

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTBUREAU OF LAND MANAGEMENT
CARLSBAD DISTRICT
OCD Artesia

APR 18 2018

FORM APPROVED
OMB No 1004-0137
Expires July 31 2010

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

5 Lease Serial No
NMNM101601

1a Type of Well ☒ Oil Well ☐ Gas Well ☐ Dry ☐ Other		6 If Indian, Allottee or Tribe Name	
b Type of Completion ☒ New Well ☐ Work Over ☐ Deepen ☐ Plug Back ☐ Diff Resvr Other _____		7 Unit or CA Agreement Name and No	
2 Name of Operator COG PRODUCTION LLC		8 Lease Name and Well No TANKLESS FEDERAL COM 2H	
3 Address 2208 W MAIN STREET ARTESIA NM 88210		9 API Well No 30-015-44434-00-S1	
4 Location of Well (Report location clearly and in accordance with Federal requirements)* At surface SESE 190FSL 560FEL 32 341248 N Lat 103 741867 W Lon Sec 35 T22S R31E Mer NMP At top prod interval reported below SESE 330FSL 380FEL 32 341633 N Lat, 103 741287 W Lon Sec 26 T22S R31E Mer NMP At total depth NESE 2438FSL 379FEL		10 Field and Pool, or Exploratory LIVINGSTON RIDGE	
14 Date Spudded 11/20/2017		15 Date T D Reached 12/08/2017	
16 Date Completed ☐ D & A ☒ Ready to Prod 02/21/2018		17 Elevations (DF, KB, RT, GL)* 3446 GL	
18 Total Depth MD 17557 TVD 10254		19 Plug Back T D MD 17440 TVD 10258	
20 Depth Bridge Plug Set MD 17440 TVD 10258		21 Type Electric & Other Mechanical Logs Run (Submit copy of each) NONE	
22 Was well cored? ☒ No ☐ Yes (Submit analysis) Was DST run? ☒ No ☐ Yes (Submit analysis) Directional Survey? ☐ No ☒ Yes (Submit analysis)			

23 Casing and Liner Record (Report all strings set in well)

Hole Size	Size/Grade	Wt (#/ft)	Top (MD)	Bottom (MD)	Stage Cementer Depth	No of Sks & Type of Cement	Slurry Vol (BBL)	Cement Top*	Amount Pulled
17 500	13 375 J55	54 5	0	717		600		0	
12 250	9 625 J55	40 0	0	4497		1370		0	
8 750	5 500 P110	17 0	0	17509		3320		2764	

24 Tubing Record

Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)
2 875	9598	9581						

25 Producing Intervals

Formation	Top	Bottom	Perforated Interval	Size	No Holes	Perf Status
A) BONE SPRING	10342	17415	10342 TO 17350	0 430	1036	OPEN
B)			17405 TO 17415		100	OPEN
C)						
D)						

27 Acid, Fracture, Treatment, Cement Squeeze, Etc

Depth Interval	Amount and Type of Material
10342 TO 17415	SEE ATTACHED

ACCEPTED FOR RECORD
APR - 6 2018
BUREAU OF LAND MANAGEMENT
CARLSBAD FIELD OFFICE

28 Production Interval A

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr API	Gas Gravity	Production Method
02/22/2018	02/23/2018	24	→	479 0	662 0	815 0			FLows FROM WELL
Choke Size	Tbg Press Flwg SI	Csg Press	24 Hr Rate	Oil BBL	Gas MCF	Water BBL	Gas Oil Ratio	Well Status	
18/64	1350	1300 0	→	479	662	815		POW	

28a Production Interval B

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr API	Gas Gravity	Production Method
			→						
Choke Size	Tbg Press Flwg SI	Csg Press	24 Hr Rate	Oil BBL	Gas MCF	Water BBL	Gas Oil Ratio	Well Status	
			→						

(See Instructions and spaces for additional data on reverse side)

ELECTRONIC SUBMISSION #406233 VERIFIED BY THE BLM WELL INFORMATION SYSTEM

** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED **

Reclamation by 08/21/2018

28b Production Interval C

Date First Produced	Test Date	Hours Tested	Test Production →	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr API	Gas Gravity	Production Method
Choke Size	Tbg Press Flwg SI	Csg Press	24 Hr Rate →	Oil BBL	Gas MCF	Water BBL	Gas Oil Ratio	Well Status	

28c Production - Interval D

Date First Produced	Test Date	Hours Tested	Test Production →	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr API	Gas Gravity	Production Method
Choke Size	Tbg Press Flwg SI	Csg Press	24 Hr Rate →	Oil BBL	Gas MCF	Water BBL	Gas Oil Ratio	Well Status	

29 Disposition of Gas(Sold used for fuel vented etc)
SOLD

30 Summary of Porous Zones (Include Aquifers)

Show all important zones of porosity and contents thereof Cored intervals and all drill-stem tests, including depth interval tested, cushion used, time tool open flowing and shut in pressures and recoveries

31 Formation (Log) Markers

Formation	Top	Bottom	Descriptions Contents, etc	Name	Top Meas Depth
LAMAR	4465	4509		RUSTLER	670
BELL CANYON	4510	5369		TOP SALT	1115
CHERRY CANYON	5370	6604		BASE OF SALT	4215
BRUSHY CANYON	6605	8289		LAMAR	4465
BONE SPRING LIME	8290	9414		BELL CANYON	4510
BONE SPRING 1ST	9415	10104		CHERRY CANYON	5370
BONE SPRING 2ND	10105	10259		BRUSHY CANYON	6605
				BONE SPRING LIME	8290

32 Additional remarks (include plugging procedure)
Additional Tops

1st Bone Spring 9415
2nd Bone Spring 10105

Surveys and Perfs/Stimulation are attached

33 Circle enclosed attachments

- | | | | |
|--|-------------------|--------------|----------------------|
| 1 Electrical/Mechanical Logs (1 full set req'd) | 2 Geologic Report | 3 DST Report | 4 Directional Survey |
| 5 Sundry Notice for plugging and cement verification | 6 Core Analysis | 7 Other | |

34 I hereby certify that the foregoing and attached information is complete and correct as determined from all available records (see attached instructions)

Electronic Submission #406233 Verified by the BLM Well Information System
For COG PRODUCTION LLC, sent to the Carlsbad
Committed to AFMSS for processing by DUNCAN WHITLOCK on 03/12/2018 (18DW0099SE)

Name (please print) STORMI DAVIS

Title PREPARER

Signature _____ (Electronic Submission)

Date 03/01/2018

Title 18 U S C Section 1001 and Title 43 U S C Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction

**** REVISED ** REVISED ** REVISED ** REVISED ** REVISED ** REVISED ** REVISED ****

TANKLESS FEDERAL COM #2H

<u>Perfs</u>	<u>7 1/2% Acid (Gal)</u>	<u>Sand (#)</u>	<u>Fluid (Gal)</u>
1	5544	368690	578088
2	3024	315600	285600
3	3024	305900	282072
4	3024	312400	308658
5	3024	313600	310632
6	3024	300300	282912
7	3024	312190	359730
8	3024	315180	282534
9	3024	316200	280434
10	3024	314500	286314
11	3024	316480	329952
12	3024	312030	281294
13	3024	312090	281484
14	3024	313000	286356
15	3024	314500	343014
16	3024	312230	277830
17	3024	316380	277704
18	3024	312200	278334
19	3024	312600	287280
20	3024	313300	280224
21	3066	313570	276612
22	3024	309450	277704
23	3024	313020	276570
24	3024	310300	279846
25	3024	313200	278082
26	3024	313020	276024
27	3024	312050	276150
28	3024	316950	275772
29	3024	313000	274428
30	3024	315140	280014
31	3024	310800	276738
32	3012	312330	288612
33	3012	310540	285588
34	3024	313590	272076
35	3024	313100	271908
36	3024	314480	242466
37	3024	313210	270816
38	3024	314100	272286
39	3024	317850	279594
40	3024	313480	266742
41	3024	314230	326004
42	3024	312220	282282
43	2436	312500	273056
44	3024	317210	281000
Totals	135,006	13,828,710	12,840,815

[illegible]

COG

TANKLESS FTD COM # 211

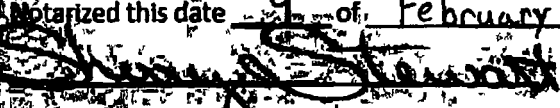
SCAN FREEDOM

11/30/2017

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

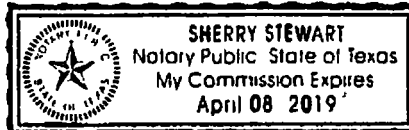
Kolton Cotton

Notarized this date 9 of February, 2018


Notary Signature

County of Midland

State of Texas



Scientific Drilling

The

In Wellbore Placement

COMPUTED OUTRUN KEEPER GYRO SURVEY

SDI JOB NO OP006289
SDI DISTRICT Midland
SDI KIT/UNIT

Site Name	TANKLESS FED COM
Lat/Long	32.3411256° N, 103.7413819° W
Northing	488,322.5 ft
Easting	682,820.6 ft

Section
Township
Range

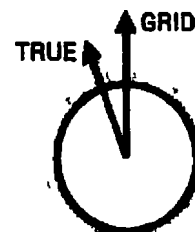
North Reference	Grid North
Grid Correction	-0 32 deg
System	US State Plane 1927
Datum	North American Datum 1927 (Clarke 1866)
Map Zone	New Mexico East 3001



Lat/Long 32 3411256° N, 103 7413819° W
 Northing 488,322 5 ft
 Easting 682,820 6 ft
 UWI 30-015-4443400

Ground Level 3446 ft above Mean Sea Level
Reference Datum KB
Reference Height 29 ft above G. L.
Reference Elevation 3475 ft

+N/-S	0 ft
+E/-W	0 ft
Proposal Direction	1 03°
Calculation Method	Minimum Curvature



Local Gravity 998 506 mG [computed]
True to Grid subtract 0 32°

OPERATORS
H SANGHOTT

DATE _____

SURVEY REPORT

TANKLESS FED COM # 2 H

COMPUTED OUTFRAN KEEPER GYRO SURVEY

NO	INC	AZIM	INC	INC	INC	INC	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 25	66.07	100 00	0 09	0 09	0 20	0 25	0 22	66 07
125 00	0 14	136.98	125 00	0 09	0 09	0 28	0 99	0 29	71 97
150 00	0 14	107 13	150 00	0 06	0 06	0 33	0 29	0 33	80 00
175 00	0 20	135 13	175 00	0 02	0 02	0 39	0 41	0 39	87 43
200 00	0 22	128 53	200 00	0 05	0 07	0 45	0 43	0 45	88 53
225 00	0 37	105 23	225 00	0 05	0 13	0 57	0 59	0 50	105 51
250 00	0 39	84 18	250 00	0 07	0 19	0 58	0 72	0 73	102 31
275 00	0 35	61 03	275 00	0 05	0 16	0 59	0 25	0 21	100 73
300 00	0 29	52 37	300 00	0 01	0 13	1 02	0 43	0 08	97 15
325 00	0 13	68.06	325.00	-0 07	-0 09	1 10	0 65	1 11	94 57
350 00	0 17	45 09	350 00	-0 03	-0 05	1 16	0 28	1 16	92 57
375 00	0 15	132 80	375 00	-0 03	-0 05	1 21	0 87	1 21	92 27
400 00	0 26	121 29	400 00	-0 08	-0 10	1 28	0 49	1 28	94 44
425 00	0 30	124 82	425 00	-0 14	-0 17	1 38	0 18	1.39	96 89
450 00	0 30	102 57	450 00	0 04	0 22	1 50	0 39	1 52	98 30
475 00	0 36	87 45	475 00	0 22	0 28	1 51	0 30	1 53	98 01
500 00	0 35	95 31	500 00	0 25	0 27	1 59	0 07	1 52	98 33
525 00	0 34	98 10	524 99	-0 25	-0 23	1 05	0 06	1 57	98 33
550 00	0 34	89 47	549 99	-0 26	-0 29	2 09	0 20	2 12	98 01
575 00	0 30	76 34	574 99	-0 24	-0 28	2 23	0 33	2 25	97 11
600 00	0 27	70 78	599 99	-0 20	-0 24	2 35	0 18	2 37	95 91
625 00	0 23	65 83	624 99	-0 16	-0 20	2 45	0 18	2 46	94 75
650 00	0 13	100 55	649 99	-0 14	-0 19	2 53	0 57	2 53	94 27
675 00	0 06	44 67	674 99	-0 14	-0 18	2 57	0 43	2 57	94 10
700 00	0 09	135 53	699 99	0 07	0 01	2 58	0 27	2 57	93 75
725 00	0 27	132 37	724 99	0 23	0 31	2 57	0 50	2 59	93 55
750 00	0 39	108 10	749 99	0 33	0 38	2 53	0 31	2 57	91 25
775 00	0 25	103 13	754 99	0 30	0 35	2 59	0 20	2 59	90 10
800 00	0 29	103 53	759 99	0 30	0 35	2 51	0 19	2 59	108 32
825 00	0 19	180 04	824 99	-0 71	-0 77	2 83	0 51	2 93	105 14
850 00	0 29	213 10	849 99	-0 81	-0 86	2 79	0 66	2 92	107 12

SURVEY REPORT

TANKLESS FED COM # 2 H

COMPUTED OUTRUN KEEPER GYRO SURVEY

NO	INC	AZIM	LEV	XS	YS	HEAV	DLS	CLOSURE DIST	CLOSURE DIR
°	deg	deg	ft	ft	ft	ft	"/100ft	ft	deg
875 00	0 30	205 94	874 99	-0 92	-0 97	2.73	0 15	2 90	109 59
900 00	0 39	203 85	899 99	-1 06	-1 11	2.67	0 38	2 89	112 57
925 00	0 43	208 94	924 99	-1 22	-1 27	2.59	0 20	2 88	116 11
950 00	0 52	207 99	949 99	-1 39	-1 38	2.50	0 05	2 83	119 79
975 00	0 53	202 05	974 99	-1 65	-1 60	2.32	0 39	2 80	123 39
1000 00	0 55	202 09	999 99	-1 85	-1 80	2.29	0 32	2 83	126 42
1025 00	0 51	199 03	1024 99	-2 09	-2 09	2.25	0 28	2 89	129 03
1050 00	0 43	190 45	1049 99	-2 22	-2 25	2.19	0 25	2 83	133 38
1075 00	0 50	180 32	1074 98	2 42	-2 46	2.17	0 42	3 28	138 58
1100 00	0 43	179 15	1099 98	-2.62	-2 66	2.17	0 26	3 44	140 82
1125 00	0 33	180 64	1124 98	-2.79	-2 83	2.17	0 41	3 57	142 51
1150 00	0 29	201 68	1149 98	-2.92	-2 96	2.15	0 49	3 66	144 06
1175 00	0 39	204 40	1174.98	-3 06	-3 10	2.09	0 41	3 74	146 00
1200 00	0 32	222 35	1199 98	-3 19	-3 23	2.00	0 53	4 30	150 32
1225 00	0 32	212 37	1224 98	3 33	-3 37	1.99	0 43	4 37	153 35
1250 00	0 31	219 50	1249 98	3 53	-3 57	1.95	0 39	4 38	156 40
1275 00	0 57	205 55	1274 98	3 74	-3 78	1.89	0 53	4 08	159 38
1300 00	0 45	219 52	1299 98	3 88	-3 91	1.49	0 30	4 39	159 39
1325 00	0 36	214 37	1324 98	-4 02	-4 05	1 39	0 23	4 28	161 00
1350 00	0 47	217 91	1349 98	-4 17	-4 19	1 29	0 45	4 39	162 96
1375 00	0 46	228 53	1374 98	-4 32	4 34	1 15	0 35	4 49	165 22
1400 00	0 60	219 93	1399 97	-4 49	-4 51	0 99	0 62	4 62	167 66
1425 00	0 64	216 54	1424 97	-4 71	-4 72	0 82	0 22	4 79	170 15
1450 00	0 38	240 33	1449 97	-4 83	-4 85	0 67	0 27	5 00	172 32
1475 00	0 55	205 30	1474 97	5 18	-5 20	0 54	0 29	5 39	173 03
1500 00	0 58	202 55	1499 97	5 39	-5 41	0 45	0 38	5 35	175 21
1525 00	0 30	205 79	1524 97	5 69	-5 64	0 39	0 33	5 65	175 04
1550 00	0 50	222 50	1549 97	5 79	-5 89	0 28	0 67	5 30	177 25
1575 00	0 61	218 71	1574 97	-5 97	-5 97	0 12	0 49	5 97	178 88
1600 00	0 62	218 83	1599 96	-6 18	-6.18	-0 05	0 06	6 18	180 47
1625 00	0 68	215 11	1624 96	-6 41	-6 41	-0 22	0 28	6 41	181 97
1650 00	0 76	206 54	1649 96	-6 68	6 68	-0 38	0 54	6 69	183 25

SURVEY REPORT

TANKLESS FED COM # 2 H

COMPUTED OUTRUN KEEPER GYRO SURVEY

TIME	INC	AZIM	ML	VR	HE	FW	DLS	CLOSURE DIST	CLOSURE DIR
h	deg	deg	ft	ft	ft	ft	7100ft	ft	deg
1675 00	0 65	195 76	1674 96	-6 97	-6 96	-0 49	0 69	6 98	184 04
1700 00	0 33	209 24	1699 86	-7 20	-7 19	-0 53	0 31	7 21	183 31
1725 00	0 55	205 51	1673 95	-7 13	-7 12	-0 20	0 51	7 14	183 12
1750 00	0 53	203 02	1679 95	-7 53	-7 55	-0 53	0 51	7 53	183 43
1775 00	0 70	215 32	1677 95	-8 07	-8 05	-0 07	0 31	8 08	182 75
1800 00	0 33	201 93	1689 95	-8 19	-8 17	-1 23	0 31	8 27	183 53
1825 00	0 84	205 68	1824 95	8 52	-8 50	-1 46	0 38	8 62	189 77
1850 00	0 62	197 93	1849 95	-8 82	-8 79	-1 58	0 99	8 93	190 22
1875 00	0 68	209 28	1874 94	-9 08	-9 05	-1 70	0 57	9 21	190 63
1900 00	0 68	212 52	1899 94	-9 34	-9 30	-1 85	0 15	9 49	191 26
1925 00	0 81	210 42	1924 94	-9 62	-9 58	-2 02	0 51	9 79	191 91
1950 00	0 73	205 32	1929 94	-9 31	-9 27	-2 31	0 29	10 12	192 31
1975 00	0 33	203 50	1973 94	-10 21	-10 17	-2 12	0 15	10 15	193 37
2000 00	0 31	209 22	1939 94	-10 53	-10 50	-2 05	0 12	10 32	193 10
2025 00	0 25	201 31	1923 94	-10 30	-10 23	-1 55	0 12	10 21	193 33
2050 00	0 02	205 09	2009 92	-10 27	-10 22	-1 00	0 21	10 53	193 47
2075 00	1 09	205 66	2074 92	-11 69	-11 63	-3 30	0 46	12 09	195 86
2100 00	1 16	203 37	2099 92	-12 14	-12 07	-3 51	0 35	12 57	196 19
2125 00	1 16	202 23	2124 91	-12 61	-12 54	-3 70	0 09	13 08	196 45
2150 00	1 17	201 80	2149 91	13 08	13 01	3 89	0 06	13 58	196 66
2175 00	1 00	196 64	2174 90	-13 53	13 46	-4 05	0 77	14 06	196 75
2200 00	0 94	199 67	2199 90	-13 93	-13 86	-5 18	0 34	14 48	196 79
2225 00	0 51	193 53	2224 89	-13 10	-13 03	-3 59	0 33	14 55	196 03
2250 00	0 37	190 07	2249 89	-13 01	-12 54	-3 23	0 32	15 15	195 10
2275 00	0 35	185 32	2254 89	-13 00	-12 53	-3 22	0 25	15 10	194 53
2300 00	0 70	185 53	2259 89	-12 53	-12 52	-3 13	0 15	15 03	195 32
2325 00	0 70	161 86	2324 89	-15 48	-15 41	-4 06	0 18	15 94	194 75
2350 00	0 68	157 27	2349 89	-15 76	-15 69	-3 95	0 24	16 18	194 14
2375 00	0 73	152 07	2374 88	-16 04	-15 97	-3 82	0 34	16 42	193 45
2400 00	0 73	153 10	2399 88	-16 32	-16 25	-3 67	0 05	16 66	192 74
2425 00	0 67	150 34	2424 88	-16 58	-16 52	3 53	0 25	16 89	192 06
2450 00	0 72	151 42	2449 88	-16 53	-16 52	3 53	0 21	16 73	191 39

SURVEY REPORT

TANKLESS FED COM # 2 H

COMPUTED OUTFRAN KEEPER GYRO SURVEY

TIME	INC	AZIM	TRUE	VR	VR	VR	DLS	CLOSURE DIST	CLOSURE DIR
H	deg	deg	deg	deg	deg	deg	7100ft	H	deg
2575.00	0.74	140.28	2574.87	-18.24	-18.03	-2.40	0.24	18.36	180.82
2600.00	0.74	137.93	2599.86	-18.56	-18.33	-2.13	0.26	18.65	180.58
2625.00	0.74	136.27	2624.86	-18.89	-18.66	-1.82	0.26	18.95	185.51
2650.00	0.74	133.68	2649.85	-19.23	-19.20	-1.48	0.31	19.26	184.40
2675.00	0.74	136.73	2674.85	-19.58	-19.56	-1.12	0.31	19.59	183.28
2700.00	0.74	132.97	2699.84	-19.93	-19.93	-0.75	0.35	19.95	182.19
2725.00	0.74	125.30	2724.84	-20.28	-20.30	-0.39	0.35	20.31	181.09
2750.00	0.74	112.93	2749.83	-20.63	-20.64	0.01	0.22	20.69	179.97
2775.00	0.74	103.01	2774.82	-21.07	-21.08	0.33	0.10	21.08	178.83
2800.00	0.74	110.33	2799.82	-21.45	-21.47	0.50	0.49	21.49	177.60
2825.00	1.56	124.60	2824.81	-21.84	-21.87	1.41	0.84	21.91	176.30
2850.00	1.62	121.29	2849.80	-22.20	-22.24	2.00	0.43	22.33	174.87
2875.00	1.62	119.04	2874.79	-22.55	-22.60	2.60	0.25	22.75	173.42
2900.00	1.57	123.48	2899.78	-22.90	-22.96	3.20	0.53	23.18	172.07
2925.00	1.59	123.03	2924.77	-23.26	-23.34	3.77	0.09	23.64	170.81
2950.00	1.63	119.82	2949.76	-23.62	-23.70	4.37	0.39	24.10	169.55
2975.00	1.42	119.01	2974.75	-23.93	-24.03	4.95	0.82	24.53	168.35
3000.00	0.98	119.97	2999.75	-24.18	-24.29	5.41	1.76	24.88	167.44
3025.00	0.59	128.23	3024.74	-24.56	-24.65	5.70	1.57	25.32	166.98
3050.00	0.42	107.33	3049.73	-24.97	-25.03	5.93	0.70	25.97	166.51
3075.00	0.31	141.70	3074.74	-24.56	-24.67	6.02	0.76	25.40	166.29
3100.00	0.06	211.54	3099.74	-24.62	-24.74	6.05	1.18	25.47	166.25
3125.00	0.14	289.67	3124.74	-24.63	-24.74	6.02	0.55	25.46	166.33
3150.00	0.24	272.25	3149.74	-24.62	-24.73	5.94	0.47	25.43	166.50
3175.00	0.26	306.32	3174.74	-24.58	-24.69	5.84	0.59	25.37	166.69
3200.00	0.42	295.34	3199.73	-24.52	-24.63	5.78	0.45	25.29	166.90
3225.00	0.54	283.10	3224.73	-24.57	-24.69	5.65	0.30	25.20	167.27
3250.00	0.54	283.03	3249.73	-24.52	-24.62	5.52	0.49	25.09	167.27

SURVEY REPORT

TANKLESS FED COM # 2 H

COMPUTED OUTRUN KEEPER GYRO SURVEY

NO	INC	AZIM	INT	ST	HE	LOW	CLS	CLOSURE DIST	CLOSURE DIR
	deg	deg					7100ft		deg
3275.00	0.61	268.04	3253.70	-24.17	-24.18	4.06	0.49	24.98	169.31
3300.00	0.67	270.38	3269.74	-24.18	-24.18	3.88	0.27	24.98	169.38
3325.00	0.69	278.30	3324.73	-24.29	-24.38	4.54	0.49	24.80	169.45
3350.00	0.79	271.04	3349.73	-24.27	-24.35	4.22	0.54	24.71	170.17
3375.00	0.90	267.41	3374.73	-24.28	-24.36	3.85	0.50	24.66	171.01
3400.00	0.91	267.51	3399.73	-24.31	-24.37	3.46	0.03	24.62	171.93
3425.00	0.93	269.80	3424.72	-24.32	-24.38	3.06	0.16	24.57	172.85
3450.00	1.00	268.63	3449.72	-24.43	-24.39	2.65	0.32	24.53	173.03
3475.00	1.07	269.21	3474.72	-24.43	-24.42	2.09	0.50	24.52	173.05
3500.00	1.13	261.45	3499.71	-24.43	-24.40	1.71	0.27	24.55	173.00
3525.00	1.11	259.29	3524.71	-24.53	-24.37	1.32	0.30	24.50	173.13
3550.00	1.02	253.21	3549.70	-24.53	-24.39	0.75	0.51	24.53	173.24
3575.00	1.08	237.18	3574.70	-24.87	-24.88	0.33	1.23	24.88	179.24
3600.00	1.03	227.46	3599.69	-25.15	-25.16	-0.03	0.74	25.16	180.08
3625.00	1.04	218.05	3624.69	-25.49	-25.49	-0.34	0.68	25.49	180.76
3650.00	1.03	209.89	3649.69	-25.87	-25.86	-0.59	0.59	25.87	181.30
3675.00	1.07	196.02	3674.68	-26.29	-26.28	-0.77	1.03	26.29	181.67
3700.00	1.11	182.23	3699.68	-26.75	-26.75	-0.84	1.06	26.75	181.80
3725.00	0.99	169.62	3724.67	-27.21	-27.20	-0.81	1.04	27.21	181.71
3750.00	0.49	150.67	3749.67	-27.51	-27.51	-0.72	2.22	27.52	181.50
3775.00	0.26	66.14	3774.67	-27.58	-27.58	0.62	2.11	27.58	181.28
3800.00	0.41	27.64	3799.67	27.48	-27.47	0.52	1.06	27.48	181.09
3825.00	0.39	21.76	3824.67	-27.32	-27.31	-0.45	0.18	27.32	180.95
3850.00	0.41	22.73	3849.67	-27.15	-27.15	-0.38	0.10	27.15	180.81
3875.00	0.38	21.47	3874.67	-26.99	-26.99	-0.32	0.13	26.99	180.68
3900.00	0.47	85.08	3899.67	-26.83	-26.83	-0.23	0.52	26.83	180.49
3925.00	0.46	39.17	3924.67	-26.67	-26.67	-0.11	0.13	26.67	180.23
3950.00	0.50	61.24	3949.67	-26.51	-26.51	0.05	0.23	26.51	179.91
3975.00	0.59	2.07	3974.67	-26.47	-26.47	0.31	1.12	26.47	179.24
4000.00	0.88	109.53	3999.67	-26.31	-26.32	0.52	0.45	26.31	178.90
4025.00	0.91	119.59	4024.67	-26.31	-26.31	0.61	0.37	26.31	178.79
4050.00	1.03	110.15	4049.67	-26.73	-26.57	1.33	0.31	26.70	178.38

SURVEY REPORT

TANKLESS FED COM # 2 H

COMPUTED OUTRUN KEEPER GYRO SURVEY

TIME	INC	AZIM	TRV	TRV	TRV	TRV	DLS	CLOSURE	CLOSURE
h	deg	deg	h	h	h	h	7100R	DIST	DIR
4075 00	1 12	104 98	4074 65	-26 86	-26 90	1 89	0 48	26 97	175 99
4100 00	1 31	107 47	4099 64	-27 00	-27 05	2 39	0 78	27 16	174 94
4125 00	1 40	110 74	4124 64	-27 19	-27 24	2 95	0 47	27 40	173 82
4150 00	1 50	110 28	4149 63	-27 40	-27 47	3 54	0 43	27 69	172 65
4175 00	1 40	108 55	4174 62	-27 60	-27 68	4 14	0 45	27 98	171 49
4200 00	1 26	107 97	4199 61	-27 77	-27 85	4 34	0 48	28 28	170 32
4225 00	0 92	99 35	4224 60	-27 92	-27 99	5 14	0 49	28 59	169 15
4250 00	0 89	90 38	4249 59	-28 10	-27 90	5 37	0 08	29 39	168 37
4275 00	0 88	79 57	4274 58	-28 33	-28 53	5 58	0 69	29 91	168 01
4300 00	0 92	74 02	4299 57	-28 57	-28 97	5 55	0 42	29 78	168 08
4325 00	0 92	13 77	4324 60	-26 68	-26 79	5 87	0 18	27 42	167 64
4350 00	0 93	11 12	4349 60	-26 28	-26 39	5 96	0 18	27 05	167 28
4375 00	0 93	4 49	4374 59	-25 87	-25 99	6 01	0 43	26 67	166 98
4400 00	1 06	2 80	4399 59	-25 44	-25 55	6 04	0 51	26 26	166 71
4425 00	1 03	353 51	4424 59	-24 99	-25 10	6 02	0 68	25 81	166 50
4450 00	0 98	357 35	4449 58	-24 58	-24 68	6 09	0 90	25 43	166 48
4475 00	1 00	355 49	4474 58	-24 12	-24 23	6 07	0 87	25 15	166 19
4500 00	0 98	353 10	4499 57	-23 69	-23 80	6 08	0 27	24 52	165 01
4525 00	0 98	349 12	4524 57	-23 23	-23 39	6 05	0 39	24 51	165 92
4550 00	1 10	349 89	4549 57	-22 85	-22 95	5 78	0 69	23 67	165 86
4575 00	1 03	347 18	4574 56	22 39	22 50	5 69	0 34	23 21	165 80
4600 00	1 17	352 70	4599 56	21 92	22 03	5 61	0 69	22 73	165 71
4625 00	1 03	348 64	4624 55	-21 45	-21 55	5 53	0 63	22 25	165 60
4650 00	1 18	357 15	4649 55	-20 97	-21 07	5 48	0 90	21 77	165 43
4675 00	1 19	358 20	4674 54	-20 46	-20 56	5 46	0 10	21 27	165 14
4700 00	1 24	356 25	4699 53	-19 92	-20 03	5 38	0 24	20 55	165 78
4725 00	1 31	352 45	4724 53	-19 40	-19 51	5 31	0 12	20 35	165 19
4750 00	1 30	348 39	4749 52	-18 92	-19 02	5 25	0 35	20 32	165 08
4775 00	1 22	349 23	4774 52	-18 40	-18 50	5 20	0 31	19 51	165 00
4800 00	1 25	355 19	4799 52	-17 87	-17 98	5 24	0 35	19 51	165 73
4825 00	1 26	354 35	4824 51	-17 32	-17 42	5 20	0 19	18 18	163 38
4850 00	1 24	352 55	4849 50	-16 78	-16 88	5 14	0 17	17 64	163 07

SURVEY REPORT

TANKLESS FED COM # 2 H

COMPUTED OUTRUN KEEPER GYRO SURVEY

TIME	INC	AZIM	EV	VS	CH	FLAV	DUS	CLOSURE DIST	CLOSURE DIR
h	deg	deg	h	h	h	h	7100h	h	deg
4875 00	1 14	352.25	4874 50	-16 27	-16 36	5 07	0 41	17 13	162.79
4900 00	1 33	359 21	4899 49	-15 73	-15 82	5 03	0 98	16 60	162 37
4925 00	1 18	355 72	4924 49	-15 18	-15 27	5 01	0 67	16 07	161 85
5000 00	1 28	352	5000 00	-16 36	-16 45	5 08	0 77	16 57	161 20
5075 00	1 30	353	5075 00	-16 00	-16 09	5 05	0 23	16 05	160 49
5100 00	1 32	353	5100 00	-16 09	-16 18	5 07	0 23	16 59	160 50
5125 00	1 35	353 69	5125 00	-16 05	-16 14	5 07	0 26	16 59	160 77
5150 00	1 38	353	5150 00	-16 05	-16 14	5 05	0 23	16 48	160 78
5075 00	1 31	1 05	5074 45	-11 79	-11 88	5 07	0 06	12 92	156 87
5100 00	1 30	3 90	5099 44	-11 22	-11 31	5 10	0 26	12 41	155 74
5125 00	1 29	2 91	5124 44	-10 66	-10 75	5 13	0 10	11 91	154 48
5150 00	1 33	0 59	5149 43	-10 09	-10 18	5 15	0 28	11 41	153.17
5175 00	1 34	359 70	5174.42	-9 50	-9 60	5 15	0 09	10 89	151 78
5200 00	1 30	1 19	5199 42	-8 38	-8 47	5 16	0 21	10 39	150 25
5225 00	1 33	359 39	5225 00	-8 30	-8 39	5 18	0 36	9 59	149 50
5250 00	1 35	1 27	5250 00	-7 78	-7 87	5 17	0 13	9 39	149 01
5275 00	1 38	2 25	5275 00	-7 05	-7 14	5 19	0 17	9 39	148 39
5300 00	1 38	2 08	5299 39	-6 54	-6 63	5 21	0 02	9 39	148 36
5325 00	1 30	5 46	5324 38	-5 96	-6 05	5 25	0 43	8 01	139 06
5350 00	1 31	3 52	5349 37	-5 39	-5 49	5 29	0 18	7 62	136 01
5375 00	1 31	4 70	5374 37	-4 82	-4 92	5 34	0 11	7 26	132 66
5400 00	1 34	4 55	5399 36	-4 24	-4 34	5 38	0 13	6 91	128 89
5425 00	1 36	2 83	5424 35	-3 66	-3 76	5 42	0 18	6 59	124 72
5500 00	1 29	3 75	5500 00	-3 08	-3 17	5 35	0 25	6 11	120 25
5525 00	1 30	3 87	5525 00	-2 59	-2 69	5 39	0 33	5 05	118 28
5550 00	1 33	3 81	5550 00	-1 41	-1 50	5 38	0 17	5 08	109 45
5575 00	1 35	2 80	5575 00	-1 39	-1 48	5 35	0 36	5 21	108 01
5600 00	1 31	2 67	5600 00	-0 70	-0 79	5 39	0 27	5 35	98 98
5575 00	1 38	3 91	5574 31	-0 15	-0 25	5 62	0 29	5 63	92 59
5600 00	1 26	3 79	5599 31	0 42	0 32	5 66	0 49	5 67	86 77
5625 00	1 38	0 73	5624 30	0 99	0 89	5 68	0 55	5 75	81 07
5650 00	1 38	1 96	5649 29	1 60	1 49	5 69	0 12	5 89	75 30

SURVEY REPORT

TANKLESS FED COM # 2 H

COMPUTED OUTFRAN KEEPER GYRO SURVEY

TIME	INC	AZIM	TIME	INC	AZIM	TIME	INC	CLOSURE	CLOSURE
h	deg	deg	h	h	h	h	h	h	deg
5675 00	1 41	1 26	5674 28	2 20	2 10	5 71	0 14	6 09	69 79
5700 00	1 40	1 05	5699 20	2 09	2 01	5 72	0 13	6 09	69 80
5725 00	1 39	1 00	5721 27	2 01	2 01	5 73	0 13	6 09	69 80
5750 00	1 38	0 50	5749 23	1 50	2 00	5 74	0 13	6 09	69 80
5775 00	1 38	0 40	5771 25	1 40	1 50	5 75	0 13	6 09	69 80
5800 00	1 38	0 35	5799 25	1 30	1 50	5 76	0 13	6 09	69 80
5825 00	1 36	4 10	5824 24	5 80	5 69	5 93	0 10	8 22	46 20
5850 00	1 44	3 21	5849 23	6 41	6 30	5 97	0 32	8 68	43 46
5875 00	1 43	3 05	5874 23	7 03	6 92	6 00	0 05	9 17	40 93
5900 00	1 44	2 14	5899 22	7 66	7 55	6 03	0 11	9 66	38 63
5925 00	1 29	359 52	5924 21	8 25	8 15	6 04	0 65	10 14	36 56
5950 00	1 03	359 00	5949 21	9 20	9 09	6 08	0 15	10 57	33 77
5975 00	1 03	3 00 30	5974 20	9 20	9 09	6 09	0 10	10 57	33 77
6000 00	1 20	3 21 75	6000 20	9 20	9 09	6 12	0 10	10 57	33 77
6025 00	1 20	1 05 25	6024 20	10 00	9 09	6 13	0 10	10 57	33 77
6050 00	1 50	9 01 05	6049 15	10 39	10 10	6 15	0 10	10 57	33 77
6075 00	1 38	297 08	6074 18	10 66	10 59	4 35	0 52	11 44	22 32
6100 00	1 34	300 36	6099 17	10 94	10 87	3 82	0 36	11 53	19 38
6125 00	1 34	299 21	6124 16	11 22	11 16	3 32	0 11	11 65	16 55
6150 00	1 35	300 79	6149 16	11 50	11 46	2 81	0 15	11 80	13 78
6175 00	1 37	301 34	6174 15	11 80	11 76	2 30	0 10	11 99	11 07
6200 00	1 30	299 25	6199 14	12 09	12 06	1 80	0 33	12 19	8 48
6225 00	1 25	299 00	6224 13	12 35	12 00	1 30	0 13	12 19	8 48
6250 00	1 25	100 50	6249 13	12 30	12 00	1 30	0 17	12 19	8 48
6275 00	1 02	299 51	6274 12	12 30	12 00	1 30	0 10	12 19	8 48
6300 00	1 03	299 27	6299 12	12 30	12 00	1 30	0 13	12 19	8 48
6325 00	1 02	283 53	6324 12	13 11	13 12	-0 47	0 20	13 13	357 97
6350 00	0 83	250 31	6349 11	13 09	13 11	-0 85	2 24	13 14	356 28
6375 00	0 89	219 49	6374 11	12 88	12 90	-1 15	1 84	12 95	354 92
6400 00	0 92	202 50	6399 11	12 54	12 57	-1 35	1 07	12 64	353 89
6425 00	0 99	191 58	6424 10	12 14	12 17	-1 47	0 78	12 26	353 13
6450 00	1 00	188 53	6449 10	11 53	11 53	-1 51	0 22	11 53	352 82

SURVEY REPORT

TANKLESS FED COM # 2 H

COMPUTED OUTFRAN KEEPER GYRO SURVEY

REL	INC	AZIM	TRD	SL	CL	FL	CLS	CLOSURE DIST	CLOSURE DIR
ft	deg	deg	ft	ft	ft	ft	7100ft	ft	deg
6525.00	1.07	179.00	6540.00	9.46	9.46	-1.90	0.06	9.65	348.66
6570.00	1.08	184.22	6599.07	8.96	8.99	-1.94	0.25	9.20	347.81
6625.00	1.12	184.09	6624.07	8.48	8.52	-1.98	0.19	8.74	346.92
6650.00	1.12	180.03	6649.06	7.99	8.03	-2.00	0.32	8.27	346.04
6675.00	1.14	181.64	6674.06	7.50	7.53	-2.00	0.14	7.79	345.11
6700.00	1.32	175.92	6700.00	4.09	4.13	-2.04	0.16	4.60	333.75
6725.00	1.32	181.52	6749.01	3.51	3.55	-2.04	0.26	4.09	330.13
6750.00	1.31	176.31	6774.01	2.94	2.97	-2.03	0.50	3.60	325.70
6775.00	1.35	177.87	6799.00	2.36	2.39	-2.00	0.23	3.12	320.14
6800.00	1.32	178.37	6823.99	1.77	1.81	-1.98	0.13	2.68	312.45
6825.00	1.32	179.02	6824.02	4.09	4.13	-2.04	0.16	4.60	333.75
6850.00	1.34	181.52	6849.01	3.51	3.55	-2.04	0.26	4.09	330.13
6875.00	1.31	176.31	6874.01	2.94	2.97	-2.03	0.50	3.60	325.70
6900.00	1.35	177.87	6899.00	2.36	2.39	-2.00	0.23	3.12	320.14
6925.00	1.32	178.37	6923.99	1.77	1.81	-1.98	0.13	2.68	312.45
6950.00	1.32	176.72	6948.99	1.20	1.24	-1.96	0.16	2.31	302.29
6975.00	1.33	177.70	6973.98	0.62	0.66	-1.93	0.12	2.04	288.96
7000.00	1.32	180.63	6998.97	0.04	0.08	-1.92	0.28	1.92	272.35
7025.00	1.22	178.72	7023.97	-0.51	-0.43	-1.89	0.24	1.97	266.06
7050.00	1.25	179.52	7048.96	-1.03	-1.02	-1.89	0.21	2.10	251.59
7075.00	1.27	179.52	7073.96	-1.60	-1.57	-1.90	0.05	2.46	230.39
7100.00	1.22	178.72	7098.95	-2.15	-2.11	-1.89	0.24	2.83	221.78
7125.00	1.20	180.66	7123.94	-2.67	-2.64	-1.88	0.18	3.24	215.52
7150.00	1.22	180.04	7148.94	-3.20	-3.17	-1.89	0.10	3.69	210.78
7175.00	1.30	182.20	7173.93	-3.75	-3.72	-1.90	0.37	4.18	207.05
7200.00	1.29	180.63	7198.93	-4.32	-4.29	-1.89	0.16	4.59	203.05
7225.00	1.29	182.09	7223.92	-4.89	-4.86	-1.88	0.13	4.99	201.56
7250.00	1.30	181.64	7248.91	-5.45	-5.42	-1.88	0.09	5.39	199.74

SURVEY REPORT

TANKLESS FED COM # 2 H

COMPUTED OUTRUN KEEPER GYRO SURVEY

MB	INC	AZIM	END	VL	DIS	HAW	DLS	CLOSURE DIST	CLOSURE DIR
ft	deg	deg	ft	ft	ft	ft	7100ft	ft	deg
724500	1.20	181.28	732390	-7.12	-7.09	-2.01	0.32	7.36	195.81
735000	1.25	182.31	734889	-7.65	-7.62	-2.02	0.20	7.88	194.87
737500	1.28	187.48	737388	-8.20	-8.17	-2.07	0.48	8.43	194.23
740000	1.39	187.70	739888	-8.78	-8.75	-2.15	0.44	9.01	193.80
742500	1.35	179.75	742387	-9.38	-9.34	-2.19	0.78	9.59	193.18
745000	1.24	179.04	744886	-9.92	-9.89	-2.17	0.85	10.19	192.40
747500	1.18	187.74	747385	-10.40	-10.37	-2.18	0.93	10.79	191.79
750000	1.15	182.58	749884	-10.90	-10.88	-2.18	0.95	11.39	191.35
752500	1.23	179.04	752383	-11.45	-11.41	-2.22	0.85	11.99	190.93
755000	1.27	186.52	754882	-11.99	-11.96	-2.27	0.82	12.59	190.59
757500	1.25	185.56	757384	-12.54	-12.50	-2.33	0.15	12.72	190.55
760000	1.31	187.74	759883	-13.10	-13.06	-2.39	0.31	13.28	190.38
762500	1.35	182.58	762382	-13.68	-13.64	-2.44	0.50	13.85	190.16
765000	1.15	179.04	764882	-14.22	-14.18	-2.45	0.84	14.39	189.82
767500	1.15	186.52	767381	-14.72	-14.68	-2.48	0.60	14.89	189.58
770000	1.22	187.22	769881	-15.24	-15.19	-2.54	0.80	15.40	189.49
772500	1.25	187.48	772380	-15.77	-15.73	-2.61	0.94	15.94	189.42
775000	1.39	186.23	774879	-16.35	-16.30	-2.68	0.55	16.52	189.33
777500	1.19	182.46	777379	-16.91	-16.86	-2.72	0.87	17.08	189.17
780000	1.38	186.69	779878	-17.46	-17.42	-2.77	0.87	17.64	189.03
782500	1.27	180.41	782377	-18.04	-17.99	-2.80	0.73	18.21	188.86
785000	1.32	188.02	784877	-18.61	-18.56	-2.85	0.72	18.78	188.72
787500	1.35	188.00	787376	-19.19	-19.14	-2.93	0.11	19.36	188.70
790000	1.29	185.31	789876	-19.76	-19.71	-3.00	0.34	19.94	188.64
792500	1.34	188.10	792375	-20.33	-20.28	-3.06	0.33	20.51	188.59
795000	1.31	185.75	794874	-20.90	-20.85	-3.13	0.37	21.09	188.50
797500	1.32	182.50	797373	-21.47	-21.43	-3.25	0.91	21.69	188.40
800000	1.59	184.43	799872	-22.05	-22.00	-3.34	0.88	22.31	188.31
802500	1.41	184.44	802371	-22.63	-22.59	-3.43	0.88	22.93	188.21
805000	1.25	180.41	804870	-23.21	-23.17	-3.53	0.75	23.55	188.13

SURVEY REPORT

TANKLESS FED COM # 2 H

COMPUTED OUTRUN KEEPER GYRO SURVEY

NO	INC	AZIM	TR	VR	MR	FL/W	DLS	CLOSURE DIST	CLOSURE DIR
ft	deg	deg	ft	ft	ft	ft	1/1000	ft	deg
8075.00	1 28	182 22	8073 70	-24 04	-23 98	-3 34	0 21	24 21	187 92
8100 00	1 46	183 78	8098 69	-24 64	-24 58	-3 37	0 77	24 81	187 80
8125.00	1 52	183 90	8123.69	-25 28	-25 23	-3 41	0 21	25 46	187 70
8150 00	1 65	184 73	8148 68	-25 97	-25 92	-3 46	0 54	26 15	187 61
8175 00	1 59	183 69	8173 67	-26 68	-26 62	-3 52	0 25	26 85	187 52
8200.00	1 55	184 35	8198 65	-27 38	-27 33	-3 53	0 38	27 55	187 35
8225.00	1 51	185 01	8223 63	-28 04	-27 98	-3 56	0 31	28 09	187 05
8250.00	1 45	185 03	8248 61	-28 58	-28 53	-3 55	0 33	28 55	186 51
8275.00	1 00	185 34	8273 59	-29 37	-29 32	-3 53	0 37	29 37	186 31
8300.00	1 03	185 02	8298 57	-29 57	-29 52	-3 51	0 72	29 23	185 15
8325.00	1 03	152 19	8323 63	-29 53	-29 49	-2 38	0 97	29 59	184 61
8350 00	1 18	155 06	8348 63	-29 96	-29 92	-2 16	0 65	30 00	184 13
8375 00	1 23	153 92	8373 62	-30 43	-30 40	-1 94	0 23	30 46	183 64
8400 00	1 23	157 43	8398 61	-30 92	-30 89	-1 71	0 30	30 94	183 18
8425 00	1 23	147 95	8423 61	-31 39	-31 36	-1 47	0 81	31 40	182 68
8450.00	1 35	165 40	8448 59	-31 73	-31 70	-1 23	0 51	31 25	182 22
8475.00	0 30	163 37	8473 57	-32 18	-32 15	-1 01	0 33	32 03	181 34
8500.00	1 07	161 31	8498 55	-32 53	-32 50	-1 05	0 13	32 53	181 20
8525.00	1 23	167 55	8523 53	-33 03	-33 07	-0 93	0 72	33 03	181 62
8550 00	1 14	161 66	8548 51	-33 53	-33 57	-0 80	0 61	33 53	181 36
8575 00	1 00	163 18	8573 58	-34 02	-34 01	-0 66	0 56	34 02	181 11
8600 00	0 95	169 93	8598 58	34 43	-34 42	0 56	0 50	34 43	180 93
8625 00	0 97	178 45	8623 58	-34 85	-34 84	-0 51	0 58	34 85	180 85
8650 00	1 11	179 13	8648 57	-35 30	-35 30	-0 51	0 55	35 30	180 82
8675 00	1 22	171 11	8673 57	-35 80	-35 80	-0 46	0 77	35 80	180 74
8700.00	0 39	175 40	8698 55	-36 23	-36 23	-0 31	0 92	36 23	180 53
8725.00	0 03	180 17	8723 53	-36 79	-36 72	-0 31	0 51	36 79	180 53
8750.00	0 19	185 33	8748 51	-37 40	-37 39	-0 53	0 37	37 40	180 34
8775.00	0 33	183 57	8773 49	-38 03	-38 01	-0 52	0 37	38 03	180 23
8800.00	0 31	185 03	8798 47	-38 55	-38 53	-0 53	0 31	38 55	180 13
8825 00	1 02	183 21	8823 54	-38 76	-38 76	-0 68	0 66	38 76	181 01
8850 00	1 04	187 94	8848 53	-39 21	-39 20	-0 73	0 35	39 21	181 06

SURVEY REPORT

TANKLESS FED COM # 2 H

COMPUTED OUTRUN KEEPER GYRO SURVEY

TIME	INC	AZIM	TRF	CLS	REL	CLS	DES	CLOSURE DIST	CLOSURE DIR
h	deg	deg	s	s	h	h	°/100h	h	deg
8875 00	0 95	175 61	8873 53	-39.64	-39 63	-0 74	0 92	39 64	181 07
8900 00	0 91	124 35	8898 53	-39.95	-39 95	-0.56	3 21	39 96	180.81
8925 00	1 15	95 95	8923 52	-40.08	-40 09	-0 15	2.22	40 09	180.22
9000 00	0 95	00 95	9000 52	-40 10	-40 10	0 00	0 00	40 10	180 35
9075 00	0 55	00 79	9073 51	-40 12	-40 13	0 03	1 39	40 13	179 07
9100 00	0 52	10 50	9098 51	-40 10	-40 12	0 01	0 73	40 23	178 20
9125 00	0 75	12 43	9123 51	-40 13	-40 19	0 03	0 81	40 20	178 35
9150 00	0 75	16 30	9123 51	-40 13	-40 13	1 45	0 34	40 13	177 56
9075 00	0 68	120 90	9073 51	-40 66	-40 70	1 72	0 50	40 73	177 57
9100 00	0 72	145 50	9098 51	-40 86	-40 90	1 94	1 20	40 95	177 28
9125 00	1 09	143 76	9123 50	-41 17	-41 21	2 18	1 50	41 27	176 98
9150 00	1 14	134 71	9148 50	-41 52	-41 58	2 50	0 58	41 65	176 56
9175 00	1 20	148 00	9173 49	-41.92	-41 97	2 81	1 11	42 07	176 17
9200 00	1 33	0 15 13	9198 49	-42 10	-42 10	0 02	0 73	42 13	175 29
9225 00	1 32	0 55 09	9223 49	-42 10	-42 13	0 02	0 08	42 13	175 15
9250 00	1 51	0 3 76	9223 47	-42 13	-42 13	0 03	0 03	42 13	175 13
9275 00	1 45	0 55 02	9223 45	-42 07	-42 13	0 03	0 23	42 13	174 53
9300 00	1 47	15 3 37	9223 45	-42 08	-42 17	0 25	0 75	42 17	174 53
9325 00	1 55	164 22	9323 44	-45 30	-45 39	4 48	0 90	45 61	174 36
9350 00	1 23	151 96	9348 44	45 86	-45 95	4 70	1 75	46 19	174 16
9375 00	1 37	88 13	9373 43	-46 08	-46 18	5 12	5 52	46 46	173 67
9400 00	1 28	78 76	9398 42	46 00	-46 11	5 70	0 94	46.46	172 96
9425 00	1 48	82 07	9423 42	-45 89	-46 01	6 29	0 85	46 44	172 21
9500 00	1 15	0 1 51	9423 40	-45 30	-45 37	0 00	0 00	45 39	171 13
9475 00	1 09	0 5 35	9473 40	-45 30	-45 33	0 00	0 00	45 37	170 53
9500 00	1 08	0 0 10	9498 39	-45 29	-45 33	0 00	1 05	45 33	170 20
9520 00	1 35	0 1 20	9513 39	-45 20	-45 24	0 00	0 25	45 32	169 03

COG Operating L L C

Eddy County, NM (NAD 27 NME)

Sec. 35, T 22 S. , R 31 E

Tankless Federal Com 2H

Wellbore #1

Design: Wellbore #1

Survey Report - Geographic

11 December, 2017

Survey Report - Geographic

[illegible]

Survey Report - Geographic

COG Operating LLC
 BRG/COG/ NMCAD/2015
 Sea 45 0 2015. Eadie
 Tonic/2015/2015
 W/2015/2015
 W/2015/2015

W/2015/2015/2015
 (K/2015/2015/2015/2015)
 (K/2015/2015/2015/2015)
 G/2015
 W/2015/2015/2015
 (K/2015/2015)

350.00	0.17	145.09	350.00	-0.05	1.15	488,322.4474	682,821.7483	32.341125	-103.741378
375.00	0.15	132.80	375.00	-0.05	1.20	488,322.4514	682,821.7986	32.341125	-103.741378
400.00	0.26	121.29	400.00	-0.10	1.27	488,322.3997	682,821.6711	32.341125	-103.741378
425.00	0.30	124.82	425.00	-0.17	1.37	488,322.3328	682,821.9733	32.341125	-103.741378
450.00	0.30	104.67	450.00	-0.22	1.49	488,322.2789	682,822.0903	32.341125	-103.741377
475.00	0.36	97.45	475.00	-0.25	1.63	488,322.2521	682,822.2315	32.341125	-103.741377
500.00	0.35	95.91	500.00	-0.27	1.79	488,322.2341	682,822.3853	32.341125	-103.741376
525.00	0.34	98.10	524.99	-0.28	1.93	488,322.2158	682,822.5347	32.341125	-103.741376
550.00	0.34	89.47	549.99	-0.29	2.08	488,322.2060	682,822.6823	32.341125	-103.741375
575.00	0.30	76.34	574.99	-0.28	2.22	488,322.2221	682,822.8201	32.341125	-103.741375
600.00	0.27	70.78	599.99	-0.24	2.34	488,322.2570	682,822.9393	32.341125	-103.741375
625.00	0.23	65.83	624.99	-0.20	2.44	488,322.2969	682,823.0407	32.341125	-103.741374
650.00	0.13	100.55	649.99	-0.19	2.51	488,322.3123	682,823.1144	32.341125	-103.741374
675.00	0.06	44.67	674.99	-0.18	2.55	488,322.3164	682,823.1515	32.341125	-103.741374
700.00	0.19	195.38	699.99	-0.21	2.55	488,322.2857	682,823.1497	32.341125	-103.741374
725.00	0.27	162.97	724.99	-0.31	2.56	488,322.1895	682,823.1559	32.341125	-103.741374
750.00	0.38	143.40	749.99	-0.43	2.62	488,322.0666	682,823.2226	32.341124	-103.741374
775.00	0.34	138.34	774.99	-0.56	2.72	488,321.9446	682,823.3213	32.341124	-103.741373
800.00	0.29	158.88	799.99	-0.67	2.79	488,321.8302	682,823.3935	32.341124	-103.741373
825.00	0.19	180.04	824.99	-0.77	2.82	488,321.7297	682,823.4162	32.341123	-103.741373
850.00	0.29	213.10	849.99	-0.86	2.78	488,321.6352	682,823.3816	32.341123	-103.741373
875.00	0.30	205.94	874.99	-0.98	2.72	488,321.5234	682,823.3185	32.341123	-103.741373
900.00	0.39	203.85	899.99	-1.11	2.66	488,321.3867	682,823.2554	32.341122	-103.741374
925.00	0.43	208.94	924.99	-1.27	2.58	488,321.2268	682,823.1756	32.341122	-103.741374
950.00	0.42	207.52	949.99	-1.44	2.49	488,321.0634	682,823.0879	32.341122	-103.741374
975.00	0.44	202.15	974.99	-1.61	2.41	488,320.8933	682,823.0094	32.341121	-103.741374
1,000.00	0.55	202.69	999.99	-1.81	2.33	488,320.6937	682,822.9269	32.341121	-103.741375
1,025.00	0.61	198.84	1,024.99	-2.04	2.24	488,320.4570	682,822.8376	32.341120	-103.741375
1,050.00	0.44	190.96	1,049.99	-2.26	2.18	488,320.2368	682,822.7764	32.341119	-103.741375
1,075.00	0.50	180.32	1,074.98	-2.47	2.16	488,320.0335	682,822.7575	32.341119	-103.741375
1,100.00	0.43	179.15	1,099.98	-2.67	2.16	488,319.8306	682,822.7583	32.341118	-103.741375
1,125.00	0.33	180.64	1,124.98	-2.84	2.16	488,319.6648	682,822.7589	32.341118	-103.741375
1,150.00	0.29	201.68	1,149.98	-2.97	2.13	488,319.5341	682,822.7347	32.341117	-103.741375
1,175.00	0.39	204.40	1,174.98	-3.10	2.08	488,319.3978	682,822.6762	32.341117	-103.741375
1,200.00	0.32	222.89	1,199.98	-3.23	1.99	488,319.2691	682,822.5936	32.341117	-103.741376
1,225.00	0.52	214.07	1,224.98	-3.38	1.88	488,319.1240	682,822.4825	32.341116	-103.741376
1,250.00	0.61	218.50	1,249.98	-3.57	1.74	488,318.9259	682,822.3361	32.341116	-103.741377
1,275.00	0.47	213.85	1,274.98	-3.76	1.60	488,318.7366	682,822.1961	32.341115	-103.741377
1,300.00	0.41	219.82	1,299.98	-3.92	1.48	488,318.5825	682,822.0820	32.341115	-103.741377
1,325.00	0.36	214.37	1,324.98	-4.05	1.38	488,318.4488	682,821.9806	32.341114	-103.741378
1,350.00	0.47	217.91	1,349.98	-4.20	1.27	488,318.3031	682,821.8733	32.341114	-103.741378
1,375.00	0.46	228.53	1,374.98	-4.34	1.14	488,318.1557	682,821.7351	32.341114	-103.741379
1,400.00	0.60	219.93	1,399.97	-4.51	0.98	488,317.9889	682,821.5759	32.341113	-103.741379
1,425.00	0.64	216.54	1,424.97	-4.72	0.81	488,317.7763	682,821.4087	32.341113	-103.741380
1,450.00	0.63	210.53	1,449.97	-4.95	0.66	488,317.5458	682,821.2558	32.341112	-103.741380
1,475.00	0.65	204.20	1,474.97	-5.20	0.53	488,317.2980	682,821.1278	32.341111	-103.741381
1,500.00	0.54	192.61	1,499.97	-5.45	0.44	488,317.0537	682,821.0440	32.341111	-103.741381
1,525.00	0.40	206.73	1,524.97	-5.64	0.38	488,316.8608	682,820.9790	32.341110	-103.741381
1,550.00	0.50	224.30	1,549.97	-5.80	0.26	488,316.7048	682,820.8636	32.341110	-103.741381
1,575.00	0.61	218.71	1,574.97	-5.98	0.10	488,316.5229	682,820.7041	32.341109	-103.741382
1,600.00	0.62	218.83	1,599.96	-6.19	-0.06	488,316.3137	682,820.5361	32.341109	-103.741382
1,625.00	0.68	215.11	1,624.96	-6.41	-0.23	488,316.0870	682,820.3660	32.341108	-103.741383
1,650.00	0.76	206.54	1,649.96	-6.68	-0.39	488,315.8173	682,820.2066	32.341107	-103.741384
1,675.00	0.65	195.76	1,674.96	-6.97	-0.51	488,315.5325	682,820.0940	32.341106	-103.741384
1,700.00	0.46	209.24	1,699.96	-7.19	-0.59	488,315.3084	682,820.0064	32.341105	-103.741384

Survey Report - Geographic

COG Operating LLC
 Eddy County, NM (NAD 83)
 Section 12, T22N, R30E
 Tract 1, Eddy County, NM
 Well: 201-200-00000-0000
 Well: 201-200-00000-0000

Well: 201-200-00000-0000
 K9-201-200-00000-0000 (Sandhill Reservoir)
 K9-201-200-00000-0000 (Sandhill Reservoir)
 GCS
 Eddy County, NM
 Eddy County, NM

1,725.00	0.54	216.91	1,724.96	-7.37	-0.71	488,315.1267	682,819.8867	32.341105	-103.741385
1,750.00	0.68	218.04	1,749.96	-7.58	-0.88	488,314.9156	682,819.7245	32.341105	-103.741385
1,775.00	0.90	216.22	1,774.95	-7.86	-1.08	488,314.6404	682,819.5171	32.341104	-103.741386
1,800.00	0.86	211.93	1,799.95	-8.18	-1.30	488,314.3228	682,819.3018	32.341103	-103.741386
1,825.00	0.84	205.68	1,824.95	-8.50	-1.48	488,313.9984	682,819.1232	32.341102	-103.741387
1,850.00	0.62	197.93	1,849.95	-8.80	-1.60	488,313.7045	682,819.0021	32.341101	-103.741387
1,875.00	0.68	209.28	1,874.94	-9.05	-1.71	488,313.4465	682,818.8879	32.341101	-103.741388
1,900.00	0.68	212.52	1,899.94	-9.31	-1.86	488,313.1920	682,818.7356	32.341100	-103.741388
1,925.00	0.81	210.42	1,924.94	-9.59	-2.03	488,312.9145	682,818.5664	32.341099	-103.741389
1,950.00	0.78	215.22	1,949.94	-9.88	-2.22	488,312.6231	682,818.3788	32.341098	-103.741389
1,975.00	0.89	214.80	1,974.94	-10.18	-2.43	488,312.3247	682,818.1699	32.341098	-103.741390
2,000.00	0.91	213.25	1,999.93	-10.50	-2.65	488,311.9992	682,817.9502	32.341097	-103.741391
2,025.00	0.98	211.31	2,024.93	-10.85	-2.87	488,311.6505	682,817.7303	32.341096	-103.741392
2,050.00	1.03	211.09	2,049.92	-11.22	-3.10	488,311.2754	682,817.5031	32.341095	-103.741392
2,075.00	1.09	205.66	2,074.92	-11.63	-3.32	488,310.8687	682,817.2841	32.341094	-103.741393
2,100.00	1.16	203.37	2,099.92	-12.08	-3.52	488,310.4221	682,817.0808	32.341092	-103.741394
2,125.00	1.16	202.23	2,124.91	-12.54	-3.72	488,309.9555	682,816.8847	32.341091	-103.741394
2,150.00	1.17	201.80	2,149.91	-13.02	-3.91	488,309.4843	682,816.6941	32.341090	-103.741395
2,175.00	1.00	196.64	2,174.90	-13.46	-4.08	488,309.0383	682,816.5369	32.341089	-103.741396
2,200.00	0.94	199.67	2,199.90	-13.86	-4.19	488,308.6362	682,816.4054	32.341088	-103.741396
2,225.00	0.79	188.68	2,224.89	-14.23	-4.29	488,308.2727	682,816.3103	32.341087	-103.741396
2,250.00	0.67	170.67	2,249.89	-14.54	-4.29	488,307.9581	682,816.3080	32.341086	-103.741396
2,275.00	0.69	165.42	2,274.89	-14.83	-4.23	488,307.6682	682,816.3696	32.341085	-103.741396
2,300.00	0.70	165.59	2,299.89	-15.13	-4.15	488,307.3746	682,816.4455	32.341084	-103.741396
2,325.00	0.70	161.86	2,324.89	-15.42	-4.07	488,307.0815	682,816.5311	32.341083	-103.741396
2,350.00	0.68	157.27	2,349.89	-15.70	-3.96	488,306.7996	682,816.6359	32.341082	-103.741395
2,375.00	0.73	152.07	2,374.88	-15.98	-3.83	488,306.5221	682,816.7678	32.341082	-103.741395
2,400.00	0.73	153.10	2,399.88	-16.26	-3.69	488,306.2393	682,816.9145	32.341081	-103.741394
2,425.00	0.67	150.34	2,424.88	-16.53	-3.54	488,305.9703	682,817.0589	32.341080	-103.741394
2,450.00	0.72	151.42	2,449.88	-16.79	-3.39	488,305.7053	682,817.2064	32.341079	-103.741393
2,475.00	0.78	150.28	2,474.88	-17.08	-3.23	488,305.4196	682,817.3659	32.341079	-103.741393
2,500.00	0.78	145.55	2,499.87	-17.37	-3.05	488,305.1315	682,817.5465	32.341078	-103.741392
2,525.00	0.76	141.67	2,524.87	-17.64	-2.85	488,304.8611	682,817.7456	32.341077	-103.741392
2,550.00	0.80	142.35	2,549.87	-17.91	-2.65	488,304.5929	682,817.9550	32.341076	-103.741391
2,575.00	0.93	142.63	2,574.87	-18.21	-2.42	488,304.2935	682,818.1848	32.341076	-103.741390
2,600.00	1.02	137.93	2,599.86	-18.53	-2.14	488,303.9670	682,818.4570	32.341075	-103.741389
2,625.00	1.08	136.27	2,624.86	-18.87	-1.83	488,303.6316	682,818.7690	32.341074	-103.741388
2,650.00	1.14	133.68	2,649.85	-19.21	-1.49	488,303.2896	682,819.1117	32.341073	-103.741387
2,675.00	1.19	136.73	2,674.85	-19.57	-1.13	488,302.9288	682,819.4695	32.341072	-103.741386
2,700.00	1.18	134.87	2,699.84	-19.94	-0.77	488,302.5582	682,819.8298	32.341071	-103.741385
2,725.00	1.26	135.31	2,724.84	-20.32	-0.39	488,302.1812	682,820.2056	32.341070	-103.741384
2,750.00	1.28	132.98	2,749.83	-20.70	0.00	488,301.7954	682,820.6032	32.341069	-103.741382
2,775.00	1.37	131.01	2,774.82	-21.09	0.43	488,301.4090	682,821.0330	32.341068	-103.741381
2,800.00	1.41	130.38	2,799.82	-21.49	0.89	488,301.0136	682,821.4928	32.341066	-103.741380
2,825.00	1.56	124.60	2,824.81	-21.88	1.41	488,300.6211	682,822.0072	32.341065	-103.741378
2,850.00	1.62	121.29	2,849.80	-22.26	1.99	488,300.2443	682,822.5893	32.341064	-103.741376
2,875.00	1.62	119.04	2,874.79	-22.61	2.60	488,299.8892	682,823.2002	32.341063	-103.741374
2,900.00	1.57	123.48	2,899.78	-22.97	3.19	488,299.5288	682,823.7948	32.341062	-103.741372
2,925.00	1.59	123.03	2,924.77	-23.35	3.77	488,299.1508	682,824.3713	32.341061	-103.741370
2,950.00	1.63	119.82	2,949.76	-23.72	4.37	488,298.7849	682,824.9705	32.341060	-103.741368
2,975.00	1.42	119.01	2,974.75	-24.04	4.95	488,298.4579	682,825.5499	32.341059	-103.741367
3,000.00	0.98	119.97	2,999.75	-24.30	5.41	488,298.2009	682,826.0060	32.341059	-103.741365
3,025.00	0.59	123.23	3,024.74	-24.48	5.70	488,298.0235	682,826.2989	32.341058	-103.741364
3,050.00	0.42	117.38	3,049.74	-24.59	5.89	488,297.9108	682,826.4879	32.341058	-103.741364
3,075.00	0.31	141.70	3,074.74	-24.68	6.01	488,297.8156	682,826.6112	32.341058	-103.741363

Survey Report - Geographic

WILLIAM FREDERICK CORNELL
KIDNEY & GASTROINTESTINAL SURGERY
KIDNEY & GASTROINTESTINAL SURGERY
GASTROINTESTINAL SURGERY
WILLIAM FREDERICK CORNELL
KIDNEY & GASTROINTESTINAL SURGERY

3,100 00	0 06	211 54	3,099 74	-24 75	6 05	488 297 7514	682,826 6483	32 341057	-103 741363
3,125 00	0 14	289 67	3,124 74	-24 75	6 01	488,297 7505	682,826 6107	32 341057	-103 741363
3,150 00	0 24	272 25	3,149 74	-24 74	5 93	488,297 7629	682,826 5296	32 341057	-103 741363
3,175 00	0 26	306 32	3,174 74	-24 70	5 83	488,297 7985	682,826 4316	32 341058	-103 741364
3,200 00	0 32	293 78	3,199 74	-24 64	5 72	488,297 8603	682,826 3220	32 341058	-103 741364
3 225 00	0 53	283 10	3 224 74	-24 59	5 55	488 297 9146	682,826 1455	32 341058	-103 741365
3,250 00	0 58	282 54	3,249 74	-24 53	5 31	488,297 9583	682,825 9094	32 341058	-103 741365
3,275 00	0 61	283 12	3,274 74	-24 47	5 06	488 298 0260	682 825 6562	32 341058	-103 741366
3 300 00	0 57	278 38	3 299 74	-24 43	4 80	488 298 0743	682 825 4036	32 341058	-103 741367
3 325 00	0 69	278 30	3 324 73	-24 39	4 53	488,298 1142	682,825 1316	32,341058	-103 741368
3,350 00	0 79	271 04	3,349 73	-24 36	4 21	488 298 1390	682,824 8104	32 341059	-103 741369
3,375 00	0 90	267 41	3 374 73	-24 37	3 84	488 298 1333	682,824 4419	32 341059	-103 741370
3,400 00	0 91	267 51	3,399 73	-24 38	3 45	488 298 1158	682 824 0474	32 341058	-103 741371
3,425 00	0 93	269 80	3 424 72	-24 39	3 05	488,298 1064	682,823 6462	32 341058	-103 741373
3,450 00	1 00	268 64	3 449 72	-24 40	2 63	488,298 1006	682 823 2252	32 341058	-103 741374
3,475 00	1 07	262 81	3 474 72	-24 43	2 18	488 298 0662	682,822 7755	32 341058	-103 741376
3 500 00	1 13	261 75	3,499 71	-24 50	1 70	488 298 0016	682 822 3000	32,341058	-103 741377
3,525 00	1 10	259 70	3,524 71	-24 58	1 22	488 297 9233	682,821 8199	32 341058	-103 741379
3 550 00	1 12	253 21	3,549 70	-24 69	0 75	488 297 8098	682,821 3499	32 341058	-103 741380
3 575 00	1 08	237 18	3,574 70	-24 89	0 32	488 297 6115	682 820 9180	32 341057	-103 741382
3 600 00	1 03	227 46	3,599 69	-25 17	-0 05	488 297 3319	682,820 5545	32 341056	-103 741383
3,625 00	1 04	218 05	3 624 69	-25 50	-0 35	488,297 0013	682,820 2491	32,341055	-103 741384
3 650 00	1 03	209 89	3 649 69	-25 87	-0 60	488,296 6279	682 819 9972	32 341054	-103 741385
3 675 00	1 07	196 02	3 674 68	-26 29	-0 78	488 296 2087	682,819 8209	32 341053	-103 741385
3,700 00	1 11	182 23	3 699 68	-26 76	-0 85	488,295 7424	682 819 7470	32 341052	-103 741385
3,725 00	0 99	169 62	3 724 67	-27 21	-0 82	488 295 2880	682 819 7765	32 341051	-103 741385
3 750 00	0 49	150 67	3 749 67	-27 52	-0 73	488 294 9823	682 819 8678	32 341050	-103 741385
3,775 00	0 26	66 14	3,774 67	-27 59	-0 63	488 294 9121	682,819 9720	32 341050	-103 741385
3 800 00	0 41	27 64	3 799 67	-27 49	-0 53	488,295 0143	682,820 0654	32 341050	-103 741384
3 825 00	0 39	21 76	3 824 67	-27 33	-0 46	488,295 1725	682,820 1384	32 341050	-103 741384
3,850 00	0 41	22 73	3 849 67	-27 17	-0 40	488 295 3340	682,820 2045	32 341051	-103 741384
3 875 00	0 38	21 47	3 874 67	-27 01	-0 33	488,295 4937	682,820 2694	32 341051	-103 741384
3 900 00	0 47	35 08	3 899 67	-26 85	-0 24	488 295 6547	682,820 3587	32 341052	-103 741383
3 925 00	0 46	39 17	3 924 67	-26 68	-0 12	488 295 8165	682,820 4810	32 341052	-103 741383
3 950 00	0 50	61 23	3 949 67	-26 55	0 04	488 295 9468	682,820 6400	32 341053	-103 741382
3,975 00	0 72	88 57	3,974 66	-26 50	0 29	488,296 0032	682,820 8927	32 341053	-103 741382
4,000 00	0 88	103 74	3,999 66	-26 54	0 64	488,295 9615	682 821 2362	32 341053	-103 741381
4,025 00	0 94	107 80	4,024 66	-26 65	1 02	488 295 8532	682 821 6179	32 341052	-103 741379
4,050 00	1 03	108 86	4,049 65	-26 78	1 43	488,295 7179	682,822 0258	32 341052	-103 741378
4,075 00	1 12	104 98	4 074 65	-26 92	1 87	488,295 5821	682 822 4745	32 341052	-103 741377
4 100 00	1 31	107 47	4 099 64	-27 07	2 38	488,295 4332	682,822 9831	32 341051	-103 741375
4 125 00	1 40	110 74	4,124 64	-27 26	2 94	488 295 2392	682 823 5413	32 341051	-103 741373
4 150 00	1 50	110 28	4,149 63	-27 48	3 53	488,295 0177	682 824 1338	32 341050	-103 741371
4,175 00	1 40	108 55	4,174 62	-27 69	4 13	488,294 8071	682 824 7303	32 341049	-103 741369
4 200 00	1 26	107 87	4,199 61	-27 87	4 68	488 294 6256	682 825 2814	32 341049	-103 741367
4 225 00	0 92	83 38	4,224 61	-27 94	5 14	488 294 5644	682,825 7424	32 341049	-103 741366
4,250 00	0 69	50 36	4,249 61	-27 82	5 46	488 294 6835	682,826 0577	32 341049	-103 741365
4 275 00	0 83	19 57	4 274 61	-27 55	5 63	488,294 9502	682,826 2343	32 341050	-103 741364
4,300 00	0 92	16 52	4,299 60	-27 19	5 75	488 295 3132	682 826 3520	32 341051	-103 741364
4 325 00	0 92	13 77	4,324 60	-26 80	5 86	488,295 7006	682 826 4568	32 341052	-103 741364
4,350 00	0 93	11 12	4,349 60	-26 41	5 94	488,296 0946	682,826 5437	32 341053	-103 741363
4 375 00	0 93	4 49	4,374 59	-26 00	6 00	488,296 4959	682,826 5987	32 341054	-103 741363
4 400 00	1 06	2 80	4,399 59	-25 57	6 03	488 296 9292	682 826 6259	32 341055	-103 741363
4 425 00	1 03	353 51	4,424 59	-25 12	6 01	488,297 3834	682,826 6118	32 341056	-103 741363
4 450 00	0 98	357 86	4,449 58	-24 68	5 98	488,297 8203	682,826 5784	32 341058	-103 741363

Survey Report - Geographic

COG Controllillo
Eddy County, N.M. (N 27° 47' NME)
Sta. 30 T 24 S R 30 E
Tentative Section 24
W 1/4 Sec 24
W 1/4 Sec 24

Walt Whitman Ranch (Sec 24)
KG-28, 28472000, 84, 6000, 6000
KG-28, 28472000, 84, 6000, 6000
6000
Walt Whitman Ranch
84, 6000, 6000

4,475 00	1 01	358 36	4,474 58	-24 25	5 96	488,298 2538	682,826 5565	32 341059	-103 741363
4 500 00	0 98	353 00	4,499 57	-23 81	5 92	488 298 6859	682,826 5164	32 341080	-103 741363
4,525 00	0 93	349 12	4,524 57	-23 40	5 85	488,299 0973	682,826 4521	32 341061	-103 741364
4,550 00	1 10	349 89	4,549 57	-22 97	5 77	488,299 5328	682,826 3716	32 341062	-103 741364
4,575 00	1 03	347 18	4,574 56	-22 51	5 68	488,299 9882	682,826 2797	32 341064	-103 741364
4 600 00	1 17	352 70	4,599 56	-22 04	5 60	488,300 4604	682,826 1974	32 341065	-103 741364
4,625 00	1 03	348 64	4,624 55	-21 57	5 52	488 300 9339	682,826 1207	32 341066	-103 741365
4,650 00	1 18	357 15	4,649 55	-21 09	5 46	488,301 4113	682,826 0636	32 341067	-103 741365
4 675 00	1 19	358 20	4,674 54	-20 57	5 44	488 301 9279	682,826 0427	32 341069	-103 741365
4,700 00	1 24	359 95	4 699 54	-20 04	5 43	488,302 4578	682 826 0343	32 341070	-103 741365
4,725 00	1 11	352 28	4,724 53	-19 53	5 40	488,302 9683	682,826 0015	32 341072	-103 741365
4,750 00	1 18	353 68	4 749 53	-19 04	5 34	488,303 4641	682 825 9407	32 341073	-103 741365
4,775 00	1 22	352 84	4,774 52	-18 52	5 28	488 303 9840	682 825 8791	32 341075	-103 741365
4,800 00	1 25	356 49	4 799 52	-17 98	5 23	488 304 5203	682,825 8293	32 341076	-103 741366
4,825 00	1 26	354 35	4 824 51	-17 43	5 19	488 305 0660	682,825 7855	32 341078	-103 741366
4,850 00	1 24	352 55	4,849 50	-16 89	5 12	488 305 6077	682 825 7234	32 341079	-103 741366
4 875 00	1 14	352 25	4,874 50	-16 38	5 05	488,306 1224	682,825 6548	32 341080	-103 741366
4,900 00	1 33	359 21	4 899 49	-15 84	5 02	488,306 6589	682,825 6172	32 341082	-103 741366
4,925 00	1 18	355 72	4,924 49	-15 29	4 99	488 307 2057	682 825 5940	32 341083	-103 741366
4 950 00	1 25	4 32	4,949 48	-14 77	5 00	488 307 7343	682,825 5954	32 341085	-103 741366
4,975 00	1 30	3 49	4,974 47	-14 21	5 03	488,308 2893	682,825 6332	32 341086	-103 741366
5,000 00	1 32	0 96	4,999 47	-13 64	5 06	488,308 8603	682,825 6553	32 341088	-103 741366
5,025 00	1 35	358 69	5 024 46	-13 06	5 05	488 309 4426	682,825 6533	32 341090	-103 741366
5,050 00	1 33	1 09	5 049 45	-12 47	5 05	488,310 0271	682 825 6521	32 341091	-103 741366
5,075 00	1 31	1 05	5,074 45	-11 90	5 06	488 310 6029	682,825 6629	32 341093	-103 741366
5 100 00	1 30	3 90	5,099 44	-11 33	5 09	488 311 1716	682 825 6874	32 341094	-103 741366
5 125 00	1 29	2 91	5,124 44	-10 76	5 12	488 311 7355	682 825 7210	32 341096	-103 741366
5,150 00	1 33	0 59	5,149 43	-10 19	5 14	488 312 3067	682 825 7383	32 341097	-103 741366
5,175 00	1 34	359 70	5 174 42	-9 61	5 14	488,312 8891	682 825 7397	32 341099	-103 741366
5 200 00	1 30	1 19	5 199 42	-9 04	5 14	488,313 4650	682 825 7441	32 341101	-103 741366
5,225 00	1 38	359 89	5 224 41	-8 45	5 15	488,314 0495	682 825 7494	32 341102	-103 741366
5,250 00	1 36	1 27	5 249 40	-7 85	5 16	488 314 6472	682,825 7554	32 341104	-103 741366
5 275 00	1 39	2 25	5 274 39	-7 25	5 17	488 315 2468	682 825 7739	32 341106	-103 741366
5 300 00	1 38	2 44	5 299 39	-6 65	5 20	488 315 8505	682,825 7986	32 341107	-103 741365
5 325 00	1 30	5 46	5 324 38	-6 07	5 24	488 316 4336	682,825 8384	32 341109	-103 741365
5,350 00	1 31	3 52	5,349 37	-5 50	5 28	488,317 0011	682 825 8829	32 341110	-103 741365
5,375 00	1 31	4 70	5,374 37	-4 93	5 32	488 317 5712	682 825 9239	32 341112	-103 741365
5,400 00	1 34	4 55	5,399 36	-4 35	5 37	488 318 1474	682,825 9705	32 341114	-103 741365
5,425 00	1 36	2 83	5 424 35	-3 76	5 41	488,318 7351	682,826 0083	32 341115	-103 741365
5 450 00	1 29	3 78	5,449 35	-3 19	5 44	488,319 3122	682,826 0415	32 341117	-103 741365
5 475 00	1 40	4 17	5 474 34	-2 60	5 48	488 319 8976	682 826 0823	32 341118	-103 741364
5 500 00	1 29	2 81	5 499 33	-2 02	5 52	488 320 4833	682,826 1183	32 341120	-103 741364
5 525 00	1 38	2 80	5,524 33	-1 44	5 55	488,321 0650	682,826 1468	32 341122	-103 741364
5,550 00	1 31	2 62	5,549 32	-0 85	5 57	488,321 6512	682,826 1746	32 341123	-103 741364
5 575 00	1 38	3 91	5 574 31	-0 26	5 61	488 322 2370	682 826 2081	32 341125	-103 741364
5 600 00	1 26	3 79	5 599 31	0 31	5 65	488 322 8116	682,826 2468	32 341126	-103 741364
5,625 00	1 38	0 73	5,624 30	0 89	5 67	488,323 3869	682,826 2688	32 341128	-103 741364
5 650 00	1 38	1 96	5 649 29	1 49	5 68	488,323 9887	682,826 2830	32 341130	-103 741364
5 675 00	1 41	1 26	5 674 28	2 10	5 70	488,324 5971	682,826 3000	32 341131	-103 741364
5,700 00	1 38	1 05	5 699 28	2 71	5 71	488 325 2056	682,826 3123	32 341133	-103 741364
5 725 00	1 38	2 39	5,724 27	3 31	5 73	488,325 8074	682,826 3304	32 341135	-103 741364
5,750 00	1 38	6 83	5,749 26	3 91	5 78	488,326 4071	682,826 3787	32 341136	-103 741363
5 775 00	1 33	4 44	5 774 26	4 50	5 84	488,326 9952	682 826 4370	32 341138	-103 741363
5,800 00	1 39	3 78	5,799 25	5 09	5 88	488,327 5871	682 826 4795	32 341139	-103 741363
5,825 00	1 36	4 10	5,824 24	5 69	5 92	488,328 1855	682,826 5207	32 341141	-103 741363

Survey Report - Geographic

COG-Orlando, LLC
Eddy, Curry, NIM (NAD 83) (NME)
SBS 10 12218 18316
WELLBORN 18
WELLBORN 18

Wellbourn-Paden (Gm 2H)
KB-2B 183172400 (Gm 2H) (Paden)
KB-2B 183172400 (Gm 2H) (Paden)
Gm
Edwards-Stewart
EDM 40000

5,850 00	1 44	3.21	5,849 23	6 30	5 96	488 328 7951	682 826 5595	32 341143	-103 741363
5,875 00	1 43	3 05	5,874 23	6 92	5 99	488 329 4202	682 826 5936	32 341144	-103 741363
5,900 00	1 44	2 14	5,899 22	7 55	6 02	488,330 0456	682,826 6220	32,341146	-103 741362
5,925 00	1 29	359 52	5,924 21	8 14	6 03	488,330 6409	682,826 6313	32 341148	-103 741362
5,950 00	1 18	357 80	5,949 21	8 68	6 02	488 331 1796	682,826 6191	32 341149	-103 741362
5,975 00	1 13	344 30	5,974 20	9 17	5 94	488,331 6741	682,826 5425	32 341151	-103 741363
6,000 00	1 20	321 78	5,999 20	9 62	5 71	488,332 1171	682,826 3138	32 341152	-103 741363
6,025 00	1 30	305 26	6,024 19	9 99	5 32	488,332.4865	682,825 9203	32 341153	-103 741365
6,050 00	1 30	301 05	6,049 18	10 30	4 85	488,332.7965	682 825 4458	32 341154	-103 741366
6,075 00	1 38	297 08	6,074 18	10 58	4 33	488,333 0798	682 824 9348	32 341155	-103 741368
6,100 00	1 34	300 36	6,099 17	10 86	3 81	488,333 3646	682,824 4145	32 341155	-103 741370
6,125 00	1 34	299 21	6,124 16	11 15	3 31	488,333 6550	682,823 9072	32 341156	-103 741371
6,150 00	1 35	300 79	6,149 16	11 45	2 80	488,333 9484	682,823 3990	32 341157	-103 741373
6,175 00	1 37	301 34	6,174 15	11 75	2 29	488 334 2546	682 822 8908	32 341158	-103 741374
6,200 00	1 30	299 25	6,199 14	12 05	1 79	488,334 5486	682,822 3881	32 341159	-103 741376
6,225 00	1 24	299 89	6,224 14	12 32	1 31	488 334 8219	682 821 9062	32 341159	-103 741378
6,250 00	1 21	300 90	6,249 13	12 59	0 85	488,335 0923	682 821 4451	32 341160	-103 741379
6,275 00	1 12	294 61	6,274 12	12 83	0 40	488,335 3296	682 820 9965	32 341161	-103 741381
6,300 00	1 03	286 27	6,299 12	12 99	-0 04	488,335 4943	682,820 5587	32 341161	-103 741382
6,325 00	1 02	283 53	6,324 12	13 11	-0 47	488,335 8093	682,820 1266	32,341162	-103 741383
6,350 00	0 83	250 31	6,349 11	13 10	-0 86	488,335 8004	682,819 7398	32 341162	-103 741385
6,375 00	0 89	219 49	6,374 11	12 89	-1 15	488,335 3895	682,819 4458	32,341161	-103 741386
6,400 00	0 92	202.50	6,399 11	12 55	-1 35	488,335 0542	682 819 2456	32,341160	-103 741386
6,425 00	0 99	191 58	6,424 10	12 16	-1 47	488,334 6572	682,819 1254	32,341159	-103 741387
6,450 00	1 00	188 53	6,449 10	11 73	-1 55	488 334 2299	682,819 0497	32,341158	-103 741387
6,475 00	1 07	190 78	6,474 10	11 28	-1 63	488 333 7849	682 818 9737	32 341157	-103 741387
6,500 00	1 05	187 40	6,499 09	10 83	-1 70	488 333 3284	682,818 9005	32 341155	-103 741387
6,525 00	1 10	190 01	6,524 09	10 36	-1 77	488,332 8850	682,818 8293	32 341154	-103 741388
6,550 00	1 04	187 95	6,549 08	9 90	-1 84	488,332 4039	682,818 7562	32 341153	-103 741388
6,575 00	1 05	187 36	6,574 08	9 45	-1 90	488,331 9521	682,818 6955	32 341152	-103 741388
6,600 00	1 08	184.22	6,599 07	8 99	-1 95	488 331 4899	682,818 6488	32 341150	-103 741388
6,625 00	1 12	184 09	6,624 07	8 51	-1 99	488 331 0112	682,818 6140	32 341149	-103 741388
6,650 00	1 12	180 03	6,649 06	8 02	-2 00	488,330 5232	682,818 5965	32 341148	-103 741388
6,675 00	1 14	181 64	6,674 06	7 53	-2 01	488 330 0303	682 818 5892	32 341146	-103 741389
6,700 00	1 32	185 93	6,699 05	7 00	-2 05	488,329 4953	682 818 5524	32 341145	-103 741389
6,725 00	1 32	180 55	6,724 05	6 42	-2 08	488 328 9209	682 818.5199	32 341143	-103 741389
6,750 00	1 36	178 45	6,749 04	5 84	-2 07	488 328 3364	682 818 5251	32 341142	-103,741389
6,775 00	1 32	179 90	6,774 03	5 25	-2 07	488 327 7519	682 818,5336	32 341140	-103 741389
6,800 00	1 27	178 24	6,799 03	4 69	-2 06	488,327 1870	682,818,5427	32 341138	-103 741389
6,825 00	1 31	179 02	6,824 02	4 12	-2 04	488,326 6244	682 818 5561	32 341137	-103 741389
6,850 00	1 34	181 52	6,849 01	3 55	-2 05	488,326 0464	682,818 5532	32,341135	-103 741389
6,875 00	1 31	176 31	6,874 01	2 97	-2 04	488,325 4691	682,818 5638	32 341134	-103 741389
6,900 00	1 35	177 87	6,899 00	2 39	-2 01	488,324 8896	682,818 5932	32 341132	-103 741389
6,925 00	1 32	178 37	6,923 99	1 81	-1 99	488 324 3074	682,818 6123	32 341131	-103 741389
6,950 00	1 32	176 72	6,948 99	1 23	-1 96	488,323 7321	682 818 6370	32 341129	-103,741388
6,975 00	1 33	177 70	6,973 98	0 65	-1 93	488,323 1547	682 818 6651	32 341127	-103 741388
7,000 00	1 32	180 63	6,998 97	0 08	-1 93	488,322 5769	682,818 6736	32 341126	-103 741388
7,025 00	1 22	178 14	7,023 97	-0 48	-1 92	488,322 0230	682 818 6790	32,341124	-103 741388
7,050 00	1 26	179 35	7,048 96	-1 02	-1 91	488,321 4821	682,818 6908	32,341123	-103,741388
7,075 00	1 27	179 52	7,073 96	-1 57	-1 90	488,320 9302	682,818 6962	32,341121	-103 741388
7,100 00	1 22	178 72	7,098 95	-2 11	-1 90	488,320 3871	682 818 7045	32,341120	-103 741388
7,125 00	1 20	180 66	7,123 94	-2 64	-1 89	488,319 8593	682,818 7074	32,341118	-103,741388
7,150 00	1 22	180 04	7,148 94	-3 17	-1 90	488,319 3314	682,818 7042	32,341117	-103,741388
7,175 00	1 30	182 20	7,173 93	-3 72	-1 91	488 318 7819	682,818 6932	32,341115	-103,741388
7,200 00	1 29	180 53	7,198 93	-4 28	-1 92	488,318 2171	682,818 6797	32,341114	-103,741388

Survey Report - Geographic

COG Operating LLC
 (City/County: IN/MANASSA)
 Site ID: 1225 - 0000
 (Name/Address/Zip)
 Wellhead
 Wellhead

Well Tenters/Road/Comp
 (City/County/State/Zip)
 (City/County/State/Zip)
 G/L
 (Name/Address/Zip)
 (Name/Address/Zip)

7 225 00	1 29	182 07	7,223 92	-4 85	-1 93	488,317 6544	682,818 6669	32 341112	-103 741388
7 250 00	1 31	181 75	7,248 91	-5 41	-1 95	488,317 0876	682,818 6480	32 341111	-103 741389
7,275 00	1 31	181 38	7,273 91	-5 98	-1 97	488,316 5163	682,818 6324	32 341109	-103 741389
7,300 00	1 26	183 54	7,298 90	-6 54	-1 99	488,315 9562	682,818 6085	32 341108	-103 741389
7,325 00	1 20	181 28	7,323 90	-7 08	-2 01	488,315 4202	682,818 5857	32 341106	-103 741389
7,350 00	1 25	182 31	7,348 89	-7 61	-2 03	488,314 8860	682,818 5689	32 341105	-103 741389
7,375 00	1 28	187 48	7,373 88	-8 16	-2 08	488,314 3367	682,818 5215	32 341103	-103 741389
7 400 00	1 39	187 70	7,398 88	-8 74	-2 16	488 313 7593	682,818 4446	32 341102	-103 741389
7,425 00	1 35	179 75	7,423 87	-9 34	-2 19	488,313 1644	682 818 4052	32 341100	-103 741389
7,450 00	1 12	176 83	7,448 86	-9 87	-2 18	488,312 6259	682,818 4200	32 341098	-103 741389
7,475 00	1 12	181 23	7 473 86	-10 36	-2 17	488 312 1377	682 818 4283	32 341097	-103 741389
7 500 00	1 22	183 03	7 498 85	-10 87	-2 19	488 311 6276	682,818 4090	32 341096	-103 741389
7,525 00	1 24	183 71	7,523 85	-11 41	-2 22	488,311 0919	682,818 3774	32 341094	-103 741390
7,550 00	1 27	187 10	7,548 84	-11 95	-2 27	488,310 5471	682 818 3257	32 341093	-103 741390
7,575 00	1 25	185 56	7 573 84	-12 50	-2 34	488 310 0007	682,818 2650	32 341091	-103 741390
7 600 00	1 31	187 74	7,598 83	-13 05	-2 40	488 309 4462	682,818 2001	32 341090	-103 741390
7,625 00	1 35	182 58	7,623 82	-13 63	-2 45	488,308 8688	682,818 1483	32 341088	-103 741390
7,650 00	1 15	179 04	7,648 82	-14 18	-2 46	488,308 3238	682,818 1393	32 341087	-103 741390
7,675 00	1 15	186 52	7 673 81	-14 68	-2 49	488 307 8237	682 818 1150	32 341085	-103 741390
7,700 00	1 22	187 22	7,698 81	-15 19	-2 55	488,307 3104	682 818 0531	32 341084	-103 741391
7,725 00	1 25	187 53	7,723 80	-15 72	-2 62	488,306 7760	682,817 9839	32 341082	-103 741391
7,750 00	1 39	186 23	7,748 79	-16 30	-2 68	488,306,2043	682,817 9152	32 341081	-103 741391
7 775 00	1 19	182 46	7,773 79	-16 86	-2 73	488,305 6435	682,817 8712	32 341079	-103 741391
7,800 00	1 38	186 69	7,798 78	-17 41	-2 78	488,305,0851	682,817 8250	32 341078	-103 741391
7,825 00	1 27	180 41	7,823 78	-17 99	-2 81	488,304,5091	682,817 7879	32 341076	-103 741392
7,850 00	1 32	188 02	7,848 77	-18 55	-2 85	488,303 9469	682,817 7458	32 341075	-103 741392
7 875 00	1 35	188 00	7,873 76	-19 13	-2 94	488 303 3701	682,817 6646	32 341073	-103 741392
7,900 00	1 29	185 31	7 898 76	-19 70	-3 00	488 302 7983	682 817 5976	32 341071	-103 741392
7,925 00	1 34	188 10	7,923 75	-20 27	-3 07	488 302 2287	682 817 5304	32 341070	-103 741392
7,950 00	1 43	189 76	7,948 74	-20 87	3 16	488 301 6319	682 817 4363	32 341068	-103 741393
7,975 00	1 52	187 50	7,973 73	-21 50	-3 26	488 300 9957	682 817 3401	32 341066	-103 741393
8 000 00	1 59	183 84	7,998 72	-22 18	-3 33	488 300 3209	682 817 2736	32 341065	-103 741393
8,025 00	1 41	178 60	8,023 72	-22 83	-3 34	488 299 6674	682 817 2579	32 341063	-103 741393
8,050 00	1 27	179 81	8 048 71	-23 42	-3 33	488 299 0828	682 817 2663	32 341061	-103 741393
8,075 00	1 28	182 22	8 073 70	-23 97	-3 34	488,298 5268	682,817 2564	32 341060	-103 741393
8,100 00	1 46	183 78	8 098 70	-24 57	-3 38	488 297 9299	682,817 2246	32 341058	-103 741393
8,125 00	1 52	183 90	8 123 69	-25 22	-3 42	488 297,2813	682,817 1811	32 341056	-103 741394
8,150 00	1 65	184 73	8 148 68	-25 91	-3 47	488,296 5918	682,817 1288	32 341054	-103 741394
8,175 00	1 59	183 69	8,173,67	-26 61	-3 52	488,295 8870	682,817 0768	32 341052	-103 741394
8,200 00	1 65	179 97	8,198,66	-27 32	-3 55	488,295 1810	682,817 0547	32 341051	-103 741394
8 225 00	1 38	165 34	8,223 65	-27 97	-3 47	488,294,5298	682,817 1311	32 341049	-103 741394
8 250 00	1 13	147 03	8 248 64	-28 47	-3 26	488,294,0318	682,817 3414	32 341047	-103 741393
8,275 00	1 00	128 62	8,273 64	-28 81	-2 95	488,293 6888	682,817 6460	32 341046	-103 741392
8,300 00	1 03	138 68	8,298 63	-29 12	-2 64	488 293,3839	682,817 9648	32 341046	-103 741391
8,325 00	1 03	152 19	8 323 63	-29 48	-2 38	488,293 0164	682,818 2180	32 341045	-103 741390
8,350 00	1 18	155 06	8 348 63	-29 92	-2 17	488,292 5842	682,818 4314	32 341043	-103 741390
8,375 00	1 23	153 92	8 373,62	-30 39	-1 94	488 292 1098	682,818 6579	32 341042	-103 741389
8 400 00	1 23	157 43	8,398 61	-30 88	-1 72	488 291,6210	682,818 8789	32 341041	-103 741388
8,425 00	1 23	147 95	8 423 61	-31 35	-1 48	488,291 1458	682,819 1242	32 341039	-103 741387
8,450 00	0 86	154 01	8 448,60	-31 75	-1 25	488,290 7497	682,819 3488	32 341038	-103 741387
8,475 00	0 99	166 47	8 473 60	-32 13	-1 12	488,290,3711	682,819 4816	32 341037	-103 741386
8 500 00	1 07	171 41	8,498 60	-32 57	-1 03	488 289 9303	682,819 5670	32 341036	-103 741386
8,525 00	1 23	167 55	8 523,59	-33 06	-0 94	488 289 4375	682,819 6597	32 341035	-103 741386
8 550 00	1 14	161 66	8,548 59	-33 56	-0 80	488,288 9394	682,819 7958	32 341033	-103 741385
8 575 00	1 00	163 18	8,573,58	-34 01	-0 66	488,288 4946	682,819 9372	32 341032	-103 741385

Survey Report - Geographic

COG Opening (LLO)
 Easy County NM (NAD27 NME)
 Sta 3+02.25 R291E
 TANKLESS FEED (Com 2H)
 WABOT 41
 WABOT 43

WABOT 41 (Com 2H)
 KOP 41 (Sta 7200 (Grants) (Random)
 KOP 43 (Sta 7200 (Grants) (Random)
 EDM 10000

8,600.00	0.95	169.93	8,598.58	-34.42	-0.56	488,288.0817	682,820.0365	32 341031	-103 741385
8,625.00	0.97	178.45	8,623.58	-34.83	-0.52	488,287.6661	682,820.0785	32 341030	-103 741384
8,650.00	1.11	179.13	8,648.57	-35.29	-0.51	488,287.2124	682,820.0879	32 341029	-103 741384
8,675.00	1.22	171.11	8,673.57	-35.79	-0.47	488,286.7074	682,820.1327	32 341027	-103 741384
8,700.00	0.98	176.40	8,698.56	-36.27	-0.41	488,286.2311	682,820.1872	32 341026	-103 741384
8,725.00	1.05	188.17	8,723.56	-36.71	-0.43	488,285.7909	682,820.1681	32 341025	-103 741384
8,750.00	1.19	196.68	8,748.55	-37.18	-0.54	488,285.3155	682,820.0611	32 341023	-103 741385
8,775.00	1.32	183.55	8,773.55	-37.72	-0.63	488,284.7795	682,819.9687	32 341022	-103 741385
8,800.00	1.19	183.05	8,798.54	-38.27	-0.66	488,284.2328	682,819.9371	32 341020	-103 741385
8,825.00	1.02	183.21	8,823.54	-38.75	-0.69	488,283.7514	682,819.9108	32 341019	-103 741385
8,850.00	1.04	187.94	8,848.53	-39.20	-0.73	488,283.3046	682,819.8670	32 341018	-103 741385
8,875.00	0.95	175.61	8,873.53	-39.63	-0.75	488,282.8732	682,819.8515	32 341017	-103 741385
8,900.00	0.91	124.35	8,898.53	-39.95	-0.57	488,282.5545	682,820.0313	32 341016	-103 741385
8,925.00	1.15	95.95	8,923.52	-40.08	-0.16	488,282.4165	682,820.4447	32 341015	-103 741383
8,950.00	0.95	89.16	8,948.52	-40.11	0.30	488,282.3936	682,820.9015	32 341015	-103 741382
8,975.00	0.66	100.79	8,973.52	-40.13	0.65	488,282.3696	682,821.2501	32 341015	-103 741381
9,000.00	0.62	116.70	8,998.51	-40.22	0.91	488,282.2819	682,821.5124	32 341015	-103 741380
9,025.00	0.76	128.61	9,023.51	-40.38	1.16	488,282.1177	682,821.7628	32 341015	-103 741379
9,050.00	0.76	113.00	9,048.51	-40.55	1.44	488,281.9494	682,822.0450	32 341014	-103 741378
9,075.00	0.68	120.90	9,073.51	-40.69	1.72	488,281.8085	682,822.3249	32 341014	-103 741377
9,100.00	0.72	145.50	9,098.51	-40.90	1.94	488,281.6028	682,822.5412	32 341013	-103 741377
9,125.00	1.09	141.76	9,123.50	-41.21	2.18	488,281.2866	682,822.7773	32 341012	-103 741376
9,150.00	1.14	134.71	9,148.50	-41.58	2.50	488,280.9249	682,823.1012	32 341011	-103 741375
9,175.00	1.20	148.00	9,173.49	-41.97	2.82	488,280.5279	682,823.4167	32 341010	-103 741374
9,200.00	1.38	145.48	9,198.49	-42.44	3.13	488,280.0579	682,823.7260	32 341009	-103 741373
9,225.00	1.32	155.02	9,223.48	-42.95	3.42	488,279.5488	682,824.0182	32 341007	-103 741372
9,250.00	1.54	154.52	9,248.47	-43.52	3.68	488,278.9846	682,824.2843	32 341006	-103 741371
9,275.00	1.65	155.02	9,273.46	-44.15	3.98	488,278.3550	682,824.5808	32 341004	-103 741370
9,300.00	1.47	156.37	9,298.45	-44.77	4.26	488,277.7350	682,824.8614	32 341002	-103 741369
9,325.00	1.55	164.22	9,323.44	-45.38	4.48	488,277.1159	682,825.0819	32 341001	-103 741368
9,350.00	1.23	151.96	9,348.44	-45.95	4.70	488,276.5536	682,825.2999	32 340999	-103 741368
9,375.00	1.37	88.13	9,373.43	-46.17	5.12	488,276.3266	682,825.7248	32 340999	-103 741366
9,400.00	1.28	78.76	9,398.42	-46.11	5.70	488,276.3907	682,826.2974	32 340999	-103 741365
9,425.00	1.48	82.07	9,423.42	-46.01	6.29	488,276.4897	682,826.8910	32 340999	-103 741363
9,450.00	1.46	89.61	9,448.41	-45.96	6.93	488,276.5364	682,827.5293	32 340999	-103 741361
9,475.00	1.69	86.26	9,473.40	-45.94	7.62	488,276.5626	682,828.2156	32 340999	-103 741358
9,500.00	1.61	76.89	9,498.39	-45.83	8.33	488,276.6663	682,828.9255	32 340999	-103 741356
9,520.00	1.36	91.20	9,518.38	-45.78	8.84	488,276.7251	682,829.4364	32 341000	-103 741354
9,657.00	1.50	100.56	9,655.34	-46.14	12.22	488,276.3624	682,832.8246	32 340999	-103 741343
TANKLESS FEED (Com 2H) FT									
9,688.00	3.90	46.56	9,688.31	-45.49	13.39	488,277.0131	682,833.9893	32 341000	-103 741340
9,719.00	7.20	35.36	9,717.16	-43.18	15.28	488,279.3230	682,835.8796	32 341007	-103 741333
9,750.00	10.50	29.76	9,747.79	-39.14	17.81	488,283.3606	682,838.4066	32 341018	-103 741325
9,797.00	15.60	26.06	9,793.56	-29.74	22.71	488,292.7618	682,843.3118	32 341043	-103 741309
9,844.00	20.00	24.06	9,838.30	-16.72	28.77	488,305.7846	682,849.3680	32 341079	-103 741289
9,891.00	24.70	20.46	9,881.76	-0.17	35.48	488,322.3342	682,856.0814	32 341125	-103 741267
9,937.00	30.00	18.36	9,922.60	19.77	42.47	488,342.2681	682,863.0684	32 341179	-103 741244
9,984.00	34.90	16.06	9,962.25	43.86	49.89	488,366.3563	682,870.4939	32 341245	-103 741220
10,031.00	40.00	16.16	9,999.55	71.30	57.82	488,393.8037	682,878.4229	32 341321	-103 741194
10,103.60	48.20	15.27	10,051.65	119.91	71.47	488,442.4049	682,892.0673	32 341454	-103 741149
TANKLESS FEED (Com 2H) FT									
10,124.00	50.50	15.06	10,064.93	134.84	75.51	488,457.3393	682,896.1144	32 341495	-103 741135
10,131.32	51.32	14.83	10,069.55	140.33	76.98	488,462.8287	682,897.5795	32 341510	-103 741130
TANKLESS FEED (Com 2H) FT									
10,171.00	55.80	13.66	10,093.11	171.26	84.82	488,493.7633	682,905.4230	32 341595	-103 741104

Survey Report - Geographic

COG Operating LLC
 Eddy County, NM (NAD 2011)
 6000 FT 2000 RAIN
 10000 FT 2000 RAIN
 10000 FT 2000 RAIN
 10000 FT 2000 RAIN

Wellington, Colorado
 10000 FT 2000 RAIN
 10000 FT 2000 RAIN
 10000 FT 2000 RAIN
 10000 FT 2000 RAIN

10,219.00	62.30	13.86	10,117.79	211.23	194.61	488,533.7254	682,915.2116	32 341705	-103 741072
10,266.00	68.70	14.06	10,137.27	252.71	104.93	488,575.2082	682,925.5256	32 341819	-103 741038
10,313.00	72.40	13.76	10,152.91	295.72	115.58	488,618.2191	682,936.1763	32 341937	-103 741003
10,344.00	75.60	13.06	10,161.46	324.70	122.49	488,647.2021	682,943.0849	32 342016	-103 740980
10,375.00	77.80	12.56	10,168.59	354.12	129.17	488,676.6179	682,949.7728	32 342097	-103 740958
10,406.00	80.40	10.76	10,174.45	383.93	135.32	488,706.4269	682,955.9221	32 342179	-103 740937
10,437.00	84.10	8.56	10,178.63	414.20	140.47	488,736.7014	682,961.0726	32 342262	-103 740920
10,499.00	87.30	6.96	10,183.28	475.45	148.82	488,797.9509	682,969.4174	32 342430	-103 740892
10,593.00	89.90	4.86	10,185.58	568.91	158.49	488,891.4099	682,979.0910	32 342687	-103 740859
10,687.00	89.90	4.66	10,185.74	662.59	166.29	488,985.0853	682,986.8913	32 342944	-103 740832
10,780.00	90.10	4.46	10,185.74	755.29	173.69	489,077.7907	682,994.2850	32 343199	-103 740806
10,874.00	87.70	2.56	10,187.54	849.09	179.44	489,171.5857	683,000.0388	32 343457	-103 740786
10,968.00	88.30	2.26	10,190.82	942.95	183.39	489,265.4446	683,003.9890	32 343715	-103 740771
11,063.00	89.60	2.16	10,192.57	1,037.86	187.05	489,360.3557	683,007.6517	32 343976	-103 740758
11,156.00	89.30	359.96	10,193.46	1,130.83	188.77	489,453.3295	683,009.3720	32 344231	-103 740751
11,250.00	90.10	359.66	10,193.95	1,224.83	188.46	489,547.3267	683,009.0603	32 344489	-103 740750
11,343.00	91.30	359.56	10,192.81	1,317.82	187.83	489,640.3157	683,008.4274	32 344745	-103 740750
11,436.00	91.00	358.96	10,190.95	1,410.79	186.63	489,733.2885	683,007.2265	32 345001	-103 740753
11,529.00	92.20	359.16	10,188.35	1,503.74	185.10	489,826.2378	683,005.7014	32 345256	-103 740756
11,622.00	90.20	358.46	10,186.40	1,596.70	183.17	489,919.1919	683,003.7703	32 345512	-103 740760
11,717.00	88.00	357.96	10,187.90	1,691.63	180.20	490,014.1275	683,000.8035	32 345773	-103 740768
11,811.00	88.40	357.96	10,190.85	1,785.52	176.86	490,108.0212	682,997.4591	32 346031	-103 740778
11,905.00	89.80	357.76	10,192.32	1,879.45	173.35	490,201.9414	682,993.9495	32 346289	-103 740787
11,998.00	88.80	358.16	10,193.46	1,972.38	170.04	490,294.8740	682,990.6392	32 346545	-103 740796
12,092.00	89.00	358.46	10,195.27	2,066.32	167.27	490,388.8155	682,987.8675	32 346803	-103 740804
12,186.00	89.20	357.96	10,196.74	2,160.26	164.33	490,482.7575	682,984.9316	32 347061	-103 740811
12,280.00	90.80	358.06	10,196.74	2,254.20	161.07	490,576.6975	682,981.6676	32 347319	-103 740820
12,373.00	89.70	358.46	10,196.34	2,347.16	158.24	490,669.6520	682,978.8438	32 347575	-103 740828
12,467.00	89.90	357.86	10,196.66	2,441.11	155.23	490,763.6023	682,975.8257	32 347833	-103 740836
12,560.00	89.90	359.66	10,196.83	2,534.08	153.21	490,856.5763	682,973.8132	32 348089	-103 740841
12,654.00	90.50	0.96	10,196.50	2,628.08	153.72	490,950.5718	682,974.3218	32 348347	-103 740837
12,747.00	90.90	1.06	10,195.36	2,721.06	155.36	491,043.5500	682,975.9609	32 348603	-103 740830
12,841.00	91.20	0.66	10,193.64	2,815.03	156.77	491,137.5231	682,977.3716	32 348861	-103 740824
12,935.00	91.00	0.16	10,191.84	2,909.01	157.44	491,231.5029	682,978.0441	32 349119	-103 740820
13,028.00	89.30	0.76	10,191.59	3,002.00	158.19	491,324.4955	682,978.7907	32 349375	-103 740816
13,121.00	88.50	0.66	10,193.38	3,094.98	159.34	491,417.4703	682,979.9429	32 349631	-103 740811
13,215.00	89.40	1.26	10,195.10	3,188.95	160.92	491,511.4397	682,981.5176	32 349889	-103 740804
13,309.00	90.00	2.36	10,195.59	3,282.90	163.89	491,605.3895	682,984.4865	32 350147	-103 740793
13,402.00	88.60	1.86	10,196.73	3,375.82	167.31	491,698.3167	682,987.9103	32 350402	-103 740780
13,495.00	88.60	2.16	10,199.00	3,468.74	170.57	491,791.2315	682,991.1712	32 350658	-103 740768
13,589.00	89.70	0.76	10,200.39	3,562.69	172.97	491,885.1866	682,993.5657	32 350916	-103 740758
13,682.00	90.30	0.86	10,200.39	3,655.68	174.28	491,978.1767	682,994.8804	32 351172	-103 740752
13,776.00	88.80	0.86	10,201.13	3,749.67	175.69	492,072.1604	682,996.2912	32 351430	-103 740746
13,870.00	88.10	359.46	10,203.68	3,843.63	175.95	492,166.1225	682,996.5538	32 351688	-103 740744
13,963.00	88.60	0.06	10,206.35	3,936.59	175.56	492,259.0822	682,996.1644	32 351944	-103 740743
14,057.00	88.40	358.86	10,208.81	4,030.55	174.68	492,353.0439	682,995.2789	32 352202	-103 740744
14,151.00	88.90	359.36	10,211.03	4,124.51	173.22	492,447.0057	682,993.8193	32 352460	-103 740747
14,245.00	89.40	0.16	10,212.42	4,218.50	172.83	492,540.9933	682,993.4256	32 352719	-103 740747
14,338.00	88.90	359.26	10,214.10	4,313.49	172.25	492,633.9776	682,992.8538	32 353029	-103 740747
14,432.00	89.70	359.36	10,215.25	4,407.47	171.12	492,727.9628	682,991.7219	32 353288	-103 740749
14,526.00	90.60	0.76	10,215.00	4,501.47	171.22	492,821.9589	682,991.8203	32 353546	-103 740747
14,620.00	89.90	358.76	10,214.59	4,595.46	170.83	492,915.9516	682,991.4266	32 353804	-103 740746
14,714.00	90.30	359.36	10,214.43	4,689.45	169.28	493,009.9380	682,989.8845	32 354063	-103 740750
14,808.00	88.60	358.46	10,215.32	4,783.42	167.52	493,103.9244	682,988.1156	32 354321	-103 740754
14,902.00	88.90	358.86	10,217.35	4,877.37	165.34	493,197.9108	682,985.9413	32 354579	-103 740759

Survey Report - Geographic

COG Operating LLC
 Easy County NM (NAD 27 NME)
 Sec 36 T 22S R 30E
 Tankless Fed Com 2H
 Well 2H
 Well 2H

Well 2H (Federal) Com 2H
 KB-2H-0172000 (Sec 36 T 22S R 30E)
 KB-2H-0172000 (Sec 36 T 22S R 30E)
 BHA
 Well 2H (Federal)
 Well 2H

15,014 00	89 80	359 36	10,218 42	4 987 36	163.88	493,309 8455	682,984 4814	32.354832	-103 740762
15,108 00	88 50	357 76	10,219 81	5,081 31	161 52	493,403.8002	682,982 1198	32 355091	-103 740768
15,202 00	88 60	357 96	10,222 19	5 175 21	158 01	493,497 7043	682,978 6108	32 355349	-103 740778
15,296 00	89 70	358 46	10,223 58	5 269 16	155 08	493,591.6462	682,975 6751	32 355607	-103 740786
15,391 00	90 80	358 46	10,223 17	5,364 12	152 52	493,686.6093	682,973 1220	32 355868	-103 740792
15,486 00	89 10	358 86	10,223 25	5 459 09	150 30	493,781 5794	682,970 9005	32 356129	-103 740798
15,580 00	89 60	359 86	10,224 32	5,553 08	149 25	493,875 5659	682,969 8507	32 356388	-103 740799
15,673 00	88 50	359 06	10,225 86	5 646 06	148 37	493,968.5466	682,968 9744	32 356643	-103 740801
15,767 00	88 50	359 16	10,228 32	5,740 01	146 92	494,062.5028	682,967 5148	32 356901	-103 740804
15,860 00	89 20	359 46	10,230 19	5 832 99	145 80	494,155 4765	682,966 3951	32 357157	-103 740806
15,953 00	88 80	358 76	10,231 81	5,925 96	144 35	494,248 4502	682,964 9509	32 357413	-103 740809
16,046 00	89 60	359 06	10,233 11	6 018 94	142.58	494,341.4232	682,963 1819	32 357668	-103 740813
16 140 00	88 70	357 46	10 234 50	6 112 88	139 73	494,435 3653	682,960 3283	32 357926	-103 740820
16,233 00	90 10	356 76	10 235 48	6 205 75	135 04	494,528 2389	682,955 6397	32 358182	-103 740834
16,327 00	88 70	358 06	10 236 46	6,299 65	130 79	494,622 1332	682,951 3923	32 358440	-103 740846
16 422 00	89 60	357 96	10 237 87	6 394 58	127 49	494,717 0643	682,948 0938	32 358701	-103 740855
16,515 00	86 50	359 86	10,241 04	6 487 49	125 72	494,809 9778	682,946 3246	32 358956	-103 740859
16,609 00	86 20	0 16	10 247 02	6,581 30	125 74	494,903 7867	682,946 3409	32 359214	-103 740857
16,702 00	88 30	0 66	10,251 48	6,674 19	126 41	494,996 6715	682,947 0059	32 359470	-103 740853
16 796 00	89 00	1 36	10,253 70	6,768 14	128 06	495,090 6295	682,948 6625	32 359728	-103 740846
16,889 00	90 20	1 86	10,254 34	6,861 10	130 68	495,183 5883	682,951 2753	32 359983	-103 740836
16,983 00	90 90	1 86	10,253 44	6,955 05	133 73	495,277 5337	682,954 3262	32 360241	-103 740825
17,077 00	89 80	0 96	10,252 87	7,049 02	136 04	495,371 5009	682,956 6390	32 360500	-103 740815
17,171 00	88 00	0 16	10 254 67	7,142 99	136 96	495,465 4743	682,957 5577	32 360758	-103 740811
17,264 00	88 40	0 06	10 257 59	7,235 94	137 14	495,558 4278	682,957 7362	32 361014	-103 740808
17,358 00	89 80	0 26	10 259 07	7,329 93	137 40	495,652 4133	682,957 9987	32 361272	-103 740806
17 429 07	91 02	359 88	10 258 56	7 400 99	137 48	495 723 4768	682 958 0842	32 361467	-103 740804

Tankless Fed Com 2H LTP
 17,429 50 91 03 359 88 10,258 55 7 401 42 137 48 495 723 9097 682,958 0833 32 361468 -103 740804

Hardline Crossing @ 17429 50'MD

17,451 00 91 40 359 76 10,258 10 7,422 92 137 42 495,745 4047 682,958 0150 32,361527 -103 740804
 17 509 00 92 40 0 06 10,256 17 7 480 89 137 32 495 803 3718 682 957 9239 32 361687 -103 740803

Final MWD Survey @ 17509'MD

17,557 00 92 40 0 06 10 254 16 7,528 84 137 37 495,851 3296 682,957 9741 32 361819 -103 740802

PTD @ 17557'MD Tankless Fed Com 2H BHL

9,657 00	9,655 34	-46 14	12 22	First MWD Survey @ 9657'MD
10,131 32	10 069 55	140 33	76 98	Hardline Crossing @ 10131 32'MD
17,429 50	10 258 55	7 401 42	137 48	Hardline Crossing @ 17429 50'MD
17,509 00	10,256 17	7 480 89	137 32	Final MWD Survey @ 17509 MD
17,557 00	10 254 16	7 528 84	137 37	PTD @ 17557'MD

Checked By _____ Approved By _____ Date _____