NM OIL CONSERVATION

ARTESIA DISTRICT NMOCD FEB 1 442015

Form 3160-3 (March 2012)

UNITED STATES
DEPARTMENT OF THE INTERIOR

RECEIVED

FORM APPROVED OMB No. 1004-0137 Expires October 31, 2014

5. Lease Serial No.

DECLARED WATER BASIN		- OD #	MARGICID 2/18/L	5
(Continued on page 2) product.		ACCO	led for record IMOICD 2/18/1	(Instructions on page 2)
Title 18 U.S.C. Section 1001 and Title 4' Must be in compliand states any false, fictitious or fraudulent state and Eule 5.9 prior to trans		and willfully to ma	ke to any department or	agency of the United
conduct operations thereon. Conditions of approval, if any, are attached.				• •
Assistant Field Manager, Application approval does hoि अविताल के क्यों प्रतिकृति कि	al or equitable title to those			
Title	Office	Roswell Field Off		APPROVED FOR 2 YEAR
Approved by (Signature) /S/ Al Collar	Name (Printed/Type	Al Co	llar	Date FEB 1 3 2015
Production Clerk	—			
Title Co. Siebeld	Jerry W. Sherre	11		8-23-2014
25. Signature Jeny W. Sherrell	Name (Printed/Typed			Date 8-25-2014
A Drilling Plan. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office).	5. Operator 6. Such oth BLM.		nation and/or plans as ma	y be required by the
Well plat certified by a registered surveyor.	4. Bond to	cover the operations t	inless covered by an exis	ting boncl on rile (see
The following, completed in accordance with the requirements of Onshore				
3736.3	24. Attachments	ROSW	ELL CONTROLLED W	ATER BASIN
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3758.5'	22. Approximate date work 11/1/2014	WIII Start*	23. Estimated duration 7 days	
to nearest well, drilling, completed, applied for, on this lease, ft. 1320'	3500'	NMB00		
18. Distance from proposed location*	19. Proposed Depth		BIA Bond No. on file	1
location to nearest property or lease line, ft. (Also to nearest drlg. unit line, if any) 330'	240	40	ig offic dedicated to this	
12 miles northwest of Loco Hills, NM 15 Distance from proposed*	16. No. of acres in lease	17 Specie	Chaves Ig Unit dedicated to this	NM
14. Distance in miles and direction from nearest town or post office*		,	12. County or Parish	13. State
At proposed prod. zone 2310 FNL & 1650 FWL			Sec. 20 T15S R2	9E.
At surface 2310 FNL & 1650 FWL			• ,	
4. Location of Well (Report location clearly and in accordance with any S	<u>` </u>			Blk, and Survey or Area
34.71257055	(575)748-1288	oucy	Round Tank; Sai	' '
Mack Energy Corporation 3a. Address	3b. Phone No. (include area a	ndel	30 - ∞5 -	
2. Name of Operator			9. API Well No.	
lb. Type of Well: Oil Well Gas Well Other	Single Zone	Multiple Zone	8. Lease Name and Waterloo Federa	Well No. 1 #4 <314 204>
a. Type of work: DRILL REENTER			7. II Ullit Of CA Agi	eement, Narne and No.
ATTEIOATION TON TENIM TO E	THE ON RELIVE		7 1011 1: 01 1	
APPLICATION FOR PERMIT TO D	6. If Indian, Allotee or Tribe Name			
BUREAU OF LAND MAN	NMNM-121950			

CLANGENT BEHIND THE 185"
CASING MUST BE CIRCULATED

APPROVAL SUBJECT TO GENERAL REQUIREMENTS AND SPECIAL STIPULATIONS ATTACHED

WITNESS

Form C-102

Energy, Minerals & Natural Resources Department 1 7 2015

State of New Mexico

Revised August 1, 2011 Submit one copy to appropriate

OIL CONSERVATION DIVISION

District Office

1220 South St. Francis Dr.

RECEIVED

Santa Fe, NM 87505 1220 S. St. Francis Dr., Santa Fe, NM 37505 Phone: (505) 476-3460 Fax: (505) 476-3462

1625 N. French Dr., Hobbs, NM 88240 Phone: (575) 393-6161 Fax: (575) 393-0720

Phone: (575) 748-1283 Fax: (575) 748-9720

1000 Rio Brazos Road, Aztec, NM 37410

Phone: (505) 334-6178 Fax: (505) 334-6170

\$11 S. First St., Artesia, NM 38210

District II

District III

District IV

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

30-005-64228	² Pool Code 52770	Round Tank; San An	dres
314204	•	erty Name OO FEDERAL	⁶ Well Number 4
OGRID No.	8 Operator Name		
13837	MACK ENERGY CORPORATION		
		т ,'	

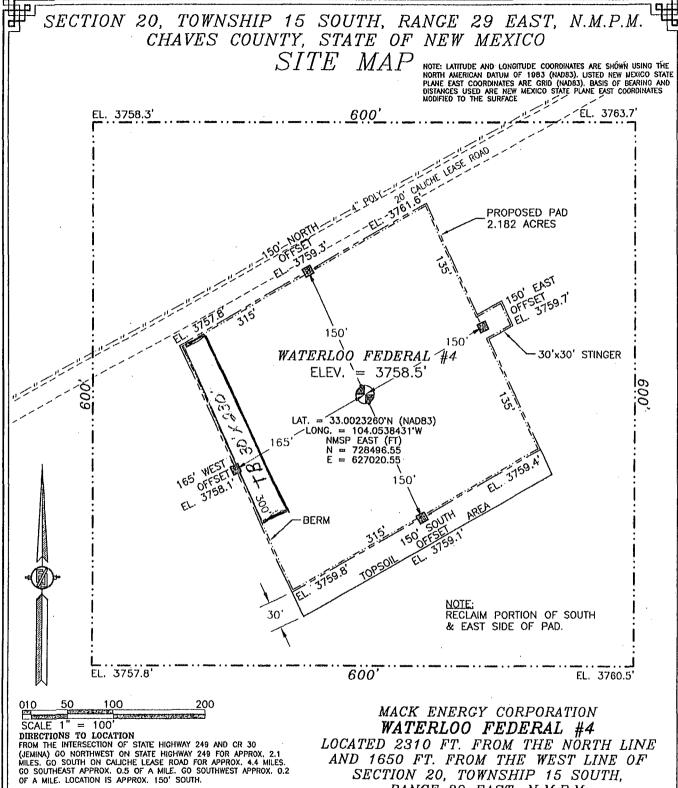
Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
F	20	15 S	29 E		2310	NORTH	1650	WEST	CHAVES
" Bottom Hole Location If Different From Surface									
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
ĺ									

12 Dedicated Acres ³ Order No. ¹³ Joint or Infill 14 Consolidation Code 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.

	N89'53'47"E	2637.31 FT	N89'52'35"E	2634.03 FT	_	"OPERATOR CERTIFICATION
	NW CORNER SEC. 20		ER SEC. 20	NE CORNER SEC. 20		I hereby certify that the information contained herein is true and complete
	LAT. = 33.0086773'N LONG. = 104.0592070'W		l0086712°N 04.0506060°W	LAT. = 33.0086670'N LONG. = 104.0420158'W		to the best of my knowledge and belief, and that this organization either
	NMSP EAST (FT)	NMSP E	AST (FT)	NMSP EAST (FT)		owns a working interest or unleased mineral interest in the land including
_	N = 730802.99 E = 625370.10		\$0807.76 28006.72	N = 730813.44 E = 630640.06		the proposed bottom hole location or has a right to drill this well at this
l S	£ = 623370.10	E = 02	1	[= 630640.00	12	location pursuant to a contract with an owner of such a mineral or working
2	.			i	S01'14'02"W	interest, or to a voluntary pooling agreement or a compulsory pooling
ND0:01'12"W	!				12°W	order heretofore entered by the division.
		<u> </u>	WATERLOO FEDERA		2635.68	Signature W. Should 8-25-14 Signature Date Jerry W. Sherrell Printed Name Jerrys & Mec. com Email Address
2638.32			ELEV. = 3758.5' LAT. = 33.0023260'N	! \ (NAD83)	5.68	T 1.1 <1 //
FI	ì	SURFACE	LONG = 104.053843		17	Jarry W. Merrell
	}	LOCATION	NMSP EAST (FT) N = 728496.55			Printed Name*
	1650'		E = 627020.55	!	[ierrys @ mec.com
	1030		1]	E-mail Address
	W/4 CORNER SEC. 20	<u>- </u>	<u>_</u>	E/4 CORNER SEC. 20 LAT. = 33.0014268'N		
	LAT. = 33.0014276'N 1 LONG. = 104.0592265'W			LONG. = 104.0422246'W	l .	*SURVEYOR CERTIFICATION
	NMSP EAST (FT)	'	1	NMSP EAST (FT) N = 728179.05	•	I hereby certify that the well location shown on this
	N = 728165.36 E = 625371.02	, !		E = 630583.33		plat was plotted from field notes of actual surveys
2		1	NOTE:	, 	SS	
N00'11'21	,	<u> </u>	LATITUDE AND LONGITUDE ARE SHOWN USING THE N		S01.42,22_E	made by me or under my supervision, and that the
121	<u>'</u>	i	AMERICAN DATUM OF 198	3 (NAD83).	'22	same is true and correct to the best of my belief.
₹	 	! !	LISTED NEW MEXICO STATE COORDINATES ARE GRID (NAD83). BASIS	lu,	MAY (. 20) 4 / ()
N 2	 	1	OF BEARING AND DISTANCE NEW MEXICO STATE PLANE		26	Date of Survey
2638.3		i I	COORDINATES MODIFIED TO SURFACE.	THE	2640.	71 (12797) 470
.37		∤ I	1	: I	39 F	I do all
=	SW CORNER SEC. 20		ÈR SEC. 20	SE CORNER SEC. 20		Serol Very Till
	LAT. = 32.9941778'N LONG. = 104.0592205'W		!9941805'N 4.0506126'W	LAT. = 32.9941741'N LONG. = 104.0419921'W		Signature and Seal of Professional Juryeyor
	NMSP EAST (FT)	NMSP E	AST (FT)	NMSP EAST (FT		Certificate Number PLLISTON F. LARSWILLO, PLS 12797
	N = 725527.69 E = 625379.72		5535.63 8018.88	N = 725540.5 E = 630661.92		SURVEY NO. 2885
	S89'49'39"W	2639.85 FT	S89'53'39"W	2643.73 FT	_	



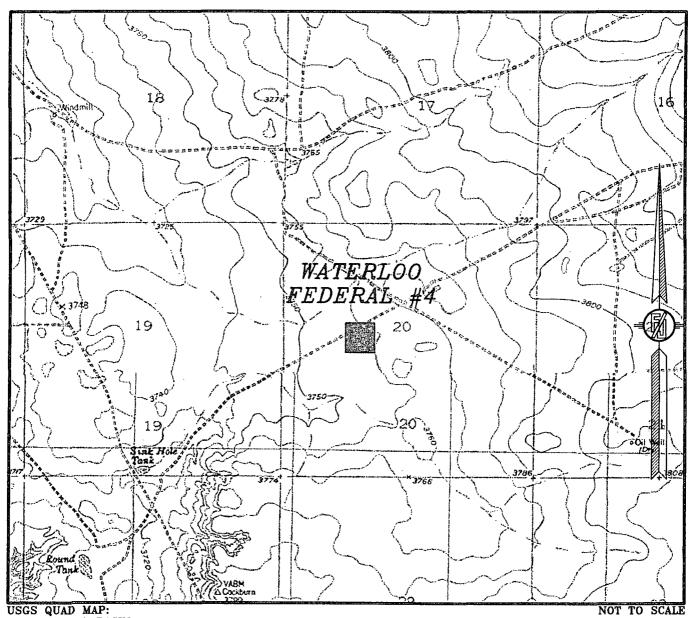
RANGE 29 EAST, N.M.P.M. CHAVES COUNTY, STATE OF NEW MEXICO

MAY 1, 2014

SURVEY NO. 2885

MADRON SURVEYING, INC. 301 SOUTH CAPAL CARLSBAD, NEW MEXICO

SECTION 20, TOWNSHIP 15 SOUTH, RANGE 29 EAST, N.M.P.M. CHAVES COUNTY, STATE OF NEW MEXICO LOCATION VERIFICATION MAP



USGS QUAD MAP: KING CAMP & BASIN WELL

MACK ENERGY CORPORATION WATERLOO FEDERAL #4

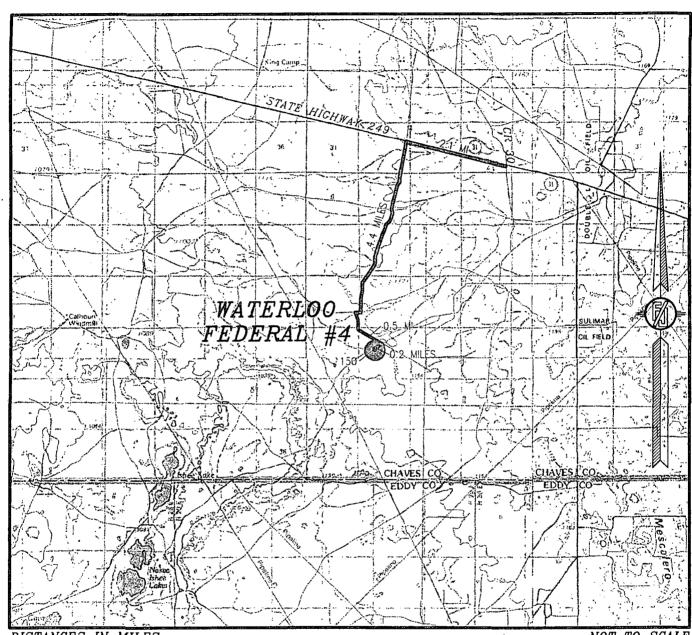
LOCATED 2310 FT. FROM THE NORTH LINE AND 1650 FT. FROM THE WEST LINE OF SECTION 20, TOWNSHIP 15 SOUTH, RANGE 29 EAST, N.M.P.M. CHAVES COUNTY, STATE OF NEW MEXICO

MAY 1, 2014

SURVEY NO. 2885

MADRON SURVEYING, INC. 301 SOUTH CANAL CARLSBAD, NEW MEXICO

SECTION 20, TOWNSHIP 15 SOUTH, RANGE 29 EAST, N.M.P.M. CHAVES COUNTY, STATE OF NEW MEXICO VICINITY MAP



DISTANCES IN MILES

NOT TO SCALE

DIRECTIONS TO LOCATION
FROM THE INTERSECTION OF STATE HIGHWAY 249 AND CR 30
(JEMINA) GO NORTHWEST ON STATE HIGHWAY 249 FOR APPROX. 2.1
MILES. GO SOUTH ON CALICHE LEASE ROAD FOR APPROX. 4.4 MILES.
GO SOUTHEAST APPROX. 0.5 OF A MILE. GO SOUTHWEST APPROX. 0.2
OF A MILE. LOCATION IS APPROX. 150' SOUTH.

MACK ENERGY CORPORATION WATERLOO FEDERAL #4

LOCATED 2310 FT. FROM THE NORTH LINE AND 1650 FT. FROM THE WEST LINE OF SECTION 20, TOWNSHIP 15 SOUTH, RANGE 29 EAST, N.M.P.M. CHAVES COUNTY, STATE OF NEW MEXICO

MAY 1, 2014

SURVEY NO. 2885

MADRON SURVEYING, INC. 301 SOUTH CANAL CARLSBAD, NEW MEXICO

SECTION 20, TOWNSHIP 15 SOUTH, RANGE 29 EAST, N.M.P.M. CHAVES COUNTY, STATE OF NEW MEXICO AERIAL PHOTO



NOT TO SCALE AERIAL PHOTO: GOOGLE EARTH APRIL 2013

MACK ENERGY CORPORATION
WATERLOO FEDERAL #4

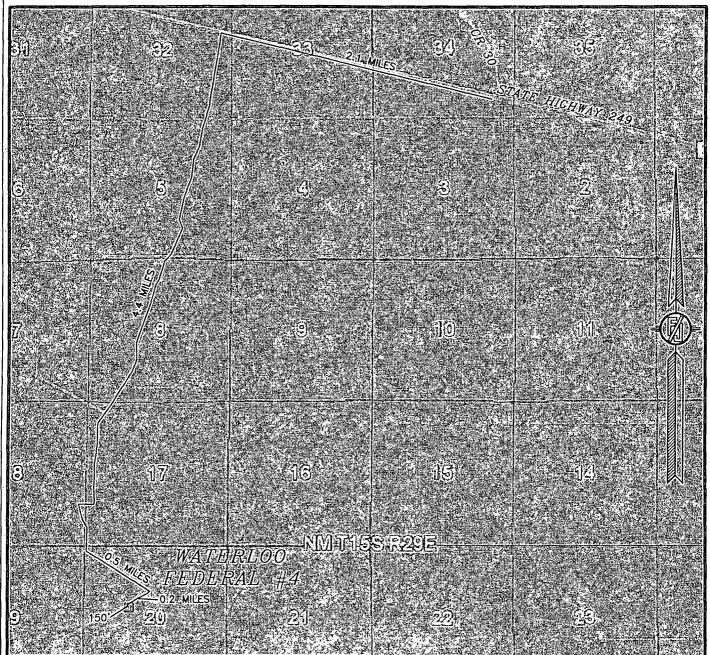
LOCATED 2310 FT. FROM THE NÖRTH LINE AND 1650 FT. FROM THE WEST LINE OF SECTION 20, TOWNSHIP 15 SOUTH, RANGE 29 EAST, N.M.P.M. CHAVES COUNTY, STATE OF NEW MEXICO

MAY 1, 2014

SURVEY NO. 2885

MADRON SURVEYING, INC. 301 SOUTH CARLSBAD, NEW MEXICO

SECTION 20, TOWNSHIP 15 SOUTH, RANGE 29 EAST, N.M.P.M. CHAVES COUNTY, STATE OF NEW MEXICO ACCESS AERIAL ROUTE MAP



NOT TO SCALE AERIAL PHOTO: GOOGLE EARTH FEBRUARY 2014

MACK ENERGY CORPORATION WATERLOO FEDERAL #4

LOCATED 2310 FT. FROM THE NORTH LINE AND 1650 FT. FROM THE WEST LINE OF SECTION 20, TOWNSHIP 15 SOUTH, RANGE 29 EAST, N.M.P.M. CHAVES COUNTY, STATE OF NEW MEXICO

MAY 1, 2014

SURVEY NO. 2885

MADRON SURVEYING, INC. 301 SOUTH CANAL CARLSBAD, NEW MEXICO

FEB 17 2015

ROSWELL FIELD OFFICE CONDITIONS OF APPROVAL

RECEIVED

OPERATOR'S NAME: Mack Energy Corporation - Sherrell, Jerry

LEASE NO.: NMNM121950

WELL NAME & NO.: WATERLOO FEDERAL - 4

SURFACE HOLE FOOTAGE: [2310] 'F [N] L [1650] 'F [W] L

BOTTOM HOLE FOOTAGE: [2310] 'F [N] L [1650] 'F [W] L

LOCATION: Section 020, T015. S., R 028 E., NMPM

COUNTY: Chaves County, New Mexico

- 1. All construction, operation and reclamation actions shall follow the regulations found at 43 CFR 3160, the Onshore Oil and Gas Orders, the Notices to Lessees (NTL's), and the Conditions of Approval (COA's).
- 2. A complete copy of the approved APD and the COA's shall be kept on location for reference by inspectors.

3. CONTAINMENT DIKES:

All production facilities shall have a lined containment structure large enough to contain 110% of the largest Tank plus 24 hours of production, unless more stringent protective requirements are deemed necessary by the Authorized Officer. (43 CFR 3162.5-1)

4. WELL PAD SURFACING:

Surfacing of the well pad is not required. If the operator elects to surface the well pad, final reclamation will include removal of all the surfacing material. The well pad shall be constructed in a manner which creates the smallest possible surface disturbance, consistent with safety and operational need.

5. ROAD 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, final reclamation will include removal of the surfacing material. 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 contain 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.

More information regarding protections to cave and karst resources can be found in the Federal Cave Resources Protection Act of 1988.

10. WASTES, HAZARDOUS AND SOLID:

Waste materials produced during all phases of operation will be disposed of promptly in an approved manner so it will not impact the air, soil, water, vegetation or animals. "Waste" means all discarded matter including, but not limited to, human waste, trash, garbage, refuse, oil drums, petroleum products, ashes and equipment. All liquid waste, completion fluids and drilling products associated with oil and gas operations will be contained and then removed and deposited in an approved disposal facility. Portable toilets will remain on site throughout well pad construction, drilling and reclamation.

The operator and contractors shall ensure that all use, production, storage, transportation and disposal of hazardous materials, solid wastes and hazardous wastes associated with the drilling, completion and production of this well will be in accordance with all applicable existing or hereafter promulgated federal, state and local government rules, regulations and guidelines. All project related activities involving hazardous materials will be conducted in a manner to minimize potential environmental impacts. A file will be maintained onsite containing current Safety Data Sheets (SDS) for all chemicals, compounds and/or substances which are used in the course of construction, drilling, completion and production operations.

- Wait on cement (WOC) time for a primary cement job will be a minimum 18 hours or 500 pounds compression strength, whichever is greater. (This is to include the lead cement).
- Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compression strength, whichever is greater.
- If cement falls back, remedial action will be done prior to drilling out that string.
- B. The minimum required fill of cement behind the 5-1/2 inch production casing is sufficient to circulate to the surface. If cement does not circulate, a temperature survey utilizing an electronic type temperature survey with a surface log readout will be used or a cement bond log shall be run to verify the top of the cement.
- C. 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.
- D. All casing shall be new or reconditioned and tested casing and meet API standards for new casing. The use of reconditioned and tested casing shall be subject to approval by the Authorized Officer. Approval will be contingent upon the wall thickness of any casing being verified to be at least 87-1/2 per cent of the nominal wall thickness of new casing.

PRESSURE CONTROL:

- A. Prior to drilling below the 8-5/8 inch surface casing shoe, the blowout preventer assembly (BOP/BOPE) shall be installed. The BOP/BOPE shall consist of a minimum of One Annular Preventer or Two Ram-Type Preventers and a Kelly Cock/Stabbing Valve.
- B. Before drilling below the 8-5/8 inch surface casing shoe, minimum working pressure of the blowout preventer and related equipment (BOPE) shall be 2000 psi. If operator chooses to use a control device greater than the minimum stand they will have to follow all guidelines as stated within Bureau of Land Management 43 CFR part 3160 and Onshore Oil and Gas Order No. 2 Drilling Operations.
- C. The BOPE shall be installed before drilling below the 8-5/8 inch surface casing shoe and shall be tested as described in Onshore Oil and Gas Order No. 2. Any equipment failing to test satisfactorily shall be repaired or replaced.
 - The BLM Roswell Field Office shall be notified a minimum of 24 hours in advance for a representative to witness the tests.

12. RECLAMATION:

Reclamation earthwork for interim and/or final reclamation shall be completed within 6 months of well completion or well plugging (weather permitting), and shall consist of:

- A. Backfilling pits,
- B. Re-contouring and stabilizing the well site, access road, cut/fill slopes, drainage channels, utility and pipeline corridors, and all other disturbed areas, to approximately the original contour, shape, function, and configuration.
- C. Surface ripping to a depth of 18-24 inches deep on 18-24 inch centers to reduce compaction (prior to topsoil placement),
- D. Final grading and replacement of all topsoil,
- E. Seeding in accordance with reclamation portions of the APD and these COA's.

Any subsequent disturbance of interim reclamation shall be reclaimed within six (6) months by the same means described herein.

Prior to conducting interim reclamation, the operator is required to:

- Submit a Sundry Notice and Reports on Wells (Notice of Intent), Form 3160-5, prior to conducting interim reclamation.
- Contact BLM at least three (3) working days prior to conducting any interim reclamation activities and prior to seeding.

The removal of caliche is important to the success of re-vegetating the site. Removed caliche may be used in road repairs, fire walls or for building other roads and locations. In addition, in order to operate the well or complete work-over operations, it may be necessary to drive, park and operate on restored interim vegetation within the previously disturbed area. Disturbing re-vegetated areas for production or work-over operations will be allowed. If there is significant disturbance and loss of vegetation, the area will need to be re-vegetated. Communicate with the appropriate BLM office for any exceptions/exemptions if needed.

Use a certified noxious weed-free seed mixture. Use seed tested for viability and purity in accordance with State law(s) within nine months of purchase. Use a commercial seed mixture certified or registered and tagged in accordance with State law(s). Make the seed mixture labels available for BLM inspection.

13. SEE ATTACHED SEED MIX: The Ecological Site Description for the well pad and access road is as follows:

Well Name	Ecosite Access rd
Waterloo Fed #4	Sandy SD-3

C. Topsoil Storage:

Topsoil and vegetation shall be stored separately from subsoil, spoils pile, or other excavated material. It is the operator's responsibility to ensure that topsoil, caliche, spoils, or other surfacing materials are not mixed together. Topsoil, spoil materials, and other excavated material may be stored on opposite or adjacent sides of the well pad. If topsoil and spoils are stored on the same well pad side, they will be no closer than toe to toe. Overlapping of material is not permitted. Each material pile will be within 30 feet of the pad's side.

D. Topsoil Replacement

All topsoil will be used for reclamation. Any other use of topsoil is not permitted.

Prior to termination, the operator shall contact the Authorized Officer to arrange a joint inspection of the access road. This inspection will be held to agree to an acceptable termination (and rehabilitation) plan. This plan shall include, but is not limited to, removal of facilities, drainage structures, or surface material, re-contouring, top soiling, or seeding. The Authorized Officer must approve the plan in writing prior to the operator's commencement of any termination activities.

Where possible, no improvements should be made on the reclaimed portions of the 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.

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.

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.

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 14' ----- Centerline of Road Driving Surface ----- 10' 25' 50'

Drainage control systems shall be constructed on the entire length of road (e.g. ditches, sidehill, out-sloping and in-sloping, 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.

SEED MIX FOR

Soil: Sotim-Simona association, moderately undulating

Ecological Site: Shallow Sand SD-3 Ecological Site: Sandy SD-3 March 19, 2001

Common Name

		Pounds of
and Preferred Variety	Scientific Name	Pure <u>Live Seed Per Acre</u>
Black grama or Blue grama, var. Lovington	(Bouteloua eriopoda) (Bouteloua gracilis)	5.0
Sideoats grama var. Vaughn or El Reno	(Bouteloua curtipendula)	1.0
Sand dropseed or Mesa dropseed or Spike dropseed	(Sporobolus cryptandrus) (S. flexuosus) (S. contractus)	0.5
Desert or Scarlet Globemallow	(Sphaeralcea ambigua) or (S. coccinea)	1.0
Croton TOTAL POUNDS PURE LIVE SI Certified Weed Free Seed. A minin	DED . DITTIONE	1.0 8.5 acluding 1 forb species.

IF ONE SPECIES IS NOT AVAILABLE, INCREASE ALL OTHERS PROPORTIONATELY