RECEIVED
AUG 13 2010
NMOCD ARTESIA

OCD-ARTESIA

ATS-10-536

Form 3160-3
(April 2004)

FORM APPROVED
OMB No 1004-0137
Expires March 31, 2007 10-825

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of Work ☒ DRILL ☐ REENTER	5. Lease Serial No. NM-19423
	6. If Indian, Allotee or Tribe Name
	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 White City 10 Federal No. 3H (38293)
2 Name of Operator Cimarex Energy Co. of Colorado (162683)	9. API Well No 30-015- 38097
3a. Address 600 N. Marienfeld St., Ste. 600; Midland, TX 79701 / 3b. Phone No (include area code) 432-571-7800	10 Field and Pool, or Exploratory Sage Draw; Wolfcamp, E (96890)
4 Location of Well (Report location clearly and in accordance with any State requirements *) At Surface 660 FSL & 330 FEL; At proposed prod. Zone 990 FSL & 660 FWL Horizontal Wolfcamp Test	11. Sec , T. R. M or Blk and Survey or Area 10-25S-26E
14. Distance in miles and direction from nearest town or post office*	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) 330	16 No of acres in lease 2560	17. Spacing Unit dedicated to this well S2S2 ~~160~~ 320 acres per Zeno Farris 10-10-10 DM
18 Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft N/A	19. Proposed Depth **Pilot Hole** 10300' **Lateral** MD 13972' TVD 9821'	20. BLM/BIA Bond No on File NM-2575
21 Elevations (Show whether DF, KDB, RT, GL, etc) 3370' GR	22 Approximate date work will start* 08.15.10	23. Estimated duration 30-35 days

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No 1, shall 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 shall 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 authorized officer.

25. Signature Zeno Farris	Name (Printed/Typed) Zeno Farris	Date 06.08.10
Title Manager Operations Administration		
Approved By (Signature) /s/ Don Peterson	Name (Printed/Typed)	Date AUG 12 2010
Title FIELD MANAGER	Office CARLSBAD FIELD OFFICE	

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

APPROVAL FOR TWO YEARS

Title 18 U.S.S. 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

* (Instructions on page 2)

Carlsbad Controlled Water Basin

SEE ATTACHED FOR CONDITIONS OF APPROVAL

APPROVAL SUBJECT TO GENERAL REQUIREMENTS AND SPECIAL STIPULATIONS ATTACHED

DISTRICT I
1625 N. French Dr., Hobbs, NM 88240
DISTRICT II
1301 W. Grand Avenue, Artesia, NM 88210
DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410
DISTRICT IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION

1220 South St. Francis Dr.
Santa Fe, New Mexico 87505

Form C-102
Revised October 15, 2009

Submit one copy to appropriate District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
30-015-38097	96890	Sage Draw; Wolfcamp, E

Property Code	Property Name	Well Number
38293	WHITE CITY "10" FEDERAL	3 H

OGRID No.	Operator Name	Elevation
162683	CIMAREX ENERGY CO. OF COLORADO	3370'

Surface Location

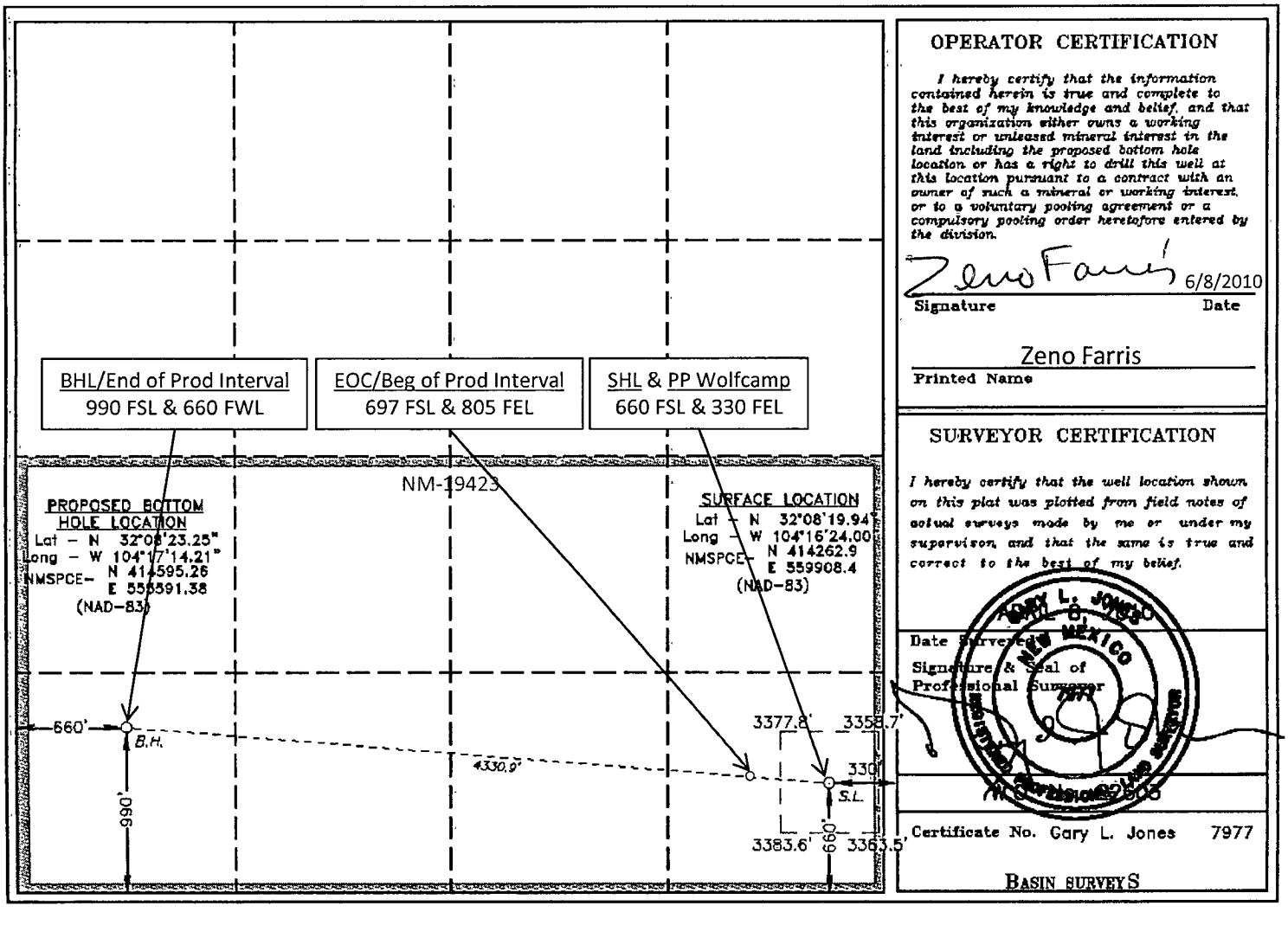
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
P	10	25 S	26 E		660	SOUTH	330	EAST	EDDY

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	10	25 S	26 E		990	SOUTH	660	WEST	EDDY

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
320			NSL Pending

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



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.

Zeno Farris 6/8/2010
Signature Date

Zeno Farris
Printed Name

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 supervison, and that the same is true and correct to the best of my belief.

Date Surveyed

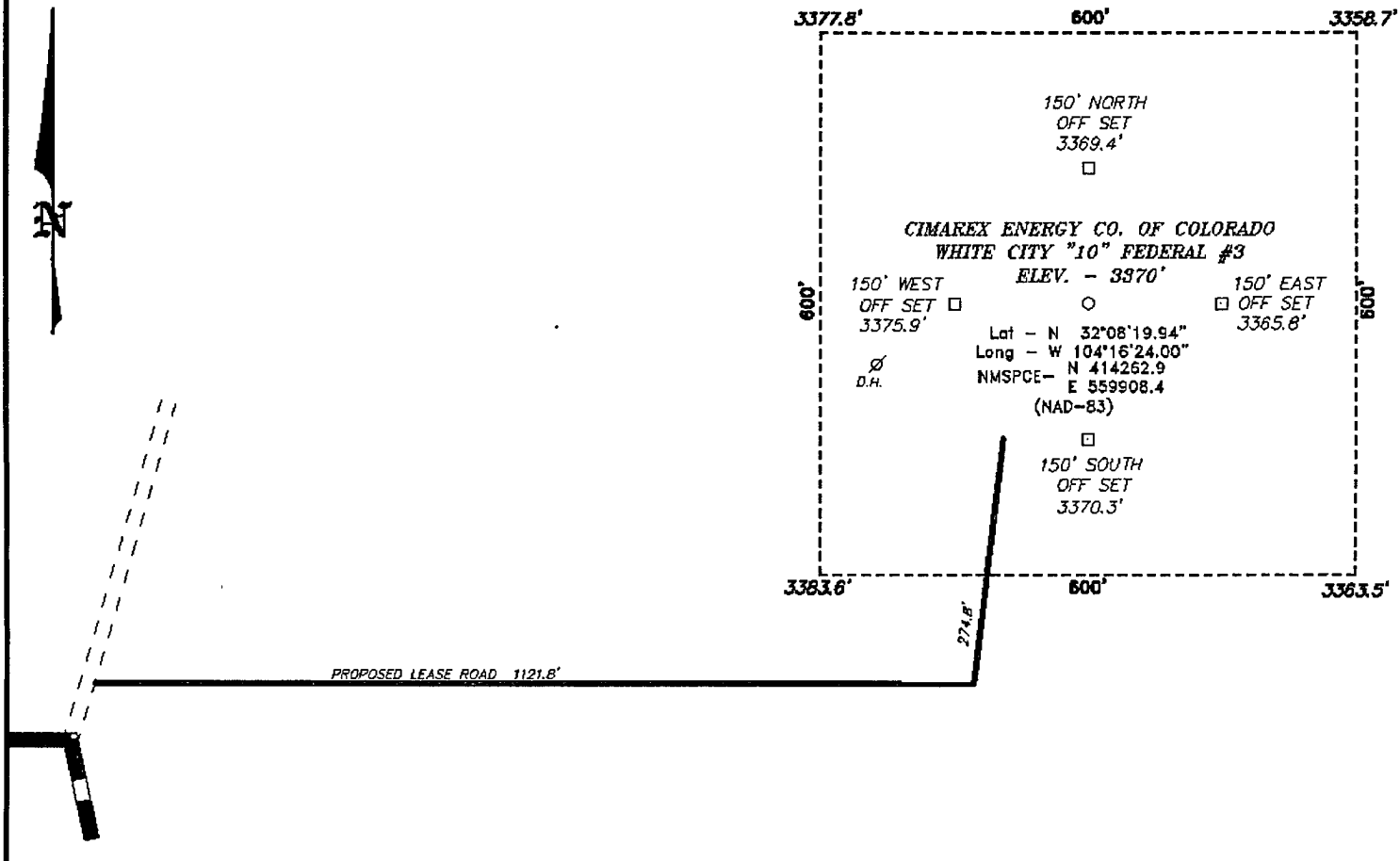
Signature & Seal of Professional Surveyor

GARY L. JONES
NEW MEXICO
7977
REGISTERED PROFESSIONAL SURVEYOR

Certificate No. Gary L. Jones 7977

BASIN SURVEYS

SECTION 10, TOWNSHIP 25 SOUTH, RANGE 26 EAST, N.M.P.M.,
EDDY COUNTY, NEW MEXICO.



200 0 200 400 FEET

SCALE: 1" = 200'

Directions to Location:

FROM THE JUNCTION OF MEANS AND PRICKLY PEAR, GO EAST ON PRICKLY PEAR FOR 2.9 MILES TO LEASE ROAD, ON LEASE ROAD GO NORTH 150' TO PROPOSED LEASE ROAD.

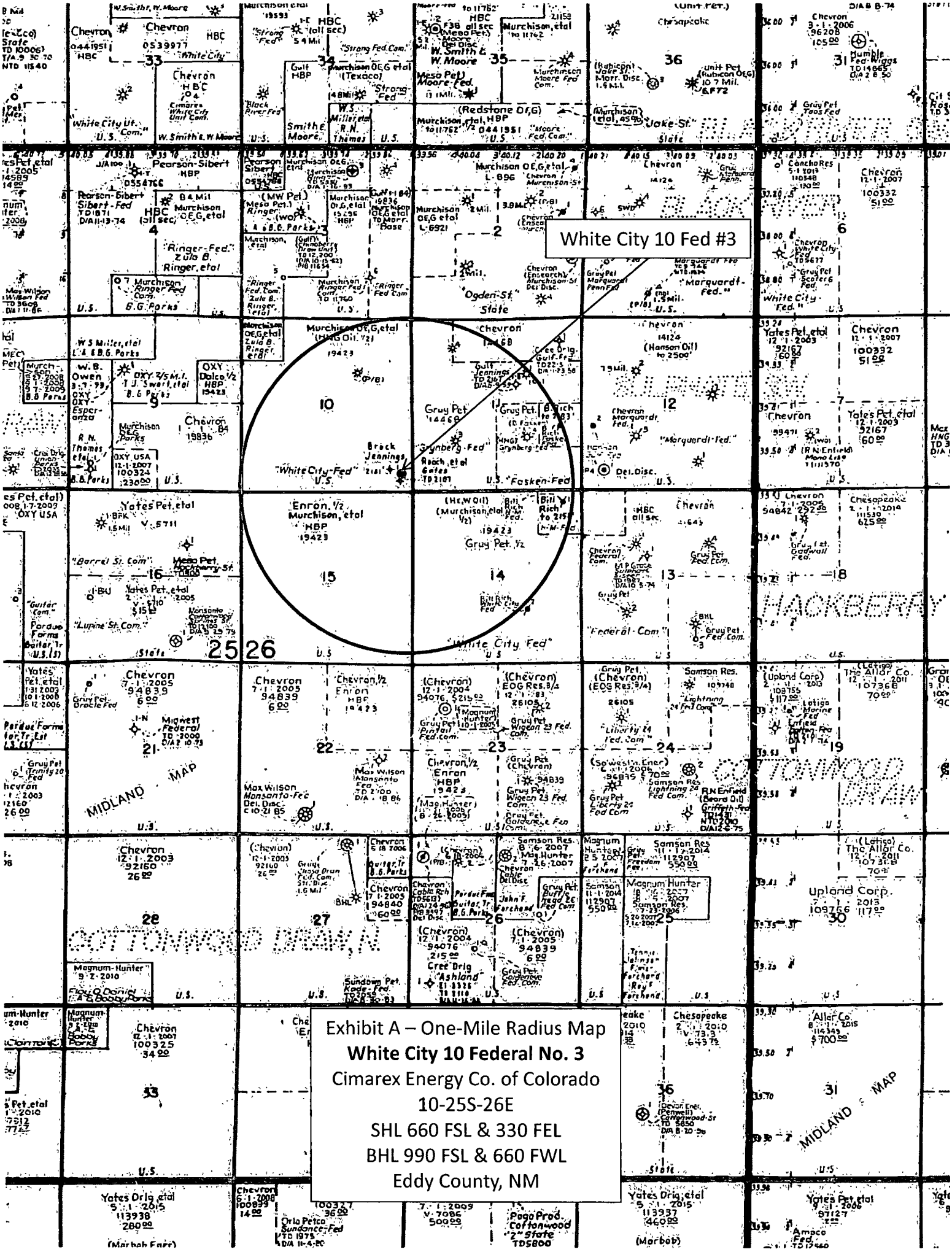
CIMAREX ENERGY CO. OF COLORADO

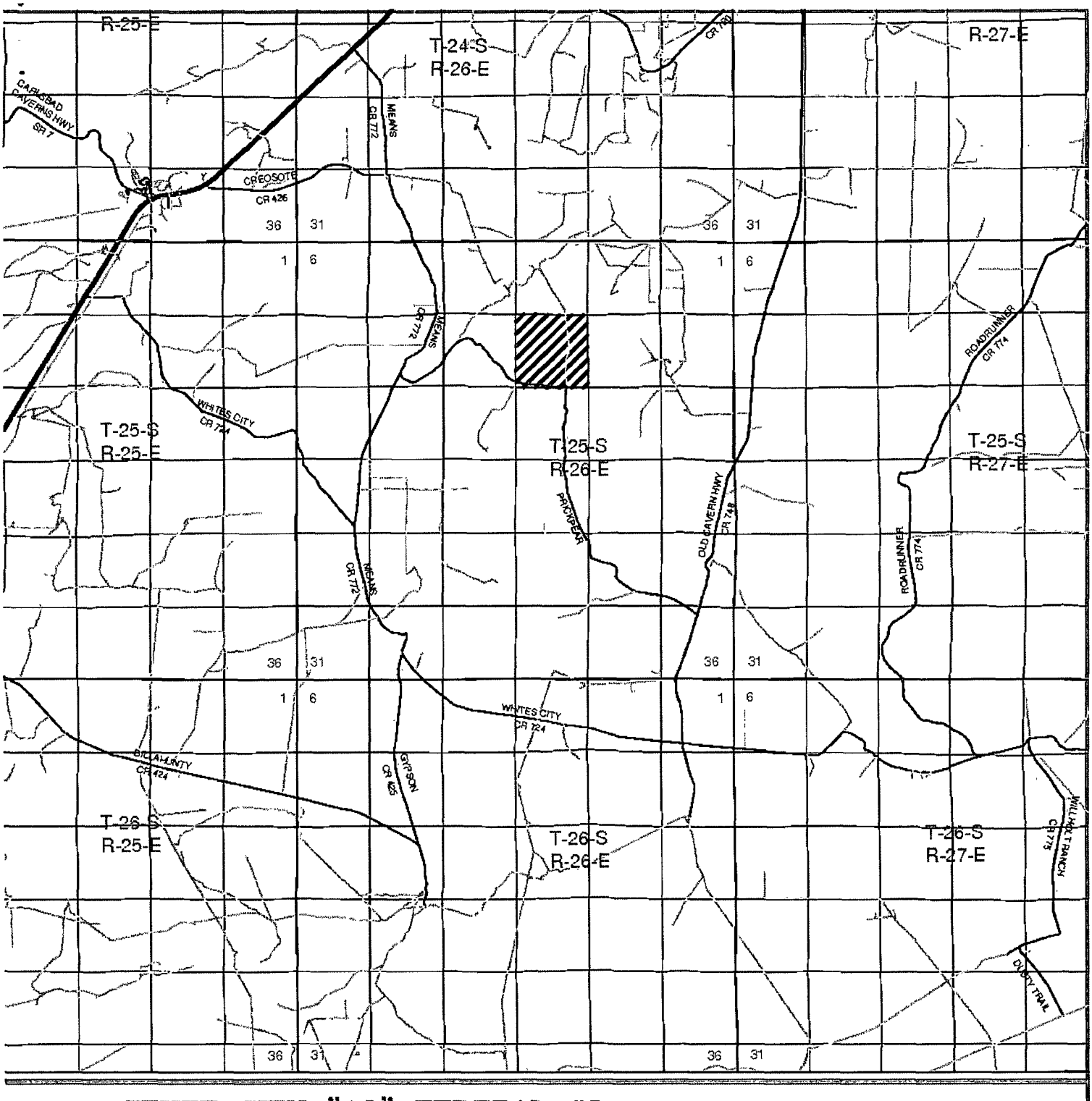
REF: WHITE CITY "10" FEDERAL #3 / WELL PAD TOPO

THE WHITE CITY "10" FEDERAL #3 LOCATED 660' FROM THE SOUTH LINE AND 330' FROM THE EAST LINE OF SECTION 10, TOWNSHIP 25 SOUTH, RANGE 26 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO.

BASIN SURVEYS P.O. BOX 1786 - HOBBS, NEW MEXICO

W.O. Number: 22603	Drawn By: J. SMALL		
Date: 08-08-2010	Disk: JMS 22603	Survey Date: 04-08-2010	Sheet 1 of 1 Sheets


White City 10 Fed #3
Exhibit A – One-Mile Radius Map
White City 10 Federal No. 3
Cimarex Energy Co. of Colorado
10-25S-26E
SHL 660 FSL & 330 FEL
BHL 990 FSL & 660 FWL
Eddy County, NM



WHITE CITY "10" FEDERAL #3
Located 660' FSL and 330' FEL
Section 10, Township 25 South, Range 26 East,
N.M.P.M., Eddy County, New Mexico.

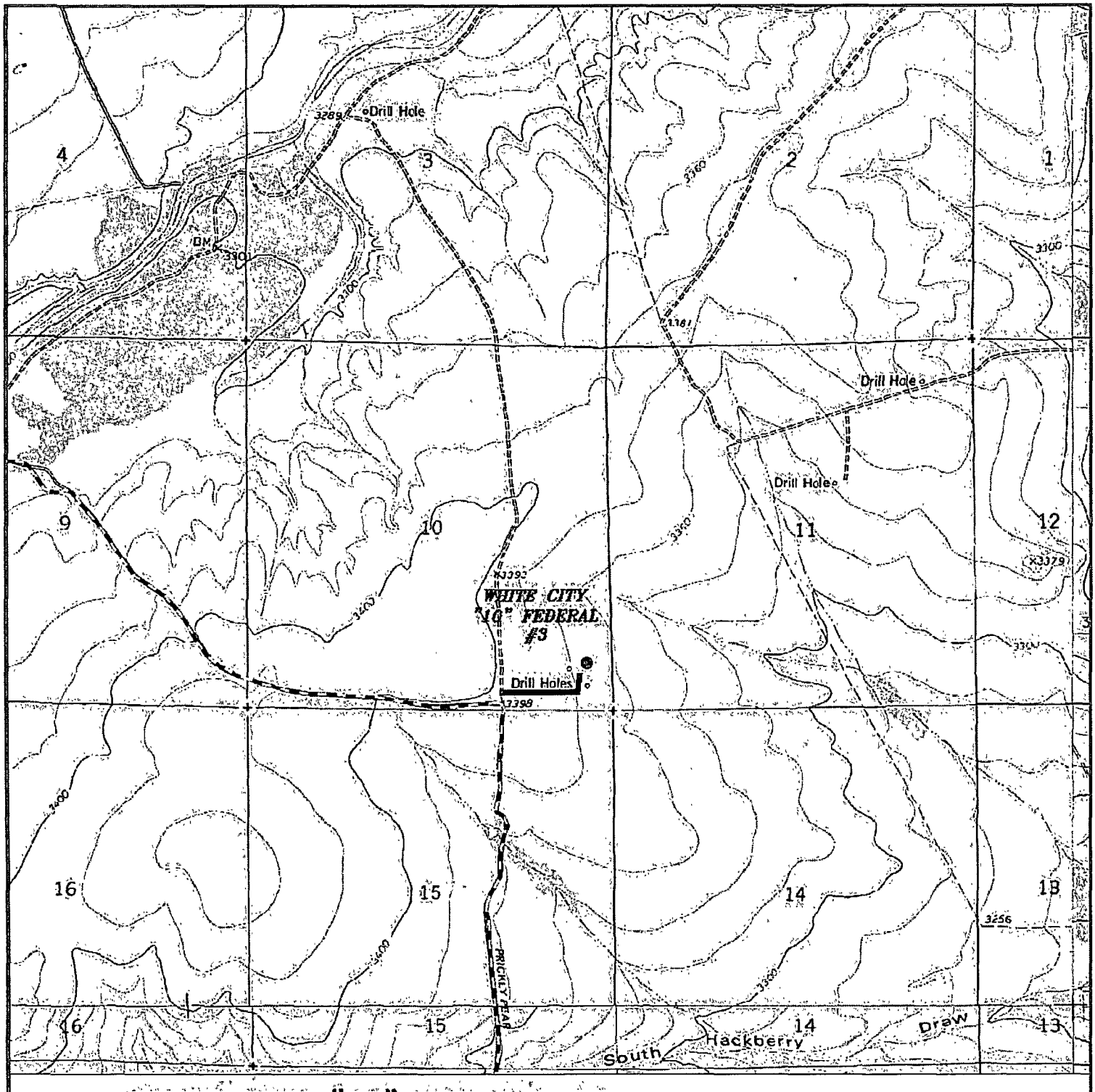
Basin Surveys
focused on excellence in the oilfield
P.O. Box 1786
1120 N. West County Rd.
Hobbs, New Mexico 88241
(575) 393-7316 - Office
(575) 392-2206 - Fax
basinsurveys.com

W.O. Number:	JMS 22603
Survey Date:	04-08-2010
Scale:	1" = 2 Miles
Date:	04-09-2010

N

CIMAREX ENERGY CO. OF COLORADO

Exhibit B



WHITE CITY "10" FEDERAL #3
Located 660' FSL and 330' FEL
Section 10, Township 25 South, Range 26 East,
N.M.P.M., Eddy County, New Mexico.

basin surveys
focused on excellence in the oilfield

P.O. Box 1786
1120 N. West County Rd.
Hobbs, New Mexico 88241
(575) 393-7316 – Office
(575) 392-2206 – Fax
basinsurveys.com

W.O. Number:	JMS 22603
Survey Date:	04-08-2010
Scale:	1" = 2000'
Date:	04-09-2010

N

CIMAREX ENERGY CO. OF COLORADO

Exhibit C

Application to Drill
White City 10 Federal No. 3
Cimarex Energy Co. of Colorado
Unit P, Section 10
T25S-R26E, Eddy County, NM

In response to questions asked under Section II B of Bulletin NTL-6, the following information is provided for your consideration:

1. Location: SHL 660 FSL & 330 FEL
   BHL 990 FSL & 660 FWL

2. Elevation above sea level: 3370' GR

3. Geologic name of surface formation: Quaternery Alluvium Deposits

4. Drilling tools and associated equipment: Conventional rotary drilling rig using fluid as a circulating medium for solids removal.

5. Proposed drilling depth: Pilot Hole 10300' Lateral MD 13972' TVD 9821'

6. Estimated tops of geological markers:

Top Salt	1106'	2nd Bone Spring Ss	6984'
Base Salt	1759'	2nd BS Ss Lower	7741'
Delaware	1968'	3rd Bone Spring Ss	8315'
Cherry Canyon	2921'	Wolfcamp	8670'
Brushy Canyon	4061'	Wolfcamp B	9318'
Bone Spring	5442'	Wolfcamp C	9498'
Bone Spring "A" Shale	5659'	Wolfcamp D	9610'
Bone Spring "C" Shale	5926'	Wolfcamp E	9998'
1st Bone Spring Ss	6458'		

7. Possible mineral bearing formations:

Wolfcamp	Gas
Bone Spring	Gas
Delaware	Oil

8. Proposed drilling Plan

After drilling and setting surface casing, drill to vertical TD 10300' and log. Set 7" casing to 9418' and cross over to 2⅞" 2000 psi IJ fiberglass tubing underneath to 10300' and cement in place. Drill out of the bottom of the 7" with a 6⅛" bit and through cement and fiberglass tubing to KOP @ 9478' and kick off to drill the lateral. The fiberglass tubing effectively circulates cement to surface and plugs back the open hole.

Drill to lateral TD (13972' MD, 9821' TVD). Run cemented 4½" liner with hanger @ 9318' to MD @ 13972.' Request a 100' tieback for lateral casing string in order to be able to set the pump as deep as possible.

Application to Drill
White City 10 Federal No. 3
Cimarex Energy Co. of Colorado
Unit P, Section 10
T25S-R26E, Eddy County, NM

9. Mud Circulating System:

Depth			Mud Wt	Visc	Fluid Loss	Type Mud
0'	to	450'	8.4 - 8.8	30-32	NC	FW spud mud. Add FW to control weight & viscosity and paper to prevent seepage.
450'	to	9,418'	9.8 - 10.0	28-29	NC	Saturated Brine. Sweep as needed to clean hole.
9,478'	to	13,972'	9.0 - 9.0	28-30	NC	Cut brine. Sweep as needed to clean hole.

Sufficient mud materials will be kept on location at all times in order to combat lost circulation or unexpected kicks. In order to run DSTs, open hole logs, and casing, the viscosity and water loss may have to be adjusted in order to meet these needs.

See COA

8-9-10

10. Casing Program: → Per Operator

	Hole Size	Depth			Casing OD		Weight	Collar	Grade
Surface	17½"	0'	to	450'	New	13⅜"	48#	STC	H-40
Intermediate	12¼"	0'	to	~~1918'~~ 1950	New	9⅝"	~~48#~~ 36#	LTC	J-55
Production	8¾"	0'	to	9418'	New	7"	26#	LTC	P-110
Fiberglass tbg	8¾"	9418'	to	10300'	New	2⅞"	2.18#	Fiberglass	IJ
Lateral	6⅛"	9318'	to	13972'	New	4½"	11.6#	LTC	P-110

11. Cementing Program:

See COA

Surface Casing	Lead: 200 sx (Class C) + 4% D20 + 0.2% D46 + 2% S1, 12.9 ppg, 1.97 cuft/sx,10.87 gps. Tail: 150 sx (Class C) + 2% S1, 14.80 ppg, 1.34 cuft/sx, 6.29 gps. **TOC Surface**
Intermediate	310 sx Clas C + 2% Si + 0.236# D-130 (14.8, yld 1.34) **TOC Surface**
Production casing and Fiberglass tubing	Lead: 620 sx Interfill H + 0.3% HR-601 + 5# Gilsonite + 0.125# Poly-e-flake (wt 11.9, yld 2.47) Tail: 480 sx Super H + 0.5% Halad-344 + 0.25% D-AIR 3000 + 0.4% CFR-3 + 1# Salt + 5# Gilsonite + 0.125# Poly-e-flake + 0.35% HR-7 (wt 13.2, yld 1.61) **TOC 1718**
Lateral	PEAK completion liner, no cement

Fresh water zones will be protected by setting 9⅝" casing at 450' and cementing to surface. Hydrocarbon zones will be protected by setting 9⅝" casing at 1918' and 7" at 9418' and 2⅞" fiberglass tubing at 10300' and cementing to 1718.'

Collapse Factor	Burst Factor	Tension Factor
1.125	1.125	1.6

12. Pressure control Equipment: See COA
Exhibit "E". A 13⅝" 5000 PSI working pressure BOP tested to 3000 psi consisting of one set of blind rams and one set of pipe rams and a 5000# annular type preventer. A choke manifold and 120 gallon accumulator with floor and remote operating stations and auxiliary power system. Rotating head as needed. A kelly cock will be installed and maintained in operable condition and a drill string safety valve in the open position will be available on the rig floor.

BOP unit will be hydraulically operated. BOP will be nippled up and operated at least once a day while drilling and the blind rams will be operated when out of hole during trips. No abnormal pressure or temperature is expected while drilling. From the base of the surface pipe through the running of production casing, the well will be equipped with a 5000 psi BOP system tested to 3000 psi.

BOPS will be tested by an independent service company to 250 psi low and 3000 psi high. Hydril will be tested to 250 psi low and 1500 psi high.

13. Testing, Logging and Coring Program: See COA
    A. Mud logging program: No mud logging program.
    B. Electric logging program: CNL / LDT / CAL / GR, DLL / CAL / GR
    C. No DSTs or cores are planned at this time.

14. Potential Hazards:
No abnormal pressures or temperatures are expected. In accordance with Onshore Order 6, Cimarex has encountered H_2S in a one-time encounter in an Intra-salt Pocket and while drilling and completing wells in the Delaware Mountain Group. In this regard, attached is an H_2S Drilling Operations Plan. The ROEs encountered do not meet the BLM's minimum requirements for the submission of a "Public Protection Plan" for the drilling and completion of this well. Adequate flare lines will be installed off the mud / gas separator where gas may be flared safely. All personnel will be familiar with all aspects of safe operation of equipment being used.

Estimated BHP **4000 psi** Estimated BHT **175°**

15. Road and location construction will begin after BLM approval of APD. Anticipated spud date as soon as approved.
Drilling expected to take 25-35 days
If production casing is run an additional 30 days will be required to complete and construct surface facilities.

16. Other Facets of Operations:
After running casing, cased hole gamma ray neutron collar logs will be run from total depth over possible pay intervals.
Wolfcamp pay will be perforated and stimulated.
The proposed well will be tested and potentialed as **an oil well.**

Cimarex Energy Co.

Eddy County (NM83E)
Sec 10 - T25S - R26E
White City 10 Fed #3

Wellbore #1

Plan: Plan #2

Standard Planning Report

07 June, 2010

Great White Directional Services

Planning Report

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well White City 10 Fed #3
Company:	Cimarex Energy Co.	**TVD Reference:**	WELL @ 0.0usft (Original Well Elev)
Project:	Eddy County (NM83E)	**MD Reference:**	WELL @ 0.0usft (Original Well Elev)
Site:	Sec 10 - T25S - R26E	**North Reference:**	Grid
Well:	White City 10 Fed #3	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2		

Project Eddy County (NM83E)

Map System:	US State Plane 1983	**System Datum:**	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site Sec 10 - T25S - R26E

Site Position:		**Northing:**	414,262.90 usft	**Latitude:**	32° 8' 19.944 N
From:	Map	**Easting:**	559,908.40 usft	**Longitude:**	104° 16' 24.003 W
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.03 °

Well White City 10 Fed #3

Well Position	**+N/-S**	0.0 usft	**Northing:**	414,262.90 usft	**Latitude:**	32° 8' 19.944 N
	+E/-W	0.0 usft	**Easting:**	559,908.40 usft	**Longitude:**	104° 16' 24.003 W
Position Uncertainty		0.0 usft	**Wellhead Elevation:**		**Ground Level:**	0.0 usft

Wellbore Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	2010/05/27	8.01	60.03	48,649

Design Plan #2

Audit Notes:

Version:		**Phase:**	PLAN	**Tie On Depth:**	0.0

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	274.40

Plan Sections

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
9,478.0	0.00	0.00	9,478.0	0.0	0.0	0.00	0.00	0.00	0.00	
9,903.0	85.00	274.40	9,763.4	20.1	-260.7	20.00	20.00	0.00	274.40	
10,118.0	89.30	274.40	9,774.1	36.5	-474.8	2.00	2.00	0.00	0.00	
13,971.9	89.30	274.40	9,821.2	332.2	-4,317.0	0.00	0.00	0.00	0.00	White City #3

Great White Directional Services

Planning Report

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well White City 10 Fed #3
Company:	Cimarex Energy Co.	**TVD Reference:**	WELL @ 0.0usft (Original Well Elev)
Project:	Eddy County (NM83E)	**MD Reference:**	WELL @ 0.0usft (Original Well Elev)
Site:	Sec 10 - T25S - R26E	**North Reference:**	Grid
Well:	White City 10 Fed #3	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
9,478.0	0.00	0.00	9,478.0	0.0	0.0	0.0	0.00	0.00	0.00
KOP 20°/100 DLS @ 274.4° AZI									
9,500.0	4.40	274.40	9,500.0	0.1	-0.8	0.8	20.00	20.00	0.00
9,525.0	9.40	274.40	9,524.8	0.3	-3.8	3.8	20.00	20.00	0.00
9,550.0	14.40	274.40	9,549.2	0.7	-9.0	9.0	20.00	20.00	0.00
9,575.0	19.40	274.40	9,573.2	1.2	-16.2	16.3	20.00	20.00	0.00
9,600.0	24.40	274.40	9,596.3	2.0	-25.5	25.6	20.00	20.00	0.00
9,625.0	29.40	274.40	9,618.6	2.8	-36.8	36.9	20.00	20.00	0.00
9,650.0	34.40	274.40	9,639.9	3.8	-50.0	50.1	20.00	20.00	0.00
9,675.0	39.40	274.40	9,659.8	5.0	-64.9	65.1	20.00	20.00	0.00
9,700.0	44.40	274.40	9,678.4	6.3	-81.6	81.8	20.00	20.00	0.00
9,725.0	49.40	274.40	9,695.5	7.7	-99.8	100.0	20.00	20.00	0.00
9,750.0	54.40	274.40	9,710.9	9.2	-119.4	119.7	20.00	20.00	0.00
9,775.0	59.40	274.40	9,724.6	10.8	-140.2	140.6	20.00	20.00	0.00
9,800.0	64.40	274.40	9,736.4	12.5	-162.2	162.7	20.00	20.00	0.00
9,825.0	69.40	274.40	9,746.2	14.2	-185.1	185.7	20.00	20.00	0.00
9,850.0	74.40	274.40	9,753.9	16.1	-208.8	209.4	20.00	20.00	0.00
9,875.0	79.40	274.40	9,759.6	17.9	-233.1	233.8	20.00	20.00	0.00
9,900.0	84.40	274.40	9,763.1	19.8	-257.8	258.5	20.00	20.00	0.00
9,903.0	85.00	274.40	9,763.4	20.1	-260.7	261.5	20.00	20.00	0.00
Begin Build									
10,000.0	86.94	274.40	9,770.2	27.5	-357.2	358.3	2.00	2.00	0.00
10,100.0	88.94	274.40	9,773.8	35.2	-456.8	458.2	2.00	2.00	0.00
10,118.0	89.30	274.40	9,774.1	36.5	-474.8	476.2	2.00	2.00	0.00
EOC - Hold to TD									
10,200.0	89.30	274.40	9,775.1	42.8	-556.5	558.2	0.00	0.00	0.00
10,300.0	89.30	274.40	9,776.3	50.5	-656.2	658.2	0.00	0.00	0.00
10,400.0	89.30	274.40	9,777.5	58.2	-755.9	758.2	0.00	0.00	0.00
10,500.0	89.30	274.40	9,778.7	65.8	-855.6	858.2	0.00	0.00	0.00
10,600.0	89.30	274.40	9,780.0	73.5	-955.3	958.2	0.00	0.00	0.00
10,700.0	89.30	274.40	9,781.2	81.2	-1,055.0	1,058.2	0.00	0.00	0.00
10,800.0	89.30	274.40	9,782.4	88.9	-1,154.7	1,158.1	0.00	0.00	0.00
10,900.0	89.30	274.40	9,783.6	96.5	-1,254.4	1,258.1	0.00	0.00	0.00
11,000.0	89.30	274.40	9,784.9	104.2	-1,354.1	1,358.1	0.00	0.00	0.00
11,100.0	89.30	274.40	9,786.1	111.9	-1,453.8	1,458.1	0.00	0.00	0.00
11,200.0	89.30	274.40	9,787.3	119.5	-1,553.5	1,558.1	0.00	0.00	0.00
11,300.0	89.30	274.40	9,788.5	127.2	-1,653.2	1,658.1	0.00	0.00	0.00
11,400.0	89.30	274.40	9,789.7	134.9	-1,752.9	1,758.1	0.00	0.00	0.00
11,500.0	89.30	274.40	9,791.0	142.6	-1,852.6	1,858.1	0.00	0.00	0.00
11,600.0	89.30	274.40	9,792.2	150.2	-1,952.3	1,958.1	0.00	0.00	0.00
11,700.0	89.30	274.40	9,793.4	157.9	-2,052.0	2,058.1	0.00	0.00	0.00
11,800.0	89.30	274.40	9,794.6	165.6	-2,151.7	2,158.1	0.00	0.00	0.00
11,900.0	89.30	274.40	9,795.8	173.2	-2,251.4	2,258.1	0.00	0.00	0.00
12,000.0	89.30	274.40	9,797.1	180.9	-2,351.1	2,358.1	0.00	0.00	0.00
12,100.0	89.30	274.40	9,798.3	188.6	-2,450.8	2,458.0	0.00	0.00	0.00
12,200.0	89.30	274.40	9,799.5	196.3	-2,550.5	2,558.0	0.00	0.00	0.00
12,300.0	89.30	274.40	9,800.7	203.9	-2,650.2	2,658.0	0.00	0.00	0.00
12,400.0	89.30	274.40	9,802.0	211.6	-2,749.9	2,758.0	0.00	0.00	0.00
12,500.0	89.30	274.40	9,803.2	219.3	-2,849.6	2,858.0	0.00	0.00	0.00
12,600.0	89.30	274.40	9,804.4	226.9	-2,949.3	2,958.0	0.00	0.00	0.00
12,700.0	89.30	274.40	9,805.6	234.6	-3,049.0	3,058.0	0.00	0.00	0.00
12,800.0	89.30	274.40	9,806.8	242.3	-3,148.7	3,158.0	0.00	0.00	0.00
12,900.0	89.30	274.40	9,808.1	249.9	-3,248.4	3,258.0	0.00	0.00	0.00

Great White Directional Services

Planning Report

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well White City 10 Fed #3
Company:	Cimarex Energy Co.	**TVD Reference:**	WELL @ 0.0usft (Original Well Elev)
Project:	Eddy County (NM83E)	**MD Reference:**	WELL @ 0.0usft (Original Well Elev)
Site:	Sec 10 - T25S - R26E	**North Reference:**	Grid
Well:	White City 10 Fed #3	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
13,000.0	89.30	274.40	9,809.3	257.6	-3,348.1	3,358.0	0.00	0.00	0.00
13,100.0	89.30	274.40	9,810.5	265.3	-3,447.8	3,458.0	0.00	0.00	0.00
13,200.0	89.30	274.40	9,811.7	273.0	-3,547.5	3,558.0	0.00	0.00	0.00
13,300.0	89.30	274.40	9,813.0	280.6	-3,647.2	3,658.0	0.00	0.00	0.00
13,400.0	89.30	274.40	9,814.2	288.3	-3,746.9	3,757.9	0.00	0.00	0.00
13,500.0	89.30	274.40	9,815.4	296.0	-3,846.6	3,857.9	0.00	0.00	0.00
13,600.0	89.30	274.40	9,816.6	303.6	-3,946.3	3,957.9	0.00	0.00	0.00
13,700.0	89.30	274.40	9,817.8	311.3	-4,046.0	4,057.9	0.00	0.00	0.00
13,800.0	89.30	274.40	9,819.1	319.0	-4,145.7	4,157.9	0.00	0.00	0.00
13,900.0	89.30	274.40	9,820.3	326.7	-4,245.4	4,257.9	0.00	0.00	0.00
13,971.8	89.30	274.40	9,821.2	332.2	-4,317.0	4,329.7	0.00	0.00	0.00
White City #3									
13,971.9	89.30	274.40	9,821.2	332.2	-4,317.0	4,329.8	0.00	0.00	0.00
TD at 13971.9									

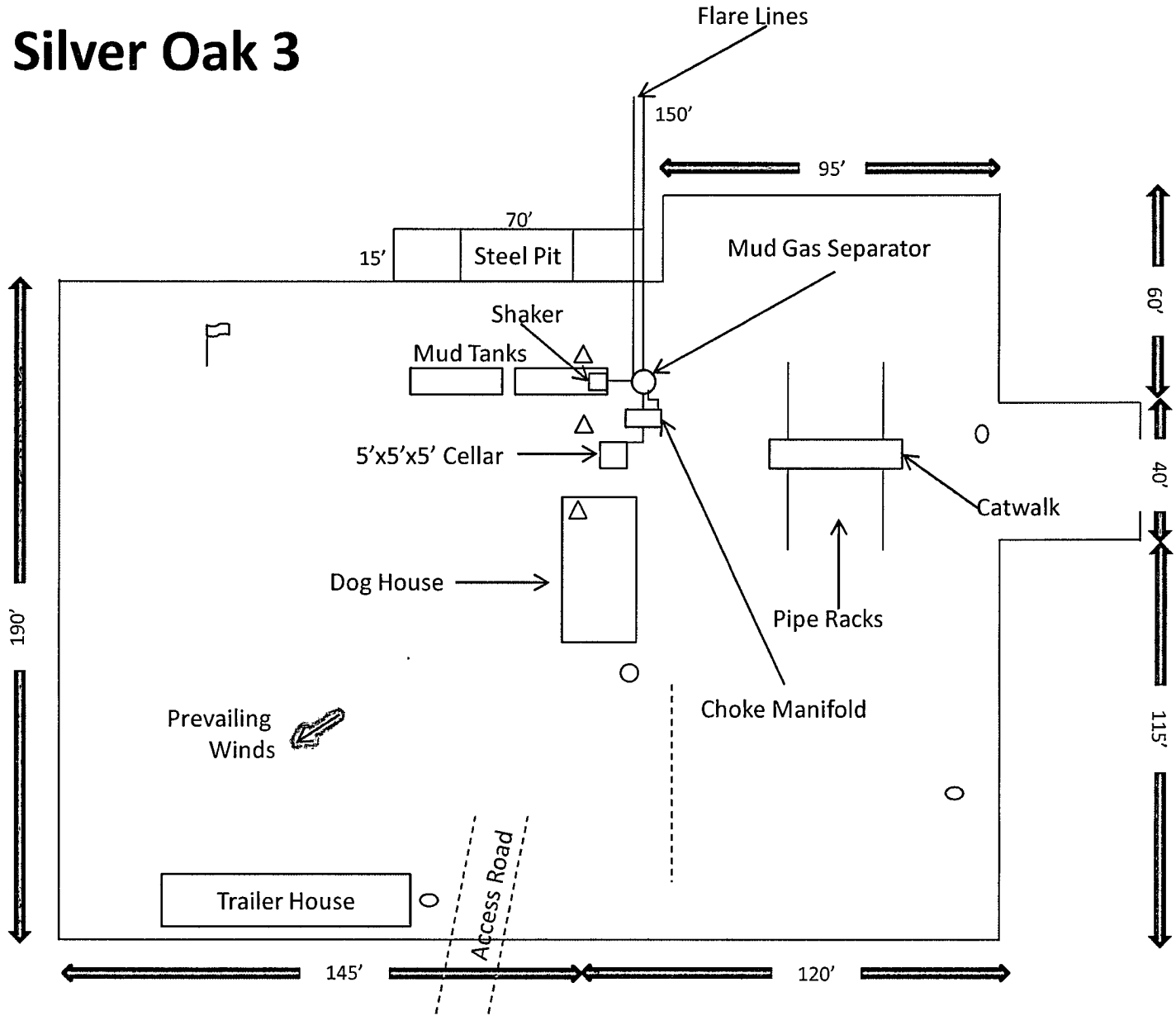
Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
White City #3	0.00	0.00	9,815.0	332.4	-4,317.0	414,595.26	555,591.38	32° 8' 23.254 N	104° 17' 14.213 W
- plan misses target center by 6.2usft at 13971.8usft MD (9821.2 TVD, 332.2 N, -4317.0 E)									
- Point									

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
9,478.0	9,478.0	0.0	0.0	KOP 20°/100 DLS @ 274.4° AZI
9,903.0	9,763.4	20.1	-260.7	Begin Build
10,118.0	9,774.1	36.5	-474.8	EOC - Hold to TD
13,971.9	9,821.2	332.2	-4,317.0	TD at 13971.9

Silver Oak 3



Wind Direction Indicators
(wind sock or streamers)

△ H2S Monitors
(alarms at bell nipple and shale shaker)

○ Briefing Areas

○ Remote BOP Closing Unit

Exhibit D – Rig Diagram
White City 10 Federal No. 3
Cimarex Energy Co. of Colorado
10-25S-26E
SHL 660 FSL & 330 FEL
BHL 990 FSL & 660 FWL
Eddy County, NM

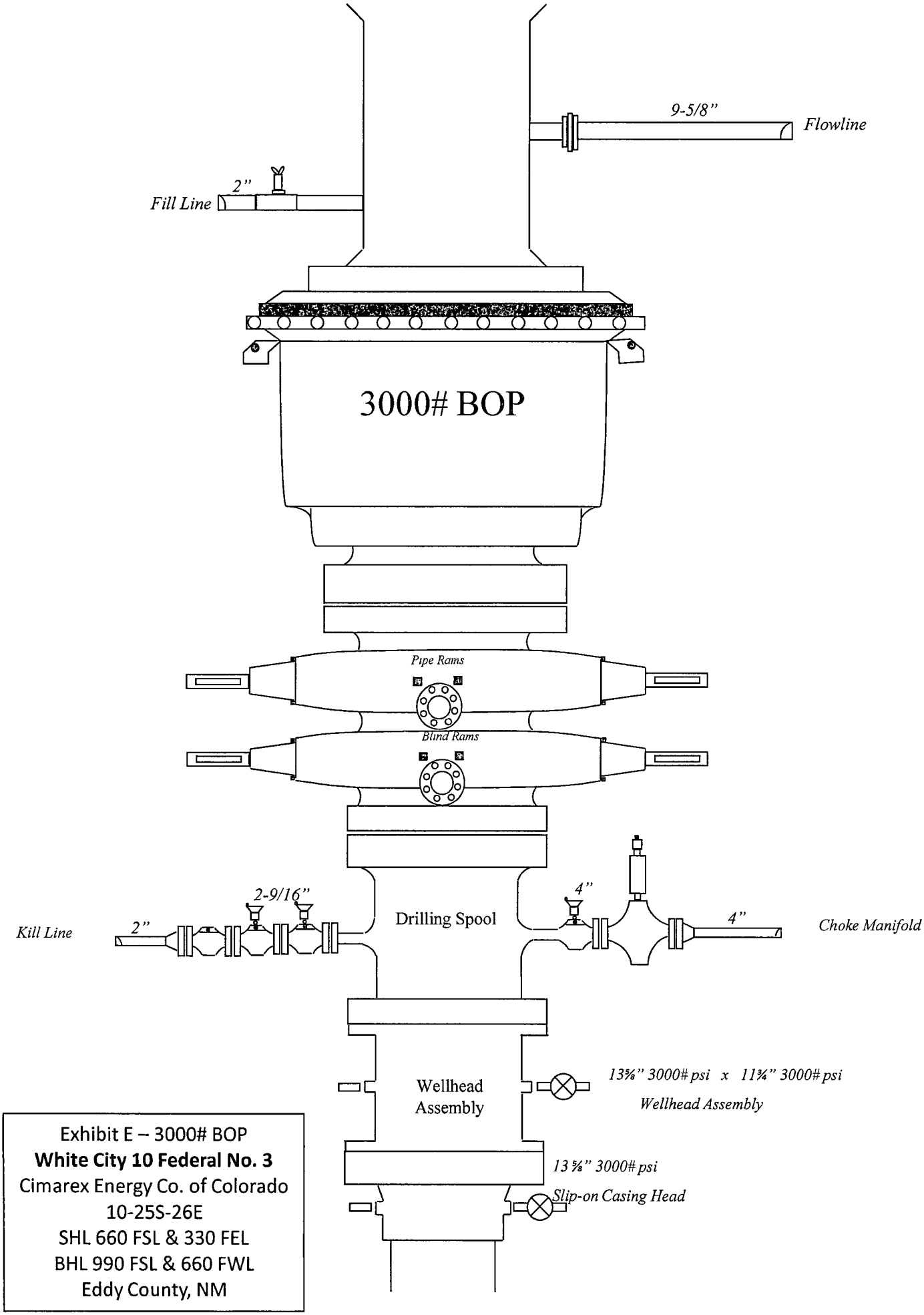
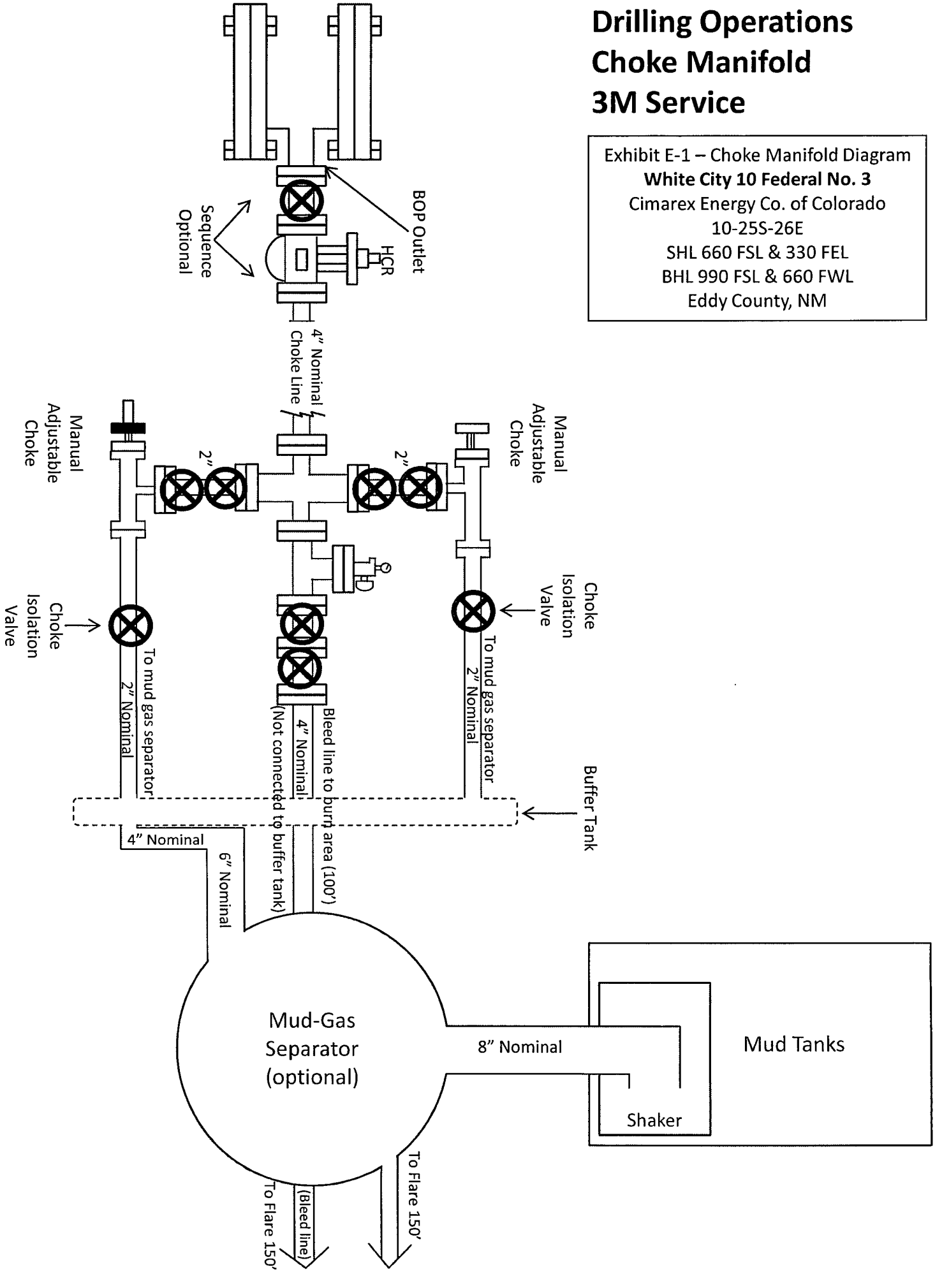


Exhibit E – 3000# BOP
White City 10 Federal No. 3
Cimarex Energy Co. of Colorado
10-25S-26E
SHL 660 FSL & 330 FEL
BHL 990 FSL & 660 FWL
Eddy County, NM

Drilling Operations
Choke Manifold
3M Service

Exhibit E-1 – Choke Manifold Diagram
White City 10 Federal No. 3
Cimarex Energy Co. of Colorado
10-25S-26E
SHL 660 FSL & 330 FEL
BHL 990 FSL & 660 FWL
Eddy County, NM



Hydrogen Sulfide Drilling Operations Plan
White City 10 Federal No. 3
Cimarex Energy Co. of Colorado
Unit P, Section 10
T25S-R26E, Eddy County, NM

H_2S equipment will be rigged up at Surface. The plan should be implemented before drilling out from the surface.

1. Due to a one-time encounter on a previous well, an Intra-salt Pocket was charged with H_2S and a burnable amount of hydrocarbons.

First Potential Problem Zone:

Initial suspected problem zone	Salt Zone @ 1,333'
Potential Open Flow Capacity	1 mcf
Expected H_2S Concentration	11,000 ppm
100' ROE	6'
500' ROE	3'

Cimarex will have 24-hour H_2S Safety Supervisors on location while drilling the first 2,000' on this well.

2. Second Potential Problem Zone:

Initial suspected problem zone	Delaware Mountain Group @ 1,800'
Potential Open Flow Capacity	100 mcf
Expected H_2S Concentration	1,000 ppm
100' ROE	24'
500' ROE	11'

3. All Company and Contract personnel admitted on location must be trained by a qualified H_2S safety instructor to the following:
   A. Characteristics of H_2S
   B. Physical effects and hazards
   C. Proper use of safety equipment and life support systems.
   D. Principle and operation of H_2S detectors, warning system and briefing areas.
   E. Evacuation procedure, routes and first aid.
   F. Proper use of 30 minute pressure demand air pack.

4. H_2S Detection and Alarm Systems:
   A. H_2S detectors and audio alarm system to be located at bell nipple, end of flow line (mud pit) and on derrick floor or doghouse.

5. Windsock and/or wind streamers:
   A. Windsock at mudpit area should be high enough to be visible.
   B. Windsock at briefing area should be high enough to be visible.

6. Condition Flags and Signs:
   A. Warning sign on access road to location.
   B. Flags to be displayed on sign at entrance to location. Green flag indicates normal safe condition. Yellow flag indicates potential pressure and danger. Red flag indicates danger (H_2S present in dangerous concentration). Only emergency personnel admitted to location.

7. Well control equipment:
   A. See exhibit "E"

8. Communication:
   A. While working under masks chalkboards will be used for communication.
   B. Hand signals will be used where chalk board is inappropriate.
   C. Two way radio will be used to communicate off location in case of emergency help is required. In most cases cellular telephones will be available at most drilling foreman's trailer or living quarters.

9. Drillstem Testing:
   No DSTs or cores are planned at this time.

10. Drilling contractor supervisor will be required to be familiar with the effects H_2S has on tubular goods and other mechanical equipment.

11. If H_2S is encountered, mud system will be altered if necessary to maintain control of formation. A mud gas seperator will be brought into service along with H_2S scavengers if necessary.

Emergency Procedures

In the event of a release of gas containing H_2S, the first responder(s) must:

- ★ Isolate the area and prevent entry by other persons into the 100 ppm ROE.
- ★ Evacuate any public places encompassed by the 100 ppm ROE.
- ★ Be equipped with H_2S monitors and air packs in order to control the release.
- ★ Use the "buddy system" to ensure no injuries occur during the response.
- ★ Take precautions to avoid personal injury during this operation.
- ★ Contact operator and/or local officials to aid in operation. See list of phone numbers attached.
- ★ Have received training in the:
  - ♦ Detection of H_2S, and
  - ♦ Measures for protection against the gas,
  - ♦ Equipment used for protection and emergency response.

Ignition of Gas Source

Should control of the well be considered lost and ignition considered, take care to protect against exposure to Sulfur Dioxide (SO_2). Intentional ignition must be coordinated with the NMOCD and local officials. Additionally, the NM State Police may become involved. NM State Police shall be the Incident Command on scene of any major release. Take care to protect downwind whenever there is an ignition of the gas.

Characteristics of H_2S and SO_2

Common Name	Chemical Formula	Specific Gravity	Threshold Limit	Hazardous Limit	Lethal Concentration
Hydrogen Sulfide	H_2S	1.189 Air=1	10 ppm	100 ppm/hr	600 ppm
Sulfur Dioxide	SO_2	2.21 Air=1	2 ppm	N/A	1000 ppm

Contacting Authorities

Cimarex Energy Co. of Colorado's personnel must liaise with local and state agencies to ensure a proper response to a major release. Additionally, the OCD must be notified of the release as soon as possible but no later than 4 hours. Agencies will ask for information such as type and volume of release, wind direction, location of release, etc. Be prepared with all information available including directions to site. The following call list of essential and potential responders has been prepared for use during a release. Cimarex Energy Co. of Colorado's response must be in coordination with the State of New Mexico's "Hazardous Materials Emergency Response Plan" (HMER).

H_2S Contingency Plan Emergency Contacts
White City 10 Federal No. 3
Cimarex Energy Co. of Colorado
Unit P, Section 10
T25S-R26E, Eddy County, NM

Company Office			
Cimarex Energy Co. of Colorado		800-969-4789	
Co. Office and After-Hours Menu			

Key Personnel

Name	Title	Office	Mobile
Doug Park	Drilling Manager	432-620-1934	972-333-1407
Dee Smith	Drilling Super	432-620-1933	972-882-1010
Jim Evans	Drilling Super	432-620-1929	972-465-0564
Roy Shirley	Field Super		432-634-2136

Artesia			
Ambulance		911	
State Police		575-746-2703	
City Police		575-746-2703	
Sheriff's Office		575-746-9888	
Fire Department		**575-746-2701**	
Local Emergency Planning Committee		575-746-2122	
New Mexico Oil Conservation Division		575-748-1283	
Carlsbad			
Ambulance		911	
State Police		575-885-3137	
City Police		575-885-2111	
Sheriff's Office		575-887-7551	
Fire Department		**575-887-3798**	
Local Emergency Planning Committee		575-887-6544	
US Bureau of Land Management		575-887-6544	
Santa Fe			
New Mexico Emergency Response Commission (Santa Fe)		505-476-9600	
New Mexico Emergency Response Commission (Santa Fe) 24 Hrs		505-827-9126	
New Mexico State Emergency Operations Center		505-476-9635	
National			
National Emergency Response Center (Washington, D.C.)		800-424-8802	
Medical			
Flight for Life - 4000 24th St.; Lubbock, TX		806-743-9911	
Aerocare - R3, Box 49F; Lubbock, TX		806-747-8923	
Med Flight Air Amb - 2301 Yale Blvd S.E., #D3; Albuquerque, NM		505-842-4433	
SB Air Med Service - 2505 Clark Carr Loop S.E.; Albuquerque, NM		505-842-4949	
Other			
Boots & Coots IWC		800-256-9688	or 281-931-8884
Cudd Pressure Control		432-699-0139	or 432-563-3356
Halliburton		575-746-2757	
B.J. Services		575-746-3569	

Surface Use Plan
White City 10 Federal No. 3
Cimarex Energy Co. of Colorado
Unit P, Section 10
T25S-R26E, Eddy County, NM

1. Existing Roads: Area maps, Exhibit "B" is a reproduction of Eddy Co. General Highway Map. Exhibit "C" is a reproduction of a USGS Topographic Map, showing existing roads and proposed roads. All existing roads will be maintained in a condition equal to or better than current conditions. Any new roads will be constructed to BLM specifications.
   A. Exhibit "A" shows the proposed well site as staked.
   B. From the junction of Means and Prickly Pear, go East on Prickly Pear for 2.9 miles to lease road. On lease road, go North 150' to proposed lease road.

2. Planned Access Roads: 1396.6' of on-lease road will be built.

3. Location of Existing Wells in a One-Mile Radius - Exhibit A
   A. Water wells - None known
   B. Disposal wells - None known
   C. Drilling wells - None known
   D. Producing wells - As shown on Exhibit "A"
   E. Abandoned wells - As shown on Exhibit "A"

4. If on completion this well is a producer, Cimarex Energy Co. of Colorado will furnish maps and/or plats showing on site facilities or off site facilities if needed. This will be accompanied by a Sundry Notice.

5. Location and Type of Water Supply:
   Water will be purchased locally from a commercial source and trucked over the access roads or piped in flexible lines laid on top of the ground.

6. Source of Construction Material:
   If possible, construction materials will be obtained from the excavation of drill site. If additional material is needed, it will be purchased from a local source and transported over the access route as shown on Exhibit "C".

7. Methods of Handling Waste Material:
   A. Drill cuttings will be seperated by a series of solids removal equipment and stored in steel containment pits and then hauled to a state-approved disposal facility.
   B. All trash, junk and other waste material will be contained in trash cages or bins to prevent scattering. When the job is completed all contents will be removed and disposed of in an approved sanitary land fill.
   C. Salts remaining after completion of well will be picked up by supplier including broken sacks.
   D. Sewage from living quarters will drain into holding tanks and be cleaned out periodically. A Porta-John will be provided for the rig crews. This equipment will be properly maintained during the drilling operations and removed upon completion of the well.
   E. Drilling fluids will be contained in steel pits in a closed circulating system. Fluids will be cleaned and reused. Water produced during testing will be contained in the steel pits and disposed of at a state approved disposal facility. Any oil or condensate produced will be stored in test tanks until sold and hauled from the site.

8. Ancillary Facilities:
   A. No camps or airstrips to be constructed.

9. Well Site Layout:
   A. Exhibit "D" shows location and rig layout.
   C. Mud pits in the closed circulating system will be steel pits and the cuttings will be stored in steel containment pits.
   D. Cuttings will be stored in steel pits until they are hauled to a state-approved disposal facility.
   E. If the well is a producer, those areas of the location not essential to production facilities will be reclaimed and seeded per BLM requirements.

10. Plans for Restoration of Surface:
    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.

    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 recountoured 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, the previously noted procedures will apply to those areas which are not required for production facilities.

11 Other Information
   A. Topography consists of a sloping plane with loose tan sands. Vegetation is mainly yucca, mesquite and shin oak.
   B. The wellsite is on surface owned by Department of the Interior, Bureau of Land Management. The land is used mainly for farming, cattle ranching, recreational use, and oil and gas production.
   C. An Archaeological survey will be conducted on the location and proposed roads, and this report will be filed with the Bureau of Land Management in the Carlsbad BLM office.
   D. There are no know dwellings within 1½ miles of this location.

Operator Certification Statement
White City 10 Federal No. 3
Cimarex Energy Co. of Colorado
Unit P, Section 10
T25S-R26E, Eddy County, NM

Operator's Representative
Cimarex Energy Co. of Colorado
600 N. Marienfeld St., Ste. 600
Midland, TX 79701
Office Phone: (432) 620-1938
Zeno Farris

CERTIFICATION: I hereby certify that the statements and plans made in this APD are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed by Cimarex Energy Co. of Colorado and/or its contractors/subcontractors and is in conformity with this plan and the terms and conditions under which it is approved. This statement is subject to the provision of U.S.C. 1001 for the filing of a false statement.

NAME: Zeno Farris
Zeno Farris

DATE: June 8, 2010

TITLE: Manager Operations Administration

PECOS DISTRICT
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Cimarex Energy Co of Colo
LEASE NO.:	NM19423
WELL NAME & NO.:	3 White City 10 Federal
SURFACE HOLE FOOTAGE:	660' FSL & 330' FEL
BOTTOM HOLE FOOTAGE	990' FSL & 660' FWL
LOCATION:	Section 10, T. 25 S., R 26 E., NMPM
COUNTY:	Eddy County, New Mexico

TABLE OF CONTENTS

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)

Cave and Karst

** Depending on location, additional Drilling, Casing, and Cementing procedures may be required by engineering to protect critical karst groundwater recharge areas.

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. All sides will be bermed.

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.

Fluorescent Dyes:
Nontoxic Fluorescent dyes will be added to the drilling fluid when the hole is spudded and will be circulated to the bottom of the karst layers. BLM must witness the dye being injected.

Florescene Dye (Acid Yellow 73):

Thirty-two (32) ounces dry powder Florescene (Acid Yellow 73) dye will be added to the drilling fluid before the well is spudded AND to the pre-flush fluids of the surface interval of casing.

These dyes will track the fluids if lost circulation occurs.

Arrangements will be made to have BLM witness the dye being injected prior to spudding the hole and before the pre-flush of the surface casing. Contact the BLM drilling on call phone at (575) 361-2822 to make arrangements. **Whomever is on-call, please call Aaron Stockton with the BLM at 575-302-1693 so that he may witness the dye being mixed in.**

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) 234-5972 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. V-DOOR DIRECTION: not stipulated

C. TOPSOIL

The operator shall stockpile the topsoil in a low profile manner in order to prevent wind/water erosion of the topsoil. The topsoil to be stripped is approximately 6 inches in depth. The topsoil will be used for interim and final reclamation.

D. CLOSED LOOP SYSTEM

Tanks are required for drilling operations: No Pits.

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

E. FEDERAL MINERAL MATERIALS PIT

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

F. 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.

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 sixteen (16) 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.

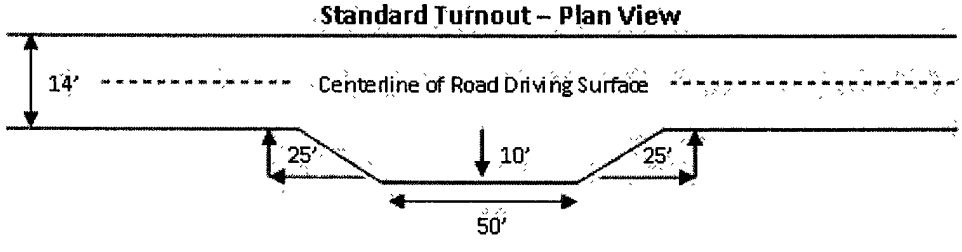
The Authorized Officer reserves the right to require surfacing of any portion of the access road at any time deemed necessary. Surfacing may be required in the event the road deteriorates, erodes, road traffic increases, or it is determined to be beneficial for future field development. The surfacing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

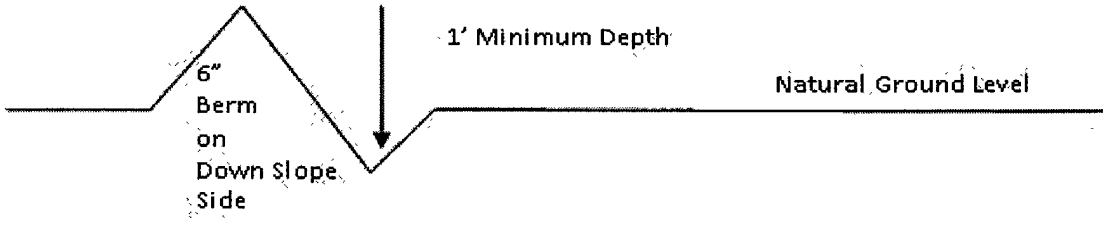
Turnouts
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall be constructed on all blind curves. Turnouts shall conform to the following diagram:



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

Culvert Installations
Appropriately sized culvert(s) shall be installed at the deep waterway channel flow crossing.

Cattleguards
An appropriately sized cattleguard(s) sufficient to carry out the project shall be installed and maintained at fence crossing(s).

Any existing cattleguard(s) on the access road 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 cattleguard(s) that are in place and are utilized during lease operations.

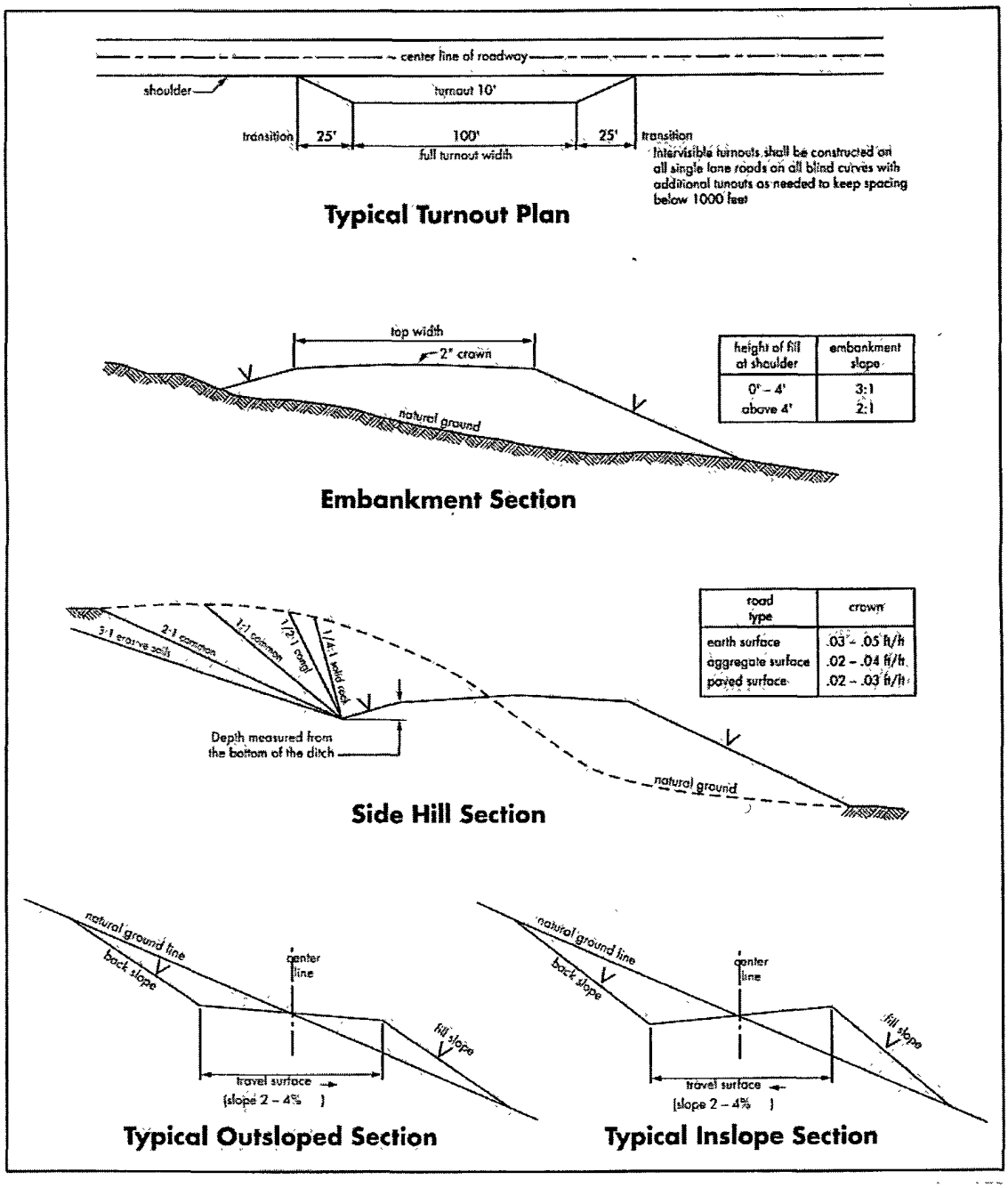
A gate shall be constructed and fastened securely to H-braces.

Fence Requirement
Where entry is required 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 fence(s).

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

Figure 1 – Cross Sections and Plans For Typical Road Sections



VII. DRILLING

A. DRILLING OPERATIONS REQUIREMENTS

The BLM is to be notified a minimum of 4 hours in advance for a representative to witness:

a. Spudding well
b. Setting and/or Cementing of all casing strings
c. BOPE tests

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

1. A Hydrogen Sulfide (H2S) Drilling Plan should 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 are 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) will 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 top and bottom of Salt are to be recorded on the Completion Report.**

B. CASING

Changes to the approved APD casing and cement program require submitting a sundry and receiving approval prior to work. Failure to obtain approval prior to work will result in an Incident of Non-Compliance being issued.

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

Wait on cement (WOC) time prior to drilling out for a primary cement job will be a minimum 18 hours for a water basin, 24 hours in the potash area, or 500 pounds compressive strength, whichever is greater for all casing strings. DURING THIS WOC TIME, NO DRILL PIPE, ETC. SHALL BE RUN IN THE HOLE. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. 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.

CRITICAL CAVE/KARST – A MINIMUM OF THREE CASING STRINGS CEMENTED TO SURFACE IS REQUIRED IN CRITICAL CAVE/KARST AREAS. THE CEMENT MUST BE IN A SOLID SHEATH THEREFORE, ONE INCH OPERATIONS WILL NOT BE PERMITTED. CONTACT BLM WITH MODIFICATIONS TO CEMENT PROGRAM AS NEEDED.

Possible lost circulation in the Delaware formation.
Possible abnormal pressures in the Wolfcamp formation.
Possible high pressure gas in the Pennsylvanian group.

1. The **13-3/8** inch surface casing shall be set at **approximately 450 feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt)** and cemented to the surface.

    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. Casing to be set in the Lamar Limestone at approximately 1950 feet. Additional cement will be required – excess calculates to a negative 37%.**

Formation below the 9-5/8" 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.

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.

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

   ☒ Cement not required. Packer system to be used. **100 foot overlap approved.**

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. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **3000 (3M)** psi. **5M system tested as a 3M.**

   a. **For surface casing only:** If the BOP/BOPE is to be tested against casing, the wait on cement (WOC) time for that casing is to be met (see WOC statement at start of casing section). Independent service company required.

3. 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 **5000 (5M)** psi. **5M 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.**

4. 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 or where the float does not hold, the minimum wait time before cut-off is eight hours after bumping the plug or when the cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. BOP/BOPE testing can begin after the above conditions are satisfied.

    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) prior to initiating the test.

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

    d. 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.**

    e. 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.

    f. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the **Wolfcamp** formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

D. DRILLING MUD

Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be operating before drilling into the **Wolcamp** formation, and shall be used until production casing is run and cemented.

Proposed mud weight may not be adequate for drilling in the Wolfcamp formation.

E. DRILL STEM TEST

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

F. 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.

DHW 080910

VIII. 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.

Containment Structures
The containment structure shall be constructed to hold the capacity of the entire contents of the largest tank, plus 24 hour production, unless more stringent protective requirements are deemed necessary by the Authorized Officer.

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, Munsell Soil Color Chart # 5Y 4/2

B. PIPELINES – not requested in APD

C. ELECTRIC LINES – not requested in APD

IX. 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).

X. 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).

Seed Mixture 4, for Gypsum Sites

The 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 will be done in accordance with State law(s) and within nine (9) months prior to purchase. Commercial seed will be either certified or registered seed. The seed container will 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). The 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. The seeding will be repeated until a satisfactory stand is established as determined by the authorized officer. Evaluation of growth will 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
Alkali Sacaton (Sporobolus airoides)	1.0
DWS Four-wing saltbush (Atriplex canescens)	5.0

DWS: DeWinged Seed

*Pounds of pure live seed:

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