RECEIVED

DEC 17 2008

HOBBSOCD

N.M. Oil Cons. Division
1625 N. French Dr.
Hobbs, NM 88240

Form 3160-3
(April 2004)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of Work [X] DRILL [ ] REENTER	5. Lease Serial No Private Surface SHL LC-069832 BHL LC-060850
1b. Type of Well [X] Oil Well [ ] Gas Well [ ] Other [X] Single Zone [ ] Multiple Zone	6. If Indian, Allotee or Tribe Name
2. Name of Operator Cimarex Energy Co. of Colorado <162683>	7. If Unit or CA Agreement, Name and No. Pending
3a. Address PO Box 140907; Irving, TX 75014	3b Phone No *(include area code)* 972-443-6489
4. Location of Well *(Report location clearly and in accordance with any State requirements.*)* At Surface 330 FSL & 330 FWL Unit M At proposed prod. Zone 330 FSL & 375 FEL Unit P *Proposed Horizontal Abo Test*	8. Lease Name and Well No <37527> San Jacinto 4 Federal Com No. 4 9. API Well No 30-005- 29070 10. Field and Pool, or Exploratory Abo; Wildcat 11. Sec., T. R. M or Blk. and Survey or Area 4-15S-31E
14. Distance in miles and direction from nearest town or post office*	12. County or Parish Chaves 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 LC-069832 - 320 acres LC-060850 - 442.24 acres	17. Spacing Unit dedicated to this well S2S2 160
18 Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. NA	19. Proposed Depth Pilot Hole 9500' MD 13152' TVD 8640'	20. BLM/BIA Bond No. on File NM-2575
21. Elevations (Show whether DF, KDB, RT, GL, etc) 4,433' GR	22. Approximate date work will start* 11/30/2008	23 Estimated duration 35-45 days

24. Attachments — ROSWELL CONTROLLED WATER BASIN

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 10.16.08
Title Manager Operations Administration		
Approved By *(Signature)* /s/ Jerry Dutchover	Name (Printed/Typed) /s/ Jerry Dutchover	Date 09 DEC 2008
Title Acting Assistant Field Manager, Lands And Minerals	Office ROSWELL FIELD OFFICE	APPROVED FOR 2 YEARS

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.

* *(Instructions on page 2)*

DECLARED WATER BASIN

CEMENT BEHIND THE 13⅜" CASING MUST BE CIRCULATED

WITNESS

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 12, 2005

Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

☒ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
30-005-29078	—	Abo Wildcat

Property Code	Property Name	Well Number
37527	SAN JACINTO "4" FEDERAL COM	4

OGRID No.	Operator Name	Elevation
162683	CIMAREX ENERGY CO. OF COLORADO	4433'

Surface Location

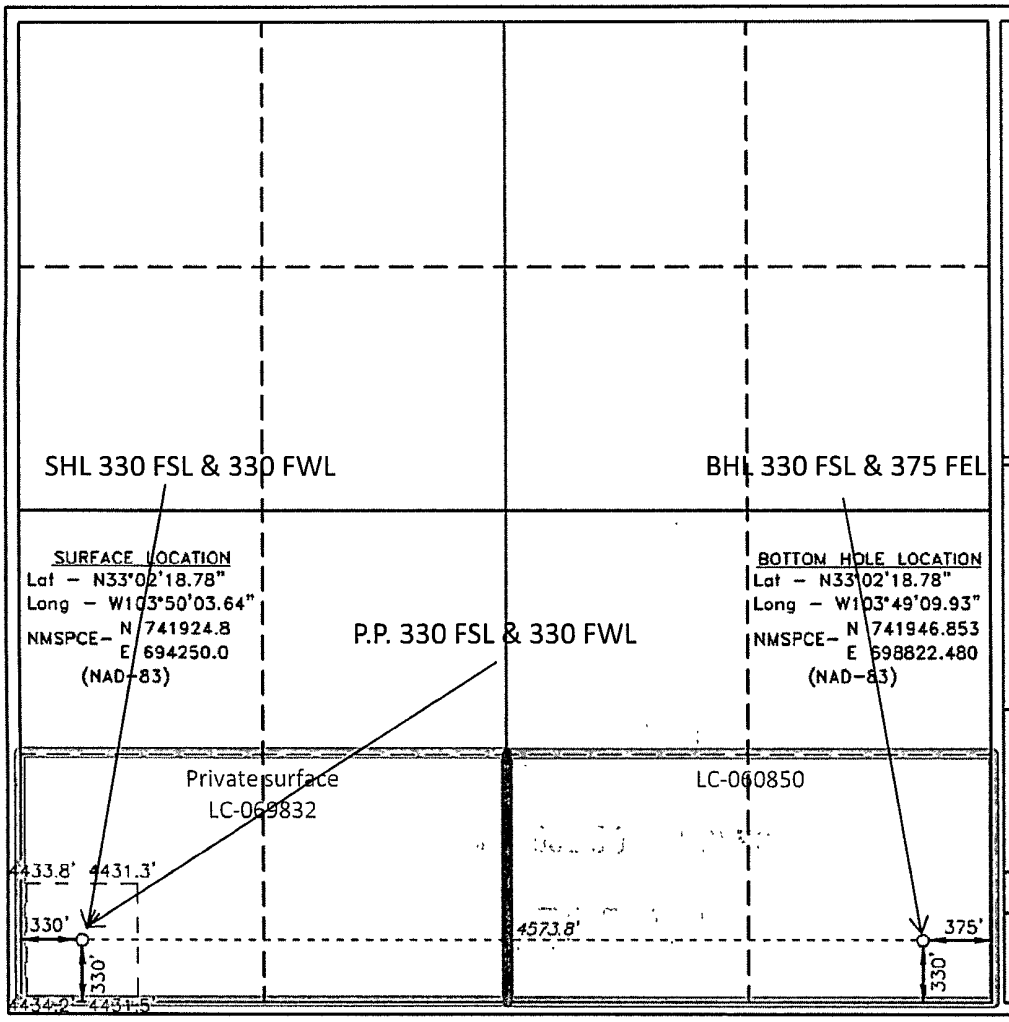
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	4	15 S	31 E		330	SOUTH	330	WEST	CHAVES

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
P	4	15 S	31 E		330	SOUTH	375	EAST	CHAVES

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
160		P	

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 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 10-17-08
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.

MAY 15, 2008
Date Surveyed

Signature & Seal of Professional Surveyor

Certificate No. Gary L. Jones 7977

BASIN SURVEYS

Weatherford®

Drilling Services

Proposal

CIMAREX

SAN JACINTO 4 FED COM #4

CHAVES COUNTY, NEW MEXICO

WELL FILE: **PLAN 1**

OCTOBER 15, 2008

Weatherford International, Ltd.
P.O. Box 61028
Midland, TX 79711 USA
+1.432.561.8892 Main
+1.432.561.8895 Fax
www.weatherford.com

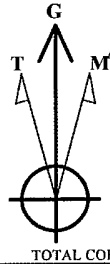
SAN JACINTO 4 FED COM #4
CHAVES CO., NEW MEXICO

CIMAREX

Weatherford

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	8350.00	0.00	0.00	8350.00	0.00	0.00	0.00	0.00	0.00	
3	8989.11	91.51	89.72	8750.00	1.98	410.71	14.32	0.00	410.71	
4	13152.39	91.51	89.72	8640.00	22.05	4572.48	0.00	0.00	4572.53	PBHL



Azimuths to Grid North
True North: -0.27°
Magnetic North: 7.87°

Magnetic Field
Strength: 49392nT
Dip Angle: 60.97°
Date: 10/15/2008
Model: bggm2007

TOTAL CORRECTION TO TRUE NORTH 7.87°

SITE DETAILS

San Jacinto 4 Federal Com #4
330' FSL 330' FWL of SEC 4, T-15-S, R-31-E

Site Centre Northing: 741924.80
Easting: 694250.00

Ground Level: 4433.00
Positional Uncertainty: 0.00
Convergence: 0.27

WELL DETAILS

Name	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
#4	0.00	0.00	741924.80	694250.00	33°02'18.763N	103°50'03.657W	N/A

TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
PBHL	8640.00	22.05	4572.48	741946.85	698822.48	Point

FORMATION TOP DETAILS

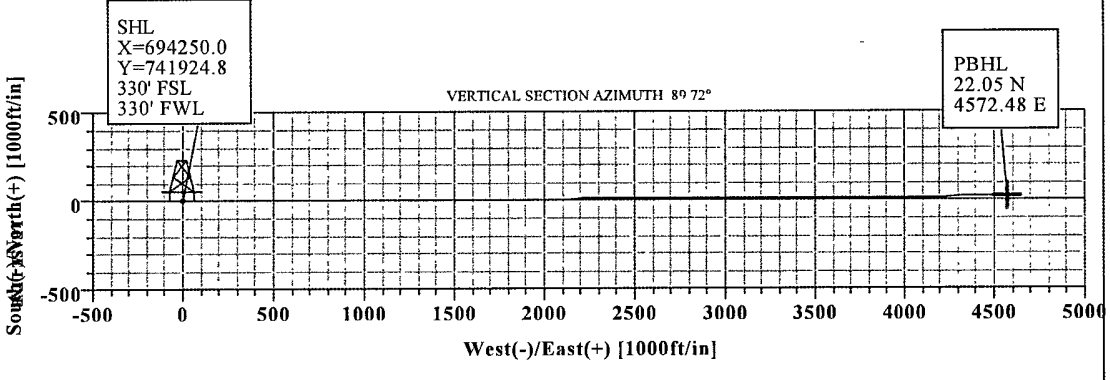
No.	TVDPath	MDPath	Formation
1	8640.00	8674.38	Lower Abo Dolomite
2	8750.00	8967.98	Wolfcamp LS

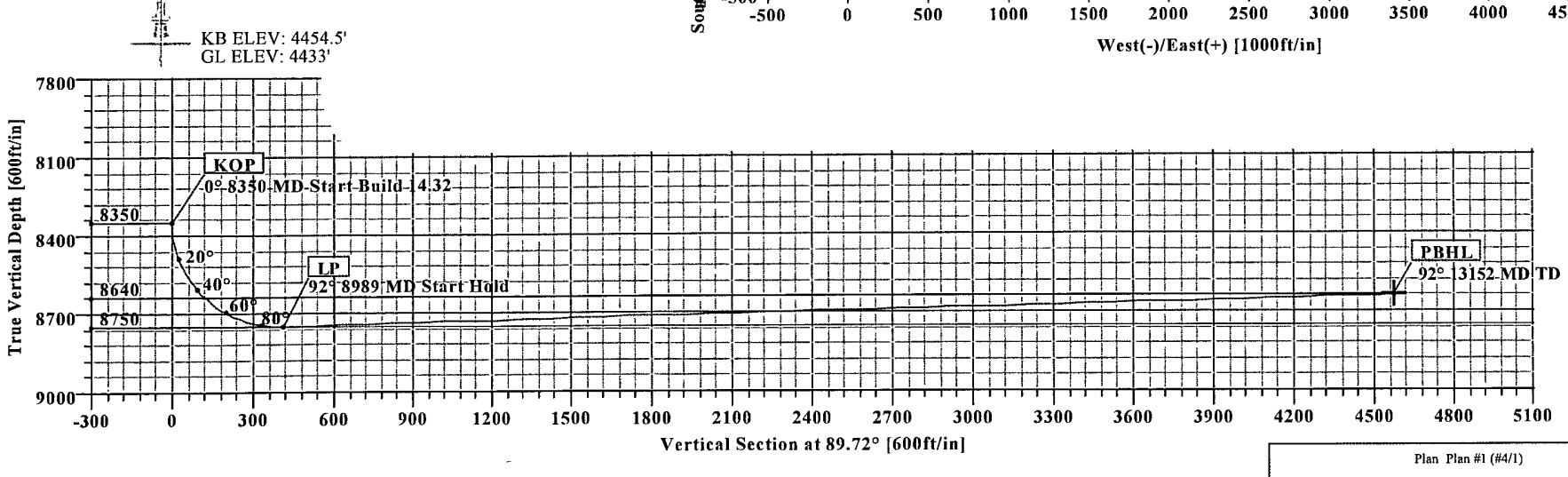
FIELD DETAILS

Chaves Co., NM (NAD 83)

Geodetic System: US State Plane Coordinate System 1983
Ellipsoid: GRS 1980
Zone: New Mexico, Eastern Zone
Magnetic Model: bggm2007

System Datum: Mean Sea Level
Local North: Grid North





Plan Plan #1 (#4/1)

Created By Lindsey Maddux Date 10/15/2008

Weatherford International, Inc.
Proposal Plan Report

Weatherford

Company:	Cimarex	**Date:** 10/15/2008	**Time:** 11:20:56	**Page:**	1
Field:	Chaves Co., NM (NAD 83)	**Co-ordinate(NE) Reference:**	Well: #4, Grid North		
Site:	San Jacinto 4 Federal Com #4	**Vertical (TVD) Reference:**	SITE 4454.5		
Well:	#4	**Section (VS) Reference:**	Well (0.00N,0.00E,89.72Azi)		
Wellpath:	1	**Survey Calculation Method:**	Minimum Curvature	**Db:**	Sybase

Plan:	Plan #1	**Date Composed:**	10/15/2008
		Version:	1
Principal:	Yes	**Tied-to:**	From Surface

Field:	Chaves Co., NM (NAD 83)		
Map System:	US State Plane Coordinate System 1983	**Map Zone:**	New Mexico, Eastern Zone
Geo Datum:	GRS 1980	**Coordinate System:**	Well Centre
Sys Datum:	Mean Sea Level	**Geomagnetic Model:**	bggm2007

Site:	San Jacinto 4 Federal Com #4				
	330' FSL 330' FWL of SEC 4, T-15-S, R-31-E				
Site Position:		**Northing:**	741924.80 ft	**Latitude:**	33 2 18.763 N
From:	Map	**Easting:**	694250.00 ft	**Longitude:**	103 50 3.657 W
Position Uncertainty:	0.00 ft			**North Reference:**	Grid
Ground Level:	4433.00 ft			**Grid Convergence:**	0.27 deg

Well:	#4				**Slot Name:**	
Well Position:	+N/-S	0.00 ft	**Northing:**	741924.80 ft	**Latitude:**	33 2 18.763 N
	+E/-W	0.00 ft	**Easting:**	694250.00 ft	**Longitude:**	103 50 3.657 W
Position Uncertainty:		0.00 ft				

Wellpath:	1			**Drilled From:**	Surface
				Tie-on Depth:	0.00 ft
Current Datum:	SITE	**Height**	4454.50 ft	**Above System Datum:**	Mean Sea Level
Magnetic Data:	10/15/2008			**Declination:**	8.14 deg
Field Strength:	49392 nT			**Mag Dip Angle:**	60.97 deg

Vertical Section:	**Depth From (TVD)** ft	**+N/-S** ft	**+E/-W** ft	**Direction** deg
	0.00	0.00	0.00	89.72

Plan Section Information

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	TFO deg	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
8350.00	0.00	0.00	8350.00	0.00	0.00	0.00	0.00	0.00	0.00	
8989.11	91.51	89.72	8750.00	1.98	410.71	14.32	14.32	0.00	0.00	
13152.39	91.51	89.72	8640.00	22.05	4572.48	0.00	0.00	0.00	0.00	PBHL

Survey

MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	VS ft	Build deg/100ft	Turn deg/100ft	DLS deg/100ft	TFO deg	Comment
8300.00	0.00	0.00	8300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
8350.00	0.00	0.00	8350.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	KOP
8400.00	7.16	89.72	8399.87	0.02	3.12	3.12	14.32	0.00	14.32	0.00	
8500.00	21.48	89.72	8496.51	0.13	27.79	27.79	14.32	0.00	14.32	0.00	
8600.00	35.80	89.72	8584.05	0.36	75.59	75.59	14.32	0.00	14.32	0.00	
8674.38	46.45	89.72	8640.00	0.60	124.44	124.44	14.32	0.00	14.32	0.00	Lower Abo Dolomite
8700.00	50.12	89.72	8657.05	0.69	143.56	143.56	14.32	0.00	14.32	0.00	
8800.00	64.44	89.72	8710.97	1.10	227.46	227.47	14.32	0.00	14.32	0.00	
8900.00	78.75	89.72	8742.46	1.55	322.10	322.11	14.32	0.00	14.32	0.00	
8967.98	88.49	89.72	8750.00	1.88	389.58	389.58	14.32	0.00	14.32	0.00	Wolfcamp LS
8989.11	91.51	89.72	8750.00	1.98	410.71	410.71	14.32	0.00	14.32	0.00	LP
9000.00	91.51	89.72	8749.71	2.03	421.59	421.60	0.00	0.00	0.00	0.00	
9100.00	91.51	89.72	8747.07	2.52	521.56	521.56	0.00	0.00	0.00	0.00	
9200.00	91.51	89.72	8744.43	3.00	621.52	621.53	0.00	0.00	0.00	0.00	
9300.00	91.51	89.72	8741.79	3.48	721.48	721.49	0.00	0.00	0.00	0.00	
9400.00	91.51	89.72	8739.14	3.96	821.45	821.46	0.00	0.00	0.00	0.00	
9500.00	91.51	89.72	8736.50	4.44	921.41	921.42	0.00	0.00	0.00	0.00	

Weatherford International, Inc.
Proposal Plan Report

Weatherford

Company:	Cimarex	**Date:** 10/15/2008	**Time:** 11:20:56	**Page:**	2
Field:	Chaves Co., NM (NAD 83)	**Co-ordinate(NE) Reference:**	Well: #4, Grid North		
Site:	San Jacinto 4 Federal Com #4	**Vertical (TVD) Reference:**	SITE 4454.5		
Well:	#4	**Section (VS) Reference:**	Well (0.00N,0.00E,89.72Azi)		
Wellpath:	1	**Survey Calculation Method:**	Minimum Curvature	**Db:**	Sybase

Survey

MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	VS ft	Build deg/100ft	Turn deg/100ft	DLS deg/100ft	TFO deg	Comment
9600.00	91.51	89.72	8733.86	4.93	1021.38	1021.39	0.00	0.00	0.00	0.00	
9700.00	91.51	89.72	8731.22	5.41	1121.34	1121.35	0.00	0.00	0.00	0.00	
9800.00	91.51	89.72	8728.57	5.89	1221.30	1221.32	0.00	0.00	0.00	0.00	
9900.00	91.51	89.72	8725.93	6.37	1321.27	1321.28	0.00	0.00	0.00	0.00	
10000.00	91.51	89.72	8723.29	6.85	1421.23	1421.25	0.00	0.00	0.00	0.00	
10100.00	91.51	89.72	8720.65	7.34	1521.20	1521.21	0.00	0.00	0.00	0.00	
10200.00	91.51	89.72	8718.01	7.82	1621.16	1621.18	0.00	0.00	0.00	0.00	
10300.00	91.51	89.72	8715.36	8.30	1721.12	1721.14	0.00	0.00	0.00	0.00	
10400.00	91.51	89.72	8712.72	8.78	1821.09	1821.11	0.00	0.00	0.00	0.00	
10500.00	91.51	89.72	8710.08	9.27	1921.05	1921.07	0.00	0.00	0.00	0.00	
10600.00	91.51	89.72	8707.44	9.75	2021.01	2021.04	0.00	0.00	0.00	0.00	
10700.00	91.51	89.72	8704.80	10.23	2120.98	2121.00	0.00	0.00	0.00	0.00	
10800.00	91.51	89.72	8702.15	10.71	2220.94	2220.97	0.00	0.00	0.00	0.00	
10900.00	91.51	89.72	8699.51	11.19	2320.91	2320.93	0.00	0.00	0.00	0.00	
11000.00	91.51	89.72	8696.87	11.68	2420.87	2420.90	0.00	0.00	0.00	0.00	
11100.00	91.51	89.72	8694.23	12.16	2520.83	2520.86	0.00	0.00	0.00	0.00	
11200.00	91.51	89.72	8691.58	12.64	2620.80	2620.83	0.00	0.00	0.00	0.00	
11300.00	91.51	89.72	8688.94	13.12	2720.76	2720.79	0.00	0.00	0.00	0.00	
11400.00	91.51	89.72	8686.30	13.60	2820.73	2820.76	0.00	0.00	0.00	0.00	
11500.00	91.51	89.72	8683.66	14.09	2920.69	2920.72	0.00	0.00	0.00	0.00	
11600.00	91.51	89.72	8681.02	14.57	3020.65	3020.69	0.00	0.00	0.00	0.00	
11700.00	91.51	89.72	8678.37	15.05	3120.62	3120.65	0.00	0.00	0.00	0.00	
11800.00	91.51	89.72	8675.73	15.53	3220.58	3220.62	0.00	0.00	0.00	0.00	
11900.00	91.51	89.72	8673.09	16.01	3320.55	3320.58	0.00	0.00	0.00	0.00	
12000.00	91.51	89.72	8670.45	16.50	3420.51	3420.55	0.00	0.00	0.00	0.00	
12100.00	91.51	89.72	8667.81	16.98	3520.47	3520.51	0.00	0.00	0.00	0.00	
12200.00	91.51	89.72	8665.16	17.46	3620.44	3620.48	0.00	0.00	0.00	0.00	
12300.00	91.51	89.72	8662.52	17.94	3720.40	3720.44	0.00	0.00	0.00	0.00	
12400.00	91.51	89.72	8659.88	18.43	3820.37	3820.41	0.00	0.00	0.00	0.00	
12500.00	91.51	89.72	8657.24	18.91	3920.33	3920.37	0.00	0.00	0.00	0.00	
12600.00	91.51	89.72	8654.59	19.39	4020.29	4020.34	0.00	0.00	0.00	0.00	
12700.00	91.51	89.72	8651.95	19.87	4120.26	4120.31	0.00	0.00	0.00	0.00	
12800.00	91.51	89.72	8649.31	20.35	4220.22	4220.27	0.00	0.00	0.00	0.00	
12900.00	91.51	89.72	8646.67	20.84	4320.19	4320.24	0.00	0.00	0.00	0.00	
13000.00	91.51	89.72	8644.03	21.32	4420.15	4420.20	0.00	0.00	0.00	0.00	
13100.00	91.51	89.72	8641.38	21.80	4520.11	4520.17	0.00	0.00	0.00	0.00	
13152.39	91.51	89.72	8640.00	22.05	4572.48	4572.53	0.00	0.00	0.00	0.00	PBHL

Targets

Name	Description Dip.	Dir.	TVD ft	+N/-S ft	+E/-W ft	Map Northing ft	Map Easting ft	<---- Latitude ----> Deg Min Sec	<--- Longitude ---> Deg Min Sec
PBHL			8640.00	22.05	4572.48	741946.85	698822.48	33 2 18.763 N	103 49 9.942 W

Formations

MD ft	TVD ft	Formations	Lithology	Dip Angle deg	Dip Direction deg
8674.38	8640.00	Lower Abo Dolomite		0.00	0.00
8967.98	8750.00	Wolfcamp LS		0.00	0.00

Weatherford International, Inc.
Proposal Plan Report

Weatherford

Company:	Cimarex	**Date:** 10/15/2008	**Time:** 11:20:56	**Page:**	3
Field:	Chaves Co., NM (NAD 83)	**Co-ordinate(NE) Reference:**	Well: #4, Grid North		
Site:	San Jacinto 4 Federal Com #4	**Vertical (TVD) Reference:**	SITE 4454.5		
Well:	#4	**Section (VS) Reference:**	Well (0.00N,0.00E,89.72Azi)		
Wellpath:	1	**Survey Calculation Method:**	Minimum Curvature	**Db:**	Sybase

Annotation

MD ft	TVD ft	
8350.00	8350.00	KOP
8989.11	8750.00	LP
13152.38	8640.00	PBHL

Casing Points

MD	TVD	Diameter	Hole Size	Name

Operator - Landowner Agreement

Company: Cimarex Energy Co. of Colorado

Proposed Well: San Jacinto 4 Federal Com No. 4

Federal Lease Number: LC-069832

This is to advise that Cimarex Energy Co. of Colorado has an agreement with: Bill Medlin; PO Box 50; Maljamar, NM 88264 the surface owner, concerning entry and surface restoration after completion of drilling operations at the above described well.

After abandonment of the well, all pits will be filled and levelled and all equipment and trash will be removed from the well site. No other requirements were made concerning restoration of the well site.

October 16, 2008
Date

Zeno Farris
Signature

Zeno Farris
Manager, Operations Administration

Application to Drill
San Jacinto 4 Federal Com No. 4
Cimarex Energy Co. of Colorado
Unit M, Section 4
T15S R31E; Chaves 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 330 FSL & 330 FWL
BHL 330 FSL & 375 FEL *Proposed Horizontal Abo Test*

2 Elevation above sea level: 4,433 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 9500' MD 13152' TVD 8640'

6 Estimated tops of geological markers:

Yates	2,312'
Queen	3,090'
SanAndres	3,940'
Abo Shale	7,340'
Lower Abo Dolomite	8,585'
Wolfcamp LS	8,675'

7 Possible mineral bearing formation:

Abo	Oil
Wolfcamp	Oil
Queen	Oil

8 Proposed Mud Circulating System:

Depth			Mud Wt	Visc	Fluid Loss	Type Mud
0	to	340	8.4 - 8.6	30-32	May lose circ	Fresh water spud mud
340	to	3,950	10.0	28-29	May lose circ	Brine Water
3,950	to	9,500	8.6 - 9.5	28-29	NC	Fresh water and brine, use hi-vis sweeps to keep hole clean
8,350	to	13,152	8.4 - 8.9	28	NC	2% KCl

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. Mud system monitoring equipment with derrick floor indicators and visual/audio alarms shall be installed and operative prior to drilling into the Wolfcamp formation. This equipment will remain in use until production casing is run and cemented.

8a Drill 7⅞" pilot hole to 9500' and run and cement 7" casing as shown on next page. Set KO Plug @ 8360.' Mill window from 8345' to 8355' and kick off lateral leg @ 8350.' Drill lateral 6⅛" hole to 13152' MD & 8640' TVD. Run 4½" 11.6# P-110 ***BTC*** (Peak Systems Iso-Pak Liner) from RSB packer @ 8245' to 8989' (End of Curve) and ***LTC*** from 8989' to TD @ MD 13152' and TVD 8640.' No cement required for Peak Systems Liner.

9 Casing Program:

Hole Size (inches)	Depth			Casing OD (inches)		Weight (lbs)	Thread	Collar	Grade
17½	0'	to	340'	New	13⅜	48	8-R	STC	H-40
12¼	0'	to	3950'	New	9⅝	40	8-R	LTC	J-55
8¾	0'	to	9500'	New	7	26	8-R	LTC	P-110
6⅛	8245'	to	8989'	New	4½	12	8-R	BTC	P-110
6⅛	8989'		13152'	New	4½	12	8-R	LTC	P-110

10 Cementing Program:

Surface — Lead: 110 sx Light Premium Plus + 0.125 lb/sk Poly-E-Flake + 1% $CaCl_2$ (wt 14.2, yld 1.64)
Tail: 220 sx Premium Plus + 2% $CaCl_2$ (wt 14.8, yld 1.35)
TOC Surface

Intermediate — Lead: 450 sx Interfill C + 0.125 lb/sk Poly-E-Flake (wt 11.9, yld 2.45)
Tail: 200 sx Premium Plus + 1% $CaCl_2$ (wt 14.8, yld 1.33)
TOC Surface

Production — 615 sx Super H + 0.5% Halad-344 + 0.4% CFR-3 + 1lbm/sk Salt + 5 lb/sk Gilsonite + 0.125 lb/sk Poly-E-Flake + 0.35% HR-7 (wt 13.0, yld 1.67)
TOC 3,750'

Liner — *Peak Systems Iso-Pack Liner will not require cementing.*

Fresh water will be protected by setting surface casing at **340** and cementing to **Surface**
Hydrocarbon zones will be protected by setting intermediate casing at **3950** and cementing to **Surface**
and by setting production casing at **9500** and cementing to **3750**

Cimarex uses the following minimum safety factors:

Burst	*Collapse*	*Tension*
1.125	1.125	1.80

11 Pressure control Equipment:

Exhibit "E". A 13⅜" 5000 PSI working pressure B.O.P. 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 below 6000'. 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.

We are requesting a variance for testing the 13⅜" surface casing from Onshore Order No. 2, which states that all casing strings below the conductor shall be pressure tested to 0.22 psi per foot or 1500 psi, whichever is greater, but not to exceed 70% of the manufacturer's stated maximum internal yield. We are requesting to test the 13⅜" casing to 1000 psi using rig pumps. The BOP will be tested to 5000 PSI by an independent service company.

12 Testing, Logging and Coring Program:

A. Mud logging program: 2 man unit from 3950' to TD
B. Electric logging program: CNL / LDT / CAL / GR, DLL / CAL / GR
C. No DSTs or cores are planned at this time.

13 Potential Hazards:

No abnormal pressures or temperatures are expected. The area has a potiential H2S hazard. An H2S drilling plan is attached. 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**

14 Road and location construction will begin after BLM approval of APD. Anticipated spud date as soon as approved.
Drilling expected to take 35-45 days
If production casing is run an additional 30 days will be required to complete and construct surface facilities.

15 Other Facets of Operations:

After running casing, cased hole gamma ray neutron collar logs will be run from total depth over possible pay intervals.

Abo pay will be perforated and stimulated.
The proposed well will be tested and potentialed as **an oil well.**

Hydrogen Sulfide Drilling Operations Plan
San Jacinto 4 Federal Com No. 4
Cimarex Energy Co. of Colorado
Unit M, Section 4
T15S R31E; Chaves County, NM

1 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.

2 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.

3 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.

4 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.

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

6 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.

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

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

9 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
San Jacinto 4 Federal Com No. 4
Cimarex Energy Co. of Colorado
Unit M, Section 4
T15S R31E; Chaves County, NM

Company Office

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

Key Personnel

Name	Title	Office	Mobile
Doug Park	Drilling Manager	972-443-6463	972-333-1407
Dee Smith	Drilling Super	972-443-6491	972-882-1010
Jim Evans	Drilling Super	972-443-6451	972-465-6564
Dorsey Rogers	Field Super		575-200-6105
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

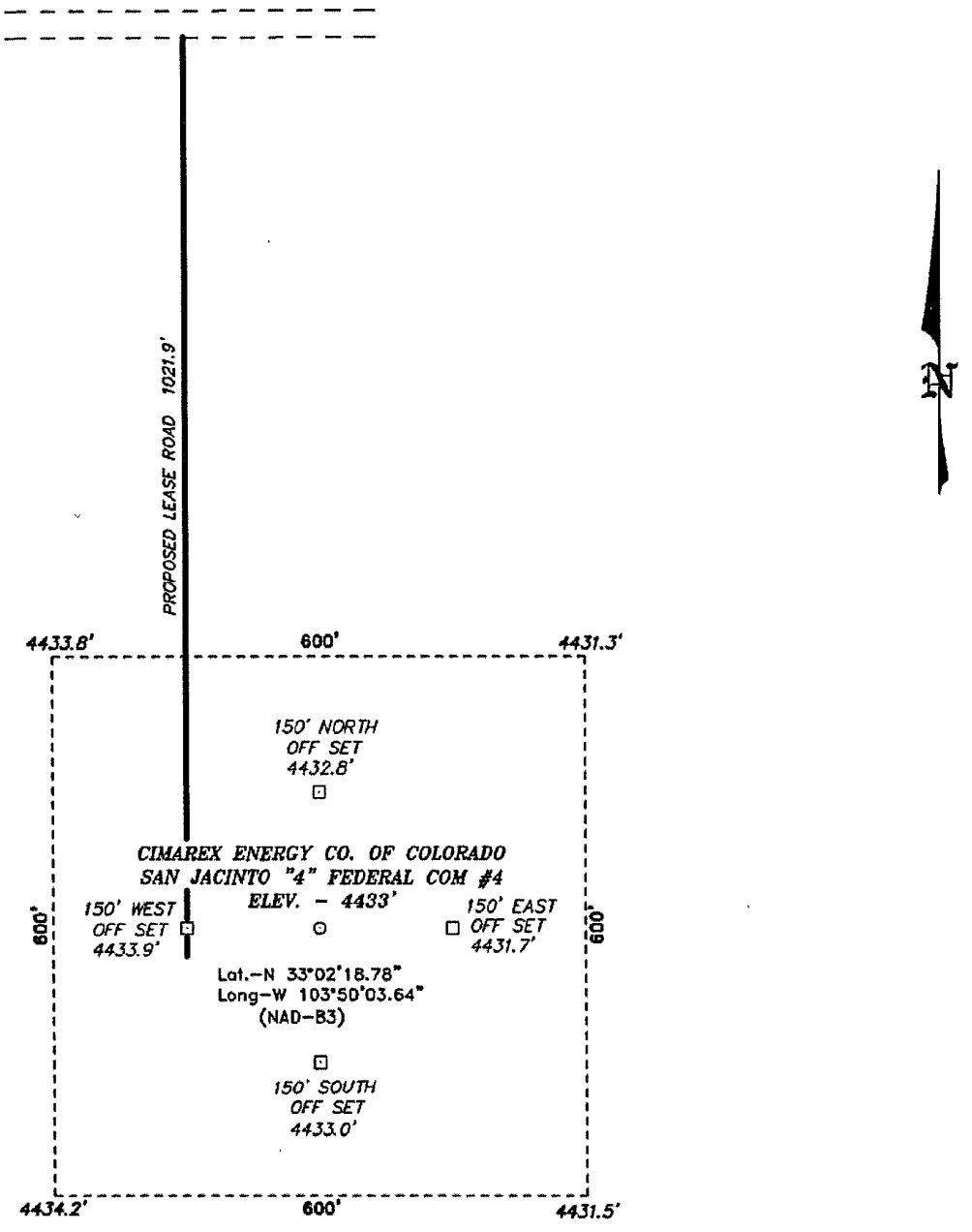
Santa Fe	
New Mexico Emergency Response Commission (Santa Fe)	505-476-9600
New Mexico Emergency Response Commission (Santa Fe) 24 Hrs	505-827-9126
New Mexico State Emergency Operations Center	505-476-9635

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		

SECTION 4, TOWNSHIP 15 SOUTH, RANGE 31 EAST, N.M.P.M.,
CHAVES COUNTY, NEW MEXICO.



Directions to Location:

FROM MILE MARKER 30 OF HWY 31; GO NORTHEAST ON LEASE ROAD FOR 1.5 MILES TO LEASE ROAD, ON LEASE ROAD GO EAST 0.4 MILES TO PROPOSED LEASE ROAD.

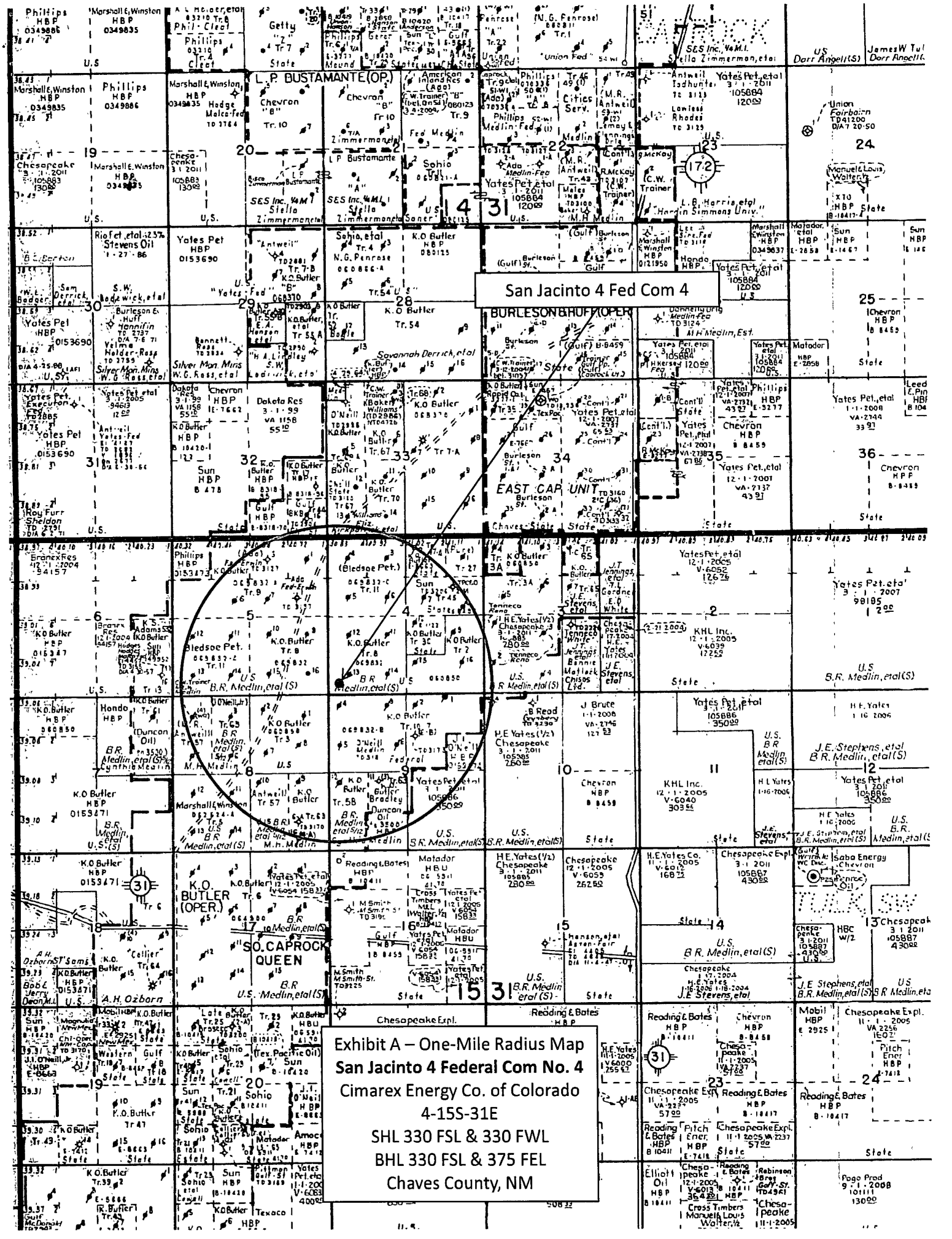
CIMAREX ENERGY CO. OF COLORADO

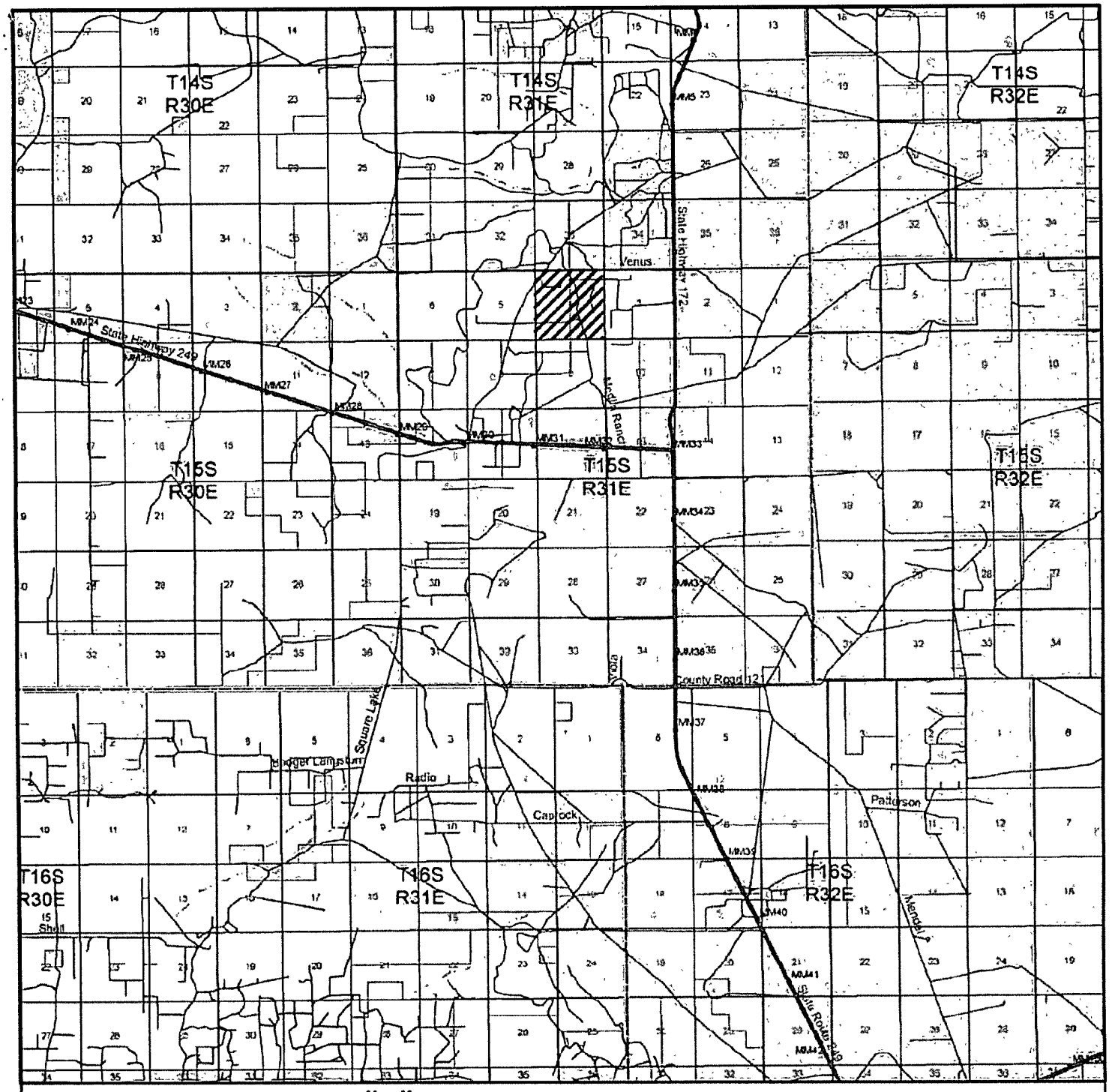
REF: SAN JACINTO "4" FEDERAL COM #4 / WELL PAD TOPO

THE SAN JACINTO "4" FEDERAL COM #4 LOCATED 330' FROM THE SOUTH LINE AND 330' FROM THE WEST LINE OF SECTION 4, TOWNSHIP 15 SOUTH, RANGE 31 EAST, N.M.P.M., CHAVES COUNTY, NEW MEXICO.

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

W.O. Number: 19425	Drawn By: J. SMALL		
Date: 05-14-2008	Disk: JMS 19425	Survey Date: 05-13-2008	Sheet 1 of 1 Sheets


San Jacinto 4 Fed Com 4
L.P. BUSTAMANTE (OP.)
BURLESON & HUFF (OPER.)
EAST CAP UNIT
K.O. BUTLER (OPER.)
SO. CAPROCK QUEEN
Exhibit A – One-Mile Radius Map
San Jacinto 4 Federal Com No. 4
Cimarex Energy Co. of Colorado
4-15S-31E
SHL 330 FSL & 330 FWL
BHL 330 FSL & 375 FEL
Chaves County, NM



SAN JACINTO "4" FEDERAL COM #4
Located 330' FSL and 330' FWL
Section 4, Township 15 South, Range 31 East,
N.M.P.M., Chaves County, New Mexico.

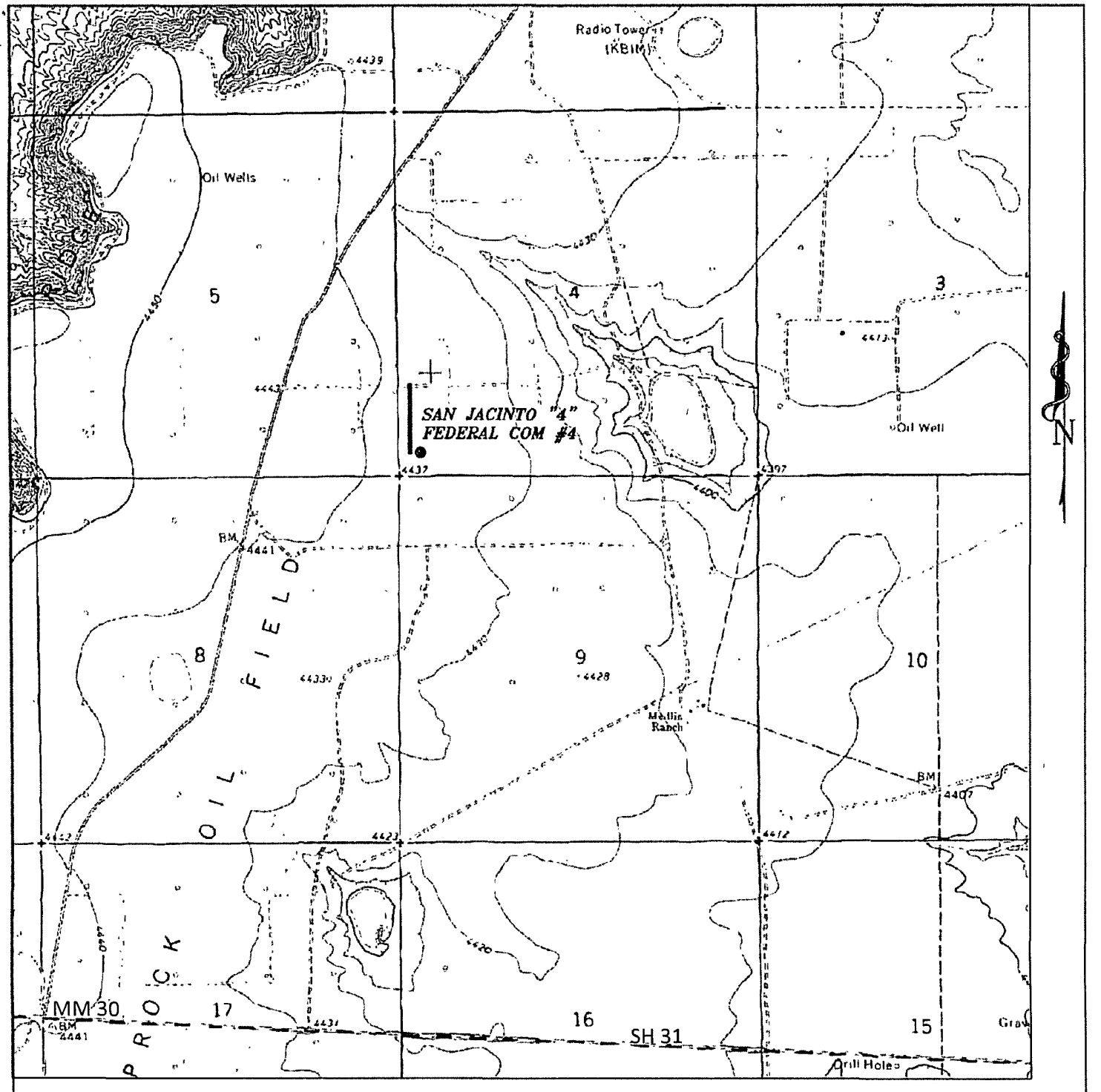
basin surveys
focused on excellence in the oilfield

P.O. Box 1786
1120 N. West County Rd.
Hobbs, New Mexico 88241
(505) 393-7316 - Office
(505) 392-3074 - Fax
basinsurveys.com

W.O. Number:	JMS 19425
Survey Date:	05-13-2008
Scale:	1" = 2 MILES
Date:	05-14-2008

CIMAREX ENERGY CO. OF COLORADO

Exhibit B



SAN JACINTO "4" FEDERAL COM #4
Located 330' FSL and 330' FWL
Section 4, Township 15 South, Range 31 East,
N.M.P.M., Chaves County, New Mexico.

basin surveys
focused on excellence in the oilfield

P.O. Box 1786
1120 N. West County Rd.
Hobbs, New Mexico 88241
(505) 393-7316 - Office
(505) 392-3074 - Fax
basinsurveys.com

W.O. Number:	JMS 19425
Survey Date:	05-13-2008
Scale:	1" = 2000'
Date:	05-14-2008

CIMAREX ENERGY CO. OF COLORADO

Exhibit C

Cactus Rig 107

Cimarex Energy Co.
Irving, TX

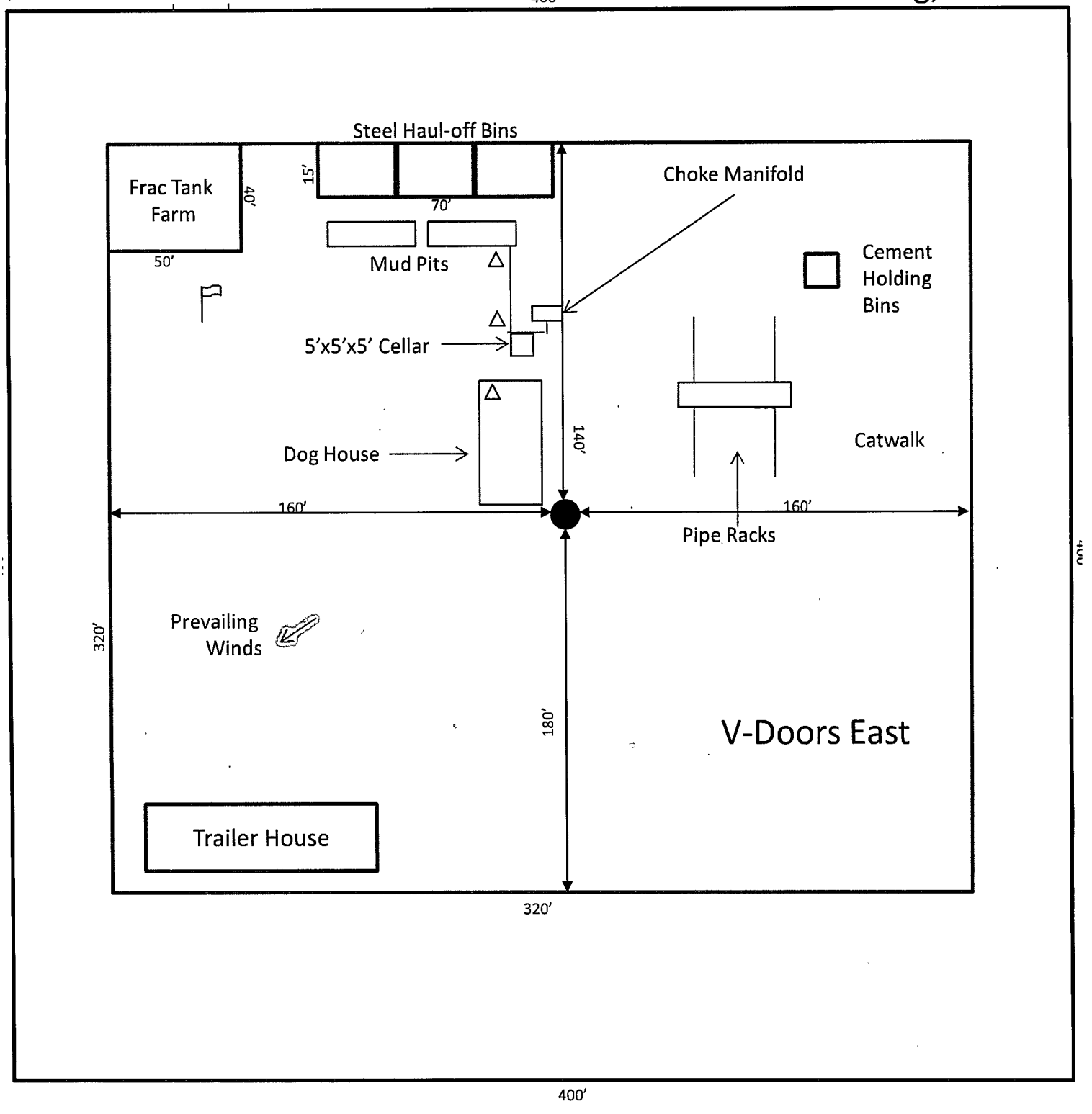


Exhibit D – Rig Layout
San Jacinto 4 Federal Com No. 4
Cimarex Energy Co. of Colorado
4-15S-31E
SHL 330 FSL & 330 FWL
BHL 330 FSL & 375 FEL
Chaves County, NM

SR & A

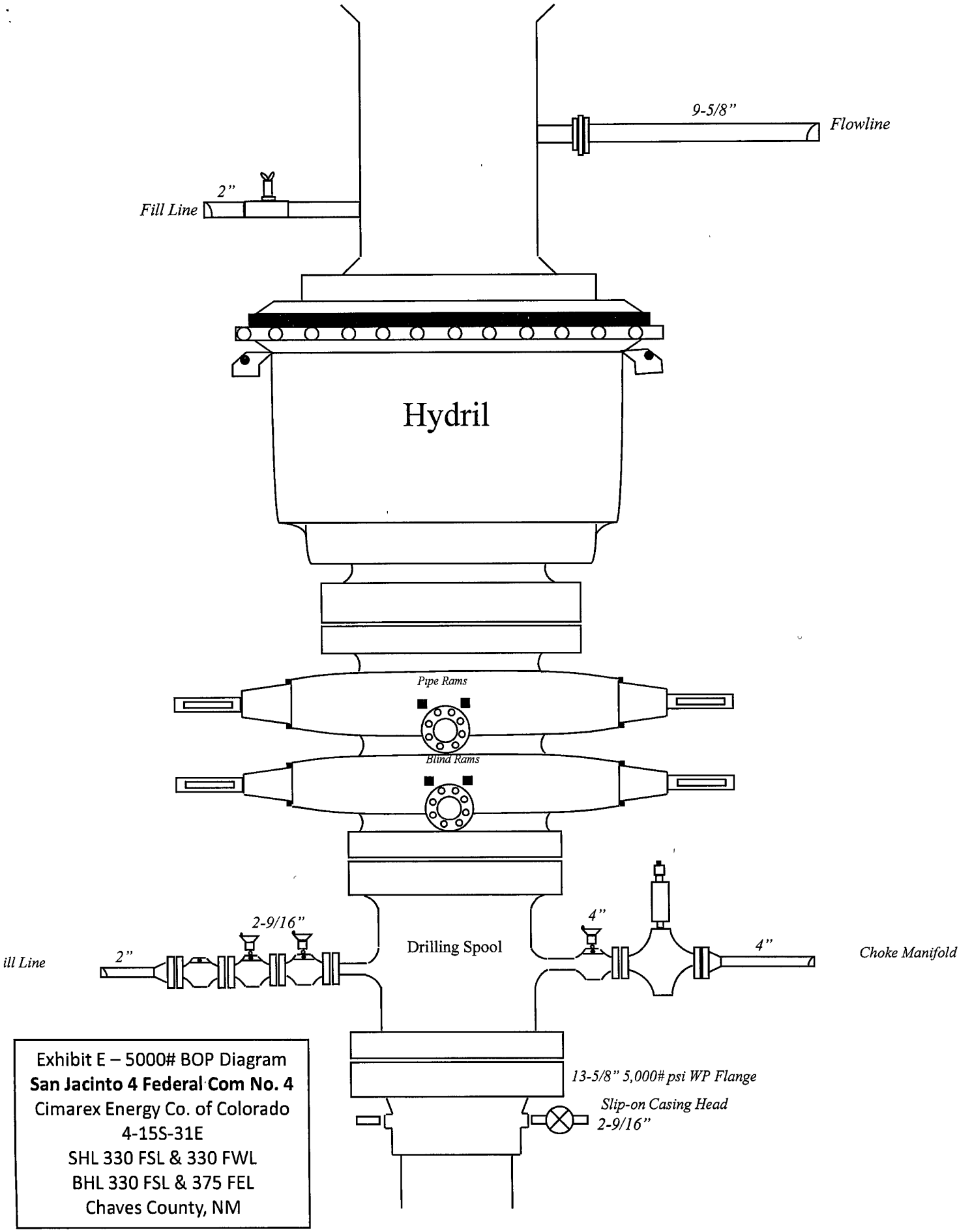


Exhibit E – 5000# BOP Diagram
San Jacinto 4 Federal Com No. 4
Cimarex Energy Co. of Colorado
4-15S-31E
SHL 330 FSL & 330 FWL
BHL 330 FSL & 375 FEL
Chaves County, NM

DRILLING OPERATIONS
CHOKE MANIFOLD
5M SERVICE

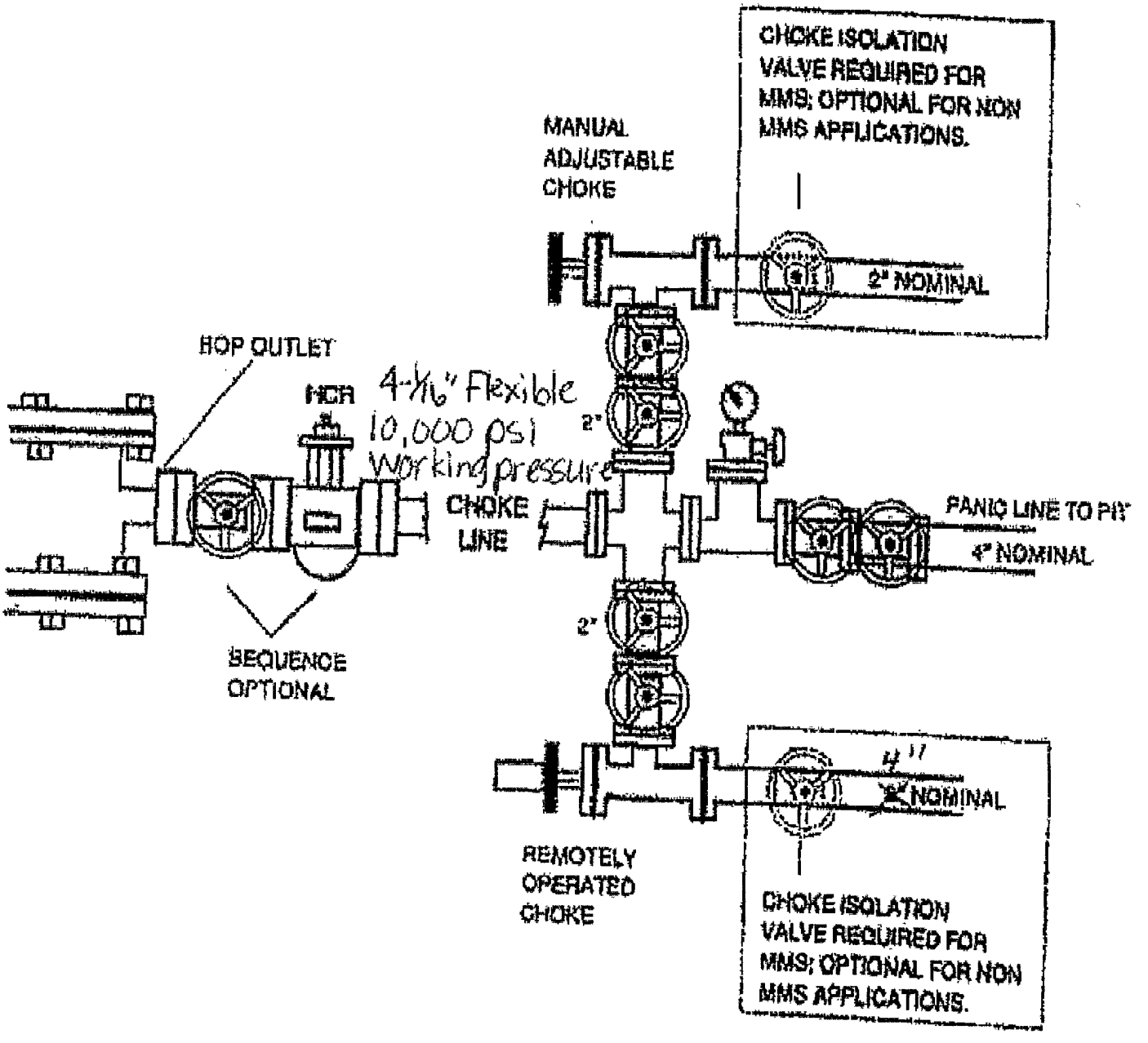


Exhibit E-2 – Choke Manifold Diagram
San Jacinto 4 Federal Com No. 4
Cimarex Energy Co. of Colorado
4-15S-31E
SHL 330 FSL & 330 FWL
BHL 330 FSL & 375 FEL
Chaves County, NM

Midwest Hose
& Specialty, Inc.

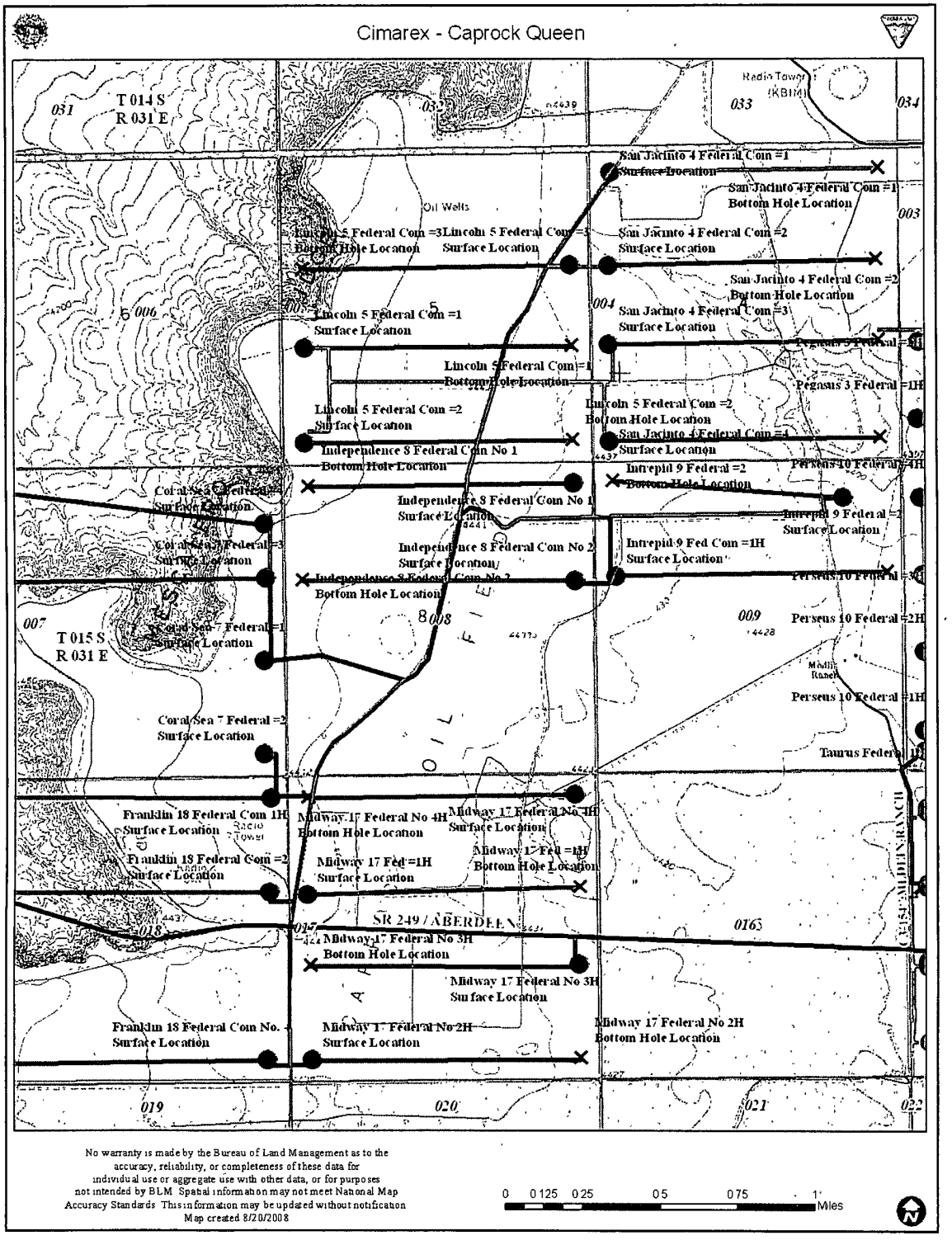
Specification Sheet
Choke & Kill Hose

The Midwest Hose & Specialty Choke & Kill hose is manufactured with only premium componets.The reinforcement cables, inner liner and cover are made of the highest quality material to handle the tough drilling applications of today's industry. The end connections are available with API flanges, API male threads, hubs, hammer unions or other special fittings upon request. Hose assembly is manufactured to API 7K. This assembly is wrapped with fire resistant vermculite coated fiberglass insulation, rated at 2000 degrees with stainless steel armor cover.

Working Pressure:	5,000 or 10,000 psi working pressure
Test Pressure:	10,000 or 15,000 psi test pressure
Reinforcement:	Multiple steel cables
Cover:	Stainless Steel Armor
Inner Tube:	Petroleum resistant, Abrasion resistant
End Fitting:	API flanges, API male threads, threaded or butt weld hammer unions, unibolt and other special connections
Maximum Length:	110 Feet
ID:	2-1/2", 3", 3-1/2", 4"
Operating Temperature:	-22 deg F to +180 deg F (-30 deg C to +82 deg C)

P.O. Box 96558 – 1421 S.E. 29th St. Oklahoma City, OK 73143 * (405) 670-6718 * Fax: (405) 670-6816

EXHIBIT A
GENERAL LOCATION MAP



New Mexico Oil Conservation Division, District I
1625 N. French Drive
Hobbs, NM 88240

RECEIVED
DEC 11 2008
HOBBSOCD

rm 3160-5
ovember 1994)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No 1004-0135
Expires July 31, 1996

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.

SUBMIT IN TRIPLICATE - Other instructions on reverse side

5. Lease Serial No.
SHL LC-069832-C, fee
surface BHL LC-060850

6. If Indian, Allottee or Tribe Name

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

Type of Well
[X] Oil Well [ ] Gas Well [ ] Other

8. Well Name and No.
San Jacinto 4 Federal Com No. 4

Name of Operator
Cimarex Energy Co. of Colorado

9. API Well No.
30-005-

Address
PO Box 140907; Irving, TX 75014-0907

3b. Phone No. *(include area code)*
972-401-3111

10. Field and Pool, or Exploratory Area
Abo Wildcat

Location of Well *(Footage, Sec., T., R., M., or Survey Description)*
SHL 330 FSL & 330 FWL 4-15S-31E
BHL 330 FSL & 375 FEL

11. County or Parish, State
Chaves County, NM

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

TYPE OF SUBMISSION	TYPE OF ACTION			
[X] Notice of Intent	[ ] Acidize	[ ] Deepen	[ ] Production (Start/Resume)	[ ] Water Shut-Off
	[ ] Alter Casing	[ ] Fracture Treat	[ ] Reclamation	[ ] Well Integrity
[ ] Subsequent Report	[ ] Casing Repair	[ ] New Construction	[ ] Recomplete	[X] Other Change Rig,
	[X] Change Plans	[ ] Plug and Abandon	[ ] Temporarily Abandon	switch to closed-loop
[ ] Final Abandonment Notice	[ ] Convert to Injection	[ ] Plug Back	[ ] Water Disposal	system w/ haul-off bins

3. Describe Proposed or Completed Operation (clearly state all pertinent details, included 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.)

Cimarex has chosen to drill this well with Patriot Rig 4. As a result, aspects of our surface use plan have changed.

Attached are the relevant revised aspects of the Surface Use Plan as well as a revised Rig Plat.

I. I hereby certify that the foregoing is true and correct

Name *(Printed/Typed)*	Title
Natalie Krueger	Regulatory Analyst
Signature	Date
Natalie Krueger	December 1, 2008

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by	/s/ Jerry Dutchover Acting	Title Assistant Field Manager, Lands And Minerals	Date 09 DEC 2008
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 ROSWELL FIELD OFFICE	

Title 18 U.S.C. Section 1001, makes 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 reverse)

Surface Use Plan Revisions

San Jacinto 4 Federal Com No. 4

4-15S-31E

SHL 330 FSL & 330 FWL BHL 330 FSL & 375 FEL

Chaves County, NM

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.

Well Site Layout

A. Exhibit "D" shows location and rig layout.

B. Mud pits in the closed circulating system will be steel pits and the cuttings will be stored in steel containment pits.

C. Cuttings will be stored in steel pits until they are hauled to a state-approved disposal facility.

D. If the well is a producer, those areas of the location not essential to production facilities will be reclaimed and seeded per BLM requirements.

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 stockpile 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.

Patriot Rig 4

Cimarex Energy Co. of Colorado

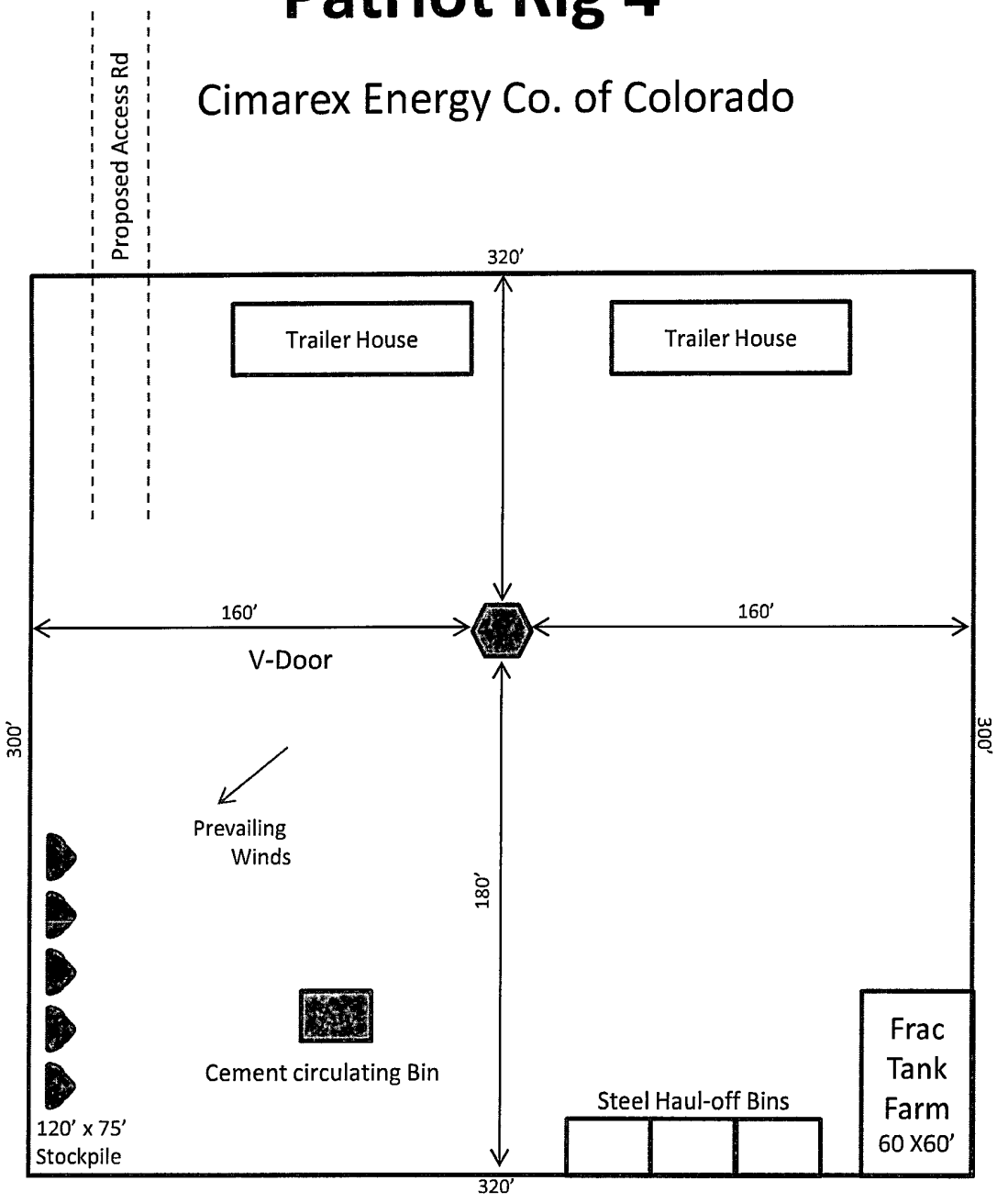


Exhibit D – Rig Layout
San Jacinto 4 Federal Com No. 4
Cimarex Energy Co. of Colorado
4-15S-31E
SHL 330 FSL & 330 FWL
BHL 330 FSL & 375 FEL
Chaves County, NM

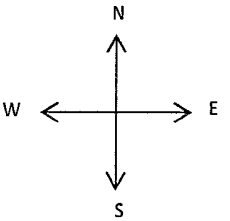


EXHIBIT B
PECOS DISTRICT - RFO
CONDITIONS OF APPROVAL

December 4, 2008

San Jacinto 4 Fed Com #4
Surface: 330' FSL & 330' FWL, Sec. 4 T15S-R31E
Bottom: 330' FSL & 375' FEL, Sec. 4 T15S-R31E
Cimarex Energy Company of Colorado
Mineral Lease Number: SHL: 069832, BHL: LC-060850

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.

I. 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).

II. 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.

III. NOXIOUS WEEDS

The operator shall be held responsible if noxious weeds become established within the areas of operations (access road and/or well pad). 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.

IV. CONSTRUCTION

A. NOTIFICATION:

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Roswell Field Office at (505) 627-0247 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 Application for Permit to Drill and Conditions of Approval on the well site and they shall be made available upon request by the Authorized Officer.

B. TOPSOIL:

The topsoil will be stripped to approximately 6 inches in depth within the area designated for construction of the well pad. The operator shall stockpile the stripped topsoil on the side of the well pad. The topsoil will be used for interim and final reclamation of the surface disturbance created by the construction of the well pad.

C. CLOSED SYSTEMS OR STEEL TANKS: **No reserve pit will be used.**

Steel tanks are required for drilling operations: No Pits Allowed.

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

D. FEDERAL MINERAL MATERIALS PIT:

If the operator elects to surface the access road and/or well pad with federal mineral materials, payment shall be made to the BLM prior to removal. Call the Roswell Field Office at (505) 627-0236.

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 need.

F. ON LEASE ACCESS ROADS:

Road Egress and Ingress

The access road shall be constructed to access the corner of the well pad.

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 thirty (30) 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.

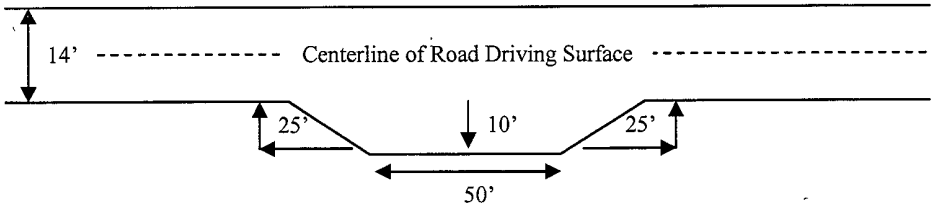
Crowning

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.

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:

Standard Turnout – Plan View

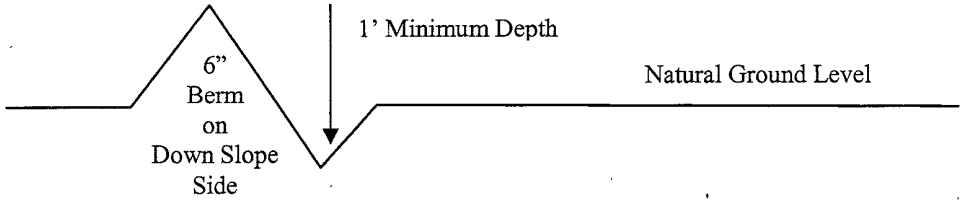


Drainage

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 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

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

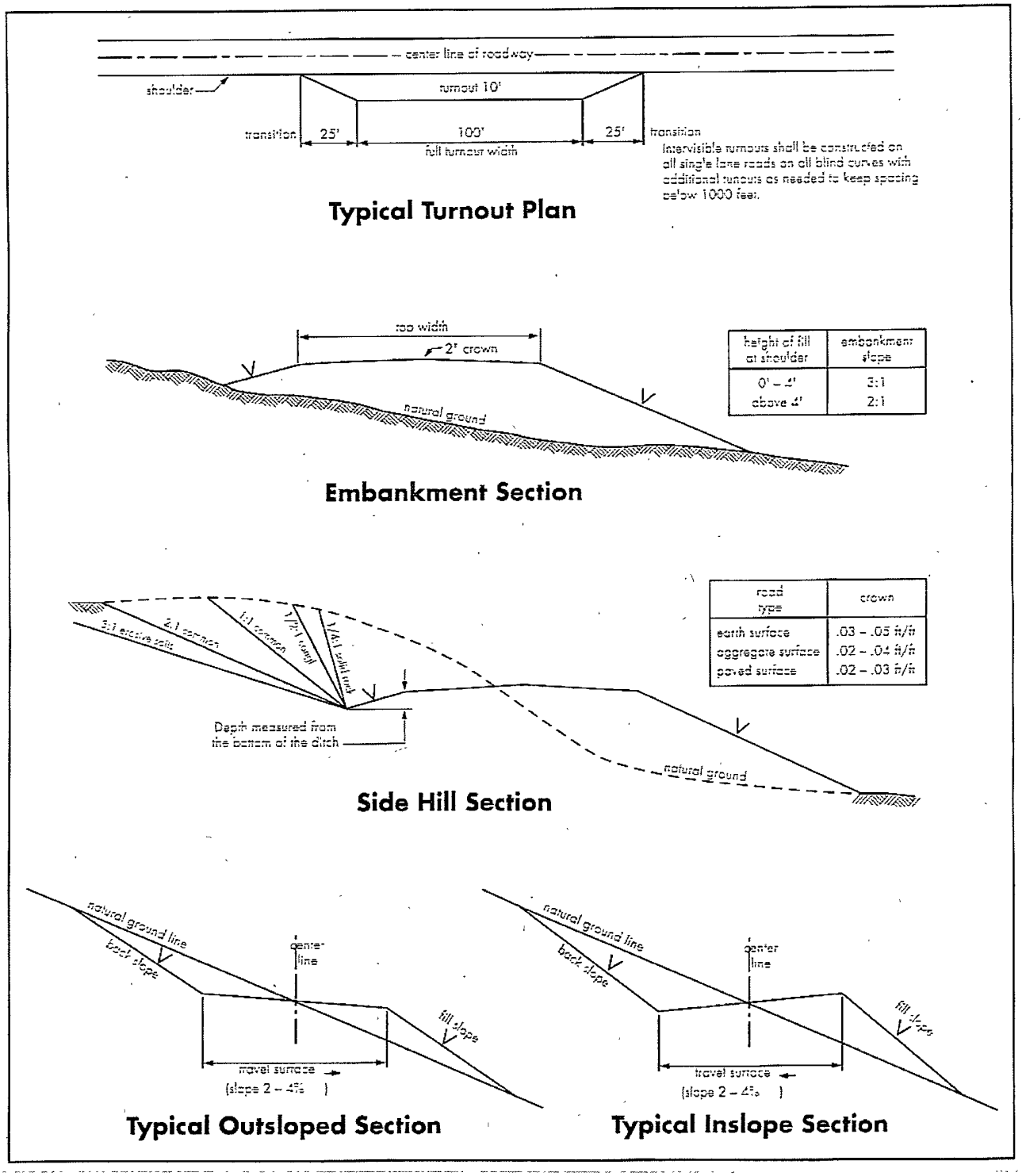
Where entry is required across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting.

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



V. DRILLING

A. DRILLING OPERATIONS REQUIREMENTS

1. Call the Roswell Field Office, 2909 West Second St., Roswell, NM 88201. During office hours call (575) 627-0205 or after office hours call (575) 910-6024. Engineer on call during office hours call (575) 627-0275 or after office hours call (575) 626-5749.

2. The BLM is to be notified a minimum of 24 hours in advance for a representative to witness:

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

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

a. BOPE Tests

4. 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.

5. Include the API Number assigned to well by NMOCD on the subsequent report of setting the first casing string.

6. A Communitization Agreement covering the acreage dedicated to this well must be filed for approval with the BLM. The effective date of the agreement shall be prior to any sales.

7. The operator will accurately measure the drilling rate in ft/min to set the base of the usable water protection casing string(s) opposite competent rock. The record of the drilling rate along with the caliper-gamma ray-neutron well log run to surface will be submitted to this office as well as all other logs run on the borehole 30 days from completion

8. Air, air-mist or fresh water and non toxic drilling mud shall be used to drill to the base of the usable water protection casing string(s). Any polymers used will be water based and non-toxic.

B. CASING

1. The **13-3/8** inch usable water protection casing string shall be set at approximately **340 feet** in competent bedrock.

If not the operator is required to set usable water protecting casing in the next thick competent bedding (i.e. 15 to 25 ft or greater) encountered and cemented to the surface.

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

b. Wait on cement (WOC) time for a primary cement job will be a minimum 18 hours for a water basin or 500 pounds compression strength, whichever is greater. (This is to include the lead cement).

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 compression strength, whichever is greater.

d. If cement falls back, remedial action 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 **sufficient to circulate to the surface.** If cement does not circulate see B.1.a-d above.

3. The minimum required fill of cement behind the **7** inch production casing is **sufficient to tie back 500 feet above the uppermost perforation in the pay zone**. If cement does not circulate, a temperature survey utilizing an electronic type temperature survey with a surface log readout will be used or a cement bond log shall be run to verify the top of the cement.

4. There is no required fill of cement behind the **4-1/2** inch production casing since a Peak Systems Iso-Pak liner will be used for lateral and will not require cementing.

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. Before drilling below the **13-3/8** inch surface casing shoe, the blowout preventer assembly shall consist of a minimum of One Annular Preventer or Two Ram-Type Preventers and a Kelly Cock/Stabbing Valve. Before drilling below the **9-5/8** inch intermediate casing shoe, the blowout preventer assembly shall consist of a minimum of One Annular Preventer, Two Ram-Type Preventers, and a Kelly Cock/Stabbing Valve.

2. Before drilling below the **13-3/8** inch surface casing shoe, minimum working pressure of the blowout preventer and related equipment (BOPE) shall be **2000** psi. Before drilling below the **9-5/8** inch intermediate casing shoe, minimum working pressure of the blowout preventer and related equipment (BOPE) shall be **3000** psi.

3. The BOPE shall be installed before drilling below the **13-3/8** inch surface casing and the **9-5/8** inch intermediate casing and shall be tested as described in Onshore Order No. 2. Any equipment failing to test satisfactorily shall be repaired or replaced.

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

b. The tests shall be done by an independent service company.

c. 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.

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 BLM Roswell Field Office at 2909 West Second Street, Roswell, New Mexico 88201.

e. Testing fluid must be water or an appropriate clear liquid suitable for sub-freezing temperatures. Use of drilling mud for testing is not permitted since it can mask small leaks.

f. Testing must be done in a safe workman like manner. Hard line connections shall be required.

g. The requested variance to test the BOPE prior to **drilling below the 13-3/8 inch surface casing** to the reduced pressure of **1000** psi using the rig pumps is approved.

VI. PRODUCTION

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, Juniper Green (Standard Environmental Color Chart June 2008).

VRM Facility Requirement

Low-profile tanks not greater than eight-feet-high shall be used.

VII. INTERIM RECLAMATION

If the well is a producer, interim reclamation shall be conducted on the well site in accordance with the orders of the Authorized Officer. The operator shall submit a Sundry Notices and Reports on Wells (Notice of Intent), Form 3160-5, prior to conducting 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.

During reclamation, the removal of caliche is important to increasing the success of revegetating the site. Removed caliche may be used in road repairs, fire walls or for building other roads and locations. In addition, 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.

The following soil or soil associations may represent these ecological sites:
Alama silt loam, dry, 0-3% Slope, Atoka, Bigetty-Pecos, Harkey fine sandy loam, Holloman, Holloman-Gypsum Land, Hollomex loam, 1-9% slope, dry, Largo loam, Milner loam, 0-2% slope, dry, Reagan loam, Reakor, Reakor-Bigetty, Reakor-Tencee, Reeves loam, 0-2% slope, dry, Russler, Shanta, Upton-Reakor.

Loamy, SD-3 Ecological Site; Loamy CP-2; Gyp Upland CP-2 (for Loamy HP-3)		
Common Name and Preferred Variety	Scientific Name	Pounds of Pure Live Seed Per Acre
Blue grama,	(*Bouteloua gracilis)*	4.00 LBS.
Sideoats grama,	(*Bouteloua curtipendula)*	1.0 LB.
Sand dropseed	(*Sporobolus cryptandrus)*	0.5 LB.
Vine mesquite	(*Panicum obtusum)*	1.0 LB.
Plains bristlegrass	(*Setaria macrostachya)*	1.0 LB.
Indian blanketflower	(*Gaillardia aristata)*	0.5 LB.
Desert or Scarlet	(*Sphaeralcea ambigua*)	1.0 LB.
Globemallow or	(*S. coccinea)*	
Annual sunflower	(Helianthus annuus)	0.75 LB.
TOTAL POUNDS PURE LIVE SEED (pls) PER ACRE		9.75 LBS.

Certified Weed Free Seed. If one species is not available, increase ALL others proportionately. Use No Less than 4 species, including one forb. No less than 9.75 pounds lbs per acre shall be applied.

VIII. FINAL ABANDONMENT & REHABILITATION REQUIREMENTS

A. Upon abandonment of the well and/or when the access road is no longer in service, a Notice of Intent for Final Abandonment with the proposed surface restoration procedure must be submitted for approval.

B. On private surface/federal mineral estate land the reclamation procedures on the road and well pad shall be accomplished in accordance with the Private Surface Land Owner agreements and a copy of the release is to be submitted upon abandonment.

C. Upon abandonment of the well, all casing shall be cut-off at the base of the cellar or 3-feet below final restored ground level (whichever is deeper). A 4-inch pipe, 10 feet in length, shall be installed 4 feet above ground and embedded in cement. The following information shall be permanently inscribed on the dry hole marker: Well name and number, the name of the operator, the lease serial number, the surveyed location (the quarter-quarter section, section, township and range or other authorized survey designation acceptable to the authorized officer; such as metes and bounds).

D. Surface Reclamation must be completed within 6 months of well plugging. If the operator proposes to modify the plans for surface reclamation approved on the APD, the operator must attach these modifications to the Subsequent Report of Plug and Abandon using Sundry Notices and Reports on Wells, Form 3160-5.