

RECEIVED

DISTRICT I
1625 N. FRENCH DR., HOBBS, NM 88240
Phone: (505) 393-6161 Fax: (505) 393-0720

DISTRICT II
811 S. FIRST ST., ARTESIA, NM 88210
Phone: (505) 748-1283 Fax: (505) 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) 478-3460 Fax: (505) 478-3462

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION
1220 SOUTH ST. FRANCIS DR.
Santa Fe, New Mexico 87505

FEB 14 2020
EMNRD-000 ARTESIA

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

☒ AMENDED REPORT
As Drilled

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-01546128 46127		Pool Code 98220	Pool Name Purple Sage; Wolfcamp
Property Code 325762	Property Name QUIEN SABE FEDERAL COM		Well Number 602H
OGRID No. 229137	Operator Name COG OPERATING, LLC		Elevation 3123.5'

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	2250	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
0	25	24-S	27-E		204 ✓	SOUTH	1335 ✓	EAST	EDDY

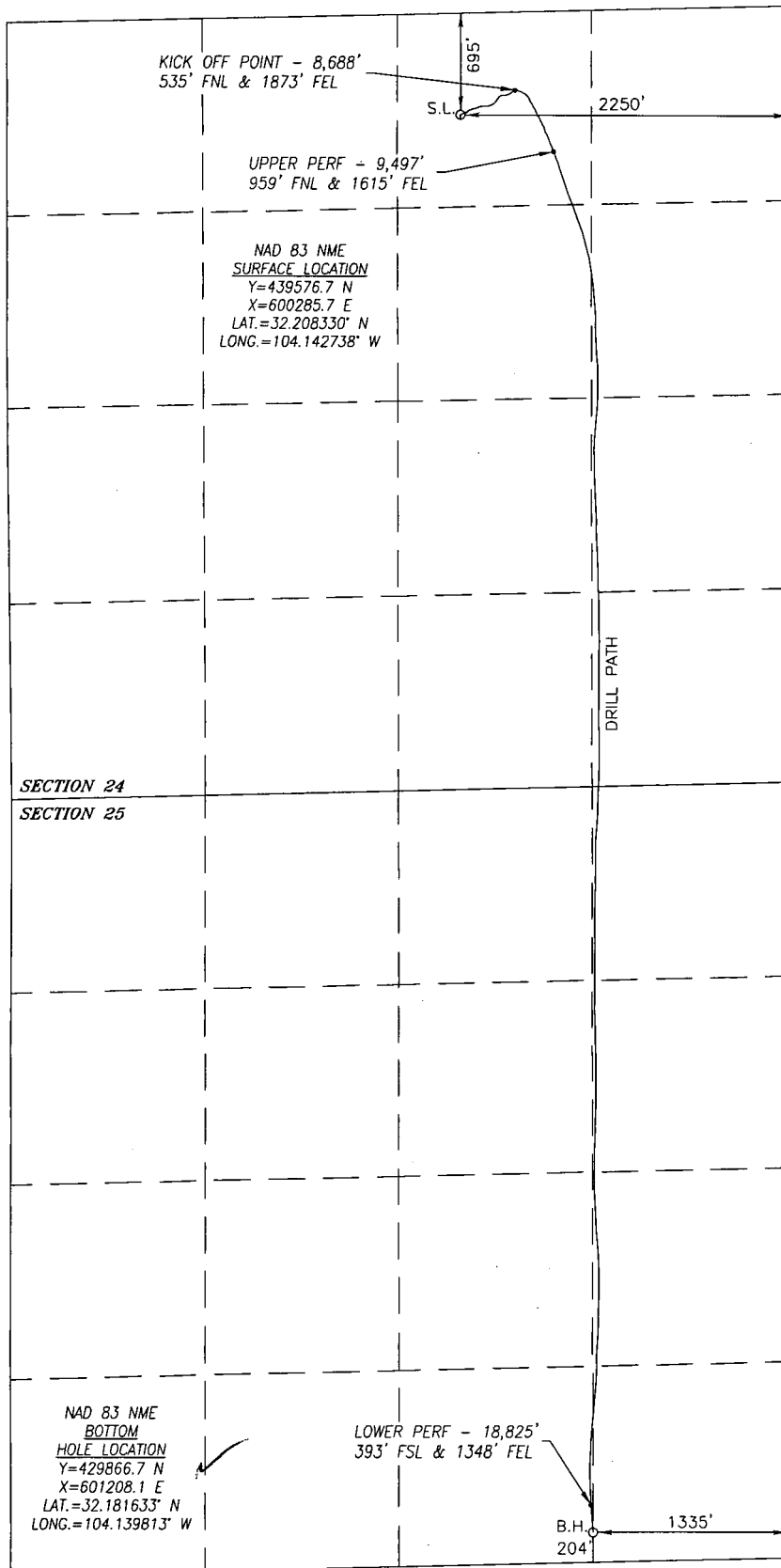
Dedicated Acres 640	Joint or Infill	Consolidation Code	Order No.
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NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

SEE PAGE 2

RWP

Property Code 325762	Property Name QUIEN SABE FEDERAL COM	Well Number 602H
OGRID No. 229137	Operator Name COG OPERATING, LLC	Elevation 3123.5'



SURFACE INFO AND BOREPATH SHOWN HEREON IS BASED ON DIRECTIONAL SURVEY REPORT PROVIDED BY COG OPERATING, LLC FOR THE QUIEN SABE FEDERAL COM #602H SUPPLIED TO HARCROW SURVEYING, LLC ON FEBRUARY 4, 2020

1200 0 1200
SCALE: 1"=1200'

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 2/11/2020
Signature Date

Amanda Avery

Printed Name

aaavery@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/NOV. 14, 2019

Date of Survey/Date of Geographic Survey

Signature & Seal of Professional Surveyor



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

RW 4-8-2020

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FEB 14 2020

EMNRD-OCD ARTESIA

Intent ☐ As Drilled ☒ XAPI #
30-015-46128Operator Name:
COG OPERATING, LLCProperty Name:
QUIEN SABE FEDERAL COMWell Number
602H

Kick Off Point (KOP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
B	24	24S	27E		535	NORTH	1873	EAST	EDDY
Latitude 32.208793					Longitude -104.141529				NAD 83

First Take Point (FTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
B	24	24S	27E		959	NORTH	1615	EAST	EDDY
Latitude 32.207644					Longitude -104.140671				NAD 83

Last Take Point (LTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
O	25	24S	27E		393	SOUTH	1348	EAST	EDDY
Latitude 32.182152					Longitude -104.139854				NAD 83

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

☐ No

Is this well an infill well?

☐ Yes

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

API #
30-015-46125Operator Name:
COG Operating LLCProperty Name:
Quien Sabe Federal ComWell Number
801H

KZ 06/29/2018

FEB 14 2020

EMNRD-OC PART 51A

10/31/2019



SURVEY REPORT

QUIEN SABE FED COM #602H

KEEPER GYRO SURVEY

CUSTOMER
PROJECT

COG
Quien Sabe Fed Com #602H Keeper Gyro
survey
FIELD N/A

SDI JOB NO.
SDI DISTRICT
SDI KIT/UNIT

OP.021926
Midland

SITE INFORMATION

Site Name Eddy County, New Mexico
Lat/Long 32.2082052° N, 104.1424376° W
Northing 439,517 ft
Easting 559,042.6 ft

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

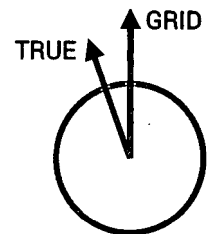
Lat/Long 32.208209° N, 104.1424376° W
Northing 439,518.5 ft
Easting 559,102.6 ft
UWI 30-015-46124

DEPTH AND ELEVATION REFERENCE

Ground Level 3123.5 ft above Mean Sea
Level
Reference Datum RKB
Reference Height 24 ft above G.L.
Reference Elevation 3147.5 ft

VERTICAL SECTION REFERENCE

+N/-S 0 ft
+E/-W 0 ft
Proposal Direction 174.43°
Calculation Method Minimum Curvature



LOCAL GRAVITY REFERENCE INFORMATION

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

WELL NOTES

Quien Sabe Fed Com #602H Keeper Gyro survey

OPERATORS

Jeffrey Loyd

SDI Operator Name (Printed)

SIGNATURE

DATE



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10/31/2019 4:58 PM Mountain Daylight Time

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SURVEY REPORT

QUIEN SABE FED COM #602H

KEEPER GYRO SURVEY

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	0.66	256.11	100.00	0.08	-0.14	-0.56	0.66	0.58	256.11
125.00	0.77	249.80	125.00	0.15	-0.23	-0.86	0.54	0.89	254.92
150.00	0.88	245.00	149.99	0.25	-0.37	-1.19	0.50	1.24	252.71
175.00	1.09	238.38	174.99	0.42	-0.57	-1.56	0.96	1.66	249.81
200.00	0.99	234.60	199.99	0.63	-0.82	-1.94	0.48	2.11	246.99
225.00	0.97	240.66	224.98	0.82	-1.05	-2.30	0.42	2.53	245.41
250.00	0.95	240.17	249.98	0.99	-1.26	-2.66	0.08	2.95	244.70
275.00	1.02	240.04	274.97	1.17	-1.47	-3.04	0.26	3.37	244.12
300.00	1.02	236.97	299.97	1.37	-1.71	-3.42	0.22	3.82	243.47
325.00	0.96	236.86	324.97	1.57	-1.94	-3.78	0.24	4.25	242.80
350.00	0.92	238.52	349.96	1.75	-2.16	-4.12	0.19	4.66	242.35
375.00	1.09	236.12	374.96	1.95	-2.40	-4.49	0.71	5.09	241.91
400.00	0.99	222.10	399.96	2.21	-2.69	-4.84	1.10	5.53	240.90
425.00	0.95	208.77	424.95	2.53	-3.03	-5.08	0.92	5.92	239.15
450.00	1.05	194.03	449.95	2.91	-3.44	-5.24	1.09	6.26	236.71
475.00	1.06	197.27	474.94	3.34	-3.88	-5.36	0.24	6.62	234.10
500.00	1.15	187.10	499.94	3.80	-4.35	-5.46	0.86	6.98	231.46
525.00	1.23	185.40	524.93	4.31	-4.86	-5.52	0.37	7.35	228.60
550.00	1.36	180.79	549.93	4.86	-5.43	-5.55	0.66	7.76	225.62
575.00	1.57	171.93	574.92	5.50	-6.06	-5.50	1.23	8.19	222.23
600.00	1.70	165.54	599.91	6.21	-6.76	-5.36	0.91	8.63	218.41
625.00	1.76	163.96	624.90	6.95	-7.49	-5.16	0.31	9.10	214.57
650.00	1.70	166.67	649.89	7.70	-8.22	-4.97	0.42	9.61	211.16
675.00	1.73	167.32	674.88	8.44	-8.95	-4.80	0.15	10.16	208.22
700.00	2.00	160.80	699.86	9.24	-9.73	-4.58	1.35	10.75	205.19
725.00	2.04	158.21	724.85	10.09	-10.55	-4.27	0.41	11.38	202.02
750.00	2.15	159.88	749.83	10.97	-11.41	-3.94	0.49	12.07	199.06
775.00	2.39	158.88	774.81	11.92	-12.33	-3.59	0.97	12.84	196.24
800.00	2.53	156.91	799.79	12.95	-13.32	-3.19	0.66	13.70	193.46
825.00	2.58	156.34	824.76	14.01	-14.35	-2.75	0.23	14.61	190.84
850.00	2.58	157.92	849.74	15.09	-15.38	-2.31	0.28	15.56	188.53

MD	INC	AZIM	TVD	VS	N/S	E/W	DLS	CLOSURE DIST	CLOSURE DIR
ft	deg	deg	ft	ft	ft	ft	%/100ft	ft	deg
875.00	2.62	158.70	874.71	16.18	-16.44	-1.89	0.19	16.55	186.56
900.00	2.56	159.43	899.69	17.27	-17.49	-1.49	0.25	17.56	184.85
925.00	2.64	157.42	924.66	18.36	-18.55	-1.07	0.49	18.58	183.30
950.00	2.10	152.59	949.64	19.33	-19.49	-0.64	2.33	19.50	181.87
975.00	1.54	143.09	974.63	20.04	-20.16	-0.22	2.52	20.16	180.64
1000.00	1.17	126.12	999.62	20.50	-20.58	-0.18	2.18	20.58	179.49
1025.00	0.85	108.75	1024.62	20.75	-20.79	-0.57	1.74	20.80	178.44
1050.00	0.91	106.15	1049.61	20.90	-20.90	-0.93	0.27	20.93	177.45
1075.00	0.93	106.56	1074.61	21.05	-21.02	1.32	0.08	21.06	176.42
1100.00	0.91	107.52	1099.61	21.20	-21.13	1.70	0.11	21.20	175.40
1125.00	0.89	94.25	1124.60	21.31	-21.21	2.08	0.83	21.31	174.39
1150.00	1.05	34.32	1149.60	21.17	-21.03	2.41	3.92	21.17	173.47
1175.00	1.45	9.61	1174.59	20.69	-20.53	2.59	2.66	20.69	172.81
1200.00	1.85	4.54	1199.58	19.98	-19.82	2.67	1.67	20.00	172.32
1225.00	2.10	-0.65	1224.57	19.13	-18.96	2.71	1.15	19.15	171.86
1250.00	2.26	-357.38	1249.55	18.18	-18.01	2.69	0.82	18.21	171.49
1275.00	2.19	-357.15	1274.53	17.21	-17.04	2.65	0.27	17.24	171.17
1300.00	2.29	-356.72	1299.51	16.24	-16.06	2.59	0.38	16.27	170.82
1325.00	2.29	357.46	1324.49	15.24	-15.06	2.54	0.12	15.28	170.42
1350.00	2.28	355.40	1349.47	14.24	-14.07	2.48	0.33	14.29	170.00
1375.00	2.36	355.53	1374.45	13.23	-13.06	2.40	0.33	13.28	169.58
1400.00	2.44	354.06	1399.43	12.18	-12.02	2.31	0.39	12.24	169.14
1425.00	2.55	351.53	1424.41	11.10	-10.94	2.17	0.63	11.15	168.78
1450.00	2.67	350.35	1449.38	9.96	-9.81	1.99	0.52	10.01	168.54
1475.00	2.86	349.60	1474.35	8.76	-8.62	1.78	0.76	8.81	168.34
1500.00	2.85	348.15	1499.32	7.52	-7.41	1.54	0.29	7.56	168.25
1525.00	2.85	350.14	1524.29	6.28	-6.18	1.31	0.40	6.32	168.08
1550.00	2.86	349.27	1549.26	5.04	-4.96	1.08	0.18	5.07	167.68
1575.00	2.77	351.66	1574.23	3.81	-3.75	0.88	0.60	3.85	166.80
1600.00	2.72	0.39	1599.20	2.62	-2.56	0.80	1.68	2.68	162.72
1625.00	2.47	12.90	1624.17	1.52	-1.44	0.92	2.46	1.71	147.39
1650.00	2.55	23.32	1649.15	0.52	-0.40	1.26	1.85	1.32	107.63

MD	INC	AZIM	TVD	VS	CN/S	HEAV	DLS	CLOSURE DIST	CLOSURE DIR
ft	deg	deg	ft	ft	ft	ft	%/100ft	ft	deg
1675.00	2.62	39.41	1674.13	-0.37	0.55	1.84	2.91	1.92	73.34
1700:00	3:17	53:76	1699:09	-1:13	1:40	2:76	3:63	3:10	63:10
1725:00	3:69	62:31	1724:05	-1:78	2:18	4:03	2:90	4:59	61:56
1750:00	4:42	65:19	1748:99	-2:40	2:96	5:62	3:04	6:35	62:21
1775:00	4:57	67:93	1773:91	-3:00	3:74	7:42	1:05	8:31	63:24
1800:00	4:69	69:10	1798:83	-3:56	4:48	9:30	0:62	10:32	64:27
1825.00	4.78	69.37	1823.74	-4.10	5.21	11.23	0.36	12.38	65.10
1850.00	4.78	68.57	1848.66	-4.65	5.96	13.17	0.27	14.46	65.65
1875.00	4.78	70.17	1873.57	-5.19	6.69	15.12	0.53	16.54	66.12
1900.00	4.80	70.69	1898.48	-5.70	7.39	17.09	0.19	18.62	66.61
1925.00	4.78	69.02	1923.39	-6.23	8.11	19.05	0.56	20.71	66.93
1950:00	4:73	68:70	1948:31	-6:78	8:86	20:98	0:25	22:78	67:11
1975:00	4:47	66:93	1973:23	-7:35	9:62	22:84	1:16	24:78	67:17
2000:00	4:26	66:93	1998:15	-7:93	10:36	24:59	0:87	26:69	67:15
2025:00	4:14	66:68	2023:09	-8:48	11:08	26:27	0:45	28:52	67:13
2050:00	3:69	65:77	2048:03	-9:01	11:77	27:84	1:82	30:22	67:08
2075.00	3.29	68.91	2072.98	-9.46	12.36	29.24	1.78	31.75	67.09
2100.00	2.66	72.58	2097.95	-9.77	12.79	30.47	2.62	33.04	67.22
2125.00	2.57	76.01	2122.92	-9.98	13.10	31.56	0.73	34.18	67.46
2150.00	2.54	78.01	2147.90	-10.12	13.35	32.65	0.38	35.28	67.76
2175.00	2.60	83.11	2172.87	-10.20	13.54	33.75	0.95	36.37	68.15
2200:00	2:78	86:44	2197:84	-10:19	13:64	34:92	0:96	37:49	68:66
2225:00	2:81	89:93	2222:82	-10:11	13:68	36:14	0:69	38:64	69:27
2250:00	2:96	90:04	2247:78	-9:99	13:68	37:40	0:61	39:82	69:91
2275:00	2:99	90:05	2272:75	-9:86	13:68	38:70	0:13	41:05	70:53
2300:00	2:98	89:85	2297:72	-9:73	13:68	40:00	0:08	42:28	71:12
2325.00	3.01	89.44	2322.68	-9.61	13.69	41.31	0.16	43.52	71.67
2350.00	2.91	83.47	2347.65	-9.57	13.77	42.59	1.30	44.76	72.09
2375.00	2.31	62.09	2372.62	-9.77	14.07	43.67	4.53	45.88	72.14
2400.00	2.30	47.21	2397.60	-10.26	14.65	44.48	2.38	46.83	71.77
2425.00	2.33	38.24	2422.58	-10.93	15.39	45.16	1.45	47.71	71.18
2450:00	2:38	31:37	2447:56	-11:72	16:23	45:75	1:14	48:54	70:46

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	2.52	28.44	2472.54	-12.58	17.16	46.28	0.74	49.36	69.66
2500.00	2.36	28.49	2497.52	-13.47	18.09	46.79	0.63	50.16	68.86
2525.00	2.45	27.65	2522.49	-14.34	19.02	47.28	0.40	50.96	68.09
2550.00	2.41	29.96	2547.47	-15.21	19.95	47.79	0.42	51.79	67.34
2575.00	2.53	27.72	2572.45	-16.10	20.89	48.31	0.60	52.63	66.61
2600.00	2.55	28.17	2597.42	-17.03	21.87	48.83	0.11	53.50	65.87
2625.00	2.54	29.69	2622.40	-17.94	22.84	49.36	0.27	54.39	65.17
2650.00	2.66	35.65	2647.37	-18.83	23.79	49.98	1.19	55.35	64.54
2675.00	2.91	42.70	2672.34	-19.69	24.73	50.75	1.68	56.45	64.02
2700.00	3.09	45.35	2697.31	-20.54	25.67	51.66	0.90	57.68	63.57
2725.00	3.20	48.87	2722.27	-21.37	26.60	52.66	0.90	59.00	63.20
2750.00	3.19	46.94	2747.23	-22.20	27.54	53.69	0.43	60.34	62.85
2775.00	3.22	48.78	2772.19	-23.03	28.47	54.73	0.42	61.69	62.51
2800.00	3.22	47.43	2797.15	-23.86	29.41	55.77	0.30	63.05	62.20
2825.00	3.20	48.77	2822.12	-24.69	30.35	56.82	0.31	64.41	61.89
2850.00	2.80	60.36	2847.08	-25.34	31.11	57.87	2.91	65.70	61.74
2875.00	2.68	66.53	2872.05	-25.77	31.64	58.94	1.27	66.90	61.77
2900.00	2.68	69.63	2897.03	-26.10	32.08	60.02	0.58	68.06	61.88
2925.00	2.75	72.36	2922.00	-26.38	32.46	61.14	0.58	69.23	62.03
2950.00	2.64	74.19	2946.97	-26.60	32.80	62.27	0.56	70.38	62.22
2975.00	2.67	75.02	2971.94	-26.80	33.11	63.38	0.20	71.51	62.42
3000.00	2.74	74.76	2996.92	-27.00	33.42	64.52	0.30	72.66	62.62
3025.00	2.81	75.21	3021.89	-27.20	33.73	65.69	0.29	73.85	62.82
3050.00	2.91	75.39	3046.85	-27.39	34.05	66.90	0.37	75.07	63.03
3075.00	2.95	74.65	3071.82	-27.60	34.38	68.13	0.23	76.32	63.23
3100.00	2.96	74.24	3096.79	-27.83	34.72	69.38	0.10	77.58	63.41
3125.00	2.94	74.65	3121.76	-28.05	35.07	70.62	0.13	78.84	63.59
3150.00	3.01	74.76	3146.72	-28.27	35.41	71.87	0.27	80.12	63.77
3175.00	3.02	75.20	3171.69	-28.48	35.75	73.13	0.11	81.41	63.95
3200.00	3.03	75.27	3196.65	-28.70	36.09	74.41	0.05	82.70	64.13
3225.00	2.43	68.13	3221.62	-28.95	36.45	75.54	2.76	83.88	64.24
3250.00	2.31	67.37	3246.60	-29.25	36.84	76.50	0.48	84.91	64.28

MD	INC	AZIM	TVD	VS	IN/AS	HEAW	DLS	CLOSURE	CLOSURE
ft	deg	deg	ft	ft	ft	ft	%/100ft	DIST	DIR
								ft	deg
3275.00	2:23	66.78	3271.58	-29.54	37.23	77.41	0.33	85.90	64.32
3300.00	2:26	67.58	3296.56	-29.83	37.61	78.32	0.16	86.88	64.35
3325.00	2.25	66.67	3321.54	-30.12	37.99	79.22	0.15	87.86	64.38
3350.00	2.27	64.20	3346.53	-30.45	38.40	80.12	0.40	88.85	64.39
3375.00	2.27	65.43	3371.51	-30.78	38.82	81.02	0.20	89.84	64.39
3400.00	2.28	65.14	3396.49	-31.10	39.24	81.92	0.07	90.83	64.40
3425.00	2.37	64.58	3421.47	-31.44	39.67	82.84	0.36	91.85	64.41
3450.00	2:33	65.63	3446.44	-31.78	40.10	83.77	0.24	92.87	64.42
3475.00	2:44	64.73	3471.42	-32.13	40.54	84.71	0.45	93.91	64.43
3500.00	2:35	67.28	3496.40	-32.46	40.96	85.66	0.55	94.95	64.44
3525.00	2:40	66.03	3521.38	-32.77	41.37	86.61	0.29	95.99	64.47
3550.00	2:40	64.29	3546.36	-33.12	41.81	87.56	0.29	97.03	64.47
3575.00	2.41	66.72	3571.34	-33.46	42.25	88.52	0.41	98.08	64.48
3600.00	2.27	73.40	3596.31	-33.71	42.60	89.48	1.22	99.10	64.54
3625.00	2.22	78.43	3621.30	-33.86	42.84	90.43	0.81	100.06	64.65
3650.00	2.23	79.40	3646.28	-33.95	43.02	91.38	0.15	101.00	64.79
3675.00	2.36	80.78	3671.26	-34.03	43.20	92.36	0.57	101.97	64.94
3700.00	2:35	82.52	3696.24	-34.08	43.35	93.38	0.29	102.95	65.10
3725.00	2:33	85.13	3721.21	-34.09	43.46	94.40	0.44	103.92	65.28
3750.00	2:40	84.07	3746.19	-34.08	43.55	95.42	0.33	104.89	65.47
3775.00	2:40	82.31	3771.17	-34.11	43.68	96.46	0.30	105.89	65.64
3800.00	2:50	83.77	3796.15	-34.13	43.81	97.53	0.44	106.91	65.81
3825.00	2.38	84.14	3821.13	-34.14	43.92	98.58	0.45	107.92	65.99
3850.00	2.47	83.08	3846.10	-34.16	44.04	99.64	0.40	108.93	66.16
3875.00	2.64	82.99	3871.08	-34.18	44.17	100.74	0.65	110.00	66.32
3900.00	2.73	84.60	3896.05	-34.20	44.30	101.90	0.47	111.12	66.51
3925.00	2.69	85.07	3921.02	-34.19	44.40	103.08	0.17	112.24	66.70
3950.00	2:83	84.87	3945.99	-34.18	44.51	104.28	0.57	113.38	66.89
3975.00	2:78	82.85	3970.96	-34.19	44.64	105.50	0.46	114.55	67.06
4000.00	2:91	84.88	3995.93	-34.20	44.77	106.73	0.66	115.74	67.24
4025.00	2:88	83.49	4020.90	-34.21	44.90	107.98	0.30	116.95	67.42
4050.00	2:88	82.69	4045.87	-34.24	45.05	109.23	0.16	118.16	67.59

MD	INC	AZIM	TVD	VS	IN/S	FE/W	DLS	CLOSURE DIST	CLOSURE DIR
ft	deg	deg	ft	ft	ft	ft	%/100ft	ft	deg
4075.00	2.58	72.60	4070.84	-34.37	45.30	110.39	2.26	119.32	67.69
4100.00	2.47	71.27	4095.82	-34.61	45.64	111.44	0.49	120.42	67.73
4125.00	2.44	68.80	4120.79	-34.87	46.01	112.44	0.44	121.49	67.75
4150.00	2.52	69.19	4145.77	-35.16	46.39	113.46	0.30	122.57	67.76
4175.00	2.50	70.39	4170.75	-35.44	46.77	114.48	0.23	123.67	67.78
4200.00	2.44	69.95	4195.72	-35.70	47.14	115.49	0.26	124.74	67.80
4225.00	2.45	69.11	4220.70	-35.98	47.51	116.49	0.16	125.81	67.81
4250.00	2.49	68.57	4245.68	-36.27	47.90	117.50	0.16	126.89	67.82
4275.00	2.62	66.56	4270.65	-36.59	48.32	118.53	0.64	128.00	67.82
4300.00	2.75	67.18	4295.63	-36.94	48.78	119.60	0.54	129.17	67.81
4325.00	2.84	68.11	4320.60	-37.30	49.25	120.73	0.39	130.39	67.81
4350.00	2.85	65.93	4345.56	-37.67	49.73	121.87	0.43	131.63	67.80
4375.00	2.99	66.00	4370.53	-38.07	50.25	123.03	0.58	132.90	67.78
4400.00	3.07	63.04	4395.50	-38.52	50.82	124.23	0.70	134.22	67.75
4425.00	3.09	64.22	4420.46	-39.00	51.42	125.43	0.28	135.56	67.71
4450.00	3.21	64.15	4445.42	-39.47	52.01	126.67	0.48	136.93	67.68
4475.00	3.33	65.02	4470.38	-39.96	52.63	127.96	0.52	138.36	67.64
4500.00	3.46	63.64	4495.34	-40.47	53.27	129.29	0.61	139.84	67.61
4525.00	3.44	64.01	4520.29	-41.00	53.93	130.65	0.13	141.34	67.57
4550.00	3.49	63.90	4545.25	-41.53	54.60	132.00	0.20	142.85	67.53
4575.00	3.53	64.63	4570.20	-42.05	55.26	133.38	0.24	144.38	67.50
4600.00	3.55	63.14	4595.15	-42.60	55.94	134.77	0.37	145.92	67.46
4625.00	3.58	64.35	4620.10	-43.14	56.63	136.16	0.33	147.47	67.42
4650.00	3.59	62.97	4645.06	-43.70	57.32	137.56	0.35	149.02	67.38
4675.00	3.58	64.47	4670.01	-44.25	58.01	138.96	0.38	150.58	67.34
4700.00	3.52	65.57	4694.96	-44.76	58.67	140.36	0.36	152.13	67.32
4725.00	3.16	72.14	4719.92	-45.16	59.19	141.72	2.09	153.58	67.33
4750.00	2.71	78.45	4744.88	-45.37	59.52	142.95	2.23	154.85	67.39
4775.00	2.48	84.94	4769.86	-45.42	59.69	144.07	1.49	155.94	67.50
4800.00	2.45	92.51	4794.84	-45.34	59.71	145.14	1.31	156.94	67.64
4825.00	2.38	93.17	4819.81	-45.19	59.66	146.19	0.33	157.90	67.80
4850.00	2.35	95.52	4844.79	-45.01	59.58	147.22	0.40	158.82	67.97

MD	INC	AZIM	TVD	VS	IN/S	HEAV	DLS	CLOSURE DIST	CLOSURE DIR
ft	deg	deg	ft	ft	ft	ft	%/100ft	ft	deg
4875.00	2.41	95.87	4869.77	-44.81	59.48	148.25	0.22	159.74	68.14
4900.00	2.43	95.35	4894.75	-44.61	59.38	149.30	0.11	160.68	68.31
4925.00	2.39	95.60	4919.73	-44.40	59.28	150.35	0.14	161.61	68.48
4950.00	2.44	97.84	4944.70	-44.18	59.15	151.40	0.43	162.54	68.66
4975.00	2.50	96.12	4969.68	-43.95	59.02	152.47	0.37	163.49	68.84
5000.00	2.52	97.11	4994.66	-43.71	58.90	153.55	0.19	164.46	69.02
5025.00	2.54	97.51	5019.63	-43.47	58.76	154.65	0.10	165.43	69.20
5050.00	2.49	98.01	5044.61	-43.22	58.61	155.73	0.22	166.39	69.38
5075.00	2.55	99.28	5069.58	-42.95	58.44	156.82	0.34	167.35	69.56
5100.00	2.50	98.51	5094.56	-42.67	58.27	157.91	0.24	168.32	69.74
5125.00	2.51	96.32	5119.54	-42.42	58.13	158.99	0.38	169.29	69.92
5150.00	2.60	96.49	5144.51	-42.19	58.01	160.10	0.34	170.28	70.08
5175.00	2.60	97.55	5169.49	-41.95	57.87	161.23	0.19	171.30	70.26
5200.00	2.62	95.41	5194.46	-41.71	57.74	162.36	0.39	172.32	70.42
5225.00	2.81	94.71	5219.43	-41.49	57.64	163.54	0.78	173.39	70.59
5250.00	2.82	94.56	5244.40	-41.27	57.54	164.76	0.05	174.52	70.75
5275.00	2.89	93.84	5269.37	-41.06	57.45	166.00	0.30	175.66	70.91
5300.00	2.88	93.46	5294.34	-40.86	57.36	167.26	0.08	176.82	71.07
5325.00	2.90	94.84	5319.31	-40.65	57.27	168.51	0.28	177.98	71.23
5350.00	2.93	93.97	5344.27	-40.43	57.18	169.78	0.22	179.15	71.39
5375.00	2.85	91.93	5369.24	-40.24	57.11	171.04	0.51	180.32	71.54
5400.00	2.74	85.87	5394.21	-40.14	57.13	172.26	1.26	181.49	71.65
5425.00	2.59	86.18	5419.19	-40.11	57.21	173.42	0.60	182.61	71.74
5450.00	2.63	84.39	5444.16	-40.09	57.31	174.56	0.35	183.72	71.82
5475.00	2.64	84.64	5469.13	-40.09	57.42	175.70	0.06	184.84	71.90
5500.00	2.66	84.92	5494.11	-40.09	57.52	176.85	0.10	185.97	71.98
5525.00	2.66	84.50	5519.08	-40.08	57.63	178.00	0.08	187.10	72.06
5550.00	2.64	84.83	5544.05	-40.08	57.74	179.15	0.10	188.23	72.14
5575.00	2.64	84.64	5569.03	-40.07	57.84	180.30	0.04	189.35	72.21
5600.00	2.78	85.23	5594.00	-40.06	57.95	181.48	0.60	190.50	72.29
5625.00	2.77	84.50	5618.97	-40.05	58.05	182.68	0.15	191.69	72.37
5650.00	2.84	85.47	5643.94	-40.04	58.16	183.90	0.34	192.88	72.45

SURVEY REPORT

QUIEN SABE FED COM #602H

KEEPER GYRO SURVEY

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	2.98	83.00	5668.91	-40.04	58.29	185.16	0.73	194.12	72.53
5700:00	3:09	80:23	5693.87	-40.11	58.48	186.47	0.76	195.43	72.59
5725:00	3:19	80:77	5718.83	-40.20	58.71	187.83	0.41	196.79	72.64
5750:00	3:46	75:90	5743.79	-40.36	59.01	189.24	0.54	198.23	72.68
5775:00	3:63	76:89	5768.74	-40.57	59.37	190.75	0.73	199.77	72.71
5800:00	4:01	73:50	5793.69	-40.84	59.80	192.35	0.77	201.43	72.73
5825.00	4.14	71.37	5818.63	-41.21	60.33	194.05	0.81	203.21	72.73
5850.00	4.16	71.87	5843.56	-41.61	60.90	195.76	0.15	205.02	72.72
5875.00	4.19	71.21	5868.49	-42.02	61.48	197.49	0.23	206.84	72.71
5900.00	4.20	71.06	5893.43	-42.44	62.07	199.22	0.06	208.66	72.69
5925.00	4.20	71.58	5918.36	-42.85	62.65	200.95	0.15	210.49	72.68
5950:00	4:37	70:31	5943.29	-43.29	63.26	202.71	0.79	212.36	72.67
5975:00	4:34	71:38	5968.22	-43.74	63.89	204.51	0.35	214.25	72.65
6000:00	4:26	71:35	5993.15	-44.16	64.49	206.28	0.32	216.13	72.64
6025:00	4:17	71:63	6018.08	-44.57	65.07	208.02	0.34	217.96	72.63
6050:00	4:22	71:53	6043.01	-44.98	65.65	209.76	0.18	219.79	72.62
6075.00	4.18	70.68	6067.95	-45.40	66.24	211.49	0.28	221.62	72.61
6100.00	4.20	70.88	6092.88	-45.83	66.84	213.22	0.09	223.45	72.59
6125.00	4.17	69.76	6117.81	-46.28	67.46	214.94	0.35	225.27	72.58
6150.00	4.07	69.49	6142.75	-46.74	68.08	216.62	0.40	227.07	72.55
6175.00	3.92	68.70	6167.69	-47.20	68.70	218.25	0.67	228.81	72.53
6200:00	3:90	66:44	6192.63	-47.69	69.35	219.82	0.62	230.51	72.49
6225:00	3:80	66:50	6217.57	-48.21	70.02	221.36	0.38	232.17	72.45
6250:00	3:79	66:52	6242.52	-48.72	70.68	222.88	0.04	233.82	72.40
6275:00	3:88	66:47	6267.46	-49.23	71.35	224.41	0.34	235.48	72.36
6300:00	3:85	64:85	6292.40	-49.77	72.04	225.95	0.45	237.16	72.31
6325.00	3.90	58.58	6317.35	-50.42	72.84	227.43	1.70	238.81	72.24
6350.00	3.96	52.40	6342.29	-51.25	73.81	228.84	1.71	240.45	72.12
6375.00	3.97	50.04	6367.23	-52.20	74.90	230.19	0.66	242.07	71.98
6400.00	4.19	47.16	6392.17	-53.24	76.07	231.52	1.18	243.70	71.81
6425.00	4.24	46.46	6417.10	-54.36	77.33	232.86	0.31	245.37	71.63
6450:00	4:61	44:45	6442.02	-55:58	78.68	234.24	1.58	247.10	71.43

MD	INC	AZIM	TVD	VS	N/S	E/W	DLS	CLOSURE DIST	CLOSURE DIR
ft	deg	deg	ft	ft	ft	ft	%/100ft	ft	deg
6475.00	4.41	44.51	6466.95	-56.84	80.09	235.61	0.79	248.85	71.23
6500.00	4.52	46.73	6491.87	-58.06	81.45	237.00	0.81	250.61	71.03
6525.00	4.39	42.10	6516.80	-59.30	82.83	238.36	1.52	252.34	70.84
6550.00	4.28	37.83	6541.72	-60.63	84.28	239.57	1.37	253.97	70.62
6575.00	4.43	32.93	6566.65	-62.06	85.82	240.67	1.62	255.52	70.37
6600.00	4.44	33.11	6591.58	-63.57	87.45	241.73	0.06	257.06	70.11
6625.00	4.45	32.21	6616.50	-65.09	89.08	242.77	0.28	258.60	69.85
6650.00	4.43	33.18	6641.43	-66.61	90.71	243.82	0.32	260.14	69.59
6675.00	4.44	32.40	6666.35	-68.13	92.33	244.86	0.24	261.69	69.34
6700.00	4.68	31.42	6691.27	-69.70	94.02	245.91	1.03	263.27	69.08
6725.00	4.69	32.64	6716.19	-71.32	95.75	247.00	0.40	264.90	68.81
6750.00	4.55	31.70	6741.11	-72.91	97.45	248.07	0.64	266.52	68.55
6775.00	4.52	31.65	6766.03	-74.49	99.13	249.11	0.14	268.11	68.30
6800.00	4.80	34.04	6790.95	-76.08	100.84	250.21	1.39	269.76	68.05
6825.00	5.25	37.04	6815.85	-77.73	102.62	251.48	2.07	271.61	67.80
6850.00	5.18	38.12	6840.75	-79.38	104.42	252.87	0.48	273.58	67.56
6875.00	5.45	39.81	6865.64	-81.03	106.22	254.33	1.26	275.62	67.33
6900.00	5.77	42.06	6890.52	-82.71	108.06	255.93	1.55	277.81	67.11
6925.00	5.84	42.73	6915.39	-84.41	109.93	257.63	0.39	280.11	66.89
6950.00	6.16	41.64	6940.25	-86.17	111.87	259.39	1.37	282.48	66.67
6975.00	5.97	43.43	6965.12	-87.93	113.82	261.17	1.09	284.90	66.45
7000.00	5.62	43.66	6989.99	-89.58	115.65	262.91	1.40	287.22	66.26
7025.00	5.28	45.18	7014.87	-91.11	117.34	264.57	1.48	289.42	66.08
7050.00	4.96	45.36	7039.77	-92.52	118.91	266.16	1.28	291.51	65.93
7075.00	4.85	46.00	7064.68	-93.85	120.40	267.68	0.48	293.52	65.78
7100.00	4.84	46.36	7089.59	-95.16	121.87	269.21	0.13	295.51	65.64
7125.00	4.60	47.74	7114.51	-96.41	123.27	270.71	1.08	297.46	65.52
7150.00	4.37	49.11	7139.43	-97.56	124.57	272.18	1.00	299.33	65.41
7175.00	4.25	50.15	7164.36	-98.63	125.78	273.61	0.59	301.13	65.31
7200.00	4.20	52.10	7189.29	-99.64	126.94	275.04	0.60	302.92	65.23
7225.00	3.98	54.15	7214.23	-100.57	128.01	276.47	1.06	304.66	65.15
7250.00	3.90	57.92	7239.17	-101.39	128.97	277.89	1.08	306.36	65.10

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	3.84	59.25	7264.11	-102.13	129.85	279.33	0.45	308.04	65.07
7300.00	3.73	64.93	7289.06	-102.75	130.62	280.79	1.56	309.68	65.05
7325.00	3.69	67.68	7314.01	-103.26	131.27	282.27	0.73	311.30	65.06
7350.00	3.75	69.34	7338.95	-103.70	131.87	283.78	0.49	312.92	65.08
7375.00	4.05	74.82	7363.90	-104.06	132.39	285.39	1.90	314.60	65.11
7400.00	4.27	77.67	7388.83	-104.32	132.82	287.15	1.22	316.38	65.18
7425.00	4.57	79.91	7413.76	-104.51	133.19	289.04	1.36	318.25	65.26
7450.00	4.81	82.30	7438.67	-104.62	133.50	291.06	1.27	320.22	65.36
7475.00	5.09	83.44	7463.58	-104.68	133.77	293.20	1.16	322.28	65.48
7500.00	5.18	84.19	7488.48	-104.70	134.01	295.43	0.44	324.40	65.60
7525.00	5.23	84.21	7513.38	-104.71	134.24	297.68	0.20	326.55	65.73
7550.00	5.28	85.04	7538.27	-104.71	134.46	299.96	0.38	328.72	65.86
7575.00	4.96	86.77	7563.17	-104.65	134.62	302.19	1.45	330.81	65.99
7600.00	4.91	88.84	7588.08	-104.52	134.70	304.33	0.73	332.81	66.13
7625.00	4.95	88.97	7612.99	-104.36	134.74	306.48	0.16	334.79	66.27
7650.00	5.00	88.74	7637.89	-104.19	134.78	308.65	0.23	336.80	66.41
7675.00	5.07	87.34	7662.80	-104.05	134.86	310.85	0.56	338.84	66.55
7700.00	5.04	85.59	7687.70	-103.97	134.99	313.04	0.63	340.91	66.67
7725.00	4.95	81.18	7712.60	-104.01	135.24	315.20	1.58	342.99	66.78
7750.00	4.90	77.28	7737.51	-104.20	135.64	317.31	1.35	345.08	66.85
7775.00	4.96	74.92	7762.42	-104.52	136.16	319.39	0.85	347.20	66.91
7800.00	5.09	73.86	7787.32	-104.90	136.75	321.50	0.63	349.38	66.96
7825.00	5.05	73.34	7812.23	-105.31	137.37	323.62	0.23	351.57	67.00
7850.00	4.92	72.98	7837.13	-105.74	138.00	325.70	0.56	353.73	67.04
7875.00	4.49	71.74	7862.05	-106.17	138.62	327.65	1.75	355.77	67.07
7900.00	4.03	69.71	7886.98	-106.60	139.23	329.41	1.95	357.62	67.09
7925.00	3.56	68.10	7911.92	-107.04	139.83	330.95	1.93	359.28	67.10
7950.00	3.09	63.74	7936.88	-107.50	140.41	332.27	2.12	360.72	67.09
7975.00	2.87	61.47	7961.85	-107.98	141.01	333.43	1.00	362.02	67.08
8000.00	2.84	60.88	7986.82	-108.47	141.61	334.52	0.17	363.26	67.06
8025.00	2.80	60.58	8011.79	-108.97	142.21	335.59	0.16	364.48	67.03
8050.00	2.92	58.57	8036.75	-109.49	142.84	336.67	0.62	365.72	67.01

MD	INC	AZIM	TVD	VS	IN/S	E/W	DLS	CLOSURE DIST	CLOSURE DIR
ft	deg	deg	ft	ft	ft	ft	/100ft	ft	deg
8075.00	3.14	59.83	8061.72	-110.06	143.52	337.80	0.92	367.02	66.98
8100.00	3.29	58.86	8086.68	-110.65	144.24	339.01	0.65	368.41	66.95
8125.00	3.42	57.63	8111.64	-111.30	145.01	340.25	0.58	369.86	66.92
8150.00	3.65	56.90	8136.59	-112.00	145.84	341.55	0.95	371.38	66.88
8175.00	3.90	59.92	8161.54	-112.72	146.70	342.95	1.27	373.01	66.84
8200.00	4.24	61.46	8186.47	-113.43	147.57	344.50	1.43	374.77	66.81
8225.00	4.52	62.21	8211.40	-114.17	148.47	346.18	1.12	376.68	66.79
8250.00	4.73	62.82	8236.32	-114.92	149.40	347.97	0.87	378.69	66.76
8275.00	4.84	63.26	8261.23	-115.68	150.34	349.83	0.48	380.77	66.74
8300.00	4.70	63.14	8286.14	-116.43	151.28	351.68	0.57	382.84	66.72
8325.00	4.42	60.51	8311.06	-117.20	152.22	353.44	1.39	384.82	66.70
8350.00	4.31	56.93	8335.99	-118.02	153.21	355.06	1.18	386.71	66.66
8375.00	4.16	55.56	8360.92	-118.89	154.23	356.60	0.73	388.52	66.61
8400.00	4.01	49.35	8385.86	-119.83	155.31	358.01	1.87	390.25	66.55
8425.00	3.97	47.98	8410.80	-120.85	156.46	359.32	0.41	391.90	66.47
8450.00	4.17	47.15	8435.74	-121.91	157.66	360.62	0.83	393.58	66.39
8475.00	4.27	46.30	8460.67	-123.04	158.92	361.96	0.46	395.31	66.30
8500.00	4.44	47.39	8485.60	-124.19	160.22	363.35	0.79	397.10	66.20
8500.52	4.45	47.41	8486.12	-124.22	160.25	363.38	0.81	397.14	66.20