DEC 2 0 2012

Form 3160 -3 (March 2012)							FORM APPROVED OMB No. 1004-0137 Expires October 31, 2014 5. Lease Scrial No. NM LC 029405-B 6. If Indian, Allotee or Tribe Name N/A		
la, Type of work:		EENTER			 ;	7 If Unit or CA Agreemen N/A 8. Lease Name and Well 1			
lb. Type of Well:	Oil Well Gas Well Other		✓ Sir	ngle Zone 🔲 Multip	ple Zone	Ruby Federal #21	~23865		
	Or ConocoPhillips Company		<2.	17817		9. API Well No. 30-025-8	10895		
3a. Address P.O. I Midla	Box 518 <u>10</u> nd, Texas 79710-1810	,	Phone No. 2-688-69	. (include are s code) 913		10. Field and Pool, or Explo Maljamar; Yeso West	ratory L445 0		
4. Location of Well (Report location clearly and in accordance with any St At surface UL J, Sec. 18, T17S, R32E; 1650' FSL, 1650'FE At proposed prod. zone UL J, Sec. 18, T17S, R32E; 1650' FSI						11. Sec., T. R. M. or Blk.and Sec. 18, T17S, R32E	l Survey or Area		
. 14. Distance in miles	and direction from nearest town or post office 5 miles south of Maljamar, New Mexi	e*				12. County or Parish Lea	13. State NM		
15. Distance from pro location to nearest property or lease I (Also to nearest d	l	160	01.96	cres in lease	40 acres				
 Distance from pro to nearest well, dri applied for, on this 	posed location* illing, completed, s lease, ft	l l	Proposed 43' MD/	- ,	20. BLM/I ES0085	BIA Bond No. on file			
•	w whether DF, KDB, RT, GL, etc.)		-,-	nate date work will sta	rt*	23. Estimated duration			
3972' GL			/15/2012 L. Attac			20 days	· · · · · · · · · · · · · · · · · · ·		
The following, comple	ted in accordance with the requirements of C				ttached to the	is form:			
-	by a registered surveyor.					ns unless covered by an existi	ng bond on file (see		
	an (if the location is on National Forest Sy ed with the appropriate Forest Service Office		s, the	5. Operator certific 6. Such other site BLM.		ormation and/or plans as may	, ,		
25. Signature S	usan B. Maur	nder	1 1	(Printed/Typed) n B. Maunder		Date	61/01/2		
 -	atory Specialist		T 37	(D.: 1/7: 1)					
Approved by (Signature	/s/George MacDone	!1	Name	(Printed/Typed) /s/	George	e MacDonell Date	EC 1 8 2012		
Title FIE	LD MANAGER		Office	CARLSBA	D FIELD	OFFICE			
Application approval conduct operations the Conditions of approva		t holds lega	alorequit	able title to those righ	ts in the sub APF'K	ject lease which would entitle	the applicant to		
Title 18 U.S.C. Section States any false, fictition	1001 and Title 43 U.S.C. Section 1212, make ous or fraudulent statements or representation	it a crime to	for any pe matter w	erson knowingly and vithin its jurisdiction.	villfully to n	nake to any department or agei	ncy of the United		
(Continued on p	rage 2)			-: - 	Rosw	ell Controlled 1992	वृक्ष की प्रश्लंग 2)		

KB 124/12

SEE ATTACHED FOR CONDITIONS OF APPROVAL

Approval Subject to General Requirements

& Special Stiputations Attached

JAN U 8

Drilling Plan ConocoPhillips Company Maljamar, Yeso, west

Ruby Federal #21

Lea County, New Mexico

1. Estimated tops of geological markers and estimated depths to water, oil, or gas formations:

The ranges of depths for the formation tops, thicknesses, and planned Total Depths for all the wells to be drilled under this Master Drilling Plan are presented in the table below.

The datum for these depths is RKB (which is 13' above Ground Level).

Formations	Top Depths FT MD	Contents
Quaternary	Surface	Fresh Water
Rustler	703	Anhydrite
Salado (top of salt)	872	Salt
Tansill	1872	Gas, Oil and Water
Yates	2070	Gas, Oil and Water
Seven Rivers	2373	Gas, Oil and Water
Queen	3005	Gas, Oil and Water
Grayburg	3427	Gas, Oil and Water
San Andres	3791	Gas, Oil and Water
Glorieta	5272	Gas, Oil and Water
Paddock	5343	Gas, Oil and Water
Blinebry	5707	Gas, Oil and Water
Tubb	6743	Gas, Oil and Water
Deepest estimated perforation	6743	Deepest estimated perf. is ~ Top of Tubb
Total Depth (maximum)	6943	200' below deepest estimated perforation

All of the water bearing formations identified above will be protected by setting of the <u>8-5/8</u> surface casing <u>25' - 70' into the Rustler formation</u> and circulating of cement from casing shoe to surface in accordance with the provisions of Onshore Oil and Gas Order No. 2 and New Mexico Oil Conservation Division Title 19.

The targeted oil and gas bearing formations identified above will be protected by setting of the <u>5-1/2</u>" production casing <u>10</u>" off bottom of <u>TD</u> and circulating of cement from casing shoe to surface in accordance with the provisions of Onshore Oil and Gas Order No. 2 and New Mexico Oil Conservation Division Title 19.

2. Proposed casing program:

Type	Hole Size	М	Interval D RKB (ft)	OD	Wt	Gr	Conn	MIY	Col	Jt Str		Safety Far lated per Co Corporate (nocoPhillips
туре	(in)	From	То	(inches)	(lb/ft)		Com	(psi)	(psi)	(klbs)	Burst DF	Collapse DF	Jt Str DF (Tension) Dry/Buoyant
Cond	20	0	40' – 85' (30' – 75' BGL)	. 16	0.5" wall	В	Line Pipe	N/A	N/A	N/A	NA	NA	NA
Alt. Cond	20	0 .	40' – 85' (30' – 75' BGL)	13-3/8	48#	H-40	PE	1730	740	N/A	NA	NA	NA
Surf	12-1/4	0	728' – 773'	8-5/8	24#	J-55	STC	2950	1370	244	2.68	6.12	1.40
Prod	7-7/8	0	6888' 6933'	5-1/2	17#	L-80	LTC	7740	6290	338	1.15	2.04	1.40

The casing will be suitable for H₂S Service.

The surface and production casing will be set approximately 10' off bottom and we will drill the hole with a 45' range uncertainty for casing set depth to fit the casing string so that the cementing head is positioned at the floor for the cement job.

The production casing will be set 155' to 200' below the deepest estimated perforation to provide rathole for the pumping completion and for the logs to get deep enough to log the interval of interest.

Casing Design (Safety) Factors - BLM Criteria:

Туре	Depth	Wt	MIY	Col	Jt Str	Drill Fluid	Burst	Collapse	Tensile-Dry	Tens-Bouy
Surface Casing	773	24	2950	1370	244000	8.5	8.63	4.01	13.15	15.11
Production Casing	6933	17	7740	6290	338000	10	2.15	1.74	2.87	3.38

Casing Design (Safety) Factors – Additional ConocoPhillips Criteria:

ConocoPhillips casing design policy establishes Corporate Minimum Design Factors (see table below) and requires that service life load cases be considered and provided for in the casing design.

ConocoPhillips Corporate Criteria for Minimum Design Factors

	Burst	Collapse	Axial
Casing Design Factors	1.15	1.05	1.4

Burst Design (Safety) Factors – COP Criteria

The maximum internal (burst) load on the Surface Casing occurs when the surface casing is tested to 1000 psi (pressured up to 1100 psi). The maximum internal (burst) load on the Production Casing occurs during the fracture stimulation where the maximum allowable working pressure (MAWP) is the pressure that would fit ConocoPhillips Corporate Criteria for Minimum Design Factors.

Surface Casing Burst Design Factor = Burst Rating / Maximum Pressure during Casing Pressure Test

Production Casing MAWP for the Fracture Stimulation = Minimum Internal Yield / Production Casing Burst Design Factor

Surface Casing Burst Design Factor:

Burst Design Factor (Casing Pressure Test) = 2950 psi / 1100 psi = 2.68

Production Casing Burst Design Factor:

MAWP for the Fracture Stimulation = 7740 psi / 1.15 = 6730

Collapse Design (Safety) Factors - COP Criteria

The maximum collapse load on the Surface Casing occurs when the pressure is released after bumping the plug on the surface casing cement job. The maximum collapse load on the production casing occurs with the well is pumped off on production. We plan to cement the production casing to surface, and therefore the external pressure profile on the production casing should be equal to the pore pressure of the horizons on the outside of the casing which we estimate to be 8.55 ppg gradient.

Surface Casing Collapse Design Factor = Collapse Rating / (Cement Column Hydrostatic Pressure – Displacement Fluid Hydrostatic Pressure) Production Casing Collapse Design Factor = Collapse Rating / Maximum Possible Pore Pressure

Surface Casing Collapse Design Factor:

Collapse Design Factor = 1370 psi /{[(300 ft x 0.052 x 14.8ppg) + ($\frac{773}{9}$ ft x 0.052 x 13.6 ppg) - ($\frac{773}{7}$ ft x .052 x 8.5 ppg) Collapse Design Factor = 1370 psi / 224 psi = 6.12

Production Casing Collapse Design Factor:

Collapse Design Factor = 6290 psi / $(8.55 \text{ ppg} \times 0.052 \times 6933 \text{ ft}) = 6290 \text{ psi} / 3082 \text{ psi} = 2.04$

(Date: July 24, 2012)

Page 2 of 8

Axial Design (Safety) Factors - COP Criteria

The maximum axial (tension) load occurs if casing were to get stuck and pulled on to try to get it unstuck.

Maximum Allowable Hookload = Joint Strength Rating / Axial Design Factor

Overpull Margin = Maximum Allowable Hook Load - Air Wt of the String

Surface Casing (Ult. Tensile):

Maximum Allowable Hookload = 244000 lbs / 1.4 = 174286 lbsOverpull Margin = 174286 lbs - (773 ft x 24 lb/ft) = 155734 lbs

Production Casing (Ult. Tensile):

Maximum Allowable Hookload = 338000 / 1.4 = 241429 lbs Overpull Margin = 241429 lbs - (6933 ft x 17 lb/ft) = 123568 lbs

3. Proposed cementing program:

16" or 13-3/8" Conductor:

Cement to surface with rathole mix, ready mix or Class C Neat cement. (Note: The gravel used in the cement is not to exceed 3/8" diameter) TOC at surface.

8-5/8" Surface Casing & Cementing Program: 8-5/8" 24# J-55 STC

The intention for the cementing program for the Surface Casing is to:

- Place the Tail Slurry from the casing shoe to 300' above the casing shoe,
- Bring the Lead Slurry to surface.

Spacer: 20 bbls Fresh Water

	Slurry		Intervals Weight Sx Vol Ft MD ppg Cuft		Additives	Yield ft ³ /sx		
Lead	Class C	Surface	428' – 473'	13.6	350	595	4%Bentonite 2%CaCl2 .125%Polyflake 0.2% antifoam Excess =230% based on gauge hole volume	1.70
Tail	Class C	428' – 473'	728' – 773'	14.8	200	268	1% CaCi2 Excess = 100% based on gauge hole volume	1.34

Displacement: Fresh Water.

Note: In accordance with the Pecos District Conditions of Approval, we will Wait on Cement (WOC) for a period of not less than 18 hrs after placement or until at least 500 psi compressive strength has been reached in both the Lead Slurry and Tail Slurry cements on the Surface Casing, whichever is greater.

5-1/2" Production Casing & Cementing Program: 5-1/2" 17# L-80 LTC

The intention for the cementing program for the Production Casing is to:

- Place the Tail Slurry from the casing shoe to a point approximately 200' above the top of the Paddock,
- Bring the Lead Slurry to surface.

Spacer: 20 bbls Fresh Water

	Slurry	Intervals Ft MD		Weight Sx Vol ppg Cuft		Additives	Yield ft³/sx	
Lead	50:50 Poz/C	Surface	5200'	11.8	1000	2640	10% Bentonite 8 lbs/sx Salt 0.4% Fluid loss additive 0.125% LCM if needed Excess = 220% or more if needed based on gauge hole volume	2.64
Tail	Class H	5200'	6888' – 6933'	16.4	650	696	0.2% Fluid loss additive 0.3% Dispersant 0.15% Retarder 0.2% Antifoam Excess = 100% or more if needed based on gauge hole volume	1.07

Displacement: Fresh Water with approximately 250 ppm gluteraldehyde biocide.

Proposal for Option to Adjust Production Casing Cement Volumes:

The production casing cement volume presented above are estimates based on gauge 7-7/8" hole. We will adjust these volumes based on the caliper log data for each well and our trends for amount of cement returns to surface. Also, if no caliper log is available for any particular well, we would propose an option to possibly increase the production casing cement volume to account for any uncertainty in regard to the hole volume.

4. Pressure Control Equipment:

A <u>11" 3M</u> system will be installed, used, maintained, and tested accordingly as described in Onshore Oil and Gas Order No. 2.

Our BOP equipment will be:

- Rotating Head
- o Annular BOP, 11" 3M
- o Blind Ram, 11" 3M
- o Pipe Ram, 11" 3M

After nippling up, and every 30 days thereafter or whenever any seal subject to test pressure is broken followed by related repairs, blowout preventors will be pressure tested. BOP will be inspected and operated at least daily to insure good working order. All pressure and operating tests will be done by an independent service company and recorded on the daily drilling reports. BOP will be tested using a test plug to isolate BOP stack from casing. BOP test will include a low pressure test from 250 to 300 psi for a minimum of 10 minutes or until requirements of test are met, whichever is longer. Ram type preventers and associated equipment will be tested to the approved stack working pressure of 3000 psi isolated by test plug. Annular type preventers will be tested to 50 percent of rated working pressure, and therefore will be tested to 1500 psi. Pressure will be held for at least 10 minutes or until provisions of test are met, whichever is longer. Valve on casing head below test plug will be open during testing of BOP stack. BOP will comply with all provisions of Onshore Oil and Gas Order No. 2 as specified. See Attached BOPE Schematic.

5. Proposed Mud System

The mud systems that are proposed for use are as follows:

DEPTH	TYPE	Density ppg	FV sec/qt	API Fluid Loss cc/30 min	рН	Vol bbl
0 – Surface Casing Point	Fresh Water or Fresh Water Native Mud	8.5 – 9.0	28 – 40	N.C.	N.C.	120 – 160
Surface Casing Point to TD	Brine (Saturated NaCl ₂)	10	29	N.C.	10 – 11	400 – 750
Conversion to Mud at TD	Brine Based Mud (NaCl ₂)	10	34 – 45	5 – 10	10 – 11	0 – 750

Drilling mud containing H2S shall be degassed in accordance with API RP-49, item 5.14. The gases shall be piped into the flare system. Gas detection equipment and pit level flow monitoring equipment will be on location. ConocoPhillips Company will maintain sufficient mud and weighting material on location at all times.

Proposal for Option to Not Mud Up at TD:

FW, Brine, and Mud volume presented above are estimates based on gauge 12-1/4" or 7-7/8" holes. We will adjust these volume based on hole conditions. Also, we propose an option to not mud up leaving only brine in the hole.

6. Logging, Coring, and Testing Program:

- a. No drill stem tests will be done
- b. Mud logging is planned for the production hole section.
- c. No whole cores are planned
- d. The open hole electrical logging program is planned to be as follows:
 - Total Depth to 2500': Resistivity, Density, and Gamma Ray
 - Total Depth to surface Casing Shoe: Caliper
 - Total Depth to surface, Gamma Ray and Neutron
 - Formation pressure data (XPT) on electric line if needed (optional)
 - Rotary Sidewall Cores on electric line if needed (optional)
 - BHC or Dipole Sonic if needed (optional)
 - Spectral Gamma Ray if needed (optional)

7. Abnormal Pressures and Temperatures:

- No abnormal pressures are expected to be encountered.
- Loss of circulation is a possibility in the horizons below the Top of Grayburg. We expect that normal Loss of Circulation Material will be successful in healing any such loss of circulation events.
 - o The bottom hole pressure is expected to be 8.55 ppg gradient.
 - o The expected Bottom Hole Temperature is 115 degrees F.
- The estimated H₂S concentrations and ROE calculations for the gas in the zones to be penetrated are presented in the table below for the various producing horizons in this area:

FORMATION / ZONE	H2S (PPM)	Gas Rate (MCFD)	ROE 100 PPM	ROE 500 PPM
Grayburg / San Andres (from MCA)	14000	38	59	27
Yeso Group	400	433	34	15

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ConocoPhillips will comply with the provisions of Oil and Gas Order # 6

Request for Variance

ConocoPhillips Company

Lease Number: LC 029405B Well: Ruby Federal #21

Location: UL J, Sec. 18, T17S, R32E; 1650' FSL and 1650' FEL

Date: 09-18-12

Request:

ConocoPhillips Company respectfully requests a variance to install a flexible choke line instead of a straight choke line prescribed in the Onshore Order No. 2, III.A.2.b Minimum standards and enforcement provisions for choke manifold equipment. This request is made under the provision of Onshore Order No. 2, IV Variances from Minimum Standard. The rig to be used to drill this well is equipped with a flexible choke line if the requested variance is approved and determined that the proposed alternative meets the objectives of the applicable minimum standards.

Justifications:

The applicability of the flexible choke line will reduce the number of target tees required to make up from the choke valve to the choke manifold. This configuration will facilitate ease of rig up and BOPE Testing.

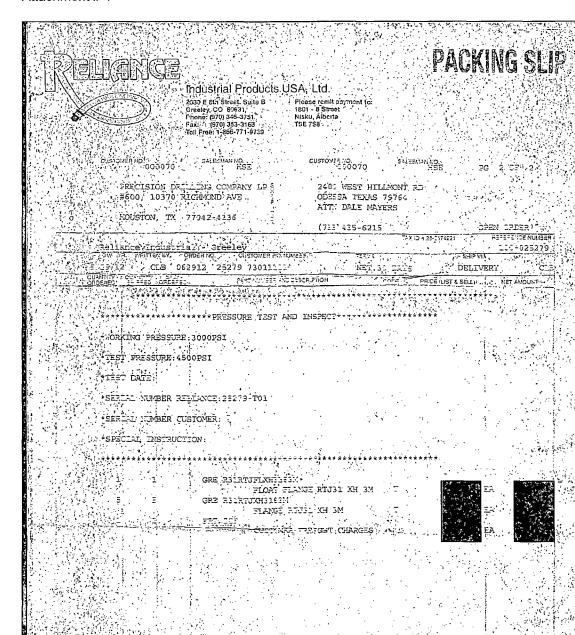
Attachments:

- Attachment # 1 Mill Certification
- Attachment # 2 Specification
- Attachment # 3 Certified & Signed Pressure Test from Manufacturer

Contact Information:

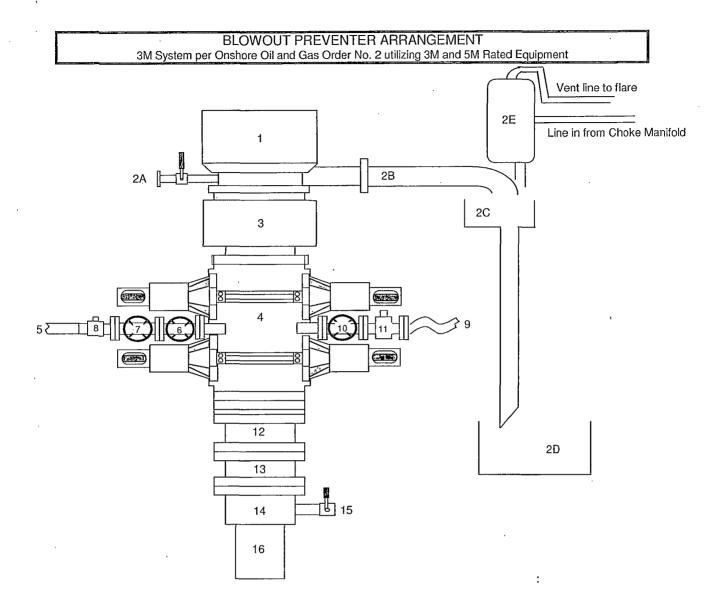
Program prepared by: James Chen Drilling Engineer, ConocoPhillips Company Phone (832) 486-2184 Cell (832) 768-1647

Date: 18 September 2012



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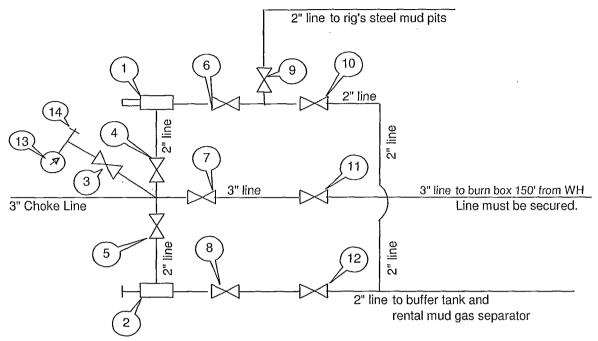
The terms of the contract between Se endo industrial Products USA, Lo



Item	Description
1	Rotating Head, 11"
2A	Fill up Line and Valve
2B	Flow Line (10")
2C	Shale Shakers and Solids Settling Tank
2D	Cuttings Bins for Zero Discharge
2E	Rental Mud Gas Separator with vent line to flare and return line to mud system
3	Annular BOP (11", 3M)
4	Double Ram (11", 3M, equipped with Blind Rams and Pipe Rams)
5	Kill Line (2" flexible hose, 3000 psi WP)
6	Kill Line Valve, Inner (3-1/8", 3000 psi WP)
7	Kill Line Valve, Outer (3-1/8", 3000 psi WP)
8	Kill Line Check Valve (2-1/16", 3000 psi WP
9	Choke Line (Stainless Steel Coflex Line, 3-1/8", 3000 psi WP)
10	Choke Line Valve, Inner (3-1/8", 3000 psi WP)
11	Choke Line Valve, Outer, (Hydraulically operated, 3-1/8", 3000 psi WP)
12	Adapter Flange (11" 5M to 11" 3M)
13	Spacer Spool (11", 5M)
14	Casing Head (11 5M)
15	Ball Valve and Threaded Nipple on Casing Head Outlet, 2" 5M
16	Surface Casing
	\cdot

CHOKE MANIFOLD ARRANGEMENT

3M System per Onshore Oil and Gas Order No. 2 utilizing 3M and 5M Equipment



All Tees must be targeted

Item	Description
1	Remote Controlled Hydraulically Operated Adjustable Choke, 2-1/16", 3M
2	Manual Adjustable Choke, 2-1/16", 3M
3	Gate Valve, 2-1/16" 5M
4	Gate Valve, 2-1/16" 5M
5	Gate Valve, 2-1/16" 5M
6	Gate Valve, 2-1/16" 5M
7	Gate Valve, 3-1/8" 3M
8	Gate Valve, 2-1/16" 5M
9	Gate Valve, 2-1/16" 5M
10	Gate Valve, 2-1/16" 5M
11	Gate Valve, 3-1/8" 3M
12	Gate Valve, 2-1/16" 5M
13	Pressure Gauge
14	2" hammer union tie-in point for BOP Tester

We will test each valve to 3000 psi from the upstream side.

Drawn by:

Steven O. Moore

Chief Drilling Engineer, Mid-Continent Business Unit, ConocoPhillips Company

Date: 14-Sept-2012

Closed Loop System Design, Operating and Maintenance, and Closure Plan

ConocoPhillips Company Well: Ruby Federal #21

Location: Sec. 18, T17S, R32E

Date: 08-07-12

ConocoPhillips proposes the following plan for design, operating and maintenance, and closure of our proposed closed loop system for the above named well:

1. We propose to use a closed loop system with steel pits, haul-off bins, and frac tanks for containing all cuttings, solids, mud, water, brine, and liquids. We will not dig a pit, nor will we use a drying pad, nor will we build an earth pit above ground level, nor will we dispose of or bury any waste on location.

All drilling waste and all drilling fluids (fresh water, brine, mud, cuttings, drill solids, cement returns, and any other liquid or solid that may be involved) will be contained on location in the rig's steel pits or in hauloff bins or in frac tanks as needed. The intent is as follows:

- We propose to use the rigs's steel pits for containing and maintaining the drilling fluids.
- We propose to remove cuttings and drilled solids from the mud by using solids control equipment and to contain such cuttings and drilled solids on location in haul-off bins.
- We propose that any excess water that may need to be stored on location will be stored in tanks.

The closed loop system components will be inspected daily by each tour and any need repairs will be made immediately. Any leak in the system will be repaired immediately, and any spilled liquids and/or solids will be cleaned immediately, and the area where any such spill occurred will be remediated immediately.

2. Cuttings and solids will be removed from location in haul-off bins by an authorized contractor and disposed of at an authorized facility. For this well, we propose the following disposal facility:

Controlled Recovery Inc. 4507 West Carlsbad Hwy, Hobbs, NM 88240, P.O. Box 388; Hobbs, New Mexico 88241 Toll Free Phone: 877.505.4274, Local Phone Number: 432.638.4076

The physical address for the plant where the disposal facility is located is Highway 62/180 at mile

marker 66 (33 miles East of Hobbs, NM and 32 miles West of Carlsbad, NM).

The Permit Number for CRI is R9166

A photograph showing the type of haul-off bins that will be used is attached.

- 3. Mud will be transported by vacuum truck and disposed of at Controlled Recovery Inc at the facility described above.
- 4. Fresh Water and Brine will be hauled off by vacuum truck and disposed of at an authorized salt water disposal well. We propose the following for disposal of fresh water and brine as needed:
 - Nabors Well Services Company, 3221 NW County Rd; Hobbs, NM 88240, PO 5208 Hobbs, NM, 88241, Permit SWD 092. (Well Location: Section 3, T19S R37E)
 - Basic Energy Services, P.O. Box 1869; Eunice, NM 88231 Phone Number: 575.394.2545, Facility located at Hwy 18, Mile Marker 19; Eunice, NM.

James Chen **Drilling Engineer** Office: 832.486.2184 Cell: 832.678.1647

SPECIFICATIONS

Heavy Duty Split Metal Rolling Lid

FLOORE SMOP PLONE place OROSS MEYBERS 3 X 4.1 Channel 13 con center.

WALLS 2003 REsolid welded with Welling

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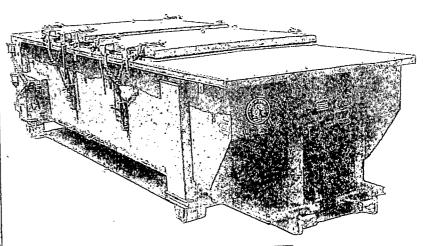
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