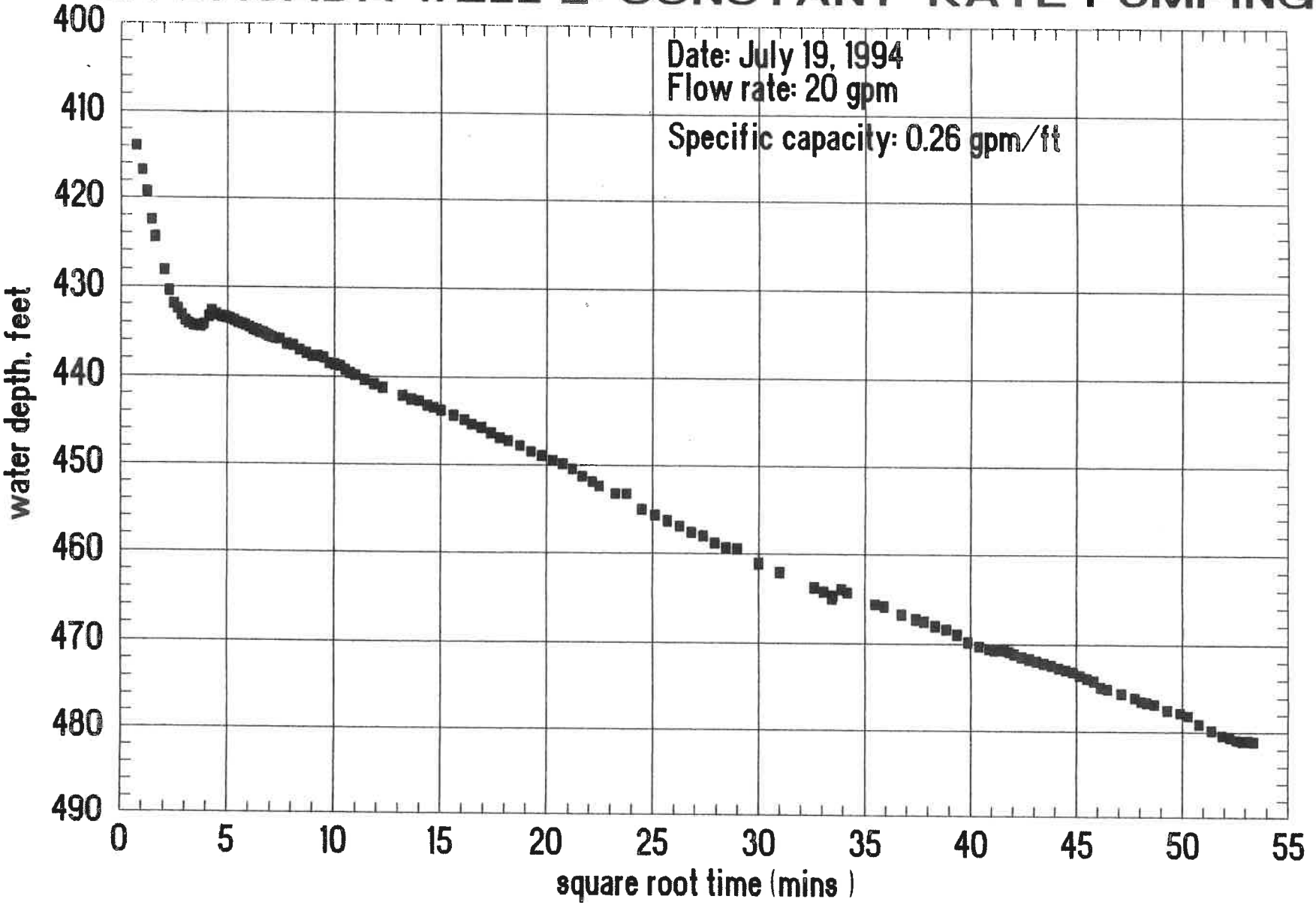
Not to scale

Well No. 12–7
(Well 7)

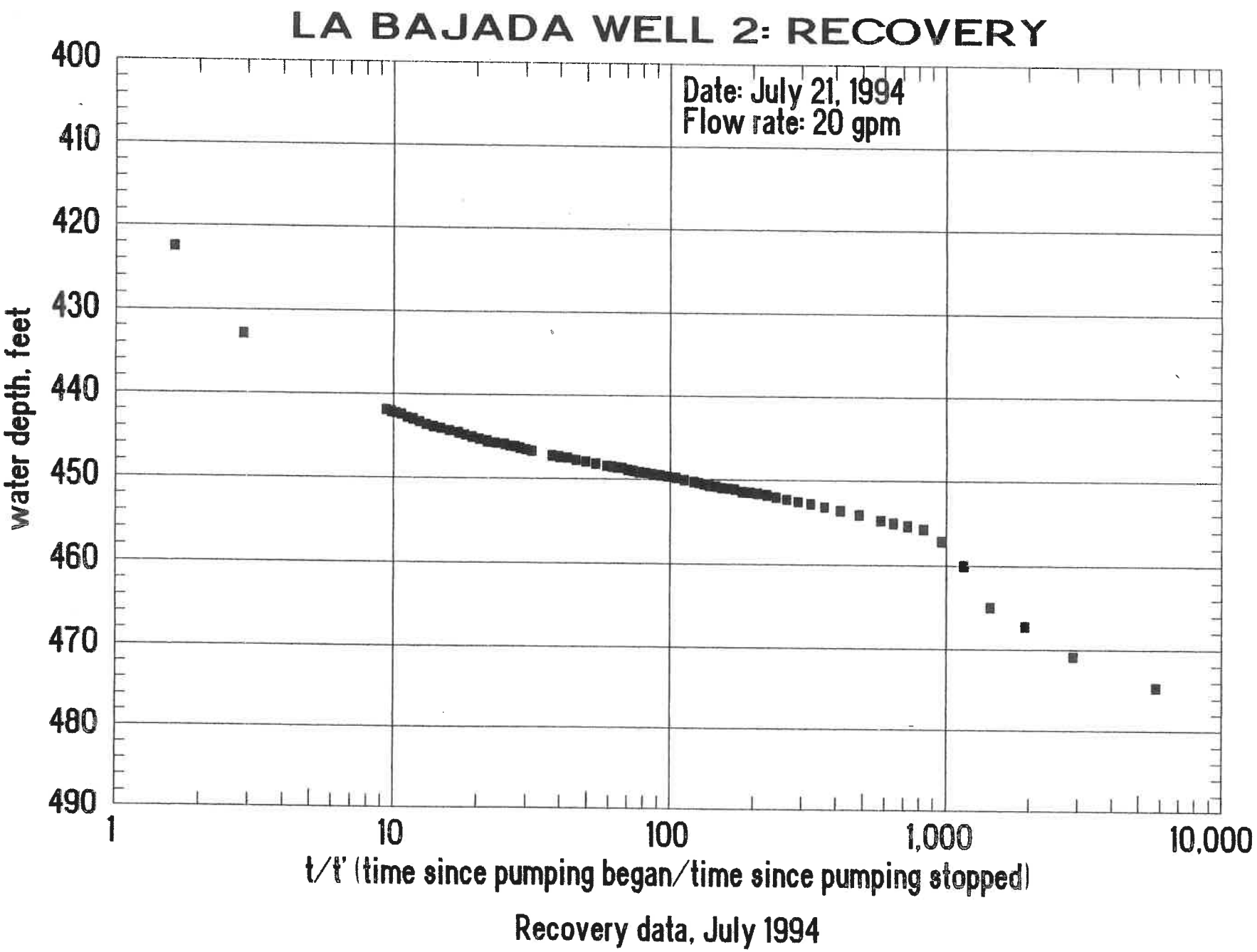
APPENDIX 3.

Drawdown and Recovery Plots

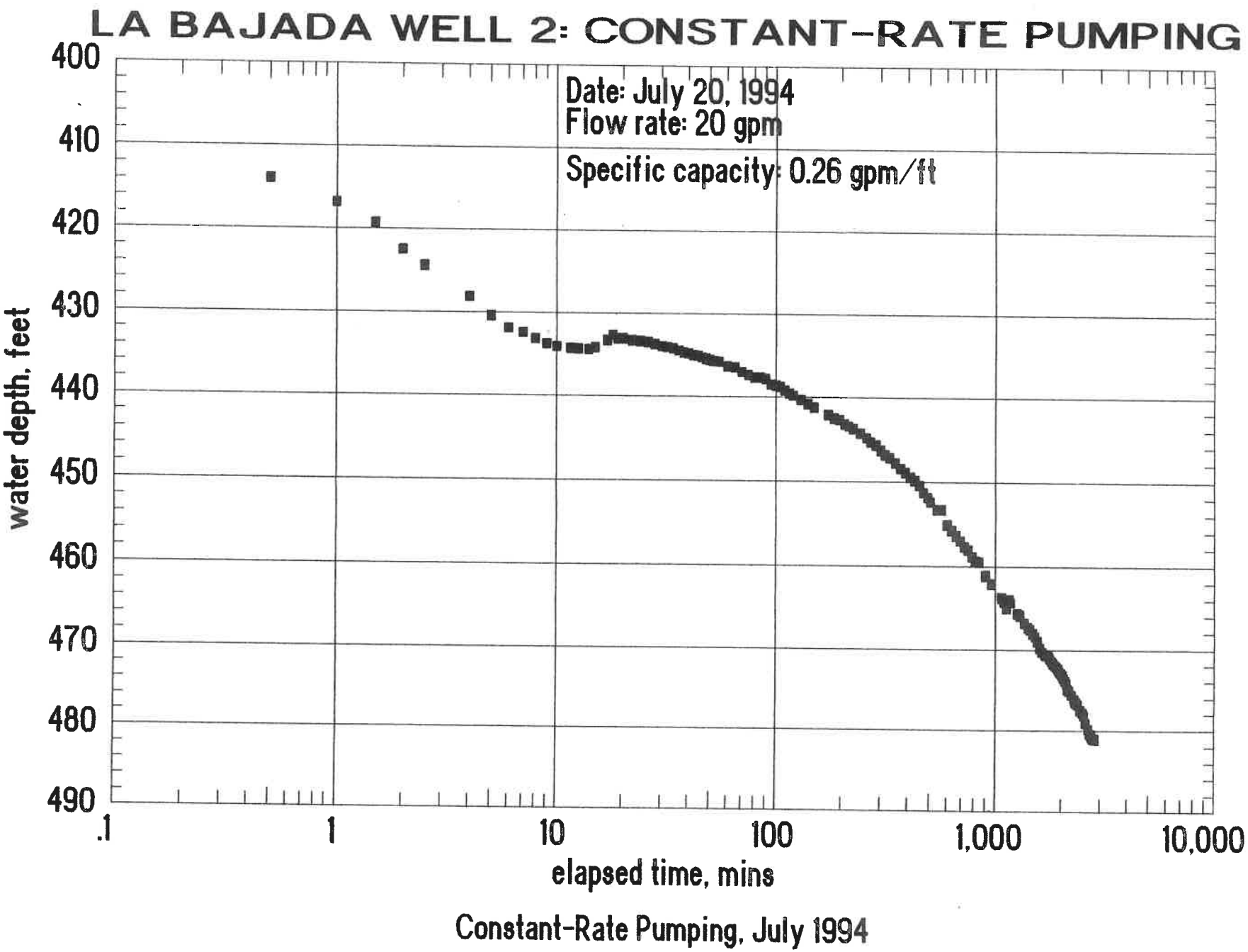
LA BAJADA WELL 2: CONSTANT-RATE PUMPING



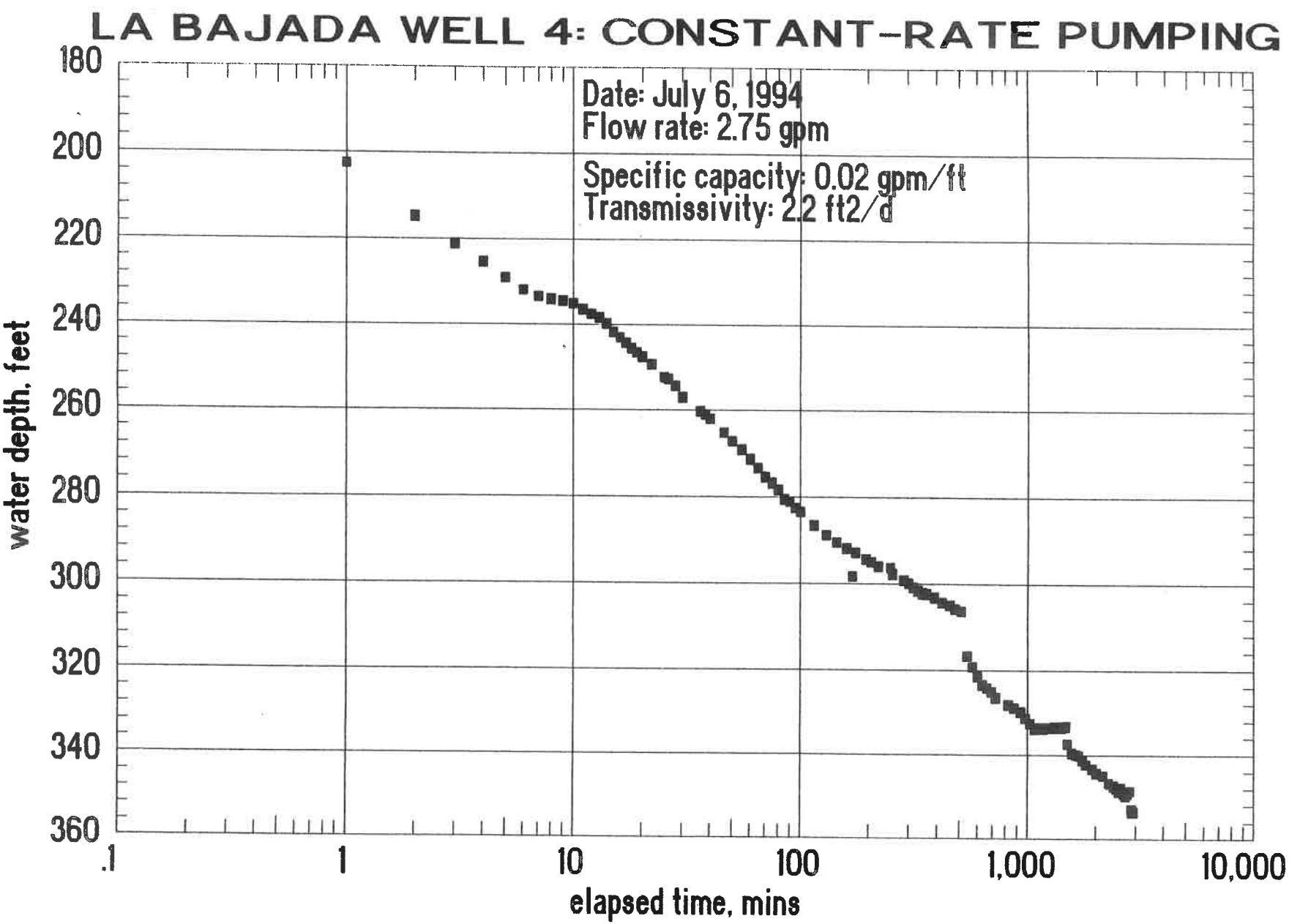
Constant-Rate Pumping 20 gpm, July 1994



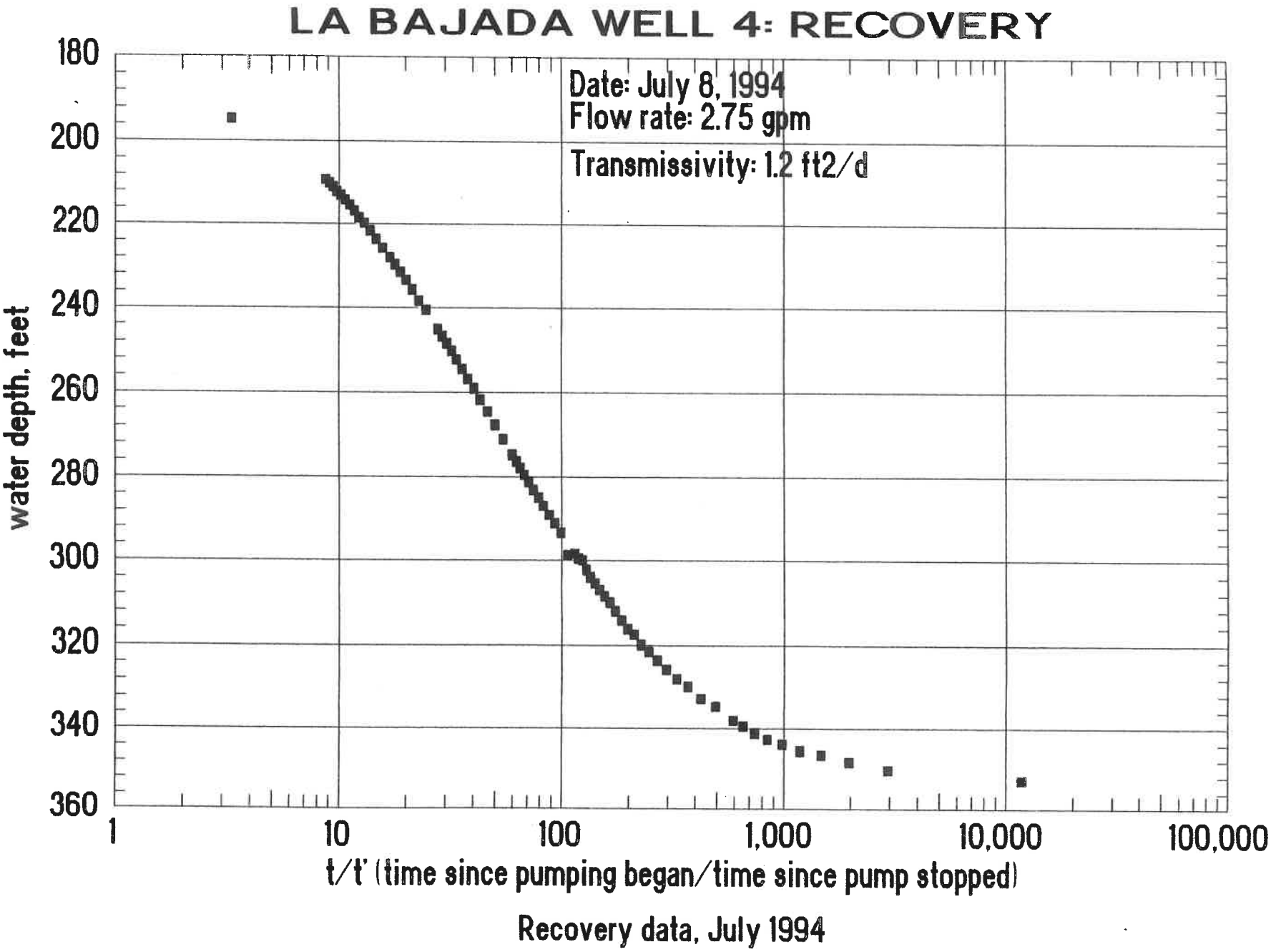
Recovery data, July 1994

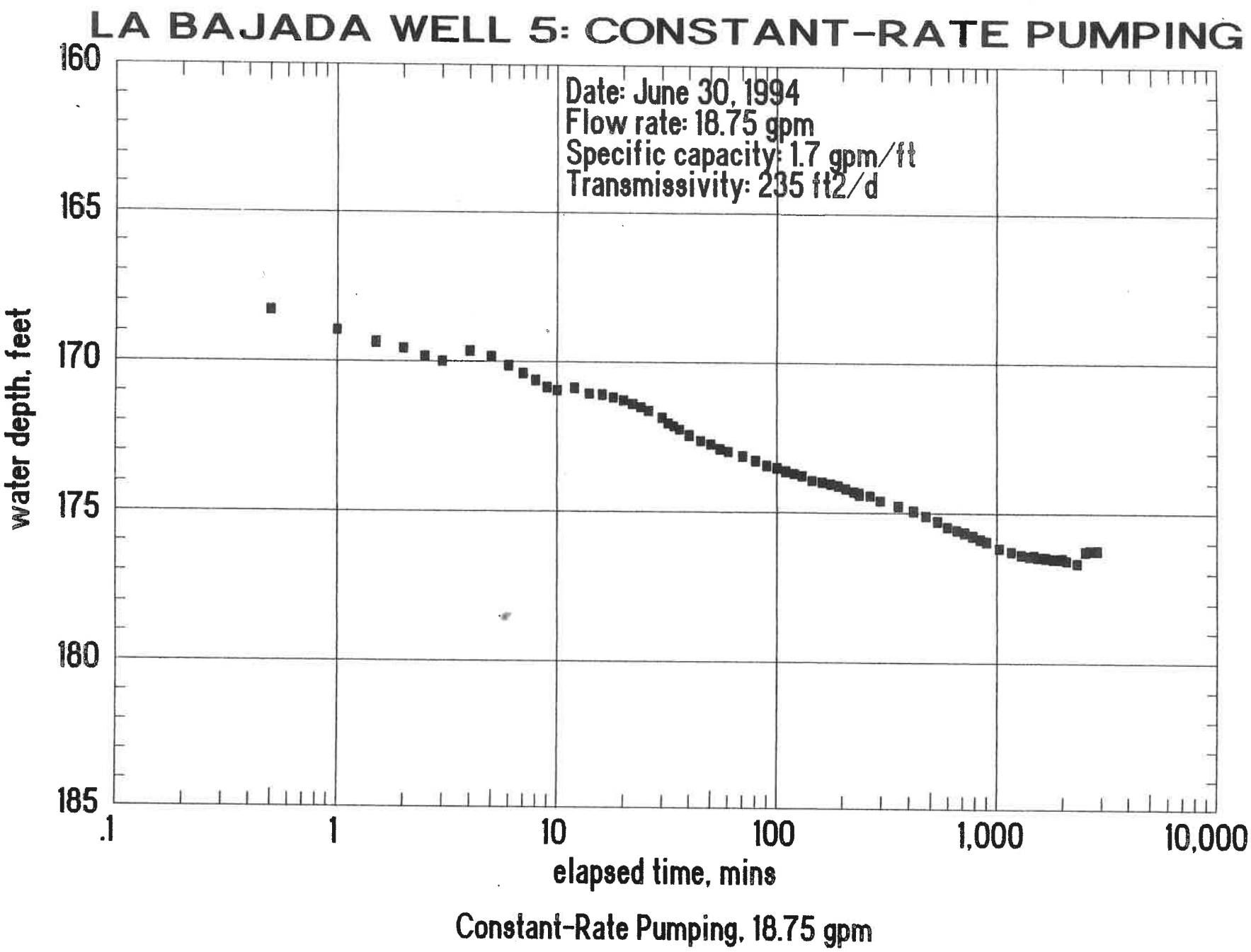


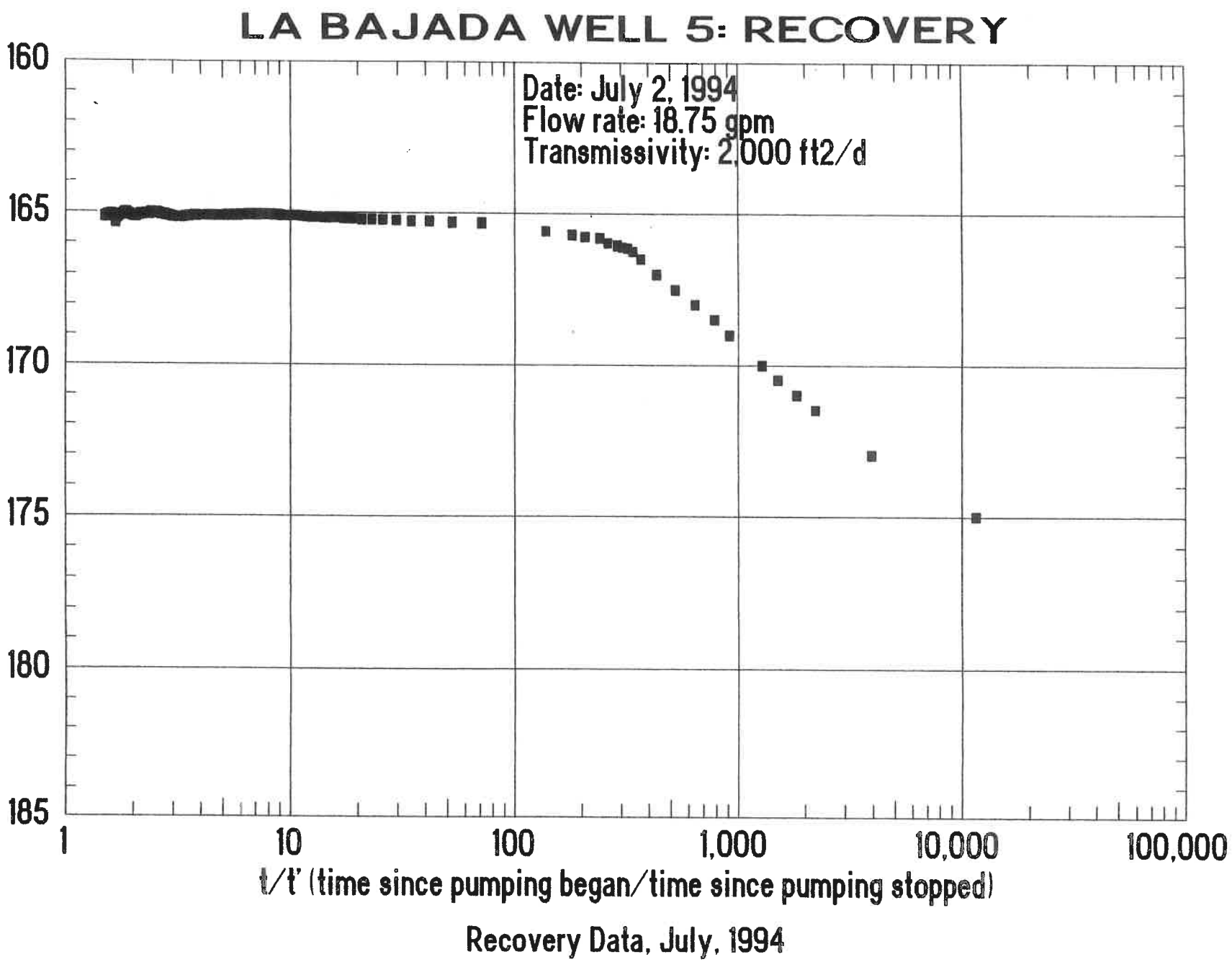
Constant-Rate Pumping, July 1994



Constant-Rate Pumping 2.75 gpm, July 1994

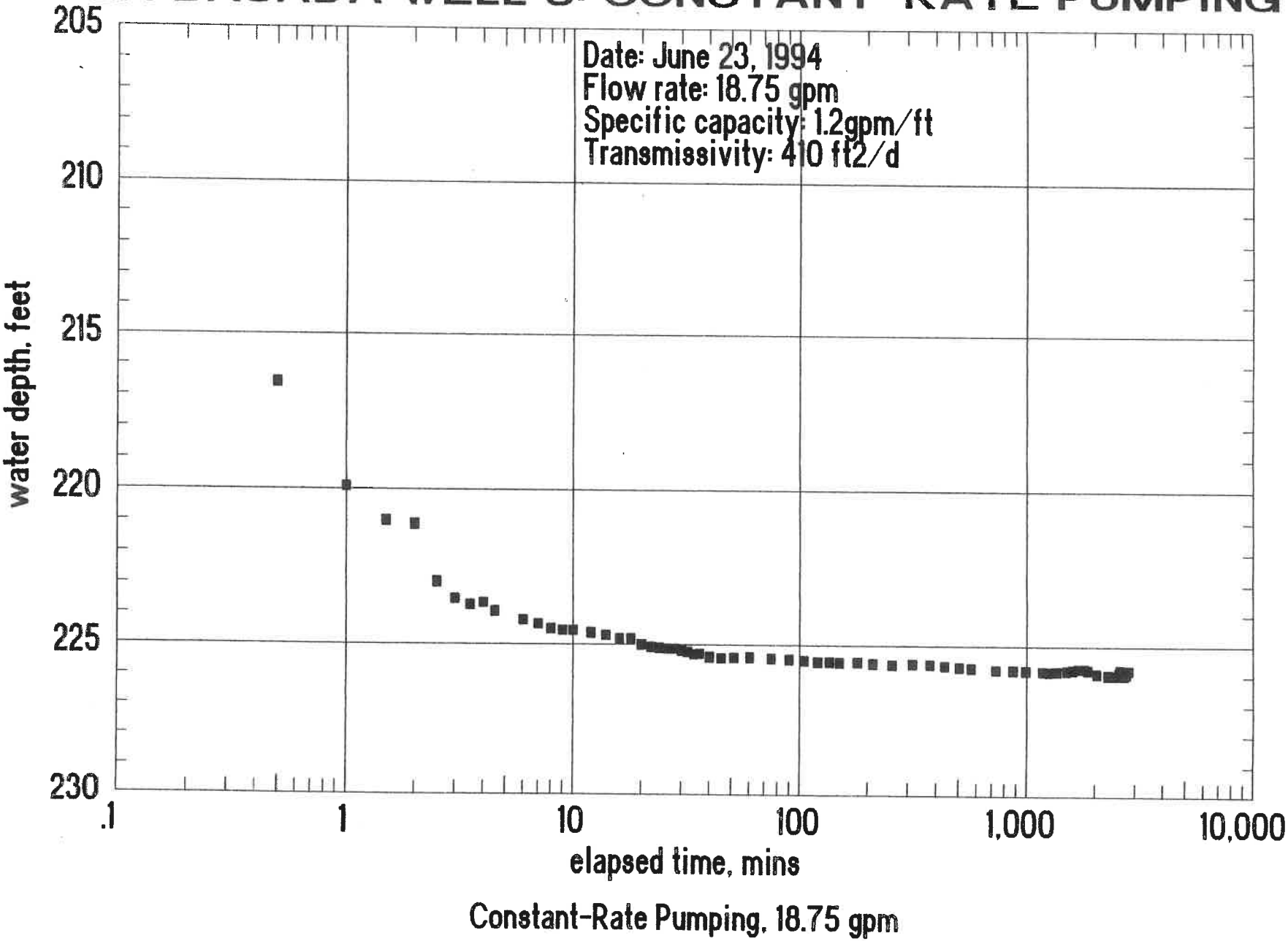

LA BAJADA WELL 4: RECOVERY
Date: July 8, 1994
Flow rate: 2.75 gpm
Transmissivity: 1.2 ft2/d
water depth, feet
180
200
220
240
260
280
300
320
340
360
1
10
100
1,000
10,000
100,000
t/t' (time since pumping began/time since pump stopped)
Recovery data, July 1994


LA BAJADA WELL 5: CONSTANT-RATE PUMPING
Date: June 30, 1994
Flow rate: 18.75 gpm
Specific capacity: 1.7 gpm/ft
Transmissivity: 235 ft2/d
160
165
170
175
180
185
water depth, feet
.1
1
10
100
1,000
10,000
elapsed time, mins
Constant-Rate Pumping, 18.75 gpm

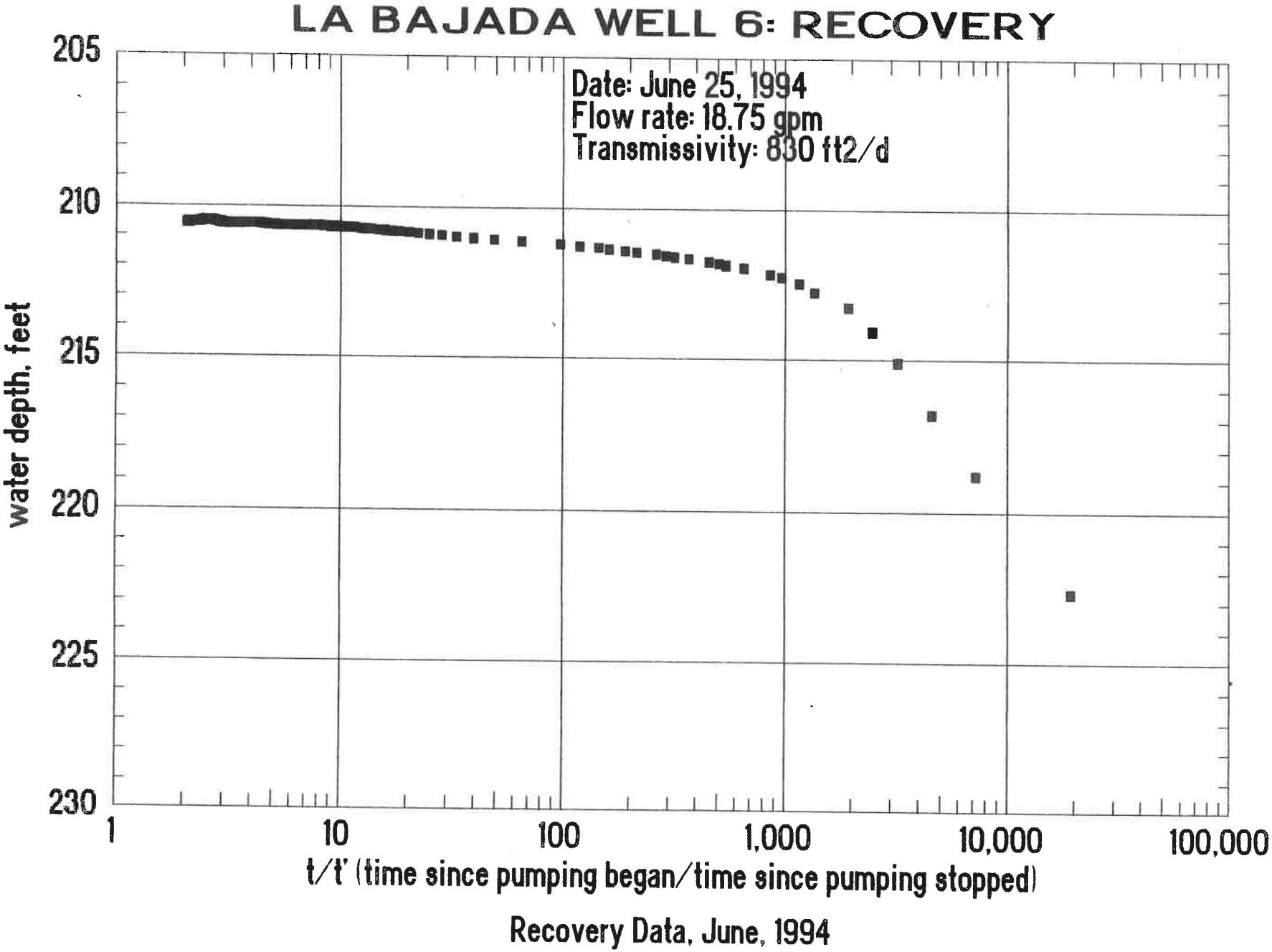


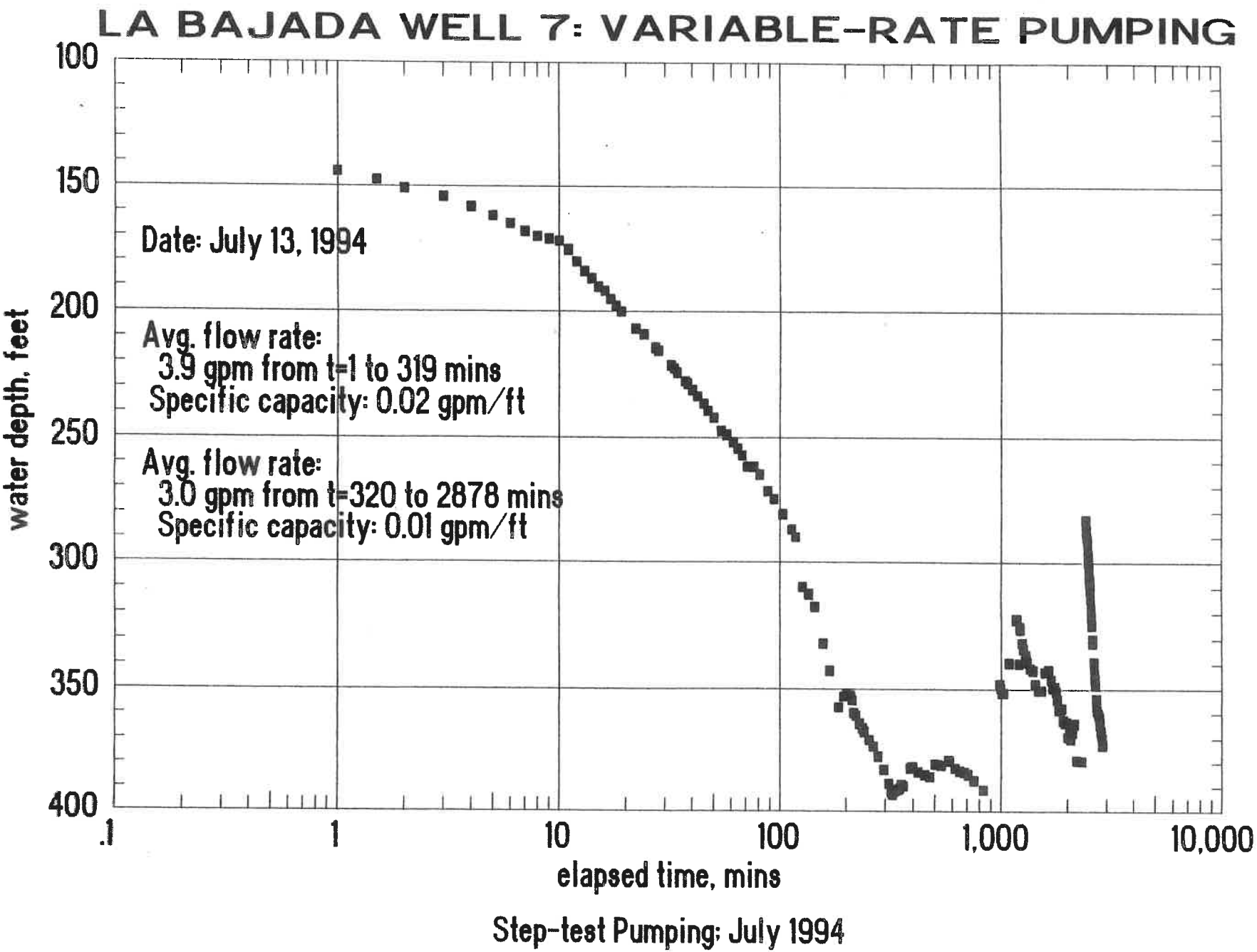
Recovery Data, July, 1994

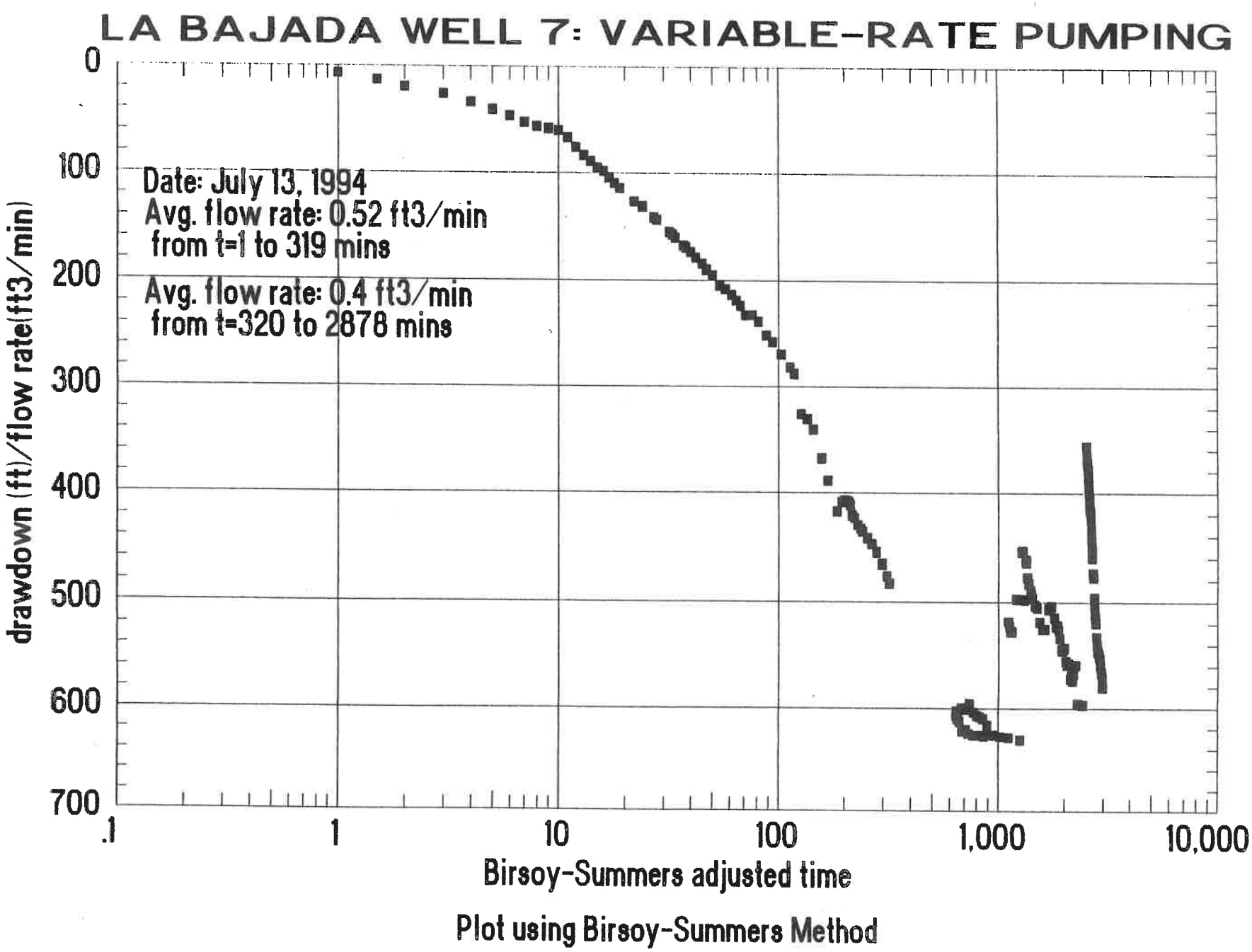
LA BAJADA WELL 6: CONSTANT-RATE PUMPING

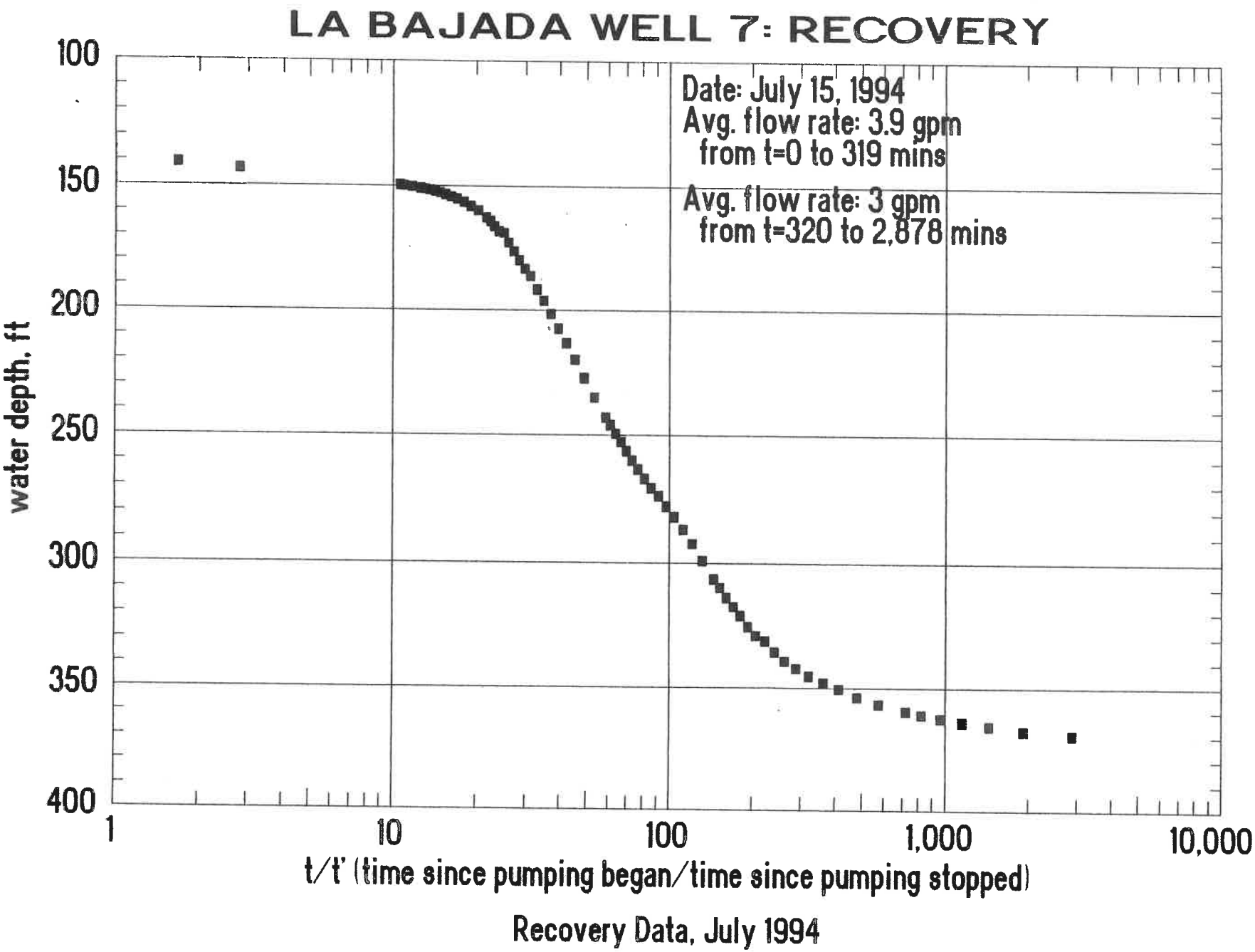


Constant-Rate Pumping, 18.75 gpm


LA BAJADA WELL 6: RECOVERY
Date: June 25, 1994
Flow rate: 18.75 gpm
Transmissivity: 830 ft2/d
water depth, feet
205
210
215
220
225
230
1
10
100
1,000
10,000
100,000
t/t' (time since pumping began/time since pumping stopped)
Recovery Data, June, 1994


LA BAJADA WELL 7: VARIABLE-RATE PUMPING
100
150
200
250
300
350
400
water depth, feet
Date: July 13, 1994
Avg. flow rate:
3.9 gpm from t=1 to 319 mins
Specific capacity: 0.02 gpm/ft
Avg. flow rate:
3.0 gpm from t=320 to 2878 mins
Specific capacity: 0.01 gpm/ft
.1
1
10
100
1,000
10,000
elapsed time, mins
Step-test Pumping: July 1994


LA BAJADA WELL 7: VARIABLE-RATE PUMPING
Date: July 13, 1994
Avg. flow rate: 0.52 ft3/min
from t=1 to 319 mins
Avg. flow rate: 0.4 ft3/min
from t=320 to 2878 mins
drawdown (ft)/flow rate(ft3/min)
0
100
200
300
400
500
600
700
.1
1
10
100
1,000
10,000
Birsoy-Summers adjusted time
Plot using Birsoy-Summers Method



Recovery Data, July 1994

APPENDIX 4.

Analytical Results
(raw data)

ALBUCHEMIST, INC.
501 Wyoming, SE
Albuquerque, New Mexico 87123
Phone: 268-7367

FAX: (505) 265-4325

DATE: August 10, 1994

LAB. NO. 072194-12

FOR: John Shomaker Inc.

2703 Broadbent Parkway, NE
Suite D
Albuquerque, NM 87107

SAMPLE: 1 sample for Well #2, 7-20-94, 15:00
LaBajada

DATE DELIVERED: July 21, 1994

RESULTS:

(see attached sheet)

BY:

CHEMIST: Dan Dugan

All results are reported in mg/l unless otherwise specified:

Analyte	Well #2
Conductivity (in micromhos/cm)	5300.
Total dissolved solids	3452.
pH	6.76
Sodium	696.
Potassium	88.8
Calcium	290.
Magnesium	47.1
Fluoride	4.95
Chloride	146.
Bicarbonate	1170.
Carbonate	<1.0
Sulfate	1540.
Nitrate (as N)	0.03
Silica	34.6
Iron	2.88
Arsenic	0.043
Barium	<0.25
Selenium	<0.005
Manganese	0.38
Zinc	0.012
Turbidity (NTU)	14.0
Odor	none detected

ALBUCHEMIST, INC.
501 Wyoming, SE
Albuquerque, New Mexico 87123
Phone: 268-7367

FAX: (505) 265-4325

DATE: July 15, 1994

LAB. NO. 070894-9

FOR: John Shomaker Inc.

2703 Broadbent Parkway, NE
Suite D
Albuquerque, NM 87107

SAMPLE: 1 sample for Sample #4, 7/5/94

DATE DELIVERED: July 8, 1994

RESULTS:

(see attached sheet)

BY:

CHEMIST: Dan Dugan

All results are reported in mg/l unless otherwise specified:

Analyte	Well #4
Conductivity (in micromhos/cm)	5200.
Total dissolved solids	2252.
pH	8.01
Sodium	773.
Potassium	13.4
Calcium	16.8
Magnesium	9.58
Fluoride	4.21
Chloride	861.
Bicarbonate	923.
Carbonate	<1.0
Sulfate	<2.0
Nitrate (as N)	0.04
Silica	16.8
Iron	0.28
Arsenic	0.015
Barium	<0.25
Selenium	0.008
Manganese	0.03
Zinc	<0.01
Turbidity (NTU)	0.10
Odor	none detected

ALBUCHEMIST, INC.
501 Wyoming, SE
Albuquerque, New Mexico 87123
Phone: 268-7367
FAX: (505) 265-4325

DATE: July 8, 1994

LAB. NO 070194-4

FOR: John Shomaker Inc.
Attention: Roger Peery
2703 Broadbent Parkway, NE
Suite D
Albuquerque, NM 87107

SAMPLE: 1 sample for Sample Well #5

DATE DELIVERED: July 1, 1994

RESULTS:

(see attached sheet)

BY:

CHEMIST: Dan Dugan

All results are reported in mg/l unless otherwise specified:

Analyte	Well #5
Conductivity (in micromhos/cm)	540.
Total dissolved solids	216.
pH	7.77
Sodium	36.6
Potassium	4.6
Calcium	25.7
Magnesium	13.8
Fluoride	1.00
Chloride	10.3
Bicarbonate	172.
Carbonate	<1.0
Sulfate	43.6
Nitrate (as N)	0.64
Silica	19.8
Iron	<0.05
Arsenic	0.008
Barium	<0.25
Selenium	<0.005
Manganese	<0.02
Zinc	<0.01
Turbidity (NTU)	0.10
Odor	none detected

ALBUCHEMIST, INC.
501 Wyoming, SE
Albuquerque, New Mexico 87123
Phone: 268-7367

FAX: (505) 265-4325

DATE: July 8, 1994

LAB. NO. 062794-2

FOR: John Shomaker Inc.
Attention: Steve Finch
2703 Broadbent Parkway, NE
Suite D
Albuquerque, NM 87107

SAMPLE: 1 sample for Sample Well #6, 6-23-94
La Bajada

DATE DELIVERED: June 27, 1994

RESULTS:

(see attached sheet)

BY:

CHEMIST: Dan Dugan

All results are reported in mg/l unless otherwise specified:

Analyte	Well #6
Conductivity (in micromhos/cm)	480.
Total dissolved solids	248.
pH	7.52
Sodium	41.2
Potassium	5.3
Calcium	25.0
Magnesium	11.8
Fluoride	1.00
Chloride	10.5
Bicarbonate	173.
Carbonate	<1.0
Sulfate	48.2
Nitrate (as N)	0.73
Silica	17.8
Iron	0.11
Arsenic	0.006
Barium	<0.25
Selenium	<0.005
Manganese	<0.02
Zinc	<0.01
Turbidity (NTU)	0.15
Odor	none detected

ALBUCHEMIST, INC.
501 Wyoming, SE
Albuquerque, New Mexico 87123
Phone: 268-7367

FAX: (505) 265-4325

DATE: July 20, 1994

LAB. NO. 071894-6

FOR: John Shomaker Inc.

2703 Broadbent Parkway, NE
Suite D
Albuquerque, NM 87107

SAMPLE: 1 sample for Well #7, 7-13-94, 20:40, 20:30, LaBajada

DATE DELIVERED: July 18, 1994

RESULTS:

(see attached sheet)

BY:

CHEMIST: Dan Dugan

All results are reported in mg/l unless otherwise specified:

Analyte	Well #7
Conductivity (in micromhos/cm)	560.
Total dissolved solids	272.
pH	7.58
Sodium	60.1
Potassium	4.29
Calcium	23.7
Magnesium	10.8
Fluoride	1.18
Chloride	11.8
Bicarbonate	192.
Carbonate	<1.0
Sulfate	55.2
Nitrate (as N)	0.71
Silica	20.4
Iron	<0.05
Arsenic	0.011
Barium	<0.25
Selenium	0.006
Manganese	<0.02
Zinc	<0.01
Turbidity (NTU)	0.25
Odor	none detected

APPENDIX 5.

Aquifer Test Data
(raw data)

JOHN W. SHOMAKER, INC.
GEOLOGY-HYDROGEOLOGY
2703 BROADBENT PARKWAY NE, SUITE D
ALBUQUERQUE, NEW MEXICO 87107
(505) 345-3107

Page 1 of ___

Location no. LA BAJADA

CONSTANT RATE PUMP TEST Well no. 2

Description of measuring point: Top 1" PVC 1.8 ft AGL

Elevation: GL ____ MP ____ TAPE STRAPPED @ 350'

Date	Clock time		Water level, MP	T or T/T'	Manometer	Q, gpm bucket	Remarks
	11:21		403.20			static	
	11:22		403.24		304232.4	static	
	11:23		403.19			static	
	11:30						Pump on
	11:30:30	.5	414.80				22 gpm est
	11:31	1	416.80				
	31:30	1.5	419.25				
	32	2	422.50				
	32:30	2.5	424.40				
	33	3					
	33:30	3.5					
	34	4	428.15			13sec/5gal	22 gpm
	35	5	430.42			13sec/5gal	
	36	6	431.90			13sec/5gal	
	37	7	432.45				
	38	8	433.20				
	39	9	433.77			13sec/5gal	
	40	10	434.10				
	41:30	11.5	434.30			13 sec/5gal	22 gpm
	42:30	12.5	434.35				
	44	14	434.40				
	45	15	434.15			14sec/5gal	20 gpm
	47	17	433.30				
	48	18	432.70			15sec/5gal	18.5 gpm
	49	19	433.10			14 sec/5gal	20 gpm
	50	20	433.10				

Measurements made by: JWP

JOHN W. SHOMAKER, INC.
GEOLOGY-HYDROGEOLOGY
2703 BROADBENT PARKWAY NE, SUITE D
ALBUQUERQUE, NEW MEXICO 87107
(505) 345-3107

Page 2 of ___

Location no. LA BAJADA

Well no. 2

CONSTANT RATE PUMP TEST

Description of measuring point: See Pg. 1

Elevation: GL ____ MP ____

Date	Clock time		Water level, MP	T or T/T'	Manometer meter	Q, gpm bucket	Remarks
7-19-94	11:52	22	433.27			14sec/5gal	
	11:54	24	433.44			14sec/5gal	
	11:56	26	433.55		15sec/5gal	14sec/5gal	20 gpm
	11:58	28	433.74		15sec/5gal	14sec/5gal	
	12:00	30	434.00		15sec/5gal		
	12:02	32	434.10		15sec/5gal		304889 gal Jan
	12:04	34	434.25		15sec/5gal		cloudy, gray
	12:06	36	434.49		15sec/5gal		
	12:08	38	434.73				
	12:10	40	434.86		15sec/5gal		20 gpm
	12:12	42	435.05				
	12:14	44	435.14		15sec/5gal		305124.5
	12:16	46	435.35				
	12:18	48	435.46				
	12:20	50	435.65		15sec/5gal		
	12:22	52	435.76				
	12:25	55	435.85		15sec/5gal	14sec/5gal	20 gpm
	12:30	60	436.37				
	12:35	65	436.53				
	12:40	70	437.05		15sec/5gal		60 psi
	12:45	75	437.40				
	12:50	80	437.70				
	12:55	85	437.75		15sec/5gal		
	13:00	90	437.91		16sec/5gal		
	13:05	95	438.52		15sec/5gal		
	13:10	100	438.67		15sec/5gal		

Measurements made by: JWP

JOHN W. SHOMAKER, INC.
GEOLOGY-HYDROGEOLOGY
2703 BROADBENT PARKWAY NE, SUITE D
ALBUQUERQUE, NEW MEXICO 87107
(505) 345-3407

Location no. LA BAJADA

Well no. 2

[CON]STANT RATE PUMP TEST

[Desc]ription of measuring point: See Pg. 1

[Ele]vation: GL ____ MP ____

[Dat]e	Clock time		Water level, MP	T or T/T'	Manometer	Q, gpm (meter)	Remarks
	13:15	105	438.82			15sec/5gal	20 a.m.
	13:20	110	439.25			15sec/5gal	"
	13:25	115	439.61				
	13:30	120	439.85			15sec/5gal	60 psi
	13:40	130	440.39			15sec/5gal	306800 gal total
	13:50	140	440.88			15sec/5gal	306995.5 tot gal
	14:00	150	441.25			15sec/5gal	
	14:24	174	442.13			15sec/5gal	hazy water
	14:35	185	442.55			15sec/5gal	Temp 72°F Sp Cond 2800
	14:45	195	442.72			15sec/5gal	meter @ 198 min: 308125.0
	14:56	206	443.35			15sec/5gal	.8 ml clayey fines after 30 min.
	15:05	215	443.50			15sec/5gal	hazy water
	15:15	225	443.80				
	15:33	243	444.35			15sec/5gal	meter @ 15:36 309001 @ 246 min
	15:49	259	444.87				
	16:00	270	445.36			15sec/5gal	
	16:15	285	445.75				
	16:31	301	446.34			15sec/5gal	
	16:45	315	446.89				
	17:00	330	447.24			15sec/5gal	
	17:20	350	447.81				
	17:40	370	448.46			15sec/6gal	
	18:00	390	448.96				
	18:20	410	449.48				
	18:40	430	449.88				
	19:00	450	450.48			15sec/5gal	

Measurements made by: JWP

JOHN W. SHOMAKER, INC.
GEOLOGY-HYDROGEOLOGY
2703 BROADBENT PARKWAY NE, SUITE D
ALBUQUERQUE, NEW MEXICO 87107
(505) 345-3407

Location no. LA BAJADA

Well no. 2

CONSTANT RATE PUMP TEST

Description of measuring point: See Pg. 1

Elevation: GL ____ MP ____

Date	Clock time		Water level, MP	T or T/T'	Manometer	Q, gpm (meter)	Remarks
7-19-94	19:20	470	451.30			15sec/5gal	
	19:40	490	451.88			15sec/5gal	slightly hazy
	19:55	505	452.40			15sec/5gal	trace clayey fines
TWM	20:30	~~535~~ 540	453.26			15sec/5gal	
	20:55	~~560~~ 565	453.28			15sec/5gal	
	21:30	~~595~~ 600	455.10			15sec/5gal	
	22:00	~~625~~ 630	455.74			15sec/5gal	
	22:30	~~650~~ 660	456.38			15sec/5gal	
	23:00	~~680~~ 690	456.99			15sec/5gal	
	23:30	~~710~~ 720	457.69			15sec/5gal	Disch hazy 66° 3200 μS
7-20-94	00:00	~~740~~ 750	458.06			15sec/5gal	
	00:30	770 780	458.86			15sec/5gal	
	01:00	800 810	459.40			15sec/5gal	
	01:30	~~830~~ 840	459.50			15sec/5gal	
	02:30	~~893~~ 900	461.10			15sec/5gal	
	03:30	~~950~~ 960	462.09			15sec/5gal	
	05:15	~~1055~~ 1065	463.74			15sec/5gal	
	05:45	~~1085~~ 1095	464.24			15sec/5gal	
JWP	6:15	1123	464.68			30sec/10gal	Temp 72°F Sp Cond 3000
	6:40	1150	463.97			15sec/5gal	meter @ 6:42 327210 tot gal
	7:00	1170	464.36			15sec/5gal	meter @ 7:01 327586 total
	7:50	1220	465.00			15sec/5gal	
	8:30	1260	465.65				
	9:00	1290	465.88			15sec/5gal	Disch. clear
	10:00	1350	466.80			15sec/5gal	
	10:50	1400	467.28			15sec/5gal	

Measurements made by: JWP, TWM

JOHN W. SHOMAKER, INC.
GEOLOGY-HYDROGEOLOGY
2703 BROADBENT PARKWAY NE, SUITE D
ALBUQUERQUE, NEW MEXICO 87107
(505) 345-3407

Page 4 of ___

Location no. LA BAJADA

Well no. 2

STANT RATE PUMP TEST
ription of measuring point: See Pg. 1

ation: GL ___ MP ___

Clock time		Water level, MP	T or T/T'	Manometer	Q, gpm	Remarks
11:20	1430	467.57			15sec/5gal	Temp 72°F sp cond 2900
12:00	1470	468.06			15sec/5gal	
12:40	1510	468.40			15sec/5gal	
13:20	1550	469.00			15sec/5gal	
14:00	1590	469.81			15sec/5gal	meter @ 15:53 (1585) 339150 total
14:42	1632	470.31				
15:20	1670	470.54			15sec/5gal	SAMPLES TAKEN
15:40	1690	470.70			15sec/5gal	
16:00	1710	470.70				
16:20	1730	470.77			15sec/5gal	
16:40	1750	470.89			15sec/5gal	
17:00	1770	471.15			15sec/5gal	
17:30	1800	471.48				
18:00	1830	471.71			15sec/5gal	
18:30	1860	471.98				
19:00	1890	472.20				
19:30	1920	472.42				
20:00	1950	472.71			15sec/gal	
20:30	1980	472.97				
21:00	2010	473.16			15sec/5gal	
21:30	2040	473.56	Z_{adj} =		15sec/5gal	
22:00	2070	473.98			15sec/5gal	
22:30	2100	474.19				
23:00	2130	474.92			15sec/5gal	
23:30	2160	475.11			15sec/5gal	
00:30	2220	475.60			15sec/5gal	

1 liter filtered sample (HNO_3)
1 gal unfiltered spl taken
both iced

pH 6.21 @ 23.3°C

FIELD Measurements @ 14:10 7-20-94
Temp. 72°F Sp Cond. 2800
Nitrate 0 mg/l, Nitrite 0 mg/l,
3.5 mg/l Fe, 330 mg/l $CaCO_3$ Total Alkalinity

Measurements made by: JWP TWM

JOHN W. SHOMAKER, INC.
GEOLOGY-HYDROGEOLOGY
2703 BROADBENT PARKWAY NE, SUITE D
ALBUQUERQUE, NEW MEXICO 87107
(505) 345-3407

Page 1 of ___

Location no. ___

Well no. ___

C.R. PUMP TEST / RECOVERY
Description of measuring point: See Pg. 1

Elevation: GL ___ MP ___

Date	Clock time	t	Water level, MP	T or T/T'	Manometer	Q, gpm	Remarks
7-21-94	01:30	2250	476.10			15sec/5gal	
	02:00	2310	476.50			15sec/5gal	
SWP	02:23	2333	476.60			15sec/5gal	
	03:00	2370	476.85				
	04:00	2430	477.50				
	05:00	2490	477.80			15sec/5gal	
	05:40	2530	478.15				
	06:30	2580	479.08			15sec/5gal	
	07:30	2640	479.80			15sec/5gal	Temp 72°F Sp cond 2900
	08:20	2690	480.41				
	09:00	2730	480.60			15sec/5gal	
	09:30	2760	480.88				
	10:00	2790	480.97			15sec/5gal	
	10:30	2820	481.00			15sec/5gal	
	10:59	2849	481.10			15sec/5gal	20 GPM
	11:00	0			360720		PUMP OFF
	11:00:30		474.70				RECOVERY
	11:01	1	470.90				
	11:01:30		467.21				
	11:02	2	464.95				
	11:02:30		461.05				
	11:03	3	457.14				
	11:03:30		455.78				
	11:04	4	455.40				
	11:04:30		455.08				
	11:05	5	454.80				

Measurements made by: TWM JWP

JOHN W. SHOMAKER, INC.
GEOLOGY-HYDROGEOLOGY
2703 BROADBENT PARKWAY NE, SUITE D
ALBUQUERQUE, NEW MEXICO 87107
(505) 345-3407

Location no. LA BAJADA

Well no. 2

ECOVERY

cription of measuring point: See Pg. 1

ation: GL ____ MP ____

Clock time		Water level, MP	T or T/T'	Manometer	Q, gpm	Remarks
11:06	6	454.13				
11:07	7	453.60				
11:08	8	453.24				
11:09	9	452.89				
11:10	10	452.65				
11:11	11	452.35				
11:12	12	452.11				
11:13	13	451.82				
11:14	14	451.65				
11:15	15	451.55				
11:16	16	451.48				
11:17	17	451.15				
11:18	18	451.08				
11:19	19	451.00				
11:20	20	450.86				
11:21	21	450.77				
11:22	22	450.62				
11:23	23	450.48				
11:24	24	450.35				
11:26	26	450.09				
11:28	28	449.82				
11:30	30	449.70				
11:32	32	449.57				
11:34	34	449.47				
11:36	36	449.32				
11:38	38	449.20				

Measurements made by: JWP

JOHN W. SHOMAKER, INC.
GEOLOGY-HYDROGEOLOGY
2703 BROADBENT PARKWAY NE, SUITE D
ALBUQUERQUE, NEW MEXICO 87107
(505) 345-3407

Location no. ___

Well no. ___

RECOVERY

Description of measuring point: ___

Elevation: GL ____ MP ____

Recovery

Date	Clock time		Water level, MP	T or T/T'	Manometer	Q, gpm	Remarks
7-21-94	11:40	40	449.05				
	11:42	42	448.95				
	11:44	44	448.70				
	11:46	46	448.65				
	11:48	48	448.57				
	11:50	50	448.46				
	11:55	55	448.22				
	12:00	60	447.97				
	12:05	65	447.85				
	12:10	70	447.55				
	12:15	75	447.40				
	12:20	80	447.28				
TWM	12:35	95	446.77				
	12:40	100	446.61				
	12:45	105	446.42				
	12:50	110	446.21				
	12:55	115	446.15				
	13:00	120	445.95				
	13:10	130	445.81				
	13:20	140	445.60				
	13:30	150	445.39				
	13:40	160	445.12				
	13:50	170	444.90				
	14:00	180	444.66				
	14:15	195	444.39				
	14:30	210	444.11				

Measurements made by: JWP TWM

JOHN W. SHOMAKER, INC.
GEOLOGY-HYDROGEOLOGY
2703 BROADBENT PARKWAY NE, SUITE D
ALBUQUERQUE, NEW MEXICO 87107
(505) 345-3407

Location no. LA BASADA

Well no. 2

ECOVERY

ription of measuring point: Co Pa. 1 Recovery

ation: GL ____ MP ____

Clock time	t	Water level, MP	T or T/T'	Manometer	Q, gpm	Remarks
14:45	225	443.89				
15:00	240	443.65				
15:15	255	443.33				
15:30	270	442.97				
15:45	285	442.82				
16:00	300	442.46				
16:15	315	442.29				
16:30	330	442.08				
16:45	345	441.92				
12:45	1545	432.85				
16:45	4,605	422.51				

Measurements made by: TWM

JOHN W. SHOMAKER, INC.
GEOLOGY-HYDROGEOLOGY
2703 BROADBENT PARKWAY NE, SUITE D
ALBUQUERQUE, NEW MEXICO 87107
(505) 345-3407

Page 1 of ___

Location no. ___

Well no. LP 10-4

[Co]nstant Rate Pump Test

[Des]cription of measuring point: 144 ATOC ~ TC 1.78

[Ele]vation: GL ___ MP ___

[Dat]e	Clock time	t	Water level, MP	T or T/T'	Manometer	Q, gpm 2.5 gal Bck	Remarks
	12:55		190.53		29000.00	"	
	13:00	0	70			14 sec	
		1	202.48			"	
		2	214.83			"	
		3	221.29			43 sec	
		4	225.45			32 sec	
		5	229.16			36 sec	Start of clear
		6	231.95			47 sec	[illegible]
		7	233.55		29004040	47 sec	Disch Grey
		8	234.09			60 sec	Water
		9	234.56				
		10	235.24			57 sec	
		11	236.57			57 sec	
		12	237.62			50 sec	
		13	238.42			55 sec	
		14	239.88			46 sec	
		15	241.84			48 sec	
		16	243.17		29006085		
		17	244.42			50 sec	
		18	245.69			50 sec	
		19	246.63			51 sec	
		20	247.74			53 sec	
		21				53 sec	
		22	249.50			53 sec	
		25	252.52				Disc Clear
		26	252.89				
		28	254.59			53	

Measurements made by: TWM, JBB

JOHN W. SHOMAKER, INC.
GEOLOGY-HYDROGEOLOGY
2703 BROADBENT PARKWAY NE, SUITE D
ALBUQUERQUE, NEW MEXICO 87107
(505) 345-3407

Page 2 of ___

Location no. La Bajada

Well no. LB 10-4

Constant Rate Pump Test

Description of measuring point: See Pg 1

Elevation: GL ___ MP ___

Date	Clock time	t	Water level, MP	T or T/T'	Manometer	Q, gpm	Remarks
	13:30	30	257.26		29010070	53 Sec	Disc Clear
		36	260.43				Pressure @ 3100 psi, change to 8in
		38	261.13				
		40	262.16			54 sec	
		Re Soundr	Tape to 200' from end of Sounder				
		46	265.38			54 sec	
		50	267.32		290140.08	54 sec	
		55	269.33			54	2:25 PM
		60	271.50			54 sec	
		65	273.50			54 sec	
		70	275.53			54 sec	
		75	276.88			54 sec	
		80	278.46			54	
		85	280.69			54 sec	
		90	281.14			"	
		95	282.60				
	15:10	100	283.50				
		115	286.62			"	Disc Clear
		130	288.88				
		145	290.54				
		160	291.94				
		175	292.93				Sample taken
	16:15	195	294.48				
	16:25	205	295.03				
		220	296.01				
		249	296.46				

Measurements made by: TWM, JBB

JOHN W. SHOMAKER, INC.
GEOLOGY-HYDROGEOLOGY
2703 BROADBENT PARKWAY NE, SUITE D
ALBUQUERQUE, NEW MEXICO 87107
(505) 345-3407

Location no. La Bajada

Well no. LB 10-4

...stant Rate Pump Test
...ription of measuring point: See Pg 1

...ation: GL ____ MP ____

Clock time		Water level, MP	T or T/T'	~~Manometer~~ Meter	Q, gpm	Remarks
17:15	255	297.83				
:30	270	298.41			58 Sec	
:45	285	299.26				
1600	300	299.95				
18:15	315	300.95				
18:30	330	301.67				
	345	302.16				
19:00	360	302.46				
19:30	390	303.21				
	420	304.36				[illegible]
20:35	455	305.06				Changed [illegible]
21:00	480	305.94		291060.50		
-	510	306.33			59 Sec → 2.3 gpm Pushed to 50 sec → 3 gpm	
22:00	540	316.72			55 sec	
	570	319.22			55 sec	
	600	321.56				
	630	323.48				
0:00	660	324.26				
	690	325.10				
1:00	720	326.50				
2:40	Missed 820	328.17				
3:30	870	328.89				
4:30	930	329.81				
5:15	975	331.29			55 sec	
6:00	1020	332.54				
6:50	1070	333.92			55 sec	

Measurements made by: TWM

JOHN W. SHOMAKER, INC.
GEOLOGY-HYDROGEOLOGY
2703 BROADBENT PARKWAY NE, SUITE D
ALBUQUERQUE, NEW MEXICO 87107
(505) 345-3407

Location no. La Bajada

Well no. LB 10-4

Constant Rate Pump Test
Description of measuring point: See Pg 1

Elevation: GL ____ MP ____

Date	Clock time	t	Water level, MP	T or T/T'	Manometer	Q, gpm	Remarks
7-7-94	7:30	1110	333.61				
		1140	333.80			55 sec	3500 µΩ
	8:30	1170	333.81				23°C pH 7.61
		1200	333.61				0 ppm Sd
		1230	333.62				
	10:00	1260	333.54			55 sec 2.75 gpm	
		1290	333.58				
		1320	333.34				
		1350	333.41				
	12:00	1380	333.59				
	12:30	1410	333.51				
	13:00	1440	333.32				
	13:30	1470	333.16			58 sec. changed → 55 sec	
	14:00	1500	337.38				
	15:00	1560	339.50				
	16	1620	339.96				
	17	1680	340.13				
	18	1740	341.19				
	19	1800	342.29			55 sec 2.75 gpm	
	20:00	1920	343.31				
	21:00	2010	344.29				
	23:30	2145	344.91				
7-8-94	01:45	2280	346.70			55 sec 2.75 gpm	
	4:00	2400	347.32				
	6:00	2460	347.97				
	7:00 6:00	2520 2580	345.71 347.76				

Measurements made by: TWM

JOHN W. SHOMAKER, INC.
GEOLOGY-HYDROGEOLOGY
2703 BROADBENT PARKWAY NE, SUITE D
ALBUQUERQUE, NEW MEXICO 87107
(505) 345-3407

Page 5 of ___

Location no. La Bajada

Well no. LB 10-4

Pump Test / Recovery
[Desc]ription of measuring point: See Pg. 1

[Elev]ation: GL ____ MP ____

Clock time		Water level, MP	T or T/T'	Manometer	Q, gpm	Remarks
9:00	2640	349.12			55 sec, 2.75 gpm	3400 ... pH 7.60, T=25.0°C
	2700	349.69				
11:00	2760	349.13			55 sec	
12:00	2820	348.58			59 ... to 55	
13:00	2880	352.85		296330...	55 sec	
13:18	2918	353.31				
13:32	2930	353.41			55 sec	
13:44	2942	353.42		296436		
Recovery	13:45					
13:45:15	0.25	352.80				
	1	350.20				
	1.5	348.26				
	2	346.52				
	2.5	345.47				
	3	343.83				
	3.5	342.69				
	4	341.14				
	4.5	339.41				
	5	338.11				
	6	334.65				
	7	332.81				
	8	329.86				
	9	327.96				
	10	325.85				

Measurements made by: TWM

JOHN W. SHOMAKER, INC.
GEOLOGY-HYDROGEOLOGY
2703 BROADBENT PARKWAY NE, SUITE D
ALBUQUERQUE, NEW MEXICO 87107
(505) 345-3407

Page 6 of ___

Location no. La Bajada

Well no. LB 10-4 48 Pump Test Recovery

Recovery
Description of measuring point: See Pg. 1

Elevation: GL ____ MP ____

Date	Clock time	Elapse t	Water level, MP	T or T/T'	Manometer	Q, gpm	Remarks
9-8-94		11	323.62				Recovery
		12	321.63				
		13	319.89				
		14	317.48				
		15	316.19				
		16	314.15				
		17	312.05				
		18	310.00				
		19	308.51				
		20	306.98				
		21	305.46				
		22	303.96				
		23	302.34				
		24	300.02				
		25	299.70				
		26	298.50				
		28	298.88				
		30	293.41				
		32	291.19				
		34	289.08				
		36	286.95				
		38	284.18				
		40	283.18				
		42	281.34				
		44	279.59				
		46	277.98				

67.7C

Measurements made by: RLP TWM

JOHN W. SHOMAKER, INC.
GEOLOGY-HYDROGEOLOGY
2703 BROADBENT PARKWAY NE, SUITE D
ALBUQUERQUE, NEW MEXICO 87107
(505) 345-3407

Page 7 of ___

Location no. LA 3AGNOA

Well no. LB 10-4 48hr Pump Test Recovery

RECOVERY

Description of measuring point: See pg 1

Elevation: GL ____ MP ____

e	Clock time	t	Water level, MP	T or T/T'	Manometer	Q, gpm	Remarks
		48	276.39				
		50	274.74				
		55	271.16				
	14:45	60	267.74				
		65	264.66				
		70	261.90				
		75	259.15				
		80	256.92				
		85	254.48				
		90	252.33				
		95	250.24				
		100	248.55				
		105	246.84				
		110	245.21				
	15:50	125	240.57				
		135	238.42				
		145	235.82				
		155	233.56				
		165	231.53				
		175	229.75				
	16:50	185	228.03				
	17:05	200	225.80				
	17:20	215	223.62				
	17:35	230	221.63				
	17:50	245	219.85				

Measurements made by: RCP

JOHN W. SHOMAKER, INC.
GEOLOGY-HYDROGEOLOGY
2703 BROADBENT PARKWAY NE, SUITE D
ALBUQUERQUE, NEW MEXICO 87107
(505) 345-3407

Page 8 of ___

Location no. La Pa...

Well no. LB 10-4, 48-hr pump test

Recovery

RECOVERY

Description of measuring point: See pg 1

Elevation: GL ____ MP ____

Date	Clock time	Elapsed t	Water level, MP	T or T/T'	Manometer	Q, gpm	Remarks
7-8-94	18:05	260	218.41				
	18:20	275	216.84				
	18:35	290	215.45				
	18:50	305	214.15				
	19:05	320	212.99				
	19:20	335	212.07				
	19:35	350	210.98				
	19:50	365	210.07				
	20:05	380	209.24				
7-9-94	10:55	1270	194.72				
7-11-94	13:20	2855	189.77				

Measurements made by: RCP

JOHN W. SHOMAKER, INC.
GEOLOGY-HYDROGEOLOGY
2703 BROADBENT PARKWAY NE, SUITE D
ALBUQUERQUE, NEW MEXICO 87107
(505) 345-3407

Page 1 of 4

Location no. La Bajada

Well no. 5

CONSTANT RATE PUMP TEST 6.9 above ground
Description of measuring point: .69 above top of casing

Elevation: GL ____ MP ____

Clock time	Elapse t, min	Water level, MP	T or T/T'	meter ~~Manometer~~ Gallons	Q, gpm	Remarks
0:54:00		165.16		0263361.4	Static	
		165.18			STATIC	
0:04:3	0.5	168.31				
0:05:00	1	168.97			8sec/25gal	measure w/ 5-gal bucket
0:05:30	1.5	169.36			7sec/2.5	Flow
0:06:00	2	169.57			20gpm	
0:06:30	2.5	169.83			7sec/	20gpm
0:07:00	3	169.99			7sec/2.5gal	20gpm
0:08:00	4	169.65			8sec/2.5gal	18.75 gpm
0:09:00	5	169.83			7sec/2.5gal	20 gpm
0:10:00	6	170.13			7sec/2.5gal	20 gpm
0:11:00	7	170.39			8sec/2.5gal	18.75 gpm
0:12:00	8	170.62			8sec/2.5g	18.75gpm
0:13:00	9	170.85			8sec/ 18.75	
0:14:00	10	170.94			8sec/ 16.75	disch slightly
0:16:00	12	170.86			8sec/ 18.75	incr. cldy, sandy
0:18:00	14	171.06			8sec/ 18.75	meter working intermittently
0:20:00	16	171.08			8sec/ 18.75	
0:21:00	17	—		263555.7	8.5sec/2.5g	disch slightly cldy, sandy
0:22:00	18	171.18			8sec/2.5g	open valve
0:24:00	20	171.27			8sec/2.5g	18.75gpm
0:26:00	22	171.39			8sec/2.5g	
0:28:00	24	171.50			8sec/2.5g	
0:30:00	26	171.63			8sec/2.5g	
0:34:00	30	171.85			8sec/2.5g	

Measurements made by: _____

Location no. La Bajada

Well no. 5

CONSTANT RATE PUMP TEST
Description of measuring point: see page 1

Elevation: GL ____ MP ____

Date	Clock time		Water level, MP	T or T/T'	meter ~~Manometer~~ Gals	Q, gpm	Remarks
6-30-94	11.36:00	32	172.04		2636961	8sec/25gal	disch Hazy
	11.38:00	34	172.13			8sec/2.5g	18.75 gpm
	11.40:00	36	172.24			8sec/2.5g	18.75 gpm
	11:44:00	40	172.43			8sec 18.75	
	11.49.00	45	172.62			8sec 18.75	
	11.54:00	50	172.73			8sec 18.75	
	11:59.00	55	172.89			8sec 18.75	
	12:04:00	60	172.97			8sec 18.75	
	12:14:00	70	173.12			8sec 18.75	
	12:24:00	80	173.28			18.75	
	12:34:00	90	173.42			18.75	
	12:44:00	100	173.50			18.75	
	12:54:00	110	173.62			18.75	
	13:04:00	120	173.69			18.75	
	13:14:00	130	173.76				
	13.29:00	145	173.93				
	13:45:00	161	173.98			18.75	
	14:00:00	176	174.03			18.75	
	14:15	191	174.10			18.75	
	14:30:00	206	174.20			18.75	
	14:48	224	174.30				
	15:00	236	174.35				
	15:01	237	174.4?		0265749.6		
	15:30	266	174.43				
	16:00	296	174.61				
	17:00	356	174.77			18.75	
	18:00	416	174.94			18.75	

Measurements made by: _____

JOHN W. SHOMAKER, INC.
GEOLOGY-HYDROGEOLOGY
2703 BROADBENT PARKWAY NE, SUITE D
ALBUQUERQUE, NEW MEXICO 87107
(505) 345-3407

Location no. La Bajada

Well no. 5

ON STANT RATE PUMP TEST

iption of measuring point: See page 1

tion: GL ____ MP ____

Clock time	Elapsed time	Water level, MP	T or T/T'	Manometer meter	Q, gpm	Remarks
8:02	418			2,751 9.2		
9:00	476	175.11			18.75	
0:00	536	175.38			18.75	
1:00	596	175.48			18.75	
2:00	656	175.58			18.75	
3:00	716	175.66			18.75	
4:00	776	175.77			18.75	
4:01	777			270947.8		
1:00	836	175.89			18.75	
2:00	896	175.96			18.75	
4:07	1023	176.18			18.75	
6:25	1161	176.29			18.75	
8:30	1286	176.34			18.75	
0:30	1406	176.44			18.75	
1:30	1466	176.42			18.75	
2:30	1526	176.47			18.75	
3:45	1661	176.48			18.75	
5:00	1796	176.53			18.75	
6:32	1886	176.52			18.75	
6:32	1888			2815 23.7		
7:00	1976	176.51			18.75	
8:30	2066	176.58			18.75	
1:36	2312	176.68			18.75	
5:00	2516	176.28			18.75	
7:00	2636	176.24			18.75	
9:00	2756	176.25			18.75	

Measurements made by: ____

JOHN W. SHOMAKER, INC.
GEOLOGY-HYDROGEOLOGY
2703 BROADBENT PARKWAY NE, SUITE D
ALBUQUERQUE, NEW MEXICO 87107
(505) 345-3407

Location no. La Bajada

Well no. 5

RECOVERY

Description of measuring point: See page 1

Elevation: GL ____ MP ____

Date	Clock time	Elapsed time	Water level, MP	T or T/T'	~~Manometer~~ meter	Q, gpm	Remarks
7-24	10:45	2861	176.24				
	11.04	2880	Recovery		29000.3	Shut off pump	
			175.00				
	11:04:16	00:15	175.00				
	11:04:44	00:44	173				
	11:05:20	01:20	171.5				
	11:05:35	01:35	171				
	11:05:55	01:55	170.5				
	11:06:15	02:15	170				
	11:07:09	03:09	169				
	11:07:40	03:40	168.5				
	11:08:29	04:29	168				
	11:09:30	05:30	167.5				
	11:10.40	06:40	167				
	11:11:50	07:50	166.5				
	11:12:30	08:30	166.25				
	11:13	09:00	166.14				
	11:13:30	09:30	166.11				
	11:14:00	10:00	166.05				
	11:15	11	165.98				
	11:16	12	165.82				
	11:18	14	165.77				
	11:20	16	165.71				
	11:25	21	165.60				
	11:27	23	set transducer at 170'				

Measurements made by: ____

Well 5 Recovery

te Thursday July 7, 1994 3:46 PM
otFile A:\LB#501.PRN
taFile C:\T3\LB#5.HEX

me of First Log in Specified Window
515.83 0.833348

te	Time	recovery LB#5 15 PSIG ft water	water level ft	elapsed time min.	t/t'
			175.00	0.25	11521.00
			173.00	0.73	3946.21
/02/94			171.50	1.30	2216.38
/02/94			171.00	1.58	1823.78
/02/94			170.50	1.92	1501.00
/02/94			170.00	2.25	1281.00
/02/94			169.00	3.15	915.29
/02/94			168.50	3.67	785.74
/02/94			168.00	4.48	643.86
/02/94			167.50	5.50	524.64
/02/94			167.00	6.67	432.78
/02/94			166.50	7.83	368.82
/02/94			166.25	8.50	339.82
/02/94			166.14	9.00	321.00
/02/94			166.11	9.50	304.16
/02/94			166.05	10.00	289.00
/02/94			165.98	11.00	262.82
/02/94			165.82	12.00	241.00
/02/94			165.77	14.00	206.71
/02/94			165.71	16.00	181.00
/02/94			165.60	21.00	138.14
/02/94	11:45	4.67	165.33	41.00	71.24
/02/94	12:00	4.69	165.31	56.00	52.43
/02/94	12:15	4.72	165.28	71.00	41.56
/02/94	12:30	4.72	165.28	86.00	34.49
/02/94	12:45	4.74	165.26	101.00	29.51
/02/94	13:00	4.75	165.25	116.00	25.83
/02/94	13:15	4.76	165.24	131.00	22.98
/02/94	13:30	4.78	165.22	146.00	20.73
/02/94	13:45	4.80	165.20	161.00	18.89
/02/94	14:00	4.80	165.20	176.00	17.36
/02/94	14:15	4.82	165.18	191.00	16.08
/02/94	14:30	4.83	165.17	206.00	14.98
/02/94	14:45	4.83	165.17	221.00	14.03
/02/94	15:00	4.84	165.16	236.00	13.20
/02/94	15:15	4.84	165.16	251.00	12.47
/02/94	15:30	4.85	165.15	266.00	11.83
/02/94	15:45	4.86	165.14	281.00	11.25
/02/94	16:00	4.88	165.12	296.00	10.73
/02/94	16:15	4.87	165.13	311.00	10.26
/02/94	16:30	4.88	165.12	326.00	9.83
/02/94	16:45	4.88	165.12	341.00	9.45
/02/94	17:00	4.89	165.11	356.00	9.09
/02/94	17:15	4.91	165.09	371.00	8.76
/02/94	17:30	4.91	165.09	386.00	8.46

Well 5 Recove

/02/94	17:45	4.92	165.08	401.00	8.18
/02/94	18:00	4.92	165.08	416.00	7.92
/02/94	18:15	4.92	165.08	431.00	7.68
/02/94	18:30	4.93	165.07	446.00	7.46
/02/94	18:45	4.92	165.08	461.00	7.25
/02/94	19:00	4.91	165.09	476.00	7.05
/02/94	19:15	4.92	165.08	491.00	6.87
/02/94	19:30	4.92	165.08	506.00	6.69
/02/94	19:45	4.92	165.08	521.00	6.53
/02/94	20:00	4.91	165.09	536.00	6.37
/02/94	20:15	4.91	165.09	551.00	6.23
/02/94	20:30	4.91	165.09	566.00	6.09
/02/94	20:45	4.91	165.09	581.00	5.96
/02/94	21:00	4.89	165.11	596.00	5.83
/02/94	21:15	4.89	165.11	611.00	5.71
/02/94	21:30	4.89	165.11	626.00	5.60
/02/94	21:45	4.89	165.11	641.00	5.49
/02/94	22:00	4.89	165.11	656.00	5.39
/02/94	22:15	4.88	165.12	671.00	5.29
/02/94	22:30	4.89	165.11	686.00	5.20
/02/94	22:45	4.88	165.12	701.00	5.11
/02/94	23:00	4.87	165.13	716.00	5.02
/02/94	23:15	4.88	165.12	731.00	4.94
/02/94	23:30	4.88	165.12	746.00	4.86
/02/94	23:45	4.87	165.13	761.00	4.78
/03/94	00:00	4.88	165.12	776.00	4.71
/03/94	00:15	4.88	165.12	791.00	4.64
/03/94	00:30	4.88	165.12	806.00	4.57
/03/94	00:45	4.87	165.13	821.00	4.51
/03/94	01:00	4.87	165.13	836.00	4.44
/03/94	01:15	4.87	165.13	851.00	4.38
/03/94	01:30	4.87	165.13	866.00	4.33
/03/94	01:45	4.88	165.12	881.00	4.27
/03/94	02:00	4.87	165.13	896.00	4.21
/03/94	02:15	4.87	165.13	911.00	4.16
/03/94	02:30	4.88	165.12	926.00	4.11
/03/94	02:45	4.87	165.13	941.00	4.06
/03/94	03:00	4.87	165.13	956.00	4.01
/03/94	03:15	4.87	165.13	971.00	3.97
/03/94	03:30	4.88	165.12	986.00	3.92
/03/94	03:45	4.88	165.12	1001.00	3.88
/03/94	04:00	4.87	165.13	1016.00	3.83
/03/94	04:15	4.86	165.14	1031.00	3.79
/03/94	04:30	4.87	165.13	1046.00	3.75
/03/94	04:45	4.86	165.14	1061.00	3.71
/03/94	05:00	4.86	165.14	1076.00	3.68
/03/94	05:15	4.86	165.14	1091.00	3.64
/03/94	05:30	4.86	165.14	1106.00	3.60
/03/94	05:45	4.86	165.14	1121.00	3.57
/03/94	06:00	4.85	165.15	1136.00	3.54
/03/94	06:15	4.85	165.15	1151.00	3.50
/03/94	06:30	4.85	165.15	1166.00	3.47
/03/94	06:45	4.85	165.15	1181.00	3.44
/03/94	07:00	4.85	165.15	1196.00	3.41
/03/94	07:15	4.85	165.15	1211.00	3.38
/03/94	07:30	4.84	165.16	1226.00	3.35

Well 5 Recovery

/03/94	07:45	4.84	165.16	1241.00	3.32
/03/94	08:00	4.84	165.16	1256.00	3.29
/03/94	08:15	4.83	165.17	1271.00	3.27
/03/94	08:30	4.84	165.16	1286.00	3.24
/03/94	08:45	4.83	165.17	1301.00	3.21
/03/94	09:00	4.83	165.17	1316.00	3.19
/03/94	09:15	4.83	165.17	1331.00	3.16
/03/94	09:30	4.83	165.17	1346.00	3.14
/03/94	09:45	4.84	165.16	1361.00	3.12
/03/94	10:00	4.84	165.16	1376.00	3.09
/03/94	10:15	4.84	165.16	1391.00	3.07
/03/94	10:30	4.84	165.16	1406.00	3.05
/03/94	10:45	4.84	165.16	1421.00	3.03
/03/94	11:00	4.84	165.16	1436.00	3.01
/03/94	11:15	4.85	165.15	1451.00	2.98
/03/94	11:30	4.85	165.15	1466.00	2.96
/03/94	11:45	4.85	165.15	1481.00	2.94
/03/94	12:00	4.86	165.14	1496.00	2.93
/03/94	12:15	4.86	165.14	1511.00	2.91
/03/94	12:30	4.87	165.13	1526.00	2.89
/03/94	12:45	4.88	165.12	1541.00	2.87
/03/94	13:00	4.88	165.12	1556.00	2.85
/03/94	13:15	4.89	165.11	1571.00	2.83
/03/94	13:30	4.89	165.11	1586.00	2.82
/03/94	13:45	4.91	165.09	1601.00	2.80
/03/94	14:00	4.91	165.09	1616.00	2.78
/03/94	14:15	4.91	165.09	1631.00	2.77
/03/94	14:30	4.92	165.08	1646.00	2.75
/03/94	14:45	4.92	165.08	1661.00	2.73
/03/94	15:00	4.93	165.07	1676.00	2.72
/03/94	15:15	4.93	165.07	1691.00	2.70
/03/94	15:30	4.94	165.06	1706.00	2.69
/03/94	15:45	4.94	165.06	1721.00	2.67
/03/94	16:00	4.94	165.06	1736.00	2.66
/03/94	16:15	4.94	165.06	1751.00	2.64
/03/94	16:30	4.95	165.05	1766.00	2.63
/03/94	16:45	4.96	165.04	1781.00	2.62
/03/94	17:00	4.95	165.05	1796.00	2.60
/03/94	17:15	4.96	165.04	1811.00	2.59
/03/94	17:30	4.96	165.04	1826.00	2.58
/03/94	17:45	4.97	165.03	1841.00	2.56
/03/94	18:00	4.97	165.03	1856.00	2.55
/03/94	18:15	4.98	165.02	1871.00	2.54
/03/94	18:30	4.98	165.02	1886.00	2.53
/03/94	18:45	4.98	165.02	1901.00	2.51
/03/94	19:00	4.98	165.02	1916.00	2.50
/03/94	19:15	4.98	165.02	1931.00	2.49
/03/94	19:30	4.98	165.02	1946.00	2.48
/03/94	19:45	4.98	165.02	1961.00	2.47
/03/94	20:00	4.98	165.02	1976.00	2.46
/03/94	20:15	4.98	165.02	1991.00	2.45
/03/94	20:30	4.98	165.02	2006.00	2.44
/03/94	20:45	4.98	165.02	2021.00	2.43
/03/94	21:00	4.98	165.02	2036.00	2.41
/03/94	21:15	4.97	165.03	2051.00	2.40
/03/94	21:30	4.96	165.04	2066.00	2.39

Well 5 Recovery

/03/94	21:45	4.96	165.04	2081.00	2.38
/03/94	22:00	4.95	165.05	2096.00	2.37
/03/94	22:15	4.95	165.05	2111.00	2.36
/03/94	22:30	4.94	165.06	2126.00	2.35
/03/94	22:45	4.94	165.06	2141.00	2.35
/03/94	23:00	4.94	165.06	2156.00	2.34
/03/94	23:15	4.94	165.06	2171.00	2.33
/03/94	23:30	4.94	165.06	2186.00	2.32
/03/94	23:45	4.94	165.06	2201.00	2.31
/04/94	00:00	4.94	165.06	2216.00	2.30
/04/94	00:15	4.94	165.06	2231.00	2.29
/04/94	00:30	4.95	165.05	2246.00	2.28
/04/94	00:45	4.95	165.05	2261.00	2.27
/04/94	01:00	4.94	165.06	2276.00	2.27
/04/94	01:15	4.94	165.06	2291.00	2.26
/04/94	01:30	4.94	165.06	2306.00	2.25
/04/94	01:45	4.94	165.06	2321.00	2.24
/04/94	02:00	4.93	165.07	2336.00	2.23
/04/94	02:15	4.93	165.07	2351.00	2.23
/04/94	02:30	4.94	165.06	2366.00	2.22
/04/94	02:45	4.93	165.07	2381.00	2.21
/04/94	03:00	4.93	165.07	2396.00	2.20
/04/94	03:15	4.93	165.07	2411.00	2.19
/04/94	03:30	4.94	165.06	2426.00	2.19
/04/94	03:45	4.93	165.07	2441.00	2.18
/04/94	04:00	4.93	165.07	2456.00	2.17
/04/94	04:15	4.93	165.07	2471.00	2.17
/04/94	04:30	4.92	165.08	2486.00	2.16
/04/94	04:45	4.92	165.08	2501.00	2.15
/04/94	05:00	4.91	165.09	2516.00	2.14
/04/94	05:15	4.91	165.09	2531.00	2.14
/04/94	05:30	4.91	165.09	2546.00	2.13
/04/94	05:45	4.89	165.11	2561.00	2.12
/04/94	06:00	4.88	165.12	2576.00	2.12
/04/94	06:15	4.89	165.11	2591.00	2.11
/04/94	06:30	4.88	165.12	2606.00	2.11
/04/94	06:45	4.88	165.12	2621.00	2.10
/04/94	07:00	4.88	165.12	2636.00	2.09
/04/94	07:15	4.87	165.13	2651.00	2.09
/04/94	07:30	4.86	165.14	2666.00	2.08
/04/94	07:45	4.86	165.14	2681.00	2.07
/04/94	08:00	4.85	165.15	2696.00	2.07
/04/94	08:15	4.84	165.16	2711.00	2.06
/04/94	08:30	4.84	165.16	2726.00	2.06
/04/94	08:45	4.85	165.15	2741.00	2.05
/04/94	09:00	4.84	165.16	2756.00	2.04
/04/94	09:15	4.84	165.16	2771.00	2.04
/04/94	09:30	4.84	165.16	2786.00	2.03
/04/94	09:45	4.84	165.16	2801.00	2.03
/04/94	10:00	4.85	165.15	2816.00	2.02
/04/94	10:15	4.85	165.15	2831.00	2.02
/04/94	10:30	4.84	165.16	2846.00	2.01
/04/94	10:45	4.85	165.15	2861.00	2.01
/04/94	11:00	4.85	165.15	2876.00	2.00
/04/94	11:15	4.85	165.15	2891.00	2.00
/04/94	11:30	4.85	165.15	2906.00	1.99

Well 5 Recovery

/04/94	11:45	4.85	165.15	2921.00	1.99
/04/94	12:00	4.86	165.14	2936.00	1.98
/04/94	12:15	4.86	165.14	2951.00	1.98
/04/94	12:30	4.87	165.13	2966.00	1.97
/04/94	12:45	4.87	165.13	2981.00	1.97
/04/94	13:00	4.87	165.13	2996.00	1.96
/04/94	13:15	4.88	165.12	3011.00	1.96
/04/94	13:30	4.88	165.12	3026.00	1.95
/04/94	13:45	4.88	165.12	3041.00	1.95
/04/94	14:00	4.89	165.11	3056.00	1.94
/04/94	14:15	4.89	165.11	3071.00	1.94
/04/94	14:30	4.91	165.09	3086.00	1.93
/04/94	14:45	4.92	165.08	3101.00	1.93
/04/94	15:00	4.92	165.08	3116.00	1.92
/04/94	15:15	4.92	165.08	3131.00	1.92
/04/94	15:30	4.94	165.06	3146.00	1.92
/04/94	15:45	4.93	165.07	3161.00	1.91
/04/94	16:00	4.93	165.07	3176.00	1.91
/04/94	16:15	4.94	165.06	3191.00	1.90
/04/94	16:30	4.94	165.06	3206.00	1.90
/04/94	16:45	4.95	165.05	3221.00	1.89
/04/94	17:00	4.95	165.05	3236.00	1.89
/04/94	17:15	4.96	165.04	3251.00	1.89
/04/94	17:30	4.97	165.03	3266.00	1.88
/04/94	17:45	4.97	165.03	3281.00	1.88
/04/94	18:00	4.97	165.03	3296.00	1.87
/04/94	18:15	4.98	165.02	3311.00	1.87
/04/94	18:30	4.98	165.02	3326.00	1.87
/04/94	18:45	4.98	165.02	3341.00	1.86
/04/94	19:00	4.98	165.02	3356.00	1.86
/04/94	19:15	4.98	165.02	3371.00	1.85
/04/94	19:30	4.98	165.02	3386.00	1.85
/04/94	19:45	4.98	165.02	3401.00	1.85
/04/94	20:00	4.98	165.02	3416.00	1.84
/04/94	20:15	4.97	165.03	3431.00	1.84
/04/94	20:30	4.97	165.03	3446.00	1.84
/04/94	20:45	4.97	165.03	3461.00	1.83
/04/94	21:00	4.96	165.04	3476.00	1.83
/04/94	21:15	4.96	165.04	3491.00	1.82
/04/94	21:30	4.95	165.05	3506.00	1.82
/04/94	21:45	4.94	165.06	3521.00	1.82
/04/94	22:00	4.94	165.06	3536.00	1.81
/04/94	22:15	4.93	165.07	3551.00	1.81
/04/94	22:30	4.93	165.07	3566.00	1.81
/04/94	22:45	4.92	165.08	3581.00	1.80
/04/94	23:00	4.92	165.08	3596.00	1.80
/04/94	23:15	4.92	165.08	3611.00	1.80
/04/94	23:30	4.92	165.08	3626.00	1.79
/04/94	23:45	4.91	165.09	3641.00	1.79
/05/94	00:00	4.91	165.09	3656.00	1.79
/05/94	00:15	4.91	165.09	3671.00	1.78
/05/94	00:30	4.91	165.09	3686.00	1.78
/05/94	00:45	4.89	165.11	3701.00	1.78
/05/94	01:00	4.89	165.11	3716.00	1.78
/05/94	01:15	4.89	165.11	3731.00	1.77
/05/94	01:30	4.89	165.11	3746.00	1.77

Well 5 Recovery

/05/94	01:45	4.89	165.11	3761.00	1.77
/05/94	02:00	4.89	165.11	3776.00	1.76
/05/94	02:15	4.88	165.12	3791.00	1.76
/05/94	02:30	4.88	165.12	3806.00	1.76
/05/94	02:45	4.88	165.12	3821.00	1.75
/05/94	03:00	4.87	165.13	3836.00	1.75
/05/94	03:15	4.86	165.14	3851.00	1.75
/05/94	03:30	4.86	165.14	3866.00	1.74
/05/94	03:45	4.86	165.14	3881.00	1.74
/05/94	04:00	4.86	165.14	3896.00	1.74
/05/94	04:15	4.85	165.15	3911.00	1.74
/05/94	04:30	4.85	165.15	3926.00	1.73
/05/94	04:45	4.85	165.15	3941.00	1.73
/05/94	05:00	4.85	165.15	3956.00	1.73
/05/94	05:15	4.84	165.16	3971.00	1.73
/05/94	05:30	4.84	165.16	3986.00	1.72
/05/94	05:45	4.83	165.17	4001.00	1.72
/05/94	06:00	4.83	165.17	4016.00	1.72
/05/94	06:15	4.83	165.17	4031.00	1.71
/05/94	06:30	4.82	165.18	4046.00	1.71
/05/94	06:45	4.82	165.18	4061.00	1.71
/05/94	07:00	4.82	165.18	4076.00	1.71
/05/94	07:15	4.82	165.18	4091.00	1.70
/05/94	07:30	4.81	165.19	4106.00	1.70
/05/94	07:45	4.81	165.19	4121.00	1.70
/05/94	08:00	4.81	165.19	4136.00	1.70
/05/94	08:15	4.81	165.19	4151.00	1.69
/05/94	08:30	4.80	165.20	4166.00	1.69
/05/94	08:45	4.80	165.20	4181.00	1.69
/05/94	09:00	4.80	165.20	4196.00	1.69
/05/94	09:15	4.81	165.19	4211.00	1.68
/05/94	09:30	4.80	165.20	4226.00	1.68
/05/94	09:45	4.80	165.20	4241.00	1.68
/05/94	10:00	4.65	165.35	4256.00	1.68
/05/94	10:15	4.66	165.34	4271.00	1.67
/05/94	10:30	4.65	165.35	4286.00	1.67
/05/94	10:45	4.81	165.19	4301.00	1.67
/05/94	11:00	4.81	165.19	4316.00	1.67
/05/94	11:15	4.81	165.19	4331.00	1.66
/05/94	11:30	4.81	165.19	4346.00	1.66
/05/94	11:45	4.81	165.19	4361.00	1.66
/05/94	12:00	4.82	165.18	4376.00	1.66
/05/94	12:15	4.82	165.18	4391.00	1.66
/05/94	12:30	4.82	165.18	4406.00	1.65
/05/94	12:45	4.83	165.17	4421.00	1.65
/05/94	13:00	4.83	165.17	4436.00	1.65
/05/94	13:15	4.84	165.16	4451.00	1.65
/05/94	13:30	4.84	165.16	4466.00	1.64
/05/94	13:45	4.85	165.15	4481.00	1.64
/05/94	14:00	4.86	165.14	4496.00	1.64
/05/94	14:15	4.86	165.14	4511.00	1.64
/05/94	14:30	4.86	165.14	4526.00	1.64
/05/94	14:45	4.88	165.12	4541.00	1.63
/05/94	15:00	4.88	165.12	4556.00	1.63
/05/94	15:15	4.88	165.12	4571.00	1.63
/05/94	15:30	4.89	165.11	4586.00	1.63

Well 5 Recovery

'05/94	15:45	4.88	165.12	4601.00	1.63
'05/94	16:00	4.89	165.11	4616.00	1.62
'05/94	16:15	4.89	165.11	4631.00	1.62
'05/94	16:30	4.89	165.11	4646.00	1.62
'05/94	16:45	4.89	165.11	4661.00	1.62
'05/94	17:00	4.91	165.09	4676.00	1.62
'05/94	17:15	4.91	165.09	4691.00	1.61
'05/94	17:30	4.91	165.09	4706.00	1.61
'05/94	17:45	4.92	165.08	4721.00	1.61
'05/94	18:00	4.92	165.08	4736.00	1.61
'05/94	18:15	4.92	165.08	4751.00	1.61
'05/94	18:30	4.92	165.08	4766.00	1.60
'05/94	18:45	4.93	165.07	4781.00	1.60
'05/94	19:00	4.92	165.08	4796.00	1.60
'05/94	19:15	4.93	165.07	4811.00	1.60
'05/94	19:30	4.93	165.07	4826.00	1.60
'05/94	19:45	4.92	165.08	4841.00	1.59
'05/94	20:00	4.92	165.08	4856.00	1.59
'05/94	20:15	4.92	165.08	4871.00	1.59
'05/94	20:30	4.92	165.08	4886.00	1.59
'05/94	20:45	4.92	165.08	4901.00	1.59
'05/94	21:00	4.92	165.08	4916.00	1.59
'05/94	21:15	4.91	165.09	4931.00	1.58
'05/94	21:30	4.91	165.09	4946.00	1.58
'05/94	21:45	4.89	165.11	4961.00	1.58
'05/94	22:00	4.91	165.09	4976.00	1.58
'05/94	22:15	4.89	165.11	4991.00	1.58
'05/94	22:30	4.89	165.11	5006.00	1.58
'05/94	22:45	4.89	165.11	5021.00	1.57
'05/94	23:00	4.88	165.12	5036.00	1.57
'05/94	23:15	4.88	165.12	5051.00	1.57
'05/94	23:30	4.89	165.11	5066.00	1.57
'05/94	23:45	4.89	165.11	5081.00	1.57
'06/94	00:00	4.89	165.11	5096.00	1.57
'06/94	00:15	4.88	165.12	5111.00	1.56
'06/94	00:30	4.89	165.11	5126.00	1.56
'06/94	00:45	4.89	165.11	5141.00	1.56
'06/94	01:00	4.88	165.12	5156.00	1.56
'06/94	01:15	4.89	165.11	5171.00	1.56
'06/94	01:30	4.89	165.11	5186.00	1.56
'06/94	01:45	4.89	165.11	5201.00	1.55
'06/94	02:00	4.88	165.12	5216.00	1.55
'06/94	02:15	4.89	165.11	5231.00	1.55
'06/94	02:30	4.89	165.11	5246.00	1.55
'06/94	02:45	4.89	165.11	5261.00	1.55
'06/94	03:00	4.89	165.11	5276.00	1.55
'06/94	03:15	4.89	165.11	5291.00	1.54
'06/94	03:30	4.89	165.11	5306.00	1.54
'06/94	03:45	4.89	165.11	5321.00	1.54
'06/94	04:00	4.88	165.12	5336.00	1.54
'06/94	04:15	4.88	165.12	5351.00	1.54
'06/94	04:30	4.88	165.12	5366.00	1.54
'06/94	04:45	4.87	165.13	5381.00	1.54
'06/94	05:00	4.87	165.13	5396.00	1.53
'06/94	05:15	4.86	165.14	5411.00	1.53
'06/94	05:30	4.86	165.14	5426.00	1.53

/06/94	05:45	4.85	165.15	5441.00	1.53
/06/94	06:00	4.85	165.15	5456.00	1.53
/06/94	06:15	4.85	165.15	5471.00	1.53
/06/94	06:30	4.85	165.15	5486.00	1.52
/06/94	06:45	4.84	165.16	5501.00	1.52
/06/94	07:00	4.85	165.15	5516.00	1.52
/06/94	07:15	4.84	165.16	5531.00	1.52
/06/94	07:30	4.83	165.17	5546.00	1.52
/06/94	07:45	4.83	165.17	5561.00	1.52
/06/94	08:00	4.83	165.17	5576.00	1.52
/06/94	08:15	4.83	165.17	5591.00	1.52
/06/94	08:30	4.83	165.17	5606.00	1.51
/06/94	08:45	4.83	165.17	5621.00	1.51
/06/94	09:00	4.83	165.17	5636.00	1.51
/06/94	09:15	4.83	165.17	5651.00	1.51
/06/94	09:30	4.83	165.17	5666.00	1.51
/06/94	09:45	4.83	165.17	5681.00	1.51
/06/94	10:00	4.84	165.16	5696.00	1.51
/06/94	10:15	4.84	165.16	5711.00	1.50
/06/94	10:30	4.84	165.16	5726.00	1.50
/06/94	10:45	4.84	165.16	5741.00	1.50

JOHN W. SHOMAKER, INC.
GEOLOGY-HYDROGEOLOGY
2703 BROADBENT PARKWAY NE, SUITE D
ALBUQUERQUE, NEW MEXICO 87107
(505) 345-3407

Page [redacted] 6

Location no. La Bajada

Well no. 6

START RATE PUMP TEST
Description of measuring point: See Page 1

Elevation: GL____MP____

Date	Clock time	Elapse t, min	Water level, MP	T or T/T'	Manometer Meter	Q, gpm	Remarks
	B:32		[redacted]		214752		
	13:34		[redacted]				
	13:35:30		Start Pump				
	13:36	0.5	218.58			8sec 18.75	
	13:36:30	1	219.91			9sec 16.66	
	13:37	1.5	221.00			9sec 16.66	
	13:37:30	2	222.11			8sec 18.75	
	13:38	2.5	222.95			8sec 18.75	
	13:38:30	3	223.51			8sec 18.75	
	13:39	3.5	223.70			8sec 18.75	
	13:39:30	4	223.65			9sec 16.66	
	13:40	4.5	223.92			8sec 18.75	
	13:41:30	6	224.24			8sec 18.75	
	13:42:30	7	224.33			8sec 18.75	discharge ↓
	13:43:30	8	224.49			8sec 18.75	
	13:44:30	9	224.64			9sec 16.66	
	13:45:30	10	224.54			8sec 18.75	
	13:47:30	12	224.67			8sec 18.75	
	13:49:30	14	224.70			8sec 18.75	
	13:51:30	16	224.80			8 18.75	
	13:52:30	17	—		215024.5	9sec 16.66	open valve
	13:53:30	18	224.80			8sec 18.75	
	13:55:30	20	225.01			8sec 18.75	
	13:57:30	22	225.09			8sec 18.75	

Measurements made by: JBB

JOHN W. SHOMAKER, INC.
GEOLOGY-HYDROGEOLOGY
2703 BROADBENT PARKWAY NE, SUITE D
ALBUQUERQUE, NEW MEXICO 87107
(505) 345-3407

Page 3 of 6

Location no. La Bajada

Well no. 6

CONST. RATE PUMP TEST
Description of measuring point: See page 1

Elevation: GL____MP____

Date	Clock time	Elapse t, min	Water level, MP	T or T/T'	Manometer Meter	Q, gpm	Remarks
6-23	13:59:30	24	225.12			8sec 18.75	
	14:01:30	26	225.15			8sec 18.75	
	14:03:30	28	225.15			8.5sec 17.64	Adjust valve
	14:04:30	29	—			8sec 18.75	
	14:05:30	30	225.21			8sec 18.75	
	14:07:30	32	225.25			8sec 18.75	
	14:09:30	34	225.32			9sec 16.66	
	14:11:30	36	225.31			8sec 18.75	
	14:15:30	40	225.41			8sec 18.75	
	14:20:30	45	225.44			7.5sec 20	adjust valve
	14:26:30	46				8sec 18.75	
	14:26:30	51	225.43			7.5sec 20	adjust valve
	14:27:30	52				8sec 18.75	
	14:35:30	60	225.41			8sec 18.75	
	14:50:30	75	225.45			8sec 18.75	
	15:05:30	90	225.49			8sec 18.75	
	15:20:30	105	225.52			8sec 18.75	
	15:21:30	106			216490.5		
	15:33:30	120	225.57			8sec 18.75	
	15:50:30	139	225.57			8sec 18.75	
	16:05:30	160	225.58			8sec 18.75	
	16:35:30	190	225.57			8sec 18.75	
	17:05:30	210	225.61			8sec 18.75	
	17:30:30	256	225.65			8sec 18.75	
	18:50:30	315	225.62			8sec 18.75	
	19:45:09	368			220790.0		

Measurements made by: JBB

JOHN W. SHOMAKER, INC.
GEOLOGY-HYDROGEOLOGY
2703 BROADBENT PARKWAY NE, SUITE D
ALBUQUERQUE, NEW MEXICO 87107
(505) 345-3407

Page 4 of 6

Location no. Le Bejada

Well no. 6

Const. Rate Pump Test

Description of measuring point: See page 1

Elevation: GL ____ MP ____

Date	Clock time	Elapse t, min	Water level, MP	T or T/T'	~~Manometer~~ meter	Q, gpm	Remarks
	19:50:30	375	225.63			18.75	
	20:50:30	435	225.67			18.75	
	20:52:48	437:48			122193.0		
	22:00:00	505	225.72			18.75	
	23:05:30	568	225.75			18.75	
	1:44:30	729 -	225.80			18.75	
	4:05:30	868	225.81			18.75	
	6:05:30	988	225.83			18.75	
	9:10:30	1175	225.85			18.75	
	9:11:56	1176:56			023400.0		
	10:30:30	1255	225.86			18.75	
	12:12:30	1357 -	225.85			18.75	
	14:30:30	1495	225.82			18.75	
	14:45:30	1510:30	[illegible]		023945.6	[illegible]	
	16:05:30	1590 -	225.79			18.75	
	17:43:30	1688	225.76			18.75	
	19:23:30	1788 -	225.76			18.75	
	[illegible]	1849	225.79			18.75	
	23:25:30	2030 -	225.81			18.75	
	3:25:30	2268 -	225.96			18.75	
	6:27:30	2452 -	225.97			18.75	
	6:29:21	2454:21			025481.0		
	8:11:30	2556 -	225.86			~~75~~ 20	adjust valve
	8:22:04	2567:04			025565.0		
	8:33:30	2578	225.78			18.75	
	9:28:30	2633	226.55			15 20	adjust valve

Measurements made by: JBB

JOHN W. SHOMAKER, INC.
GEOLOGY-HYDROGEOLOGY
2703 BROADBENT PARKWAY NE, SUITE D
ALBUQUERQUE, NEW MEXICO 87107
(505) 345-3407

Page 5 of 6

Location no. Le Bejada

Well no. 6

Recovery

Description of measuring point: See page 1

Elevation: GL ____ MP ____

Date	Clock time	Elapse time	Water level, MP	T or T/T'	~~Manometer~~ meter	Q, gpm	Remarks
6-25-94	10:16:30	2681	225.97			18.75	
"	11:23:30	2748	225.50			18.75	
	12:22:30	2807	225.80			18.75	
	12:24:30	2809			0260625		
	13:35:30		Shut off pump		026176.49		
	13:35:35	00:00:09	222.70				
	13:35:54	00:00:24	218.80				
	13:36:08	00:00:38	216.80				
	13:36:24	00:00:54	215.10				
	13:36:40	00:01:10	214.10				
	13:37:06	00:01:06	213.30				
	13:37:38	00:02:08	212.80				
	13:38:00	00:02:30	212.50				
	13:38:30	00:03:00	212.30				
	13:38:53	00:03:23	212.20				
	13:39:56	00:04:26	212.00				
	13:40:41	00:05:21	211.90				
	13:41:15	00:05:45	211.85				
	13:41:52	00:06:22	211.80				
	13:43:20	00:07:50	211.70				
	13:44:36	00:09:06	211.65				
	13:45:30	00:10:00	211.60				
	13:46:34	00:11:04	211.55				
	13:48:58	00:13:28	211.50				
	13:50:45	00:15:15	211.45				
	13:53:23	00:17:53	211.40				
	13:55:19	00:19:49	211.35				
	14:00:05	00:24:35	211.30				
	14:04:33	00:29:03	Set transducer				

Measurements made by: JBB

a Bajada Well 6 Recovery

ate Tuesday June 28, 1994 6:33 AM
lotFile C:\T3\LB6RC01.PRN
ataFile C:\T3\LB6RC.HEX

ime of First Log in Specified Window
4509.79 0.79

ate	Time	15 PSIG ft water	elapsed time min	depth to water ft	t/t'
6/25/94			0.00	225.80	
6/25/94			0.15	222.70	19201.00
6/25/94			0.40	218.80	7201.00
6/25/94			0.63	216.80	4572.43
6/25/94			0.90	215.10	3201.00
6/25/94			1.17	214.10	2462.54
6/25/94			1.50	213.30	1921.00
6/25/94			2.13	212.80	1353.11
6/25/94			2.50	212.50	1153.00
6/25/94			3.00	212.30	961.00
6/25/94			3.38	212.20	853.07
6/25/94			4.43	212.00	651.11
6/25/94			5.35	211.90	539.32
6/25/94			5.75	211.85	501.87
6/25/94			6.37	211.80	453.12
6/25/94			7.83	211.70	368.82
6/25/94			9.10	211.65	317.48
6/25/94			10.00	211.60	289.00
6/25/94			11.00	211.55	262.82
6/25/94			13.50	211.50	214.33
6/25/94			15.25	211.45	189.85
6/25/94			18.00	211.40	161.00
6/25/94			20.00	211.35	145.00
6/25/94			24.50	211.30	118.55
6/25/94	14:15	23.38	30.00	211.24	97.00
6/25/94	14:30	23.47	45.00	211.16	65.00
6/25/94	14:45	23.52	60.00	211.10	49.00
6/25/94	15:00	23.57	75.00	211.05	39.40
6/25/94	15:15	23.62	90.00	211.00	33.00
6/25/94	15:30	23.66	105.00	210.96	28.43
6/25/94	15:45	23.69	120.00	210.93	25.00
6/25/94	16:00	23.72	135.00	210.90	22.33
6/25/94	16:15	23.75	150.00	210.87	20.20
6/25/94	16:30	23.78	165.00	210.84	18.45
6/25/94	16:45	23.79	180.00	210.83	17.00
6/25/94	17:00	23.81	195.00	210.81	15.77
6/25/94	17:15	23.83	210.00	210.79	14.71
6/25/94	17:30	23.85	225.00	210.77	13.80
6/25/94	17:45	23.87	240.00	210.76	13.00
6/25/94	18:00	23.88	255.00	210.74	12.29
6/25/94	18:15	23.90	270.00	210.72	11.67
6/25/94	18:30	23.91	285.00	210.71	11.11
6/25/94	18:45	23.91	300.00	210.71	10.60
6/25/94	19:00	23.92	315.00	210.70	10.14
6/25/94	19:15	23.94	330.00	210.68	9.73

6/25/94	19:30	23.94	345.00	210.68	9.35
6/25/94	19:45	23.94	360.00	210.68	9.00
6/25/94	20:00	23.95	375.00	210.67	8.68
6/25/94	20:15	23.95	390.00	210.67	8.38
6/25/94	20:30	23.96	405.00	210.66	8.11
6/25/94	20:45	23.96	420.00	210.66	7.86
6/25/94	21:00	23.96	435.00	210.66	7.62
6/25/94	21:15	23.96	450.00	210.66	7.40
6/25/94	21:30	23.97	465.00	210.65	7.19
6/25/94	21:45	23.96	480.00	210.66	7.00
6/25/94	22:00	23.96	495.00	210.66	6.82
6/25/94	22:15	23.97	510.00	210.65	6.65
6/25/94	22:30	23.97	525.00	210.65	6.49
6/25/94	22:45	23.97	540.00	210.65	6.33
6/25/94	23:00	23.97	555.00	210.65	6.19
6/25/94	23:15	23.97	570.00	210.65	6.05
6/25/94	23:30	23.97	585.00	210.65	5.92
6/25/94	23:45	23.97	600.00	210.65	5.80
6/26/94	00:00	23.97	615.00	210.65	5.68
6/26/94	00:15	23.97	630.00	210.65	5.57
6/26/94	00:30	23.97	645.00	210.65	5.47
6/26/94	00:45	23.97	660.00	210.65	5.36
6/26/94	01:00	23.97	675.00	210.65	5.27
6/26/94	01:15	23.97	690.00	210.65	5.17
6/26/94	01:30	23.98	705.00	210.64	5.09
6/26/94	01:45	23.98	720.00	210.64	5.00
6/26/94	02:00	23.98	735.00	210.64	4.92
6/26/94	02:15	23.98	750.00	210.64	4.84
6/26/94	02:30	23.98	765.00	210.64	4.76
6/26/94	02:45	24.00	780.00	210.63	4.69
6/26/94	03:00	24.00	795.00	210.63	4.62
6/26/94	03:15	24.01	810.00	210.61	4.56
6/26/94	03:30	24.01	825.00	210.61	4.49
6/26/94	03:45	24.01	840.00	210.61	4.43
6/26/94	04:00	24.02	855.00	210.60	4.37
6/26/94	04:15	24.02	870.00	210.60	4.31
6/26/94	04:30	24.02	885.00	210.60	4.25
6/26/94	04:45	24.02	900.00	210.60	4.20
6/26/94	05:00	24.03	915.00	210.59	4.15
6/26/94	05:15	24.03	930.00	210.59	4.10
6/26/94	05:30	24.03	945.00	210.59	4.05
6/26/94	05:45	24.03	960.00	210.59	4.00
6/26/94	06:00	24.03	975.00	210.59	3.95
6/26/94	06:15	24.03	990.00	210.59	3.91
6/26/94	06:30	24.03	1005.00	210.59	3.87
6/26/94	06:45	24.03	1020.00	210.59	3.82
6/26/94	07:00	24.03	1035.00	210.59	3.78
6/26/94	07:15	24.03	1050.00	210.59	3.74
6/26/94	07:30	24.03	1065.00	210.59	3.70
6/26/94	07:45	24.02	1080.00	210.60	3.67
6/26/94	08:00	24.02	1095.00	210.60	3.63
6/26/94	08:15	24.02	1110.00	210.60	3.59
6/26/94	08:30	24.02	1125.00	210.60	3.56
6/26/94	08:45	24.01	1140.00	210.61	3.53
6/26/94	09:00	24.01	1155.00	210.61	3.49
6/26/94	09:15	24.01	1170.00	210.61	3.46

La Bajada Well 6 Recovery

)6/26/94	09:30	24.01	1185.00	210.61	3.43
)6/26/94	09:45	24.01	1200.00	210.61	3.40
)6/26/94	10:00	24.01	1215.00	210.61	3.37
)6/26/94	10:15	24.01	1230.00	210.61	3.34
)6/26/94	10:30	24.01	1245.00	210.61	3.31
)6/26/94	10:45	24.01	1260.00	210.61	3.29
)6/26/94	11:00	24.01	1275.00	210.61	3.26
)6/26/94	11:15	24.01	1290.00	210.61	3.23
)6/26/94	11:30	24.01	1305.00	210.61	3.21
)6/26/94	11:45	24.01	1320.00	210.61	3.18
)6/26/94	12:00	24.02	1335.00	210.60	3.16
)6/26/94	12:15	24.02	1350.00	210.60	3.13
)6/26/94	12:30	24.02	1365.00	210.60	3.11
)6/26/94	12:45	24.03	1380.00	210.59	3.09
)6/26/94	13:00	24.03	1395.00	210.59	3.06
)6/26/94	13:15	24.03	1410.00	210.59	3.04
)6/26/94	13:30	24.04	1425.00	210.58	3.02
)6/26/94	13:45	24.04	1440.00	210.58	3.00
)6/26/94	14:00	24.04	1455.00	210.58	2.98
)6/26/94	14:15	24.04	1470.00	210.58	2.96
)6/26/94	14:30	24.05	1485.00	210.57	2.94
)6/26/94	14:45	24.05	1500.00	210.57	2.92
)6/26/94	15:00	24.05	1515.00	210.57	2.90
)6/26/94	15:15	24.06	1530.00	210.56	2.88
)6/26/94	15:30	24.06	1545.00	210.56	2.86
)6/26/94	15:45	24.07	1560.00	210.55	2.85
)6/26/94	16:00	24.07	1575.00	210.55	2.83
)6/26/94	16:15	24.08	1590.00	210.54	2.81
)6/26/94	16:30	24.08	1605.00	210.54	2.79
)6/26/94	16:45	24.08	1620.00	210.54	2.78
)6/26/94	17:00	24.09	1635.00	210.53	2.76
)6/26/94	17:15	24.10	1650.00	210.52	2.75
)6/26/94	17:30	24.10	1665.00	210.52	2.73
)6/26/94	17:45	24.11	1680.00	210.51	2.71
)6/26/94	18:00	24.11	1695.00	210.51	2.70
)6/26/94	18:15	24.11	1710.00	210.51	2.68
)6/26/94	18:30	24.11	1725.00	210.51	2.67
)6/26/94	18:45	24.11	1740.00	210.51	2.66
)6/26/94	19:00	24.13	1755.00	210.50	2.64
)6/26/94	19:15	24.13	1770.00	210.50	2.63
)6/26/94	19:30	24.13	1785.00	210.50	2.61
)6/26/94	19:45	24.14	1800.00	210.48	2.60
)6/26/94	20:00	24.13	1815.00	210.50	2.59
)6/26/94	20:15	24.14	1830.00	210.48	2.57
)6/26/94	20:30	24.14	1845.00	210.48	2.56
)6/26/94	20:45	24.14	1860.00	210.48	2.55
)6/26/94	21:00	24.14	1875.00	210.48	2.54
)6/26/94	21:15	24.13	1890.00	210.50	2.52
)6/26/94	21:30	24.13	1905.00	210.50	2.51
)6/26/94	21:45	24.13	1920.00	210.50	2.50
)6/26/94	22:00	24.13	1935.00	210.50	2.49
)6/26/94	22:15	24.11	1950.00	210.51	2.48
)6/26/94	22:30	24.11	1965.00	210.51	2.47
)6/26/94	22:45	24.11	1980.00	210.51	2.45
)6/26/94	23:00	24.11	1995.00	210.51	2.44
)6/26/94	23:15	24.10	2010.00	210.52	2.43

6/26/94	23:30	24.10	2025.00	210.52	2.42
6/26/94	23:45	24.10	2040.00	210.52	2.41
6/27/94	00:00	24.10	2055.00	210.52	2.40
6/27/94	00:15	24.09	2070.00	210.53	2.39
6/27/94	00:30	24.09	2085.00	210.53	2.38
6/27/94	00:45	24.09	2100.00	210.53	2.37
6/27/94	01:00	24.09	2115.00	210.53	2.36
6/27/94	01:15	24.08	2130.00	210.54	2.35
6/27/94	01:30	24.08	2145.00	210.54	2.34
6/27/94	01:45	24.08	2160.00	210.54	2.33
6/27/94	02:00	24.08	2175.00	210.54	2.32
6/27/94	02:15	24.08	2190.00	210.54	2.32
6/27/94	02:30	24.08	2205.00	210.54	2.31
6/27/94	02:45	24.08	2220.00	210.54	2.30
6/27/94	03:00	24.07	2235.00	210.55	2.29
6/27/94	03:15	24.08	2250.00	210.54	2.28
6/27/94	03:30	24.07	2265.00	210.55	2.27
6/27/94	03:45	24.07	2280.00	210.55	2.26
6/27/94	04:00	24.07	2295.00	210.55	2.25
6/27/94	04:15	24.07	2310.00	210.55	2.25
6/27/94	04:30	24.07	2325.00	210.55	2.24
6/27/94	04:45	24.07	2340.00	210.55	2.23
6/27/94	05:00	24.07	2355.00	210.55	2.22
6/27/94	05:15	24.07	2370.00	210.55	2.22
6/27/94	05:30	24.07	2385.00	210.55	2.21
6/27/94	05:45	24.07	2400.00	210.55	2.20
6/27/94	06:00	24.07	2415.00	210.55	2.19
6/27/94	06:15	24.07	2430.00	210.55	2.19
6/27/94	06:30	24.07	2445.00	210.55	2.18
6/27/94	06:45	24.07	2460.00	210.55	2.17
6/27/94	07:00	24.07	2475.00	210.55	2.16
6/27/94	07:15	24.07	2490.00	210.55	2.16
6/27/94	07:30	24.07	2505.00	210.55	2.15
6/27/94	07:45	24.06	2520.00	210.56	2.14
6/27/94	08:00	24.07	2535.00	210.55	2.14
6/27/94	08:15	24.06	2550.00	210.56	2.13
6/27/94	08:30	24.06	2565.00	210.56	2.12
6/27/94	08:45	24.06	2580.00	210.56	2.12
6/27/94	09:00	24.06	2595.00	210.56	2.11
6/27/94	09:15	24.06	2610.00	210.56	2.10
6/27/94	09:30	24.05	2625.00	210.57	2.10
6/27/94	09:45	24.05	2640.00	210.57	2.09
6/27/94	10:00	24.05	2655.00	210.57	2.08
6/27/94	10:15	24.05	2670.00	210.57	2.08
6/27/94	10:30	24.04	2685.00	210.58	2.07
6/27/94	10:45	24.04	2700.00	210.58	2.07
6/27/94	11:00	24.04	2715.00	210.58	2.06
6/27/94	11:15	24.04	2730.00	210.58	2.05

JOHN W. SHOMAKER, INC.
GEOLOGY-HYDROGEOLOGY
2703 BROADBENT PARKWAY NE, SUITE D
ALBUQUERQUE, NEW MEXICO 87107
(505) 345-3107

Page 1 of ___

Location no. LA BAJADA

Well no. 7

2. Rate Pump Test

cription of measuring point: Top 1" pvc 2.35 ft above GL

vation: GL ____ MP ____

Pump Set @ 440 ft

e	Clock time		Water level, MP	T or T/T'	Manometer	Q, gpm Bucket	Remarks GPM
					296927		
	12:11		140.63			—	
	12:12						
	:13	1	144.20			20sec/2.5	5
		1.5	147.42				
		2	151.02				
	:15	3	154.35			33 sec/2.5	4.6 gpm
	:16	4	158.35			35 sec/2.5	4.2 gpm
		5	162.00			37sec/2.5	4.1 gpm
	12:18	6	165.01			36sec/2.5	4.2 gpm
		7	168.32				
		8	170.76			45sec/2.5	3.3 gpm
		9	171.20			60sec/2.5	2.5
	:22	10	172.13			65sec/2.5	2.3
		11	175.50			30sec/2.5	5
		12	180.41			25sec/2.5	6
		13	184.10			28sec/2.5	5.4
		14	187.10			32sec/2.5	4.7
		15	190.40			34sec/2.5	4.4
		16	192.00			32sec/2.5	4.7
		17	195.20			37 sec/2.5	4.1
	12:30	18	197.95				
		19	200.30			37sec/2.5	4.1
	12:34	22	206.80				
	:36	24	209.20			38 sec/2.5	4

is noted as "bucket" and "meter"
e "bucket" values to calculate actual Q. Meter readings
are not correct and are used for field reference only.

Measurements made by: JWP

JOHN W. SHOMAKER, INC.
GEOLOGY-HYDROGEOLOGY
2703 BROADBENT PARKWAY NE, SUITE D
ALBUQUERQUE, NEW MEXICO 87107
(505) 345-3107

Page 2 of ___

Location no. LA BAJADA

Well no. 7

Var. Rate Pump Test

Description of measuring point: See Pg 1

Elevation: GL ____ MP ____

Date	Clock time		Water level, MP	T or T/T'	Manometer	Q, gpm (circled) Bucket	Remarks overlet
7-13	12:39	27	214.45				
	12:40	28	215.68			4.1	37 sec/2.5
	12:44	32	221.38				
	12:45	33	222.60				
	12:46	34	224.15				
	12:49	37	227.80			3.4	44sec/15
	12:50	38	228.60			3.7	41sec/2.5
	12:52	40	231.10			3.8	40sec/2.5
	12:54	42	233.58			3.9	39sec/2.5
	12:57	45	236.64			4.1	37sec/2.5
	12:59	47	239.30			3.9	39sec/2.5
	13:02	50	242.11			4	38sec/2.5
clock reset	13:05 / 12:07	~~53~~ 54	247.35				
	13:09	~~57~~ 56	248.90			3.7	41sec/2.5
	13:13	61 60	251.90			3.7	41sec/2.5
	13:16	64 63	254.50		297139	3.8	40sec/2.5
	13:19	67 66	257.10			4.2	35 sec/2.5
	13:23	71 70	261.50			4.1	37sec/2.5
	13:28	76 75	261.63			4.1	37sec/2.5
	13:33	81 80	264.80			4.2	36 sec/2.5
	13:40	88 87	271.40			3.8	40sec/2.5
	13:46	94 93	274.81		297243	4	38 sec/2.5
	13:55	103 102	280.78			4.2	36 sec/2.5
	14:05	113 112	287.09		3 psi M	50sec/2.5gal	Temp water Cond 400
	14:10	118 117	290.20			30sec/2.5gal	5 gpm
	14:19	127 126	309.91			32sec/2.5gal	4.7

Measurements made by: JWP

JOHN W. SHOMAKER, INC.
GEOLOGY-HYDROGEOLOGY
2703 BROADBENT PARKWAY NE, SUITE D
ALBUQUERQUE, NEW MEXICO 87107
(505) 345-3407

Page 3 of ___

Location no. LA BASADA

Well no. 7

Var. Rate Pump Test

Description of measuring point: See Pg 1 — pump @ 440'

Elevation: GL ____ MP ____

Date	Clock time		Water level, MP	T or T/T' meter	Manometer Q, GPM	Q, gpm bucket	Remarks
94	14:27	135	312.55		4.1	37 sec/2.5 gal	pink cloudy water
	14:36	144	317.60		3.8	40 sec/2.5 gal	
	14:49	157	331.90		4	38 sec/2.5	begin sand @ 14:45
	15:00	168	342.75		3.8	40 sec/2.5	1 ml sand @ 15:00 Sp.Cond 450 T 66°
	15:17	185	357.55		3.9	39 sec/2.5	
	15:20				2.1	70 sec/2.5	ADJUST FLOW
	15:27	195	353.20		3	50 sec/2.5	
	15:33	201	352.29		3.1	98 sec/2.5	(43 sec = 3.5 gpm)
	15:37	205	352.68		3.3	46 sec/2.5	
	15:41	209	353.05		3	50 sec/2.5	
	15:44	212	354.59		3.2	47 sec/2.5	
	15:49	217	359.68		3.7	41 sec/2.5	
	15:53	221	360.91		3.4	44 sec/2.5	20 sec/gal meter
	16:01	229	364.15		3.5	43 sec/2.5	
	16:08	236	365.90		299700	44 sec/2.5	→ 3.4 gpm
	16:13	241	367.28		3.4	44 sec/2.5	
	16:26	254	370.60		3.5	43 sec/2.5	
	16:36	264	373.25		3.5	43 sec/2.5	hazy water Temp 66°F SC 375
	16:50	278	377.34		3.3	45 sec/2.5	
	17:07	295	382.82		3.5	43 sec/2.5	
	17:23	311	388.58		3.3	45 sec/2.5	Avg Q from 17:19 = 3.9 gpm
	17:31	319	391.88		3.6	48 sec/2.5	ADJUST FLOW
	17:34	322					
	17:34:30	322.5	392.97		2.7	56 sec/2.5	
	17:36:30	324.5	392.02				

TD 400' @ 43 sec/2.5 gal (3.5 gpm)
continue to draw down, pinch back to 50 sec/2.5 gal (3 gpm)

Measurements made by: JWP

meter reads 23 sec/gal
for actual flow of 3 gpm or 50 sec/2.5 gal in bucket

JOHN W. SHOMAKER, INC.
GEOLOGY-HYDROGEOLOGY
2703 BROADBENT PARKWAY NE, SUITE D
ALBUQUERQUE, NEW MEXICO 87107
(505) 345-3407

Page 4 of ___

Location no. LA BASADA

Well no. 7

Var. Rate Pump Test

Description of measuring point: Top of 1" pvc 2.35 ft AGL

Elevation: GL ____ MP ____

Date	Clock time		Water level, MP	T or T/T' meter	Manometer Q, GPM	Q, gpm bucket	Remarks
7-13-94	17:38:30	326.5	391.68		2.8	54 sec/2.5	muddy
	17:41	329	391.00		2.8	54 sec/2.5	
	17:43	331	390.91		3.1	48 sec/2.5	
	17:45:30	333.5	391.30		3	50 sec/2.5	23 sec/gal
	17:50	338	391.11		2.8	53 sec/2.5	
	17:55	343	391.02		2.9	51 sec/2.5	24 sec/gal
	18:01	349	390.41		2.9	51 sec/2.5	23 sec/gal
	18:06	354	388.91		2.5	60 sec/2.5	20 sec/gal
	18:10	358	389.34		3	50 sec/2.5	
	18:15	363	389.52		3.1	49 sec/2.5	
	18:40	388	382.30		2.7	56 sec/2.5	
	18:48	396	381.82		2.9	51 sec/2.5	
	18:50	398	381.83		3	50 sec/2.5	
	19:12	420	383.78		3	50 sec/2.5	T 66° F Cond 380
	19:41	449	384.85		2.9	51 sec/2.5	
	20:07	475	385.68		298350	50 sec/2.5	
	20:34	502	380.62		2.6	58 sec/2.5	
	20:50	518	380.75		3	50 sec/2.5	
	21:07	535	381.10		3	50 sec/2.5	
	21:51	579	378.95		2.9	52 sec/2.5	
	21:55	583	379.45		3	50 sec/2.5	
TVM	22:30	618	382.28		3	50 sec/2.5	23 sec/gal
	23:00	648	383.43				23 sec/gal
	23:30	678	383.90		3	50 sec/2.5	23 sec/gal
	24:00	708	384.63				22.5 sec/gal
	24:45	753	382.31				23 sec/gal

21:13 Measurements
Temp 66°F Sp Cond 400
Nitrate 0 mg/l Nitrite 0 mg/l (p
200 mg/l total Alkalinity
<1 mg/l Fe pH 7.64 @ 19.8
Measurements made by: JWP / TVM

(1 spl filtered @ 20:30 1 liter bottle
1 spl unfiltered @ 20:40 1 gal bottle

JOHN W. SHOMAKER, INC.
GEOLOGY-HYDROGEOLOGY
2703 BROADBENT PARKWAY NE, SUITE D
ALBUQUERQUE, NEW MEXICO 87107
(505) 345-3107

Page 5 of ___

Location no. LA BAJADA

Well no. #7

Var Rate Pump Test

Description of measuring point: See Pg 1

Elevation: GL ___ MP ___

Date	Clock time	t	Water level, MP	T or T/t Q, GPM	Manometer bucket	Q, gpm meter	Remarks
7-14-94	02:00	828	391.11			23 sec/2.5	
	04:30	978	349.89			26 sec/2.5	
	4:45	993	349.58			20 sec/2.5	
	5:00	1008	351.50			22 sec/2.5	
	5:15	1023	351.50			23 sec/2.5	
	6:15	1088	339.55			24 sec/2.5	
	6:30	1093	339.79	3	50 sec/2.5	23 sec/2.5	
	7:30	LST 1158	322.40			25 sec/2.5	
	7:45	LAST 1173	322.20	3	58 sec/2.5	23 sec/2.5	shift change. JWP on site
	8:24	1212	325.45			23 sec/2.5	
	8:28	1216	326.13			23 sec/2.5	
	8:51	1239	331.65	3	50 sec/2.5	23 sec/2.5	
	9:08	1256	333.85			23 sec/2.5	clean water
	9:38	1286	336.42			23 sec/2.5	Temp 66 Sp Cond 390
	9:50	1298	338.00			23 sec/2.5	300400 meter cal
	9:58	1306	339.30			23 sec/2.5	
	10:41	1349	341.66			23 sec/2.5	
	11:19	1387	342.60			23 sec/2.5	
	11:54	1422	347.96			23 sec/2.5	
	12:43	1471	350.52			23 sec/2.5	set to 23 sec/2.5 after measured
	13:27	1515	350.58	2.7	55 sec/2.5	26 sec/2.5	
	14:30	1578	343.15	2.8	53 sec/2.5	25 sec/2.5	
	15:30	1638	342.16	2.7	55 sec/2.5	26 sec/2.5	301220 meter
	16:10	1678	346.30	3	50 sec/2.5	23 sec/2.5	
	16:42	1710	349.58			23 sec/2.5	

Measurements made by: JWP TM

JOHN W. SHOMAKER, INC.
GEOLOGY-HYDROGEOLOGY
2703 BROADBENT PARKWAY NE, SUITE D
ALBUQUERQUE, NEW MEXICO 87107
(505) 345-3107

Page 6 of ___

Location no. LA BAJADA

Well no. 7

Var Rate Pump Test

Description of measuring point: See Pg. 1

Elevation: GL ___ MP ___

Date	Clock time	elapsed	Water level, MP	T or T/t Q, GPM	Manometer bucket	Q, gpm meter	Remarks
7-14-94	17:13	1741	349.16			23 sec/2.5 gal	
	17:38	1766	350.88	3	50 sec/2.5 gal	23 sec/2.5 gal	
	18:03	1791	354.09	3	50 sec/2.5 gal	23 sec/2.5 gal	
	18:33	1821	358.24	3	50 sec/2.5 gal	23 sec/	
	18:03	1851	358.60			23 sec/	
			359.10		5	25 sec/	
		1886	357.18			23 sec/gal	
	20:03	1911	362.65	3	50 sec/2.5 gal	23 sec	
	20:33	1941	363.79	"		23 sec/gal	
	21:03	1971	363.49			23 sec/gal	
	21:37	2021	369.31			23 sec/gal	
	22:03	2031	369.87			23 sec/gal	
	22:35	2061	369.98			23 sec/gal	
	23:03	2091	369.68			23 sec/gal	
	23:48	2136	364.15			23 sec/gal	
7-15-94	00:48	2196	379.03			23 sec/gal	
	02:48	2316	379.34			23 sec/gal	RATE
★ JWP	04:21	2409	283.00	2.6	58 sec/2.5 gal	27 sec/gal	≈ 2.6
	04:29	2417	286.80			23 sec/gal	RATE
	04:31	2419	287.00			23 sec/gal	TO 2
	04:32	2420	287.20			23/	after
	04:33	2421	287.41			23/	@ 4
	04:34	2422	287.68			23/	
	04:36	2424	288.05			24 sec/gal	
	04:41	2429	290.03			22 sec/gal	
	04:44	2432	289.77			23 sec/gal	
	04:46	2434	289.60			24 sec/gal	
	04:49	2437	289.60			23 sec/gal	

Measurements made by: JWP, TWM

JOHN W. SHOMAKER, INC.
GEOLOGY-HYDROGEOLOGY
2703 BROADBENT PARKWAY NE, SUITE D
ALBUQUERQUE, NEW MEXICO 87107
(505) 345-3107

Page 7 of ___

Location no. LA BAJADA

Well no. 7

Var. Rate Pump Test
Description of measuring point: See Pg. 1

Elevation: GL ____ MP ____

te	Clock time		Water level, MP	T or T/T'	Manometer bucket	Q, gpm	Remarks
	4:54	2442	289.50			24 sec/gal	
	4:55	2443	289.45			23 sec/gal	
	4:57	2445	289.80	3	50 sec/2.5	23 sec/gal	
	5:02	2450	291.20			23 sec/gal	
	5:05	2453	291.54			23 sec/gal	
	5:10	2458	292.19			23 sec/gal	
	5:13	2461	293.68			23 sec/gal	
	5:18	2466	294.85			23 sec/gal	
	5:24	2472	297.00			23 sec/gal	
	5:27	2475	297.42			23 sec/gal	
	5:30	2478	298.20			23 sec/gal	
	5:33	2481	299.10			23 sec/gal	
	5:37	2485	300.11			23 sec/gal	
	5:45	2493	302.35			23 sec/gal	
	5:50	2498	305.30			22 sec/gal	
	5:53	2501	306.50			23 sec/gal	
	5:58	2506	307.04			23 sec/gal	
	6:01	2509	307.11			23 sec/gal	
	6:08	2516	308.32			23 sec/gal	
	6:17	2525	310.32			23 sec/gal	
	6:21	2529	310.83			23 sec/gal	
	6:31	2539	314.35	3	50 sec/2.5	23 sec/gal	
	6:41	2549	317.90			23 sec/gal	
	6:51	2559	321.16	3.1	48 sec/2.5	22 sec/gal	
	7:00	2568	324.45			23 sec/gal	303440 meter

Measurements made by: JWP

JOHN W. SHOMAKER, INC.
GEOLOGY-HYDROGEOLOGY
2703 BROADBENT PARKWAY NE, SUITE D
ALBUQUERQUE, NEW MEXICO 87107
(505) 345-3107

Page 8 of ___

Location no. LA BAJADA

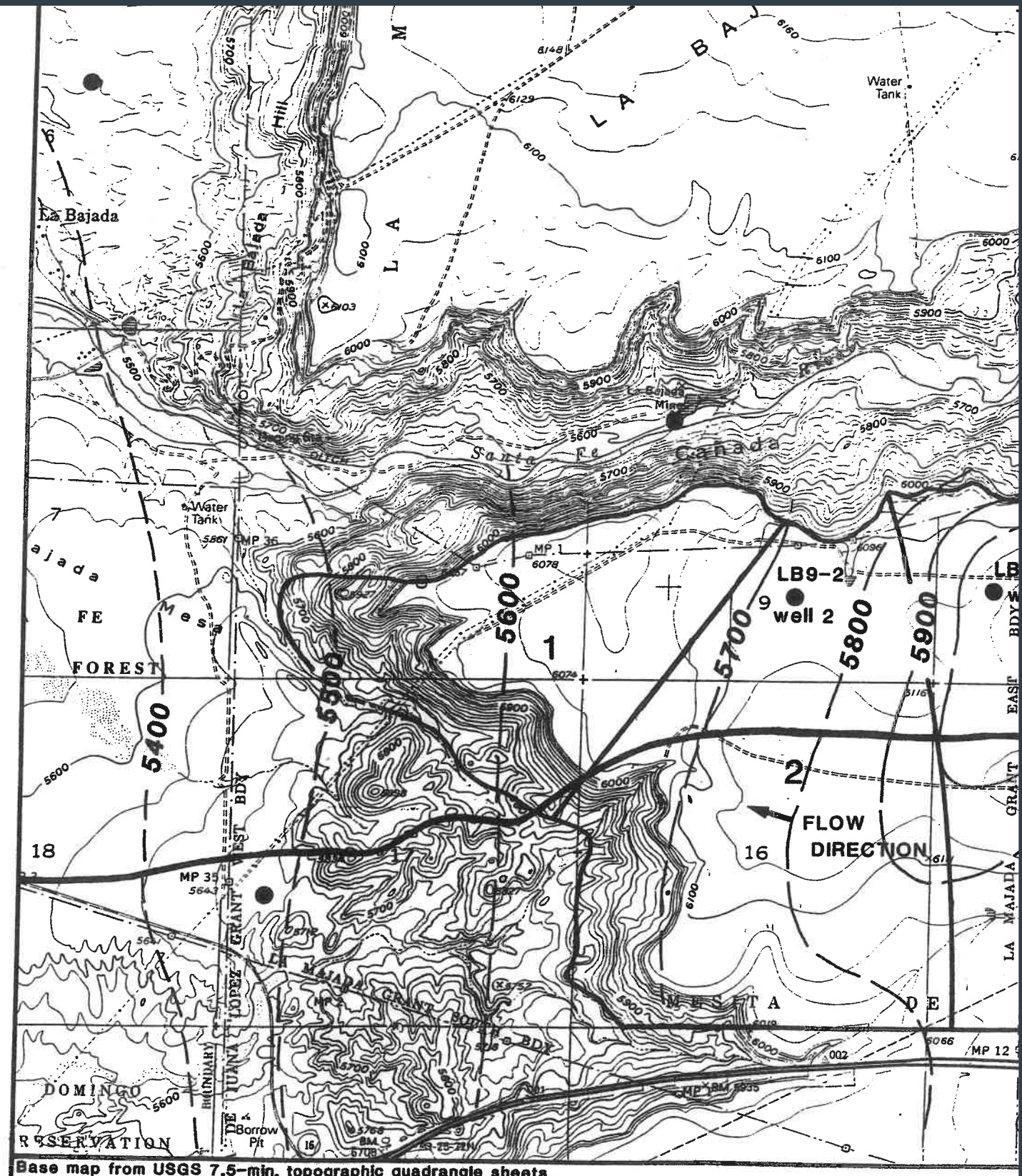
Well no. 7

V.R. Pump Test / Recovery
Description of measuring point: see Pg. 1

Elevation: GL ____ MP ____

Date	Clock time		Water level, MP	~~T or T/T'~~ Q, GPM	Manometer bucket	Q, gpm meter	Remarks
7-15-94	7:17	2585	330.10	3	50 sec/2.5	523 sec/gal	
	7:26	2594	331.45			23 sec/gal	
	7:50	2618	339.17	3.1	49 sec/2.5	23 sec/gal	
	8:03	2631	341.78			23 sec/gal	
	8:15	2643	344.04	3	50 sec/2.5	23 sec/gal	
	8:30	2658	346.02			23 sec/gal	
	8:45	2673	348.30			23 sec/gal	
	9:00	2688	353.75	3.1	48 sec/2.5	22 sec/gal	
	9:15	2703	356.86	3	50 sec/2.5	23 sec/gal	
	9:30	2718	359.08	3	50 sec/2.5	23 sec/gal	
	10:00	2748	360.73			23 sec/gal	
	10:16	2764	360.25			24 sec/gal	
	10:31	2779	361.57			23 sec/gal	
	10:51	2799	364.35			23 sec/gal	
	11:14	2822	367.06	3	50 sec/2.5	23 sec/gal	Temp 66°F cond. 375
	11:38	2846	368.58			23 sec/gal	
	11:55	2863	369.80			23 sec/gal	
	12:09	2877	372.70			23 sec/gal	
* recovery	12:10	2878			30423.4	Pump off	
	12:11	1	369.58			Recovery	
		1.5	367.85				
	12:12	2	365.85				
		2.5	364.35				
	12:13	3	362.85				
		3.5	361.37				
	12:14	4	359.88				

Measurements made by: JWP



Base map from USGS 7.5-min. topographic quadrangle sheets.

0

EXPLANATION

- water well
- contour (ft below mean sea level)

Figure 2. Map showing water-supply wells on and ne
surface-water drainage divide at the propos

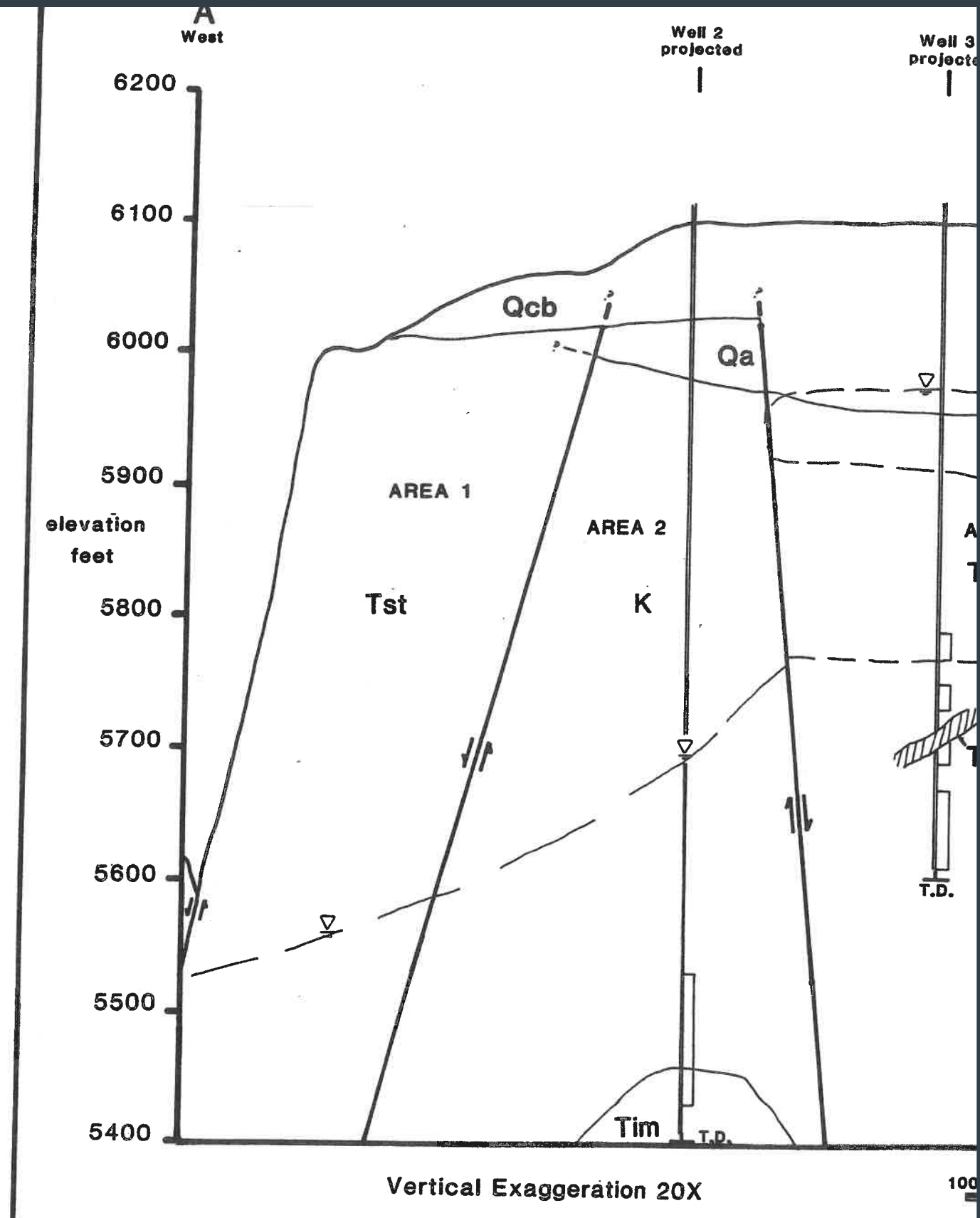


Figure 4. Cross-section A-A' showing generalized geology of the proposed subdi
data collected from test wells 1 through 7.

8/94

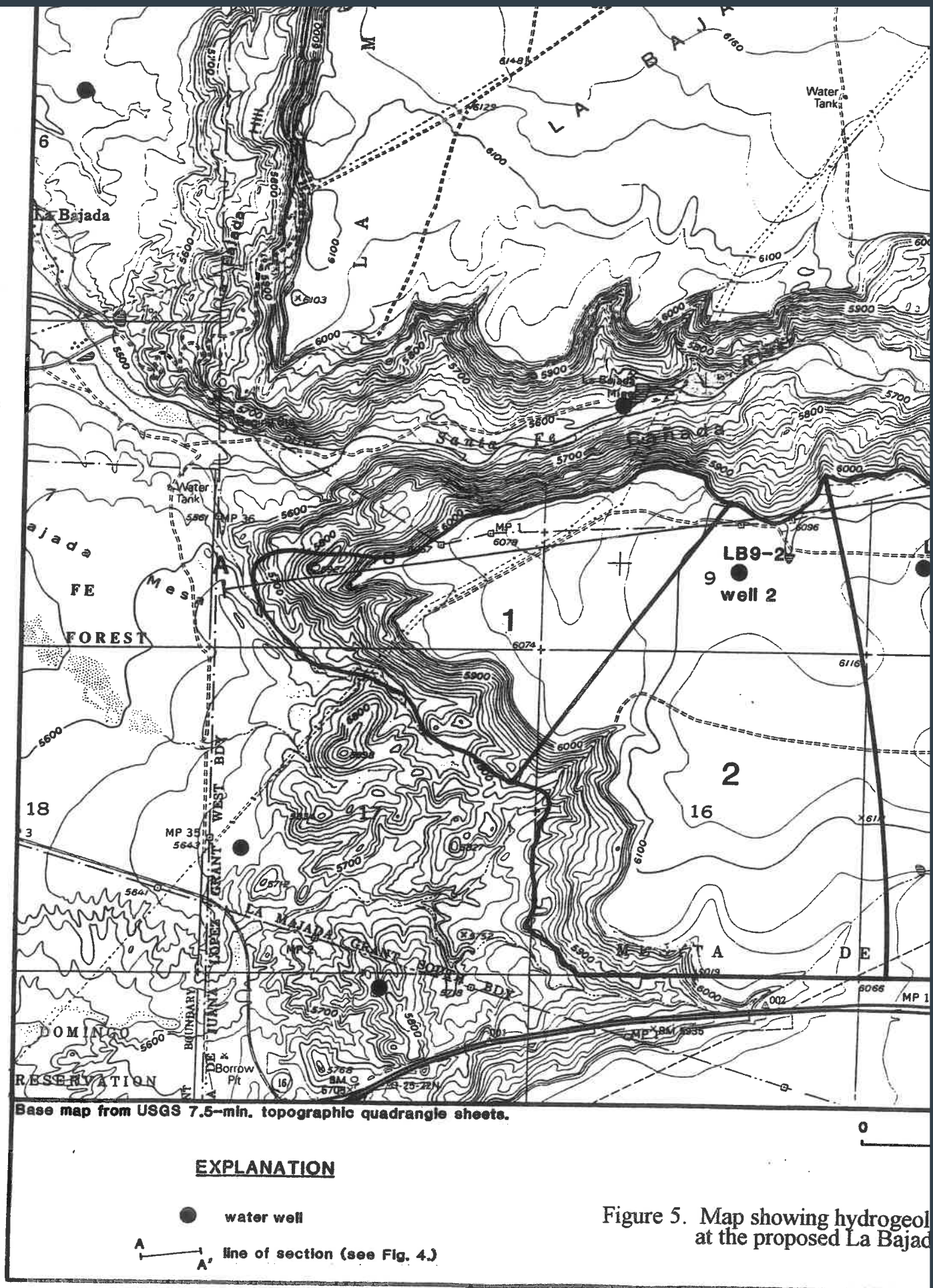


Figure 5. Map showing hydrogeol
at the proposed La Bajad

SF - 1 SHORT FORM WARRANTY DEED—Rev. 1-75—New Mexico Statutory Form THE VALLIANT CO. ALBUQUERQUE, N. M.

WARRANTY DEED

633025

BUENA VISTA ASSOCIATES, LTD., a New Mexico Limited Partnership

for consideration paid, grant S to MARTHA HARRIS, individually, and as Trustee of the Debra Ortiz and Thomas and Ronald Harris Trust.

whose address is 1919 Apache Court N.E., Albuquerque, New Mexico 87110

Albuquerque, New Mexico

the following described real estate in Santa Fe County, New Mexico:

A Tract of land containing 200 acres situate in the Mesita de Juana Lopez Grant within Sections 21 and 22, T15N, R7E, N.M.P.N., Santa Fe County, New Mexico, and being more particularly described on Exhibit A attached hereto and incorporated by reference as if fully set forth herein.

Subject to Taxes for 1989 and subsequent years, patent reservations, restrictions, easements and rights-of-way of record.

Subject to any claims of the Pueblo of Santo Domingo and the United States of America, including, but not limited to, any loss or claim arising from terms, conditions, provisions and restrictions of any Judgment, Order or Decree which may be entered in United States District Court for the District of New Mexico, Civil Cause No. 84-0314 BB, entitled "United States of America, on its own behalf and on behalf of the Pueblo of Santo Domingo, et al., v. Leland Thompson, Jr., et al."; the Lis Pendens for which was recorded in Book 485 at page 905 of the records of Santa Fe County, New Mexico.

Subject to easement for proposed road which appears on unrecorded plan prepared by C.R. Walbridge & Associates.

with warranty covenants.

WITNESS its hand and seal this 23rd day of November, 1988

(Seal) Buena Vista Associates, Ltd.
A New Mexico Limited Partnership
By Buena Vista Estates, Inc.
A New Mexico Corporation (Seal)

(Seal) By: Hugh J. Graham, President (Seal)

ACKNOWLEDGMENT FOR NATURAL PERSONS

STATE OF NEW MEXICO }
COUNTY OF _____ } ss.

The foregoing instrument was acknowledged before me this _____ day of _____, 19__

by _____
(Name or Names of Person or Persons Acknowledging)

My commission expires:

(Seal) _____ Notary Public

665,526

FOR RECORDER'S USE ONLY

STATE OF NEW MEXICO }
COUNTY OF SANTA FE } ss.

This instrument was filed for record on the 6th day of Dec. A.D. 19 88 at 10:06 o'clock A.M. and was duly recorded in book 653, page 025-026 of the records of Santa Fe County.

Witness my Hand and Seal of Office
Joni G. Arnijo
County Clerk, Santa Fe County, N.M.

By: _____ Deputy

ACKNOWLEDGMENT FOR CORPORATION

STATE OF NEW MEXICO }
COUNTY OF BERNALILLO } ss.

The foregoing instrument was acknowledged before me this 23rd day of November, 19 88,

by Hugh J. Graham, Jr.
(Name of Officer)

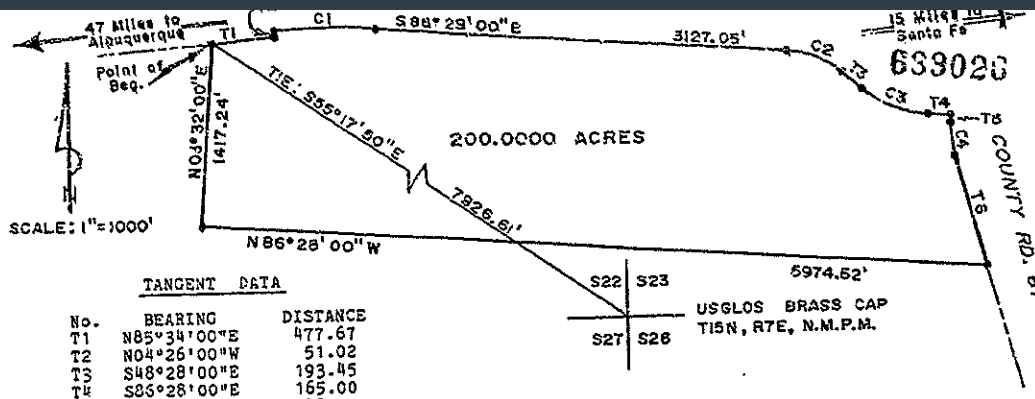
President of Buena Vista Estates, Inc.
(Title of Officer) (Name of Corporation Acknowledging)

a New Mexico corporation, on behalf of said corporation. It is General Partner of Buena Vista Associates, Ltd., a New Mexico Limited Partnership on behalf of said Limited Partnership.

My commission expires: 10-1-90

Brenda Thurman
Notary Public

LF SF-1



TANGENT DATA

No.	BEARING	DISTANCE
T1	N85°34'00"E	477.67
T2	N04°26'00"W	51.02
T3	S48°28'00"E	193.45
T4	S86°28'00"E	165.00
T5	S03°32'00"W	48.77
T6	S16°01'00"E	874.85

CURVE DATA

NUMBER	ARC	RADIUS	DELTA	CHD.BRG.	CHORD	TANGENT
C1	786.24	5654.58	07°58'00"	N89°33'00"E	785.61	393.75
C2	456.92	688.94	38°00'00"	S67°28'00"E	448.59	237.22
C3	556.41	838.94	38°00'00"	S67°28'00"E	546.26	288.87
C4	277.73	813.94	19°33'00"	S06°14'30"E	276.38	140.23

DESCRIPTION

A certain tract of land situate in the Mesita de Juana Lopez Grant, within the northern one-half (1/2)of projected Sections 21 and 22, T15N, R7E, N.M.P.M., Santa Fe County, New Mexico and being more particularly described from County Road No. 61 easement as recorded in the office of the County Clerk of Santa Fe County, New Mexico, in Book 227, Page 93, on July 20, 1965, township plats, New Mexico State Highway Commission right-of-way maps of Interstate Highway 25 for Project I-025-5(23)260, and a survey by Samuel P. Davalos, as follows:

BEGINNING at a point on the southerly right-of-way of said Interstate 25, whence the section corner common to Sections 22, 23, 26 and 27, T15N, R7E, N.M.P.M., a USGLOS brass cap, bears S55°17'50"E, 7926.61 feet, and from said point of beginning running thence along said southerly right-of-way of Interstate 25, N85°34'00"E, 477.67 feet to a point; thence,
N04°26'00"W, 51.02 feet to a point on a curve; thence,
786.24 feet along the arc of a curve to the right having a radius of 5654.58 feet and a chord bearing N89°33'00"E, 785.61 feet to a point of tangency; thence,
S86°28'00"E, 3127.05 feet to a point of curvature; thence,
456.92 feet along the arc of a curve to the right having a radius of 688.94 feet and a chord bearing S67°28'00"E, 448.59 feet to a point of tangency; thence,
S48°28'00"E, 193.45 feet to a point of curvature; thence,
556.41 feet along the arc of a curve to the left having a radius of 838.94 feet and a chord bearing S67°28'00"E, 546.26 feet to a point of tangency; thence,
S86°28'00"E, 165.00 feet to the northeast corner of the herein described tract of land, a point on the westerly right-of-way of said County Road No. 61; thence running along said right-of-way,
S03°32'00"W, 48.77 feet to a point of curvature; thence,
277.73 feet along the arc of a curve to the left having a radius of 813.94 feet and a chord bearing S06°14'30"E, 276.38 feet to a point of tangency; thence,
S16°01'00"E, 874.85 feet to the southeast corner of the tract herein described, a point on the westerly right-of-way of said County Road No. 61; thence leaving said right-of-way and running along the southerly boundary of the tract herein described,
N86°28'00"W, 5974.52 feet to the southwest corner of the tract; thence running along the westerly boundary of the tract herein described,
N03°32'00"E, 1417.24 feet to the point and place of beginning

Tract contains 200.0000 acres, more or less.

A. DWAIN WEAVER NEW MEXICO 9544 REGISTERED PROFESSIONAL LAND SURVEYOR

EXHIBIT "A"

Bohannan-Huston, Inc.
Courtyard I
7500 Jefferson Street, N.E.
Albuquerque, NM 87109

A. Dwain Weaver
N.M.P.L.S. No. 6544

June 13, 1988
Job No. 88240.01

275308

RIGHT OF WAY GRANT

STATE OF Texas
COUNTY OF El Paso

KNOW ALL MEN BY THESE PRESENTS:

That the undersigned, hereinafter referred to as Grantor (whether one or more persons, firms or corporations), for and in consideration of the sum$1.00 and other valuable considerations in hand paid by SOUTHERN UNION GAS COMPANY, a corporation, hereinafter referred to as Grantee, the receipt and sufficiency of which are hereby acknowledged, has granted, sold and conveyed and does hereby grant, sell and convey unto Grantee, its successors and assigns, a right of way and easement to lay, construct, maintain, operate, inspect, protect, repair, alter, replace, change the size of, substitute and remove pipelines with appurtenant facilities, upon, over, across, through and under the hereinafter described lands of Grantor; and Grantee, its successors and assigns shall have and hold all other rights and benefits necessary, appropriate or convenient for full enjoyment of the right of way and easement herein granted, including, without limiting the same to, rights of ingress to and egress from said right of way and easement over and across the hereinafter described lands and other lands of Grantor, use of existing roads, and construction of gates in fences crossing the right of way and easement.

There is included in this grant the right, from time to time, to lay, construct, operate, maintain, inspect, repair, alter, replace, change the size of, substitute and remove one or more additional pipelines and appurtenant facilities on the herein granted right of way and easement adjacent to and approximately parallel with the first pipeline laid hereunder; but for each such additional line so laid the Grantee shall pay Grantor Price to be negotiated.) per lineal rod of such additional line, or such proportional part thereof as Grantor's interest in the hereinafter described land bears to the entire fee, within sixty (60) days subsequent to completion of construction of the new line.

Grantee agrees to bury its pipelines so that they will not interfere with cultivation of the land and to pay for all actual damages to growing crops, fences and improvements which are caused by the Grantee's exercise of rights herein granted.

Grantor shall have the right to fully use and enjoy the surface of said right of way and easement provided that such use and enjoyment does not interfere with exercise by Grantee, its successors and assigns, of the herein granted rights and privileges and provided, further, that Grantor shall not erect or construct or permit erection or construction of any house, building, dam, pond, lake or other structure or improvement (fences excluded) within twenty-five (25) feet of any facilities of Grantee without Grantee's prior written consent.

Upon written application to Grantee, Grantee will make or cause to be made a tap on any gas pipeline constructed by Grantee on the right of way and easement hereinabove granted for the purpose of supplying gas to Grantor for domestic use only on the premises of Grantor located on the land below described, gas to be delivered and measured at the line of Grantee at the same price and under the same rules and regulations as prevail in the nearest city or town where Grantee is supplying gas.

This grant covers all agreements between the parties and no representations or statements, written or oral, unless contained herein, have been made, modifying, adding to or changing the terms of this agreement. The party or parties securing this grant in behalf of Grantee are without authority to make any covenant or agreement not herein expressed.

The consideration paid by the Grantee to the Grantor for this Right of Way Grant includes an amount agreed to by the parties as payment of all damages which might or will be sustained by the Grantor on account of the location and construction of the first pipeline laid under this Right of Way Grant; and Grantor, in consideration therefor, releases, discharges and surrenders to Grantee all claims and demands of every nature which Grantor might or could have against the Grantee arising out of or connected with the location and construction of the first pipeline laid by the Grantee under this Right of Way Grant.

DESCRIPTION

A strip of land 50 feet in width and being 25 feet on each side of the following described survey line:

Beginning at a point on the boundary line between the Santo Domingo Pueblo Grant and the Mesita De Juana Lopez Grant, which point is N 0° 26' W 260 ft. from the closing corner of Sections 20 & 29, T-15-N, R-7-E, N.M.P.M. Santa Fe County, New Mexico;
Thence N 59° 36' E, 179 ft.; Thence N 58° 13' E, 440 ft.; Thence N 54° 46' E, 319 ft.; Thence N 40° 21' E, 277 ft.; Thence N 71° 01' E, 109 ft.;Thence; N 74° 45' E, 310 ft.; Thence S 87° 23' E, 466 ft.; Thence N 28° 01' E, 309 ft.; Thence N 42° 04' E, 445 ft.; Thence N 60° 03' E, 1405 ft.; Thence N 83° 25' E, 1209 ft.; Thence N 68° 24' E, 989 ft.; Thence N 63° 31' E, 1352 ft.; Thence N 62° 50' E, 2194 ft.; Thence N 85° 43' E, 708 ft. to a point which is S 52° 28' W, 1235 ft. from the section corner common to Sections 15, 16, 21 & 22, T-15-N, R-7-E, N.M.P.M.

This Right of Way Grant is further subject to the terms and provisions set forth in the attached Addendum which is hereby made a part thereof.

Description OK
ND - 8-11-70

IN WITNESS WHEREOF, this instrument is executed this 31st day of July, 1970, so as to be binding upon the parties hereto, their heirs, administrators, executors, successors and/or assigns.

SOUTHWEST LAND CORPORATION
By [signature], Pres.
(Type or print name of Grantor on this line)
7/31/70

ACCEPTED:

SOUTHERN UNION GAS COMPANY
By [signature]
Vice President / Chief Engineer

ATTEST: [signature]
By
~~(Type or print name of Grantor on this line)~~

SUG R/W NO. 876-238 Pg 1 of 3

275309

Acknowledgment Form to be used in Arizona, Colorado, New Mexico, Oklahoma and for single persons in Texas

STATE OF ________ }
} ss.
COUNTY OF ________ }

On this ______ day of ____________, 19____, before me, a Notary Public in and for said County and State, personally appeared ____________ to me known to be the identical person(s) described in and who executed the within and foregoing instrument and acknowledged that ________ executed the same as ________ free and voluntary act and deed for the uses and purposes therein set forth.

In witness whereof, I have set my hand and seal of office on this ______ day of ____________, 19____

My Commission Expires: ____________ Notary Public in and for ________ County, ________

Acknowledgment Form to be used by husband and wife in Texas

STATE OF TEXAS }
} ss.
COUNTY OF ________ }

Before me, ____________, a Notary Public in and for the County and State aforesaid, on this day personally appeared ____________ and ____________, his wife, both well known to me to be the persons whose names are subscribed to the foregoing instrument, and the said ____________ acknowledged to me that he executed the same for the purposes and consideration therein expressed, and the said ____________, wife of said ____________, acknowledged such instrument to be her act and deed and declared that she had willingly signed the same for the purposes and consideration therein expressed and that she did not wish to retract it.

Given under my hand and seal of office this the ______ day of ____________, A. D. 19____

My Commission Expires: ____________ Notary Public in and for ____________ County, Texas

Acknowledgment Form to be used by corporate officer

STATE OF Texas }
} ss.
COUNTY OF El Paso }

Before me, Frances J. Tiffany, a Notary Public in and for the County and State aforesaid, on this day personally appeared HARRY SHAIN the ----- President of SOUTHWEST LAND CORP., known to me to be the person and officer whose name is subscribed to the foregoing instrument and acknowledged to me that the same was the act of said SOUTHWEST LAND CORP., a corporation, and that he executed the same as the act and deed of such corporation for the purposes and consideration therein expressed in the capacity therein stated.

Given under my hand and seal of office this the 4th day of August, A. D. 19 70

My commission Expires: 1 Jun 1971

Frances J. Tiffany
Notary Public in and for El Paso County, Texas

SUG R/W NO. 876238 Pg 2 of 3

Line	No. County	FROM	Grantor(s)	TO SOUTHERN UNION GAS COMPANY Grantee		OK: Engineer	OK: Attorney

275310

ADDENDUM TO RIGHT OF WAY GRANT FROM SOUTHWEST LAND CORPORATION, GRANTOR, TO SOUTHERN UNION GAS COMPANY, GRANTEE.

This grant is intended to provide right of way for an existing 8" natural gas pipeline and for a paralleling 12" natural gas pipeline yet to be constructed.

The use by Grantee of an additional 25 foot wide strip of land along and contiguous to the southerly boundary of the herein granted right of way will be permitted during the construction of the proposed 12" natural gas pipeline. This strip of land will be used by Grantee for a period not to exceed three months from date of agreement; however, reseeding of this strip is not recommended until the fall of the year.

Grantee agrees to relinquish that portion of the right of way grant executed September 11, 1930 by J. W. Catron et ux and recorded in Book X, Page 117 of the Miscellaueous Records of Santa Fe County, affecting all of Section 20, Township 15 N, Range 7 E, NMPM and that part of Section 21 of said Township and Range lying south of U. S. Highway 85.

The construction of roads by Grantor to cross the herein granted right of way will be permitted by Grantee insofar as their placement and method of construction will not cause conflict with existing pipeline safety codes and regulations. Design standards shall be submitted to the Grantee for approval at least 45 days prior to the construction of said roads. Recognizing the excessive costs of line lowering in rock which prevails in the area, Grantor agrees that all road crossings shall be placed upon a minimum fill of 24 inches above the present ground grade of the pipeline. Also, borrow ditches shall be constructed in such a manner that they will remain separated from the installed pipelines by a minimum distance of 12 inches.

The construction of a roadway by Grantor within this right of way will be acceptable to Grantee provided that the surfaced area of such roadway is constructed in such a way that it will be separated from the pipelines installed hereunder by a minimum distance of 12 feet measured along the surface of the ground.

(188)
7/31/70

WB 8/25/70

STATE OF NEW MEXICO }
COUNTY OF SANTA FE } ss 326,931

I hereby certify that this instrument was filed for record on the 11 day of Sept A.D. 19 70 at 3:30 o'clock P M., and was duly recorded in book 275 page 303-310 of the records of Santa Fe County.

Witness my hand and Seal of Office
RITA Z. GONZALES
County Clerk, Santa Fe County, N.M.
Rose M. Olivas
Deputy

SUG R/W NO. 876-238 Pg 373

511959

Santa Fe County
Right of Way

ASSIGNMENT AND DELEGATION

THIS ASSIGNMENT is executed as of January 28, 1985, from SOUTHERN UNION COMPANY (including its division GAS COMPANY OF NEW MEXICO) (herein called "Assignor"), a Delaware corporation, to PUBLIC SERVICE COMPANY OF NEW MEXICO (herein called "Assignee"), a New Mexico corporation, Alvarado Square, Albuquerque, New Mexico 87158.

For TEN AND NO/100 DOLLARS ($10.00) and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged by Assignor, Assignor hereby assigns, transfers, grants, conveys and sets over to Assignee, all of Assignor's right, title and interest in and to all rights-of-way easements and licenses now held by it or to which it is entitled located in Santa Fe County, New Mexico together with all of the agreements, plats, dedications, judgments, decrees and instruments granting and establishing the same, including but not limited to those described on Exhibit "A" attached hereto and incorporated herein (herein called "Interests");

TO HAVE AND TO HOLD the Interests unto Assignee and its successors and assigns forever.

Assignor also hereby grants and transfers to Assignee, its successors and assigns, to the extent so transferable, the benefit of and the right to enforce the rights, covenants and warranties, if any, which Assignor is entitled to enforce with respect to the Interests against Assignor's predecessors in title to the Interests.

560,075

STATE OF NEW MEXICO)
COUNTY OF SANTA FE) SS

I hereby certify that this instrument was filed for record on the 29 day of Jan. A.D., 1985 at 4:15 o'clock P. m. and was duly recorded in book 511 page 959 - 970 of the records of Santa Fe County.

Witness my Hand and Seal of Office
ANGIE VIGIL PEREZ
County Clerk, Santa Fe County, N.M.

Virginia Montoya
Deputy

Form A-1
(1/25/85)

SAS

DISTRIBUTION RIGHTS-OF-WAY AS OF 1-15-85

R.O.W.	Sect	Twnshp	Range	County	Recorded	Book	Page	Grantor
875 169 00	07	17 N	10 E	SANTA FE	12/29/80	412	756	AGUERO, JUAN C.
875 176 00	07	17 N	10 E	SANTA FE	12/29/80	412	756	AGUERO, JUAN CARLOS
875 157 00	25	17 N	09 E	SANTA FE	04/22/77	347	143	ALIRE, ANDRES
875 156 00	25	17 N	09 E	SANTA FE	04/22/77	347	145	ALIRE, MAURICIO G.
875 121 00	27	17 N	09 E	SANTA FE	11/01/71	286	189	ANALYA, J D
875 030 00	25	17 N	09 E	SANTA FE	06/07/30	M.V	576	ANDREWS, FRANK
890 043 00	12	19 N	08 E	SANTA FE	05/25/67	249	517	ARRIETA, JOSE
875 182 00	31	17 N	09 E	SANTA FE	10/15/81	429	119	BACA, ANASTASIO
875 147 00	27	17 N	09 E	SANTA FE	08/21/75	325	549	BACA, JOE M.
875 222 99	24	17 N	09 E	SANTA FE	.		.	BARKER, LAUGHLIN
875 031 99	24	17 N	10 E	SANTA FE	07/07/31	X MIS	352	BARTO, K. P.
875 201 00	25	17 N	09 E	SANTA FE	09/01/83	470	33	BEHELER, LAURA F.
875 113 00	04	16 N	09 E	SANTA FE	01/31/68	254	835	BELLAMAH DALE LAND CO INC.
875 032 00	00	00 X	00 X	SANTA FE	09/14/32	M.X	628	BENAVIDEZ, ABEL
875 034 00	00	00 X	00 X	SANTA FE	06/04/30	M.V	570	BISHOP, CARL A.
875 035 00	00	00 X	00 X	SANTA FE	06/04/30	M.V	571	BISHOP, CARL A.
875 036 00	24	17 N	09 E	SANTA FE	01/24/85	511	557	BISHOP, CARL A. (RECEIVER)
875 037 00	30	17 N	10 E	SANTA FE	07/07/31	XMISS	363	BLACK R.F. MRS.
875 038 00	30	17 N	10 E	SANTA FE	07/07/31	XMISS	353	BLACK R.F. MRS.
875 142 00	26	17 N	09 E	SANTA FE	04/14/75	321	29	BOARD OF EDUCATION
875 120 00	24	17 N	09 E	SANTA FE	07/23/71	285	148	BOARD OF PENSIONS-PRES CHURCH
875 033 00	24	17 N	09 E	SANTA FE	06/19/30	M.V	582	BPOE INC.
875 039 00	25	17 N	09 E	SANTA FE	.		.	BRANT, EVA
875 119 00	34	16 N	08 E	SANTA FE	07/15/71	285	154	BRENNAN, JAMES H
875 040 00	25	17 N	09 E	SANTA FE	06/06/30	M.V	573	BROWN, HERBERT H.
875 228 99	13	17 N	09 E	SANTA FE	11/30/84		.	BRUTSCHE, RALPH L.
890 006 00	20	19 N	09 E	SANTA FE	09/08/64	227	340	BUSTOS, MARGARITA S MRS
875 230 99	24	17 N	09 E	SANTA FE	10/19/84	503	252	CAMPANILLA COMPOUND PARTNERS
875 041 00	25	17 N	09 E	SANTA FE	06/06/30	M.V	578	CAMPBELL, CHARLES M.
875 118 00	34	16 N	08 E	SANTA FE	07/29/71	285	156	CARLSON, CONRAD H
875 042 00	25	17 N	09 E	SANTA FE	06/24/30	M.V	570	CARRILAS, N.D.
875 043 00	30	17 N	10 E	SANTA FE	03/31/31		.	CASSIDY, GERALD
875 219 00	24	17 N	09 E	SANTA FE	09/25/84	501	391	COLLEGE OF SANTA FE
875 092 00	25	18 N	09 E	SANTA FE	12/26/40	21	192	CONNELL, J.H.
875 017 00	34	17 N	09 E	SANTA FE	04/30/57	134	349	COOK, FRANCIS A.
875 226 99	24	17 N	09 E	SANTA FE	01/24/85	511	553	CORAZZI, GREGORY C.
875 227 99	24	17 N	09 E	SANTA FE	01/24/85	511	555	CORRAZZI,GREGORY C
875 196 00	19	17 N	10 E	SANTA FE	05/17/83	462	731	CRIS-DOR INC.
875 179 00	01	16 N	08 E	SANTA FE	09/18/81	427	695	CRYE, ROBERT E.
875 145 00	20	17 N	10 E	SANTA FE	04/14/75	321	42	CUDDY, C. EMERY
878 001 00	20	15 N	07 E	SANTA FE	10/24/74	316	523	CUMMINGS, ERNEST
875 044 00	24	17 N	09 E	SANTA FE	07/10/31	M.X	364	DALY, RICHARD M.
875 045 00	24	17 N	09 E	SANTA FE	06/07/30	M.V	583	DAVIS, J. ASHLEY
875 141 00	26	17 N	09 E	SANTA FE	04/14/75	321	31	DAVIS, LOCKWOOD, STUCKMAN CO.
875 046 00	25	17 N	09 E	SANTA FE	06/05/30	M.V	579	DAY, JUSTIN F.
890 040 00	12	19 N	08 E	SANTA FE	05/25/67	249	523	DEBOER, DONALD

EXHIBIT A

511-2

168

DISTRIBUTION RIGHTS-OF-WAY AS OF 1-15-85

R.O.W.	Sect	Twnshp	Range	County	Recorded	Book	Page	Grantor
875 028 00	07	17 N	10 E	SANTA FE	08/17/36	14	12	DEMPSEY, J.J. REALTY COMPANY
875 047 00	24	17 N	09 E	SANTA FE	11/24/30	M.X	173	DENDAHL, JOHN
875 104 00	24	17 N	09 E	SANTA FE	03/12/63	212	266	DEVANE, TILLIE M.
875 112 00	28	17 N	09 E	SANTA FE	10/05/67	252	394	EAST, ORRIN G.
875 143 00	20	17 N	09 E	SANTA FE	04/14/75	321	38	ELLIS, BRUCE T.
875 101 00	07	16 N	09 E	SANTA FE	08/08/62	203	421	EMBLEM, O.H.
890 071 00	17	19 N	09 E	SANTA FE	02/20/70	270	999	ENCINIAS, FELIMON G.
890 037 00	09	19 N	09 E	SANTA FE	08/29/66	241	52	ESPINOZA, LUBEN L.
875 175 00	19	17 N	10 E	SANTA FE	07/15/81	423	962	EWING, J.D.
875 165 00	25	17 N	09 E	SANTA FE	06/09/80	401	2	FEE LANDERS
875 184 99	29	17 N	10 E	SANTA FE	.		.	FISHER, LOIS
875 155 00	19	17 N	09 E	SANTA FE	08/11/74		.	FISHER, VIOLA
875 155 01	20	17 N	09 E	SANTA FE	08/11/74		.	FISHER, VIOLA
875 048 00	25	17 N	09 E	SANTA FE	01/24/85	511	559	FLYNN, JOE
875 215 00	36	17 N	09 E	SANTA FE	06/26/84	493	807	FOX,ROBERT E.
875 225 99	08	16 N	09 E	SANTA FE	.		.	FULLER, WILLIAM E.
876 051 99	05	16 N	09 E	SANTA FE	07/22/30	MISC	19	GALLEGOS, CELSO
875 123 00	27	17 N	09 E	SANTA FE	06/21/72	294	433	GALLEGOS, ELFIDO
876 052 99	05	16 N	09 E	SANTA FE	07/23/30	MISC	18	GALLEGOS, ELIAS
875 114 00	04	16 N	09 E	SANTA FE	01/03/68		.	GAME & FISH
875 049 00	30	17 N	10 E	SANTA FE	09/15/32		.	GANS, JULIUS
890 018 00	10	19 N	09 E	SANTA FE	05/26/65	239	321	GARCIA, MARGARITA
890 064 00	20	19 N	09 E	SANTA FE	02/20/70	270	987	GARCIA, PEDRO
875 050 00	23	17 N	09 E	SANTA FE	01/24/85	511	561	GARRISON, J.C.
875 166 00	29	17 N	10 E	SANTA FE	06/09/80	401	5	GILMARTIN, ELAINE
890 005 00	17	19 N	09 E	SANTA FE	09/08/64	227	338	GOMEZ, ELISEO
875 109 00	25	17 N	09 E	SANTA FE	10/13/66	243	273	GOMEZ, JOE L.
876 053 99	05	16 N	09 E	SANTA FE	07/22/30	MISC	21	GONALEZ, EUGENIO
876 054 99	05	16 N	09 E	SANTA FE	07/22/30	MISC	20	GONALEZ, EUGENIO
890 092 00	05	19 N	09 E	SANTA FE	07/12/76	336	313	GONZALES, GILBERT J.
876 255 99	05	15 N	08 E	SANTA FE	12/26/74	315	22	GONZALES, HENRY A.
875 140 00	32	17 N	09 E	SANTA FE	02/28/75	319	799	GONZALES, JOSE A.
876 055 99	05	16 N	09 E	SANTA FE	07/22/30	MISC	22	GONZALES, JUAN
890 091 00	05	19 N	09 E	SANTA FE	07/12/76	336	311	GONZALES, LINDA O.
890 063 00	20	19 N	09 E	SANTA FE	02/20/70	270	985	GONZALES, MARTIN J.
890 013 00	20	19 N	09 E	SANTA FE	09/08/64	227	354	GONZALES, REDOLFINO
875 210 00	26	17 N	09 E	SANTA FE	01/05/84	480	174	GONZALES, VIRGINIA Q.
876 058 99	05	16 N	09 E	SANTA FE	07/24/30	MISC	74	GONZALEZ, MIGUEL
875 221 99	24	17 N	09 E	SANTA FE	.		.	GRANITO, JOHN B.
875 103 00	26	17 N	09 E	SANTA FE	08/17/63	206	264	GREER, SALOME S.
875 159 99	25	18 N	09 E	SANTA FE	07/12/77	350	349	GRIEGO, SAMUEL
875 153 00	25	18 N	09 E	SANTA FE	02/12/77	350	349	GRIEGO, SAMUEL A.
875 192 00	24	17 N	09 E	SANTA FE	09/29/82	448	818	GRIFFIN PARK COND.
875 051 00	25	17 N	09 E	SANTA FE	06/06/30	M.V	572	HARVEY, JAMES C.
876 059 99	05	16 N	09 E	SANTA FE	07/24/30	MISC	73	HERNANDEZ, FELIPITA BRITO
890 024 00	10	19 N	09 E	SANTA FE	05/26/65	239	331	HERRERA, CORNELIO

5-1963

SAS

DISTRIBUTION RIGHTS-OF-WAY AS OF 1-15-85

R.O.W.	Sect	Twnshp	Range	County	Recorded	Book	Page	Grantor
890 026 00	10	19 N	09 E	SANTA FE	06/20/66	239	335	HERRERA, DAVID
875 163 00	10	19 N	09 E	SANTA FE	01/21/80	393	808	HERRERA, ELOY
890 023 00	10	19 N	09 E	SANTA FE	05/26/65	239	329	HERRERA, ELOY
890 025 00	10	19 N	09 E	SANTA FE	05/26/65	239	333	HERRERA, ESPERANZA
890 021 00	10	19 N	09 E	SANTA FE	05/26/65	239	325	HERRERA, LORENZO
890 022 00	10	19 N	09 E	SANTA FE	05/26/65	239	327	HERRERA, RAMON
875 052 00	25	17 N	09 E	SANTA FE	01/24/85	511	577	HEWETT, DONIZETTA
875 091 00	25	17 N	09 E	SANTA FE	01/24/85	511	575	HEWETT, DONIZETTA
875 172 00	20	17 N	10 E	SANTA FE	04/20/81	421	132	HILL, MEGAN LLOYD
875 053 00	00	00 X	00 X	SANTA FE	06/04/32		.	HOLDERMAN, T.J.
875 054 00	25	17 N	09 E	SANTA FE	06/19/30	M.V	580	HOLDERMAN, T.J.
875 199 00	30	17 N	10 E	SANTA FE	04/18/83	460	792	HOLSTEIN, PHILIP M. JR.
890 076 00	12	19 N	08 E	SANTA FE	07/28/72	292	959	HOWELL, HOWELL
890 029 00	20	19 N	09 E	SANTA FE	12/02/65	231	488	IGALO, PETE
875 135 00	26	16 N	08 E	SANTA FE	01/24/85	511	579	JARROTT, BERNICE
890 100 00	07	19 N	09 E	SANTA FE	06/30/81	423	332	JIRON, RAMONA
875 211 00	01	16 N	09 E	SANTA FE	04/18/84	488	607	JOHNSTON,J.H.E.
875 211 03	02	16 N	09 E	SANTA FE	04/18/84	488	607	JOHNSTON,J.H.E.
875 211 01	01	16 N	09 E	SANTA FE	04/18/84	488	607	JOHNSTON,JEAN
875 211 02	02	16 N	09 E	SANTA FE	04/18/84	488	607	JOHNSTON,JEAN
875 158 00	25	17 N	09 E	SANTA FE	04/22/77	347	141	KATONA, MARY CATHERINE
875 055 00	00	00 X	00 X	SANTA FE	09/14/32	M.X	632	KEGEL, W.L. MRS.
875 139 00	24	17 N	09 E	SANTA FE	12/16/74	316	226	KEGEL, W.R.
875 223 00	32	16 N	08 E	SANTA FE	07/31/84	496	500	KELLOGG,CARLOS
875 224 00	32	16 N	08 E	SANTA FE	07/31/84	496	503	KELLOGG,CARLOS
875 144 00	20	17 N	10 E	SANTA FE	04/14/75	321	40	KELLY, WILLIAM BOOKER
875 168 00	23	16 N	08 E	SANTA FE	12/02/80	410	923	KOMIS, JOHN
875 203 00	26	17 N	09 E	SANTA FE	09/27/83	471	907	L-FAM CORP.
878 002 99	20	15 N	07 E	SANTA FE	04/18/73	300	228	LA BAJADA RANCH
878 002 99	17	15 N	07 E	SANTA FE	04/18/73	300	228	LA BAJADA RANCH
875 189 00	02	17 N	E	SANTA FE	11/12/80	411	800	LA TIERRA LTD.
875 189 01	11	17 N	E	SANTA FE	11/12/80	411	800	LA TIERRA LTD.
875 189 02	12	17 N	08 E	SANTA FE	11/12/80	411	800	LA TIERRA LTD.
875 189 03	07	17 N	09 E	SANTA FE	11/12/80	411	800	LA TIERRA LTD.
875 189 04	08	17 N	09 E	SANTA FE	11/12/80	411	800	LA TIERRA LTD.
875 189 05	16	17 N	09 E	SANTA FE	11/12/80	411	800	LA TIERRA LTD.
875 189 06	17	17 N	09 E	SANTA FE	11/12/80	411	800	LA TIERRA LTD.
875 056 00	25	17 N	09 E	SANTA FE	06/06/30	M.V	574	LAWRENCE, HENRY H.
875 057 00	30	17 N	10 E	SANTA FE	05/14/32		.	LEWIS, ROBERT S.
875 130 00	33	17 N	09 E	SANTA FE	10/21/72	296	638	LIM, JOHN H N
875 171 00	06	17 N	10 E	SANTA FE	03/23/81	417	574	LITTLE, HARVEY
890 051 00	09	19 N	09 E	SANTA FE	11/19/69	269	312	LOPEZ, ANNABELL
875 058 00	05	16 N	09 E	SANTA FE	07/30/41	21	531	LOUCKS, J.A.
875 058 01	08	16 N	09 E	SANTA FE	07/30/41	21	531	LOUCKS, J.A.
875 059 00	00	00 X	00 X	SANTA FE	09/14/32	M.X	630	LOVATO, MARGARITO
890 095 01	10	19 N	09 E	SANTA FE	05/02/80	399	337	LUJAN, BEN

511.64

DISTRIBUTION RIGHTS-OF-WAY AS OF 1-15-85

R.O.W.	Sect	Twnshp	Range	County	Recorded	Book	Page	Grantor
890 090 00	05	19 N	09 E	SANTA FE	07/12/76	336	309	LUJAN, ISMAEL E.
890 034 00	20	19 N	09 E	SANTA FE	12/02/65	231	498	LUJAN, PHILIP L.
875 164 99	10	19 N	09 E	SANTA FE	10/26/79		.	LUJAN, PONCE
890 019 00	10	19 N	09 E	SANTA FE	12/06/65	237	61	LUJAN, PONCE
875 181 00	26	17 N	09 E	SANTA FE	11/13/81	430	780	LUNA, TED C.
875 060 00	24	17 N	09 E	SANTA FE	01/24/85	511	581	LUTZ, HARVEY S.
875 019 00	30	17 N	10 E	SANTA FE	02/09/54	85	126	MARGULIS, ELIZABETH STAYER
875 094 00	06	17 N	10 E	SANTA FE	09/03/36	14	33	MARLIN, RUTH
875 154 00	20	17 N	10 E	SANTA FE	04/19/76	333	460	MARTINEZ, ANDRES R.
875 061 00	00	00 X	00 X	SANTA FE	09/14/32	M.X	629	MARTINEZ, BEN
875 152 00	20	17 N	10 E	SANTA FE	04/19/76	333	458	MARTINEZ, DANIEL O.
890 075 00	17	19 N	09 E	SANTA FE	11/17/71	286	191	MARTINEZ, ELMER
875 062 00	00	00 X	00 X	SANTA FE	09/14/32	M.X	631	MARTINEZ, JOSE
876 044 99	06	16 N	09 E	SANTA FE	07/23/30	MISC	45	MARTINEZ, JUANITA LOPEZ
835 012 00	01	20 N	08 E	SANTA FE	09/27/72	295	562	MARTINEZ, LEVI
835 041 99	01	20 N	08 E	SANTA FE	.		.	MARTINEZ, RUDOLPHO
890 073 00	10	19 N	09 E	SANTA FE	10/08/71	285	146	MAULDIN, NANDO
875 127 00	27	17 N	09 E	SANTA FE	09/21/72	294	442	MCCLANAHAN, H L
890 004 00	17	19 N	09 E	SANTA FE	09/16/64	227	336	MEDIAN, ED
875 063 00	24	17 N	09 E	SANTA FE	01/24/85	511	583	MEYER, WILLIAM J.
875 218 00	32	17 N	09 E	SANTA FE	09/25/84	501	389	MIER,MARIN
890 074 00	10	19 N	09 E	SANTA FE	10/08/71	285	143	MILAM, GORDON T.
875 209 00	24	17 N	09 E	SANTA FE	12/12/83	478	333	MILLER, WAYNE
875 195 00	31	17 N	09 E	SANTA FE	10/27/82	450	508	MILLS, ERNEST T.
875 195 99	31	17 N	09 E	SANTA FE	10/27/82	450	508	MILLS, ERNEST T.
875 205 00	05	16 N	09 E	SANTA FE	11/04/83	474	655	MONTANO, VALENTIN A.
875 116 00	22	17 N	09 E	SANTA FE	08/15/69	270	684	MONTANO, VICTOR T
890 048 00	12	19 N	08 E	SANTA FE	05/25/67	249	507	MONTOYA, BENNIE
890 011 00	20	19 N	09 E	SANTA FE	09/08/64	227	350	MONTOYA, BUDDY
890 065 00	20	19 N	09 E	SANTA FE	02/20/70	270	989	MONTOYA, CATALINA
876 045 99	05	16 N	09 E	SANTA FE	07/22/30	MISC	29	MONTOYA, ELIZA LOPEZ
876 046 99	05	16 N	09 E	SANTA FE	07/22/30	MISC	3	MONTOYA, ELIZA LOPEZ
890 054 00	09	19 N	09 E	SANTA FE	11/19/69	269	318	MONTOYA, FRANCIS C.
875 198 00	28	17 N	09 E	SANTA FE	03/30/83	459	497	MONTOYA, J.A.
835 016 00	04	20 N	09 E	SANTA FE	04/04/74	311	347	MONTOYA, JOHN P
890 015 00	20	19 N	09 E	SANTA FE	09/08/64	227	358	MONTOYA, RAMON
890 028 00	20	19 N	09 E	SANTA FE	12/02/65	231	486	MONTOYA, RAMON
890 058 00	20	19 N	09 E	SANTA FE	04/30/71	280	615	MONTOYA, TED
890 062 00	20	19 N	09 E	SANTA FE	02/20/70	270	983	MONTOYA, TED
890 010 00	20	19 N	09 E	SANTA FE	09/08/64	227	348	MONTOYA, TED SR
875 217 00	35	17 N	09 E	SANTA FE	06/26/84	493	811	MOORE,JAMES H.
890 083 00	10	19 N	08 E	SANTA FE	09/21/73	CAUSE	43929	MOULTON, GEORGE H.
875 204 00	05	16 N	09 E	SANTA FE	11/04/83	474	656	NARVAIS, DAN
875 064 00	31	17 N	10 E	SANTA FE	05/13/41	21	410	NAVAJO CEREMONIAL MUSEUM
875 110 00	13	17 N	09 E	SANTA FE	04/24/67	248	935	NORTH HILL ENTERPRISES INC.
890 078 00	14	19 N	08 E	SANTA FE	07/06/76		.	NOT USED SAN ILDEFONSO PUE

DISTRIBUTION RIGHTS-OF-WAY AS OF 1-15-85

R.O.W.	Sect	Twnshp	Range	County	Recorded	Book	Page	Grantor
875 214 00	05	16 N	09 E	SANTA FE	06/26/84	493	805	OGDEN M.H.
875 065 00	00	00 X	00 X	SANTA FE	01/24/85	511	573	OLIVER, J.D.
875 180 00	01	16 N	08 E	SANTA FE	09/20/81	428	151	ORTEGA, BENJAMIN
875 202 00	31	18 N	10 E	SANTA FE	11/10/83	475	152	ORTEGA, MANUEL D.
890 009 00	20	19 N	09 E	SANTA FE	09/08/64	227	346	ORTIZ, ANTONIO
876 229 01	07	16 N	09 E	SANTA FE	07/30/69	266	610	ORTIZ, CATALINO
876 229 99	06	16 N	09 E	SANTA FE	07/30/69	266	610	ORTIZ, CATALINO
890 056 00	04	19 N	09 E	SANTA FE	11/19/69	269	322	ORTIZ, CLOTILDE
890 046 00	12	19 N	08 E	SANTA FE	05/25/67	249	511	ORTIZ, HILARIO
890 035 00	20	19 N	09 E	SANTA FE	12/02/65	231	500	ORTIZ, JUAN J.
875 066 00	25	17 N	09 E	SANTA FE	08/30/38	M.16	220	ORTIZ, MANUAL
875 067 00	25	17 N	09 E	SANTA FE	08/22/38	M.16	212	ORTIZ, ONOFRE
890 016 00	20	19 N	09 E	SANTA FE	09/08/64	227	360	ORTIZ, PAT
890 027 00	20	19 N	09 E	SANTA FE	12/02/65	231	484	ORTIZ, PAT
890 055 00	09	19 N	09 E	SANTA FE	11/19/69	269	320	ORTIZ, RAMON
890 055 01	04	19 N	09 E	SANTA FE	11/19/69	269	320	ORTIZ, RAMON
890 087 00	11	19 N	09 E	SANTA FE	12/29/75	329	486	OSBORN, CHRISTINE M.
875 183 00	25	17 N	09 E	SANTA FE	10/16/81	429	143	OTERO, MIGUEL A.
875 068 00	05	16 N	09 E	SANTA FE	06/25/41	21	532	PACKARD, SIDNEY A.
875 126 00	27	17 N	09 E	SANTA FE	09/21/72	294	446	PADILLA, ALBERT
875 193 00	06	16 N	09 E	SANTA FE	10/07/82	449	491	PADILLA, HENRY
875 187 00	28	17 N	09 E	SANTA FE	01/22/82	434	405	PADILLA, MIKE
875 148 00	27	17 N	09 E	SANTA FE	12/29/75	329	491	PARACHOU, BARNARD
875 149 00	24	17 N	09 E	SANTA FE	08/02/76	337	149	PARKS & REC
875 069 00	00	00 X	00 0	SANTA FE	10/15/40	21	137	PEREA, MOISES ETUX
875 102 00	07	16 N	09 E	SANTA FE	05/20/63	203	1	PETCHESKY, PAULINE
875 138 00	31	17 N	09 E	SANTA FE	11/18/74	817	64	PETERSON, ROGER SHIPP
875 070 00	30	17 N	10 E	SANTA FE	10/19/45	28	416	PITCHER, MARY BREEZE
890 072 00	07	19 N	09 E	SANTA FE	02/11/70	270	688	POJOAQUE VALLEY BOARD OF EDUC.
835 042 99	01	20 N	08 E	SANTA FE				PRINGLE, JOE
875 146 00	20	17 N	10 E	SANTA FE	04/22/75	321	233	PUBLIC SERVICE CO OF N.M.
875 194 00	24	17 N	09 E	SANTA FE	10/27/82	450	506	R.H.S., INC.
875 124 00	27	17 N	09 E	SANTA FE	09/21/72	294	435	RAEL, JULIA
875 125 00	27	17 N	09 E	SANTA FE	09/21/72	294	437	RAEL, LAWRENCE O
875 071 00	30	17 N	10 E	SANTA FE	01/24/85	511	571	RICHARDSON, E.G.
875 191 00	08	16 N	09 E	SANTA FE	05/24/82	441	467	RICKLIN, F. COLLEEN
875 207 00	07	16 N	09 E	SANTA FE	12/30/83	479	758	RIVES, JAMES A.
875 178 00	06	16 N	09 E	SANTA FE	09/14/81	427	166	RODRIGUEZ, MILTON A.
875 151 00	31	17 N	09 E	SANTA FE	03/12/76	332	138	RODRIQUEZ, MILTON
875 170 00	29	17 N	09 E	SANTA FE	03/23/81	41757	6	ROMERO, AMARANTE
875 170 01	32	17 N	09 E	SANTA FE	03/23/81	41757	6	ROMERO, AMARANTE
890 031 00	20	19 N	09 E	SANTA FE	12/02/65	231	492	ROMERO, ATANACIO
890 032 00	20	19 N	09 E	SANTA FE	12/06/65	231	494	ROMERO, ATANACIO
890 060 00	20	19 N	09 E	SANTA FE	02/20/70	270	979	ROMERO, BERNARDINO
890 033 00	20	19 N	09 E	SANTA FE	12/02/65	231	496	ROMERO, EDWARD
875 186 00	31	17 N	09 E	SANTA FE	11/17/83	430	932	ROMERO, ELIZARDO

511966

DISTRIBUTION RIGHTS-OF-WAY AS OF 1-15-85

R.O.N.	Sect	Twnshp	Range	County	Recorded	Book	Page	Grantor
890 066 00	20	19 N	09 E	SANTA FE	02/20/70	270	991	ROMERO, FILEMON
890 049 00	12	19 N	08 E	SANTA FE	07/28/67	250	864	ROMERO, FRANK
890 068 00	20	19 N	09 E	SANTA FE	04/30/71	280	617	ROMERO, JOSE
890 014 00	20	19 N	09 E	SANTA FE	08/02/65	227	356	ROMERO, JOSE E
890 036 00	20	19 N	09 E	SANTA FE	12/02/65	231	502	ROMERO, JOSE E.
890 012 00	20	19 N	09 E	SANTA FE	09/08/64	227	352	ROMERO, JOSE J
890 041 00	12	19 N	08 E	SANTA FE	05/25/67	249	521	ROMERO, JULIA
890 030 00	20	19 N	09 E	SANTA FE	12/02/65	231	490	ROMERO, LUCINDA
890 069 00	17	19 N	09 E	SANTA FE	02/20/70	270	995	ROMERO, MARINA
890 070 00	17	19 N	09 E	SANTA FE	02/20/70	270	997	ROMERO, MARY
875 150 00	31	17 N	09 E	SANTA FE	08/13/76	337	703	ROMERO, ROSINALDO
890 059 00	20	19 N	09 E	SANTA FE	02/20/70	270	977	ROMERO, SAMUEL
890 061 00	20	19 N	09 E	SANTA FE	02/20/70	270	981	ROMERO, SAMUEL
890 007 00	20	19 N	09 E	SANTA FE	09/08/64	227	342	ROYBAL, BENJAMIN
875 072 00	25	17 N	09 E	SANTA FE	08/22/38	M.16	213	ROYBAL, CELISTINO
890 008 00	20	19 N	09 E	SANTA FE	09/08/64	227	344	ROYBAL, DOLORES
890 067 00	20	19 N	09 E	SANTA FE	02/20/70	270	993	ROYBAL, FELIGONIO
890 042 00	12	19 N	08 E	SANTA FE	05/25/67	249	519	ROYBAL, I.M.
875 115 00	23	17 N	09 E	SANTA FE	06/30/67	257	143	ROYBAL, MEDARDO D
875 197 99	20	17 N	10 E	SANTA FE	01/24/85	511	552	RUDOLF, BARRY
875 073 00	31	18 N	10 E	SANTA FE	07/01/40	21	12	RUFFNER, MARGARET ETAL
875 074 00	24	17 N	09 E	SANTA FE	01/24/85	511	569	SALAZAR, CAROLINA
875 075 00	00	00 X	00 X	SANTA FE	06/09/30	M.V	581	SALMON, NATHAN
875 076 00	24	17 N	09 E	SANTA FE	11/01/30	M.X	157	SALMON, NATHAN
890 077 00	18	19 N	08 E	SANTA FE	07/03/74		.	SAN ILDEFONSO NPA-77-SI-11
890 105 00	06	19 N	08 E	SANTA FE	03/26/84		.	SAN ILDEFONSO-NPA 84-SI-28
890 105 01	32	20 N	08 E	SANTA FE	03/26/84		.	SAN ILDEFONSO-NPA 84-SI-28
887 001 00	00	00 0	00 0	SANTA FE	05/10/62		.	SAN ILDEFONSO-NPA-74-SI-11
875 200 00	06	15 N	08 E	SANTA FE	04/18/83	460	794	SANCHEZ, ALFONSO G.
876 049 99	05	16 N	09 E	SANTA FE	07/24/30	MISC	67	SANCHEZ, ANGELITA ROMERO
875 108 00	26	17 N	09 E	SANTA FE	05/16/66	238	209	SANCHEZ, MANUEL A.
875 128 00	27	17 N	09 E	SANTA FE	09/21/72	294	439	SANDOVAL, ERNESTO
875 095 00	07	17 N	10 E	SANTA FE	08/17/36	14	13	SANTA FE ESTATES
875 095 01	18	17 N	10 E	SANTA FE	08/17/36	14	13	SANTA FE ESTATES
875 021 00	25	17 N	09 E	SANTA FE	08/09/40	21	12	SANTA FE HOLDING COMPANY
875 022 00	25	17 N	09 E	SANTA FE	10/22/30	MISC	149	SANTA FE HOLDING COMPANY
875 024 00	25	17 N	09 E	SANTA FE	06/07/30	M.V	569	SANTA FE HOLDING COMPANY
875 025 00	00	00 X	00 X	SANTA FE	06/07/30	M.V	577	SANTA FE HOLDING COMPANY
875 026 00	00	00 X	00 X	SANTA FE	06/07/30	M.V	568	SANTA FE HOLDING COMPANY
875 077 00	00	00 X	00 X	SANTA FE	06/07/30	M.V	578	SANTA FE HOLDING COMPANY
875 003 01	26	17 N	09 E	SANTA FE	.		.	SANTA FE LAND IMPROVEMENT
875 015 00	24	17 N	09 E	SANTA FE	08/17/36	14	12	SCHOOL OF AMERICAN RESEARCH
875 078 00	00	00 X	00 X	SANTA FE	12/03/45		.	SCOTT, LESTER F.
876 251 99	26	16 N	08 E	SANTA FE	04/07/75	320	844	SCOTT, STEPHEN LEE
875 079 00	30	17 N	10 E	SANTA FE	01/24/85	511	567	SENA, J.D. JR.
875 188 00	26	17 N	09 E	SANTA FE	01/22/82	434	403	SENLIC CORP.

511 567

DISTRIBUTION RIGHTS-OF-WAY AS OF 1-15-85

R.O.W.	Sect	Twnshp	Range	County	Recorded	Book	Page	Grantor
890 039 00	12	19 N	08 E	SANTA FE	05/25/67	249	525	SERNA, JOE GILBERT (WILLIE)
875 080 00	24	17 N	09 E	SANTA FE	10/03/32	M.X	629	SEYFORD, A. MRS.
875 206 00	08	16 N	09 E	SANTA FE	12/30/83	479	761	SHANNON, L.L.
875 081 00	25	17 N	09 E	SANTA FE	06/07/30	M.V	567	SHERMAN, BEN
875 220 99	34	17 N	09 E	SANTA FE	07/11/84		.	SILVERMAN, PAUL L.
875 082 00	30	17 N	10 E	SANTA FE	09/01/38	M.16	223	SIZER, JOHN A.ETUX
875 083 00	30	17 N	10 E	SANTA FE	06/01/31		.	SOSAYA, A.A.
875 084 00	29	17 N	10 E	SANTA FE	12/03/45		.	SOSAYA, A.A.
875 216 00	36	17 N	09 E	SANTA FE	06/26/84	493	809	SOUTHARD, JAMES L.
875 018 00	05	16 N	09 E	SANTA FE	04/08/55	102	262	SPAIN, W.C.
876 016 00	01	16 N	08 E	SANTA FE	08/02/65	227	334	SPANISH BAPTIST MISSION
875 111 00	02	16 N	09 E	SANTA FE	04/05/67	240	329	ST. MICHAEL'S COLLEGE
875 177 00	07	17 N	10 E	SANTA FE	10/31/80	408	930	STALEY, J.A.
875 190 00	34	16 N	08 E	SANTA FE	05/24/82	441	465	STATE OF NEW MEXICO
875 190 01	35	16 N	08 E	SANTA FE	05/24/82	441	465	STATE OF NEW MEXICO
875 131 00	25	18 N	09 E	SANTA FE	12/15/72	296	640	STEDMAN, MYRTLE L
875 093 00	25	18 N	09 E	SANTA FE	09/03/36	14	34	STEEN, BONNIE
875 020 00	33	17 N	09 E	SANTA FE	02/18/54	85	128	STERN, N.B.
875 023 00	25	17 N	09 E	SANTA FE	06/07/30	M.V	566	STERN, NATHAN B.
875 027 00	00	00 X	00 X	SANTA FE	06/07/30	M.V	566	STERN, NATHAN B.
875 098 00	27	17 N	09 E	SANTA FE	09/09/62	193	376	TAPIA, MARIA S.
875 085 00	00	00 X	00 X	SANTA FE	01/24/85	511	565	THOMAS, BRADLEY M.
875 229 99	34	17 N	09 E	SANTA FE	10/04/84		.	THOMAS, BRANDLEY M.
875 086 00	00	00 X	00 X	SANTA FE	06/06/30	M.V	574	THORNBRING, D.W.
875 100 00	13	17 N	09 E	SANTA FE	04/08/63	200	427	TRIGNON COMPANY
890 044 00	12	19 N	08 E	SANTA FE	05/25/67	249	515	TRUJILLO, EFROCINIO
890 045 00	12	19 N	08 E	SANTA FE	05/25/67	249	513	TRUJILLO, ENRIQUE
890 085 00	07	19 N	09 E	SANTA FE	02/28/75	319	801	TRUJILLO, HENRY R.
890 094 00	05	19 N	09 E	SANTA FE	01/16/76	330	291	TRUJILLO, JOE
890 057 00	04	19 N	09 E	SANTA FE	11/19/69	269	324	TRUJILLO, LEONARD
890 093 00	05	19 N	09 E	SANTA FE	01/16/76	330	293	TRUJILLO, LUISA
890 020 00	10	19 N	09 E	SANTA FE	05/26/65	239	323	TRUJILLO, PASQUALITA
890 053 00	09	19 N	09 E	SANTA FE	11/19/69	269	316	TRUJILLO, SALOMON
875 087 00	30	17 N	10 E	SANTA FE	07/07/31	XMISS	353	TRUJILLO,J.M.
876 017 00	01	16 N	08 E	SANTA FE	06/14/65	225	535	ULIBARRI, GILBERT
875 099 00	24	17 N	09 E	SANTA FE	10/27/60	200	429	UNITED PRESBYTERIAN CHURCH
835 003 00	02	20 N	08 E	SANTA FE	01/29/62	187	321	VALDEZ, BARTOLO
875 117 00	07	16 N	09 E	SANTA FE	06/14/71	285	159	VALENCIA, CRUZ
875 107 00	24	17 N	09 E	SANTA FE	11/01/48	38	8	VAN TUYLE, R.P.
875 167 00	05	16 N	09 E	SANTA FE	12/02/80	410	921	VEGAS VERDES PARTNERSHIP
875 208 00	30	17 N	10 E	SANTA FE	12/05/83	476	880	VIGIL, IGNACIO L.
890 052 00	09	19 N	09 E	SANTA FE	11/19/69	269	314	VIGIL, LONGINO
875 161 00	25	18 N	09 E	SANTA FE	07/05/79	383	23	VILES, MARY JANE ETAL
890 002 00	12	19 N	08 E	SANTA FE	12/16/65	221	455	WAIT, FAITH L
875 088 00	25	17 N	09 E	SANTA FE	06/09/30	M.V	575	WARE, R.V.
875 089 00	24	17 N	09 E	SANTA FE	.		.	WELTMER, NOYCE

511968

DISTRIBUTION RIGHTS-OF-WAY AS OF 1-15-85

R.O.W.	Sect	Twnshp	Range	County	Recorded	Book	Page	Grantor
875 090 00	24	17 N	09 E	SANTA FE	01/24/85	511	563	HILLIAMS, HUGH H.
875 174 00	20	17 N	10 E	SANTA FE	07/07/81	423	579	WOODARD, MARY ANN
890 047 00	12	19 N	08 E	SANTA FE	05/25/67	249	509	WOODSON, CHESTER
875 213 00	26	17 N	09 E	SANTA FE	05/31/84	491	754	WOOLLEY,THOMAS W.
875 185 00	30	17 N	10 E	SANTA FE	12/07/81	431	965	YATES, RICHARD
875 212 00	19	17 N	10 E	SANTA FE	05/31/84	491	752	800 EAST PARTNERSHIP

511969

511970

Santa Fe County

RIGHTS-OF-WAY HELD BY P/L ENGINEERING AS OF 1-1-85

R.O.W.	LOCATION	COUNTY	GRANTED	RECORDED	GRANTOR
880-001-01	17N09E31	SANTA FE	03/05/57	B30 P370	ANNON JOSEPH E
880-001-02	16N09E05	SANTA FE	03/05/57	B30 P370	ANNON JOSEPH E
880-001-03	16N09E06	SANTA FE	03/05/57	B30 P370	ANNON JOSEPH E
880-004-19	17N09E31A	SANTA FE	03/05/57	B132 P157	ANNON JOSEPH ETUX
880-004-20	16N09E05	SANTA FE	03/05/57	B132 P157	ANNON JOSEPH ETUX
880-004-21	16N09E06	SANTA FE	03/05/57	B132 P157	ANNON JOSEPH ETUX
876-029-00	17N09E33	SANTA FE	07/30/30	BXM P115	BACA BONIFACIO S Y
876-028-01	15N08E05	SANTA FE	09/10/30	BXM P106	BACA COSME ESTATE OF
876-028-02	15N08E08	SANTA FE	09/10/30	BXM P106	BACA COSME ESTATE OF
880-017-01	16N09E05	SANTA FE	10/17/46	B30 P383	BACA DANIEL ETUX
880-017-02	17N09E32	SANTA FE	10/17/46	B30 P383	BACA DANIEL ETUX
876-030-00	16N09E06	SANTA FE	07/23/30	BXM P51	BACA JOSE H ETAL
876-031-00	16N09E06	SANTA FE	07/23/30	BXM P52	BACA JOSE H ETAL
876-032-00	16N08E11	SANTA FE	08/02/30	BXM P107	BACA JUAN ETAL
876-033-00	16N08E06	SANTA FE	07/24/30	BXM P69	BACA JUAN ETAL
876-034-00	16N08E06	SANTA FE	07/24/30	BXM P70	BACA JUAN ETAL
880-004-22	16N09E06	SANTA FE	07/30/46	B30 P370	BACa LORENZO ETUX
876-035-00	16N08E23	SANTA FE	09/09/30	BXM P108	BARTO KENNETH P ETAL
876-234-00	16N09E18F	SANTA FE	09/18/68	B281 P816	BASS HUGH L ETAL
876-036-00	16N09E18	SANTA FE	09/10/30	BXM P126	BECKNER AMOS W
880-018-01	16N09E05	SANTA FE	09/25/46	B30 P380	BERMUDEZ MANUEL ETUX
880-018-02	17N09E32	SANTA FE	09/25/46	B30 P380	BERMUDEZ MANUEL ETUX
876-243-00	16N09E07M	SANTA FE	06/16/72	B294 P407	BOLES L G
876-236-01	16N09E07O	SANTA FE	09/19/68	B270 P686	BOYD CHARLES J ETAL
876-236-02	16N09E18H	SANTA FE	09/19/68	B270 P686	BOYD CHARLES J ETAL
876-237-00	16N09E07	SANTA FE	09/19/68	B269 P72	BOYD CHARLES J ETAL
876-206-01	15N07E12	SANTA FE	03/11/63	B200 P425	BROWN BILLY N ETAL
876-206-02	15N08E07	SANTA FE	03/11/63	B200 P425	BROWN BILLY N ETAL
876-037-00	16N08E24C	SANTA FE	08/19/30	BXM P85	BURNSIDE WILLIAM E
876-038-00	16N08E34F	SANTA FE	12/26/30	BXM P85	CARLSON JOSEPHINE
876-039-00	16N09E05	SANTA FE	07/22/30	BXM P20	DE GONZALES H R ESTA
876-040-00	16N09E06	SANTA FE	07/23/30	BXM P47	DE LOPEZ F V
876-041-00	16N09E06	SANTA FE	07/23/30	BXM P48	DE LOPEZ F V
876-042-00	16N09E06	SANTA FE	07/23/30	BXM P46	DE LOPEZ F V
876-043-00	16N09E06	SANTA FE	07/24/30	BXM P55	DE MARTINEZ A L
876-047-00	16N09E06	SANTA FE	07/22/30	BXM P28	DE MONTOYA ELIZA L
876-047-01	16N09E05	SANTA FE	07/24/30	BXM P72	DE RIBAL SIMPLICIA L
876-047-02	16N09E06	SANTA FE	07/24/30	BXM P72	DE RIBAL SIMPLICIA L
880-008-00	16N09E05	SANTA FE	07/31/46	B30 P371	FIORINA ANTHONE
880-010-01	16N09E05	SANTA FE	09/19/46	B30 P375	GALLEGOS ELIAS
880-010-02	17N09E32	SANTA FE	09/19/46	B30 P375	GALLEGOS ELIAS
880-011-02	17N09E32	SANTA FE	09/30/46	B30 P381	GALLEGOS ELIAS
876-056-00	16N08E33P	SANTA FE	03/09/53	B78 P466	GONZALES H A ETAL
876-232-00	16N08E33O	SANTA FE	07/24/68	B269 P68	GONZALES HENRY ETAL

EXHIBIT A

511971

SAS

RIGHTS-OF-WAY HELD BY P/L ENGINEERING AS OF 1-1-85

R.O.W.	LOCATION	COUNTY	GRANTED	RECORDED	GRANTOR
876-057-01	15N08E05M	SANTA FE	08/19/30	BXM P87	GUTIERREZ A ETAL
876-057-02	15N08E07D	SANTA FE	08/19/30	BXM P87	GUTIERREZ A ETAL
876-060-00	16N08E24B	SANTA FE	09/20/30	BXM P58	HERNANDEZ M ETAL
880-012-01	16N09E05	SANTA FE	09/30/46	B30 P382	JACKSON HARRY ETUX
880-012-02	17N09E32	SANTA FE	09/30/46	B30 P382	JACKSON HARRY ETUX
876-001-00	16N09E05	SANTA FE	12/28/60	B176 P216	JOHNSON M ETAL
876-061-00	16N08E24B	SANTA FE	09/20/30	BXM P129	JONES ROSE M
876-198-00	15N07E32N	SANTA FE	07/25/60	B511 P591	KAISER GYPSUM CO INC
876-062-00	16N08E04	SANTA FE	08/02/30	BXM P109	KUGLER JACK
876-066-01	16N09E05	SANTA FE	07/24/30	BXM P68	LOPEZ ANTANSIO ETAL
876-066-02	16N09E06	SANTA FE	07/24/30	BXM P68	LOPEZ ANTANSIO ETAL
876-063-00	16N09E05	SANTA FE	07/22/30	BXM P25	LOPEZ ANTONIO ETAL
876-064-00	16N09E05	SANTA FE	07/22/30	BXM P24	LOPEZ ANTONIO ETAL
876-065-00	16N09E05	SANTA FE	07/22/30	BXM P23	LOPEZ ANTONIO ETAL
880-021-01	16N09E05	SANTA FE	09/25/46	B30 P377	LOPEZ ATANACIO
880-021-02	17N09E06	SANTA FE	09/25/46	B30 P377	LOPEZ ATANACIO
880-021-03	17N09E31	SANTA FE	09/25/46	B30 P377	LOPEZ ATANACIO
880-021-04	17N09E32	SANTA FE	09/25/46	B30 P377	LOPEZ ATANACIO
876-067-00	16N08E12F	SANTA FE	08/02/30	BXM P110	LOPEZ B ETAL
876-048-01	16N09E05	SANTA FE	07/24/30	BX P72	LOPEZ DE RIBAL
876-048-02	16N09E06	SANTA FE	07/24/30	BX P72	LOPEZ DE RIBAL
876-068-00	16N09E06	SANTA FE	07/23/30	BXM P43	LOPEZ FEDERICO ETAL
876-069-00	16N09E06	SANTA FE	07/23/30	BXM P56	LOPEZ FEDERICO ETAL
876-070-00	16N09E05	SANTA FE	07/22/84	BXM P31	LOPEZ FELIX ETAL
876-071-00	16N09E05	SANTA FE	07/23/30	BXM P59	LOPEZ FRANCISCO
880-023-01	16N09E05	SANTA FE	10/17/46	B30 P384	LOPEZ HIPOLITO ETUX
880-023-02	17N09E31	SANTA FE	10/17/46	B30 P384	LOPEZ HIPOLITO ETUX
880-023-03	16N09E06	SANTA FE	10/17/46	B30 P384	LOPEZ HIPOLITO ETUX
880-015-01	16N09E05	SANTA FE	08/31/46	B30 P374	LOPEZ ISIDRO ETUX
880-015-02	17N09E32	SANTA FE	08/31/46	B30 P374	LOPEZ ISIDRO ETUX
876-072-00	16N09E05	SANTA FE	07/23/30	BXM P64	LOPEZ NICOLAS
876-073-00	16N09E06	SANTA FE	07/23/30	BXM P63	LOPEZ NICOLAS
876-074-00	16N09E05	SANTA FE	07/22/30	BXM P63	LUJAN NARCISO ETAL
876-075-00	16N09E06	SANTA FE	07/23/30	BXM P62	LYNCH HENRY ETUX
876-111-00	16N09E08	SANTA FE	05/02/69	B511 P661	MARKS CEDRIC H
876-076-00	16N09E04F	SANTA FE	10/06/30	BXM P148	MAVERICK W H
876-077-00	16N09E05	SANTA FE	07/22/30	BXM P27	MIER ANTONIO E ETAL
876-078-00	16N09E34	SANTA FE	09/16/30	B259 P874	MILLER EUGENIA ESTAT
876-233-01	16N08E33	SANTA FE	09/16/68	B259 P871	MILLER EUGENIA ESTAT
876-233-02	16N08E34	SANTA FE	09/16/68	B259 P871	MILLER EUGENIA ESTAT
876-079-00	LOS CERIL	SANTA FE	08/19/30	BXM P88	MOCHO J B ETAL
876-080-00	16N09E06	SANTA FE	07/23/30	BXM P40	MONTOYA CIRACO ETAL
876-081-00	16N09E06	SANTA FE	07/23/30	BXM P53	MONTOYA ISIDRO ETAL
876-082-00	16N09E05	SANTA FE	08/19/30	BXM P89	MONTOYA JOSE ETAL

511972

178

RIGHTS-OF-WAY HELD BY P/L ENGINEERING AS OF 1-1-85

R.O.W.	LOCATION	COUNTY	GRANTED	RECORDED	GRANTOR
876-083-00	16N09E05	SANTA FE	07/22/30	BXM P32	MONTOYA JOSE ETAL
876-084-00	16N09E05	SANTA FE	07/22/30	BXM P33	MONTOYA JOSE ETAL
876-085-00	16N09E05	SANTA FE	07/23/30	BXM P34	MONTOYA T ETAL
876-086-00	16N09E06	SANTA FE	07/23/30	BXM P66	MORA HILARIO ETAL
880-003-01	16N09E05	SANTA FE	01/05/84	B480 P834	MOTEL 6 INC
876-087-00	16N09E05	SANTA FE	07/22/30	BXM P34	ORTIZ JUAN Y ELFIGE
876-088-00	16N09E05	SANTA FE	07/22/30	BXM P35	ORTIZ MANUEL
876-089-00	16N09E05	SANTA FE	08/18/30	BXM P90	ORTIZ MANUEL
876-231-01	15N08E04D	SANTA FE	08/05/68	B269 P66	PALOHEIMO Y A ETAL
876-231-02	16N08E33N	SANTA FE	08/05/68	B269 P66	PALOHEIMO Y A ETAL
876-090-00	16N08E24	SANTA FE	08/30/30	BXM P112	PARKER OLIVER
876-091-00	16N09E06	SANTA FE	07/23/30	BXM P57	PATTERSON I A MRS
876-008-00	16N09E18	SANTA FE	09/11/31	B511 P587	POLLARD C L
876-235-00	16N09E18C	SANTA FE	09/17/68	B269 P70	REYNOLDS L J SR ETAL
876-092-00	16N09E05	SANTA FE	09/23/30	BXM P135	RIBERA JOSE A
880-022-01	16N09E05	SANTA FE	08/24/46	B30 P378	RIVERA ABELINO ETUX
880-022-02	17N08E23	SANTA FE	08/24/46	B30 P378	RIVERA ABELINO ETUX
880-025-00	17N08E23	SANTA FE	07/17/47	B34 P91	RIVERA ABELINO ETUX
876-093-00	16N09E05	SANTA FE	07/22/30	BXM P38	ROMERO CANDELARIO ET
876-094-00	16N09E05	SANTA FE	07/22/30	BXM P37	ROMERO CANDELARIO ET
880-019-01	16N09E05	SANTA FE	08/31/46	B30 P391	ROMERO DELFIN ETUX
880-019-02	17N09E06	SANTA FE	08/31/46	B30 P391	ROMERO DELFIN ETUX
880-019-03	17N09E31	SANTA FE	08/31/46	B30 P391	ROMERO DELFIN ETUX
880-019-04	17N09E32	SANTA FE	08/31/46	B30 P391	ROMERO DELFIN ETUX
880-020-01	16N09E05	SANTA FE	08/31/46	B30 P390	ROMERO DELFIN ETUX
880-020-02	16N09E06	SANTA FE	08/31/46	B30 P390	ROMERO DELFIN ETUX
880-020-03	17N09E31	SANTA FE	08/31/46	B30 P390	ROMERO DELFIN ETUX
880-020-04	17N09E32	SANTA FE	08/31/46	B30 P390	ROMERO DELFIN ETUX
876-095-00	16N09E05	SANTA FE	07/29/30	BXM P114	ROMERO EMILIANO ETAL
876-096-00	16N09E05	SANTA FE	07/24/30	BXM P71	ROMERO EMITERIO
876-097-01	16N08E19D	SANTA FE	08/02/30	BXM P113	ROMERO EPIFANIO
876-097-02	16N08E30E	SANTA FE	08/02/30	BXM P113	ROMERO EPIFANIO
876-098-00	16N09E06	SANTA FE	07/23/30	BMX P42	ROMERO FABIN ETAL
876-099-00	15N07E12	SANTA FE	09/27/30	BMX P134	ROMERO FACUNDO ETAL
876-100-00	16N09305	SANTA FE	07/24/30	BMX P44	ROMERO FELIX YD ETAL
880-013-01	16N09E05	SANTA FE	08/16/46	B30 P368	ROMERO FLORA G
880-013-02	17N09E32	SANTA FE	08/16/46	B30 P368	ROMERO FLORA G
876-101-00	16N09305	SANTA FE	07/23/30	BMX P65	ROMERO JUAN F ETAL
876-102-00	16N09305	SANTA FE	07/23/30	BMX P50	ROMERO JUANITA G
876-103-00	16N09306	SANTA FE	07/23/30	BMX P39	ROMERO JUANITA G
876-104-00	16N09306	SANTA FE	07/23/30	BMX P49	ROMERO JUANITA G
876-105-00	16N09E05	SANTA FE	07/23/30	BMX P61	ROMERO LUIS ETAL
876-106-00	16N09E05	SANTA FE	07/22/30	BMX P36	ROMERO LUIS ETAL
880-009-01	16N09E05	SANTA FE	09/25/46	B30 P376	ROMERO LUIS ETUX

511973

RIGHTS-OF-WAY HELD BY P/L ENGINEERING AS OF 1-1-85

R.O.W.	LOCATION	COUNTY	GRANTED	RECORDED	GRANTOR
880-009-02	17N09E32	SANTA FE	09/25/46	B30 P376	ROMERO LUIS ETUX
880-014-01	16N09E05	SANTA FE	09/25/46	B30 P379	ROMERO Y DOMINGUES
880-014-02	17N09E32	SANTA FE	09/25/46	B30 P379	ROMERO Y DOMINGUES
880-006-00	16N09E05	SANTA FE	09/08/64	B219 P254	SAIZ RICARDO JR
880-011-01	16N09E05	SANTA FE	09/30/46	B30 P381	SANCHEZ ELIOSA
880-033-01	17N09E31	SANTA FE	02/25/82	B436 P320	SANCHEZ PHIL
876-107-00	16N09E05	SANTA FE	07/22/30	BMX P60	SANCHEZ SIXTO ETAL
876-262-00	16N09E07	SANTA FE	12/21/83	B480 P836	SANTA FE AUTO PARK
876-259-01	17N08E02D	SANTA FE	10/20/80	B408 P172	SANTA FE ESTATES INC
876-002-00	16N08E04	SANTA FE	04/11/57	B134 P62	SIMMS J F JR ETAL
876-110-00	16N08E13I	SANTA FE	09/02/30	BXM P127	SMITH NICHOLAS ETAL
876-009-00	16N09E18	SANTA FE	09/11/31	B511 P587	SODDERS RUSSELL
876-006-00	MISSING	SANTA FE	10/01/31	B511 P585	SOUDERS
876-112-00	16N09E05P	SANTA FE	08/19/30	BXM P92	SOUDERS RUSSELL ETUX
876-238-00	15N07E20	SANTA FE	07/31/70	B275 P308	SOUTHWEST LAND CORP
876-113-00	16N09E06P	SANTA FE	07/24/30	BMX P41	TELLES LUCAS ETAL
876-239-01	15N07E21A	SANTA FE	07/02/70	B276 P925	THOMPSON L JR ETAL
876-239-02	15N07E16P	SANTA FE	07/02/70	B276 P925	THOMPSON L JR ETAL
876-239-03	15N07E15N	SANTA FE	07/02/70	B276 P925	THOMPSON L JR ETAL
876-239-04	15N07E14L	SANTA FE	07/02/70	B276 P925	THOMPSON L JR ETAL
876-239-05	15N07E11P	SANTA FE	07/02/70	B276 P925	THOMPSON L JR ETAL
876-239-06	15N07E12M	SANTA FE	07/02/70	B276 P925	THOMPSON L JR ETAL
876-261-00	16N09E08E	SANTA FE	09/05/84	B501 P830	VILLA LINDA MALL CO
876-114-00	16N09E05P	SANTA FE	08/20/30	BMX P94	WAFFENSMITH J W ETAL
880-007-00	16N09E05D	SANTA FE	08/19/46	B30 P373	WAFFENSMITH JACOB W
876-115-00	16N09E12F	SANTA FE	08/02/30	BMX P116	WALTERS OTTO F ETAL

511974

180

SANTA FE COUNTY

AMENDED ASSIGNMENT
AND DELEGATION

THIS AMENDED ASSIGNMENT is executed as of July 1, 1985, from SOUTHERN UNION COMPANY (herein called "Assignor"), a Delaware corporation, to PUBLIC SERVICE COMPANY OF NEW MEXICO (herein called "Assignee"), a New Mexico corporation, Alvarado Square, Albuquerque, New Mexico 87158.

WITNESSETH:

WHEREAS, the Assignment and Delegation of Rights-of-Way dated as of January 28, 1985, from Assignor to Assignee was filed for record in Book 511, Pages 959-974 of the records of the County Clerk of Santa Fe County, New Mexico, on January 29, 1985 (the "Assignment and Delegation"); and

WHEREAS, subsequent to the execution and recording of said Assignment and Delegation, certain rights-of-way, easements, and licenses described therein have been filed of record and errors in the legal descriptions of certain rights-of-way, easements and licenses described therein have been corrected; and

WHEREAS, the purpose of this Amended Assignment and Delegation is to amend the Assignment and Delegation in the manner described in the preceding paragraph;

NOW THEREFORE, for TEN AND NO/100 DOLLARS ($10.00) and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged by Assignor, Assignor hereby assigns, transfers, grants, conveys, and sets

over to Assignee, all of Assignor's right, title and interest in and to all rights-of-way easements and licenses now held by it or to which it is entitled located in Santa Fe County, New Mexico together with all of the agreements, plats, dedications, judgments, decrees and instruments granting and establishing the same, including but not limited to those described in Exhibit "A" attached hereto and incorporated herein (herein called "Interests");

TO HAVE AND TO HOLD the Interests unto Assignee and its successors and assigns forever.

Assignor also hereby grants and transfers to Assignee, its successors and assigns, to the extent so transferable, the benefit of and the right to enforce the rights, covenants, and warranties, if any, which Assignor is entitled to enforce with respect to the Interests against Assignor's predecessors in title to the Interests.

This Assignment and Delegation is executed pursuant to and in furtherance of the obligations of Assignor unto Assignee as set forth in that certain Purchase and Sale Agreement entered into as of April 12, 1984 (the "Purchase and Sale Agreement") Assignee hereby accepts this Assignment and Delegation and assumes the Interests pursuant to and in furtherance of the obligations of Assignee unto Assignor as set forth in the

Purchase and Sale Agreement. Said Purchase and Sale Agreement sets forth the obligations, duties, representations and warranties, covenants and right of indemnification as between Assignor and Assignee.

Separate assignments of the Interests may be executed on officially approved forms by Assignor to Assignee in sufficient counterparts to satisfy applicable statutory and regulatory requirements. Such assignments shall be deemed to incorporate by reference the provisions of this Instrument as fully as though each were set forth in each such assignment, and the Interests conveyed by such separate assignments are to be the same as, and not in addition to the Interests conveyed herein.

This Assignment shall bind and inure to the benefit of Assignor and Assignee and their respective successors and assigns.

IN WITNESS WHEREOF, the undersigned have executed this Assignment as of the date first above written.

SOUTHERN UNION COMPANY, Assignor

By: _____

Name: Ronald J Endres

Title: Vice President

ASSIGNMENT AND DELEGATION - Page 3

585451

STATE OF NEW MEXICO
COUNTY OF SANTA FE } ss

Witness my Hand and Seal of Office
ANGIE VIGIL PEREZ
County Clerk, Santa Fe County, N.M.

I hereby certify that this instrument was filed for record on the 24th day of July A.D., 1986 at 11:41 o'clock A m. and was duly recorded in book 522 page 422-424 of the records of Santa Fe County.

Deputy

542426

PUBLIC SERVICE COMPANY OF NEW MEXICO, Assignee

By: J. T. Ackerman

Name: JOHN T. ACKERMAN

Title: PRESIDENT

STATE OF TEXAS)
)ss.
COUNTY OF DALLAS)

The foregoing instrument was acknowledged before me this 5th day of December, 1985, by Ronald J. Endres Vice President of Southern Union Company, a Delaware corporation, on behalf of said corporation.

Notary Public

My Commission Expires:

5/1/89

STATE OF NEW MEXICO)
)ss.
COUNTY OF BERNALILLO)

OFFICIAL SEAL
ELAINE R. MAYO
NOTARY PUBLIC - NEW MEXICO
Notary Bond Filed with Secretary of State
My Commission Expires 4/19/86

The foregoing instrument was acknowledged before me this 20th day of Dec., 1985, by John T. Ackerman President and Chief Operating Officer, Gas Operations of Public Service Company of New Mexico, a New Mexico corporation, on behalf of said corporation.

Notary Public

My Commission Expires:

April 19, 1986

RIGHTS-OF-WAY HELD BY P/L ENGINEERING AS OF 4-1-25

R.O.W.	LOCATION	COUNTY	GRANTED	RECORDED	GRANTOR
880-001-01	17N09E31	SANTA FE	03/05/57	B132 P157	ANNON JOSEPH E ETUX
880-001-02	16N09E05	SANTA FE	03/05/57	B132 P157	ANNON JOSEPH E ETUX
880-001-03	16N09E06	SANTA FE	03/05/57	B132 P [illegible]	ANNON JOSEPH E ETUX
880-004-19	17N09E31A	SANTA FE	03/05/57	B132 P[illegible]	ANNON JOSEPH ETUX
880-004-20	16N09E05	SANTA FE	03/05/57	B132 P157	ANNON JOSEPH ETUX
880-004-21	16N09E06	SANTA FE	03/05/57	B132 P157	ANNON JOSEPH ETUX
880-017-01	16N09E05	SANTA FE	10/17/46	B30 P383	BACA DANIEL ETUX
880-017-02	17N09E32	SANTA FE	10/17/46	B30 P383	BACA DANIEL ETUX
876-030-00	16N09E06	SANTA FE	07/23/30	BMX P51	BACA JOSE H ETUX
876-031-00	16N09E05	SANTA FE	07/23/30	BMX P52	BACA JOSE H ETUX
876-032-00	16N08E11	SANTA FE	08/02/30	BMX P107	BACA JUAN ETUX
876-033-00	16N08E06	SANTA FE	07/24/30	BMX P69	BACA JUAN ETUX
876-034-00	16N08E06	SANTA FE	07/24/30	BMX P70	BACA JUAN ETUX
876-035-00	16N08E23	SANTA FE	09/09/30	BMX P108	BARTO KENNETH P ETUX
876-234-00	16N09E18F	SANTA FE	09/16/68	B281 P816	BASS HUGH L ETUX
880-018-01	16N09E05	SANTA FE	09/25/46	B30 P380	BERMUDEZ MANUEL ETUX
880-018-02	17N09E32	SANTA FE	09/25/46	B30 P380	BERMUDEZ MANUEL ETUX
880-029-00	17N09E29	SANTA FE	06/26/59	B158 P21	BLM PATENT NM1196751
876-243-00	16N09E07M	SANTA FE	06/16/72	B294 P407	BOLES L G
876-236-01	16N09E07Q	SANTA FE	09/19/68	B270 P686	BOYD CHARLES J ETAL
876-236-02	16N09E18M	SANTA FE	09/19/68	B270 P686	BOYD CHARLES J ETAL
876-237-00	16N09E07	SANTA FE	09/19/68	B269 P72	BOYD CHARLES J ETAL
876-206-01	15N07E12	SANTA FE	03/13/63	B200 P425	BROWN BILLY N ETAL
876-206-02	15N08E07	SANTA FE	03/11/63	B200 P425	BROWN BILLY N ETAL
876-206-03	15N07E12	SANTA FE	08/21/62	B193 P112	BROWN BILLY N ETAL
876-206-04	15N08E07	SANTA FE	08/21/62	B193 P112	BROWN BILLY N ETAL
876-037-00	16N08E24C	SANTA FE	08/19/30	BMX P85	BURNSIDE WILLIAM E
876-039-00	16N09E05	SANTA FE	07/22/30	BMX P20	DE GONZALES A R EST
876-040-00	16N09E06	SANTA FE	07/23/30	BMX P47	DE LOPEZ F VELARDE
876-041-00	16N09E04	SANTA FE	07/23/30	BMX P48	DE LOPEZ F VELARDE
876-042-00	16N09E06	SANTA FE	07/23/30	BMX P46	DE LOPEZ F VELARDE
876-043-00	16N09E06	SANTA FE	07/24/30	BMX P55	DE MARTINEZ A LOPEZ
876-047-00	16N09E06	SANTA FE	07/22/30	BMX P28	DE MONTOYA E LOPEZ
876-048-01	16N09E05	SANTA FE	07/24/30	BMX P72	DE RIBAL S LOPEZ
876-048-02	16N09E06	SANTA FE	07/24/30	BMX P72	DE RIBAL S LOPEZ
880-008-00	16N09E05	SANTA FE	07/31/46	B30 P371	FIORINA ANTHONY ETUX
880-003-00	16N09E05	SANTA FE	03/29/74	B317 P428	FIORINI MARY ELLEN
880-010-01	16N09E05	SANTA FE	09/19/46	B30 P375	GALLEGOS ELIAS
880-010-02	17N09E32	SANTA FE	09/19/46	B30 P375	GALLEGOS ELIAS
880-011-02	17N09E32	SANTA FE	09/30/46	B30 P381	GALLEGOS ELIAS
880-016-01	17N09E32	SANTA FE	09/30/46	B30 P385	GONZALES E ETAL
880-016-02	16N09E05	SANTA FE	09/30/46	B30 P385	GONZALES E ETAL
876-056-00	16N08E33P	SANTA FE	03/09/55	B78 P466	GONZALES H A ETUX
876-232-00	16N08E33O	SANTA FE	07/24/68	B269 P68	GONZALES HENRY ETUX

RIGHTS-OF-WAY HELD BY P/L ENGINEERING AS OF 4-1-85

R.O.W.	LOCATION	COUNTY	GRANTED	RECORDED	GRANTOR
876-057-01	15N08E05M	SANTA FE	08/19/30	BMX P87	GUTIERREZ A ETUX
876-057-02	15N08E07B	SANTA FE	08/19/30	BMX P87	GUTIERREZ A ETUX
876-060-00	16N08E12B	SANTA FE	08/23/30	BMX P58	HERNANDEZ M ETUX
880-012-01	16N09E05	SANTA FE	09/30/46	B30 P382	JACKSON HARRY ETUX
880-012-02	17N09E32	SANTA FE	09/30/46	B30 P382	JACKSON HARRY ETUX
876-061-00	16N09E05	SANTA FE	12/28/60	B276 P216	JOHNSON M ETUX
876-051-00	16N08E24B	SANTA FE	09/20/30	BMX P129	JONES ROSE M
876-198-00	15N07E32N	SANTA FE	07/25/60	B513 P593	KAISER GYPSUM CO INC
876-062-00	16N08E04	SANTA FE	08/02/33	BMX P109	KUGLER JACK
876-065-01	16N09E05	SANTA FE	07/24/30	BMX P68	LOPEZ ANTANASIO ETAL
876-066-02	16N09E06	SANTA FE	07/24/30	BMX P68	LOPEZ ANTANASIO ETAL
876-053-00	16N09E05	SANTA FE	07/22/30	BMX P29	LOPEZ ANTONIO ETUX
876-064-00	16N09E05	SANTA FE	07/22/30	BMX P24	LOPEZ ANTONIO ETUX
876-055-00	16N09E05	SANTA FE	07/23/30	BMX P23	LOPEZ ANTONIO ETUX
880-021-01	16N09E05	SANTA FE	09/25/46	B30 P377	LOPEZ ATANACIO
880-021-02	16N09E06	SANTA FE	09/25/46	B30 P377	LOPEZ ATANACIO
880-021-03	17N09E31	SANTA FE	09/25/46	B30 P377	LOPEZ ATANACIO
880-021-04	17N09E32	SANTA FE	09/25/46	B30 P377	LOPEZ ATANACIO
876-067-00	16N08E12F	SANTA FE	08/02/30	BMX P110	LOPEZ BERNADINO ETUX
876-068-00	16N09E06	SANTA FE	07/23/30	BMX P43	LOPEZ FEDERICO ETUX
876-069-00	16N09E06	SANTA FE	07/23/30	BMX P56	LOPEZ FEDERICO ETUX
876-070-00	16N09E05	SANTA FE	07/22/30	BMX P31	LOPEZ FELIZ ETUX
876-071-00	16N09E05	SANTA FE	07/23/30	BMX P59	LOPEZ FRANCISCO
880-023-01	16N09E05	SANTA FE	10/17/46	B30 P384	LOPEZ HIPOLITO ETUX
880-023-02	17N09E31	SANTA FE	10/17/46	B30 P384	LOPEZ HIPOLITO ETUX
880-023-03	16N09E06	SANTA FE	10/17/46	B30 P384	LOPEZ HIPOLITO ETUX
880-025-01	16N09E05	SANTA FE	08/31/46	B30 P374	LOPEZ ISIDRO ETUX
880-025-02	17N09E32	SANTA FE	08/31/46	B30 P374	LOPEZ ISIDRO ETUX
876-072-00	16N09E05	SANTA FE	07/23/30	BMX P64	LOPEZ NICOLAS
876-073-00	16N09E06	SANTA FE	07/23/30	BMX P63	LOPEZ NICOLAS
876-074-00	16N09E05	SANTA FE	07/22/30	BMX P26	LUJAN NARCISO ETUX
876-075-00	16N09E06	SANTA FE	07/23/30	BMX P62	LYNCH HENRY ETUX
876-111-00	16N09E06	SANTA FE	05/02/69	B511 P661	MARKS CEDRIC H
876-077-00	16N09E05	SANTA FE	07/22/30	BMX P27	MIER ANTONIO C ETUX
876-078-01	16N09E36	SANTA FE	09/16/68	B259 P874	MILLER EUGENIA EST
876-233-01	16N08E35	SANTA FE	09/16/68	B259 P871	MILLER EUGENIA EST
876-233-02	16N09E34	SANTA FE	09/16/68	B259 P871	MILLER EUGENIA EST
876-078-02	16N09E34	SANTA FE	03/28/30	BMX P131	MILLER WALTER
876-079-00	LOS CERRIL	SANTA FE	08/19/30	BMX P88	MOCIO J B ETUX
876-080-00	16N09E05	SANTA FE	07/23/30	BMX P40	MONTOYA CIRACO ETAL
876-081-00	16N09E06	SANTA FE	07/23/30	BMX P53	MONTOYA ISIDRO ETAL
876-082-00	16N09E05	SANTA FE	08/19/30	BMX P59	MONTOYA JOSE ETUX
876-083-00	16N09E05	SANTA FE	07/22/30	BMX P32	MONTOYA JOSE ETUX
876-084-00	16N09E05	SANTA FE	07/22/30	BMX P33	MONTOYA JOSE ETUX

RIGHTS-OF-WAY HELD BY P/L ENGINEERING AS OF 4-1-85

R.O.W.	LOCATION	COUNTY	GRANTED	RECORDED	GRANTOR
876-085-00	16N09E05	SANTA FE	07/25/30	BMX P54	MONTOYA T ETAL
876-086-00	16N09E06	SANTA FE	07/23/30	BMX P66	MORA HILARIO ETUX
880-034-00	16N09E05	SANTA FE	01/05/84	3480 PB34	MOTEL 6 INC
876-087-00	16N09E05	SANTA FE	07/22/30	BMX P34	ORTIZ JUAN ETAL
876-088-00	16N09E05	SANTA FE	07/22/30	BMX P35	ORTIZ MANUEL
876-089-00	16N09E05	SANTA FE	08/18/30	BMX P90	ORTIZ MANUEL
876-231-01	15N08E04D	SANTA FE	08/05/68	B269 P66	PALOHEIMO Y A ETUX
876-231-02	16N08E33N	SANTA FE	08/05/68	B269 P66	PALOHEIMO Y A ETUX
876-090-00	16N08E24	SANTA FE	08/30/30	BMX P112	PARKER OLIVER
876-091-00	16N09E06	SANTA FE	07/23/30	BMX P57	PATTERSON MRS I A
876-008-00	16N09E18	SANTA FE	09/11/31	B511 P587	POLLARD C L
876-255-00	16N09E18C	SANTA FE	09/17/68	B269 P70	REYNOLDS L J SR ETUX
876-092-00	16N09E05	SANTA FE	09/23/30	BMX P135	RIBERA JOSE A
880-022-01	16N09E05	SANTA FE	08/24/46	B30 P378	RIVERA ABELINO ETUX
880-022-02	17N08E23	SANTA FE	08/24/46	B30 P378	RIVERA ABELINO ETUX
880-025-00	17N08E23	SANTA FE	07/17/47	B34 P91	RIVERA ABELINO ETUX
876-093-00	16N09E05	SANTA FE	07/22/30	BMX P38	ROMERO C ETUX
876-094-00	16N09E05	SANTA FE	07/22/30	BMX P37	ROMERO C ETUX
880-019-01	16N09E05	SANTA FE	08/31/46	B30 P391	ROMERO DELFIN ETUX
880-019-02	16N09E06	SANTA FE	08/31/46	B30 P391	ROMERO DELFIN ETUX
880-019-03	17N09E31	SANTA FE	08/31/46	B30 P391	ROMERO DELFIN ETUX
880-019-04	17N09E32	SANTA FE	08/31/46	B30 P391	ROMERO DELFIN ETUX
876-095-00	16N09E05	SANTA FE	07/29/30	BMX P114	ROMERO EMILIANO ETUX
876-096-00	16N09E05	SANTA FE	07/24/30	BMX P71	ROMERO EMITERIO
876-097-01	15N08E19D	SANTA FE	08/02/30	BMX P113	ROMERO EPIFANIO
876-097-02	16N08E30E	SANTA FE	08/02/30	BMX P113	ROMERO EPIFANIO
876-098-00	16N09E06	SANTA FE	07/23/30	BMX P42	ROMERO FABIN ETUX
876-099-00	15N07E12	SANTA FE	09/27/30	BMX P134	ROMERO FACUNDO ETUX
876-100-00	16N09305	SANTA FE	07/24/30	BMX P44	ROMERO FELIX YD ETUX
880-013-01	16N09E05	SANTA FE	08/16/46	B30 P368	ROMERO FLORA G
880-013-02	17N09E32	SANTA FE	08/16/46	B30 P368	ROMERO FLORA G
876-101-00	16N09305	SANTA FE	07/23/30	BMX P65	ROMERO JUAN F ETUX
876-102-00	16N09305	SANTA FE	07/23/30	BMX P50	ROMERO JUANITA G
876-103-00	16N09306	SANTA FE	07/23/30	BMX P39	ROMERO JUANITA G
876-104-00	16N09306	SANTA FE	07/23/30	BMX P49	ROMERO JUANITA G
876-105-00	16N09E05	SANTA FE	07/23/30	BMX P61	ROMERO LUIS ETUX
876-106-00	16N09E05	SANTA FE	07/22/30	BMX P36	ROMERO LUIS ETUX
880-001-01	16N09E05	SANTA FE	09/25/46	B30 P376	ROMERO LUIS ETUX
880-001-02	17N09E32	SANTA FE	09/25/46	B30 P376	ROMERO LUIS ETUX
880-020-01	16N09E05	SANTA FE	08/31/46	B30 P390	ROMERO REBECCA
880-020-02	16N09E06	SANTA FE	08/31/46	B30 P390	ROMERO REBECCA
880-020-03	17N09E31	SANTA FE	08/31/46	B30 P390	ROMERO REBECCA
880-020-04	17N09E32	SANTA FE	08/31/46	B30 P390	ROMERO REBECCA
880-014-01	16N09E05	SANTA FE	09/25/46	B30 P379	ROMERO Y DOMINGUES F

542491

RIGHTS-OF-WAY HELD BY P/L ENGINEERING AS OF 4-1-85

R.O.W.	LOCATION	COUNTY	GRANTED	RECORDED	GRANTOR
880-014-02	17N09E32	SANTA FE	09/25/46	B30 P379	ROMERO Y DOMINGUES F
880-006-00	16N09E05	SANTA FE	09/08/64	B219 P254	SAIZ RICARDO JR ETUX
880-011-01	16N09E05	SANTA FE	09/30/46	B30 P381	SANCHEZ ELIOSA
880-033-01	17N09E31	SANTA FE	02/25/82	B436 P320	SANCHEZ PHIL
876-107-00	16N09E05	SANTA FE	07/23/30	BMX P60	SANCHEZ SIXTO ETUX
876-262-00	16N09E07	SANTA FE	12/21/83	B480 P836	SANTA FE AUTO PARK
876-259-01	17N08E02D	SANTA FE	10/23/80	B408 P172	SANTA FE ESTATES INC
876-002-01	16N08E04	SANTA FE	06/11/57	B134 P62	SIMMS J F JR ETAL
876-002-02	16N08E33	SANTA FE	06/11/57	B134 P62	SIMMS J F JR ETAL
876-002-03	16N08E05	SANTA FE	06/11/57	B134 P62	SIMMS J F JR ETAL
876-110-00	16N08E13I	SANTA FE	09/02/30	BMX P127	SMITH NICHOLAS ETAL
876-009-00	16N09E18	SANTA FE	09/11/31	B511 P589	SOUDERS RUSSELL
876-006-00	MISSING	SANTA FE	10/01/31	B511 P585	SOUDERS
876-112-00	16N09E05P	SANTA FE	08/19/30	BMX P92	SOUDERS RUSSELL ETUX
876-238-00	15N07E20	SANTA FE	07/31/70	B275 P30[illegible]	SOUTHWEST LAND CORP
876-113-00	16N09E06P	SANTA FE	07/26/30	BMX P41	TELLES LUCAS ETUX
876-239-01	15N07E21A	SANTA FE	07/02/70	B276 P925	THOMPSON L JR ETAL
876-239-02	15N07E16P	SANTA FE	07/02/70	B276 P925	THOMPSON L JR ETAL
876-239-03	15N07E15M	SANTA FE	07/02/70	B276 P925	THOMPSON L JR ETAL
876-239-04	15N07E14L	SANTA FE	07/02/70	B276 P925	THOMPSON [illegible] ETAL
876-239-05	15N07E11P	SANTA FE	07/02/70	B276 P925	THOMPSON [illegible] ETAL
876-239-06	15N07E12M	SANTA FE	07/02/70	B276 P925	THOMPSON L JR ETAL
876-262-00	16N09E08E	SANTA FE	09/05/84	B501 P830	VILLA LINDA MALL CO
876-114-00	16N09E05P	SANTA FE	08/29/30	BMX P94	WAFFENSMITH J H ETUX
880-007-00	16N09E05D	SANTA FE	08/19/46	B30 P373	WAFFENSMITH JACOB H
876-115-00	16N09E12F	SANTA FE	08/02/30	BMX P116	WALTERS OTTO F ETUX

DISTRIBUTION RIGHTS-OF-WAY AS OF 4-8-85

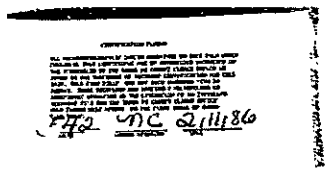
R.O.W.	Sect	Twnshp	Range	County	Recorded	Book	Page	Grantor
875 169 00	07	17 N	10 E	SANTA FE	12/29/80	412	756	AGUERO, JUAN F ETAL
875 176 00	07	17 N	10 E	SANTA FE	12/29/80	412	756	AGUERO, JUAN CARLOS ETUX
875 157 00	25	17 N	09 E	SANTA FE	05/22/77	347	143	ALIRE, ANDRES
875 156 00	25	17 N	09 E	SANTA FE	04/22/77	347	145	ALIRE, MAURICIO G.
875 121 00	24	17 N	09 E	SANTA FE	11/01/71	286	189	ANALYA, J O ETUX
875 030 00	25	17 N	09 E	SANTA FE	05/07/30	M.V	576	ANDREWS, FRANK ETUX
890 043 00	12	17 N	08 E	SANTA FE	05/25/67	249	517	ARRIETA, JOSE ETUX
875 182 00	31	17 N	09 E	SANTA FE	10/15/81	429	119	BACA, ANASTASIO ETAL
875 147 00	27	17 N	09 E	SANTA FE	08/21/75	325	549	BACA, JOE M. ETUX
875 031 99	24	17 N	10 E	SANTA FE	07/07/31	X	352	BARTO, K. P. ETUX
875 201 00	25	17 N	09 E	SANTA FE	08/11/83	470	33	BEHELER, LAURA F. ETAL
875 113 00	24	16 N	09 E	SANTA FE	01/31/65	254	835	BELLAMAH DALE LAND CO INC.
875 032 00	25	20 N	06 W	SANTA FE	09/14/32	M.W	628	BENAVIDEZ, ABEL
875 034 00	00	20 N	08 W	SANTA FE	06/04/30	M.V	570	BISHOP, CARL A.
875 035 00	00	09 N	08 W	SANTA FE	06/04/30	M.V	571	BISHOP, CARL A.
875 036 00	24	17 N	09 E	SANTA FE	01/24/85	511	557	BISHOP, CARL A. (RECEIVER)
875 037 00	30	17 N	10 E	SANTA FE	07/07/31	M.X	363	BLACK R.F. MRS.
875 038 00	30	17 N	10 E	SANTA FE	07/07/31	M.X	353	BLACK R.F. MRS.
875 142 00	26	17 N	08 E	SANTA FE	04/14/75	321	29	BOARD OF EDUCATION
875 120 00	24	17 N	09 E	SANTA FE	07/23/71	285	148	BOARD OF PENSIONS-PRES CHURCH
875 033 00	24	17 N	09 E	SANTA FE	06/19/30	M.V	582	BPOE INC.
875 119 00	34	16 N	08 E	SANTA FE	07/15/71	285	154	BRENNAN, JAMES W ETUX
875 040 00	25	17 N	08 E	SANTA FE	06/06/30	M.V	573	BROWN, HERBERT W. ETUX
875 228 00	13	17 N	09 E	SANTA FE	11/30/84	515	266	BRUTSCHE, RALPH L. ETUX
890 006 00	20	19 N	09 E	SANTA FE	09/03/64	227	340	BUSTOS, MARGARITA S MRS
875 230 99	24	17 N	09 E	SANTA FE	10/19/84	503	252	CAMPANILLA COMPOUND PARTNERS
875 041 00	25	17 N	09 E	SANTA FE	06/05/30	M.V	578	CAMPBELL, CHARLES M.
875 042 00	25	17 N	09 E	SANTA FE	06/05/30	M.V	579	CARELLAS, N.D.
875 118 00	34	16 N	08 E	SANTA FE	07/29/71	285	156	CARLSON, CONRAD H
875 219 00	26	17 N	09 E	SANTA FE	09/25/84	501	391	COLLEGE OF SANTA FE
875 092 00	25	18 N	09 E	SANTA FE	12/21/40	21	192	CO[illegible]FLL, J.H. ETUX
875 617 00	34	17 N	09 E	SANTA FE	04/30/57	134	349	Co .., FRANCIS A. ETUX
875 226 99	24	17 N	09 E	SANTA FE	10/02/84	511	553	CORAZZI, GREGORY C. ETUX
875 227 99	24	17 N	09 E	SANTA FE	10/02/84	513	555	CORAZZI,GREGORY C
875 196 00	19	17 N	10 E	SANTA FE	05/17/83	462	731	CRIS-DOR INC.
875 179 00	01	16 N	08 E	SANTA FE	09/18/81	427	695	CRYE, ROBERT E. ETAL
875 145 00	20	17 N	10 E	SANTA FE	04/14/75	321	42	CUDDY, C. EMERY ETUX
878 001 00	20	15 N	07 E	SANTA FE	10/26/74	316	523	CUMMINGS, ERNEST ETUX
875 044 00	24	17 N	08 E	SANTA FE	07/10/31	M.X	364	DALY, RICHARD M.
875 045 00	24	17 N	08 E	SANTA FE	06/07/30	M.V	583	DAVIS, J. ASHLEY
875 046 00	24	17 N	09 E	SANTA FE	06/26/30	M.V	579	DAY, JUSTIN F.
890 010 00	12	19 N	08 E	SANTA FE	05/25/67	249	523	DEBBER, DONALD ETUX
875 028 00	07	17 N	10 E	SANTA FE	08/17/56	14	12	DEMPSEY J.J. REALTY COMPANY
875 047 00	24	17 N	09 E	SANTA FE	11/[illegible]4/30	M.X	173	DENDAHL, JOHN
875 104 00	24	17 N	09 E	SANTA FE	03/12/63	212	266	DEVANE, TILLIE M.
875 112 00	28	17 N	09 E	SANTA FE	10/05/67	252	394	EAST, ORRIN G.

SAS

DISTRIBUTION RIGHTS-OF-WAY AS OF 4-8-85

R.O.W.	Sect	Twnshp	Range	County	Recorded	Book	Page	Grantor
875 143 00	20	17 N	10 E	SANTA FE	04/14/75	321	38	ELLIS, BRUCE T.
875 101 00	07	16 N	09 E	SANTA FE	08/08/62	203	421	EMBLEM, O.H. ETUX
890 071 00	17	19 N	09 E	SANTA FE	02/20/70	270	999	ENCINIAS, FELIMON G.
890 037 00	09	19 N	09 E	SANTA FE	03/29/66	241	52	ESPINOZA, LUBEN L. ETUX
875 155 00	19	17 N	09 E	SANTA FE	08/11/74	517	516	FISHER, VIOLA
875 155 01	20	17 N	09 E	SANTA FE	08/11/74	517	516	FISHER, VIOLA
875 048 00	25	17 N	09 E	SANTA FE	01/26/85	511	559	FLYNN, JOE
876 051 99	05	16 N	09 E	SANTA FE	07/22/30	XMISC	19	GALLEGOS, CELSO
875 123 00	27	17 N	09 E	SANTA FE	06/21/72	294	433	GALLEGOS, ELFIDO
876 052 99	05	16 N	09 E	SANTA FE	07/23/30	XMISC	18	GALLEGOS, ELIAS ETUX
875 153 00	25	18 N	09 E	SANTA FE	04/19/76	333	456	GARCIA, ARTHUR R.ETUX
890 018 00	10	19 N	09 E	SANTA FE	05/25/65	239	321	GARCIA, MARGARITA ETAL
890 064 00	20	19 N	09 E	SANTA FE	02/20/70	270	987	GARCIA, PEDRO ETUX
875 050 00	23	17 N	09 E	SANTA FE	01/26/85	511	561	GARRISON, J.C. ETUX
875 166 00	29	17 N	10 E	SANTA FE	06/09/80	401	5	GILMARTIN, ELAINE
890 005 00	17	19 N	09 E	SANTA FE	09/08/64	227	338	GOMEZ, ELISEO ETUX
875 109 00	25	17 N	09 E	SANTA FE	10/13/66	243	273	GOMEZ, JOE L. ETUX
876 053 99	05	16 N	09 E	SANTA FE	07/22/30	XMISC	21	GONZALES, EUGENIO ETUX
876 054 99	05	16 N	09 E	SANTA FE	07/22/30	XMISC	20	GONZALES, EUGENIO ETUX
890 092 00	05	19 N	09 E	SANTA FE	07/12/76	336	313	GONZALES, GILBERT J. ETUX
876 255 99	05	15 N	08 E	SANTA FE	12/26/74	318	22	GONZALES, HENRY A.ETUX
875 140 00	32	17 N	08 E	SANTA FE	02/28/75	319	799	GONZALES, JOSE E. ETAL
876 055 99	05	16 N	09 E	SANTA FE	07/22/30	XMISC	22	GONZALES, JUAN ETUX
890 091 00	05	19 N	09 E	SANTA FE	07/12/76	336	311	GONZALES, LINDA O. ETUX
890 053 00	20	19 N	09 E	SANTA FE	02/20/70	270	985	GONZALES, MARTIN J. ETUX
890 013 00	29	19 N	09 E	SANTA FE	09/08/64	227	354	GONZALES, REDOLFINO ETUX
875 210 00	26	17 N	09 E	SANTA FE	01/05/84	480	174	GONZALES, VIRGINIA Q. ETAL
876 058 99	05	16 N	09 E	SANTA FE	07/29/30	XMISC	74	GONZALEZ, MIGUEL
875 163 00	26	17 N	09 E	SANTA FE	08/17/63	206	264	GREER, SALOME S.
875 159 99	25	18 N	09 E	SANTA FE	07/12/77	350	349	GRIEGO, SAMUEL ETAL
875 192 00	24	17 N	09 E	SANTA FE	09/29/82	448	818	GRIFFIN PARK COND.
875 051 00	25	17 N	09 E	SANTA FE	06/06/30	M.V	572	HARVEY, JAMES C. ETUX
876 059 99	05	16 N	09 E	SANTA FE	07/29/30	XMISC	73	HERNANDEZ, FILIPITA BRITO DE
890 024 00	10	19 N	09 E	SANTA FE	05/26/65	239	331	HERRERA, CORNELIO ETUX
890 026 00	10	19 N	09 E	SANTA FE	06/20/66	239	335	HERRERA, DAVID ETUX
875 163 00	10	19 N	09 E	SANTA FE	01/21/80	393	808	HERRERA, ELOY ETAL
890 023 00	10	19 N	09 E	SANTA FE	05/26/65	239	329	HERRERA, ELOY ETUX
890 025 00	10	19 N	09 E	SANTA FE	05/26/65	239	333	HERRERA, ESPERANZA ETUX
890 021 00	10	19 N	09 E	SANTA FE	05/26/65	239	325	HERRERA, LORENZO ETUX
890 022 00	10	19 N	09 E	SANTA FE	05/26/65	239	327	HERRERA, RAMON ETUX
875 052 00	25	17 N	09 E	SANTA FE	01/24/85	511	577	HEWETT, DONIZETTA
875 091 00	25	17 N	09 E	SANTA FE	01/24/85	511	575	HEWETT, DONIZETTA
875 172 00	20	17 N	10 E	SANTA FE	04/20/81	421	132	HILL, MEGAN LLOYD ETAL
875 054 00	25	17 N	09 E	SANTA FE	06/26/30	M.V	580	HOLDERMAN, T.J. ETUX
890 076 00	12	19 N	08 E	SANTA FE	07/28/72	292	959	HOWELL, HOWELL ETUX
890 029 00	20	19 N	09 E	SANTA FE	12/02/65	231	488	IGALO, PETE ETUX

542434



190

SAS

DISTRIBUTION RIGHTS-OF-WAY AS OF 4-8-85

R.O.W.	Sect	Twnshp	Range	County	Recorded	Book	Page	Grantor
875 135 00	26	16 N	08 E	SANTA FE	10/02/73	511	579	JARROTT, BERNICE
890 100 00	07	19 N	09 E	SANTA FE	06/30/81	423	332	JIRON, RAMONA ETAL
875 211 00	01	16 N	09 E	SANTA FE	04/18/84	488	607	JOHNSTON,J.H.E.
875 211 03	02	16 N	09 E	SANTA FE	04/18/84	488	607	JOHNSTON,J.H.E.
875 211 01	01	16 N	09 E	SANTA FE	04/18/84	488	607	JOHNSTON,JEAN
875 211 02	02	16 N	09 E	SANTA FE	04/18/84	488	607	JOHNSTON,JEAN
875 158 00	25	17 N	09 E	SANTA FE	04/22/77	347	141	KATONA, MARY CATHERINE
875 055 00	00	00 X	00 X	SANTA FE	09/19/32	M.X	632	KEGEL, W.L. MRS.
875 139 00	24	17 N	09 E	SANTA FE	12/16/74	317	226	KEGEL, W R.
875 223 00	32	16 N	08 E	SANTA FE	07/31/84	496	500	KELLOGG,CARLOS ETUX
875 224 00	32	16 N	08 E	SANTA FE	07/31/84	496	503	KELLOGG,CARLOS ETUX
875 144 00	20	17 N	10 E	SANTA FE	04/14/75	321	40	KELLY, HILLIAM BOOKER
875 168 00	23	16 N	08 E	SANTA FE	12/02/80	410	923	KOMIS, JOHN
875 165 00	25	17 N	09 E	SANTA FE	06/09/80	401	2	KRAUSE, ROBERT G. ETAL
875 181 00	26	17 N	09 E	SANTA FE	11/13/81	430	780	L M T CORP.
875 203 00	26	17 N	09 E	SANTA FE	09/27/83	471	907	L-FAM CORP.
878 002 99	20	15 N	07 E	SANTA FE	04/18/73	300	228	LA BAJADA RANCH
878 002 99	17	15 N	07 E	SANTA FE	04/18/73	300	228	LA BAJADA RANCH
875 189 00	02	17 N	08 E	SANTA FE	11/12/80	411	800	LA TIERRA LTD.
875 189 01	11	17 N	08 E	SANTA FE	11/12/80	411	800	LA TIERRA LTD.
875 189 02	12	17 N	08 E	SANTA FE	11/12/80	411	800	LA TIERRA LTD.
875 189 03	07	17 N	09 E	SANTA FE	11/12/80	411	800	LA TIERRA LTD.
875 189 04	08	17 N	09 E	SANTA FE	11/12/80	411	800	LA TIERRA LTD.
875 189 05	16	17 N	09 E	SANTA FE	11/12/80	411	800	LA TIERRA LTD.
875 189 06	17	17 N	09 E	SANTA FE	11/12/80	411	800	LA TIERRA LTD.
875 056 00	25	17 N	09 E	SANTA FE	06/06/30	M.V	574	LAWRENCE, HENRY H. ETUX
875 130 00	33	17 N	09 E	SANTA FE	10/21/72	296	638	LIM, JOHN W N ETUX
875 171 00	06	17 N	10 E	SANTA FE	03/23/81	417	574	LITTLE, RUFUS C. MRS. ETAL
890 051 00	09	19 N	09 E	SANTA FE	11/19/69	269	312	LOPEZ, ANNABELL
875 058 00	05	16 N	09 E	SANTA FE	07/30/41	21	531	LOUCKS, J.A.
875 058 01	08	16 N	09 E	SANTA FE	07/30/41	21	531	LOUCKS, J.A. ETUX
875 059 00	00	00 X	00 X	SANTA FE	09/14/32	M.X	630	LOVATO, MARGARITO ETUX
890 095 01	10	19 N	09 E	SANTA FE	05/02/80	399	337	LUJAN, BEN ETAL
890 090 00	05	19 N	09 E	SANTA FE	07/12/76	336	309	LUJAN, ISMAEL E. ETUX
890 034 00	20	19 N	09 E	SANTA FE	12/02/65	231	498	LUJAN, PHILIP L. ETUX
875 164 00	10	19 N	09 E	SANTA FE	10/26/79	515	264	LUJAN, PONCE ETUX
890 019 00	10	19 N	09 E	SANTA FE	12/06/65	237	61	LUJAN, PONCE ETUX
875 060 00	24	17 N	09 E	SANTA FE	01/24/85	511	581	LUTZ, HARVEY S.
875 019 00	30	17 N	10 E	SANTA FE	02/09/54	85	126	MARGULIS, ELIZABETH STAYER
875 094 00	06	17 N	10 E	SANTA FE	08/28/36	14	33	MARLIN, RUTH
875 154 00	20	17 N	10 E	SANTA FE	04/19/76	333	460	MARTINEZ, ANDRES R.
875 051 00	00	00 X	00 X	SANTA FE	09/14/32	M.X	629	MARTINEZ, BEN
875 152 00	20	17 N	10 E	SANTA FE	04/19/76	333	458	MARTINEZ, DANIEL O. ETUX
890 075 00	17	19 N	09 E	SANTA FE	11/17/71	286	191	MARTINEZ, ELMER ETUX
876 044 99	06	16 N	09 E	SANTA FE	07/23/30	XMISC	45	MARTINEZ, JUANITA LOPEZ DE
835 012 00	01	20 N	08 E	SANTA FE	09/27/72	295	562	MARTINEZ, LEVI

542425

SAS

DISTRIBUTION RIGHTS-OF-WAY AS OF 4-8-85

R.O.H.	Sect	Twnshp	Range	County	Recorded	Book	Page	Grantor
875 062 00	00	00 X	00 X	SANTA FE	09/14/32	M.X	631	MARTINEZ, MELINDA
890 073 00	10	19 N	09 E	SANTA FE	10/08/71	285	146	MAULDIN, NANDO
875 127 00	27	17 N	09 E	SANTA FE	06/21/72	294	442	MCCLANAHAN, H L ETUX
890 004 00	17	19 N	09 E	SANTA FE	08/02/65	227	336	MEDIAN, ED ETUX
875 063 00	24	17 N	09 E	SANTA FE	01/24/85	511	583	MEYER, WILLIAM J.
875 218 00	32	17 N	09 E	SANTA FE	09/25/84	501	389	MIER, MARIN ETUX
890 074 00	10	19 N	09 E	SANTA FE	10/08/71	285	143	MILAM, GORDON T.
875 209 00	24	17 N	09 E	SANTA FE	12/12/83	478	333	MILLER, WAYNE ETAL
875 195 00	31	17 N	09 E	SANTA FE	10/27/82	450	508	MILLS, ERNEST T.
875 195 99	31	17 N	09 E	SANTA FE	10/27/82	450	508	MILLS, ERNEST T. ETUX
875 205 00	05	16 N	09 E	SANTA FE	11/04/83	474	655	MONTAND, VALENTIN A. ETUX
875 116 00	22	17 N	09 E	SANTA FE	08/15/69	270	684	MONTANO, VICTOR T
890 048 00	12	19 N	08 E	SANTA FE	05/25/67	249	507	MONTOYA, BENNIE ETUX
890 011 00	20	19 N	09 E	SANTA FE	09/08/64	227	350	MONTOYA, BUDDY ETUX
890 065 00	20	19 N	09 E	SANTA FE	02/20/70	270	989	MONTOYA, CATALINA
876 045 99	05	16 N	09 E	SANTA FE	07/22/30	XMISC	29	MONTOYA, ELIZA LOPEZ DE
876 046 99	05	16 N	09 E	SANTA FE	07/22/30	XMISC	3	MONTOYA, ELIZA LOPEZ DE
890 054 00	09	19 N	09 E	SANTA FE	11/19/69	269	318	MONTOYA, FRANCIS C. ETUX
875 198 00	28	17 N	09 E	SANTA FE	03/30/83	459	497	MONTOYA, J.A. ETAL
835 016 00	04	20 N	09 E	SANTA FE	04/04/74	311	347	MONTOYA, JOHN P ETAL
890 015 00	20	19 N	09 E	SANTA FE	09/08/64	227	358	MONTOYA, RAMON
890 028 00	20	19 N	09 E	SANTA FE	12/02/65	231	486	MONTOYA, RAMON ETUX
890 058 00	20	19 N	09 E	SANTA FE	04/30/71	280	615	MONTOYA, TED ETUX
890 062 00	20	19 N	09 E	SANTA FE	02/20/70	270	983	MONTOYA, TED ETUX
890 010 00	20	19 N	09 E	SANTA FE	09/08/64	227	348	MONTOYA, TED SR ETUX
875 217 00	35	17 N	09 E	SANTA FE	06/26/84	493	811	MOORE,JAMES H.
890 083 00	10	19 N	08 E	SANTA FE	09/21/73	CAUSE	43929	MOULTON, GEORGE H.
875 215 00	36	17 N	09 E	SANTA FE	06/26/84	493	807	N B S CORPORATION
875 149 00	24	17 N	09 E	SANTA FE	08/02/76	337	149	N. M. STATE PARKS AND REC.
875 204 00	05	16 N	09 E	SANTA FE	11/04/83	474	656	NARVAIS, DAN ETUX
875 064 00	31	17 N	10 E	SANTA FE	05/13/41	21	410	NAVAJO CEREMONIAL MUSEUM
875 110 00	13	17 N	09 E	SANTA FE	04/24/67	248	935	NORTH HILL ENTERPRISES INC.
875 214 00	05	16 N	09 E	SANTA FE	06/26/84	493	805	OGDEN M.H.
875 065 00	00	00 X	00 X	SANTA FE	01/24/85	511	573	OLIVER, J.D.
875 180 00	01	16 N	08 E	SANTA FE	09/20/81	428	151	ORTEGA, BENJAMIN ETUX
875 202 00	31	18 N	10 E	SANTA FE	11/10/83	475	152	ORTEGA, MANUEL D. ETUX
890 009 00	20	19 N	09 E	SANTA FE	09/08/64	227	346	ORTIZ, ANTONIO ETUX
876 229 01	07	16 N	09 E	SANTA FE	07/30/69	266	610	ORTIZ, CATALINO
876 229 99	06	16 N	09 E	SANTA FE	07/30/69	266	610	ORTIZ, CATALINO
890 056 00	04	19 N	09 E	SANTA FE	11/19/69	269	322	ORTIZ, CLOTILDE
890 046 00	12	19 N	08 E	SANTA FE	05/25/67	249	511	ORTIZ, HILARIO ETUX
890 035 00	20	19 N	09 E	SANTA FE	12/02/65	231	500	ORTIZ, JUAN J.
875 066 00	25	17 N	09 E	SANTA FE	08/30/38	M.16	220	ORTIZ, MANUAL
875 067 00	25	17 N	09 E	SANTA FE	08/22/38	M.16	212	ORTIZ, ONOFRE
890 016 00	20	19 N	09 E	SANTA FE	09/08/64	227	360	ORTIZ, PAT
890 027 00	20	19 N	09 E	SANTA FE	12/02/65	231	484	ORTIZ, PAT ETUX

SAS

DISTRIBUTION RIGHTS-OF-WAY AS OF 4-8-85

R.O.W.	Sect	Twnshp	Range	County	Recorded	Book	Page	Grantor
890 055 00	09	19 N	09 E	SANTA FE	11/19/69	269	320	ORTIZ, RAMON ETUX
890 055 01	04	19 N	09 E	SANTA FE	11/19/69	269	320	ORTIZ, RAMON ETUX
890 087 00	11	19 N	09 E	SANTA FE	12/29/75	329	486	OSBORN, CHRISTINE M.
875 183 00	25	17 N	09 E	SANTA FE	10/16/81	429	143	OTERO, MIGUEL A.
875 068 00	05	16 N	09 E	SANTA FE	06/25/41	21	532	PACKARD, SIDNEY A. ETAL
875 126 00	27	17 N	09 E	SANTA FE	06/21/72	294	446	PADILLA, ALBERT ETUX
875 133 00	06	16 N	09 E	SANTA FE	10/07/82	449	491	PADILLA, HENRY
875 187 00	28	17 N	09 E	SANTA FE	01/22/82	434	405	PADILLA, MIKE ETUX
875 148 00	27	17 N	09 E	SANTA FE	12/29/75	329	491	PARACHOU, BARNARD
875 069 00	00	00 X	00 0	SANTA FE	10/15/40	21	137	PEREA, MOISES ETUX
890 095 00	11	19 N	09 E	SANTA FE	02/27/81	416	492	PEREZ, DAVID ETAL
875 102 00	07	16 N	09 E	SANTA FE	05/20/63	203	1	PETCHESKY, PAULINE ETAL
875 138 00	31	17 N	09 E	SANTA FE	11/18/74	317	64	PETERSON, ROGER SHIPP ETUX
875 070 00	30	17 N	10 E	SANTA FE	09/24/45	28	416	PITCHER, MARY BREEZE
890 072 00	07	19 N	09 E	SANTA FE	02/11/70	270	688	POJOAQUE VALLEY BOARD OF EDUC.
875 146 00	26	17 N	10 E	SANTA FE	04/22/75	321	233	PUBLIC SERVICE CO OF N.M.
875 194 00	24	17 N	09 E	SANTA FE	10/27/82	450	506	R.W.S., INC.
875 124 00	27	17 N	09 E	SANTA FE	06/21/72	294	135	RAEL, JULIA
875 125 00	27	17 N	09 E	SANTA FE	06/21/72	294	437	RAEL, LAWRENCE O ETUX
875 071 00	30	17 N	10 E	SANTA FE	01/24/85	511	571	RICHARDSON, E.G.
875 191 00	08	16 N	09 E	SANTA FE	05/24/82	441	467	RICKLIN, F. COLLEEN
875 207 00	07	16 N	09 E	SANTA FE	12/30/83	479	758	RIVES, JAMES A.
875 178 00	06	16 N	09 E	SANTA FE	09/14/81	427	166	RODRIGUEZ, MILTON A. ETUX
875 151 00	31	17 N	09 E	SANTA FE	03/12/76	332	138	RODRIGUEZ, MILTON
875 170 00	29	17 N	09 E	SANTA FE	03/23/81	417	576	ROMERO, AMARANTE ETUX
875 170 01	32	17 N	09 E	SANTA FE	03/23/81	417	576	ROMERO, AMARANTE ETUX
890 031 00	20	19 N	09 E	SANTA FE	12/02/65	22222	492	ROMERO, ATANACIO
890 032 00	20	19 N	09 E	SANTA FE	12/02/65	231	494	ROMERO, ATANACIO ETUX
890 060 00	20	19 N	09 E	SANTA FE	02/20/70	270	979	ROMERO, BERNARDINO ETUX
890 033 00	20	19 N	09 E	SANTA FE	12/02/65	231	496	ROMERO, EDWARD
875 186 00	33	17 N	09 E	SANTA FE	11/17/83	430	932	ROMERO, ELIZARDO ETAL
890 066 00	20	19 N	09 E	SANTA FE	02/20/70	270	991	ROMERO, FILEMON ETUX
890 049 00	12	19 N	08 E	SANTA FE	07/28/67	250	864	ROMERO, FRANK ETUX
890 014 00	20	19 N	09 E	SANTA FE	09/08/64	227	356	ROMERO, JOSE E ETUX
890 036 00	20	19 N	09 E	SANTA FE	12/02/65	231	502	ROMERO, JOSE E. ETUX
890 068 00	20	19 N	09 E	SANTA FE	04/30/71	280	617	ROMERO, JOSE ETUX
890 012 00	20	19 N	09 E	SANTA FE	09/08/64	227	352	ROMERO, JOSE J ETUX
890 041 00	12	19 N	08 E	SANTA FE	05/25/67	249	521	ROMERO, JULIA
890 030 00	20	19 N	09 E	SANTA FE	12/02/65	231	490	ROMERO, LUCINDA
890 069 00	17	19 N	09 E	SANTA FE	02/20/70	270	995	ROMERO, MARINA
890 070 00	17	19 N	09 E	SANTA FE	02/20/70	270	997	ROMERO, MARY
875 150 00	31	17 N	09 E	SANTA FE	08/13/76	337	703	ROMERO, ROSINALDO ETAL
890 059 00	20	19 N	09 E	SANTA FE	02/20/70	270	977	ROMERO, SAMUEL ETUX
890 061 00	20	19 N	09 E	SANTA FE	02/20/70	270	981	ROMERO, SAMUEL ETUX
890 007 00	20	19 N	09 E	SANTA FE	09/08/64	227	342	ROYBAL, BENJAMIN
875 072 00	25	17 N	09 E	SANTA FE	08/22/38	M.16	213	ROYBAL, CELISTINO

542497

DISTRIBUTION RIGHTS-OF-WAY AS OF 4-8-85

R.O.W.	Sect	Twnshp	Range	County	Recorded	Book	Page	Grantor
890 008 00	20	19 N	09 E	SANTA FE	09/08/64	227	344	ROYBAL, DOLORES
890 067 00	20	19 N	09 E	SANTA FE	02/20/70	270	993	ROYBAL, FELIGONID ETUX
890 042 00	12	19 N	08 E	SANTA FE	05/25/67	249	519	ROYBAL, I.M.
875 115 00	23	17 N	09 E	SANTA FE	06/30/67	257	143	ROYBAL, MEDARDO D ETUX
875 197 00	20	17 N	10 E	SANTA FE	10/28/76	511	522	RUDOLF,BARRY
875 073 00	31	18 N	10 E	SANTA FE	07/01/40	21	12	RUFFNER, MARGARET ETVIR
875 199 00	30	17 N	10 E	SANTA FE	04/18/83	460	792	S. C. PARTNERS
875 074 00	24	17 N	09 E	SANTA FE	01/24/85	511	569	SALAZAR, CAROLINA
875 075 00	00	00 X	00 X	SANTA FE	06/09/30	M.V	581	SALMON, NATHAN ETAL
875 076 00	24	17 N	09 E	SANTA FE	11/01/30	M.X	157	SALMON, NATHAN ETUX
875 200 00	06	15 N	08 E	SANTA FE	04/18/83	460	794	SANCHEZ, ALFONSO G. ETUX
876 049 99	05	16 N	09 E	SANTA FE	07/24/30	XMISC	67	SANCHEZ, ANGELITA ROMERO DE
875 108 00	26	17 N	09 E	SANTA FE	05/16/66	258	209	SANCHEZ, MANUEL A. ETUX
875 128 00	27	17 N	09 E	SANTA FE	06/21/72	294	439	SANDOVAL, ERNESTO ETUX
875 095 00	07	17 N	10 E	SANTA FE	08/17/36	14	13	SANTA FE ESTATES
875 095 01	18	17 N	10 E	SANTA FE	08/17/36	14	13	SANTA FE ESTATES
875 021 00	25	17 N	09 E	SANTA FE	08/09/40	21	12	SANTA FE HOLDING COMPANY
875 022 00	25	17 N	09 E	SANTA FE	10/22/30	X	149	SANTA FE HOLDING COMPANY
875 024 00	25	17 N	09 E	SANTA FE	06/07/30	V	569	SANTA FE HOLDING COMPANY
875 025 00	00	00 X	00 X	SANTA FE	06/07/30	V	577	SANTA FE HOLDING COMPANY
875 026 00	00	00 X	00 X	SANTA FE	06/07/30	V	568	SANTA FE HOLDING COMPANY
875 077 00	00	00 X	00 X	SANTA FE	06/07/30	M.V	578	SANTA FE HOLDING COMPANY
875 003 01	26	17 N	09 E	SANTA FE	09/29/78	N/A	.	SANTA FE LAND IMPROVEMENT
875 015 00	24	17 N	09 E	SANTA FE	08/17/36	14	12	SCHOOL OF AMERICAN RESEARCH
875 078 00	00	00 X	00 X	SANTA FE	12/03/45	28	617	SCOTT, LESTER F. ETUX
876 251 99	26	16 N	08 E	SANTA FE	04/07/75	320	849	SCOTT, STEPHEN LEE ETAL
875 079 00	30	17 N	10 E	SANTA FE	01/24/85	511	567	SENA, J.D. JR.
875 188 00	26	17 N	09 E	SANTA FE	01/22/82	434	403	SERLIC CORP.
890 039 00	12	19 N	08 E	SANTA FE	05/25/67	249	525	SERNA, JOE GILBERT(WILLIE)ETUX
875 080 00	24	17 N	09 E	SANTA FE	10/03/32	M.X	629	SEYFORD, A. MRS.
875 206 00	08	16 N	09 E	SANTA FE	12/30/83	479	761	SHANNON, L.L.
875 081 00	25	17 N	09 E	SANTA FE	06/07/30	M.V	567	SHERMAN, BEN
875 082 00	30	17 N	10 E	SANTA FE	09/01/38	M.16	223	SIZER, JOHN A.
875 084 00	29	17 N	10 E	SANTA FE	12/03/45	28	617	SOSAYA, A.A. ETUX
875 216 00	36	17 N	09 E	SANTA FE	06/26/84	493	809	SOUTHARD, JAMES L. ETUX
875 018 00	05	16 N	09 E	SANTA FE	04/08/55	102	262	SPAIN, W.C. ETUX
876 016 00	01	16 N	08 E	SANTA FE	08/02/65	227	334	SPANISH BAPTIST MISSION
875 111 00	02	16 N	09 E	SANTA FE	04/05/67	240	329	ST. MICHAEL'S COLLEGE
875 177 00	07	17 N	10 E	SANTA FE	10/31/80	408	930	STALEY, J.A. ETAL
875 190 00	34	16 N	08 E	SANTA FE	05/24/82	441	465	STATE OF NEW MEXICO
875 190 01	35	16 N	08 E	SANTA FE	05/24/82	441	465	STATE OF NEW MEXICO
875 131 00	25	18 N	09 E	SANTA FE	11/14/72	296	640	STEDMAN, MYRTLE L
875 093 00	25	18 N	09 E	SANTA FE	08/28/36	14	34	STEEN, BONNIE
875 020 00	33	17 N	09 E	SANTA FE	02/18/54	85	128	STERN, N.B.
875 023 00	25	17 N	09 E	SANTA FE	06/07/30	V	566	STERN, NATHAN B.
875 027 00	00	00 X	00 X	SANTA FE	06/07/30	V	566	STERN, NATHAN B.

SAS

DISTRIBUTION RIGHTS-OF-WAY AS OF 4-8-85

R.O.W.	Sect	Twnshp	Range	County	Recorded	Book	Page	Grantor
875 141 00	26	17 N	09 E	SANTA FE	04/14/75	321	31	STUCKMAN CO.
875 098 00	27	17 N	09 E	SANTA FE	07/23/62	193	376	TAPIA, MARIA S.
875 085 00	00	00 X	00 X	SANTA FE	01/24/85	511	565	THOMAS, BRADLEY M. ETUX
875 229 00	34	17 N	09 E	SANTA FE	10/04/84	515	268	THOMAS, BRADLEY M.ETAL
875 086 00	00	00 X	00 X	SANTA FE	06/06/38	M.V	574	THORNBRING, O.H. ETUX
875 100 00	13	17 N	09 E	SANTA FE	04/08/63	200	427	TRIGNON COMPANY
890 044 00	12	19 N	08 E	SANTA FE	05/25/67	249	515	TRUJILLO, EFROCINIO ETUX
890 045 00	12	19 N	08 E	SANTA FE	05/25/67	249	513	TRUJILLO, ENRIQUE ETUX
890 085 00	07	19 N	09 E	SANTA FE	02/28/75	319	801	TRUJILLO, HENRY R.
890 094 00	05	19 N	09 E	SANTA FE	01/16/76	330	291	TRUJILLO, JOE ETUX
890 057 00	04	19 N	09 E	SANTA FE	11/19/69	269	324	TRUJILLO, LEONARD ETUX
890 093 00	05	19 N	09 E	SANTA FE	01/16/76	330	293	TRUJILLO, LUISA
890 020 00	10	19 N	09 E	SANTA FE	05/26/65	239	323	TRUJILLO, PASQUALITA ETUX
890 053 00	09	19 N	09 E	SANTA FE	11/19/69	269	316	TRUJILLO, SALOMON ETUX
876 017 00	01	16 N	08 E	SANTA FE	06/14/65	225	535	ULIBARRI, GILBERT ETUX
875 099 00	24	17 N	09 E	SANTA FE	10/27/60	200	429	UNITED PRESBYTERIAN CHURCH
835 003 00	02	20 N	08 E	SANTA FE	01/29/62	187	321	VALDEZ, BARTOLO ETUX
875 117 00	07	16 N	09 E	SANTA FE	06/14/71	285	159	VALENCIA, CRUZ ETUX
875 107 00	24	17 N	09 E	SANTA FE	10/30/48	38	8	VAN TUYLE, R.P.
875 167 00	05	16 N	09 E	SANTA FE	12/02/80	410	921	VEGAS VERDES PARTNERSHIP
875 208 00	30	17 N	10 E	SANTA FE	12/05/83	476	880	VIGIL, IGNACIO L.
890 052 00	09	19 N	09 E	SANTA FE	11/19/69	269	314	VIGIL, LONGINO ETUX
875 161 00	25	18 N	09 E	SANTA FE	07/05/79	383	23	VILES, MARY JANE ETAL
890 002 00	12	19 N	08 E	SANTA FE	12/16/65	221	455	WAIT, FAITH L
875 088 00	25	17 N	09 E	SANTA FE	06/09/30	M.V	575	WARE, R.V. ETUX
875 098 00	24	17 N	09 E	SANTA FE	01/24/85	511	563	WILLIAMS, HUGH H.
875 174 00	20	17 N	10 E	SANTA FE	07/07/81	423	579	WOODARD, MARY ANN ETUX
890 047 00	12	19 N	08 E	SANTA FE	05/25/67	249	509	WOODSON, CHESTER ETUX
875 213 00	26	17 N	09 E	SANTA FE	05/31/84	491	754	WOOLLEY,THOMAS W.
875 185 00	30	17 N	10 E	SANTA FE	12/07/81	431	965	YATES, RICHARD ETUX
875 175 00	19	17 N	10 E	SANTA FE	07/15/81	423	962	800 EAST PARTNERSHIP
875 212 00	19	17 N	10 E	SANTA FE	05/31/84	491	752	800 EAST PARTNERSHIP

5424311

CASE NO. CUP 19-5200
NMGC GAS TRANSMISSION PIPELINE PROJECT
NEW MEXICO GAS COMPANY, APPLICANT

ORDER

THIS MATTER came before the Santa Fe County Planning Commission ("Planning Commission") for hearing on February 20, 2020, on the application of the New Mexico Gas Company ("Applicant") for a conditional use permit to construct approximately 13.5 miles of new underground, 20" in diameter, natural gas transmission pipeline in Santa Fe County (the "Proposed Pipeline"). The Proposed Pipeline will pass through several miles of land outside of Santa Fe County's zoning jurisdiction, including 1.3 miles of Santo Domingo Pueblo property, 0.5 miles of National Guard property, 0.6 miles of NMDOT property, and 0.4 miles of State property. The remaining 10.7 miles is private property over which Santa Fe County does have zoning jurisdiction. The Planning Commission, having reviewed the application, staff report, and Hearing Officer's recommended decision, and having conducted a public hearing, finds that the application is well-taken and should be approved, and makes the following findings of fact and conclusions of law.

I. FINDINGS OF FACT

A. FACTUAL BACKGROUND

1. Applicant proposes to construct approximately 13.5 miles of 20-inch steel transmission mainline, which will loop the existing 12-inch Santa Fe Mainline (SFML). The proposed route follows the

existing right-of-way ("ROW") for a portion of its length, and a new ROW for the remainder of its route between the Hwy 599 Regulator Station in Santa Fe and the western boundary of Santa Fe County at the bottom of La Bajada. The Project includes in-line inspection (ILI) tool launcher and receiver stations, block valves, and tie-ins to existing stations.

2. Applicant states that the route for the Proposed Pipeline was selected after detailed environmental, archaeological, and technical analysis. To the extent feasible, the route follows the route of the existing 12-inch transmission line, referred to as the Santa Fe Mainline ("SFML"). In Santa Fe County, the pipeline route will be located primarily in new easements and rights-of-way that will be 50 feet in width. The planned route runs through 11 private parcels within Santa Fe County.

3. The easements/ROW include 25 feet for a working lane and 25 feet for a passing lane. In addition, another adjacent 25 feet will be utilized temporarily for spoil and is only required during construction. The disturbed area will be reclaimed and stabilized per the requirements of the Reclamation Plan once construction is completed.

4. Applicant has secured easements with 11 private land owners as well as rights-of-way with the New Mexico Department of Transportation ("NMDOT"), which includes two NMDOT Rail Runner crossings and one Interstate-25 crossing.

5. The easements run through Agricultural/Ranching (160 acres per DU), Rural (40 acres per DU), Rural Fringe (20 acres per DU), Mixed Use, and PD Zoning. The majority of the Zoning Districts where the gas line is being constructed do not allow high density development.

6. Applicant proposes that the proposed transmission line be installed per the standard NMGC details, with a minimum cover depth of 4 to 7 feet below existing grade and a minimum of 7 feet where the line bores across any waterways (such as arroyos or creeks). A Geotechnical Evaluation Report has been completed to fully understand the subterranean conditions and engineer the Project accordingly.

7. Applicant states that the construction of the new 20-inch natural gas transmission pipeline will increase capacity to northern New Mexico as well as provide a 20-inch SFML loop capacity for 40+ years.

B. LEGAL BACKGROUND

8. The Sustainable Land Development Code ("SLDC"), Ordinance No. 2016-9, , in Appendix B (Use Matrix), identifies long-distance or bulk pipelines for petroleum products, natural gas, or mineral slurry as a Conditional Use within the Agricultural/Ranching, Rural, Rural Fringe and Mixed Use Districts, and as a Permitted Use within the PD Zoning Districts.

9. The SLDC, Section 4.9.6.5 (Approval Criteria) states that a conditional use permit may be approved if the use will not:

a. be detrimental to the health, safety and general welfare of the area;

b. tend to create congestion in roads;

c. create a potential hazard for fire, panic, or other danger;

d. tend to overcrowd land and cause undue concentration of population;

e. interfere with adequate provisions for schools, parks, water, sewerage, transportation or other public requirements, conveniences, or improvements;

f. interfere with adequate light and air; and

g. be inconsistent with the purposes of the property's zoning classification or in any other way inconsistent with the spirit and intent of the SLDC or SGMP.

10. The SLDC, Section 4.9.6.6 (Conditions) states that the Planning Commission may approve the conditional use permit with "such reasonable standards, conditions, or mitigation requirements, in addition to any general standard specified in the SLDC or the SGMP, as the Planning Commission may deem necessary."

C. PERMIT PROCESS

11. On May 16, 2019, Applicant discussed the application for a conditional use permit to construct the Proposed Pipeline at the regular meeting of the Technical Advisory Committee, as required by the SLDC, Section 4.4.4.3 (Pre-Application TAC Meeting) & Table 4-1.

12. On July 30, 2019, Applicant presented the application for a conditional use permit to construct the Proposed Pipeline at a neighborhood meeting, and submitted to County Staff the material that was presented at the meeting, a sign-up sheet, and a list of individuals notified of the meeting, including Community and Registered Organizations, as required by the SLDC, Section 4.4.4 (Pre-Application Neighborhood Meeting).

13. Applicant submitted written verification that the notice of public hearing on the application for a conditional use permit to construct the Proposed Pipeline was posted, published, and mailed, as required by the SLDC, Section 4.6.3 (General Notice of Application Requiring a Public Hearing). Staff Report to Planning Commission dated February 20, 2020, Exhibit 15.

14. On November 19, 2019, the Hearing Officer held the public hearing on the application for a conditional use permit to construct the Proposed Pipeline.

15. On December 11, 2019, the Hearing Officer issued his decision recommending approval of the application for a conditional use permit to construct the Proposed Pipeline (Staff Report, Exhibit 9), subject to the following conditions:

a. A CUP (Conditional Use Permit) showing the site layout and any other conditions that may be imposed by the County Staff through the approval process shall be recorded at the expense of the applicant in the office of the County Clerk in accordance with Chapter 4, Section 4.9.6.8.

b. Prior to recording the CUP, the Applicant shall submit, to staff for the record, the recorded documentation of the acquisition of the entire 13.5 mile, 50-foot-wide easement utilized by

the gas transmission line or evidence of a right of entry pursuant to the New Mexico Condemnation Statute.

c. All mitigation implemented as recommended in the Environmental Impact Report shall be documented and the findings submitted to staff for the record.

d. The Applicant shall place temporary monitoring fences along the edges of the TUA (Temporary Use Area), for sites LA 155161, LA 157094, LA 157105, and LA 193452, where it intersects with these archaeological sites and a qualified archaeologist shall monitor all earth disturbance construction activities within 100 feet of these site boundaries.

e. A data recovery plan for sites LA 123007, LA 193454, LA193455, and LA 193505, shall be submitted to Santa Fe County and shall be reviewed and approved by SHPO before any ground disturbance can occur.

f. The Applicant shall be subject to all conditions set forth in the Excavation/Restoration Ordinance 2003-1 for any road cuts across any Santa Fe County Maintained Roads.

16. On February 20, 2020, the Planning Commission held a public hearing on the application for a conditional use permit to construct the Proposed Pipeline. Prior to the hearing, Applicant submitted to County Staff a Geotechnical Evaluation Report, an Archaeological Study and a Terrain Management Plan for the realignment of the easement on the Santa Fe Metro property, as required and agreed to at the Hearing Officer hearing of November 19, 2019.

17. Applicant complied with the notice requirements for a public hearing before the Planning Commission, as required by the SLDC, Section 4.6.3 (General Notice of Application Requiring a Public Hearing). A copy of the written verification required by SLDC Section 4.6.3.5 was provided to the Administrator prior to the public hearing and is contained in the Record (Staff Report, Exhibit 15).

18. At the public hearing, County staff presented uncontroverted testimony that Applicant submitted the studies, reports, and assessments required by the SLDC, Section 6.1.2.

a. The Environmental Impact Report ("EIR") analyzed the potential adverse impacts of the Proposed Pipeline on the environment and natural resources, described potential mitigation measures, and proposed reasonable alternatives to the Proposed Pipeline.

b. The Archaeological Resources Report identified several archeological sites in the right-of-way for the Proposed Pipeline. The Historic Preservation Division of the New Mexico Department of Cultural Affairs recommended that for sites LA 155161, LA 157094, LA 157105, and LA 193452, project construction will result in No Adverse Effect for these sites eligibility to the National Register of Historic Places (NRHP) with the condition that Santa Fe County requires the placement of temporary monitoring fences along the edges of the TUA where it intersects with these archaeological sites and a qualified archaeologist monitor all earth disturbance construction activities within 100 feet of these site boundaries and for sites LA 123007, LA 193454, LA193455, and LA 193505, project construction will result in an Adverse Effect for these sites eligibility to the NRHP. The SHPO concurs with the report's recommendations that a data recovery plan for these sites should be submitted to Santa Fe County before any ground disturbance can occur. This documentation will be forwarded to SHPO for evaluation.

c. The Fiscal Impact Assessment ("FIA") addressed the non-effect of this project to the adequacy and financial provision for public facilities and services in Santa Fe County and non-effect on adopted levels of service for law enforcement, fire, and emergency response to Santa Fe County. The FIA also addressed the fiscal implications of this project to Santa Fe County.

d. The Santa Fe County Fire Department submitted an Official Development Review dated September 4, 2019, which concluded that the Proposed Pipeline will comply with the applicable requirements of the Santa Fe County Fire Code.

e. The Santa Fe County Growth Management Planning Division submitted an Official Development Review dated October 31, 2019, which concluded that the Proposed Pipeline will comply with the applicable requirements of the 2015 Sustainable Growth Management Plan.

19. At the public hearing, Applicant and County staff presented uncontroverted evidence that the application satisfied the approval criteria for a conditional use permit. Specifically:

a. The project will be constructed to meet the Federal Pipeline and Hazardous Materials Safety Administration (PHMSA) and the New Mexico Pipeline Safety Bureau (PSB) standards. The pipeline is required to meet safety regulations defined in federal law at 49 CFR Part 192 (Federal Safety Standards). The project is also regulated by the New Mexico Public Regulation Commission. The Applicant submitted an Environmental Impact Report dated August 2019. The EIR includes cultural and biological resource surveys and addresses waterways, wetlands and storm water (NPDES), as well as visibility and view shed analysis. The EIR addressed possible ways to minimize significant environmental effects and impacts of the project, and described reasonable alternatives to the project.

b. The Proposed Pipeline will not tend to create congestion in roads. Being an underground pipeline, this transmission line will not increase traffic flows after completion. The bulk of any added traffic to the existing roads or overland roads that will be utilized to access the proposed site will be for the construction of the gas line. The added traffic will only occur until completion of the project. After the line is operational, routine maintenance (as required) and inspections will occur, which should not impact traffic flows to any noticeable extent.

c. The Proposed Pipeline will not create a potential hazard for fire, panic, or other danger. The project will be constructed, operated and maintained in accordance with federal and

state laws, rules, and regulations. NMGC utilizes patrols that inspect the pipeline visually, aerially, and by motor vehicle for indications of leaks, construction activity, and other factors impacting the safe operation of the pipeline system. NMGC will also have the ability to remotely shut down the flow of gas, should the need arise. The Applicant submitted a Safety Management Plan regarding access and emergency protocol during the construction of the transmission line. This information includes: site specific health, safety, security and environmental work plan; safe work plan; vehicle safety; emergency plan; emergency care; and non-emergency care.

d. The Proposed Pipeline will not tend to overcrowd land and cause undue concentration of population. The easement to be utilized for the gas line runs through Agricultural/Ranching (160 acres per DU), Rural (40 acres per DU), Rural Fringe (20 acres per DU), Mixed Use, and PD Zoning. The majority of the Zoning Districts where the gas line is being constructed do not allow high density development. The land within the easement for the gas line is subject to the density requirements set forth in the SLDC. Further, the placement of a gas transmission line does not tend to cause overcrowding.

e. The Proposed Pipeline will not interfere with adequate provisions for schools, parks, water, sewerage, transportation or other public requirements, conveniences or improvements. The gas line project is predominately in a remote area of Santa Fe County and will be buried 7 feet below ground. The gas line, therefore will not interfere with adequate provisions for schools, parks, water, sewerage, transportation or other public requirements.

f. The Proposed Pipeline will not interfere with adequate light and air. The gas line application does not propose lights and the gas line will be buried 7 feet below ground. The tool ground launcher, receiver stations, and the valves that occur every 7-10 miles, will be a non-reflective material. No impact on adequate light and air is anticipated.

The Proposed Line will not be inconsistent with the purposes of the various properties's zoning classifications or the spirit and intent of the SLDC or Sustainable Growth Management Plan ("SGMP"). A gas transmission line within the Ag/Ranch (AR), Rural (RUR), Rural Fringe (RUR-F), Mixed Use (MU), and PD Zoning District is an allowed use with the approval of a Conditional Use Permit. There is an existing 12-inch gas line within the most western portion of the proposed easement for the 20-inch gas line. The proposed gas line will be constructed within a 50-foot easement, which will be reclaimed to its original state. Staff sees no aspect of the proposed transmission line being inconsistent with the zoning of the affected properties or with the spirit and intent of the SLDC or SGMP 20. Applicant testified that it will accept the conditions recommended by the Hearing Officer.

II. CONCLUSIONS OF LAW

21. Applicant demonstrated the need for the Proposed Pipeline.
22. Applicant satisfied the approval criteria for a conditional use permit:
    a. The Proposed Pipeline will not be detrimental to the health, safety and general welfare of the area.
    b. The Proposed Pipeline will not tend to create congestion in roads.
    c. The Proposed Pipeline will not create a potential fire hazard for fire, panic, or other danger.
    d. The Proposed Pipeline will not tend to overcrowd land and cause undue concentration of population.
    e. The Proposed Pipeline will not interfere with adequate provisions for schools, parks, water, sewerage, transportation or other public requirements, conveniences or improvements.
    f. The Proposed Pipeline will not interfere with adequate light and air.

g. The Proposed Pipeline will not be inconsistent with the purposes of the property's zoning classification or the spirit and intent of the SLDC or Sustainable Growth Management Plan ("SGMP").

23. The conditions recommended by the Hearing Officer are reasonable and appropriate to ensure compliance with the SLDC.

WHEREFORE the Planning Commission finds the Application is well taken and hereby approves the Application for a Conditional Use Permit to construct approximately 13.5 miles of new underground, 20" in diameter, natural gas transmission pipeline in Santa Fe County, subject to the following conditions:

a. A CUP showing the site layout and any other conditions that may be imposed by the County Staff through the construction approval process shall be recorded at the expense of the applicant in the office of the County Clerk in accordance with Chapter 4, Section 4.9.6.8.

b. Prior to recording the CUP, the Applicant shall submit, to staff for the record, the recorded documentation of the acquisition of the entire 13.5 mile, 50-foot-wide easement utilized by the gas transmission line or evidence of a right of entry pursuant to the New Mexico Condemnation Statute.

c. All mitigation implemented as recommended in the Environmental Impact Report shall be documented and the findings submitted to staff for the record.

d. The Applicant shall place temporary monitoring fences along the edges of the TUA, for sites LA 155161, LA 157094, LA 157105, and LA 193452, where it intersects with these archaeological sites and a qualified archaeologist shall monitor all earth disturbance construction activities within 100 feet of these site boundaries.

e. A data recovery plan for sites LA 123007, LA 193454, LA193455, and LA 193505, shall be submitted to Santa Fe County and shall be reviewed and approved by SHPO before any ground disturbance can occur.

f. The Applicant shall be subject to all conditions set forth in the Excavation/Restoration Ordinance 2003-1 for any road cuts across any Santa Fe County Maintained Roads.

IT IS SO ORDERED.

This Order was adopted by the Planning Commission on this 16 day of April, 2020.

THE SANTA FE COUNTY PLANNING COMMISSION

Charlie Gonzalez, Chairperson

ATTEST:

Geraldine Salazar, County Clerk

April 21, 2020

APPROVED AS TO FORM:

Rogen Prucino For
Gregory S. Shaffer, County Attorney

SFC CLERK RECORDED 04/21/2020

COUNTY OF SANTA FE)
STATE OF NEW MEXICO) ss
PLANNING COMMISSION OR
PAGES: 12

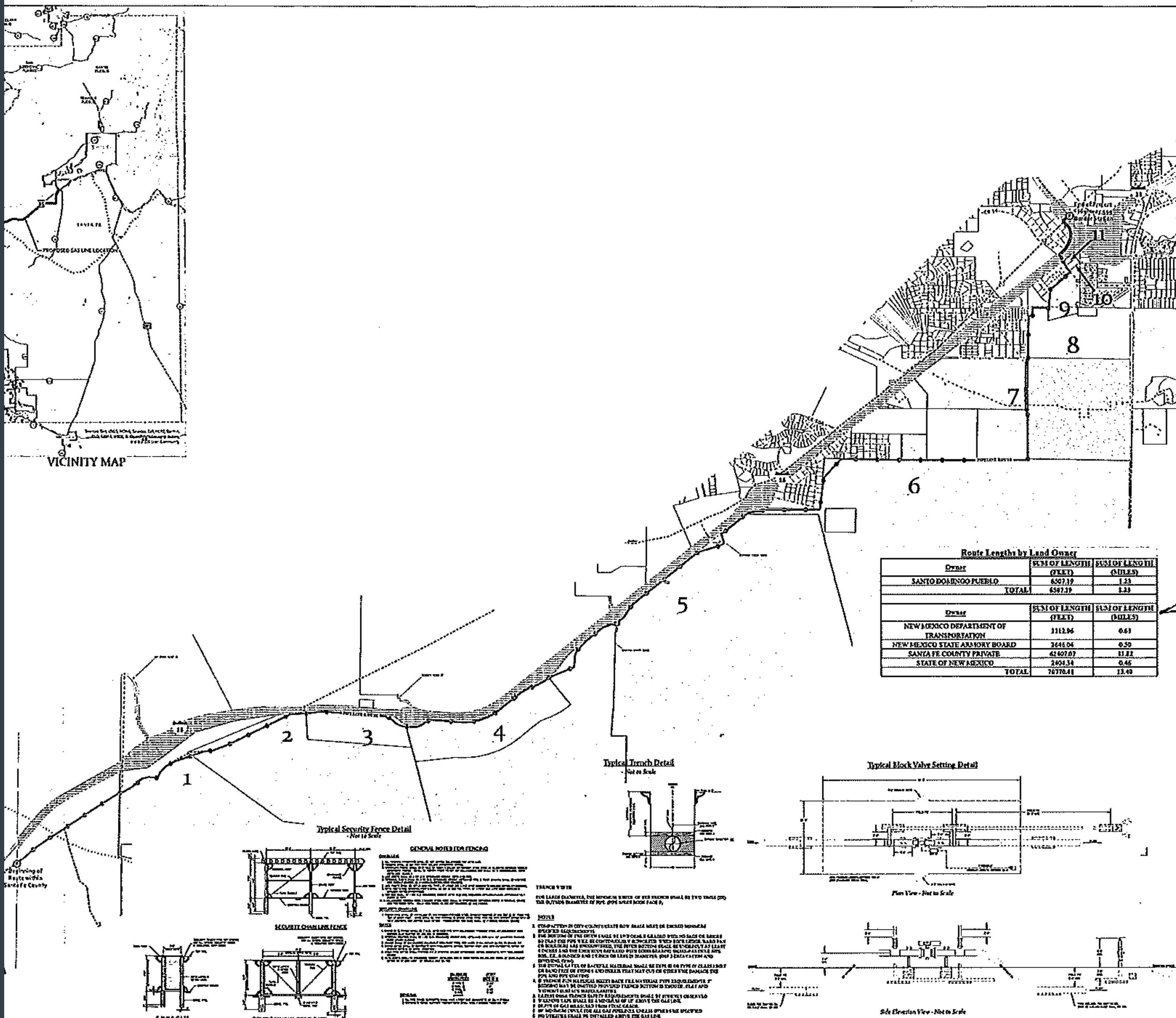
I Hereby Certify That This Instrument Was Filed for Record On The 21ST Day Of April, 2020 at 03:24:17 PM And Was Duly Recorded as Instrument # 1914499 Of The Records Of Santa Fe County

Witness My Hand And Seal Of Office
Geraldine Salazar
Deputy E Martinez County Clerk, Santa Fe, NM

ORDER FOR NMGC TRANSMISSION GAS LINE PROJECT
NEW MEXICO GAS COMPANY

NOTICE OF RIGHT OF APPEAL

Ordinance 2016-9, the Sustainable Land Development Code, Chapter 4, Section 4.5.4. Appeal of a Final Decision of the Planning Commission. Any party with standing may appeal a final decision of the Planning Commission to the Board. The application seeking an appeal of a decision of the Planning Commission must be filed with the Administrator. An appeal from a decision of the Planning Commission must be filed within thirty (30) working days of the date of the decision and recordation of the final development order by the Planning Commission. The application shall be forwarded by the Administrator to the Board. The Administrator shall provide to the Board a copy of the record of the proceedings below of the decision appealed. The appeal shall be placed on the docket of the Board for consideration on the next available agenda. An appeal of the decision of the Planning Commission shall be reviewed *de novo* by the Board. The timely filing of an appeal shall stay further processing of the application unless the Board determines that special circumstances exist.



New Mexico Gas Company
AN EMERA COMPANY

New Mexico Gas Company Conditional Use Permit

LEGEND

TRANSPORTATION

SCALE: 1:24,000

Route Lengths by Land Owner

Owner	SUM OF LENGTH (FEET)	SUM OF LENGTH (MILES)
SANTO DOMINGO PUEBLO	6507.19	1.23
TOTAL	6507.19	1.23

Owner	SUM OF LENGTH (FEET)	SUM OF LENGTH (MILES)
NEW MEXICO DEPARTMENT OF TRANSPORTATION	3312.96	0.63
NEW MEXICO STATE ARMORY BOARD	2645.04	0.50
SANTA FE COUNTY PRIVATE	62407.07	11.82
STATE OF NEW MEXICO	2404.34	0.46
TOTAL	70770.41	13.40

NOTES:

1. ON FEBRUARY 20, 2020 THE PLANNING COMMISSION APPROVED CASE #19-5200 NEW MEXICO GAS COMPANY TRANSMISSION LINE PROJECT CONDITIONAL USE PERMIT AS REQUESTED BY NEW MEXICO GAS COMPANY (APPLICANT). THE FINAL ORDER IS RECORDED IN THE SANTA FE COUNTY CLERK'S OFFICE AT INSTRUMENT # 1914499

2. ANY DISTURBED AREAS SHALL BE RECLAIMED PER THE REQUIREMENTS OF THE RECLAMATION PLAN SUBMITTED AS PART OF THE CONDITIONAL USE PERMIT APPLICATION DEVELOPMENT PERMIT APPLICATION

3. PIPE WILL BE INSTALLED BY HORIZONTAL DIRECTIONAL DRILLING IN AREAS THAT HAVE BEEN PREVIOUSLY DISTURBED, EXISTING ROADWAY CROSSINGS, WATERWAYS AND ON SLOPES GREATER THAN 30% (SEE SLOPE ANALYSIS)

DEDICATION AND AFFIDAVIT

KNOW ALL PERSONS BY THESE PRESENT THAT THE UNDERSIGNED OWNER HAS CAUSED THIS CONDITIONAL USE PERMIT TO BE PREPARED. ALL THAT APPEARS TO BE ON THIS PLAN IS MADE WITH FREE CONSENT AND IN ACCORDANCE WITH THE DESIRES OF THE UNDERSIGNED OWNER. THIS DEVELOPMENT LIES WITHIN THE PLANNING AND PLATTING JURISDICTION OF THE COUNTY OF SANTA FE, NEW MEXICO. THE PURPOSE OF THIS PLAN IS TO CREATE A CONDITIONAL USE PERMIT FOR NEW MEXICO GAS COMPANY.

NEW MEXICO GAS COMPANY

THOMAS DOMME,
VICE PRESIDENT, EXTERNAL AFFAIRS AND GENERAL COUNSEL

THE FOREGOING WAS SWORN, ACKNOWLEDGED AND SUBSCRIBED BEFORE ME BY THOMAS DOMME, VICE PRESIDENT, EXTERNAL AFFAIRS AND GENERAL COUNSEL OF NEW MEXICO GAS COMPANY,
THIS 29 DAY OF APRIL, 2021
NOTARY PUBLIC
MY COMMISSION EXPIRES ON

OFFICIAL SEAL

COUNTY APPROVAL
Approved by:

Land Use — Date 4/30/21
Planning Commission Chair — Date 4-29-21
County Clerk — Date 5-4-21
for County Fire Department — Date 5/1/2021

COUNTY OF SANTA FE
STATE OF NEW MEXICO) ss INST# 1952938
I HEREBY CERTIFY THAT THIS INSTRUMENT WAS FILED FOR RECORD ON THE 12 DAY OF MAY A.D. 20 21 AT 2:19 O'CLOCK p M
AND WAS DULY RECORDED IN BOOK 877
PAGE 040 OF THE RECORDS OF SANTA FE COUNTY
WITNESS MY HAND AND SEAL OF OFFICE
KATHARINE E. CLARK
COUNTY CLERK, SANTA FE COUNTY, NM
DEPUTY

CASE No. CUP 19-5200

TITLE		
New Mexico Gas Company Conditional Use Permit		
Date Created: April 2020	Date Approved:	Approved By: