ATS 16-02

Form 3160-3 (March 2012)

HOBBS OCD

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

JUL 2 0 2016 NMLC 029405B

6. If Indian, Allotee or Tribe Name

Part William Calabia Allin Calabia		KE	SEIVI	±D		
la. Type of work: DRILL REEN	TER	X. X.		7. If Unit or CA Agreen	nent, Name and No.	
Ib. Type of Well: ✓ Oil Well ☐ Gas Well ☐ Other	✓ Si	ngle Zone Mul	tiple Zone	8. Lease Name and We Ruby Federal #100H		
2. Name of Operator ConocoPhillips Company (2/78)	(17)			9. API Well No. 30-025- 4-3376	2	
3a. Address 600 N. Dairy Ashford Rd.; P10-3096 Houston, TX 77079-1175	3b. Phone No 281-206-52	. (include area code) 281		10. Field and Pool, or Ex Maljamar; Grayburg,	ploratory 443 San Andres	
 Location of Well (Report location clearly and in accordance with a At surface 990' FNL and 2260' FEL; UL B, Sec. 18, T1. At proposed prod. zone 990' FNL and 2310' FEL; UL B, S 	7S, R32E			11. Sec., T. R. M. or Blk. Sec. 18, T17S, R32E		
14. Distance in miles and direction from nearest town or post office* Approximately 2.5 miles south west of Maljamar; New Me	exico			12. County or Parish Lea County	13. State NM	
15. Distance from proposed* 330' to UL line location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	16. No. of a	cres in lease	17. Spacin	ng Unit dedicated to this wel		
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed	Depth D/ 5575' TVD	20. BLM/ ES0085	BLM/BIA Bond No. on file 0085		
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3979' GL	22. Approxim 06/15/201	nate date work will st 6	art*	23. Estimated duration 15 days		
The state of the s	24. Attac	hments		1.9	J	
The following, completed in accordance with the requirements of Onsh	ore Oil and Gas	Order No.1, must be	attached to th	is form:		
 Well plat certified by a registered surveyor. A Drilling Plan. A Surface Use Plan (if the location is on National Forest System SUPO must be filed with the appropriate Forest Service Office). 	n Lands, the	Item 20 above) 5. Operator certification	ication	ons unless covered by an ex-		
25. Signature Swan & Mourdey		(Printed/Typed) B. Maunder		Da	19/22/15	
Title Senior Regulatory Specialist						
Approved by (Signature) /s/George MacDonell	Name	(Printed/Typed)		Da	JUL 1 9 2016	
Title FIELD MANAGER	Office			CARLSBAD FIELD	OFFICE	
Application approval does not warrant or certify that the applicant had conduct operations thereon. Conditions of approval, if any, are attached. See at	ttached NN		n the sub	ject lease which would entit APPROVAL FOR	le the applicant to YEARS	
Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1001 and	ions of App	oroval	ully to n	nake to any department or a	gency of the United	
(Continued on page 2)				*(Instruc	etions on page 2)	

Roswell Controlled Water Basin

CONDITIONS OF APPROVAL

Approval Subject to General Requirements & Special Stipulations Attached

1/2

1. Geologic Formations

TVD of target	5575'	Pilot hole depth	NA
MD at TD:	10492'	Deepest expected fresh water:	710'

Basin

111	
Rustler	710
Salado	890
Tansill	1915
Yates	2070
Seven Rivers	2370
Queen	3010
Grayburg	3445
San Andres	3780
Glorieta	5290
Paddock	5365
TD	5575

2. Casing Program

See COA

2 strings casing design											
Hole	Casing Interval		Csg.	Weight	Grade	Conn.	SF	SF	SF		
Size	From	То	Size	(lbs)			Collap se	Burst	Tension		
13.5"	0	745 780	10.75"	40.5	J55	STC/BTC	4.86	9.62	16		
8.75"	0	10470'	5.5"	17	L80	BTC	2.17	2.67	2.84		
10				BLM N	Minimum	Safety Factor	1.125	1	1.6 Dry		
				100000					1.8 Wet		

A 5-1/2" ACP will be placed at ~ 100 ft above surface casing shoe.

See COA

			Continger	ncy plan -	3 strings	casing design			
Hole Size	Casing From	To To	Csg. Size	Weight (lbs)	Grade	Conn.	SF Collap se	SF Burst	SF Tension
13.5"	0	745 780'	10.75"	40.5	J55	STC/BTC	4.86	9.62	16
8.75"	0	5980'	7.625"	26.4	L80	Wedge 511	1.17	2.08	2.77
6.75"	0	5800	5.5"	17	L80	BTC	2.42	2.98	5.03
6.75	5800	10470	5"	15	L80	BTC	3.18	2.78	6.27
ill he i	unido. a	Nevious C			Minimum :	Safety Factor	1.125	1	1.6 Dry 1.8 Wet

A 7-5/8" ACP will be placed at ~ 100 ft above surface casing shoe.

All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.h Must have table for contingency casing

	YorN
Is casing new? If used, attach certification as required in Onshore Order #1	YES
Does casing meet API specifications? If no, attach casing specification sheet.	YES
Is premium or uncommon casing planned? If yes attach casing specification sheet.	YES
Does the above casing design meet or exceed BLM's minimum standards? If not provide justification (loading assumptions, casing design criteria).	YES
Will the intermediate pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing?	N/A
Is well located within Capitan Reef?	NO
If yes, does production casing cement tie back a minimum of 50' above the Reef?	
Is well within the designated 4 string boundary.	
Is well located in SOPA but not in R-111-P?	NO
If yes, are the first 2 strings cemented to surface and 3 rd string cement tied back 500' into previous casing?	
Is well located in R-111-P and SOPA?	NO
If yes, are the first three strings cemented to surface?	
Is 2 nd string set 100' to 600' below the base of salt?	
Is well located in high Cave/Karst?	NO
If yes, are there two strings cemented to surface?	
(For 2 string wells) If yes, is there a contingency casing if lost circulation occurs?	
Is well located in critical Cave/Karst?	NO
If yes, are there three strings cemented to surface?	

3. Cementing Program

				2 strin	gs casing ceme	nt program
Casing	# Sks	Wt. lb/ gal	Yld ft3/ sack	H ₂ 0 gal/sk	500# Comp. Strength (hours)	Slurry Description
Surf.	222	13.5	1.75	9.15	9.18	Lead: Class C + 4% Bentonite + 2% CaCl2 + 0.25lb/sk Cello Flake (LCM) + 0.1% CD-32 (dispersant) + 0.05% R-3 (retarder) + 0.005 lb/sk Static Free (anti-static) + 0.005 gps FP-6L (antifoaming)
	196	14.8	1.34	6.32	6.04	Tail: Class C + 1% CaCl2 + 0.05% R-3 (retarder) + 0.25lb/sk Cello Flake (LCM) + 0.005 lb/sk Static Free (anti-static) + 0.005 gps FP-6L (anti-foaming)

Prod.	748	11.5	2.67	14.75	19.38	Lead: Class C +4% MPA-5 (strength enhancement) + 10 lb/sk BA-90 (strength enhancement) + 1% BA-10A (Bonding improver) + 2% SMS + 1.2% R-3 (retarder) + 2% Salt + 5 lb/sk LCM-1 + 0.25 lb/sk Cello Flake (LCM) + 0.005 lb/sk Static Free (Anti-static) + 0.005 gps FP-6L (anti-foaming)
	2336	13.2	1.62	7.83	5.39	Tail: (20:65:15) Poz:Class C+8% CSE-2 (strength enhancement) + 2% FL-62 (fluid loss control) + 0.5% BA-10A (Bonding improver) + 0.5% SMS + 2% salt + 0.35% R-3 (retarder) + 3.75% LCM-1 + 0.05gps FP-6L (anti-foaming)
	Conting	ency plan	with DV	V/ACP tool	@~3000' (d	lepth may change depending on loss zone)
	2336	13.2	1.62	7.83	5.39	Stage 1: (20:65:15) Poz:Class C+8% CSE-2 (strength enhancement) + 2% FL-62 (fluid loss control) + 0.5% BA-10A (Bonding improver) + 0.5% SMS + 2% salt + 0.35% R-3 (retarder) + 3.75% LCM-1 + 0.05gps FP-6L (anti-foaming)
	748	11.5	2.67	14.75	19.38	Stage 2: Class C +4% MPA-5 (strength enhancement) + 10 lb/sk BA-90 (strength enhancement) + 1% BA-10A (Bonding improver) + 2% SMS + 1.2% R-3 (retarder) + 2% Salt + 5 lb/sk LCM-1 + 0.25 lb/sk Cello Flake (LCM) + 0.005 lb/sk Static Free (Anti-static) + 0.005 gps FP-6L (anti-foaming)

Contingency plan - 3 strings casing cement program									
Casing	# Sks	Wt. lb/ gal	Yld ft3/ sack	H ₂ 0 gal/sk	Comp. Strength (hours)	Slurry Description			
Surf.	222	13.5	1.75	9.15	9.18	Lead: Class C + 4% Bentonite + 2% CaCl2 + 0.25lb/sk Cello Flake (LCM) + 0.1% CD-32 (dispersant) + 0.05% R-3 (retarder) + 0.005 lb/sk Static Free (anti-static) + 0.005 gps FP-6L (antifoaming)			
1	196	14.8	1.34	6.32	6.04	Tail: Class C + 1% CaCl2 + 0.05% R-3 (retarder) + 0.25lb/sk Cello Flake (LCM) + 0.005 lb/sk Static Free (anti-static) + 0.005 gps FP-6L (anti-foaming)			
Inter.	362	11.5	2.67	14.75	19.38	Lead: Class C +4% MPA-5 (strength enhancement) + 10 lb/sk BA-90 (strength enhancement) + 1% BA-10A (Bonding improver) + 2% SMS + 1.2% R-3 (retarder) + 2% Salt + 5 lb/sk LCM-1 + 0.25 lb/sk Cello Flake (LCM) + 0.005 lb/sk Static Free (Anti-static) + 0.005 gps FP-6L (anti-foaming)			
	377	13.2	1.62	7.83	5.39	Tail: (20:65:15) Poz:Class C+8% CSE-2 (strength enhancement) + 2% FL-62 (fluid loss			

	Continu		with Di	VACD too	10 20002	control) + 0.5% BA-10A (Bonding improver) + 0.5% SMS + 2% salt + 0.35% R-3 (retarder) + 3.75% LCM-1 + 0.05gps FP-6L (anti-foaming)
	420	13.2	1.62	7.83	5.39	depth may change depending on loss zone) Stage 1: (20:65:15) Poz:Class C+8% CSE-2 (strength enhancement) + 2% FL-62 (fluid loss control) + 0.5% BA-10A (Bonding improver) + 0.5% SMS + 2% salt + 0.35% R-3 (retarder) + 3.75% LCM-1 + 0.05gps FP-6L (anti-foaming)
	362	11.5	2.67	14.75	19.38	Stage 2: Class C +4% MPA-5 (strength enhancement) + 10 lb/sk BA-90 (strength enhancement) + 1% BA-10A (Bonding improver) + 2% SMS + 1.2% R-3 (retarder) + 2% Salt + 5 lb/sk LCM-1 + 0.25 lb/sk Cello Flake (LCM) + 0.005 lb/sk Static Free (Anti-static) + 0.005 gps FP-6L (anti-foaming)
Prod.	1063	13.2	1.62	7.83	5.39	(20:65:15) Poz:Class C+8% CSE-2 (strength enhancement) + 2% FL-62 (fluid loss control) + 0.5% BA-10A (Bonding improver) + 0.5% SMS + 2% salt + 0.35% R-3 (retarder) + 3.75% LCM-1 + 0.05gps FP-6L (anti-foaming)

Lab reports with recipe and the 500 psi compressive strength time for the cement will be onsite for review.

DV tool to be run and two stage cement job to be performed as contingency in the event of flows or severe losses while drilling and running casing. DV tool depth will be adjusted based on hole conditions and cement volumes will be adjusted proportionally. DV tool will be set a minimum of 50 feet below previous casing and a minimum of 200 feet above current shoe.

	2 strings casing cer	ment design
Casing String	TOC	% Excess
Surface	0'	150% lead, 120% tail
Production	0'	200% lead, 100% tail
	Contingency plan -3 strings	casing cement design
Casing String	TOC	% Excess
Surface	0'	150% lead, 120% tail
Intermediate	0,	250% lead, 100% tail
Production	4000'	200% tail

Cement excess will be adjusted based on actual hole condition like losses or fluid caliper data if have.

4. Pressure Control Equipment

BOP installed and tested before drilling which hole?	Size?	Min. Required WP	T	ype	1	Tested to:			
			Anı	nular	X	70% of working pressure			
	11"	3M				Bline	Blind Ram		
									Pipe
			Double Ram Other*		X				
8-3/4" or 6-3/4"						214			
			Pipe Ram			3M			
			Double Ram						
			Other *						

^{*}Specify if additional ram is utilized.

BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure indicated above per Onshore Order 2 requirements. The System may be upgraded to a higher pressure but still tested to the working pressure listed in the table above. If the system is upgraded all the components installed will be functional and tested.

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. Other accessories to the BOP equipment will include a Kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold. See attached schematics.

X	Formation integrity test will be performed per Onshore Order #2. On Exploratory wells or on that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.i.		
No	A variance is requested for the use of a flexible choke line from the BOP to Choke Manifold. See attached for specs and hydrostatic test chart. Y /N Are anchors required by manufacturer?		
	A multibowl wellhead is being used. The BOP will be tested per Onshore Order #2 after installation on the surface casing which will cover testing requirements for a maximum of 30 days. If any seal subject to test pressure is broken the system must be tested.		
No	See attached schematic.		

5. Mud Program

		2 strin	gs casing mud pro	ogram		
De	pth	Type	Weight (ppg)	Viscosity	Water	PH
From	То				Loss	
0	Surf. shoe	FW Gel	8.5-9.0	28-40	N/C	N.C.
Surf. Shoe	TD	Saturated Brine	10.0	28-32	N/C	9-10.5
	C	ontingency pla	an-3 strings casing	mud progr	am	
Depth		Type Weight (p)		Viscosity	Water	PH
From	To				Loss	
0	Surf. shoe	FW Gel	8.5-9.0	28-40	N/C	N.C.
Surf. Shoe	Inter. shoe	Saturated Brine	10.0	28-32	N/C	9-10.5
Inter. shoe	TD	Saturated Brine	9.0-10.0	28-32	N/C	9-10.5

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

What will be used to monitor the loss or gain	PVT/Pason/Visual Monitoring
of fluid?	

6. Logging and Testing Procedures

Loggi	Logging, Coring and Testing.			
YES	Will run GR/CNL from TD to surface (horizontal well – vertical portion of hole). Stated			
	logs run will be in the Completion Report and submitted to the BLM.			
	No Logs are planned based on well control or offset log information.			
NO	Drill stem test? If yes, explain			
NO	Coring? If yes, explain			

Add	litional logs planned	Interval
	Resistivity	
	Density, GR, BHC	:
	CBL	
X	Mud log	
	PEX	

7. Drilling Conditions

Condition	Specify what type and where?
BH Pressure at deepest TVD	2592 psi
Abnormal Temperature	No

 Mitigation measure for abnormal conditions - 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.

Gas detection equipment and pit level flow monitoring equipment will be on location. A flow paddle will be installed in the flow line to monitor relative amount of mud flowing in the non-pressurized return line. Mud probes will be installed in the individual tanks to monitor pit volumes of the drilling fluid with a pit volume totalizer. Gas detecting equipment and H2S monitor alarm will be installed in the mud return system and will be monitored. A mud gas separator will be installed and operable before drilling out from the Surface Casing. The gases shall be piped into the flare system. Drilling mud containing H2S shall be degassed in accordance with API RP-49, item 5.14. If Hydrogen Sulfide is encountered, measured values and formations will be provided to the BLM.

10111	formations will be provided to the BLW.		
X	H2S is present		
X	H2S Plan attached		

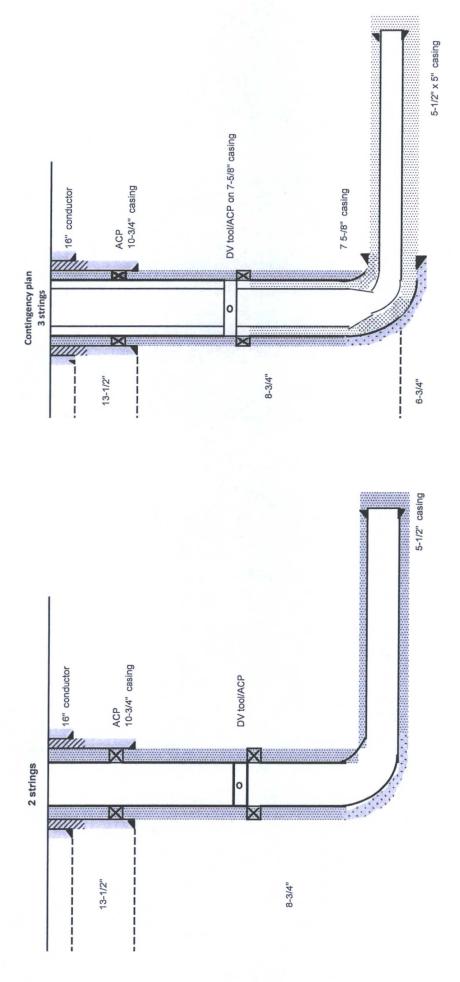
8. Other facets of operation

Is this a walking operation? If yes, describe. No Will be pre-setting casing? If yes, describe.

Attachments

X Directional Plan

X Other, describe: Two Stage contingency cementing diagram, Drill Plan Attachment #1



BLOWOUT PREVENTER ARRANGEMENT 3M System per Onshore Oil and Gas Order No. 2 utilizing 3M and 5M Rated Equipment Vent line to flare 2E Line in from Choke Manifold 1 2B 2C 3 12 2D 13 14 16

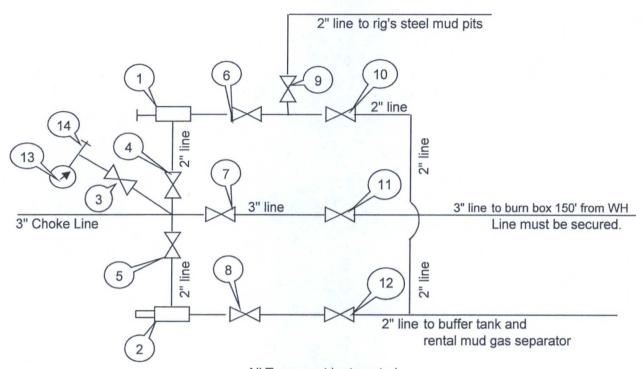
1	Rotating Head (11")
2A	Fill up Line and Valve
2B	Flow Line (8")
2C	Shale Shakers and Solids Settling Tank
2D	Cuttings Bins for Zero Discharge
2E	Rental Mud Gas Separator with vent line to flare and return line to mud system
3	Annular BOP (11", 3M)
4	Double Ram (11", 3M, equipped with Blind Rams and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

Description

Item

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 Manual Adjustable Choke, 2-1/16", 5M
- 2 Remote-Controlled Hydraulically-Operated Adjustable Choke, 2-1/16", 10M
- 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.

Submitted by:

Cord Denton

Drilling Engineer, Mid-Continent Business Unit, ConocoPhillips Company

Date: 27-April-2015

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

ConocoPhillips Company Well: Ruby Federal #100H

Location: Section 18, T17S, R32E

Date: 9/22/2015

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, use a drying pad, build an earthen pit above ground level, nor 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 frac tanks as needed. The intent is as follows:

- We propose to use the rig'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 during each tour and any necessary repairs will be made immediately. Any leak in the system will be repaired immediately, 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 the 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:

R-360 Inc.

4507 West Carlsbad Hwy, Hobbs, NM 88240, P.O. Box 388; Hobbs, New Mexico 88241 Phone Number: 575.393.1079

Phone Number, 575,393, 1079

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 R-360 is NM1-006.

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 R-360 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; P.O. Box 5208 Hobbs, NM, 88241, Phone Number: 575.392.2577; Permit SWD 092.
 - Basic Energy Services, 2404 W Texas Ave, Eunice, NM 88231; P.O. Box 1869, Eunice, NM 88231
 Phone Number: 575.394.2545, Facility located at Hwy 18, Mile Marker 19; Eunice, NM.
 - C & C Transport, LLC, P.O. Box 1352, Hobbs, NM 88241 Phone Number: 575.393.0422
 - Sundance Services, Inc., P.O. Box 1737 Eunice, NM 88231 Phone Number: 575.394.2511

Cord Denton
Drilling Engineer, ConocoPhillips Company
Phone: (281) 206-5406
Cell: (832) 754-7363

Fred Ahmadi Fard Sr. Drilling Engineer, ConocoPhillips Company Phone: (281) 206-5241 Cell: (281) 253-6152

SPECIFICATIONS

FLOOR: 3/16" PL one piece

CROSS MEMBER: 3 x 4.1 channel 16" on

center

WALLS: 3/16" PL solid welded with tubing

top, insi de liner hooks

DOOR: 3/16" PL with tubing frame FRONT: 3/16" PL stant formed

PICK UP: Standard cable with 2" x 6" x 1/4"

rails, gu sset at each crossmember

WHEELS: 10 DIA x 9 long with rease fittings DOOR LATCH: 3 Independent ratchet binders with chains, vertical second latch GASKETS: Extruded rubber seal with metal

retainers

WELDS: All welds continuous except sub-

structur e crossmembers

FINISH: Coated inside and out with direct to metal, rust inhibiting acrylic enamel color coat HYDROTESTING: Full capacity static test DIMEN SIONS: 22°-11° long (21'-8" inside), 99" wide (88° inside), see drawing for height OPTIONS: Steel grit blast and special paint,

Ampliroll, Heil and Dino pickup

ROOF: 3/16" PL roof panels with tubing and

channel support frame

LIDS: (2) 68" x 90" metal rolling lids spring

loaded, self raising

ROLLERS: 4" V-groove rollers with delrin

bearings and grease fittings

OPENING: (2) 60" x 82" openings

with 8" divider centered on

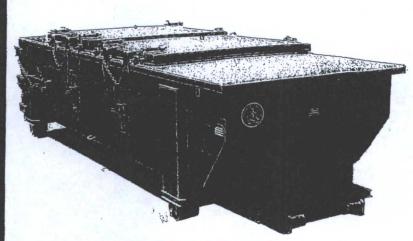
contain er

LATCH:(2) independent ratchet binders with chains

per lid

GASKETS: Extruded rubber seal with metal retainers

Heavy Duty Split Metal Rolling Lid



CONT.	Α	В
20 YD	41	53
25 YD	53	65
30 YD	65	77

