HOBBS OCD		· .			S-13-808	
Form 3160-3 (March 2012) SEP 09 2013		OCD Hobbs		FORM APPROVED OMB No. 1004-0137		
	TES	· · · · · · · · · · · · · · · · · · ·		Expires October 31, 2014		
RECEIVEDEPARTMENT OF THE BUREAU OF LAND M	HE INTE	ERIOR		5. Lease Serial No. USA LC 058408A		
APPLICATION FOR PERMIT				6. If Indian, Allotee or T N/A	ribe Name	
la. Type of work: DRILL RE	ENTER			7 If Unit or CA Agreemer 101015 70987 ×		
lb. Type of Well: Oil Well Gas Well 🗸 Other	Ini	Single Zone Multi	ple Zone	8. Lease Name and Well MCA Unit 451	31422	
2. Name of Operator ConocoPhillips Company	12	17817		9. API Well No. 30-025- 436	PI.	
3a. Address P.O. Box 51810 Midland, Texas 79710-1810		Phone No. (include area code) 2-688-6913		10. Field and Pool, or Explo Maljamar; Grayburg/Sa	~~~~~	
4. Location of Well (Report location clearly and in accordance w		•		11. Sec., T. R. M. or Blk. an	d Survey or Area	
At surface UL G, Sec. 26, T17S, R32E; 1365' FNL a	and 2180'	FEL .		Sec. 26, T17S, R32E		
At proposed prod. zone same				12. County or Parish	13. State	
14. Distance in miles and direction from nearest town or post office Approximately 5 miles SE of Maljamar, New Mexico	*			Lea County	NM	
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	16. 80	No. of acres in lease		g Unit dedicated to this well		
8. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 500 '	19. 450	Proposed Depth 00'	20. BLM/ ES 0085	/BIA Bond No. on file 5		
1. Elevations (Show whether DF, KDB, RT, GL, etc.)	22	Approximate date work will sta	rt*	23. Estimated duration		
3992' GL	11/	/01/2013		10 Days		
		Attachments			· · · · · · · · · · · · · · · · · · ·	
 The following, completed in accordance with the requirements of O 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) 	stem Lands	 4. Bond to cover the Item 20 above). the 5. Operator certification 	ne operation ation	ns unless covered by an exist prmation and/or plans as may		
25. Signature SUSOULB. Maunder		Name <i>(Printed/Typed)</i> Susan B. Maunder			ay 14,2013	
Senior Regulatory Specialist				<u> </u>		
pproved by (Signature) /s/George MacDone		Name (Printed/Typed)		Date S	EP - 4 2013	
FIELD MANAGER		Office CARL	SBAD FI	eld ôffige		
pplication approval does not warrant or certify that the applicant	holds lega	or equitable title to those right	s in the sub	ject lease which would entitle.	the applicant to	
onduct operations thereon. onditions of approval, if any, are attached.			A	PPROVAL FOR	TWO YEARS	
tle 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it ates any false, fictitious or fraudulent statements or representation	t a crime fo is as to any	or any person knowingly and w matter within its jurisdiction.				
(Continued on page 2)		Ke		*(Instructi	ons on page 2)	
oswell Controlled Water Basin		09/10/19	•	Approval Subject to G	eneral Requirement ations Attached	
CONSERVATION DIVISON ONDITION OF APPROVAL: Approval for drilling/worko	ver		SEF	ATTACHED	FOP 7.	
NLY - CANNOT INJECT/DISPOSE until the Injection/dide has been approved by the OCD Santa Fe office.	isposal			NDITIONS OF		

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'SEP 1 7 2013

Drilling Plan ConocoPhillips Company Maljamar; Grayburg-San Andres

MCA Unit #451

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 Depth FT TVD	Contents
Quaternary	Surface	Fresh Water
Rustler	998	Anhydrite
Salado (top of salt)	1174	Salt
Tansill	2199,	Gas, Oil and Water
Yates	2357	Gas, Oil and Water
Seven Rivers	2703	Gas, Oil and Water
Queen	3349	Gas, Oil and Water
Grayburg	3710	Gas, Oil and Water
Grayburg-6	3988	Gas, Oil and Water
San Andres-7	4126	Gas, Oil and Water
San Andres-9	4297	Gas, Oil and Water
Total Depth	4500	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' off bottom of 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.

MCA Unit #451

(Date: 4/19/2013)

2. Proposed casing program:

Туре	Hole Size	M	Interval D RKB (ft)	OD	Wt	Gr	Conn	MIY	Col	Jt Str		Safety Fa lated per Co Corporate (nocoPhillips
туре	(in)	From	То	(inches)	(lb/ft)		Contr	(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	1023' - 1068'	8-5/8	24#	J-55	STC	2950	1370	244	1.50	. 2.89	3.37
Prod	7-7/8	0	4445' – 4490'	5-1/2	17#	J-55	LTC	5320	4910	247	2.28	3.64	2.15

The casing will be suitable for H₂S Service. All casing will be new.

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 Safety Factors - BLM Criteria:

Casing Design Factors

Туре	Depth	Wt	MIY.	Col	Jt Str	Drill Fluid	Burst	Collapse	Tensile-Dry	Tens-Bouy
Surface Casing	1068	24	2950	1370	244000	8.5	6.25	2.90	9.5	10.9
Production Casing	4490	17	5320	4910	247000	10	2.28	2.10	3.24	3.82

Casing 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.

1.05

· · _ · · _ · · _ · · · .	ConocoPhillips Corporate Cri	teria for Minimum Design Factors	
	Burst	Collapse	Axial

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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:

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		vals MD	Weight ppg	Sx	Vol Cuft	Additives	Yield ft ³ /sx
Lead	Class C	Surface	723' – 767'	13.6	300	510	+ 2% Extender + 2% CaCl ₂ + 0.125 lb/sx Lost Circulation Control Agent + 0.2% Defoamer Excess =200% based on gauge hole volume	1.70
Tail	Class C	723' – 767'	1023' – 1068'	14.8	200	268	1% CaCl2 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 – Single Stage Cementing Option:

The intention for the cementing program for the Production Casing – Single Stage Cementing Option is to:

- Place the Tail Slurry from the casing shoe to above the top of the Paddock,
- Bring the Lead Slurry to surface.

Spacer: 20 bbls Fresh Water

	Slurry		ervals MD	Weight ppg	Sx	Vol Cuft	Additives	Yield ft ³ /sx
Lead	50:50 Poz/C	Surface	3200'	11.8	450	1031	+ 10 % Extender + 5 % NaCl + 0.2 % Defoamer + 5 lb/sx LCM/Extender + 0.125 lb/sx Lost Circulation Control Agent + 0.5 % Fluid Loss Excess = 20% or more if needed based on gauge hole volume	2.29
Tail	Poz/C CO2 Resistant Cement	3200'	4445' – 4490'	14.5	.300	378	+ 1 % Extender + 0.5 % Fluid Loss + 0.4 % Dispersant + 0.2 % Defoamer Excess = 60% or more if needed based on gauge hole volume	1.26

Displacement: Fresh Water with approximately 250 ppm gluteraldehyde biocide.

MCA Unit #451

(Date: 4/19/2013)

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5-1/2" Production Casing Cementing Program - Two-Stage Cementing Option: See COP

ConocoPhillips Company respectfully requests the options to our cementing program. The intention for the cementing program for the Production Casing – Two-Stage Cementing Option is to:

- Provide a contingency plan for using a Stage Tool and Annulus Casing Packer(s) to isolate losses or waterflow
 if either of these events occurs while drilling the well.
- Place the Stage 1 Cement from the casing shoe to the stage tool,
- Bring Stage 2 Cement from the stage tool to surface.

Spacer: 20 bbls Fresh Water

Stag	ge 1 - Slurry		tervals Ft MD	Weight ppg	Sx	Vol Cuft	Additives	Yield ft ³ /sx
Lead	Poz/C CO2 Resistant Cement	3200'	4445' – 4490'	14.5	300	378	+ 1 % Extender + 0.5 % Fluid Loss + 0.4 % Dispersant + 0.2 % Defoamer Excess = 60% or more if needed based on gauge hole volume	1.26

Stage 2 - Slurry		Intervals Ft MD		Weight ppg	Sx	Vol Cuft	Additives	Yield ft ³ /sx	
Lead	50:50 Poz/C	Surface	1400'	11.8	250	573	+ 10 % Extender + 5 % NaCl + 0.2 % Defoamer + 5 lb/sx LCM/Extender + 0.125 lb/sx Lost Circulation Control Agent + 0.5 % Fluid Loss Excess = 120% or more if needed based on gauge hole volume	2.29	
Tail	Poz/C CO2 Resistant Cement	1400'	Stage Tool ~ 3200'	14.5	400	504	+ 1 % Extender + 0.5 % Fluid Loss + 0.4 % Dispersant + 0.2 % Defoamer Excess = 10% or more if needed based on gauge hole volume	1.26	

Displacement: Fresh Water

Proposal for Option to Adjust Production Casing Cement Volumes:

The production casing cement volumes for the proposed single stage and two-stage option presented above are estimates based on gauge 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.

MCA Unit #451

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.** A variance is respectfully requested to allow for the use of flexible hose. The variance request is included as a separate enclosure with attachments.

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 in Steel Pits	8.5 - 9.0	28 40	N.C.	N.C.	300 – 500
Surface Casing Point to TD	Brine (Saturated NaCl ₂) in Steel Pits	10	29	N.C.	10 – 11	500 – 1000 y
Conversion to Mud at TD	Brine Based Mud (NaCl ₂) in Steel Pits	10	33 – 40	5 – 10	10 – 11	0 – 500

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.

In the event that the well is flowing from a waterflow, then we would discharge excess drilling fluids from the steel mud pits through a fas-line into steel frac tanks at an offset location for containment. Depending on the rate of waterflow, excess fluids will be hauled to an approved disposal facility, or if in suitable condition, may be reused on the next well.

No reserve pit will be built.

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. We do not plan to keep any weighting material at the wellsite. Also, we propose an option to not mud up leaving only brine in the hole if we have good hole stability.

MCA Unit #451

(Date: 4/19/2013)

6. Logging, Coring, and Testing Program: See COPA

- a. No drill stem tests will be done
- b. Remote gas monitoring planned for the production hole section (optional).
- c. No whole cores are planned
- d. The open hole electrical logging program is planned to be as follows:
 - Total Depth to 1700': Spectral GR, Gamma Ray, Resistivity, Density, and BHC Sonic
 - Total Depth to surface Casing Shoe: Caliper
 - Total Depth to surface, Gamma Ray and Neutron
 - Total Depth to 3200': Dielectric Scanner
 - Formation pressure data (XPT) on electric line
 - Rotary Sidewall Cores on electric line if needed (optional) .
 - FMI (Formation MicroImager) if needed (optional)
 - UBI (Ultrasonic Borehole Imager) 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.
 - The bottom hole pressure is expected to be 8.55 ppg gradient. 0
 - The expected Bottom Hole Temperature is 115 degrees F. 0
- 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	Gas Rate	ROE	ROE	
	(PPM)	(MCFD)	100 PPM	500 PPM	
Grayburg / San Andres (from MCA)	14000	38	. 59	27	

ConocoPhillips will comply with the provisions of Oil and Gas Order # 6, Hydrogen Sulfide Operations. Also, ConocoPhillips will provide an H2S Contingency Plan (please see copy attached) and will keep this plan updated and posted at the wellsite during the drilling operation.

8. Anticipated starting date and duration of operations:

Well pad and road constructions will begin as soon as all agency approvals are obtained. Anticipated date to drill this well is late 2013 after receiving approval of the APD.

Attachments:

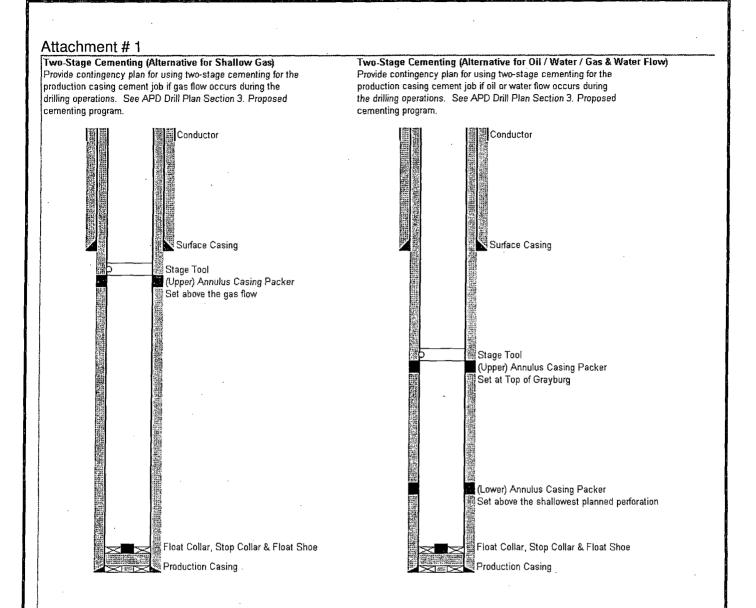
- Attachment # 1Two-stage Cementing Schematic
- Attachment # 2......BOP and Choke Manifold Schematic 3M System
- Attachment # 3...... Diagram of Choke Manifold Equipment

Contact Information:

Proposed 19 April 2013 by: James Chen Drilling Engineer, ConocoPhillips Company Phone (832) 486-2184 Cell (832) 768-1647

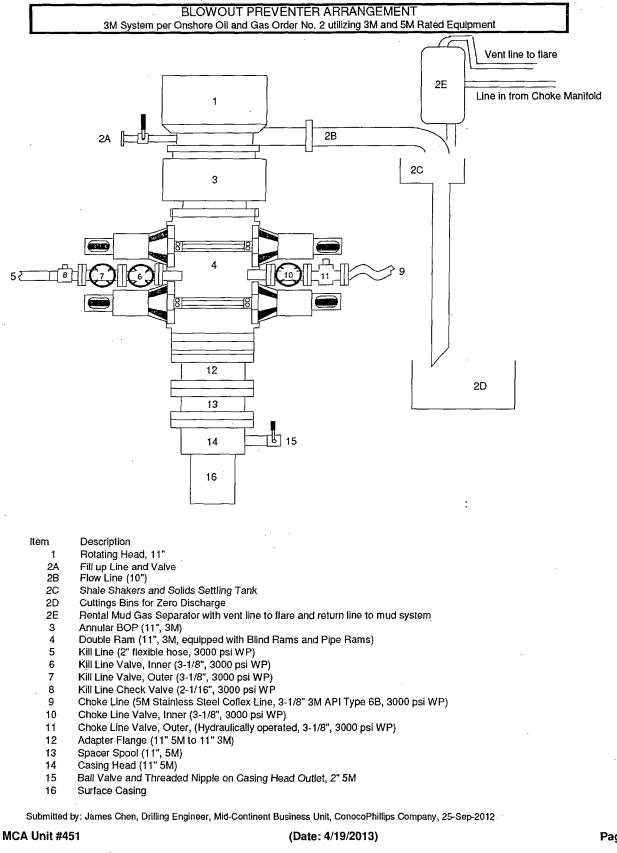
MCA Unit #451

(Date: 4/19/2013)

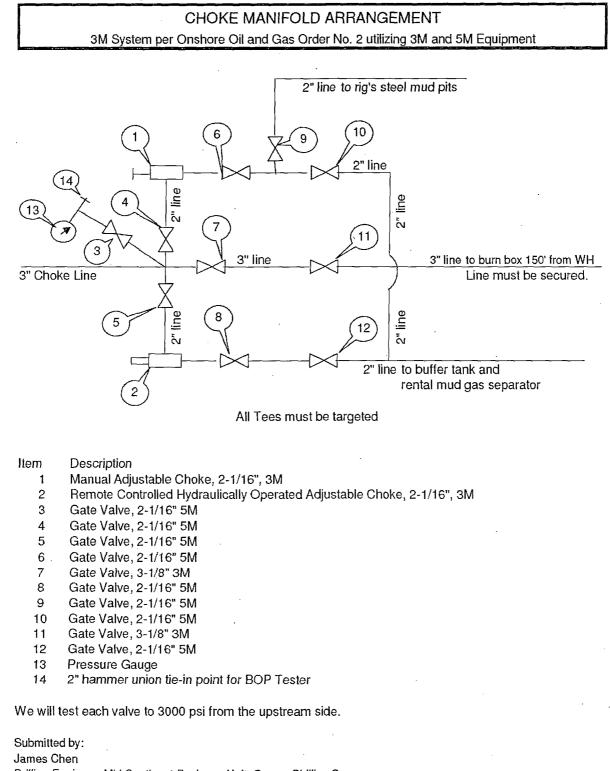


MCA Unit #451

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Drilling Engineer, Mid-Continent Business Unit, ConocoPhillips Company Date: 21-March-2013

MCA Unit #451

(Date: 4/19/2013)

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Request for Variance

ConocoPhillips Company

Lease Number: USA LC 058408A Well: MCA Unit #451 Location: Sec. 26, T17S, R32E Date: 04-19-13

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:

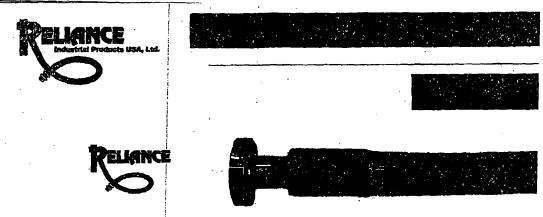
The applicability of the flexible choke line will reduce the number of target tees required to make up from the choke valve to the choke manifold. This configuration will facilitate ease of rig up and BOPE Testing.

Attachments:

- Attachment # 1 Specification from Manufacturer
- Attachment # 2 Mill & Test Certification from Manufacturer

Contact Information:

Program prepared by: James Chen Drilling Engineer, ConocoPhillips Company Phone (832) 486-2184 Cell (832) 768-1647 Date: 26 September 2012



Reliance Eliminator Choke & Kill

This hose can be used as a choke hose which connects the BOP stack to the bleed-off manifold or a kill hose which connects the mud stand pipe to the BOP kill valve.

The Reliance Eliminator Choke & Kill hose contains a specially bonded compounded cover that replaces rubber covered Asbestos, Fibreglass and other fire retardant materials which are prone to damage. This high cut and gouge resistant cover overcomes costly repairs and downtime associated with older designs.

The Reliance Eliminator Choke & Kill hose has been verified by an independent engineer to meet and exceed EUB Directive 36 (700°C for 5 minutes).

	Nom. (D				Nom OD Welg		ght Min Benn		nd Radius	Max	Max WP	
	in. 3	mm. 76.2	in 5.1		mm 129.79	16/ft 14.5	kg/m 21.46	in. 48	mm. 1219.2	psi 5000	Mpa 34.47	
	3-1/2	88.9	5.7		147.06	20.14	29.80	-60 54	1371.6	5000	34.4	
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	Fittings			Flanges		· ·	Hammer Unions		ions	Other		
,	RC4X5055					PI Type 6B	All Un	ion Configu	rations Lf	P Threaded Co		
	RC3X5055 RC4X5575	F	(31	- 3-1/8	3000# AF	Pl Type 6B				Grayloc Custom E		
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