

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.*Lease Serial No.
NMNM45236

If Indian, Allottee or Tribe Name

SUBMIT IN TRIPLICATE - Other instructions on page 2

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

1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other

8. Well Name and No.

STERLING SILVER MDP1 33-4 FD C 6H

2. Name of Operator

OXY USA INCORPORATED

Contact: SARAH CHAPMAN

E-Mail: SARAH_CHAPMAN@OXY.COM

9. API Well No.

30-015-45386-00-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 NENW 69FNL 2439FWL
32.267994 N Lat, 103.783401 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☐ Subsequent Report☐ Final Abandonment Notice☐ Acidize☐ Alter Casing☐ Casing Repair☐ Change Plans☐ Convert to Injection☐ Deepen☐ Hydraulic Fracturing☐ New Construction☐ Plug and Abandon☐ Plug Back☐ Production (Start/Resume)☐ Reclamation☐ Recomplete☐ Temporarily Abandon☐ Water Disposal☐ Water Shut-Off☐ Well Integrity☒ Other
Change to Original APD

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 recompleat 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 and change the well number for API No 30-015-45386 from the Sterling Silver MDP1 33-4 Federal Com #174H to the Sterling Silver MDP1 33-4 Federal Com #6H. Due to spacing changes this well will be drilled and completed in the 2nd Bone Spring instead of the Wolfcamp formation and the bottom hole is moving west 90' from the current location.

OXY USA Inc. is also requesting to drill 16" surface hole instead of the planned 17-1/2". We received verbal approval from Haque on 11/14/2018. Notes are below:

Below is the Sterling Silver well we discussed on the phone today regarding the change in surface hole size. The surface hole is being drilled as 16" OH x 13-3/8" CSG instead of 17-1/2" OH x 13-3/8" CSG (original design). The drilling crew attempted to spud the well with the 17-1/2" bit,

- All previous Com fill apply.

RECEIVED

JAN 17 2019

DISTRICT II-ARTESIA O.C.D.

14. I hereby certify that the foregoing is true and correct.

Electronic Submission #445637 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 (19PP0497SE)

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 ****

Rev 2-21-19

Additional data for EC transaction #445637 that would not fit on the form

32. Additional remarks, continued

but encountered a tight spot at 73' and was unsuccessful with reaming through it. The original TD will remain the same as per the approved drilling APD.

API Well Name
3001545386 Sterling Silver MDP1 33-4 Fed Com 6H
(previously Sterling Silver MDP1 33-4 Fed Com 174H)

Required Min Clearance = 0.422"

New Clearance = $(16" \pm 14.375") / 2 = 0.8125"$

See attached for the Amended C-102 plat, drill plan, directional plan and plot.

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JAN 17 2019

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (505) 791-6100 Fax: (505) 791-6120

District II
511 S. First St., Artesia, NM 88210
Phone: (505) 748-1281 Fax: (505) 748-0725

District III
1000 Rio Rancho Road, Aztec, NM 87410
Phone: (505) 334-6779 Fax: (505) 334-6750

District IV
225 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
DISTRICT II-ARTESIA O.C.D.
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-102
Revised August 1, 2011
Submit one copy to appropriate
District Office

☒ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-015-45386	Pool Code 33740	Pool Name Ingle Wells Bone Spring
Property Code	Property Name STERLING SILVER MDP1 "33-4" FEDERAL COM	Well Number 6H
OGRID No. 16696	Operator Name OXY USA INC	Elevation 3387.1

Surface Location

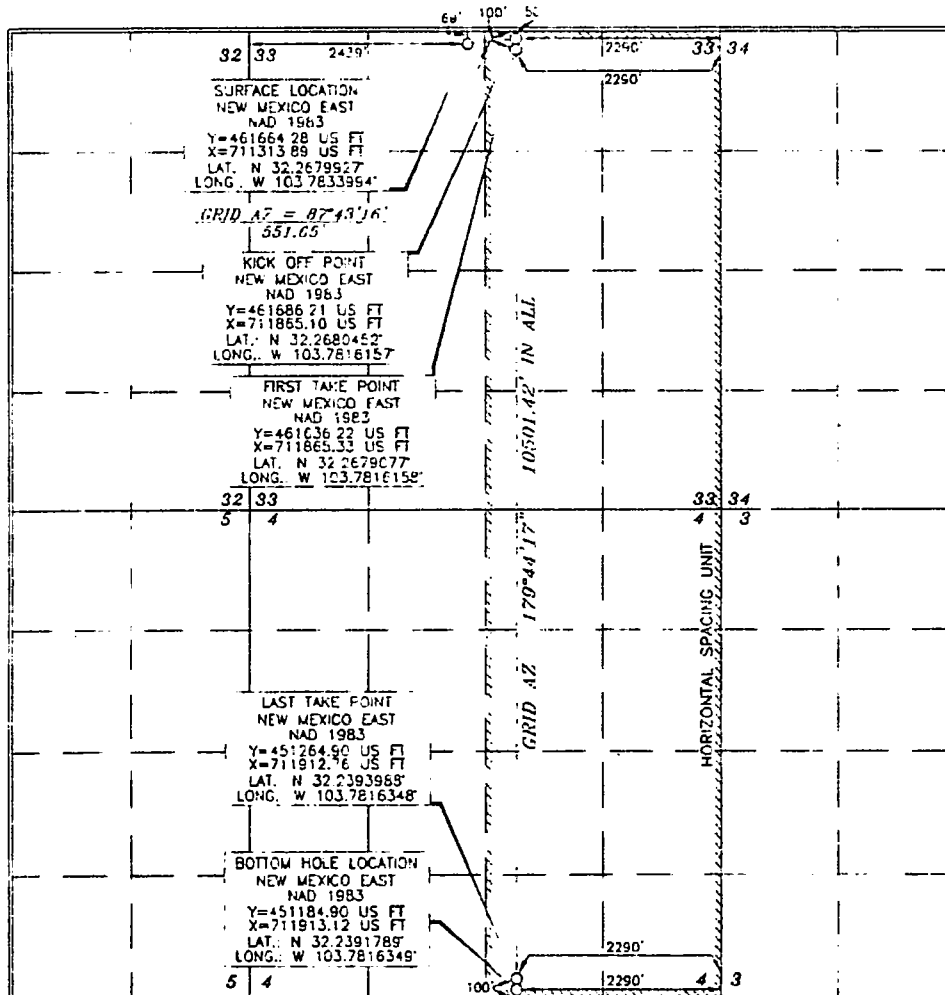
UT or lot no.	Section	Township	Range	Lot Idn	Feet from the	North South line	Feet from the	East West line	County
C	33	23 SOUTH	31 EAST, N.M.P.M.		69'	NORTH	2439'	WEST	EDDY

Bottom Hole Location If Different From Surface

UT or lot no.	Section	Township	Range	Lot Idn	Feet from the	North South line	Feet from the	East West line	County
O	4	24 SOUTH	31 EAST, N.M.P.M.		20'	SOUTH	2290'	EAST	EDDY

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
640	1640.48		

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 well location shown on this plat was plotted from a survey made by me or under my supervision and that the same is true and correct to the best of my belief.

Signature: **Sarah Chapman** Date: **11/29/18**
Printed Name: **Sarah Chapman**
Email: **sarah_chapman@oxy.com**

SURVEYOR CERTIFICATION

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

Signature: **ERRY JASE** Date: **FEBRUARY 2, 2019**
Professional Surveyor

Signature: **ERRY JASE** Date: **10/30/2018**
Certificate Number: **15079**

W01 180202WL-d (Rev. A) (KA)

RVP 2-21-19

Oxy USA Inc. - Sterling Silver MDP1 33-4 Fed Com 6H – Amend Drill Plan

1. Geologic Formations

TVD of target	10219'	Pilot Hole Depth	N/A
MD at TD:	20465'	Deepest Expected fresh water:	458'

Delaware Basin

Formation	TVD - RKB	Expected Fluids
Rustler	458	
Salado	819	Brine
Castile	2,742	Brine
Lamar/Delaware	4,247	Brine
Bell Canyon	4,274	Oil/Gas
Cherry Canyon	5,153	Oil/Gas
Brushy Canyon	6,437	Losses
Bone Spring	8,049	Oil/Gas
1st Bone Spring	9,113	Oil/Gas
2nd Bone Spring	9,339	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 Body SF	Buoyant Joint SF
	From (ft)	To (ft)							Tension	Tension
16	0	508	13.375	54.5	J-55	BTC	1.125	1.2	1.4	1.4
12.25	0	4297	9.625	43.5	L-80	BTC	1.125	1.2	1.4	1.4
8.5	0	9536	7.625	26.4	L-80 HC	SF (0 ft to 4000 ft) FJ (4000 ft to 9536 ft)	1.125	1.2	1.4	1.4
6.75	0	20465	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 6H – Amend Drill Plan

Annular Clearance Variance Request

As per the agreement reached in the Oxy/BLM face-to-face meeting on Feb 22, 2018, Oxy requests permission to allow deviation from the 0.422" annular clearance requirement from Onshore Order #2 under the following conditions:

1. Annular clearance to meet or exceed 0.422" between intermediate casing ID and production casing coupling only on the first 500' overlap between both casings.
2. Annular clearance less than 0.422" is acceptable for the curve and lateral portions of the production open hole section.

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

Oxy USA Inc. - Sterling Silver MDP1 33-4 Fed Com 6H – 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)	617	14.8	1.33	6.365	5:26	Class C Cement, Accelerator
Intermediate (Lead)	1194	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)	73	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)	420	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	508	100%
Intermediate (Lead)	0	3797	100%
Intermediate (Tail)	3797	4297	20%
Intermediate II 1st Stage (Lead)	N/A	N/A	N/A
Intermediate II 1st Stage (Tail)	8049	9536	5%
Intermediate II 2nd Stage (Lead)	N/A	N/A	N/A
Intermediate II 2nd Stage (Tail)	0	8049	25%
Production (Lead)	N/A	N/A	N/A
Production (Tail)	9036	20465	20%

4. Pressure Control Equipment

BOP installed and tested before drilling which hole?	Size?	Min. Required WP	Type	✓	Tested to:
12.25" Hole	13-5/8"	5M	Annular	✓	70% of working pressure
			Blind Ram	✓	250/5000psi
			Pipe Ram		
			Double Ram	✓	
			Other*		

*Specify if additional ram is utilized.

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

Pipe rams will be operationally checked each 24 hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. Other

Oxy USA Inc. - Sterling Silver MDP1 33-4 Fed Com 6H – Amend Drill Plan

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

	Formation integrity test will be performed per Onshore Order #2. On Exploratory wells or on that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.i.
	A variance is requested for the use of a flexible choke line from the BOP to Choke Manifold. See attached for specs and hydrostatic test chart.
Y	Are anchors required by manufacturer?
	A multibowl or a unionized multibowl wellhead system will be employed. The wellhead and connection to the BOPE will meet all API 6A requirements. The BOP will be tested per Onshore Order #2 after installation on the surface casing which will cover testing requirements for a maximum of 30 days. If any seal subject to test pressure is broken the system must be tested. We will test the flange connection of the wellhead with a test port that is directly in the flange. We are proposing that we will run the wellhead through the rotary prior to cementing surface casing as discussed with the BLM on October 8, 2015. See attached schematics.

BOP Break Testing Request

As per the agreement reached in the Oxy/BLM face-to-face meeting on Feb 22, 2018, Oxy requests permission to allow BOP Break Testing under the following conditions:

- After a full BOP test is conducted on the first well on the pad.
- When skidding to drill an intermediate section that does not penetrate into the Wolfcamp.
- Full BOP test will be required prior to drilling any production hole.

5. Mud Program

Depth		Type	Weight (ppg)	Viscosity	Water Loss
From (ft)	To (ft)				
0	508	Water-Based Mud	8.6-8.8	40-60	N/C
508	4297	Saturated Brine-Based Mud	9.8-10.0	35-45	N/C
4297	9536	Water-Based or Oil-Based Mud	8.0-9.6	38-50	N/C
9536	20465	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

Oxy USA Inc. - Sterling Silver MDP1 33-4 Fed Com 6H – Amend Drill Plan

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.

What will be used to monitor the loss or gain of fluid?	PVT/MD Totco/Visual Monitoring
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6. Logging and Testing Procedures

Logging, Coring and Testing.		
Yes	Will run GR from TD to surface (horizontal well – vertical portion of hole). Stated logs run will be in the Completion Report and submitted to the BLM.	
No	Logs are planned based on well control or offset log information.	
No	Drill stem test? If yes, explain	
No	Coring? If yes, explain	
Additional logs planned		Interval
No	Resistivity	
No	Density	
No	CBL	
Yes	Mud log	ICP - TD
No	PEX	

7. Drilling Conditions

Condition	Specify what type and where?
BH Pressure at deepest TVD	5102 psi
Abnormal Temperature	No
BH Temperature at deepest TVD	162°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

Oxy USA Inc. - Sterling Silver MDP1 33-4 Fed Com 6H – Amend Drill Plan

8. 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: 1554.9 bbls.

9. 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



Project: PRD NM DIRECTIONAL PLANS (NAD 1983)
Site: STERLING SILVER MDP1 33-4 FED COM
Well: STERLING SILVER MDP1 33-4 FED COM 6H
Wellbore: WB00
Design: Permitting Plan

WELL DETAILS: STERLING SILVER MDP1 33-4 FED COM 6H

+N/-S 0.00
+E/-W 0.00

Northing
461664.28

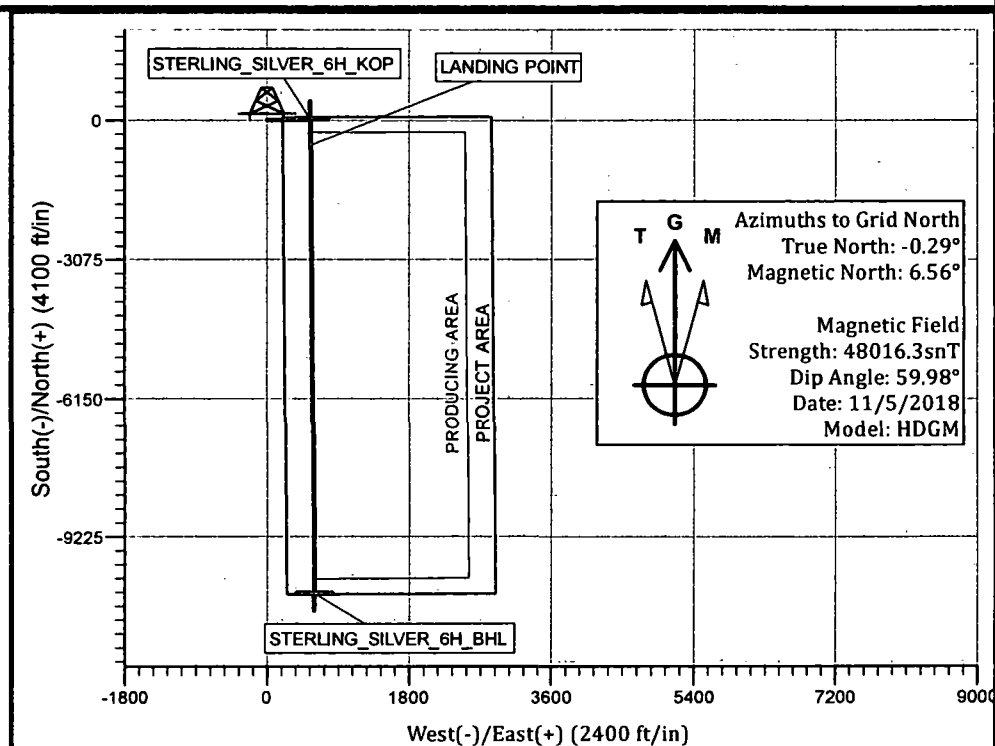
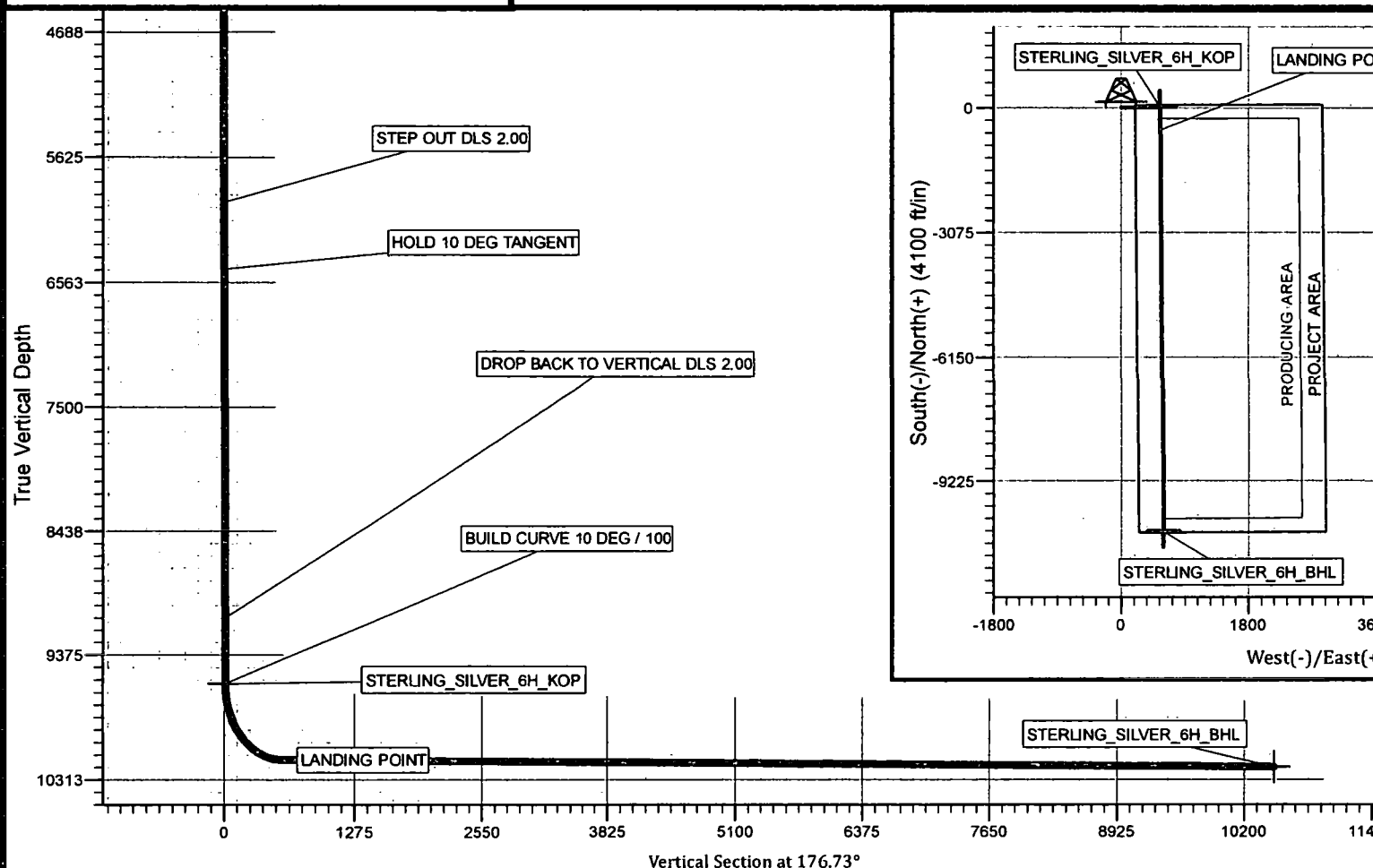
Ground Level: 3387.10

Easting
711313.89

Latitude
32° 16' 4.773590 N

Longitude
103° 47' 0.237712 W

DATUM @ 3413.60ft



PROJECT DETAILS: NM DIRECTIONAL PLANS (NAD 1983)	
Geodetic 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	0.00	0.00	0.00	0.00	0.00		
2	5960.00	0.00	0.00	5960.00	0.00	0.00	0.00	0.00	0.00		STEP OUT DLS 2.00
3	6459.81	10.00	87.72	6457.27	1.73	43.45	2.00	87.72	0.75		HOLD 10 DEG TANGENT
4	9136.94	10.00	87.72	9093.77	20.20	507.79	0.00	0.00	8.82		DROP BACK TO VERTICAL DLS 2.00
5	9636.75	0.00	179.74	9591.04	21.93	551.24	2.00	180.00	9.57		BUILD CURVE 10 DEG / 100
6	10533.75	89.70	179.74	10163.99	-548.02	553.85	10.00	179.74	578.75		LANDING POINT
7	20465.99	89.67	179.74	10219.00	-10480.01	599.27	0.00	180.00	10497.13		TD at 20465.99

OXY

**PRD NM DIRECTIONAL PLANS (NAD 1983)
STERLING SILVER MDP1 33-4 FED COM
STERLING SILVER MDP1 33-4 FED COM 6H**

WB00

Plan: Permitting Plan

Standard Planning Report

05 November, 2018

Oxy

Planning Report

Database:	HOPSPP	Local Co-ordinate Reference:	Well STERLING SILVER MDP1 33-4 FED COM 6H
Company:	ENGINEERING DESIGNS	TVD Reference:	DATUM @ 3413.60ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	MD Reference:	DATUM @ 3413.60ft
Site:	STERLING SILVER MDP1 33-4 FED COM	North Reference:	Grid
Well:	STERLING SILVER MDP1 33-4 FED COM 6H	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:	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 6H					
Well Position	+N/-S	29.98 ft	Northing:	461,664.28 usft	Latitude:	32° 16' 4.773590 N
	+E/-W	1,604.95 ft	Easting:	711,313.89 usft	Longitude:	103° 47' 0.237712 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	0.00 ft	Ground Level:	3,387.10 ft

Wellbore	WB00				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	11/5/2018	6.85	59.98	48,016

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	0.00	0.00	176.73

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	0.00	0.00	0.00	0.00	0.00	0.00	
5,960.00	0.00	0.00	5,960.00	0.00	0.00	0.00	0.00	0.00	0.00	
6,459.81	10.00	87.72	6,457.27	1.73	43.45	2.00	2.00	0.00	87.72	
9,136.94	10.00	87.72	9,093.77	20.20	507.79	0.00	0.00	0.00	0.00	
9,636.75	0.00	179.74	9,591.04	21.93	551.24	2.00	-2.00	0.00	180.00	STERLING_SILVER
10,533.75	89.70	179.74	10,163.99	-548.02	553.85	10.00	10.00	0.00	179.74	
20,465.99	89.67	179.74	10,219.00	-10,480.01	599.27	0.00	0.00	0.00	180.00	STERLING_SILVER

Oxy Planning Report

Database:	HOPSPP	Local Co-ordinate Reference:	Well STERLING SILVER MDP1 33-4 FED COM 6H
Company:	ENGINEERING DESIGNS	TVD Reference:	DATUM @ 3413.60ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	MD Reference:	DATUM @ 3413.60ft
Site:	STERLING SILVER MDP1 33-4 FED COM	North Reference:	Grid
Well:	STERLING SILVER MDP1 33-4 FED COM 6H	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	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00
3,600.00	0.00	0.00	3,600.00	0.00	0.00	0.00	0.00	0.00	0.00
3,700.00	0.00	0.00	3,700.00	0.00	0.00	0.00	0.00	0.00	0.00
3,800.00	0.00	0.00	3,800.00	0.00	0.00	0.00	0.00	0.00	0.00
3,900.00	0.00	0.00	3,900.00	0.00	0.00	0.00	0.00	0.00	0.00
4,000.00	0.00	0.00	4,000.00	0.00	0.00	0.00	0.00	0.00	0.00
4,100.00	0.00	0.00	4,100.00	0.00	0.00	0.00	0.00	0.00	0.00
4,200.00	0.00	0.00	4,200.00	0.00	0.00	0.00	0.00	0.00	0.00
4,300.00	0.00	0.00	4,300.00	0.00	0.00	0.00	0.00	0.00	0.00
4,400.00	0.00	0.00	4,400.00	0.00	0.00	0.00	0.00	0.00	0.00
4,500.00	0.00	0.00	4,500.00	0.00	0.00	0.00	0.00	0.00	0.00
4,600.00	0.00	0.00	4,600.00	0.00	0.00	0.00	0.00	0.00	0.00
4,700.00	0.00	0.00	4,700.00	0.00	0.00	0.00	0.00	0.00	0.00
4,800.00	0.00	0.00	4,800.00	0.00	0.00	0.00	0.00	0.00	0.00
4,900.00	0.00	0.00	4,900.00	0.00	0.00	0.00	0.00	0.00	0.00
5,000.00	0.00	0.00	5,000.00	0.00	0.00	0.00	0.00	0.00	0.00
5,100.00	0.00	0.00	5,100.00	0.00	0.00	0.00	0.00	0.00	0.00
5,200.00	0.00	0.00	5,200.00	0.00	0.00	0.00	0.00	0.00	0.00

Oxy

Planning Report

Database:	HOPSPP	Local Co-ordinate Reference:	Well STERLING SILVER MDP1 33-4 FED COM 6H
Company:	ENGINEERING DESIGNS	TVD Reference:	DATUM @ 3413.60ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	MD Reference:	DATUM @ 3413.60ft
Site:	STERLING SILVER MDP1 33-4 FED COM	North Reference:	Grid
Well:	STERLING SILVER MDP1 33-4 FED COM 6H	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)	Buid Rate (°/100ft)	Turn Rate (°/100ft)
5,300.00	0.00	0.00	5,300.00	0.00	0.00	0.00	0.00	0.00	0.00
5,400.00	0.00	0.00	5,400.00	0.00	0.00	0.00	0.00	0.00	0.00
5,500.00	0.00	0.00	5,500.00	0.00	0.00	0.00	0.00	0.00	0.00
5,600.00	0.00	0.00	5,600.00	0.00	0.00	0.00	0.00	0.00	0.00
5,700.00	0.00	0.00	5,700.00	0.00	0.00	0.00	0.00	0.00	0.00
5,800.00	0.00	0.00	5,800.00	0.00	0.00	0.00	0.00	0.00	0.00
5,900.00	0.00	0.00	5,900.00	0.00	0.00	0.00	0.00	0.00	0.00
5,960.00	0.00	0.00	5,960.00	0.00	0.00	0.00	0.00	0.00	0.00
6,000.00	0.80	87.72	6,000.00	0.01	0.28	0.00	2.00	2.00	0.00
6,100.00	2.80	87.72	6,099.94	0.14	3.42	0.06	2.00	2.00	0.00
6,200.00	4.80	87.72	6,199.72	0.40	10.04	0.17	2.00	2.00	0.00
6,300.00	6.80	87.72	6,299.20	0.80	20.14	0.35	2.00	2.00	0.00
6,400.00	8.80	87.72	6,398.27	1.34	33.70	0.59	2.00	2.00	0.00
6,459.81	10.00	87.72	6,457.27	1.73	43.45	0.75	2.00	2.00	0.00
6,500.00	10.00	87.72	6,496.86	2.01	50.43	0.88	0.00	0.00	0.00
6,600.00	10.00	87.72	6,595.34	2.70	67.77	1.18	0.00	0.00	0.00
6,700.00	10.00	87.72	6,693.82	3.39	85.11	1.48	0.00	0.00	0.00
6,800.00	10.00	87.72	6,792.30	4.08	102.46	1.78	0.00	0.00	0.00
6,900.00	10.00	87.72	6,890.79	4.77	119.80	2.08	0.00	0.00	0.00
7,000.00	10.00	87.72	6,989.27	5.46	137.15	2.38	0.00	0.00	0.00
7,100.00	10.00	87.72	7,087.75	6.15	154.49	2.68	0.00	0.00	0.00
7,200.00	10.00	87.72	7,186.23	6.84	171.84	2.98	0.00	0.00	0.00
7,300.00	10.00	87.72	7,284.71	7.53	189.18	3.29	0.00	0.00	0.00
7,400.00	10.00	87.72	7,383.20	8.22	206.53	3.59	0.00	0.00	0.00
7,500.00	10.00	87.72	7,481.68	8.91	223.87	3.89	0.00	0.00	0.00
7,600.00	10.00	87.72	7,580.16	9.60	241.21	4.19	0.00	0.00	0.00
7,700.00	10.00	87.72	7,678.64	10.29	258.56	4.49	0.00	0.00	0.00
7,800.00	10.00	87.72	7,777.12	10.98	275.90	4.79	0.00	0.00	0.00
7,900.00	10.00	87.72	7,875.61	11.67	293.25	5.09	0.00	0.00	0.00
8,000.00	10.00	87.72	7,974.09	12.36	310.59	5.39	0.00	0.00	0.00
8,100.00	10.00	87.72	8,072.57	13.05	327.94	5.70	0.00	0.00	0.00
8,200.00	10.00	87.72	8,171.05	13.74	345.28	6.00	0.00	0.00	0.00
8,300.00	10.00	87.72	8,269.53	14.43	362.63	6.30	0.00	0.00	0.00
8,400.00	10.00	87.72	8,368.02	15.12	379.97	6.60	0.00	0.00	0.00
8,500.00	10.00	87.72	8,466.50	15.81	397.31	6.90	0.00	0.00	0.00
8,600.00	10.00	87.72	8,564.98	16.50	414.66	7.20	0.00	0.00	0.00
8,700.00	10.00	87.72	8,663.46	17.19	432.00	7.50	0.00	0.00	0.00
8,800.00	10.00	87.72	8,761.94	17.88	449.35	7.80	0.00	0.00	0.00
8,900.00	10.00	87.72	8,860.43	18.57	466.69	8.11	0.00	0.00	0.00
9,000.00	10.00	87.72	8,958.91	19.26	484.04	8.41	0.00	0.00	0.00
9,100.00	10.00	87.72	9,057.39	19.95	501.38	8.71	0.00	0.00	0.00
9,136.94	10.00	87.72	9,093.77	20.20	507.79	8.82	0.00	0.00	0.00
9,200.00	8.73	87.72	9,155.99	20.61	518.04	9.00	2.00	-2.00	0.00
9,300.00	6.73	87.72	9,255.07	21.15	531.49	9.23	2.00	-2.00	0.00
9,400.00	4.73	87.72	9,354.57	21.54	541.47	9.40	2.00	-2.00	0.00
9,500.00	2.73	87.72	9,454.35	21.80	547.98	9.52	2.00	-2.00	0.00
9,600.00	0.73	87.72	9,554.30	21.92	551.01	9.57	2.00	-2.00	0.00
9,636.75	0.00	179.74	9,591.04	21.93	551.24	9.57	2.00	-2.00	0.00
9,700.00	6.33	179.74	9,654.17	18.44	551.26	13.06	10.00	10.00	0.00
9,800.00	16.33	179.74	9,752.10	-1.17	551.35	32.64	10.00	10.00	0.00
9,900.00	26.33	179.74	9,845.13	-37.49	551.51	68.91	10.00	10.00	0.00
10,000.00	36.33	179.74	9,930.45	-89.41	551.75	120.77	10.00	10.00	0.00
10,100.00	46.33	179.74	10,005.45	-155.36	552.05	186.62	10.00	10.00	0.00

Oxy Planning Report

Database:	HOPSPP	Local Co-ordinate Reference:	Well STERLING SILVER MDP1 33-4 FED COM 6H
Company:	ENGINEERING DESIGNS	TVD Reference:	DATUM @ 3413.60ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	MD Reference:	DATUM @ 3413.60ft
Site:	STERLING SILVER MDP1 33-4 FED COM	North Reference:	Grid
Well:	STERLING SILVER MDP1 33-4 FED COM 6H	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)
10,200.00	56.33	179.74	10,067.86	-233.33	552.41	264.49	10.00	10.00	0.00
10,300.00	66.33	179.74	10,115.78	-320.96	552.81	351.99	10.00	10.00	0.00
10,400.00	76.33	179.74	10,147.76	-415.57	553.24	446.48	10.00	10.00	0.00
10,500.00	86.33	179.74	10,162.82	-514.30	553.70	545.07	10.00	10.00	0.00
10,533.75	89.70	179.74	10,163.99	-548.02	553.85	578.75	10.00	10.00	0.00
10,600.00	89.70	179.74	10,164.34	-614.27	554.15	644.91	0.00	0.00	0.00
10,700.00	89.70	179.74	10,164.86	-714.27	554.61	744.77	0.00	0.00	0.00
10,800.00	89.70	179.74	10,165.39	-814.27	555.07	844.63	0.00	0.00	0.00
10,900.00	89.70	179.74	10,165.91	-914.27	555.52	944.49	0.00	0.00	0.00
11,000.00	89.70	179.74	10,166.44	-1,014.26	555.98	1,044.35	0.00	0.00	0.00
11,100.00	89.70	179.74	10,166.97	-1,114.26	556.44	1,144.21	0.00	0.00	0.00
11,200.00	89.70	179.74	10,167.49	-1,214.26	556.90	1,244.07	0.00	0.00	0.00
11,300.00	89.70	179.74	10,168.02	-1,314.26	557.35	1,343.93	0.00	0.00	0.00
11,400.00	89.70	179.74	10,168.55	-1,414.25	557.81	1,443.79	0.00	0.00	0.00
11,500.00	89.70	179.74	10,169.08	-1,514.25	558.27	1,543.65	0.00	0.00	0.00
11,600.00	89.70	179.74	10,169.61	-1,614.25	558.72	1,643.51	0.00	0.00	0.00
11,700.00	89.70	179.74	10,170.14	-1,714.25	559.18	1,743.37	0.00	0.00	0.00
11,800.00	89.70	179.74	10,170.67	-1,814.24	559.64	1,843.23	0.00	0.00	0.00
11,900.00	89.70	179.74	10,171.20	-1,914.24	560.10	1,943.09	0.00	0.00	0.00
12,000.00	89.69	179.74	10,171.73	-2,014.24	560.55	2,042.96	0.00	0.00	0.00
12,100.00	89.69	179.74	10,172.27	-2,114.24	561.01	2,142.82	0.00	0.00	0.00
12,200.00	89.69	179.74	10,172.80	-2,214.23	561.47	2,242.68	0.00	0.00	0.00
12,300.00	89.69	179.74	10,173.34	-2,314.23	561.93	2,342.54	0.00	0.00	0.00
12,400.00	89.69	179.74	10,173.87	-2,414.23	562.38	2,442.40	0.00	0.00	0.00
12,500.00	89.69	179.74	10,174.41	-2,514.23	562.84	2,542.26	0.00	0.00	0.00
12,600.00	89.69	179.74	10,174.94	-2,614.22	563.30	2,642.12	0.00	0.00	0.00
12,700.00	89.69	179.74	10,175.48	-2,714.22	563.75	2,741.98	0.00	0.00	0.00
12,800.00	89.69	179.74	10,176.01	-2,814.22	564.21	2,841.84	0.00	0.00	0.00
12,900.00	89.69	179.74	10,176.55	-2,914.22	564.67	2,941.70	0.00	0.00	0.00
13,000.00	89.69	179.74	10,177.09	-3,014.21	565.13	3,041.56	0.00	0.00	0.00
13,100.00	89.69	179.74	10,177.63	-3,114.21	565.58	3,141.42	0.00	0.00	0.00
13,200.00	89.69	179.74	10,178.17	-3,214.21	566.04	3,241.28	0.00	0.00	0.00
13,300.00	89.69	179.74	10,178.71	-3,314.21	566.50	3,341.14	0.00	0.00	0.00
13,400.00	89.69	179.74	10,179.25	-3,414.20	566.96	3,441.00	0.00	0.00	0.00
13,500.00	89.69	179.74	10,179.79	-3,514.20	567.41	3,540.86	0.00	0.00	0.00
13,600.00	89.69	179.74	10,180.33	-3,614.20	567.87	3,640.72	0.00	0.00	0.00
13,700.00	89.69	179.74	10,180.88	-3,714.20	568.33	3,740.58	0.00	0.00	0.00
13,800.00	89.69	179.74	10,181.42	-3,814.19	568.78	3,840.44	0.00	0.00	0.00
13,900.00	89.69	179.74	10,181.96	-3,914.19	569.24	3,940.31	0.00	0.00	0.00
14,000.00	89.69	179.74	10,182.51	-4,014.19	569.70	4,040.17	0.00	0.00	0.00
14,100.00	89.69	179.74	10,183.05	-4,114.19	570.16	4,140.03	0.00	0.00	0.00
14,200.00	89.69	179.74	10,183.60	-4,214.18	570.61	4,239.89	0.00	0.00	0.00
14,300.00	89.69	179.74	10,184.14	-4,314.18	571.07	4,339.75	0.00	0.00	0.00
14,400.00	89.69	179.74	10,184.69	-4,414.18	571.53	4,439.61	0.00	0.00	0.00
14,500.00	89.69	179.74	10,185.24	-4,514.18	571.99	4,539.47	0.00	0.00	0.00
14,600.00	89.69	179.74	10,185.79	-4,614.17	572.44	4,639.33	0.00	0.00	0.00
14,700.00	89.69	179.74	10,186.33	-4,714.17	572.90	4,739.19	0.00	0.00	0.00
14,800.00	89.69	179.74	10,186.88	-4,814.17	573.36	4,839.05	0.00	0.00	0.00
14,900.00	89.68	179.74	10,187.43	-4,914.17	573.81	4,938.91	0.00	0.00	0.00
15,000.00	89.68	179.74	10,187.98	-5,014.16	574.27	5,038.77	0.00	0.00	0.00
15,100.00	89.68	179.74	10,188.54	-5,114.16	574.73	5,138.63	0.00	0.00	0.00
15,200.00	89.68	179.74	10,189.09	-5,214.16	575.19	5,238.49	0.00	0.00	0.00
15,300.00	89.68	179.74	10,189.64	-5,314.16	575.64	5,338.35	0.00	0.00	0.00

Oxy Planning Report

Database:	HOPSPP	Local Co-ordinate Reference:	Well STERLING SILVER MDP1 33-4 FED COM 6H
Company:	ENGINEERING DESIGNS	TVD Reference:	DATUM @ 3413.60ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	MD Reference:	DATUM @ 3413.60ft
Site:	STERLING SILVER MDP1 33-4 FED COM	North Reference:	Grid
Well:	STERLING SILVER MDP1 33-4 FED COM 6H	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)
15,400.00	89.68	179.74	10,190.19	-5,414.15	576.10	5,438.21	0.00	0.00	0.00
15,500.00	89.68	179.74	10,190.75	-5,514.15	576.56	5,538.07	0.00	0.00	0.00
15,600.00	89.68	179.74	10,191.30	-5,614.15	577.02	5,637.93	0.00	0.00	0.00
15,700.00	89.68	179.74	10,191.86	-5,714.15	577.47	5,737.79	0.00	0.00	0.00
15,800.00	89.68	179.74	10,192.41	-5,814.14	577.93	5,837.65	0.00	0.00	0.00
15,900.00	89.68	179.74	10,192.97	-5,914.14	578.39	5,937.51	0.00	0.00	0.00
16,000.00	89.68	179.74	10,193.52	-6,014.14	578.84	6,037.38	0.00	0.00	0.00
16,100.00	89.68	179.74	10,194.08	-6,114.14	579.30	6,137.24	0.00	0.00	0.00
16,200.00	89.68	179.74	10,194.64	-6,214.13	579.76	6,237.10	0.00	0.00	0.00
16,300.00	89.68	179.74	10,195.20	-6,314.13	580.22	6,336.96	0.00	0.00	0.00
16,400.00	89.68	179.74	10,195.76	-6,414.13	580.67	6,436.82	0.00	0.00	0.00
16,500.00	89.68	179.74	10,196.31	-6,514.13	581.13	6,536.68	0.00	0.00	0.00
16,600.00	89.68	179.74	10,196.88	-6,614.12	581.59	6,636.54	0.00	0.00	0.00
16,700.00	89.68	179.74	10,197.44	-6,714.12	582.05	6,736.40	0.00	0.00	0.00
16,800.00	89.68	179.74	10,198.00	-6,814.12	582.50	6,836.26	0.00	0.00	0.00
16,900.00	89.68	179.74	10,198.56	-6,914.11	582.96	6,936.12	0.00	0.00	0.00
17,000.00	89.68	179.74	10,199.12	-7,014.11	583.42	7,035.98	0.00	0.00	0.00
17,100.00	89.68	179.74	10,199.69	-7,114.11	583.87	7,135.84	0.00	0.00	0.00
17,200.00	89.68	179.74	10,200.25	-7,214.11	584.33	7,235.70	0.00	0.00	0.00
17,300.00	89.68	179.74	10,200.81	-7,314.10	584.79	7,335.56	0.00	0.00	0.00
17,400.00	89.68	179.74	10,201.38	-7,414.10	585.25	7,435.42	0.00	0.00	0.00
17,500.00	89.68	179.74	10,201.94	-7,514.10	585.70	7,535.28	0.00	0.00	0.00
17,600.00	89.68	179.74	10,202.51	-7,614.10	586.16	7,635.14	0.00	0.00	0.00
17,700.00	89.68	179.74	10,203.08	-7,714.09	586.62	7,735.00	0.00	0.00	0.00
17,800.00	89.67	179.74	10,203.65	-7,814.09	587.08	7,834.86	0.00	0.00	0.00
17,900.00	89.67	179.74	10,204.21	-7,914.09	587.53	7,934.72	0.00	0.00	0.00
18,000.00	89.67	179.74	10,204.78	-8,014.09	587.99	8,034.58	0.00	0.00	0.00
18,100.00	89.67	179.74	10,205.35	-8,114.08	588.45	8,134.44	0.00	0.00	0.00
18,200.00	89.67	179.74	10,205.92	-8,214.08	588.90	8,234.30	0.00	0.00	0.00
18,300.00	89.67	179.74	10,206.49	-8,314.08	589.36	8,334.16	0.00	0.00	0.00
18,400.00	89.67	179.74	10,207.06	-8,414.07	589.82	8,434.02	0.00	0.00	0.00
18,500.00	89.67	179.74	10,207.64	-8,514.07	590.28	8,533.88	0.00	0.00	0.00
18,600.00	89.67	179.74	10,208.21	-8,614.07	590.73	8,633.75	0.00	0.00	0.00
18,700.00	89.67	179.74	10,208.78	-8,714.07	591.19	8,733.61	0.00	0.00	0.00
18,800.00	89.67	179.74	10,209.35	-8,814.06	591.65	8,833.47	0.00	0.00	0.00
18,900.00	89.67	179.74	10,209.93	-8,914.06	592.11	8,933.33	0.00	0.00	0.00
19,000.00	89.67	179.74	10,210.50	-9,014.06	592.56	9,033.19	0.00	0.00	0.00
19,100.00	89.67	179.74	10,211.08	-9,114.06	593.02	9,133.05	0.00	0.00	0.00
19,200.00	89.67	179.74	10,211.65	-9,214.05	593.48	9,232.91	0.00	0.00	0.00
19,300.00	89.67	179.74	10,212.23	-9,314.05	593.93	9,332.77	0.00	0.00	0.00
19,400.00	89.67	179.74	10,212.81	-9,414.05	594.39	9,432.63	0.00	0.00	0.00
19,500.00	89.67	179.74	10,213.39	-9,514.05	594.85	9,532.49	0.00	0.00	0.00
19,600.00	89.67	179.74	10,213.97	-9,614.04	595.31	9,632.35	0.00	0.00	0.00
19,700.00	89.67	179.74	10,214.54	-9,714.04	595.76	9,732.21	0.00	0.00	0.00
19,800.00	89.67	179.74	10,215.12	-9,814.04	596.22	9,832.07	0.00	0.00	0.00
19,900.00	89.67	179.74	10,215.70	-9,914.03	596.68	9,931.93	0.00	0.00	0.00
20,000.00	89.67	179.74	10,216.29	-10,014.03	597.14	10,031.79	0.00	0.00	0.00
20,100.00	89.67	179.74	10,216.87	-10,114.03	597.59	10,131.65	0.00	0.00	0.00
20,200.00	89.67	179.74	10,217.45	-10,214.03	598.05	10,231.51	0.00	0.00	0.00
20,300.00	89.67	179.74	10,218.03	-10,314.02	598.51	10,331.37	0.00	0.00	0.00
20,400.00	89.67	179.74	10,218.61	-10,414.02	598.96	10,431.23	0.00	0.00	0.00
20,465.99	89.67	179.74	10,219.00	-10,480.01	599.27	10,497.13	0.00	0.00	0.00

Oxy

Planning Report

Database:	HOPSPP	Local Co-ordinate Reference:	Well STERLING SILVER MDP1 33-4 FED COM 6H
Company:	ENGINEERING DESIGNS	TVD Reference:	DATUM @ 3413.60ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	MD Reference:	DATUM @ 3413.60ft
Site:	STERLING SILVER MDP1 33-4 FED COM	North Reference:	Grid
Well:	STERLING SILVER MDP1 33-4 FED COM 6H	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_SILVER_6 - plan hits target center - Point	0.00	0.00	9,591.04	21.93	551.24	461,686.21	711,865.10	32° 16' 4.962603 N	103° 46' 53.816558
STERLING_SILVER_6 - plan hits target center - Point	0.00	0.00	10,219.00	-10,480.01	599.27	451,184.90	711,913.12	32° 14' 21.043835 N	103° 46' 53.885791

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
5,960.00	5,960.00	0.00	0.00	STEP OUT DLS 2.00
6,459.81	6,457.27	1.73	43.45	HOLD 10 DEG TANGENT
9,136.94	9,093.77	20.20	507.79	DROP BACK TO VERTICAL DLS 2.00
9,636.75	9,591.04	21.93	551.24	BUILD CURVE 10 DEG / 100
10,533.75	10,163.99	-548.02	553.85	LANDING POINT
20,465.99	10,219.00	-10,480.01	599.27	TD at 20465.99

Intent ☒ As Drilled ☐

API # 30-015-45386		
Operator Name: Oxy USA Inc.	Property Name: Sterling Silver HDP 1 33-4 Fed Com	Well Number GH

Kick Off Point (KOP)

UL B	Section 33	Township 23S	Range 31E	Lot	Feet 50	From N/S NORTH	Feet 2290	From E/W EAST	County EDDY
Latitude 32.2680452					Longitude -103.7816157			NAD NAD83	

First Take Point (FTP)

UL B	Section 33	Township 23S	Range 31E	Lot	Feet 100	From N/S NORTH	Feet 2290	From E/W EAST	County EDDY
Latitude 32.2679077					Longitude -103.7816158			NAD NAD83	

Last Take Point (LTP)

UL D	Section 4	Township 23S	Range 31E	Lot	Feet 100	From N/S SOUTH	Feet 2290	From E/W EAST	County EDDY
Latitude 32.2393988					Longitude -103.7816148			NAD NAD83	

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

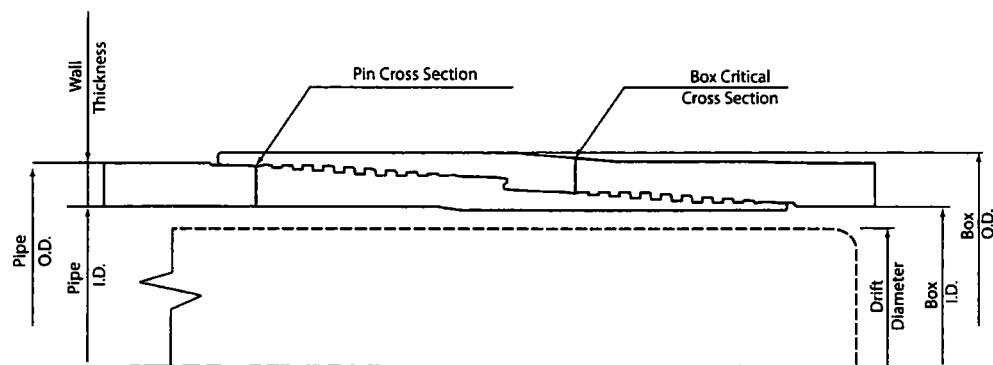
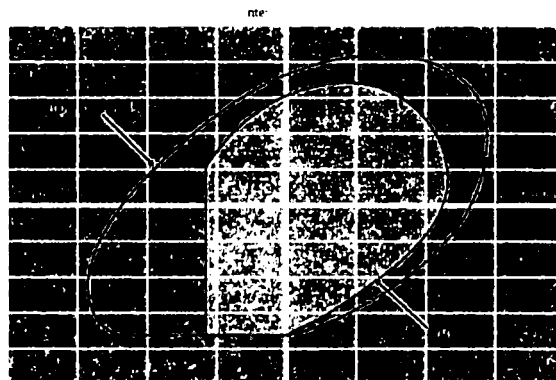
Is this well an infill well? ☒

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

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

KZ 06/29/2018

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		



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Print date: 07/10/2018 20:00

TUBULAR PARAMETERS

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

PIPE BODY PROPERTIES

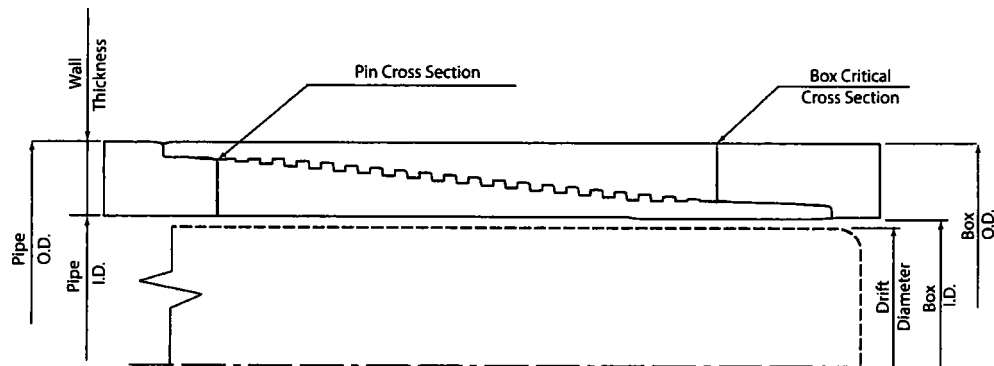
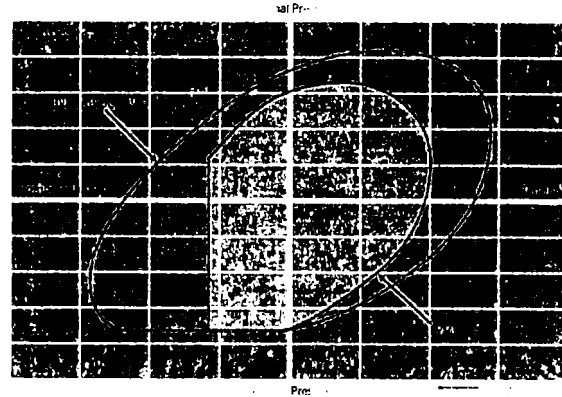
PE Weight, (lbs/ft)	25.56
Nominal Weight, (lbs/ft)	26.40
Nominal ID, (inch)	6.969
Drift Diameter, (inch)	6.844
Nominal Pipe Body Area, (sq inch)	7.519
Yield Strength in Tension, (klbs)	601
Min. Internal Yield Pressure, (psi)	6 020
Collapse Pressure, (psi)	3 910

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

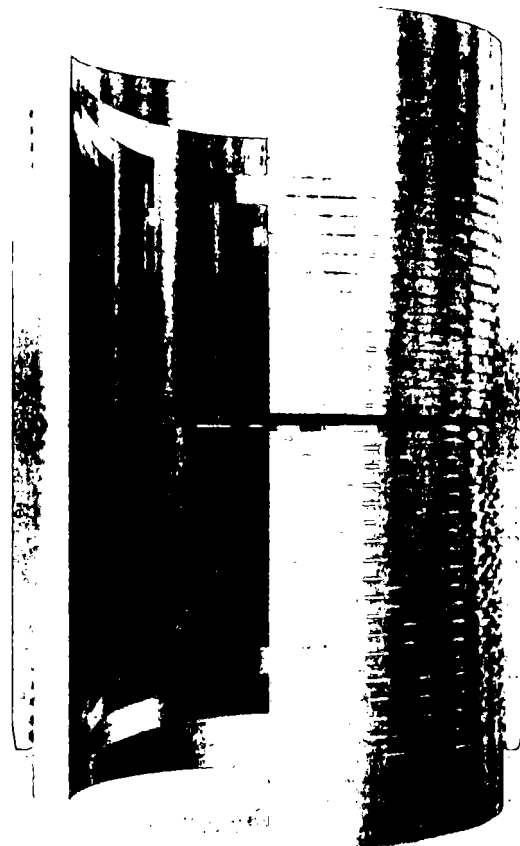
Printed on July-28-2011

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IPSCO



PERFORMANCE DATA

TMK UP SF TORQ™

5.500 in

20.00 lbs/ft

P-110 CYHP

Technical Data Sheet

Tubular Parameters

Size	5.500	in	Minimum Yield	125,000	psi
Nominal Weight	29.00	lbs/ft	Minimum Tensile	135,000	psi
Grade	P-110 CYHP		Yield Load	28,000	lbs
PE Weight	19.81	lbs/ft	Tensile Load	38,000	lbs
Wall Thickness	0.361	in	Min. Internal Yield Pressure	14,360	psi
Nominal ID	4.778		Collapse Pressure	12,780	psi
Drift Diameter	4.65	in			
Nom. Pipe Body Area	5.928	in ²			

Connection Parameters

Connection OD	5.777	in
Connection ID	4.734	in
Make-Up Loss	5.823	in
Critical Section Area	5.875	in ²
Tension Efficiency	90	%
Compression Efficiency	90	%
Yield Load In Tension	361,100	lbs
Min. Internal Yield Pressure	14,360	psi
Collapse Pressure	12,780	psi
Uniaxial Bending	95.8	% 100 ft

Make-Up Torques

Min. Make-Up Torque		ft-lbs
Opt. Make-Up Torque	9 ft	ft-lbs
Max. Make-Up Torque	10 ft	ft-lbs
Operating Torque	29 ft	ft-lbs
Yield Torque	3 ft 10	ft-lbs

Printed on: January-15-2018

NO⁺

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