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District IV
1220 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
1220 South St. Francis Dr.
Santa Fe, NM 87505

RECEIVED

FEB 05 2020

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

EMNRD-OCD ARTESIA

AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-015-45265	² Pool Code 98220	³ Pool Name Purple Sage Wolfcamp (Gas)
⁴ Property Code 321000	⁵ Property Name SCOTER 6-31 FEDERAL COM	⁶ Well Number 43H
⁷ OGRID No. 215099	⁸ Operator Name CIMAREX ENERGY CO.	⁹ Elevation 3333.1'

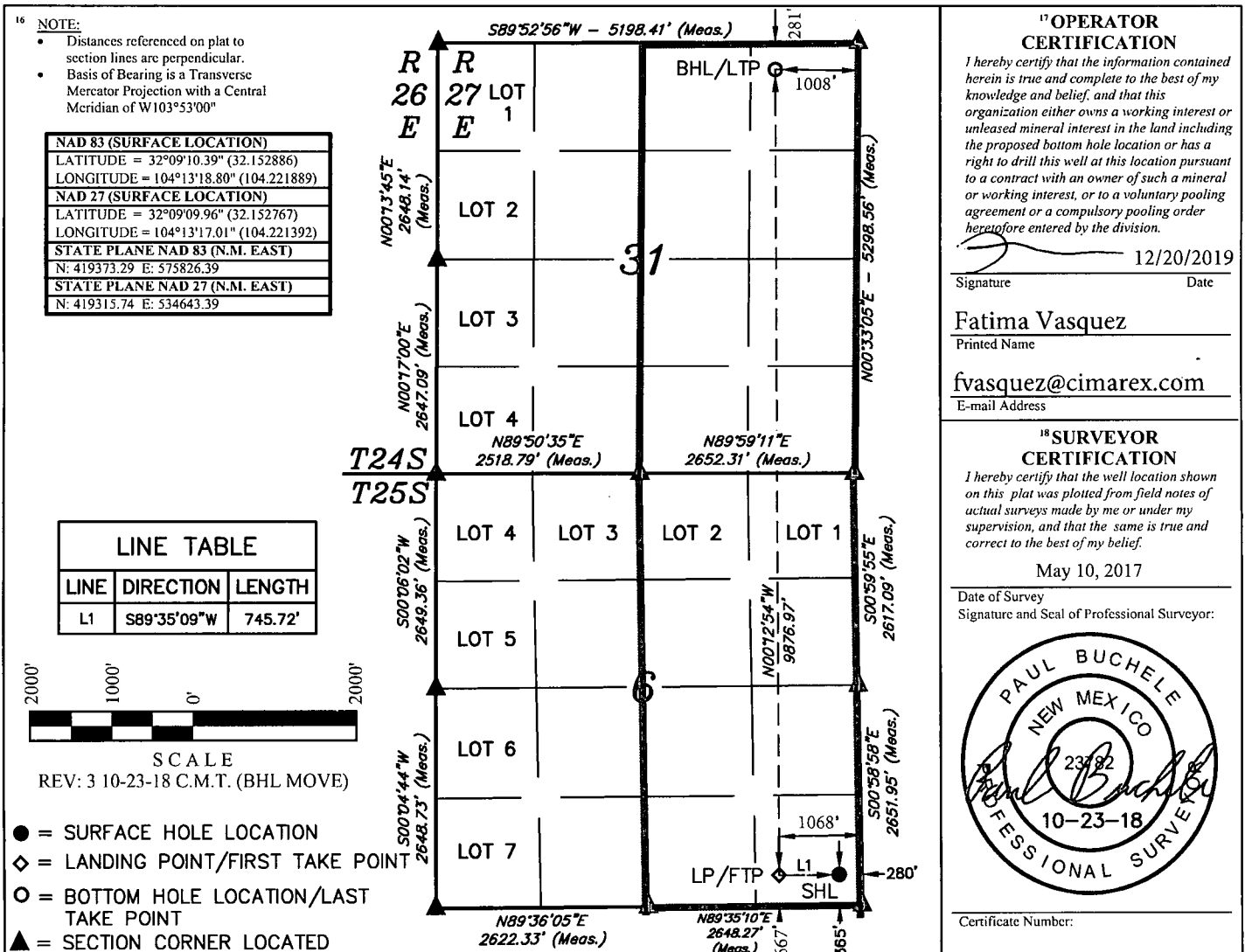
" Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
P	6	25S	27E		365	SOUTH	280	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
A	31	24S	27E		281	NORTH	1008	EAST	EDDY
¹² Dedicated Acres 638.44	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.						

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.



Rwp 4-21-20

Intent ☐ As Drilled ☒

API # 30-015-45265			
Operator Name: Cimarex Energy Co.		Property Name: Scoter 6-31 Federal Com	Well Number 43H

Kick Off Point (KOP)

UL P	Section 6	Township 25S	Range 27E	Lot	Feet 400	From N/S South	Feet 1071	From E/W East	County Eddy
Latitude 32.152816					Longitude -104.224431			NAD 83	

First Take Point (FTP)

UL P	Section 6	Township 25S	Range 27E	Lot	Feet 675	From N/S South	Feet 1071	From E/W East	County Eddy
Latitude 32.153717					Longitude -104.224436			NAD 83	

Last Take Point (LTP)

UL A	Section 31	Township 24S	Range 27E	Lot	Feet 448	From N/S North	Feet 1024	From E/W East	County Eddy
Latitude 32.179947					Longitude -104.224475			NAD 83	

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

Is this well an infill well? ☐ No

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



Cimarex

GL+KB @ 3356.10usft (Cactus 163)

GL=3333.10

Project: Eddy County, New Mexico (NAD83)
Site: Scoter 6-31 Federal Com
Well: Scoter 6-31 Federal Com 43H
Wellbore: Wellbore #1
Design: Final Surveys
Rig: Cactus 163

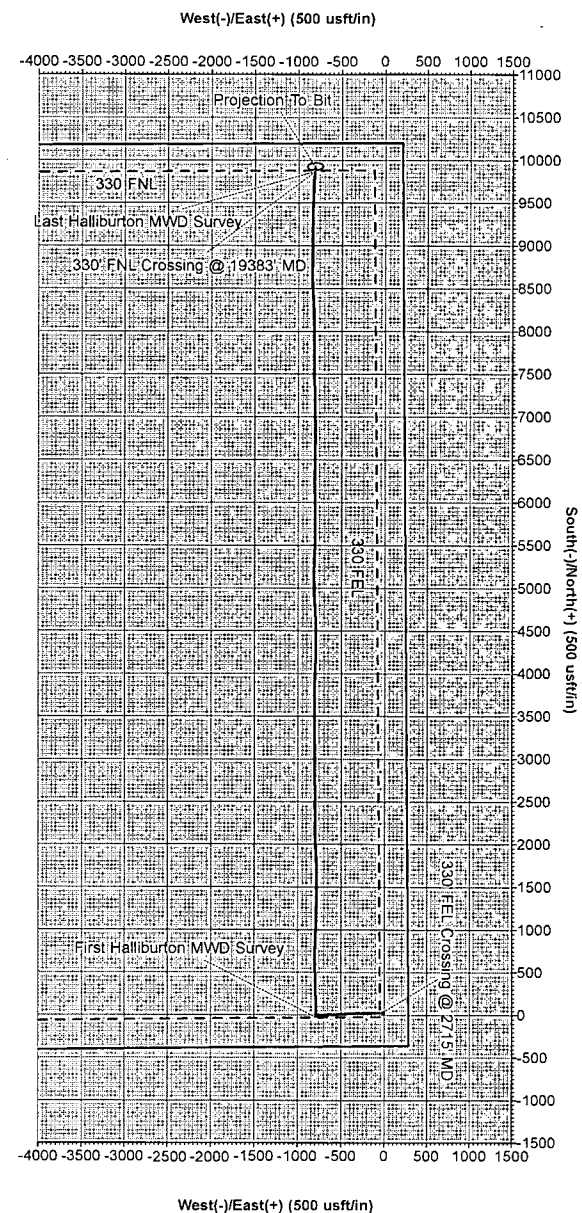
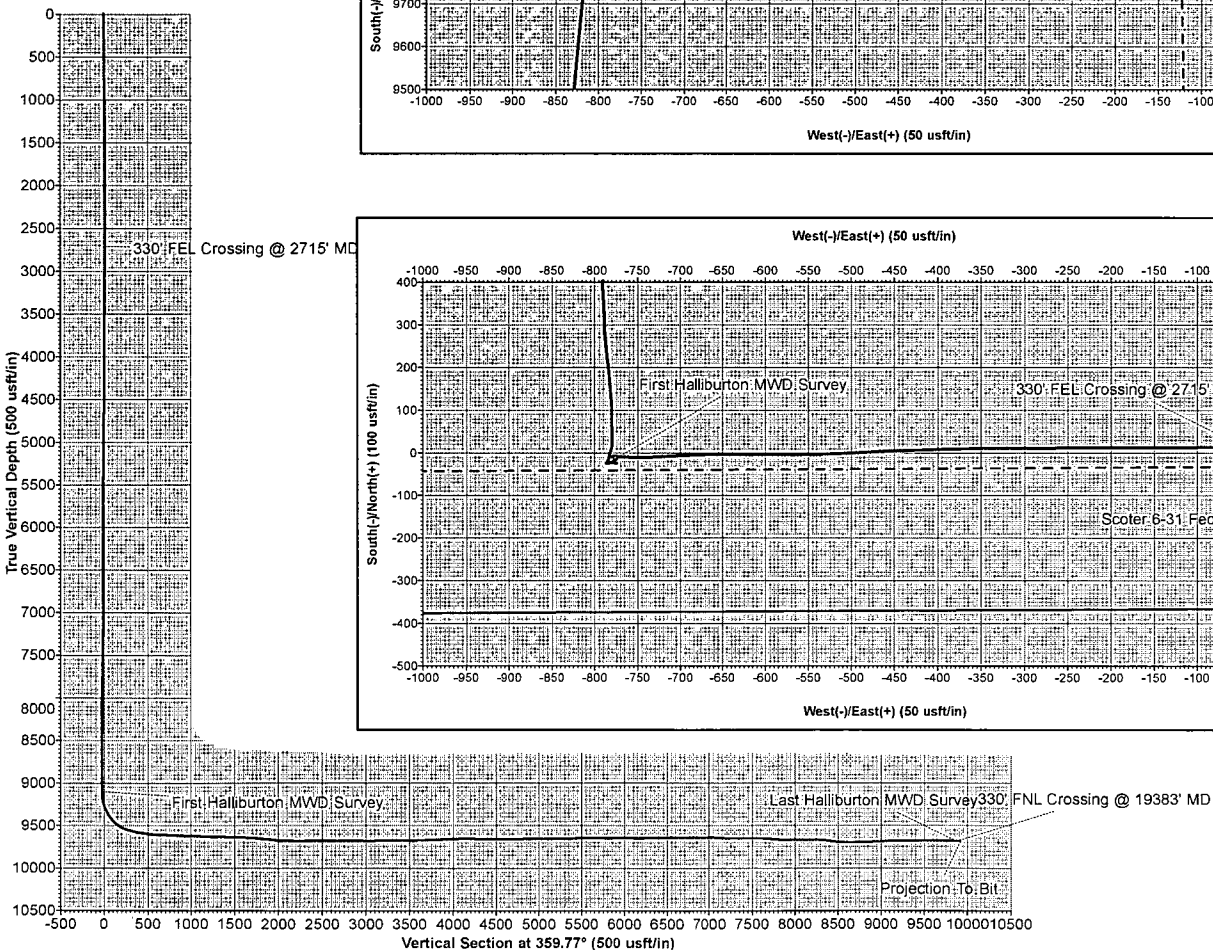
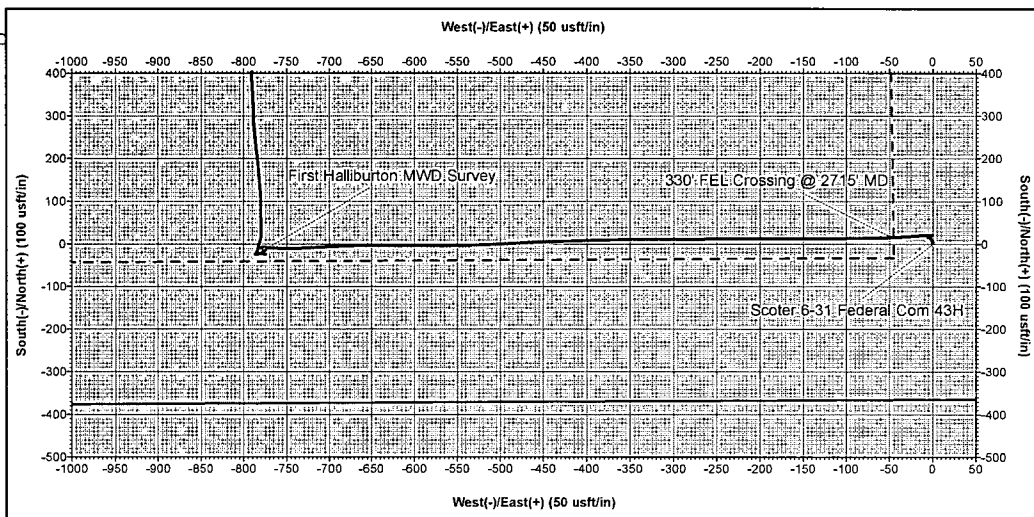
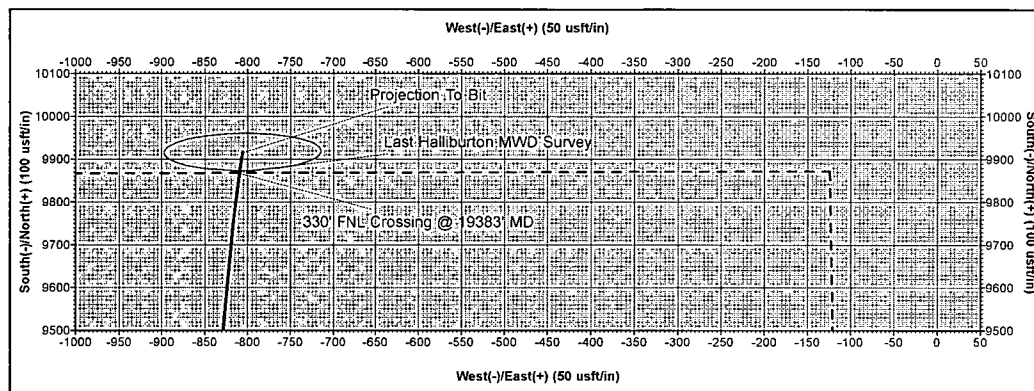
Map System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone Name: New Mexico Eastern Zone



Azimuths to Grid North
True North: -0.06°
Magnetic North: 7.08°
Magnetic Field
Strength: 47689.7nT
Dip Angle: 59.80°
Date: 4/1/2019
Model: BGGM2018

WELL DETAILS

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	419373.29	575826.39	32° 9' 10.392 N	104° 13' 18.801 W



Cactus 163

Cimarex

Eddy County, New Mexico (NAD83) Scoter 6-31 Federal Com

API#

Scoter 6-31 Federal Com 43H

Wellbore #1

Design: Final Surveys

Sperry Drilling Services

Combo Report

18 July, 2019

Well Coordinates: 32° 9' 10.392 N
104° 13' 18.801 W

North American Datum 1983
New Mexico Eastern Zone
419,373.29 N
575,826.39 E

Ground Level: 3,333.10 usft

Local Coordinate Origin:

Centered on Well Scoter 6-31 Federal Com 43H

Viewing Datum:

GL+KB @ 3356.10usft (Cactus 163)

TVDs to System:

N

North Reference:

Grid

Unit System:

API US Survey Feet

Version: 5000.15 Build: 91

Report Version: Midcon Combo v1.13

HALLIBURTON

Design Report for Scoter 6-31 Federal Com 43H - Final Surveys

Measured Depth (usft)	Inclination (°)	Grid Azimuth (°)	Vertical Depth (usft)	Local Coordinates		Map Coordinates		Dogleg Rate (°/100usft)	Vertical Section (usft)	Toolface Angle (°)	Comments
				Northing (usft)	Easting (usft)	Northing (usft)	Easting (usft)				
0.00	0.00	0.00	0.00	0.00 N	0.00 E	419,373.29	575,826.39	0.00	0.00	0.00	
173.00	0.30	26.08	173.00	0.41 N	0.20 E	419,373.70	575,826.59	0.17	0.41	26.08	
233.00	0.48	17.70	233.00	0.79 N	0.34 E	419,374.08	575,826.73	0.31	0.79	-21.80	
293.00	0.57	12.10	293.00	1.32 N	0.48 E	419,374.61	575,826.87	0.17	1.32	-32.51	
365.00	0.66	2.97	364.99	2.08 N	0.58 E	419,375.37	575,826.97	0.18	2.08	-52.06	
476.00	0.48	351.65	475.99	3.18 N	0.55 E	419,376.47	575,826.94	0.19	3.18	-153.54	
569.00	0.44	338.26	568.98	3.90 N	0.36 E	419,377.19	575,826.75	0.12	3.90	-117.02	
663.00	0.69	331.02	662.98	4.73 N	0.05 W	419,378.02	575,826.34	0.28	4.73	-19.58	
755.00	0.90	333.79	754.97	5.86 N	0.64 W	419,379.15	575,825.75	0.23	5.86	11.76	
845.00	0.91	345.29	844.96	7.19 N	1.13 W	419,380.48	575,825.26	0.20	7.19	92.61	
940.00	1.03	343.22	939.94	8.73 N	1.57 W	419,382.02	575,824.82	0.13	8.74	-17.32	
1,035.00	1.15	347.24	1,034.93	10.48 N	2.03 W	419,383.77	575,824.36	0.15	10.49	34.53	
1,130.00	0.76	332.38	1,129.91	11.97 N	2.53 W	419,385.26	575,823.86	0.48	11.98	-154.86	
1,225.00	0.46	263.73	1,224.91	12.49 N	3.20 W	419,385.78	575,823.19	0.77	12.50	-144.13	
1,320.00	0.80	288.78	1,319.90	12.66 N	4.21 W	419,385.95	575,822.18	0.45	12.67	51.99	
1,415.00	0.69	317.11	1,414.90	13.29 N	5.23 W	419,386.58	575,821.16	0.40	13.31	120.47	
1,510.00	0.58	22.21	1,509.89	14.15 N	5.43 W	419,387.44	575,820.96	0.73	14.18	130.28	
1,604.00	0.69	25.61	1,603.89	15.11 N	5.01 W	419,388.40	575,821.38	0.12	15.13	20.61	
1,699.00	1.11	40.30	1,698.87	16.32 N	4.17 W	419,389.61	575,822.22	0.50	16.34	36.26	
1,794.00	1.02	60.05	1,793.86	17.45 N	2.84 W	419,390.74	575,823.55	0.40	17.46	113.52	
1,961.00	0.85	92.46	1,960.84	18.14 N	0.31 W	419,391.43	575,826.08	0.33	18.14	123.57	
2,075.00	0.51	274.22	2,074.83	18.14 N	0.03 E	419,391.43	575,826.42	1.19	18.14	-179.34	
2,170.00	0.91	279.37	2,169.83	18.29 N	1.14 W	419,391.58	575,825.25	0.43	18.30	11.65	
2,265.00	1.88	274.82	2,264.80	18.54 N	3.44 W	419,391.83	575,822.95	1.03	18.56	-8.79	
2,360.00	3.74	265.51	2,359.68	18.43 N	8.08 W	419,391.72	575,818.31	2.01	18.47	-18.47	
2,455.00	4.79	261.52	2,454.41	17.61 N	15.09 W	419,390.90	575,811.30	1.15	17.67	-17.78	
2,549.00	6.36	260.83	2,547.97	16.20 N	24.11 W	419,389.49	575,802.28	1.67	16.29	-2.79	
2,643.00	7.39	261.81	2,641.29	14.51 N	35.24 W	419,387.80	575,791.15	1.10	14.65	6.98	
2,715.00	8.16	264.93	2,712.63	13.40 N	44.91 W	419,386.69	575,781.48	1.22	13.58	30.28	330° FEL Crossing @ 27.15° MD
2,737.00	8.40	265.77	2,734.40	13.14 N	48.07 W	419,386.43	575,778.32	1.22	13.33	27.18	
2,833.00	9.72	266.79	2,829.20	12.17 N	63.15 W	419,385.46	575,763.24	1.39	12.42	7.44	
2,927.00	11.05	267.67	2,921.66	11.36 N	80.08 W	419,384.65	575,746.31	1.42	11.68	7.23	
3,021.00	11.63	268.78	3,013.82	10.79 N	98.55 W	419,384.08	575,727.84	0.66	11.18	21.17	
3,115.00	12.87	269.86	3,105.68	10.56 N	118.49 W	419,383.85	575,707.90	1.34	11.04	11.00	
3,210.00	13.44	270.23	3,198.19	10.58 N	140.11 W	419,383.87	575,686.28	0.61	11.14	8.58	
3,305.00	13.20	270.23	3,290.63	10.67 N	162.00 W	419,383.96	575,664.39	0.25	11.32	180.00	

Design Report for Scoter 6-31 Federal Com 43H - Final Surveys

Measured Depth (usft)	Inclination (°)	Grid Azimuth (°)	Vertical Depth (usft)	Local Coordinates		Map Coordinates		Dogleg Rate (°/100usft)	Vertical Section (usft)	Toolface Angle (°)	Comments
				Northing (usft)	Easting (usft)	Northing (usft)	Easting (usft)				
3,400.00	12.30	269.90	3,383.29	10.69 N	182.97 W	419,383.98	575,643.42	0.95	11.43	-175.53	
3,494.00	12.43	269.68	3,475.11	10.62 N	203.10 W	419,383.91	575,623.29	0.15	11.44	-20.03	
3,589.00	11.96	268.85	3,567.96	10.37 N	223.16 W	419,383.66	575,603.23	0.53	11.26	-159.95	
3,683.00	11.63	266.76	3,659.98	9.63 N	242.36 W	419,382.92	575,584.03	0.57	10.61	-128.70	
3,778.00	13.53	269.26	3,752.69	8.95 N	263.03 W	419,382.24	575,563.36	2.08	10.01	17.21	
3,873.00	14.32	271.25	3,844.90	9.06 N	285.89 W	419,382.35	575,540.50	0.97	10.21	32.19	
3,967.00	14.09	269.66	3,936.03	9.25 N	308.95 W	419,382.54	575,517.44	0.48	10.49	-121.29	
4,060.00	13.02	268.38	4,026.44	8.88 N	330.75 W	419,382.17	575,495.64	1.19	10.21	-164.96	
4,155.00	12.69	267.13	4,119.06	8.06 N	351.87 W	419,381.35	575,474.52	0.45	9.47	-140.49	
4,250.00	13.14	266.87	4,211.65	6.95 N	373.07 W	419,380.24	575,453.32	0.48	8.45	-7.48	
4,345.00	13.19	266.81	4,304.15	5.75 N	394.67 W	419,379.04	575,431.72	0.05	7.34	-15.32	
4,440.00	13.36	266.43	4,396.62	4.47 N	416.45 W	419,377.76	575,409.94	0.20	6.14	-27.36	
4,535.00	13.63	266.37	4,488.99	3.08 N	438.58 W	419,376.37	575,387.81	0.28	4.84	-3.00	
4,631.00	13.59	265.55	4,582.30	1.48 N	461.11 W	419,374.77	575,365.28	0.21	3.34	-102.11	
4,726.00	13.27	264.20	4,674.70	0.48 S	483.08 W	419,372.81	575,343.31	0.47	1.46	-136.24	
4,820.00	12.65	263.04	4,766.31	2.82 S	504.03 W	419,370.47	575,322.36	0.72	-0.80	-157.80	
4,914.00	11.78	263.66	4,858.18	5.13 S	523.79 W	419,368.16	575,302.60	0.94	-3.02	171.73	
5,009.00	13.18	269.79	4,950.93	6.24 S	544.26 W	419,367.05	575,282.13	2.03	-4.05	46.44	
5,104.00	12.61	271.61	5,043.54	5.99 S	565.45 W	419,367.30	575,260.94	0.74	-3.72	145.41	
5,199.00	12.46	269.70	5,136.27	5.75 S	586.07 W	419,367.54	575,240.32	0.46	-3.40	-110.82	
5,294.00	13.81	269.98	5,228.79	5.81 S	607.66 W	419,367.48	575,218.73	1.42	-3.37	2.83	
5,388.00	13.54	269.68	5,320.12	5.87 S	629.88 W	419,367.42	575,196.51	0.30	-3.34	-165.43	
5,482.00	12.10	268.54	5,411.78	6.18 S	650.73 W	419,367.11	575,175.66	1.56	-3.57	-170.59	
5,576.00	11.53	267.54	5,503.78	6.84 S	669.97 W	419,366.45	575,156.42	0.64	-4.15	-160.73	
5,671.00	12.11	265.89	5,596.77	7.96 S	689.39 W	419,365.33	575,137.00	0.71	-5.19	-31.04	
5,766.00	10.09	262.96	5,689.99	9.69 S	707.59 W	419,363.60	575,118.80	2.21	-6.85	-165.83	
5,859.00	9.21	263.84	5,781.67	11.49 S	723.08 W	419,361.80	575,103.31	0.96	-8.59	170.92	
6,048.00	6.44	270.67	5,968.90	12.99 S	748.72 W	419,360.30	575,077.67	1.54	-9.99	164.81	
6,142.00	7.34	274.61	6,062.22	12.45 S	759.98 W	419,360.84	575,066.41	1.08	-9.40	29.67	
6,237.00	4.08	273.61	6,156.73	11.75 S	769.40 W	419,361.54	575,056.99	3.43	-8.66	-178.75	
6,331.00	1.83	305.09	6,250.61	10.67 S	773.97 W	419,362.62	575,052.42	2.87	-7.57	159.22	
6,426.00	0.52	275.37	6,345.59	9.76 S	775.64 W	419,363.53	575,050.75	1.48	-6.65	-169.41	
6,520.00	0.90	224.92	6,439.58	10.24 S	776.58 W	419,363.05	575,049.81	0.74	-7.13	-85.62	
6,615.00	1.24	224.08	6,534.56	11.51 S	777.83 W	419,361.78	575,048.56	0.36	-8.39	-3.06	
6,709.00	0.37	269.12	6,628.55	12.24 S	778.84 W	419,361.05	575,047.55	1.08	-9.12	165.02	
6,804.00	0.34	295.48	6,723.55	12.13 S	779.40 W	419,361.16	575,046.99	0.17	-9.00	113.41	
6,899.00	0.20	349.27	6,818.55	11.84 S	779.68 W	419,361.45	575,046.71	0.29	-8.71	143.97	

Design Report for Scoter 6-31 Federal Com 43H - Final Surveys

Measured Depth (usft)	Inclination (°)	Grid Azimuth (°)	Vertical Depth (usft)	Local Coordinates		Map Coordinates		Dogleg Rate (°/100usft)	Vertical Section (usft)	Toolface Angle (°)	Comments
				Northing (usft)	Easting (usft)	Northing (usft)	Easting (usft)				
6,993.00	0.64	352.24	6,912.55	11.16 S	779.79 W	419,362.13	575,046.60	0.47	-8.03	4.32	
7,087.00	1.81	67.10	7,006.53	10.06 S	778.49 W	419,363.23	575,047.90	1.87	-6.94	95.46	
7,181.00	2.00	97.31	7,100.48	9.70 S	775.49 W	419,363.59	575,050.90	1.07	-6.58	94.63	
7,276.00	1.95	218.73	7,195.45	11.17 S	774.86 W	419,362.12	575,051.53	3.63	-8.06	151.10	
7,371.00	1.27	196.41	7,290.41	13.44 S	776.17 W	419,359.85	575,050.22	0.96	-10.32	-148.11	
7,466.00	1.56	130.33	7,385.39	15.29 S	775.48 W	419,358.00	575,050.91	1.64	-12.17	-114.08	
7,560.00	1.01	117.88	7,479.37	16.50 S	773.77 W	419,356.79	575,052.62	0.65	-13.40	-159.22	
7,655.00	0.78	263.79	7,574.36	16.96 S	773.68 W	419,356.33	575,052.71	1.80	-13.86	165.21	
7,750.00	1.17	244.80	7,669.35	17.45 S	775.20 W	419,355.84	575,051.19	0.53	-14.33	-49.40	
7,845.00	1.89	199.53	7,764.32	19.34 S	776.60 W	419,353.95	575,049.79	1.42	-16.22	-83.19	
7,940.00	1.36	175.84	7,859.28	21.94 S	777.04 W	419,351.35	575,049.35	0.89	-18.82	-139.71	
8,036.00	0.68	149.16	7,955.26	23.56 S	776.67 W	419,349.73	575,049.72	0.85	-20.44	-157.91	
8,129.00	2.10	139.44	8,048.24	25.33 S	775.27 W	419,347.96	575,051.12	1.54	-22.22	-14.31	
8,224.00	0.39	128.03	8,143.21	26.85 S	773.89 W	419,346.44	575,052.50	1.81	-23.74	-177.43	
8,319.00	1.09	295.72	8,238.20	26.66 S	774.45 W	419,346.63	575,051.94	1.55	-23.55	170.92	
8,413.00	1.22	302.81	8,332.19	25.73 S	776.09 W	419,347.56	575,050.30	0.21	-22.61	51.29	
8,508.00	0.97	279.76	8,427.17	25.04 S	777.74 W	419,348.25	575,048.65	0.53	-21.92	-130.77	
8,602.00	0.92	257.31	8,521.16	25.08 S	779.26 W	419,348.21	575,047.13	0.39	-21.95	-108.82	
8,697.00	0.97	253.67	8,616.14	25.47 S	780.77 W	419,347.82	575,045.62	0.08	-22.33	-52.04	
8,791.00	1.02	253.62	8,710.13	25.93 S	782.34 W	419,347.36	575,044.05	0.05	-22.79	-1.02	
8,886.00	1.01	254.25	8,805.11	26.39 S	783.96 W	419,346.90	575,042.43	0.02	-23.25	132.18	
8,982.00	1.00	247.57	8,901.10	26.94 S	785.54 W	419,346.35	575,040.85	0.12	-23.79	-98.21	
9,076.00	0.31	297.87	8,995.09	27.14 S	786.53 W	419,346.15	575,039.86	0.89	-23.98	163.44	
9,119.00	0.47	3.64	9,038.09	26.91 S	786.62 W	419,346.38	575,039.77	1.03	-23.75	105.28	
9,183.00	0.44	32.46	9,102.09	26.44 S	786.47 W	419,346.85	575,039.92	0.36	-23.28	111.72	First Halliburton MWD Survey
9,215.00	1.52	65.57	9,134.09	26.16 S	786.02 W	419,347.13	575,040.37	3.68	-23.00	44.90	
9,246.00	4.58	21.61	9,165.04	24.84 S	785.19 W	419,348.45	575,041.20	11.75	-21.69	-60.77	
9,277.00	9.24	6.89	9,195.81	21.21 S	784.43 W	419,352.08	575,041.96	15.96	-18.06	-28.23	
9,308.00	12.13	9.66	9,226.27	15.53 S	783.59 W	419,357.76	575,042.80	9.47	-12.39	11.44	
9,355.00	17.46	9.80	9,271.69	3.71 S	781.56 W	419,369.58	575,044.83	11.34	-0.57	0.45	
9,403.00	23.46	3.17	9,316.65	12.95 N	779.80 W	419,386.24	575,046.59	13.38	16.08	-24.26	
9,451.00	28.66	358.83	9,359.76	34.01 N	779.51 W	419,407.30	575,046.88	11.53	37.14	-22.10	
9,498.00	33.78	359.82	9,399.94	58.36 N	779.78 W	419,431.65	575,046.61	10.95	61.49	6.15	
9,560.00	40.49	359.41	9,449.34	95.77 N	780.04 W	419,469.06	575,046.35	10.83	98.90	-2.28	
9,598.00	47.19	358.12	9,476.73	122.07 N	780.63 W	419,495.36	575,045.76	17.79	125.20	-8.07	
9,644.00	54.97	357.65	9,505.61	157.80 N	781.95 W	419,531.09	575,044.44	16.93	160.94	-2.84	
9,692.00	62.38	356.66	9,530.55	198.73 N	784.00 W	419,572.02	575,042.39	15.54	201.87	-6.77	

Design Report for Scoter 6-31 Federal Com 43H - Final Surveys

Measured Depth (usft)	Inclination (°)	Grid Azimuth (°)	Vertical Depth (usft)	Local Coordinates		Map Coordinates		Dogleg Rate (°/100usft)	Vertical Section (usft)	Toolface Angle (°)	Comments
				Northing (usft)	Easting (usft)	Northing (usft)	Easting (usft)				
9,733.00	66.83	356.64	9,548.13	235.69 N	786.17 W	419,608.98	575,040.22	10.85	238.85	-0.24	
9,803.00	73.88	359.55	9,571.65	301.53 N	788.32 W	419,674.82	575,038.07	10.80	304.69	21.75	
9,826.00	75.99	358.80	9,577.63	323.74 N	788.64 W	419,697.03	575,037.75	9.70	326.90	-19.04	
9,874.00	79.19	358.14	9,587.94	370.59 N	789.89 W	419,743.88	575,036.50	6.80	373.76	-11.46	
9,921.00	80.57	358.32	9,596.20	416.84 N	791.32 W	419,790.13	575,035.07	2.96	420.01	7.33	
9,968.00	81.16	358.21	9,603.66	463.22 N	792.73 W	419,836.51	575,033.66	1.28	466.40	-10.44	
10,016.00	83.16	358.30	9,610.21	510.75 N	794.17 W	419,884.04	575,032.22	4.17	513.93	2.56	
10,063.00	83.53	358.26	9,615.66	557.41 N	795.57 W	419,930.70	575,030.82	0.79	560.60	-6.13	
10,110.00	87.00	358.11	9,619.54	604.22 N	797.06 W	419,977.51	575,029.33	7.39	607.41	-2.47	
10,158.00	90.25	0.32	9,620.69	652.19 N	797.72 W	420,025.48	575,028.67	8.19	655.39	34.24	
10,253.00	87.75	3.22	9,622.35	747.11 N	794.78 W	420,120.40	575,031.61	4.03	750.30	130.78	
10,348.00	87.37	1.91	9,626.39	841.93 N	790.53 W	420,215.22	575,035.86	1.43	845.10	-106.22	
10,443.00	85.95	1.34	9,631.93	936.73 N	787.85 W	420,310.02	575,038.54	1.61	939.88	-158.18	
10,538.00	90.31	1.79	9,635.02	1,031.62 N	785.25 W	420,404.91	575,041.14	4.61	1,034.76	5.90	
10,632.00	87.31	1.59	9,636.98	1,125.55 N	782.48 W	420,498.84	575,043.91	3.20	1,128.68	-176.19	
10,727.00	87.13	1.22	9,641.58	1,220.41 N	780.15 W	420,593.70	575,046.24	0.43	1,223.53	-115.98	
10,822.00	90.34	1.91	9,643.68	1,315.34 N	777.56 W	420,688.63	575,048.83	3.46	1,318.45	12.14	
10,917.00	87.10	0.48	9,645.80	1,410.28 N	775.58 W	420,783.57	575,050.81	3.73	1,413.38	-156.20	
11,012.00	89.08	359.69	9,648.97	1,505.22 N	775.44 W	420,878.51	575,050.95	2.24	1,508.32	-21.76	
11,107.00	88.27	359.89	9,651.17	1,600.19 N	775.79 W	420,973.48	575,050.60	0.88	1,603.29	166.14	
11,202.00	84.68	359.86	9,657.01	1,695.00 N	775.99 W	421,068.29	575,050.40	3.78	1,698.10	-179.52	
11,296.00	85.36	358.19	9,665.17	1,788.62 N	777.59 W	421,161.91	575,048.80	1.91	1,791.73	-67.84	
11,386.00	83.77	356.83	9,673.69	1,878.13 N	781.48 W	421,251.42	575,044.91	2.32	1,881.25	-139.65	
11,481.00	84.68	356.64	9,683.25	1,972.49 N	786.86 W	421,345.78	575,039.53	0.98	1,975.63	-11.74	
11,576.00	87.41	356.29	9,689.80	2,067.08 N	792.71 W	421,440.37	575,033.68	2.90	2,070.24	-7.30	
11,671.00	88.95	358.22	9,692.82	2,161.91 N	797.25 W	421,535.20	575,029.14	2.60	2,165.10	51.43	
11,765.00	91.85	1.40	9,692.16	2,255.89 N	797.56 W	421,629.18	575,028.83	4.58	2,259.07	47.64	
11,860.00	92.54	1.38	9,688.52	2,350.79 N	795.26 W	421,724.08	575,031.13	0.73	2,353.96	-1.66	
11,955.00	90.71	0.49	9,685.83	2,445.73 N	793.71 W	421,819.02	575,032.68	2.14	2,448.90	-154.06	
12,050.00	88.18	357.96	9,686.75	2,540.70 N	795.00 W	421,913.99	575,031.39	3.77	2,543.88	-135.01	
12,145.00	89.38	359.26	9,688.77	2,635.65 N	797.30 W	422,008.94	575,029.09	1.86	2,638.83	47.30	
12,239.00	89.20	359.05	9,689.94	2,729.63 N	798.69 W	422,102.92	575,027.70	0.29	2,732.82	-130.60	
12,334.00	92.54	0.46	9,688.50	2,824.61 N	799.09 W	422,197.90	575,027.30	3.82	2,827.79	22.88	
12,429.00	88.67	0.79	9,687.49	2,919.58 N	798.06 W	422,292.87	575,028.33	4.09	2,922.76	175.12	
12,524.00	86.66	358.28	9,691.36	3,014.48 N	798.83 W	422,387.77	575,027.56	3.38	3,017.67	-128.76	
12,619.00	95.11	359.17	9,689.90	3,109.36 N	800.94 W	422,482.65	575,025.45	8.94	3,112.55	6.01	

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Measured Depth (usft)	Inclination (°)	Grid Azimuth (°)	Vertical Depth (usft)	Local Coordinates		Map Coordinates		Dogleg Rate (°/100usft)	Vertical Section (usft)	Toolface Angle (°)	Comments
				Northing (usft)	Easting (usft)	Northing (usft)	Easting (usft)				
12,714.00	91.64	359.34	9,684.31	3,204.17 N	802.17 W	422,577.46	575,024.22	3.66	3,207.37	177.19	
12,809.00	89.20	359.89	9,683.61	3,299.16 N	802.81 W	422,672.45	575,023.58	2.63	3,302.36	167.29	
12,904.00	89.35	0.72	9,684.81	3,394.15 N	802.30 W	422,767.44	575,024.09	0.89	3,397.34	79.76	
12,999.00	89.13	359.38	9,686.07	3,489.14 N	802.22 W	422,862.43	575,024.17	1.43	3,492.33	-99.33	
13,094.00	91.05	359.53	9,685.92	3,584.13 N	803.12 W	422,957.42	575,023.27	2.03	3,587.33	4.47	
13,189.00	90.89	358.44	9,684.31	3,679.10 N	804.81 W	423,052.39	575,021.58	1.16	3,682.30	-98.34	
13,284.00	93.09	1.08	9,681.02	3,774.03 N	805.21 W	423,147.32	575,021.18	3.62	3,777.23	50.14	
13,378.00	93.43	1.51	9,675.67	3,867.85 N	803.08 W	423,241.14	575,023.31	0.58	3,871.05	51.61	
13,473.00	92.60	1.84	9,670.67	3,962.68 N	800.31 W	423,335.97	575,026.08	0.94	3,965.86	158.34	
13,568.00	91.15	2.19	9,667.56	4,057.57 N	796.97 W	423,430.86	575,029.42	1.57	4,060.73	166.43	
13,663.00	90.56	2.49	9,666.15	4,152.48 N	793.09 W	423,525.77	575,033.30	0.70	4,155.63	153.05	
13,758.00	88.37	2.35	9,667.03	4,247.38 N	789.08 W	423,620.67	575,037.31	2.31	4,250.52	-176.34	
13,853.00	88.77	0.49	9,669.41	4,342.32 N	786.73 W	423,715.61	575,039.66	2.00	4,345.44	-77.88	
13,947.00	90.46	359.99	9,670.04	4,436.31 N	786.34 W	423,809.60	575,040.05	1.87	4,439.43	-16.48	
14,042.00	89.91	357.75	9,669.73	4,531.29 N	788.21 W	423,904.58	575,038.18	2.43	4,534.42	-103.79	
14,137.00	90.13	356.21	9,669.70	4,626.15 N	793.21 W	423,999.44	575,033.18	1.64	4,629.30	-81.87	
14,232.00	90.09	356.42	9,669.51	4,720.96 N	799.32 W	424,094.25	575,027.07	0.23	4,724.13	100.78	
14,327.00	92.29	357.60	9,667.54	4,815.80 N	804.27 W	424,189.09	575,022.12	2.63	4,818.99	28.19	
14,421.00	90.65	356.45	9,665.13	4,909.64 N	809.15 W	424,282.93	575,017.24	2.13	4,912.85	-144.95	
14,516.00	90.46	358.53	9,664.21	5,004.54 N	813.31 W	424,377.83	575,013.08	2.20	5,007.76	95.21	
14,611.00	88.80	359.07	9,664.82	5,099.51 N	815.30 W	424,472.80	575,011.09	1.84	5,102.74	161.98	
14,706.00	91.67	1.90	9,664.43	5,194.49 N	814.50 W	424,567.78	575,011.89	4.24	5,197.71	44.60	
14,801.00	89.11	1.66	9,663.79	5,289.43 N	811.55 W	424,662.72	575,014.84	2.71	5,292.64	-174.64	
14,896.00	91.42	3.30	9,663.35	5,384.33 N	807.44 W	424,757.62	575,018.95	2.98	5,387.53	35.37	
14,991.00	94.39	1.23	9,658.53	5,479.12 N	803.69 W	424,852.41	575,022.70	3.81	5,482.30	-34.79	
15,086.00	92.29	0.14	9,653.00	5,573.94 N	802.55 W	424,947.23	575,023.84	2.49	5,577.12	-152.57	
15,181.00	87.22	359.87	9,653.40	5,668.91 N	802.54 W	425,042.20	575,023.85	5.34	5,672.09	-176.95	
15,276.00	88.33	0.42	9,657.09	5,763.84 N	802.30 W	425,137.13	575,024.09	1.30	5,767.01	26.35	
15,371.00	91.39	359.89	9,657.32	5,858.82 N	802.05 W	425,232.11	575,024.34	3.27	5,862.00	-9.83	
15,466.00	91.98	359.16	9,654.53	5,953.78 N	802.83 W	425,327.07	575,023.56	0.99	5,956.95	-51.03	
15,561.00	88.18	358.99	9,654.40	6,048.75 N	804.37 W	425,422.04	575,022.02	4.00	6,051.93	-177.44	
15,656.00	89.66	359.38	9,656.19	6,143.72 N	805.72 W	425,517.01	575,020.67	1.61	6,146.91	14.76	
15,751.00	90.25	359.50	9,656.26	6,238.72 N	806.65 W	425,612.01	575,019.74	0.63	6,241.90	11.50	
15,846.00	93.40	1.29	9,653.24	6,333.65 N	805.99 W	425,706.94	575,020.40	3.81	6,336.83	29.57	
15,941.00	88.64	0.54	9,651.55	6,428.59 N	804.48 W	425,801.88	575,021.91	5.07	6,431.77	-171.04	
16,036.00	91.02	1.66	9,651.83	6,523.57 N	802.65 W	425,896.86	575,023.74	2.77	6,526.74	25.20	
16,131.00	89.51	359.81	9,651.39	6,618.55 N	801.44 W	425,991.84	575,024.95	2.51	6,621.72	-129.21	

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Measured Depth (usft)	Inclination (°)	Grid Azimuth (°)	Vertical Depth (usft)	Local Coordinates		Map Coordinates		Dogleg Rate (°/100usft)	Vertical Section (usft)	Toolface Angle (°)	Comments
				Northing (usft)	Easting (usft)	Northing (usft)	Easting (usft)				
16,225.00	90.56	0.93	9,651.33	6,712.55 N	800.83 W	426,085.84	575,025.56	1.63	6,715.71	46.85	
16,320.00	89.97	0.70	9,650.89	6,807.54 N	799.48 W	426,180.83	575,026.91	0.67	6,810.69	-158.70	
16,415.00	88.33	358.99	9,652.30	6,902.52 N	799.73 W	426,275.81	575,026.66	2.49	6,905.67	-133.82	
16,510.00	91.24	359.11	9,652.66	6,997.49 N	801.31 W	426,370.78	575,025.08	3.07	7,000.65	2.36	
16,605.00	86.45	358.36	9,654.57	7,092.42 N	803.40 W	426,465.71	575,022.99	5.10	7,095.59	-171.11	
16,700.00	86.66	358.79	9,660.28	7,187.22 N	805.76 W	426,560.51	575,020.63	0.50	7,190.40	63.94	
16,797.00	91.18	0.03	9,662.11	7,284.17 N	806.76 W	426,657.46	575,019.63	4.83	7,287.35	15.35	
16,892.00	89.48	356.30	9,661.56	7,379.10 N	809.80 W	426,752.39	575,016.59	4.31	7,382.29	-114.48	
16,987.00	93.28	359.46	9,659.27	7,473.98 N	813.32 W	426,847.27	575,013.07	5.20	7,477.18	39.71	
17,082.00	88.08	359.51	9,658.15	7,568.94 N	814.17 W	426,942.23	575,012.22	5.47	7,572.14	179.45	
17,177.00	85.21	359.54	9,663.71	7,663.76 N	814.96 W	427,037.05	575,011.43	3.02	7,666.97	179.40	
17,272.00	85.64	0.05	9,671.28	7,758.46 N	815.29 W	427,131.75	575,011.10	0.70	7,761.67	49.79	
17,367.00	87.50	0.46	9,676.97	7,853.28 N	814.87 W	427,226.57	575,011.52	2.00	7,856.49	12.42	
17,462.00	89.91	359.67	9,679.11	7,948.25 N	814.76 W	427,321.54	575,011.63	2.67	7,951.46	-18.16	
17,556.00	91.76	359.91	9,677.75	8,042.24 N	815.11 W	427,415.53	575,011.28	1.98	8,045.44	7.39	
17,651.00	90.56	359.63	9,675.82	8,137.21 N	815.49 W	427,510.50	575,010.90	1.30	8,140.42	-166.87	
17,746.00	88.08	357.59	9,676.95	8,232.17 N	817.79 W	427,605.46	575,008.60	3.38	8,235.38	-140.57	
17,841.00	86.94	357.90	9,681.08	8,327.00 N	821.53 W	427,700.29	575,004.86	1.24	8,330.23	164.81	
17,937.00	80.44	356.54	9,691.62	8,422.25 N	826.15 W	427,795.54	575,000.24	6.92	8,425.50	-168.32	
18,032.00	86.26	356.73	9,702.62	8,516.41 N	831.68 W	427,889.70	574,994.71	6.13	8,519.68	1.87	
18,127.00	89.54	358.88	9,706.10	8,611.26 N	835.32 W	427,984.55	574,991.07	4.13	8,614.54	33.27	
18,221.00	92.41	1.13	9,704.50	8,705.23 N	835.31 W	428,078.52	574,991.08	3.88	8,708.51	38.08	
18,316.00	91.11	0.56	9,701.58	8,800.17 N	833.91 W	428,173.46	574,992.48	1.49	8,803.45	-156.32	
18,411.00	90.31	0.04	9,700.41	8,895.16 N	833.41 W	428,268.45	574,992.98	1.00	8,898.44	-146.97	
18,506.00	94.05	0.66	9,696.79	8,990.08 N	832.83 W	428,363.37	574,993.56	3.99	8,993.35	9.40	
18,601.00	92.38	359.20	9,691.46	9,084.92 N	832.95 W	428,458.21	574,993.44	2.33	9,088.19	-138.84	
18,696.00	91.27	0.84	9,688.44	9,179.87 N	832.92 W	428,553.16	574,993.47	2.08	9,183.14	124.08	
18,790.00	90.71	0.21	9,686.82	9,273.85 N	832.05 W	428,647.14	574,994.34	0.90	9,277.11	-131.63	
18,885.00	91.36	359.93	9,685.10	9,368.83 N	831.94 W	428,742.12	574,994.45	0.74	9,372.10	-23.30	
18,980.00	89.82	2.52	9,684.12	9,463.79 N	829.91 W	428,837.08	574,996.48	3.17	9,467.05	120.72	
19,075.00	90.65	2.83	9,683.73	9,558.69 N	825.47 W	428,931.98	575,000.92	0.93	9,561.93	20.48	
19,170.00	87.87	2.49	9,684.96	9,653.57 N	821.07 W	429,026.86	575,005.32	2.95	9,656.79	-173.03	
19,265.00	89.23	2.88	9,687.36	9,748.43 N	816.62 W	429,121.72	575,009.77	1.49	9,751.63	16.00	
19,360.00	90.49	4.40	9,687.59	9,843.24 N	810.59 W	429,216.53	575,015.80	2.08	9,846.41	50.35	
19,383.00	89.21	4.13	9,687.65	9,866.17 N	808.87 W	429,239.46	575,017.52	5.70	9,869.34	-168.31	330' FNL Crossing @ 19383' MD
19,386.00	89.04	4.10	9,687.70	9,869.16 N	808.66 W	429,242.45	575,017.73	5.70	9,872.33	-168.31	Last Halliburton MWD Survey
19,432.00	89.04	4.10	9,688.47	9,915.04 N	805.37 W	429,288.33	575,021.02	0.00	9,918.19	0.00	Projection To Bit

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Measured Depth (usft)	Inclination (°)	Grid Azimuth (°)	Vertical Depth (usft)	Local Coordinates		Map Coordinates		Dogleg Rate (°/100usft)	Vertical Section (usft)	Toolface Angle (°)	Comments
				Northing (usft)	Easting (usft)	Northing (usft)	Easting (usft)				

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
2,715.00	2,712.63	13.40	-44.91	330' FEL Crossing @ 2715' MD
9,183.00	9,102.09	-26.44	-786.47	First Halliburton MWD Survey
19,383.00	9,687.65	9,866.17	-808.87	330' FNL Crossing @ 19383' MD
19,386.00	9,687.70	9,869.16	-808.66	Last Halliburton MWD Survey
19,432.00	9,688.47	9,915.04	-805.37	Projection To Bit

Vertical Section Information

Angle Type	Target	Azimuth (°)	Origin Type	Origin		Start TVD (usft)
				+N/-S (usft)	+E/-W (usft)	
User	No Target (Freehand)	359.77	Slot	0.00	0.00	0.00

Survey tool program

From (usft)	To (usft)	Survey/Plan	Survey Tool
173.00	9,119.00	MWD (Intermediate)	2_MWD+IFR1+MS
9,183.00	19,386.00	MWD (Curve & Lateral)	2_MWD+IFR1+MS
19,432.00	19,432.00	Projection To Bit	2_Blind

Design Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (°)	+N/-S (°)	+E/-W (°)	Northing (°)	Easting (°)	Latitude	Longitude
- hit/miss target									
- Shape									
()									

Design Report for Scoter 6-31 Federal Com 43H - Final Surveys

Directional Difficulty Index

Average Dogleg over Survey:	2.13 °/100usft	Maximum Dogleg over Survey:	17.79 °/100usft at 9,598.00 usft
Net Tortousity applicable to Plans:	1.25 °/100usft	Directional Difficulty Index:	6.951

Audit Info

North Reference Sheet for Scoter 6-31 Federal Com - Scoter 6-31 Federal Com 43H - Wellbore #1

All data is in US Feet unless otherwise stated. Directions and Coordinates are relative to Grid North Reference.

Vertical Depths are relative to GL+KB @ 3356.10usft (Cactus 163). Northing and Easting are relative to Scoter 6-31 Federal Com 43H

Coordinate System is US State Plane 1983, New Mexico Eastern Zone using datum North American Datum 1983, ellipsoid GRS 1980

Projection method is Transverse Mercator (Gauss-Kruger)

Central Meridian is 104° 20' 0.000 W°, Longitude Origin:0° 0' 0.000 E°, Latitude Origin:0° 0' 0.000 N°

False Easting: 541,337.50usft, False Northing: 0.00usft, Scale Reduction: 0.99991045

Grid Coordinates of Well: 419,373.29 usft N, 575,826.39 usft E

Geographical Coordinates of Well: 32° 09' 10.39" N, 104° 13' 18.80" W

Grid Convergence at Surface is: 0.06°

Based upon Minimum Curvature type calculations, at a Measured Depth of 19,432.00usft

the Bottom Hole Displacement is 9,947.69usft in the Direction of 355.36° (Grid).

Magnetic Convergence at surface is: -7.08° (1 April 2019, , BGGM2018)

