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DISTRICT I
1625 N. FRENCH DR., HOBBS, NM 88240
Phone: (575) 393-6181 Fax: (575) 393-0720

DISTRICT II
811 S. FIRST ST., ARTESIA, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720

DISTRICT III
1000 RIO BRAZOS RD., AZTEC, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170

DISTRICT IV
1220 S. ST. FRANCIS DR., SANTA FE, NM 87505
Phone: (505) 478-3480 Fax: (505) 478-3482

State of New Mexico
Energy, Minerals & Natural Resources Department

OIL CONSERVATION
1220 SOUTH ST. FRANCIS DR.
Santa Fe, New Mexico 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 30-015-46125		Pool Code 98220	Pool Name Purple Sage; Wolfcamp
Property Code 325762	Property Name QUIEN SABE FEDERAL COM		Well Number 801H
OGRID No. 229137	Operator Name COG OPERATING, LLC		Elevation 3123.3'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
B	24	24-S	27-E		695	NORTH	2280	EAST	EDDY

Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
P ✓	25	24-S	27-E		201 ✓	SOUTH	307 ✓	EAST	EDDY
Dedicated Acres 640		Joint or Infill	Consolidation Code		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

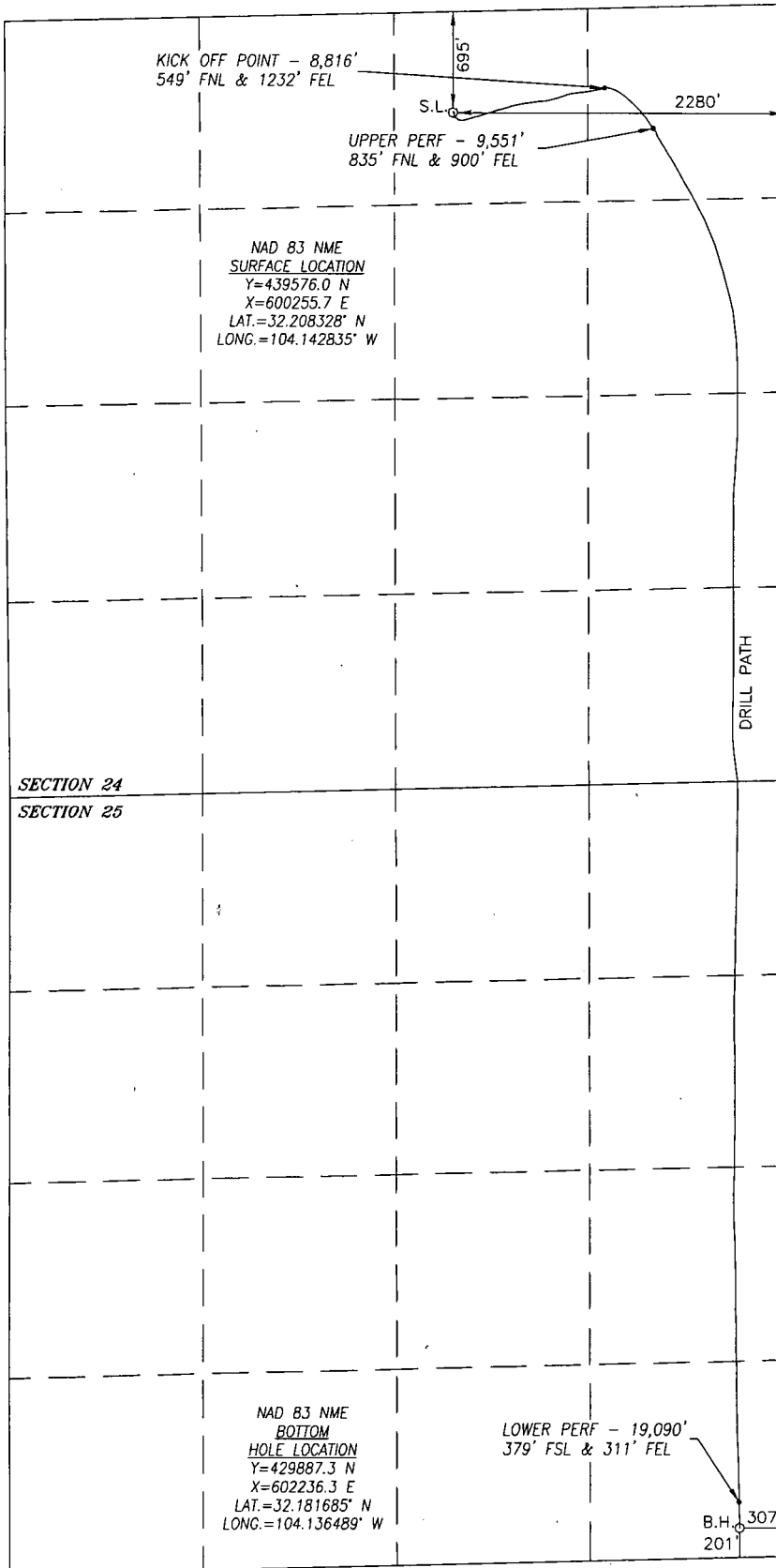
SEE PAGE 2

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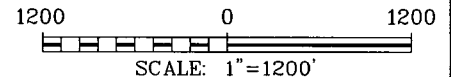
W.O. #20-206

DRAWN BY: WN

Property Code 325762	Property Name QUIEN SABE FEDERAL COM	Well Number 801H
OGRID No. 229137	Operator Name COG OPERATING, LLC	Elevation 3123.3'



SURFACE INFO AND BOREPATH SHOWN HEREON IS BASED ON DIRECTIONAL SURVEY REPORT PROVIDED BY COG OPERATING, LLC FOR THE QUIEN SABE FEDERAL COM #801H SUPPLIED TO HARCROW SURVEYING, LLC ON FEBRUARY 4, 2020



OPERATOR CERTIFICATION

I hereby certify that the information herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Amanda Avery 2/13/20
Signature Date

Amanda Avery

Printed Name

aavery@concho.com

E-mail Address

SURVEYOR CERTIFICATION

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

DEC. 3, 2018/OCT. 31, 2019

Date of Survey/Date of Geographic Survey

Signature & Seal of Professional Surveyor



Chad Harcrow 2/7/20
Certificate No. CHAD HARCROW 17777

Rev 2020
4-8-

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EMNRD-OCD ARTESIA

Intent ☐ As Drilled ☒API #
30-025-46128Operator Name:
COG OPERATING, LLCProperty Name:
QUIEN SABE FEDERAL COMWell Number
801H

Kick Off Point (KOP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
A	24	24S	27E		549	NORTH	1232	EAST	EDDY
Latitude 32.208797					Longitude -104.139454				NAD 83

First Take Point (FTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
A	24	24S	27E		835	NORTH	900	EAST	EDDY
Latitude 32.208032					Longitude -104.138367				NAD 83

Last Take Point (LTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
P	25	24S	27E		379	SOUTH	311	EAST	EDDY
Latitude 32.182174					Longitude -104.136501				NAD 83

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

☒ Yes

Is this well an infill well?

☐

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

API #

Operator Name:

Property Name:

Well Number

KZ 06/29/2018

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COG

EMNRD-OGD-ARTESIA

SURVEY REPORT

QUIEN SABE FEDERAL COM #801H

ENSIGN #155

10/10/2019

This survey is correct to the best of my knowledge and is supported by actual field data.

JAKE ELGER

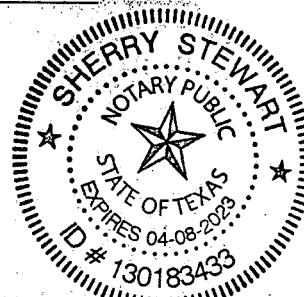
Notarized this date 08 of NOVEMBER 2019

Sherry Stewart

Notary Signature

County of Midland

State of Texas



The Ultimate Partner In Wellbore Placement

SURVEY REPORT

QUIEN SABE FEDERAL COM #801H

KEEPER GYRO SURVEY

CUSTOMER
PROJECT
FIELD

COG
Quien Sabe Federal Com #801H
N/A

SDI JOB NO.
SDI DISTRICT
SDI KIT/UNIT

OP.021524
Midland

SITE INFORMATION

Site Name Quien Sabe Federal Com #801H
Lat/Long 32.20832° N, 104.14283° W
Northing
Easting

Section
Township
Range

MAP INFORMATION

North Reference Grid North
Grid Correction -0.10 deg
System US State Plane 1927
Datum North American Datum 1927 (Clarke 1866)
Map Zone New Mexico East: 3001



WELL INFORMATION

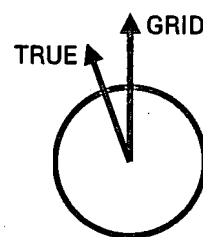
Lat/Long 32.20832° N, 104.14283° W
Northing
Easting
UWI 30-015-46125

DEPTH AND ELEVATION REFERENCE

Ground Level 3123.3 ft above Mean Sea Level
Reference Datum RKB
Reference Height 24 ft above G.L.
Reference Elevation 3147.3 ft

VERTICAL SECTION REFERENCE

+N/-S 0 ft
+E/-W 0 ft
Proposal Direction 168.58°
Calculation Method Minimum Curvature



LOCAL GRAVITY REFERENCE INFORMATION

Local Gravity 998.526 mG [computed]
True to Grid subtract 0.1°

WELL NOTES

Keeper Gyro Survey

OPERATORS

Troy Morgan

SDI Operator Name (Printed)

SIGNATURE

DATE



©2019 Scientific Drilling International

10/10/2019 1:40 AM Central Daylight Time

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MD	INC	AZIM	TVD	VS	+N/-S	+E/-W	DLS	CLOSURE DIST	CLOSURE DIR
ft	deg	deg	ft	ft	ft	ft	%/100ft	ft	deg
0.00	0.00	0.00	0.00	0.00	0.00	0.00	Invalid	0.00	0.00
100.00	0.11	216.80	100.00	0.06	-0.08	-0.06	0.11	0.10	216.80
125.00	0.12	196.63	125.00	0.10	-0.12	-0.08	0.16	0.14	213.29
150.00	0.15	209.60	150.00	0.15	-0.17	-0.10	0.17	0.20	210.60
175.00	0.07	205.52	175.00	0.19	-0.22	-0.13	0.30	0.25	210.14
200.00	0.12	255.07	200.00	0.20	-0.24	-0.16	0.37	0.29	213.59
225.00	0.12	244.47	225.00	0.21	-0.26	-0.21	0.09	0.33	218.91
250.00	0.07	241.79	250.00	0.22	-0.27	-0.24	0.19	0.37	221.57
275.00	0.10	307.90	275.00	0.21	-0.27	-0.27	0.38	0.38	225.53
300.00	0.17	319.26	300.00	0.16	-0.23	-0.31	0.30	0.39	234.01
325.00	0.25	350.28	325.00	0.08	-0.15	-0.35	0.54	0.38	246.95
350.00	0.58	359.30	350.00	-0.10	0.03	-0.36	1.38	0.36	275.28
375.00	0.61	5.29	375.00	-0.36	0.29	-0.35	0.26	0.45	310.14
400.00	0.84	1.62	400.00	-0.66	0.61	-0.33	0.95	0.69	331.53
425.00	1.01	5.60	424.99	-1.05	1.01	-0.30	0.72	1.05	343.32
450.00	1.12	5.79	449.99	-1.49	1.47	-0.26	0.45	1.49	350.13
475.00	1.14	2.16	474.98	-1.97	1.97	-0.22	0.30	1.98	353.55
500.00	1.20	5.50	499.98	-2.46	2.48	-0.19	0.36	2.48	355.67
525.00	1.25	11.00	524.97	-2.97	3.00	-0.11	0.51	3.01	357.90
550.00	1.31	11.40	549.97	-3.48	3.55	0.00	0.25	3.55	359.98
575.00	1.30	15.16	574.96	-4.00	4.11	0.13	0.35	4.11	1.81
600.00	1.37	13.87	599.95	-4.53	4.68	0.28	0.30	4.68	3.38
625.00	1.13	23.94	624.95	-5.00	5.19	0.45	1.30	5.21	4.93
650.00	1.00	32.03	649.94	-5.36	5.60	0.66	0.80	5.64	6.75
675.00	0.83	34.26	674.94	-5.64	5.94	0.88	0.68	6.00	8.44
700.00	0.67	68.05	699.94	-5.80	6.14	1.12	1.85	6.24	10.33
725.00	0.69	82.77	724.94	-5.81	6.22	1.40	0.70	6.37	12.73
750.00	0.69	88.07	749.93	-5.78	6.24	1.70	0.25	6.47	15.28
775.00	0.72	88.65	774.93	-5.73	6.25	2.01	0.14	6.56	17.85
800.00	0.90	100.91	799.93	-5.62	6.21	2.36	0.98	6.65	20.81
825.00	1.01	104.31	824.93	-5.45	6.12	2.77	0.51	6.72	24.33
850.00	1.21	113.45	849.92	-5.21	5.96	3.22	1.05	6.78	28.40

MD ft	INC deg	AZIM deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS %/100ft	CLOSURE DIST ft	CLOSURE DIR deg
875.00	1.33	117.06	874.91	-4.88	5.73	3.72	0.60	6.83	33.04
900.00	1.53	127.17	899.91	-4.44	5.39	4.25	1.28	6.87	38.24
925.00	1.75	133.67	924.90	-3.88	4.93	4.79	1.14	6.87	44.20
950.00	1.98	143.08	949.88	-3.18	4.32	5.33	1.54	6.86	50.97
975.00	2.31	147.115	974.87	-2.32	3.55	5.86	1.46	6.85	58.81
1000.00	2.49	154.03	999.84	-1.32	2.64	6.37	1.36	6.90	67.54
1025.00	2.65	156.46	1024.82	-0.23	1.62	6.84	0.74	7.03	76.70
1050.00	2.68	158.58	1049.79	-0.91	0.54	7.29	0.42	7.31	85.73
1075.00	2.74	159.86	1074.76	2.08	-0.56	7.71	0.34	7.73	94.17
1100.00	2.75	163.64	1099.74	3.26	-1.70	8.08	0.72	8.26	101.86
1125.00	2.72	165.85	1124.71	4.45	-2.85	8.39	0.44	8.86	108.74
1150.00	2.81	168.98	1149.68	5.66	-4.02	8.66	0.70	9.55	114.93
1175.00	2.67	171.68	1174.65	6.85	-5.20	8.86	0.75	10.27	120.43
1200.00	2.57	175.75	1199.62	7.99	-6.34	8.98	0.86	10.99	125.20
1225.00	2.53	178.113	1224.60	9.09	-7.45	9.04	0.44	11.71	129.48
1250.00	2.64	178.31	1249.57	10.20	-8.57	9.08	0.41	12.49	133.37
1275.00	2.51	180.96	1274.55	11.30	-9.70	9.08	0.70	13.29	136.87
1300.00	2.39	183.93	1299.52	12.34	-10.76	9.04	0.70	14.06	139.97
1325.00	2.41	183.88	1324.50	13.35	-11.81	8.97	0.07	14.83	142.78
1350.00	2.34	184.50	1349.48	14.35	-12.84	8.89	0.27	15.62	145.29
1375.00	2.33	183.93	1374.46	15.33	-13.86	8.82	0.10	16.42	147.53
1400.00	2.27	182.62	1399.44	16.30	-14.86	8.76	0.32	17.25	149.48
1425.00	2.14	186.23	1424.42	17.23	-15.82	8.69	0.77	18.05	151.23
1450.00	1.89	190.52	1449.41	18.05	-16.69	8.56	1.16	18.76	152.84
1475.00	1.83	190.04	1474.39	18.81	-17.49	8.42	0.25	19.41	154.30
1500.00	1.80	190.55	1499.38	19.55	-18.27	8.27	0.15	20.06	155.63
1525.00	1.87	185.56	1524.37	20.30	-19.06	8.16	0.69	20.74	156.82
1550.00	1.70	186.14	1549.36	21.04	-19.84	8.08	0.69	21.42	157.83
1575.00	1.49	188.37	1574.35	21.70	-20.52	8.00	0.87	22.03	158.71
1600.00	1.52	188.28	1599.34	22.32	-21.17	7.90	0.13	22.60	159.53
1625.00	1.53	185.79	1624.33	22.95	-21.83	7.82	0.27	23.19	160.29
1650.00	1.49	185.06	1649.32	23.58	-22.49	7.76	0.15	23.79	160.97

MD	INC	AZIM	TVD	VS	N/S	E/W	DLS	CLOSURE DIST	CLOSURE DIR
ft	deg	deg	ft	ft	ft	ft	%/100ft	ft	deg
1675.00	1.57	166.88	1674.31	24.23	-23.15	7.81	1.96	24.43	161.36
1700:00	1.67	160.24	1699.30	24.94	-23.82	8.01	0.85	25.13	161.42
1725:00	1.78	152.69	1724.29	25.67	-24.51	8.31	-1.01	25.88	161.27
1750:00	1.98	148.37	1749.28	26.45	-25.22	8.71	-0.99	26.69	160.94
1775:00	1.94	144.52	1774.26	27.24	-25.94	9.19	-0.55	27.52	160.50
1800:00	2.07	142.85	1799.25	28.04	-26.64	9.71	-0.57	28.36	159.98
1825.00	2.26	140.46	1824.23	28.88	-27.38	10.29	0.82	29.25	159.40
1850.00	2.27	143.36	1849.21	29.76	-28.16	10.90	0.46	30.20	158.84
1875.00	2.27	141.58	1874.19	30.65	-28.94	11.50	0.28	31.15	158.32
1900.00	2.20	140.70	1899.17	31.51	-29.70	12.12	0.31	32.08	157.81
1925.00	2.27	139.89	1924.15	32.37	-30.45	12.74	0.31	33.01	157.30
1950:00	2.21	139.68	1949.13	33.23	-31.20	13.37	0.26	33.95	156.80
1975:00	2.19	140.18	1974.11	34.07	-31.93	13.99	0.11	34.86	156.34
2000:00	2.36	137.55	1999.09	34.93	-32.68	14.64	0.82	35.81	155.87
2025:00	2.76	134.83	2024.07	35.88	-33.49	15.42	-1.67	36.87	155.28
2050:00	3.08	131.91	2049.04	36.92	-34.36	16.34	-1.40	38.05	154.56
2075.00	3.38	132.25	2074.00	38.05	-35.30	17.39	1.22	39.35	153.78
2100.00	3.70	127.49	2098.95	39.25	-36.29	18.58	1.72	40.77	152.89
2125.00	3.97	127.94	2123.89	40.52	-37.31	19.90	1.11	42.29	151.93
2150.00	4.41	125.83	2148.83	41.88	-38.41	21.36	1.84	43.95	150.92
2175.00	4.74	123.84	2173.75	43.32	-39.55	23.00	1.47	45.75	149.82
2200:00	4.78	122.90	2198.66	44.78	-40.69	24.73	0.35	47.61	148.71
2225:00	4.92	123.06	2223.57	46.26	-41.84	26.50	0.56	49.53	147.65
2250:00	4.97	122.60	2248.48	47.76	-43.01	28.31	0.24	51.49	146.64
2275:00	4.90	122.66	2273.39	49.25	-44.16	30.12	0.26	53.46	145.70
2300:00	4.86	121.01	2298.29	50.71	-45.29	31.93	0.58	55.41	144.81
2325.00	4.81	118.87	2323.21	52.10	-46.34	33.76	0.75	57.33	143.93
2350.00	4.86	117.54	2348.12	53.45	-47.33	35.61	0.49	59.23	143.04
2375.00	4.65	116.19	2373.03	54.73	-48.27	37.46	0.95	61.10	142.19
2400.00	4.62	113.66	2397.95	55.93	-49.12	39.29	0.83	62.90	141.35
2425.00	4.54	110.97	2422.87	57.04	-49.88	41.14	0.92	64.65	140.49
2450:00	4.57	110.10	2447.79	58.09	-50.58	42.99	0.30	66.38	139.63

MD	INC	AZIM	TVD	VS	+N/-S	+E/-W	DLS	CLOSURE DIST	CLOSURE DIR
ft	deg	deg	ft	ft	ft	ft	%/100ft	ft	deg
2475.00	4.53	107.49	2472.71	59.08	-51.21	44.87	0.84	68.09	138.78
2500.00	4.59	104.37	2497.63	60.00	-51.76	46.78	1.03	69.77	137.89
2525.00	4.69	103.52	2522.55	60.86	-52.25	48.74	0.45	71.45	136.99
2550.00	4.71	101.07	2547.47	61.69	-52.68	50.74	0.81	73.15	136.07
2575.00	4.67	99.86	2572.38	62.45	-53.05	52.76	0.42	74.82	135.16
2600.00	4.88	97.59	2597.30	63.17	-53.37	54.81	1.11	76.50	134.24
2625.00	5.16	94.39	2622.20	63.82	-53.60	56.99	1.61	78.23	133.24
2650.00	5.27	91.05	2647.10	64.37	-53.70	59.26	1.29	79.97	132.19
2675.00	5.41	88.29	2671.99	64.82	-53.69	61.58	1.18	81.70	131.08
2700.00	5.50	85.04	2696.87	65.15	-53.55	63.96	1.28	83.41	129.94
2725.00	5.79	82.28	2721.75	65.37	-53.28	66.40	1.60	85.13	128.74
2750.00	6.15	79.74	2746.62	65.48	-52.87	68.97	1.80	86.90	127.47
2775.00	6.25	78.59	2771.47	65.50	-52.36	71.62	0.62	88.72	126.17
2800.00	6.63	77.01	2796.31	65.47	-51.77	74.36	1.69	90.60	124.85
2825.00	6.70	77.05	2821.15	65.39	-51.12	77.18	0.27	92.58	123.52
2850.00	6.78	77.08	2845.97	65.31	-50.46	80.04	0.34	94.62	122.23
2875.00	6.96	76.35	2870.79	65.21	-49.77	82.95	0.77	96.74	120.96
2900.00	7.01	76.14	2895.61	65.09	-49.05	85.91	0.23	98.92	119.72
2925.00	7.37	76.26	2920.41	64.96	-48.30	88.95	1.46	101.22	118.51
2950.00	7.59	75.72	2945.20	64.81	-47.52	92.10	0.90	103.64	117.29
2975.00	7.78	76.51	2969.97	64.67	-46.71	95.35	0.88	106.18	116.10
3000.00	8.00	75.94	2994.74	64.53	-45.90	98.68	0.93	108.83	114.94
3025.00	8.00	75.87	3019.49	64.36	-45.05	102.05	0.05	111.55	113.82
3050.00	8.19	75.65	3044.24	64.19	-44.18	105.47	0.74	114.35	112.73
3075.00	8.23	75.59	3068.99	64.01	-43.30	108.92	0.16	117.21	111.68
3100.00	8.13	75.88	3093.73	63.83	-42.42	112.37	0.41	120.11	110.68
3125.00	8.22	75.54	3118.48	63.65	-41.54	115.82	0.40	123.04	109.73
3150.00	8.31	75.81	3143.22	63.47	-40.65	119.30	0.37	126.03	108.82
3175.00	8.24	75.09	3167.96	63.27	-39.75	122.78	0.50	129.05	107.94
3200.00	8.19	74.76	3192.70	63.05	-38.82	126.23	0.27	132.06	107.10
3225.00	8.18	74.40	3217.45	62.80	-37.88	129.66	0.21	135.08	106.28
3250.00	8.11	74.65	3242.20	62.55	-36.93	133.07	0.32	138.10	105.51

MD	INC	AZIM	TVD	VS	+N/-S	+E/-W	DLS	CLOSURE DIST	CLOSURE DIR
ft	deg	deg	ft	ft	ft	ft	%/100ft	ft	deg
3275.00	8.07	74.53	3266.95	62.30	-36.00	136.47	0.18	141.13	104.78
3300.00	8.17	74.16	3291.70	62.04	-35.04	139.87	0.47	144.19	104.07
3325.00	8.20	73.60	3316.44	61.75	-34.05	143.29	0.33	147.28	103.37
3350.00	8.05	73.57	3341.19	61.44	-33.06	146.68	0.60	150.35	102.70
3375.00	8.22	73.41	3365.94	61.13	-32.05	150.07	0.71	153.45	102.06
3400.00	8.17	73.33	3390.68	60.81	-31.03	153.48	0.22	156.59	101.43
3425.00	8.23	73.04	3415.43	60.47	-30.00	156.90	0.29	159.74	100.82
3450.00	8.20	72.72	3440.17	60.12	-28.95	160.31	0.22	162.90	100.24
3475.00	8.24	72.39	3464.92	59.74	-27.88	163.72	0.23	166.07	99.66
3500.00	8.16	72.51	3489.66	59.36	-26.80	167.12	0.32	169.25	99.11
3525.00	8.14	72.20	3514.41	58.98	-25.73	170.49	0.19	172.42	98.58
3550.00	8.22	71.83	3539.15	58.57	-24.63	173.88	0.39	175.61	98.06
3575.00	8.19	71.88	3563.90	58.15	-23.52	177.27	0.14	178.82	97.56
3600.00	8.33	71.67	3588.64	57.73	-22.39	180.68	0.61	182.06	97.07
3625.00	8.38	72.22	3613.37	57.31	-21.27	184.13	0.36	185.36	96.59
3650.00	8.29	72.15	3638.11	56.90	-20.16	187.58	0.37	188.66	96.13
3675.00	8.16	72.06	3662.85	56.50	-19.06	190.98	0.50	191.93	95.70
3700.00	8.24	71.57	3687.60	56.08	-17.95	194.37	0.43	195.20	95.28
3725.00	8.21	71.98	3712.34	55.65	-16.83	197.77	0.27	198.49	94.86
3750.00	8.09	71.97	3737.09	55.25	-15.73	201.14	0.47	201.76	94.47
3775.00	8.30	71.73	3761.83	54.83	-14.62	204.53	0.86	205.05	94.09
3800.00	8.20	71.89	3786.57	54.41	-13.50	207.94	0.42	208.38	93.71
3825.00	8.21	71.52	3811.32	53.98	-12.38	211.33	0.21	211.69	93.35
3850.00	8.33	72.14	3836.06	53.56	-11.26	214.74	0.58	215.04	93.00
3875.00	8.34	71.72	3860.79	53.14	-10.14	218.19	0.25	218.42	92.66
3900.00	8.29	71.90	3885.53	52.71	-9.01	221.62	0.21	221.80	92.33
3925.00	8.29	71.91	3910.27	52.29	-7.89	225.05	0.01	225.19	92.01
3950.00	8.33	72.39	3935.01	51.89	-6.78	228.49	0.33	228.59	91.70
3975.00	8.52	72.00	3959.74	51.48	-5.66	231.98	0.77	232.05	91.40
4000.00	8.74	73.24	3984.45	51.09	-4.54	235.56	1.17	235.60	91.10
4025.00	8.87	73.25	4009.16	50.73	-3.44	239.22	0.50	239.25	90.82
4050.00	8.98	73.67	4033.86	50.39	-2.33	242.94	0.52	242.95	90.55

MD	INC	AZIM	TVD	VS	+N/S	+E/W	DLS	CLOSURE DIST	CLOSURE DIR
ft	deg	deg	ft	ft	ft	ft	%/100ft	ft	deg
4075.00	9.26	73.47	4058.54	50.04	-1.21	246.74	1.13	246.74	90.28
4100.00	9.55	74.59	4083.20	49.72	-0.09	250.67	1.37	250.67	90.02
4125.00	9.70	74.46	4107.85	49.42	1.03	254.70	0.61	254.70	89.77
4150.00	9.83	75.10	4132.49	49.14	2.14	258.79	0.67	258.80	89.53
4175.00	10.01	75.16	4157.12	48.88	3.25	262.95	0.72	262.97	89.29
4200.00	10.04	75.37	4181.73	48.63	4.35	267.16	0.18	267.20	89.07
4225.00	10.31	74.40	4206.34	48.35	5.50	271.42	1.29	271.48	88.84
4250.00	10.58	74.80	4230.93	48.03	6.71	275.79	1.10	275.87	88.61
4275.00	10.67	75.17	4255.50	47.74	7.90	280.25	0.47	280.36	88.38
4300.00	10.91	74.79	4280.06	47.45	9.11	284.76	0.97	284.91	88.17
4325.00	10.98	74.19	4304.60	47.11	10.38	289.34	0.54	289.52	87.94
4350.00	11.09	73.98	4329.14	46.73	11.70	293.94	0.49	294.17	87.72
4375.00	11.23	74.15	4353.67	46.35	13.02	298.59	0.56	298.87	87.50
4400.00	11.26	74.41	4378.19	45.99	14.35	303.28	0.26	303.62	87.29
4425.00	11.29	74.38	4402.70	45.63	15.66	307.99	0.11	308.39	87.09
4450.00	11.25	74.76	4427.22	45.29	16.96	312.70	0.33	313.16	86.90
4475.00	11.27	74.47	4451.74	44.95	18.26	317.41	0.24	317.93	86.71
4500.00	11.25	74.35	4476.26	44.60	19.57	322.11	0.14	322.71	86.52
4525.00	11.28	73.76	4500.78	44.21	20.91	326.81	0.47	327.48	86.34
4550.00	11.15	73.40	4525.30	43.79	22.28	331.47	0.58	332.22	86.15
4575.00	11.07	72.46	4549.83	43.31	23.70	336.08	0.80	336.91	85.97
4600.00	10.95	71.83	4574.37	42.78	25.16	340.62	0.67	341.55	85.78
4625.00	10.76	72.09	4598.92	42.24	26.62	345.10	0.79	346.12	85.59
4650.00	11.01	71.60	4623.47	41.68	28.09	349.58	1.08	350.71	85.41
4675.00	10.84	71.68	4648.02	41.11	29.58	354.08	0.70	355.31	85.22
4700.00	10.66	71.73	4672.58	40.55	31.05	358.51	0.70	359.85	85.05
4725.00	10.47	71.51	4697.16	40.00	32.49	362.86	0.77	364.31	84.88
4750.00	10.19	71.61	4721.75	39.45	33.91	367.11	1.13	368.67	84.72
4775.00	10.14	71.20	4746.36	38.90	35.32	371.29	0.34	372.97	84.57
4800.00	9.68	71.63	4770.99	38.36	36.69	375.37	1.88	377.16	84.42
4825.00	9.48	71.39	4795.64	37.85	38.01	379.32	0.79	381.22	84.28
4850.00	9.55	71.47	4820.29	37.33	39.32	383.24	0.27	385.25	84.14

MD	INC	AZIM	TVD	VS	+N/-S	+E/-W	DLS	CLOSURE DIST	CLOSURE DIR
ft	deg	deg	ft	ft	ft	ft	%/100ft	ft	deg
4875.00	9.52	72.00	4844.95	36.84	40.62	387.17	0.37	389.29	84.01
4900.00	9.51	71.53	4869.61	36.35	41.92	391.09	0.31	393.33	83.88
4925.00	9.53	72.15	4894.26	35.86	43.20	395.02	0.42	397.38	83.76
4950.00	9.22	73.79	4918.93	35.47	44.40	398.91	1.65	401.38	83.65
4975.00	9.16	74.50	4943.61	35.16	45.49	402.75	0.51	405.31	83.56
5000.00	9.11	75.24	4968.29	34.90	46.52	406.58	0.51	409.24	83.47
5025.00	9.23	75.51	4992.97	34.68	47.53	410.44	0.52	413.18	83.39
5050.00	9.01	75.99	5017.65	34.48	48.51	414.28	0.94	417.11	83.32
5075.00	8.73	77.43	5042.35	34.36	49.39	418.03	1.44	420.94	83.26
5100.00	8.65	77.75	5067.07	34.29	50.20	421.72	0.35	424.70	83.21
5125.00	8.62	78.60	5091.78	34.26	50.97	425.40	0.53	428.44	83.17
5150.00	8.64	79.05	5116.50	34.28	51.70	429.08	0.28	432.18	83.13
5175.00	8.73	78.95	5141.21	34.31	52.42	432.78	0.40	435.94	83.09
5200.00	8.57	79.88	5165.93	34.36	53.11	436.48	0.86	439.70	83.06
5225.00	8.71	78.53	5190.65	34.40	53.82	440.17	0.99	443.44	83.03
5250.00	8.75	78.60	5215.36	34.40	54.57	443.89	0.17	447.23	82.99
5275.00	8.79	78.56	5240.06	34.40	55.32	447.62	0.15	451.03	82.95
5300.00	8.91	78.65	5264.77	34.40	56.08	451.39	0.48	454.86	82.92
5325.00	8.80	78.66	5289.47	34.41	56.84	455.17	0.43	458.70	82.88
5350.00	8.93	78.69	5314.17	34.42	57.60	458.95	0.53	462.55	82.85
5375.00	8.87	78.96	5338.87	34.43	58.35	462.74	0.30	466.41	82.81
5400.00	8.82	78.98	5363.57	34.46	59.08	466.51	0.22	470.24	82.78
5425.00	8.88	79.20	5388.27	34.49	59.81	470.29	0.27	474.08	82.75
5450.00	8.91	79.42	5412.97	34.53	60.54	474.09	0.15	477.94	82.72
5475.00	9.04	79.08	5437.67	34.57	61.27	477.92	0.52	481.83	82.69
5500.00	9.10	78.79	5462.35	34.59	62.03	481.79	0.30	485.76	82.66
5525.00	9.13	79.30	5487.04	34.62	62.78	485.68	0.34	489.72	82.63
5550.00	9.05	79.51	5511.72	34.68	63.51	489.56	0.34	493.66	82.61
5575.00	9.22	80.56	5536.41	34.78	64.20	493.47	0.95	497.63	82.59
5600.00	9.35	80.94	5561.08	34.93	64.84	497.45	0.58	501.66	82.57
5625.00	9.54	81.49	5585.74	35.12	65.47	501.51	0.84	505.76	82.56
5650.00	9.65	81.59	5610.39	35.34	66.08	505.63	0.44	509.93	82.55

MD	INC	AZIM	TVD	VS	+N/-S	+E/-W	DLS	CLOSURE DIST	CLOSURE DIR
ft	deg	deg	ft	ft	ft	ft	/100ft	ft	deg
5675.00	9.64	81.93	5635.04	35.57	66.68	509.78	0.23	514.12	82.55
5700.00	9.86	82.69	5659.68	35.85	67.25	513.97	1.03	518.35	82.55
5725.00	9.97	82.76	5684.30	36.16	67.79	518.24	0.42	522.66	82.55
5750.00	10.01	82.68	5708.92	36.47	68.34	522.55	0.19	527.00	82.55
5775.00	10.05	82.81	5733.54	36.79	68.89	526.87	0.18	531.35	82.55
5800.00	9.97	82.89	5758.16	37.11	69.44	531.18	0.33	535.70	82.55
5825.00	10.06	83.15	5782.78	37.45	69.96	535.49	0.40	540.05	82.56
5850.00	10.10	82.76	5807.39	37.78	70.50	539.84	0.31	544.42	82.56
5875.00	10.17	82.61	5832.00	38.10	71.06	544.20	0.30	548.82	82.56
5900.00	10.24	82.49	5856.61	38.40	71.63	548.59	0.28	553.25	82.56
5925.00	10.31	82.89	5881.21	38.72	72.20	553.01	0.40	557.71	82.56
5950.00	10.34	82.90	5905.80	39.06	72.76	557.46	0.15	562.19	82.56
5975.00	10.11	83.07	5930.40	39.40	73.30	561.87	0.93	566.63	82.57
6000.00	9.97	82.60	5955.02	39.72	73.84	566.19	0.64	570.99	82.57
6025.00	9.90	82.50	5979.65	40.02	74.40	570.47	0.32	575.30	82.57
6050.00	9.77	82.41	6004.28	40.31	74.96	574.70	0.50	579.57	82.57
6075.00	9.52	82.64	6028.93	40.60	75.51	578.86	1.02	583.76	82.57
6100.00	9.24	82.64	6053.59	40.89	76.03	582.90	1.12	587.83	82.57
6125.00	9.06	82.66	6078.27	41.17	76.54	586.84	0.72	591.81	82.57
6150.00	8.88	82.22	6102.97	41.43	77.05	590.71	0.77	595.71	82.57
6175.00	8.33	82.21	6127.69	41.67	77.56	594.41	2.20	599.45	82.57
6200.00	7.99	81.59	6152.43	41.88	78.06	597.93	1.42	603.00	82.56
6225.00	7.79	82.08	6177.20	42.07	78.54	601.32	0.84	606.43	82.56
6250.00	7.66	82.53	6201.97	42.29	78.99	604.65	0.59	609.79	82.56
6275.00	7.45	84.15	6226.75	42.56	79.38	607.92	1.18	613.08	82.56
6300.00	7.45	84.73	6251.54	42.89	79.69	611.15	0.30	616.32	82.57
6325.00	7.52	85.55	6276.33	43.27	79.97	614.39	0.50	619.58	82.58
6350.00	7.55	85.59	6301.11	43.67	80.22	617.66	0.12	622.85	82.60
6375.00	7.64	85.48	6325.89	44.07	80.48	620.96	0.36	626.15	82.62
6400.00	7.59	85.26	6350.67	44.46	80.74	624.26	0.22	629.46	82.63
6425.00	7.62	84.91	6375.45	44.83	81.03	627.56	0.22	632.77	82.64
6450.00	7.46	83.59	6400.23	45.16	81.36	630.82	0.94	636.05	82.65

MD	INC	AZIM	TVD	VS	IN/S	HE/W	DLS	CLOSURE DIST	CLOSURE DIR
ft	deg	deg	ft	ft	ft	ft	%/100ft	ft	deg
6475.00	7.29	83.68	6425.03	45.44	81.71	634.01	0.69	639.26	82.66
6500.00	7.23	83.19	6449.83	45.71	82.07	637.15	0.35	642.42	82.66
6525.00	7.33	81.02	6474.63	45.90	82.51	640.29	1.17	645.58	82.66
6550.00	7.36	78.89	6499.42	45.98	83.07	643.44	1.09	648.78	82.64
6575.00	7.51	77.84	6524.21	45.97	83.72	646.61	0.82	652.00	82.62
6600.00	7.54	77.05	6549.00	45.90	84.43	649.80	0.43	655.26	82.60
6625.00	7.58	77.21	6573.78	45.82	85.16	653.01	0.20	658.54	82.57
6650.00	7.72	76.76	6598.56	45.72	85.91	656.25	0.60	661.85	82.54
6675.00	7.73	76.29	6623.33	45.60	86.70	659.52	0.26	665.19	82.51
6700.00	7.87	75.59	6648.10	45.45	87.52	662.81	0.67	668.56	82.48
6725.00	7.89	75.44	6672.86	45.26	88.38	666.13	0.12	671.97	82.44
6750.00	8.06	75.11	6697.62	45.06	89.26	669.48	0.68	675.41	82.41
6775.00	8.06	75.10	6722.37	44.85	90.16	672.87	0.03	678.88	82.37
6800.00	8.08	75.11	6747.12	44.64	91.06	676.26	0.07	682.37	82.33
6825.00	8.26	75.02	6771.87	44.42	91.98	679.70	0.70	685.89	82.29
6850.00	8.30	75.42	6796.61	44.21	92.90	683.18	0.30	689.47	82.26
6875.00	8.57	74.87	6821.34	43.99	93.84	686.72	1.10	693.11	82.22
6900.00	8.94	74.87	6846.05	43.74	94.83	690.40	1.49	696.88	82.18
6925.00	9.13	75.08	6870.74	43.50	95.85	694.19	0.76	700.77	82.14
6950.00	9.37	75.25	6895.41	43.26	96.88	698.07	0.98	704.76	82.10
6975.00	9.57	75.15	6920.07	43.02	97.93	702.05	0.81	708.85	82.06
7000.00	9.80	75.25	6944.72	42.77	99.00	706.12	0.91	713.02	82.02
7025.00	10.14	75.06	6969.34	42.51	100.11	710.30	1.39	717.32	81.98
7050.00	10.22	75.15	6993.94	42.24	101.25	714.57	0.32	721.71	81.94
7075.00	10.32	74.92	7018.54	41.97	102.40	718.88	0.43	726.13	81.89
7100.00	10.45	74.87	7043.13	41.68	103.57	723.23	0.52	730.61	81.85
7125.00	10.56	74.91	7067.72	41.38	104.76	727.63	0.43	735.13	81.81
7150.00	10.70	74.96	7092.29	41.09	105.96	732.08	0.56	739.71	81.76
7175.00	10.65	74.36	7116.85	40.77	107.18	736.55	0.48	744.30	81.72
7200.00	10.36	73.27	7141.44	40.40	108.45	740.92	1.41	748.82	81.67
7225.00	10.09	73.10	7166.04	39.98	109.74	745.17	1.06	753.21	81.62
7250.00	10.19	72.53	7190.65	39.54	111.04	749.38	0.57	757.56	81.57

MD	INC	AZIM	TVD	VS	N/S	E/W	DLS	CLOSURE DIST	CLOSURE DIR
ft	deg	deg	ft	ft	ft	ft	°/100ft	ft	deg
7275.00	10.18	72.86	7215.25	39.08	112.35	753.60	0.24	761.93	81.52
7300.00	10.35	72.72	7239.85	38.63	113.67	757.85	0.69	766.33	81.47
7325.00	10.53	72.34	7264.44	38.16	115.03	762.17	0.77	770.81	81.42
7350.00	10.47	72.07	7289.02	37.65	116.42	766.51	0.30	775.30	81.36
7375.00	10.49	71.65	7313.60	37.12	117.84	770.83	0.32	779.79	81.31
7400.00	10.45	70.77	7338.19	36.53	119.30	775.14	0.66	784.26	81.25
7425.00	10.54	71.59	7362.77	35.95	120.77	779.45	0.70	788.75	81.19
7450.00	10.60	71.49	7387.34	35.39	122.23	783.80	0.24	793.27	81.14
7475.00	10.65	72.24	7411.92	34.85	123.66	788.18	0.59	797.82	81.08
7500.00	10.77	72.30	7436.48	34.34	125.07	792.60	0.47	802.41	81.03
7525.00	10.86	73.17	7461.04	33.86	126.47	797.08	0.75	807.05	80.98
7550.00	10.91	73.40	7485.59	33.42	127.82	801.60	0.27	811.73	80.94
7575.00	11.00	73.92	7510.13	33.02	129.16	806.16	0.53	816.45	80.90
7600.00	11.14	74.10	7534.67	32.63	130.48	810.78	0.59	821.21	80.86
7625.00	11.39	75.40	7559.18	32.31	131.77	815.49	1.42	826.07	80.82
7650.00	11.64	77.34	7583.68	32.12	132.94	820.34	1.83	831.04	80.79
7675.00	12.03	78.46	7608.15	32.06	134.02	825.35	1.82	836.16	80.78
7700.00	12.13	78.92	7632.60	32.07	135.04	830.48	0.56	841.39	80.76
7725.00	12.24	79.79	7657.03	32.14	136.02	835.67	0.84	846.67	80.76
7750.00	12.17	80.62	7681.47	32.29	136.92	840.88	0.76	851.95	80.75
7775.00	12.17	81.36	7705.91	32.51	137.74	846.08	0.62	857.22	80.75
7800.00	12.01	82.26	7730.35	32.81	138.49	851.27	0.98	862.46	80.76
7825.00	11.93	82.89	7754.81	33.17	139.16	856.41	0.61	867.64	80.77
7850.00	11.90	83.68	7779.27	33.59	139.76	861.53	0.67	872.80	80.79
7875.00	11.83	84.28	7803.73	34.07	140.30	866.64	0.56	877.93	80.80
7900.00	11.54	84.65	7828.22	34.59	140.79	871.68	1.18	882.98	80.83
7925.00	11.42	85.52	7852.72	35.16	141.21	876.64	0.86	887.94	80.85
7950.00	11.09	85.26	7877.24	35.73	141.61	881.50	1.32	892.80	80.87
7975.00	10.78	85.21	7901.78	36.28	142.00	886.23	1.23	897.53	80.90
8000.00	10.43	85.06	7926.36	36.81	142.39	890.81	1.43	902.12	80.92
8025.00	10.24	84.49	7950.95	37.29	142.80	895.28	0.85	906.60	80.94
8050.00	10.08	83.94	7975.56	37.73	143.24	899.67	0.75	911.00	80.95

MD	INC	AZIM	TVD	VS	+N/-S	+E/-W	DLS	CLOSURE DIST	CLOSURE DIR
ft	deg	deg	ft	ft	ft	ft	/100ft	ft	deg
8075.00	10.08	83.53	8000.17	38.12	143.72	904.02	0.29	915.37	80.97
8100.00	10.16	83.48	8024.78	38.50	144.22	908.38	0.32	919.76	80.98
8125.00	10.16	82.16	8049.39	38.82	144.77	912.76	0.94	924.17	80.99
8150.00	10.06	82.15	8074.00	39.10	145.37	917.10	0.39	928.55	80.99
8175.00	10.17	81.58	8098.61	39.35	145.99	921.45	0.61	932.94	81.00
8200.00	10.12	81.32	8123.22	39.57	146.64	925.81	0.27	937.35	81.00
8225.00	10.33	81.03	8147.83	39.77	147.32	930.19	0.87	941.79	81.00
8250.00	10.36	81.23	8172.42	39.97	148.02	934.63	0.18	946.28	81.00
8275.00	10.58	80.90	8197.00	40.17	148.72	939.12	0.91	950.82	81.00
8300.00	10.71	81.00	8221.57	40.36	149.45	943.68	0.52	955.44	81.00
8325.00	10.77	80.11	8246.13	40.52	150.21	948.27	0.71	960.10	81.00
8350.00	10.84	80.13	8270.69	40.64	151.02	952.89	0.29	964.78	80.99
8375.00	11.17	79.04	8295.23	40.73	151.88	957.58	1.56	969.55	80.99
8400.00	11.29	78.54	8319.75	40.74	152.83	962.36	0.61	974.42	80.98
8425.00	11.60	78.68	8344.26	40.75	153.81	967.22	1.26	979.37	80.96
8450.00	11.82	78.06	8368.74	40.73	154.83	972.19	1.00	984.44	80.95
8475.00	11.94	78.04	8393.20	40.68	155.90	977.22	0.49	989.58	80.94
8500.00	12.18	77.95	8417.65	40.63	156.98	982.33	0.95	994.80	80.92
8525.00	12.32	77.71	8442.08	40.56	158.10	987.52	0.60	1000.09	80.90
8550.00	12.79	76.78	8466.48	40.43	159.30	992.82	2.07	1005.52	80.88
8560.00	12.46	77.19	8476.24	40.37	159.79	994.95	3.49	1007.70	80.88