NM OIL CONSERVATION
ARTESIA DISTRICT
OCT 08 2014

RECEIVED

TCS 10-8-14

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.
SHL: NMLC0068408; BHL: NMNM130862

6. If Indian, Allotee or Tribe Name

1a. Type of Work: [X] DRILL [ ] REENTER

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

1b. Type of Well: [X] Oil Well [ ] Gas Well [ ] Other [X] Single Zone [ ] Multiple Zone

8. Lease Name and Well No.
Hasta La Vista 1 DI Federal Com #2Y <313647>

2. Name of Operator
Cimarex Energy Co. <215099>

9. API Well No.
30-015-42705

3a. Address
600 N. Marienfield St. Ste. 600 Midland Tx 79071

3b. Phone No. *(include area code)*
432-571-7800

10. Field and Pool, or Exploratory
Gatuna Canyon Bone Spring <96688>

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*
At Surface: 410' FNL 2280' FWL, Sec. 6, 20S, 31E
At proposed prod. Zone: 1980' FNL 330' FWL, Sec. 1, 20S, 30E *Bone Spring*

11. Sec., T. R. M. or Blk. and Survey and Area
6, 20S, 31E

14. Distance in miles and direction from nearest town or post office*
Carlsbad NM is approximately 23 miles SW

12. County or Parish: Eddy

13. State: NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drlg. unit line if any)	16. No of acres in lease	17. Spacing Unit dedicated to this well
410'	NMLC0068408=1328.00 acres NMNM130862=320.00 acres	275.66
18. Distance from proposed* location to nearest well, drilling, completed, applied for, on this lease, ft.	**19. Proposed Depth**	**20. BLM/BIA Bond No. on File**
30' from #1H	Pilot Hole TD: N/A 16,324 MD 8,775 TVD	NM2575; NMB000835
21. Elevations (Show whether DF, KDB, RT, GL, etc.)	**22. Approximate date work will start***	**23. Estimated duration**
3439 GR	10/1/14	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	Name *(Printed/Typed)*	Date
Title: Regulatory Compliance	Terri Stathem	9/25/14

Approved By *(Signature)*	Name (Printed/Typed)	Date
Title: AFM III	Office: CFO	10/6/14

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.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.

(Continued on page 2) **(Instructions on page 2)*

APPROVAL SUBJECT TO GENERAL REQUIREMENTS AND SPECIAL STIPULATIONS ATTACHED

CAPITAN CONTROLLED WATER BASIN

Witness Surface & Intermediate Casing

SEE ATTACHED FOR CONDITIONS OF APPROVAL

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
30-015-42708	96688	Gatuna Canyon; BS
4 Property Code: ~~313536~~ 313647	5 Property Name: HASTA LA VISTA 1 DI FEDERAL COM	6 Well Number: 2Y
7 OGRID No.: 215099	8 Operator Name: CIMAREX ENERGY CO.	9 Elevation: 3439.6'

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
3	6	20S	31E		410	NORTH	2280	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
E	1	20S	30E		1980	NORTH	330	WEST	EDDY

12 Dedicated Acres	13 Joint or Infill	14 Consolidation Code	15 Order No.
~~275.66~~ 160			

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.

▲ = SECTION CORNERS LOCATED.
△ = SECTION CORNERS RE-ESTABLISHED. (Not Set on Ground.)

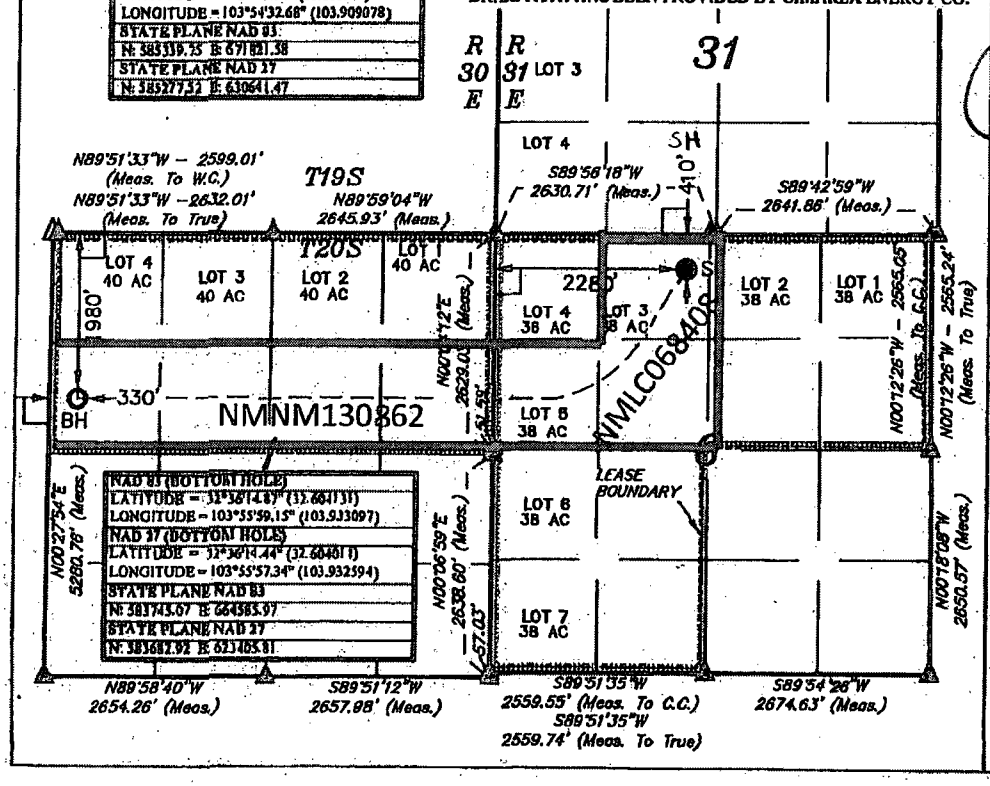
1000' 500' 0' 1000'
SCALE
DRAWN BY: B.D.H. 09-15-14

THE PROPOSED TARGET BOTTOM HOLE FOR THIS WELL BEARS S77°48'00"W 7410.85' FROM THE PROPOSED WELL HEAD.

DRILL PATH HAS BEEN PROVIDED BY CIMAREX ENERGY CO.

NAD 83 (SURFACE LOCATION)
LATITUDE = 32°36'30.37" (32.608436)
LONGITUDE = 103°54'34.49" (103.909581)
NAD 27 (SURFACE LOCATION)
LATITUDE = 32°36'28.94" (32.608317)
LONGITUDE = 103°54'32.68" (103.909078)
STATE PLANE NAD 83
N: 383339.25 E: 671821.38
STATE PLANE NAD 27
N: 383277.52 E: 630641.47

NAD 83 (BOTTOM HOLE)
LATITUDE = 32°38'14.87" (32.641131)
LONGITUDE = 103°55'59.15" (103.933097)
NAD 27 (BOTTOM HOLE)
LATITUDE = 32°38'14.44" (32.640401)
LONGITUDE = 103°55'57.34" (103.932594)
STATE PLANE NAD 83
N: 383743.07 E: 664385.97
STATE PLANE NAD 27
N: 383682.92 E: 623205.81



16 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 — Date: 9-25-14

Terri Stathem
Printed Name

E-mail Address

17 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.

September 11, 2014
Date of Survey

Signature and Seal of Professional Surveyor:

PROFESSIONAL SURVEYOR NEW MEXICO 12446 NELSON J. MARSHALL — 9-25-14

Certificate Number:

NM OIL CONSERVATION
ARTESIA DISTRICT
OCT 08 2014
RECEIVED

Form 3160-5
(August 2007)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB NO. 1004-0135
Expires: July 31, 2010

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.

5. Lease Serial No. NMNM130862

6. If Indian, Allottee or Tribe Name

SUBMIT IN TRIPLICATE - Other instructions on reverse side.

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

1. Type of Well
☒ Oil Well ☐ Gas Well ☐ Other

8. Well Name and No.
HASTA LA VISTA 1 DI FED COM 2H

2. Name of Operator Contact: TERRI STATHEM
CIMAREX ENERGY COMPANY OF CO E-Mail: tstathem@cimarex.com

9. API Well No.
30-015-42541-00-X1

3a. Address
600 NORTH MARIENFELD STREET SUITE 600
MIDLAND, TX 79701

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

10. Field and Pool, or Exploratory
~~WILDCAT~~ GATUNA CANYON; BS <96688>

4. Location of Well (*Footage, Sec., T., R., M., or Survey Description*)
Sec 6 T20S R31E Lot 3 380FNL 2280FWL
32.363067 N Lat, 103.543449 W Lon

11. County or Parish, and State
EDDY COUNTY, NM

12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
☒ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
☐ Subsequent Report	☐ Alter Casing	☐ Fracture Treat	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☒ Other
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

Accepted for record
NMOCD TES 10-8-14

Cimarex respectfully requests approval to skid the rig 30' and drill the Hasta La Vista 1 DI Fed Com #2Y well according to the attached directional plan. The proposed SHL: 410' FNL 2280' FWL.

Cimarex has also revised its casing and cement plan as indicated below. ~~Cimarex will also extend the pad 35' North to allow for skid~~ South Not Approved to extend Pad

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

History:
Hasta La Vista 1 DI Fed Com #2H: Drilled 12.25" hole to 2723'. Fish stuck from 2448' - 2658'. 210' of fish. Fish Detail: Bit, Mud Motor, IBS, Drift Survey Tool, 8" DC, IBS, 3x 8" DC, XO, 6.5" DC.

Plan to sidetrack around fish without cement. Drill to original plan hole section TD at 4100'. Will increase cement Stage 1 lead cement volume by 100 sx up to 408 sx to account for additional hole

Potash OK w/ skid JSR 10/06/2014

Eng OK FRW 10/6/14

Surface OK - Original COA's still Apply. JR 10/6/14

14. I hereby certify that the foregoing is true and correct.
Electronic Submission #266177 verified by the BLM Well Information System
For CIMAREX ENERGY COMPANY OF CO, sent to the Carlsbad
Committed to AFMSS for processing by CHRISTOPHER WALLS on 10/06/2014 (15CRW0006SE)

Name (*Printed/Typed*) TERRI STATHEM | Title COORDINATOR REGULATORY COMPLIA

Signature (Electronic Submission) | Date 09/26/2014

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By [signature] | Title AFM | Date 10/6/14

Conditions of approval, if any, are attached. Approval of this notice 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.

Office CFO

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.

**** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ****

Additional data for EC transaction #266177 that would not fit on the form

32. Additional remarks, continued

volume from original hole. Verbally approved by W. Ingram 8/31/14 @ 2100.

Plugging information:
Set a cement retainer at +/- 2100'. Mix and pump 850 sx of Class C Cement at 1.33 yield and 14.8 ppg. Pump 600 sx (798 cuft) below retainer and leave 250 sx (332 cuft) on top of retainer. This equals 920' of theoretical linear feet below the retainer and 382' above retainer. WOC and tag this plug (Notify BLM for witness)
Set a cement plug from 600' to surface with 400 sx of Class C cement at 14.8 ppg. Verbal approval - JAMason 9-7-14.

Proposed Casing & Cement:
8.75" hole from 4100' ? 9180' MD
7" 26# L-80 LTC Casing set at 9180' MD / 8800' TVD (End of Curve)
Lead Cement: 370 sx, 11.9 ppg, 2.40 yield
Tail Cement: 230 sx, 14.5 ppg, 1.24 yield
TOC: 3600'

6" or 6.125" hole from 9180' ? 16,324'. Cement volume will be adjusted for hole size
Lateral to be drilled with OBM at 8.5-9.5 ppg
4.5" 11.6# P-110 BTC Liner set at 8200' ? 16408' MD 9180 See COA
Lead Cement: None
Tail Cement: 560 sx, 14.5 ppg, 1.24 yield, 10% excess, TOC planned at ~~9180'~~
Liner will be equipped with liner hanger and liner top packer, or expandable hanger/packer.

2M BOP Annular only - for drilling below the 20" csg. 3M BOP below 13.375" and 9.625" csg.

Mud Circ System proposal:
Fresh Water for 12.25" hole section from 2250'-4100'.

Please see attached 3160-3, C102, directional plan, location layout, rig layout and BOP information.

2M BOP to be installed on 20" Casing

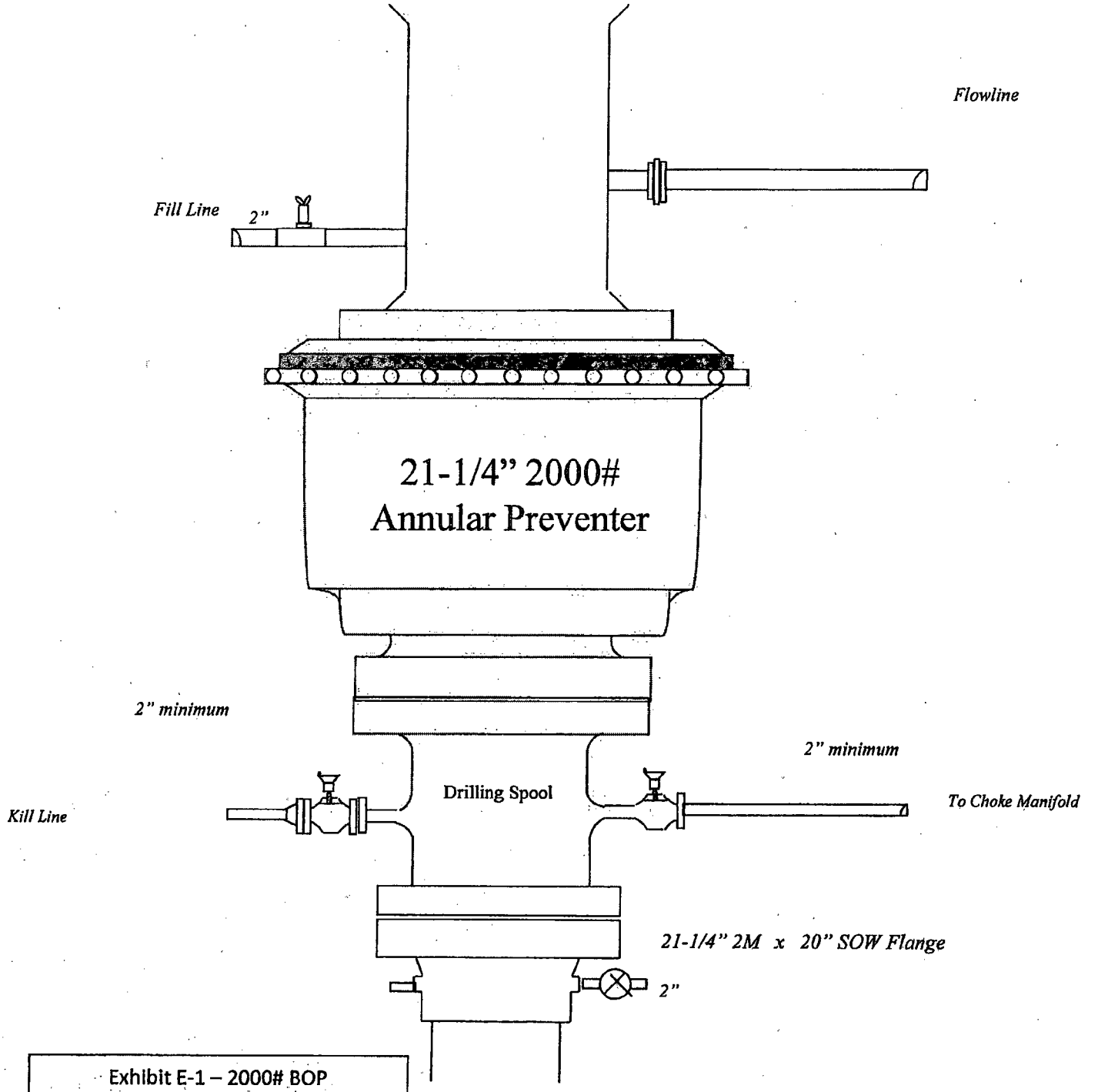
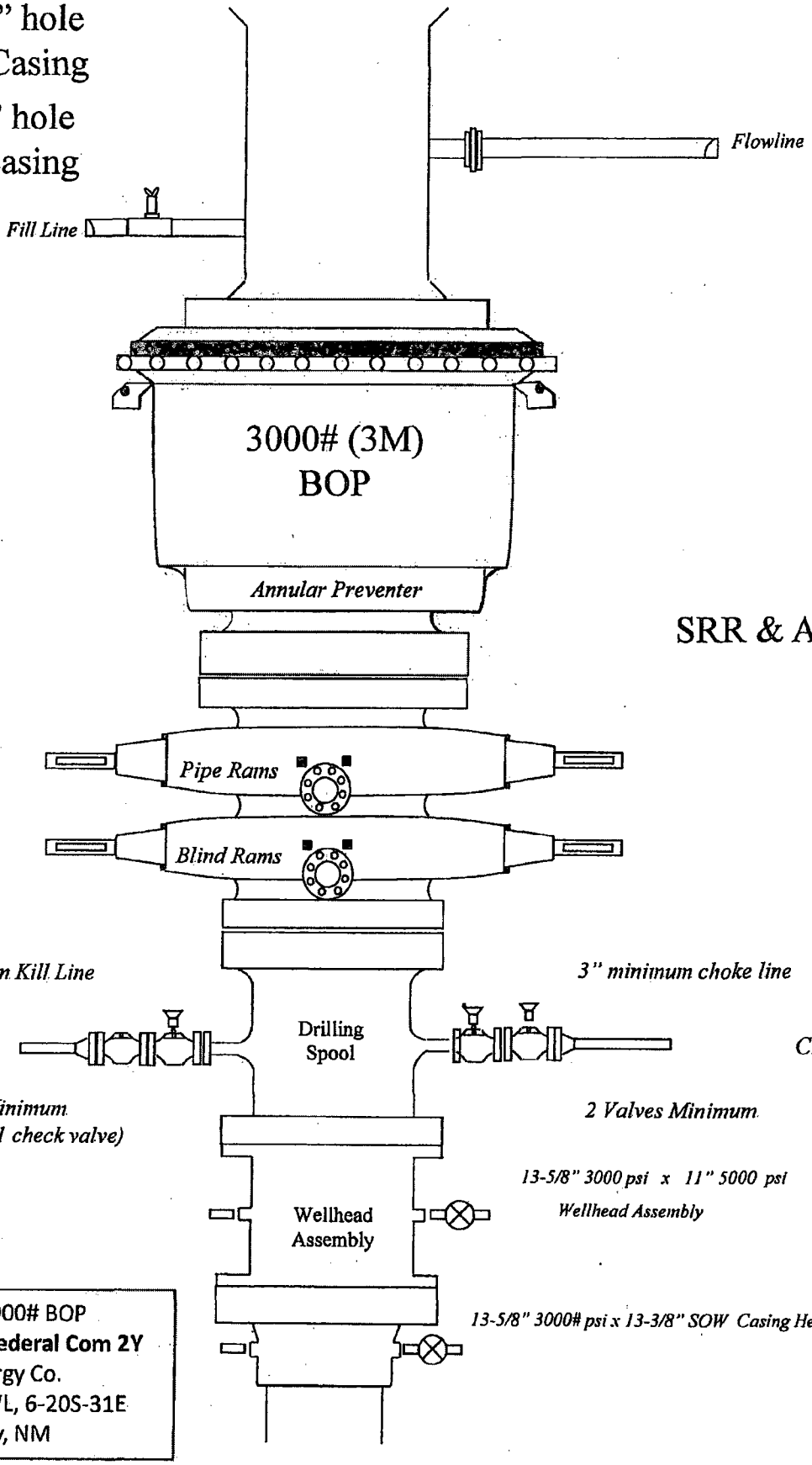


Exhibit E-1 – 2000# BOP
Hasta La Vista 1 DI Federal Com 2Y
Cimarex Energy Co.
410 FNL & 2280 FWL, 6-20S-31E
Eddy County, NM

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

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



SRR & A

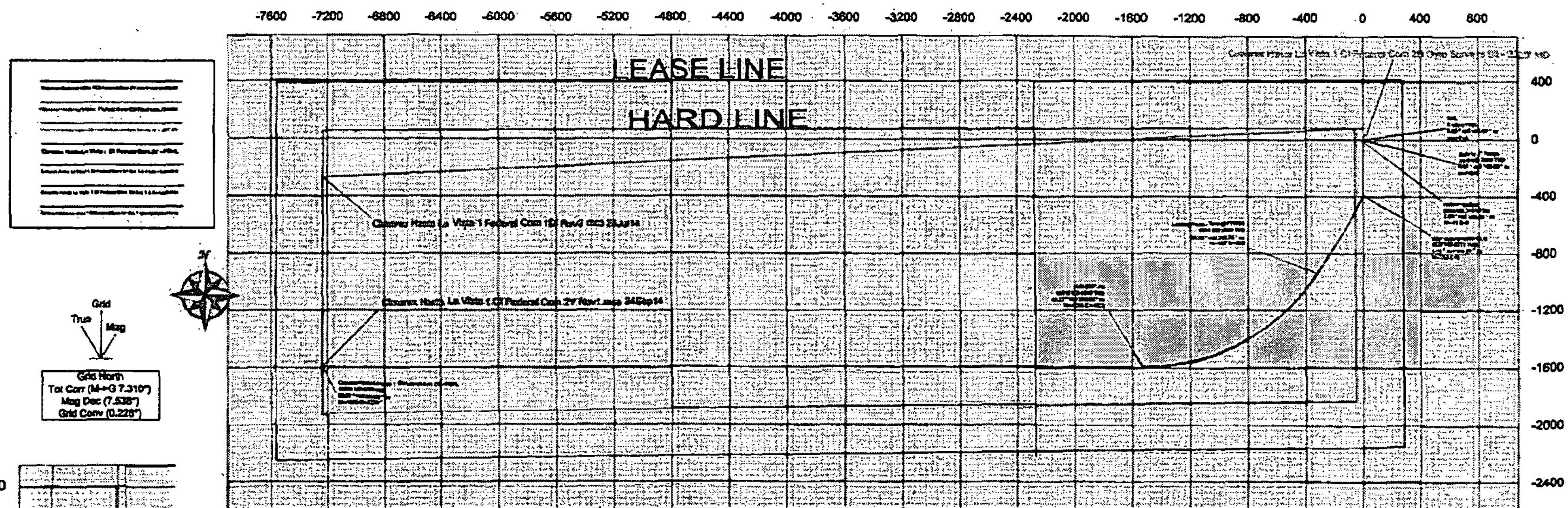
Exhibit E-1 – 3000# BOP
Hasta La Vista 1 DI Federal Com 2Y
Cimarex Energy Co.
410 FNL & 2280 FWL, 6-20S-31E
Eddy County, NM

Scandrill Eagle

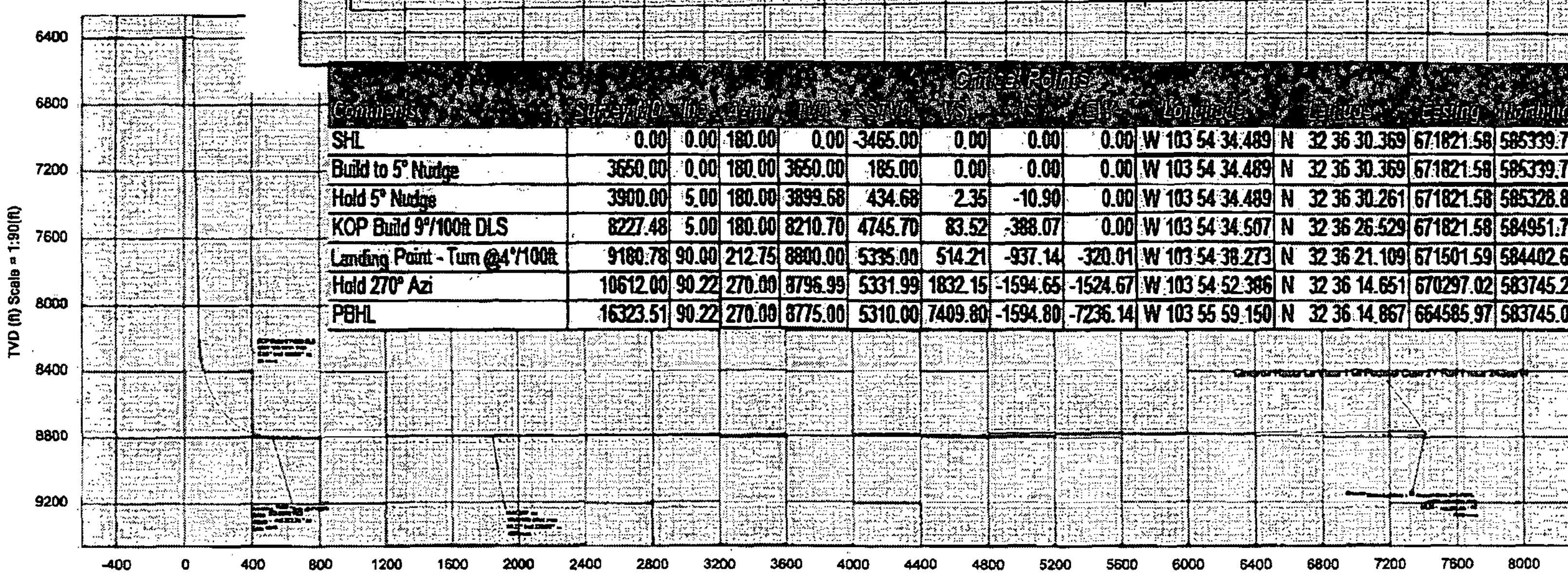
Cimarex — **Rev1**

CIMAREX — PATHFINDER, A Schlumberger Company

Borehole:	Well:	Field:	Structure:
Original Borehole	Hasta La Vista 1 DI Federal Com 2Y	Eddy County, NM	Scandrill Eagle



Critical Points															
Comments	Survey MD	Inc	Azim	TVD	SSTVD	VS	NS	EW	Longitude		Latitude	Easting	Northing	DLS	Tool Face
SHL	0.00	0.00	180.00	0.00	-3465.00	0.00	0.00	0.00	W 103 54 34.489	N	32 36 30.369	671821.58	585339.75		180.00
Build to 5° Nudge	3650.00	0.00	180.00	3650.00	185.00	0.00	0.00	0.00	W 103 54 34.489	N	32 36 30.369	671821.58	585339.75	0.00	180.00
Hold 5° Nudge	3900.00	5.00	180.00	3899.68	434.68	2.35	-10.90	0.00	W 103 54 34.489	N	32 36 30.261	671821.58	585328.85	2.00	180.00
KOP Build 9°/100ft DLS	8227.48	5.00	180.00	8210.70	4745.70	83.52	-388.07	0.00	W 103 54 34.507	N	32 36 26.529	671821.58	584951.71	0.00	212.75
Landing Point - Turn @4°/100ft	9180.78	90.00	212.75	8800.00	5335.00	514.21	-937.14	-320.01	W 103 54 38.273	N	32 36 21.109	671501.59	584402.68	9.00	89.74
Hold 270° Azi	10612.00	90.22	270.00	8796.99	5331.99	1832.15	-1594.65	-1524.67	W 103 54 52.386	N	32 36 14.651	670297.02	583745.22	4.00	0.00
PBHL	16323.51	90.22	270.00	8775.00	5310.00	7409.80	-1594.80	-7236.14	W 103 55 59.150	N	32 36 14.867	664585.97	583745.07	0.00	



Cimarex Hasta La Vista 1 DI Federal Com 2Y Rev1 mcs 24Sep14 Proposal
Geodetic Report
(Non-Def Plan)

Report Date:	September 24, 2014 - 03:42 PM	**Survey / DLS Computation:**	Minimum Curvature / Lubinski
Client:	Cimarex	**Vertical Section Azimuth:**	257.571 ° (Grid North)
Field:	NM Eddy County (NAD 83)	**Vertical Section Origin:**	0.000 ft, 0.000 ft
Structure / Slot:	Cimarex Hasta La Vista 1 DI Federal Com 2Y / Cimarex Hasta La Vista 1 DI Federal Com 2Y	**TVD Reference Datum:**	RKB
Well:	Cimarex Hasta La Vista 1 DI Federal Com 2Y	**TVD Reference Elevation:**	3465.000 ft above
Borehole:	Original Borehole	**Seabed / Ground Elevation:**	3440.000 ft above
UWI / API#:	Scandrill Eagle / Unknown	**Magnetic Declination:**	7.538 °
Survey Name:	Cimarex Hasta La Vista 1 DI Federal Com 2Y Rev1 mcs 24Sep14	**Total Gravity Field Strength:**	998.4981mgn (9.80665 Based)
Survey Date:	September 24, 2014	**Gravity Model:**	GARM
Tort / AHD / DDI / ERD Ratio:	146.045 ° / 8157.255 ft / 6.351 / 0.828	**Total Magnetic Field Strength:**	48439.505 nT
Coordinate Reference System:	NAD83 New Mexico State Plane, Eastern Zone, US Feet	**Magnetic Dip Angle:**	60.397 °
Location Lat / Long:	N 32° 36' 30.36896", W 103° 54' 34.48873"	**Declination Date:**	September 24, 2014
Location Grid N/E Y/X:	N 585339.750 ftUS, E 671821.580 ftUS	**Magnetic Declination Model:**	BGGM 2014
CRS Grid Convergence Angle:	0.2284 °	**North Reference:**	Grid North
Grid Scale Factor:	0.99992859	**Grid Convergence Used:**	0.2284 °
Version / Patch:	2.7.1043.0	**Total Corr Mag North->Grid North:**	7.3092 °
		Local Coord Referenced To:	Structure Reference Point

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	TVDSS (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Closure Azimuth (°)	Closure (ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
SHL	0.00	0.00	180.00	0.00	-3465.00	0.00	0.00	0.00	N/A	0.00	0.00	585339.75	671821.58	N 32 36 30.37	W 103 54 34.49
Build to 5° Nudge	3650.00	0.00	180.00	3650.00	185.00	0.00	0.00	0.00	0.00	0.00	0.00	585339.75	671821.58	N 32 36 30.37	W 103 54 34.49
Hold 5° Nudge	3900.00	5.00	180.00	3899.68	434.68	2.35	-10.90	0.00	2.00	180.00	10.90	585328.85	671821.58	N 32 36 30.26	W 103 54 34.49
KOP Build 9°/100ft DLS	8227.48	5.00	180.00	8210.70	4745.70	83.52	-388.07	0.00	0.00	180.00	388.07	584951.71	671821.58	N 32 36 26.53	W 103 54 34.51
Landing Point - Turn @4°/100ft	9180.78	90.00	212.75	8800.00	5335.00	514.21	-937.14	-320.01	9.00	198.85	990.27	584402.68	671501.59	N 32 36 21.11	W 103 54 38.27
Hold 270° Azi	10612.00	90.22	270.00	8798.99	5331.99	1832.16	-1594.85	-1524.87	4.00	223.71	2206.25	583745.22	670297.02	N 32 36 14.65	W 103 54 52.39
Cimarex Hasta La Vista 1 DI Federal Com 2Y - PBHL	16323.51	90.22	270.00	8775.00	5310.00	7409.80	-1594.80	-7236.14	0.00	257.57	7408.80	583745.07	664585.97	N 32 36 14.67	W 103 55 59.15

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)	Survey Tool Type	Borehole / Survey
	1	0.000	25.000	1/100.000	30.000	30.000	SLB_MWD-POOR-Depth Only	Original Borehole / Cimarex Hasta La Vista 1 DI Federal Com 2Y
	1	25.000	8210.700	1/100.000	30.000	30.000	SLB_MWD-POOR	Original Borehole / Cimarex Hasta La Vista 1 DI Federal Com 2Y
	1	8210.700	16323.506	1/100.000	30.000	30.000	SLB_MWD-STD	Original Borehole / Cimarex Hasta La Vista 1 DI Federal Com 2Y

Cimarex Hasta La Vista 1 DI Federal Com 2Y Rev1 mcs 24Sep14 Proposal Geodetic Report

(Non-Def Plan)

Report Date:	September 24, 2014 - 03:42 PM	**Survey / DLS Computation:**	Minimum Curvature / Lubinski
Client:	Cimarex	**Vertical Section Azimuth:**	257.571 ° (Grid North)
Field:	NM Eddy County (NAD 83)	**Vertical Section Origin:**	0.000 ft, 0.000 ft
Structure / Slot:	Cimarex Hasta La Vista 1 DI Federal Com 2Y / Cimarex Hasta La Vista 1 DI Federal Com 2Y	**TVD Reference Datum:**	RKB
Well:	Cimarex Hasta La Vista 1 DI Federal Com 2Y	**TVD Reference Elevation:**	3465.000 ft above
Borehole:	Original Borehole	**Seabed / Ground Elevation:**	3440.000 ft above
UWI / API#:	Scandrill Eagle / Unknown	**Magnetic Declination:**	7.538 °
Survey Name:	Cimarex Hasta La Vista 1 DI Federal Com 2Y Rev1 mcs 24Sep14	**Total Gravity Field Strength:**	998.4981mgn (9.80665 Based)
Survey Date:	September 24, 2014	**Gravity Model:**	GARM
Tort / AHD / DDI / ERD Ratio:	148.045 ° / 6157.285 ft / 6.351 / 0.928	**Total Magnetic Field Strength:**	48439.505 nT
Coordinate Reference System:	NAD83 New Mexico State Plane, Eastern Zone, US Feet	**Magnetic Dip Angle:**	60.397 °
Location Lat / Long:	N 32° 36' 30.36896", W 103° 54' 34.48873"	**Declination Date:**	September 24, 2014
Location Grid N/E Y/X:	N 585339.750 ftUS, E 671821.580 ftUS	**Magnetic Declination Model:**	BGGM 2014
CRS Grid Convergence Angle:	0.2284 °	**North Reference:**	Grid North
Grid Scale Factor:	0.99992859	**Grid Convergence Used:**	0.2284 °
Version / Patch:	2.7.1043.0	**Total Corr Mag North->Grid North:**	7.3092 °
		Local Coord Referenced To:	Structure Reference Point

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	TVDSS (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Closure Azimuth (°)	Closure (ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
SHL	0.00	0.00	180.00	0.00	-3465.00	0.00	0.00	0.00	N/A	0.00	0.00	585339.75	671821.58	N 32 36 30.37	W 103 54 34.49
	100.00	0.00	180.00	100.00	-3365.00	0.00	0.00	0.00	0.00	0.00	0.00	585339.75	671821.58	N 32 36 30.37	W 103 54 34.49
	200.00	0.00	180.00	200.00	-3265.00	0.00	0.00	0.00	0.00	0.00	0.00	585339.75	671821.58	N 32 36 30.37	W 103 54 34.49
	300.00	0.00	180.00	300.00	-3165.00	0.00	0.00	0.00	0.00	0.00	0.00	585339.75	671821.58	N 32 36 30.37	W 103 54 34.49
	400.00	0.00	180.00	400.00	-3065.00	0.00	0.00	0.00	0.00	0.00	0.00	585339.75	671821.58	N 32 36 30.37	W 103 54 34.49
	500.00	0.00	180.00	500.00	-2965.00	0.00	0.00	0.00	0.00	0.00	0.00	585339.75	671821.58	N 32 36 30.37	W 103 54 34.49
	600.00	0.00	180.00	600.00	-2865.00	0.00	0.00	0.00	0.00	0.00	0.00	585339.75	671821.58	N 32 36 30.37	W 103 54 34.49
	700.00	0.00	180.00	700.00	-2765.00	0.00	0.00	0.00	0.00	0.00	0.00	585339.75	671821.58	N 32 36 30.37	W 103 54 34.49
	800.00	0.00	180.00	800.00	-2665.00	0.00	0.00	0.00	0.00	0.00	0.00	585339.75	671821.58	N 32 36 30.37	W 103 54 34.49
	900.00	0.00	180.00	900.00	-2565.00	0.00	0.00	0.00	0.00	0.00	0.00	585339.75	671821.58	N 32 36 30.37	W 103 54 34.49
	1000.00	0.00	180.00	1000.00	-2465.00	0.00	0.00	0.00	0.00	0.00	0.00	585339.75	671821.58	N 32 36 30.37	W 103 54 34.49
	1100.00	0.00	180.00	1100.00	-2365.00	0.00	0.00	0.00	0.00	0.00	0.00	585339.75	671821.58	N 32 36 30.37	W 103 54 34.49
	1200.00	0.00	180.00	1200.00	-2265.00	0.00	0.00	0.00	0.00	0.00	0.00	585339.75	671821.58	N 32 36 30.37	W 103 54 34.49
	1300.00	0.00	180.00	1300.00	-2165.00	0.00	0.00	0.00	0.00	0.00	0.00	585339.75	671821.58	N 32 36 30.37	W 103 54 34.49
	1400.00	0.00	180.00	1400.00	-2065.00	0.00	0.00	0.00	0.00	0.00	0.00	585339.75	671821.58	N 32 36 30.37	W 103 54 34.49
	1500.00	0.00	180.00	1500.00	-1965.00	0.00	0.00	0.00	0.00	0.00	0.00	585339.75	671821.58	N 32 36 30.37	W 103 54 34.49
	1600.00	0.00	180.00	1600.00	-1865.00	0.00	0.00	0.00	0.00	0.00	0.00	585339.75	671821.58	N 32 36 30.37	W 103 54 34.49
	1700.00	0.00	180.00	1700.00	-1765.00	0.00	0.00	0.00	0.00	0.00	0.00	585339.75	671821.58	N 32 36 30.37	W 103 54 34.49
	1800.00	0.00	180.00	1800.00	-1665.00	0.00	0.00	0.00	0.00	0.00	0.00	585339.75	671821.58	N 32 36 30.37	W 103 54 34.49
	1900.00	0.00	180.00	1900.00	-1565.00	0.00	0.00	0.00	0.00	0.00	0.00	585339.75	671821.58	N 32 36 30.37	W 103 54 34.49
	2000.00	0.00	180.00	2000.00	-1465.00	0.00	0.00	0.00	0.00	0.00	0.00	585339.75	671821.58	N 32 36 30.37	W 103 54 34.49
	2100.00	0.00	180.00	2100.00	-1365.00	0.00	0.00	0.00	0.00	0.00	0.00	585339.75	671821.58	N 32 36 30.37	W 103 54 34.49
	2200.00	0.00	180.00	2200.00	-1265.00	0.00	0.00	0.00	0.00	0.00	0.00	585339.75	671821.58	N 32 36 30.37	W 103 54 34.49
	2300.00	0.00	180.00	2300.00	-1165.00	0.00	0.00	0.00	0.00	0.00	0.00	585339.75	671821.58	N 32 36 30.37	W 103 54 34.49
	2400.00	0.00	180.00	2400.00	-1065.00	0.00	0.00	0.00	0.00	0.00	0.00	585339.75	671821.58	N 32 36 30.37	W 103 54 34.49
	2500.00	0.00	180.00	2500.00	-965.00	0.00	0.00	0.00	0.00	0.00	0.00	585339.75	671821.58	N 32 36 30.37	W 103 54 34.49
	2600.00	0.00	180.00	2600.00	-865.00	0.00	0.00	0.00	0.00	0.00	0.00	585339.75	671821.58	N 32 36 30.37	W 103 54 34.49
	2700.00	0.00	180.00	2700.00	-765.00	0.00	0.00	0.00	0.00	0.00	0.00	585339.75	671821.58	N 32 36 30.37	W 103 54 34.49
	2800.00	0.00	180.00	2800.00	-665.00	0.00	0.00	0.00	0.00	0.00	0.00	585339.75	671821.58	N 32 36 30.37	W 103 54 34.49
	2900.00	0.00	180.00	2900.00	-565.00	0.00	0.00	0.00	0.00	0.00	0.00	585339.75	671821.58	N 32 36 30.37	W 103 54 34.49
	3000.00	0.00	180.00	3000.00	-465.00	0.00	0.00	0.00	0.00	0.00	0.00	585339.75	671821.58	N 32 36 30.37	W 103 54 34.49
	3100.00	0.00	180.00	3100.00	-365.00	0.00	0.00	0.00	0.00	0.00	0.00	585339.75	671821.58	N 32 36 30.37	W 103 54 34.49
	3200.00	0.00	180.00	3200.00	-265.00	0.00	0.00	0.00	0.00	0.00	0.00	585339.75	671821.58	N 32 36 30.37	W 103 54 34.49
	3300.00	0.00	180.00	3300.00	-165.00	0.00	0.00	0.00	0.00	0.00	0.00	585339.75	671821.58	N 32 36 30.37	W 103 54 34.49
	3400.00	0.00	180.00	3400.00	-65.00	0.00	0.00	0.00	0.00	0.00	0.00	585339.75	671821.58	N 32 36 30.37	W 103 54 34.49
	3500.00	0.00	180.00	3500.00	35.00	0.00	0.00	0.00	0.00	0.00	0.00	585339.75	671821.58	N 32 36 30.37	W 103 54 34.49
	3600.00	0.00	180.00	3600.00	135.00	0.00	0.00	0.00	0.00	0.00	0.00	585339.75	671821.58	N 32 36 30.37	W 103 54 34.49
Build to 5° Nudge	3650.00	0.00	180.00	3650.00	185.00	0.00	0.00	0.00	0.00	0.00	0.00	585339.75	671821.58	N 32 36 30.37	W 103 54 34.49
	3700.00	1.00	180.00	3700.00	235.00	0.09	-0.44	0.00	2.00	180.00	0.44	585339.31	671821.58	N 32 36 30.36	W 103 54 34.49
	3800.00	3.00	180.00	3799.93	334.93	0.65	-3.93	0.00	2.00	180.00	3.93	585335.82	671821.58	N 32 36 30.33	W 103 54 34.49
Hold 5° Nudge	3900.00	5.00	180.00	3899.68	434.68	2.35	-10.90	0.00	2.00	180.00	10.90	585328.85	671821.58	N 32 36 30.26	W 103 54 34.49
	4000.00	5.00	180.00	3999.30	534.30	4.22	-19.62	0.00	0.00	180.00	19.62	585320.13	671821.58	N 32 36 30.17	W 103 54 34.49

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	TVDSS (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Closure Azimuth (°)	Closure (ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
	4100.00	5.00	180.00	4098.92	533.92	6.10	-28.33	0.00	0.00	180.00	28.33	585311.42	671821.58	N 32 36 30.09	W 103 54 34.49
	4200.00	5.00	180.00	4198.54	733.54	7.97	-37.05	0.00	0.00	180.00	37.05	585302.70	671821.58	N 32 36 30.00	W 103 54 34.49
	4300.00	5.00	180.00	4298.16	833.16	9.85	-45.76	0.00	0.00	180.00	45.76	585293.99	671821.58	N 32 36 29.92	W 103 54 34.49
	4400.00	5.00	180.00	4397.78	932.78	11.73	-54.48	0.00	0.00	180.00	54.48	585285.27	671821.58	N 32 36 29.83	W 103 54 34.49
	4500.00	5.00	180.00	4497.40	1032.40	13.60	-63.19	0.00	0.00	180.00	63.19	585276.56	671821.58	N 32 36 29.74	W 103 54 34.49
	4600.00	5.00	180.00	4597.02	1132.02	15.48	-71.91	0.00	0.00	180.00	71.91	585267.84	671821.58	N 32 36 29.66	W 103 54 34.49
	4700.00	5.00	180.00	4696.64	1231.64	17.35	-80.63	0.00	0.00	180.00	80.63	585259.13	671821.58	N 32 36 29.57	W 103 54 34.49
	4800.00	5.00	180.00	4796.26	1331.26	19.23	-89.34	0.00	0.00	180.00	89.34	585250.42	671821.58	N 32 36 29.48	W 103 54 34.49
	4900.00	5.00	180.00	4895.88	1430.88	21.10	-98.06	0.00	0.00	180.00	98.06	585241.70	671821.58	N 32 36 29.40	W 103 54 34.49
	5000.00	5.00	180.00	4995.50	1530.50	22.98	-106.77	0.00	0.00	180.00	106.77	585232.99	671821.58	N 32 36 29.31	W 103 54 34.49
	5100.00	5.00	180.00	5095.12	1630.12	24.86	-115.49	0.00	0.00	180.00	115.49	585224.27	671821.58	N 32 36 29.23	W 103 54 34.49
	5200.00	5.00	180.00	5194.74	1729.74	26.73	-124.20	0.00	0.00	180.00	124.20	585215.56	671821.58	N 32 36 29.14	W 103 54 34.49
	5300.00	5.00	180.00	5294.36	1829.36	28.61	-132.92	0.00	0.00	180.00	132.92	585206.84	671821.58	N 32 36 29.05	W 103 54 34.49
	5400.00	5.00	180.00	5393.97	1928.97	30.48	-141.64	0.00	0.00	180.00	141.64	585198.13	671821.58	N 32 36 28.97	W 103 54 34.50
	5500.00	5.00	180.00	5493.59	2028.59	32.36	-150.35	0.00	0.00	180.00	150.35	585189.41	671821.58	N 32 36 28.88	W 103 54 34.50
	5600.00	5.00	180.00	5593.21	2128.21	34.24	-159.07	0.00	0.00	180.00	159.07	585180.70	671821.58	N 32 36 28.80	W 103 54 34.50
	5700.00	5.00	180.00	5692.83	2227.83	36.11	-167.78	0.00	0.00	180.00	167.78	585171.98	671821.58	N 32 36 28.71	W 103 54 34.50
	5800.00	5.00	180.00	5792.45	2327.45	37.99	-176.50	0.00	0.00	180.00	176.50	585163.27	671821.58	N 32 36 28.62	W 103 54 34.50
	5900.00	5.00	180.00	5892.07	2427.07	39.86	-185.21	0.00	0.00	180.00	185.21	585154.55	671821.58	N 32 36 28.54	W 103 54 34.50
	6000.00	5.00	180.00	5991.69	2526.69	41.74	-193.93	0.00	0.00	180.00	193.93	585145.84	671821.58	N 32 36 28.45	W 103 54 34.50
	6100.00	5.00	180.00	6091.31	2626.31	43.61	-202.64	0.00	0.00	180.00	202.64	585137.12	671821.58	N 32 36 28.36	W 103 54 34.50
	6200.00	5.00	180.00	6190.93	2725.93	45.49	-211.36	0.00	0.00	180.00	211.36	585128.41	671821.58	N 32 36 28.28	W 103 54 34.50
	6300.00	5.00	180.00	6290.55	2825.55	47.37	-220.08	0.00	0.00	180.00	220.08	585119.69	671821.58	N 32 36 28.19	W 103 54 34.50
	6400.00	5.00	180.00	6390.17	2925.17	49.24	-228.79	0.00	0.00	180.00	228.79	585110.98	671821.58	N 32 36 28.11	W 103 54 34.50
	6500.00	5.00	180.00	6489.78	3024.78	51.12	-237.51	0.00	0.00	180.00	237.51	585102.26	671821.58	N 32 36 28.02	W 103 54 34.50
	6600.00	5.00	180.00	6589.41	3124.41	52.99	-246.22	0.00	0.00	180.00	246.22	585093.55	671821.58	N 32 36 27.93	W 103 54 34.50
	6700.00	5.00	180.00	6689.03	3224.03	54.87	-254.94	0.00	0.00	180.00	254.94	585084.83	671821.58	N 32 36 27.85	W 103 54 34.50
	6800.00	5.00	180.00	6788.65	3323.65	56.75	-263.65	0.00	0.00	180.00	263.65	585076.12	671821.58	N 32 36 27.76	W 103 54 34.50
	6900.00	5.00	180.00	6888.27	3423.27	58.62	-272.37	0.00	0.00	180.00	272.37	585067.40	671821.58	N 32 36 27.67	W 103 54 34.50
	7000.00	5.00	180.00	6987.89	3522.89	60.50	-281.08	0.00	0.00	180.00	281.08	585058.69	671821.58	N 32 36 27.59	W 103 54 34.50
	7100.00	5.00	180.00	7087.51	3622.51	62.37	-289.80	0.00	0.00	180.00	289.80	585049.97	671821.58	N 32 36 27.50	W 103 54 34.50
	7200.00	5.00	180.00	7187.13	3722.13	64.25	-298.52	0.00	0.00	180.00	298.52	585041.26	671821.58	N 32 36 27.42	W 103 54 34.50
	7300.00	5.00	180.00	7286.74	3821.74	66.12	-307.23	0.00	0.00	180.00	307.23	585032.54	671821.58	N 32 36 27.33	W 103 54 34.50
	7400.00	5.00	180.00	7386.36	3921.36	68.00	-315.95	0.00	0.00	180.00	315.95	585023.83	671821.58	N 32 36 27.24	W 103 54 34.50
	7500.00	5.00	180.00	7485.98	4020.98	69.88	-324.66	0.00	0.00	180.00	324.66	585015.11	671821.58	N 32 36 27.16	W 103 54 34.50
	7600.00	5.00	180.00	7585.60	4120.60	71.75	-333.38	0.00	0.00	180.00	333.38	585006.40	671821.58	N 32 36 27.07	W 103 54 34.50
	7700.00	5.00	180.00	7685.22	4220.22	73.63	-342.09	0.00	0.00	180.00	342.09	584997.68	671821.58	N 32 36 26.98	W 103 54 34.50
	7800.00	5.00	180.00	7784.84	4319.84	75.50	-350.81	0.00	0.00	180.00	350.81	584988.97	671821.58	N 32 36 26.90	W 103 54 34.51
	7900.00	5.00	180.00	7884.46	4419.46	77.38	-359.52	0.00	0.00	180.00	359.52	584980.25	671821.58	N 32 36 26.81	W 103 54 34.51
	8000.00	5.00	180.00	7984.08	4519.08	79.26	-368.24	0.00	0.00	180.00	368.24	584971.54	671821.58	N 32 36 26.73	W 103 54 34.51
	8100.00	5.00	180.00	8083.70	4618.70	81.13	-376.96	0.00	0.00	180.00	376.96	584962.82	671821.58	N 32 36 26.64	W 103 54 34.51
KOP Build 9°/100ft DLS	8200.00	5.00	180.00	8183.32	4718.32	83.01	-385.67	0.00	0.00	180.00	385.67	584954.11	671821.58	N 32 36 26.55	W 103 54 34.51
	8227.48	5.00	180.00	8210.70	4745.70	83.52	-388.07	0.00	0.00	180.00	388.07	584951.71	671821.58	N 32 36 26.53	W 103 54 34.51
	8300.00	11.06	198.74	8282.48	4817.48	87.81	-397.83	-2.24	9.00	180.32	397.83	584941.95	671819.34	N 32 36 26.43	W 103 54 34.53
	8400.00	19.91	205.24	8378.76	4913.76	103.21	-422.36	-12.60	9.00	181.71	422.55	584917.42	671808.98	N 32 36 26.19	W 103 54 34.66
	8500.00	28.85	207.82	8469.76	5004.76	129.26	-459.17	-31.16	9.00	183.88	460.23	584880.61	671790.42	N 32 36 25.83	W 103 54 34.87
	8600.00	37.81	209.25	8553.23	5088.23	165.30	-507.35	-57.45	9.00	186.46	510.59	584832.44	671764.13	N 32 36 25.35	W 103 54 35.18
	8700.00	46.78	210.20	8627.11	5162.11	210.48	-565.71	-90.83	9.00	189.12	572.96	584774.08	671730.75	N 32 36 24.78	W 103 54 35.58
	8800.00	55.77	210.90	8689.60	5224.60	263.62	-632.82	-130.48	9.00	191.65	646.13	584706.98	671691.11	N 32 36 24.11	W 103 54 36.04
	8900.00	64.76	211.47	8739.14	5274.14	323.48	-707.02	-175.42	9.00	193.93	728.45	584632.79	671646.18	N 32 36 23.38	W 103 54 36.57
	9000.00	73.75	211.96	8774.53	5309.53	388.55	-788.48	-224.54	9.00	195.93	817.90	584553.33	671597.06	N 32 36 22.60	W 103 54 37.15
Landing Point - Turn @4°/100ft	9100.00	82.74	212.40	8794.88	5329.88	457.24	-859.25	-276.63	9.00	197.65	912.21	584470.56	671544.97	N 32 36 21.78	W 103 54 37.76
	9180.78	90.00	212.75	8800.00	5333.00	514.21	-937.14	-320.01	9.00	198.85	990.27	584402.68	671501.59	N 32 36 21.11	W 103 54 38.27
	9200.00	90.00	213.52	8799.99	5334.99	527.93	-953.23	-330.52	4.00	199.12	1008.81	584386.59	671491.09	N 32 36 20.95	W 103 54 38.40
	9300.00	90.02	217.52	8799.97	5334.97	602.17	-1034.61	-388.60	4.00	200.59	1105.18	584305.22	671433.00	N 32 36 20.15	W 103 54 39.08
	9400.00	90.04	221.52	8799.92	5334.92	680.90	-1111.73	-452.22	4.00	202.14	1200.19	584228.10	671369.39	N 32 36 19.39	W 103 54 39.83
	9500.00	90.06	225.52	8799.83	5334.83	763.74	-1184.23	-521.07	4.00	203.75	1293.80	584155.60	671300.55	N 32 36 18.67	W 103 54 40.63
	9600.00	90.08	229.52	8799.72	5334.72	850.26	-1251.76	-594.80	4.00	205.42	1385.69	584088.09	671228.82	N 32 36 18.01	W 103 54 41.50
	9700.00	90.09	233.52	8799.57	5334.57	940.10	-1313.97	-673.07	4.00	207.12	1476.33	584025.88	671148.56	N 32 36 17.39	W 103 54 42.42
	9800.00	90.11	237.52	8799.39	5334.39	1032.78	-1370.57	-755.48	4.00	208.86	1565.00	583969.28	671066.15	N 32 36 16.84	W 103 54 43.38
	9900.00	90.13	241.52	8799.19	5334.19	1127.82	-1421.29	-841.65	4.00	210.63	1651.79	583918.57	670980.00	N 32 36 16.34	W 103 54 44.39
	10000.00	90.14	245.52	8798.95	5333.95	1224.81	-1465.87	-931.13	4.00	212.42	1736.60	583873.99	670890.51	N 32 36 15.90	W 103 54 45.44
	10100.00	90.16	249.52	8798.69	5333.69	1323.25	-1504.10	-1023.52	4.00	214.23	1819.31	583835.76	670798.14	N 32 36 15.53	W 103 54 46.52
	10200.00	90.17	253.52	8798.40	5333.40	1422.67	-1535.79	-1118.34	4.00	216.06	1899.63	583804.07	670703.32	N 32 36 15.22	W 103 54 47.63
	10300.00	90.18	257.52	8798.09	5333.09	1522.59	-1560.79	-1215.14	4.00	217.90	1978.04	583779.07	670606.53	N 32 36 14.97	W 103 54 48.77
	10400.00	90.20	261.52	8797.76	5332.76	1622.51	-1578.98	-1313.45	4.00	219.75	2053.86	583760.88	670508.22	N 32 36 14.80	W 103 54 49.92
	10500.00	90.21	265.52	8797.41	5332.41	1721.95	-1590.27	-1412.79	4.00	221.62	2127.19	583749.60	670408.89	N 32 36 14.69	W 103 54 51.08

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	TVDSS (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Closure Azimuth (°)	Closure (ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
	10600.00	90.22	269.52	8797.03	5332.03	1820.43	-1594.80	-1512.68	4.00	223.49	2197.94	583745.27	670309.01	N 32 36 14.65	W 103 54 52.25
Hold 270° Azi	10612.00	90.22	270.00	8796.99	5331.99	1832.15	-1594.65	-1524.67	4.00	223.71	2206.25	583745.22	670297.02	N 32 36 14.65	W 103 54 52.38
	10700.00	90.22	270.00	8796.65	5331.65	1918.10	-1594.65	-1612.68	0.00	225.32	2267.96	583745.22	670209.02	N 32 36 14.65	W 103 54 53.41
	10800.00	90.22	270.00	8796.26	5331.26	2015.75	-1594.65	-1712.68	0.00	227.04	2340.12	583745.22	670109.03	N 32 36 14.68	W 103 54 54.58
	10900.00	90.22	270.00	8795.88	5330.88	2113.41	-1594.65	-1812.68	0.00	228.66	2414.27	583745.21	670009.04	N 32 36 14.66	W 103 54 55.75
	11000.00	90.22	270.00	8795.49	5330.49	2211.06	-1594.66	-1912.67	0.00	230.18	2490.23	583745.21	669909.05	N 32 36 14.67	W 103 54 56.92
	11100.00	90.22	270.00	8795.11	5330.11	2308.72	-1594.66	-2012.67	0.00	231.61	2567.84	583745.21	669809.05	N 32 36 14.67	W 103 54 58.09
	11200.00	90.22	270.00	8794.72	5329.72	2406.38	-1594.66	-2112.67	0.00	232.95	2646.95	583745.21	669709.06	N 32 36 14.67	W 103 54 59.26
	11300.00	90.22	270.00	8794.34	5329.34	2504.03	-1594.66	-2212.67	0.00	234.22	2727.43	583745.20	669609.07	N 32 36 14.68	W 103 55 0.43
	11400.00	90.22	270.00	8793.95	5328.95	2601.69	-1594.67	-2312.67	0.00	235.41	2809.17	583745.20	669509.08	N 32 36 14.68	W 103 55 1.60
	11500.00	90.22	270.00	8793.57	5328.57	2699.34	-1594.67	-2412.67	0.00	236.54	2892.05	583745.20	669409.09	N 32 36 14.68	W 103 55 2.77
	11600.00	90.22	270.00	8793.18	5328.18	2797.00	-1594.67	-2512.67	0.00	237.60	2975.99	583745.20	669309.09	N 32 36 14.69	W 103 55 3.93
	11700.00	90.22	270.00	8792.80	5327.80	2894.66	-1594.67	-2612.67	0.00	238.60	3060.89	583745.19	669209.10	N 32 36 14.69	W 103 55 5.10
	11800.00	90.22	270.00	8792.41	5327.41	2992.31	-1594.68	-2712.67	0.00	239.55	3146.68	583745.19	669109.11	N 32 36 14.70	W 103 55 6.27
	11900.00	90.22	270.00	8792.03	5327.03	3089.97	-1594.68	-2812.67	0.00	240.45	3233.28	583745.19	669009.12	N 32 36 14.70	W 103 55 7.44
	12000.00	90.22	270.00	8791.64	5326.64	3187.63	-1594.68	-2912.67	0.00	241.30	3320.64	583745.18	668909.13	N 32 36 14.70	W 103 55 8.61
	12100.00	90.22	270.00	8791.26	5326.26	3285.28	-1594.69	-3012.67	0.00	242.11	3408.69	583745.18	668809.13	N 32 36 14.71	W 103 55 9.78
	12200.00	90.22	270.00	8790.87	5325.87	3382.94	-1594.69	-3112.67	0.00	242.87	3497.39	583745.18	668709.14	N 32 36 14.71	W 103 55 10.95
	12300.00	90.22	270.00	8790.49	5325.49	3480.59	-1594.69	-3212.67	0.00	243.60	3586.68	583745.18	668609.15	N 32 36 14.72	W 103 55 12.12
	12400.00	90.22	270.00	8790.10	5325.10	3578.25	-1594.69	-3312.66	0.00	244.29	3676.52	583745.17	668509.16	N 32 36 14.72	W 103 55 13.29
	12500.00	90.22	270.00	8789.72	5324.72	3675.91	-1594.70	-3412.66	0.00	244.95	3766.87	583745.17	668409.17	N 32 36 14.72	W 103 55 14.46
	12600.00	90.22	270.00	8789.33	5324.33	3773.56	-1594.70	-3512.66	0.00	245.58	3857.70	583745.17	668309.18	N 32 36 14.73	W 103 55 15.62
	12700.00	90.22	270.00	8788.95	5323.95	3871.22	-1594.70	-3612.66	0.00	246.18	3948.97	583745.17	668209.18	N 32 36 14.73	W 103 55 16.79
	12800.00	90.22	270.00	8788.56	5323.56	3968.88	-1594.70	-3712.66	0.00	246.75	4040.66	583745.16	668109.19	N 32 36 14.73	W 103 55 17.96
	12900.00	90.22	270.00	8788.18	5323.18	4066.53	-1594.71	-3812.66	0.00	247.30	4132.73	583745.16	668009.20	N 32 36 14.74	W 103 55 19.13
	13000.00	90.22	270.00	8787.79	5322.79	4164.19	-1594.71	-3912.66	0.00	247.83	4225.16	583745.16	667909.21	N 32 36 14.74	W 103 55 20.30
	13100.00	90.22	270.00	8787.41	5322.41	4261.84	-1594.71	-4012.66	0.00	248.33	4317.93	583745.16	667809.22	N 32 36 14.75	W 103 55 21.47
	13200.00	90.22	270.00	8787.02	5322.02	4359.50	-1594.71	-4112.66	0.00	248.81	4411.02	583745.15	667709.22	N 32 36 14.75	W 103 55 22.64
	13300.00	90.22	270.00	8786.64	5321.64	4457.16	-1594.72	-4212.66	0.00	249.27	4504.40	583745.15	667609.23	N 32 36 14.75	W 103 55 23.81
	13400.00	90.22	270.00	8786.25	5321.25	4554.81	-1594.72	-4312.66	0.00	249.71	4598.06	583745.15	667509.24	N 32 36 14.76	W 103 55 24.98
	13500.00	90.22	270.00	8785.87	5320.87	4652.47	-1594.72	-4412.66	0.00	250.13	4691.98	583745.14	667409.25	N 32 36 14.76	W 103 55 26.14
	13600.00	90.22	270.00	8785.48	5320.48	4750.13	-1594.72	-4512.66	0.00	250.54	4786.15	583745.14	667309.26	N 32 36 14.76	W 103 55 27.31
	13700.00	90.22	270.00	8785.10	5320.10	4847.78	-1594.73	-4612.65	0.00	250.93	4880.55	583745.14	667209.26	N 32 36 14.77	W 103 55 28.48
	13800.00	90.22	270.00	8784.71	5319.71	4945.44	-1594.73	-4712.65	0.00	251.30	4975.17	583745.14	667109.27	N 32 36 14.77	W 103 55 29.65
	13900.00	90.22	270.00	8784.33	5319.33	5043.09	-1594.73	-4812.65	0.00	251.67	5069.99	583745.13	667009.28	N 32 36 14.78	W 103 55 30.82
	14000.00	90.22	270.00	8783.94	5318.94	5140.75	-1594.74	-4912.65	0.00	252.02	5165.01	583745.13	666909.29	N 32 36 14.78	W 103 55 31.99
	14100.00	90.22	270.00	8783.56	5318.56	5238.41	-1594.74	-5012.65	0.00	252.35	5260.22	583745.13	666809.30	N 32 36 14.78	W 103 55 33.16
	14200.00	90.22	270.00	8783.17	5318.17	5336.06	-1594.74	-5112.65	0.00	252.68	5355.60	583745.13	666709.30	N 32 36 14.79	W 103 55 34.33
	14300.00	90.22	270.00	8782.79	5317.79	5433.72	-1594.74	-5212.65	0.00	252.99	5451.14	583745.12	666609.31	N 32 36 14.79	W 103 55 35.50
	14400.00	90.22	270.00	8782.40	5317.40	5531.38	-1594.75	-5312.65	0.00	253.29	5546.84	583745.12	666509.32	N 32 36 14.80	W 103 55 36.67
	14500.00	90.22	270.00	8782.02	5317.02	5629.03	-1594.75	-5412.65	0.00	253.58	5642.69	583745.12	666409.33	N 32 36 14.80	W 103 55 37.83
	14600.00	90.22	270.00	8781.63	5316.63	5726.69	-1594.75	-5512.65	0.00	253.87	5738.69	583745.12	666309.34	N 32 36 14.80	W 103 55 39.00
	14700.00	90.22	270.00	8781.25	5316.25	5824.34	-1594.76	-5612.65	0.00	254.14	5834.81	583745.11	666209.34	N 32 36 14.81	W 103 55 40.17
	14800.00	90.22	270.00	8780.86	5315.86	5922.00	-1594.76	-5712.65	0.00	254.40	5931.07	583745.11	666109.35	N 32 36 14.81	W 103 55 41.34
	14900.00	90.22	270.00	8780.48	5315.48	6019.66	-1594.76	-5812.65	0.00	254.66	6027.45	583745.11	666009.36	N 32 36 14.81	W 103 55 42.51
	15000.00	90.22	270.00	8780.09	5315.09	6117.31	-1594.76	-5912.65	0.00	254.91	6123.94	583745.11	665909.37	N 32 36 14.82	W 103 55 43.68
	15100.00	90.22	270.00	8779.71	5314.71	6214.97	-1594.76	-6012.64	0.00	255.15	6220.54	583745.10	665809.38	N 32 36 14.82	W 103 55 44.85
	15200.00	90.22	270.00	8779.32	5314.32	6312.63	-1594.77	-6112.64	0.00	255.38	6317.25	583745.10	665709.39	N 32 36 14.82	W 103 55 46.02
	15300.00	90.22	270.00	8778.94	5313.94	6410.28	-1594.77	-6212.64	0.00	255.60	6414.06	583745.10	665609.39	N 32 36 14.83	W 103 55 47.19
	15400.00	90.22	270.00	8778.55	5313.55	6507.94	-1594.77	-6312.64	0.00	255.82	6510.97	583745.09	665509.40	N 32 36 14.83	W 103 55 48.35
	15500.00	90.22	270.00	8778.17	5313.17	6605.59	-1594.78	-6412.64	0.00	256.03	6607.97	583745.09	665409.41	N 32 36 14.84	W 103 55 49.52
	15600.00	90.22	270.00	8777.79	5312.79	6703.25	-1594.78	-6512.64	0.00	256.24	6705.06	583745.09	665309.42	N 32 36 14.84	W 103 55 50.69
	15700.00	90.22	270.00	8777.40	5312.40	6800.91	-1594.78	-6612.64	0.00	256.44	6802.23	583745.09	665209.43	N 32 36 14.84	W 103 55 51.86
	15800.00	90.22	270.00	8777.02	5312.02	6898.56	-1594.78	-6712.64	0.00	256.64	6899.48	583745.08	665109.43	N 32 36 14.85	W 103 55 53.03
	15900.00	90.22	270.00	8776.63	5311.63	6996.22	-1594.79	-6812.64	0.00	256.82	6996.81	583745.08	665009.44	N 32 36 14.85	W 103 55 54.20
	16000.00	90.22	270.00	8776.25	5311.25	7093.88	-1594.79	-6912.64	0.00	257.01	7094.22	583745.08	664909.45	N 32 36 14.85	W 103 55 55.37
	16100.00	90.22	270.00	8775.86	5310.86	7191.53	-1594.79	-7012.64	0.00	257.19	7191.69	583745.08	664809.46	N 32 36 14.86	W 103 55 56.54
	16200.00	90.22	270.00	8775.48	5310.48	7289.19	-1594.79	-7112.64	0.00	257.36	7289.24	583745.07	664709.47	N 32 36 14.86	W 103 55 57.71
	16300.00	90.22	270.00	8775.09	5310.09	7386.84	-1594.80	-7212.64	0.00	257.53	7386.85	583745.07	664609.47	N 32 36 14.87	W 103 55 58.88
Cimarex Hasta La Vista 1 DI Federal Com 2Y - PBHL	16323.51	90.22	270.00	8775.00	5310.00	7409.80	-1594.80	-7236.14	0.00	257.57	7409.80	583745.07	664585.97	N 32 36 14.87	W 103 55 59.15

Survey Type: Non-Def Plan

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

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	TVDSS (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Closure Azimuth (°)	Closure (ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")

Survey Program:

Description	Part	MD From (ft)	MD To (ft)	EOU Freq (ft)	Hole Size (in)	Casing Diameter (in)	Survey Tool Type	Borehole / Survey
	1	0.000	25.000	1/100.000	30.000	30.000	SLB_MWD-POOR-Depth Only	Original Borehole / Cimarex Hasta La Vista 1 DI Federal Com 2Y
	1	25.000	8210.700	1/100.000	30.000	30.000	SLB_MWD-POOR	Original Borehole / Cimarex Hasta La Vista 1 DI Federal Com 2Y
	1	8210.700	18323.505	1/100.000	30.000	30.000	SLB_MWD-STD	Original Borehole / Cimarex Hasta La Vista 1 DI Federal Com 2Y

PECOS DISTRICT
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Cimarex Energy Company of Co.
LEASE NO.:	NM130862
WELL NAME & NO.:	Hasta La Vista DI 1 Federal Com 2Y
SURFACE HOLE FOOTAGE:	410' FNL & 2280' FWL
BOTTOM HOLE FOOTAGE	1980' FNL & 330' FWL, (Sec. 1, T. 20 S., R. 30 E.)
LOCATION:	Section 6, T. 20 S., R 31 E., NMPM
COUNTY:	Eddy County, New Mexico

This application is approved in accordance with the original approval of the Hasta La Vista DI 1 Fed Com 2H (API: 30-015-42541) with the following amendments: The surface location has been moved 30 feet south because the original wellbore was plugged after a failed fishing attempt. The Drilling Plan has been changed per the attached sundry.

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.

Logging Requirements
Waste Material and Fluids

☐ **Production (Post Drilling)**
Well Structures & Facilities
Electric Lines

☐ **Interim Reclamation**

☐ **Final Abandonment & Reclamation**

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)

Hackberry OHV Trail

Cimarex shall be responsible for rerouting the OHV trail prior to construction. The trail route will be constructed as shown on survey plats contained in the approved APD. The trail width should be 6 feet (to accommodate UTV's but not vehicles). Vegetation should be removed (including shrub and grass clump roots) and cross tread (trail side-to-side) slope should not exceed 10 percent.

Hackberry Lake Special Recreation Management Area

Pipelines shall be buried a minimum of 24 inches under all roads, "two-tracks," and trails. Burial of the pipe will continue for 20 feet on each side of each crossing. Power poles and associated ground structures (poles, guy wires) will not be placed within 20 feet of recreation trails. Guy wires must be equipped with a sleeve, tape or other industry approved apparatus that is highly visible during the day and reflective at night. Appropriate safety signage will be in place during all phases of the project. Upon completion of construction, the road shall be returned to pre-construction condition with no bumps or dips. All vehicle and equipment operators will observe speed limits and practice responsible defensive driving habits.

Watershed Protection

- The entire well pad will be bermed to prevent oil, salt, and other chemical contaminants from leaving the well pad. Topsoil shall not be used to construct the berm. No water flow from the uphill side(s) of the pad shall be allowed to enter the well pad. The berm shall be maintained through the life of the well and after interim reclamation has been completed.
- Any water erosion that may occur due to the construction of the well pad during the life of the well will be quickly corrected and proper measures will be taken to prevent future erosion.
- Stockpiling of topsoil is required. The top soil shall be stockpiled in an appropriate location to prevent loss of soil due to water or wind erosion and not used for berming or erosion control.

Tank Battery COAs:

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

Well Name

The Well name shall be changed via sundry notice to remove "Com" from the name, since a Communitization Agreement is not necessary.

EXHIBIT NO. 1

Date of Issue:
12/24/2013

Bureau of Land Management, Carlsbad Field Office
620 E. Greene Street Carlsbad, NM 88220

Cultural and Archaeological Resources

BLM Report No.
14-NM-523-194

NOTICE OF STIPULATIONS

istoric properties in the vicinity of this project are protected by federal law. In order to ensure iat they are not damaged or destroyed by construction activities, the project proponent and onstruction supervisors shall ensure that the following stipulations are implemented.

Project Name:	**Cimarex Energy Hasta La Vista 1 Federal Com 1D1 & 2D1 Well Pad, Eddy County, New Mexico**
	1). A 3-day preconstruction call-in notification. Contact BLM Inspection and Enforcement at
Required	***2. Professional archaeological monitoring.*** Contact your BLM project archaeologist at (575) 234-5917 for assistance.
A. ☒	These stipulations must be given to your monitor at least **5 days** prior to the start of construction.
B. ☒	No construction, including vegetation removal or other site prep may begin prior to the arrival of the monitor.
	3. Cultural site barrier fencing. (Your monitor will assist you).
A. ☐	**A temporary site protection barrier**(s) shall be erected prior to all ground-disturbing activities. The minimum barrier(s) shall consist of upright wooden survey lath spaced no more than ten (10) feet apart and marked with blue ribbon flagging or blue paint. There shall be no construction activities or vehicular traffic past the barrier(s) at any time.
B. ☐	**A permanent, 4-strand barbed wire fence** strung on standard "T-posts" shall be erected prior to all ground-disturbing activities. No construction activities or vehicle traffic are allowed past the fence.
Required	***4. The archaeological monitor shall:***
A. ☒	Monitor the bike trail construction. Ensure the bike trail and proposed well pad are correctly staked prior to construction.
B. ☒	Observe all ground-disturbing activities within 200 feet of cultural site LA 18387.
C. ☐	Ensure that the proposed
D. ☐	Ensure the proposed reroute for the .
E. ☒	Submit a brief monitoring report within 30 days of completion of monitoring.
Other:	**If subsurface cultural resources are encountered during the monitoring, all activities shall cease and a BLM-CFO archaeologist shall be notified immediately.** **IF THE CONTRACT ARCHAEOLOGIST DOES NOT KNOW WHERE THE SITE(S) ARE LOCATED AT PLEASE COME BY THE CARLSBAD BLM AND MAPS AND OTHER DATA WILL BE PROVIDED UPON REQUEST TO THE CONTRACT ARCHAEOLOGIST**

te Protection and Employee Education: It is the responsibility of the project proponent and his onstruction supervisor to inform all employees and subcontractors that cultural and archaeological sites re to be avoided by all personnel, vehicles, and equipment; and that it is illegal to collect, damage, or isturb cultural resources on Public Lands.

or assistance contact: Bruce Boeke (575) 234-5917

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.

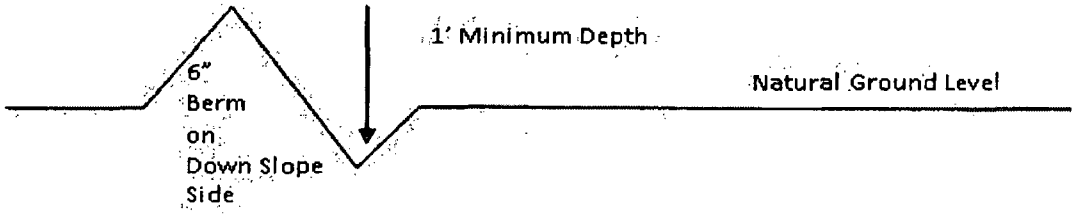
Ditching
Ditching shall be required on both sides of the road.

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:

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

Cattleguards
An appropriately sized cattleguard sufficient to carry out the project shall be installed and maintained at fence/road crossings. Any existing cattleguards 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 cattleguards 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

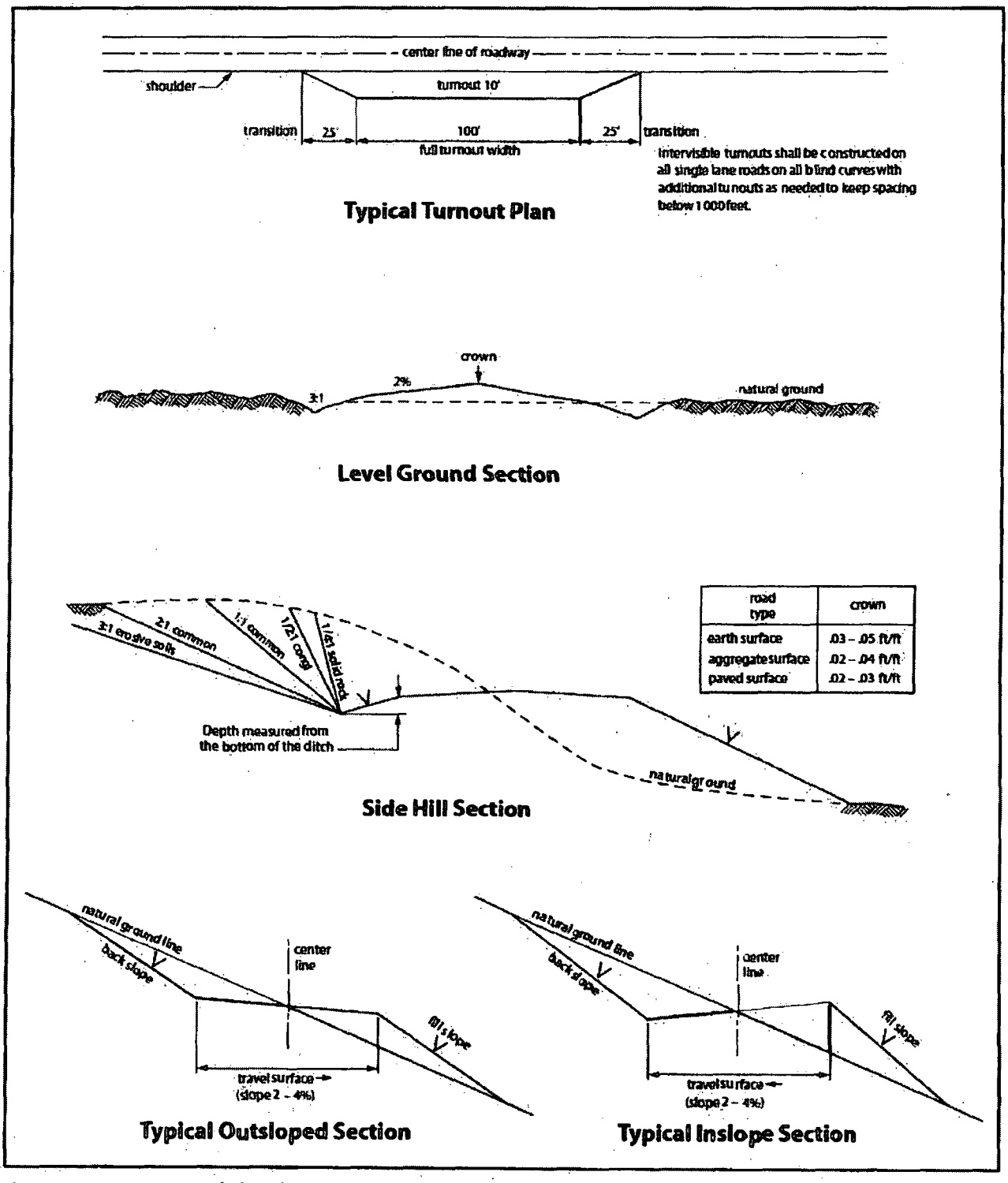


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

VII. 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. **Hydrogen Sulfide (H2S) monitors shall be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the Hydrogen Sulfide area shall meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, 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) 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. IF OPERATOR DOES NOT HAVE THE WELL SPECIFIC CEMENT DETAILS ONSITE PRIOR TO PUMPING THE CEMENT FOR EACH CASING STRING, THE WOC WILL BE 30 HOURS. 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.

Secretary's Potash
Capitan Reef
Possible water flows – Salt, Tansill, Yates and Seven Rivers.
Possible lost circulation – Rustler, Tansill, Yates, Seven Rivers, Capitan Reef and Delaware.

1. The **20** inch surface casing shall be set at approximately **475** (in a competent bed below the Magenta Dolomite, which is a Member of the Rustler, and if salt is encountered, set casing at least 25 feet above the salt) and cemented to the surface. **Excess calculates to negative 23% - Additional cement will be required. Fresh water mud required to setting depth.**

   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.

Both intermediate casings to be kept fluid filled to meet BLMs minimum collapse criteria.

2. The minimum required fill of cement behind the **13-3/8** inch 1st intermediate casing is: **(Ensure casing is set in the Seven Rivers formation at approximately 2250')**

   ☒ 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 or potash. Excess calculates to 9% - Additional cement will be required.**

12-1/4 inch hole shall be drilled with fresh water based mud.

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

Operator has proposed DV tool at depth of 2050', but with the change in casing depth this is no longer acceptable. DV tool shall be at least 50' below previous casing at a depth of 2300'. Operator shall adjust cement proportionately according to the depth change. Operator is to submit sundry if DV tool depth varies by more than 100' from approved depth.

   a. First stage to DV tool:

   ☒ Cement to circulate. If cement does not circulate, contact the appropriate BLM office before proceeding with second stage cement job. Operator should have plans as to how they will achieve circulation on the next stage.

   b. Second stage above DV tool:

   ☒ 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 Potash and Capitan Reef. Excess calculates to negative 1% - Additional cement will be required.**

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

   ☒ Cement should tie-back at least **50 feet above the Capitan Reef** (Top of Capitan Reef estimated at 2300'). Operator shall provide method of verification. **Excess calculates to 2% - Additional cement will be required.**

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

   ☒ Cement should tie-back at least 200 feet into previous casing string. Operator shall provide method of verification.

6. 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.

    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.

4. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **13-3/8** 1st intermediate casing shoe shall be **3000 (3M)** psi.

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

    a. In potash areas, 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. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the plug. However, **no tests** shall commence until the cement has had a minimum of 24 hours setup time.

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.

CRW 100614

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.

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 (Not Applied for in APD)

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.

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 1, for Loamy 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 (small/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
Plains lovegrass (Eragrostis intermedia)	0.5
Sand dropseed (Sporobolus cryptandrus)	1.0
Sideoats grama (Bouteloua curtipendula)	5.0
Plains bristlegrass (Setaria macrostachya)	2.0

*Pounds of pure live seed:

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