OCD Artesia

ATS 17-15

Form 3160-3
(March 2012)

FORM APPROVED
OMB No. 1004-0137
Expires October 31, 2014

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.
NMNM14124

6. If Indian, Allotee or Tribe Name

1a. Type of work: ☑ DRILL ☐ REENTER

7. If Unit or CA Agreement, Name and No.

1b. Type of Well: ☐ Oil Well ☑ Gas Well ☐ Other ☑ Single Zone ☐ Multiple Zone

8. Lease Name and Well No. 317461
MARQUARDT 12-13 FEDERAL C 11H

2. Name of Operator
CIMAREX ENERGY COMPANY OF COLORADO 162683

9. API Well No.
30-015-44073

3a. Address
202 S. Cheyenne Ave, Ste 1000 Tulsa OK 741

3b. Phone No. *(include area code)*
(432)620-1936

10. Field and Pool, or Exploratory Purple Sage
WOLFCAMP / ~~SAGE DRAW~~ WOLFCAMP

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*
At surface TR D / 565 FNL / 1309 FWL / LAT 32.150256 / LONG -104.251031
At proposed prod. zone TR M / 330 FSL / 350 FWL / LAT 32.123611 / LONG -104.253831

11. Sec., T. R. M. or Blk. and Survey or Area 98220
SEC 12 / T25S / R26E / NMP

14. Distance in miles and direction from nearest town or post office*
18.7 miles

12. County or Parish
EDDY

13. State
NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)
565 feet

16. No. of acres in lease
1280.48

17. Spacing Unit dedicated to this well
320

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.
3165 feet

19. Proposed Depth
9600 feet / 19196 feet

20. BLM/BIA Bond No. on file
FED: NMB001187

21. Elevations (Show whether DF, KDB, RT, GL, etc.)
3301 feet

22. Approximate date work will start*
02/27/2017

23. Estimated duration
30 days

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No.1, must be attached to this form:

1. Well plat certified by a registered surveyor.
2. A Drilling Plan.
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office).
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification
6. Such other site specific information and/or plans as may be required by the BLM.

25. Signature	Name *(Printed/Typed)*	Date
(Electronic Submission)	Kimberleigh Rhodes / Ph: (918)560-7081	11/18/2016

Title
Regulatory Technician

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
(Electronic Submission)	Cody Layton / Ph: (575)234-5959	02/17/2017

Title	Office
Supervisor Multiple Resources	CARLSBAD

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.
Conditions of approval, if any, are attached.

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Continued on page 2)

*(Instructions on page 2)

Accepted for record - NMOCD
RW
2-28-2017

NM OIL CONSERVATION
ARTESIA DISTRICT
FEB 24 2017
RECEIVED

Approval Subject to General Requirements & Special Stipulations Attached

APPROVED WITH CONDITIONS

SEE ATTACHED FOR CONDITIONS OF APPROVAL

Carlsbad Controlled Water Basin

Additional Operator Remarks

Location of Well

1. SHL: TR D / 565 FNL / 1309 FWL / TWSP: 25S / RANGE: 26E / SECTION: 12 / LAT: 32.150256 / LONG: -104.251031 (TVD: 0 feet, MD: 0 feet)
   PPP: TR E / 1320 FNL / 415 FWL / TWSP: 25S / RANGE: 26E / SECTION: 13 / LAT: 32.133621 / LONG: -104.253936 (TVD: 9560 feet, MD: 15554 feet)
   PPP: TR D / 0 FNL / 402 FWL / TWSP: 25S / RANGE: 26E / SECTION: 13 / LAT: 32.137202 / LONG: -104.25397 (TVD: 9546 feet, MD: 14251 feet)
   BHL: TR M / 330 FSL / 350 FWL / TWSP: 25S / RANGE: 26E / SECTION: 13 / LAT: 32.123611 / LONG: -104.253831 (TVD: 9600 feet, MD: 19196 feet)

BLM Point of Contact

Name: Deborah McKinney
Title: Legal Instruments Examiner
Phone: 5752345931
Email: dmckinne@blm.gov

Review and Appeal Rights

A person contesting a decision shall request a State Director review. This request must be filed within 20 working days of receipt of the Notice with the appropriate State Director (see 43 CFR 3165.3). The State Director review decision may be appealed to the Interior Board of Land Appeals, 801 North Quincy Street, Suite 300, Arlington, VA 22203 (see 43 CFR 3165.4). Contact the above listed Bureau of Land Management office for further information.

NM OIL CONSERVATION
ARTESIA DISTRICT
FEB 24 2017
RECEIVED

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-102
Revised August 1, 2011
Submit one copy to appropriate District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

[1] API Number	[2] Pool Code	[3] Pool Name	
30-015- 44073	98220	Purple SAGE ~~Wildcat~~ Wolfcamp	GAS
[4] Property Code	[5] Property Name		[6] Well Number
317461	MARQUARDT 12-13 FEDERAL COM 317461		11H
[7] OGRID No.	[8] Operator Name		[9] Elevation
162683	CIMAREX ENERGY CO. of Colorado		3301.6'

[10] Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	12	25S	26E		565	NORTH	1309	WEST	EDDY

[11] Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	13	25S	26E		330	SOUTH	350	WEST	EDDY

[12] Dedicated Acres	[13] Joint or Infill	[14] Consolidation Code	[15] Order No.
~~320~~ 640			

No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

[16]

NOTE:
Distances referenced on plat to section lines are perpendicular.

NAD 83 (SURFACE HOLE LOCATION)
LATITUDE = 32°09'00.92" (32.150256)
LONGITUDE = 104°15'03.71" (104.251031)
NAD 27 (SURFACE HOLE LOCATION)
LATITUDE = 32°09'00.48" (32.150133)
LONGITUDE = 104°15'01.92" (104.250533)
STATE PLANE NAD 83 (N.M. EAST)
N: 418407.70 E: 566808.30
STATE PLANE NAD 27 (N.M. EAST)
N: 418350.29 E: 525625.48

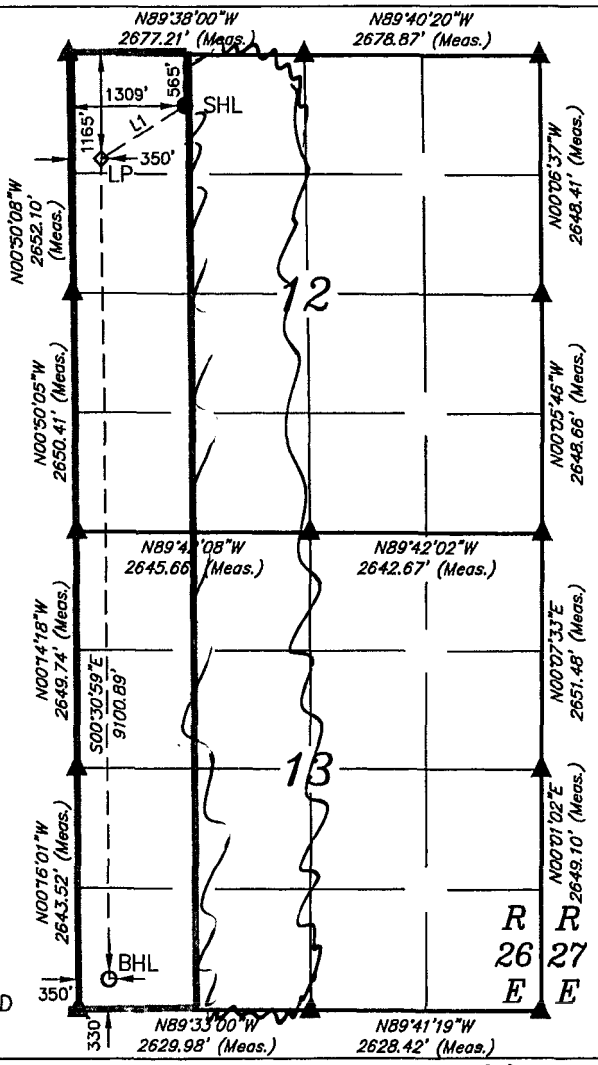
NAD 83 (BOTTOM HOLE LOCATION)
LATITUDE = 32°07'25.00" (32.123611)
LONGITUDE = 104°15'13.79" (104.253831)
NAD 27 (BOTTOM HOLE LOCATION)
LATITUDE = 32°07'24.57" (32.123492)
LONGITUDE = 104°15'12.00" (104.253333)
STATE PLANE NAD 83 (N.M. EAST)
N: 408714.73 E: 565948.97
STATE PLANE NAD 27 (N.M. EAST)
N: 408657.51 E: 524766.02

LINE TABLE		
LINE	DIRECTION	LENGTH
L1	S57°59'53"W	1120.73'

2000' 1000' 0' 2000'

SCALE
DRAWN BY: S.F. 10-18-16

● = SURFACE HOLE LOCATION
○ = BOTTOM HOLE LOCATION
▲ = SECTION CORNERS LOCATED
◇ = LANDING POINT



[17] OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Signature 11/10/16 Date

Aricka Easterling
Printed Name

aeasterling@cimarex.com
E-mail Address

[18] SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

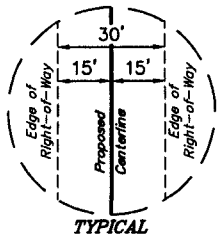
October 10, 2016
Date of Survey

Signature and Seal of Professional Surveyor:

PAUL BUCHELE
NEW MEXICO
23782
10-25-16
PROFESSIONAL SURVEYOR

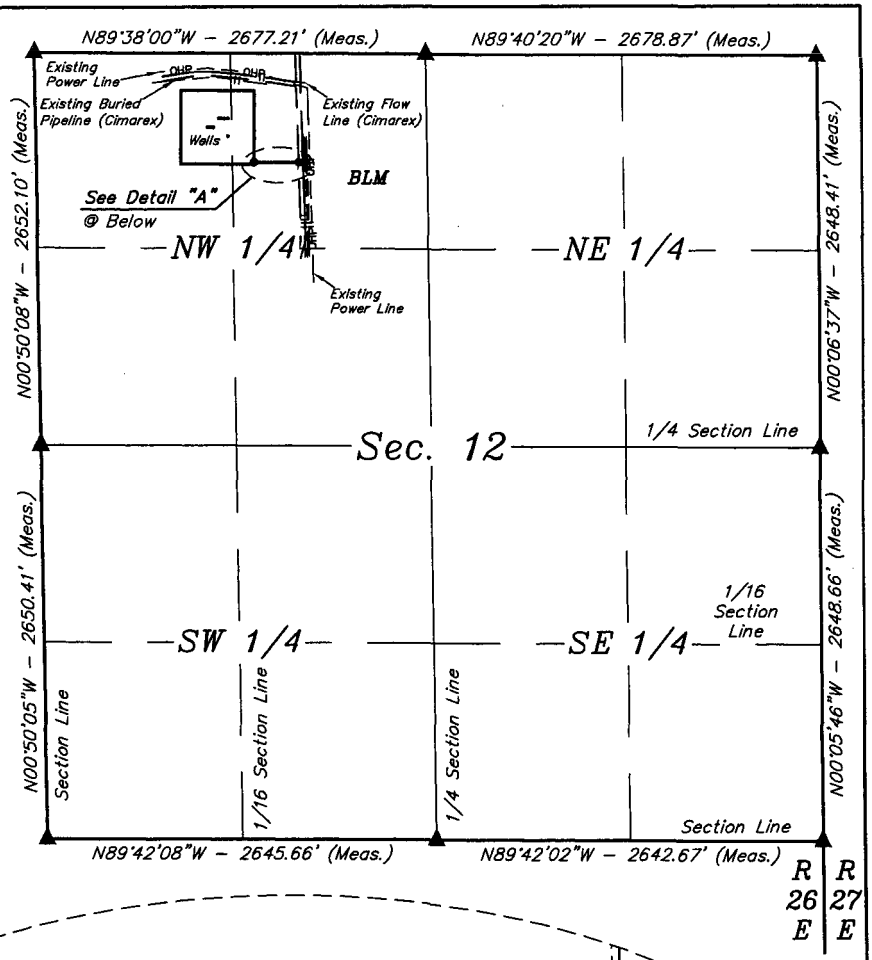
Certificate Number:

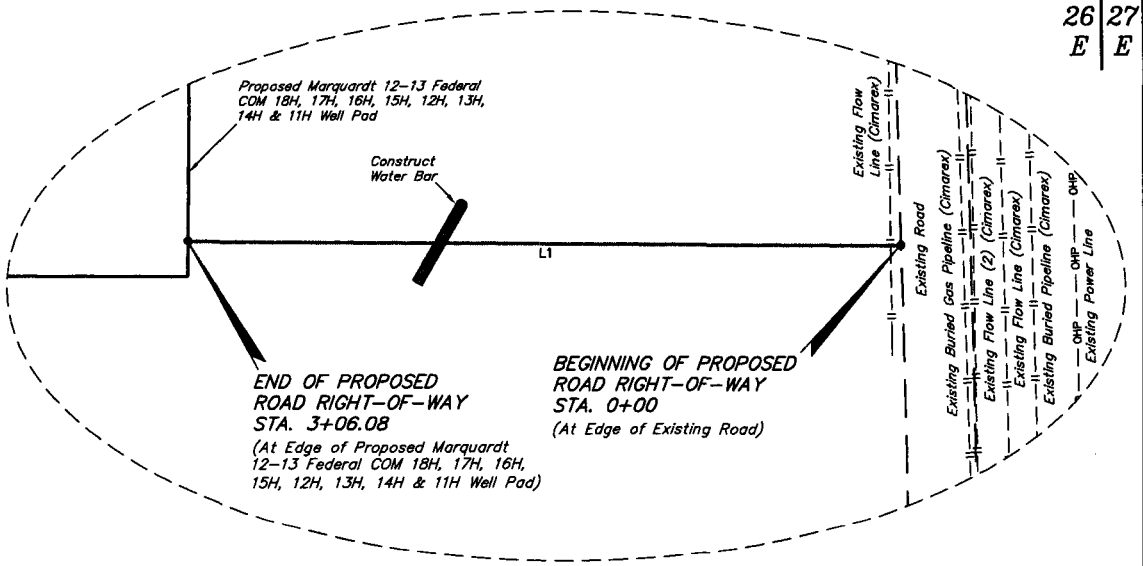
12413
Each Sect. 320 = 640 Ref.



TYPICAL RIGHT-OF-WAY DETAIL
NO SCALE

LINE TABLE		
LINE	DIRECTION	LENGTH
L1	N89°37'40"W	306.08'





Detail "A"
No Scale

1000' 500' 0' 1000'

ACREAGE / LENGTH TABLE				
	OWNERSHIP	FEET	RODS	ACRES
(NW 1/4)	BLM	306.08	18.55	0.211

▬ = CONSTRUCT EARTHEN WATER BAR. (Not to Scale.)

▲ = SECTION CORNERS LOCATED.

CERTIFICATE
THIS IS TO CERTIFY THAT THIS EASEMENT PLAT AND THE ACTUAL SURVEY ON THE GROUND UPON WHICH IT IS BASED WERE PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION; THAT I AM RESPONSIBLE FOR THIS SURVEY; THAT THIS SURVEY MEETS THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO; AND THAT IT IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

23782
10-31-16
PROFESSIONAL SURVEYOR

FILE: 61105-A1 | REV: 1 10-28-16 S.F. (ADDED WATER BARS)

NOTES:
- The maximum grade of existing ground for the proposed access road is ±2.5%.
- Water bars to be constructed to minimum dimensions 3'Lx35'Wx18"H
- Basis of bearing is a G.P.S. observation (Vertical Control Datum: NAVD88)

N

CIMAREX ENERGY CO.

MARQUARDT 12-13 FEDERAL COM 18H, 17H, 16H, 15H, 12H, 13H, 14H & 11H
SECTION 12, T25S, R26E, N.M.P.M.
EDDY COUNTY, NEW MEXICO

SURVEYED BY	A.V., A.B., A.H.	10-10-16	SCALE
DRAWN BY	S.F.	10-18-16	1" = 1000'

ACCESS ROAD R-O-W EXHIBIT C-2

UINTAH ENGINEERING & LAND SURVEYING
UELS, LLC
Corporate Office * 85 South 200 East
Vernal, UT 84078 * (435) 789-1017

ROAD RIGHT-OF-WAY DESCRIPTION

A 30' WIDE RIGHT-OF-WAY 15' ON EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE.

BEGINNING AT A POINT IN THE NE 1/4 NW 1/4 OF SECTION 12, T25S, R26E, N.M.P.M., WHICH BEARS S49°59'01"W 1142.15' FROM THE NORTH 1/4 CORNER OF SAID SECTION 12, THENCE N89°37'40"W 306.08' TO A POINT IN THE NE 1/4 NW 1/4 OF SAID SECTION 12, WHICH BEARS S58°11'23"W 1389.51' FROM THE NORTH 1/4 CORNER OF SAID SECTION 12. THE SIDE LINES OF SAID DESCRIBED RIGHT-OF-WAY BEING SHORTENED OR ELONGATED TO MEET THE GRANTOR'S PROPERTY LINES. BASIS OF BEARINGS IS A G.P.S. OBSERVATION. CONTAINS 0.211 ACRES MORE OR LESS.

BEGINNING OF ROAD STA. 0+00 BEARS
S49°59'01"W 1142.15' FROM THE NORTH 1/4
CORNER OF SECTION 12, T25S, R26E, N.M.P.M.

END OF ROAD STA. 3+06.08 BEARS
S58°11'23"W 1389.51' FROM THE NORTH 1/4
CORNER OF SECTION 12, T25S, R26E, N.M.P.M.

MARQUARDT 12-13 FEDERAL COM 18H, 17H, 16H, 15H, 12H, 13H, 14H & 11H ACCESS ROAD R-O-W			
SECTION CORNER	SECTION CORNER DESC.	LATITUDE (NAD 83)	LONGITUDE (NAD 83)
NW COR. SEC. 12, T25S, R26E	2" IRON PIPE WITH CAP	N 32°09'06.59"	W 104°15'19.04"
N1/4 COR. SEC. 12, T25S, R26E	1" IRON PIPE WITH CAP	N 32°09'06.42"	W 104°14'47.90"
NE COR. SEC. 12, T25S, R26E	2" IRON PIPE WITH CAP	N 32°09'06.27"	W 104°14'16.75"
E1/4 COR. SEC. 12, T25S, R26E	1" IRON PIPE WITH CAP	N 32°08'40.07"	W 104°14'16.69"
SE COR. SEC. 12, T25S, R26E	2" IRON PIPE WITH CAP	N 32°08'13.86"	W 104°14'16.64"
S1/4 COR. SEC. 12, T25S, R26E	1" IRON PIPE WITH CAP	N 32°08'14.00"	W 104°14'47.36"
SW COR. SEC. 12, T25S, R26E	2" IRON PIPE WITH CAP	N 32°08'14.13"	W 104°15'18.13"
W1/4 COR. SEC. 12, T25S, R26E	1" IRON PIPE WITH CAP	N 32°08'40.35"	W 104°15'18.58"

MARQUARDT 12-13 FEDERAL COM 18H, 17H, 16H, 15H, 12H, 13H, 14H & 11H ACCESS ROAD R-O-W			
NUMBER	STATION	LATITUDE (NAD 83)	LONGITUDE (NAD 83)
BEGIN	0+00	N 32°08'59.15"	W 104°14'58.07"
END	3+06.08	N 32°08'59.17"	W 104°15'01.63"

CERTIFICATE
THIS IS TO CERTIFY THAT THIS EASEMENT PLAT AND THE ACTUAL SURVEY ON THE GROUND UPON WHICH IT IS BASED WERE PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION; THAT I AM RESPONSIBLE FOR THIS SURVEY; THAT THIS SURVEY MEETS THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO; AND THAT IT IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

NEW MEXICO 23782 PROFESSIONAL SURVEYOR
10-25-16

FILE: 61105-A2

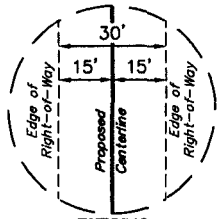
N

CIMAREX ENERGY CO.
MARQUARDT 12-13 FEDERAL COM
18H, 17H, 16H, 15H, 12H, 13H, 14H & 11H
SECTION 12, T25S, R26E, N.M.P.M.
EDDY COUNTY, NEW MEXICO

SURVEYED BY	A.V., A.B., A.H.	10-10-16	SCALE
DRAWN BY	S.F.	10-18-16	N/A

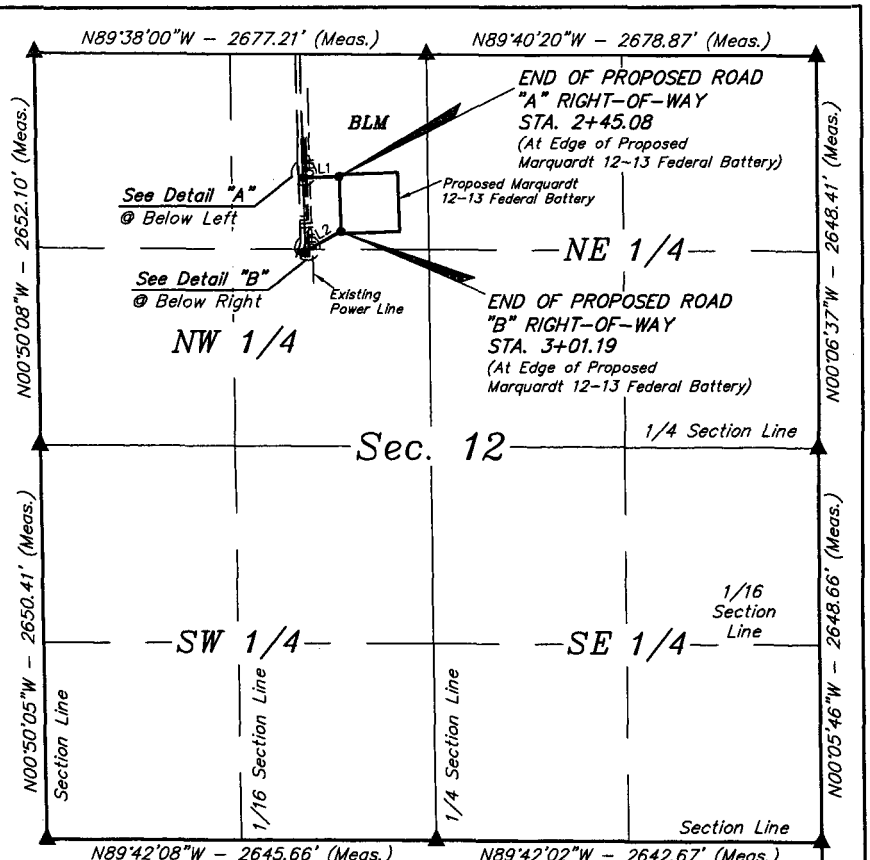
ACCESS ROAD R-O-W EXHIBIT C-2

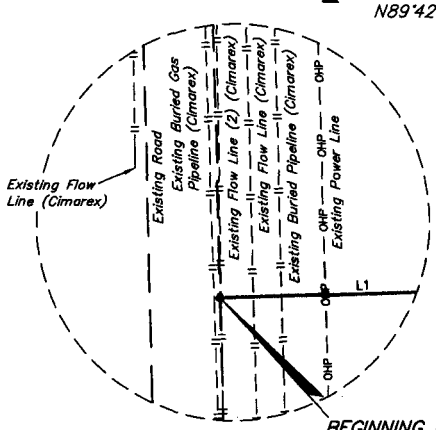
UINTAH ENGINEERING & LAND SURVEYING
UELS, LLC
Corporate Office * 85 South 200 East
Vernal, UT 84078 * (435) 789-1017

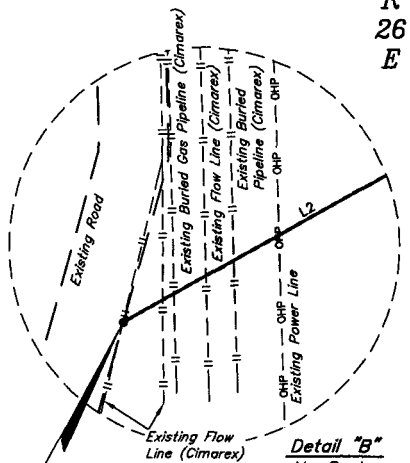


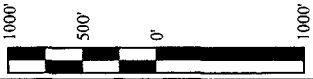
TYPICAL RIGHT-OF-WAY DETAIL
NO SCALE

LINE TABLE		
LINE	DIRECTION	LENGTH
L1	N88°26'00"E	245.08'
L2	N61°20'14"E	301.19'









ACREAGE / LENGTH TABLE				
	OWNERSHIP	FEET	RODS	ACRES
ACCESS ROAD "A" (NW 1/4)	BLM	245.08	14.85	0.169
ACCESS ROAD "B" (NW 1/4)	BLM	301.19	18.25	0.207
TOTAL		546.27	33.10	0.376

▲ = SECTION CORNERS LOCATED.

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23782
10-25-16
PROFESSIONAL SURVEYOR

FILE: 61109-A1

Sheet 1 of 2

NOTES:
- The maximum grade of existing ground for proposed access road "A" is ±3.0%.
- The maximum grade of existing ground for proposed access road "B" is ±2.0%.
- Basis of bearing is a G.P.S. observation (Vertical Control Datum: NAVD88)

UINTAH ENGINEERING & LAND SURVEYING

UELS, LLC
Corporate Office * 85 South 200 East
Vernal, UT 84078 * (435) 789-1017

N

CIMAREX ENERGY CO.

MARQUARDT 12-13 FEDERAL BATTERY
SECTION 12, T25S, R26E, N.M.P.M.
EDDY COUNTY, NEW MEXICO

SURVEYED BY	A.V., A.B., A.H.	10-10-16	SCALE
DRAWN BY	S.F.	10-18-16	1" = 1000'

ACCESS ROAD R-O-W EXHIBIT C-2

ROAD "A" RIGHT-OF-WAY DESCRIPTION

A 30' WIDE RIGHT-OF-WAY 15' ON EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE.

BEGINNING AT A POINT IN THE NE 1/4 NW 1/4 OF SECTION 12, T25S, R26E, N.M.P.M., WHICH BEARS S45°12'26"W 1186.75' FROM THE NORTH 1/4 CORNER OF SAID SECTION 12, THENCE N88°26'00"E 245.08' TO A POINT IN THE NE 1/4 NW 1/4 OF SAID SECTION 12, WHICH BEARS S35°45'17"W 1022.05' FROM THE NORTH 1/4 CORNER OF SAID SECTION 12. THE SIDE LINES OF SAID DESCRIBED RIGHT-OF-WAY BEING SHORTENED OR ELONGATED TO MEET THE GRANTOR'S PROPERTY LINES. BASIS OF BEARINGS IS A G.P.S. OBSERVATION. CONTAINS 0.169 ACRES MORE OR LESS.

BEGINNING OF ROAD "A" STA. 0+00 BEARS S45°12'26"W 1186.75'
FROM THE NORTH 1/4 CORNER OF SECTION 12, T25S, R26E, N.M.P.M.

END OF ROAD "A" STA. 2+45.08 BEARS S35°45'17"W 1022.05' FROM
THE NORTH 1/4 CORNER OF SECTION 12, T25S, R26E, N.M.P.M.

ROAD "B" RIGHT-OF-WAY DESCRIPTION

A 30' WIDE RIGHT-OF-WAY 15' ON EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE.

BEGINNING AT A POINT IN THE SE 1/4 NW 1/4 OF SECTION 12, T25S, R26E, N.M.P.M., WHICH BEARS S32°21'31"W 1590.74' FROM THE NORTH 1/4 CORNER OF SAID SECTION 12, THENCE N61°20'14"E 301.19' TO A POINT IN THE NE 1/4 NW 1/4 OF SAID SECTION 12, WHICH BEARS S26°05'05"W 1335.26' FROM THE NORTH 1/4 CORNER OF SAID SECTION 12. THE SIDE LINES OF SAID DESCRIBED RIGHT-OF-WAY BEING SHORTENED OR ELONGATED TO MEET THE GRANTOR'S PROPERTY LINES. BASIS OF BEARINGS IS A G.P.S. OBSERVATION. CONTAINS 0.207 ACRES MORE OR LESS.

BEGINNING OF ROAD "B" STA. 0+00 BEARS S32°21'31"W 1590.74'
FROM THE NORTH 1/4 CORNER OF SECTION 12, T25S, R26E, N.M.P.M.

END OF ROAD "B" STA. 3+01.19 BEARS S26°05'05"W 1335.26' FROM
THE NORTH 1/4 CORNER OF SECTION 12, T25S, R26E, N.M.P.M.

MARQUARDT 12-13 FEDERAL BATTERY ACCESS ROAD R-O-W			
SECTION CORNER	SECTION CORNER DESC.	LATITUDE (NAD 83)	LONGITUDE (NAD 83)
NW COR. SEC. 12, T25S, R26E	2" IRON PIPE WITH CAP	N 32°09'06.59"	W 104°15'19.04"
N1/4 COR. SEC. 12, T25S, R26E	1" IRON PIPE WITH CAP	N 32°09'06.42"	W 104°14'47.90"
NE COR. SEC. 12, T25S, R26E	2" IRON PIPE WITH CAP	N 32°09'06.27"	W 104°14'16.75"
E1/4 COR. SEC. 12, T25S, R26E	1" IRON PIPE WITH CAP	N 32°08'40.07"	W 104°14'16.69"
SE COR. SEC. 12, T25S, R26E	2" IRON PIPE WITH CAP	N 32°08'13.86"	W 104°14'16.64"
S1/4 COR. SEC. 12, T25S, R26E	1" IRON PIPE WITH CAP	N 32°08'14.00"	W 104°14'47.36"
SW COR. SEC. 12, T25S, R26E	2" IRON PIPE WITH CAP	N 32°08'14.13"	W 104°15'18.13"
W1/4 COR. SEC. 12, T25S, R26E	1" IRON PIPE WITH CAP	N 32°08'40.35"	W 104°15'18.58"

MARQUARDT 12-13 FEDERAL BATTERY ACCESS ROAD R-O-W "A"			
NUMBER	STATION	LATITUDE (NAD 83)	LONGITUDE (NAD 83)
BEGIN	0+00	N 32°08'58.15"	W 104°14'57.70"
END	2+45.08	N 32°08'58.22"	W 104°14'54.85"

MARQUARDT 12-13 FEDERAL BATTERY ACCESS ROAD R-O-W "B"			
NUMBER	STATION	LATITUDE (NAD 83)	LONGITUDE (NAD 83)
BEGIN	0+00	N 32°08'53.13"	W 104°14'57.80"
END	3+01.19	N 32°08'54.56"	W 104°14'54.73"

CERTIFICATE
THIS IS TO CERTIFY THAT THIS EASEMENT PLAT AND THE ACTUAL SURVEY ON THE GROUND UPON WHICH IT IS BASED WERE PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION; THAT I AM RESPONSIBLE FOR THIS SURVEY; THAT THIS SURVEY MEETS THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO; AND THAT IT IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

NEW MEXICO 23782 PROFESSIONAL SURVEYOR
10-25-16

FILE: 61109-A2

Sheet 2 of 2

N

CIMAREX ENERGY CO.

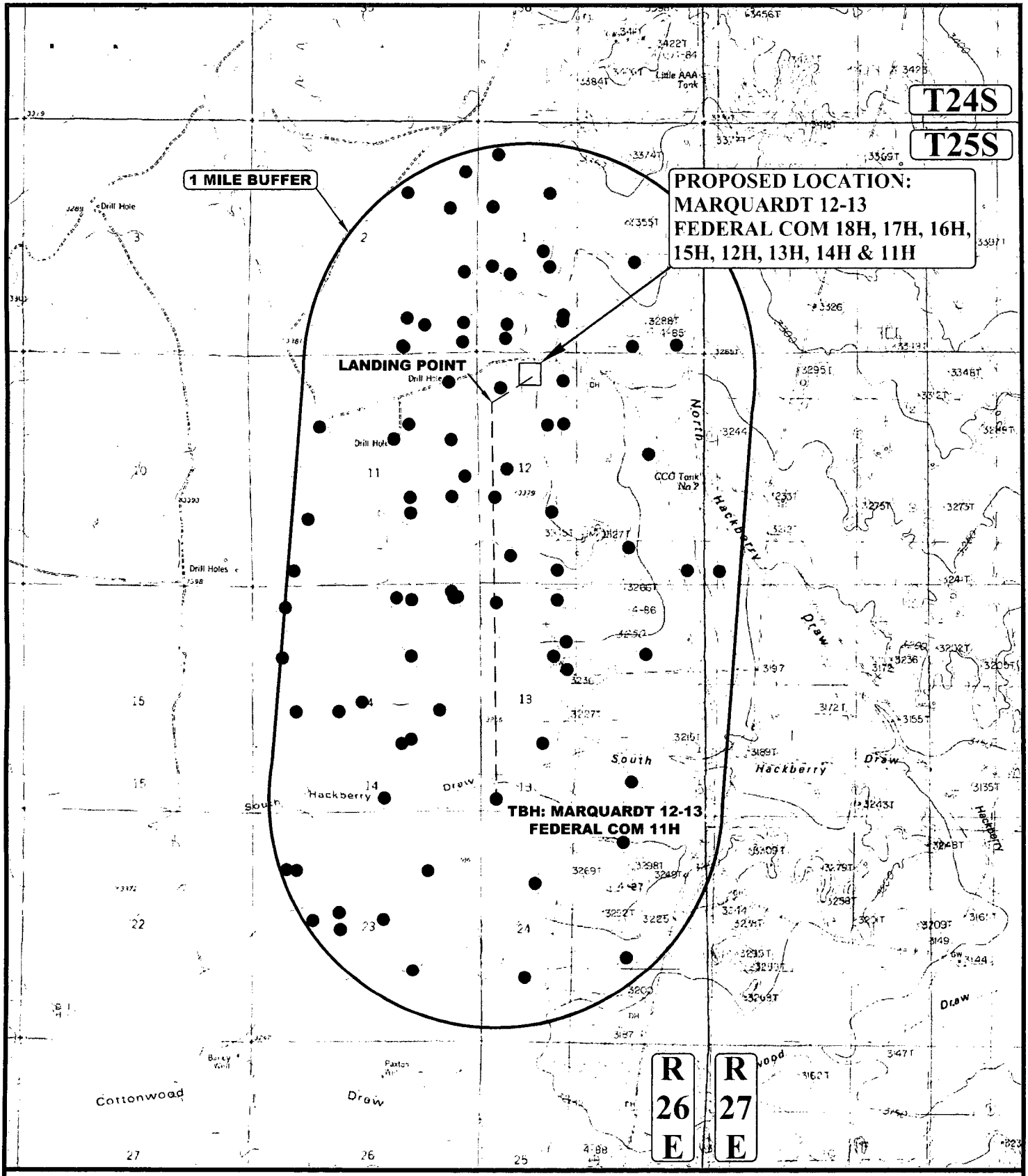
MARQUARDT 12-13 FEDERAL BATTERY
SECTION 12, T25S, R26E, N.M.P.M.
EDDY COUNTY, NEW MEXICO

SURVEYED BY	A.V., A.B., A.H.	10-10-16	SCALE
DRAWN BY	S.F.	10-18-16	N/A

ACCESS ROAD R-O-W **EXHIBIT C-2**

UINTAH ENGINEERING & LAND SURVEYING

UELS, LLC
Corporate Office * 85 South 200 East
Vernal, UT 84078 * (435) 789-1017



LEGEND:

● EXISTING WELLS

N

CIMAREX ENERGY CO.

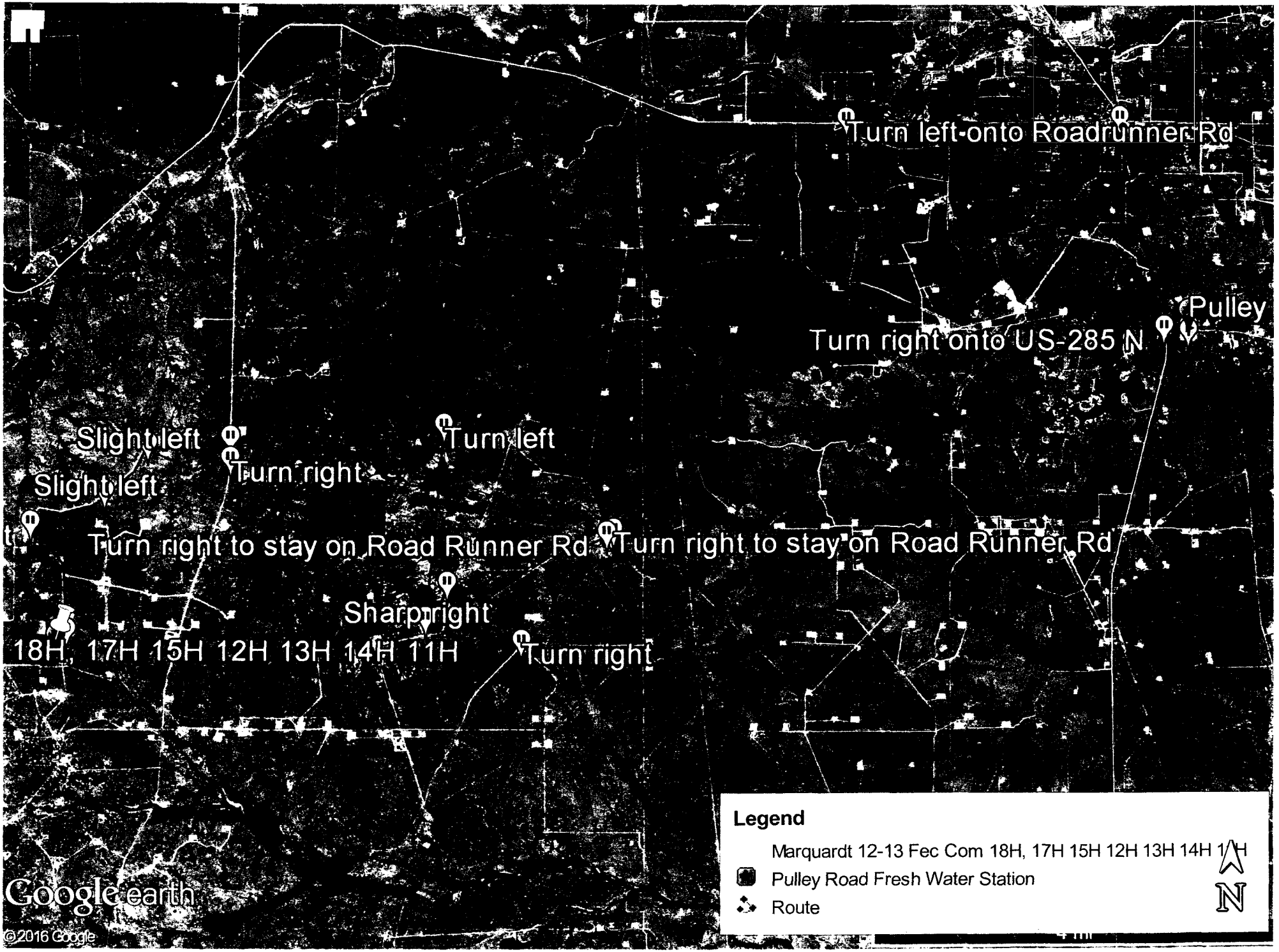
MARQUARDT 12-13 FEDERAL COM
18H, 17H, 16H, 15H, 12H, 13H, 14H & 11H
NW 1/4 NW 1/4, SECTION 12, T25S, R26E, N.M.P.M.
EDDY COUNTY, NEW MEXICO

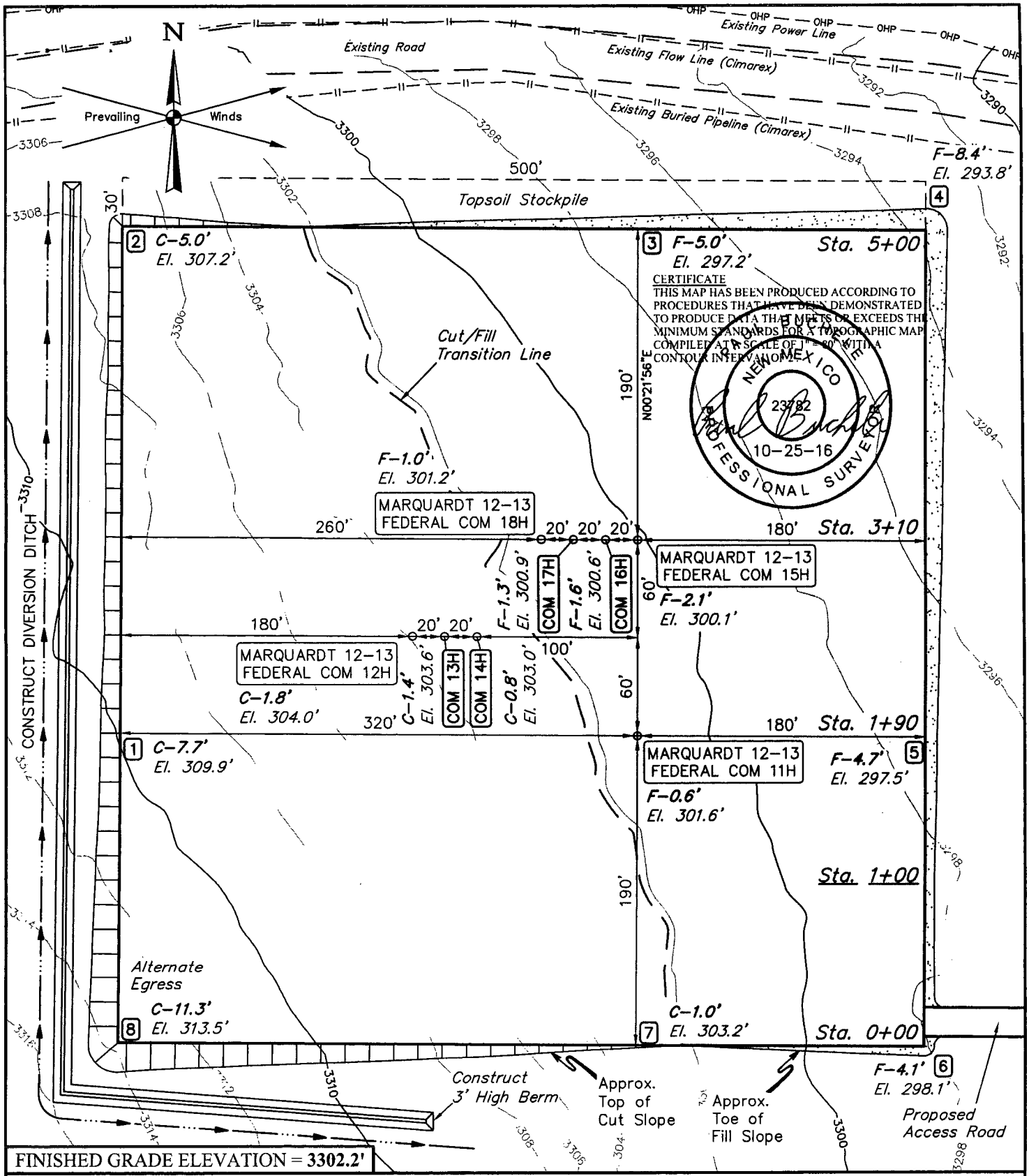
SURVEYED BY	J.V., A.B., A.H.	10-10-16	SCALE
DRAWN BY	T.J.	10-19-16	1 : 36,000

ONE MILE RADIUS PLAT EXHIBIT A

UINTAH ENGINEERING & LAND SURVEYING

UELS, LLC
Corporate Office * 85 South 200 East
Vernal, UT 84078 * (435) 789-1017


Turn left onto Roadrunner Rd
Pulley
Turn right onto US-285 N
Slight left
Turn right
Turn left
Slight left
Turn right to stay on Road Runner Rd
Turn right to stay on Road Runner Rd
Sharp right
18H 17H 15H 12H 13H 14H 11H
Turn right
Legend
Marquardt 12-13 Fec Com 18H, 17H 15H 12H 13H 14H 11H
Pulley Road Fresh Water Station
Route
N
Google earth
© 2016 Google



FINISHED GRADE ELEVATION = **3302.2'**

NOTES:

- Contours shown at 2' intervals.
- Cut/Fill slopes 1 1/2:1 (Typ. except where noted)
- Underground utilities shown on this sheet are for visualization purposes only, actual locations to be determined prior to construction.
- Earthwork calculations require a fill @ some location stakes for balance. All fill is to be compacted to a minimum of 95% of the maximum dry density obtained by AASHTO method t-99.

UINTAH ENGINEERING & LAND SURVEYING

UELS, LLC
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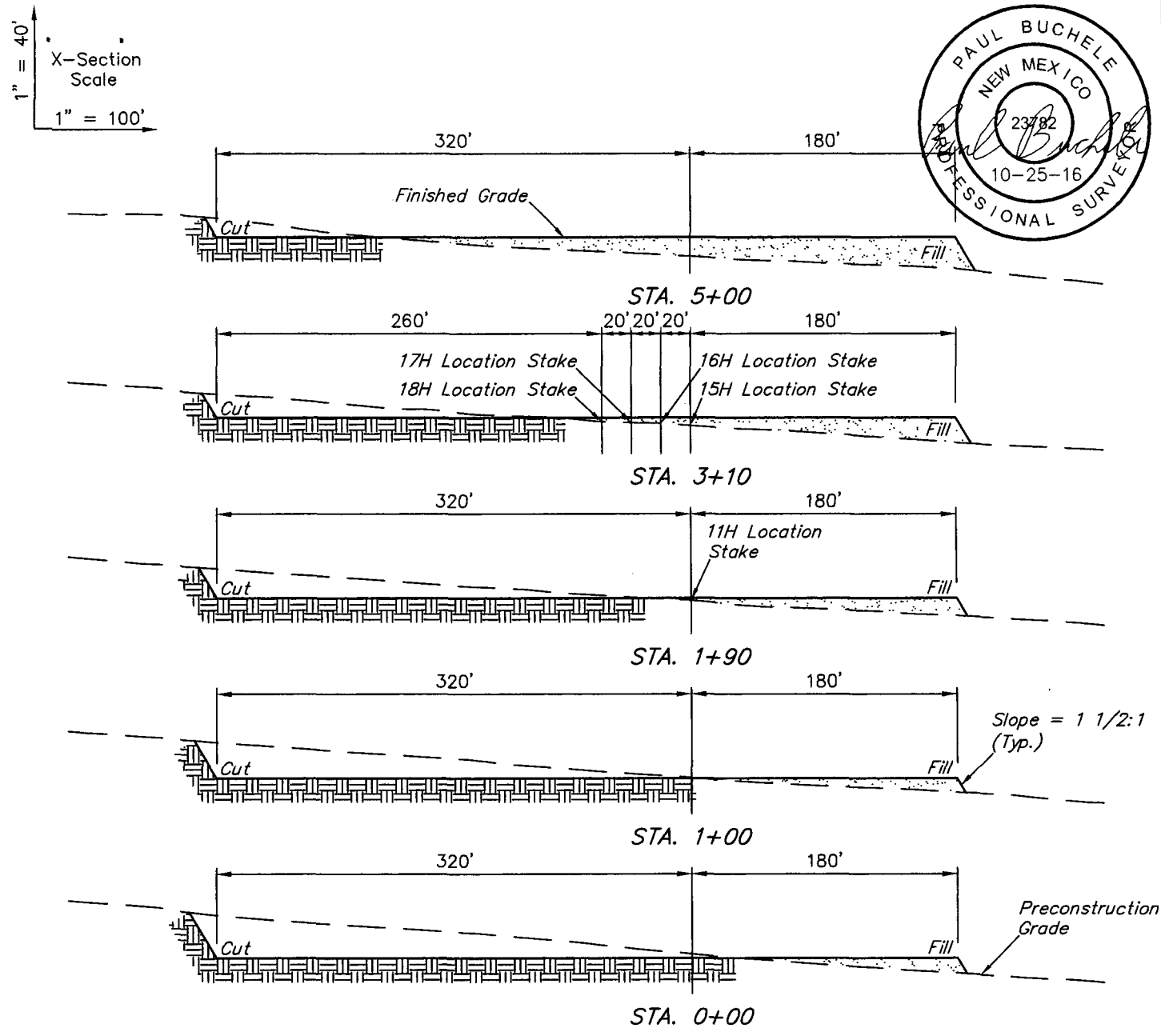
Vernal, UT 84078 * (435) 789-1017

CIMAREX ENERGY CO.

MARQUARDT 12-13 FEDERAL COM 18H, 17H, 16H, 15H, 12H, 13H, 14H & 11H
NW 1/4 NW 1/4, SECTION 12, T25S, R26E, N.M.P.M.
EDDY COUNTY, NEW MEXICO

SURVEYED BY	A.V., A.B., A.H.	10-10-16	SCALE
DRAWN BY	S.F.	10-18-16	1" = 80'

LOCATION LAYOUT **EXHIBIT D**



PAUL BUCHELE
NEW MEXICO
23782
10-25-16
PROFESSIONAL SURVEYOR

APPROXIMATE EARTHWORK QUANTITIES	
(4") TOPSOIL STRIPPING	3,310 Cu. Yds.
REMAINING LOCATION	17,860 Cu. Yds.
TOTAL CUT	**21,170 Cu. Yds.**
FILL	**17,860 Cu. Yds.**
EXCESS MATERIAL	3,310 Cu. Yds.
TOPSOIL	3,310 Cu. Yds.
EXCESS UNBALANCE (After Interim Rehabilitation)	**0 Cu. Yds.**

APPROXIMATE SURFACE DISTURBANCE AREAS		
	DISTANCE	**ACRES**
WELL SITE DISTURBANCE	NA	±6.420
30' WIDE ACCESS ROAD R-O-W DISTURBANCE	±306.08'	±0.211
30' WIDE PRODUCTION FLOW LINE R-O-W DISTURBANCE	±928.06'	±0.639
30' WIDE GAS LIFT FLOW LINE R-O-W DISTURBANCE	±942.79'	±0.649
30' WIDE POWER LINE R-O-W DISTURBANCE	±151.52'	±0.104
TOTAL SURFACE USE AREA		**±8.023**

NOTES:

- Fill quantity includes 5% for compaction.
- Cut/Fill slopes 1 1/2:1 (Typ. except where noted)

CIMAREX ENERGY CO.

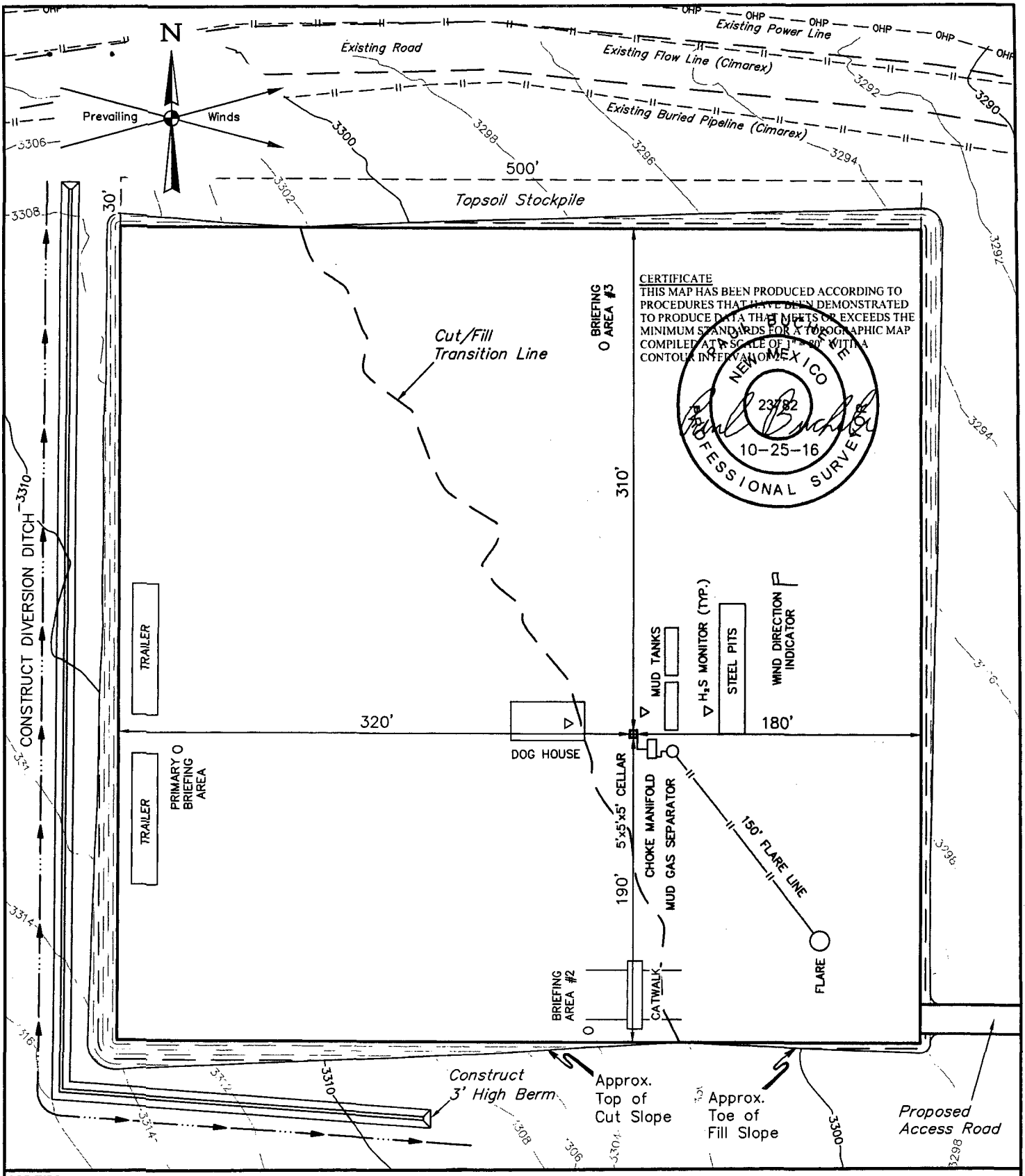
MARQUARDT 12-13 FEDERAL COM
18H, 17H, 16H, 15H, 12H, 13H, 14H & 11H
NW 1/4 NW 1/4, SECTION 12, T25S, R26E, N.M.P.M.
EDDY COUNTY, NEW MEXICO

SURVEYED BY	A.V., A.B., A.H.	10-10-16	SCALE
DRAWN BY	S.F.	10-18-16	AS SHOWN

TYPICAL CROSS SECTIONS EXHIBIT D

UINTAH ENGINEERING & LAND SURVEYING

UELS, LLC
Corporate Office * 85 South 200 East
Vernal, UT 84078 * (435) 789-1017



CERTIFICATE
THIS MAP HAS BEEN PRODUCED ACCORDING TO PROCEDURES THAT HAVE BEEN DEMONSTRATED TO PRODUCE DATA THAT MEETS OR EXCEEDS THE MINIMUM STANDARDS FOR A TOPOGRAPHIC MAP COMPILED AT A SCALE OF 1" = 80' WITH A CONTOUR INTERVAL OF 2'.

STATE OF NEW MEXICO
23782
Paul Buchanan
10-25-16
PROFESSIONAL SURVEYOR

NOTES:

- Contours shown at 2' intervals.

CIMAREX ENERGY CO.

MARQUARDT 12-13 FEDERAL COM 11H
565' FNL 1309' FWL
NW 1/4 NW 1/4, SECTION 12, T25S, R26E, N.M.P.M.
EDDY COUNTY, NEW MEXICO

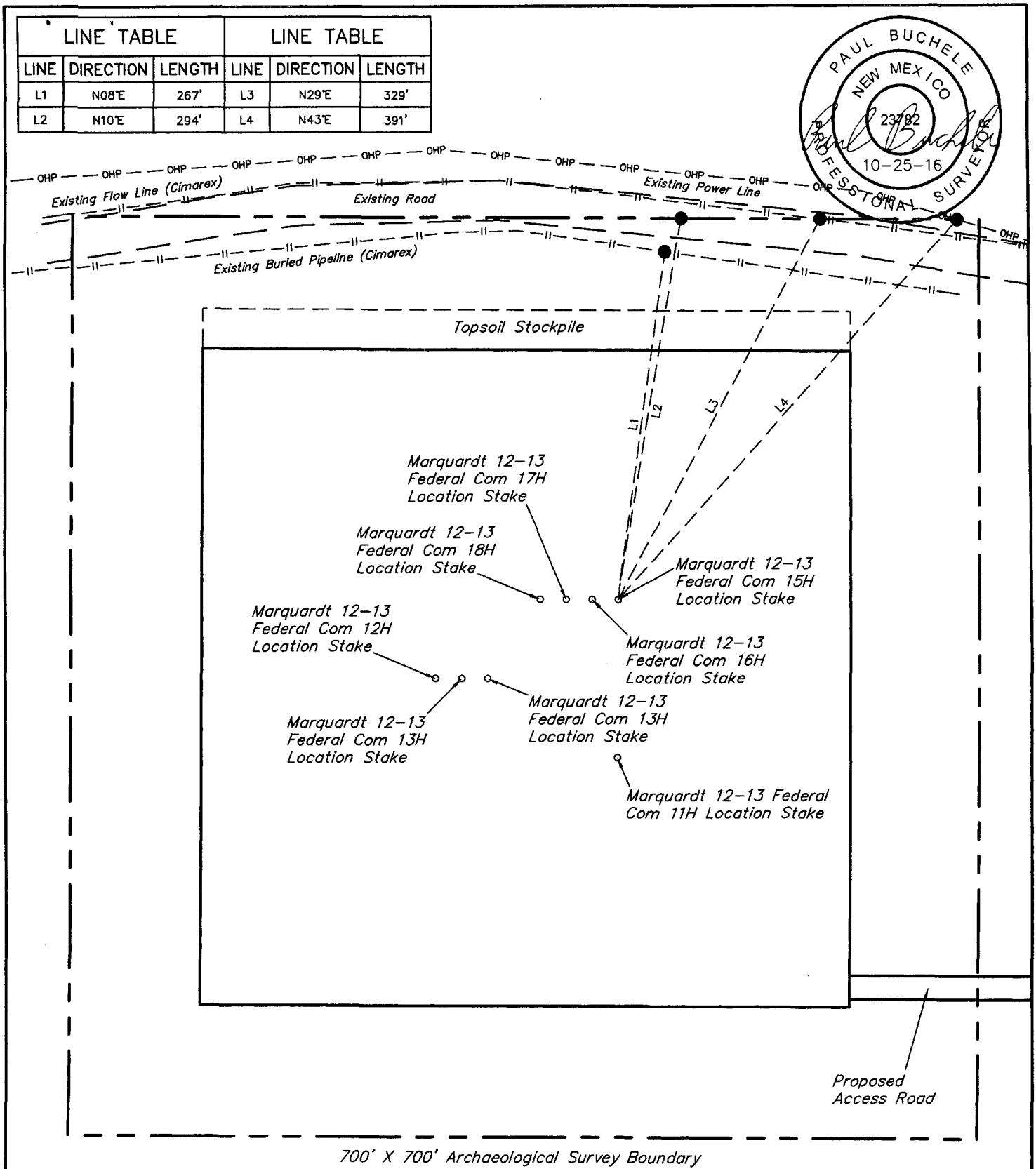
SURVEYED BY	A.V., A.B., A.H.	10-10-16	SCALE
DRAWN BY	S.F.	10-18-16	1" = 80'

TYPICAL RIG LAYOUT **EXHIBIT D**

UINTAH ENGINEERING & LAND SURVEYING

UELS, LLC
Corporate Office * 85 South 200 East
Vernal, UT 84078 * (435) 789-1017

LINE TABLE			LINE TABLE		
LINE	DIRECTION	LENGTH	LINE	DIRECTION	LENGTH
L1	N08°E	267'	L3	N29°E	329'
L2	N10°E	294'	L4	N43°E	391'



NOTES:

CIMAREX ENERGY CO.

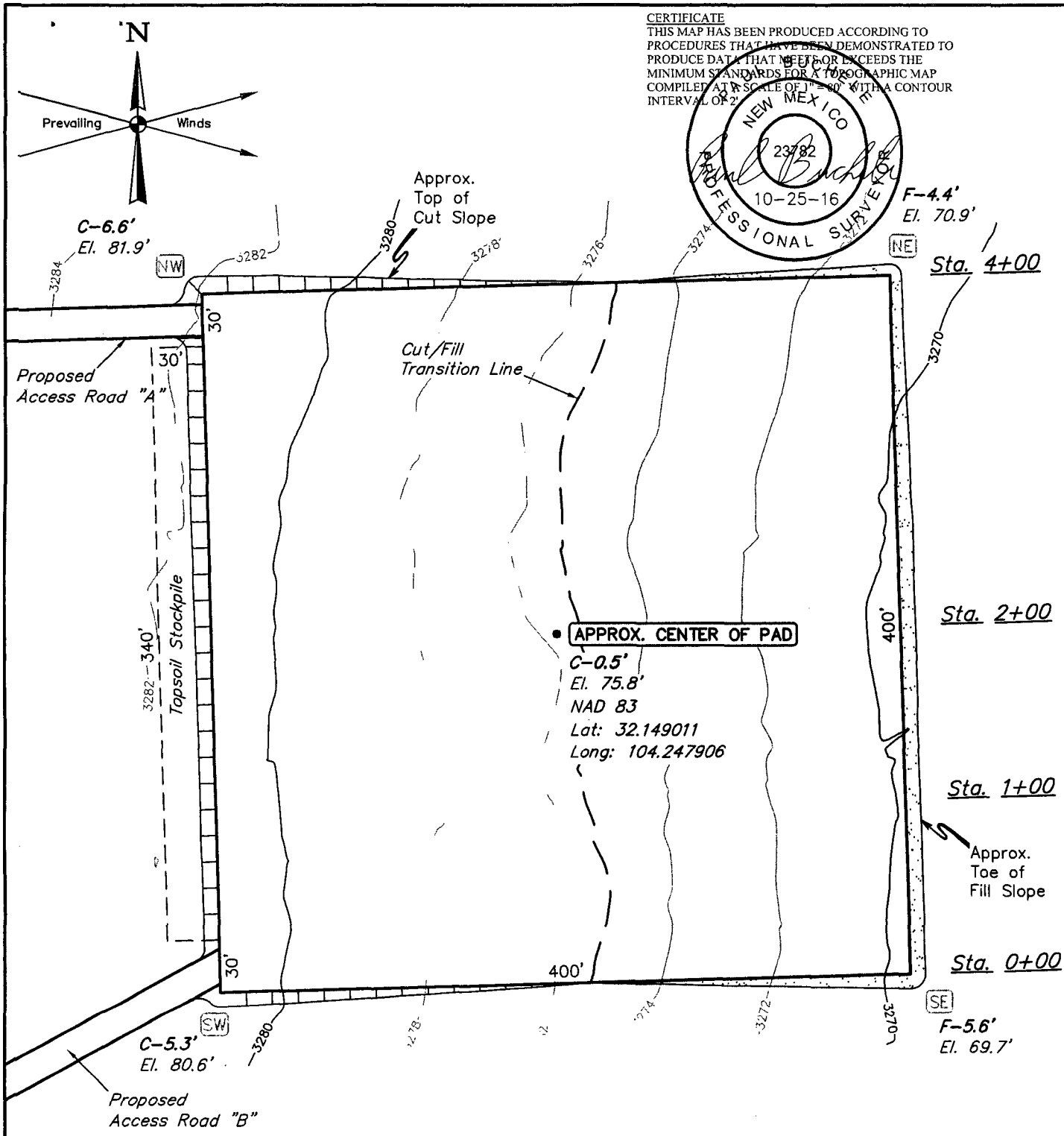
MARQUARDT 12-13 FEDERAL COM
18H, 17H, 16H, 15H, 12H, 13H, 14H & 11H
NW 1/4 NW 1/4, SECTION 12, T25S, R26E, N.M.P.M.
EDDY COUNTY, NEW MEXICO

SURVEYED BY	A.V., A.B., A.H.	10-10-16	SCALE
DRAWN BY	S.F.	10-18-16	1" = 100'

ARCHAEOLOGICAL SURVEY BOUNDARY **EXHIBIT D**

UINTAH ENGINEERING & LAND SURVEYING

UELS, LLC
Corporate Office * 85 South 200 East
Vernal, UT 84078 * (435) 789-1017



FINISHED GRADE ELEVATION = **3275.3'**

NOTES:

- Contours shown at 2' intervals.
- Cut/Fill slopes 1 1/2:1 (Typ. except where noted)
- Underground utilities shown on this sheet are for visualization purposes only, actual locations to be determined prior to construction.

UINTAH ENGINEERING & LAND SURVEYING

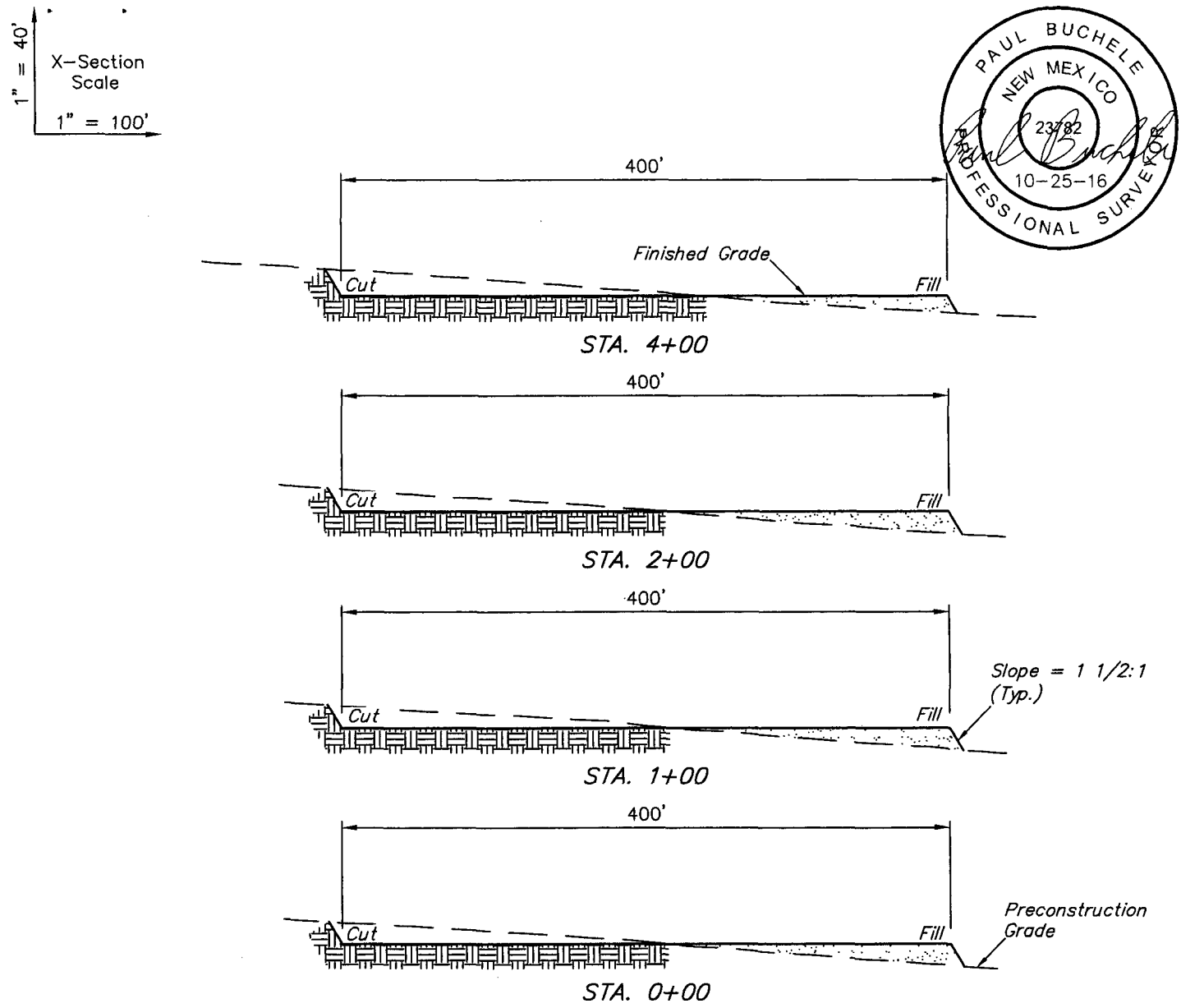
UELS, LLC
Corporate Office * 85 South 200 East
Vernal, UT 84078 * (435) 789-1017

CIMAREX ENERGY CO.

MARQUARDT 12-13 TANK BATTERY
NE 1/4 NW 1/4, SECTION 12, T25S, R26E, N.M.P.M.
EDDY COUNTY, NEW MEXICO

SURVEYED BY	A.V., A.B., A.H.	10-10-16	SCALE
DRAWN BY	S.F.	10-18-16	1" = 80'

LOCATION LAYOUT **EXHIBIT D**



PAUL BUCHELE NEW MEXICO 23782 10-25-16 PROFESSIONAL SURVEYOR

APPROXIMATE EARTHWORK QUANTITIES	
(4") TOPSOIL STRIPPING	2,120 Cu. Yds.
REMAINING LOCATION	9,390 Cu. Yds.
TOTAL CUT	**11,510 Cu. Yds.**
FILL	**9,390 Cu. Yds.**
EXCESS MATERIAL	2,120 Cu. Yds.
TOPSOIL	2,120 Cu. Yds.
EXCESS UNBALANCE (After Interim Rehabilitation)	**0 Cu. Yds.**

APPROXIMATE SURFACE DISTURBANCE AREAS		
	DISTANCE	**ACRES**
WELL SITE DISTURBANCE	NA	±4.087
30' WIDE ACCESS ROAD R-O-W DISTURBANCE	±546.27'	±0.376
30' WIDE SWD PIPELINE R-O-W DISTURBANCE	±1,521.51'	±1.048
30' WIDE GAS LIFT PIPELINE R-O-W DISTURBANCE	±2,598.17'	±1.789
30' WIDE GAS SALES PIPELINE R-O-W DISTURBANCE	±5,317.67'	±3.662
30' WIDE POWER LINE R-O-W DISTURBANCE	±645.81'	±0.445
TOTAL SURFACE USE AREA		**±11.407**

NOTES:
- Fill quantity includes 5% for compaction.
- Cut/Fill slopes 1 1/2:1 (Typ. except where noted)

CIMAREX ENERGY CO.

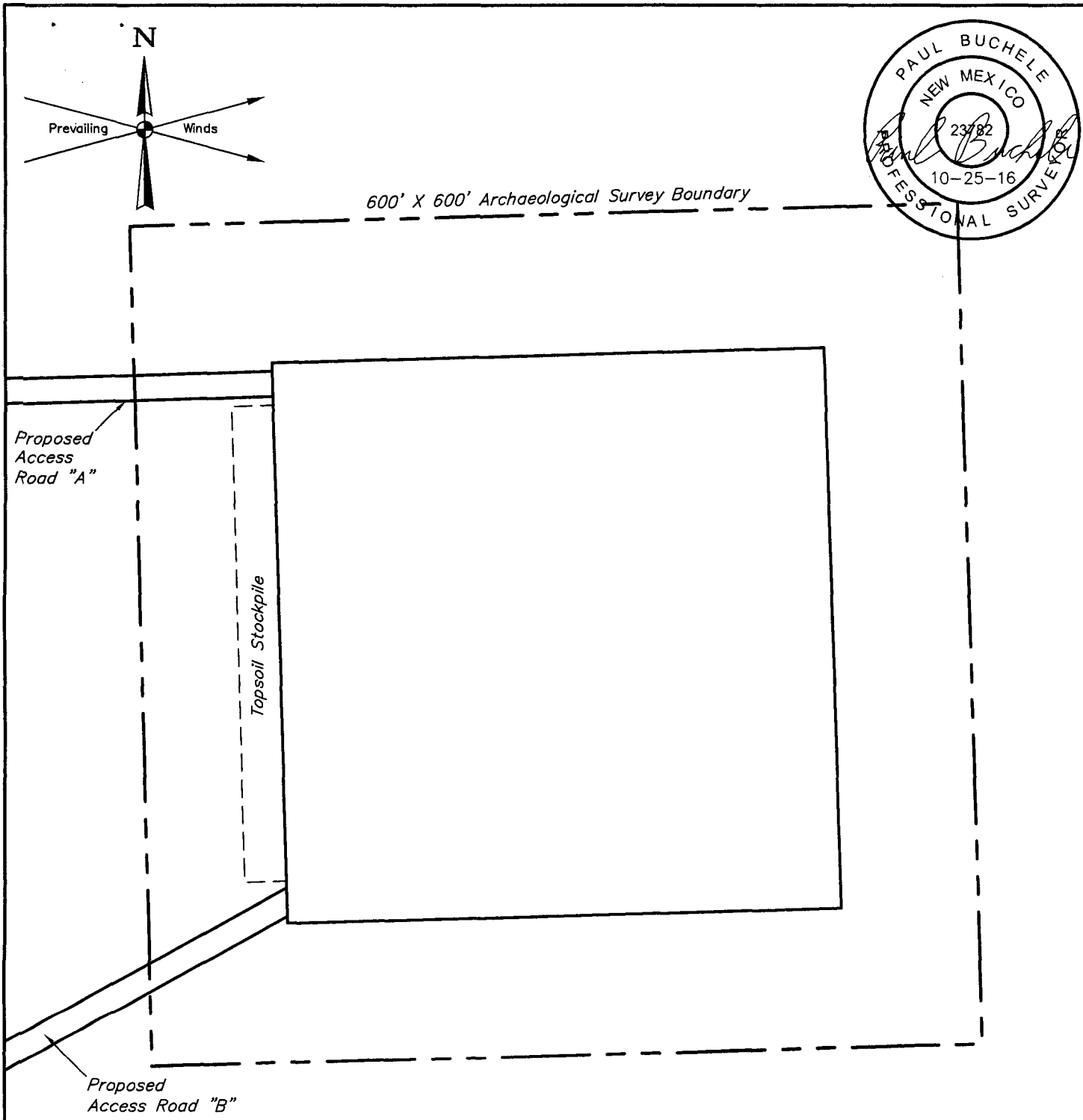
MARQUARDT 12-13 FEDERAL BATTERY
NE 1/4 NW 1/4, SECTION 12, T25S, R26E, N.M.P.M.
EDDY COUNTY, NEW MEXICO

UINTAH ENGINEERING & LAND SURVEYING

UELS, LLC
Corporate Office * 85 South 200 East
Vernal, UT 84078 * (435) 789-1017

SURVEYED BY	A.V., A.B., A.H.	10-10-16	SCALE
DRAWN BY	S.F.	10-18-16	AS SHOWN

TYPICAL CROSS SECTIONS EXHIBIT D



PAUL BUCHELE
NEW MEXICO
23782
10-25-16
PROFESSIONAL SURVEYOR

NOTES:

CIMAREX ENERGY CO.

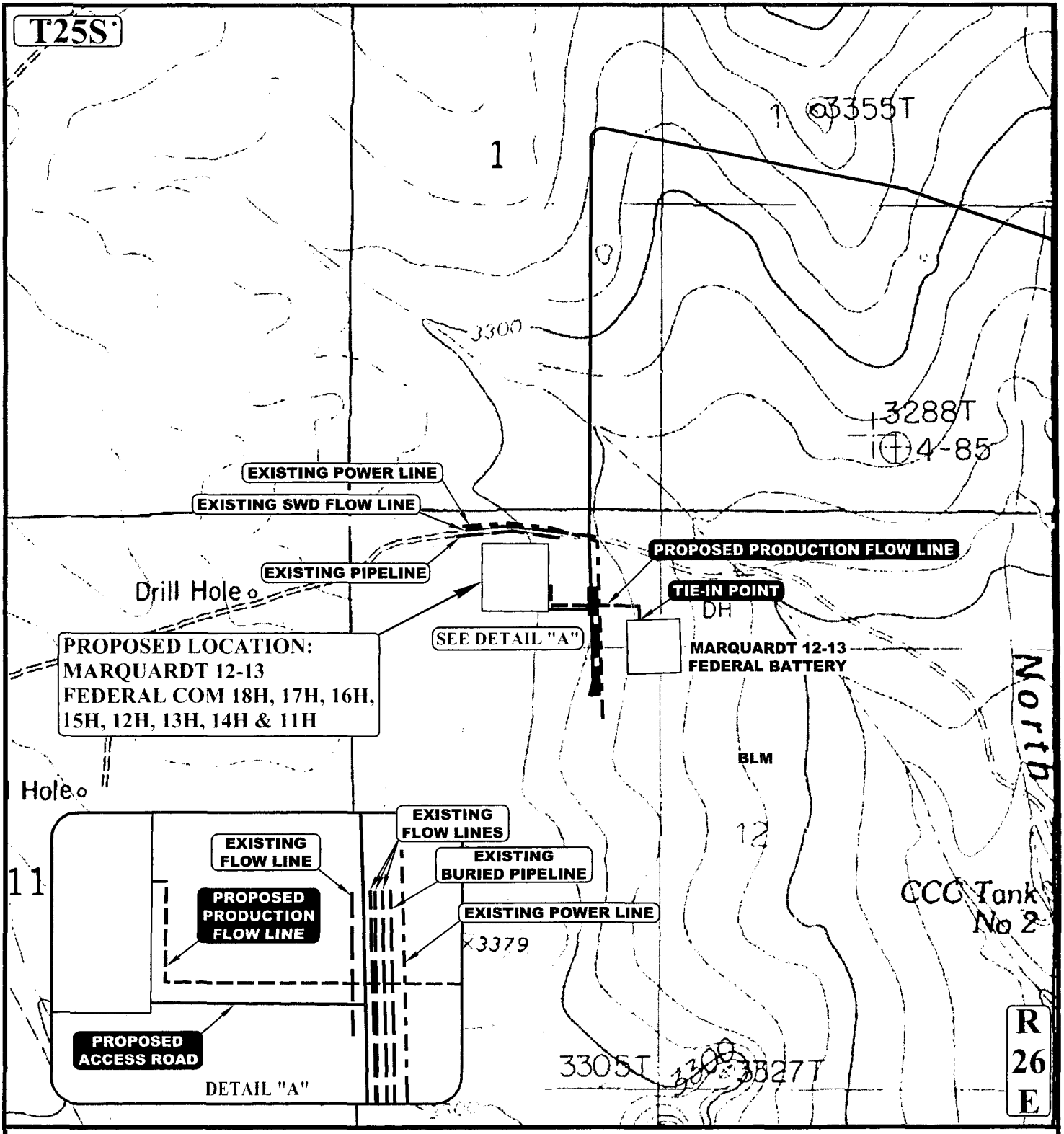
MARQUARDT 12-13 FEDERAL BATTERY
NE 1/4 NW 1/4, SECTION 12, T25S, R26E, N.M.P.M.
EDDY COUNTY, NEW MEXICO

UINTAH ENGINEERING & LAND SURVEYING

UELS, LLC
Corporate Office * 85 South 200 East
Vernal, UT 84078 * (435) 789-1017

SURVEYED BY	A.V., A.B., A.H.	10-10-16	SCALE
DRAWN BY	S.F.	10-18-16	1" = 100'

ARCHAEOLOGICAL SURVEY BOUNDARY **EXHIBIT D**



APPROXIMATE TOTAL PRODUCTION FLOW LINE DISTANCE = 928' +/-

NOTE: PARCEL DATA SHOWN HAS BEEN OBTAINED FROM VARIOUS SOURCES AND SHOULD BE USED FOR MAPPING, GRAPHIC AND PLANNING PURPOSES ONLY. NO WARRANTY IS MADE BY UINTAH ENGINEERING AND LAND SURVEYING (UELS) FOR ACCURACY OF THE PARCEL DATA.

LEGEND:

- EXISTING ROAD
- PROPOSED ROAD
- PROPOSED PRODUCTION FLOW LINE
- EXISTING POWER LINE
- EXISTING PIPELINE / FLOW LINE / SWD FLOW LINE

UINTAH ENGINEERING & LAND SURVEYING

UELS, LLC
Corporate Office * 85 South 200 East
Vernal, UT 84078 * (435) 789-1017

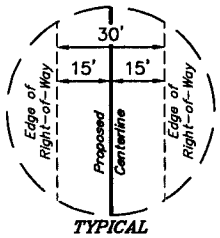
N

CIMAREX ENERGY CO.

MARQUARDT 12-13 FEDERAL COM
18H, 17H, 16H, 15H, 12H, 13H, 14H & 11H
NW 1/4 NW 1/4, SECTION 12, T25S, R26E, N.M.P.M.
EDDY COUNTY, NEW MEXICO

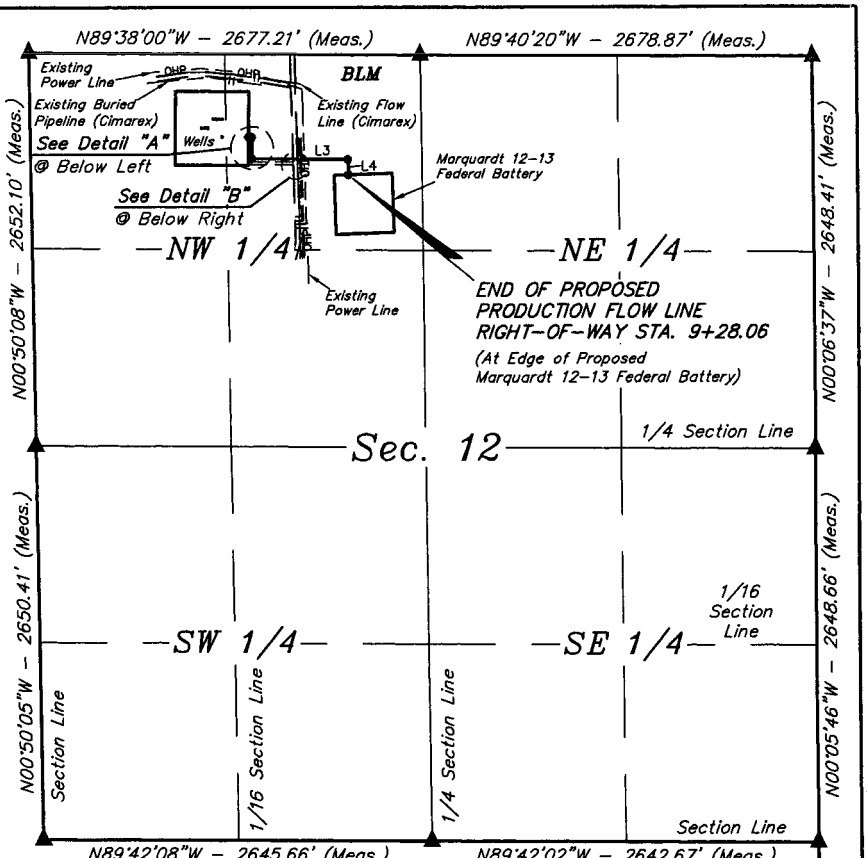
SURVEYED BY	J.V., A.B., A.H.	10-10-16	SCALE
DRAWN BY	T.L.	10-19-16	1 : 12,000

PRODUCTION FLOW LINE MAP EXHIBIT G-2

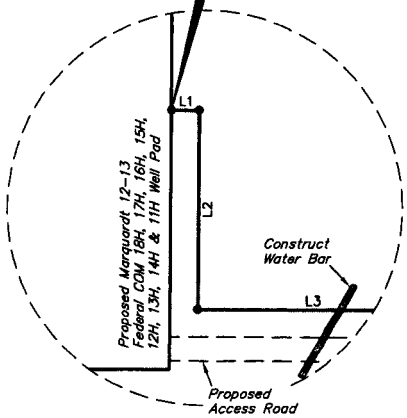


TYPICAL RIGHT-OF-WAY DETAIL
NO SCALE

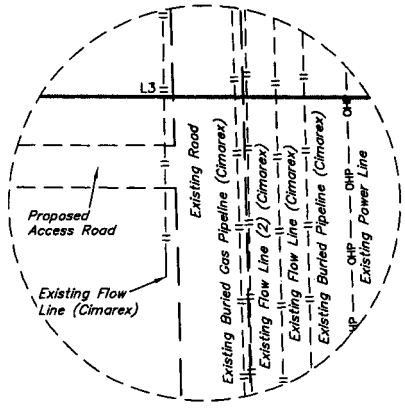
LINE TABLE		
LINE	DIRECTION	LENGTH
L1	S89°36'47"E	20.02'
L2	S00°21'56"W	144.98'
L3	S89°37'57"E	658.07'
L4	S01°34'49"E	104.99'



BEGINNING OF PROPOSED PRODUCTION FLOW LINE RIGHT-OF-WAY STA. 0+00
(At Edge of Proposed Marquardt 12-13 Federal COM 18H, 17H, 16H, 15H, 12H, 13H, 14H & 11H Well Pad)



Detail "A"
No Scale



Detail "B"
No Scale

1000' 500' 0' 1000'

ACREAGE / LENGTH TABLE				
	OWNERSHIP	FEET	RODS	ACRES
(NW 1/4)	BLM	928.06	56.25	0.639

= CONSTRUCT EARTHEN WATER BAR. (Not to Scale.)

▲ = SECTION CORNERS LOCATED.

CERTIFICATE
THIS IS TO CERTIFY THAT THIS EASEMENT PLAT AND THE ACTUAL SURVEY ON THE GROUND UPON WHICH IT IS BASED WERE PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION; THAT I AM RESPONSIBLE FOR THIS SURVEY; THAT THIS SURVEY MEETS THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO; AND THAT IT IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

23782
10-31-16
PROFESSIONAL SURVEYOR

FILE: 61106-A1 | REV: 1 10-28-16 S.F. (ADDED WATER BARS)

NOTES:
- Water bars to be constructed to minimum dimensions 3'Lx35'Wx18"H
- Basis of bearing is a G.P.S. observation (Vertical Control Datum: NAVD88)

N

CIMAREX ENERGY CO.

MARQUARDT 12-13 FEDERAL COM
18H, 17H, 16H, 15H, 12H, 13H, 14H & 11H
SECTION 12, T25S, R26E, N.M.P.M.
EDDY COUNTY, NEW MEXICO

SURVEYED BY	A.V., A.B., A.H.	10-10-16	SCALE
DRAWN BY	S.F.	10-18-16	1" = 1000'

PRODUCTION FLOW LINE R-O-W EXHIBIT G-2

UINTAH ENGINEERING & LAND SURVEYING
UELS, LLC
Corporate Office * 85 South 200 East
Vernal, UT 84078 * (435) 789-1017

PRODUCTION FLOW LINE RIGHT-OF-WAY DESCRIPTION

A 30' WIDE RIGHT-OF-WAY 15' ON EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE.

BEGINNING AT A POINT IN THE NE 1/4 NW 1/4 OF SECTION 12, T25S, R26E, N.M.P.M., WHICH BEARS S64°42'21"W 1304.78' FROM THE NORTH 1/4 CORNER OF SAID SECTION 12, THENCE S89°36'47"E 20.02'; THENCE S00°21'56"W 144.98'; THENCE S89°37'57"E 658.07'; THENCE S01°34'49"E 104.99' TO A POINT IN THE NE 1/4 NW 1/4 OF SAID SECTION 12, WHICH BEARS S31°36'42"W 953.21' FROM THE NORTH 1/4 CORNER OF SAID SECTION 12. THE SIDE LINES OF SAID DESCRIBED RIGHT-OF-WAY BEING SHORTENED OR ELONGATED TO MEET THE GRANTOR'S PROPERTY LINES. BASIS OF BEARINGS IS A G.P.S. OBSERVATION. CONTAINS 0.639 ACRES MORE OR LESS.

BEGINNING OF PRODUCTION FLOW LINE STA. 0+00
BEARS S64°42'21"W 1304.78' FROM THE NORTH
1/4 CORNER OF SECTION 12, T25S, R26E, N.M.P.M.

END OF PRODUCTION FLOW LINE STA. 9+28.06
BEARS S31°36'42"W 953.21' FROM THE NORTH 1/4
CORNER OF SECTION 12, T25S, R26E, N.M.P.M.

MARQUARDT 12-13 FEDERAL COM 18H, 17H, 16H, 15H, 12H, 13H, 14H & 11H PRODUCTION FLOW LINE R-O-W			
SECTION CORNER	SECTION CORNER DESC.	LATITUDE (NAD 83)	LONGITUDE (NAD 83)
NW COR. SEC. 12, T25S, R26E	2" IRON PIPE WITH CAP	N 32°09'06.59"	W 104°15'19.04"
N1/4 COR. SEC. 12, T25S, R26E	1" IRON PIPE WITH CAP	N 32°09'06.42"	W 104°14'47.90"
NE COR. SEC. 12, T25S, R26E	2" IRON PIPE WITH CAP	N 32°09'06.27"	W 104°14'16.75"
E1/4 COR. SEC. 12, T25S, R26E	1" IRON PIPE WITH CAP	N 32°08'40.07"	W 104°14'16.69"
SE COR. SEC. 12, T25S, R26E	2" IRON PIPE WITH CAP	N 32°08'13.86"	W 104°14'16.64"
S1/4 COR. SEC. 12, T25S, R26E	1" IRON PIPE WITH CAP	N 32°08'14.00"	W 104°14'47.36"
SW COR. SEC. 12, T25S, R26E	2" IRON PIPE WITH CAP	N 32°08'14.13"	W 104°15'18.13"
W1/4 COR. SEC. 12, T25S, R26E	1" IRON PIPE WITH CAP	N 32°08'40.35"	W 104°15'18.58"

MARQUARDT 12-13 FEDERAL COM 18H, 17H, 16H, 15H, 12H, 13H, 14H & 11H PRODUCTION FLOW LINE R-O-W			
NUMBER	STATION	LATITUDE (NAD 83)	LONGITUDE (NAD 83)
BEGIN	0+00	N 32°09'00.90"	W 104°15'01.62"
1	0+20.02	N 32°09'00.90"	W 104°15'01.39"
2	1+65.00	N 32°08'59.47"	W 104°15'01.40"
3	8+23.07	N 32°08'59.43"	W 104°14'53.75"
END	9+28.06	N 32°08'58.39"	W 104°14'53.71"

CERTIFICATE
THIS IS TO CERTIFY THAT THIS EASEMENT PLAT AND THE ACTUAL SURVEY ON THE GROUND UPON WHICH IT IS BASED WERE PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION; THAT I AM RESPONSIBLE FOR THIS SURVEY; THAT THIS SURVEY MEETS THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO; AND THAT IT IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

NEW MEXICO 23782 PROFESSIONAL SURVEYOR
10-25-16

FILE: 61106-A2

N

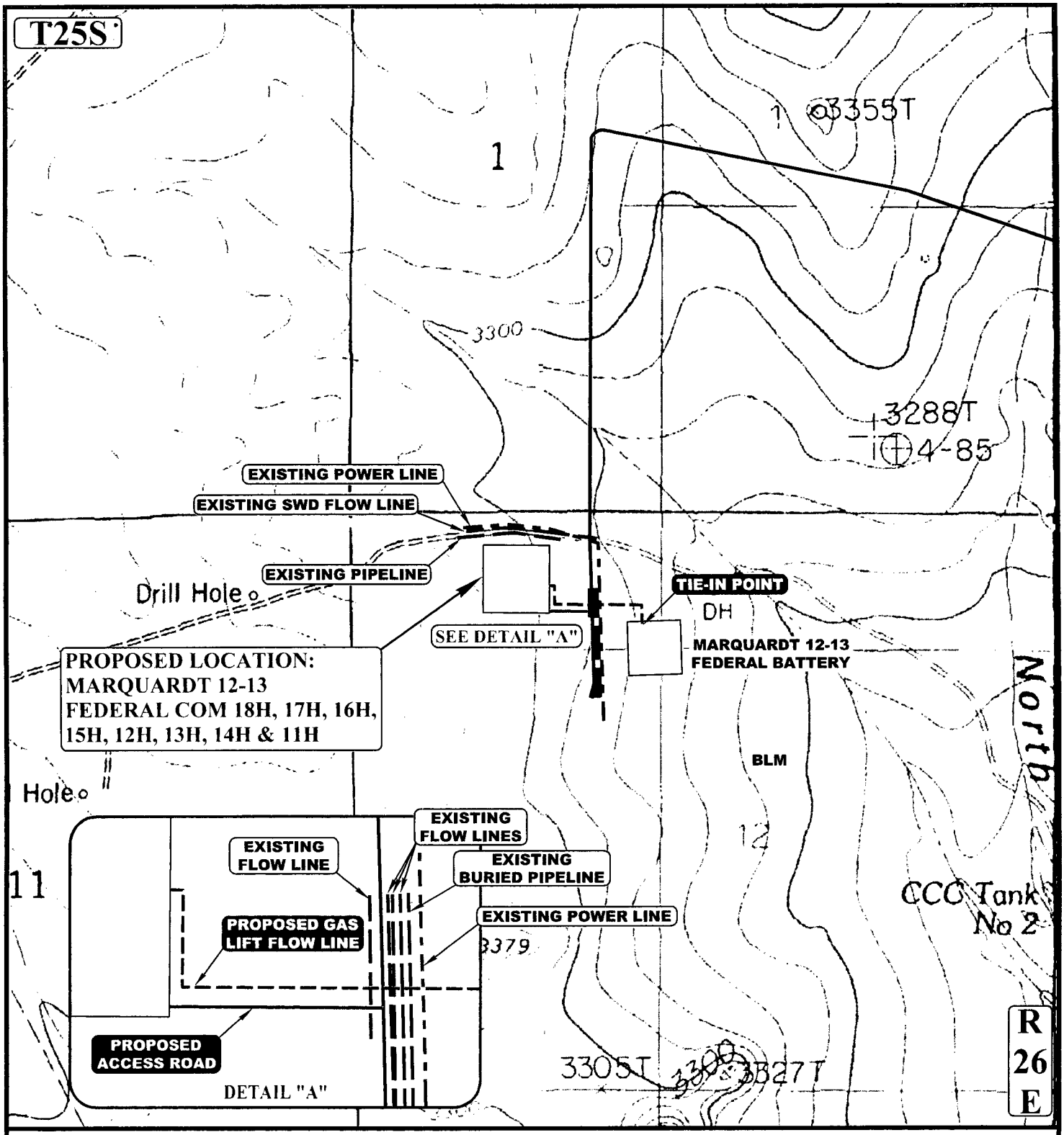
CIMAREX ENERGY CO.

MARQUARDT 12-13 FEDERAL COM
18H, 17H, 16H, 15H, 12H, 13H, 14H & 11H
SECTION 12, T25S, R26E, N.M.P.M.
EDDY COUNTY, NEW MEXICO

SURVEYED BY	A.V., A.B., A.H.	10-10-16	SCALE
DRAWN BY	S.F.	10-18-16	N/A

PRODUCTION FLOW LINE R-O-W EXHIBIT G-2

UINTAH ENGINEERING & LAND SURVEYING
UELS, LLC
Corporate Office * 85 South 200 East
Vernal, UT 84078 * (435) 789-1017



APPROXIMATE TOTAL GAS LIFT FLOW LINE DISTANCE = 942' +/-

NOTE: PARCEL DATA SHOWN HAS BEEN OBTAINED FROM VARIOUS SOURCES AND SHOULD BE USED FOR MAPPING, GRAPHIC AND PLANNING PURPOSES ONLY. NO WARRANTY IS MADE BY UINTAH ENGINEERING AND LAND SURVEYING (UELS) FOR ACCURACY OF THE PARCEL DATA.

LEGEND:

- EXISTING ROAD
- PROPOSED ROAD
- PROPOSED GAS LIFT FLOW LINE
- EXISTING POWER LINE
- EXISTING PIPELINE / FLOW LINE / SWD FLOW LINE

UINTAH ENGINEERING & LAND SURVEYING

UELS, LLC
Corporate Office * 85 South 200 East
Vernal, UT 84078 * (435) 789-1017

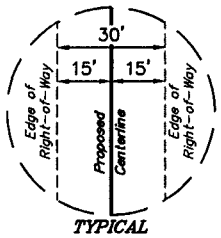
N

CIMAREX ENERGY CO.

MARQUARDT 12-13 FEDERAL COM
18H, 17H, 16H, 15H, 12H, 13H, 14H & 11H
NW 1/4 NW 1/4, SECTION 12, T25S, R26E, N.M.P.M.
EDDY COUNTY, NEW MEXICO

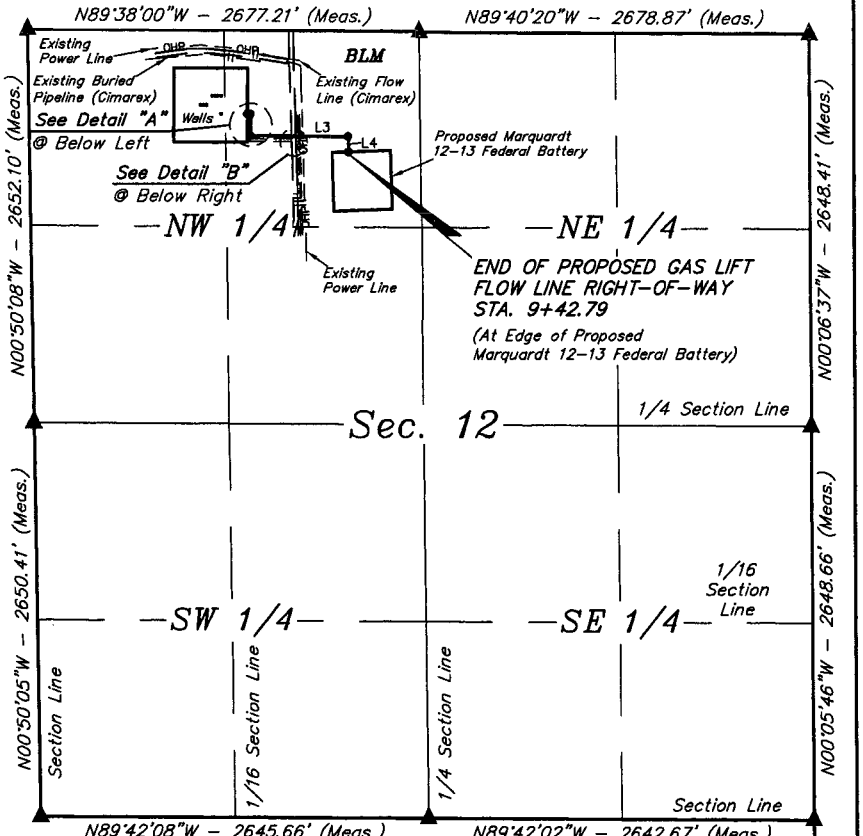
SURVEYED BY	J.V., A.B., A.H.	10-10-16	SCALE
DRAWN BY	T.J.	10-19-16	1 : 12,000

GAS LIFT FLOW LINE MAP EXHIBIT G-2

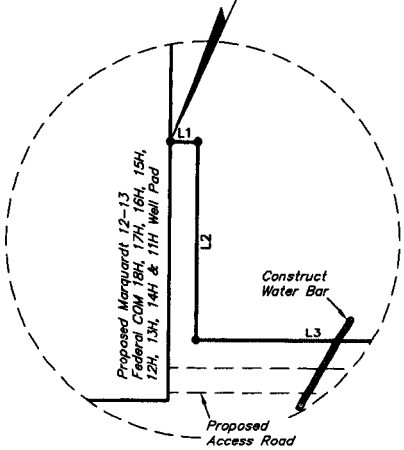


TYPICAL RIGHT-OF-WAY DETAIL
NO SCALE

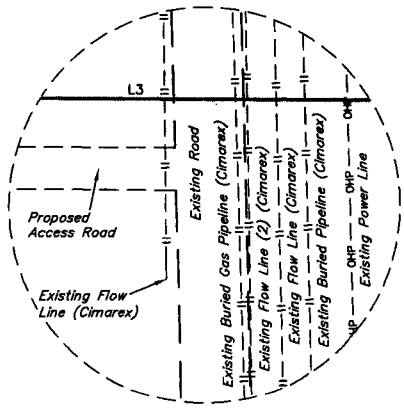
LINE TABLE		
LINE	DIRECTION	LENGTH
L1	S89°36'47"E	20.02'
L2	S00°21'56"W	144.98'
L3	S89°38'11"E	673.26'
L4	S01°33'48"E	104.53'



BEGINNING OF PROPOSED GAS LIFT FLOW LINE RIGHT-OF-WAY STA. 0+00
(At Edge of Proposed Marquardt 12-13 Federal COM 18H, 17H, 16H, 15H, 12H, 13H, 14H & 11H Well Pad)



Detail "A"
No Scale



Detail "B"
No Scale

1000' 500' 0' 1000'

ACREAGE / LENGTH TABLE				
	OWNERSHIP	FEET	RODS	ACRES
(NW 1/4)	BLM	942.79	57.14	0.649

= CONSTRUCT EARTHEN WATER BAR. (Not to Scale.)

▲ = SECTION CORNERS LOCATED.

CERTIFICATE
THIS IS TO CERTIFY THAT THIS EASEMENT PLAT AND THE ACTUAL SURVEY ON THE GROUND UPON WHICH IT IS BASED WERE PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION; THAT I AM RESPONSIBLE FOR THIS SURVEY; THAT THIS SURVEY MEETS THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO; AND THAT IT IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

STATE OF NEW MEXICO 23782 10-31-16 PROFESSIONAL SURVEYOR

Sheet 1 of 2

FILE: 61107-A1	REV: 1	10-28-16	S.F.	(ADDED WATER BARS)

NOTES:
- Water bars to be constructed to minimum dimensions 3'Lx35"Wx18"H
- Basis of bearing is a G.P.S. observation (Vertical Control Datum: NAVD88)

N

CIMAREX ENERGY CO.
MARQUARDT 12-13 FEDERAL COM 18H, 17H, 16H, 15H, 12H, 13H, 14H & 11H
SECTION 12, T25S, R26E, N.M.P.M.
EDDY COUNTY, NEW MEXICO

SURVEYED BY	A.V., A.B., A.H.	10-10-16	SCALE
DRAWN BY	S.F.	10-18-16	1" = 1000'

GAS LIFT FLOW LINE R-O-W EXHIBIT G-2

UINTAH ENGINEERING & LAND SURVEYING
UELS, LLC
Corporate Office * 85 South 200 East
Vernal, UT 84078 * (435) 789-1017

GAS LIFT FLOW LINE RIGHT-OF-WAY DESCRIPTION

A 30' WIDE RIGHT-OF-WAY 15' ON EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE.

BEGINNING AT A POINT IN THE NE 1/4 NW 1/4 OF SECTION 12, T25S, R26E, N.M.P.M., WHICH BEARS S64°42'21"W 1304.78' FROM THE NORTH 1/4 CORNER OF SAID SECTION 12, THENCE S89°36'47"E 20.02'; THENCE S00°21'56"W 144.98'; THENCE S89°38'11"E 673.26'; THENCE S01°33'48"E 104.53' TO A POINT IN THE NE 1/4 NW 1/4 OF SAID SECTION 12, WHICH BEARS S30°50'34"W 945.00' FROM THE NORTH 1/4 CORNER OF SAID SECTION 12. THE SIDE LINES OF SAID DESCRIBED RIGHT-OF-WAY BEING SHORTENED OR ELONGATED TO MEET THE GRANTOR'S PROPERTY LINES. BASIS OF BEARINGS IS A G.P.S. OBSERVATION. CONTAINS 0.649 ACRES MORE OR LESS.

BEGINNING OF GAS LIFT FLOW LINE STA. 0+00
BEARS S64°42'21"W 1304.78' FROM THE NORTH 1/4
CORNER OF SECTION 12, T25S, R26E, N.M.P.M.

END OF GAS LIFT FLOW LINE STA. 9+42.79 BEARS
S30°50'34"W 945.00' FROM THE NORTH 1/4
CORNER OF SECTION 12, T25S, R26E, N.M.P.M.

MARQUARDT 12-13 FEDERAL COM 18H, 17H, 16H, 15H, 12H, 13H, 14H & 11H GAS LIFT FLOW LINE R-O-W			
SECTION CORNER	SECTION CORNER DESC.	LATITUDE (NAD 83)	LONGITUDE (NAD 83)
NW COR. SEC. 12, T25S, R26E	2" IRON PIPE WITH CAP	N 32°09'06.59"	W 104°15'19.04"
N1/4 COR. SEC. 12, T25S, R26E	1" IRON PIPE WITH CAP	N 32°09'06.42"	W 104°14'47.90"
NE COR. SEC. 12, T25S, R26E	2" IRON PIPE WITH CAP	N 32°09'06.27"	W 104°14'16.75"
E1/4 COR. SEC. 12, T25S, R26E	1" IRON PIPE WITH CAP	N 32°08'40.07"	W 104°14'16.69"
SE COR. SEC. 12, T25S, R26E	2" IRON PIPE WITH CAP	N 32°08'13.86"	W 104°14'16.64"
S1/4 COR. SEC. 12, T25S, R26E	1" IRON PIPE WITH CAP	N 32°08'14.00"	W 104°14'47.36"
SW COR. SEC. 12, T25S, R26E	2" IRON PIPE WITH CAP	N 32°08'14.13"	W 104°15'18.13"
W1/4 COR. SEC. 12, T25S, R26E	1" IRON PIPE WITH CAP	N 32°08'40.35"	W 104°15'18.58"

MARQUARDT 12-13 FEDERAL COM 18H, 17H, 16H, 15H, 12H, 13H, 14H & 11H GAS LIFT FLOW LINE R-O-W			
NUMBER	STATION	LATITUDE (NAD 83)	LONGITUDE (NAD 83)
BEGIN	0+00	N 32°09'00.90"	W 104°15'01.62"
1	0+20.02	N 32°09'00.90"	W 104°15'01.39"
2	1+65.00	N 32°08'59.47"	W 104°15'01.40"
3	8+38.26	N 32°08'59.43"	W 104°14'53.57"
END	9+42.79	N 32°08'58.39"	W 104°14'53.54"

CERTIFICATE
THIS IS TO CERTIFY THAT THIS EASEMENT PLAT AND THE ACTUAL SURVEY ON THE GROUND UPON WHICH IT IS BASED WERE PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION; THAT I AM RESPONSIBLE FOR THIS SURVEY; THAT THIS SURVEY MEETS THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO; AND THAT IT IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

STATE OF NEW MEXICO
23782
10-25-16
PROFESSIONAL SURVEYOR

FILE: 61107-A2

Sheet 2 of 2

N

CIMAREX ENERGY CO.

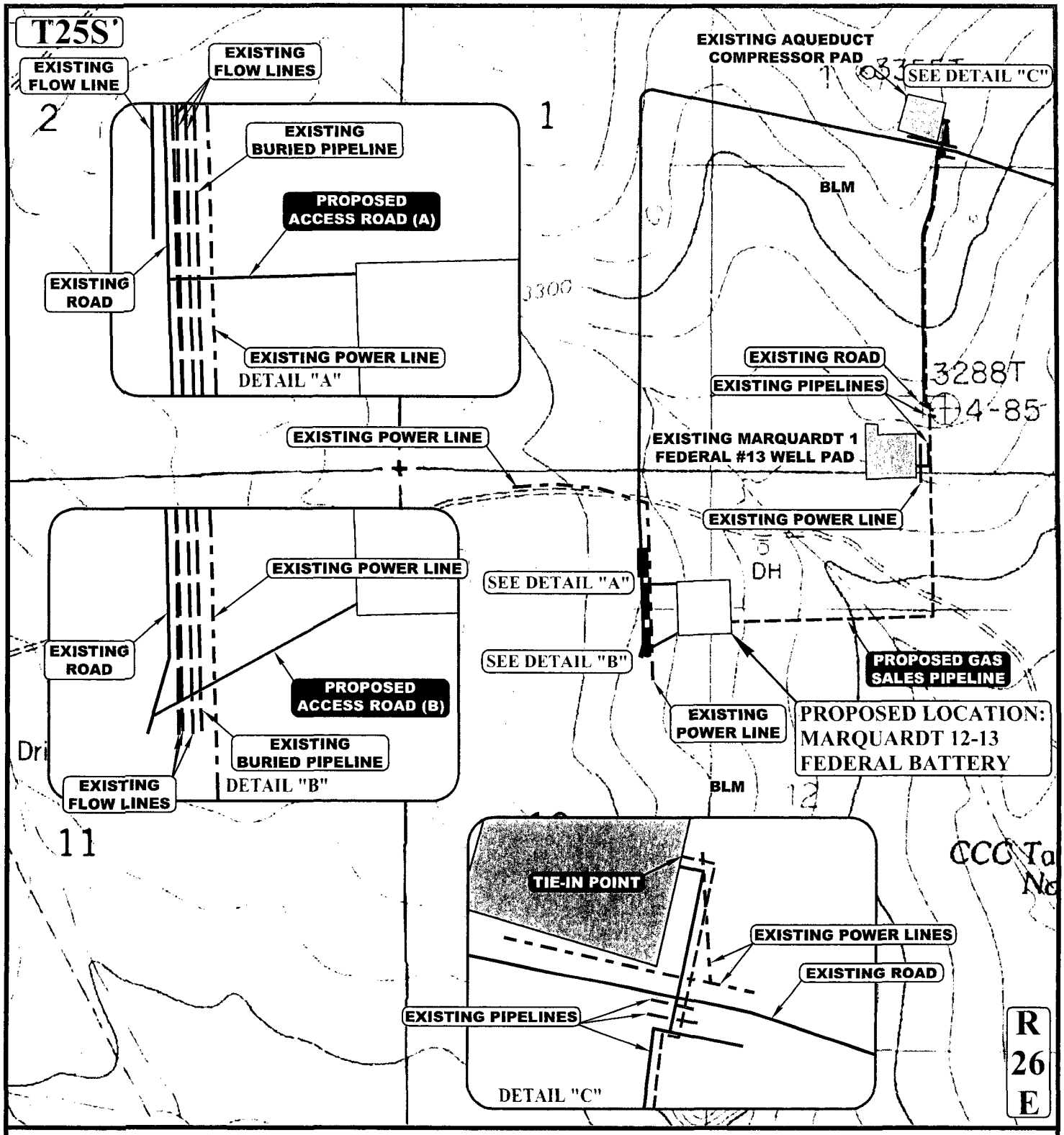
MARQUARDT 12-13 FEDERAL COM
18H, 17H, 16H, 15H, 12H, 13H, 14H & 11H
SECTION 12, T25S, R26E, N.M.P.M.
EDDY COUNTY, NEW MEXICO

SURVEYED BY	A.V., A.B., A.H.	10-10-16	SCALE
DRAWN BY	S.F.	10-18-16	N/A

GAS LIFT FLOW LINE R-O-W EXHIBIT G-2

UINTAH ENGINEERING & LAND SURVEYING

UELS, LLC
Corporate Office * 85 South 200 East
Vernal, UT 84078 * (435) 789-1017



APPROXIMATE TOTAL GAS SALES PIPELINE DISTANCE = 5,318' +/-

NOTE: PARCEL DATA SHOWN HAS BEEN OBTAINED FROM VARIOUS SOURCES AND SHOULD BE USED FOR MAPPING, GRAPHIC AND PLANNING PURPOSES ONLY. NO WARRANTY IS MADE BY UINTAH ENGINEERING AND LAND SURVEYING (UELS) FOR ACCURACY OF THE PARCEL DATA.

LEGEND:

- EXISTING ROAD
- PROPOSED ROAD
- PROPOSED GAS SALES PIPELINE
- EXISTING POWER LINE
- EXISTING PIPELINE / FLOW LINE / SWD FLOW LINE

UINTAH ENGINEERING & LAND SURVEYING

UELS, LLC
Corporate Office * 85 South 200 East
Vernal, UT 84078 * (435) 789-1017

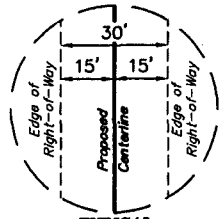
N

CIMAREX ENERGY CO.

MARQUARDT 12-13 FEDERAL BATTERY
NE 1/4 NW 1/4, SECTION 12, T25S, R26E, N.M.P.M.
EDDY COUNTY, NEW MEXICO

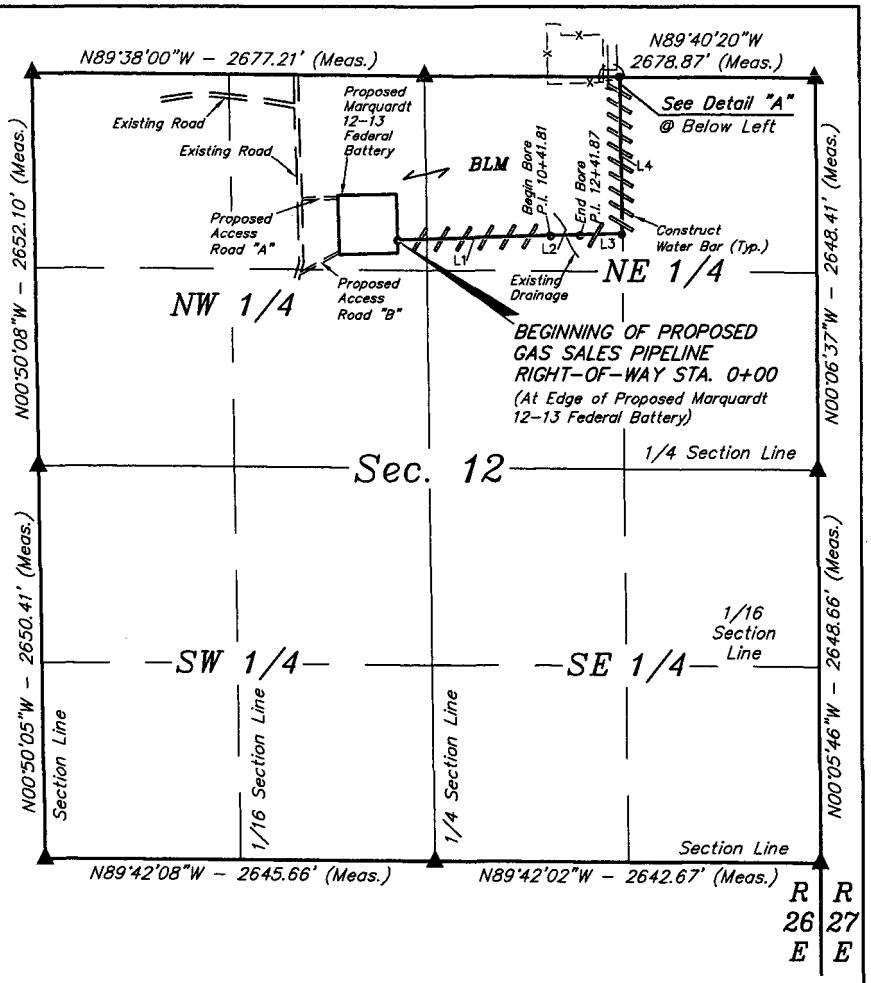
SURVEYED BY	J.V., A.B., A.H.	10-10-16	SCALE
DRAWN BY	T.L.	10-19-16	1 : 12,000

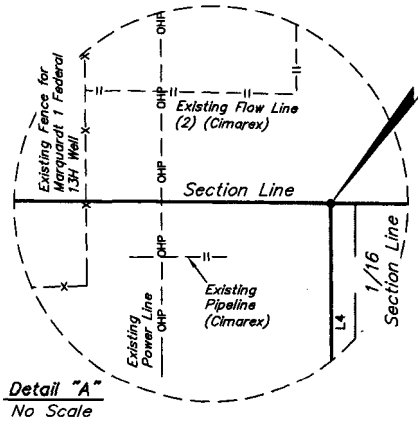
GAS SALES PIPELINE MAP EXHIBIT G-1



TYPICAL RIGHT-OF-WAY DETAIL
NO SCALE

LINE TABLE		
LINE	DIRECTION	LENGTH
L1	N88°21'06"E	1041.81'
L2	N88°54'15"E	200.06'
L3	N88°25'07"E	286.83'
L4	N00°33'14"W	1069.19'





Detail "A"
No Scale

END OF PROPOSED GAS SALES PIPELINE RIGHT-OF-WAY ON BLM LANDS IN SEC. 12 STA. 25+97.89
(At Section Line)

1000' 500' 0' 1000'

ACREAGE / LENGTH TABLE				
	OWNERSHIP	FEET	RODS	ACRES
(NW 1/4)	BLM	198.86	12.05	0.137
(NE 1/4)	BLM	2399.03	145.40	1.652
TOTAL		2597.89	157.45	1.789

= CONSTRUCT EARTHEN WATER BAR. (Not to Scale.)

▲ = SECTION CORNERS LOCATED.

CERTIFICATE
THIS IS TO CERTIFY THAT THIS EASEMENT PLAT AND THE ACTUAL SURVEY ON THE GROUND UPON WHICH IT IS BASED WERE PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION; THAT I AM RESPONSIBLE FOR THIS SURVEY; THAT THIS SURVEY MEETS THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO; AND THAT IT IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

23782
10-31-16
REGISTERED PROFESSIONAL SURVEYOR

Sheet 1 of 2

FILE: 61115-A1 | REV: 1 10-28-16 S.F. (ADDED WATER BARS)

NOTES:
- Water bars to be constructed to minimum dimensions 3'Lx35"Wx18"H
- Water bars to be constructed at a +/- 150' interval from Sta. 0+00 to Sta. 10+00
- Water bars to be constructed at a +/- 100' interval from Sta. 13+00 to Sta. 25+97.89
- Basis of bearing is a G.P.S. observation (Vertical Control Datum: NAVD88)

UINTAH ENGINEERING & LAND SURVEYING

UELS, LLC
Corporate Office * 85 South 200 East
Vernal, UT 84078 * (435) 789-1017

N

CIMAREX ENERGY CO.

MARQUARDT 12-13 FEDERAL BATTERY
SECTION 12, T25S, R26E, N.M.P.M.
EDDY COUNTY, NEW MEXICO

SURVEYED BY	A.V., A.B., A.H.	10-10-16	SCALE
DRAWN BY	S.F.	10-18-16	1" = 1000'

GAS SALES PIPELINE R-O-W EXHIBIT G-1

GAS SALES PIPELINE RIGHT-OF-WAY DESCRIPTION ON BLM LANDS

A 30' WIDE RIGHT-OF-WAY 15' ON EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE.

BEGINNING AT A POINT IN THE NE 1/4 NW 1/4 OF SECTION 12, T25S, R26E, N.M.P.M., WHICH BEARS S09°35'59"W 1134.34' FROM THE NORTH 1/4 CORNER OF SAID SECTION 12, THENCE N88°21'06"E 1041.81' TO A POINT IN THE NW 1/4 NE 1/4 OF SAID SECTION 12, WHICH BEARS S38°03'31"E 1382.41' FROM THE NORTH 1/4 CORNER OF SAID SECTION 12, THENCE N88°54'15"E 200.06' TO A POINT IN THE NW 1/4 NE 1/4 OF SAID SECTION 12, WHICH BEARS S44°07'51"E 1511.18' FROM THE NORTH 1/4 CORNER OF SAID SECTION 12, THENCE N88°25'07"E 286.83'; THENCE N00°33'14"W 1069.19' TO A POINT ON THE NORTH LINE OF THE NW 1/4 NE 1/4 OF SAID SECTION 12, WHICH BEARS S89°40'20"E 1328.64' FROM THE NORTH 1/4 CORNER OF SAID SECTION 12. THE SIDE LINES OF SAID DESCRIBED RIGHT-OF-WAY BEING SHORTENED OR ELONGATED TO MEET THE GRANTOR'S PROPERTY LINES. BASIS OF BEARINGS IS A G.P.S. OBSERVATION. CONTAINS 1.789 ACRES MORE OR LESS.

BEGINNING OF GAS SALES PIPELINE STA. 0+00
BEARS S09°35'59"W 1134.34' FROM THE NORTH
1/4 CORNER OF SECTION 12, T25S, R26E, N.M.P.M.

BEGIN BORE STA. 10+41.81 BEARS S38°03'31"E
1382.41' FROM THE NORTH 1/4 CORNER OF
SECTION 12, T25S, R26E, N.M.P.M.

END BORE STA. 12+41.87 BEARS S44°07'51"E
1511.18' FROM THE NORTH 1/4 CORNER OF
SECTION 12, T25S, R26E, N.M.P.M.

END OF GAS SALES PIPELINE ON BLM LANDS IN
SEC. 12 STA. 25+97.89 BEARS S89°40'20"E
1328.64' FROM THE NORTH 1/4 CORNER OF
SECTION 12, T25S, R26E, N.M.P.M.

MARQUARDT 12-13 FEDERAL BATTERY GAS SALES PIPELINE R-O-W			
SECTION CORNER	SECTION CORNER DESC.	LATITUDE (NAD 83)	LONGITUDE (NAD 83)
NW COR. SEC. 12, T25S, R26E	2" IRON PIPE WITH CAP	N 32°09'06.59"	W 104°15'19.04"
N1/4 COR. SEC. 12, T25S, R26E	1" IRON PIPE WITH CAP	N 32°09'06.42"	W 104°14'47.90"
NE COR. SEC. 12, T25S, R26E	2" IRON PIPE WITH CAP	N 32°09'06.27"	W 104°14'16.75"
E1/4 COR. SEC. 12, T25S, R26E	1" IRON PIPE WITH CAP	N 32°08'40.07"	W 104°14'16.69"
SE COR. SEC. 12, T25S, R26E	2" IRON PIPE WITH CAP	N 32°08'13.86"	W 104°14'16.64"
S1/4 COR. SEC. 12, T25S, R26E	1" IRON PIPE WITH CAP	N 32°08'14.00"	W 104°14'47.36"
SW COR. SEC. 12, T25S, R26E	2" IRON PIPE WITH CAP	N 32°08'14.13"	W 104°15'18.13"
W1/4 COR. SEC. 12, T25S, R26E	1" IRON PIPE WITH CAP	N 32°08'40.35"	W 104°15'18.58"

MARQUARDT 12-13 FEDERAL BATTERY GAS SALES PIPELINE R-O-W			
NUMBER	STATION	LATITUDE (NAD 83)	LONGITUDE (NAD 83)
BEGIN	0+00	N 32°08'55.36"	W 104°14'50.10"
1	10+41.81	N 32°08'55.65"	W 104°14'37.99"
2	12+41.87	N 32°08'55.69"	W 104°14'35.66"
3	15+28.70	N 32°08'55.77"	W 104°14'32.33"
END	25+97.89	N 32°09'06.35"	W 104°14'32.45"

CERTIFICATE
THIS IS TO CERTIFY THAT THIS EASEMENT PLAT AND THE ACTUAL SURVEY ON THE GROUND UPON WHICH IT IS BASED WERE PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION; THAT I AM RESPONSIBLE FOR THIS SURVEY; THAT THIS SURVEY MEETS THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO; AND THAT IT IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

STATE OF NEW MEXICO
23782
PROFESSIONAL SURVEYOR
10-25-16

FILE: 61115-A2

Sheet 2 of 2

N

CIMAREX ENERGY CO.

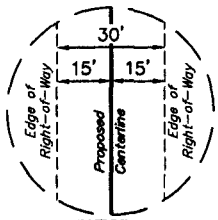
MARQUARDT 12-13 FEDERAL BATTERY
SECTION 12, T25S, R26E, N.M.P.M.
EDDY COUNTY, NEW MEXICO

SURVEYED BY	A.V., A.B., A.H.	10-10-16	SCALE
DRAWN BY	S.F.	10-18-16	N/A

GAS SALES PIPELINE R-O-W **EXHIBIT G-1**

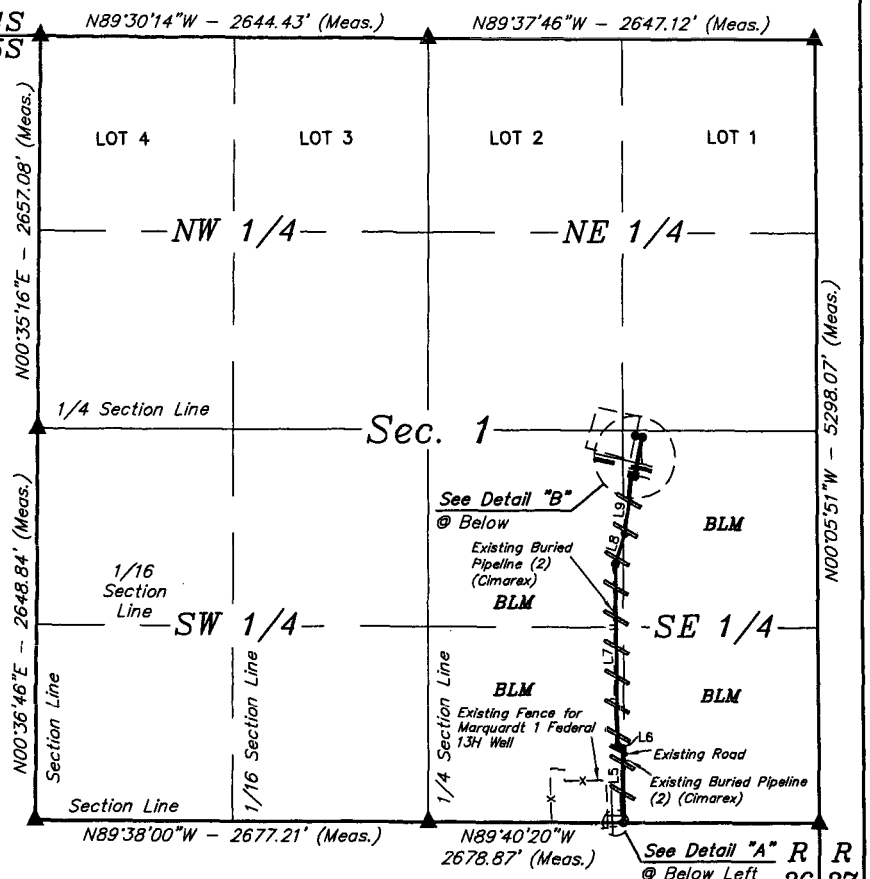
UINTAH ENGINEERING & LAND SURVEYING

UELS, LLC
Corporate Office * 85 South 200 East
Vernal, UT 84078 * (435) 789-1017

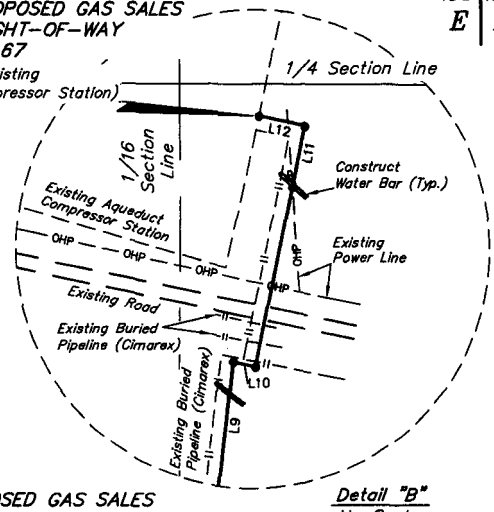


TYPICAL RIGHT-OF-WAY DETAIL
NO SCALE

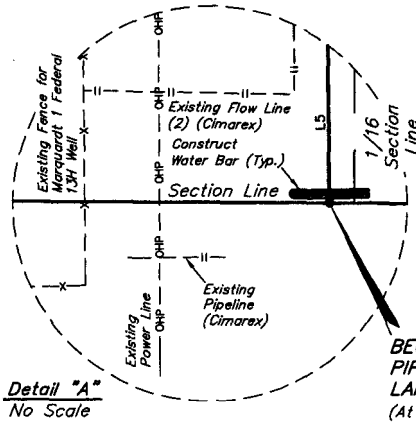
LINE TABLE		
LINE	DIRECTION	LENGTH
L5	N00°33'14"W	495.67'
L6	N57°53'58"W	32.62'
L7	N00°23'25"W	1236.17'
L8	N18°21'16"E	217.78'
L9	N06°38'44"E	391.18'
L10	S77°26'49"E	25.26'
L11	N11°46'30"E	268.96'
L12	N77°40'30"W	52.14'



END OF PROPOSED GAS SALES PIPELINE RIGHT-OF-WAY
STA. 53+17.67
(At Edge of Existing Aqueduct Compressor Station)



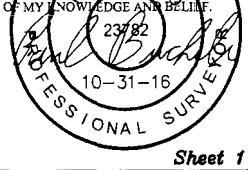
Detail "B"
No Scale



Detail "A"
No Scale

BEGINNING OF PROPOSED GAS SALES PIPELINE RIGHT-OF-WAY ON BLM LANDS IN SEC. 1 STA. 25+97.89
(At Section Line)

CERTIFICATE
THIS IS TO CERTIFY THAT THIS EASEMENT PLAT AND THE ACTUAL SURVEY ON THE GROUND UPON WHICH IT IS BASED WERE PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION; THAT I AM RESPONSIBLE FOR THIS SURVEY; THAT THIS SURVEY MEETS THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO; AND THAT IT IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.



ACREAGE / LENGTH TABLE				
	OWNERSHIP	FEET	RODS	ACRES
(SE 1/4)	BLM	2719.78	164.84	1.873

▬ = CONSTRUCT EARTHEN WATER BAR. (Not to Scale.)

▲ = SECTION CORNERS LOCATED.

Sheet 1 of 2

FILE: 61115-B1 | REV: 1 10-28-16 S.F. (ADDED WATER BARS)

NOTES:
- Water bars to be constructed to minimum dimensions 3'Lx35'Wx18"H
- Water bars to be constructed at a +/- 200' interval from Sta. 25+97.89 to Sta. 53+17.67
- Basis of bearing is a G.P.S. observation (Vertical Control Datum: NAVD88)

N

CIMAREX ENERGY CO.

MARQUARDT 12-13 FEDERAL BATTERY
SECTION 1, T25S, R26E, N.M.P.M.
EDDY COUNTY, NEW MEXICO

SURVEYED BY	A.V., A.B., A.H.	10-10-16	SCALE
DRAWN BY	S.F.	10-18-16	1" = 1000'

GAS SALES PIPELINE R-O-W EXHIBIT G-1

UINTAH ENGINEERING & LAND SURVEYING

UELS, LLC
Corporate Office * 85 South 200 East
Vernal, UT 84078 * (435) 789-1017

GAS SALES PIPELINE RIGHT-OF-WAY DESCRIPTION ON BLM LANDS

A 30' WIDE RIGHT-OF-WAY 15' ON EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE.

BEGINNING AT A POINT ON THE SOUTH LINE OF THE SW 1/4 SE 1/4 OF SECTION 1, T25S, R26E, N.M.P.M., WHICH BEARS S89°40'20"E 1328.64' FROM THE SOUTH 1/4 CORNER OF SAID SECTION 1, THENCE N00°33'14"W 495.67'; THENCE N57°53'58"W 32.62'; THENCE N00°23'25"W 1236.17'; THENCE N18°21'16"E 217.78'; THENCE N06°38'44"E 391.18'; THENCE S77°26'49"E 25.26'; THENCE N11°46'30"E 268.96'; THENCE N77°40'30"W 52.14' TO A POINT IN THE NE 1/4 SE 1/4 OF SAID SECTION 1, WHICH BEARS N25°28'20"W 2903.24' FROM THE SOUTHEAST CORNER OF SAID SECTION 1. THE SIDE LINES OF SAID DESCRIBED RIGHT-OF-WAY BEING SHORTENED OR ELONGATED TO MEET THE GRANTOR'S PROPERTY LINES. BASIS OF BEARINGS IS A G.P.S. OBSERVATION. CONTAINS 1.873 ACRES MORE OR LESS.

BEGINNING OF GAS SALES PIPELINE ON BLM LANDS IN SEC. 1 STA. 25+97.89 BEARS S89°40'20"E 1328.64' FROM THE SOUTH 1/4 CORNER OF SECTION 1, T25S, R26E, N.M.P.M.

END OF GAS SALES PIPELINE STA. 53+17.67 BEARS N25°28'20"W 2903.24' FROM THE SOUTHEAST CORNER OF SECTION 1, T25S, R26E, N.M.P.M.

MARQUARDT 12-13 FEDERAL BATTERY GAS SALES PIPELINE R-O-W			
SECTION CORNER	SECTION CORNER DESC.	LATITUDE (NAD 83)	LONGITUDE (NAD 83)
NW COR. SEC. 1, T25S, R26E	1.5" IRON PIPE WITH BRASS CAP	N 32°09'59.08"	W 104°15'18.40"
N1/4 COR. SEC. 1, T25S, R26E	1" IRON PIPE WITH BRASS CAP	N 32°09'58.86"	W 104°14'47.64"
NE COR. SEC. 1, T25S, R26E	2.5" IRON PIPE WITH BRASS CAP	N 32°09'58.69"	W 104°14'16.85"
SE COR. SEC. 1, T25S, R26E	2" IRON PIPE WITH CAP	N 32°09'06.27"	W 104°14'16.75"
S1/4 COR. SEC. 1, T25S, R26E	1" IRON PIPE WITH CAP	N 32°09'06.42"	W 104°14'47.90"
SW COR. SEC. 1, T25S, R26E	2" IRON PIPE WITH CAP	N 32°09'06.59"	W 104°15'19.04"
W1/4 COR. SEC. 1, T25S, R26E	1" IRON PIPE WITH BRASS CAP	N 32°09'32.79"	W 104°15'18.71"

MARQUARDT 12-13 FEDERAL BATTERY GAS SALES PIPELINE R-O-W			
NUMBER	STATION	LATITUDE (NAD 83)	LONGITUDE (NAD 83)
BEGIN	25+97.89	N 32°09'06.35"	W 104°14'32.45"
1	30+93.56	N 32°09'11.25"	W 104°14'32.51"
2	31+26.18	N 32°09'11.42"	W 104°14'32.83"
3	43+62.35	N 32°09'23.65"	W 104°14'32.93"
4	45+80.13	N 32°09'25.70"	W 104°14'32.13"
5	49+71.31	N 32°09'29.54"	W 104°14'31.60"
6	49+96.57	N 32°09'29.49"	W 104°14'31.32"
7	52+65.53	N 32°09'32.09"	W 104°14'30.68"
END	53+17.67	N 32°09'32.20"	W 104°14'31.27"

CERTIFICATE

THIS IS TO CERTIFY THAT THIS EASEMENT PLAT AND THE ACTUAL SURVEY ON THE GROUND UPON WHICH IT IS BASED WERE PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION; THAT I AM RESPONSIBLE FOR THIS SURVEY; THAT THIS SURVEY MEETS THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO; AND THAT IT IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

STATE OF NEW MEXICO
23782
Paul Buchanan
10-25-16
PROFESSIONAL SURVEYOR

FILE: 61115-B2

Sheet 2 of 2

N

CIMAREX ENERGY CO.

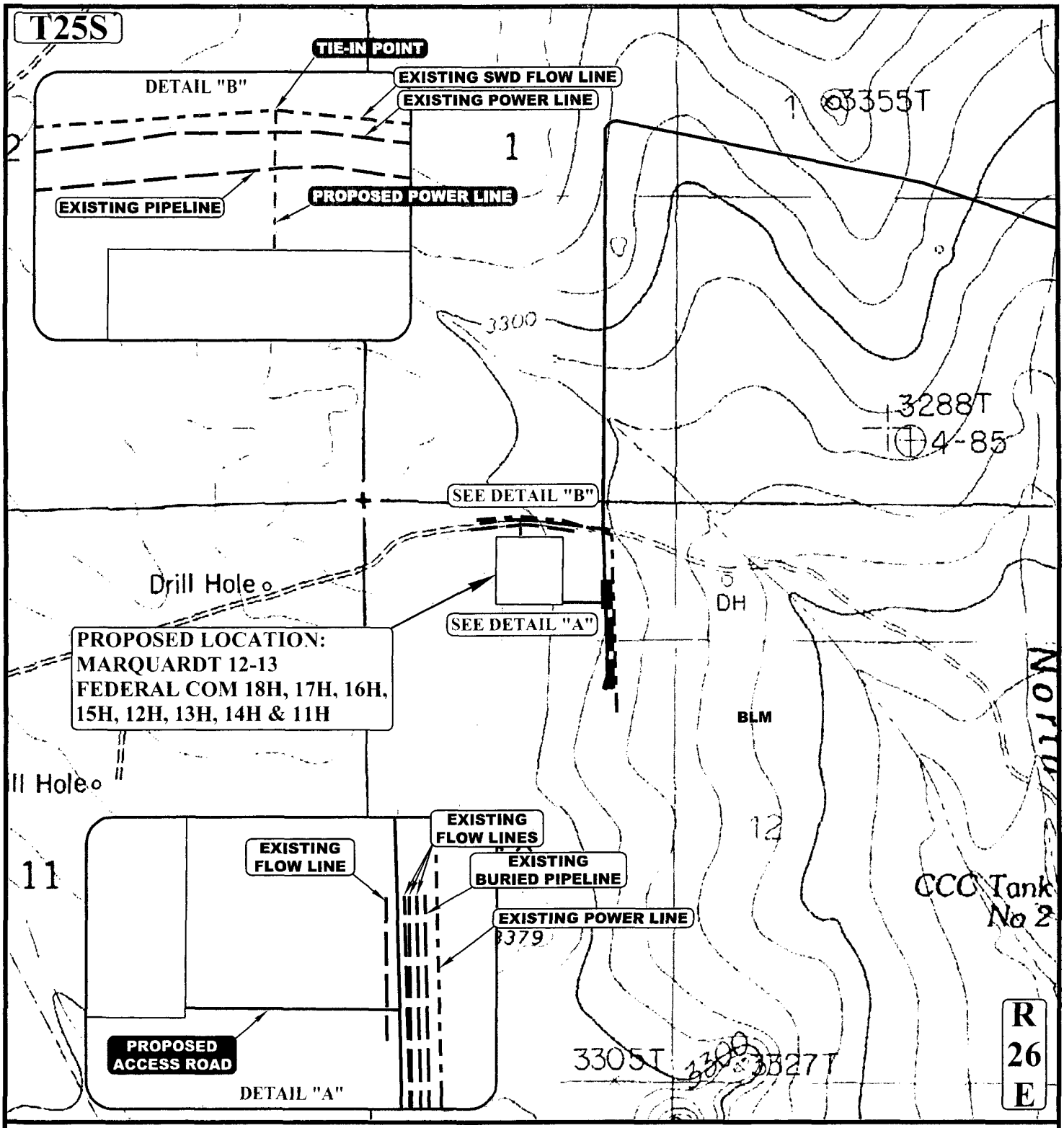
MARQUARDT 12-13 FEDERAL BATTERY
SECTION 1, T25S, R26E, N.M.P.M.
EDDY COUNTY, NEW MEXICO

SURVEYED BY	A.V., A.B., A.H.	10-10-16	SCALE
DRAWN BY	S.F.	10-18-16	N/A

GAS SALES PIPELINE R-O-W EXHIBIT G-1

UINTAH ENGINEERING & LAND SURVEYING

UELS, LLC
Corporate Office * 85 South 200 East
Vernal, UT 84078 * (435) 789-1017



APPROXIMATE TOTAL POWER LINE DISTANCE = 152' +/-

NOTE: PARCEL DATA SHOWN HAS BEEN OBTAINED FROM VARIOUS SOURCES AND SHOULD BE USED FOR MAPPING, GRAPHIC AND PLANNING PURPOSES ONLY. NO WARRANTY IS MADE BY UINTAH ENGINEERING AND LAND SURVEYING (UELS) FOR ACCURACY OF THE PARCEL DATA.

LEGEND:

- EXISTING ROAD
- PROPOSED ROAD
- PROPOSED POWER LINE
- EXISTING POWER LINE
- EXISTING PIPELINE / FLOW LINE / SWD FLOW LINE

N

CIMAREX ENERGY CO.

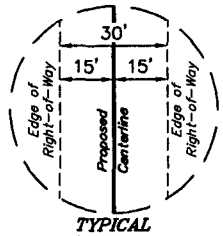
MARQUARDT 12-13 FEDERAL COM
18H, 17H, 16H, 15H, 12H, 13H, 14H & 11H
NW 1/4 NW 1/4, SECTION 12, T25S, R26E, N.M.P.M.
EDDY COUNTY, NEW MEXICO

SURVEYED BY	J.V., A.B., A.H.	10-10-16	SCALE
DRAWN BY	T.L.	10-19-16	1 : 12,000

POWER LINE MAP **EXHIBIT H**

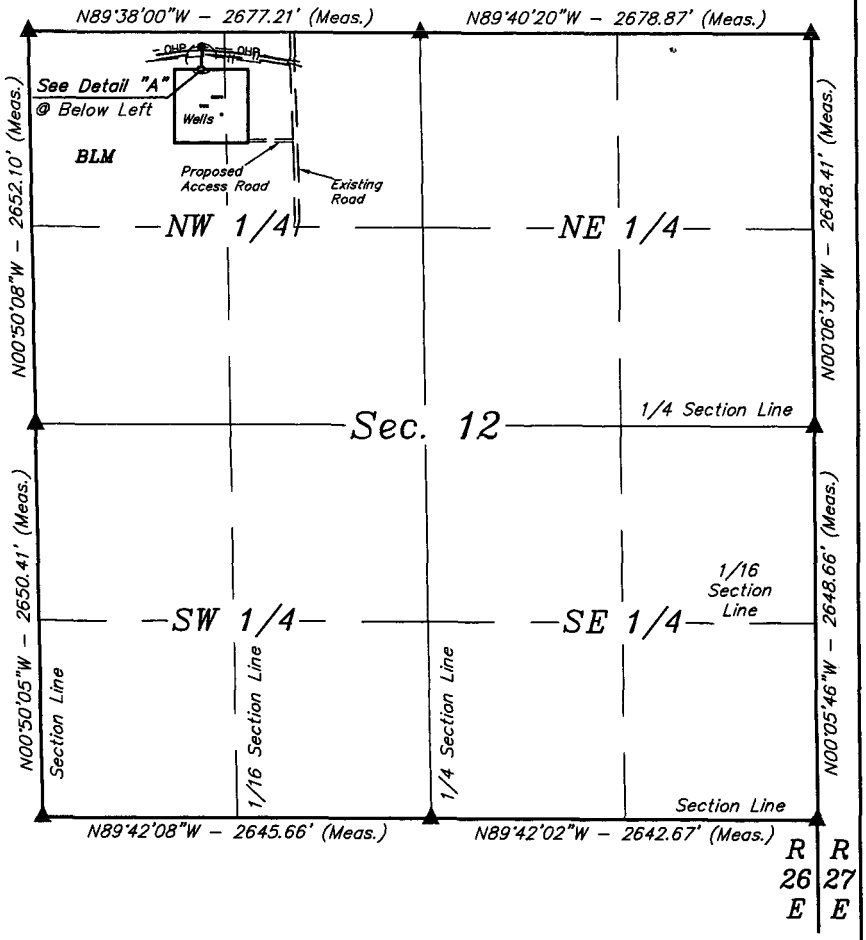
UINTAH ENGINEERING & LAND SURVEYING

UELS, LLC
Corporate Office * 85 South 200 East
Vernal, UT 84078 * (435) 789-1017

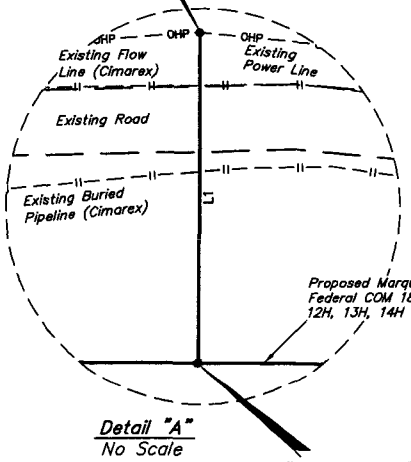


TYPICAL RIGHT-OF-WAY DETAIL
NO SCALE

LINE TABLE		
LINE	DIRECTION	LENGTH
L1	S00°22'07"W	151.52'



BEGINNING OF PROPOSED POWER LINE RIGHT-OF-WAY STA. 0+00
(At Existing Power Line)



Detail "A"
No Scale

END OF PROPOSED POWER LINE RIGHT-OF-WAY STA. 1+51.52
(At Edge of Proposed Marquardt 12-13 Federal COM 18H, 17H, 16H, 15H, 12H, 13H, 14H & 11H Well Pad)

1000' 500' 0' 1000'

ACREAGE / LENGTH TABLE				
	OWNERSHIP	FEET	RODS	ACRES
(NW 1/4)	BLM	151.52	9.18	0.104

▲ = SECTION CORNERS LOCATED.

CERTIFICATE
THIS IS TO CERTIFY THAT THIS EASEMENT PLAT AND THE ACTUAL SURVEY ON THE GROUND UPON WHICH IT IS BASED WERE PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION; THAT I AM RESPONSIBLE FOR THIS SURVEY; THAT THIS SURVEY MEETS THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO; AND THAT IT IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

23782
10-25-16
PROFESSIONAL SURVEYOR

FILE: 61108-A1

Sheet 1 of 2

NOTES:
- Basis of bearing is a G.P.S. observation (Vertical Control Datum: NAVD88)

N

CIMAREX ENERGY CO.
MARQUARDT 12-13 FEDERAL COM
18H, 17H, 16H, 15H, 12H, 13H, 14H & 11H
SECTION 12, T25S, R26E, N.M.P.M.
EDDY COUNTY, NEW MEXICO

SURVEYED BY	A.V., A.B., A.H.	10-10-16	SCALE
DRAWN BY	S.F.	10-18-16	1" = 1000'
POWER LINE R-O-W			EXHIBIT H

UINTAH ENGINEERING & LAND SURVEYING

UELS, LLC
Corporate Office * 85 South 200 East
Vernal, UT 84078 * (435) 789-1017

POWER LINE RIGHT-OF-WAY DESCRIPTION

A 30' WIDE RIGHT-OF-WAY 15' ON EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE.

BEGINNING AT A POINT IN THE NW 1/4 NW 1/4 OF SECTION 12, T25S, R26E, N.M.P.M., WHICH BEARS S84°37'51"E 1186.75' FROM THE NORTHWEST CORNER OF SAID SECTION 12, THENCE S00°22'07"W 151.52' TO A POINT IN THE NW 1/4 NW 1/4 OF SAID SECTION 12, WHICH BEARS S77°27'40"E 1209.41' FROM THE NORTHWEST CORNER OF SAID SECTION 12. THE SIDE LINES OF SAID DESCRIBED RIGHT-OF-WAY BEING SHORTENED OR ELONGATED TO MEET THE GRANTOR'S PROPERTY LINES. BASIS OF BEARINGS IS A G.P.S. OBSERVATION. CONTAINS 0.104 ACRES MORE OR LESS.

BEGINNING OF POWER LINE STA. 0+00 BEARS S84°37'51"E 1186.75' FROM THE NORTHWEST CORNER OF SECTION 12, T25S, R26E, N.M.P.M.

END OF POWER LINE STA. 1+51.52 BEARS S77°27'40"E 1209.41' FROM THE NORTHWEST CORNER OF SECTION 12, T25S, R26E, N.M.P.M.

MARQUARDT 12-13 FEDERAL COM 18H, 17H, 16H, 15H, 12H, 13H, 14H & 11H POWER LINE R-O-W			
SECTION CORNER	SECTION CORNER DESC.	*LATITUDE (NAD 83)*	*LONGITUDE (NAD 83)*
NW COR. SEC. 12, T25S, R26E	2" IRON PIPE WITH CAP	N 32°09'06.59"	W 104°15'19.04"
N1/4 COR. SEC. 12, T25S, R26E	1" IRON PIPE WITH CAP	N 32°09'06.42"	W 104°14'47.90"
NE COR. SEC. 12, T25S, R26E	2" IRON PIPE WITH CAP	N 32°09'06.27"	W 104°14'16.75"
E1/4 COR. SEC. 12, T25S, R26E	1" IRON PIPE WITH CAP	N 32°08'40.07"	W 104°14'16.69"
SE COR. SEC. 12, T25S, R26E	2" IRON PIPE WITH CAP	N 32°08'13.86"	W 104°14'16.64"
S1/4 COR. SEC. 12, T25S, R26E	1" IRON PIPE WITH CAP	N 32°08'14.00"	W 104°14'47.36"
SW COR. SEC. 12, T25S, R26E	2" IRON PIPE WITH CAP	N 32°08'14.13"	W 104°15'18.13"
W1/4 COR. SEC. 12, T25S, R26E	1" IRON PIPE WITH CAP	N 32°08'40.35"	W 104°15'18.58"

MARQUARDT 12-13 FEDERAL COM 18H, 17H, 16H, 15H, 12H, 13H, 14H & 11H POWER LINE R-O-W			
NUMBER	STATION	LATITUDE (NAD 83)	LONGITUDE (NAD 83)
BEGIN	0+00	N 32°09'05.49"	W 104°15'05.30"
END	1+51.52	N 32°09'03.99"	W 104°15'05.31"

CERTIFICATE
THIS IS TO CERTIFY THAT THIS EASEMENT PLAT AND THE ACTUAL SURVEY ON THE GROUND UPON WHICH IT IS BASED WERE PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION; THAT I AM RESPONSIBLE FOR THIS SURVEY; THAT THIS SURVEY MEETS THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO; AND THAT IT IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

23782
10-25-16
PROFESSIONAL SURVEYOR

FILE: 61108-A2

Sheet 2 of 2

N

CIMAREX ENERGY CO.

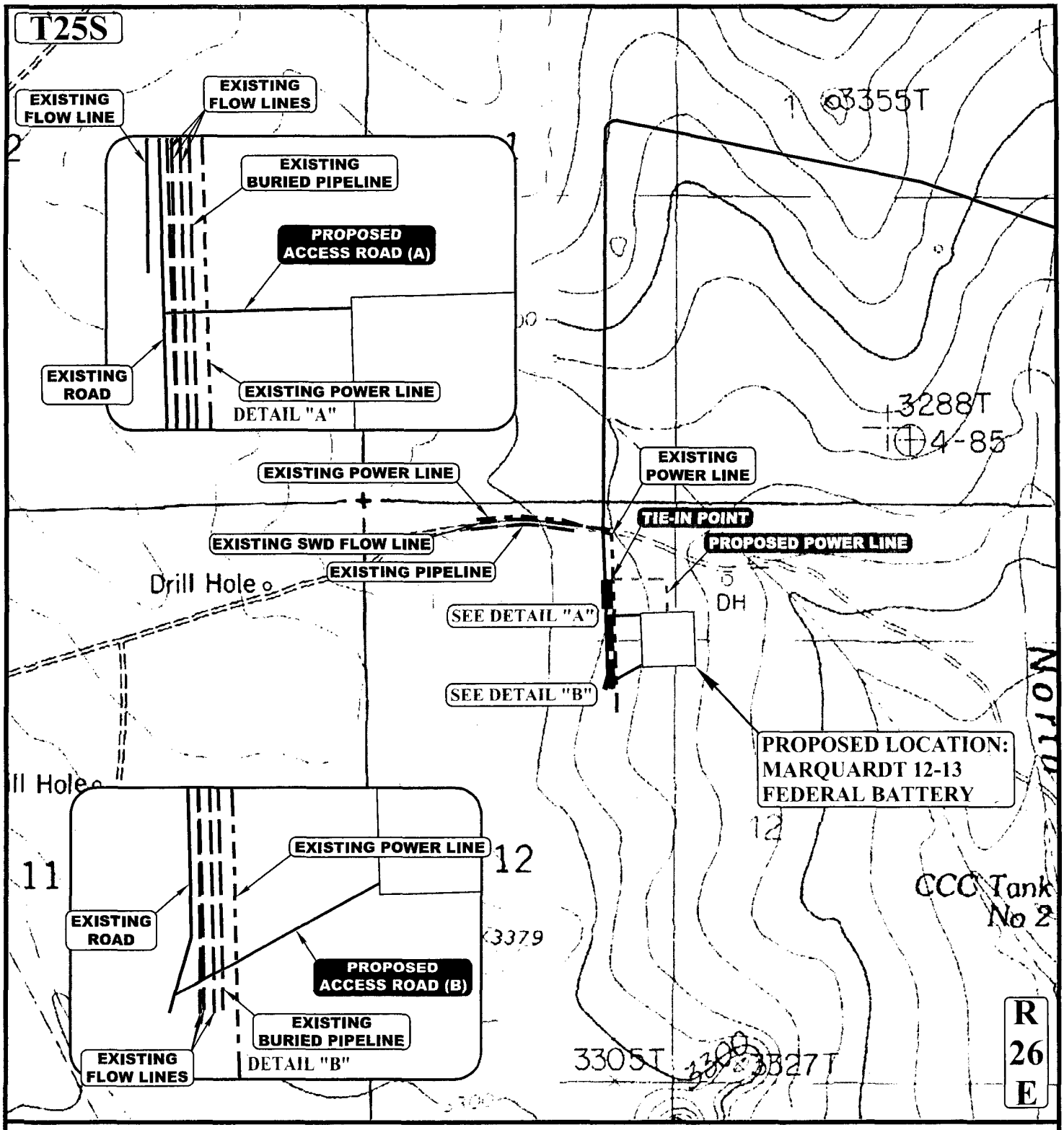
MARQUARDT 12-13 FEDERAL COM
18H, 17H, 16H, 15H, 12H, 13H, 14H & 11H
SECTION 12, T25S, R26E, N.M.P.M.
EDDY COUNTY, NEW MEXICO

SURVEYED BY	A.V., A.B., A.H.	10-10-16	SCALE
DRAWN BY	S.F.	10-18-16	N/A

POWER LINE R-O-W **EXHIBIT H**

UINTAH ENGINEERING & LAND SURVEYING

UELS, LLC
Corporate Office * 85 South 200 East
Vernal, UT 84078 * (435) 789-1017



APPROXIMATE TOTAL POWER LINE DISTANCE - 646' +/-

NOTE: PARCEL DATA SHOWN HAS BEEN OBTAINED FROM VARIOUS SOURCES AND SHOULD BE USED FOR MAPPING, GRAPHIC AND PLANNING PURPOSES ONLY. NO WARRANTY IS MADE BY UINTAH ENGINEERING AND LAND SURVEYING (UELS) FOR ACCURACY OF THE PARCEL DATA.

LEGEND:

- EXISTING ROAD
- PROPOSED ROAD
- PROPOSED POWER LINE
- EXISTING POWER LINE
- EXISTING PIPELINE / FLOW LINE / SWD PIPELINE

UINTAH ENGINEERING & LAND SURVEYING

UELS, LLC
Corporate Office * 85 South 200 East
Vernal, UT 84078 * (435) 789-1017

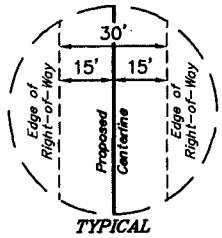
N

CIMAREX ENERGY CO.

MARQUARDT 12-13 FEDERAL BATTERY
NE 1/4 NW 1/4, SECTION 12, T25S, R26E, N.M.P.M.
EDDY COUNTY, NEW MEXICO

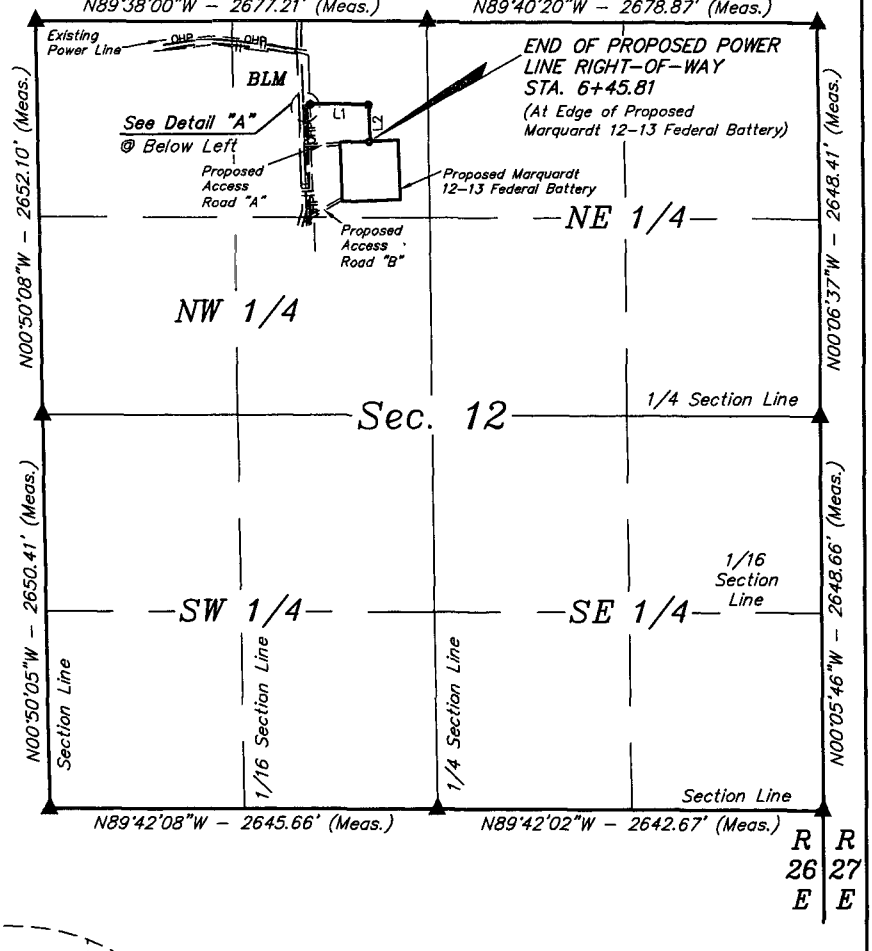
SURVEYED BY	J.V., A.B., A.H.	10-10-16	SCALE
DRAWN BY	T.J.	10-19-16	1 : 12,000

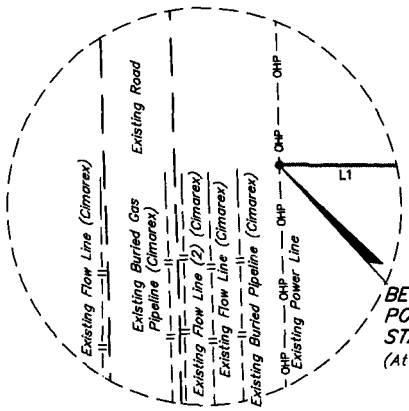
POWER LINE MAP **EXHIBIT H**



TYPICAL RIGHT-OF-WAY DETAIL
NO SCALE

LINE TABLE		
LINE	DIRECTION	LENGTH
L1	S89°38'17"E	400.29'
L2	S01°32'26"E	245.52'





BEGINNING OF PROPOSED POWER LINE RIGHT-OF-WAY STA. 0+00
(At Existing Power Line)

Detail "A"
No Scale

1000' 500' 0' 1000'

ACREAGE / LENGTH TABLE				
	OWNERSHIP	FEET	RODS	ACRES
(NW 1/4)	BLM	645.81	39.14	0.445

▲ = SECTION CORNERS LOCATED.

CERTIFICATE
THIS IS TO CERTIFY THAT THIS EASEMENT PLAT AND THE ACTUAL SURVEY ON THE GROUND UPON WHICH IT IS BASED WERE PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION; THAT I AM RESPONSIBLE FOR THIS SURVEY; THAT THIS SURVEY MEETS THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO; AND THAT IT IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

STATE OF NEW MEXICO 23782 PROFESSIONAL SURVEYOR 10-25-16

FILE: 61114-A1

Sheet 1 of 2

NOTES:
- Basis of bearing is a G.P.S. observation (Vertical Control Datum: NAVD88)

N

CIMAREX ENERGY CO.

MARQUARDT 12-13 FEDERAL BATTERY
SECTION 12, T25S, R26E, N.M.P.M.
EDDY COUNTY, NEW MEXICO

SURVEYED BY	A.V., A.B., A.H.	10-10-16	SCALE
DRAWN BY	S.F.	10-18-16	1" = 1000'

POWER LINE R-O-W **EXHIBIT H**

UINTAH ENGINEERING & LAND SURVEYING

UELS, LLC
Corporate Office * 85 South 200 East
Vernal, UT 84078 * (435) 789-1017

POWER LINE RIGHT-OF-WAY DESCRIPTION

A 30' WIDE RIGHT-OF-WAY 15' ON EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE.

BEGINNING AT A POINT IN THE NE 1/4 NW 1/4 OF SECTION 12, T25S, R26E, N.M.P.M., WHICH BEARS S55°06'46"W 980.89' FROM THE NORTH 1/4 CORNER OF SAID SECTION 12, THENCE S89°38'17"E 400.29'; THENCE S01°32'26"E 245.52' TO A POINT IN THE NE 1/4 NW 1/4 OF SAID SECTION 12, WHICH BEARS S26°10'48"W 901.47' FROM THE NORTH 1/4 CORNER OF SAID SECTION 12. THE SIDE LINES OF SAID DESCRIBED RIGHT-OF-WAY BEING SHORTENED OR ELONGATED TO MEET THE GRANTOR'S PROPERTY LINES. BASIS OF BEARINGS IS A G.P.S. OBSERVATION. CONTAINS 0.445 ACRES MORE OR LESS.

BEGINNING OF POWER LINE STA. 0+00 BEARS
S55°06'46"W 980.89' FROM THE NORTH 1/4
CORNER OF SECTION 12, T25S, R26E, N.M.P.M.

END OF POWER LINE STA. 6+45.81 BEARS
S26°10'48"W 901.47' FROM THE NORTH 1/4
CORNER OF SECTION 12, T25S, R26E, N.M.P.M.

MARQUARDT 12-13 FEDERAL BATTERY POWER LINE R-O-W			
SECTION CORNER	SECTION CORNER DESC.	LATITUDE (NAD 83)	LONGITUDE (NAD 83)
NW COR. SEC. 12, T25S, R26E	2" IRON PIPE WITH CAP	N 32°09'06.59"	W 104°15'19.04"
N1/4 COR. SEC. 12, T25S, R26E	1" IRON PIPE WITH CAP	N 32°09'06.42"	W 104°14'47.90"
NE COR. SEC. 12, T25S, R26E	2" IRON PIPE WITH CAP	N 32°09'06.27"	W 104°14'16.75"
E1/4 COR. SEC. 12, T25S, R26E	1" IRON PIPE WITH CAP	N 32°08'40.07"	W 104°14'16.69"
SE COR. SEC. 12, T25S, R26E	2" IRON PIPE WITH CAP	N 32°08'13.86"	W 104°14'16.64"
S1/4 COR. SEC. 12, T25S, R26E	1" IRON PIPE WITH CAP	N 32°08'14.00"	W 104°14'47.36"
SW COR. SEC. 12, T25S, R26E	2" IRON PIPE WITH CAP	N 32°08'14.13"	W 104°15'18.13"
W1/4 COR. SEC. 12, T25S, R26E	1" IRON PIPE WITH CAP	N 32°08'40.35"	W 104°15'18.58"

MARQUARDT 12-13 FEDERAL BATTERY POWER LINE R-O-W			
NUMBER	STATION	LATITUDE (NAD 83)	LONGITUDE (NAD 83)
BEGIN	0+00	N 32°09'00.87"	W 104°14'57.26"
1	4+00.29	N 32°09'00.85"	W 104°14'52.60"
END	6+45.81	N 32°08'58.42"	W 104°14'52.53"

CERTIFICATE
THIS IS TO CERTIFY THAT THIS EASEMENT PLAT AND THE ACTUAL SURVEY ON THE GROUND UPON WHICH IT IS BASED WERE PERFORMED BY ME OR UNDER MY *DIRECT SUPERVISION; THAT I AM RESPONSIBLE FOR* THIS SURVEY; THAT THIS SURVEY MEETS THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO; AND THAT IT IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

23782
10-25-16
PROFESSIONAL SURVEYOR

FILE: 61114-A2

Sheet 2 of 2

N

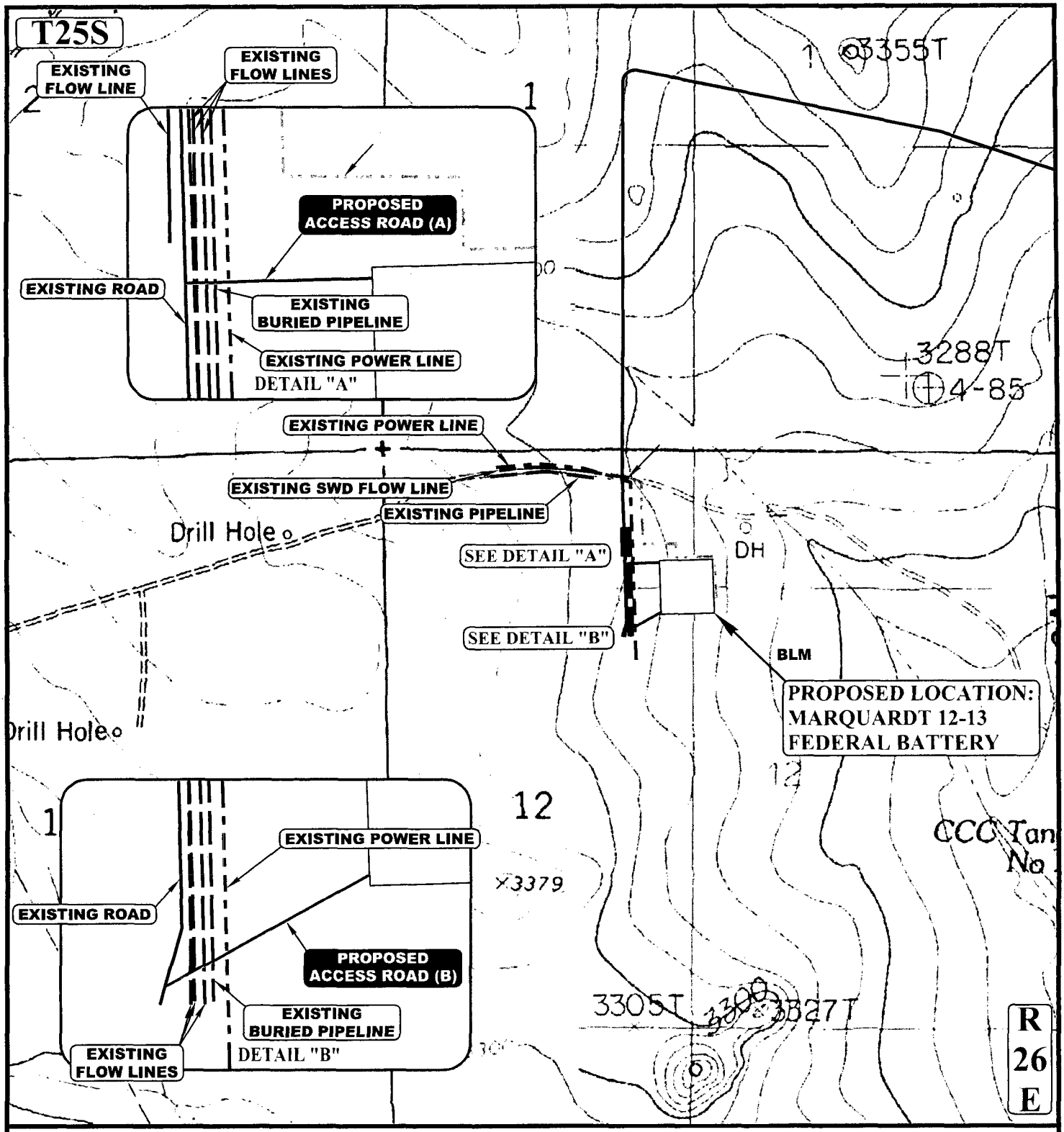
CIMAREX ENERGY CO.

MARQUARDT 12-13 FEDERAL BATTERY
SECTION 12, T25S, R26E, N.M.P.M.
EDDY COUNTY, NEW MEXICO

SURVEYED BY	A.V., A.B., A.H.	10-10-16	SCALE
DRAWN BY	S.F.	10-18-16	N/A

POWER LINE R-O-W **EXHIBIT H**

UINTAH ENGINEERING & LAND SURVEYING
UELS, LLC
Corporate Office * 85 South 200 East
Vernal, UT 84078 * (435) 789-1017



NOTE: PARCEL DATA SHOWN HAS BEEN OBTAINED FROM VARIOUS SOURCES AND SHOULD BE USED FOR MAPPING, GRAPHIC AND PLANNING PURPOSES ONLY. NO WARRANTY IS MADE BY UINTAH ENGINEERING AND LAND SURVEYING (UELS) FOR ACCURACY OF THE PARCEL DATA.

LEGEND:

- EXISTING ROAD
- PROPOSED ROAD
- PROPOSED SWD PIPELINE
- EXISTING POWER LINE
- EXISTING PIPELINE / FLOW LINE / SWD FLOW LINE

UINTAH ENGINEERING & LAND SURVEYING

UELS, LLC
Corporate Office * 85 South 200 East
Vernal, UT 84078 * (435) 789-1017

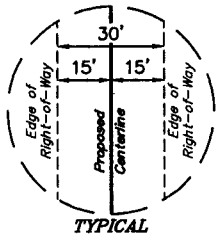
N

CIMAREX ENERGY CO.

MARQUARDT 12-13 FEDERAL BATTERY
NE 1/4 NW 1/4, SECTION 12, T25S, R26E, N.M.P.M.
EDDY COUNTY, NEW MEXICO

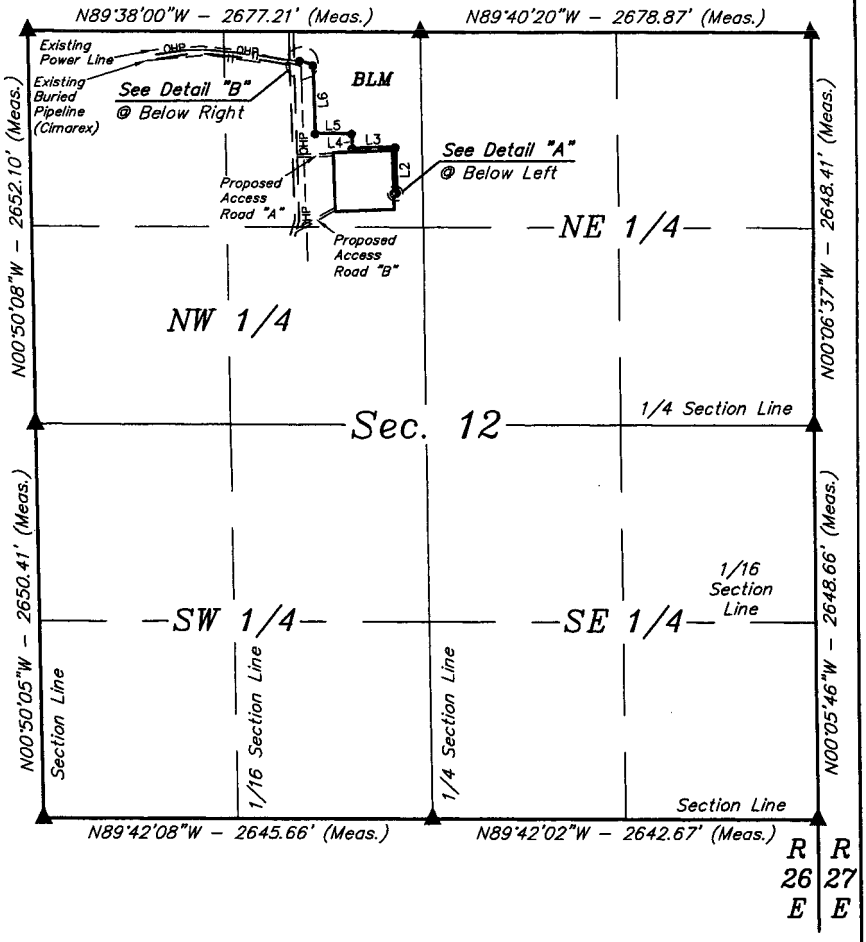
SURVEYED BY	J.V., A.B., A.H.	10-10-16	SCALE
DRAWN BY	T.J.	10-19-16	1 : 12,000

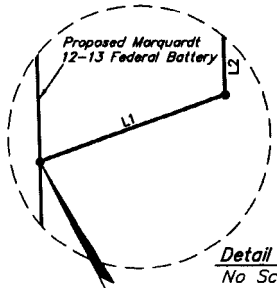
SWD PIPELINE MAP **EXHIBIT I**



TYPICAL RIGHT-OF-WAY DETAIL
NO SCALE

LINE TABLE		
LINE	DIRECTION	LENGTH
L1	N70°19'28"E	21.03'
L2	N01°33'37"W	305.04'
L3	S88°26'17"W	291.80'
L4	N01°18'52"W	99.00'
L5	N89°38'08"W	248.28'
L6	N01°37'21"W	461.76'
L7	N70°45'31"W	94.60'

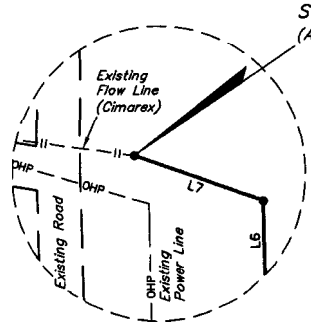




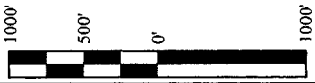
Detail "A"
No Scale

BEGINNING OF PROPOSED SWD PIPELINE RIGHT-OF-WAY STA. 0+00
(At Edge of Proposed Marquardt 12-13 Federal Battery)

END OF PROPOSED SWD PIPELINE RIGHT-OF-WAY STA. 15+21.51
(At Existing Valve)



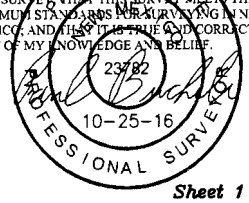
Detail "B"
No Scale



ACREAGE / LENGTH TABLE				
	OWNERSHIP	FEET	RODS	ACRES
(NW 1/4)	BLM	1521.51	92.21	1.048

▲ = SECTION CORNERS LOCATED.

CERTIFICATE
THIS IS TO CERTIFY THAT THIS EASEMENT PLAT AND THE ACTUAL SURVEY ON THE GROUND UPON WHICH IT IS BASED WERE PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION; THAT I AM RESPONSIBLE FOR THIS SURVEY; THAT THIS SURVEY MEETS THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO; AND THAT IT IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.



FILE: 61110-A1

Sheet 1 of 2

NOTES:
- Basis of bearing is a G.P.S. observation (Vertical Control Datum: NAVD88)

N

CIMAREX ENERGY CO.

MARQUARDT 12-13 FEDERAL BATTERY
SECTION 12, T25S, R26E, N.M.P.M.
EDDY COUNTY, NEW MEXICO

SURVEYED BY	A.V., A.B., A.H.	10-10-16	SCALE
DRAWN BY	S.F.	10-18-16	1" = 1000'

SWD PIPELINE R-O-W **EXHIBIT I**

UINTAH ENGINEERING & LAND SURVEYING
UELS, LLC
Corporate Office * 85 South 200 East
Vernal, UT 84078 * (435) 789-1017

SWD PIPELINE RIGHT-OF-WAY DESCRIPTION

A 30' WIDE RIGHT-OF-WAY 15' ON EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE.

BEGINNING AT A POINT IN THE NE 1/4 NW 1/4 OF SECTION 12, T25S, R26E, N.M.P.M., WHICH BEARS S09°50'03"W 1111.31' FROM THE NORTH 1/4 CORNER OF SAID SECTION 12, THENCE N70°19'28"E 21.03'; THENCE N01°33'37"W 305.04'; THENCE S88°26'17"W 291.80'; THENCE N01°18'52"W 99.00'; THENCE N89°38'08"W 248.28'; THENCE N01°37'21"W 461.76'; THENCE N70°45'31"W 94.60' TO A POINT IN THE NE 1/4 NW 1/4 OF SAID SECTION 12, WHICH BEARS S76°29'48"W 846.33' FROM THE NORTH 1/4 CORNER OF SAID SECTION 12. THE SIDE LINES OF SAID DESCRIBED RIGHT-OF-WAY BEING SHORTENED OR ELONGATED TO MEET THE GRANTOR'S PROPERTY LINES. BASIS OF BEARINGS IS A G.P.S. OBSERVATION. CONTAINS 1.048 ACRES MORE OR LESS.

BEGINNING OF SWD PIPELINE STA. 0+00 BEARS
S09°50'03"W 1111.31' FROM THE NORTH 1/4
CORNER OF SECTION 12, T25S, R26E, N.M.P.M.

END OF SWD PIPELINE STA. 15+21.51 BEARS
S76°29'48"W 846.33' FROM THE NORTH 1/4
CORNER OF SECTION 12, T25S, R26E, N.M.P.M.

MARQUARDT 12-13 FEDERAL BATTERY SWD PIPELINE R-O-W			
SECTION CORNER	SECTION CORNER DESC.	LATITUDE (NAD 83)	LONGITUDE (NAD 83)
NW COR. SEC. 12, T25S, R26E	2" IRON PIPE WITH CAP	N 32°09'06.59"	W 104°15'19.04"
N1/4 COR. SEC. 12, T25S, R26E	1" IRON PIPE WITH CAP	N 32°09'06.42"	W 104°14'47.90"
NE COR. SEC. 12, T25S, R26E	2" IRON PIPE WITH CAP	N 32°09'06.27"	W 104°14'16.75"
E1/4 COR. SEC. 12, T25S, R26E	1" IRON PIPE WITH CAP	N 32°08'40.07"	W 104°14'16.69"
SE COR. SEC. 12, T25S, R26E	2" IRON PIPE WITH CAP	N 32°08'13.86"	W 104°14'16.64"
S1/4 COR. SEC. 12, T25S, R26E	1" IRON PIPE WITH CAP	N 32°08'14.00"	W 104°14'47.36"
SW COR. SEC. 12, T25S, R26E	2" IRON PIPE WITH CAP	N 32°08'14.13"	W 104°15'18.13"
W1/4 COR. SEC. 12, T25S, R26E	1" IRON PIPE WITH CAP	N 32°08'40.35"	W 104°15'18.58"

MARQUARDT 12-13 FEDERAL BATTERY SWD PIPELINE R-O-W			
NUMBER	STATION	LATITUDE (NAD 83)	LONGITUDE (NAD 83)
BEGIN	0+00	N 32°08'55.59"	W 104°14'50.11"
1	0+21.03	N 32°08'55.66"	W 104°14'49.88"
2	3+26.07	N 32°08'58.68"	W 104°14'49.98"
3	6+17.87	N 32°08'58.60"	W 104°14'53.37"
4	7+16.87	N 32°08'59.58"	W 104°14'53.39"
5	9+65.15	N 32°08'59.59"	W 104°14'56.28"
6	14+26.91	N 32°09'04.16"	W 104°14'56.43"
END	15+21.51	N 32°09'04.47"	W 104°14'57.47"

CERTIFICATE
THIS IS TO CERTIFY THAT THIS EASEMENT PLAT AND THE ACTUAL SURVEY ON THE GROUND UPON WHICH IT IS BASED WERE PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION; THAT I AM RESPONSIBLE FOR THIS SURVEY; THAT THIS SURVEY MEETS THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO; AND THAT IT IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

STATE OF NEW MEXICO
23782
PROFESSIONAL SURVEYOR
10-25-16

FILE: 61110-A2

N

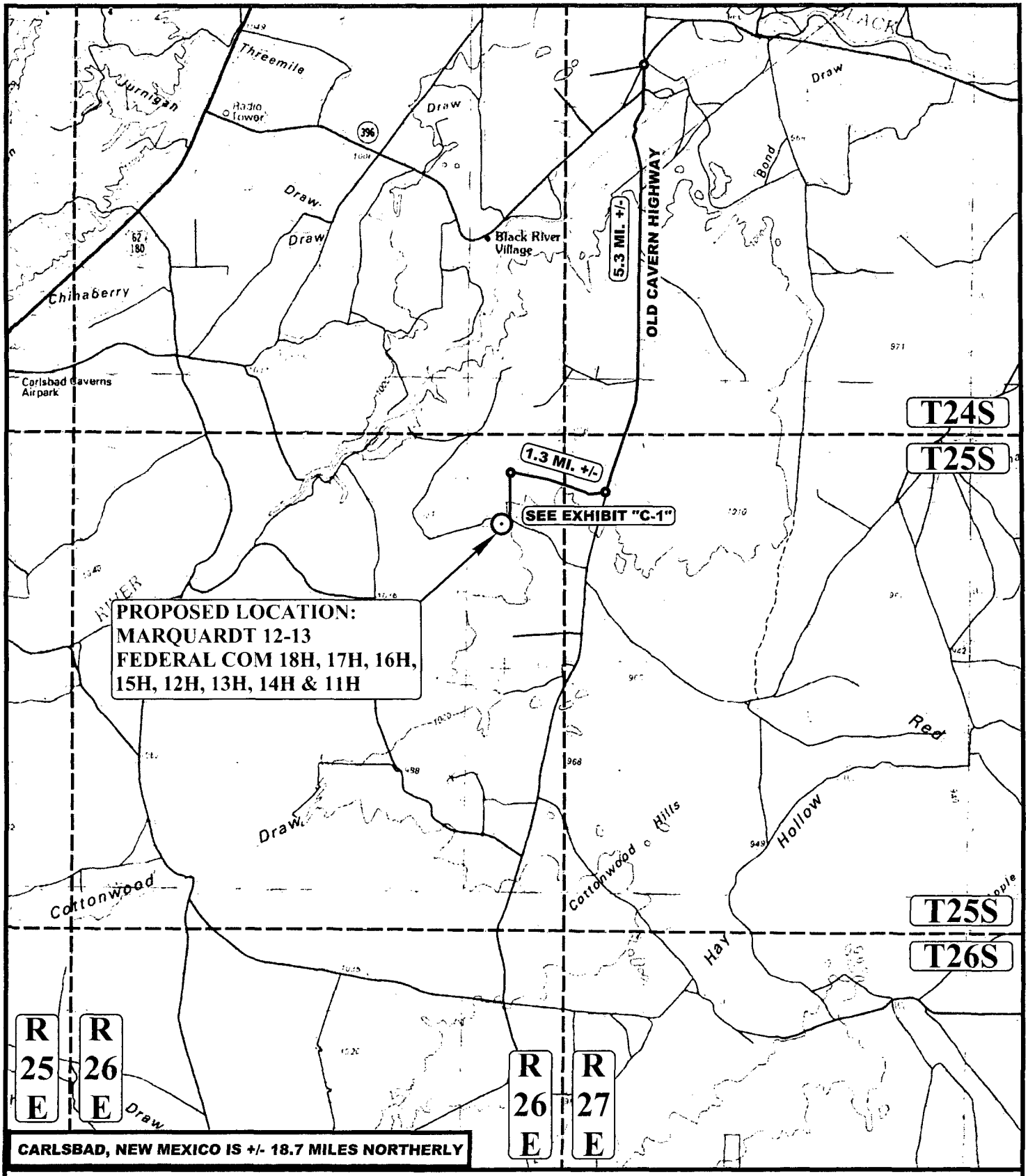
CIMAREX ENERGY CO.

MARQUARDT 12-13 FEDERAL BATTERY
SECTION 12, T25S, R26E, N.M.P.M.
EDDY COUNTY, NEW MEXICO

SURVEYED BY	A.V., A.B., A.H.	10-10-16	SCALE
DRAWN BY	S.F.	10-18-16	N/A

SWD PIPELINE R-O-W EXHIBIT I

UINTAH ENGINEERING & LAND SURVEYING
UELS, LLC
Corporate Office * 85 South 200 East
Vernal, UT 84078 * (435) 789-1017



LEGEND:

⊙ PROPOSED LOCATION

N

CIMAREX ENERGY CO.

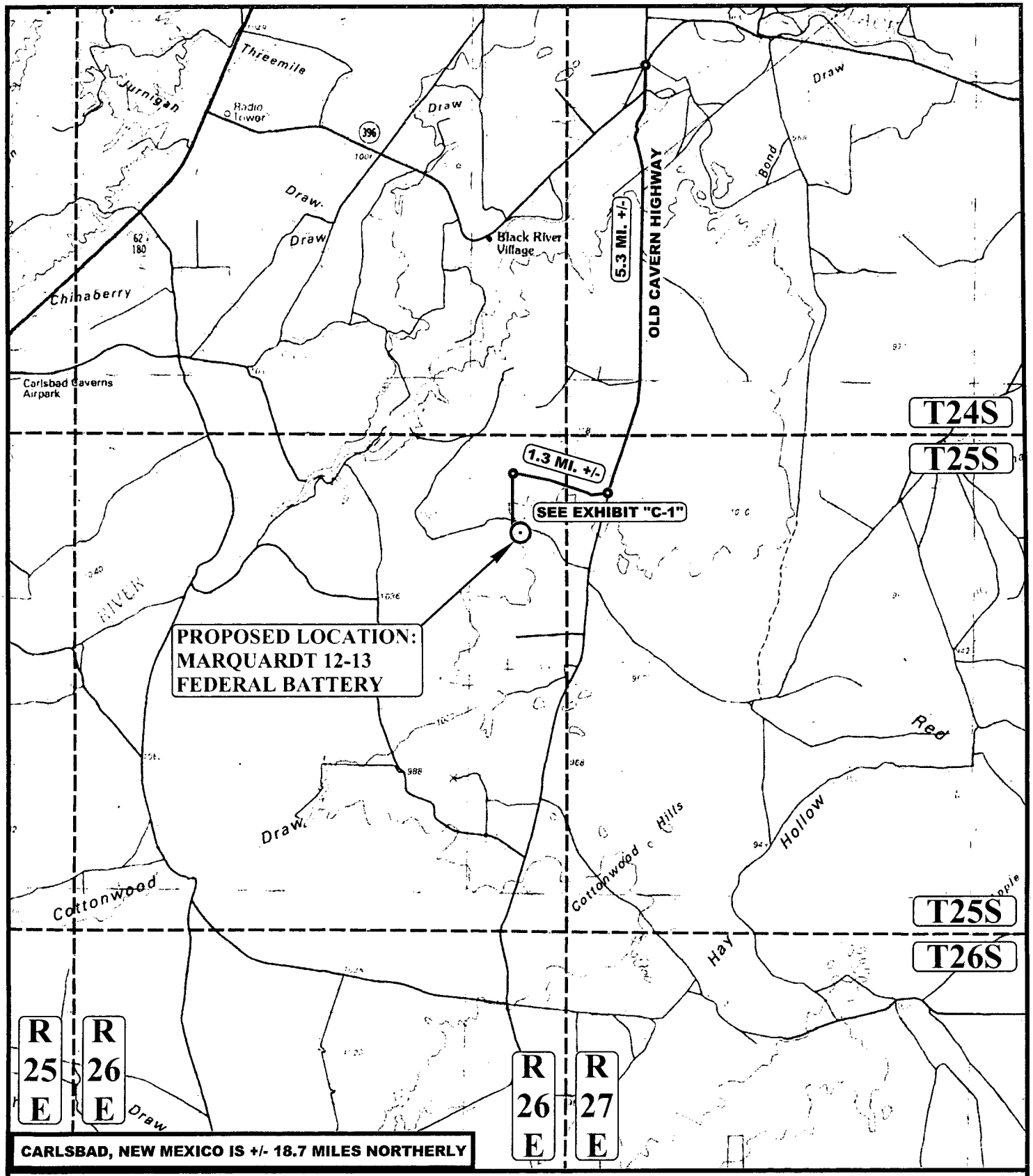
MARQUARDT 12-13 FEDERAL COM
18H, 17H, 16H, 15H, 12H, 13H, 14H & 11H
NW 1/4 NW 1/4, SECTION 12, T25S, R26E, N.M.P.M.
EDDY COUNTY, NEW MEXICO

SURVEYED BY	J.V., A.B., A.H.	10-10-16	SCALE
DRAWN BY	T.L.	10-19-16	1 : 100,000

PUBLIC ACCESS ROAD MAP EXHIBIT B

UINTAH ENGINEERING & LAND SURVEYING

UELS, LLC
Corporate Office * 85 South 200 East
Vernal, UT 84078 * (435) 789-1017



LEGEND:

⊙ PROPOSED LOCATION

N

CIMAREX ENERGY CO.

MARQUARDT 12-13 FEDERAL BATTERY
NE 1/4 NW 1/4, SECTION 12, T25S, R26E, N.M.P.M.
EDDY COUNTY, NEW MEXICO

SURVEYED BY	J.V., A.B., A.H.	10-10-16	SCALE
DRAWN BY	T.L.	10-19-16	1 : 100,000

PUBLIC ACCESS ROAD MAP EXHIBIT B

UINTAH ENGINEERING & LAND SURVEYING

UELS, LLC
Corporate Office * 85 South 200 East
Vernal, UT 84078 * (435) 789-1017

BEGINNING AT THE INTERSECTION OF BLACK RIVER VILLAGE ROAD AND OLD CAVERN HIGHWAY TO THE SOUTH (LOCATED IN THE SW 1/4 OF SECTION 8, T24S, R27E, N.M.P.M.), PROCEED IN A SOUTHERLY, THEN SOUTHWESTERLY DIRECTION APPROXIMATELY 5.3 MILES TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE WEST; TURN RIGHT AND PROCEED IN A WESTERLY, THEN NORTHWESTERLY DIRECTION APPROXIMATELY 1.3 MILES TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE SOUTH; TURN LEFT AND PROCEED IN A SOUTHERLY DIRECTION APPROXIMATELY 0.7 MILES TO THE BEGINNING OF THE PROPOSED ACCESS TO THE WEST; FOLLOW ROAD FLAGS IN A WESTERLY DIRECTION APPROXIMATELY 306' TO THE PROPOSED LOCATION.

TOTAL DISTANCE FROM THE INTERSECTION OF BLACK RIVER VILLAGE ROAD AND OLD CAVERN HIGHWAY (LOCATED IN THE SW 1/4 OF SECTION 8, T24S, R27E, N.M.P.M.) TO THE PROPOSED WELL LOCATION IS APPROXIMATELY 7.4 MILES.

CIMAREX ENERGY CO.

MARQUARDT 12-13 FEDERAL COM
18H, 17H, 16H, 15H, 12H, 13H, 14H & 11H
NW 1/4 NW 1/4, SECTION 12, T25S, R26E, N.M.P.M.
EDDY COUNTY, NEW MEXICO

SURVEYED BY	J.V., A.B., A.H.	10-10-16	
DRAWN BY	T.J.	10-19-16	

ROAD DESCRIPTION

UINTAH ENGINEERING & LAND SURVEYING

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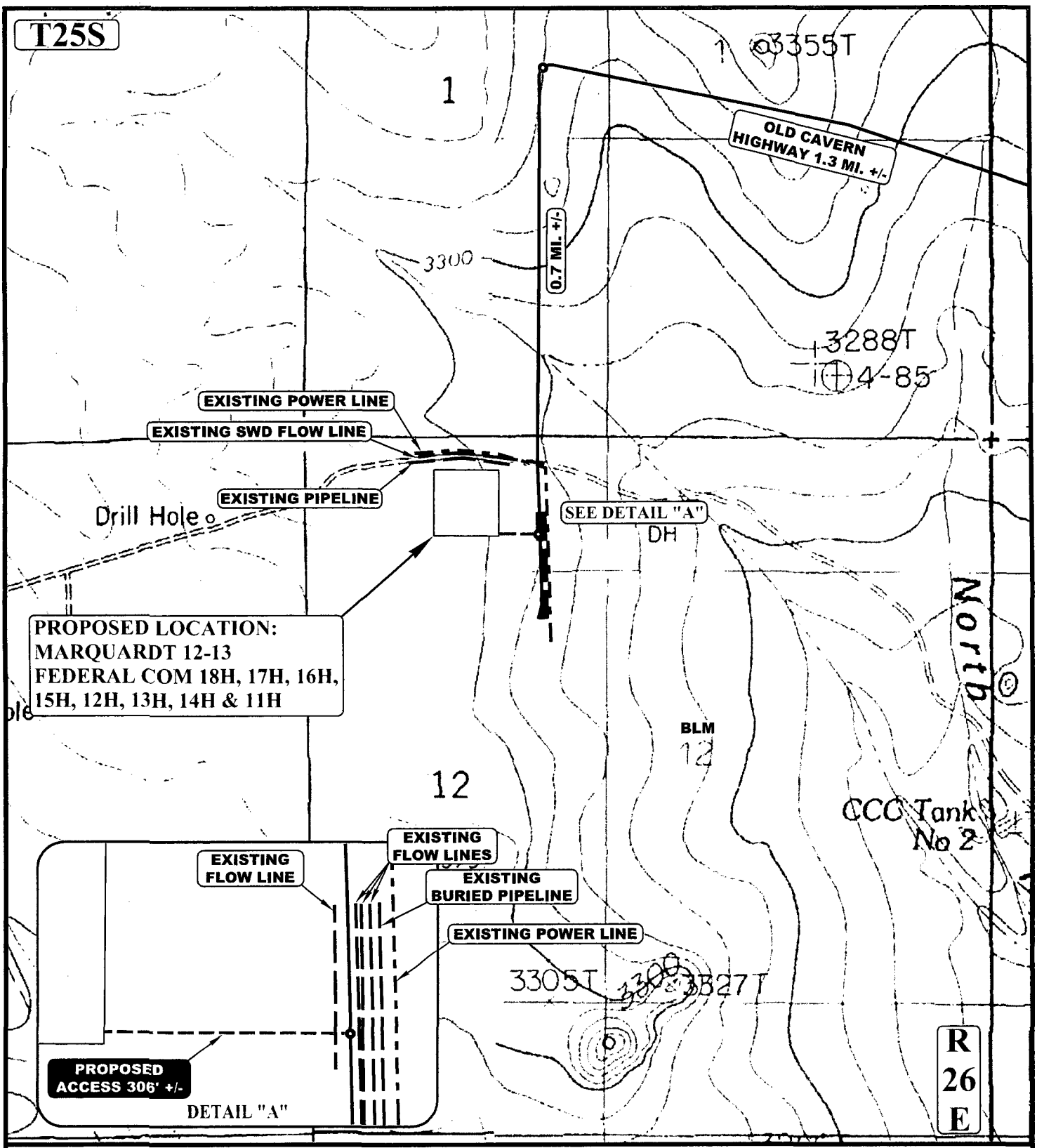
Vernal, UT 84078 * (435) 789-1017



NOTE: PARCEL DATA SHOWN HAS BEEN OBTAINED FROM VARIOUS SOURCES AND SHOULD BE USED FOR MAPPING, GRAPHIC AND PLANNING PURPOSES ONLY. NO WARRANTY IS MADE BY UINTAH ENGINEERING AND LAND SURVEYING (UELS) FOR ACCURACY OF THE PARCEL DATA.

LEGEND:

- EXISTING ROAD
- PROPOSED ROAD
- EXISTING POWER LINE
- EXISTING PIPELINE / FLOW LINE / SWD FLOW LINE

N

CIMAREX ENERGY CO.

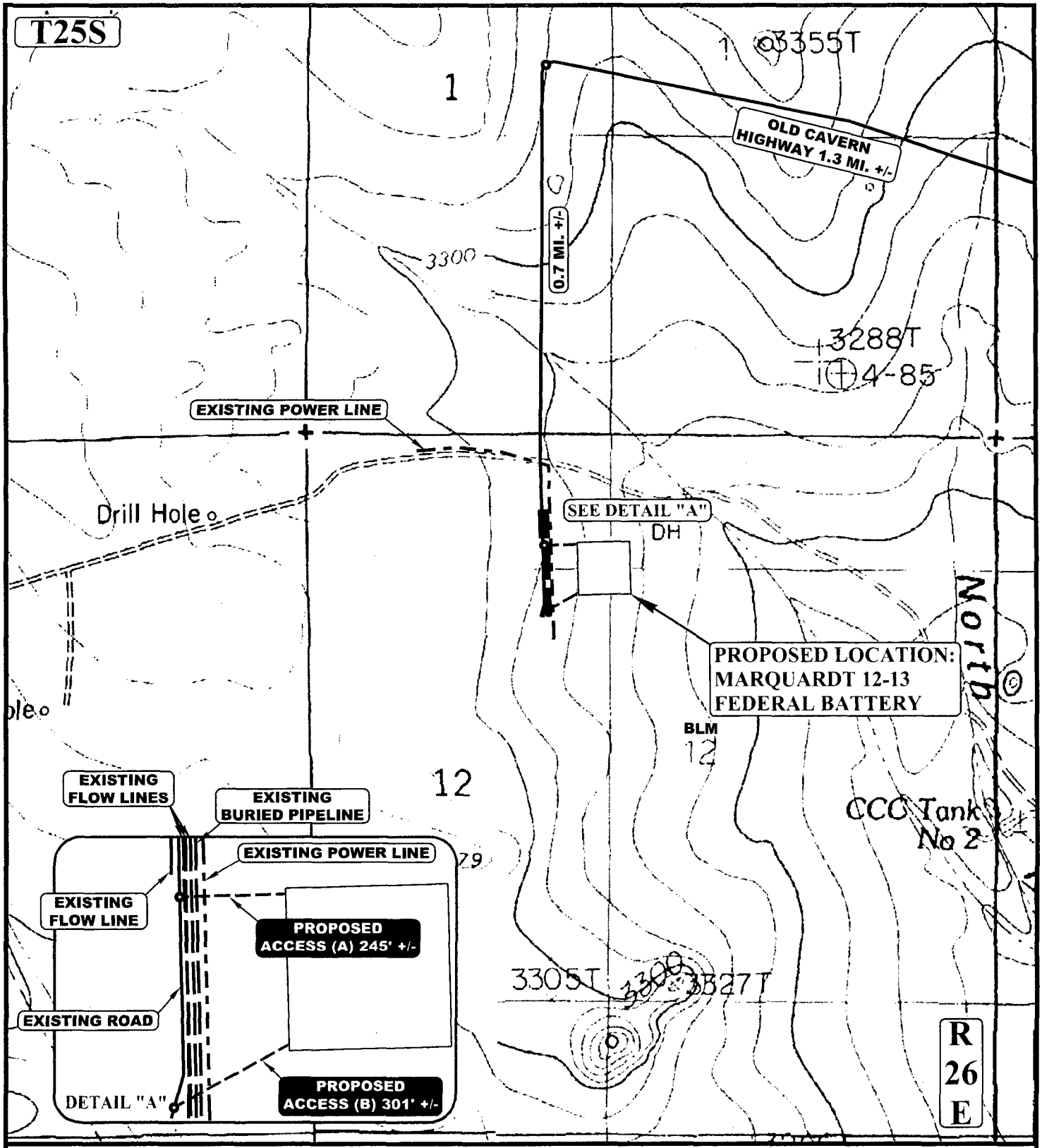
MARQUARDT 12-13 FEDERAL COM
18H, 17H, 16H, 15H, 12H, 13H, 14H & 11H
NW 1/4 NW 1/4, SECTION 12, T25S, R26E, N.M.P.M.
EDDY COUNTY, NEW MEXICO

SURVEYED BY	J.V., A.B., A.H.	10-10-16	SCALE
DRAWN BY	T.J.	10-19-16	1 : 12,000

TOPOGRAPHIC MAP **EXHIBIT C-1**

UINTAH ENGINEERING & LAND SURVEYING

UELS, LLC
Corporate Office * 85 South 200 East
Vernal, UT 84078 * (435) 789-1017



NOTE: PARCEL DATA SHOWN HAS BEEN OBTAINED FROM VARIOUS SOURCES AND SHOULD BE USED FOR MAPPING, GRAPHIC AND PLANNING PURPOSES ONLY. NO WARRANTY IS MADE BY UINTAH ENGINEERING AND LAND SURVEYING (UELS) FOR ACCURACY OF THE PARCEL DATA.

LEGEND:

- EXISTING ROAD
- PROPOSED ROAD
- EXISTING POWER LINE
- EXISTING PIPELINE / FLOW LINE / SWD FLOW LINE

UINTAH ENGINEERING & LAND SURVEYING

UELS, LLC
Corporate Office * 85 South 200 East
Vernal, UT 84078 * (435) 789-1017

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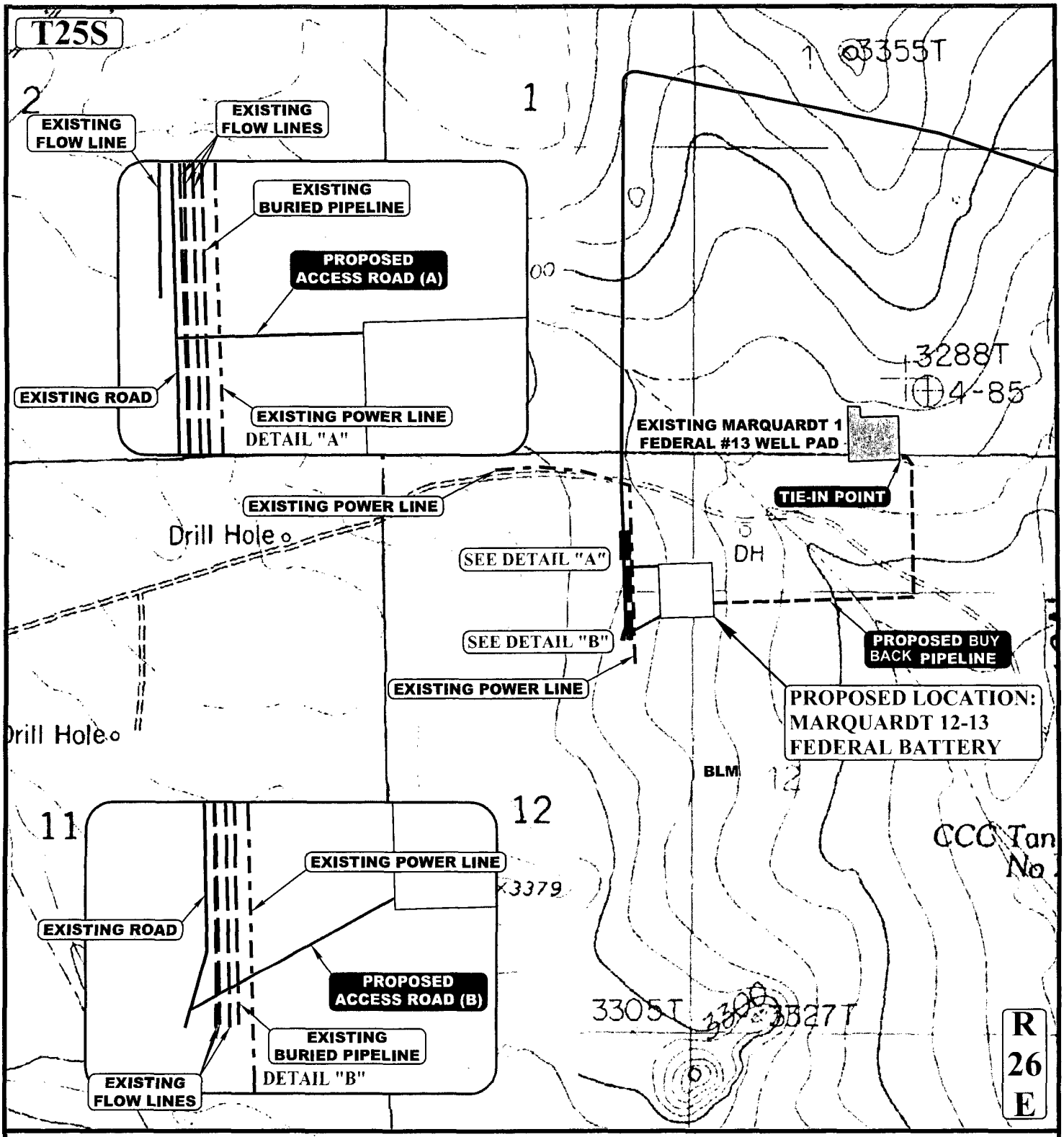
CIMAREX ENERGY CO.

MARQUARDT 12-13 FEDERAL BATTERY
NE 1/4 NW 1/4, SECTION 12, T25S, R26E, N.M.P.M.
EDDY COUNTY, NEW MEXICO

SURVEYED BY	J.V., A.B., A.H.	10-10-16	SCALE
DRAWN BY	T.I.	10-19-16	1 : 12,000

TOPOGRAPHIC MAP **EXHIBIT C-1**



APPROXIMATE TOTAL BUY BACK PIPELINE DISTANCE = 2,598' +/-

NOTE: PARCEL DATA SHOWN HAS BEEN OBTAINED FROM VARIOUS SOURCES AND SHOULD BE USED FOR MAPPING, GRAPHIC AND PLANNING PURPOSES ONLY. NO WARRANTY IS MADE BY UINTAH ENGINEERING AND LAND SURVEYING (UELS) FOR ACCURACY OF THE PARCEL DATA.

LEGEND:

- EXISTING ROAD
- PROPOSED ROAD
- PROPOSED GAS LIFT PIPELINE
- EXISTING POWER LINE
- EXISTING PIPELINE / FLOW LINE / SWD FLOW LINE

UINTAH ENGINEERING & LAND SURVEYING

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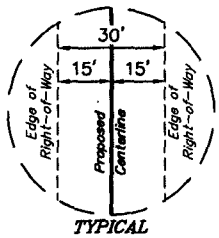
N

CIMAREX ENERGY CO.

MARQUARDT 12-13 FEDERAL BATTERY
NE 1/4 NW 1/4, SECTION 12, T25S, R26E, N.M.P.M.
EDDY COUNTY, NEW MEXICO

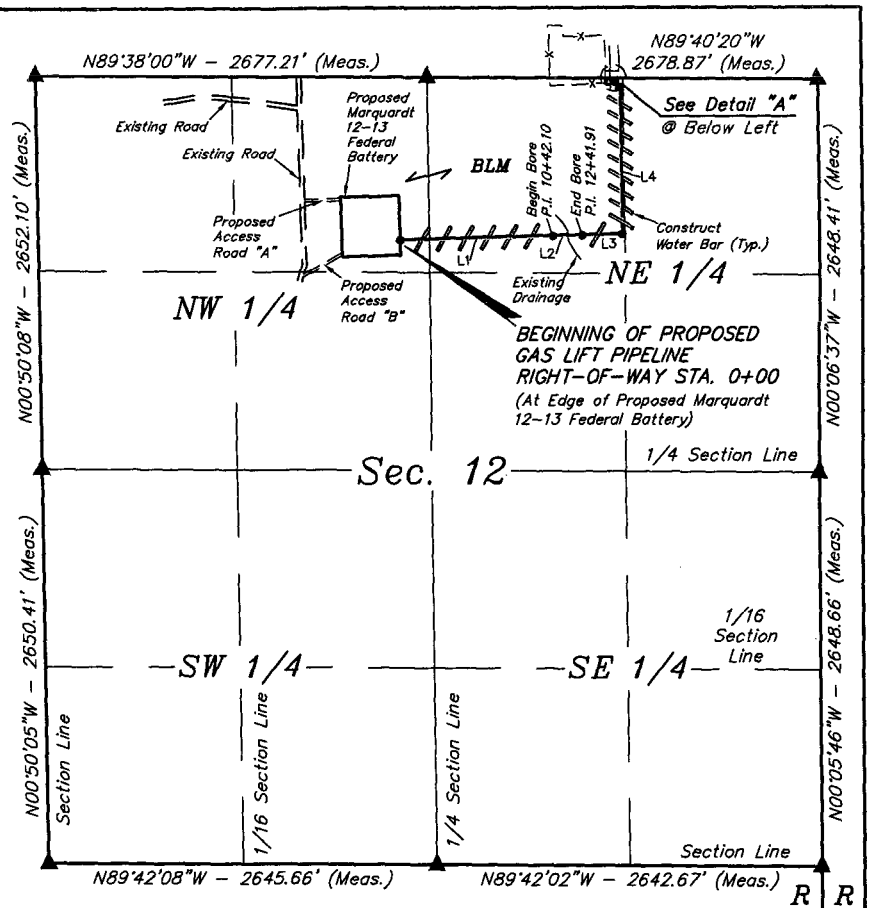
SURVEYED BY	J.V., A.B., A.H.	10-10-16	SCALE
DRAWN BY	T.L.	10-19-16	1 : 12,000

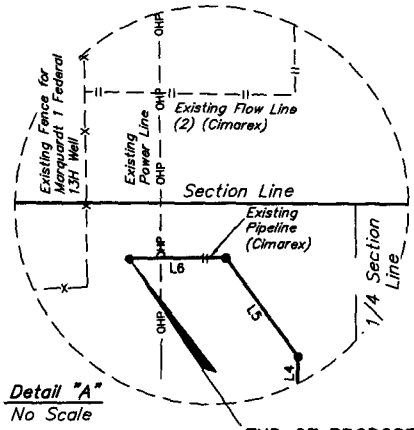
Buy Back PIPELINE MAP EXHIBIT G-1



TYPICAL RIGHT-OF-WAY DETAIL
NO SCALE

LINE TABLE		
LINE	DIRECTION	LENGTH
L1	N88°20'51"E	1042.10'
L2	N88°54'55"E	199.81'
L3	N88°25'55"E	272.20'
L4	N00°33'25"W	988.19'
L5	N36°37'01"W	53.36'
L6	S89°34'32"W	42.51'





Detail "A"
No Scale

END OF PROPOSED GAS LIFT PIPELINE
RIGHT-OF-WAY STA. 25+98.17
(At Existing Pipeline)

1000' 500' 0' 1000'

ACREAGE / LENGTH TABLE				
	OWNERSHIP	FEET	RODS	ACRES
(NW 1/4)	BLM	199.13	12.07	0.137
(NE 1/4)	BLM	2399.04	145.40	1.652
TOTAL		2598.17	157.47	1.789

= CONSTRUCT EARTHEN WATER BAR. (Not to Scale.)

▲ = SECTION CORNERS LOCATED.

CERTIFICATE
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STATE OF NEW MEXICO 23782 PROFESSIONAL SURVEYOR 10-31-16

Sheet 1 of 2

FILE: 61111-A1 | REV: 1 10-28-16 S.F. (ADDED WATER BARS)

NOTES:
- Water bars to be constructed to minimum dimensions 3'Lx35"Wx18"H
- Water bars to be constructed at a +/- 150' interval from Sta. 0+00 to Sta. 10+00
- Water bars to be constructed at a +/- 100' interval from Sta. 13+00 to Sta. 25+98.17
- Basis of bearing is a G.P.S. observation (Vertical Control Datum: NAVD88)

UINTAH ENGINEERING & LAND SURVEYING

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N

CIMAREX ENERGY CO.

MARQUARDT 12-13 FEDERAL BATTERY
SECTION 12, T25S, R26E, N.M.P.M.
EDDY COUNTY, NEW MEXICO

SURVEYED BY	A.V., A.B., A.H.	10-10-16	SCALE
DRAWN BY	S.F.	10-18-16	1" = 1000'

Buy Back PIPELINE R-O-W EXHIBIT G-1

GAS LIFT PIPELINE RIGHT-OF-WAY DESCRIPTION ON BLM LANDS

A 30' WIDE RIGHT-OF-WAY 15' ON EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE.

BEGINNING AT A POINT IN THE NE 1/4 NW 1/4 OF SECTION 12, T25S, R26E, N.M.P.M., WHICH BEARS S09°44'53"W 1119.66' FROM THE NORTH 1/4 CORNER OF SAID SECTION 12, THENCE N88°20'51"E 1042.10' TO A POINT IN THE NW 1/4 NE 1/4 OF SAID SECTION 12, WHICH BEARS S38°26'32"E 1370.52' FROM THE NORTH 1/4 CORNER OF SAID SECTION 12, THENCE N88°54'55"E 199.81' TO A POINT IN THE NW 1/4 NE 1/4 OF SAID SECTION 12, WHICH BEARS S44°31'10"E 1500.20' FROM THE NORTH 1/4 CORNER OF SAID SECTION 12, THENCE N88°25'55"E 272.20'; THENCE N00°33'25"W 988.19'; THENCE N36°37'01"W 53.36'; THENCE S89°34'32"W 42.51' TO A POINT IN THE NW 1/4 NE 1/4 OF SAID SECTION 12, WHICH BEARS S88°32'33"E 1240.42' FROM THE NORTH 1/4 CORNER OF SAID SECTION 12. THE SIDE LINES OF SAID DESCRIBED RIGHT-OF-WAY BEING SHORTENED OR ELONGATED TO MEET THE GRANTOR'S PROPERTY LINES. BASIS OF BEARINGS IS A G.P.S. OBSERVATION. CONTAINS 1.789 ACRES MORE OR LESS.

BEGINNING OF GAS LIFT PIPELINE STA. 0+00 BEARS S09°44'53"W 1119.66' FROM THE NORTH 1/4 CORNER OF SECTION 12, T25S, R26E, N.M.P.M.

BEGIN BORE STA. 10+42.10 BEARS S38°26'32"E 1370.52' FROM THE NORTH 1/4 CORNER OF SECTION 12, T25S, R26E, N.M.P.M.

END BORE STA. 12+41.91 BEARS S44°31'10"E 1500.20' FROM THE NORTH 1/4 CORNER OF SECTION 12, T25S, R26E, N.M.P.M.

END OF GAS LIFT PIPELINE STA. 25+98.17 BEARS S88°32'33"E 1240.42' FROM THE NORTH 1/4 CORNER OF SECTION 12, T25S, R26E, N.M.P.M.

MARQUARDT 12-13 FEDERAL BATTERY GAS LIFT PIPELINE R-O-W			
SECTION CORNER	SECTION CORNER DESC.	LATITUDE (NAD 83)	LONGITUDE (NAD 83)
NW COR. SEC. 12, T25S, R26E	2" IRON PIPE WITH CAP	N 32°09'06.59"	W 104°15'19.04"
N1/4 COR. SEC. 12, T25S, R26E	1" IRON PIPE WITH CAP	N 32°09'06.42"	W 104°14'47.90"
NE COR. SEC. 12, T25S, R26E	2" IRON PIPE WITH CAP	N 32°09'06.27"	W 104°14'16.75"
E1/4 COR. SEC. 12, T25S, R26E	1" IRON PIPE WITH CAP	N 32°08'40.07"	W 104°14'16.69"
SE COR. SEC. 12, T25S, R26E	2" IRON PIPE WITH CAP	N 32°08'13.86"	W 104°14'16.64"
S1/4 COR. SEC. 12, T25S, R26E	1" IRON PIPE WITH CAP	N 32°08'14.00"	W 104°14'47.36"
SW COR. SEC. 12, T25S, R26E	2" IRON PIPE WITH CAP	N 32°08'14.13"	W 104°15'18.13"
W1/4 COR. SEC. 12, T25S, R26E	1" IRON PIPE WITH CAP	N 32°08'40.35"	W 104°15'18.58"

MARQUARDT 12-13 FEDERAL BATTERY GAS LIFT PIPELINE R-O-W			
NUMBER	STATION	LATITUDE (NAD 83)	LONGITUDE (NAD 83)
BEGIN	0+00	N 32°08'55.50"	W 104°14'50.11"
1	10+42.10	N 32°08'55.80"	W 104°14'37.99"
2	12+41.91	N 32°08'55.84"	W 104°14'35.67"
3	15+14.11	N 32°08'55.91"	W 104°14'32.50"
4	25+02.30	N 32°09'05.69"	W 104°14'32.62"
5	25+55.66	N 32°09'06.11"	W 104°14'32.99"
END	25+98.17	N 32°09'06.11"	W 104°14'33.48"

CERTIFICATE
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23782
10-25-16
PROFESSIONAL SURVEYOR

FILE: 61111-A2

Sheet 2 of 2

N

CIMAREX ENERGY CO.

MARQUARDT 12-13 FEDERAL BATTERY
SECTION 12, T25S, R26E, N.M.P.M.
EDDY COUNTY, NEW MEXICO

SURVEYED BY	A.V., A.B., A.H.	10-10-16	SCALE
DRAWN BY	S.F.	10-18-16	N/A

Buy Back PIPELINE R-O-W EXHIBITG-1

UINTAH ENGINEERING & LAND SURVEYING

UELS, LLC
Corporate Office * 85 South 200 East
Vernal, UT 84078 * (435) 789-1017

1. Geological Formations

TVD of target 9,600
MD at TD 19,196

Pilot Hole TD N/A
Deepest expected fresh water

Formation	Depth (TVD) from KB	Water/Mineral Bearing/Target Zone	Hazards
Rustler	0	N/A	
Salado	1200	N/A	
Castille	1620	N/A	
Bell Canyon	1930	N/A	
Cherry Canyon	2800	N/A	
Brushy Canyon	4000	N/A	
Bone Spring	5450	Hydrocarbons	
1st Bone Srping Ss	6380	Hydrocarbons	
2nd Bone Spring Ls	6650	Hydrocarbons	
2nd Bone Spring Ss	6820	Hydrocarbons	
3rd BS Limestone	7220	Hydrocarbons	
3rd Bone Spring Ss	8180	Hydrocarbons	
Wolfcamp	8500	Hydrocarbons	
Wolfcamp B	9140	Hydrocarbons	
Wolfcamp C	9300	Hydrocarbons	
Wolfcamp D	9350	Hydrocarbons	
Wolfcamp Lower	9690	Hydrocarbons	

2. Casing Program

Hole Size	Casing Depth From	Casing Depth To	Casing Size	Weight (lb/ft)	Grade	Conn.	SF Collapse	SF Burst	SF Tension
17 1/2	0	450	13-3/8"	48.00	H-40/J-55 Hybrid	ST&C	3.59	8.40	14.91
12 1/4	0	1910	9-5/8"	36.00	J-55	LT&C	1.99	3.47	6.59
8 3/4	0	8832	7"	26.00	L-80	LT&C	1.28	1.72	2.05
8 3/4	8832	10920	7"	26.00	L-80	BT&C	1.18	1.58	30.25
6	8832	19196	4-1/2"	11.60	P-110	BT&C	1.21	1.72	41.20
				BLM Minimum Safety Factor			1.125	1	1.6 Dry 1.8 Wet

All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.h

	Y or N
Is casing new? If used, attach certification as required in Onshore Order #1	Y
Does casing meet API specifications? If no, attach casing specification sheet.	Y
Is premium or uncommon casing planned? If yes attach casing specification sheet.	N
Does the above casing design meet or exceed BLM's minimum standards? If not provide justification (loading assumptions, casing design criteria).	Y
Will the intermediate pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing?	N
Is well located within Capitan Reef?	N
If yes, does production casing cement tie back a minimum of 50' above the Reef?	N
Is well within the designated 4 string boundary.	N
Is well located in SOPA but not in R-111-P?	N
If yes, are the first 2 strings cemented to surface and 3rd string cement tied back 500' into previous casing?	N
Is well located in R-111-P and SOPA?	N
If yes, are the first three strings cemented to surface?	N
Is 2nd string set 100' to 600' below the base of salt?	N
Is well located in high Cave/Karst?	N
If yes, are there two strings cemented to surface?	N
(For 2 string wells) If yes, is there a contingency casing if lost circulation occurs?	N
Is well located in critical Cave/Karst?	N
If yes, are there three strings cemented to surface?	N

3. Cementing Program

Casing	# Sks	Wt. lb/gal	Yld ft3/sack	H2O gal/sk	500# Comp. Strength (hours)	Slurry Description
Surface	91	13.50	1.72	9.15	15.5	Lead: Class C + Bentonite
	195	14.80	1.34	6.32	9.5	Tail: Class C + LCM
Intermediate	360	12.90	1.88	9.65	12	Lead: 35:65 (Poz:C) + Salt + Bentonite
	112	14.80	1.34	6.32	9.5	Tail: Class C + LCM
Production	568	10.80	2.35	9.60	17:43	Lead: Tuned Light I Class H
	267	14.20	1.30	5.86	14:30	Tail: 50:50 (Poz:H) + Salt + Bentonite + Fluid Loss + Dispersant + SMS
Completion System	601	14.20	1.30	5.86	14:30	Tail: 50:50 (Poz:H) + Salt + Bentonite + Fluid Loss + Dispersant + SMS

Casing String	TOC	% Excess
Surface	0	33
Intermediate	0	44
Production	1710	22
Completion System	10920	10

4. Pressure Control Equipment

	A variance is requested for the use of a diverter on the surface casing. See attached for schematic.

BOP installed and tested before drilling which hole?	Size	Min Required WP	Type		Tested To
12 1/4	13 5/8	2M	Annular	X	50% of working pressure
			Blind Ram	X	2M
			Pipe Ram		
			Double Ram	X	
			Other		
8 3/4	13 5/8	3M	Annular	X	50% of working pressure
			Blind Ram	X	3M
			Pipe Ram		
			Double Ram	X	
			Other		
6	13 5/8	5M	Annular	X	50% of working pressure
			Blind Ram	X	5M
			Pipe Ram		
			Double Ram	X	
			Other		

BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure indicated above per Onshore Order 2 requirements. The System may be upgraded to a higher pressure but still tested to the working pressure listed in the table above. If the system is upgraded all the components installed will be functional and tested.

Pipe rams will be operationally checked each 24 hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. Other accessories to the BOP equipment will include a Kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold. See attached schematics.

X		Formation integrity test will be performed per Onshore Order #2. On Exploratory wells or on that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.i.
X		A variance is requested for the use of a flexible choke line from the BOP to Choke Manifold. See attached for specs and hydrostatic test chart.
	N	Are anchors required by manufacturer?

5. Mud Program

Depth	Type	Weight (ppg)	Viscosity	Water Loss
0' to 450'	FW Spud Mud	8.30 - 8.80	28	N/C
450' to 1910'	Brine Water	9.70 - 10.20	30-32	N/C
1910' to 10920'	FW/Cut Brine	8.70 - 9.20	30-32	N/C
10920' to 19196'	Oil Based Mud	12.00 - 12.50	50-70	N/C

Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept on location at all times.

What will be used to monitor the loss or gain of fluid?	PVT/Pason/Visual Monitoring

6. Logging and Testing Procedures

Logging, Coring and Testing	
X	Will run GR/CNL fromTD to surface (horizontal well – vertical portion of hole). Stated logs run will be in the Completion Report and submitted to the BLM.
	No logs are planned based on well control or offset log information.
	Drill stem test?
	Coring?

Additional Logs Planned	Interval

7. Drilling Conditions

Condition	
BH Pressure at deepest TVD	4592 psi
Abnormal Temperature	No

Hydrogen Sulfide (H2S) monitors will be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the operator will comply with the provisions of Onshore Oil and Gas Order #6. If Hydrogen Sulfide is encountered, measured values and formations will be provided to the BLM.	
X	H2S is present
X	H2S plan is attached

8. Other Facets of Operation

Marquardt 12-13 Federal Com 11H

Casing Assumptions

Casing Program

Hole Size	Casing Depth From	Casing Depth To	Casing Size	Weight (lb/ft)	Grade	Conn.	SF Collapse	SF Burst	SF Tension
17 1/2	0	450	13-3/8"	48.00	H-40/J-55 Hybrid	ST&C	3.59	8.40	14.91
12 1/4	0	1910	9-5/8"	36.00	J-55	LT&C	1.99	3.47	6.59
8 3/4	0	8832	7"	26.00	L-80	LT&C	1.28	1.72	2.05
8 3/4	8832	10920	7"	26.00	L-80	BT&C	1.18	1.58	30.25
6	8832	19196	4-1/2"	11.60	P-110	BT&C	1.21	1.72	41.20
				BLM Minimum Safety Factor			1.125	1	1.6 Dry 1.8 Wet

All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.h

Schlumberger

Cimarex Marquardt 12-13 Fed #11H Rev0 RM 02Nov16 Proposal Geodetic Report

(Non-Def Plan)

Report Date:	November 10, 2016 - 03:18 PM	**Survey / DLS Computation:**	Minimum Curvature / Lubinski
Client:	Cimarex	**Vertical Section Azimuth:**	185.066 ° (Grid North)
Field:	NM Eddy County (NAD 83)	**Vertical Section Origin:**	0.000 ft, 0.000 ft
Structure / Slot:	Cimarex Marquardt 12-13 Fed #11H / Cimarex Marquardt 12-13 Fed #11H	**TVD Reference Datum:**	RKB
Well:	Cimarex Marquardt 12-13 Fed #11H	**TVD Reference Elevation:**	3321.600 ft above MSL
Borehole:	Original Borehole	**Seabed / Ground Elevation:**	3301.600 ft above MSL
UWI / API#:	Unknown / Unknown	**Magnetic Declination:**	7.533 °
Survey Name:	Cimarex Marquardt 12-13 Fed #11H Rev0 RM 02Nov16	**Total Gravity Field Strength:**	998.4376mgn (9.80665 Based)
Survey Date:	November 02, 2016	**Gravity Model:**	GARM
Tort / AHD / DDI / ERD Ratio:	133.517 ° / 10072.320 ft / 6.430 / 1.049	**Total Magnetic Field Strength:**	48089.222 nT
Coordinate Reference System:	NAD83 New Mexico State Plane, Eastern Zone, US Feet	**Magnetic Dip Angle:**	59.907 °
Location Lat / Long:	N 32° 9' 0.91616", W 104° 15' 3.71453"	**Declination Date:**	November 02, 2016
Location Grid N/E Y/X:	N 418407.700 ftUS, E 566808.300 ftUS	**Magnetic Declination Model:**	HDGM 2016
CRS Grid Convergence Angle:	0.0438 °	**North Reference:**	Grid North
Grid Scale Factor:	0.99990983	**Grid Convergence Used:**	0.0438 °
Version / Patch:	2.10.254.0	**Total Corr Mag North->Grid North:**	7.4897 °
		Local Coord Referenced To:	Structure Reference Point

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
Tie-In SHL [565 FNL, 1309 FWL]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	418407.70	566808.30	N 32 9 0.92	W 104 15 3.71
	100.00	0.00	236.92	100.00	0.00	0.00	0.00	0.00	418407.70	566808.30	N 32 9 0.92	W 104 15 3.71
	200.00	0.00	236.92	200.00	0.00	0.00	0.00	0.00	418407.70	566808.30	N 32 9 0.92	W 104 15 3.71
	300.00	0.00	236.92	300.00	0.00	0.00	0.00	0.00	418407.70	566808.30	N 32 9 0.92	W 104 15 3.71
	400.00	0.00	236.92	400.00	0.00	0.00	0.00	0.00	418407.70	566808.30	N 32 9 0.92	W 104 15 3.71
	500.00	0.00	236.92	500.00	0.00	0.00	0.00	0.00	418407.70	566808.30	N 32 9 0.92	W 104 15 3.71
	600.00	0.00	236.92	600.00	0.00	0.00	0.00	0.00	418407.70	566808.30	N 32 9 0.92	W 104 15 3.71
	700.00	0.00	236.92	700.00	0.00	0.00	0.00	0.00	418407.70	566808.30	N 32 9 0.92	W 104 15 3.71
	800.00	0.00	236.92	800.00	0.00	0.00	0.00	0.00	418407.70	566808.30	N 32 9 0.92	W 104 15 3.71
	900.00	0.00	236.92	900.00	0.00	0.00	0.00	0.00	418407.70	566808.30	N 32 9 0.92	W 104 15 3.71
	1000.00	0.00	236.92	1000.00	0.00	0.00	0.00	0.00	418407.70	566808.30	N 32 9 0.92	W 104 15 3.71
	1100.00	0.00	236.92	1100.00	0.00	0.00	0.00	0.00	418407.70	566808.30	N 32 9 0.92	W 104 15 3.71
	1200.00	0.00	236.92	1200.00	0.00	0.00	0.00	0.00	418407.70	566808.30	N 32 9 0.92	W 104 15 3.71
	1300.00	0.00	236.92	1300.00	0.00	0.00	0.00	0.00	418407.70	566808.30	N 32 9 0.92	W 104 15 3.71
	1400.00	0.00	236.92	1400.00	0.00	0.00	0.00	0.00	418407.70	566808.30	N 32 9 0.92	W 104 15 3.71
	1500.00	0.00	236.92	1500.00	0.00	0.00	0.00	0.00	418407.70	566808.30	N 32 9 0.92	W 104 15 3.71
	1600.00	0.00	236.92	1600.00	0.00	0.00	0.00	0.00	418407.70	566808.30	N 32 9 0.92	W 104 15 3.71
	1700.00	0.00	236.92	1700.00	0.00	0.00	0.00	0.00	418407.70	566808.30	N 32 9 0.92	W 104 15 3.71
	1800.00	0.00	236.92	1800.00	0.00	0.00	0.00	0.00	418407.70	566808.30	N 32 9 0.92	W 104 15 3.71
	1900.00	0.00	236.92	1900.00	0.00	0.00	0.00	0.00	418407.70	566808.30	N 32 9 0.92	W 104 15 3.71
	2000.00	0.00	236.92	2000.00	0.00	0.00	0.00	0.00	418407.70	566808.30	N 32 9 0.92	W 104 15 3.71
	2100.00	0.00	236.92	2100.00	0.00	0.00	0.00	0.00	418407.70	566808.30	N 32 9 0.92	W 104 15 3.71
	2200.00	0.00	236.92	2200.00	0.00	0.00	0.00	0.00	418407.70	566808.30	N 32 9 0.92	W 104 15 3.71
	2300.00	0.00	236.92	2300.00	0.00	0.00	0.00	0.00	418407.70	566808.30	N 32 9 0.92	W 104 15 3.71
	2400.00	0.00	236.92	2400.00	0.00	0.00	0.00	0.00	418407.70	566808.30	N 32 9 0.92	W 104 15 3.71
	2500.00	0.00	236.92	2500.00	0.00	0.00	0.00	0.00	418407.70	566808.30	N 32 9 0.92	W 104 15 3.71
	2600.00	0.00	236.92	2600.00	0.00	0.00	0.00	0.00	418407.70	566808.30	N 32 9 0.92	W 104 15 3.71
	2700.00	0.00	236.92	2700.00	0.00	0.00	0.00	0.00	418407.70	566808.30	N 32 9 0.92	W 104 15 3.71
	2800.00	0.00	236.92	2800.00	0.00	0.00	0.00	0.00	418407.70	566808.30	N 32 9 0.92	W 104 15 3.71
	2900.00	0.00	236.92	2900.00	0.00	0.00	0.00	0.00	418407.70	566808.30	N 32 9 0.92	W 104 15 3.71
	3000.00	0.00	236.92	3000.00	0.00	0.00	0.00	0.00	418407.70	566808.30	N 32 9 0.92	W 104 15 3.71
	3100.00	0.00	236.92	3100.00	0.00	0.00	0.00	0.00	418407.70	566808.30	N 32 9 0.92	W 104 15 3.71
	3200.00	0.00	236.92	3200.00	0.00	0.00	0.00	0.00	418407.70	566808.30	N 32 9 0.92	W 104 15 3.71
	3300.00	0.00	236.92	3300.00	0.00	0.00	0.00	0.00	418407.70	566808.30	N 32 9 0.92	W 104 15 3.71
	3400.00	0.00	236.92	3400.00	0.00	0.00	0.00	0.00	418407.70	566808.30	N 32 9 0.92	W 104 15 3.71
	3500.00	0.00	236.92	3500.00	0.00	0.00	0.00	0.00	418407.70	566808.30	N 32 9 0.92	W 104 15 3.71
	3600.00	0.00	236.92	3600.00	0.00	0.00	0.00	0.00	418407.70	566808.30	N 32 9 0.92	W 104 15 3.71
	3700.00	0.00	236.92	3700.00	0.00	0.00	0.00	0.00	418407.70	566808.30	N 32 9 0.92	W 104 15 3.71
	3800.00	0.00	236.92	3800.00	0.00	0.00	0.00	0.00	418407.70	566808.30	N 32 9 0.92	W 104 15 3.71
	3900.00	0.00	236.92	3900.00	0.00	0.00	0.00	0.00	418407.70	566808.30	N 32 9 0.92	W 104 15 3.71
	4000.00	0.00	236.92	4000.00	0.00	0.00	0.00	0.00	418407.70	566808.30	N 32 9 0.92	W 104 15 3.71
	4100.00	0.00	236.92	4100.00	0.00	0.00	0.00	0.00	418407.70	566808.30	N 32 9 0.92	W 104 15 3.71
	4200.00	0.00	236.92	4200.00	0.00	0.00	0.00	0.00	418407.70	566808.30	N 32 9 0.92	W 104 15 3.71
	4300.00	0.00	236.92	4300.00	0.00	0.00	0.00	0.00	418407.70	566808.30	N 32 9 0.92	W 104 15 3.71
	4400.00	0.00	236.92	4400.00	0.00	0.00	0.00	0.00	418407.70	566808.30	N 32 9 0.92	W 104 15 3.71
	4500.00	0.00	236.92	4500.00	0.00	0.00	0.00	0.00	418407.70	566808.30	N 32 9 0.92	W 104 15 3.71
	4600.00	0.00	236.92	4600.00	0.00	0.00	0.00	0.00	418407.70	566808.30	N 32 9 0.92	W 104 15 3.71
	4700.00	0.00	236.92	4700.00	0.00	0.00	0.00	0.00	418407.70	566808.30	N 32 9 0.92	W 104 15 3.71
	4800.00	0.00	236.92	4800.00	0.00	0.00	0.00	0.00	418407.70	566808.30	N 32 9 0.92	W 104 15 3.71
	4900.00	0.00	236.92	4900.00	0.00	0.00	0.00	0.00	418407.70	566808.30	N 32 9 0.92	W 104 15 3.71
	5000.00	0.00	236.92	5000.00	0.00	0.00	0.00	0.00	418407.70	566808.30	N 32 9 0.92	W 104 15 3.71
	5100.00	0.00	236.92	5100.00	0.00	0.00	0.00	0.00	418407.70	566808.30	N 32 9 0.92	W 104 15 3.71
	5200.00	0.00	236.92	5200.00	0.00	0.00	0.00	0.00	418407.70	566808.30	N 32 9 0.92	W 104 15 3.71
	5300.00	0.00	236.92	5300.00	0.00	0.00	0.00	0.00	418407.70	566808.30	N 32 9 0.92	W 104 15 3.71
	5400.00	0.00	236.92	5400.00	0.00	0.00	0.00	0.00	418407.70	566808.30	N 32 9 0.92	W 104 15 3.71
	5500.00	0.00	236.92	5500.00	0.00	0.00	0.00	0.00	418407.70	566808.30	N 32 9 0.92	W 104 15 3.71
	5600.00	0.00	236.92	5600.00	0.00	0.00	0.00	0.00	418407.70	566808.30	N 32 9 0.92	W 104 15 3.71
	5700.00	0.00	236.92	5700.00	0.00	0.00	0.00	0.00	418407.70	566808.30	N 32 9 0.92	W 104 15 3.71
	5800.00	0.00	236.92	5800.00	0.00	0.00	0.00	0.00	418407.70	566808.30	N 32 9 0.92	W 104 15 3.71
	5900.00	0.00	236.92	5900.00	0.00	0.00	0.00	0.00	418407.70	566808.30	N 32 9 0.92	W 104 15 3.71
	6000.00	0.00	236.92	6000.00	0.00	0.00	0.00	0.00	418407.70	566808.30	N 32 9 0.92	W 104 15 3.71
	6100.00	0.00	236.92	6100.00	0.00	0.00	0.00	0.00	418407.70	566808.30	N 32 9 0.92	W 104 15 3.71
	6200.00	0.00	236.92	6200.00	0.00	0.00	0.00	0.00	418407.70	566808.30	N 32 9 0.92	W 104 15 3.71
	6300.00	0.00	236.92	6300.00	0.00	0.00	0.00	0.00	418407.70	566808.30	N 32 9 0.92	W 104 15 3.71
	6400.00	0.00	236.92	6400.00	0.00	0.00	0.00	0.00	418407.70	566808.30	N 32 9 0.92	W 104 15 3.71
	6500.00	0.00	236.92	6500.00	0.00	0.00	0.00	0.00	418407.70	566808.30	N 32 9 0.92	W 104 15 3.71
	6600.00	0.00	236.92	6600.00	0.00	0.00	0.00	0.00	418407.70	566808.30	N 32 9 0.92	W 104 15 3.71
	6700.00	0.00	236.92	6700.00	0.00	0.00	0.00	0.00	418407.70	566808.30	N 32 9 0.92	W 104 15 3.71
	6800.00	0.00	236.92	6800.00	0.00	0.00	0.00	0.00	418407.70	566808.30	N 32 9 0.92	W 104 15 3.71
	6900.00	0.00	236.92	6900.00	0.00	0.00	0.00	0.00	418407.70	566808.30	N 32 9 0.92	W 104 15 3.71
	7000.00	0.00	236.92	7000.00	0.00	0.00	0.00	0.00	418407.70	566808.30	N 32 9 0.92	W 104 15 3.71
	7100.00	0.00	236.92	7100.00	0.00	0.00	0.00	0.00	418407.70	566808.30	N 32 9 0.92	W 104 15 3.71
	7200.00	0.00	236.92	7200.00	0.00	0.00	0.00	0.00	418407.70	566808.30	N 32 9 0.92	W 104 15 3.71
	7300.00	0.00	236.92	7300.00	0.00	0.00	0.00	0.00	418407.70	566808.30	N 32 9 0.92	W 104 15 3.71
	7400.00	0.00	236.92	7400.00	0.00	0.00	0.00	0.00	418407.70	566808.30	N 32 9 0.92	W 104 15 3.71

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
	7500.00	0.00	236.92	7500.00	0.00	0.00	0.00	0.00	418407.70	566808.30	N 32 9 0.92	W 104 15 3.71
	7600.00	0.00	236.92	7600.00	0.00	0.00	0.00	0.00	418407.70	566808.30	N 32 9 0.92	W 104 15 3.71
	7700.00	0.00	236.92	7700.00	0.00	0.00	0.00	0.00	418407.70	566808.30	N 32 9 0.92	W 104 15 3.71
	7800.00	0.00	236.92	7800.00	0.00	0.00	0.00	0.00	418407.70	566808.30	N 32 9 0.92	W 104 15 3.71
	7900.00	0.00	236.92	7900.00	0.00	0.00	0.00	0.00	418407.70	566808.30	N 32 9 0.92	W 104 15 3.71
	8000.00	0.00	236.92	8000.00	0.00	0.00	0.00	0.00	418407.70	566808.30	N 32 9 0.92	W 104 15 3.71
	8100.00	0.00	236.92	8100.00	0.00	0.00	0.00	0.00	418407.70	566808.30	N 32 9 0.92	W 104 15 3.71
	8200.00	0.00	236.92	8200.00	0.00	0.00	0.00	0.00	418407.70	566808.30	N 32 9 0.92	W 104 15 3.71
	8300.00	0.00	236.92	8300.00	0.00	0.00	0.00	0.00	418407.70	566808.30	N 32 9 0.92	W 104 15 3.71
	8400.00	0.00	236.92	8400.00	0.00	0.00	0.00	0.00	418407.70	566808.30	N 32 9 0.92	W 104 15 3.71
	8500.00	0.00	236.92	8500.00	0.00	0.00	0.00	0.00	418407.70	566808.30	N 32 9 0.92	W 104 15 3.71
	8600.00	0.00	236.92	8600.00	0.00	0.00	0.00	0.00	418407.70	566808.30	N 32 9 0.92	W 104 15 3.71
	8700.00	0.00	236.92	8700.00	0.00	0.00	0.00	0.00	418407.70	566808.30	N 32 9 0.92	W 104 15 3.71
	8800.00	0.00	236.92	8800.00	0.00	0.00	0.00	0.00	418407.70	566808.30	N 32 9 0.92	W 104 15 3.71
KOP - Build 10°/100'	8832.39	0.00	236.92	8832.39	0.00	0.00	0.00	0.00	418407.70	566808.30	N 32 9 0.92	W 104 15 3.71
	8900.00	8.11	236.92	8899.77	2.95	-2.61	-4.00	12.00	418405.09	566804.30	N 32 9 0.89	W 104 15 3.76
	9000.00	20.11	236.92	8996.58	17.99	-15.89	-24.40	12.00	418391.81	566783.90	N 32 9 0.76	W 104 15 4.00
	9100.00	32.11	236.92	9086.21	45.12	-39.87	-61.21	12.00	418367.83	566747.09	N 32 9 0.52	W 104 15 4.43
	9200.00	44.11	236.92	9164.74	83.18	-73.50	-112.83	12.00	418334.21	566695.48	N 32 9 0.19	W 104 15 5.03
	9300.00	56.11	236.92	9228.75	130.48	-115.30	-177.01	12.00	418292.41	566631.31	N 32 8 59.78	W 104 15 5.77
	9400.00	68.11	236.92	9275.44	184.98	-163.46	-250.94	12.00	418244.26	566557.39	N 32 8 59.30	W 104 15 6.63
Align to Target - Build 4°/100'	9457.39	75.00	236.92	9293.59	218.59	-193.16	-296.53	12.00	418214.56	566511.80	N 32 8 59.01	W 104 15 7.17
	9500.00	75.26	235.18	9304.52	244.51	-216.15	-330.69	4.00	418191.56	566477.64	N 32 8 58.78	W 104 15 7.56
	9600.00	75.93	231.11	9329.40	309.22	-274.24	-408.16	4.00	418133.48	566400.17	N 32 8 58.21	W 104 15 8.46
	9700.00	76.67	227.06	9353.09	379.07	-337.87	-481.56	4.00	418069.86	566326.79	N 32 8 57.58	W 104 15 9.32
	9800.00	77.47	223.04	9375.47	453.74	-406.71	-550.52	4.00	418001.02	566257.84	N 32 8 56.90	W 104 15 10.12
	9900.00	78.33	219.04	9396.44	532.85	-480.45	-614.70	4.00	417927.30	566193.66	N 32 8 56.17	W 104 15 10.87
	10000.00	79.25	215.07	9415.89	616.03	-558.71	-673.79	4.00	417849.04	566134.57	N 32 8 55.39	W 104 15 11.56
	10100.00	80.21	211.13	9433.72	702.87	-641.13	-727.51	4.00	417766.63	566080.85	N 32 8 54.58	W 104 15 12.18
	10200.00	81.22	207.21	9449.86	792.94	-727.29	-775.60	4.00	417680.48	566032.77	N 32 8 53.73	W 104 15 12.74
	10300.00	82.27	203.31	9464.22	885.80	-816.77	-817.81	4.00	417591.00	565990.56	N 32 8 52.84	W 104 15 13.23
	10400.00	83.36	199.43	9476.72	981.01	-909.15	-853.95	4.00	417498.63	565954.43	N 32 8 51.93	W 104 15 13.65
	10500.00	84.48	195.56	9487.32	1078.10	-1003.97	-883.83	4.00	417403.82	565924.55	N 32 8 50.99	W 104 15 14.00
	10600.00	85.62	191.72	9495.96	1176.59	-1100.77	-907.32	4.00	417307.03	565901.07	N 32 8 50.03	W 104 15 14.28
	10700.00	86.78	187.88	9502.60	1276.01	-1199.07	-924.29	4.00	417208.74	565884.09	N 32 8 49.06	W 104 15 14.48
	10800.00	87.95	184.05	9507.20	1375.87	-1298.40	-934.67	4.00	417109.41	565873.72	N 32 8 48.08	W 104 15 14.60
	10900.00	89.14	180.23	9509.74	1475.69	-1398.28	-938.40	4.00	417009.55	565869.99	N 32 8 47.09	W 104 15 14.64
Landing Point	10920.30	89.38	179.45	9510.00	1495.91	-1418.59	-938.34	4.00	416989.25	565870.04	N 32 8 46.89	W 104 15 14.64
	11000.00	89.38	179.45	9510.87	1575.22	-1498.27	-937.58	0.00	416909.57	565870.80	N 32 8 46.10	W 104 15 14.63
	11100.00	89.38	179.45	9511.96	1674.73	-1598.26	-936.63	0.00	416809.59	565871.76	N 32 8 45.11	W 104 15 14.62
	11200.00	89.38	179.45	9513.04	1774.24	-1698.25	-935.68	0.00	416709.61	565872.71	N 32 8 44.12	W 104 15 14.61
	11300.00	89.38	179.45	9514.13	1873.76	-1798.24	-934.72	0.00	416609.63	565873.66	N 32 8 43.13	W 104 15 14.60
	11400.00	89.38	179.45	9515.22	1973.27	-1898.23	-933.77	0.00	416509.64	565874.62	N 32 8 42.14	W 104 15 14.59
	11500.00	89.38	179.45	9516.31	2072.79	-1998.22	-932.81	0.00	416409.66	565875.57	N 32 8 41.15	W 104 15 14.58
	11600.00	89.38	179.45	9517.39	2172.30	-2098.21	-931.86	0.00	416309.68	565876.52	N 32 8 40.16	W 104 15 14.57
	11700.00	89.38	179.45	9518.48	2271.82	-2198.20	-930.91	0.00	416209.70	565877.48	N 32 8 39.17	W 104 15 14.56
	11800.00	89.38	179.45	9519.57	2371.33	-2298.19	-929.95	0.00	416109.72	565878.43	N 32 8 38.18	W 104 15 14.55
	11900.00	89.38	179.45	9520.66	2470.85	-2398.18	-929.00	0.00	416009.74	565879.39	N 32 8 37.19	W 104 15 14.54
	12000.00	89.38	179.45	9521.74	2570.36	-2498.17	-928.05	0.00	415909.76	565880.34	N 32 8 36.20	W 104 15 14.53
	12100.00	89.38	179.45	9522.83	2669.88	-2598.16	-927.09	0.00	415809.78	565881.29	N 32 8 35.21	W 104 15 14.52
	12200.00	89.38	179.45	9523.92	2769.39	-2698.15	-926.14	0.00	415709.80	565882.25	N 32 8 34.22	W 104 15 14.51
	12300.00	89.38	179.45	9525.01	2868.91	-2798.14	-925.18	0.00	415609.82	565883.20	N 32 8 33.23	W 104 15 14.50
	12400.00	89.38	179.45	9526.09	2968.42	-2898.13	-924.23	0.00	415509.84	565884.15	N 32 8 32.25	W 104 15 14.49
	12500.00	89.38	179.45	9527.18	3067.94	-2998.12	-923.28	0.00	415409.86	565885.11	N 32 8 31.26	W 104 15 14.48
	12600.00	89.38	179.45	9528.27	3167.45	-3098.10	-922.32	0.00	415309.88	565886.06	N 32 8 30.27	W 104 15 14.47
	12700.00	89.38	179.45	9529.35	3266.96	-3198.09	-921.37	0.00	415209.90	565887.02	N 32 8 29.28	W 104 15 14.46
	12800.00	89.38	179.45	9530.44	3366.48	-3298.08	-920.42	0.00	415109.92	565887.97	N 32 8 28.29	W 104 15 14.45
	12900.00	89.38	179.45	9531.53	3465.99	-3398.07	-919.46	0.00	415009.94	565888.92	N 32 8 27.30	W 104 15 14.44
	13000.00	89.38	179.45	9532.62	3565.51	-3498.06	-918.51	0.00	414909.96	565889.88	N 32 8 26.31	W 104 15 14.43
	13100.00	89.38	179.45	9533.70	3665.02	-3598.05	-917.55	0.00	414809.98	565890.83	N 32 8 25.32	W 104 15 14.42
	13200.00	89.38	179.45	9534.79	3764.54	-3698.04	-916.60	0.00	414710.00	565891.78	N 32 8 24.33	W 104 15 14.41
	13300.00	89.38	179.45	9535.88	3864.05	-3798.03	-915.65	0.00	414610.02	565892.74	N 32 8 23.34	W 104 15 14.40
	13400.00	89.38	179.45	9536.97	3963.57	-3898.02	-914.69	0.00	414510.04	565893.69	N 32 8 22.35	W 104 15 14.39
	13500.00	89.38	179.45	9538.05	4063.08	-3998.01	-913.74	0.00	414410.06	565894.64	N 32 8 21.36	W 104 15 14.38
	13600.00	89.38	179.45	9539.14	4162.60	-4098.00	-912.79	0.00	414310.08	565895.60	N 32 8 20.37	W 104 15 14.37
	13700.00	89.38	179.45	9540.23	4262.11	-4197.99	-911.83	0.00	414210.10	565896.55	N 32 8 19.38	W 104 15 14.36
	13800.00	89.38	179.45	9541.32	4361.63	-4297.98	-910.88	0.00	414110.12	565897.51	N 32 8 18.39	W 104 15 14.35
	13900.00	89.38	179.45	9542.40	4461.14	-4397.97	-909.92	0.00	414010.14	565898.46	N 32 8 17.40	W 104 15 14.34
	14000.00	89.38	179.45	9543.49	4560.66	-4497.96	-908.97	0.00	413910.16	565899.41	N 32 8 16.41	W 104 15 14.33
	14100.00	89.38	179.45	9544.58	4660.17	-4597.95	-908.02	0.00	413810.18	565900.37	N 32 8 15.42	W 104 15 14.32
	14200.00	89.38	179.45	9545.67	4759.68	-4697.94	-907.06	0.00	413710.20	565901.32	N 32 8 14.44	W 104 15 14.31
C-102 Site A	14251.00	89.38	179.45	9546.22	4810.44	-4748.93	-906.58	0.00	413659.21	565901.81	N 32 8 13.93	W 104 15 14.30
	14300.00	89.38	179.45	9546.75	4859.20	-4797.93	-906.11	0.00	413610.22	565902.27	N 32 8 13.45	W 104 15 14.29
	14400.00	89.38	179.45	9547.84	4958.71	-4897.92	-905.16	0.00	413510.24	565903.23	N 32 8 12.46	W 104 15 14.28
	14500.00	89.38	179.45	9548.93	5058.23	-4997.91	-904.20	0.00	413410.25	565904.18	N 32 8 11.47	W 104 15 14.27
	14600.00	89.38	179.45	9550.02	5157.74	-5097.90	-903.25	0.00	413310.27	565905.14	N 32 8 10.48	W 104 15 14.26
	14700.00	89.38	179.45	9551.10	5257.26	-5197.88	-902.29	0.00	413210.29	565906.09	N 32 8 9.49	W 104 15 14.25
	14800.00	89.38	179.45	9552.19	5356.77	-5297.87	-901.34	0.00	413110.31	565907.04	N 32 8 8.50	W 104 15 14.24
	14900.00	89.38	179.45	9553.28	5456.29	-5397.86	-900.39	0.00	413010.33	565908.00	N 32 8 7.51	W 104 15 14.23
	15000.00	89.38	179.45	9554.37	5555.80	-5497.85	-899.43	0.00	412910.35	565908.95	N 32 8 6.52	W 104 15 14.22
	15100.00	89.38	179.45	9555.45	5655.32	-5597.84	-898.48	0.00	412810.37	565909.90	N 32 8 5.53	W 104 15 14.21
	15200.00	89.38	179.45	9556.54	5754.83	-5697.83	-897.53	0.00	412710.39	565910.86	N 32 8 4.54	W 104 15 14.20
	15300.00	89.38	179.45	9557.63	5854.35	-5797.82	-896.57	0.00	412610.41	565911.81	N 32 8 3.55	W 104 15 14.19
	15400.00	89.38	179.45	9558.72	5953.86	-5897.81	-895.62	0.00	412510.43	565912.76	N 32 8 2.56	W 104 15 14.18
	15500.00	89.38	179.45	9559.80	6053.38	-5997.80	-894.66	0.00	412410.45	565913.72	N 32 8 1.57	W 104 15 14.17
C-102 Site B	15554.00	89.38	179.45	9560.39	6107.11	-6051.80	-894.15	0.00	412356.46	565914.23	N 32 8 1.04	W 104 15 14.17
	15600.00	89.38	179.45	9560.89	6152.89	-6097.79	-893.71	0.00	412310.47	565914.67	N 32 8 0.58	W 104 15 14.16
	15700.00	89.38	179.45	9561.98	6252.40	-6197.78	-892.76	0.00	412210.49	565915.63	N 32 7 59.59	W 104 15 14.15
	15800.00	89.38	179.45	9563.07	6351.92	-6297.77	-891.80	0.00	412110.51	565916.58	N 32 7 58.60	W 104 15 14.14
	15900.00	89.38	179.45	9564.15	6451.43	-6397.76	-890.85	0.00	412010.53	565917.53	N 32 7 57.62	W 104 15 14.13
	16000.00	89.38	179.45	9565.24	6550.95	-6497.75	-889.90	0.00	411910.55	565918.49	N 32 7 56.63	W 104 15 14.12
	16100.00	89.38	179.45	9566.33	6650.46	-6597.74	-888.94	0.00	411810.57	565919.44	N 32 7 55.64	W 104 15 14.11
	16200.00	89.38	179.45	9567.42	6749.98	-6697.73	-887.99	0.00	411710.59	565920.39	N 32 7 54.65	W 104 15 14.10
	16300.00	89.38	179.45	9568.50	6849.49	-6797.72	-887.03	0.00	411610.61	565921.35	N 32 7 53.66	W 104 15 14.09
	16400.00	89.38	179.45	9569.59	6949.01	-6897.71	-886.08	0.00	411510.63	565922.30	N 32 7 52.67	W 104 15 14.08
	16500.00	89.38	179.45	9570.68	7048.52	-6997.70	-885.13	0.00	411410.65	565923.25	N 32 7 51.68	W 104 15 14.07
	16600.00	89.38	179.45	9571.77	7148.04	-7097.69	-884.17	0.00	411310.67	565924.21	N 32 7 50.69	W 104 15 14.06
	16700.00	89.38	179.45	9572.85	7247.55	-7197.68	-883.22	0.00	411210.69	565925.16	N 32 7 49.70	W 104 15 14.05
	16800.00	89.38	179.45	9573.94	7347.07	-7297.67	-882.27	0.00	411110.71	565926.12	N 32 7 48.71	W 104 15 14.04
	16900.00	89.38	179.45	9575.03	7446.58	-7397.65	-881.31	0.00	411010.73	565927.07	N 32 7 47.72	W 104 15 14.03
	17000.00	89.38	179.45	9576.11	7546.10	-7497.64	-880.36	0.00	410910.75	565928.02	N 32 7 46.73	W 104 15 14.02
	17100.00	89.38	179.45	9577.20	7645.61	-7597.63	-879.40	0.00	410810.77	565928.98	N 32 7 45.74	W 104 15 14.01
	17200.00	89.38	179.45	9578.29	7745.12	-7697.62	-878.45	0.00	410710.79	565929.93	N 32 7 44.75	W 104 15 14.00
	17300.00	89.38	179.45	9579.38	7844.64	-7797.61	-877.50	0.00	410610.81	565930.88	N 32 7 43.76	W 104 15 13.99
	17400.00	89.38	179.45	9580.46	7944.15	-7897.60	-876.54	0.00	410510.83	565931.84	N 32 7 42.77	W 104 15 13.98
	17500.00	89.38	179.45	9581.55	8043.67	-7997.59	-875.59	0.00	410410.85	565932.79	N 32 7 41.78	W 104 15 13.97
	17600.00	89.38	179.45	9582.64	8143.18	-8097.58	-874.64	0.00	410310.86	565933.75	N 32 7 40.79	W 104 15 13.96

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
	17700.00	89.38	179.45	9583.73	8242.70	-8197.57	-873.68	0.00	410210.88	565934.70	N 32 7 39.81	W 104 15 13.95
	17800.00	89.38	179.45	9584.81	8342.21	-8297.56	-872.73	0.00	410110.90	565935.65	N 32 7 38.82	W 104 15 13.94
	17900.00	89.38	179.45	9585.90	8441.73	-8397.55	-871.77	0.00	410010.92	565936.61	N 32 7 37.83	W 104 15 13.93
	18000.00	89.38	179.45	9586.99	8541.24	-8497.54	-870.82	0.00	409910.94	565937.56	N 32 7 36.84	W 104 15 13.92
	18100.00	89.38	179.45	9588.08	8640.76	-8597.53	-869.87	0.00	409810.96	565938.51	N 32 7 35.85	W 104 15 13.91
	18200.00	89.38	179.45	9589.16	8740.27	-8697.52	-868.91	0.00	409710.98	565939.47	N 32 7 34.86	W 104 15 13.90
	18300.00	89.38	179.45	9590.25	8839.79	-8797.51	-867.96	0.00	409611.00	565940.42	N 32 7 33.87	W 104 15 13.89
	18400.00	89.38	179.45	9591.34	8939.30	-8897.50	-867.01	0.00	409511.02	565941.37	N 32 7 32.88	W 104 15 13.88
	18500.00	89.38	179.45	9592.43	9038.82	-8997.49	-866.05	0.00	409411.04	565942.33	N 32 7 31.89	W 104 15 13.87
	18600.00	89.38	179.45	9593.51	9138.33	-9097.48	-865.10	0.00	409311.06	565943.28	N 32 7 30.90	W 104 15 13.85
	18700.00	89.38	179.45	9594.60	9237.84	-9197.47	-864.14	0.00	409211.08	565944.24	N 32 7 29.91	W 104 15 13.84
	18800.00	89.38	179.45	9595.69	9337.36	-9297.46	-863.19	0.00	409111.10	565945.19	N 32 7 28.92	W 104 15 13.83
	18900.00	89.38	179.45	9596.78	9436.87	-9397.45	-862.24	0.00	409011.12	565946.14	N 32 7 27.93	W 104 15 13.82
	19000.00	89.38	179.45	9597.86	9536.39	-9497.44	-861.28	0.00	408911.14	565947.10	N 32 7 26.94	W 104 15 13.81
	19100.00	89.38	179.45	9598.95	9635.90	-9597.42	-860.33	0.00	408811.16	565948.05	N 32 7 25.95	W 104 15 13.80
Cimarex Marquardt 12-13 Fed #11H - PBHL [330 FSL, 350 FWL]	19196.45	89.38	179.45	9600.00	9731.88	-9693.86	-859.41	0.00	408714.73	565948.97	N 32 7 25.00	W 104 15 13.79

Survey Type: Non-Def Plan

Survey Error Model: ISCWSA Rev 0 *** 3-D 95.000% Confidence 2.7955 sigma

Survey Program:

Description	Part	MD From (ft)	MD To (ft)	EOU Freq (ft)	Hole Size (in)	Casing Diameter (in)	Expected Max Inclination (deg)	Survey Tool Type	Borehole / Survey
	1	0.000	20.000	1/100.000	30.000	30.000		NAL_MWD_PLUS_0.5_DEG-Depth Only	Original Borehole / Cimarex Marquardt 12-13 Fed #11H Rev0 RM 02Nov16
	1	20.000	19196.449	1/100.000	30.000	30.000		NAL_MWD_PLUS_0.5_DEG	Original Borehole / Cimarex Marquardt 12-13 Fed #11H Rev0

Schlumberger **Cimarex** Rev 0 **CIMAREX**

Borehole:	Well:	Field:	Structure:
Original Borehole	Cimarex Marquardt 12-13 Fed #11H	NM Eddy County (NAD 83)	Cimarex Marquardt 12-13 Fed #11H

Gravity & Magnetic Parameters
Model: HDGM 2016 Dip: 59.907° Date: 02-Nov-2016
MagDec: 7.533° FS: 48089.222nT Gravity FS: 998.436mgn (9.80665 Based)

Surface Location NAD83 New Mexico State Plane, Eastern Zone, US Feet
Lat: N 32 9 0.92 Northing: 418407.7hUS Grid Conv: 0.0438°
Lon: W 104 15 3.71 Easting: 566808.3hUS Scale Fact: 0.99990983

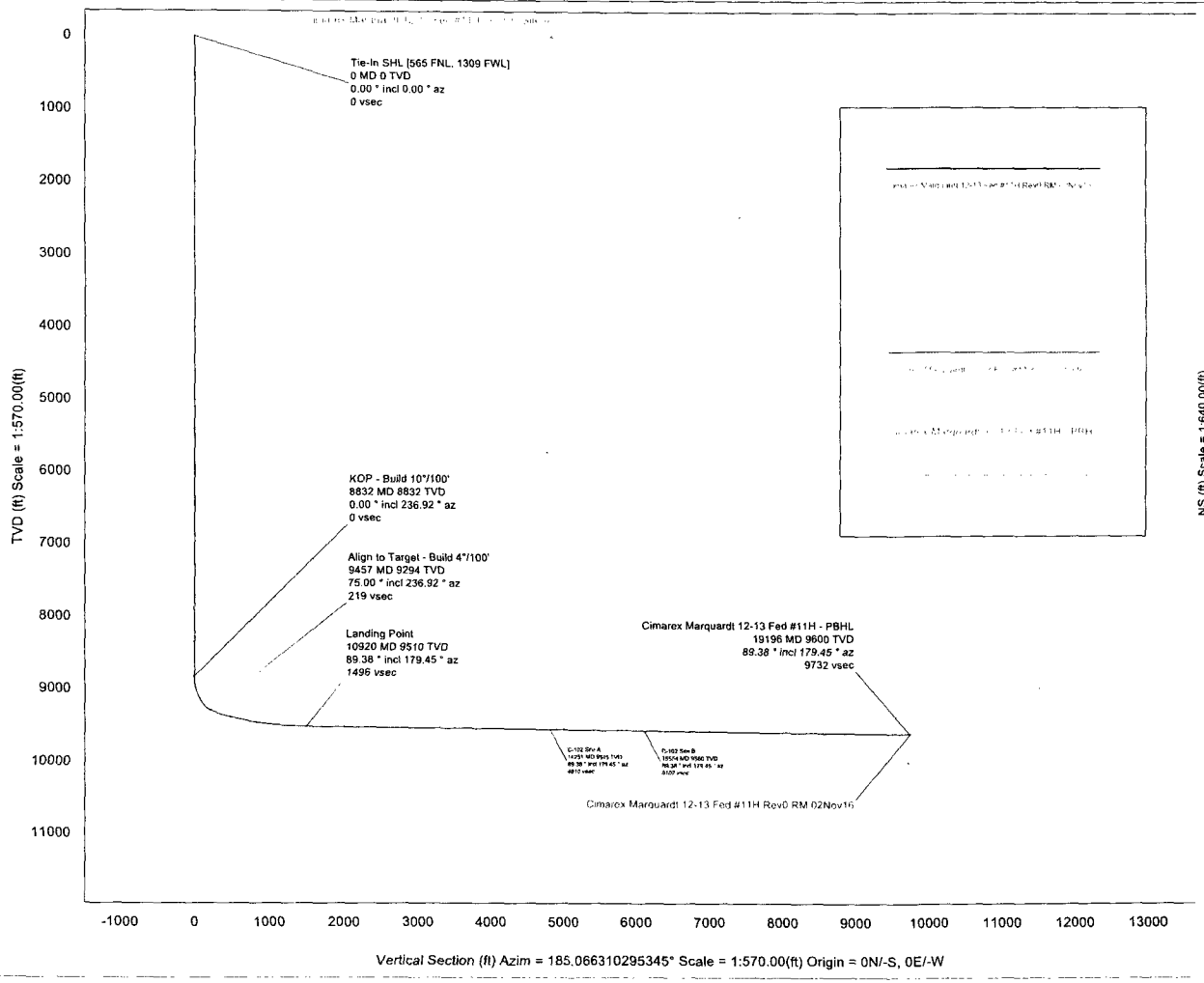
Miscellaneous
Slot: Cimarex Marquardt 12-13 Fed #11H TVD Ref: RKB(3321.6ft above MSL)
Plan: Cimarex Marquardt 12-13 Fed #11H Rev0 RM 02Nov16

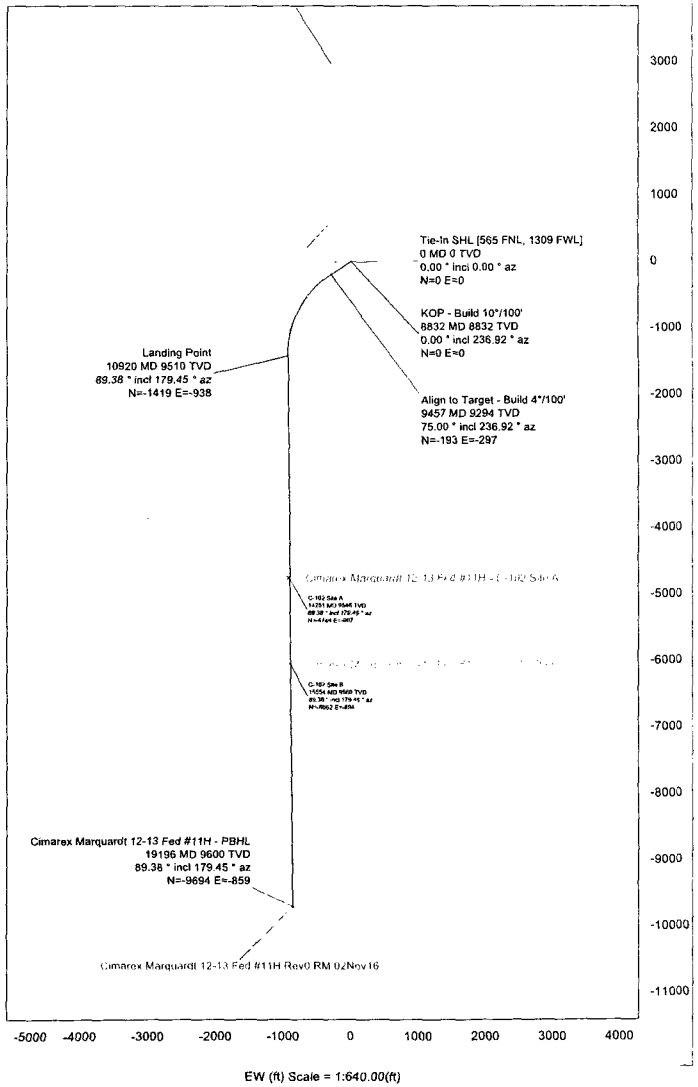
Critical Points

Critical Point	MD	INCL	AZIM	TVD	VSEC	N(+)/S(-)	E(+)/W(-)	DLS
Tie-In SHL [565 FNL, 1309 FWL]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
KOP - Build 10°/100'	8832.39	0.00	236.92	8832.39	0.00	0.00	0.00	0.00
Align to Target - Build 4°/100'	9457.39	75.00	236.92	9293.59	218.59	-193.16	-296.53	12.00
Landing Point	10920.30	89.38	179.45	9510.00	1495.91	-1418.59	-938.34	4.00
C-102 Site A	14251.00	89.38	179.45	9546.22	4810.44	-4748.93	-906.58	0.00
C-102 Site B	15554.00	89.38	179.45	9560.39	6107.11	-6051.80	-894.15	0.00
Cimarex Marquardt 12-13 Fed #11H - PBHL [330 FSL, 350 FWL]	19196.45	89.38	179.45	9600.00	9731.88	-9693.86	-859.41	0.00

Grid
True Mag
Grid North
Tot Corr (M->G 7.490°)
Mag Dec (7.533°)
Grid Conv (0.044°)

CONTROLLED





New Mexico Office of the State Engineer
Water Column/Average Depth to Water

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced, O=orphaned, C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters) (In feet)

POD Number	POD Code	Sub-basin	County	Q 64	Q 16	Q 4	Sec	Twn	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
C 03569 POD1		CUB	ED	2	1	1	14	25S	26E	568862	3555746	2458	30	0	30
C 03200 POD1		C	ED	2	3	4	34	24S	26E	568206	3559349	3314	80	52	28
C 01089		C	ED	3	4	1	03	25S	26E	567505	3558398*	3471	96	45	51
C 03654 POD1		CUB	ED	2	3	1	24	25S	26E	570654	3553773	3502			
C 00819		C	ED		4	4	26	24S	26E	570022	3560935*	3741	62	42	20
C 03261 POD1			ED	3	2	1	20	25S	27E	574007	3554006*	4585	351		
C 01368		C	ED		1	1	22	25S	26E	567261	3554059*	4772	143	118	25
C 03655 POD3		CUB	ED	1	4	4	22	25S	26E	568458	3553019	4851			
C 02675		C	ED	1	4	1	09	25S	26E	565907	3556978*	4891	180	45	135
C 02220		CUB	ED	3	1	2	26	25S	26E	569598	3552352*	5063	35		
C 00792		C	ED		4	2	27	24S	26E	568397	3561747*	5073	70	30	40
C 00262 POD2		C	ED	4	3	1	24	24S	26E	570234	3562337	5094	45	18	27
C 02221		CUB	ED	4	3	2	25	25S	26E	571412	3551961*	5348	35		
C 00690		C	ED	1	3	3	24	24S	26E	570288	3562653*	5403	30	10	20
C 03526 POD1		C	ED	1	4	4	23	24S	26E	569788	3562666	5485	200		
C 01841		C	ED			1	29	24S	27E	573806	3561953*	5567	150		
C 01869		C	ED			4	23	24S	26E	569783	3562758*	5576	110	30	80
C 00883		C	ED	3	2	4	23	24S	26E	569887	3562855*	5654	60	14	46
C 03110		C	ED	4	1	4	23	24S	26E	569690	3562856*	5689	35	12	23
C 01616		C	ED		2	4	23	24S	26E	569988	3562956*	5738	84	84	0
C 00100 A		CUB	ED	1	1	3	24	24S	26E	570284	3563053	5801	51	26	25
C 00949		C	ED	1	1	3	24	24S	26E	570284	3563053*	5801	62	35	27
C 00829		C	ED		1	4	23	24S	26E	569591	3562957*	5808	50	19	31
C 01013		C	ED			4	25	25S	26E	571505	3551456*	5861	245		
C 00262	R	C	ED	4	3	1	24	24S	26E	570481	3563253*	5987	50		
C 00692		C	ED	3	3	1	24	24S	26E	570281	3563253*	6001	50	42	8

***UTM location was derived from PLSS - see Help**

(A CLW###### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced, O=orphaned, C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters) (In feet)

POD Number	POD Sub-basin Code	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
C 00516 POD6		ED	1	4	3	08	24S	27E	573885	3565895*	9160	78	17	61
C 03035	C	ED	2	2	2	24	25S	25E	562091	3554125*	9250	120	70	50
C 03489 POD1	C	ED	2	4	3	08	24S	27E	574153	3565939	9296	200		
C 00516		ED	1	3	4	08	24S	27E	574288	3565901*	9310	105	36	69
C 00516 CLW201016	O	ED	1	3	4	08	24S	27E	574288	3565901*	9310	62		
C 00516 CLW308590	O	ED	1	3	4	08	24S	27E	574288	3565901*	9310	105	36	69
C 00516 S	C	ED	1	3	4	08	24S	27E	574288	3565901	9310	50	17	33
C 00293	C	ED	3	2	3	10	24S	26E	567445	3566100*	9439	250		
C 01366		ED			4	08	24S	27E	574590	3566003*	9521	60	35	25

Average Depth to Water: **36 feet**

Minimum Depth: **0 feet**

Maximum Depth: **118 feet**

Record Count: 64

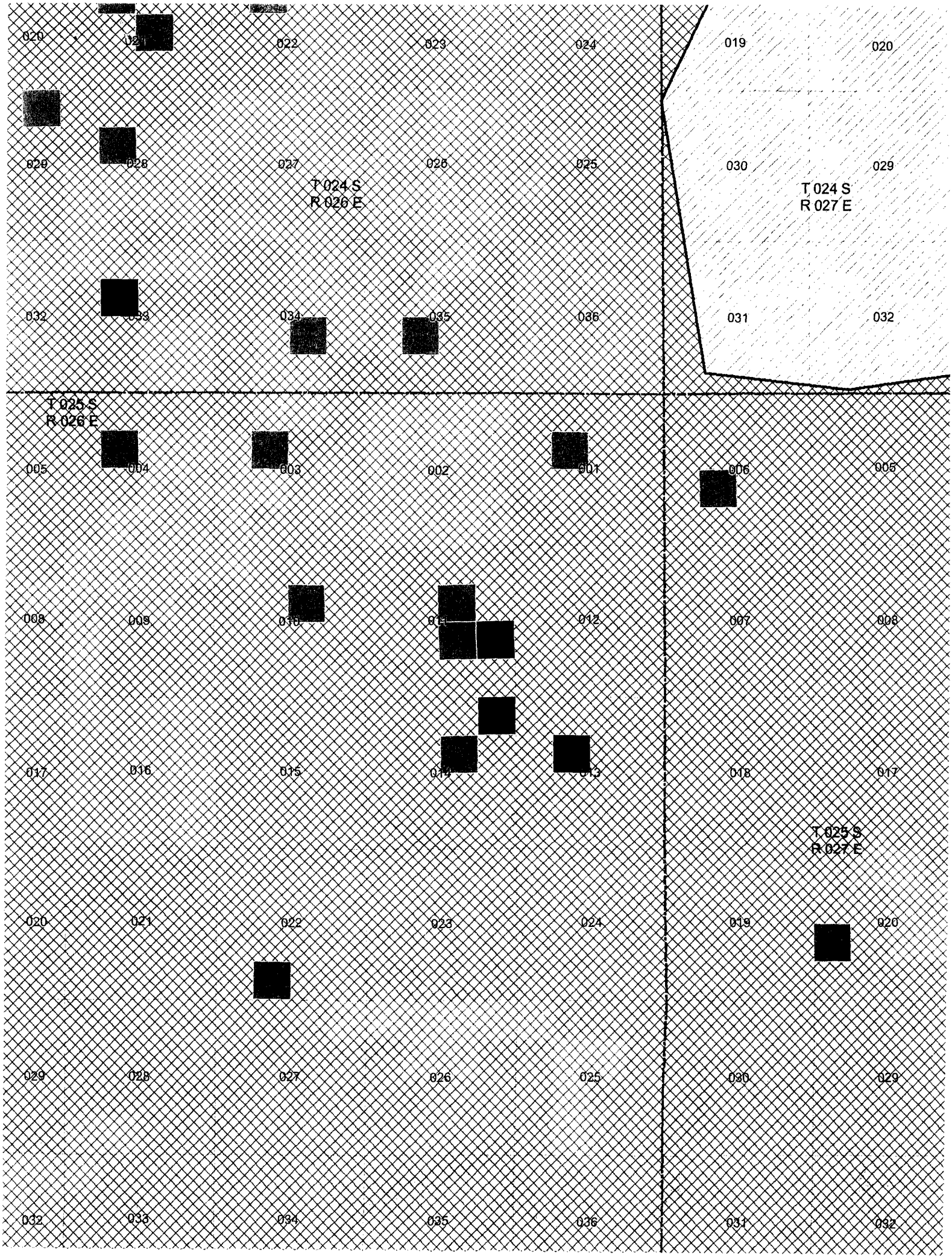
Basin/County Search:

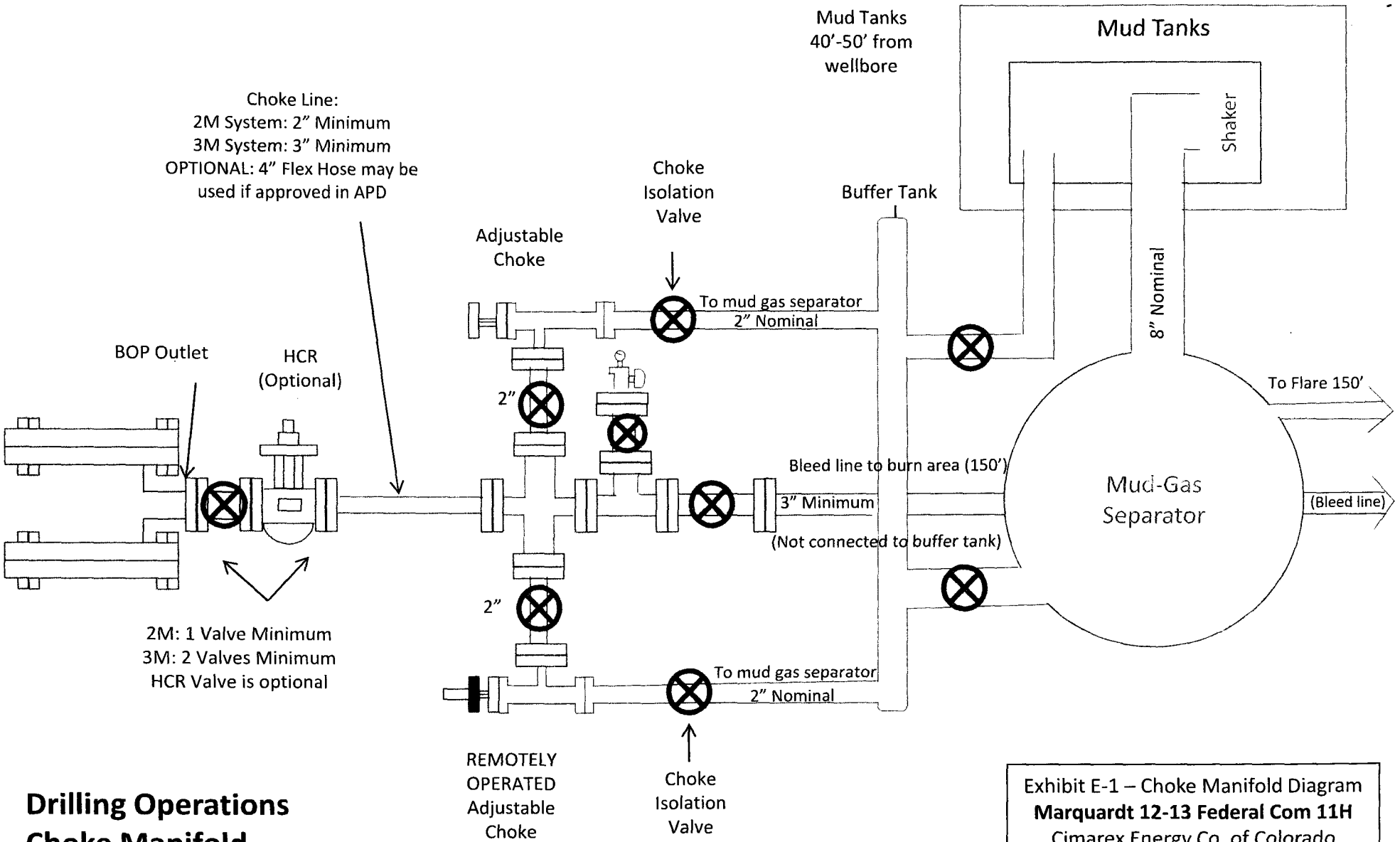
Basin: Carlsbad

UTMNAD83 Radius Search (in meters):

Easting (X): 570789.364 **Northing (Y):** 3557273.235 **Radius:** 9565

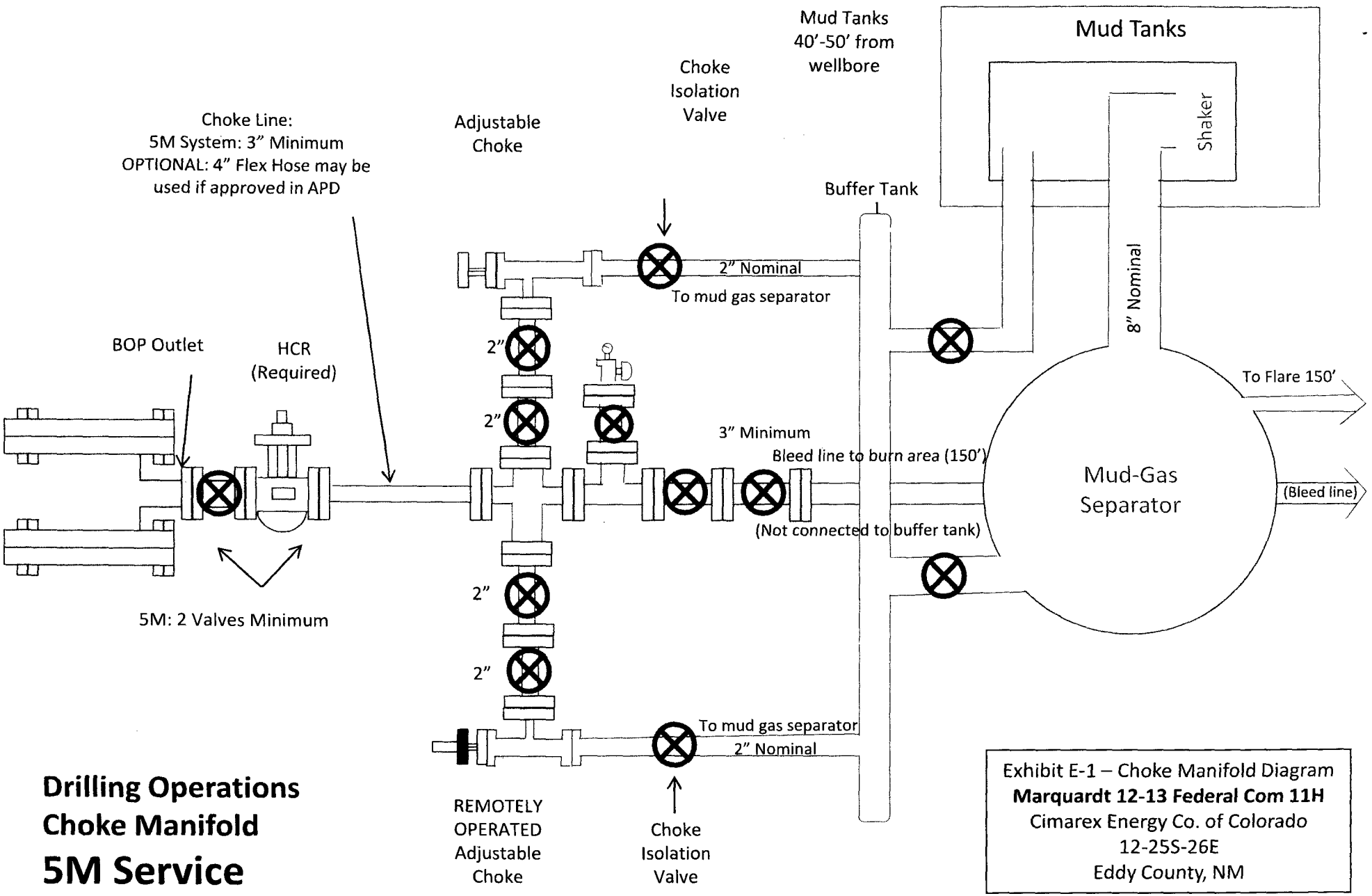
***UTM location was derived from PLSS - see Help**


T 024 S
R 026 E
T 024 S
R 027 E
T 025 S
R 026 E
T 025 S
R 027 E



Drilling Operations
Choke Manifold
2M/3M Service

Exhibit E-1 – Choke Manifold Diagram
Marquardt 12-13 Federal Com 11H
Cimarex Energy Co. of Colorado
12-25S-26E
Eddy County, NM



Drilling Operations
Choke Manifold
5M Service

Exhibit E-1 – Choke Manifold Diagram
Marquardt 12-13 Federal Com 11H
Cimarex Energy Co. of Colorado
12-25S-26E
Eddy County, NM

Drilling 12-1/4" hole
below 13 3/8" Casing

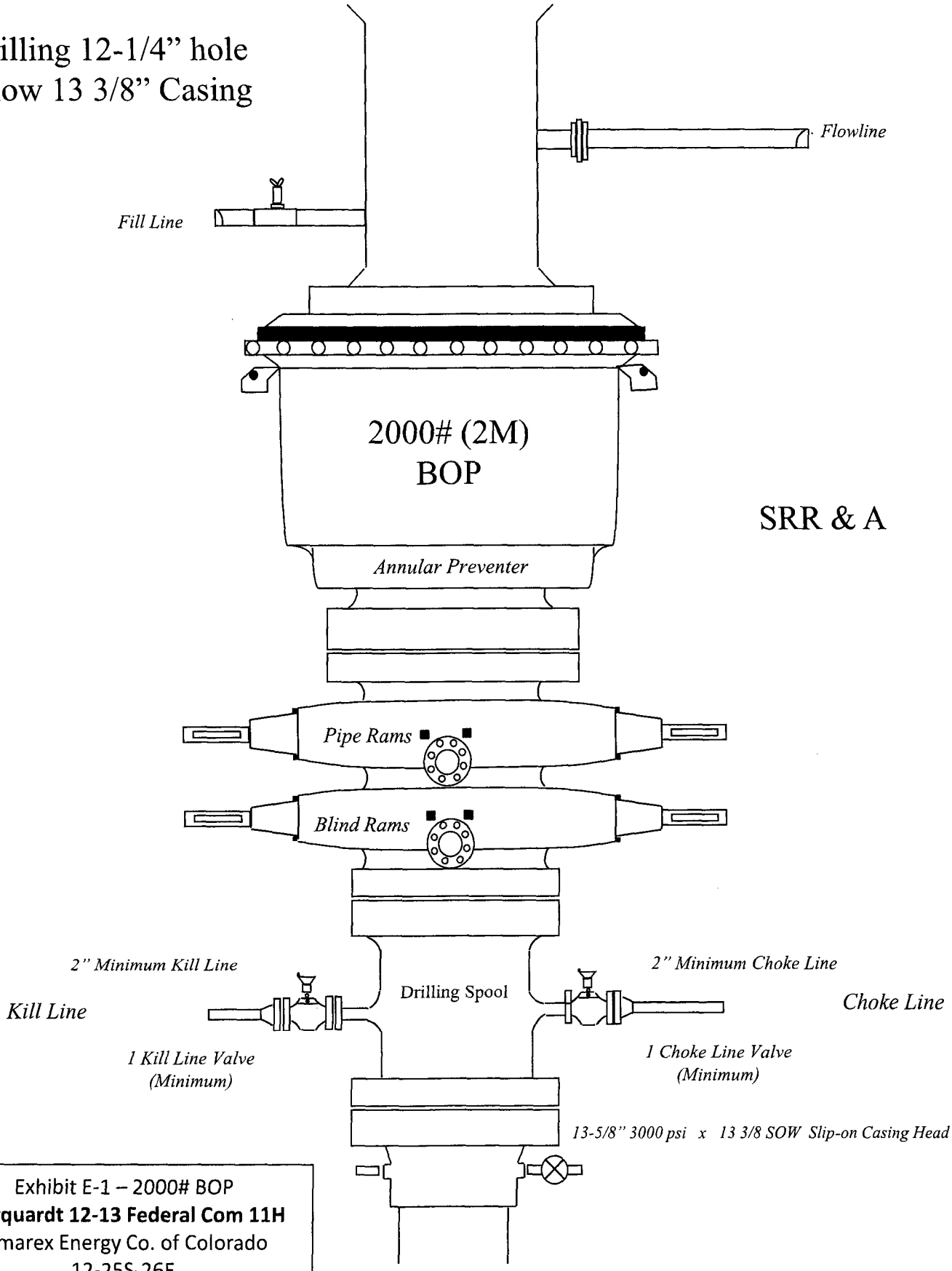
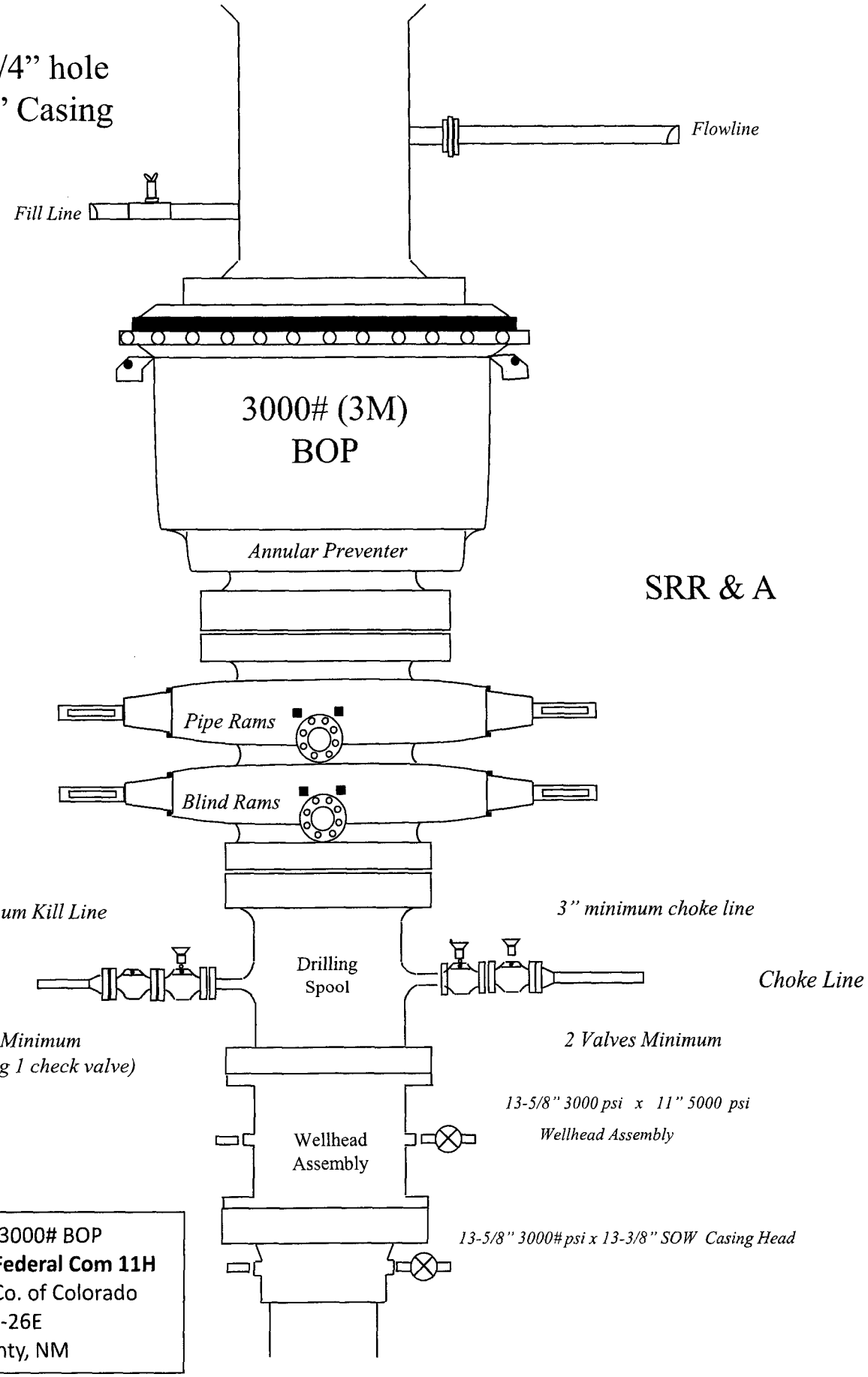


Exhibit E-1 – 2000# BOP
Marquardt 12-13 Federal Com 11H
Cimarex Energy Co. of Colorado
12-25S-26E
Eddy County, NM

Drilling 8-3/4" hole
below 9 5/8" Casing



SRR & A

Exhibit E-1 – 3000# BOP
Marquardt 12-13 Federal Com 11H
Cimarex Energy Co. of Colorado
12-25S-26E
Eddy County, NM

Drilling below 7" Casing

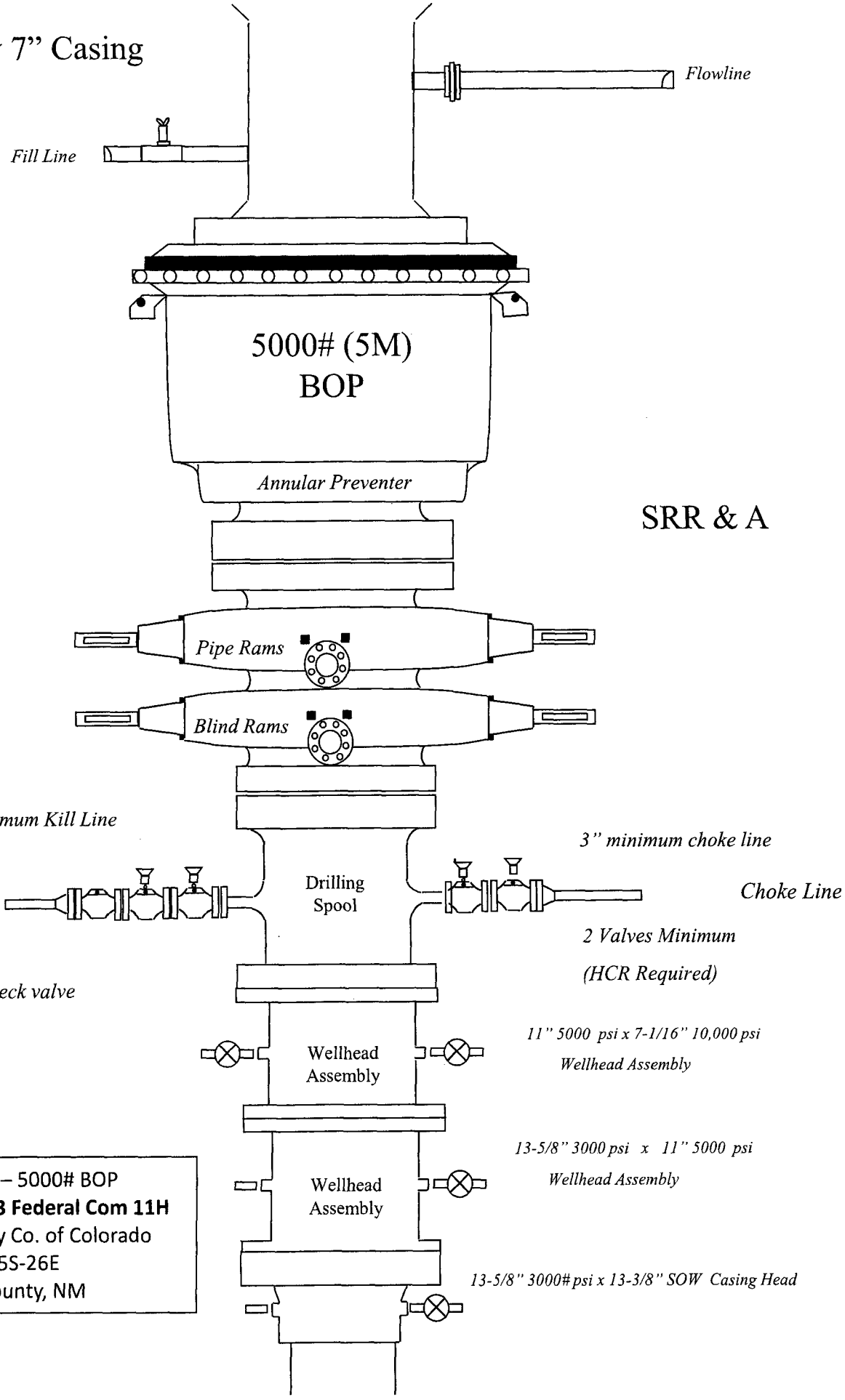


Exhibit E-1 – 5000# BOP
Marquardt 12-13 Federal Com 11H
Cimarex Energy Co. of Colorado
12-25S-26E
Eddy County, NM

Exhibit F – Co-Flex Hose
Marquardt 12-13 Federal Com 11H
Cimarex Energy Co. of Colorado
12-25S-26E
Eddy County, NM

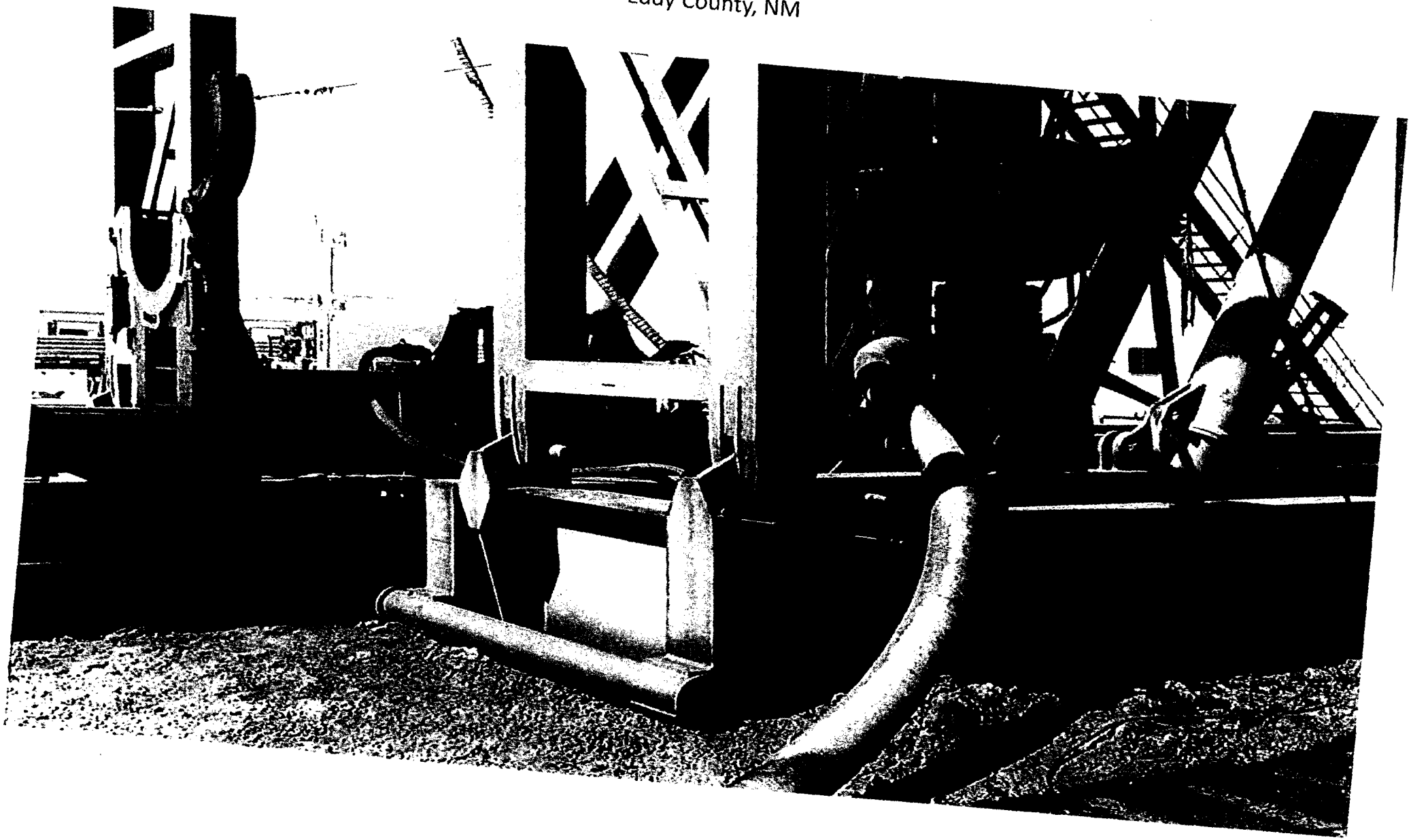


Exhibit F-1 – Co-Flex Hose Hydrostatic Test
Marquardt 12-13 Federal Com 11H
Cimarex Energy Co. of Colorado
12-25S-26E
Eddy County, NM

Midwest Hose
& Specialty, Inc.

INTERNAL HYDROSTATIC TEST REPORT

Customer:	P.O. Number:
Oderco Inc	odyd-271

HOSE SPECIFICATIONS

Type: Stainless Steel Armor Choke & Kill Hose	Hose Length: 45'ft.
I.D. 4 *INCHES*	O.D. 9 *INCHES*

WORKING PRESSURE	TEST PRESSURE	BURST PRESSURE
10,000 *PSI*	15,000 *PSI*	0 *PSI*

COUPLINGS

Stem Part No.	Ferrule No.
OKC OKC	OKC OKC
Type of Coupling: Swage-It	

PROCEDURE

Hose assembly pressure tested with water at ambient temperature.

TIME HELD AT TEST PRESSURE	ACTUAL BURST PRESSURE:
15 *MIN.*	0 *PSI*

Hose Assembly Serial Number:	Hose Serial Number:
79793	OKC

Comments:

Date:	Tested:	Approved:
3/8/2011		

Midwest Hose & Specialty, Inc.

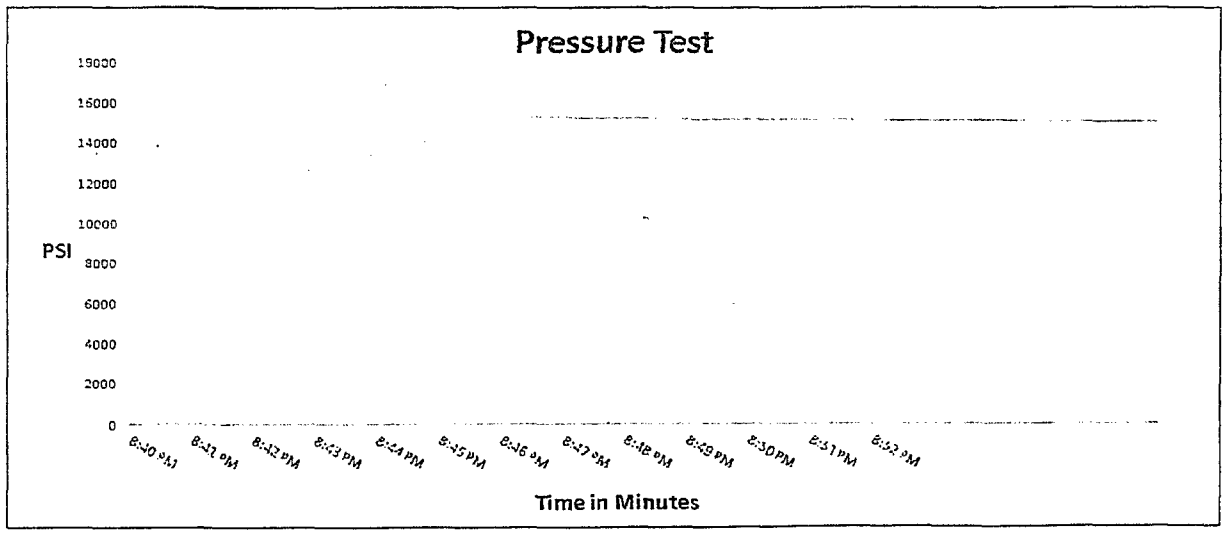
Internal Hydrostatic Test Graph

March 3, 2011

Customer: Houston

Pick Ticket #: 94260

Hose Specifications		Verification	
Hose Type	Length	Type of Fitting	Coupling Method
C & K	45'	4 1/16 10K	Swage
I.D.	O.D.	Die Size	Final O.D.
4"	6.09"	6.38"	6.25"
Working Pressure	Burst Pressure	Hose Serial #	Hose Assembly Serial #
10000 PSI	Standard Safety Multiplier Applies	5544	79793



Test Pressure	Time Held at Test Pressure	Actual Burst Pressure	Peak Pressure
15000 PSI	11 Minutes		15483 PSI

Comments: Hose assembly pressure tested with water at ambient temperature.

Tested By: *Zac Mcconnell*

x

Approved By: *Kim Thomas*

x

Exhibit F-1 – Co-Flex Hose Hydrostatic Test
Marquardt 12-13 Federal Com 11H
Cimarex Energy Co. of Colorado
12-25S-26E
Eddy County, NM

Surface Use Plan

Marquardt 12-13 Federal Com 11H

Cimarex Energy Co.

UL: D, Sec. 12, 25S, 26E

Eddy Co., NM

The following surface use plan of operations will be followed and carried out once the APD is approved. No other disturbance will be created other than what is submitted in this surface use plan without approval. If any other disturbance is needed after the APD is approved, a BLM approved sundry notice or right of way application will be submitted for approval prior to any new surface disturbance.

1. Existing Roads:

- Please see Exhibit B and C-1 for existing access road planned to be used to access the proposed project.
- Cimarex Energy will improve or maintain existing roads in a condition the same as or better than before the operations began. Cimarex Energy will repair pot holes, etc. All existing structures on the entire access route such as cattle guards, other range improvement projects, culverts, etc. will be properly repaired or replaced if they are damaged or have deteriorated beyond practical use.
- Cimarex Energy will prevent and abate fugitive dust as needed, whether created by vehicular traffic, equipment operations, or other events.
- Cimarex Energy will obtain written BLM approval prior to the application of surfactants, binding agents, or other dust suppression chemicals on the roadways.
- The maximum width of the driving surface will be 14.' The road will be crowned and ditched with a 2% slope from the tip of the crown to the edge of the driving surface. The ditches will be 1' deep with 3:1 slopes. The driving surface will be made of 6" rolled and compacted caliche.
- Existing access road route to the proposed project is depicted on the public access point map if applicable. Improvements to the driving surface will be done where necessary. No new surface disturbance will be done, unless otherwise noted in the New or Reconstructed Access Roads section of the surface use plan.

Beginning at the intersection of Black River Village Road and Old Cavern Highway to the South (Located in the SW 1/4 of Section 8, T24S, R27E, NMPM), Proceed in a southerly, then southwesterly direction approximately 5.3 miles to the junction of this road and an existing road to the west; turn right and proceed in a westerly, then northwesterly direction approximately 1.3 miles to the junction of this road and an existing road to the south; turn left and proceed in a southerly direction approximately 0.7 miles to the beginning of the proposed access to the west; follow road flags in a westerly direction approximately 306' to the proposed location.

2. New of Reconstructed Access Roads:

- A new road will be constructed for this project.
- Cimarex Energy plans to construct 306.08' of new on-lease access road to service the well. The planned access road does not cross lease boundaries, a right of way grant will not be acquired from the BLM.
- The maximum width of the driving surface will be 14'. The road will be crowned and ditched with a 2% slope from the tip of the crown to the edge of the driving surface. The ditches will be 1' deep with 3:1 slopes. The driving surface will be made of 6" rolled and compacted caliche.
- Proposed and existing access road route to the proposed wellsite is depicted on Exhibit C-2. Improvements to the driving surface will be done where necessary. No new surface disturbance will be done without prior approval from the BLM.
- The operator will prevent and abate fugitive dust as needed, whether created by vehicular traffic, equipment operations, or other events.

3. Well Radius Map

Please see Exhibit A for wells within one mile of the proposed well SHL and BHL.

4. Proposed or Existing Production Facilities:

- If on completion this well is a producer, a tank battery will be used and the necessary production equipment will be installed and production will be sent to the Marquardt 12-13 Federal Battery.
- Please see Exhibit D for location of the off pad central tank battery.
- Cimarex Energy proposes to install two 4 inch buried HP Steel lines down existing lease road to the Marquardt 12-13 Federal Battery.
- Two lease roads will be constructed to access the battery. Northern on lease road: 245.08' and Southern on lease road: 301.19'. Please see Exhibit C-2.
- Allocation will be based on well test. Flowline route is on lease, please see Exhibit G-2. Any changes to on lease route will be submitted via sundry notice. If route is off lease, a right of way will be submitted to the BLM for approval.

Surface Use Plan
Marquardt 12-13 Federal Com 11H
Cimarex Energy Co.
UL: D, Sec. 12, 25S, 26E
Eddy Co., NM

5. Gas Pipeline

- Cimarex plans to construct an off lease gas pipeline to service this battery location.
- Please see Exhibit G-1 for pipeline route.
- Specification of pipeline: 12" LP Steel for Gas, 8" HP Steel for Gas, 4" Steel for Buy Back from Purchaser.
- Line will be buried and will require a construction width of 30'.
- Length of 12" line: 5,318', Length of 8" line: 2,598', Length of 4" Buy Back Line: 2,598'
- MAOP: 12" Line: 1440 psi , 8" Line: 1440, 4" Buy Back Line: 1440 psi
- Anticipated working pressure: 12" gas Line: 300 psi, 8" gas line: 300 psi, Buy back line: 1100 psi

6. Flowlines

- Cimarex Energy plans to construct on lease flowlines to service the well.
- Specifications of Polyline: 1 HP Steel for oil, gas, and water production. 1 HP Steel for gas lift.
- Both lines will be buried 10'-20' North of the access road.
- Length of Gas Lift Line: 942'
- Length of Flowlines: 928'
- MAOP: 1500 psi.
- Anticipated working pressure: flowlines: 200-300 psi, gas lift: 1100 psi.

7. Salt Water Disposal

- Cimarex plans to construct an on lease SWD pipeline to service this battery location.
- SWD well name: Liberty 24 Federal Com, Well Number: 1 SWD
- Operator of SWD: Cimarex Energy Co. of Colorado
- API of SWD well: 30-015-33094
- SWD Permit #: SWD-1216
- Please see Exhibit I for pipeline route.
- Specification of pipeline: 4" poly and 12" poly
- The 4" Line will not be buried and the 12' will be buried. Both will require a construction width of 30'
- Length: 1,522'
- MAOP: 125 psi.
- Anticipated working pressure: 110 psi.
- Pipeline will be constructed 20-30' from and parallel to an existing route.

8. Electric Lines

- Cimarex Energy plans to construct a new on lease electric line to service the well.
- Cimarex Energy plans to install and overhead electric line from the proposed well to an existing overhead electric line located in NW of section 12. The proposed electric line will be 152' in length, 1-40 poles, 480 volt, 4 wire, 3 phase. The electric line will exit off the North side of the well location and travel North 152' until it would intercept the existing electric line.
- Cimarex Energy plans to install and overhead electric line from the proposed battery to an existing overhead electric line located in NW of section 12. The proposed electric line will be 646' in length, 1-40 poles, 480 volt, 4 wire, 3 phase. The electric line will exit off the North side of the well location and travel North then West 646' until it would intercept the existing electric line.
- Route is within lease boundaries; a right of way grant will not be acquired from the BLM. Please see Exhibit H. Any changes to E-Line route will be submitted via sundry notice.

9. Water

Cimarex Energy plans to purchase fresh water from a 3rd party company. A local commercial source will truck water utilizing the access road. Please see Exhibit C-1 for access road route.

10. Construction Material

If possible, native caliche will be obtained from the excavation of drill site. The primary way of obtaining caliche will be by "turning over" the location. This means caliche will be obtained from the actual well site. A caliche permit will be obtained from BLM prior to pushing up any caliche. 2400 cu yds is the max amount of caliche needed for pad and roads. Amount will vary for each pad. The procedure below has been approved by BLM personnel:

- The top 6 inches of topsoil is pushed off and stockpiled along the side of the location.
- An approximate 120' x 120' area is used within the proposed well site to remove caliche.
- Subsoil is removed and piled alongside the 120' by 120' area within the pad site.
- When caliche is found, material will be stockpiled within the pad site to build the location and road.
- Then subsoil is pushed back in the hole and caliche is spread accordingly across entire location and road.
- Once well is drilled, the stockpiled top soil will be used for interim reclamation and spread along areas where caliche is picked up and the location size is reduced. Neither caliche nor subsoil will be stockpiled outside of the well pad. Topsoil will be stockpiled along the edge of the pad as depicted in Exhibit D – Rig Layout Diagram.

In the event that no caliche is found onsite, caliche will be hauled in from BLM-approved caliche pit.

11. Methods of Handling Waste

- Drilling fluids, produced oil, and water from the well during drilling and completion operations will be stored safely and disposed of properly in a NMOCD approved disposal facility.
- Garbage and trash produced during drilling and completion operations will be collected in a trash container and disposed of properly at a state approved disposal facility. All trash on and around well site will be collected for disposal.
- Human waste and grey water will be properly contained and disposed of properly at a state approved disposal site.
- After drilling and completion operations, trash, chemicals, salts, frac sand and other waste will be removed and disposed of properly at a state approved disposal site.
- The well will be drilled utilizing a closed loop system. Drill cuttings will be properly disposed of into steel tanks and taken to an NMOCD approved disposal facility.

12. Ancillary Facilities:

No camps or airstrips to be constructed.

13. Well Site Layout:

- Exhibit D: Rig Layout
- Exhibit D-2: Well Site layout plat
- Mud pits in the closed circulation system will be steel pits and the cuttings will be stored in steel containment pits.
- Cuttings will be stored in steel pits until they are hauled to a state-approved disposal facility.
- If the well is a producer, those areas of the location not essential to production facilities will be reclaimed and seeded per BLM requirements. Exhibit D-1: Interim Reclamation Diagram.

14. Interim and Final Reclamation

- Rehabilitation of the location will start in a timely manner after all drilling operations cease. The type of reclamation will depend on whether the well is a producer or a dry hole.
- In areas planned for interim and final reclamation, surfacing materials will be removed and returned to a mineral pit or recycled to repair or build roads and well pads.
- Drainage systems, if any, will be reshaped to the original configuration with provisions made to alleviate erosion. These may need to be modified in certain circumstances to prevent inundation of the location's pad and surface facilities. After the area has been shaped and contoured, topsoil from the spoil pile will be placed over the disturbed area to the extent possible. Revegetation procedures will comply with BLM standards.
- If the well is a dry hole, the pad and road area will be re-contoured to match the existing terrain. Topsoil will be spread to the extent possible. Revegetation will comply with BLM standards.
- Should the well be a producer, those areas of the location not essential to production facilities and operations will be reclaimed and seeded per BLM requirements. Exhibit D-1 illustrates the proposed Interim Reclamation.

Surface Use Plan
Marquardt 12-13 Federal Com 11H
Cimarex Energy Co.
UL: D, Sec. 12, 25S, 26E
Eddy Co., NM

15. Surface Ownership:

- The wellsite is on surface owned by Bureau of Land Management, 620 E. Greene St. Carlsbad, NM 88220, 575-234-5972.
- A copy of Surface Use Agreement has been given to the surface owner.
- The land is used mainly for farming, cattle ranching, recreational use, and oil and gas production.

16. Other Information:

- Topography consists of a sloping plane with loose tan sands. Vegetation is mainly yucca, mesquite and shin oak.
- Archeological survey will be conducted for the well pad/location and proposed road and the arch report will be filed with the BLM.
- There are no known dwellings within 1½ miles of this location.

17. On Site Notes and Information:

Onsite with BLM (Jeff Robertson) & Cimarex (Barry Hunt) on 10/6/16. The pad of 8 wells was moved 229 ft. east due to drainage issues to the west. 500' x 500' pad size will be as follows: North 310', south 190', west 320' and east 180'. Top soil north. No Interim reclamation. No V-Door or Frac pad designation. Construct a ditch and berm system at southwest corner to divert water run-off from pad. Access road and Gas lift/Production line staked off southeast corner east to existing road and the off-site battery. E-line staked north to existing E-line to Marquardt Fed #15 & 16 wells. BLM Realty staff (Robert Gomez and Brittany Chavez) also on-site to inspect route of buried gas and SWD pipeline staked from offsite battery.

PECOS DISTRICT
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	**Cimarex Energy Co**
LEASE NO.:	**NMNM14124**
WELL NAME & NO.:	**Marquardt 12 13 Federal Com – 11H**
SURFACE HOLE FOOTAGE:	**565'/FNL & 1309'/FWL**
BOTTOM HOLE FOOTAGE	**330'/FSL & 350'/FWL**
LOCATION:	**Sec. 12, T. 25 S, R. 26 E**
COUNTY:	**Eddy County**

I. DRILLING

A. DRILLING OPERATIONS REQUIREMENTS

The BLM is to be notified in advance for a representative to witness:

a. Spudding well (minimum of 24 hours)
b. Setting and/or Cementing of all casing strings (minimum of 4 hours)
c. BOPE tests (minimum of 4 hours)

☒ **Eddy County**
Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, (575) 361-2822

1. A Hydrogen Sulfide (H2S) Drilling Plan shall be activated 500 feet prior to drilling into the **Delaware** formation. **As a result, the Hydrogen Sulfide area must meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, please provide measured values and formations to the BLM.**

2. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval. **If the drilling rig is removed without approval – an Incident of Non-Compliance will be written and will be a "Major" violation.**

3. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works is located, this does not include the dog house or stairway area.

4. **The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well**

as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.

B. CASING

Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.).

Centralizers required on surface casing per Onshore Order 2.III.B.1.f.

Wait on cement (WOC) for Water Basin:
After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements.

No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.

Possibility of water flows in the Castile.
Possibility of lost circulation in the Castile and in the Delaware.

HIGH CAVE/KARST
A MINIMUM OF TWO CASING STRINGS CEMENTED TO SURFACE IS REQUIRED IN HIGH CAVE/KARST AREAS. THE CEMENT MUST BE IN A SOLID SHEATH. THEREFORE, ONE INCH OPERATIONS ARE NOT SUFFICIENT TO PROTECT CAVE KARST RESOURCES. A CASING DESIGN THAT HAS A ONE INCH JOB PERFORMED DOES NOT COUNT AS A SOLID SHEATH. ON A THREE STRING DESIGN; IF THE PRIMARY CEMENT JOB ON THE SURFACE CASING DOES NOT CIRCULATE, THEN THE NEXT TWO CASING STRINGS MUST BE CEMENTED TO SURFACE.

1. The **13-3/8** inch surface casing shall be set at approximately **450** feet and cemented to the surface. **If salt is penetrated set casing 25' above the top of the salt. Excess calculates to 14% - Additional cement might be required.**

    a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of

the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.

b. Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry.

c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.

d. If cement falls back, remedial cementing will be done prior to drilling out that string.

2. The minimum required fill of cement behind the **9-5/8** inch intermediate casing is:

   ☒ Cement to surface. If cement does not circulate see B.1.a, c-d above. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst.**

3. The minimum required fill of cement behind the **7** inch production casing is:

   ☒ Cement should tie-back at least 200 feet into previous casing string. Operator shall provide method of verification. **Excess calculates to 20% - Additional cement may be required.**

Formation below the 7" shoe to be tested according to Onshore Order 2.III.B.1.i. Test to be done as a mud equivalency test using the mud weight necessary for the pore pressure of the formation below the shoe (not the mud weight required to prevent dissolving the salt formation) and the mud weight for the bottom of the hole. Report results to BLM office.

4. The minimum required fill of cement behind the **4 1/2** inch production liner is:

   ☒ Cement as proposed. Operator shall provide method of verification. **Excess calculates to negative 16% - Additional cement will be required.**

5. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

C. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.

2. Variance approved to use flex line from BOP to choke manifold. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to

Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. **Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.** If the BLM inspector questions the straightness of the hose, a BLM engineer will be contacted and will review in the field or via picture supplied by inspector to determine if changes are required (operator shall expect delays if this occurs).

3. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **2000 (2M)** psi.

4. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **9-5/8** intermediate casing shoe shall be **3000 (3M)** psi.

5. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **7** inch production casing shoe shall be **5000 (5M)** psi.

5M/10M system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.

6. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.

    a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).

    b. The tests shall be done by an independent service company utilizing a test plug **not a cup or J-packer**. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (18 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).

    c. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.

d. The results of the test shall be reported to the appropriate BLM office.

e. All tests are required to be recorded on a calibrated test chart. **A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.**

f. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.

D. DRILL STEM TEST

If drill stem tests are performed, Onshore Order 2.III.D shall be followed.

E. WASTE MATERIAL AND FLUIDS

All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location or surrounding area.

Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.

F. SPECIAL REQUIREMENT(S)

Communitization Agreement:

1. The operator will submit a Communitization Agreement to the Carlsbad Field Office, 620 E Greene St. Carlsbad, New Mexico 88220, at least 90 days before the anticipated date of first production from a well subject to a spacing order issued by the New Mexico Oil Conservation Division. The Communitization Agreement will include the signatures of all working interest owners in all Federal and Indian leases subject to the Communitization Agreement (i.e., operating rights owners and lessees of record), or certification that the operator has obtained the written signatures of all such owners and will make those signatures available to the BLM immediately upon request.

2. If the operator does not comply with this condition of approval, the BLM may take enforcement actions that include, but are not limited to, those specified in 43 CFR 3163.1.

3. In addition, the well sign shall include the surface and bottom hole lease numbers. When the Communitization Agreement number is known, it shall also be on the sign.

MHH 01312017

PECOS DISTRICT
SURFACE USE
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Cimarex Energy Co
LEASE NO.:	NM14124
WELL NAME & NO.:	Marquardt 12 13 Federal Com - 11H
SURFACE HOLE FOOTAGE:	565'/N & 1309'/W
BOTTOM HOLE FOOTAGE	330'/S & 350'/W
LOCATION:	Section 12, T. 25 S., R. 26 E., NMPM
COUNTY:	Eddy County, New Mexico

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Standard Conditions of Approval (COA) apply to this APD. If any deviations to these standards exist or special COAs are required, the section with the deviation or requirement will be checked below.

I. GENERAL PROVISIONS

The approval of the Application For Permit To Drill (APD) is in compliance with all applicable laws and regulations: 43 Code of Federal Regulations 3160, the lease terms, Onshore Oil and Gas Orders, Notices To Lessees, New Mexico Oil Conservation Division (NMOCD) Rules, National Historical Preservation Act As Amended, and instructions and orders of the Authorized Officer. Any request for a variance shall be submitted to the Authorized Officer on Form 3160-5, Sundry Notices and Report on Wells.

II. PERMIT EXPIRATION

If the permit terminates prior to drilling and drilling cannot be commenced within 60 days after expiration, an operator is required to submit Form 3160-5, Sundry Notices and Reports on Wells, requesting surface reclamation requirements for any surface disturbance. However, if the operator will be able to initiate drilling within 60 days after the expiration of the permit, the operator must have set the conductor pipe in order to allow for an extension of 60 days beyond the expiration date of the APD. (Filing of a Sundry Notice is required for this 60 day extension.)

III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES

Any cultural and/or paleontological resource discovered by the operator or by any person working on the operator's behalf shall immediately report such findings to the Authorized Officer. The operator is fully accountable for the actions of their contractors and subcontractors. The operator shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery shall be made by the Authorized Officer to determine the appropriate actions that shall be required to prevent the loss of significant cultural or scientific values of the discovery. The operator shall be held responsible for the cost of the proper mitigation measures that the Authorized Officer assesses after consultation with the operator on the evaluation and decisions of the discovery. Any unauthorized collection or disturbance of cultural or paleontological resources may result in a shutdown order by the Authorized Officer.

IV. NOXIOUS WEEDS

The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes the roads, pads, associated pipeline corridor, and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

V. SPECIAL REQUIREMENT(S)

Timing Limitation Stipulation / Condition of Approval for lesser prairie-chicken: Oil and gas activities including 3-D geophysical exploration, and drilling will not be allowed in lesser prairie-chicken habitat during the period from March 1st through June 15th annually. During that period, other activities that produce noise or involve human activity, such as the maintenance of oil and gas facilities, pipeline, road, and well pad construction, will be allowed except between 3:00 am and 9:00 am. The 3:00 am to 9:00 am restriction will not apply to normal, around-the-clock operations, such as venting, flaring, or pumping, which do not require a human presence during this period. Additionally, no new drilling will be allowed within up to 200 meters of leks known at the time of permitting. Normal vehicle use on existing roads will not be restricted. Exhaust noise from pump jack engines must be muffled or otherwise controlled so as not to exceed 75 db measured at 30 feet from the source of the noise.

Ground-level Abandoned Well Marker to avoid raptor perching: Upon the plugging and subsequent abandonment of the well, the well marker will be installed at ground level on a plate containing the pertinent information for the plugged well. For more installation details, contact the Carlsbad Field Office at 575-234-5972.

This authorization is subject to your Certificate of Participation and/or Certificate of Inclusion under the New Mexico Candidate Conservation Agreement. Because it involves surface disturbing activities covered under your Certificate, your Habitat Conservation Fund Account with the Center of Excellence for Hazardous Materials Management (CEHMM) will be debited according to Exhibit B Part 2 of the Certificate of Participation.

Cave/Karst Surface Mitigation

The following stipulations will be applied to minimize impacts during construction, drilling and production.

Construction:
In the advent that any underground voids are opened up during construction activities, construction activities will be halted and the BLM will be notified immediately.

No Blasting:
No blasting will be utilized for pad construction. The pad will be constructed and leveled by adding the necessary fill and caliche.

Pad Berming:
The pad will be bermed to prevent oil, salt, and other chemical contaminants from leaving the pad.

Closed Mud System Using Steel Tanks with All Fluids and Cuttings Hauled Off.

A closed mud system using steel tanks for all cuttings and fluids is required. All fluids and cuttings will be hauled off site for disposal. No pits are allowed.

Tank Battery Liners and Berms:
Tank battery locations will be lined and bermed. A 20 mil permanent liner will be installed with a 4 oz. felt backing to prevent tears or punctures. Tank battery berms must be large enough to contain 1 ½ times the content of the largest tank.

Leak Detection System:
A method of detecting leaks is required. The method could incorporate gauges to measure loss, situating values and lines so they can be visually inspected, or installing electronic sensors to alarm when a leak is present. Leak detection plan will be submitted to BLM for approval.

Automatic Shut-off Systems:
Automatic shut off, check values, or similar systems will be installed for pipelines and tanks to minimize the effects of catastrophic line failures used in production or drilling.

Cave/Karst Subsurface Mitigation

The following stipulations will be applied to protect cave/karst and ground water concerns:

Rotary Drilling with Fresh Water:
Fresh water will be used as a circulating medium in zones where caves or karst features are expected. SEE ALSO: Drilling COAs for this well.

Directional Drilling:
Kick off for directional drilling will occur at least 100 feet below the bottom of the cave occurrence zone. SEE ALSO: Drilling COAs for this well.

Lost Circulation:
ALL lost circulation zones from the surface to the base of the cave occurrence zone will be logged and reported in the drilling report.

Regardless of the type of drilling machinery used, if a void of four feet or more and circulation losses greater than 70 percent occur simultaneously while drilling in any cave-bearing zone, the BLM will be notified immediately by the operator. The BLM will assess the situation and work with the operator on corrective actions to resolve the problem.

Abandonment Cementing:
Upon well abandonment in high cave karst areas additional plugging conditions of approval may be required. The BLM will assess the situation and work with the operator to ensure proper plugging of the wellbore.

Pressure Testing:

Annual pressure monitoring will be performed by the operator on all casing annuli and reported in a sundry notice. If the test results indicated a casing failure has occurred, remedial action will be undertaken to correct the problem to the BLM's approval.

VI. CONSTRUCTION

A. NOTIFICATION

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Carlsbad Field Office at (575) 234-5909 at least 3 working days prior to commencing construction of the access road and/or well pad.

When construction operations are being conducted on this well, the operator shall have the approved APD and Conditions of Approval (COA) on the well site and they shall be made available upon request by the Authorized Officer.

B. TOPSOIL

The operator shall strip the top portion of the soil (root zone) from the entire well pad area and stockpile the topsoil along the edge of the well pad as depicted in the APD. The root zone is typically six (6) inches in depth. All the stockpiled topsoil will be redistributed over the interim reclamation areas. Topsoil shall not be used for berming the pad or facilities. For final reclamation, the topsoil shall be spread over the entire pad area for seeding preparation.

Other subsoil (below six inches) stockpiles must be completely segregated from the topsoil stockpile. Large rocks or subsoil clods (not evident in the surrounding terrain) must be buried within the approved area for interim and final reclamation.

C. CLOSED LOOP SYSTEM

Tanks are required for drilling operations: No Pits.

The operator shall properly dispose of drilling contents at an authorized disposal site.

D. FEDERAL MINERAL MATERIALS PIT

Payment shall be made to the BLM prior to removal of any federal mineral materials. Call the Carlsbad Field Office at (575) 234-5972.

E. WELL PAD SURFACING

Surfacing of the well pad is not required.

If the operator elects to surface the well pad, the surfacing material may be required to be removed at the time of reclamation. The well pad shall be constructed in a manner which creates the smallest possible surface disturbance, consistent with safety and operational needs.

F. EXCLOSURE FENCING (CELLARS & PITS)

Exclosure Fencing
The operator will install and maintain exclosure fencing for all open well cellars to prevent access to public, livestock, and large forms of wildlife before and after drilling operations until the pit is free of fluids and the operator initiates backfilling. (For examples of exclosure fencing design, refer to BLM's Oil and Gas Gold Book, Exclosure Fence Illustrations, Figure 1, Page 18.)

G. ON LEASE ACCESS ROADS

Road Width
The access road shall have a driving surface that creates the smallest possible surface disturbance and does not exceed fourteen (14) feet in width. The maximum width of surface disturbance, when constructing the access road, shall not exceed twenty-five (25) feet.

Surfacing
Surfacing material is not required on the new access road driving surface. If the operator elects to surface the new access road or pad, the surfacing material may be required to be removed at the time of reclamation.

Where possible, no improvements should be made on the unsurfaced access road other than to remove vegetation as necessary, road irregularities, safety issues, or to fill low areas that may sustain standing water.

The Authorized Officer reserves the right to require surfacing of any portion of the access road at any time deemed necessary. Surfacing may be required in the event the road deteriorates, erodes, road traffic increases, or it is determined to be beneficial for future field development. The surfacing depth and type of material will be determined at the time of notification.

Crowning
Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

Ditching
Ditching shall be required on both sides of the road.

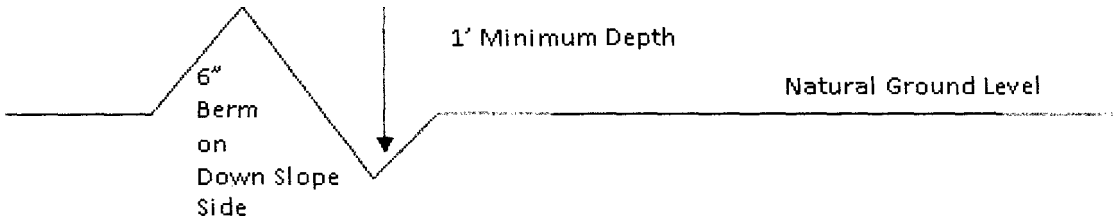
Turnouts
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall conform to Figure 1; cross section and plans for typical road construction.

Drainage

Drainage control systems shall be constructed on the entire length of road (e.g. ditches, sidehill outsloping and insloping, lead-off ditches, culvert installation, and low water crossings).

A typical lead-off ditch has a minimum depth of 1 foot below and a berm of 6 inches above natural ground level. The berm shall be on the down-slope side of the lead-off ditch.

Cross Section of a Typical Lead-off Ditch



All lead-off ditches shall be graded to drain water with a 1 percent minimum to 3 percent maximum ditch slope. The spacing interval are variable for lead-off ditches and shall be determined according to the formula for spacing intervals of lead-off ditches, but may be amended depending upon existing soil types and centerline road slope (in %);

Formula for Spacing Interval of Lead-off Ditches

Example - On a 4% road slope that is 400 feet long, the water flow shall drain water into a lead-off ditch. Spacing interval shall be determined by the following formula:

400 foot road with 4% road slope: $\frac{400'}{4\%} + 100' = 200'$ lead-off ditch interval

Cattle guards

An appropriately sized cattle guard sufficient to carry out the project shall be installed and maintained at fence/road crossings. Any existing cattle guards on the access road route shall be repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for the condition of the existing cattle guards that are in place and are utilized during lease operations.

Fence Requirement

Where entry is granted across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting. The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fences.

Public Access

Public access on this road shall not be restricted by the operator without specific written approval granted by the Authorized Officer.

Construction Steps

1. Salvage topsoil
2. Construct road
3. Redistribute topsoil
4. Revegetate slopes

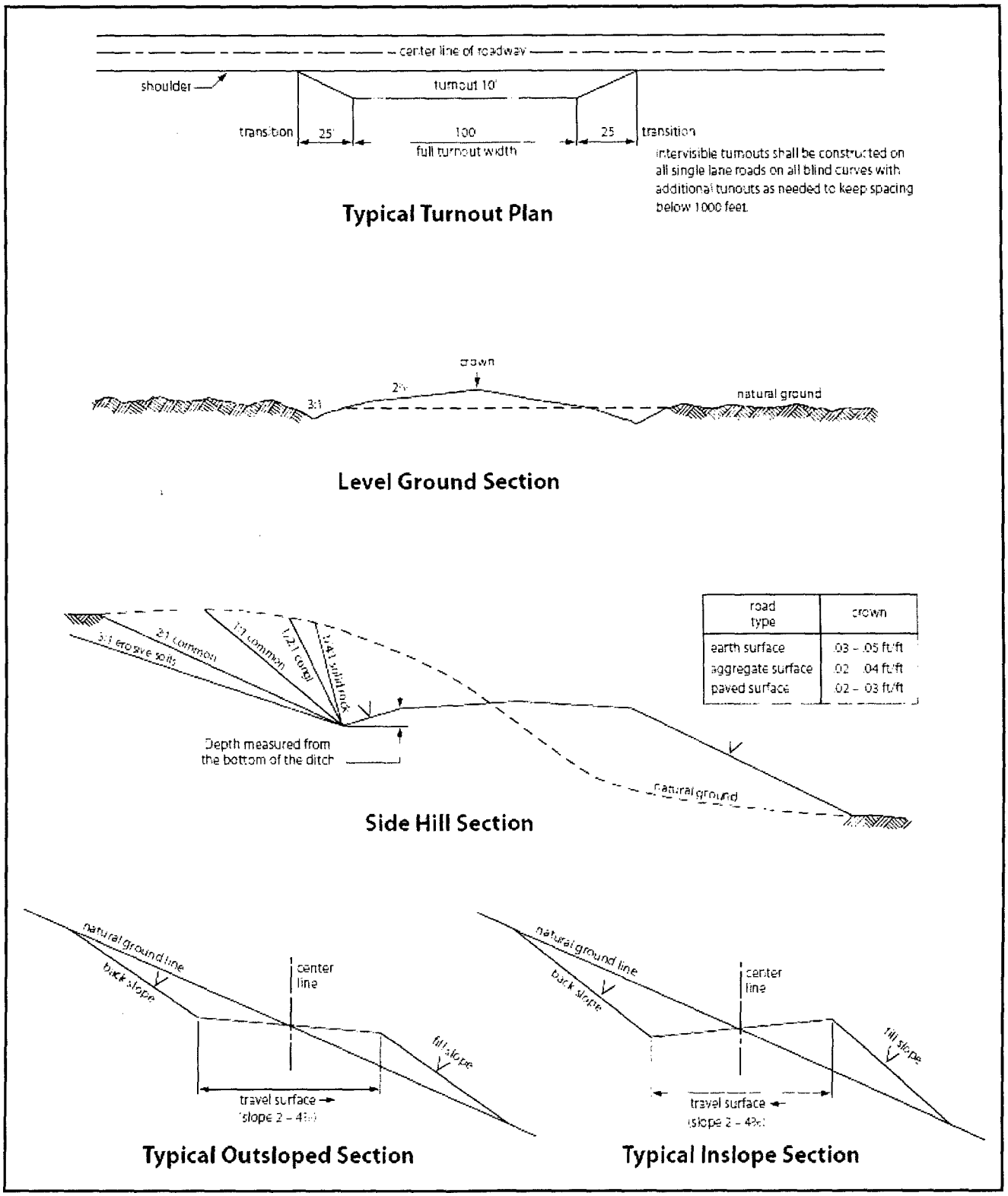


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

VII. PRODUCTION (POST DRILLING)

A. WELL STRUCTURES & FACILITIES

Placement of Production Facilities
Production facilities should be placed on the well pad to allow for maximum interim recontouring and revegetation of the well location.

Exclosure Netting (Open-top Tanks)
Immediately following active drilling or completion operations, the operator will take actions necessary to prevent wildlife and livestock access, including avian wildlife, to all open-topped tanks that contain or have the potential to contain salinity sufficient to cause harm to wildlife or livestock, hydrocarbons, or Resource Conservation and Recovery Act of 1976-exempt hazardous substances. At a minimum, the operator will net, screen, or cover open-topped tanks to exclude wildlife and livestock and prevent mortality. If the operator uses netting, the operator will cover and secure the open portion of the tank to prevent wildlife entry. The operator will net, screen, or cover the tanks until the operator removes the tanks from the location or the tanks no longer contain substances that could be harmful to wildlife or livestock. Use a maximum netting mesh size of 1 ½ inches. The netting must not be in contact with fluids and must not have holes or gaps.

Chemical and Fuel Secondary Containment and Exclosure Screening
The operator will prevent all hazardous, poisonous, flammable, and toxic substances from coming into contact with soil and water. At a minimum, the operator will install and maintain an impervious secondary containment system for any tank or barrel containing hazardous, poisonous, flammable, or toxic substances sufficient to contain the contents of the tank or barrel and any drips, leaks, and anticipated precipitation. The operator will dispose of fluids within the containment system that do not meet applicable state or U. S. Environmental Protection Agency livestock water standards in accordance with state law; the operator must not drain the fluids to the soil or ground. The operator will design, construct, and maintain all secondary containment systems to prevent wildlife and livestock exposure to harmful substances. At a minimum, the operator will install effective wildlife and livestock exclosure systems such as fencing, netting, expanded metal mesh, lids, and grate covers. Use a maximum netting mesh size of 1 ½ inches.

Open-Vent Exhaust Stack Exclosures
The operator will construct, modify, equip, and maintain all open-vent exhaust stacks on production equipment to prevent birds and bats from entering, and to discourage perching, roosting, and nesting. (*Recommended exclosure structures on open-vent exhaust stacks are in the shape of a cone.*) Production equipment includes, but may not be limited to, tanks, heater-treaters, separators, dehydrators, flare stacks, in-line units, and compressor mufflers.

Containment Structures

Proposed production facilities such as storage tanks and other vessels will have a secondary containment structure that is constructed to hold the capacity of 1.5 times the largest tank, plus freeboard to account for precipitation, unless more stringent protective requirements are deemed necessary.

Painting Requirement
All above-ground structures including meter housing that are not subject to safety requirements shall be painted a flat non-reflective paint color, **Shale Green** from the BLM Standard Environmental Color Chart (CC-001: June 2008).

B. PIPELINES

BURIED PIPELINE STIPULATIONS

A copy of the application (Grant, APD, or Sundry Notice) and attachments, including conditions of approval, survey plat and/or map, will be on location during construction. BLM personnel may request to you a copy of your permit during construction to ensure compliance with all stipulations.

Holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer:

1. The Holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.

2. The Holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 et seq. (1982) with regards to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.

3. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et seq. or the Resource Conservation and Recovery Act, 42 U.S.C.6901, et seq.) on the Right-of-Way (unless the release or threatened release is wholly unrelated to the Right-of-Way holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way holder on the Right-of-Way. This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

4. If, during any phase of the construction, operation, maintenance, or termination of the pipeline, any oil or other pollutant should be discharged from the pipeline system, impacting Federal lands, the control and total removal, disposal, and cleaning up of such oil or other pollutant, wherever found, shall be the responsibility of holder, regardless of fault. Upon failure of holder to control, dispose of, or clean up such discharge on or affecting Federal lands, or to repair all damages resulting therefrom, on the Federal lands, the Authorized Officer may take such measures as he deems necessary to control and clean up the discharge and restore the area, including where appropriate, the aquatic environment and fish and wildlife habitats, at the full expense of the holder. Such action by the Authorized Officer shall not relieve holder of any responsibility as provided herein.

5. All construction and maintenance activity will be confined to the authorized right-of-way.

6. The pipeline will be buried with a minimum cover of **36** inches between the top of the pipe and ground level.

7. The maximum allowable disturbance for construction in this right-of-way will be **30** feet:

- Blading of vegetation within the right-of-way will be allowed: maximum width of blading operations will not exceed **20** feet. The trench is included in this area. (*Blading is defined as the complete removal of brush and ground vegetation.*)

- Clearing of brush species within the right-of-way will be allowed: maximum width of clearing operations will not exceed **30** feet. The trench and bladed area are included in this area. (*Clearing is defined as the removal of brush while leaving ground vegetation (grasses, weeds, etc.) intact. Clearing is best accomplished by holding the blade 4 to 6 inches above the ground surface.*)

- The remaining area of the right-of-way (if any) shall only be disturbed by compressing the vegetation. (*Compressing can be caused by vehicle tires, placement of equipment, etc.*)

8. The holder shall stockpile an adequate amount of topsoil where blading is allowed. The topsoil to be stripped is approximately 6 inches in depth. The topsoil will be segregated from other spoil piles from trench construction. The topsoil will be evenly distributed over the bladed area for the preparation of seeding.

9. The holder shall minimize disturbance to existing fences and other improvements on public lands. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. The holder will contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting of the fence. No permanent gates will be allowed unless approved by the Authorized Officer.

10. Vegetation, soil, and rocks left as a result of construction or maintenance activity will be randomly scattered on this right-of-way and will not be left in rows, piles, or berms, unless otherwise approved by the Authorized Officer. The entire right-of-way shall be recontoured to match the surrounding landscape. The backfilled soil shall be compacted and a 6 inch berm will be left over the ditch line to allow for settling back to grade.

11. In those areas where erosion control structures are required to stabilize soil conditions, the holder will install such structures as are suitable for the specific soil conditions being encountered and which are in accordance with sound resource management practices.

12. The holder will reseed all disturbed areas. Seeding will be done according to the attached seeding requirements, using the following seed mix.

( ) seed mixture 1	( ) seed mixture 3
(X) seed mixture 2	( ) seed mixture 4
( ) seed mixture 2/LPC	( ) Aplomado Falcon Mixture

13. All above-ground structures not subject to safety requirements shall be painted by the holder to blend with the natural color of the landscape. The paint used shall be color which simulates "Standard Environmental Colors" – **Shale Green**, Munsell Soil Color No. 5Y 4/2.

14. The pipeline will be identified by signs at the point of origin and completion of the right-of-way and at all road crossings. At a minimum, signs will state the holder's name, BLM serial number, and the product being transported. All signs and information thereon will be posted in a permanent, conspicuous manner, and will be maintained in a legible condition for the life of the pipeline.

15. The holder shall not use the pipeline route as a road for purposes other than routine maintenance as determined necessary by the Authorized Officer in consultation with the holder before maintenance begins. The holder will take whatever steps are necessary to ensure that the pipeline route is not used as a roadway. As determined necessary during the life of the pipeline, the Authorized Officer may ask the holder to construct temporary deterrence structures.

16. Any cultural and/or paleontological resources (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the Authorized Officer. Holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

17. The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes associated roads, pipeline corridor and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

18. Escape Ramps - The operator will construct and maintain pipeline/utility trenches [that are not otherwise fenced, screened, or netted] to prevent livestock, wildlife, and humans from becoming entrapped. At a minimum, the operator will construct and maintain escape ramps,

ladders, or other methods of avian and terrestrial wildlife escape in the trenches according to the following criteria:

a. Any trench left open for eight (8) hours or less is not required to have escape ramps; however, before the trench is backfilled, the contractor/operator shall inspect the trench for wildlife, remove all trapped wildlife, and release them at least 100 yards from the trench.
b. For trenches left open for eight (8) hours or more, earthen escape ramps (built at no more than a 30 degree slope and spaced no more than 500 feet apart) shall be placed in the trench.

19. Special Stipulations:

Lesser Prairie-Chicken

Oil and gas activities will not be allowed in lesser prairie-chicken habitat during the period from March 1st through June 15th annually. During that period, other activities that produce noise or involve human activity, such as the maintenance of oil and gas facilities, geophysical exploration other than 3-D operations, and pipeline, road, and well pad construction, will be allowed except between 3:00 am and 9:00 am. The 3:00 am to 9:00 am restriction will not apply to normal, around-the-clock operations, such as venting, flaring, or pumping, which do not require a human presence during this period. Normal vehicle use on existing roads will not be restricted. Exhaust noise from pump jack engines must be muffled or otherwise controlled so as not to exceed 75 db measured at 30 ft. from the source of the noise.

This authorization is subject to your Certificate of Participation and/or Certificate of Inclusion under the New Mexico Candidate Conservation Agreement. Because it involves surface disturbing activities covered under your Certificate, your Habitat Conservation Fund Account with the Center of Excellence for Hazardous Materials Management (CEHMM) will be debited according to Exhibit B Part 2 of the Certificate of Participation.

C. ELECTRIC LINES

STANDARD STIPULATIONS FOR OVERHEAD ELECTRIC DISTRIBUTION LINES

A copy of the grant and attachments, including stipulations, survey plat and/or map, will be on location during construction. BLM personnel may request to you a copy of your permit during construction to ensure compliance with all stipulations.

Holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer:

1. The holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.

2. The holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic

Substances Control Act of 1976 as amended, 15 USC 2601 et seq. (1982) with regards to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.

3. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et seq. or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, et seq.) on the Right-of-Way (unless the release or threatened release is wholly unrelated to the Right-of-Way holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way holder on the Right-of-Way. This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

4. There will be no clearing or blading of the right-of-way unless otherwise agreed to in writing by the Authorized Officer.

5. Power lines shall be constructed and designed in accordance to standards outlined in "Suggested Practices for Avian Protection on Power lines: The State of the Art in 2006" Edison Electric Institute, APLIC, and the California Energy Commission 2006 . The holder shall assume the burden and expense of proving that pole designs not shown in the above publication deter raptor perching, roosting, and nesting. Such proof shall be provided by a raptor expert approved by the Authorized Officer. The BLM reserves the right to require modification or additions to all powerline structures placed on this right-of-way, should they be necessary to ensure the safety of large perching birds. Such modifications and/or additions shall be made by the holder without liability or expense to the United States.

Raptor deterrence will consist of but not limited to the following: triangle perch discouragers shall be placed on each side of the cross arms and a nonconductive perching deterrence shall be placed on all vertical poles that extend past the cross arms.

6. The holder shall minimize disturbance to existing fences and other improvements on public lands. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. The holder will contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting the fence. No permanent gates will be allowed unless approved by the Authorized Officer.

7. The BLM serial number assigned to this authorization shall be posted in a permanent, conspicuous manner where the power line crosses roads and at all serviced facilities. Numbers will be at least two inches high and will be affixed to the pole nearest the road crossing and at the facilities served.

8. Upon cancellation, relinquishment, or expiration of this grant, the holder shall comply with those abandonment procedures as prescribed by the Authorized Officer.

9. All surface structures (poles, lines, transformers, etc.) shall be removed within 180 days of abandonment, relinquishment, or termination of use of the serviced facility or facilities or within 180 days of abandonment, relinquishment, cancellation, or expiration of this grant, whichever comes first. This will not apply where the power line extends service to an active, adjoining facility or facilities.

10. Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the Authorized Officer. Holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

11. Special Stipulations:
- For reclamation remove poles, lines, transformer, etc. and dispose of properly.
- Fill in any holes from the poles removed.

Timing Limitation Stipulation/Condition of Approval for Lesser Prairie-Chicken: Oil and gas activities including 3-D geophysical exploration, and drilling will not be allowed in lesser prairie-chicken habitat during the period from March 1st through June 15th annually. During that period, other activities that produce noise or involve human activity, such as the maintenance of oil and gas facilities, geophysical exploration other than 3-D operations, and pipeline, road, and well pad construction, will be allowed except between 3:00 am and 9:00 am. The 3:00 am to 9:00 am restriction will not apply to normal, around-the-clock operations, such as venting, flaring, or pumping, which do not require a human presence during this period. Additionally, no new drilling will be allowed within up to 200 meters of leks known at the time of permitting. Normal vehicle use on existing roads will not be restricted. Exhaust noise from pump jack engines must be muffled or otherwise controlled so as not to exceed 75 db measured at 30 ft. from the source of the noise.

This authorization is subject to your Certificate of Participation and/or Certificate of Inclusion under the New Mexico Candidate Conservation Agreement. Because it involves surface disturbing activities covered under your Certificate, your Habitat

Conservation Fund Account with the Center of Excellence for Hazardous Materials Management (CEHMM) will be debited according to Exhibit B Part 2 of the Certificate of Participation.

VIII. INTERIM RECLAMATION

During the life of the development, all disturbed areas not needed for active support of production operations should undergo interim reclamation in order to minimize the environmental impacts of development on other resources and uses.

Within six (6) months of well completion, operators should work with BLM surface management specialists (Jim Amos: 575-234-5909) to devise the best strategies to reduce the size of the location. Interim reclamation should allow for remedial well operations, as well as safe and efficient removal of oil and gas.

During reclamation, the removal of caliche is important to increasing the success of revegetating the site. Removed caliche that is free of contaminants may be used for road repairs, fire walls or for building other roads and locations. In order to operate the well or complete workover operations, it may be necessary to drive, park and operate on restored interim vegetation within the previously disturbed area. Disturbing revegetated areas for production or workover operations will be allowed. If there is significant disturbance and loss of vegetation, the area will need to be revegetated. Communicate with the appropriate BLM office for any exceptions/exemptions if needed.

All disturbed areas after they have been satisfactorily prepared need to be reseeded with the seed mixture provided below.

Upon completion of interim reclamation, the operator shall submit a Sundry Notices and Reports on Wells, Subsequent Report of Reclamation (Form 3160-5).

IX. FINAL ABANDONMENT & RECLAMATION

At final abandonment, well locations, production facilities, and access roads must undergo "final" reclamation so that the character and productivity of the land are restored.

Earthwork for final reclamation must be completed within six (6) months of well plugging. All pads, pits, facility locations and roads must be reclaimed to a satisfactory revegetated, safe, and stable condition, unless an agreement is made with the landowner or BLM to keep the road and/or pad intact.

After all disturbed areas have been satisfactorily prepared, these areas need to be revegetated with the seed mixture provided below. Seeding should be accomplished by

drilling on the contour whenever practical or by other approved methods. Seeding may need to be repeated until revegetation is successful, as determined by the BLM.

Operators shall contact a BLM surface protection specialist prior to surface abandonment operations for site specific objectives (Jim Amos: 575-234-5909).

Ground-level Abandoned Well Marker to avoid raptor perching: Upon the plugging and subsequent abandonment of the well, the well marker will be installed at ground level on a plate containing the pertinent information for the plugged well.

Seed Mixture for LPC Sand/Shinnery Sites

Holder shall seed all disturbed areas with the seed mixture listed below. The seed mixture shall be planted in the amounts specified in pounds of pure live seed (PLS)* per acre. There shall be no primary or secondary noxious weeds in the seed mixture. Seed will be tested and the viability testing of seed shall be done in accordance with State law(s) and within nine (9) months prior to purchase. Commercial seed shall be either certified or registered seed. The seed container shall be tagged in accordance with State law(s) and available for inspection by the Authorized Officer.

Seed will be planted using a drill equipped with a depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area (smaller/heavier seeds have a tendency to drop the bottom of the drill and are planted first). Holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed will be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre are to be doubled. Seeding shall be repeated until a satisfactory stand is established as determined by the Authorized Officer. Evaluation of growth may not be made before completion of at least one full growing season after seeding.

Species to be planted in pounds of pure live seed* per acre:

Species	lb/acre
Plains Bristlegrass	5lbs/A
Sand Bluestem	5lbs/A
Little Bluestem	3lbs/A
Big Bluestem	6lbs/A
Plains Coreopsis	2lbs/A
Sand Dropseed	1lbs/A

*Pounds of pure live seed:

Pounds of seed **x** percent purity **x** percent germination = pounds pure live seed