

Schlumberger Drilling and Measurements
Drilling Group
Geo Market Area: South West Texas Basin
7220 W I-H 20
Midland, Texas 79706
Phone : (432) 742-5400 (Main)
Fax : (432) 742-5606 (Shared)

Schlumberger

NM OIL CONSERVATION
ARTESIA DISTRICT

MAY 01 2017

RECEIVED

February 22, 2017

OXY USA INCORPORATED

Re:

29, 24S, 29E, Eddy NM
-32.19009 -103.99807

CLIENT: OXY USA INCORPORATED
WELL: Cedar Canyon 29 Federal 21H
FIELD: Pierce Crossing Bone Spring

RIG: H&P639
COUNTY: Eddy
API NO: 30-015-43601
JOB NO: 17MLD1266

Enclosed, please find the original copy of the survey performed on the referenced well by Drilling & Measurements, a division of Schlumberger Technology Corporation (P-5 No. 754900). Other information required by your office is as follows.

<u>Name & Title of Surveyor</u>	<u>Drainhole Number</u>	<u>Surveyed Depths</u>	<u>Dates Performed</u>	<u>Type of Survey</u>
Kalu Uga FS	Cedar Canyon 29 Federal 21H Original Hole	458-1904 to 7991-13438	December 24, 2016 to February 21, 2017	TelePacer SlimPulse

If any other information is required, please contact the undersigned at the above letterhead and phone number.
Sincerely,

Cody Nelms
Field Service Manager

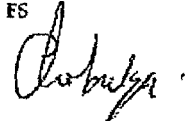
Schlumberger

Reservoir Development
Schlumberger Drilling and Measurements
9200 West Reno Avenue
Oklahoma City, Oklahoma 73127 USA
Phone: (405) 789-1515
Fax: (405) 789-1519

Well Reference:
29, 24S, 29E, Eddy NM
-32.19009 -103.99807

I, Kalu Uga certify that; I am employed by Drilling & Measurements, a division of Schlumberger Technology Corporation; that I did on the day(s) of December 24, 2016 through February 21, 2017, conduct or supervise the taking of the TelePacer & SlimPulse surveys from a depth of 458-1904.00 feet to a depth of 7991-13438.00 feet referenced to driller's depth; that the data is true, correct, complete and within the limitations of the tool as set forth by Drilling & Measurements, a division of Schlumberger Technology Corporation; that I am authorized and qualified to make this report; that this survey was conducted at the request of OXY USA INCORPORATED for the Cedar Canyon 29 Federal 21H Well (Original Hole) API No. 30-015-43601 in New Mexico; and that I have reviewed this report and find that it conforms to the principals and procedures as set forth by Drilling & Measurements, a division of Schlumberger Technology Corporation.

By
Kalu Uga
ES



Subscribed and Sworn to before me this 22nd day of Feb (month) 2017 (yr)

My Commission expires:

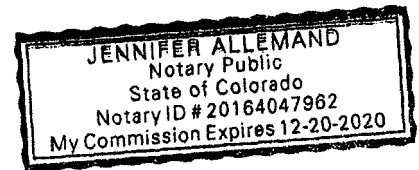
12-20-2020



Notary Public

Adams Colorado
(County State)

(signature)





Cedar Canyon 29 Federal 21H Gyro+MWD 0-13480 ftMD Survey Geodetic

Report

(Def Survey)



Report Date:	February 21, 2017 - 10:55 AM	Survey / DLS Computation:	Minimum Curvature / Lubinski
Client:	OXY	Vertical Section Azimuth:	277.094 ° (Grid North)
Field:	NM Eddy County (NAD 27)	Vertical Section Origin:	0.000 ft, 0.000 ft
Structure / Slot:	Oxy Cedar Canyon 29 Federal 21H / Oxy Cedar Canyon 29 Fed 21H	TVD Reference Datum:	RKB
Well:	Oxy Cedar Canyon 29 Federal 21H	TVD Reference Elevation:	2975.000 ft above MSL
Borehole:	Original Borehole	Seabed / Ground Elevation:	2948.500 ft above MSL
UWI / API#:	Unknown / Unknown	Magnetic Declination:	7.189 °
Survey Name:	Cedar Canyon 29 Federal 21H Gyro+MWD 0-13480 ftMD	Total Gravity Field Strength:	998.4640mgn (9.80665 Based)
Survey Date:	February 21, 2017	Gravity Model:	GARM
Tort / AHD / DDI / ERD Ratio:	222.514 ° / 5652.505 ft / 6.294 / 0.657	Total Magnetic Field Strength:	48150.352 nT
Coordinate Reference System:	NAD27 New Mexico State Plane, Eastern Zone, US Feet	Magnetic Dip Angle:	60.032 °
Location Lat / Long:	N 32° 11' 24.30949", W 103° 59' 53.06050"	Declination Date:	February 21, 2017
Location Grid N/E Y/X:	N 433035 030 ftUS, E 603714.400 ftUS	Magnetic Declination Model:	HDGM 2016
CRS Grid Convergence Angle:	0.1786 °	North Reference:	Grid North
Grid Scale Factor:	0.99992141	Grid Convergence Used:	0.1786 °
Version / Patch:	2.10.254.0	Total Corr Mag North->Grid North:	7.0108 °
		Local Coord Referenced To:	Structure Reference Point

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
SHL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	433035.03	603714.40	N 32 11 24.31	W 103 59 53.06
RKB	26.50	0.00	0.00	26.50	0.00	0.00	0.00	0.00	433035.03	603714.40	N 32 11 24.31	W 103 59 53.06
	458.00	0.70	24.69	457.99	-0.80	2.39	1.10	0.16	433037.42	603715.50	N 32 11 24.33	W 103 59 53.05
	618.00	0.73	19.33	617.98	-1.31	4.24	1.85	0.05	433039.27	603716.25	N 32 11 24.35	W 103 59 53.04
	783.00	0.09	129.10	782.97	-1.64	5.15	2.30	0.46	433040.18	603716.69	N 32 11 24.36	W 103 59 53.03
	874.00	0.07	1.15	873.97	-1.70	5.17	2.35	0.16	433040.19	603716.75	N 32 11 24.36	W 103 59 53.03
	964.00	0.07	74.78	963.97	-1.74	5.23	2.41	0.09	433040.26	603716.81	N 32 11 24.36	W 103 59 53.03
	1148.00	0.04	52.37	1147.97	-1.89	5.30	2.57	0.02	433040.33	603716.96	N 32 11 24.36	W 103 59 53.03
	1243.00	0.09	208.10	1242.97	-1.89	5.26	2.56	0.13	433040.29	603716.96	N 32 11 24.36	W 103 59 53.03
	1337.00	0.33	6.74	1336.97	-1.86	5.46	2.55	0.44	433040.49	603716.95	N 32 11 24.36	W 103 59 53.03
	1526.00	0.07	135.81	1525.97	-1.95	5.92	2.70	0.20	433040.95	603717.10	N 32 11 24.37	W 103 59 53.03
	1707.00	0.10	295.41	1706.97	-1.88	5.91	2.63	0.09	433040.94	603717.03	N 32 11 24.37	W 103 59 53.03
	1904.00	0.09	343.61	1903.97	-1.66	6.13	2.43	0.04	433041.16	603716.83	N 32 11 24.37	W 103 59 53.03
First Gyro	1957.00	0.10	49.63	1956.97	-1.67	6.20	2.46	0.20	433041.23	603716.86	N 32 11 24.37	W 103 59 53.03
	2052.00	0.11	77.23	2051.97	-1.81	6.27	2.61	0.05	433041.30	603717.01	N 32 11 24.37	W 103 59 53.03
	2146.00	0.11	96.51	2145.97	-1.99	6.28	2.79	0.04	433041.31	603717.19	N 32 11 24.37	W 103 59 53.03
	2240.00	0.13	104.54	2239.97	-2.19	6.25	2.98	0.03	433041.28	603717.38	N 32 11 24.37	W 103 59 53.03
	2334.00	0.11	86.01	2333.97	-2.38	6.23	3.17	0.05	433041.26	603717.57	N 32 11 24.37	W 103 59 53.02
	2429.00	0.10	85.77	2428.97	-2.55	6.24	3.35	0.01	433041.27	603717.75	N 32 11 24.37	W 103 59 53.02
	2617.00	0.14	119.59	2616.97	-2.92	6.14	3.71	0.04	433041.17	603718.11	N 32 11 24.37	W 103 59 53.02
	2712.00	0.18	101.47	2711.97	-3.18	6.05	3.96	0.07	433041.08	603718.36	N 32 11 24.37	W 103 59 53.01
	2806.00	0.15	106.08	2805.97	-3.45	5.99	4.22	0.03	433041.02	603718.62	N 32 11 24.37	W 103 59 53.01
	2900.00	0.13	106.06	2899.97	-3.67	5.92	4.44	0.02	433040.95	603718.84	N 32 11 24.37	W 103 59 53.01
	2995.00	0.11	87.09	2994.97	-3.87	5.90	4.63	0.05	433040.93	603719.03	N 32 11 24.37	W 103 59 53.01
	3184.00	0.10	86.59	3183.97	-4.21	5.92	4.98	0.01	433040.95	603719.38	N 32 11 24.37	W 103 59 53.00
	3278.00	0.09	84.04	3277.97	-4.36	5.93	5.14	0.01	433040.96	603719.54	N 32 11 24.37	W 103 59 53.00
	3373.00	0.09	79.67	3372.97	-4.51	5.95	5.28	0.01	433040.98	603719.68	N 32 11 24.37	W 103 59 53.00
	3467.00	0.10	75.57	3466.97	-4.66	5.98	5.44	0.01	433041.01	603719.84	N 32 11 24.37	W 103 59 53.00
	3562.00	0.10	75.24	3561.97	-4.81	6.03	5.60	0.00	433041.06	603720.00	N 32 11 24.37	W 103 59 53.00
	3656.00	0.07	128.03	3655.97	-4.93	6.01	5.72	0.09	433041.04	603720.12	N 32 11 24.37	W 103 59 52.99
	3751.00	2.38	37.45	3750.94	-5.98	7.54	6.97	2.51	433042.57	603721.37	N 32 11 24.38	W 103 59 52.98
	3845.00	5.93	29.97	3844.68	-8.86	13.30	10.58	3.81	433048.33	603724.98	N 32 11 24.44	W 103 59 52.94
	3940.00	6.48	25.70	3939.12	-12.47	22.38	15.36	0.76	433057.41	603729.75	N 32 11 24.53	W 103 59 52.88
	4034.00	7.09	23.88	4032.46	-15.84	32.47	20.00	0.69	433067.49	603734.40	N 32 11 24.63	W 103 59 52.83
	4128.00	8.18	22.31	4125.63	-19.27	43.96	24.89	1.18	433078.98	603739.29	N 32 11 24.74	W 103 59 52.77
	4222.00	9.93	18.42	4218.45	-22.62	57.83	29.99	1.97	433092.86	603744.39	N 32 11 24.88	W 103 59 52.71
	4316.00	12.04	16.06	4310.73	-25.74	74.95	35.27	2.29	433109.97	603749.66	N 32 11 25.05	W 103 59 52.65
	4410.00	11.94	14.92	4402.68	-28.59	93.77	40.48	0.27	433128.79	603754.88	N 32 11 25.24	W 103 59 52.59
	4505.00	11.38	13.95	4495.72	-31.05	112.36	45.27	0.62	433147.38	603759.67	N 32 11 25.42	W 103 59 52.53
	4599.00	10.83	11.74	4587.96	-32.87	130.00	49.30	0.74	433165.02	603763.70	N 32 11 25.59	W 103 59 52.48
	4693.00	10.60	10.39	4680.32	-34.08	147.15	52.66	0.36	433182.17	603767.06	N 32 11 25.76	W 103 59 52.44
	4787.00	11.05	9.68	4772.64	-34.99	164.54	55.73	0.50	433199.56	603770.13	N 32 11 25.94	W 103 59 52.41
	4881.00	11.19	8.23	4864.88	-35.57	182.45	58.55	0.33	433217.46	603772.95	N 32 11 26.11	W 103 59 52.37
	4975.00	11.22	7.37	4957.09	-35.80	200.54	61.03	0.18	433235.56	603775.43	N 32 11 26.29	W 103 59 52.34
	5069.00	10.16	4.89	5049.46	-35.52	217.87	62.91	1.23	433252.89	603777.31	N 32 11 26.46	W 103 59 52.32
	5163.00	9.55	2.03	5142.07	-34.52	233.93	63.90	0.83	433268.94	603778.29	N 32 11 26.62	W 103 59 52.31
	5257.00	9.09	358.85	5234.83	-32.76	249.14	64.02	0.73	433284.15	603778.42	N 32 11 26.77	W 103 59 52.31
	5352.00	8.47	357.49	5328.71	-30.52	263.64	63.57	0.69	433298.64	603777.96	N 32 11 26.92	W 103 59 52.31
	5445.00	7.75	355.24	5420.78	-28.09	276.73	62.75	0.85	433311.74	603777.14	N 32 11 27.05	W 103 59 52.32
	5539.00	6.57	351.33	5514.05	-25.33	288.36	61.41	1.36	433323.37	603775.80	N 32 11 27.16	W 103 59 52.34
	5633.00	7.03	354.22	5607.39	-22.58	299.40	60.02	0.61	433334.41	603774.41	N 32 11 27.27	W 103 59 52.35
	5728.00	7.24	358.80	5701.65	-20.43	311.17	59.31	0.64	433346.17	603773.70	N 32 11 27.39	W 103 59 52.36
	5822.00	8.36	3.50	5794.78	-19.14	323.91	59.60	1.37	433358.92	603774.00	N 32 11 27.51	W 103 59 52.36
	5916.00	9.43	7.84	5887.65	-18.81	338.36	61.07	1.34	433373.36	603775.46	N 32 11 27.66	W 103 59 52.34
	6010.00	9.83	9.51	5980.33	-19.25	353.90	63.45	0.52	433388.91	603777.84	N 32 11 27.81	W 103 59 52.31
	6104.00	10.50	11.89	6072.85	-20.31	370.20	66.54	0.84	433405.20	603780.93	N 32 11 27.97	W 103 59 52.27
	6198.00	10.37	12.96	6165.30	-21.89	386.83	70.20	0.25	433421.82	603784.59	N 32 11 28.14	W 103 59 52.23
	6292.00	10.16	14.39	6257.79	-23.81	403.10	74.16	0.35	433438.10	603788.55	N 32 11 28.30	W 103 59 52.18
	6386.00	8.99	14.06	6350.48	-25.75	418.26	78.00	1.25	433453.25	603792.39	N 32 11 28.45	W 103 59 52.14
	6480.00	8.71	13.83	6443.36	-27.48	432.29	81.49	0.30	433467.29	603795.88	N 32 11 28.58	W 103 59 52.10
	6574.00	8.56	12.87	6536.30	-29.01	446.02	84.75	0.22	433481.02	603799.14	N 32 11 28.72	W 103 59 52.06
	6669.00	8.12	12.26	6630.29	-30.33	459.47	87.75	0.47	433494.46	603802.14	N 32 11 28.85	W 103 59 52.02
	6763.00	7.06	15.49	6723.47	-31.77	471.53	90.70	1.22	433506.52	603805.09	N 32 11 28.97	W 103 59 51.99
	6857.00	5.70	11.63	6816.88	-32.98	481.67	93.18	1.52	433516.66	603807.57	N 32 11 29.07	W 103 59 51.96
	6950.00	3.51	358.87	6909.58	-32.94	489.04	94.06	2.59	433524.03	603808.45	N 32 11 29.15	W 103 59 51.95
	7045.00	3.65	25.55	7004.40	-33.48	494.67	95.30	1.74	433529.66	603809.70	N 32 11 29.20	W 103 59 51.93
	7139.00	3.59	49.35	7098.22	-36.41	499.29	98.83	1.59	433534.28	603813.22	N 32 11 29.25	W 103 59 51.89
	7233.00	3.68	62.00	7192.03	-40.86	502.62	103.72	0.86	433537.61	603818.12	N 32 11 29.28	W 103 59 51.84
	7327.00	3.91	41.73	7285.83	-45.15	506.43	108.52	1.44	433541.42	603822.91	N 32 11 29.32	W 103 59 51.78
	7421.00	3.25	39.09	7379.65	-48.38	510.89	112.33	0.72	433545.88	603826.72	N 32 11 29.36	W 103 59 51.73
	7515.00	2.22	27.68	7473.54	-50.43	514.57	114.86	1.23	433549.56	603829.25	N 32 11 29.40	W 103 59 51.71

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS ("/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
Last Gyro	7609.00	2.52	34.75	7567.46	-52.03	517.88	116.88	0.45	433552.87	603831.27	N 32 11 29.43 W	103 59 51.68
	7703.00	2.59	39.19	7661.37	-54.12	521.23	119.40	0.22	433556.21	603833.79	N 32 11 29.46 W	103 59 51.65
	7797.00	2.09	46.42	7755.29	-56.33	524.05	121.99	0.62	433559.04	603836.38	N 32 11 29.49 W	103 59 51.62
	7891.00	1.83	20.12	7849.23	-57.76	526.64	123.75	0.99	433561.63	603838.14	N 32 11 29.52 W	103 59 51.60
	7954.00	2.48	357.67	7912.19	-57.76	528.95	124.04	1.67	433563.94	603838.43	N 32 11 29.54 W	103 59 51.60
	7991.00	2.22	357.41	7949.16	-57.51	530.47	123.97	0.70	433565.45	603838.36	N 32 11 29.55 W	103 59 51.60
	8191.00	13.83	282.43	8147.09	-32.95	539.52	100.34	6.71	433574.51	603814.74	N 32 11 29.65 W	103 59 51.87
	8285.00	25.17	275.79	8235.56	-1.67	543.97	69.38	12.27	433578.96	603789.77	N 32 11 29.69 W	103 59 52.23
	8379.00	34.02	284.52	8317.26	44.50	552.60	23.93	10.45	433587.59	603738.32	N 32 11 29.78 W	103 59 52.76
	8473.00	34.28	265.64	8395.27	96.67	557.20	-28.07	11.24	433592.18	603686.33	N 32 11 29.82 W	103 59 53.37
	8566.00	47.10	272.25	8465.67	156.56	556.54	-88.51	14.53	433591.53	603625.90	N 32 11 29.82 W	103 59 54.07
	8660.00	56.80	279.46	8523.59	230.40	564.38	-161.94	11.95	433599.37	603552.48	N 32 11 29.90 W	103 59 54.92
	8755.00	66.21	282.14	8568.87	313.60	580.09	-243.83	10.21	433615.07	603470.59	N 32 11 30.06 W	103 59 55.88
	8848.00	78.16	282.52	8597.27	401.61	598.97	-330.17	12.86	433633.96	603384.26	N 32 11 30.25 W	103 59 56.88
	8912.00	87.04	281.57	8605.50	464.78	612.20	-392.18	13.95	433647.18	603322.25	N 32 11 30.49 W	103 59 57.60
	9004.00	92.24	272.04	8606.08	556.64	623.08	-483.39	11.80	433658.06	603231.05	N 32 11 30.49 W	103 59 58.66
	9041.00	92.41	267.24	8604.58	593.29	622.85	-520.35	12.97	433657.83	603194.09	N 32 11 30.49 W	103 59 59.09
	9134.00	90.96	264.47	8601.84	684.45	616.13	-613.05	3.36	433651.11	603101.40	N 32 11 30.43 W	104 0 0.17
	9228.00	90.65	268.21	8600.52	776.78	610.13	-706.84	3.99	433645.11	603007.62	N 32 11 30.37 W	104 0 1.26
	9321.00	90.45	272.97	8599.63	869.15	611.09	-799.80	5.12	433646.07	602914.66	N 32 11 30.38 W	104 0 2.35
	9415.00	90.41	271.30	8598.92	962.79	614.59	-893.73	1.78	433649.57	602820.74	N 32 11 30.42 W	104 0 3.44
	9509.00	90.28	270.74	8598.36	1056.26	616.26	-987.71	0.61	433651.24	602726.77	N 32 11 30.44 W	104 0 4.53
	9602.00	90.27	268.66	8597.91	1148.48	615.78	-1080.70	2.24	433650.76	602633.78	N 32 11 30.44 W	104 0 5.61
	9695.00	90.17	268.34	8597.56	1240.43	613.34	-1173.67	0.36	433648.32	602540.82	N 32 11 30.41 W	104 0 6.70
	9790.00	89.45	267.67	8597.87	1334.24	610.04	-1268.61	1.04	433645.02	602445.89	N 32 11 30.38 W	104 0 7.80
	9883.00	88.97	267.11	8599.15	1425.90	605.80	-1361.51	0.79	433640.78	602353.00	N 32 11 30.35 W	104 0 8.88
	9977.00	91.65	269.49	8598.64	1518.78	603.01	-1455.45	3.81	433637.99	602259.07	N 32 11 30.32 W	104 0 9.97
	10070.00	90.55	268.67	8596.86	1610.85	601.52	-1548.42	1.48	433636.50	602166.11	N 32 11 30.31 W	104 0 11.06
	10164.00	90.27	268.67	8596.19	1703.83	599.34	-1642.39	0.30	433634.32	602072.14	N 32 11 30.29 W	104 0 12.15
	10258.00	91.41	269.60	8594.81	1796.92	597.92	-1736.37	1.57	433632.90	601978.17	N 32 11 30.28 W	104 0 13.24
	10351.00	92.03	271.79	8592.02	1889.29	599.05	-1829.31	2.45	433634.03	601885.24	N 32 11 30.29 W	104 0 14.33
	10445.00	91.48	271.53	8589.14	1982.82	601.77	-1923.23	0.65	433636.75	601791.33	N 32 11 30.32 W	104 0 15.42
	10539.00	91.55	271.44	8586.65	2076.34	604.20	-2017.16	0.12	433639.18	601697.40	N 32 11 30.35 W	104 0 16.51
	10633.00	90.41	270.92	8585.04	2169.82	606.14	-2111.13	1.33	433641.12	601603.44	N 32 11 30.37 W	104 0 17.60
	10728.00	90.82	270.27	8584.02	2264.21	607.13	-2206.12	0.81	433642.11	601508.46	N 32 11 30.38 W	104 0 18.71
	10822.00	91.44	271.33	8582.17	2357.62	608.44	-2300.09	1.31	433643.42	601414.50	N 32 11 30.40 W	104 0 19.80
	10915.00	90.10	270.76	8580.92	2450.09	610.13	-2393.06	1.57	433645.11	601321.53	N 32 11 30.42 W	104 0 20.88
	11009.00	91.24	270.64	8579.82	2543.50	611.28	-2487.05	1.22	433646.26	601227.56	N 32 11 30.43 W	104 0 21.98
	11102.00	91.55	271.55	8577.56	2635.96	613.06	-2580.00	1.03	433648.04	601134.61	N 32 11 30.45 W	104 0 23.06
	11195.00	88.93	270.29	8577.17	2728.41	614.55	-2672.98	3.13	433649.53	601041.64	N 32 11 30.47 W	104 0 24.14
	11289.00	91.44	270.29	8576.86	2821.74	615.03	-2766.97	2.67	433650.01	600947.66	N 32 11 30.48 W	104 0 25.24
	11383.00	91.03	269.81	8574.84	2915.01	615.11	-2860.95	0.67	433650.09	600853.69	N 32 11 30.48 W	104 0 26.33
	11477.00	91.34	269.80	8572.89	3008.23	614.79	-2954.92	0.33	433649.77	600759.71	N 32 11 30.48 W	104 0 27.42
	11571.00	91.69	269.24	8570.41	3101.38	614.00	-3048.89	0.70	433648.98	600665.76	N 32 11 30.48 W	104 0 28.52
	11664.00	92.20	270.59	8567.25	3193.59	613.86	-3141.83	1.55	433648.84	600572.82	N 32 11 30.48 W	104 0 29.60
	11758.00	91.72	269.16	8564.04	3286.79	613.66	-3235.77	1.60	433648.64	600478.89	N 32 11 30.48 W	104 0 30.69
	11852.00	91.48	269.30	8561.41	3379.87	612.40	-3329.73	0.30	433647.38	600384.94	N 32 11 30.47 W	104 0 31.78
	11945.00	91.14	269.39	8559.29	3471.99	611.33	-3422.70	0.38	433646.31	600291.98	N 32 11 30.46 W	104 0 32.87
	12039.00	91.93	270.56	8556.77	3565.23	611.29	-3516.66	1.50	433646.27	600198.02	N 32 11 30.47 W	104 0 33.96
	12133.00	92.41	270.23	8553.21	3658.53	611.94	-3610.59	0.62	433646.92	600104.10	N 32 11 30.47 W	104 0 35.05
	12227.00	92.65	271.12	8549.06	3751.84	613.05	-3704.49	0.98	433648.03	600010.21	N 32 11 30.49 W	104 0 36.14
	12321.00	91.00	270.78	8546.07	3845.25	614.60	-3798.43	1.79	433649.58	599916.28	N 32 11 30.51 W	104 0 37.24
	12415.00	90.79	269.40	8544.60	3938.54	614.75	-3892.41	1.48	433649.73	599822.30	N 32 11 30.51 W	104 0 38.33
	12509.00	90.45	269.36	8543.58	4031.68	613.73	-3986.40	0.36	433648.71	599728.32	N 32 11 30.50 W	104 0 39.43
	12603.00	90.96	269.91	8542.42	4124.88	613.13	-4080.39	0.80	433648.12	599634.33	N 32 11 30.50 W	104 0 40.52
	12696.00	90.89	270.81	8540.92	4217.22	613.72	-4173.38	0.97	433648.70	599541.36	N 32 11 30.51 W	104 0 41.60
	12790.00	90.83	269.91	8539.51	4310.56	614.31	-4267.37	0.96	433649.29	599447.38	N 32 11 30.52 W	104 0 42.69
	12884.00	90.76	269.89	8538.21	4403.82	614.15	-4361.36	0.08	433649.13	599353.40	N 32 11 30.52 W	104 0 43.79
	12978.00	91.10	268.99	8536.68	4496.96	613.23	-4455.34	1.02	433648.21	599259.42	N 32 11 30.51 W	104 0 44.88
	13071.00	90.83	269.42	8535.12	4589.07	611.94	-4548.32	0.55	433646.92	599166.45	N 32 11 30.50 W	104 0 45.96
	13165.00	91.31	270.74	8533.36	4682.35	612.07	-4642.30	1.49	433647.05	599072.48	N 32 11 30.51 W	104 0 47.06
	13259.00	91.48	271.72	8531.07	4775.83	614.09	-4736.25	1.06	433649.07	598978.54	N 32 11 30.53 W	104 0 48.15
	13353.00	91.24	271.42	8528.84	4869.36	616.66	-4830.18	0.41	433651.64	598884.60	N 32 11 30.56 W	104 0 49.24
Final MWD Survey Proj. to bit	13438.00	91.34	271.75	8526.93	4953.95	619.01	-4915.13	0.41	433653.99	598799.67	N 32 11 30.58 W	104 0 50.23
	13480.00	91.34	271.75	8525.95	4995.76	620.29	-4957.10	0.00	433655.27	598757.70	N 32 11 30.60 W	104 0 50.72

Survey Type: Def Survey

Survey Error Model: ISCWSA Rev 0 *** 3-D 95 000% Confidence 2.7955 sigma
Survey Program:

Description	Part	MD From (ft)	MD To (ft)	EOU Freq (ft)	Hole Size Casing Diameter (in)	Survey Tool Type	Borehole / Survey
	1	0.000	26.500	Act Stns	30.000	NAL_MWD_PLUS_0.5_DEG- Depth Only	Original Borehole / Cedar Canyon 29 Federal 21H Gyro+MWD 0- 13480 RMD
	1	26.500	458.000	1/98 425	30.000	NAL_MWD_PLUS_0.5_DEG	Original Borehole / Cedar Canyon 29 Federal 21H Gyro+MWD 0-
	1	458.000	1904.000	Act Stns	30.000	NAL_MWD_PLUS_0.5_DEG	Original Borehole / Cedar Canyon 29 Federal 21H Gyro+MWD 0-
	1	1904.000	7954.000	Act Stns	30.000	NAL_NSQ+MSHOT	Original Borehole / Cedar Canyon 29 Federal 21H Gyro+MWD 0-
	1	7954.000	13480.000	Act Stns	30.000	NAL_MWD_PLUS_0.5_DEG	Original Borehole / Cedar Canyon 29 Federal 21H Gyro+MWD 0-

State of New Mexico
Energy, Minerals and Natural Resources Department

Susana Martinez
Governor

David Martin
Cabinet Secretary

Tony Delfin
Deputy Cabinet Secretary

David R. Catanach, Division Director
Oil Conservation Division



January 21, 2016

OXY USA INC.
Attn: Mr. David Stewart

ADMINISTRATIVE NON-STANDARD LOCATION

Administrative Order NSL-7382
Administrative Application Reference No. pLEL1602250915

OXY USA INC
OGRID 16696
Cedar Canyon29 Federal Well No. 21 H
API No. 30-015-PENDING

Proposed Location:

	<u>Footages</u>	<u>Unit</u>	<u>Sec.</u>	<u>Twsp</u>	<u>Range</u>	<u>County</u>
Surface	1989' FNL & 150' FEL	H	29	24S	29E	Lea
Penetration Point	1342' FNL & 340' FEL	H	29	24S	29E	Lea
Final perforation	1336' FNL & 340' FWL	E	29	24S	29E	Lea
Terminus	1336' FNL & 160' FWL	E	29	24S	29E	Lea

Proposed Project Area:

<u>Description</u>	<u>Acres</u>	<u>Pool</u>	<u>Pool Code</u>
S/2 N/2 of Section 29	160	Pierce Crossing; Bone Spring	50371

Reference is made to your application received on December 28, 2015.

You have requested to drill and complete this horizontal well at an unorthodox oil well location described above in the referenced pool or formation. This location is governed by statewide Rule 19.15.15.9.A NMAC, which provides for 40-acre units, with wells located at least 330 feet from a unit outer boundary, and Rule 19.15.16.14.B(2) NMAC concerning directional wells in designated project areas. This location is unorthodox because portions of the proposed completed interval are closer to outside boundaries of the proposed project area than any location that would be a standard location under the applicable pool rules.

Your application has been duly filed under the provisions of Division Rules 19.15.15.13 NMAC and 19.15.4.12.A(2) NMAC.

It is our understanding that you are seeking this location to allow efficient spacing for horizontal wells and thereby preventing waste.

It is also understood that you have given due notice of this application to all operators or owners who are "affected persons," as defined in Rule 19.15.4.12 A (2) NMAC, in all adjoining units towards which the proposed location encroaches.

Pursuant to the authority conferred by Division Rule 9.15.15.13 (B) NMAC, the above-described unorthodox location is hereby approved.

This approval is subject to your being in compliance with all other applicable Division rules, including, but not limited to Division Rule 19.15.5.9 NMAC.

Jurisdiction of this case is retained for the entry of such further orders as the Division may deem necessary.

DONE at Santa Fe, New Mexico, on January 21, 2016.



DAVID R. CATANACH
Director

DRC/lrl

cc: New Mexico Oil Conservation Division – Artesia
Bureau Land Management - Artesia

OXY USA Inc. '
Cedar Canyon 29 Federal 21H
API No. 30-015-43601

NM OIL CONSERVATION
ARTESIA DISTRICT

MAY 01 2017

RECEIVED

14-3/4" hole @ 675'
10-3/4" csg @ 665'
w/ 610sx-TOC-Surf Circ.

9-7/8" hole @ 8105'
7-5/8" csg @ 8096'
w/ 2020sx-TOC-Surf Circ.

6-3/4" hole @ 13480'
4-1/2" liner @ 7972-13470'
w/ 550sx-TOC- 7972' Circ.

Perfs @ 8719-13274'

TD- 13480'M 8526'V