OCD-ARTESIA

ATS-08-866

Form 3160-3 (February 2005) 1192

NOV -1 2008

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

OCD-ARTES IA Lease Senal No. NMNM986025

APPLICATION FOR PERMIT TO	D DRII	L OR REENTER		6 If Indian, Allotee	or Tribe	Vame	_
Ia. Type of work DRILL REEN	7 If Unit or CA Agre	ement, Na	me and No	_			
!b Type of Well Oil Well Gas Well Other		Single Zone Multip	le Zone	8 Lease Name and V Birdie Federal		232	- !}
2 Name of Operator Marbob Energy Corporation				9 API Well No.	5.2	67/00	,
3a Address P.O. Box 227, Artesia, NM 88211-0228	1	none No. (include area code) 10 Field and Pool, or Exploratory 505-748-3303 Loco Hills; Glorieta-Ye				ĺ	_
4. Location of Well (Report location clearly and in accordance with	any State	requirements *)		11 Sec, TRM or B	lk.and Sur	vey or Area	_
At surface 1650' FSL & 900' FWL At proposed prod zone				Sec. 17 T17S -	R30E		
14 Distance in miles and direction from nearest town or post office*		W		12 County or Parish		13 State	
About 1.5 miles from Loco Hills, NM 15 Distance from proposed*	16	No. of acres in lease	17 Spacing	Eddy County g Unit dedicated to this v	well	NM	_
location to nearest property or lease line, ft (Also to nearest drig unit line, if any) 330'	28		40	I/BIA Bond No. on file B000412 23 Esturnated duration 15 Days			
18 Distance from proposed location*	19	Proposed Depth .	20 BLM/B			·	_
to nearest well, drilling, completed, applied for, on this lease, ft	59	930'	NMB(,
21 Elevations (Show whether DF, KDB, RT, GL, etc.) 3649' GL	22	Approximate date work will star 08/17/2008	t*				
	24.	Attachments					_
The following, completed in accordance with the requirements of Ons	hore Oıl	and Gas Order No 1, must be at	tached to the	s form			_
 Well plat certified by a registered surveyor A Drilling Plan 		4 Bond to cover the Item 20 above)	ne operation	ns unless covered by an	existing b	ond on file (se	æ
3 A Surface Use Plan (if the location is on National Forest Syste SUPO must be filed with the appropriate Forest Service Office)	m Lands			ormation and/or plans as	s may be re	equired by the	
25 Signature Dancy T. Agnew		Name (Printed Typed) Nancy T. Agnew			Date 07 /1	7/2008	
Title Land Department							
Approved by (Signature) /s/ James Stovall		Name (Printed Typed)	nes St	tovall	Date 0	CT 29	200
Title FIELD MANAGER		Office CARLSBAI					
Application approval does not warrant or certify that the applicant he conduct operations thereon. Conditions of approval, if any, are attached	olds lega	lor equitable title to those righ	•	PROVAL FOR		1	-
Title 18 USC Section 1001 and Title 43 USC Section 1212, make it a States any false, fictitious or fraudulent statements or representations	crime f as to any	or any person knowingly and v	villfully to m	nake to any department of	or agency	of the United	=
*(Instructions on page 2)							=

Roswell Controlled Water Basin

SEE ATTACHED FOR CONDITIONS OF APPROVAL

Approval Subject to General Requirements & Special Stipulations Attached

DISTRICT I

1625 N. FRENCH DR, HOBBS, NM 88240

State of New Mexico

Energy, Minerals and Natural Resources Department

DISTRICT II

DISTRICT IV

1301 W GRAND AVENUE, ARTESIA, NM 88210

OIL CONSERVATION DIVISION

Form C-102 Revised October 12, 2005 Submit to Appropriate District Office State EDDYse - 4 Copies Fee EDDYse - 3 Copies

DISTRICT III

1000 RIO BRAZOS RD, AZTEC, NM 87410

1220 SOUTH ST. FRANCIS DR. Santa Fe, New Mexico 87505

WELL LOCATION AND ACREAGE DEDICATION PLAT ☐ AMENDED REPORT 1220 S ST. FRANCIS DR., SANTA FE, NM 87505 Pool Code Pool Name API Number 30.015.36760 96718 LOCO HILLS; GLORIETA-YESO Well Number Property Name BIRDIE FEDERAL 15 Operator Name Elevation OGRID No. MARBOB ENERGY CORPORATION 3649 14049

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
L	17	17-S	30-E		1650	SOUTH	900	WEST	EDDY
			Bottom	Hole Loc	ation If Diffe	rent From Sur	face		
III or lot No	Section	Township	Renge	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County

OL OI TOURO.	becaon	томпашр	Lienze	200	1000 110111 0110	more of the	Tect from the	2000/ "	 	
						!				
Dedicated Acres	Joint or	Infill Co	onsolidation C	ode Ore	der No.					
				1						
40										

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 herein is true and complete to the best of my knowledge and belief, and that this organisation either owns, a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.
	GEODETIC COORDINATES	Nancy T. Agnew Printed Name
\-\-\-\-\-\-\-\-\-\-\-\-\-\-\-\-\-\-\-	NAD 27 NME Y=666448.5 N X=602599 6 E LAT.=32.831707* N LONG.=103.999312* W	SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.
3646.5' 3653.3' 600' 900' 3648.7 3655.3'		Date Surveyed. Date Surveyed. Signature & Seal of Professional Surveyor OMA 10805 Certificate No. GARY G. KIDSON 12641 RONALD J. KIDSON 3239

OCD-ARTESIA

Form:3160-5 (August 2007)

entitle the applicant to conduct operations thereon.

(Instructions on page 2)

fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT

SUNDRY NOTICES AND REPORTS ON WELLS Do not use this form for proposals to drill or to re-enter an

FORM APPROVED OMB No. 1004-0137 Expires. July 31, 2010

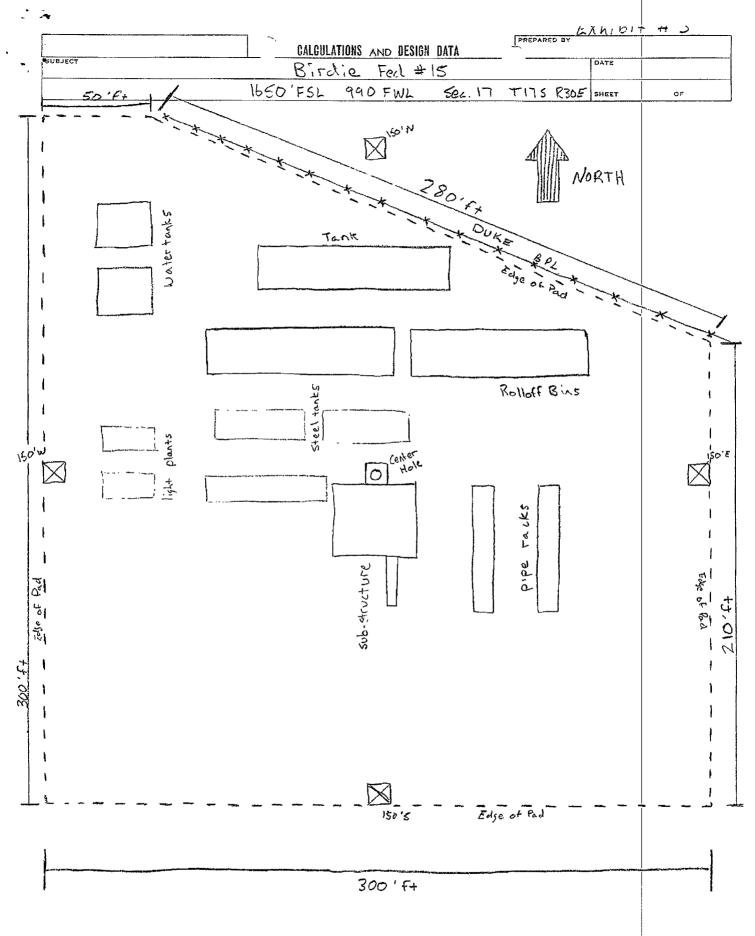
5. Lease Serial No.

CARLSBAD FIELD OFFICE

See Attached NMNM 86025
6. If Indian, Allottee or Tribe Name

abandoned well. (abandoned well. Use Form 3160-3 (APD) for such proposals.						
SUBMIT IN TRIPLICATE – Other instructions on page 2.				7. If Unit of CA/Agreen	ment, Name and/or	No.	
1. Type of Well ☑ Oil Well ☐ Gas W	ell Other			8. Well Name and No.	ral #15		
2. Name of Operator Marbob Energy Corp.				9. API Well No. 30	1	674	00
3a. Address P.O Box 227 Artesia, NM 88210 3b. Phone No. (include area code) 575 748-3303				10. Field and Pool or E	xploratory Area		<u> </u>
4. Location of Well (Footage, Sec., T.,1 See Attached 1650 FSL & GOO'F	R.,M., or Survey Description) $-WL_1 T 175-F$	\^ ~	2c - 17	11. Country or Parish, S Eddy (1	State Wn+U, T	ŹΩ,	
12. CHEC	K THE APPROPRIATE BO	X(ES) TO INDICATE	NATURE OF NOTIC	E, REPORT OR OTHE	ER DATA		
TYPE OF SUBMISSION			TYPE OF ACT	ION			
Notice of Intent	Acidize Alter Casing	Deepen Fracture Treat		uction (Start/Resume) amation	Water Shut	ty	
Subsequent Report	Casing Repair	New Construc	=	mplete	Other Cha		H Pad
Final Abandonment Notice	Change Plans Convert to Injection	Plug and Aba Plug Back	,	orarily Abandon r Disposal			
the proposal is to deepen directions Attach the Bond under which the w following completion of the involv testing has been completed. Final determined that the site is ready for Attached are the new well pad layou existing Application to Drill Permits.	vork will be performed or pro- ed operations. If the operation Abandonment Notices must be refinal inspection.) uts. The new pad layouts were	vide the Bond No. on for results in a multiple of the filed only after all red will reduce our impac	ile with BLM/BIA. R completion or recomp quirements, including	dequired subsequent rep letion in a new interval, reclamation, have been	orts must be filed was a Form 3160-4 mu completed and the	vithin 30 ist be file operator	days ed once has
14. I hereby certify that the foregoing is t	rue and correct. Name (Printe	d/Typed)					
William Mi	llec	Title	Landma				
Signature		Date	July 2	9,2008			
	THIS SPACE	FOR FEDERAL	OR STATE OF	FICE USE			
Approved by /s	/ James Stovall		Title FIELD MA	ANAGER	OCT Date	29	2008
Conditions of approval, if any, are attache that the applicant holds legal or equitable		s not warrant or certify		AD EIEI D OFFICE			•

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false,



V-DOOR EAST

STATEMENT ACCEPTING RESPONSIBILITY FOR OPERATIONS

The undersigned accepts all applicable terms, conditions, stipulations, and restrictions concerning operations conducted on the leased land or portion thereof, as described below:

Date:

July 17, 2008 4

Lease #:

Pirdio Fodoral #15

Legal Description:

Sec. 17-T17S-R30E

Eddy County, New Mexico

Formation(s): Permian

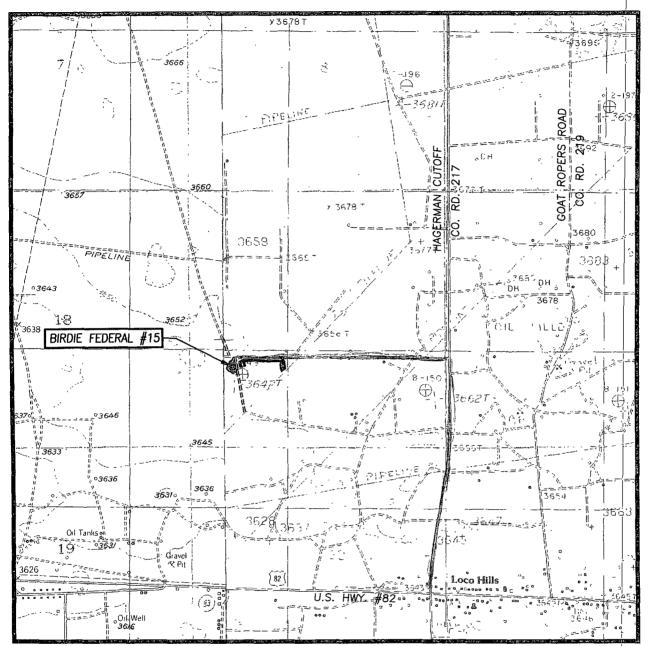
Bond Coverage: Statewide

BLM Bond File #: NMB000412

Naney Agnew

Land Department

LOCATION VERIFICATION MAP





SCALE: 1" = 2000'

SEC. 17 TWP. 17-S RGE. 30-E

SURVEY N.M.P.M.

COUNTY EDDY STATE NEW MEXICO

DESCRIPTION 1650' FSL & 900' FWL

ELEVATION_ 3649'

MARBOB OPERATING, INC. OPERATOR

BIRDIE FEDERAL EDDYSE

U.S.G.S. TOPOGRAPHIC MAP

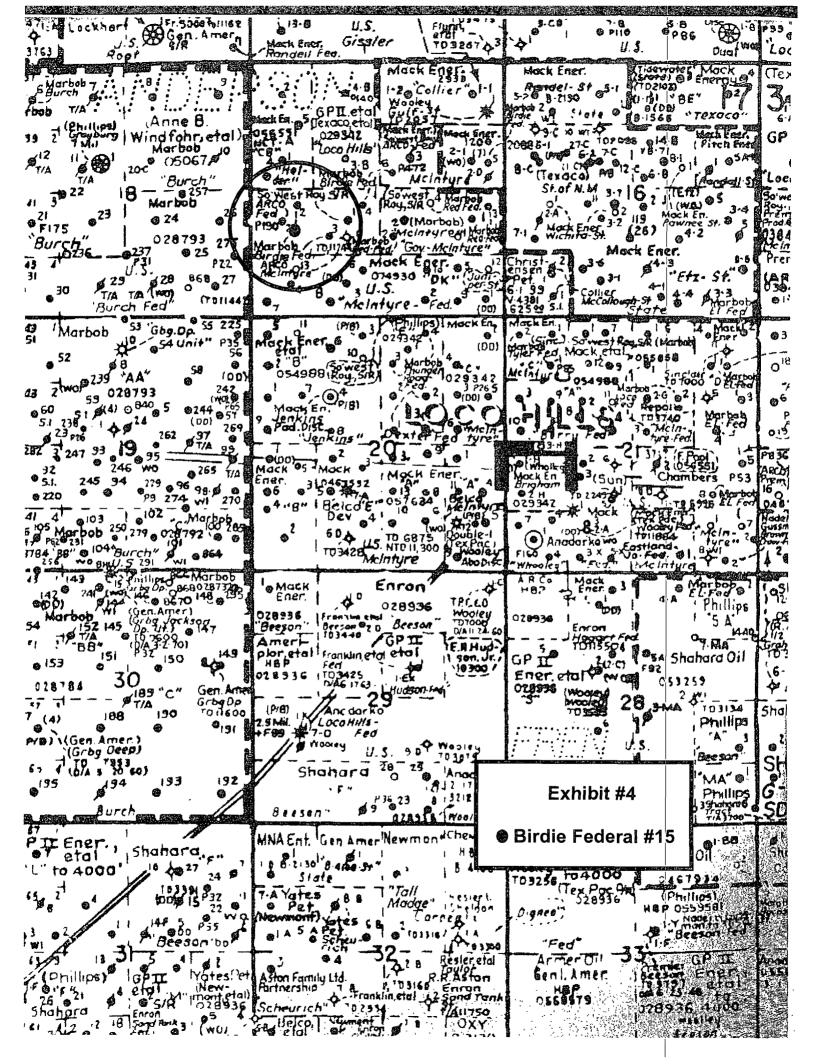
LOCO HILLS, N.M.

CONTOUR INTERVAL: LOCO HILLS, N.M. - 10' RED LAKE SE, N.M. - 10'

Existing Roads -Proposed Flowline



PROVIDING SURVEYING SERVICES SINCE 1946 JOHN WEST SURVEYING COMPANY 412 N. DAL PASO HOBBS, N.M. 88240 (505) 393-3117



MARBOB ENERGY CORPORATION DRILLING AND OPERATIONS PROGRAM

Birdie Federal #15 1650' FSL & 900' FWL, Section 17, T17S, R30E Eddy County, New Mexico

In conjunction with Form 3160-3, Application for Permit to Drill subject well, Marbob Energy Corporation submits the following ten items of pertinent information in accordance with BLM requirements.

- 1. Geological surface formation: Permian
- 2. The estimated tops of geologic markers are as follows:

Rustler	365′	San Andres	2708′
Top Salt	490'	Glorieta	4130′
Bottom Salt	946'	Tubb	5780'
Yates	1140'	TD	5930'
Queen	2009'		

3. The estimated depths at which anticipated water, oil or gas formations are expected to be encountered:

Yates	1140′	Oil
Queen	2009'	Oil
San Andres	2708'	Oil
Glorieta	4130'	Oil
4000		

No other formations are expected to give up oil, gas, or fresh water in measurable quantities. The surface fresh water sands will be protected by setting 8 5/8" casing at 400' and circulating cement back to surface. All intervals will be isolated by setting 5 1/2" casing to total depth and circulating cement above the base of the 8 5/8" casing.

4. Proposed Casing Program:

Hole	Interval	OD	New	Wt	Collar	Grade	Collapse	Burst	Tension
Size		Casing	or				Design	Design	Design
			Used				Factor	Factor	Factor
12 1/4"	0' - 400'	8 5/8"	New	24#	STC	J-55	1.125	1.125	1.6
7 7/8"	400'- 5930'	5 1/2"	New	17#	LTC	J-55	1.125	1.125	1.6

5. Proposed Cement Program:

b. 8 5/8" Surf

Cement to surface with 300 sk "C" wt 14.8 ppg yield 1.34.

c. 5 1/2" Prod

Cement to surface with 550 sk "H" Lite wt 12.6 yield 1.93

Tail in with 300 sk "H" yield 1.67 wt 13.0 ppg

The above cement volumes could be revised pending the caliper measurement from the open hole logs. The top of cement is designed to reach approximately 200' above the 8 .5/8" casing shoe. If cement does not circulate on surface casing and TOC is less than 100' then ready mix will be used to bring cement to surface. If cement top is more than 100' from surface 1" pipe will be run to TOC and cement pumped to surface. No temperature survey or bond log will be required. All casing is new and API approved.

20A

6. Minimum Specifications for Pressure Control:

Nipple up on 8 5/8" casing with a 2M system and test to 1000# with rig pumps.

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. A 2"kill line and a 3" choke line will be included in the drilling spool located below the ram-type BOP. Other accessories to the BOP equipment will include a Kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold with 2000 psi WP rating.

7. Estimated BHP: 2466.88 psi

8. Mud Program: The applicable depths and properties of this system are as follows:

		Mud	Viscosity	Waterloss
Depth	Type System	Weight	(sec)	(cc)
0' - 400'	Fresh Water	8.4	29	N.C.
400′ – 5930′	Brine	9.9 - 10.0	29	N.C.

The necessary mud products for weight addition and fluid loss control will be on location at all times.

9. Auxiliary Well Control and Monitoring Equipment:

- a. A Kelly cock will be in the drill string at all times.
- b. A full opening drill pipe stabbing valve having the appropriate connections will be on the rig floor at all times.
- c. Hydrogen Sulfide detection equipment will be in operation after drilling out the 8 5/8" casing shoe until the 5 ½" casing is cemented. Breathing equipment will be on location upon drilling the 8 5/8" shoe until total depth is reached.

10. Testing, Logging and Coring Program:

- a. Drill stem tests will be based on geological sample shows.
- b. The open hole electrical logging program will be:
 - i. Total Depth to Intermediate Casing: Dual Laterolog-Micro Laterolog and Gamma Ray. Compensated Neutron Z Density log with Gamma Ray and Caliper.
 - ii. Total Depth to Surface: Compensated Neutron with Gamma Ray
 - iii. No coring program is planned
 - iv. Additional testing will be initiated subsequent to setting the 5 ½" production casing. Specific intervals will be targeted based on log evaluation, geological sample shows and drill stem tests.

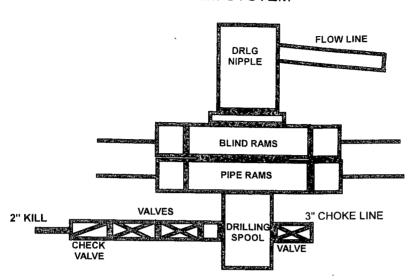
11. Potential Hazards:

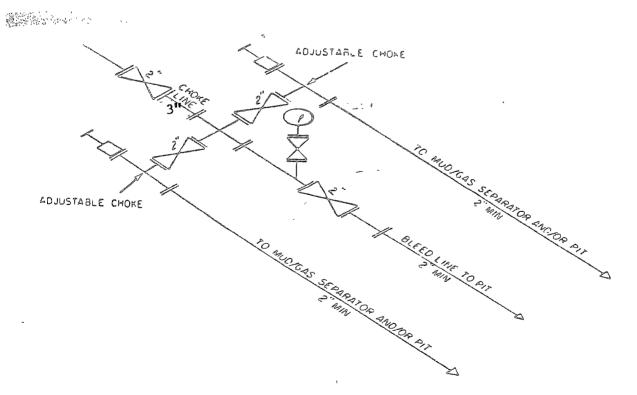
a. No abnormal pressures or temperatures are expected. There is no known presence of H2S in this area. If H2S is encountered the operator will comply with the provisions of Onshore Oil and Gas Order No. 6. No lost circulation is expected to occur. All personnel will be familiar with all aspects of safe operation of equipment being used to drill this well. Estimated BHP: 2466.88 psi. Estimated BHT: 120°. No H2S is anticipated to be encountered.

12. Anticipated starting date and Duration of Operations:

a. Road and location construction will begin after the BLM has approved the APD. Anticipated spud date will be as possible after BLM approval and as soon as a rig will be available. Move in operations and drilling is expected to take 15 days.

2M SYSTEM





2M CHOKE MANIFOLD EQUIPMENT — CONFIGURATION OF . CHOKES

MAY VARY

MARBOB ENERGY CORPORATION

HYDROGEN SULFIDE DRILLING OPERATIONS PLAN

I. HYDROGEN SULFIDE TRAINING

All personnel, whether regularly assigned, contracted, or employed on an unscheduled basis, will receive training from a qualified instructor in the following areas prior to commencing drilling operations on this well:

- A. The hazards and characteristics of hydrogen sulfide (H_2S) .
- B. The proper use and maintenance of personal protective equipment and life support systems.
- C. The proper use of H₂S detectors, alarms, warning systems, briefing areas, evacuation procedures, and prevailing winds.
- D. The proper techniques for first aid and rescue procedures.

In addition, supervisory personnel will be trained in the following areas:

- A. The effects of H₂S on metal components. If high tensile tubulars are to be used, personnel will be trained in their special maintenance requirements.
- B. Corrective action and shut-in procedures when drilling or reworking a well and blowout prevention and well control procedures.
- C. The contents and requirements of the H₂S Drilling Operations Plan and the Public Protection Plan.

There will be an initial training session just prior to encountering a known or probable H₂S zone (within 3 days or 500 feet) and weekly H₂S and well control drills for all personnel in each crew. The initial training session shall include a review of the site specific H₂S Drilling Operations Plan and the Public Protection Plan. This plan shall be available at the well site. All personnel will be required to carry documentation that they have received the proper training.

II. H2S SAFETY EQUIPMENT AND SYSTEMS

Note: All H₂S safety equipment and systems will be installed, tested, and operational when drilling reaches a depth of 500 feet above, or three days prior to penetrating the first zone containing or reasonably expected to contain H₂S.

A. Well Control Equipment:

Flare line.

Choke manifold.

Blind rams and pipe rams to accommodate all pipe sizes with properly sized closing unit.

Auxiliary equipment to include: annular preventer, mud-gas separator, rotating head.

B. Protective equipment for essential personnel:

Mark II Surviveair 30-minute units located in the dog house and at briefing areas.

C. H₂S detection and monitoring equipment:

2 - portable H₂S monitor positioned on location for best coverage and response. These units have warning lights and audible sirens when H₂S levels of 20 ppm are reached.

D. Visual warning systems:

Caution/Danger signs shall be posted on roads providing direct access to location. Signs will be painted a high visibility yellow with black lettering of sufficient size to be readable at a reasonable distance from the immediate location. Bilingual signs will be used, when appropriate. See example attached.

E. Mud Program:

The mud program has been designed to minimize the volume of H_2S circulated to the surface.

F. Metallurgy:

All drill strings, casings, tubing, wellhead, blowout preventers, drilling spool, kill lines, choke manifold and lines, and valves shall be suitable for H₂S service.

G. Communication:

Company vehicles equipped with cellular telephone and 2-way radio.

WARNING

YOU ARE ENTERING AN H₂S AREA AUTHORIZED PERSONNEL ONLY

- 1. BEARDS OR CONTACT LENSES NOT ALLOWED
- 2. HARD HATS REQUIRED
- 3. SMOKING IN DESIGNATED AREAS ONLY
- 4. BE WIND CONSCIOUS AT ALL TIMES
- 5. CK WITH MARBOB FOREMAN AT MAIN OFFICE

MARBOB ENERGY CORPORATION

1-505-748-3303

EMERGENCY CALL LIST

	<u>Office</u>	<u>Mobile</u>	<u>Home</u>
Marbob Energy Corp.	505-748-3303		
Sheryi Baker	505-748-3303	505-748-5489	505-748-2396
Johnny C. Gray	505-748-3303	505-748-5983	505-885-3879
Raye Miller	505-748-3303	505-513-0176	505-746-9577
Dean Chumbley	505-748-3303	505-748-5988	505-748-2426

EMERGENCY RESPONSE NUMBERS Eddy County, New Mexico

State Police	505-748-9718
Eddy County Sheriff	505-746-2701
Emergency Medical Services (Ambulance)	911 or 505-746-2701
Eddy County Emergency Management (Harry Burgess)	505-887-9511
State Emergency Response Center (SERC)	505-476-9620
Carlsbad Police Department	505-885-2111
Carlsbad Fire Department	505-885-3125
New Mexico Oil Conservation Division	505-748-1283
Indian Fire & Safety	800-530-8693
Halliburton Services	800-844-8451

MARBOB ENERGY CORPORATION MULTI-POINT SURFACE USE AND OPERATIONS PLAN

Birdie Federal #15 1650' FSL & 900' FWL, Section 17, T17S, R30E Eddy County, New Mexico

This plan is submitted with Form 3160-3, Application for Permit to Drill, covering the above described well. The purpose of this plan is to describe the location of the proposed well, the proposed construction activities and operations plan, the magnitude of the surface disturbance involved and the procedures to be followed in rehabilitating the surface after completion of the operations, so that a complete appraisal can be made of the environmental effect associated with the operations.

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 John West Surveying Company.
- b. Exhibit 2 is a portion of a topo map showing the well and roads in the vicinity of the proposed location. The proposed wellsite and the access route to the location are indicated in red on Exhibit 2.
- c. Routine grading and maintenance of existing roads will be conducted as necessary to maintain their condition as long as any operations continue on this lease.

DIRECTIONS:

From the intersection of U.S. Highway #82 and Co. Rd. #217 (Hagerman Cutoff), Go north on Co. Rd. #217 approx. 1.0 mile. Turn left and go west approx. 0.8 miles. This location is approx. 245 feet south.

2. PLANNED ACCESS ROAD:

There is an existing road and no new construction will be needed.

3. LOCATION OF EXISTING AND/OR PROPOSED FACILITIES:

- A. In the event the well is found productive, the Birdie Federal #3 tank battery would be utilized and the necessary production equipment will be installed at the well site. A Site Facilities Diagram will be submitted upon completion of facility.
- B. All flowlines will adhere to API standards
- C. If electricity is needed, power will be obtained from Central Valley Electric. Central Valley Electric will apply for ROW for their power lines.
- D. If the well is productive, rehabilitation plans are as follows:
 - i. The original topsoil from the well site will be returned to the location. The drill site will then be contoured as close as possible to the original state.

4. LOCATION AND TYPES 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 the existing and proposed roads shown in Exhibit #2. On occasion, water will be obtained form a pre-existing water well, running a pump directly to the drill rig. In these cases where a poly pipeline is used to transport water for drilling purposes, the existing and proposed road shown in Exhibit "2" will be utilized.

5. 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 6" rolled and compacted caliche. Will use BLM recommended use of extra caliche from other locations close by for roads, if available.

6. METHODS OF HANDLING WASTE MATERIAL:

- a. All trash, junk and other waste material will be removed from the wellsite within 30 days after finishing drilling and/or completion operations. All waste material will be contained in trash cages or trash bins to prevent scattering. When the job is completed, all contents will be removed and disposed of in an approved sanitary landfill.
- b. The supplier, including broken sacks, will pick up slats remaining after completion of well.
- c. A porto-john will be provided for the rig crews. This equipment will be properly maintained during the drilling and completion operations and will be removed when all operations are complete.
- d. Disposal of fluids to be transported by an approved disposal company.

7. ANCILLARY FACILITIES:

No campsite or other facilities will be constructed as a result of this well.

8. WELLSITE LAYOUT:

- a. Exhibit 3 shows the proposed well site layout with dimensions of the pad layout.
- b. This exhibit indicates proposed location of reserve and sump pits if utilized and living facilities.
- c. Mud pits in the active circulating system will be steel pits and a closed loop system will be utilized.

9. PLANS FOR SURFACE RECLAMATION:

- a. After finishing drilling and/or completion operations, if the well is found non-commercial, the caliche will be removed from the pad and transported to the original caliche pit or used for other drilling locations. The road will be reclaimed as directed by the BLM. The original top soil will again be returned to the pad and contoured, as close as possible, to the original state.
- b. The location and road will be rehabilitated as recommended by the BLM.
- c. If the well is deemed commercially productive, the reserve pit will be restored as described in 10(A) within 120 days subsequent to the completion date. Caliche from areas of the pad site not required for operations will be reclaimed. The original top soil will be returned to the area of the drill pad not necessary to operate the well. These unused areas of the drill pad will be contoured, as close as possible, to match the original topography.

10. SURFACE OWNERSHIP:

The surface is owned by the US Government and is administered by the Bureau of Land Management. 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 the surface location will be restored as directed by the BLM.

11.OTHER INFORMATION:

- a. The area surrounding the well site is grassland. The topsoil is very sandy in nature. The vegetation is moderately sparse with native prairie grass, some mesquite bushes and shinnery oak. No wildlife was observed but it is likely that deer, rabbits, coyotes, and rodents traverse the area.
- b. There is no permanent or live water in the general proximity of the location.
- c. There are no dwellings within 2 miles of location.
- d. A Cultural Resources Examination will be completed by Boone Archeological and forwarded to the BLM office in Carlsbad, New Mexico.

12.OPERATOR'S REPRESENTATIVE:

A. Through A.P.D. Approval:

B. Through Drilling Operations

Dean Chumbley, Landman Marbob Energy Corporation P. O. Box 227 Artesia, NM 88211-0227 Phone (505)748-3303 Cell (505) 748-5988 Sheryl Baker, Drilling Supervisor Marbob Energy Corporation P. O. Box 227 Artesia, NM 88211-0227 Phone (505)748-3303 Cell (505)748-5489

CERTIFICATION:

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drillsite and access route, that I am familiar with the conditions which presently exist; that the statements made in this plan are to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed by Marbob Energy Corporation and its contractors and subcontractors in conformity with this plan and the terms and conditions under which it is approved. This statement is subject to the provisions of 18 U.S.C. 1001 for the filing of a false statement.

Marbob Energy Corporation

Date [/]

William Miller

Land Department

PECOS DISTRICT CONDITIONS OF APPROVAL

OPERATOR'S NAME:
LEASE NO.:
WELL NAME & NO.:
SURFACE HOLE FOOTAGE:
BOTTOM HOLE FOOTAGE
LOCATION:
COUNTY:
Marbob Energy
NMNM86025
Birdie Federal No 15
1650' FSL & 900' FWL
Section 17, T. 17 S., R 30 E., NMPM
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
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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.

VI. CONSTRUCTION

AVOID PIPELINE TO THE SOUTHEAST

A. NOTIFICATION

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Carlsbad Field Office at (505) 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 6 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 (505) 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.

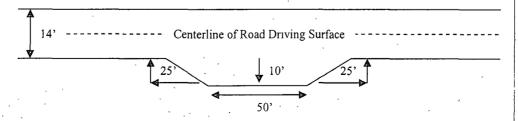
Ditching

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

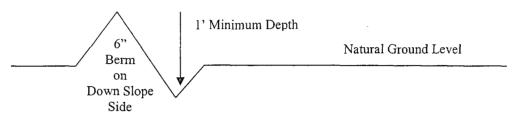


Drainage

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

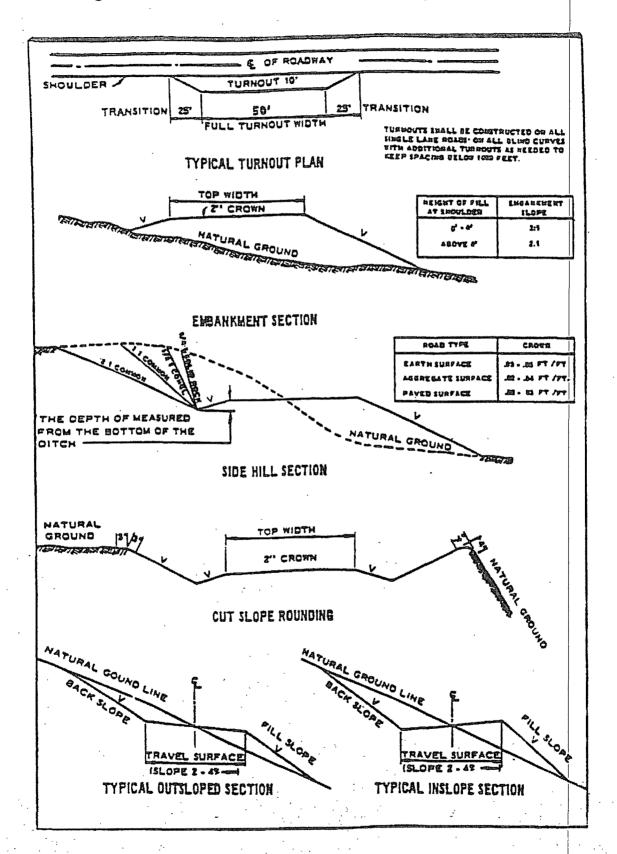
Where entry is required across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting.

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. A Hydrogen Sulfide (H2S) Drilling Plan should be activated 500 feet prior to drilling into the Seven Rivers formation. H2S has been reported in sections 17, 20 and 21 from the Fren Seven Rivers and Grayburg Jackson pool measuring 1600-10000 ppm in gas streams and 20-4000 ppm in STVs. If Hydrogen Sulfide is encountered, please report measurements 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.

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.

Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string.

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 compression strength, whichever is greater. (This is to include the lead cement).

WOC for water basin or potash applies to entire wellbore.

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

Possible lost circulation in the Grayburg and San Andres formations. Possible water flows in the Salado and Artesia Groups.

- 1. The 8-5/8 inch surface casing shall be set at approximately 400 feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt) and cemented to the surface.
 - a. For the surface casing: If cement does not circulate to the surface, the appropriate BLM office shall be notified and a tag with 1" will be performed at four positions 90 degrees apart to verify cement depth. BLM Petroleum Engineer Technician to witness tags. If depth is greater than 100' or water is standing in the annulus, remedial cementing will be done. If no water and TOC tag is less than 100', when 100% excess cement of the annulus volume was run on the primary job, ready-mix can be used to bring cement to surface.
 - b. 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.
 - 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 5-1/2 inch production casing is:
 - Cement to surface. If cement does not circulate, contact the appropriate BLM office.
- 3. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

C. PRESSURE CONTROL

- 1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.
- 2. 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.
- e. No variance granted on BOP/BOPE test when running only two casing strings.

D. DRILL STEM TEST

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

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VIII. PRODUCTION (POST DRILLING)

A. WELL STRUCTURES & FACILITIES

Placement of Production Facilities

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

Containment Structures

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

Painting Requirement

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

B. PIPELINES

STANDARD STIPULATIONS FOR SURFACE INSTALLED PIPELINES

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

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

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

- 3. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et seq. or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, et seq.) on the Right-of-Way (unless the release or threatened release is wholly unrelated to activity of the Right-of-Way holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way holder on the Right-of-Way. This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.
- 4. The holder shall be liable for damage or injury to the United States to the extent provided by 43 CFR Sec. 2883.1-4. The holder shall be held to a standard of strict liability for damage or injury to the United States resulting from pipe rupture, fire, or spills caused or substantially aggravated by any of the following within the right-of-way or permit area:
- a. Activities of the holder including, but not limited to construction, operation, maintenance, and termination of the facility.
- b. Activities of other parties including, but not limited to:
 - (1) Land clearing.
 - (2) Earth-disturbing and earth-moving work.
 - (3) Blasting.
 - (4) Vandalism and sabotage.
- c. Acts of God.

The maximum limitation for such strict liability damages shall not exceed one million dollars (\$1,000,000) for any one event, and any liability in excess of such amount shall be determined by the ordinary rules of negligence of the jurisdiction in which the damage or injury occurred.

This section shall not impose strict liability for damage or injury resulting primarily from an act of war or from the negligent acts or omissions of the United States.

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

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of any responsibility as provided herein.	
6. All construction and maintenance activity will be confined to the authorized right-way width of feet.	of-
7. No blading or clearing of any vegetation will be allowed unless approved in writing by the Authorized Officer.	ng
8. The holder shall install the pipeline on the surface in such a manner that will mini suspension of the pipeline across low areas in the terrain. In hummocky of duney are the pipeline will be "snaked" around hummocks and dunes rather then suspended acrothese features.	as,
9. The pipeline shall be buried with a minimum of inches under all ro "two-tracks," and trails. Burial of the pipe will continue for 20 feet on each side of ecrossing. The condition of the road, upon completion of construction, shall be return at least its former state with no bumps or dips remaining in the road surface.	ach
10. The holder shall minimize disturbance to existing fences and other improvement public lands. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. holder will contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting of the fence. No permanent gates will be allowed unless approved by the Authorized Officer.	The
11. In those areas where erosion control structures are required to stabilize soil conditions, the holder will install such structures as are suitable for the specific soil conditions being encountered and which are in accordance with sound resource management practices.	
12. Excluding the pipe, all above-ground structures not subject to safety requirement shall be painted by the holder to blend with the natural color of the landscape. The paused shall be a color which simulates "Standard Environmental Colors" – Shale Gree Munsell Soil Color No. 5Y 4/2; designated by the Rocky Mountain Five State Interagency Committee.	aint
13. The pipeline will be identified by signs at the point of origin and completion of the right-of-way and at all road crossings. At a minimum, signs will state the holder's natural BLM serial number, and the product being transported. Signs will be maintained in a legible condition for the life of the pipeline.	me,
14. The holder shall not use the pipeline route as a road for purposes other than routing maintenance as determined necessary by the Authorized Officer in consultation with holder. The holder will take whatever steps are necessary to ensure that the pipeline route is not used as a roadway.	

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

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 1, for Loamy Sites

The holder shall seed all disturbed areas with the seed mixture listed below. The seed mixture shall be planted in the amounts specified in pounds of pure live seed (PLS)* per acre. There shall be <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 bye the authorized officer.

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

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

Species	<u>lb/acre</u>
Plains lovegrass (Eragrostis intermedia)	0.5
Sand dropseed (Sporobolus cryptandrus)	1.0
Sideoats grama (Bouteloua curtipendula)	5.0

^{*}Pounds of pure live seed:

Pounds of seed x percent purity x percent gemination = 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.