

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTFORM APPROVED
OMB NO. 1004-0137
Expires: January 31, 2018

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.

5. Lease Serial No.
NMNM45236

6. Indian, Allottee or Tribe Name

7. If Unit or CA/Agreement, Name and/or No.

SUBMIT IN TRIPLICATE - Other instructions on page 2

1. Type of Well ☒ Oil Well ☐ Gas Well ☐ Other		8. Well Name and No. STERLING SILVER MDP1 33-4 FD C 5H
2. Name of Operator OXY USA INCORPORATED Contact: SARAH CHAPMAN E-Mail: SARAH_CHAPMAN@OXY.COM		9. API Well No. 30-015-45393-00-X1
3a. Address 5 GREENWAY PLAZA SUITE 110 HOUSTON, TX 77046-0521	3b. Phone No. (include area code) Ph: 713-350-4997	10. Field and Pool or Exploratory Area INGLE WELLS
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) Sec 33 T23S R31E NENE 96FNL 634FEL 32.267918 N Lat, 103.776260 W Lon		11. County or Parish, State EDDY COUNTY, NM

12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
☒ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
☐ Subsequent Report	☐ Alter Casing	☐ Hydraulic Fracturing	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☒ Other
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	Change to Original A
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	PD

13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has determined that the site is ready for final inspection.

OXY USA Inc. respectfully requests to amend the approved APD to change the BHL by 434' east from the permitted location. The new well location is now in the E/2 E/2 of Sections 33 and 4.

See attached for the Amended C-102 plat, drill plan with new TVD/MD, cement and mud information, direct plan, direct plot and supplemental form.

RECEIVED

JAN 17 2019

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

DISTRICT II-ARTESIA O.C.D.

14. I hereby certify that the foregoing is true and correct. Electronic Submission #445660 verified by the BLM Well Information System For OXY USA INCORPORATED, sent to the Carlsbad Committed to AFMSS for processing by PRISCILLA PEREZ on 12/03/2018 (19PP0498SE)	
Name (Printed/Typed) DAVID STEWART	Title REGULATORY ADVISOR
Signature (Electronic Submission)	Date 11/29/2018

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By MUSTAFA HAQUE	Title PETROLEUM ENGINEER	Date 01/11/2019
Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.		Office Carlsbad

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Instructions on page 2)

** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED **

RWP 2-21-19
2-25-19

RECEIVED

Form C-102

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone: (505) 749-1251 Fax: (505) 749-0720
District III
1000 Rio Bravo Road, Aztec, NM 87410
Phone: (505) 334-6179 Fax: (505) 334-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-1460 Fax: (505) 476-1462

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis
Santa Fe, NM 87505

JAN 17 2019

Revised August 1, 2011
Submit one copy to appropriate
District Office

DISTRICT II-ARTESIA O.C.D.

AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-015-4 5393	Pool Code 33740	Pool Name Ingle Wells Bone Spring
Property Code 322740	Property Name STERLING SILVER MDP1 "33-4" FEDERAL COM	Well Number 5H
OGRID No 16096	Operator Name OXY USA INC.	Elevation 3400.6'

Surface Location

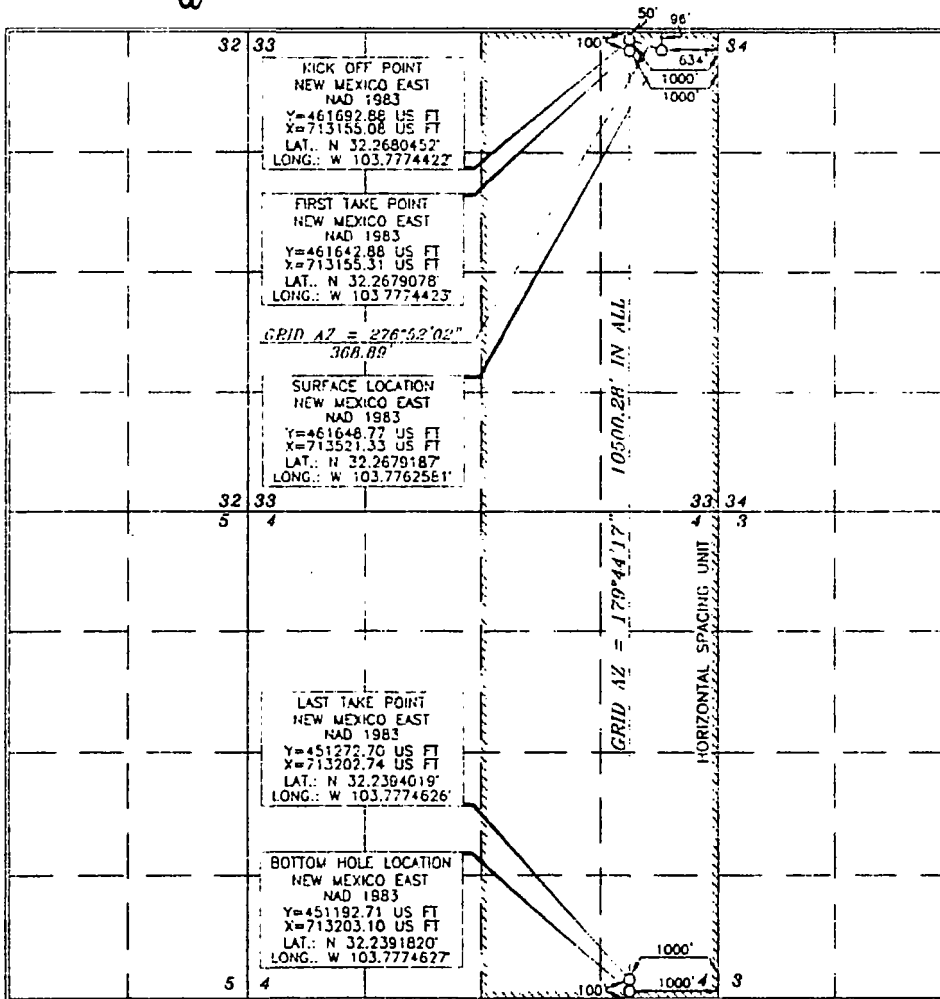
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	33	23 SOUTH	31 EAST, N.M.P.M.		96'	NORTH	634'	EAST	EDDY

Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
P	4	24 SOUTH	31 EAST, N.M.P.M.		20'	SOUTH	1000'	EAST	EDDY

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
640			

No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.



OPERATOR CERTIFICATION

I hereby certify that the operations contained herein are true and correct to the best of my knowledge and belief, and that the operations include a working interest in a mineral interest in the land including the production from the location or has a right to drill this well at this location pursuant to a contract with the owner of such a mineral or working interest or a voluntary pooling agreement or a completion pooling order.

Authorized by the operator

Sarah Chapman 11/29/18
Signature Date

Sarah Chapman
Printed Name

Sarah.Chapman@oxy.com
E-mail Address

SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from a check of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

Terry J. Lase
Date of Survey

Terry J. Lase
Signature and Seal
Professional Surveyor

Terry J. Lase 10/29/2018
Certificate Number 15079

WO# 18020:WL-b (Rev. B) (NA)

RWP 2-21-19
2-25-19

Oxy USA Inc. - Sterling Silver MDP1 33-4 Fed Com 5H – Amend Drill Plan

1. Geologic Formations

TVD of target	9994'	Pilot Hole Depth	N/A
MD at TD:	20255'	Deepest Expected fresh water:	490'

Delaware Basin

Formation	TVD - RKB	Expected Fluids
Rustler	490	
Salado	835	Brine
Castile	2,761	Brine
Lamar/Delaware	4,270	Brine
Bell Canyon	4,294	Oil/Gas
Cherry Canyon	5,190	Oil/Gas
Brushy Canyon	6,470	Losses
Bone Spring	8,077	Oil/Gas
1st Bone Spring	9,142	Oil/Gas
2nd Bone Spring	9,374	Oil/Gas

*H2S, water flows, loss of circulation, abnormal pressures, etc.

2. Casing Program

Hole Size (in)	Casing Interval		Csg. Size (in)	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	Buoyant	Buoyant
	From (ft)	To (ft)							Body SF Tension	Joint SF Tension
17.5	0	540	13.375	54.5	J-55	BTC	1.125	1.2	1.4	1.4
12.25	0	4320	9.625	43.5	L-80	BTC	1.125	1.2	1.4	1.4
8.5	0	9327	7.625	26.4	L-80 HC	SF (0 ft to 4000 ft) FJ (4000 ft to 9327 ft)	1.125	1.2	1.4	1.4
6.75	0	20255	5.5	20	P-110	DQX	1.125	1.2	1.4	1.4
SF Values will meet or Exceed										

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

*Oxy requests the option to set casing shallower yet still below the salts if losses or hole conditions require this. Cement volumes may be adjusted if casing is set shallower and a DV tool may be run in case hole conditions merit pumping a second stage cement job to comply with permitted top of cement. If cement circulated to surface during first stage, we will drop a cancellation cone and not pump the second stage.

*Oxy requests the option to run production casing with DQX and/or SF TORQ connections to accommodate hole conditions or drilling operations.

Oxy USA Inc. - Sterling Silver MDP1 33-4 Fed Com 5H – Amend Drill Plan

3. Cementing Program

Casing String	# Sks	Wt. (lb/gal)	Yld (ft ³ /sack)	H2O (gal/sk)	500# Comp. Strength (hours)	Slurry Description
Surface (Lead)	N/A	N/A	N/A	N/A	N/A	N/A
Surface (Tail)	650	14.8	1.33	6.365	5:26	Class C Cement, Accelerator
Intermediate (Lead)	1198	12.9	1.88	10.130	14:22	Pozzolan Cement, Retarder
Intermediate (Tail)	155	14.8	1.33	6.370	12:45	Class C Cement, Accelerator
Intermediate II 1st Stage (Lead)	N/A	N/A	N/A	N/A	N/A	N/A
Intermediate II 1st Stage (Tail)	62	13.2	1.65	8.640	11:54	Class H Cement, Retarder, Dispersant, Salt
Intermediate II 2nd Stage (Tail Slurry) to be pumped as Bradenhead Squeeze from surface, down the Intermediate annulus						
Intermediate II 2nd Stage (Lead)	N/A	N/A	N/A	N/A	N/A	N/A
Intermediate II 2nd Stage (Tail)	422	12.9	1.92	10.410	23:10	Class C Cement, Accelerator
Production (Lead)	N/A	N/A	N/A	N/A	N/A	N/A
Production (Tail)	838	13.2	1.38	6.686	3:49	Class H Cement, Retarder, Dispersant, Salt

Casing String	Top (ft)	Bottom (ft)	% Excess
Surface (Lead)	N/A	N/A	N/A
Surface (Tail)	0	540	100%
Intermediate (Lead)	0	3820	100%
Intermediate (Tail)	3820	4320	20%
Intermediate II 1st Stage (Lead)	N/A	N/A	N/A
Intermediate II 1st Stage (Tail)	8077	9327	5%
Intermediate II 2nd Stage (Lead)	N/A	N/A	N/A
Intermediate II 2nd Stage (Tail)	0	8077	25%
Production (Lead)	N/A	N/A	N/A
Production (Tail)	8827	20255	20%

4. Mud Program

Depth		Type	Weight (ppg)	Viscosity	Water Loss
From (ft)	To (ft)				
0	540	Water-Based Mud	8.6-8.8	40-60	N/C
540	4320	Saturated Brine-Based Mud	9.8-10.0	35-45	N/C
4320	9327	Water-Based or Oil-Based Mud	8.0-9.6	38-50	N/C
9327	20255	Water-Based or Oil-Based Mud	8.0-9.6	38-50	N/C

Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept on location at all times. The following is a general list of products: Barite, Bentonite, Gypsum, Lime, Soda Ash, Caustic Soda, Nut Plug, Cedar Fiber, Cotton Seed Hulls, Drilling Paper, Salt Water Clay, CACL2. Oxy will use a closed mud system.

Oxy USA Inc. - Sterling Silver MDP1 33-4 Fed Com 5H – Amend Drill Plan

What will be used to monitor the loss or gain of fluid?	PVT/MD Totco/Visual Monitoring
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5. Drilling Conditions

Condition	Specify what type and where?
BH Pressure at deepest TVD	4990 psi
Abnormal Temperature	No
BH Temperature at deepest TVD	160°F

Pump high viscosity sweeps as needed for hole cleaning. The mud system will be monitored visually/manually as well as with an electronic PVT. The necessary mud products for additional weight and fluid loss control will be on location at all times. Appropriately weighted mud will be used to isolate potential gas, oil, and water zones until such time as casing can be cemented into place for zonal isolation.

Hydrogen Sulfide (H2S) monitors will be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the operator will comply with the provisions of Onshore Oil and Gas Order #6. If Hydrogen Sulfide is encountered, measured values and formations will be provided to the BLM.	
N	H2S is present
Y	H2S Plan attached

6. Other facets of operation

	Yes/No
Will the well be drilled with a walking/skidding operation? If yes, describe. We plan to drill the four well pad in batch by section: all surface sections, intermediate sections and production sections. The wellhead will be secured with a night cap whenever the rig is not over the well.	Yes
Will more than one drilling rig be used for drilling operations? If yes, describe. Oxy requests the option to contract a Surface Rig to drill, set surface casing, and cement for this well. If the timing between rigs is such that Oxy would not be able to preset surface, the Primary Rig will MIRU and drill the well in its entirety per the APD. Please see the attached document for information on the spudder rig.	Yes

Total estimated cuttings volume: 1546.8 bbls

Oxy USA Inc. - Sterling Silver MDP1 33-4 Fed Com 5H – Amend Drill Plan

7. Company Personnel

<u>Name</u>	<u>Title</u>	<u>Office Phone</u>	<u>Mobile Phone</u>
Garrett Granier	Drilling Engineer	713-513-6633	832-265-0581
Diego Tellez	Drilling Engineer Supervisor	713-350-4602	713-303-4932
Simon Benavides	Drilling Superintendent	713-522-8652	281-684-6897
John Willis	Drilling Manager	713-366-5556	713-259-1417

Intent ☒ As Drilled ☐

API # 30-015-45393			
Operator Name: Oxy USA Inc.		Property Name: Sterling Silver HDP 1 33-4 Fed Com	Well Number SH

Kick Off Point (KOP)

UL A	Section 33	Township 23S	Range 31E	Lot	Feet 60	From N/S NORTH	Feet 1000	From E/W EAST	County EDDY
Latitude 32.2680452					Longitude -103.7774422			NAD NAD83	

First Take Point (FTP)

UL A	Section 33	Township 23S	Range 31E	Lot	Feet 100	From N/S NORTH	Feet 1000	From E/W EAST	County EDDY
Latitude 32.2679078					Longitude -103.7774423			NAD NAD83	

Last Take Point (LTP)

UL D	Section 4	Township 23S	Range 31E	Lot	Feet 100	From N/S SOUTH	Feet 1000	From E/W EAST	County EDDY
Latitude 32.2394019					Longitude -103.7774626			NAD NAD83	

Is this well the defining well for the Horizontal Spacing Unit? ☒

Is this well an infill well? ☐

If infill is yes please provide API if available, Operator Name and well number for Defining well for Horizontal Spacing Unit.

API #			
Operator Name:		Property Name:	Well Number

KZ 06/29/2018



Project: PRD NM DIRECTIONAL PLANS (NAD 1983)
Site: STERLING SILVER MDP1 33-4 FED COM
Well: STERLING SILVER MDP1 33-4 FED COM 5H
Wellbore: WB00
Design: Permitting Plan

WELL DETAILS: STERLING SILVER MDP1 33-4 FED COM 5H

+N/-S +E/-W
14.47 3812.52

Northing
461648.77

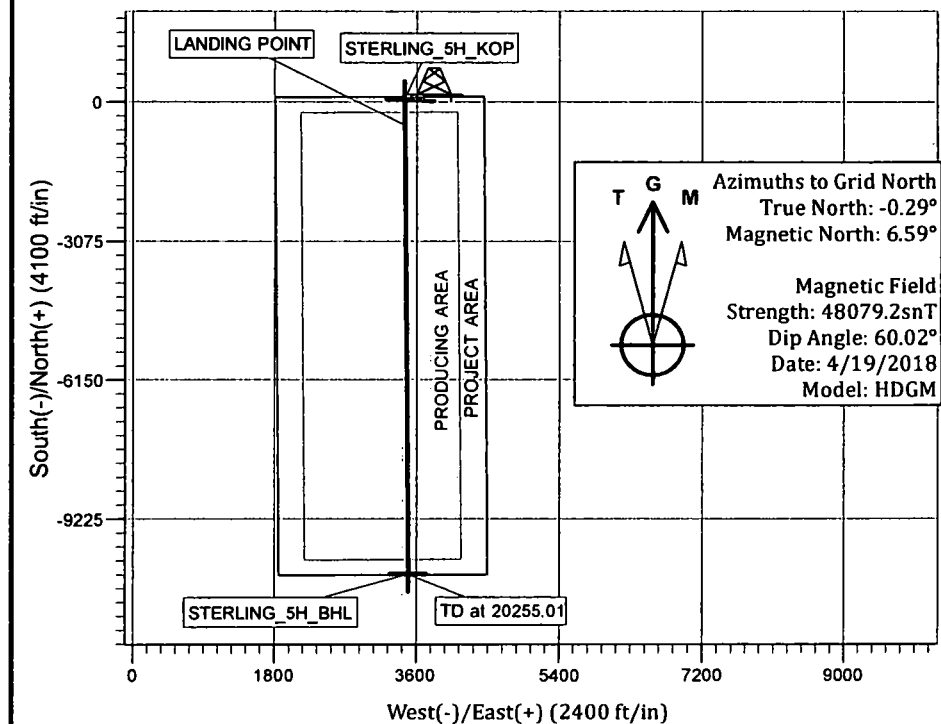
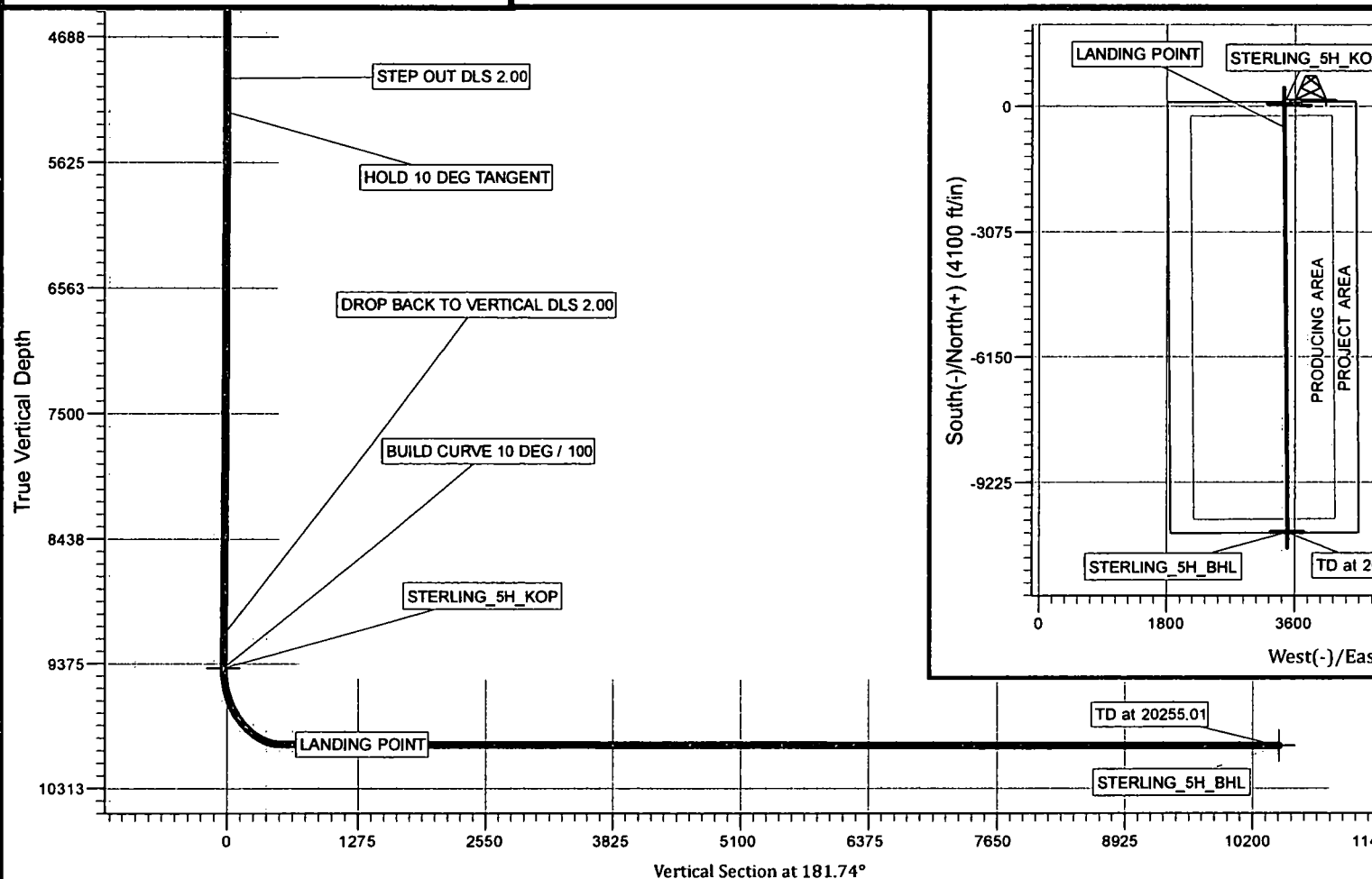
Ground Level: 3400.60

Easting
713521.33

Latitude
32° 16' 4.507447 N

Longitude
103° 46' 34.529020 W

Datum @ 3427.10ft



PROJECT DETAILS: NM DIRECTIONAL PLANS (NAD 1983)

Genetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: New Mexico Eastern Zone
System Datum: Mean Sea Level

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Target	Annotation
1	0.00	0.00	0.00	0.00	14.47	3812.52	0.00	0.00	0.00		
2	5000.00	0.00	0.00	5000.00	14.47	3812.52	0.00	0.00	0.00		STEP OUT DLS 2.00
3	5253.56	5.07	276.87	5253.23	15.81	3801.39	2.00	276.87	-1.00		HOLD 10 DEG TANGENT
4	9173.49	5.07	276.87	9157.82	57.24	3457.38	0.00	0.00	-31.95		DROP BACK TO VERTICAL DLS 2.00
5	9427.05	0.00	179.74	9411.04	58.58	3446.25	2.00	180.00	-32.95		BUILD CURVE 10 DEG / 100
6	10326.05	89.90	179.74	9984.00	-513.37	3448.86	10.00	179.74	538.66		LANDING POINT
7	20255.01	89.98	179.74	9994.00	-10442.22	3494.27	0.00	0.00	10461.53		TD at 20255.01

OXY

**PRD NM DIRECTIONAL PLANS (NAD 1983)
STERLING SILVER MDP1 33-4 FED COM
STERLING SILVER MDP1 33-4 FED COM 5H**

WB00

Plan: Permitting Plan

Standard Planning Report

01 November, 2018

Oxy

Planning Report

Database:	HOPSPP	Local Co-ordinate Reference:	Site STERLING SILVER MDP1 33-4 FED COM
Company:	ENGINEERING DESIGNS	TVD Reference:	Datum @ 3427.10ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	MD Reference:	Datum @ 3427.10ft
Site:	STERLING SILVER MDP1 33-4 FED COM	North Reference:	Grid
Well:	STERLING SILVER MDP1 33-4 FED COM 5H	Survey Calculation Method:	Minimum Curvature
Wellbore:	WB00		
Design:	Permitting Plan		

Project	PRD NM DIRECTIONAL PLANS (NAD 1983)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		Using geodetic scale factor

Site	STERLING SILVER MDP1 33-4 FED COM				
Site Position:		Northing:	461,634.30 usft	Latitude:	32° 16' 4.557918 N
From:	Map	Easting:	709,709.04 usft	Longitude:	103° 47' 18.930890 W
Position Uncertainty:	50.00 ft	Slot Radius:	13.200 in	Grid Convergence:	0.29 °

Well	STERLING SILVER MDP1 33-4 FED COM 5H					
Well Position	+N/-S	14.47 ft	Northing:	461,648.77 usft	Latitude:	32° 16' 4.507447 N
	+E/-W	3,812.52 ft	Easting:	713,521.33 usft	Longitude:	103° 46' 34.529020 W
Position Uncertainty		2.00 ft	Wellhead Elevation:	0.00 ft	Ground Level:	3,400.60 ft

Wellbore	WB00				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	4/19/2018	6.88	60.02	48,079

Design	Permitting Plan			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	14.47	3,812.52	181.74

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	14.47	3,812.52	0.00	0.00	0.00	0.00	
5,000.00	0.00	0.00	5,000.00	14.47	3,812.52	0.00	0.00	0.00	0.00	
5,253.56	5.07	276.87	5,253.23	15.81	3,801.39	2.00	2.00	0.00	276.87	
9,173.49	5.07	276.87	9,157.82	57.24	3,457.38	0.00	0.00	0.00	0.00	
9,427.05	0.00	179.74	9,411.04	58.58	3,446.25	2.00	-2.00	0.00	180.00	STERLING_5H_KO
10,326.05	89.90	179.74	9,984.00	-513.37	3,448.86	10.00	10.00	0.00	179.74	
20,255.01	89.98	179.74	9,994.00	-10,442.22	3,494.27	0.00	0.00	0.00	0.00	STERLING_5H_BH

Oxy Planning Report

Database:	HOPSPP	Local Co-ordinate Reference:	Site STERLING SILVER MDP1 33-4 FED COM
Company:	ENGINEERING DESIGNS	TVD Reference:	Datum @ 3427.10ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	MD Reference:	Datum @ 3427.10ft
Site:	STERLING SILVER MDP1 33-4 FED COM	North Reference:	Grid
Well:	STERLING SILVER MDP1 33-4 FED COM 5H	Survey Calculation Method:	Minimum Curvature
Wellbore:	WB00		
Design:	Permitting Plan		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	14.47	3,812.52	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	14.47	3,812.52	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	14.47	3,812.52	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	14.47	3,812.52	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	14.47	3,812.52	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	14.47	3,812.52	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	14.47	3,812.52	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	14.47	3,812.52	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	14.47	3,812.52	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	14.47	3,812.52	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	14.47	3,812.52	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	14.47	3,812.52	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	14.47	3,812.52	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	14.47	3,812.52	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	14.47	3,812.52	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	14.47	3,812.52	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	14.47	3,812.52	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	14.47	3,812.52	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	14.47	3,812.52	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	14.47	3,812.52	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	14.47	3,812.52	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	14.47	3,812.52	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	14.47	3,812.52	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	14.47	3,812.52	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	14.47	3,812.52	0.00	0.00	0.00	0.00
2,500.00	0.00	0.00	2,500.00	14.47	3,812.52	0.00	0.00	0.00	0.00
2,600.00	0.00	0.00	2,600.00	14.47	3,812.52	0.00	0.00	0.00	0.00
2,700.00	0.00	0.00	2,700.00	14.47	3,812.52	0.00	0.00	0.00	0.00
2,800.00	0.00	0.00	2,800.00	14.47	3,812.52	0.00	0.00	0.00	0.00
2,900.00	0.00	0.00	2,900.00	14.47	3,812.52	0.00	0.00	0.00	0.00
3,000.00	0.00	0.00	3,000.00	14.47	3,812.52	0.00	0.00	0.00	0.00
3,100.00	0.00	0.00	3,100.00	14.47	3,812.52	0.00	0.00	0.00	0.00
3,200.00	0.00	0.00	3,200.00	14.47	3,812.52	0.00	0.00	0.00	0.00
3,300.00	0.00	0.00	3,300.00	14.47	3,812.52	0.00	0.00	0.00	0.00
3,400.00	0.00	0.00	3,400.00	14.47	3,812.52	0.00	0.00	0.00	0.00
3,500.00	0.00	0.00	3,500.00	14.47	3,812.52	0.00	0.00	0.00	0.00
3,600.00	0.00	0.00	3,600.00	14.47	3,812.52	0.00	0.00	0.00	0.00
3,700.00	0.00	0.00	3,700.00	14.47	3,812.52	0.00	0.00	0.00	0.00
3,800.00	0.00	0.00	3,800.00	14.47	3,812.52	0.00	0.00	0.00	0.00
3,900.00	0.00	0.00	3,900.00	14.47	3,812.52	0.00	0.00	0.00	0.00
4,000.00	0.00	0.00	4,000.00	14.47	3,812.52	0.00	0.00	0.00	0.00
4,100.00	0.00	0.00	4,100.00	14.47	3,812.52	0.00	0.00	0.00	0.00
4,200.00	0.00	0.00	4,200.00	14.47	3,812.52	0.00	0.00	0.00	0.00
4,300.00	0.00	0.00	4,300.00	14.47	3,812.52	0.00	0.00	0.00	0.00
4,400.00	0.00	0.00	4,400.00	14.47	3,812.52	0.00	0.00	0.00	0.00
4,500.00	0.00	0.00	4,500.00	14.47	3,812.52	0.00	0.00	0.00	0.00
4,600.00	0.00	0.00	4,600.00	14.47	3,812.52	0.00	0.00	0.00	0.00
4,700.00	0.00	0.00	4,700.00	14.47	3,812.52	0.00	0.00	0.00	0.00
4,800.00	0.00	0.00	4,800.00	14.47	3,812.52	0.00	0.00	0.00	0.00
4,900.00	0.00	0.00	4,900.00	14.47	3,812.52	0.00	0.00	0.00	0.00
5,000.00	0.00	0.00	5,000.00	14.47	3,812.52	0.00	0.00	0.00	0.00
5,100.00	2.00	276.87	5,099.98	14.68	3,810.79	-0.16	2.00	2.00	0.00
5,200.00	4.00	276.87	5,199.84	15.31	3,805.59	-0.62	2.00	2.00	0.00

Oxy Planning Report

Database:	HOPSPP	Local Co-ordinate Reference:	Site STERLING SILVER MDP1 33-4 FED COM
Company:	ENGINEERING DESIGNS	TVD Reference:	Datum @ 3427.10ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	MD Reference:	Datum @ 3427.10ft
Site:	STERLING SILVER MDP1 33-4 FED COM	North Reference:	Grid
Well:	STERLING SILVER MDP1 33-4 FED COM 5H	Survey Calculation Method:	Minimum Curvature
Wellbore:	WB00		
Design:	Permitting Plan		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
5,253.56	5.07	276.87	5,253.23	15.81	3,801.39	-1.00	2.00	2.00	0.00
5,300.00	5.07	276.87	5,299.49	16.30	3,797.31	-1.37	0.00	0.00	0.00
5,400.00	5.07	276.87	5,399.10	17.36	3,788.54	-2.16	0.00	0.00	0.00
5,500.00	5.07	276.87	5,498.70	18.42	3,779.76	-2.95	0.00	0.00	0.00
5,600.00	5.07	276.87	5,598.31	19.47	3,770.98	-3.74	0.00	0.00	0.00
5,700.00	5.07	276.87	5,697.92	20.53	3,762.21	-4.53	0.00	0.00	0.00
5,800.00	5.07	276.87	5,797.53	21.59	3,753.43	-5.32	0.00	0.00	0.00
5,900.00	5.07	276.87	5,897.14	22.64	3,744.66	-6.11	0.00	0.00	0.00
6,000.00	5.07	276.87	5,996.75	23.70	3,735.88	-6.89	0.00	0.00	0.00
6,100.00	5.07	276.87	6,096.36	24.76	3,727.11	-7.68	0.00	0.00	0.00
6,200.00	5.07	276.87	6,195.96	25.81	3,718.33	-8.47	0.00	0.00	0.00
6,300.00	5.07	276.87	6,295.57	26.87	3,709.55	-9.26	0.00	0.00	0.00
6,400.00	5.07	276.87	6,395.18	27.93	3,700.78	-10.05	0.00	0.00	0.00
6,500.00	5.07	276.87	6,494.79	28.99	3,692.00	-10.84	0.00	0.00	0.00
6,600.00	5.07	276.87	6,594.40	30.04	3,683.23	-11.63	0.00	0.00	0.00
6,700.00	5.07	276.87	6,694.01	31.10	3,674.45	-12.42	0.00	0.00	0.00
6,800.00	5.07	276.87	6,793.62	32.16	3,665.67	-13.21	0.00	0.00	0.00
6,900.00	5.07	276.87	6,893.22	33.21	3,656.90	-14.00	0.00	0.00	0.00
7,000.00	5.07	276.87	6,992.83	34.27	3,648.12	-14.79	0.00	0.00	0.00
7,100.00	5.07	276.87	7,092.44	35.33	3,639.35	-15.58	0.00	0.00	0.00
7,200.00	5.07	276.87	7,192.05	36.38	3,630.57	-16.37	0.00	0.00	0.00
7,300.00	5.07	276.87	7,291.66	37.44	3,621.80	-17.16	0.00	0.00	0.00
7,400.00	5.07	276.87	7,391.27	38.50	3,613.02	-17.95	0.00	0.00	0.00
7,500.00	5.07	276.87	7,490.88	39.56	3,604.24	-18.74	0.00	0.00	0.00
7,600.00	5.07	276.87	7,590.48	40.61	3,595.47	-19.53	0.00	0.00	0.00
7,700.00	5.07	276.87	7,690.09	41.67	3,586.69	-20.32	0.00	0.00	0.00
7,800.00	5.07	276.87	7,789.70	42.73	3,577.92	-21.11	0.00	0.00	0.00
7,900.00	5.07	276.87	7,889.31	43.78	3,569.14	-21.89	0.00	0.00	0.00
8,000.00	5.07	276.87	7,988.92	44.84	3,560.36	-22.68	0.00	0.00	0.00
8,100.00	5.07	276.87	8,088.53	45.90	3,551.59	-23.47	0.00	0.00	0.00
8,200.00	5.07	276.87	8,188.14	46.95	3,542.81	-24.26	0.00	0.00	0.00
8,300.00	5.07	276.87	8,287.74	48.01	3,534.04	-25.05	0.00	0.00	0.00
8,400.00	5.07	276.87	8,387.35	49.07	3,525.26	-25.84	0.00	0.00	0.00
8,500.00	5.07	276.87	8,486.96	50.12	3,516.49	-26.63	0.00	0.00	0.00
8,600.00	5.07	276.87	8,586.57	51.18	3,507.71	-27.42	0.00	0.00	0.00
8,700.00	5.07	276.87	8,686.18	52.24	3,498.93	-28.21	0.00	0.00	0.00
8,800.00	5.07	276.87	8,785.79	53.30	3,490.16	-29.00	0.00	0.00	0.00
8,900.00	5.07	276.87	8,885.40	54.35	3,481.38	-29.79	0.00	0.00	0.00
9,000.00	5.07	276.87	8,985.00	55.41	3,472.61	-30.58	0.00	0.00	0.00
9,100.00	5.07	276.87	9,084.61	56.47	3,463.83	-31.37	0.00	0.00	0.00
9,173.49	5.07	276.87	9,157.82	57.24	3,457.38	-31.95	0.00	0.00	0.00
9,200.00	4.54	276.87	9,184.23	57.51	3,455.18	-32.15	2.00	-2.00	0.00
9,300.00	2.54	276.87	9,284.04	58.25	3,449.04	-32.70	2.00	-2.00	0.00
9,400.00	0.54	276.87	9,384.00	58.57	3,446.38	-32.94	2.00	-2.00	0.00
9,427.05	0.00	179.74	9,411.04	58.58	3,446.25	-32.95	2.00	-2.00	0.00
9,500.00	7.30	179.74	9,483.80	53.95	3,446.27	-28.31	10.00	10.00	0.00
9,600.00	17.30	179.74	9,581.38	32.68	3,446.37	-7.06	10.00	10.00	0.00
9,700.00	27.30	179.74	9,673.79	-5.21	3,446.54	30.81	10.00	10.00	0.00
9,800.00	37.30	179.74	9,758.21	-58.57	3,446.78	84.13	10.00	10.00	0.00
9,900.00	47.30	179.74	9,832.09	-125.78	3,447.09	151.30	10.00	10.00	0.00
10,000.00	57.30	179.74	9,893.17	-204.80	3,447.45	230.27	10.00	10.00	0.00
10,100.00	67.30	179.74	9,939.60	-293.22	3,447.86	318.64	10.00	10.00	0.00
10,200.00	77.30	179.74	9,969.97	-388.36	3,448.29	413.73	10.00	10.00	0.00

Oxy Planning Report

Database:	HOPSPP	Local Co-ordinate Reference:	Site STERLING SILVER MDP1 33-4 FED COM
Company:	ENGINEERING DESIGNS	TVD Reference:	Datum @ 3427.10ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	MD Reference:	Datum @ 3427.10ft
Site:	STERLING SILVER MDP1 33-4 FED COM	North Reference:	Grid
Well:	STERLING SILVER MDP1 33-4 FED COM 5H	Survey Calculation Method:	Minimum Curvature
Wellbore:	WB00		
Design:	Permitting Plan		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
10,300.00	87.30	179.74	9,983.36	-487.33	3,448.74	512.64	10.00	10.00	0.00
10,326.05	89.90	179.74	9,984.00	-513.37	3,448.86	538.66	10.00	10.00	0.00
10,400.00	89.90	179.74	9,984.13	-587.32	3,449.20	612.56	0.00	0.00	0.00
10,500.00	89.90	179.74	9,984.30	-687.32	3,449.66	712.50	0.00	0.00	0.00
10,600.00	89.90	179.74	9,984.47	-787.32	3,450.12	812.44	0.00	0.00	0.00
10,700.00	89.90	179.74	9,984.64	-887.32	3,450.57	912.38	0.00	0.00	0.00
10,800.00	89.90	179.74	9,984.81	-987.32	3,451.03	1,012.32	0.00	0.00	0.00
10,900.00	89.90	179.74	9,984.98	-1,087.31	3,451.49	1,112.26	0.00	0.00	0.00
11,000.00	89.91	179.74	9,985.14	-1,187.31	3,451.95	1,212.20	0.00	0.00	0.00
11,100.00	89.91	179.74	9,985.31	-1,287.31	3,452.40	1,312.14	0.00	0.00	0.00
11,200.00	89.91	179.74	9,985.47	-1,387.31	3,452.86	1,412.07	0.00	0.00	0.00
11,300.00	89.91	179.74	9,985.63	-1,487.31	3,453.32	1,512.01	0.00	0.00	0.00
11,400.00	89.91	179.74	9,985.79	-1,587.31	3,453.78	1,611.95	0.00	0.00	0.00
11,500.00	89.91	179.74	9,985.95	-1,687.31	3,454.23	1,711.89	0.00	0.00	0.00
11,600.00	89.91	179.74	9,986.10	-1,787.31	3,454.69	1,811.83	0.00	0.00	0.00
11,700.00	89.91	179.74	9,986.26	-1,887.30	3,455.15	1,911.77	0.00	0.00	0.00
11,800.00	89.91	179.74	9,986.41	-1,987.30	3,455.60	2,011.71	0.00	0.00	0.00
11,900.00	89.91	179.74	9,986.56	-2,087.30	3,456.06	2,111.64	0.00	0.00	0.00
12,000.00	89.91	179.74	9,986.71	-2,187.30	3,456.52	2,211.58	0.00	0.00	0.00
12,100.00	89.92	179.74	9,986.86	-2,287.30	3,456.98	2,311.52	0.00	0.00	0.00
12,200.00	89.92	179.74	9,987.01	-2,387.30	3,457.43	2,411.46	0.00	0.00	0.00
12,300.00	89.92	179.74	9,987.15	-2,487.30	3,457.89	2,511.40	0.00	0.00	0.00
12,400.00	89.92	179.74	9,987.30	-2,587.30	3,458.35	2,611.34	0.00	0.00	0.00
12,500.00	89.92	179.74	9,987.44	-2,687.30	3,458.81	2,711.28	0.00	0.00	0.00
12,600.00	89.92	179.74	9,987.58	-2,787.29	3,459.26	2,811.21	0.00	0.00	0.00
12,700.00	89.92	179.74	9,987.72	-2,887.29	3,459.72	2,911.15	0.00	0.00	0.00
12,800.00	89.92	179.74	9,987.86	-2,987.29	3,460.18	3,011.09	0.00	0.00	0.00
12,900.00	89.92	179.74	9,988.00	-3,087.29	3,460.64	3,111.03	0.00	0.00	0.00
13,000.00	89.92	179.74	9,988.13	-3,187.29	3,461.09	3,210.97	0.00	0.00	0.00
13,100.00	89.92	179.74	9,988.27	-3,287.29	3,461.55	3,310.91	0.00	0.00	0.00
13,200.00	89.92	179.74	9,988.40	-3,387.29	3,462.01	3,410.85	0.00	0.00	0.00
13,300.00	89.93	179.74	9,988.53	-3,487.29	3,462.46	3,510.79	0.00	0.00	0.00
13,400.00	89.93	179.74	9,988.66	-3,587.29	3,462.92	3,610.72	0.00	0.00	0.00
13,500.00	89.93	179.74	9,988.79	-3,687.28	3,463.38	3,710.66	0.00	0.00	0.00
13,600.00	89.93	179.74	9,988.92	-3,787.28	3,463.84	3,810.60	0.00	0.00	0.00
13,700.00	89.93	179.74	9,989.04	-3,887.28	3,464.29	3,910.54	0.00	0.00	0.00
13,800.00	89.93	179.74	9,989.17	-3,987.28	3,464.75	4,010.48	0.00	0.00	0.00
13,900.00	89.93	179.74	9,989.29	-4,087.28	3,465.21	4,110.42	0.00	0.00	0.00
14,000.00	89.93	179.74	9,989.41	-4,187.28	3,465.67	4,210.36	0.00	0.00	0.00
14,100.00	89.93	179.74	9,989.53	-4,287.28	3,466.12	4,310.29	0.00	0.00	0.00
14,200.00	89.93	179.74	9,989.64	-4,387.28	3,466.58	4,410.23	0.00	0.00	0.00
14,300.00	89.93	179.74	9,989.76	-4,487.28	3,467.04	4,510.17	0.00	0.00	0.00
14,400.00	89.93	179.74	9,989.88	-4,587.27	3,467.50	4,610.11	0.00	0.00	0.00
14,500.00	89.94	179.74	9,989.99	-4,687.27	3,467.95	4,710.05	0.00	0.00	0.00
14,600.00	89.94	179.74	9,990.10	-4,787.27	3,468.41	4,809.99	0.00	0.00	0.00
14,700.00	89.94	179.74	9,990.21	-4,887.27	3,468.87	4,909.93	0.00	0.00	0.00
14,800.00	89.94	179.74	9,990.32	-4,987.27	3,469.32	5,009.87	0.00	0.00	0.00
14,900.00	89.94	179.74	9,990.43	-5,087.27	3,469.78	5,109.80	0.00	0.00	0.00
15,000.00	89.94	179.74	9,990.53	-5,187.27	3,470.24	5,209.74	0.00	0.00	0.00
15,100.00	89.94	179.74	9,990.64	-5,287.27	3,470.70	5,309.68	0.00	0.00	0.00
15,200.00	89.94	179.74	9,990.74	-5,387.27	3,471.15	5,409.62	0.00	0.00	0.00
15,300.00	89.94	179.74	9,990.84	-5,487.26	3,471.61	5,509.56	0.00	0.00	0.00
15,400.00	89.94	179.74	9,990.94	-5,587.26	3,472.07	5,609.50	0.00	0.00	0.00

Oxy Planning Report

Database:	HOPSPP	Local Co-ordinate Reference:	Site STERLING SILVER MDP1 33-4 FED COM
Company:	ENGINEERING DESIGNS	TVD Reference:	Datum @ 3427.10ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	MD Reference:	Datum @ 3427.10ft
Site:	STERLING SILVER MDP1 33-4 FED COM	North Reference:	Grid
Well:	STERLING SILVER MDP1 33-4 FED COM 5H	Survey Calculation Method:	Minimum Curvature
Wellbore:	WB00		
Design:	Permitting Plan		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
15,500.00	89.94	179.74	9,991.04	-5,687.26	3,472.53	5,709.44	0.00	0.00	0.00
15,600.00	89.94	179.74	9,991.14	-5,787.26	3,472.98	5,809.38	0.00	0.00	0.00
15,700.00	89.95	179.74	9,991.23	-5,887.26	3,473.44	5,909.31	0.00	0.00	0.00
15,800.00	89.95	179.74	9,991.33	-5,987.26	3,473.90	6,009.25	0.00	0.00	0.00
15,900.00	89.95	179.74	9,991.42	-6,087.26	3,474.35	6,109.19	0.00	0.00	0.00
16,000.00	89.95	179.74	9,991.51	-6,187.26	3,474.81	6,209.13	0.00	0.00	0.00
16,100.00	89.95	179.74	9,991.60	-6,287.26	3,475.27	6,309.07	0.00	0.00	0.00
16,200.00	89.95	179.74	9,991.69	-6,387.25	3,475.73	6,409.01	0.00	0.00	0.00
16,300.00	89.95	179.74	9,991.77	-6,487.25	3,476.18	6,508.95	0.00	0.00	0.00
16,400.00	89.95	179.74	9,991.86	-6,587.25	3,476.64	6,608.89	0.00	0.00	0.00
16,500.00	89.95	179.74	9,991.94	-6,687.25	3,477.10	6,708.82	0.00	0.00	0.00
16,600.00	89.95	179.74	9,992.02	-6,787.25	3,477.56	6,808.76	0.00	0.00	0.00
16,700.00	89.95	179.74	9,992.10	-6,887.25	3,478.01	6,908.70	0.00	0.00	0.00
16,800.00	89.96	179.74	9,992.18	-6,987.25	3,478.47	7,008.64	0.00	0.00	0.00
16,900.00	89.96	179.74	9,992.26	-7,087.25	3,478.93	7,108.58	0.00	0.00	0.00
17,000.00	89.96	179.74	9,992.34	-7,187.25	3,479.39	7,208.52	0.00	0.00	0.00
17,100.00	89.96	179.74	9,992.41	-7,287.24	3,479.84	7,308.46	0.00	0.00	0.00
17,200.00	89.96	179.74	9,992.48	-7,387.24	3,480.30	7,408.40	0.00	0.00	0.00
17,300.00	89.96	179.74	9,992.56	-7,487.24	3,480.76	7,508.33	0.00	0.00	0.00
17,400.00	89.96	179.74	9,992.63	-7,587.24	3,481.21	7,608.27	0.00	0.00	0.00
17,500.00	89.96	179.74	9,992.69	-7,687.24	3,481.67	7,708.21	0.00	0.00	0.00
17,600.00	89.96	179.74	9,992.76	-7,787.24	3,482.13	7,808.15	0.00	0.00	0.00
17,700.00	89.96	179.74	9,992.83	-7,887.24	3,482.59	7,908.09	0.00	0.00	0.00
17,800.00	89.96	179.74	9,992.89	-7,987.24	3,483.04	8,008.03	0.00	0.00	0.00
17,900.00	89.96	179.74	9,992.95	-8,087.24	3,483.50	8,107.97	0.00	0.00	0.00
18,000.00	89.97	179.74	9,993.02	-8,187.24	3,483.96	8,207.91	0.00	0.00	0.00
18,100.00	89.97	179.74	9,993.07	-8,287.23	3,484.42	8,307.84	0.00	0.00	0.00
18,200.00	89.97	179.74	9,993.13	-8,387.23	3,484.87	8,407.78	0.00	0.00	0.00
18,300.00	89.97	179.74	9,993.19	-8,487.23	3,485.33	8,507.72	0.00	0.00	0.00
18,400.00	89.97	179.74	9,993.25	-8,587.23	3,485.79	8,607.66	0.00	0.00	0.00
18,500.00	89.97	179.74	9,993.30	-8,687.23	3,486.25	8,707.60	0.00	0.00	0.00
18,600.00	89.97	179.74	9,993.35	-8,787.23	3,486.70	8,807.54	0.00	0.00	0.00
18,700.00	89.97	179.74	9,993.40	-8,887.23	3,487.16	8,907.48	0.00	0.00	0.00
18,800.00	89.97	179.74	9,993.45	-8,987.23	3,487.62	9,007.42	0.00	0.00	0.00
18,900.00	89.97	179.74	9,993.50	-9,087.23	3,488.07	9,107.35	0.00	0.00	0.00
19,000.00	89.97	179.74	9,993.55	-9,187.22	3,488.53	9,207.29	0.00	0.00	0.00
19,100.00	89.97	179.74	9,993.59	-9,287.22	3,488.99	9,307.23	0.00	0.00	0.00
19,200.00	89.98	179.74	9,993.63	-9,387.22	3,489.45	9,407.17	0.00	0.00	0.00
19,300.00	89.98	179.74	9,993.68	-9,487.22	3,489.90	9,507.11	0.00	0.00	0.00
19,400.00	89.98	179.74	9,993.72	-9,587.22	3,490.36	9,607.05	0.00	0.00	0.00
19,500.00	89.98	179.74	9,993.75	-9,687.22	3,490.82	9,706.99	0.00	0.00	0.00
19,600.00	89.98	179.74	9,993.79	-9,787.22	3,491.28	9,806.93	0.00	0.00	0.00
19,700.00	89.98	179.74	9,993.83	-9,887.22	3,491.73	9,906.86	0.00	0.00	0.00
19,800.00	89.98	179.74	9,993.86	-9,987.22	3,492.19	10,006.80	0.00	0.00	0.00
19,900.00	89.98	179.74	9,993.90	-10,087.21	3,492.65	10,106.74	0.00	0.00	0.00
20,000.00	89.98	179.74	9,993.93	-10,187.21	3,493.11	10,206.68	0.00	0.00	0.00
20,100.00	89.98	179.74	9,993.96	-10,287.21	3,493.56	10,306.62	0.00	0.00	0.00
20,200.00	89.98	179.74	9,993.99	-10,387.21	3,494.02	10,406.56	0.00	0.00	0.00
20,255.01	89.98	179.74	9,994.00	-10,442.22	3,494.27	10,461.53	0.00	0.00	0.00

Oxy

Planning Report

Database:	HOPSPP	Local Co-ordinate Reference:	Site STERLING SILVER MDP1 33-4 FED COM
Company:	ENGINEERING DESIGNS	TVD Reference:	Datum @ 3427.10ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	MD Reference:	Datum @ 3427.10ft
Site:	STERLING SILVER MDP1 33-4 FED COM	North Reference:	Grid
Well:	STERLING SILVER MDP1 33-4 FED COM 5H	Survey Calculation Method:	Minimum Curvature
Wellbore:	WB00		
Design:	Permitting Plan		

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
STERLING_5H_KOP - plan hits target center - Point	0.00	0.00	9,411.04	58.58	3,446.25	461,692.88	713,155.08	32° 16' 4.962732 N	103° 46' 38.791997
STERLING_5H_BHL - plan hits target center - Point	0.00	0.00	9,994.00	-10,442.22	3,494.27	451,192.71	713,203.10	32° 14' 21.055300 N	103° 46' 38.865915

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
5,000.00	5,000.00	14.47	3,812.52	STEP OUT DLS 2.00
5,253.56	5,253.23	15.81	3,801.39	HOLD 10 DEG TANGENT
9,173.49	9,157.82	57.24	3,457.38	DROP BACK TO VERTICAL DLS 2.00
9,427.05	9,411.04	58.58	3,446.25	BUILD CURVE 10 DEG / 100
10,326.05	9,984.00	-513.37	3,448.86	LANDING POINT
20,255.01	9,994.00	-10,442.22	3,494.27	TD at 20255.01

PECOS DISTRICT

DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	OXY USA INC.
LEASE NO.:	NMNM 045236
WELL NAME & NO.:	Sterling Silver MDP1 33-4 Fed Com 5H
SURFACE HOLE FOOTAGE:	96'/N & 634'/E
BOTTOM HOLE FOOTAGE:	20'/S & 1000'/E
LOCATION:	SECTION 33, T23S, R31E, NMPM
COUNTY:	EDDY

Potash	☒ None	☒ Secretary	☒ R-111-P
Cave/Karst Potential	☒ Low	☒ Medium	☒ High
Variance	☒ None	☒ Flex Hose	☒ Other
Wellhead	☒ Conventional	☒ Multibowl	
Other	☐ 4 String Area	☐ Capitan Reef	☐ WIPP

All previous COAs still apply except for the following:

A. CASING

1. The minimum required fill of cement behind the 7 5/8 inch second intermediate casing is:
 - Cement to surface. If cement does not circulate, contact the appropriate BLM office. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to potash.**

Operator has proposed to pump down 9 5/8" X 7 5/8" annulus. Operator must run a CBL from the TD of the 7 5/8" casing to surface.

MHH 01112019

GENERAL REQUIREMENTS

The BLM is to be notified in advance for a representative to witness:

- a. Spudding well (minimum of 24 hours)
- b. Setting and/or Cementing of all casing strings (minimum of 4 hours)
- c. BOPE tests (minimum of 4 hours)

☒ Chaves and Roosevelt Counties

Call the Roswell Field Office, 2909 West Second St., Roswell NM 88201.

During office hours call (575) 627-0272.

After office hours call (575)

☒ Eddy County

Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220,
(575) 361-2822

☒ Lea County

Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240, (575)
393-3612

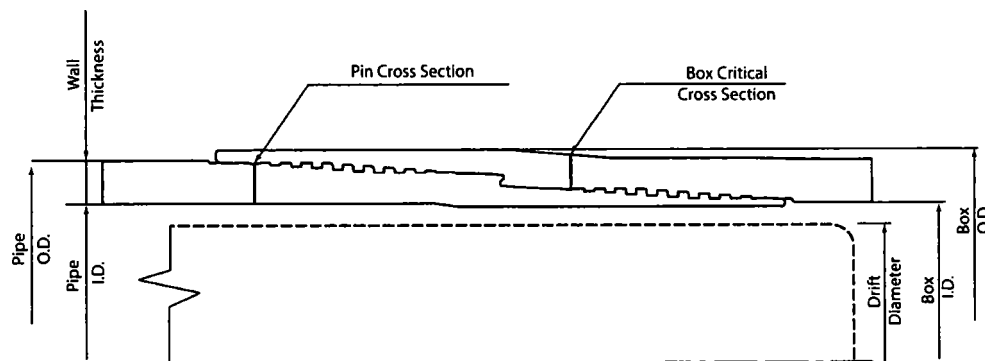
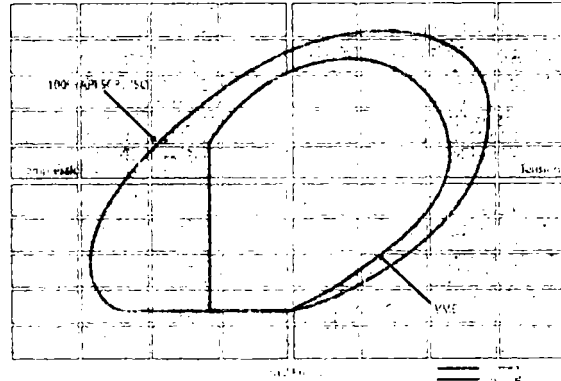
A. CASING

1. Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.
2. Wait on cement (WOC) for Potash Areas: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends, 2) until cement has been in place at least 24 hours. WOC time will be recorded in the driller's log.
3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements.

4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.
5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.
6. 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. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.
7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.
8. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

TECHNICAL DATA SHEET TMK UP SF 7.625 X 26.4 L80 HC

TUBULAR PARAMETERS		PIPE BODY PROPERTIES	
Nominal OD, (inch)	7.625	PE Weight, (lbs/ft)	25.56
Wall Thickness, (inch)	0.328	Nominal Weight, (lbs/ft)	26.40
Pipe Grade	L80 HC	Nominal ID, (inch)	6.969
Drift	Standard	Drift Diameter, (inch)	6.844
		Nominal Pipe Body Area, (sq inch)	7.519
CONNECTION PARAMETERS		Yield Strength in Tension, (klbs)	601
Connection OD (inch)	7.79	Min. Internal Yield Pressure, (psi)	6 020
Connection ID, (inch)	6.938	Collapse Pressure, (psi)	3 910
Make-Up Loss, (inch)	6.029		
Connection Critical Area, (sq inch)	5.948		
Yield Strength in Tension, (klbs)	533		
Yield Strength in Compression, (klbs)	533		
Tension Efficiency	89%		
Compression Efficiency	89%		
Min. Internal Yield Pressure, (psi)	6 020		
Collapse Pressure, (psi)	3 910		
Uniaxial Bending (deg/100ft)	42.7		
MAKE-UP TORQUES			
Yield Torque, (ft-lb)	22 600		
Minimum Make-Up Torque, (ft-lb)	15 000		
Optimum Make-Up Torque, (ft-lb)	16 500		
Maximum Make-Up Torque, (ft-lb)	18 200		



NOTE: The content of this Technical Data Sheet is for general information only and does not guarantee performance or imply fitness for a particular purpose, which only a competent engineering professional can determine considering the specific installation and operation parameters. This information supersedes all prior versions for this connector. Information that is printed or downloaded is no longer controlled by TMK and might not be the latest information. Anyone using the information herein does so at their own risk. To verify that you have the latest technical information, please contact PAZ TMK Technical Sales in Russia (Tel. +7 (495) 775-76-00 Email: techsales@tmk-group.com) or TMK IPSCO in North America (Tel. +1 (281) 949-1044 Email: techsales@tmk-ipSCO.com).

Print date: 07/10/2018 20:00

TECHNICAL DATA SHEET TMK UP FJ 7.625 X 26.4 L80 HC

TUBULAR PARAMETERS

Nominal OD, (inch)	7.625
Wall Thickness, (inch)	0.328
Pipe Grade	L80 HC
Drift	Standard

PIPE BODY PROPERTIES

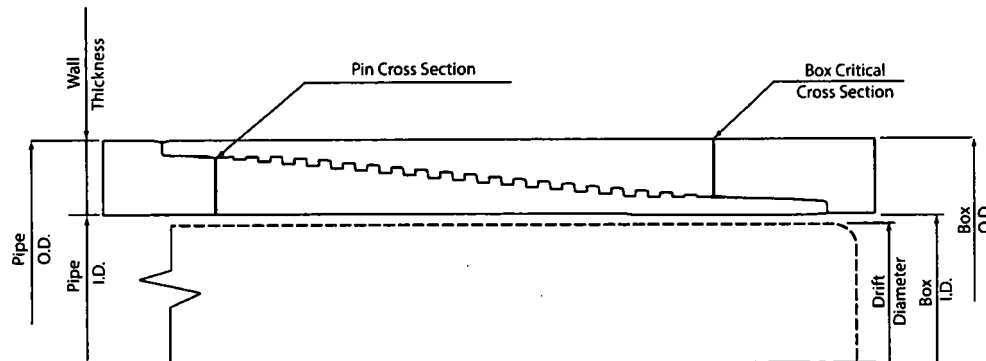
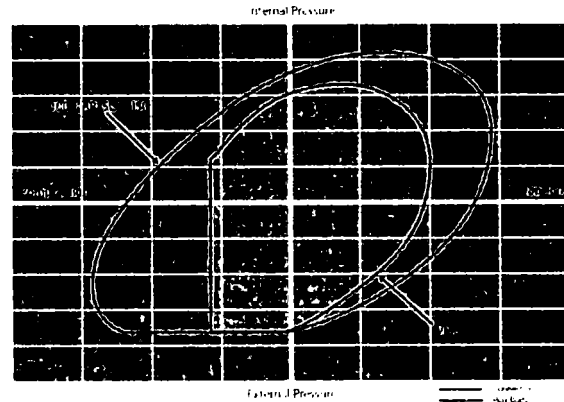
PE Weight, (lbs/ft)	25.56
Nominal Weight, (lbs/ft)	26.40
Nominal ID, (inch)	6.969
Drift Diameter, (inch)	6.844
Nominal Pipe Body Area, (sq inch)	7.519
Yield Strength in Tension, (klbs)	601
Min. Internal Yield Pressure, (psi)	6 020
Collapse Pressure, (psi)	3 910

CONNECTION PARAMETERS

Connection OD (inch)	7.63
Connection ID, (inch)	6.975
Make-Up Loss, (inch)	4.165
Connection Critical Area, (sq inch)	2.520
Yield Strength in Tension, (klbs)	347
Yield Strength in Compression, (klbs)	347
Tension Efficiency	58%
Compression Efficiency	58%
Min. Internal Yield Pressure, (psi)	6 020
Collapse Pressure, (psi)	3 910
Uniaxial Bending (deg/100ft)	28.0

MAKE-UP TORQUES

Yield Torque, (ft-lb)	22 200
Minimum Make-Up Torque, (ft-lb)	12 500
Optimum Make-Up Torque, (ft-lb)	13 900
Maximum Make-Up Torque, (ft-lb)	15 300



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PERFORMANCE DATA

TMK UP DQX
Technical Data Sheet

5.500 in

20.00 lbs/ft

P-110

Tubular Parameters

Size	5.500	in	Minimum Yield	110,000	psi
Nominal Weight	20.00	lbs/ft	Minimum Tensile	125,000	psi
Grade	P-110		Yield Load	641,000	lbs
PE Weight	19.81	lbs/ft	Tensile Load	729,000	lbs
Wall Thickness	0.361	in	Min. Internal Yield Pressure	12,600	psi
Nominal ID	4.778	in	Collapse Pressure	11,100	psi
Drift Diameter	4.653	in			
Nom. Pipe Body Area	5.828	in ²			

Connection Parameters

Connection OD	6.050	in
Connection ID	4.778	in
Make-Up Loss	4.122	in
Critical Section Area	5.828	in ²
Tension Efficiency	100.0	%
Compression Efficiency	100.0	%
Yield Load In Tension	641,000	lbs
Min. Internal Yield Pressure	12,600	psi
Collapse Pressure	11,100	psi

Make-Up Torques

Min. Make-Up Torque	11,600	ft-lbs
Opt. Make-Up Torque	12,900	ft-lbs
Max. Make-Up Torque	14,100	ft-lbs
Yield Torque	20,600	ft-lbs



Printed on: July-29-2014

NOTES

The content of this Technical Data Sheet is for general information only and does not guarantee performance or completeness for particular purposes. It is recommended that professional engineers determine and consider the specific installation and operation parameters for equipment that is not overloaded or longer controlled by TMK IPSCO and might not reflect the latest information. For more information, the user should do so at their own risk. To verify that you have the latest TMK IPSCO technical information, please contact TMK IPSCO Technical Sales at 1-888-248-1000.



IPSCO

PERFORMANCE DATA

TMK UP SF TORQ™

Technical Data Sheet

5,500 in

20.00 lbs/ft

P-110 CYHP

Tubular Parameters

Size	5.500	in	Minimum Yield	125,000	psi
Nominal Weight	20.00	lbs/ft	Minimum Tensile	135,000	psi
Grade	P-110 CYHP		Yield Load	118,000	lbs
PE Weight	19.81	lbs/ft	Tensile Load	128,000	lbs
Wall Thickness	0.361	in	Min. Internal Yield Pressure	14,360	psi
Nominal ID	4.778	in	Collapse Pressure	12,780	psi
Drift Diameter	4.652	in			
Nom. Pipe Body Area	5.328	in ²			

Connection Parameters

Connection OD	5.777	in
Connection ID	4.734	in
Make-Up Loss	5.821	in
Critical Section Area	5.875	in ²
Tension Efficiency	90	%
Compression Efficiency	90.0	%
Yield Load In Tension	655,000	lbs
Min. Internal Yield Pressure	14,360	psi
Collapse Pressure	12,780	psi
Uniaxial Bending	91.8	% / 100 ft

Make-Up Torques

Min. Make-Up Torque	570	ft-lbs
Opt. Make-Up Torque	1950	ft-lbs
Max. Make-Up Torque	2000	ft-lbs
Operating Torque	29	ft-lbs
Yield Torque	5700	ft-lbs

Printed on: January-10-2018



№ 1

The content of this technical Data Sheet is a general information and does not guarantee performance or completeness for a specific purpose. In order to complete the operational characteristics, the user must consider the specific installation and operating parameters listed in the manual. The user must no longer consider the LINK-PCSO and its components as a test for infection, since the infection has already done so. The user must verify that you can elaborate the LINK-PCSO technical information. Please contact LINK-PCSO Technical Services, free at 1-888-258-2000.



IPSCO