OCD-APTESIA

C/Y FEB 1/1 2009

ATS-09-209

Form 3160-3 (February 2005)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREALLOF LAND MANAGEMENT

FORM APPROVED
OMB No 1004-0137

Lease Serial No

	BUREAU OF LAND MANAGEMENT							
APPLICATION FOR PERMIT TO				6 If Indian, Allotee or Tribe Name				
la. Type of work	TER			7 If Unit or CA Agreement, Name and No				
lb Type of Well	Sır	ngle ZoneMultip	le Zone	8. Lease Name and WEST BRUS	Well No. HY FEDERAL 33 1H			
2 Name of Operator EOG Resources, Inc.				9 API Well No 30-015- 31	ر99م ا			
3a Address P.O. Box 2267 Midland, TX 79702	ì	. (include area code) 6-3642		10 Field and Pool, or WithCat				
At surface 580' FSL & 1580' FWL (U/L N) At proposed prod, zone 330' FNL & 1980' FWL (U/L C)	any State requirem	ents *)			Blk. and Survey or Area			
4 Distance in inites and direction from nearest town or post offices Approx 12 miles SE from Malaga, NM				12 County or Parish Eddy	13 State			
5 Distance from proposed* location to nearest property or lease line, ft (Also to nearest dug unit line, if any)	16 No of a	cres in lease		ing Unit dedicated to this well W/2 of Sec 33, T25S-R29E, N.M.P.M.				
Distance from proposed locatron* to nearest well, drilling, completed, applied for, on this lease, ft	19 Proposed 7725'(TV	d Depth /D); 11931'TMD	20 BLM/B NM23	/BIA Bond No. on file 2308				
Elevations (Show whether DF, KDB, RT, GL, etc.) GL 2,990'	22. Approxii	mate date work will star 04/01/2008	ť*	23 Estimated duration 30 days				
T. f.ll.	24. Attac		4-1-4-4-	- 6				
The following, completed in accordance with the requirements of Onsl Well plat certified by a registered surveyor A Drilling Plan. A Surface Use Plan (if the location is on National Forest System SUPO must be filed with the appropriate Forest Service Office)		4 Bond to cover the litem 20 above) 5 Operator certification	ne operation	s unless covered by an	n existing bond on file (see			
5 Signature D. Miss		(Printed Typed) Donny G. Glanton			Date 01/06/2009			
itle Sr. Lease Operations ROW Representative								
Approved by (Signature) /s/ Don Peterson		(Printed Typy DC	n Pete	rson	Date FEB 0 9 2009			
FOR FIELD MANAGER	Office	C		D FIELD OFFICE				
Application approval does not warrant or certify that the applicant he onduct operations thereon. Conditions of approval, if any, are attached.	olds legal or equi			ect lease which would L FOR TWO				
Fitle 18 U.S.C Section 1001 and Title 43 U.S.C Section 1212, make it a States any false, fictitious or fraudulent statements or representations	crime for any pas to any matter w	erson knowingly and v	villfully to m	ake to any department	or agency of the United			
(Instructions on page 2)	Vert	ical well bo	re is	unor the	odox above 4			

Carlsbad Controlled Water Basin

M

Approval Subject to General Requirements & Special Stipulations Attached

District 1 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

Dedicated Acres

160

1220 S. St. Francis Dr., Santa Fe, NM 87505

Joint or Infill

Consolidation Code

State of New Mexico

Order No.

Energy, Minerals & Natural Resources Department OIL CONSERVATION DIVISION

1220 South St. Francis Dr.

Santa Fe. NM 87505

Form C-102 Revised October 12, 2005

Submit to Appropriate District Office

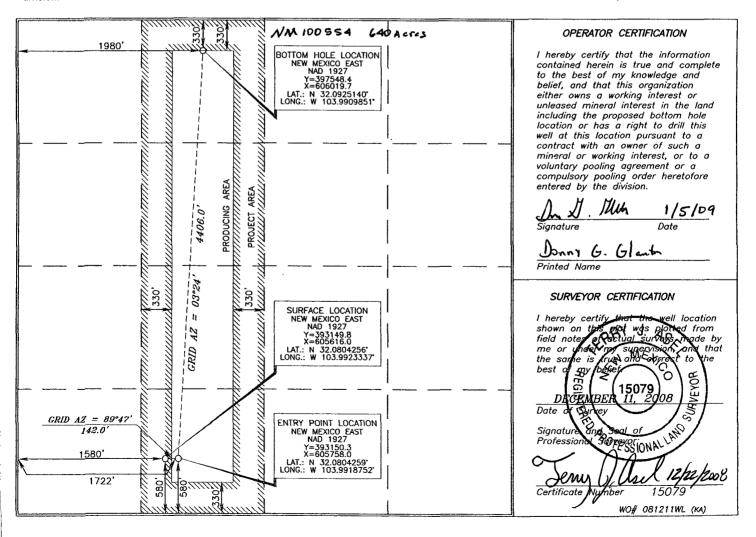
State Lease- 4 Copies

Fee Lease-3 Copies

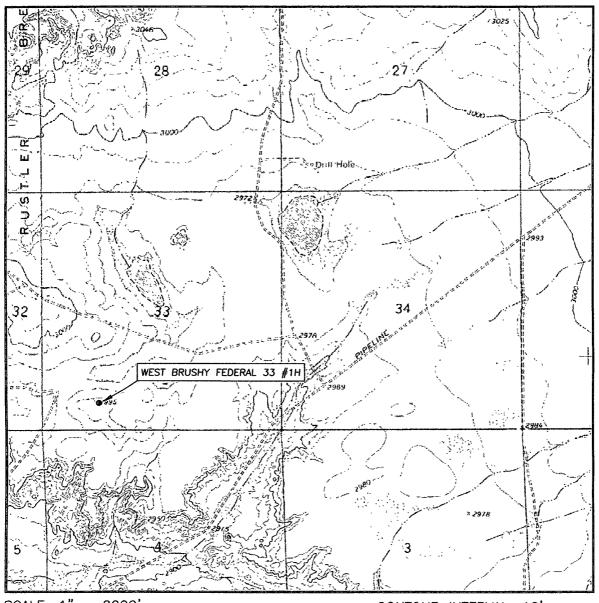
AMENDED REPORT

	WELL LOCATION AND ACREAGE DEDICATION PLAT								
AP	1 Number	Pool Code	1		-	Pool Name			
30-015-	36971			Wildco	At Bon.	. Spring			
Property Co	ode		Property 1	Name			W	ell Number	
3760	9	WEST BRUS	SHY	FEDERAL	, <i>33</i>			1H	
OGRID No.		•	Operator	Name				Elevation	
7377		EOG RE	SOUR	CES, INC	2	990.0'			
1		Su	rface	Location					
UL or lot no. Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County	
N 33	25 SOUTH	29 EAST, N.M.P.M.		<i>√580</i> ′	SOUTH	[[] 1580'	WEST	EDDY	
		Bottom Hole Loc	ation	lf Differen	t From Sur	face			
UL or lot no. Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County	
C 33	25 SOUTH	29 EAST, N.M.P.M.		<i>√ 330</i> ′	NORTH	[/] 1980'	WEST	EDDY	

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



LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL: 10'

SEC. 33 TWP. 25—S RGE. 29—E

SURVEY N.M.P.M.

COUNTY EDDY

DESCRIPTION 580' FSL & 1580' FWL

ELEVATION 2990.0'

OPERATOR EOG RESOURCES INC.

LEASE WEST BRUSHY FEDERAL 33 #1H

U.S.G.S. TOPOGRAPHIC MAP

ROSS RANCH, N.M.

Asel Surveying

P.O. BOX 393 - 310 W. TAYLOR HOBBS, NEW MEXICO - 575-393-9146



Permit Information:

Well Name: West Brushy Fed 33 #1H

Location:

SL: 580' FSL & 1580' FWL, Section 33, T-25-S, R-29-E, Eddy Co., N.M.

BHL: 330' FNL & 1980' FWL, Section 33, T-25-S, R-29-E, Eddy Co., N.M.

Casing Program:

Casing	Setting Depth	Hole Size	Casing Size	Casing Weight	Casing Grade	Desired TOC
Surface	600'	14-3/4"	11-3/4"	48#	H-40	Surface
Intermediate	3,000'	11"	8-5/8"	32#	J-55	Surface
Production	11,931'	7-7/8"	5 1/2"	17#	N-80	3,300'

Cement Program:

Depth	No.	Slurries:
	Sacks	
600'	150	Lead: 35:65 Poz: C + 4% Bentonite+ 0.005 gps FP-6L + 0.005 pps Static
		Free + 5 pps LCM-1 + 5% NaCl + 5% MPA-5 + 0.8% SMS
	200	Premium Plus C + 0.005 pps Static Free + 0.25 pps CelloFlake + 0.005 gps
	İ	FP-6L
3,000'	550	Lead: 35:65 Poz: C + 0.005 pps Static Free + 5% NaCl + 0.25 pps
		CelloFlake + 5 pps LCM-1 + 0.005 gps FP-6L + 6% Bentonite
	200	Tail: Premium Plus C + 0.005 pps Static Free + 1% CaCl2 + 0.25 pps
		CelloFlake + 0.005 gps FP-6L
11,931'	250	Lead: 50:50 Poz: C + 0.005 pps Static Free + 5% NaCl + 0.25 pps
Stage 1		CelloFlake + 5 pps LCM-1 + 0.005 gps FP-6L + 10% Bentonite
	940	Tail: 50:50 Poz: H + 2% Bentonite + 0.005 gps FP-6L + 0.005 pps Static
		Free + 5% NaCl + 0.1% R-3 + 0.2% CD-32 + 0.3% FL-52A
Stage 2	215	Lead: 50:50 Poz: C + 0.005 pps Static Free + 5% NaCl + 0.25 pps
		CelloFlake + 5 pps LCM-1 + 0.005 gps FP-6L + 10% Bentonite
	100	Tail: Premium Plus C + 0.005 pps Static Free + 0.005 gps FP-6L

Mud Program:

Depth	Type	Weight (ppg)	Viscosity	Water Loss
0 – 600'	Fresh - Gel	8.6-8.8	28-34	N/c
600' - 3,000'	Brine	10.0-10.2	28-34	N/c
3,000' - 6,400'	Fresh Water	8.4 - 8.6	28-34	N/c
6,400' - 7,500'	Cut Brine	8.6-8.8	28-34	N/c
7,500' - 8,156'	Cut Brine	8.6-8.8	28-34	10-15
7,250' – 11,931'	Cut Brine/	8.6-8.8	35-45	10-25
	Polymer (Lateral)			

1. GEOLOGIC NAME OF SURFACE FORMATION:

Permian

2. ESTIMATED TOPS OF IMPORTANT GEOLOGICAL MARKERS:

Lamar	2,915'
Bell Canyon	2,960'
Cherry Canyon	3,810'
Brushy Canyon	5,100'
Bone Spring	6,725'
1 st Bone Spring Sand	7,625
2 nd Bone Spring Carbonate	8,025

3. ESTIMATED DEPTHS OF ANTICIPATED FRESH WATER, OIL OR GAS:

Upper Permian Sands	0- 200'	Fresh Water
Bell Canyon	2,960'	Oil
Cherry Canyon	3,810'	Oil
Brushy Canyon	5,100'	Oil
1 st Bone Spring Sand	7,625	Oil
2 nd Bone Spring Carbonate	8,025	Oil

No other Formations are expected to give up oil, gas or fresh water in measurable quantities. Surface fresh water sands will be protected by setting 11.75" casing at 600' and circulating cement back to surface.

4. CASING PROGRAM-NEW

						<u>Collapse</u>	<u>Burst</u>	<u>Tension</u>	
						Design	Design	<u>Design</u>	
<u>Hole</u>	<u>Interval</u>	OD Csg	Weight	<u>Grade</u>	Conn.	<u>Factor</u>	Factor	<u>Factor</u>	
14.75"	0-600'	11.75"	42#	H-40	ST&C	3.97	1.43	3.58	
11"	0-3,000'	8.625"	32#	J-55	LT&C	1.87	2.09	4.51	
7.875"	0-11,931'	5.5"	17#	N-80	LT&C	1.75	1.19	2.14	

Cementing Program: COA

11.75" Surface Casing:

Cement to surface, Lead: 150 sx 35:65 Poz: C + 0.005 pps Static Free + 5% NaCl + 5 pps LCM-1 + 0.005 gps FP-6L + 5% MPA-5 + 0.8% SMS + 4% Bentonite, 12.7 ppg, 2.02 yield

Tail: 200 sx Premium Plus C + 0.005 pps Static Free + 0.25 pps CelloFlake + 0.005 gps FP-6L, 14.8 ppg, 1.33 yield

1.

8.625" Intermediate Casing: Cement to surface, Lead: 550 sx 35:65 Poz: C + 0.005

pps Static Free + 5% NaCl + 0.25 pps CelloFlake + 5 pps LCM-1 + 0.005 gps FP-6L + 6% Bentonite, 12.4

ppg, 2.10 yield

Tail: 200 sx Prem Plus C + 0.25 pps CelloFlake + 0.005 FP-6L + 0.005 pps Static Free + 1% CaCl₂, 14.8

ppg, 1.34 yield

5.50" Production Casing:

See COA

Cement to 2,400', 1st Stage: Lead: 250 sx 50:50 Poz: C + 0.005 pps Static Free + 5% NaCl + 0.25 pps CelloFlake + 5 pps LCM-1 + 0.005 gps FP-6L + 10% Bentonite, 11.8 ppg, 2.29 yield

Tail: 940 sx 50:50 Poz: H + 2% Bentonite + 0.005 gps FP-6L + 0.005 pps Static Free + 5% NaCl + 0.1% R-3 + 0.2% CD-32 + 0.3% FL-52A, 14.2 ppg, 1.30 yield

2nd Stage: Lead: 215 sx 50:50 Poz: C + 0.005 pps Static Free + 5% NaCl + 0.25 pps CelloFlake + 5 pps LCM-1 + 0.005 gps FP-6L + 10% Bentonite, 11.8 ppg, 2.29 yield

Tail: 100 sx Premium Plus C + 0.005 gps FP-6L + 0.005 pps Static Free, 14.8 ppg, 1.33 yield

5. MINIMUM SPECIFICATIONS FOR PRESSURE CONTROL:

(SEE EXHIBIT #1)

The blowout preventer equipment (BOP) shown in Exhibit #1 will consist of a double ram-type (5000 psi WP) preventer and an annular preventer (5000-psi WP). Units will be hydraulically operated and the ram-type will be equipped with blind rams on bottom and drill pipe rams on top. All BOP's and accessory equipment will be tested in accordance with Onshore Oil & Gas order No. 2. for a 2M system prior to drilling out of the surface casing shoe and while drilling the first intermediate section. Before drilling out of the first and second intermediate casing strings, the ram-type BOP and accessory equipment will be tested to 5000/ 250 psig and the annular preventer to 2500/ 250 psig.

Pipe rams will be operationally checked each 24-hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets.

Hydraulically operated choke will not be installed prior to the setting and cementing of the intermediate casing string, but will be installed prior to drilling out of the intermediate casing shoe.

6. TYPES AND CHARACTERISTICS OF THE PROPOSED MUD SYSTEM:

The well will be drilled to TD with a combination of brine, cut brine, and polymer mud system. The applicable depths and properties of this system are as follows:

		Wt	Viscosity	Waterloss
<u>Depth</u>	Type	(PPG)	(sec)	(cc)
0-600'	Fresh – Gel	8.6-8.8	28-34	N/c
600'-3,000'	Brine	10.0-10.2	28-34	N/c
3,000'-6,400'	Fresh water	8.4-8.6	28-34	N/c
6,400'-7,500'	Cut Brine	8.6-8.8	28-34	N/c
7,500'-8,156'	Cut Brine	8.6-8.8	28-34	10-15
7,250'-11,931'	Polymer (Lateral)	8.6-8.8	35-45	10-25

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

7. AUXILIARY WELL CONTROL AND MONITORING EQUIPMENT:

- (A) A kelly cock will be kept in the drill string at all times.
- (B) A full opening drill pipe-stabbing valve (inside BOP) with proper drill pipe connections will be on the rig floor at all times.

8. LOGGING, TESTING AND CORING PROGRAM:

Electric logging will consist of GR-Dual Laterlog and GR-Compensated Density-Neutron from TD to intermediate casing with a GR- Compensated Neutron run from intermediate casing to surface and optional Sonic from TD to intermediate casing.

Possible FMI over selected intervals.

Possible sidewall cores based on shows.

9. ABNORMAL CONDITIONS, PRESSURES, TEMPERATURES AND POTENTIAL HAZARDS:

The estimated bottom hole temperature (BHT) at TD is 150 degrees F with an estimated maximum bottom-hole pressure (BHP) at TD of 3300 psig. No hydrogen sulfide or other hazardous gases or fluids have been encountered, reported or are known to exist at this depth in this area. No major loss circulation zones have been reported in offsetting wells.

10. ANTICIPATED STARTING DATE AND DURATION OF OPERATIONS:

The drilling operation should be finished in approximately one month. If the well is productive, an additional 30-60 days will be required for completion and testing before a decision is made to install permanent facilities.

Planning Report

Database Company: EDM

Midland - New Mexico.

Delaware

Project: West Brushy Fed 33 #1H Well: West Brushy Fed 33 #1H

West Brushy Fed 33 #1H Wellbore Original Plan

Dësign: 🖟

Local Co-ordinate Reference

TVD Reference: 💯 😘 😘 MD Reference:

North Reference Survey Calculation Method: Well West Brushy Fed 33 #1H

WELL @ 3009 00ft (Original Well Elev) WELL @ 3009 00ft (Original Well Elev)

Minimum Curvature

Project Delaware

Map System: Geo Datum:

US State Plane 1927 (Exact solution)

NAD 1927 (NADCON CONUS)

Map Zone:

New Mexico East 3001

System Datum:

Mean Sea Level

West Brushy Fed 33 #1H

Site Position:

From:

Map

Northing: Easting:

393,149 80ft 605,616.00ft Latitude: Longitude:

32° 4' 49 532 N 103° 59' 32.401 W

Position Uncertainty:

0 00 ft

Slot Radius:

Grid Convergence:

0 18 deg

Well West Brushy Fed 33 #1H

+E/-W

+N/-S **Well Position**

0.00 ft 0.00 ft

Northing: Easting:

393,149.80 ft 605,616.00 ft

Latitude: Longitude:

32° 4' 49.532 N 103° 59' 32.401 W

Position Uncertainty

0.00 ft

Wellhead Elevation:

Ground Level:

2,990 00ft

West Brushy Fed 33 #1H Wellbore Magnetics Model Name Declination (deg): IGRF200510 12/17/2008 8.05 60.05 48.760

Design **Audit Notes:** Version: Phase: **PROTOTYPE** 0.00 Tie On Depth: Vertical Section: Depth From (TVD) (ft), (deĝ) 0.00 0 00 0 00

	Plan Sections		-			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				Con meters standards and delications a	S. William Sandrage American Company of Marie Company
	Measured			Vertical			Dogleg	Build			
	The real Party of topic margers of	nclination	Azimuth	Depth	+N/-S	+E/-W	Rate	Rate	Turn Rate	TFO	
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			San Paris San	HAT HE					AND YOUR		
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	11,930.68	90.00	3.40	7,725.00	4,398 51	403 70	0.00	0.00	0.00	0.00	
	11,930.78	90.00	3 40	7,725.00	4,398.61	403.70	3.00	0.00	-3.00	-90.00 E	BHL (West Brushy

Planning Report

The state of the s Database: Company: EDM

Midland - New Mexico ,

Delaware Project:

Site West Brushy Fed 33 #1H Original Plan

Original Plan

Survey Calculation Method:

AND THE PROPERTY OF THE PROPER

Local Co-ordinate Reference: Well West Brushy Fed 33 #1H
TVD Reference: WELL @ 3009 00ft (Criginal W.
WID Reference: WELL @ 3009 00ft (Criginal W.
North Reference: Grid WELL @ 3009.00ft (Criginal Well Elev) WELL @ 3009 00ft (Original Well Elev)

Minimum Curvature

Planned Survey			PARALLES III DER CLASS		A PART OF THE PART		The state of the s	en we care en la	AND DESIGNATION OF THE PROPERTY OF
Measured Depth in	alination A	zimuth	Vertical Depth	+N/-S	The state of the second state of the second	Patrician Della Resident Control	Dogleg Rate	Build Rate	Turn Rate
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4,200.00	5.00	90.00	4,197.21	0.00	67 55	6.17	0.00	0.00	0.00
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4,600.00	5.00	90.00	4,490.07	0.00	102.41	9 36	0.00	0.00	0.00
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4,800.00	5 00	90 00	4,794 93	0.00	119.85	10 95	0.00	0 00	0.00
4,805.09	5.00	90.00	4,800.00	0.00	120.29	10.99	0 00	0 00	0 00
4,900 00 5,000.00	4.05 3.05	90 00 90.00	4,894.61 4.994.42	0.00 0.00	127.78 133.97	11.68 12 24	1 00 1.00	-1.00 -1 00	0.00 0.00
5,100 00	2.05	90.00	5,094.32	0.00	138.42	12 65	1.00	-1.00	0 00

Planning Report

Database: Company EDM

Midland - New Mexico

Delaware

Project. Site Well: Wellbore Designs West Brushy Fed 33 #1H West Brushy Fed 33 #1H West Brushy Fed 33*#1H

Original Plan Design:∉

North Reference North Reference Survey, Calculation Method:

Local Co-ordinate: Reference: Well West Brushy Fed 33 #1H
TVD: Reference: WELL @ 3009 00ft (Original Well Elev)
MD Reference: WELL @ 3009 00ft (Original Well Elev)
Grid

Minimum Curvature

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5,300.00	0.05	90 00	5,294.27	0.00	142 09	12.99	1.00	-1 00	0.00
5,305.09	0.00	90 00	5,299.37	0.00	142.09	12.99	1.00	-1.00	0 00
5,400.00	0 00	90.00	5,394 27	0.00	142.09	12 99	0.00	0 00	0.00
5,500 00 5,600.00	0 00 0.00	90 00 90 00	5,494 27 5,594 27	0 00 0.00	142.09 142.09	12 99 12 99	0.00 0.00	0.00 0 00	0 00 0.00
5.700 00	0.00	90 00	5,694 27	0 00	142.09	12 99	0 00	0.00	0 00
5,800.00	0 00	90 00	5,794.27	0 00	142 09	12.99	0.00	0.00	0.00
5,900 00	0.00	90 00	5,894 27	0.00	142 09	12.99	0 00	0 00	0.00
6,000.00	0.00	90.00	5,994 27	0.00	142.09	12.99	0 00	0.00	0.00
6,100.00	0.00	90.00	6,094 27	0.00	142.09	12.99	0.00	0 00	0.00
6,200 00	0 00 0 00	90 00	6,194 27	0.00	142.09	12 99 12 99	0.00	0 00 0 00	0.00
6,300.00 6,400.00	0.00	90 00 90.00	6,294.27 6,394.27	0.00 0.00	142.09 142.09	12 99 12.99	0.00 0.00	0 00	0.00
6,500 00	0.00	90 00	6,494.27	0.00	142.09	12.99	0.00	0.00	0.00
6,600.00	0.00	90 00	6,594.27	0.00	142.09	12 99	0.00	0.00	0.00
6,700.00	0 00	90.00	6,694.27	0.00	142.09	12 99	0.00	0 00	0.00
6,800.00	0.00	90.00	6,794.27	0.00	142.09	12 99	0.00	0 00	0.00
6,900 00	0 00	90.00	6,894 27	0.00	142 09	12.99	0.00	0.00 0.00	0.00
7,000 00 7,100 00	0.00 0 00	90.00 90.00	6,994.27 7,094.27	0 00 0 00	142.09 142.09	12 99 12 99	0.00 0.00	0.00	0.00
7,200 00	0 00	90.00	7,194.27	0 00	142.09	12.99	0.00	0 00	0 00
7,250.00	0.00	90.00	7,134.27	0.00	142.09	12.99	0.00	0.00	0.00
7,300.00	5 96	3.41	7,294 18	2.59	142.25	15 58	11 92	11 92	0.00
7,400.00	17.88	3.41	7,391 85	23,17	143.47	36 19	11.92	11 92	0.00
7,500.00	29.80	3 41	7,483.16	63 44	145.87	76.51	11 92	11 92	0.00
7,578.40	39.14	3.41	7,547.72	107 69	148.51	120.81	11.92	11.92	0.00
PP (WB 33 #1H 7,600.00	I) 41.71	3.41	7,564,16	121 67	149.34	134.81	11.92	11.92	0 00
7,700.00	53.63	3.41	7,631.37	195 33	153.73	208.57	11.92	11.92	0.00
7,800.00	65.55	3.41	7,681.90	281 27	158.85	294.61	11.92	11.92	0.00
7,900 00	77 47	3.41	7,713.55	375.77	164.48	389 23	11 92	11.92	0.00
8,000 00	89.39	3.41	7,724 97	474.76	170.38	488 35	11.92	11.92	0.00
8,005 13 8,005 36	90.00 90.00	3.41 3.40	7,725.00 7,725.00	479.88 480.11	170.69 170.70	493 47 493.70	11 92 3.00	11.92 0.00	0 00 -3.00
8,100.00	90.00	3.40	7,725.00	574.58	176.70	588.29	0.00	0.00	0.00
8,200.00	90.00	3.40	7,725.00	674.41	182 25	688 24	0.00	0 00	0.00
8,300 00	90 00	3 40	7,725.00	774.23	188.19	788 19	0.00	0 00	0.00
8,400.00	90 00	3 40	7,725.00	874.06	194 13	888 14	0 00	0 00	0.00
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8,800.00	90.00	3.40	7,725.00	1,273.35	217.87	1,287 93	0 00	0 00	0.00
8,900.00	90 00	3 40	7,725.00	1,373.17	223.80	1,387.88	0 00	0 00	0.00
9,000.00	90.00	3 40	7,725.00	1,473.00	229.74	1,487 83	0.00	0 00	0.00
9,100.00 9,200 00	90 00 90 00	3 40 3 40	7,725.00 7,725.00	1,572.82 1,672.64	235.67 241 61	1,587.78 1,687.73	0 00 0 00	0.00 0 00	0.00 0.00
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9,300.00 9,400.00	90.00 90.00	3.40 3.40	7,725.00 7,725.00	1,772.47 1,872.29	247.55 253 48	1,787 67 1,887 62	0 00 0.00	0 00 0 00	0.00 0.00
9,500 00	90.00	3.40	7,725.00	1,972.12	259.42	1,987.57	0.00	0.00	0.00
9,600 00	90.00	3 40	7,725.00	2,071.94	265 35	2,087 52	0 00	0 00	0.00
9,700.00	90 00	3.40	7,725.00	2,171 76	271.29	2,187.47	0.00	0 00	0.00
9,800 00	90.00	3.40	7,725.00	2,271.59	277 22	2,287.42	0.00	0 00	0.00

Planning Report

| Database | EDM | Company | Midland - New Mexico | Delaware | Sife | West Brushy Fed 33 #1H | Original Plan | Original Plan |

Liocalt Corordinate Reference: Well West Brushy Fed 33 #1H
IN Di Reference: WELL @ 3009 00ft (Original Well Elev)
MDi Reference: WELL @ 3009 00ft (Original Well Elev)
North Reference: Grid,
Survey Calculation Method: Minimum Curvature

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*Measured			Vertical			Vertical	Dogleg	Build	Turn
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10,000 00	90.00	3 40	7,725.00	2,471 23	289.10	2,487 31	0.00	0.00	0.00
10,100.00	90.00	3 40	7,725 00	2,571 06	295.03	2.587.26	0.00	0.00	0.00
10,200.00	90 00	3.40	7,725.00	2,670 88	300.97	2,687.21	0.00	0 00	0.00
10,300 00	90.00	3.40	7,725 00	2,770.71	306.90	2,787 16	0 00	0.00	
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10,500 00	90.00	3.40	7,725.00	2,970.35	318.77	2,987.06	0 00	0 00	0.00
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10,700 00	90 00	3 40	7,725.00	3,170 00	330.65	3,186.95	0 00	0.00	0.00
10.800 00	90 00	3.40	7,725.00	3.269.82	336 58	3,286.90	0 00	0.00	0.00
10,900.00	90 00	3.40	7,725.00	3,369.65	342.52	3,386 85	0.00	0.00	0.00
11,000.00	90 00	3.40	7,725.00	3,469,47	348.45	3.486.80	0.00	0 00	0.00
11,100.00	90 00	3.40	7,725 00	3,569.29	354.39	3,586 75	0 00	0 00	0.00
11,200.00	90 00	3.40	7,725 00	3,669.12	360.32	3,686.69	0.00	0.00	0.00
11,300.00	90 00	3 40	7,725.00	3,768 94	366.26	3,786.64	0.00	0.00	0.00
11,400.00	90 00	3.40	7,725.00	3.868.77	372.20	3,886 59	0.00	0.00	0.00
11,500 00	90.00	3 40	7,725.00	3,968.59	378.13	3,986.54	0.00	0 00	0.00
11,600.00	90 00	3 40	7,725.00	4,068 41	384.07	4,086 49	0.00	0.00	0.00
11,700.00	90.00	3.40	7,725.00	4,168 24	390.00	4,186.44	0.00	0.00	0.00
11,800.00	90 00	3.40	7,725.00	4,268.06	395.94	4,286.38	0 00	0.00	0.00
11,900.00	90 00	3 40	7,725.00	4,367 88	401.87	4,386.33	0 00	0.00	0.00
11,930.68	90.00	3.40	7,725 00	4,398.51	403.70	4,417.00	0.00	0.00	0 00
11,930.78	90.00	3.40	7,725 00	4,398.61	403.70	4,417.10	3.00	0.00	-3.00
BHL (West E	Brushy #1H)								

Target Name - hit/miss target Dip / - Shape (di						Northing (ft)		Latitude	Longitude
BHL (West Brushy #1 - plan hits target center - Point	0.00	0.01	7,725.00	4,398.61	403.70	397,548.40	606,019.70	32° 5′ 33 050 N	103° 59' 27.547 W
PP (WB 33 #1H) - plan misses target cer - Point			7,625 00 7578.40ft M	0.50 D (7547.72 T\	142.00 /D, 107.69	393,150.30 N, 148.51 E)	605,758.00	32° 4' 49.533 N	103° 59' 30.751 W

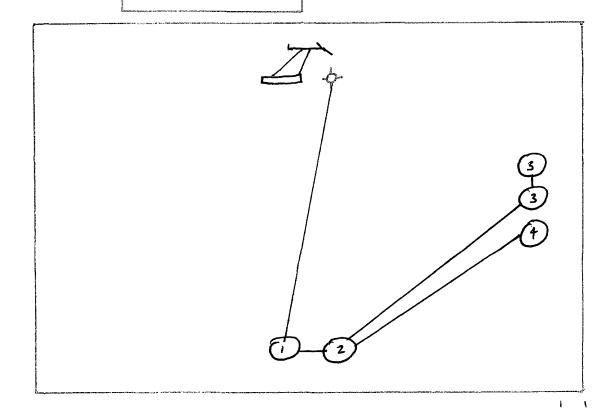
		+N/-S 0.00	+E/-W 0.00	No 3931	orthing 149,80	Ground Leve Eastin 605616.0	g L	atittude	e N103° 59'	Longitude 32.401 W	Slot	
						SECTIO	N DETAILS					
	2 2 3 3 4 8 9		0 0.00 0 0.00 0 5.00 0 5.00 0 0.00 0 0.00 0 90.00 6 90.00 8 90.00	Azi 0.00 0.00 90.00 90.00 90.00 90.00 3.41 3.40 3.40	TVD 0.00 3300.00 3549.68 4800.00 5299.37 7244.27 7725.00 7725.00 7725.00 7725.00	+N/-S 0.00 0.00 0.00 0.00 0.00 479.88 480.11 4398.51 4398.61	0.00 0.00 10.90 120.29 142.09 142.09 170.69 1	DLeg 0.00 0.00 2.00 0.00 1.00 0.00 1.92 3.00 0.00 8/00@st	TFactar 0.00 0.00 90.00 0.00 180.00 90.00 3.41 -90.00 0.00 B-96.00#	0.00 0.00 1.00 10.99 12.99 12.99 493.47 493.70 4417.00		
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Exhibit 4

WELL NAME: West Brushy Lederal 33 1

CLOSED LOOP EQUIPMENT

Closed Loop Equipment

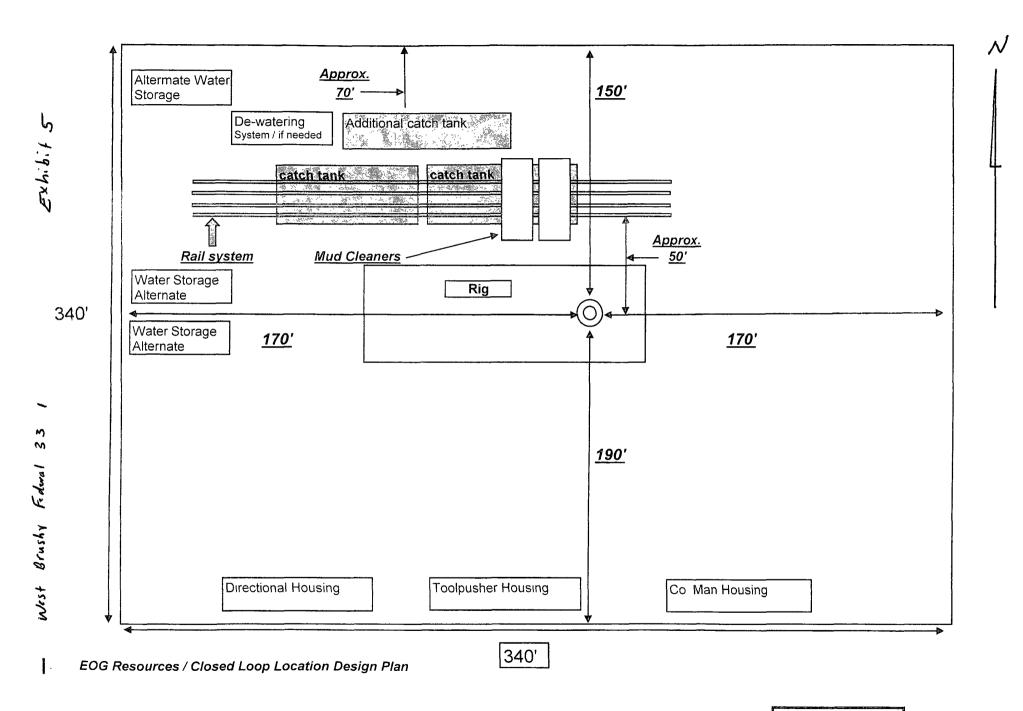


- 1. Separator
- 3. 0:1 Tax

"NOT TO SCALE"

foad

- 2. Heater
- 4. Water Tax

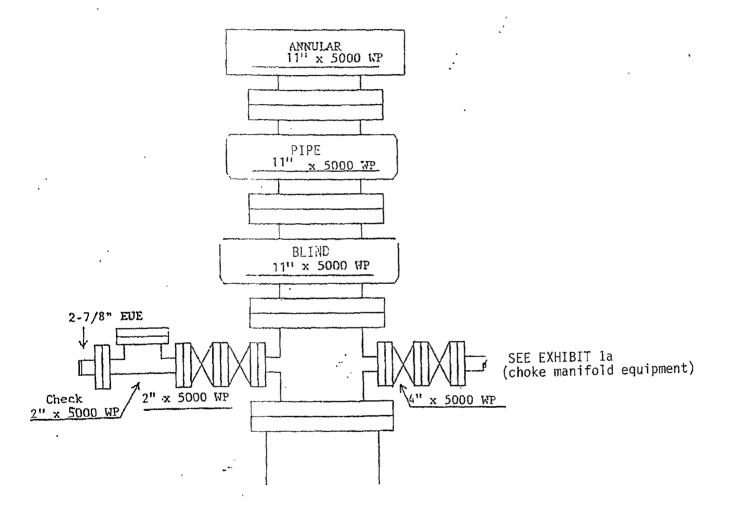


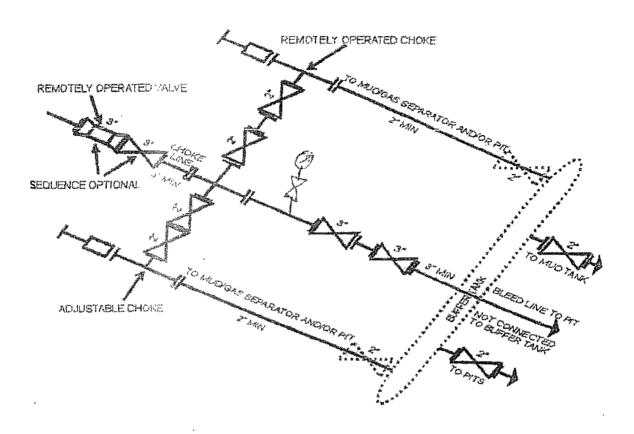
Not to scale

ATTACHMENT TO EXHIBIT #1

- 1. Wear ring to be properly installed in head.
- 2. Blow out preventer and all fittings must be in good condition, 5000 psi W.P. minimum. Exhibit #1.
- 3. All fittings to be flanged
- 4. Safety valve must be available on rig floor at all times with proper connections, valve to be full bore 5000 psi W.P. minimum.
- 5. All choke and fill lines to be securely anchored especially ends of choke lines.
- 6. Equipment through which bit must pass shall be at least as large as the diameter of the casing being drilled through.
- 7. Kelly cock on kelly.
- 8. Extension wrenches and hand wheels to be properly installed.
- 9. Blow out preventer control to be located as close to driller's position as feasible.
- 10. Blow out preventer closing equipment to include minimum 40-gallon accumulator, two independent sources of pump power on each closing unit installation, and meet all API specifications.

West Brushy Federal 33 1H





5M CHOKE MANIFOLD EQUIPMENT - CONFIGURATION OF CHOKES MAY VARY

Although not required for any of the choke manifold systems, buffer tanks are sometimes installed downstream of the choke assemblies for the purpose of manifolding the blend lines together. When buffer tanks are employed, valves shall be installed upstream to isolate a failure or malfunction without interrupting flow control. Though not shown on 2M, 3M, 10M, OR 15M drawings, it would also be applicable to those situations.

[54 FR 39528, Sept. 27, 1989]



EOG Resources, Inc. P.O. Βολ 2267 Midland, TX 79702 (432) 686-3600

January 5, 2009

State of New Mexico Energy, Minerals and Natural Resources Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505

To Whom It May Concern:

I am writing to request a waiver for the inclusion of an H₂S Contingency Plan for the West Brushy Fed 33 #1H. The current plan is to complete this well in the Lower Brushy Canyon, which is sweet, and I do not anticipate encountering any H₂S bearing formations during drilling operations.

Sincerely,

Jason LaGrega Drilling Engineer

SURFACE USE PLAN OF OPERATION

SHL: 580' FSL & 1580' FWL, Unit N, Section 33, T25S-R29E, N.M.P.M., Eddy, NM BHL: 330' FNL & 1980' FWL, Unit C, Section 33, T25S-R29E, N.M.P.M., Eddy, NM

1. EXISTING ROADS:

- a. The well site and elevation plat for the proposed well are reflected on the well site layout; Form C-102. The well was staked by Terry Asel, RPL 15079.
- b. All roads into the location are depicted on Exhibit 2, 2a & 2b.
- c. <u>Directions to Locations:</u> From the intersection of US 285 and Black River Village Road in Malaga, go south on U.S. Hwy 285 for 12.6 miles, turn left on County Road #725 (Whitehorn Road) and go ENE for 4.0 miles, turn left on lease road and go NE along pipeline for 1.6 miles, turn left and go west for 0.6 miles to proposed new road, go northwest and north for 0.2 miles to location.

2. NEW OR RECONSTRUCTED ACCESS ROAD:

- a. The well site layout, Exhibit 2a shows the layout. The proposed access road (see Exhibit 2b) begins from County Road 725 and trends WNW to location. (See 1c above for driving directions). Since part of the road is off-lease, a roadway grant will be applied for by separate application.
- b. The maximum width of the road will be 15'. It will be crowned and made of 6' of rolled and compacted caliche. Water will be deflected, as necessary, to avoid accumulation and prevent soil erosion.
- c. Surface material will be native caliche. This material will be obtained from a BLM approved pit nearest in proximity to the location. The average grade will be approximately 1%.
- d. No cattleguards, gates or fence cuts will be required. No turnouts are planned.

3. LOCATION OF EXISTING WELLS:

Exhibit #3 shows all existing wells within a one-mile radius of this well.

4. LOCATION OF EXISTING AND/OR PROPOSED PRODUCTION FACILITIES:

- a. In the event the well is found to be productive, the West Brushy 33 Fed 1 tank battery would be utilized and the necessary production equipment will be installed at the well site. See Production Facilities Layout diagram.
- b. As a proposed oil well, we will contact the area electrical coop to provide electrical service to the well.
- c. All flow lines will adhere to API standards.

- d. Refer to b above.
- e. If the well is productive, rehabilitation plans are as follows:
 - i. Within 120 days subsequent to the first date of sales, the location shall be reduced as determined by operator to the minimum area necessary to safely and effectively operate the well.
 - ii. The original topsoil from the well site will be returned to the location. The location will be contoured as close as possible to the original state.

5. LOCATION AND TYPE OF WATER SUPPLY:

This location will be drilled using a combination of water mud systems (outlined in the drilling program). The water will be obtained from commercial water stations in the area and hauled to location by transport truck using existing and proposed roads shown in Exhibit 2, 2a & 2b. On occasion, water will be obtained from existing water wells. In these cases where a poly pipeline is used to transport water for drilling purposes, proper authorizations will be secured. If poly pipeline is used to transport fresh water to the location, proper authorization will be secured by the contractor.

6. CONSTRUCTION MATERIALS

All caliche utilized for the drilling pad and proposed access road will be obtained from an existing BLM approved pit or from prevailing deposits found under the location. All roads will be constructed of rolled and compacted caliche. Will use BLM recommended use of extra caliche from other locations close by roads, if available.

7. METHODS OF HANDLING WASTE MATERIALS

- a. Drill cuttings shall be disposed of in a steel cuttings bin (catch tanks) on the drilling pad (behind the steel mud tanks). The bin and cuttings shall be hauled to an approved cuttings dumpsite.
 - At the site, the cuttings shall be removed from the bin & the bin shall be returned to the drilling site for reuse.
- b. All trash, junk, and other waste material shall be contained in trash cages or trash bins to prevent scattering. When a job is completed, all contents shall be removed and disposed of in an approved landfill.
- c. The supplier, including broken sacks, shall pick up salts remaining after completion of well.
- d. If necessary, a porto-john shall be provided for the rig crews. This equipment shall be properly maintained during the drilling and completion operations and shall be removed when all operations are complete.
- e. Remaining drilling fluids shall be hauled off by transports to a state approved disposal site. Water produced during completion shall be put in storage tanks

and disposed of in a state approved disposal. Oil and condensate produced shall be put in a storage tank and sold.

- f. Disposal of fluids to be transported by the following companies:
 - i. RGB TRUCKING
 - ii. LOBO TRUCKING
 - iii. I & W TRUCKING
 - iv. CRANE HOT OIL & TRANSPORT
 - v. JWS
 - vi. QUALITY TRUCKING

8. ANCILLARY FACILITIES:

a. No airstrip, campsite, or other facilities will be built.

9. WELL SITE LAYOUT:

- a. Exhibit 4 shows the production facilities layout.
- b. Exhibit 5 shows proposed location of reserve and sump pits, living facilities and well site layout with dimensions of the pad layout.
- c. Mud pits in the active circulating system shall be steel pits and the catch tanks shall be steel tanks set in shallow sumps behind the steel circulating tanks and sumps.
- d. The area where the catch tanks are placed shall be reclaimed and seeded per BLM requirements.

10. PLANS FOR SURFACE RECLAMATION:

- a. After concluding the drilling and/or completion operations, if the well is found non-commercial, the caliche shall be removed from the pad and transported to the original caliche pit or used for other drilling locations. The road shall be reclaimed as directed by the BLM. The catch tank area shall be broken out and leveled after drying to a condition where these are feasible. The original topsoil shall again be returned to the pad and contoured, as close as possible, to the original topography.
- b. The location and road shall be reclaimed as recommended by the BLM.
- c. If the well is deemed commercially productive, the catch tank area shall be restored as described in 10(a) within 120 days subsequent to the first date of sales. Caliche from areas of the pad site not required for operations shall be reclaimed. The original top soil shall be returned to the area of the drill pad not

necessary to operate the well. These unused areas of the drill pad shall be contoured, as close as possible, to match the original topography.

11. SURFACE OWNERSHIP

The surface is owned by the Bureau of Land Management (BLM). The surface is multiple use with the primary uses of the region for the grazing of livestock and the production of oil and gas. The proposed road routes and surface location will be restored as directed by the BLM.

12. OTHER INFORMATION:

- a. The area surrounding the well is grassland. The topsoil is sandy in nature. The vegetation is moderately sparse with native prairie grass, cactus and shinnery oak. No wildlife was observed but it is likely that deer, rabbits, coyotes, birds and rodents transverse the area.
- b. There are not dwellings within 2 miles of location.
- c. There is no permanent or live water within 1 miles of the location.
- d. EOG has previously conducted an ARCH survey performed by Boone Archeological and said survey has been registered with the CFO.

13. BOND COVERAGE:

a. Bond Coverage is Nationwide; Bond No. NM 2308

COMPANY REPRESENTATIVES:

Representatives responsible for ensuring compliance of the surface use plan are listed below:

Permitting & Land

Mr. Donny G. Glanton Senior Lease Operations ROW Representative EOG Resources, Inc. P.O. Box 2267 Midland, TX 79702 (432) 686-3642 Office (432) 770-0602 Cell

Drilling

Operations

Mr. Jason LaGrega	Mr. Howard Kemp
Division Drilling Engineer	Production Manager
EOG Resources, Inc.	EOG Resources, Inc
P.O. Box 2267	P.O. Box 2267
Midland, TX 79702	Midland, TX 79702
(432) 686-3633 Office	(432) 686-3704 Office
(432) 894-1217 Cell	(432) 634-1001 Cell

OPERATOR CERTIFICATION

I certify that I, or someone under my direct supervision, have inspected the drill site and access route proposed herein; that I am familiar with the conditions that presently exist; that I have full knowledge of State and Federal Laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true, and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements. Executed this 6th day of January 2009.

Name: Donny G. Glanton

Position: Sr. Lease Operations ROW Representative

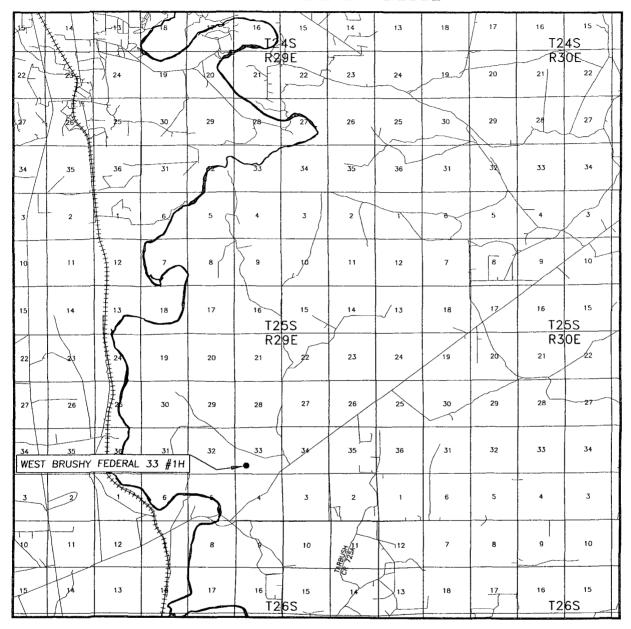
Address: P.O. Box 2267 Midland, TX 79705

Telephone: <u>432-686-3642</u>

Email: donny glanton@eogresources.com

Signed: Dy D. Muy

VICINITY MAP

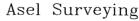


SEC. 33 TWP. 25-S RGE. 29-E SURVEY N.M.P.M. COUNTY EDDY DESCRIPTION 580' FSL & 1580' FWL ELEVATION ______2990.0'

OPERATOR EOG RESOURCES INC.

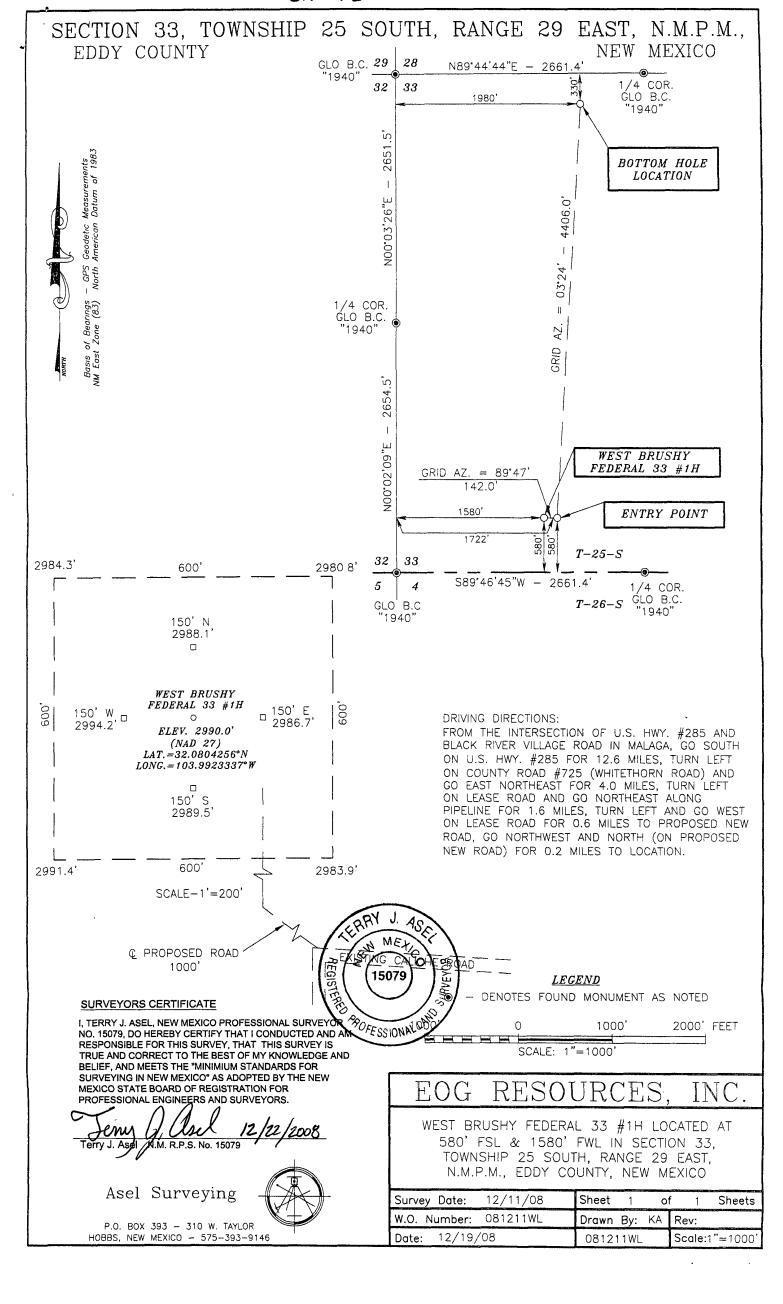
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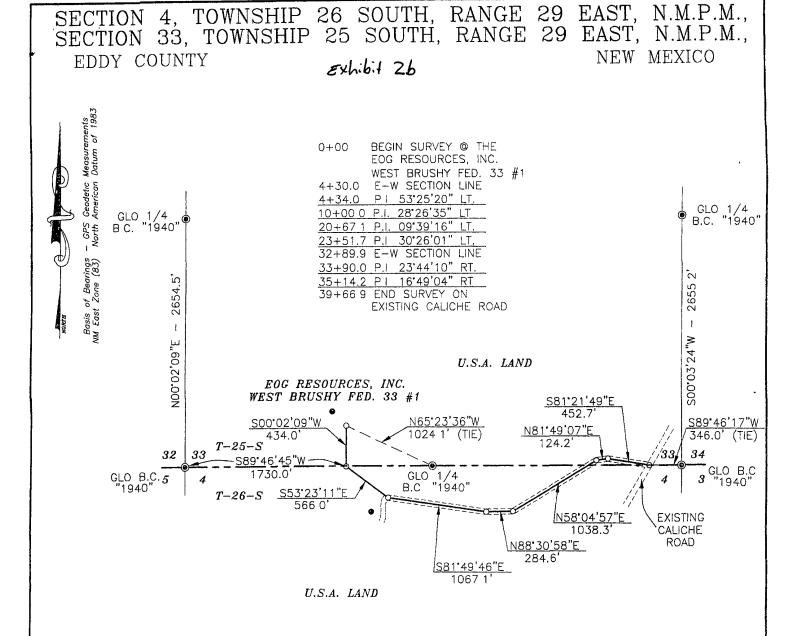
SCALE: 1" = 2 MILES





DIRECTIONS FROM THE INTERSECTION OF U.S. HWY. #285 AND BLACK RIVER VILLAGE ROAD IN MALAGA, GO SOUTH ON U.S. HWY. #285 FOR 12.6 MILES, TURN LEFT ON COUNTY ROAD #725 (WHITETHORN ROAD) AND GO EAST NORTHEAST FOR 4.0 MILES, TURN LEFT ON LEASE ROAD AND GO NORTHEAST ALONG PIPELINE FOR 1.6 MILES, TURN LEFT AND GO WEST ON LEASE ROAD FOR 0.6 MILES TO PROPOSED NEW ROAD, GO NORTHWEST AND NORTH (ON PROPOSED NEW ROAD) FOR 0.2 MILES TO LOCATION.





DESCRIPTION

SURVEY FOR A ROAD EASEMENT CROSSING U.S.A. LAND IN SECTION 4, TOWNSHIP 26 SOUTH, RANGE 29 EAST, AND SECTION 33, TOWNSHIP 25 SOUTH, RANGE 29 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT WHICH LIES N65'23'36"W - 1024.1 FEET FROM THE SOUTH QUARTER CORNER OF SAID SECTION 33; THEN S00'02'09"W - 434.0 FEET; THEN S53'23'11"E - 566.0 FEET; THEN S81'49'46"E - 1067.1 FEET; THEN N88'30'58"E - 284.6 FEET, THEN N58'04'57"E - 1038.3 FEET; THEN N81'49'07"E - 124.2 FEET; THEN S81'21'49"E - 452.7 FEET TO A POINT ON THE SOUTH SECTION LINE OF SAID SECTION 33 WHICH LIES S89'46'17"W - 346.0 FEET FROM THE SOUTHEAST CORNER OF SAID SECTION 33.

TOTAL LENGTH EQUALS 3966.9 FEET OR 0.75 MILES.



LEGEND

- DENOTES FOUND MONUMENT AS NOTED

SURVEYORS CERTIFICATE

I, TERRY J. ASEL, NEW MEXICO PROFESSIONAL SURVEYOR NO. 15079, DO HEREBY CERTIFY THAT I CONDUCTED AND AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND MEETS THE "MINIMIUM STANDARDS FOR SURVEYING IN NEW MEXICO" AS ADOPTED BY THE NEW MEXICO STATE BOARD OF REGISTRATION FOR PROFESSIONAL ENGINEERS AND SURVEYORS

Jeny D. asil 2/11/2008 Terry J. Agel / N.M. R.P.S. No. 15079

Asel Surveying

P O BOX 393 - 310 W TAYLOR HOBBS, NEW MEXICO - 505-393-9146

1000' 0 1000' 2000' FEET

SCALE: 1"=1000'

EOG RESOURCES, INC.

SURVEY FOR A ROAD EASEMENT CROSSING U.S.A LAND IN SECTION 4, TOWNSHIP 26 SOUTH, RANGE 29 EAST, AND SECTION 33, TOWNSHIP 25 SOUTH, RANGE 29 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO

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PECOS DISTRICT CONDITIONS OF APPROVAL

OPERATOR'S NAME:	EOG Resources Inc
LEASE NO.:	NM100554
WELL NAME & NO.:	1H West Brushy Fed 33
SURFACE HOLE FOOTAGE:	580' FSL & 1580' FWL
BOTTOM HOLE FOOTAGE	330' FNL & 1980' FWL
LOCATION:	Section 33, T. 25 S., R 29 E., NMPM
COUNTY:	Eddy County, New Mexico

TABLE OF CONTENTS

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

	General Provisions
	Permit Expiration
	Archaeology, Paleontology, and Historical Sites
	Noxious Weeds
\boxtimes	Special Requirements
	Cave/Karst
	Construction
	Notification
	Topsoil
	Reserve Pit
	Federal Mineral Material Pits
	Well Pads
	Roads
	Road Section Diagram
\boxtimes	Drilling
	Production (Post Drilling)
.,``	Well Structures & Facilities
	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)

Cave and Karst

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

Cave/Karst Surface Mitigation

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

Construction:

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

No Blasting:

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

Pad Berming:

The pad will be bermed to prevent oil, salt, and other chemical contaminants from leaving the pad. The West, North, and East sides will be bermed to protect a large playa to the North.

Tank Battery Liners and Berms:

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

Leak Detection System:

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

Automatic Shut-off Systems:

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

Cave/Karst Subsurface Mitigation

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

Rotary Drilling with Fresh Water:

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

Directional Drilling:

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

Lost Circulation:

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

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

Abandonment Cementing:

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

Pressure Testing:

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

VI. CONSTRUCTION

A. NOTIFICATION

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Carlsbad Field Office at (575) 234-5972 at least 3 working days prior to commencing construction of the access road and/or well pad.

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

B. TOPSOIL

The operator shall stockpile the topsoil of the well pad. The topsoil to be stripped is approximately 4 inches in depth. The topsoil shall not be used to backfill the reserve pit and will be used for interim and final reclamation.

C. RESERVE PITS

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

If the operator elects to surface the access road and/or well pad, mineral materials extracted during construction of the reserve pit may be used for surfacing the well pad and access road and other facilities on the lease.

Payment shall be made to the BLM prior to removal of any additional federal mineral materials from any site other than the reserve pit. 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. 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 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.

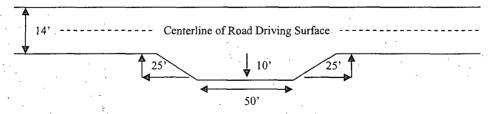
Ditching

Ditching shall be required on both sides of the road.

Turnouts

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

Standard Turnout - Plan View

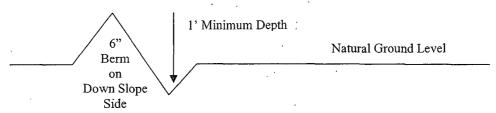


Drainage

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 a Typical Lead-off Ditch



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

Formula for Spacing Interval of Lead-off Ditches

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

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

Culvert Installations

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

Cattleguards

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

Any existing cattleguard(s) on the access road shall be repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for the condition of the existing cattleguard(s) that are in place and are utilized during lease operations.

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

Fence Requirement

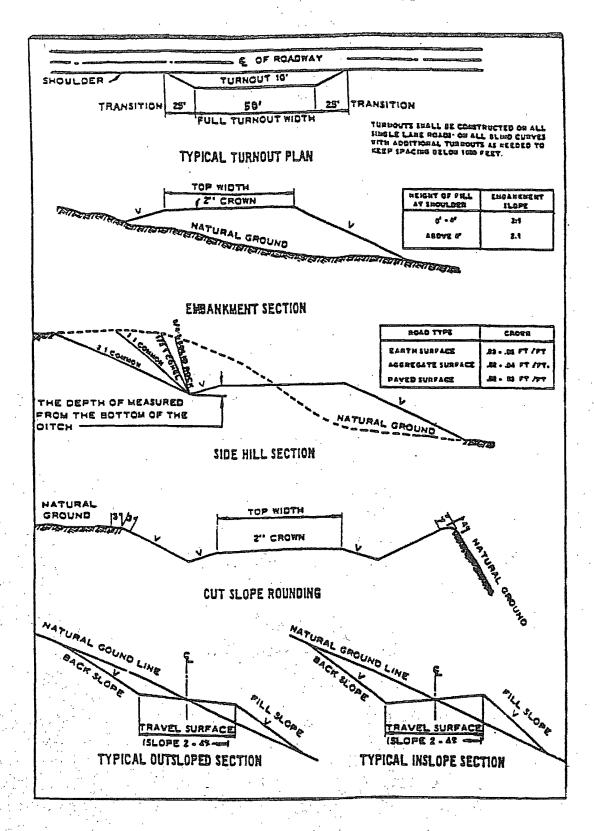
Where entry is required across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting.

The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fence(s).

Public Access

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

Figure 1 - Cross Sections and Plans For Typical Road Sections



VII. DRILLING

A. DRILLING OPERATIONS REQUIREMENTS

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

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

Eddy County

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

- 1. Although there are no measured amounts of Hydrogen Sulfide reported, it is always a potential hazard. If Hydrogen Sulfide is encountered, please provide measured values and formations to the BLM.
- 2. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.
- 3. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.

B. CASING

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

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

Wait on cement (WOC) time 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. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. See individual casing strings for details regarding lead cement slurry requirements.

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

High cave/karst.

Possible water flows in the Salado and Delaware Mountain Group. Possible lost circulation in the Delaware Mountain Group.

- 1. The 11-3/4 inch surface casing shall be set at approximately 600 feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt) and cemented to the surface.
 - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with 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 is to include the lead cement slurry.
 - c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
 - d. If cement falls back, remedial cementing will be done prior to drilling out that string.
- 2. The minimum required fill of cement behind the 8-5/8 inch intermediate casing is:
 - □ Cement to surface. If cement does not circulate see B.1.a, c-d above.
 Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst. Casing to be set in the Lamar Limestone.

If 75% or greater lost circulation occurs while drilling the intermediate casing hole, the cement on the production casing must come to surface.

Formation below the 8-5/8" shoe to be tested according to Onshore Order 2.III.B.1.i. Test to be done as a mud equivalency test using the mud weight necessary for the pore pressure of the formation below the shoe (not the mud weight required to prevent dissolving the salt formation) and the mud weight for the bottom of the hole. Report results to BLM office.

Centralizers required on horizontal leg, must be type for horizontal service and minimum of one every other joint.

- 3. The minimum required fill of cement behind the 5-1/2 inch production casing is:
 - a. First stage to DV tool, cement shall:
 - Cement to circulate. If cement does not circulate, contact the appropriate BLM office, before proceeding with second stage cement job. Additional cement may be required to circulate as excess cement calculates to less than 10%.
 - b. Second stage above DV tool, cement shall:
 - Cement should tie-back at least 500 feet into previous casing string. Operator shall provide method of verification.
- 4. 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

- All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.
- 2. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be 2000 (2M) psi.
- 3. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the 8-5/8" intermediate casing shoe shall be 5000 (5M) psi.
- 4. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
 - a. The tests shall be done by an independent service company.
 - b. The results of the test shall be reported to the appropriate BLM office.
 - c. 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.
 - d. 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. DRILL STEM TEST

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

WWI 020309

VIII. PRODUCTION (POST DRILLING)

A. WELL STRUCTURES & FACILITIES

Placement of Production Facilities

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

Containment Structures

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

Painting Requirement

All above-ground structures including meter housing that are not subject to safety requirements shall be painted a flat non-reflective paint color Shale Green, Munsell Soil Color Chart # 5Y 4/2

IX. INTERIM RECLAMATION & RESERVE PIT CLOSURE

A. 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.

The operators should work with BLM surface management specialists to devise the best strategies to reduce the size of the location. Any reductions 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 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.

Seed Mixture 3, for Shallow 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 <u>no</u> primary or secondary noxious weeds in the seed mixture. Seed will be tested and the viability testing of seed will be done in accordance with State law(s) and within nine (9) months prior to purchase. Commercial seed will be either certified or registered seed. The seed container will be tagged in accordance with State law(s) and available for inspection by the authorized officer.

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

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

Species	lb/acre
Plains Bristlegrass (Setaria magrostachya) 1.0	
Green Spangletop (Leptochloa dubia)	2.0
Side oats Grama (Bouteloua curtipendula)	5.0

^{*}Pounds of pure live seed:

Pounds of seed x percent purity x percent germination = pounds pure live seed (Insert Seed Mixture Here)

X. FINAL ABANDONMENT & REHABILITATION REQUIREMENTS

Upon abandonment of the well and/or when the access road is no longer in service the Authorized Officer shall issue instructions and/or orders for surface reclamation and restoration of all disturbed areas.

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 agreement.