1. GEOLOGIC NAME OF SURFACE FORMATION: Permian

2. ESTIMATED TOPS OF IMPORTANT GEOLOGICAL MARKERS:

Rustler Top of Salt	825' 1,176'
Base of Salt / Top Anhydrite	4,637'
Base Anhydrite	4,874'
Lamar	4,874'
Bell Canyon	4,901'
Cherry Canyon	5,918'
Brushy Canyon	7,478'
Bone Spring Lime	9,047'
1 st Bone Spring Sand	9,971'
2 nd Bone Spring Shale	10,280'
2 nd Bone Spring Sand	10,550'
3 rd Bone Spring Carb	11,086'
3 rd Bone Spring Sand	11,702'
Wolfcamp	12,167'
TD	12,326'

3. ESTIMATED DEPTHS OF ANTICIPATED FRESH WATER, OIL OR GAS:

Upper Permian Sands	0-400'	Fresh Water
Cherry Canyon	5,918'	Oil
Brushy Canyon	7,478'	Oil
1st Bone Spring Sand	9,971'	Oil
2 nd Bone Spring Shale	10,280'	Oil
2 nd Bone Spring Sand	11,550'	Oil
3 rd Bone Spring Carb	11,086'	Oil
3 rd Bone Spring Sand	11,702'	Oil
Wolfcamp	12,167'	Oil

No other Formations are expected to give up oil, gas or fresh water in measurable quantities. Surface fresh water sands will be protected by setting 10.75" casing at 850' and circulating cement back to surface.

Hole		Csg				DFmin	DFmin	DFmin
Size	Interval	OD	Weight	Grade	Conn	Collapse	Burst	Tension
14.75"	0-850'	10.75"	40.5#	J55	STC	1.125	1.25	1.60
9.875"	0 - 1,000'	7.625"	29.7#	HCP-110	LTC	1.125	1.25	1.60
9.875"	1,000' –	7.625"	29.7#	P-110EC	SLIJ II	1.125	1.25	1.60
	3,000'			_		_		
8.75"	3,000' - 11,100'	7.625"	29.7#	HCP-110	FlushMax III	1.125	1.25	1.60
6.75"	0'-10,600'	5.5"	20#	P-110EC	DWC/C-IS MS	1.125	1.25	1.60
6.75"	10,600'-17,165'	5.5"	20#	P-110EC	VAM SFC	1.125	1.25	1.60

4. CASING PROGRAM - NEW

Variance is requested to wave the centralizer requirements for the 7-5/8" FJ casing in the 8-3/4" hole size. An expansion additive will be utilized, in the cement slurry, for the entire length of the 8-3/4" hole interval to maximize cement bond and zonal isolation.

Variance is also requested to wave any centralizer requirements for the 5-1/2" FJ casing in the 6-3/4" hole size. An expansion additive will be utilized, in the cement slurry, for the entire length of the 6-3/4" hole interval to maximize cement bond and zonal isolation.

Depth	No. Sacks	Wt. ppg	Yld Ft ³ /ft	Mix Water Gal/sk	Slurry Description
10-3/4" 850'	325	13.5	1.73	9.13	Class C + 4.0% Bentonite + 0.6% CD-32 + 0.5% $CaCl_2$ + 0.25 lb/sk Cello-Flake (TOC @ Surface)
	200	14.8	1.34	6.34	Class C + 0.6% FL-62 + 0.25 lb/sk Cello-Flake + 0.2% Sodium Metasilicate
7-5/8" 11,100'	250	14.8	1.38	6.48	Class C + 5% Gypsum + 3% CaCl2 pumped via Bradenhead (TOC @ Surface)
	2000	14.8	1.38	6.48	Class C + 5% Gypsum + 3% CaCl2 pumped via Bradenhead
	550	14.4	1.20	4.81	50:50 Class H:Poz + 0.25% CPT20A + 0.40% CPT49 + 0.20% CPT35 + 0.80% CPT16A + 0.25% CPT503P pumped Conventionally
5-1/2" 17,165'	725	14.1	1.26	5.80	Class H + 0.1% C-20 + 0.05% CSA-1000 + 0.20% C-49 + 0.40% C-17 (TOC @ 10,600')

Cementing Program:

Note: Cement volumes based on bit size plus at least 25% excess in the open hole plus 10% excess in the cased-hole overlap section.

5. MINIMUM SPECIFICATIONS FOR PRESSURE CONTROL:

Variance is requested to use a co-flex line between the BOP and choke manifold (instead of using a 4" OD steel line).

The minimum blowout preventer equipment (BOPE) shown in Exhibit #1 will consist of a single ram, mud cross and double ram-type (10,000 psi WP) preventer and an annular preventer (5000-psi WP). Both units will be hydraulically operated and the ram-type will be equipped with blind rams on bottom and drill pipe rams on top. All BOPE will be tested in accordance with Onshore Oil & Gas order No. 2.

Before drilling out of the surface casing, the ram-type BOP and accessory equipment will be tested to 5000/ 250 psig and the annular preventer to 3500/ 250 psig. The surface casing will be tested to 1500 psi for 30 minutes.

Before drilling out of the intermediate casing, the ram-type BOP and accessory equipment will be tested to 5000/ 250 psig and the annular preventer to 3500/ 250 psig. The intermediate casing will be tested to 2000 psi for 30 minutes.

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 hydraulically operated choke will be installed prior to drilling out of the intermediate casing shoe.

6. TYPES AND CHARACTERISTICS OF THE PROPOSED MUD SYSTEM:

During this procedure we plan to use a Closed-Loop System and haul contents to the required disposal.

The applicable depths and properties of the drilling fluid systems are as follows.

Depth	Туре	Weight (ppg)	Viscosity	Water Loss
0 - 850'	Fresh - Gel	8.6-8.8	28-34	N/c
850' - 11,100'	Brine	8.8-10.0	28-34	N/c
11,100' - 17,165'	Oil Base	10.0-14.0	58-68	3 - 6
Lateral				

The highest mud weight needed to balance formation is expected to be 11.5 ppg. In order to maintain hole stability, mud weights up to 14.0 ppg may be utilized.

An electronic pit volume totalizer (PVT) will be utilized on the circulating system, to monitor pit volume, flow rate, pump pressure and stroke rate.

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

7. AUXILIARY WELL CONTROL AND MONITORING EQUIPMENT:

- (A) A kelly cock will be kept in the drill string at all times.
- (B) A full opening drill pipe-stabbing valve (inside BOP) with proper drill pipe connections will be on the rig floor at all times.
- (C) H₂S monitoring and detection equipment will be utilized from surface casing point to TD.

8. LOGGING, TESTING AND CORING PROGRAM:

Open-hole logs are not planned for this well.

GR–CCL Will be run in cased hole during completions phase of operations.

9. ABNORMAL CONDITIONS, PRESSURES, TEMPERATURES AND POTENTIAL HAZARDS:

The estimated bottom-hole temperature (BHT) at TD is 181 degrees F with an estimated maximum bottom-hole pressure (BHP) at TD of 7337 psig (based on 11.5 ppg MW). No hydrogen sulfide or other hazardous gases or fluids have been encountered, reported or are known to exist at this depth in this area. Severe loss circulation is expected from 7,300' to Intermediate casing point.

10. ANTICIPATED STARTING DATE AND DURATION OF OPERATIONS:

The drilling operation should be finished in approximately one month. If the well is productive, an additional 60-90 days will be required for completion and testing before a decision is made to install permanent facilities.

(A) EOG Resources requests the option to contract a Surface Rig to drill, set surface casing, and cement on the subject well. If the timing between rigs is such that EOG Resources would not be able to preset the surface, the Primary Rig will MIRU and drill the well in its entirety per the APD.

11. WELLHEAD:

A multi-bowl wellhead system will be utilized.

After running the 10-3/4" surface casing, a 13-5/8" BOP/BOPE system with a minimum working pressure of 5000 psi will be installed on the wellhead system and will be pressure tested to 250 psi low followed by a 5000 psi pressure test. This pressure test will be repeated at least every 30 days, as per Onshore Order No. 2

The minimum working pressure of the BOP and related BOPE required for drilling below the surface casing shoe shall be 5000 psi.

The multi-bowl wellhead will be installed by vendor's representative(s). A copy of the installation instructions for the Stream Flo FBD100 Multi-Bowl WH system has been sent to the NM BLM office in Carlsbad, NM.

The wellhead will be installed by a third party welder while being monitored by WH vendor's representative.

All BOP equipment will be tested utilizing a conventional test plug. Not a cup or J-packer type.

A solid steel body pack-off will be utilized after running and cementing the intermediate casing. After installation the pack-off and lower flange will be pressure tested to 5000 psi.

Both the surface and intermediate casing strings will be tested as per Onshore Order No. 2 to at least 0.22 psi/ft or 1500 psi, whichever is greater.

TECHNICAL SPECIFICATIONS

These specifications are furnished for general information only and are not intended for design purposes. This information is preliminary and may change subject to a final design by VAM-USA Engineering. This is not a controlled document.

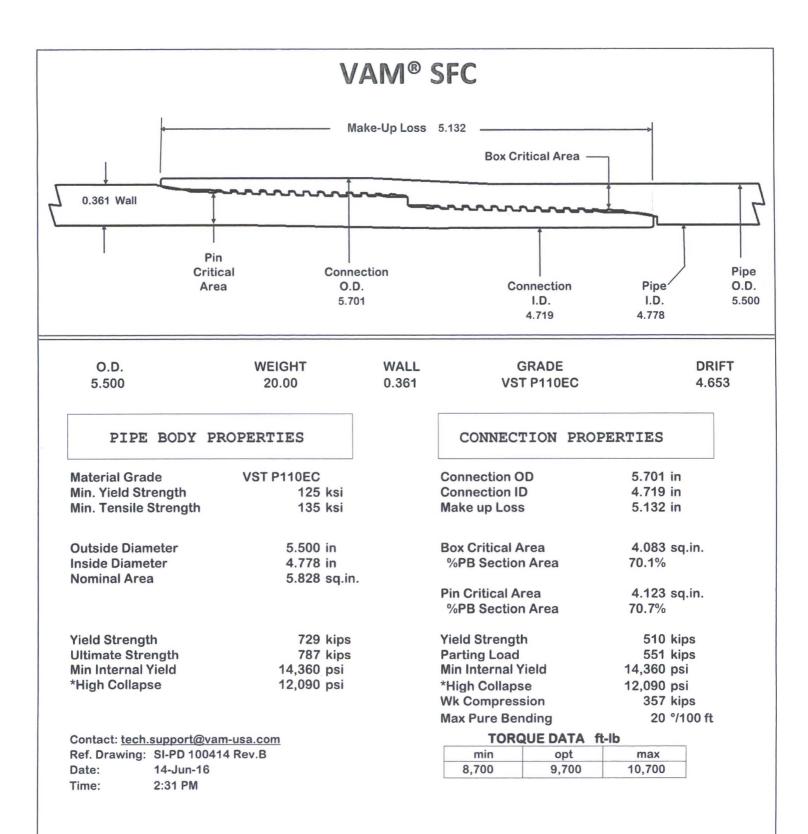
promining and may	on any other				
DWC/C-IS MS standard		Casing	5.500" O.D.	20.00 lb./ft.	VST P-110EC
		Material			
VST P-110EC		Grade			
125,000		Minimum Yield Strength (ps	si.)		
135,000		Minimum Ultimate Strength	(psi.)		
		Pipe Dimensions			USA
5.500		Nominal Pipe Body OD (in.	,	VAM-USA 4424 W. Sam Houstor	Blue Suite 150
4.778		Nominal Pipe Body ID (in.)		Houston, TX 77041	
0.361		Nominal Wall Thickness (in	1.)	Phone: (713) 479-32 Fax: (713) 479-3234	00
20.00		Nominal Weight (lbs./ft.)		E-mail: VAMUSAsales	@na.vallourec.com
19.83 5.828		Plain End Weight (lbs./ft.) Nominal Pipe Body Area (s	in)		
5.020			. ,		
		Pipe Body Performance F			
729,000		Minimum Pipe Body Yield			
12,090		Minimum Collapse Pressur			
14,360		Minimum Internal Yield Pre			
13,100		Hydrostatic Test Pressure	(psi.)		
		Connection Dimensions			
6.115		Connection OD (in.)			
4.778		Connection ID (in.)			
4.653		Connection Drift Diameter	(in.)		
4.13		Make-up Loss (in.)			
5.828 100.0		Critical Area (sq. in.) Joint Efficiency (%)			
100.0		,	-		
		Connection Performance	Properties		
729,000	(1)	Joint Strength (lbs.)		-	
26,040	(2)	Reference String Length (f	t.) 1.4 Design H	actor	
728,000 729,000	(3)	API Joint Strength (lbs.) Compression Rating (lbs.)			
12,090		API Collapse Pressure Rat	ting (nsi)		
14,360	(4)	API Internal Pressure Resi			
104.2	(.)	Maximum Uniaxial Bend R		00 ft.)	
		Approximated Field End			
16,600	(5)				
19,100	(5) (5)	Minimum Final Torque (ft Maximum Final Torque (ft			
21,600	(6)	Connection Yield Torque (ft.	,		
		um pipe body yield strength multiplie	,	critical area	
		the joint strength divided by both th			

(3) API Joint Strength is for reference only. It is calculated from Formulas 42 and 43 in the API Bulletin 5C3.

- (4) API Internal Pressure Resistance is calculated from Formulas 31, 32, and 35 in the API Bulletin 5C3.
- (5) Torque values are approximated and may be affected by field conditions.

(6) Connection yield torque is not to be exceeded.

Connection specifications within the control of VAM-USA were correct as of the date printed. Specifications are subject to change without notice. Certain connection specifications are dependent on the mechanical properties of the pipe. Mechanical properties of mill proprietary pipe grades us obtained from mill publications and are subject to change. Properties of mill proprietary grades should be confirmed with the mill. Users are advite obtain current connection specifications and verify pipe mechanical properties for each application.





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Issued on: 24 Jan. 2017

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Connection Data Snee

OD	Weight	Wall Th.	Grade	API Drift	Connection
5/8 in.	29.70 lb/ft	0.375 in.	VM 110 HC	6.750 in.	VAM® SLIJ-II

PIPE PROPERT	IES	
Nominal OD	7.625 in.	Connect
Nominal ID	6.875 in.	Connect
Nominal Cross Section Area	8.541 sqin.	Connect
Grade Type	High Collapse	Make-up
Min. Yield Strength	110 ksi	Critical (
Max. Yield Strength	140 ksi	Tension
Min. Ultimate Tensile Strength	125 ksi	Compre

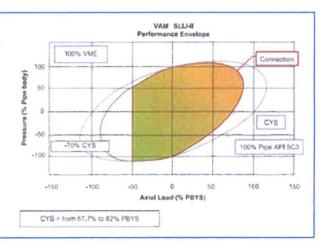
CONNECTION	PROPERTIES
Connection Type	Premium integral semi-flush
Connection OD (nom)	7.711 in.
Connection ID (nom)	6.820 in.
Make-up Loss	4.822 in.
Critical Cross Section	5.912 sqin.
Tension Efficiency	69.2 % of pipe
Compression Efficiency	48.5 % of pipe
Internal Pressure Efficiency	100 % of pipe
External Pressure Efficiency	100 % of pipe

CONNECTION PERFOR	MANCES	
Tensile Yield Strength	651	klb
Compression Resistance	455	klb
Internal Yield Pressure	9470	psi
Uniaxial Collapse Pressure	7890	psi
Max. Bending Capacity	TDB	
Max Bending with Sealability	20	°/100 ft

FIELD TORQUE	VALUES
Min. Make-up torque	11300 ft.lb
Opti. Make-up torque	12600 ft.lb
Max. Make-up torque	13900 ft.lb

VAM® SLIJ-II is a semi-flush integral premium connection for all casing applications. It combines a near flush design with high performances in tension, compression and gas sealability.

VAM® SLIJ-II has been validated according to the most stringent tests protocols, and has an excellent performance history in the world's most prolific HPHT wells.



Do you need help on this product? - Remember no one knows VAM[®] like VAM

canada@vamfieldservice.com usa@vamfieldservice.com mexico@vamfieldservice.com brazil@vamfieldservice.com uk@vamfieldservice.com dubal@vamfieldservice.com nigeria@vamfieldservice.com angola@vamfieldservice.com

- china@vamfieldservice.com baku@vamfieldservice.com singapore@vamfieldservice.com
- australia@vamfieldservice.com

Over 140 VAM® Specialists available worldwide 24/7 for Rig Site Assistance

Other Connection Data Sheets are available at www.vamservices.com

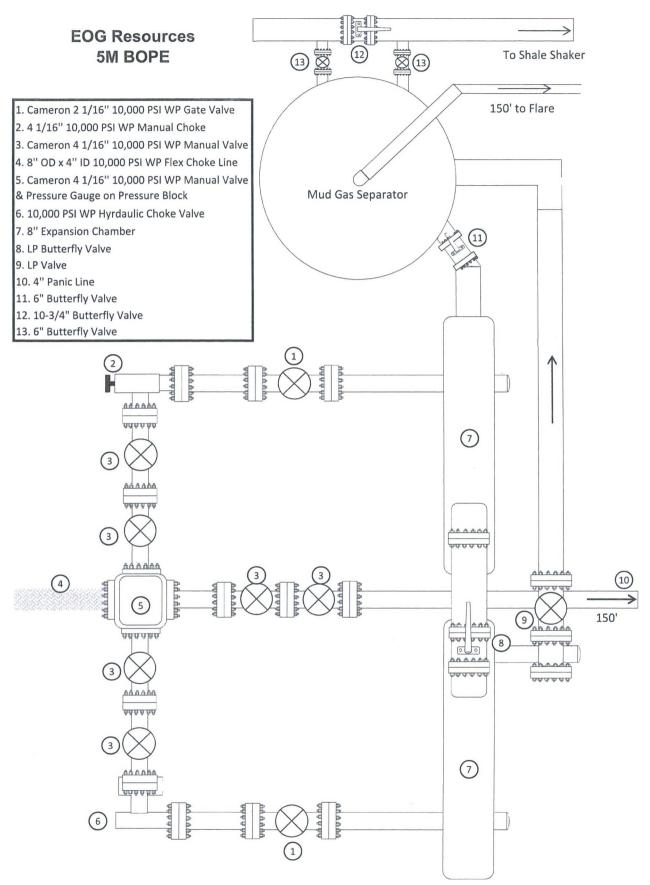


Vallourec Group

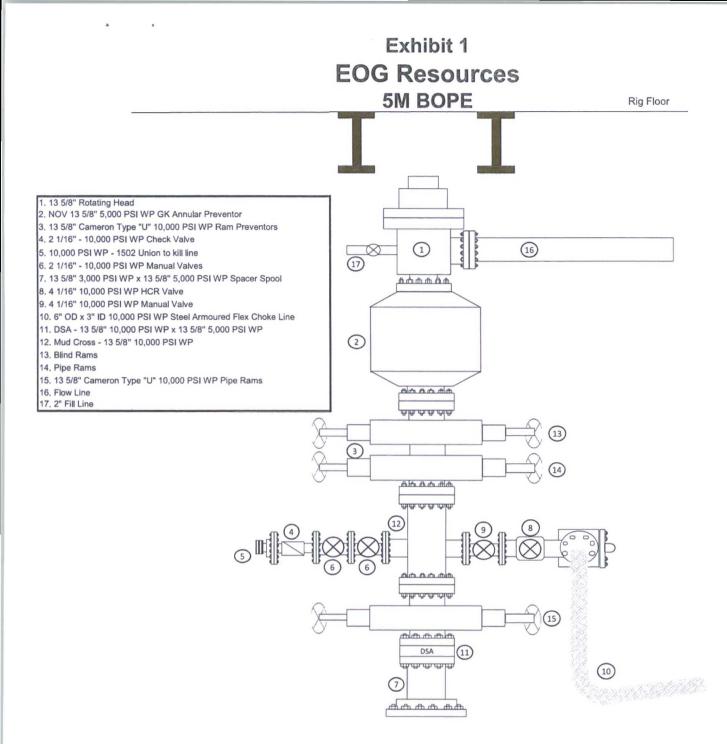
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Tal One				Date	1-001-15
al One Corp	Connection Data Sheet			Rev.	N-0
-		Make up loss	s		
	fun	inn	m	mpt	
		τ	I		
- 1	Pin critical			Box critical are	ea
Dine Bade		terra and		6.1	
Pipe Body Grade		P110		P110	
Pipe OD (D)		7 5/8	in	193.68	mm
Weight	1	29.7	lb/ft	44.25	kg/m
Actual weight		29.0	ib/ft	43.26	kg/m
Wall thickness (t)		0.375	in	9.53	mm
Pipe ID (d)	-/	6.875	in	174.63	mm
Pipe body cross section		8.537	in ²	5.508	mm ²
Drift Dia.		6.750	in	171.45	mm
Connection Box OD (W) PIN ID		7.625	in	193.68 174.63	mm
Pin critical area			in ²		mm ²
		4.420	_	2,852	
Box critical area		4.424	in ²	2,854	mm ²
Joint load efficient	ncy	60	%	60 77,22	%
Make up loss Thread taper		3.040	in /16 (3/4		mm
Number of threa	de	1	5 thread		
			5 uneau	per III.	
Connection Per			L Mars I	0.500	LINI
Tensile Yield loa M.I.Y.P.	u	563.4	kips	2,506	kN MPa
Collapse strengt	h	7,574 5,350	psi	36.9	MPa
		5,550	psi	30.9	IMIF a
Note M.I.Y.P. = Mir Torque Recomr					N-m
Min.		8,700 9,700	ft-lb ft-lb	11,700 13,100	N-m
Onti	the second se	10,700	ft-lb	14,500	N-m
Opti.				14.000	
Opti. Max. Operationa		23,600	ft-lb	32,000	N-m



4



EOG 5M Choke Manifold Diagram (rev. 3/21/14)



Manufacturer: Midwest Hose & Specialty

Serial Number: SN#90067

Length: 35'

.

Size: OD = 8" ID = 4"

Ends: Flanges Size: 4-1/16"

WP Rating: 10,000 psi Anchors required by manfacturer: No

MIDWEST

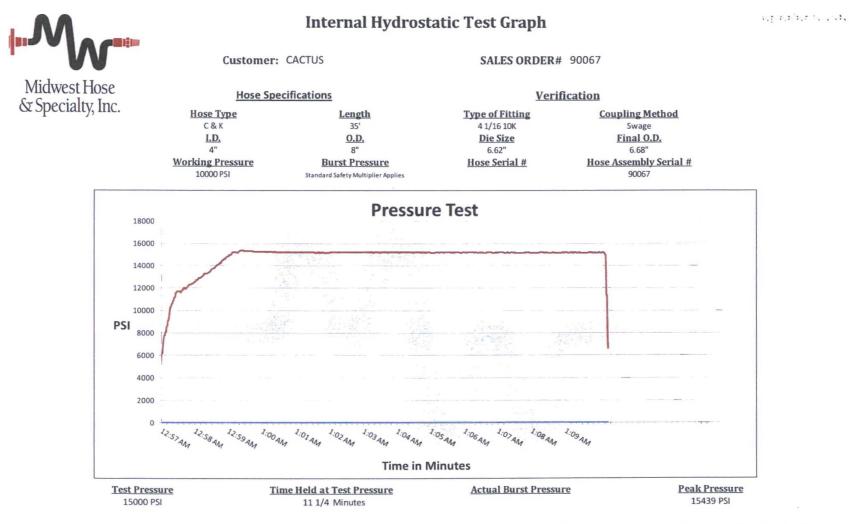
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HOSE AND SPECIALTY INC.

INTERNAL HYDROSTATIC TEST REPORT						
Customer:				P.O. Number:		
CACTUS				RIG #123		
				Asset # N	110761	
HOSE SPECIFICATIONS						
Туре: СНОКЕ	LINE			Length:	35'	
I.D.	4"	INCHES	O.D.	8"	INC	HES
WORKING PRESSURE TEST PRESS		TEST PRESSUR	E	BURST PRES	SURE	
10,000	PSI	15,000	PSI			PSI
COUPLINGS Type of End Fitting						
4 1/16 10K FLANGE						
Type of Couplin SWEDO	-					
SWEDU	iEU		MIDWEST HOSE & SPECIALTY			
PROCEDURE						
Hose assembly pressure tested with water at ambient temperature.						
				URST PRESSU		
	1	MIN.			0	PSI
COMMENTS:						
SN#90067 M10761						
Hose is covered with stainless steel armour cover and						
wraped with fire resistant vermiculite coated fiberglass						
insulation rated for 1500 degrees complete with lifting eyes						
Date: Tested By: 6/6/2011 BOBBY FINK				Approved: MENDI JACKSON		



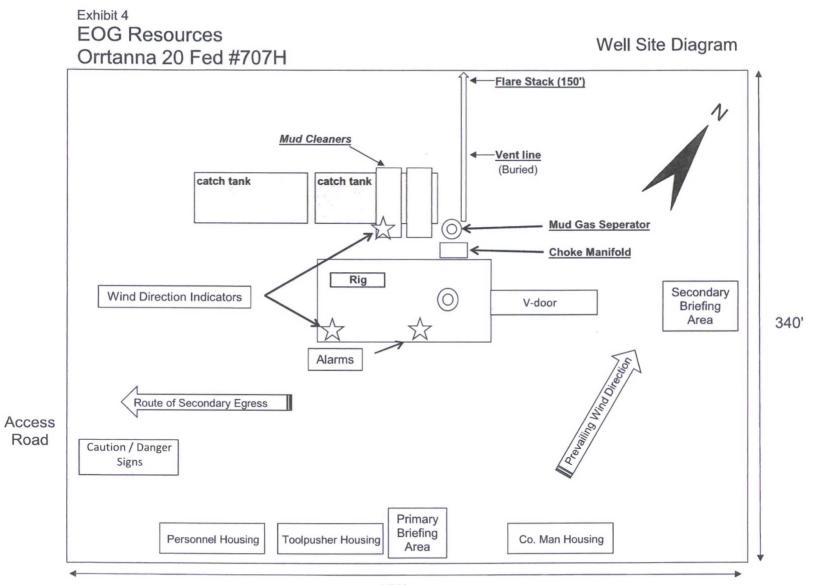
Comments: Hose assembly pressure tested with water at ambient temperature.

Tested By: Bobby Fink

Approved By: Mendi Jackson

Bolly ZE

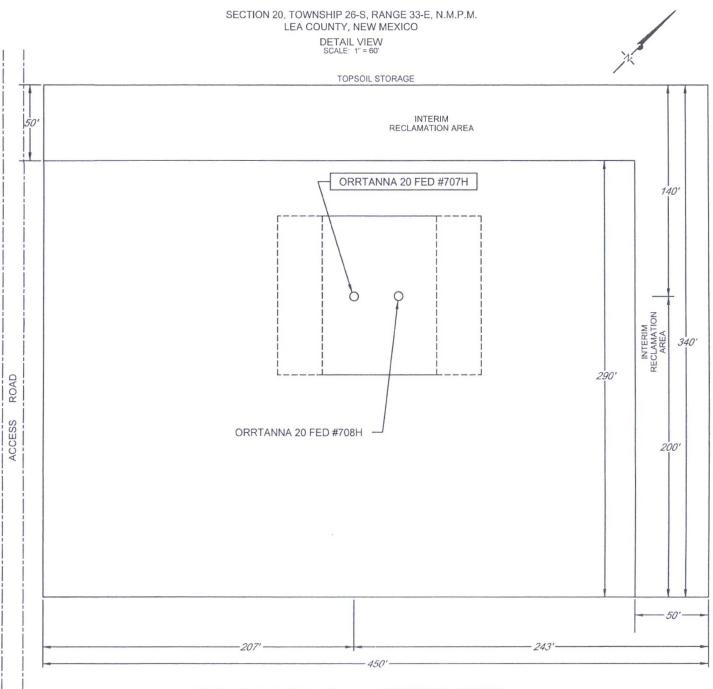
<u>× Mendi Jackson</u>



450'

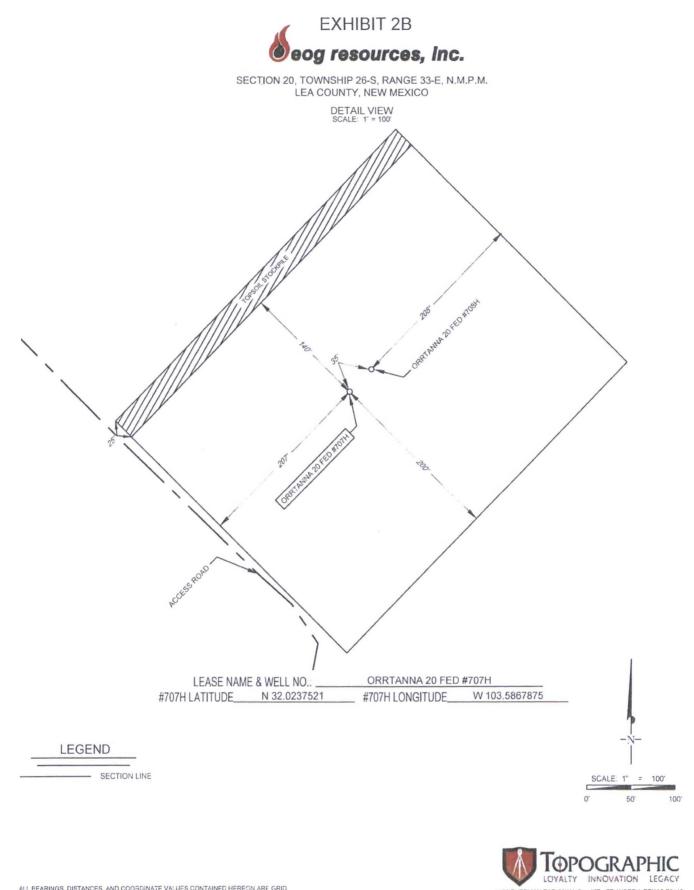
EXHIBIT 2C RECLAMATION AND FACILITY DIAGRAM - PRODUCTION FACILITIES DIAGRAM

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LEASE NAME & WELL NO.: ____ORRTANNA 20 FED #707H #707H LATITUDE ___N 32.0237521 ___ #707H LONGITUDE ___W 103.5867875

* ISURVEYAEOG MIDLANDIORRI ANNA, 20 FEDI INAL PRODUCTSILO, ORRTANNADOLED, 2024 REVI DWG - 12/8/2016 11 05 45 AM Istewart



1430 EVERMAN PARKWAY, SIe. 197 • FT. WORTH, TEXAS 76140 TELEPHONE: (817) 744-7512 • FAX (817) 744-7548 2903 NORTH BIG SPRING • MIDLAND, TEXAS 79705 TELEPHONE: (432) 682-633 OR (800) 767-653 • FAX (432) 682-1743 WWW.TOPOGRAPHIC COM

ALL BEARINGS, DISTANCES, AND COORDINATE VALUES CONTAINED HEREON ARE GRID BASED UPON THE NEW MEXICO STATE PLANE COORDINATE SYSTEM, EAST ZONE OF THE NORTH AMERICAN DATUM 1927, U.S. SURVEY FEET

THIS PROPOSED PAD SITE LOCATION SHOWN HEREON HAS BEEN SURVEYED ON THE GROUND UNDER MY SUPERVISION AND PREPARED ACCORDING TO THE EVIDENCE FOUND AT THE TIME OF SURVEY, AND DATA PROVIDED BY EOG RESOURCES, INC. THIS CERTIFICATION IS MADE AND LIMITED TO THOSE PERSONS OR ENTITIES SHOWN ON THE FACE OF THIS PLAT AND IS NON-TRANSFERABLE. THIS SURVEY IS CERTIFIED FOR THIS TRANSACTION ONLY.

ORIGINAL DOCUMENT SIZE: 8.5" X 11"

VISURVENEOG, MIDLANDIGRITANNA, 20_FEDHINAL, PRODUCTSULO_ORRTANNA20FED_707H_REV1.DWG 12/8/2015.11.05.44.AM. Istewart