

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTFORM APPROVED
OMB NO. 1004-0137
Expires: January 31, 2018**SUNDRY NOTICES AND REPORTS**
*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.
NMNM66925

6. Indian, Allottee or Tribe Name

7. If Unit or CA/Agreement, Name and/or No.
NMNM137099X8. Well Name and No.
MESA VERDE BS UNIT 1H9. API Well No.
30-025-44101-00-X110. Field and Pool or Exploratory Area
BONE SPRINGS11. County or Parish, State
LEA COUNTY, NM

SUBMIT IN TRIPLICATE - Other instructions on page 2

1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other2. Name of Operator
OXY USA INCORPORATEDContact: DAVID STEWART
E-Mail: david_stewart@oxy.com3a. Address
P O BOX 4294
HOUSTON, TX 77210-42943b. Phone No. (include area code)
Ph: 432-685-57174. Location of Well (Footage, Sec., T., R., M., or Survey Description)
Sec 17 T24S R32E SESE 271FSL 245FEL
32.210999 N Lat, 103.688980 W Lon

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 APD
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

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 recomplete 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 APD with the following changes.

Due to a casing leak in our 12-1/4" Intermediate casing string, we will be setting a CIBP with cement on top 50?-100? above the leak and cased hole sidetracking to target the Avalon formation. See attached for detail.
BLM contacted and Mustafa Haque gave verbal approval 2/27/18.

1. Amend the production casings size, type, and depth to accommodate the higher predicted CO2 concentration in the Avalon, see attached.

2. Amend the production casing cementing program, see attached.

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

Electronic Submission #406924 verified by the BLM Well Information System
For OXY USA INCORPORATED, sent to the Hobbs
Committed to AFMSS for processing by PRISCILLA PEREZ on 03/12/2018 (18PP0761SE)

Name (Printed/Typed) DAVID STEWART

Title SR. REGULATORY ADVISOR

Signature (Electronic Submission)

Date 03/07/2018

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By MUSTAFA HAQUE

Title PETROLEUM ENGINEER

Date 07/31/2018

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 Hobbs

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 **

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Additional data for EC transaction #406924 that would not fit on the form

32. Additional remarks, continued

3. Amend the pressure control equipment due to casing size and depth changes, see attached.
4. Amend the mud program, depth and type, see attached.

Sundry Notice for name change was filed 2/23/18, EC Transaction 405645, Serial No. 852-82896

Mesa Verde Wolfcamp Resource Development Unit - Mesa Verde WC Unit
BLM - 1/3/18 - NMNM137099X
NMOCD - 11/6/17 - Case No. 15797 - Order No. R-14494

Original Name and Number
MESA VERDE 17-8 FEDERAL COM 14H

New Name and Number
MESA VERDE WC UNIT 1H

API Number
30-025-44101

Oxy Mesa Verde BS Unit 1H ST01 Rev2 APS 01Mar18 Proposal Geodetic Report (Def Plan)



Report Date: March 01, 2018 - 03:45 PM
Client: OXY
Field: NM Lea County (NAD 83)
Structure / Slot: Oxy Mesa Verde BS Unit 1H / Oxy Mesa Verde BS Unit 1H
Well: Oxy Mesa Verde BS Unit 1H
Borehole: ST01
UWI / API#: Unknown / Unknown
Survey Name: Oxy Mesa Verde BS Unit 1H ST01 Rev2 APS 01Mar18
Survey Date: February 27, 2018
Tort / AHD / DDI / ERD Ratio: 122.375' / 10917.487 ft / 6.445' / 1.163
Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet
Location Lat / Long: N 32° 12' 39.59718", W 103° 41' 20.32562"
Location Grid N/E Y/X: N 441092.920 RUS, E 740622.600 RUS
CRS Grid Convergence Angle: 0.3435°
Grid Scale Factor: 0.99985458
Version / Patch: 2.10.706.0

Survey / DLS Computation: Minimum Curvature / Lubinski
Vertical Section Azimuth: 355.696° (Grid North)
Vertical Section Origin: 0.000 ft, 0.000 ft
TVD Reference Datum: RKB=26.5'
TVD Reference Elevation: 3590.100 ft above MSL
Seabed / Ground Elevation: 3563.600 ft above MSL
Magnetic Declination: 6.840°
Total Gravity Field Strength: 998.4320mgn (9.80865 Based)
Gravity Model: GARM
Total Magnetic Field Strength: 48028.072 nT
Magnetic Dip Angle: 59.932°
Declination Date: February 27, 2018
Magnetic Declination Model: HDGM 2017
North Reference: Grid North
Grid Convergence Used: 0.3435°
Total Corr Mag North->Grid North: 6.4968°
Local Coord Reference To: Well Head

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (ft/100ft)	Northing (RUS)	Easting (RUS)	Latitude (NUS ° ' ")	Longitude (EW ° ' ")
SHL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	441092.02	740622.60	N 32 12 39.60	W 103 41 20.33
RKB	26.50	0.00	0.00	26.50	0.00	0.00	0.00	0.00	441092.92	740622.60	N 32 12 39.60	W 103 41 20.33
	75.09	0.07	156.87	75.09	-0.03	-0.03	0.01	0.14	441092.89	740622.61	N 32 12 39.60	W 103 41 20.33
	161.18	0.17	107.59	161.18	-0.13	-0.11	0.15	0.18	441092.81	740622.75	N 32 12 39.60	W 103 41 20.32
	247.24	0.16	107.24	247.24	-0.22	-0.19	0.39	0.01	441092.73	740622.99	N 32 12 39.60	W 103 41 20.32
	341.37	0.14	104.64	341.37	-0.30	-0.26	0.63	0.02	441092.66	740623.23	N 32 12 39.59	W 103 41 20.32
	433.50	0.06	310.04	433.50	-0.31	-0.25	0.70	0.21	441092.67	740623.30	N 32 12 39.59	W 103 41 20.32
	527.91	0.25	258.29	527.91	-0.30	-0.26	0.48	0.23	441092.66	740623.06	N 32 12 39.59	W 103 41 20.32
	621.49	0.56	245.21	621.49	-0.48	-0.50	-0.16	0.34	441092.42	740622.44	N 32 12 39.59	W 103 41 20.33
	716.01	0.82	225.70	716.00	-1.08	-1.16	-1.06	0.37	441091.76	740621.54	N 32 12 39.59	W 103 41 20.34
	810.45	1.05	228.89	810.43	-2.02	-2.19	-2.20	0.25	441090.73	740620.40	N 32 12 39.58	W 103 41 20.35
Last Gyro	905.65	0.60	239.53	905.62	-2.75	-3.01	-3.30	0.49	441089.91	740619.30	N 32 12 39.57	W 103 41 20.36
	959.00	0.40	225.82	959.96	-2.99	-3.28	-3.68	0.43	441089.64	740618.92	N 32 12 39.56	W 103 41 20.37
	1142.00	0.13	241.62	1141.96	-3.49	-3.82	-4.32	0.15	441088.10	740618.28	N 32 12 39.56	W 103 41 20.38
	1323.00	0.06	288.42	1322.96	-3.57	-3.92	-4.50	0.04	441088.00	740618.01	N 32 12 39.56	W 103 41 20.38
	1503.00	0.08	173.49	1502.96	-3.69	-4.05	-4.87	0.06	441088.87	740617.93	N 32 12 39.56	W 103 41 20.38
	1594.00	0.06	112.86	1593.96	-3.77	-4.13	-4.82	0.08	441088.76	740617.98	N 32 12 39.56	W 103 41 20.38
	1783.00	0.00	318.50	1782.96	-3.82	-4.17	-4.53	0.03	441088.75	740618.07	N 32 12 39.56	W 103 41 20.38
	1878.00	0.06	282.13	1877.96	-3.82	-4.16	-4.58	0.06	441088.74	740618.02	N 32 12 39.56	W 103 41 20.38
	1973.00	0.06	256.28	1972.96	-3.83	-4.20	-4.68	0.01	441088.72	740617.92	N 32 12 39.56	W 103 41 20.38
	2067.00	0.08	291.73	2066.96	-3.81	-4.19	-4.78	0.05	441088.74	740617.82	N 32 12 39.56	W 103 41 20.38
	2162.00	0.08	205.86	2161.96	-3.84	-4.22	-4.88	0.11	441088.70	740617.73	N 32 12 39.56	W 103 41 20.38
	2257.00	0.06	270.65	2256.96	-3.89	-4.28	-4.95	0.08	441088.64	740617.65	N 32 12 39.56	W 103 41 20.38
	2351.00	0.00	299.68	2350.96	-3.89	-4.28	-5.00	0.06	441088.64	740617.60	N 32 12 39.56	W 103 41 20.38
	2446.00	0.11	216.54	2445.96	-3.96	-4.35	-5.08	0.12	441088.57	740617.54	N 32 12 39.55	W 103 41 20.38
	2541.00	0.06	173.34	2540.96	-4.08	-4.47	-5.11	0.08	441088.45	740617.49	N 32 12 39.55	W 103 41 20.39
	2635.00	0.00	252.70	2634.96	-4.13	-4.52	-5.10	0.06	441088.40	740617.50	N 32 12 39.55	W 103 41 20.39
	2730.00	0.06	290.94	2729.96	-4.10	-4.50	-5.15	0.06	441088.42	740617.45	N 32 12 39.55	W 103 41 20.39
	2825.00	0.08	56.99	2824.96	-4.05	-4.45	-5.14	0.13	441088.47	740617.46	N 32 12 39.55	W 103 41 20.39
	2919.00	0.08	4.12	2918.96	-3.96	-4.35	-5.08	0.08	441088.57	740617.52	N 32 12 39.55	W 103 41 20.39
	3014.00	0.08	113.61	3013.96	-3.92	-4.31	-5.01	0.14	441088.61	740617.59	N 32 12 39.55	W 103 41 20.38
	3109.00	0.00	318.82	3108.96	-3.95	-4.34	-4.95	0.08	441088.58	740617.65	N 32 12 39.55	W 103 41 20.38
	3204.00	0.06	344.45	3203.96	-3.90	-4.29	-4.96	0.06	441088.63	740617.64	N 32 12 39.55	W 103 41 20.38
	3298.00	0.08	170.10	3297.96	-3.92	-4.31	-4.97	0.15	441088.62	740617.63	N 32 12 39.55	W 103 41 20.38
	3393.00	0.06	309.82	3392.96	-3.95	-4.34	-4.99	0.14	441088.58	740617.61	N 32 12 39.55	W 103 41 20.38
	3488.00	0.08	172.55	3487.96	-3.98	-4.37	-5.02	0.14	441088.55	740617.58	N 32 12 39.55	W 103 41 20.38
	3582.00	0.13	179.04	3581.96	-4.16	-4.54	-5.01	0.05	441088.38	740617.59	N 32 12 39.55	W 103 41 20.38
	3677.00	0.11	201.77	3676.96	-4.34	-4.74	-5.04	0.05	441088.18	740617.56	N 32 12 39.55	W 103 41 20.38
	3772.00	0.06	278.46	3771.96	-4.42	-4.81	-5.13	0.12	441088.11	740617.47	N 32 12 39.55	W 103 41 20.39
	3867.00	0.13	224.85	3866.96	-4.48	-4.88	-5.25	0.11	441088.04	740617.35	N 32 12 39.55	W 103 41 20.39
	4056.00	0.11	161.04	4055.96	-4.79	-5.21	-5.34	0.07	441087.71	740617.26	N 32 12 39.55	W 103 41 20.39
	4151.00	0.16	146.53	4150.96	-5.00	-5.40	-5.24	0.08	441087.52	740617.36	N 32 12 39.54	W 103 41 20.39
	4246.00	0.11	136.02	4245.96	-5.18	-5.58	-5.11	0.06	441087.34	740617.49	N 32 12 39.54	W 103 41 20.39
	4340.00	0.16	154.41	4339.96	-5.37	-5.76	-4.99	0.07	441087.16	740617.81	N 32 12 39.54	W 103 41 20.38
	4435.00	0.17	193.03	4434.96	-5.63	-6.02	-4.96	0.12	441086.90	740617.84	N 32 12 39.54	W 103 41 20.38
	4624.00	0.06	194.78	4623.96	-5.99	-6.39	-5.05	0.06	441086.53	740617.55	N 32 12 39.53	W 103 41 20.38
	4813.00	0.11	221.81	4812.96	-6.21	-6.62	-5.20	0.03	441086.30	740617.41	N 32 12 39.53	W 103 41 20.39
	5003.00	0.08	274.17	5002.96	-6.32	-6.75	-5.45	0.05	441086.17	740617.15	N 32 12 39.53	W 103 41 20.39
	5097.00	0.00	140.22	5096.96	-6.31	-6.74	-5.51	0.09	441086.18	740617.09	N 32 12 39.53	W 103 41 20.39
	5191.00	0.00	153.11	5190.96	-6.31	-6.74	-5.51	0.00	441086.18	740617.09	N 32 12 39.53	W 103 41 20.39
	5286.00	0.11	36.10	5285.96	-6.24	-6.67	-5.46	0.12	441086.25	740617.14	N 32 12 39.53	W 103 41 20.39
	5380.00	0.00	274.11	5379.96	-6.17	-6.60	-5.41	0.12	441086.32	740617.19	N 32 12 39.53	W 103 41 20.39
	5474.00	0.08	147.62	5473.96	-6.21	-6.64	-5.38	0.08	441086.28	740617.22	N 32 12 39.53	W 103 41 20.39
	5569.00	0.11	177.37	5568.96	-6.35	-6.77	-5.35	0.07	441086.15	740617.25	N 32 12 39.53	W 103 41 20.39
	5663.00	0.23	169.22	5662.96	-6.63	-7.05	-5.31	0.13	441085.87	740617.29	N 32 12 39.53	W 103 41 20.39
	5757.00	0.20	159.13	5756.96	-6.97	-7.38	-5.22	0.05	441085.54	740617.38	N 32 12 39.52	W 103 41 20.39
	5852.00	0.25	174.42	5851.96	-7.34	-7.75	-5.14	0.08	441085.17	740617.46	N 32 12 39.52	W 103 41 20.39
	5946.00	0.25	210.19	5945.96	-7.71	-8.13	-5.22	0.16	441084.79	740617.38	N 32 12 39.52	W 103 41 20.39
	6040.00	0.29	196.98	6039.96	-8.10	-8.53	-5.39	0.08	441084.39	740617.21	N 32 12 39.51	W 103 41 20.39
	6230.00	0.20	173.61	6229.96	-8.88	-9.32	-5.50	0.07	441083.60	740617.10	N 32 12 39.51	W 103 41 20.39
	6324.00	0.08	335.00	6323.96	-8.98	-9.42	-5.51	0.29	441083.50	740617.09	N 32 12 39.50	W 103 41 20.39
	6419.00	0.25	218.53	6418.96	-9.07	-9.53	-5.66	0.31	441083.39	740616.94	N 32 12 39.50	W 103 41 20.39
	6514.00	0.30	214.43	6513.96	-9.42	-9.89	-5.93	0.06	441083.03	740616.67	N 32 12 39.50	W 103 41 20.40
	6608.00	0.29	219.58	6607.96	-9.78	-10.28	-6.22	0.03	441082.64	740616.38	N 32 12 39.50	W 103 41 20.40
	6703.00	0.22	217.19	6702.96	-10.09	-10.61	-6.49	0.07	441082.31	740616.11	N 32 12 39.49	W 103 41 20.40
	6798.00	0.24	210.42	6797.96	-10.39	-10.93	-6.70	0.04	441081.99	740615.80	N 32 12 39.49	W 103 41 20.40
Tie-In to Pilot Hole	6892.00	0.25	227.17	6891.96	-10.68	-11.24	-6.95	0.08	441081.68	740615.85	N 32 12 39.49	W 103 41 20.41
	6900.00	0.25	226.70	6899.96	-10.71	-11.26	-6.97	0.04	441081.66	740615.83	N 32 12 39.49	W 103 41 20.41
Top of Whipstock	6985.90	0.28	222.15	6985.85	-10.97	-11.55	-7.25	0.04	441081.37	740615.35	N 32 12 39.48	W 103 41 20.41
	7000.00	1.84	249.29	6999.94	-11.06	-11.65	-7.49	11.33	441081.27	740615.11	N 32 12 39.48	W 103 41 20.41
Bottom of Whipstock	7003.00	2.18	250.00	7002.94	-11.09	-11.69	-7.59	11.33	441081.23	740615.01	N 32 12 39.48	W 103 41 20.41
Build 8"/100'	7015.00	2.18	250.00	7014.93	-11.21	-11.84	-8.02	0.00	441081.08	740614.58	N 32 12 39.48	W 103 41 20.42
	7100.00	8.96	243.54	7099.48	-14.15	-15.35	-15.47	8.00	441077.57	740607.13	N 32 12 38.45	W 103 41 20.51
Hold Tangent	7175.51	15.00	242.70	7173.31	-20.19	-22.46	-29.43	8.00	441070.46	740593.17	N 32 12 38.38	W 103 41 20

Comments	MD	Incl	Azim Grid	TWD	VSEC	NS	EW	DLS	Northing	Easting	Latitude	Longitude
(ft)	(ft)	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(1/1000)	(ft)	(ft)	(N-S-°)	(E-W-°)
	7400.00	15.00	242.70	7300.15	-42.88	-48.17	-81.08	0.00	441031.81	740514.54	N 32 12 38.12 W 103 41 21.27	
	7500.00	15.00	242.70	7488.75	-53.00	-60.88	-104.08	0.00	441031.84	740518.54	N 32 12 38.00 W 103 41 21.54	
	7600.00	15.00	242.70	7683.34	-63.11	-72.85	-127.08	0.00	441028.07	740458.54	N 32 12 38.88 W 103 41 21.81	
	7700.00	15.00	242.70	7878.93	-73.22	-84.72	-150.08	0.00	441026.20	740472.59	N 32 12 38.77 W 103 41 22.08	
	7800.00	15.00	242.70	7973.52	-83.33	-96.59	-173.08	0.00	440986.33	740448.55	N 32 12 38.65 W 103 41 22.35	
	7900.00	15.00	242.70	8069.11	-93.44	-108.46	-196.08	0.00	440964.46	740426.55	N 32 12 38.55 W 103 41 22.62	
	8000.00	15.00	242.70	8164.70	-103.55	-120.33	-219.08	0.00	440942.59	740403.55	N 32 12 38.50 W 103 41 22.89	
	8100.00	15.00	242.70	8260.29	-113.66	-132.20	-242.08	0.00	440920.72	740380.55	N 32 12 38.50 W 103 41 23.15	
	8200.00	15.00	242.70	8355.88	-123.77	-144.07	-265.08	0.00	440898.85	740357.58	N 32 12 38.67 W 103 41 23.42	
	8300.00	15.00	242.70	8451.47	-133.88	-155.95	-288.08	0.00	440876.98	740334.58	N 32 12 38.67 W 103 41 23.69	
	8400.00	15.00	242.70	8547.06	-143.99	-167.82	-311.08	0.00	440855.11	740311.58	N 32 12 37.86 W 103 41 23.96	
	8500.00	15.00	242.70	8642.65	-154.11	-179.69	-334.08	0.00	440833.24	740288.58	N 32 12 37.54 W 103 41 24.23	
	8600.00	15.00	242.70	8738.24	-164.22	-191.56	-357.08	0.00	440811.37	740265.58	N 32 12 37.72 W 103 41 24.50	
	8700.00	15.00	242.70	8833.83	-174.33	-203.43	-380.08	0.00	440789.50	740242.57	N 32 12 37.61 W 103 41 24.76	
	8800.00	15.00	242.70	8929.42	-184.44	-215.30	-403.08	0.00	440767.63	740219.57	N 32 12 37.44 W 103 41 25.03	
Buller/Turn 10°100'	8840.12	15.00	242.70	8917.20	-188.50	-220.06	-412.28	0.00	440872.87	740210.34	N 32 12 37.48 W 103 41 25.14	
	8900.00	15.58	285.45	8899.02	-191.56	-224.26	-427.18	10.00	440868.67	740195.43	N 32 12 37.40 W 103 41 25.31	
	9000.00	20.69	293.57	8884.20	-195.68	-228.24	-436.83	10.00	440861.89	740180.78	N 32 12 37.46 W 103 41 25.66	
	9100.00	28.45	308.88	8869.16	-198.88	-198.13	-481.64	10.00	440860.78	740165.68	N 32 12 37.46 W 103 41 26.00	
	9200.00	37.22	317.91	8854.00	-198.50	-158.61	-530.53	10.00	440864.32	740150.92	N 32 12 38.06 W 103 41 26.51	
Buller/Turn 10°100'	9284.63	45.00	323.00	8838.89	-72.85	-115.64	-565.75	10.00	440937.28	740056.88	N 32 12 38.40 W 103 41 26.92	
	9300.00	48.08	324.54	8833.65	-63.54	-106.79	-572.23	10.00	440986.13	740050.39	N 32 12 38.57 W 103 41 26.99	
	9400.00	53.50	333.33	8828.24	-4.82	-41.37	-611.27	10.00	441051.55	740011.38	N 32 12 39.22 W 103 41 27.42	
	9500.00	61.46	340.53	8822.01	84.39	38.15	-644.03	10.00	441129.07	739978.60	N 32 12 39.89 W 103 41 27.62	
	9600.00	69.74	346.70	8815.78	173.33	123.43	-668.52	10.00	441216.35	739853.11	N 32 12 40.56 W 103 41 28.11	
	9700.00	78.21	352.23	8809.52	268.78	217.82	-688.88	10.00	441310.73	739828.65	N 32 12 41.79 W 103 41 28.51	
	9800.00	86.78	357.42	8803.25	357.42	316.43	-685.87	10.00	441409.34	739804.19	N 32 12 42.77 W 103 41 28.40	
	9900.00	90.50	359.63	8796.98	410.86	398.57	-685.88	10.00	441498.47	739782.06	N 32 12 43.20 W 103 41 28.41	
	10000.00	90.50	359.63	8790.71	467.32	418.39	-687.35	0.00	441598.28	739759.29	N 32 12 43.78 W 103 41 28.41	
	10100.00	90.50	359.63	8784.44	507.32	518.39	-688.00	0.00	441698.28	739736.58	N 32 12 44.75 W 103 41 28.41	
	10200.00	90.50	359.63	8778.17	547.32	618.38	-688.53	0.00	441798.27	739713.87	N 32 12 45.72 W 103 41 28.41	
	10300.00	90.50	359.63	8771.90	587.32	718.36	-689.06	0.00	441898.26	739691.16	N 32 12 46.73 W 103 41 28.41	
	10400.00	90.50	359.63	8765.63	627.32	818.35	-689.59	0.00	441998.25	739668.45	N 32 12 47.72 W 103 41 28.42	
	10500.00	90.50	359.63	8759.36	667.32	918.34	-690.12	0.00	442098.24	739645.74	N 32 12 48.71 W 103 41 28.42	
	10600.00	90.50	359.63	8753.09	707.32	1018.33	-690.65	0.00	442198.23	739623.03	N 32 12 49.71 W 103 41 28.42	
	10700.00	90.50	359.63	8746.82	747.32	1118.32	-691.18	0.00	442298.22	739600.32	N 32 12 50.69 W 103 41 28.42	
	10800.00	90.50	359.63	8740.55	787.32	1218.31	-691.71	0.00	442398.21	739577.61	N 32 12 51.68 W 103 41 28.42	
	10900.00	90.50	359.63	8734.28	827.32	1318.30	-692.24	0.00	442498.20	739554.90	N 32 12 52.67 W 103 41 28.42	
	11000.00	90.50	359.63	8728.01	867.32	1418.29	-692.77	0.00	442598.19	739532.19	N 32 12 53.65 W 103 41 28.42	
	11100.00	90.50	359.63	8721.74	907.32	1518.28	-693.30	0.00	442698.18	739509.48	N 32 12 54.64 W 103 41 28.42	
	11200.00	90.50	359.63	8715.47	947.32	1618.27	-693.83	0.00	442798.17	739486.77	N 32 12 55.63 W 103 41 28.42	
	11300.00	90.50	359.63	8709.20	987.32	1718.26	-694.36	0.00	442898.16	739464.06	N 32 12 56.62 W 103 41 28.42	
	11400.00	90.50	359.63	8702.93	1027.32	1818.25	-694.89	0.00	442998.15	739441.35	N 32 12 57.61 W 103 41 28.42	
	11500.00	90.50	359.63	8696.66	1067.32	1918.24	-695.42	0.00	443098.14	739418.64	N 32 12 58.60 W 103 41 28.42	
	11600.00	90.50	359.63	8690.39	1107.32	2018.23	-695.95	0.00	443198.13	739395.93	N 32 12 59.59 W 103 41 28.42	
	11700.00	90.50	359.63	8684.12	1147.32	2118.22	-696.48	0.00	443298.12	739373.22	N 32 13 00.58 W 103 41 28.42	
	11800.00	90.50	359.63	8677.85	1187.32	2218.21	-697.01	0.00	443398.11	739350.51	N 32 13 01.57 W 103 41 28.42	
	11900.00	90.50	359.63	8671.58	1227.32	2318.20	-697.54	0.00	443498.10	739327.80	N 32 13 02.56 W 103 41 28.42	
	12000.00	90.50	359.63	8665.31	1267.32	2418.19	-698.07	0.00	443598.09	739305.09	N 32 13 03.55 W 103 41 28.42	
	12100.00	90.50	359.63	8659.04	1307.32	2518.18	-698.60	0.00	443698.08	739282.38	N 32 13 04.54 W 103 41 28.42	
	12200.00	90.50	359.63	8652.77	1347.32	2618.17	-699.13	0.00	443798.07	739259.67	N 32 13 05.53 W 103 41 28.42	
	12300.00	90.50	359.63	8646.50	1387.32	2718.16	-699.66	0.00	443898.06	739236.96	N 32 13 06.52 W 103 41 28.42	
	12400.00	90.50	359.63	8640.23	1427.32	2818.15	-700.19	0.00	443998.05	739214.25	N 32 13 07.51 W 103 41 28.42	
	12500.00	90.50	359.63	8633.96	1467.32	2918.14	-700.72	0.00	444098.04	739191.54	N 32 13 08.50 W 103 41 28.42	
	12600.00	90.50	359.63	8627.69	1507.32	3018.13	-701.25	0.00	444198.03	739168.83	N 32 13 09.49 W 103 41 28.42	
	12700.00	90.50	359.63	8621.42	1547.32	3118.12	-701.78	0.00	444298.02	739146.12	N 32 13 10.48 W 103 41 28.42	
	12800.00	90.50	359.63	8615.15	1587.32	3218.11	-702.31	0.00	444398.01	739123.41	N 32 13 11.47 W 103 41 28.42	
	12900.00	90.50	359.63	8608.88	1627.32	3318.10	-702.84	0.00	444498.00	739100.70	N 32 13 12.46 W 103 41 28.42	
	13000.00	90.50	359.63	8602.61	1667.32	3418.09	-703.37	0.00	444598.00	739078.00	N 32 13 13.45 W 103 41 28.42	
	13100.00	90.50	359.63	8596.34	1707.32	3518.08	-703.90	0.00	444698.00	739055.29	N 32 13 14.44 W 103 41 28.42	
	13200.00	90.50	359.63	8590.07	1747.32	3618.07	-704.43	0.00	444798.00	739032.58	N 32 13 15.43 W 103 41 28.42	
	13300.00	90.50	359.63	8583.80	1787.32	3718.06	-704.96	0.00	444898.00	739009.87	N 32 13 16.42 W 103 41 28.42	
	13400.00	90.50	359.63	8577.53	1827.32	3818.05	-705.49	0.00	444998.00	738987.16	N 32 13 17.41 W 103 41 28.42	
	13500.00	90.50	359.63	8571.26	1867.32	3918.04	-706.02	0.00	445098.00	738964.45	N 32 13 18.40 W 103 41 28.42	
	13600.00	90.50	359.63	8564.99	1907.32	4018.03	-706.55	0.00	445198.00	738941.74	N 32 13 19.39 W 103 41 28.42	
	13700.00	90.50	359.63	8558.72	1947.32	4118.02	-707.08	0.00	445298.00	738919.03	N 32 13 20.38 W 103 41 28.42	
	13800.00	90.50	359.63	8552.45	1987.32	4218.01	-707.61	0.00	445398.00	738896.32	N 32 13 21.37 W 103 41 28.42	
	13900.00	90.50	359.63	8546.18	2027.32	4318.00	-708.14	0.00	445498.00	738873.61	N 32 13 22.36 W 103 41 28.42	
	14000.00	90.50	359.63	8539.91	2067.32	4418.00	-708.67	0.00	445598.00	738850.90	N 32 13 23.35 W 103 41 28.42	
	14100.00	90.50	359.63	8533.64	2107.32	4518.00	-709.20	0.00	445698.00	738828.19	N 32 13 24.34 W 103 41 28.42	
	14200.00	90.50	359.63	8527.37	2147.32	4618.00	-709.73	0.00	445798.00	738805.48	N 32 13 25.33 W 103 41 28.42	
	14300.00	90.50	359.63	8521.10	2187.32	4718.00	-710.26	0.00	445898.00	738782.77	N 32 13 26.32 W 103 41 28.42	
	14400.00	90.50	359.63	8514.83	2227.32	4818.00	-710.79	0.00	445998.00	738760.06	N 32 13 27.31 W 103 41 28.42	
	14500.00	90.50	359.63	8508.56	2267.32	4918.00	-711.32	0.00	446098.00	738737.35	N 32 13 28.30 W 103 41 28.42	
	14600.00	90.50	359.63	8502.29	2307.32	5018.00	-711.85	0.00	446198.00	738714.64	N 32 13 29.29 W 103 41 28.42	
	14700.00	90.50	359									

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (NUS)	Easting (EUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
	17800.00	90.50	359.63	9315.61	8348.68	8315.92	-748.90	0.00	449408.45	739873.74	N 32 14 1.93	W 103 41 28.46
	17900.00	90.50	359.63	9314.73	8448.44	8415.92	-749.55	0.00	449508.44	739873.08	N 32 14 2.92	W 103 41 28.46
	18000.00	90.50	359.63	9313.86	8548.20	8515.91	-750.20	0.00	449608.43	739872.43	N 32 14 3.91	W 103 41 28.46
	18100.00	90.50	359.63	9312.99	8647.96	8615.91	-750.86	0.00	449708.42	739871.78	N 32 14 4.90	W 103 41 28.47
	18200.00	90.50	359.63	9312.12	8747.72	8715.90	-751.51	0.00	449808.41	739871.13	N 32 14 5.89	W 103 41 28.47
	18300.00	90.50	359.63	9311.25	8847.48	8815.90	-752.16	0.00	449908.40	739870.47	N 32 14 6.87	W 103 41 28.47
	18400.00	90.50	359.63	9310.37	8947.24	8915.89	-752.81	0.00	450008.39	739869.82	N 32 14 7.86	W 103 41 28.47
	18500.00	90.50	359.63	9309.50	9047.00	9015.88	-753.47	0.00	450108.38	739869.17	N 32 14 8.85	W 103 41 28.47
	18600.00	90.50	359.63	9308.63	9146.77	9115.88	-754.12	0.00	450208.38	739868.52	N 32 14 9.84	W 103 41 28.47
	18700.00	90.50	359.63	9307.76	9246.53	9215.87	-754.77	0.00	450308.35	739867.86	N 32 14 10.83	W 103 41 28.47
	18800.00	90.50	359.63	9306.89	9346.29	9315.87	-755.42	0.00	450408.34	739867.21	N 32 14 11.82	W 103 41 28.47
	18900.00	90.50	359.63	9306.01	9446.05	9415.86	-756.08	0.00	450508.33	739866.56	N 32 14 12.81	W 103 41 28.47
	19000.00	90.50	359.63	9305.14	9545.81	9515.85	-756.73	0.00	450608.32	739865.91	N 32 14 13.80	W 103 41 28.47
	19100.00	90.50	359.63	9304.27	9645.57	9615.85	-757.38	0.00	450708.31	739865.25	N 32 14 14.79	W 103 41 28.47
	19200.00	90.50	359.63	9303.40	9745.33	9715.84	-758.03	0.00	450808.30	739864.60	N 32 14 15.78	W 103 41 28.47
	19300.00	90.50	359.63	9302.53	9845.09	9815.84	-758.69	0.00	450908.29	739863.95	N 32 14 16.77	W 103 41 28.47
	19400.00	90.50	359.63	9301.65	9944.85	9915.83	-759.34	0.00	451008.28	739863.30	N 32 14 17.76	W 103 41 28.47
	19500.00	90.50	359.63	9300.78	10044.61	10015.82	-759.99	0.00	451108.27	739862.64	N 32 14 18.75	W 103 41 28.47
Mesa Verde BS Unit 1H PBHL	19589.60	90.50	359.63	9300.00	10134.00	10105.42	-760.58	0.00	451197.86	739862.06	N 32 14 19.64	W 103 41 28.47

Survey Type: Def Plan

Survey Error Model: ISCWSA Rev 0 *** 3-D 95.000% Confidence 2.7855 sigma

Survey Program:

Description	Part	MD From (ft)	MD To (ft)	EOU Freq (ft)	Hole Size (in)	Casing Diameter (in)	Expected Max Inclination (deg)	Survey Tool Type	Borehole / Survey
	1	0.000	26.500	Act Stns	30.000	30.000		NAL_NSG+MSHOT-Depth Only	Pilot Hole / Oxy Mesa Verde BS
	1	26.500	905.850	Act Stns	30.000	30.000		NAL_NSG+MSHOT	Unit 1H Pilot Hole Gyro+MWD 0-
	1	905.850	8892.000	Act Stns	30.000	30.000		NAL_MWD_PLUS_0.5_DEG	Pilot Hole / Oxy Mesa Verde BS
	1	8892.000	19589.601	1/100.000	30.000	30.000		NAL_MWD_PLUS_0.5_DEG	Unit 1H Pilot Hole Gyro+MWD 0-
									ST01 / Oxy Mesa Verde BS Unit
									1H ST01 Rev2 APS 01Mar18

Borehole:

Well:

Field:

Structure:

ST01

Oxy Mesa Verde BS Unit 1H

NM Lea County (NAD 83)

Oxy Mesa Verde BS Unit 1H

Gravity & Magnetic Parameters

Model: HDGM 2017 Dip: 59.932° Date: 27-Feb-2018
MagDec: 6.84° FB: 48028.072nT Gravity FB: 988.432mgal (0.80668 Based)

Surface Location

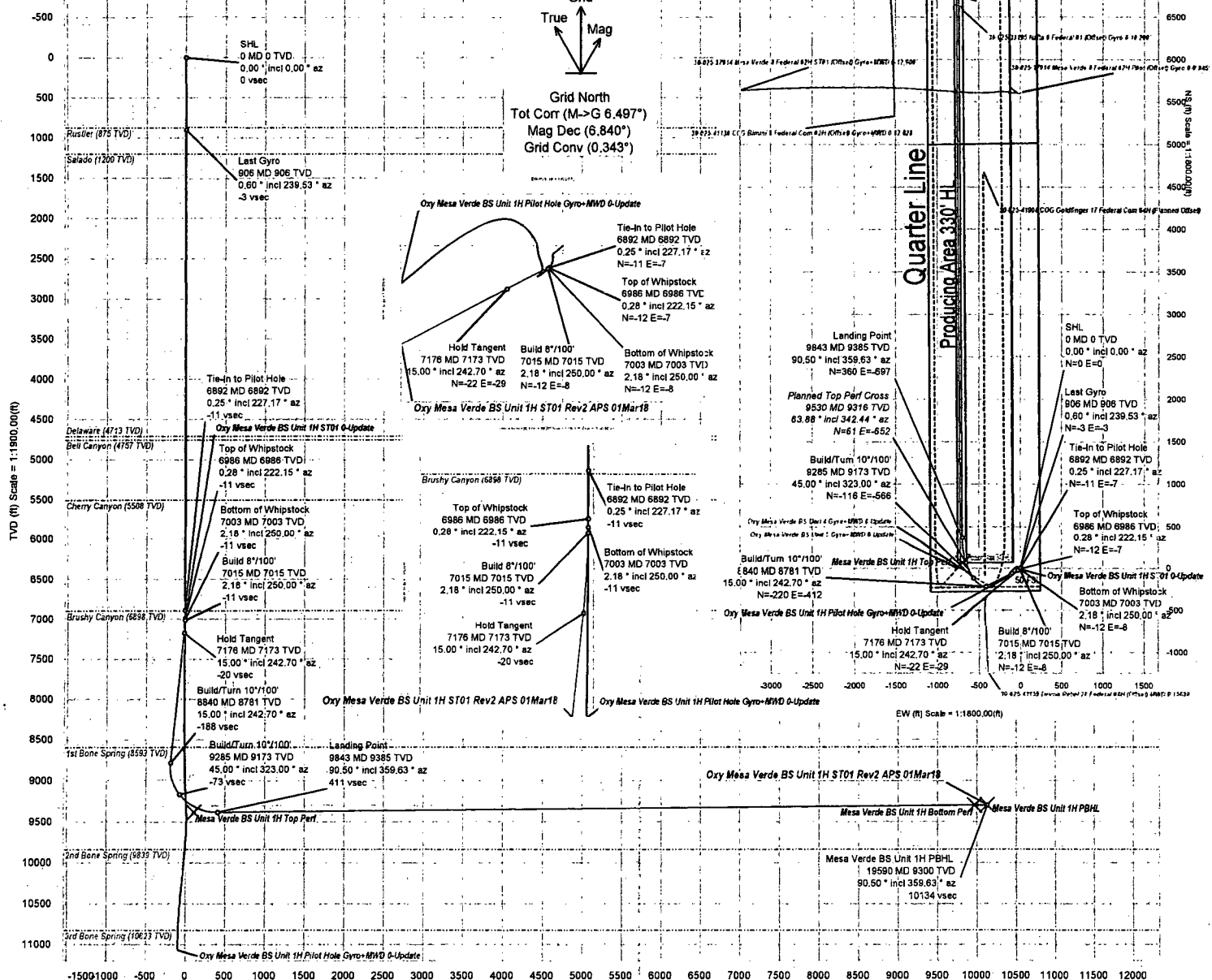
NAD83 New Mexico State Plane, Eastern Zone, US Feet
Lat: N 32 12 59.56 Northing: 441092.52NUS
Lon: W 103 41 20.33 Easting: 749522.51NUS

Miscellaneous

Slot: Oxy Mesa Verde BS Unit 1H
Plan: Oxy Mesa Verde BS Unit 1H ST01 Rev2 APS 01Mar18

TVD Ref: RKB=26.8'(3890.1ft above MSL)
RKB=26.8'(3890.1ft above MSL)

Critical Points									
Critical Point	MD	INCL	AZIM	TVD	VSEC	N(°)S(°)	E(°)W(°)	DLS	
Rustler	875.03	0.74	235.16	875.00	-2.58	-2.81	-3.00	0.49	
Salado	1200.04	0.11	246.32	1200.00	-3.53	-3.88	-4.42	0.04	
Delaware	4713.04	0.08	211.60	4713.00	-6.09	-6.49	-5.09	0.03	
Bell Canyon	4757.04	0.09	216.86	4757.00	-6.14	-6.54	-5.13	0.03	
Cherry Canyon	5508.04	0.08	162.67	5508.00	-6.25	-6.67	-5.36	0.07	
Tie-In to Pilot Hole	6892.00	0.25	227.17	6891.95	-10.68	-11.24	-6.95		
Brushy Canyon	6898.05	0.25	226.81	6898.00	-10.70	-11.26	-6.97	0.04	
Top of Whipstock	6985.90	0.28	222.15	6985.85	-10.97	-11.55	-7.25	0.04	
Bottom of Whipstock	7003.00	2.18	250.00	7002.94	-11.09	-11.69	-7.58	11.33	
Build 8°/100'	7015.00	2.18	250.00	7014.93	-11.21	-11.84	-8.02	0.00	
Hold Tangent	7175.51	15.00	242.70	7173.31	-20.19	-22.46	-29.43	8.00	
1st Bone Spring	8645.28	15.00	242.70	8593.00	-168.80	-196.93	-367.47	0.00	
Build/Turn 10°/100'	8840.12	15.00	242.70	8761.20	-188.50	-220.06	-412.28	0.00	
Build/Turn 10°/100'	9284.63	45.00	323.00	9172.89	-72.85	-115.64	-565.75	10.00	
Planned Top Perf Cross	9529.54	63.88	342.44	9315.57	109.82	61.03	-652.35	10.00	
Landing Point	9843.17	90.50	359.63	9385.00	410.86	359.57	-866.98	10.00	
Planned Bottom Perf Cross	19429.58	90.50	359.63	9301.40	8974.37	8945.41	-759.53	0.00	
Mesa Verde BS Unit 1H PBHL	19589.60	90.50	359.63	9300.00	10134.00	10105.42	-760.58	0.00	
Strawn	NaN			13976.00					
Wolfcamp	NaN			11990.00					
3rd Bone Spring	NaN			10623.00					
2nd Bone Spring	NaN			9839.00					



Vertical Section (ft) Azim = 355.70° Scale = 1:1900.00(ft) Origin = 0N-S, 0E-W

Oxy respectfully requests approval for the following changes from the approved permit:

1. Geologic Formations

Due to a casing leak in our 12.25" Intermediate string, we will be setting a CIBP with cement on top 50'-100' above the leak and cased hole sidetracking to target the Avalon formation. Below are the new depth related to the change.

TVD of Target	9,385ft	Cased Hole ST Window:	7,003ft
MD at TD:	19,590ft	Deepest Expected fresh Water	875ft

2. Casing Program

The production casing will be changed to a long string design and also to accommodate the higher predicted CO2 concentration in the Avalon.

Hole Size	Casing Interval		Csg. Size (in)	Weight (lbs/ft)	Grade	Conn.	Safety Factor			
	From (ft)	To (ft)					Collapse	Burst	Body Tension	Joint Tension
17.5	0	900	13.375	54.5	J-55	BTC	> 1.125	> 1.2	> 1.4	> 1.4
12.25	0	11,062	9.625	53.5	HCL-80	BTC	> 1.125	> 1.2	> 1.4	> 1.4
8.5	0	8,100	5.5	23	P-110	DQX	> 1.125	> 1.2	> 1.4	> 1.4
8.5	8,100	19,590	5.5	23	13CR-95	JFE Bear	> 1.125	> 1.2	> 1.4	> 1.4

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 cancelation cone and not pump the second stage.

3. Cementing Program

We propose to update the production cement job to reflect the change to a long string design as follows:

Casing	Slurry	#Sks	Wt. (Lb/gal)	Yld ft3/sack	H2O gal/sk	500# Comp. Strength	Slurry Description
Production Casing	Lead	437	10.2	2.58	11.594	7.52	Class C Cement, Accelerator, Dispersant
	Tail	2,460	13.2	1.38	6.684	3.49	Class H Cement, Retarder, Dispersant, Salt

Casing String	Top of Lead (ft)	Bottom of Lead (ft)	Top of Tail (ft)	Bottom of Tail (ft)	% Excess Lead	% Excess Tail
Production Casing	4250	8850	8850	19590	15%	15%

4. Pressure Control Equipment

We updated the BOP table to reflect our change in target and required working pressures for the remaining 8.5" section.

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

5. Mud Program

We've updated our mud program to reflect the target change and cased hole side track.

Depth		Type	Weight (ppg)	Viscosity	Water Loss
From (ft)	To (ft)				
7,003	19,590	Oil-Based Mud	8.2-9.2	45-65	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.

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

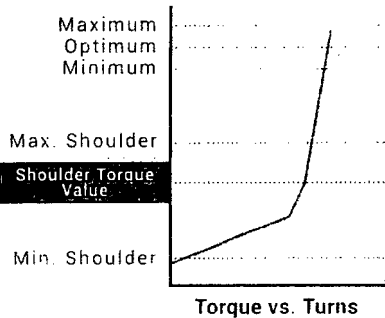
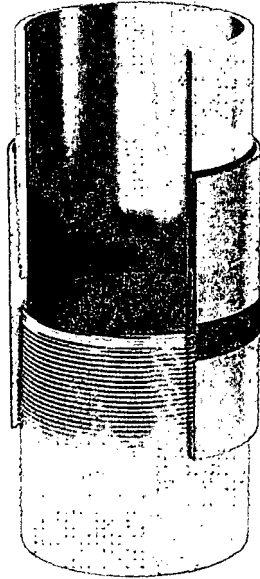
We have updated the drilling conditions table to reflect our new target TVD in the Avalon.

Condition	Specify what type and where?
BH Pressure at deepest TVD	4693 psi
Abnormal Temperature	No
BH Temperature at deepest TVD	156°F

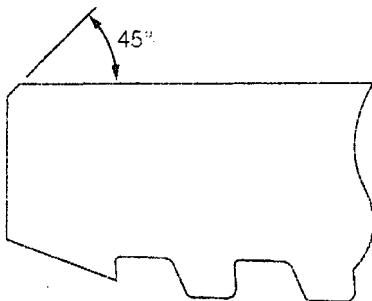


UNCONTROLLED DOCUMENT

SIZE:	5.5 in (139.7 mm)
WEIGHT:	23 lb/ft (34.23 kg/m)
GRADE:	JFE-13CR-95
COUP:	Standard
FF:	API Modified - High Chrome



Standard Bevel



JFE has performed and continues to perform connection and qualification testing according to the most rigorous industry and customer standards. Performance ratings are uniaxial ratings based on specified pipe minimum performance properties. Please contact the JFE-TC office for the latest information.

MATERIAL	Imperial	Metric
Min Yield Strength	95,000 psi	655 MPa
Max Yield Strength	110,000 psi	758 MPa
Min Tensile Strength	105,000 psi	724 MPa

COUPLING

Coupling OD	6.135 in	155.83 mm
Coupling ID	4.684 in	118.97 mm
Tensile Efficiency	101%	101%
Coupling Length	10.369 in	263.37 mm
Make-up Loss Length	4.630 in	117.60 mm
Bearing Face Load	331 kip	1,472.36 kN

PIPE

Pipe Body Wall	0.415 in	10.54 mm
Pipe ID	4.670 in	118.62 mm
Drift Diameter	4.545 in	115.44 mm
Pipe Cross Section	6.63 in ²	4,277 mm ²
Collapse Pressure	12,930 psi	89.15 MPa
Internal Yield Pressure	12,540 psi	86.46 MPa
Pipe Body Yield Strength	630 kip	2,802 kN

CONNECTION PERFORMANCE

Collapse Pressure	12,930 psi	89.15 MPa
Internal Yield Pressure	12,540 psi	86.46 MPa
Joint Strength	630 kip	2,802 kN
Joint Tensile Efficiency	100%	100%
Compression Rating	504 kip	2,241 kN

FIELD MAKE-UP TORQUE

Min Torque	11,160 ft-lb	15,131 Nm
Opt Torque	12,400 ft-lb	16,812 Nm
Max Torque	13,640 ft-lb	18,493 Nm
Min Shoulder	1,240 ft-lb	1,681 Nm
Max Shoulder	9,300 ft-lb	12,609 Nm
Max Torque with Sealability	18,700 ft-lb	25,354 Nm

Notes

[*1] Torque data shown is for API Modified (FF=1.0)

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For questions regarding the data, please email singapore.info@JFETC.com or us.info@JFETC.com.

TUBULAR PARAMETERS

Nominal OD, (inch)	5.500
Wall Thickness, (inch)	0.415
Pipe Grade	P110
Coupling	Regular
Coupling Grade	P110
Drift	Standard

PIPE BODY PROPERTIES

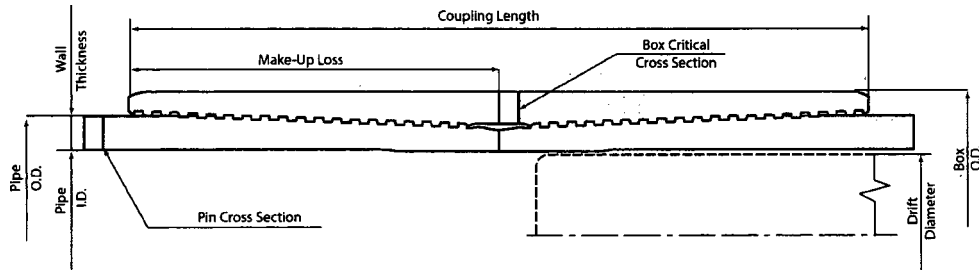
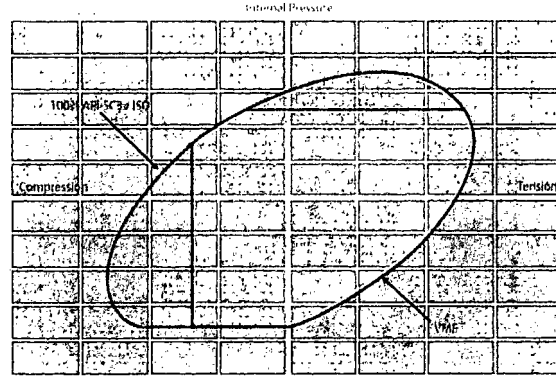
PE Weight, (lbs/ft)	22.54
Nominal Weight, (lbs/ft)	23.00
Nominal ID, (inch)	4.670
Drift Diameter, (inch)	4.545
Nominal Pipe Body Area, (sq inch)	6.630
Yield Strength in Tension, (kibs)	729
Min. Internal Yield Pressure, (psi)	14 530
Collapse Pressure, (psi)	14 540

CONNECTION PARAMETERS

Connection OD (inch)	6.05
Connection ID, (inch)	4.633
Make-Up Loss, (inch)	4.122
Connection Critical Area, (sq inch)	5.919
Yield Strength in Tension, (kibs)	693
Yield Strength in Compression, (kibs)	685
Tension Efficiency	94%
Compression Efficiency	94%
Min. Internal Yield Pressure, (psi)	14 530
Collapse Pressure, (psi)	14 540
Uniaxial Bending (deg/100ft)	86.0

MAKE-UP TORQUES

Yield Torque, (ft-lb)	28 500
Minimum Make-Up Torque, (ft-lb)	16 000
Optimum Make-Up Torque, (ft-lb)	17 800
Maximum Make-Up Torque, (ft-lb)	19 500



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