1. GEOLOGICAL MARKERS & FORMATION TOP

The SMU 8-15-D will be a new drill from Pad Site #2 near Sheep Mountain in Huerfano County, CO. The objective of the 8-15-D is to target the Dakota and Entrada formations along with repeat sections of each zone by drilling through faulted zones. A 13 3/8"surface casing string will be set in the top of the Pierre Shale at 1100 ft, with 9 5/8" intermediate casing above the 1st repeat section of the Dakota formation. Then an 8 ¾" hole will be drilled to a TD point of 8890 ft MD (8000 ft TVD) with 7" liner run to bottom and 300 ft inside the 9 5/8" intermediate string.

The names and depths of estimated formation tops are given below in the chart. The chart provides the formation tops for reservoir zones, including the repeat sections.

Formation Top	TVD
Apache Creek	964
Pierre	997
Greenhorn	2711
Graneros	2764
Dakota	3037
Morrison	3277
Entrada	3577
Sangre De Cristo	3697
Fault 1	4338
Repeat Section 1 Dakota	4940
Repeat Section 1 Entrada	5480
Fault 2	5809
Repeat Section 2 Dakota	6250
Repeat Section 2 Entrada	6750
Fault 3	6774
Repeat Section 3 Dakota	6793
Repeat Section 3 Entrada	7333
Fault 4	7626
TD	8000

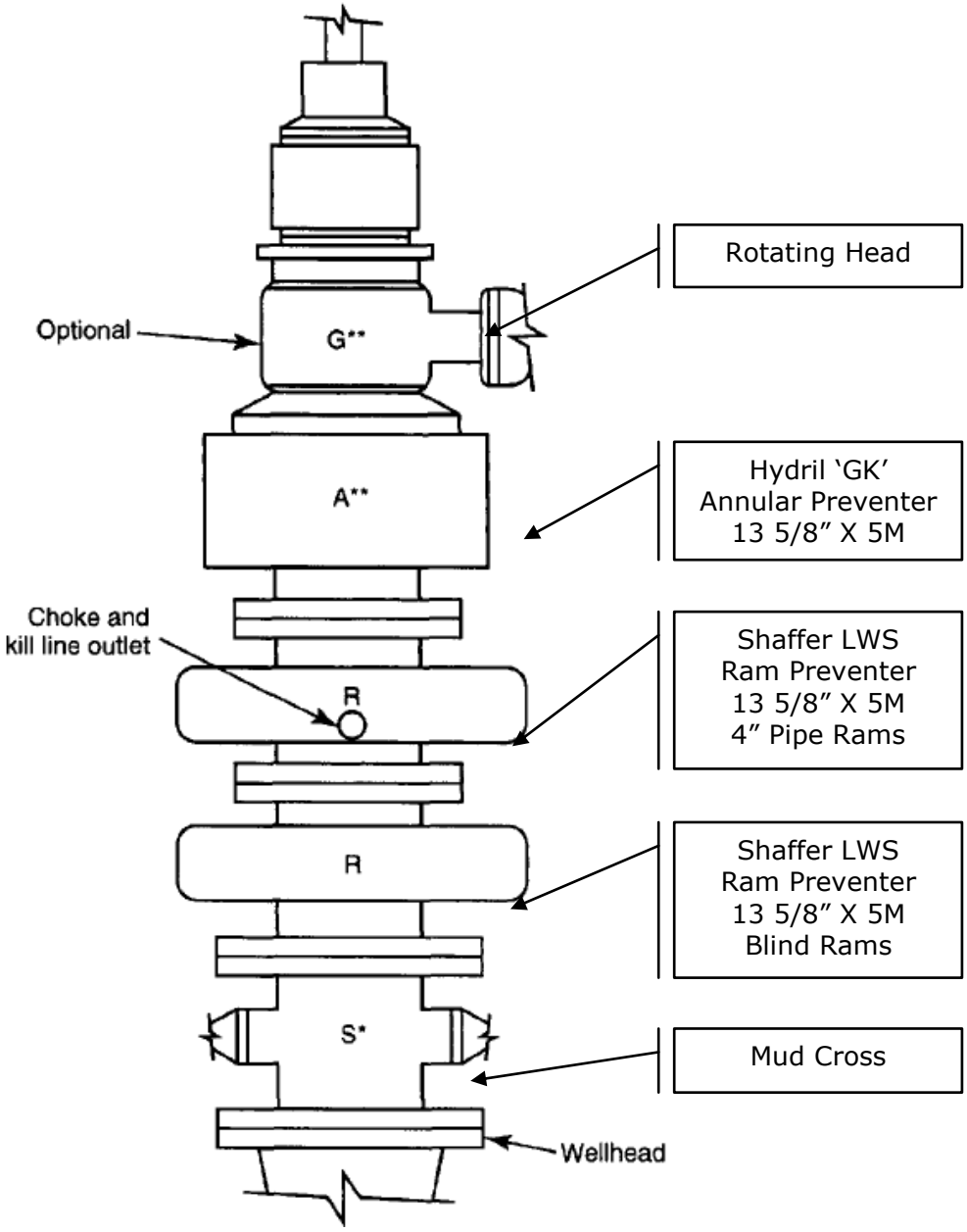
Table 1: Formation Tops for SMU 8-15-D

2. ESTIMATED TOPS OF ANTICIPATED WATER, OIL, GAS, OR MINERALS

The cells highlighted in green in **Table 1** represent the formation tops of the producing zones. Casing and cementing will be designed to protect hydrocarbon bearing, lost circulation, and usable quality water zones.

3. THE OPERATORS MINIMUM SPECIFICATIONS FOR PRESSURE CONTROL

A schematic of the BOP is provided below as per the example provided in API RP 53. This schematic is a double ram type preventer with a mud cross, blind ram, pipe ram, annular, and a rotating head. The rated working pressure of the BOP stack is 5,000 psi. The BOP stack will be nippled up after surface casing has been cemented and the "A" section of the wellhead installed. All BOPE will be tested to a minimum of 500 psi over the calculated MASP for the hole interval. The pressure test will be conducted at 2500 psi. A low pressure test of 250 psi will also be performed. The BOPE will be tested every 21 days.



4. PROPOSED CASING SETTING DEPTHS AND CEMENTING PROGRAM

The casing program for the SMU 8-15-D is outlined in the table below. The table contains specific details including weight, grades, makeup torque, and design ratings.

SMU 8-15-D Casing Program

String	Depth (ft) MD	OD (in)	ID (in)	Coupling OD (in)	Drift (in)	Weight (#/ft)	Grade	CXN	Burst (psi)	Collapse (psi)	Tension (k-lbs)	Torque (ft-lbs)		
												Minimum	Optimum	Maximum
Surface	0 – 1100′	13.375	12.615	14.375	12.459	54.5	J-55	STC	3070	1510	477	3860	5140	6430
Intermediate	0 – 5750′	9.625	8.921	10.625	8.765	36	J-55	LTC	3520	2020	453	3400	4530	5660
Production	5450′– 8890′	7	6.276	7.656	6.151	26	J-55	LTC	4980	4330	367	2750	3670	4590

Cement Program

Cement Design 13 3/8" Surface Casing								
Stage	Weight (ppg)	TOC (ft)	BOC (ft)	Hole Size (in)	% Open Hole Excess	Cement Volume (sacks)	Slurry Volume (bbls)	Remarks
Tail	13	Surface	1100	17.5	100%	500	176.27	Adjust if hole conditions change.
Top Out	15.8	Surface	-	17.5	-	200	41.32	Top out cement will be pumped if there's not any cement to surface

TAIL SLURRY	
Cement Type:	VARICEM
Additive:	0.125lb/sk Poly-E-Flake (Lost Circulation Additive)
Mix Water	10.80 Gal/sk
Slurry Density:	13 ppg
Yield:	2.00 ft^3/sack
TOP OUT CEMENT	
Cement Type:	Premium
Additive:	2% Calcium Chloride Pellets (Accelerator)
Mix Water	5.00 Gal/sk
Slurry Density:	15.80 ppg
Yield:	1.16 ft^3/sack

Detailed Pumping Schedule – 13 3/8" Surface Casing				
Fluid #	Fluid Type	Fluid Name	Surface Density lbm/gal	Volume bbl
1	Spacer	Fresh Water	8.3	50
2	Cement	Tail Cement	13	176.27
DROP PLUG				
4	Spacer	Displacement Fluid	8.3	163.77
5	Cement	Top Out Cement	15.8	41.32

Cement Design 9 5/8" Intermediate Casing								
Stage	Weight (ppg)	TOC (ft)	BOC (ft)	Hole Size (in)	% Open Hole Excess	Cement Volume (sacks)	Slurry Volume (bbls)	Remarks
Lead	13	0	5450	12.25	25%	1135	374.35	Adjust if hole conditions change.
Tail	13	5450	5750	12.25	25%	110	27.88	Adjust if hole conditions change.

LEAD SLURRY	
Cement Type:	EXTENDASEAL
Additive:	1.5% CHEM-FOAMER 760, TOTETANK (Foamer)
Additive:	1 lb/sk FDP-C708-03 (Additive Material)
Mix Water	6.86 gal/sack
Slurry Density:	13 ppg
Yield:	1.46 ft^3/sack

TAIL SLURRY	
Cement Type:	EXTENDACEM SYSTEM
Additive:	1 lb/sk FDP-C708-03 (Additive Material)
Mix Water	6.86 Gal/sk
Slurry Density:	13 ppg
Yield:	1.46 ft^3/sack

Detailed Pumping Schedule – 9 5/8" Intermediate Casing				
Fluid #	Fluid Type	Fluid Name	Surface Density lbm/gal	Volume bbl
1	Spacer	Tuned Spacer	11	40
2	Cement	Lead Cement	13	374.35
3	Cement	Tail Cement	13	27.88
DROP PLUG				
4	Spacer	Displacement Fluid	8.7	437.57

Cement Design 9 5/8" Intermediate Casing - CONTINGENCY								
Stage	Weight (ppg)	TOC (ft)	BOC (ft)	Hole Size (in)	% Open Hole Excess	Cement Volume (sacks)	Slurry Volume (bbls)	Remarks
Stage 1 (Tail)	13.5	4000	5750	12.25	25%	540	128.98	Adjust if hole conditions change.
Stage 2 (Lead)	12.30	0	3500	12.25	25%	679	238.39	Adjust if hole conditions change.
Stage 2 (Tail)	15.80	3500	4000	12.25	25%	205	41.82	Adjust if hole conditions change.

STAGE 1 -TAIL SLURRY	
Cement Type:	EXTENDACEM SYSTEM
Additive:	1 lb/sk FDP-C708-03 (Additive Material)
Mix Water	5.47 Gal/sk
Slurry Density:	13.50 ppg
Yield:	1.34 ft^3/sack
STAGE 2 - LEAD SLURRY	
Cement Type:	ECONOCEM
Additive:	0.4% HR-5 (Retarder)
Additive:	1 lb/sk FDP-C708-03 (Additive Material)
Additive:	5 lb/sk Kol-Seal (Lost Circulation Additive)
Mix Water	10.12 gal/sack
Slurry Density:	12.30 ppg
Yield:	1.97 ft^3/sack
STAGE 2 - TAIL SLURRY	
Cement Type:	Premium Cement
Mix Water	4.99 Gal/sk
Slurry Density:	15.80 ppg

Yield:	1.15 ft^3/sack

Cement Design 7" Production Liner								
Stage	Weight (ppg)	TOC (ft)	BOC (ft)	Hole Size (in)	% Open Hole Excess	Cement Volume (sacks)	Slurry Volume (bbls)	Remarks
Lead	13	5450	8590	8.75	25%	310	103.95	Adjust if hole conditions change.
Tail	13	8590	8890	8.75	25%	55	13.48	Adjust if hole conditions change.

LEAD SLURRY	
Cement Type:	EXTENDASEAL
Additive:	1.5% CHEM-FOAMER 760, TOTETANK (Foamer)
Additive:	1 lb/sk FDP-C708-03 (Additive Material)
Mix Water	6.86 gal/sack
Slurry Density:	13 ppg
Yield:	1.46 ft^3/sack

TAIL SLURRY	
Cement Type:	EXTENDACEM SYSTEM
Additive:	1 lb/sk FDP-C708-03 (Additive Material)
Mix Water	6.86 Gal/sk
Slurry Density:	13 ppg
Yield:	1.46 ft^3/sk

Detailed Pumping Schedule – 7" Production Liner				
Fluid #	Fluid Type	Fluid Name	Surface Density lbm/gal	Volume bbl
1	Spacer	Tuned Spacer	11	30
2	Cement	Lead Cement	13	103.95
3	Cement	Tail Cement	13	13.48
DROP PLUG				
4	Spacer	Displacement Fluid	8.3	224.96

Cement Design 7" Production Liner - CONTINGENCY								
Stage	Weight (ppg)	TOC (ft)	BOC (ft)	Hole Size (in)	% Open Hole Excess	Cement Volume (sacks)	Slurry Volume (bbls)	Remarks
Tail	13.50	5450	8890	8.75	25%	490	117.44	Adjust if hole conditions change.

TAIL SLURRY	
Cement Type:	EXTENDACEM SYSTEM
Additive:	1 lb/sk FDP-C708-03 (Additive Material)
Additive:	5 lb/sk Kol-Seal (Lost Circulation Additive)
Additive:	0.2% Super CBL (Additive Material)
Mix Water	5.48 Gal/sk
Slurry Density:	13.50 ppg
Yield:	1.35 ft^3/sack

5. MUD PROGRAM

Mud specifications are provided in the table below. The properties will be followed, but may change depending on hole conditions. Materials to control a lost circulation event or well control will be on site, too. These products are contained in sacks and delivered to the rigs on a pallet wrapped in plastic. The drilling operation will have a closed looped system with all returns going through a shale shaker and back into the rig's mud pit system. All cuttings will be removed via the cuttings disposal procedure and hauled off to a designated disposal site.

Hole Size (in)	Depth Interval (ft)	Fluid Type	Mud Weight (ppg)	Funnel Visc (s/qt)	PV	YP	Drill Solids (%)
17 ½"	0 - 1100	FW spud mud	8.4 – 9.2	28-34	10-15	12-15	<8
12 ¼"	1400 – 5750	OBM*	8.7 – 9.2	40 – 45	8 – 12	10 – 14	< 6
8 ¾"	5750 – 8890	OBM*	7.9 – 8.2	40 – 45	8 – 12	10 – 14	< 6

**The OBM will contain an oil/water ratio of 80/20 – to 85/15.*

6. LOGGING PROGRAM

The mud logging program will consist of a quad combo log, which includes Gamma Ray, Formation Density, Neutron, and Sonic. The quad combo will be run in both intermediate and production hole intervals.

7. ANTICIPATED PRESSURES AND TEMPERATURES

The Dakota and Entrada formations are prone to lost circulation. The repeat sections of both the Dakota and Entrada may have the same reservoir pressure as the first set of zones above the fault, which can lead to lower pressures in the deeper repeat sections resulting in lost circulation. The Dakota pressure gradient has been estimated at 0.38 psi/ft and the Entrada at 0.35 psi/ft. Records indicate an injection test of 2500 psi was performed on a Sheep Mountain well with a TD of 4282 ft and did not break down the reservoir.

The Morrison shale can lead to wellbore instability and may be seen while drilling through the faulted zones.

Maximum bottom hole temperature will be less than 150°F.

8. DIRECTIONAL PROGRAM

The directional plan consists of an S-shaped 3D well trajectory with a maximum inclination planned for 53° in the tangent section, which is shown below in the drawing.

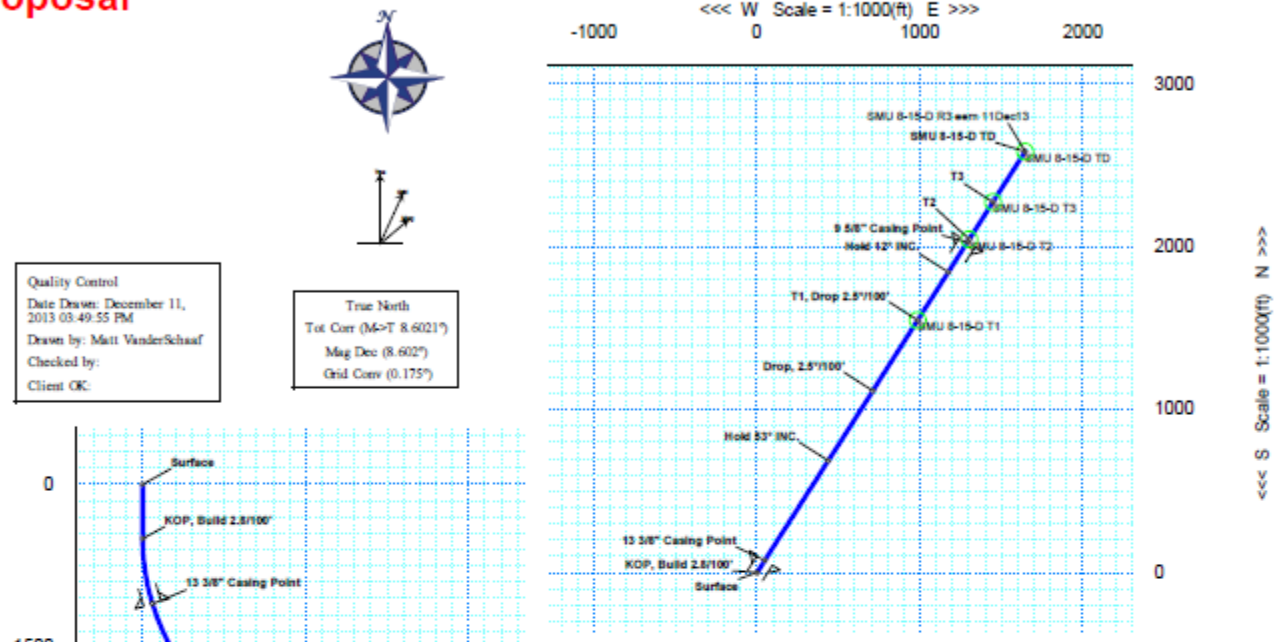
OXY

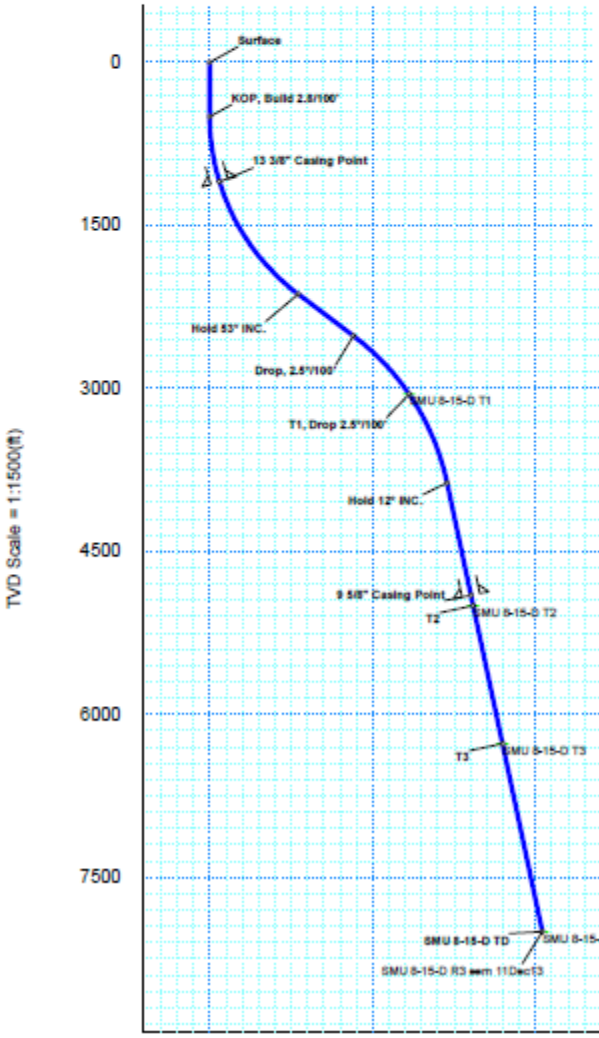
Rev 3

PATHFINDER
A Schlumberger Company

WELL	FIELD	STRUCTURE
SMU 8-15-D	CO, Huerfano County (NAD 83 SZ)	OXY Sec xx-xx-xx (SMU 8-15-D)

Proposal





Surface Location

Northing: 1379124.76 Easting: 3082399.09

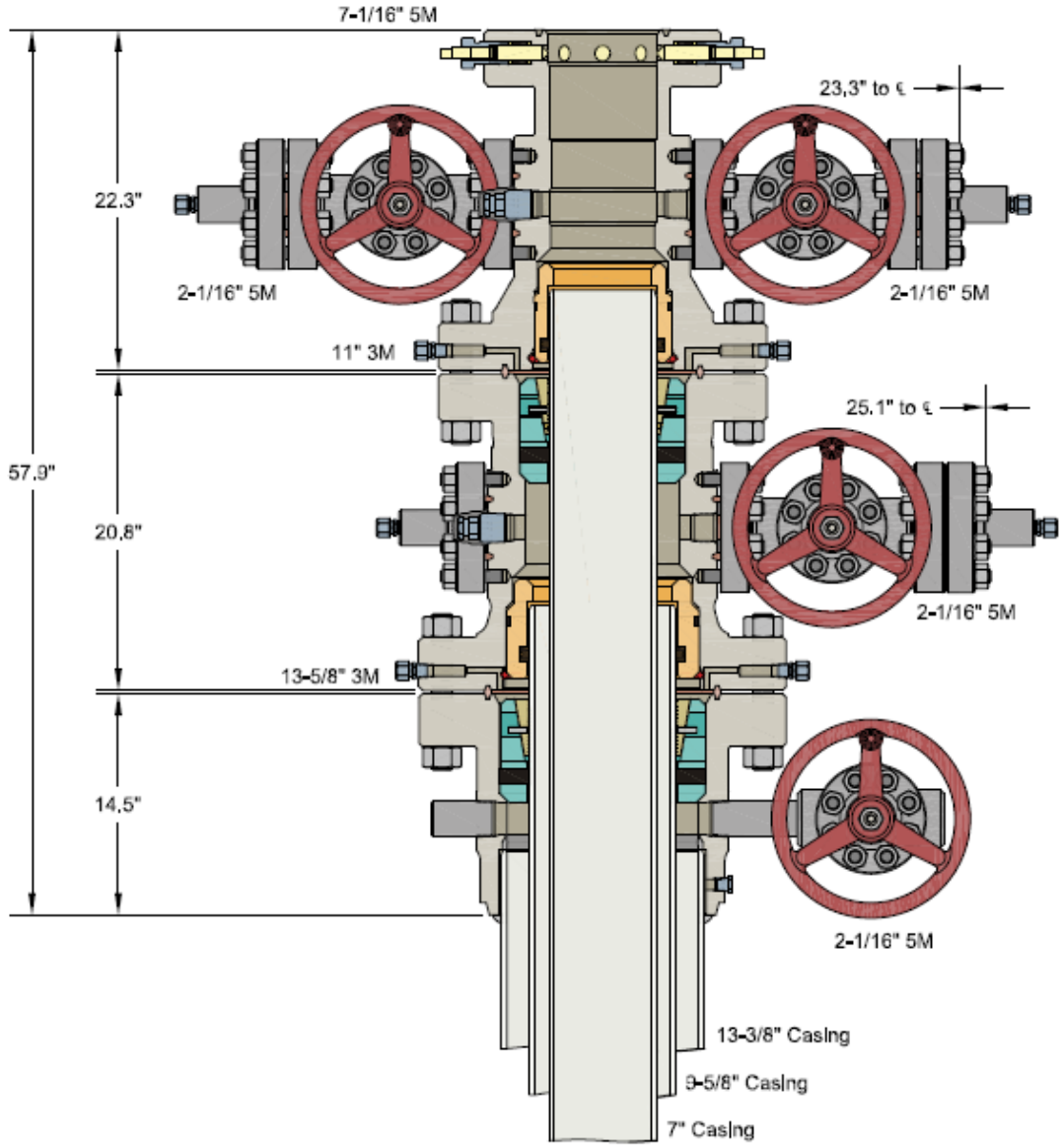
Target Description			Grid Coord				Local Coord	
Target Name	Shape	Major Axis	N(+)/S(-)	E(+)/W(-)	TVD	VSec	N(+)/S(-)	E(+)/W(-)
SMU 8-15-D TD	Circle	100.00	1381713.62	3084037.28	8000.00	3063.81	2584.00	1646.17
SMU 8-15-D T1	Circle	100.00	1380676.67	3083381.01	3055.00	1836.57	1549.00	986.70
SMU 8-15-D T2	Circle	100.00	1381174.83	3083696.27	5001.00	2426.13	2046.22	1303.50
SMU 8-15-D T3	Circle	100.00	1381403.18	3083840.80	6272.00	2696.39	2274.14	1448.73

Critical Points

Critical Point	MD	INCL	AZIM	TVD	VSEC	N(+) / S(-)	E(+) / W(-)	DLS
Surface	0.00	0.00	32.50	0.00	0.00	0.00	0.00	
KOP, Build 2.8/100'	500.00	0.00	32.50	500.00	0.00	0.00	0.00	0.00
13 3/8" Casing Point	1108.95	17.05	32.50	1100.00	89.94	75.86	48.32	2.80
Hold 53° INC.	2392.96	53.00	32.50	2134.29	814.88	687.29	437.79	2.80
Drop, 2.5°/100'	3029.63	53.00	32.50	2517.42	1323.36	1116.16	710.97	0.00
T1, Drop 2.5°/100'	3776.14	34.34	32.50	3055.00	1836.57	1549.00	986.70	2.50
Hold 12° INC.	4669.58	12.00	32.50	3871.18	2185.91	1843.63	1174.41	2.50
9 5/8" Casing Point	5726.52	12.00	32.50	4905.00	2405.73	2029.01	1292.54	0.00
T2	5824.66	12.00	32.50	5001.00	2426.14	2046.22	1303.50	0.00
T3	7124.08	12.00	32.50	6272.00	2696.39	2274.14	1448.73	0.00
SMU 8-15-D TD	8890.71	12.00	32.50	8000.00	3063.81	2584.00	1646.17	0.00

9. WELLHEAD SCHEMATIC

The drawing below is a schematic of the 13-3/8" x 9-5/8" x 7" 5M Conventional Wellhead that will be used on the SMU 8-15-D.



ALL DIMENSIONS ARE APPROXIMATE

13-3/8" x 9-5/8" x7" 5M Conventional Wellhead Assembly, With W2-EBS Casing Spool and T-EBS Tubing Head	OXY USA INCORPORATED SHEEP MOUNTAIN		
	DRAWN	VJK	11DEC13
	APPRV	KN	11DEC13
	FOR REFERENCE ONLY DRAWING NO.	SDM-3996	