



HOBBS OCD

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30-025-41187

COG Operating LLC

Lea County, NM

Gunner Federal

#4H

OH

Survey: MWD #1

Survey Report - Geographic

04 May, 2015

SEP 16 2015

mm



Wellplanning
Survey Report - Geographic

Company:	COG Operating LLC	Local Co-ordinate Reference:	Well #4H
Project:	Lea County, NM	TVD Reference:	WELL @ 3361.0usft (Original Well Elev)
Site:	Gunner Federal	MD Reference:	WELL @ 3361.0usft (Original Well Elev)
Well:	#4H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Single User Db

Project	Lea County, NM		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site		Gunner Federal				
Site Position:		Northing:	383,347.50 usft	Latitude:	32° 3' 3.934 N	
From:	Map	Easting:	763,104.70 usft	Longitude:	103° 29' 2.891 W	
Position Uncertainty:		0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.45 °

Well	#4H					
Well Position	+N/-S	0.0 usft	Northing:	383,347.50 usft	Latitude:	32° 3' 3.934 N
	+E/-W	0.0 usft	Easting:	763,104.70 usft	Longitude:	103° 29' 2.891 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft	Ground Level:	3,335.0 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	3/17/2015	7.07	59.95	48,146

Design	OH				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.0	0.0	0.0	359.27	

Survey Program	Date 5/4/2015			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
169.0	19,730.0	MWD #1 (OH)	MWD	MWD - Standard

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
0.0	0.00	0.00	0.0	0.0	0.0	383,347.50	763,104.70	32° 3' 3.934 N	103° 29' 2.891 W
169.0	0.88	278.90	169.0	0.2	-1.3	383,347.70	763,103.41	32° 3' 3.936 N	103° 29' 2.906 W
327.0	0.31	293.23	327.0	0.6	-2.9	383,348.06	763,101.82	32° 3' 3.940 N	103° 29' 2.924 W
447.0	0.40	201.08	447.0	0.3	-3.3	383,347.79	763,101.37	32° 3' 3.937 N	103° 29' 2.930 W
577.0	0.88	154.63	577.0	-1.0	-3.1	383,346.47	763,101.64	32° 3' 3.924 N	103° 29' 2.927 W
667.0	1.19	139.92	667.0	-2.4	-2.2	383,345.13	763,102.54	32° 3' 3.911 N	103° 29' 2.916 W
757.0	1.72	130.66	756.9	-4.0	-0.5	383,343.53	763,104.16	32° 3' 3.895 N	103° 29' 2.898 W
894.0	2.10	123.30	893.9	-6.7	3.1	383,340.81	763,107.82	32° 3' 3.868 N	103° 29' 2.855 W
1,077.0	0.70	94.00	1,076.8	-8.6	7.0	383,338.90	763,111.74	32° 3' 3.848 N	103° 29' 2.810 W
1,259.0	0.70	88.50	1,258.8	-8.7	9.3	383,338.85	763,113.96	32° 3' 3.848 N	103° 29' 2.784 W
1,448.0	0.50	51.30	1,447.8	-8.1	11.1	383,339.39	763,115.76	32° 3' 3.853 N	103° 29' 2.763 W
1,637.0	0.10	35.40	1,636.8	-7.5	11.8	383,340.04	763,116.50	32° 3' 3.859 N	103° 29' 2.755 W



Wellplanning
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Site:	Gunner Federal	MD Reference:	WELL @ 3361.0usft (Original Well Elev)
Well:	#4H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Single User Db

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
1,731.0	0.40	241.60	1,730.8	-7.5	11.6	383,339.95	763,116.25	32° 3' 3.858 N	103° 29' 2.757 W
1,919.0	0.70	217.20	1,918.8	-8.8	10.3	383,338.73	763,114.98	32° 3' 3.846 N	103° 29' 2.772 W
2,013.0	0.50	195.30	2,012.8	-9.6	9.8	383,337.87	763,114.53	32° 3' 3.838 N	103° 29' 2.778 W
2,202.0	0.70	169.00	2,201.7	-11.6	9.8	383,335.95	763,114.53	32° 3' 3.819 N	103° 29' 2.778 W
2,296.0	0.50	156.40	2,295.7	-12.5	10.1	383,335.01	763,114.80	32° 3' 3.810 N	103° 29' 2.775 W
2,484.0	0.60	16.50	2,483.7	-12.3	10.7	383,335.20	763,115.41	32° 3' 3.811 N	103° 29' 2.768 W
2,578.0	1.10	14.70	2,577.7	-11.0	11.1	383,336.54	763,115.78	32° 3' 3.825 N	103° 29' 2.763 W
2,766.0	1.10	28.80	2,765.7	-7.6	12.4	383,339.87	763,117.11	32° 3' 3.857 N	103° 29' 2.747 W
2,860.0	1.10	42.50	2,859.7	-6.2	13.5	383,341.33	763,118.15	32° 3' 3.872 N	103° 29' 2.735 W
3,049.0	1.10	46.00	3,048.6	-3.6	16.0	383,343.92	763,120.68	32° 3' 3.897 N	103° 29' 2.706 W
3,143.0	1.10	1.90	3,142.6	-2.0	16.7	383,345.45	763,121.36	32° 3' 3.912 N	103° 29' 2.698 W
3,331.0	1.10	12.20	3,330.6	1.5	17.1	383,349.02	763,121.80	32° 3' 3.948 N	103° 29' 2.692 W
3,519.0	0.90	9.80	3,518.6	4.7	17.7	383,352.24	763,122.44	32° 3' 3.979 N	103° 29' 2.684 W
3,707.0	0.90	284.90	3,706.5	6.6	16.6	383,354.07	763,121.26	32° 3' 3.998 N	103° 29' 2.698 W
3,895.0	1.10	258.20	3,894.5	6.6	13.4	383,354.08	763,118.07	32° 3' 3.998 N	103° 29' 2.735 W
3,989.0	0.60	248.30	3,988.5	6.2	12.0	383,353.72	763,116.73	32° 3' 3.995 N	103° 29' 2.751 W
4,084.0	0.20	338.00	4,083.5	6.2	11.5	383,353.69	763,116.20	32° 3' 3.994 N	103° 29' 2.757 W
4,272.0	0.90	33.70	4,271.5	7.7	12.2	383,355.22	763,116.90	32° 3' 4.009 N	103° 29' 2.749 W
4,460.0	1.50	293.30	4,459.5	9.9	10.8	383,357.42	763,115.46	32° 3' 4.031 N	103° 29' 2.765 W
4,648.0	0.40	230.00	4,647.4	10.5	8.0	383,357.97	763,112.69	32° 3' 4.037 N	103° 29' 2.797 W
4,742.0	0.80	143.00	4,741.4	9.7	8.1	383,357.24	763,112.84	32° 3' 4.030 N	103° 29' 2.796 W
4,836.0	0.90	135.10	4,835.4	8.7	9.1	383,356.19	763,113.75	32° 3' 4.019 N	103° 29' 2.785 W
5,025.0	1.20	138.50	5,024.4	6.2	11.4	383,353.66	763,116.11	32° 3' 3.994 N	103° 29' 2.758 W
5,119.0	0.40	182.20	5,118.4	5.1	12.1	383,352.59	763,116.75	32° 3' 3.983 N	103° 29' 2.750 W
5,213.0	0.00	329.20	5,212.4	4.8	12.0	383,352.26	763,116.74	32° 3' 3.980 N	103° 29' 2.751 W
5,364.0	0.49	215.36	5,363.4	4.2	11.7	383,351.74	763,116.37	32° 3' 3.975 N	103° 29' 2.755 W
5,459.0	0.40	206.63	5,458.4	3.6	11.3	383,351.11	763,115.98	32° 3' 3.969 N	103° 29' 2.760 W
5,552.0	0.40	237.52	5,551.4	3.1	10.9	383,350.65	763,115.56	32° 3' 3.964 N	103° 29' 2.764 W
5,647.0	0.31	222.94	5,646.4	2.8	10.4	383,350.28	763,115.11	32° 3' 3.961 N	103° 29' 2.770 W
5,741.0	0.31	215.05	5,740.4	2.4	10.1	383,349.88	763,114.79	32° 3' 3.957 N	103° 29' 2.774 W
5,834.0	0.22	232.54	5,833.4	2.1	9.8	383,349.57	763,114.50	32° 3' 3.954 N	103° 29' 2.777 W
5,929.0	0.22	222.45	5,928.4	1.8	9.5	383,349.32	763,114.24	32° 3' 3.951 N	103° 29' 2.780 W
6,023.0	0.31	192.75	6,022.4	1.4	9.4	383,348.94	763,114.06	32° 3' 3.947 N	103° 29' 2.782 W
6,117.0	0.40	195.13	6,116.4	0.9	9.2	383,348.38	763,113.92	32° 3' 3.942 N	103° 29' 2.784 W
6,211.0	0.40	180.85	6,210.4	0.2	9.1	383,347.73	763,113.83	32° 3' 3.936 N	103° 29' 2.785 W
6,305.0	0.31	171.42	6,304.4	-0.3	9.2	383,347.15	763,113.86	32° 3' 3.930 N	103° 29' 2.785 W
6,399.0	0.49	208.22	6,398.4	-0.9	9.0	383,346.55	763,113.71	32° 3' 3.924 N	103° 29' 2.786 W
6,493.0	0.31	183.94	6,492.4	-1.6	8.8	383,345.94	763,113.50	32° 3' 3.918 N	103° 29' 2.789 W
6,587.0	0.31	178.65	6,586.4	-2.1	8.8	383,345.43	763,113.49	32° 3' 3.913 N	103° 29' 2.789 W
6,681.0	0.31	237.83	6,680.4	-2.5	8.6	383,345.04	763,113.28	32° 3' 3.909 N	103° 29' 2.792 W
6,775.0	0.09	149.26	6,774.4	-2.7	8.4	383,344.84	763,113.10	32° 3' 3.907 N	103° 29' 2.794 W
6,870.0	0.09	186.63	6,869.4	-2.8	8.4	383,344.71	763,113.13	32° 3' 3.906 N	103° 29' 2.793 W
6,964.0	0.09	10.22	6,963.4	-2.8	8.4	383,344.71	763,113.13	32° 3' 3.906 N	103° 29' 2.793 W
7,058.0	0.22	20.93	7,057.4	-2.6	8.5	383,344.95	763,113.21	32° 3' 3.908 N	103° 29' 2.792 W
7,152.0	0.40	46.93	7,151.4	-2.2	8.8	383,345.34	763,113.52	32° 3' 3.912 N	103° 29' 2.789 W
7,246.0	0.49	31.24	7,245.4	-1.6	9.3	383,345.91	763,113.96	32° 3' 3.917 N	103° 29' 2.783 W
7,340.0	0.49	354.13	7,339.4	-0.8	9.4	383,346.65	763,114.13	32° 3' 3.925 N	103° 29' 2.781 W
7,434.0	0.40	311.25	7,433.4	-0.2	9.1	383,347.27	763,113.84	32° 3' 3.931 N	103° 29' 2.785 W
7,527.0	0.09	6.02	7,526.4	0.1	8.9	383,347.55	763,113.61	32° 3' 3.934 N	103° 29' 2.787 W
7,621.0	0.22	120.44	7,620.4	0.0	9.1	383,347.54	763,113.77	32° 3' 3.934 N	103° 29' 2.786 W
7,718.0	0.62	145.64	7,717.3	-0.5	9.5	383,347.01	763,114.23	32° 3' 3.928 N	103° 29' 2.780 W
7,811.0	1.02	162.12	7,810.3	-1.7	10.1	383,345.80	763,114.77	32° 3' 3.916 N	103° 29' 2.774 W
7,906.0	1.19	172.75	7,905.3	-3.5	10.5	383,344.02	763,115.15	32° 3' 3.899 N	103° 29' 2.770 W
8,000.0	1.28	169.66	7,999.3	-5.5	10.8	383,342.02	763,115.46	32° 3' 3.879 N	103° 29' 2.766 W
8,094.0	1.81	177.86	8,093.3	-8.0	11.0	383,339.50	763,115.71	32° 3' 3.854 N	103° 29' 2.764 W



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Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
8,188.0	1.68	182.53	8,187.2	-10.9	11.0	383,336.64	763,115.70	32° 3' 3.826 N	103° 29' 2.764 W
8,282.0	1.28	185.35	8,281.2	-13.3	10.8	383,334.22	763,115.54	32° 3' 3.802 N	103° 29' 2.766 W
8,376.0	1.50	173.14	8,375.2	-15.5	10.9	383,331.96	763,115.59	32° 3' 3.779 N	103° 29' 2.766 W
8,506.0	1.60	173.30	8,505.1	-19.0	11.3	383,328.46	763,116.01	32° 3' 3.745 N	103° 29' 2.761 W
8,600.0	1.40	160.80	8,599.1	-21.4	11.8	383,326.08	763,116.54	32° 3' 3.721 N	103° 29' 2.755 W
8,694.0	1.10	155.30	8,693.1	-23.3	12.6	383,324.17	763,117.29	32° 3' 3.702 N	103° 29' 2.747 W
8,788.0	1.20	149.70	8,787.0	-25.0	13.5	383,322.50	763,118.16	32° 3' 3.686 N	103° 29' 2.737 W
8,882.0	1.10	159.70	8,881.0	-26.7	14.3	383,320.81	763,118.97	32° 3' 3.669 N	103° 29' 2.728 W
8,977.0	1.20	158.10	8,976.0	-28.5	15.0	383,319.03	763,119.66	32° 3' 3.651 N	103° 29' 2.720 W
9,071.0	1.20	158.50	9,070.0	-30.3	15.7	383,317.20	763,120.39	32° 3' 3.633 N	103° 29' 2.711 W
9,165.0	1.30	163.90	9,164.0	-32.2	16.3	383,315.26	763,121.05	32° 3' 3.614 N	103° 29' 2.704 W
9,259.0	1.20	163.20	9,257.9	-34.2	16.9	383,313.29	763,121.63	32° 3' 3.594 N	103° 29' 2.697 W
9,354.0	1.10	11.40	9,352.9	-34.3	17.4	383,313.23	763,122.09	32° 3' 3.593 N	103° 29' 2.692 W
9,401.0	6.50	5.90	9,399.8	-31.2	17.8	383,316.32	763,122.46	32° 3' 3.624 N	103° 29' 2.688 W
9,448.0	11.20	12.80	9,446.2	-24.1	19.0	383,323.43	763,123.74	32° 3' 3.694 N	103° 29' 2.672 W
9,495.0	16.00	13.80	9,491.9	-13.3	21.6	383,334.17	763,126.30	32° 3' 3.800 N	103° 29' 2.641 W
9,542.0	20.80	16.10	9,536.5	1.0	25.5	383,348.49	763,130.16	32° 3' 3.942 N	103° 29' 2.595 W
9,589.0	22.90	13.70	9,580.1	17.9	29.9	383,365.39	763,134.64	32° 3' 4.109 N	103° 29' 2.541 W
9,620.0	24.50	11.50	9,608.5	30.1	32.7	383,377.55	763,137.35	32° 3' 4.229 N	103° 29' 2.509 W
9,651.0	27.00	9.10	9,636.4	43.3	35.1	383,390.80	763,139.75	32° 3' 4.360 N	103° 29' 2.480 W
9,683.0	31.70	3.60	9,664.3	58.9	36.7	383,406.38	763,141.43	32° 3' 4.514 N	103° 29' 2.459 W
9,714.0	36.80	359.80	9,689.9	76.3	37.2	383,423.81	763,141.90	32° 3' 4.686 N	103° 29' 2.452 W
9,745.0	43.80	358.50	9,713.6	96.3	36.9	383,443.84	763,141.59	32° 3' 4.884 N	103° 29' 2.454 W
9,777.0	50.00	359.80	9,735.4	119.7	36.6	383,467.19	763,141.26	32° 3' 5.115 N	103° 29' 2.455 W
9,808.0	52.10	1.20	9,754.9	143.8	36.8	383,491.30	763,141.47	32° 3' 5.354 N	103° 29' 2.451 W
9,840.0	56.10	0.80	9,773.7	169.7	37.2	383,517.21	763,141.92	32° 3' 5.610 N	103° 29' 2.443 W
9,871.0	61.90	359.40	9,789.6	196.3	37.3	383,543.77	763,141.96	32° 3' 5.873 N	103° 29' 2.440 W
9,903.0	68.50	357.80	9,803.0	225.3	36.5	383,572.79	763,141.24	32° 3' 6.160 N	103° 29' 2.446 W
9,923.0	72.30	357.30	9,809.7	244.1	35.7	383,591.61	763,140.43	32° 3' 6.347 N	103° 29' 2.453 W
9,954.0	79.20	356.40	9,817.4	274.1	34.1	383,621.59	763,138.78	32° 3' 6.644 N	103° 29' 2.470 W
9,985.0	80.50	355.90	9,822.8	304.5	32.0	383,652.04	763,136.73	32° 3' 6.945 N	103° 29' 2.491 W
10,017.0	82.20	356.40	9,827.6	336.1	29.9	383,683.60	763,134.61	32° 3' 7.258 N	103° 29' 2.513 W
10,111.0	88.10	0.60	9,835.6	429.7	27.5	383,777.17	763,132.17	32° 3' 8.184 N	103° 29' 2.533 W
10,205.0	90.70	358.90	9,836.6	523.7	27.1	383,871.15	763,131.76	32° 3' 9.114 N	103° 29' 2.529 W
10,300.0	92.40	357.50	9,834.0	618.6	24.1	383,966.06	763,128.78	32° 3' 10.053 N	103° 29' 2.555 W
10,394.0	92.60	357.80	9,829.9	712.4	20.2	384,059.90	763,124.93	32° 3' 10.982 N	103° 29' 2.591 W
10,488.0	90.50	359.90	9,827.4	806.3	18.3	384,153.83	763,123.04	32° 3' 11.912 N	103° 29' 2.604 W
10,582.0	90.90	1.00	9,826.2	900.3	19.1	384,247.82	763,123.78	32° 3' 12.842 N	103° 29' 2.587 W
10,676.0	92.90	0.80	9,823.1	994.3	20.6	384,341.75	763,125.26	32° 3' 13.771 N	103° 29' 2.561 W
10,770.0	92.30	359.20	9,818.8	1,088.2	20.6	384,435.65	763,125.26	32° 3' 14.700 N	103° 29' 2.553 W
10,865.0	89.90	358.70	9,817.0	1,183.1	18.8	384,530.61	763,123.52	32° 3' 15.640 N	103° 29' 2.564 W
10,959.0	88.40	358.40	9,818.4	1,277.1	16.4	384,624.57	763,121.14	32° 3' 16.570 N	103° 29' 2.583 W
11,053.0	89.90	358.00	9,819.8	1,371.0	13.5	384,718.51	763,118.19	32° 3' 17.500 N	103° 29' 2.609 W
11,147.0	91.40	357.80	9,818.7	1,464.9	10.0	384,812.44	763,114.74	32° 3' 18.430 N	103° 29' 2.640 W
11,241.0	90.10	357.30	9,817.5	1,558.8	6.0	384,906.34	763,110.72	32° 3' 19.359 N	103° 29' 2.678 W
11,335.0	90.30	357.50	9,817.2	1,652.7	1.8	385,000.24	763,106.46	32° 3' 20.289 N	103° 29' 2.719 W
11,429.0	89.00	358.70	9,817.7	1,746.7	-1.4	385,094.19	763,103.34	32° 3' 21.218 N	103° 29' 2.747 W
11,523.0	90.70	358.90	9,818.0	1,840.7	-3.3	385,188.16	763,101.37	32° 3' 22.149 N	103° 29' 2.761 W
11,588.0	92.20	358.50	9,816.3	1,905.6	-4.8	385,253.12	763,099.90	32° 3' 22.792 N	103° 29' 2.773 W
11,682.0	90.60	358.40	9,814.1	1,999.6	-7.3	385,347.06	763,097.36	32° 3' 23.721 N	103° 29' 2.793 W
11,776.0	90.20	358.00	9,813.4	2,093.5	-10.3	385,441.01	763,094.41	32° 3' 24.651 N	103° 29' 2.819 W
11,870.0	90.70	358.40	9,812.7	2,187.5	-13.2	385,534.96	763,091.45	32° 3' 25.581 N	103° 29' 2.845 W
11,964.0	90.70	358.40	9,811.5	2,281.4	-15.9	385,628.91	763,088.83	32° 3' 26.511 N	103° 29' 2.867 W
12,058.0	91.50	358.20	9,809.7	2,375.4	-18.7	385,722.85	763,086.04	32° 3' 27.441 N	103° 29' 2.891 W
12,151.0	89.70	359.60	9,808.7	2,468.3	-20.4	385,815.83	763,084.26	32° 3' 28.361 N	103° 29' 2.903 W



Wellplanning
Survey Report - Geographic

Company:	COG Operating LLC	Local Co-ordinate Reference:	Well #4H
Project:	Lea County, NM	TVD Reference:	WELL @ 3361.0usft (Original Well Elev)
Site:	Gunner Federal	MD Reference:	WELL @ 3361.0usft (Original Well Elev)
Well:	#4H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Single User Db

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
12,246.0	90.20	0.80	9,808.8	2,563.3	-20.1	385,910.82	763,084.59	32° 3' 29.301 N	103° 29' 2.890 W
12,340.0	92.00	1.20	9,807.0	2,657.3	-18.5	386,004.79	763,086.23	32° 3' 30.231 N	103° 29' 2.863 W
12,434.0	90.90	0.10	9,804.6	2,751.3	-17.4	386,098.75	763,087.29	32° 3' 31.160 N	103° 29' 2.842 W
12,528.0	89.30	359.60	9,804.5	2,845.2	-17.6	386,192.75	763,087.05	32° 3' 32.091 N	103° 29' 2.836 W
12,622.0	90.10	359.10	9,805.0	2,939.2	-18.7	386,286.74	763,085.98	32° 3' 33.021 N	103° 29' 2.840 W
12,716.0	89.30	358.50	9,805.5	3,033.2	-20.7	386,380.71	763,084.01	32° 3' 33.951 N	103° 29' 2.854 W
12,810.0	91.40	358.40	9,804.9	3,127.2	-23.2	386,474.67	763,081.47	32° 3' 34.881 N	103° 29' 2.875 W
12,930.0	92.20	359.60	9,801.1	3,247.1	-25.3	386,594.59	763,079.38	32° 3' 36.068 N	103° 29' 2.888 W
13,025.0	89.90	359.20	9,799.4	3,342.1	-26.3	386,689.56	763,078.38	32° 3' 37.008 N	103° 29' 2.891 W
13,119.0	90.10	358.90	9,799.4	3,436.1	-27.9	386,783.55	763,076.82	32° 3' 37.938 N	103° 29' 2.901 W
13,213.0	90.60	358.70	9,798.8	3,530.0	-29.8	386,877.53	763,074.85	32° 3' 38.868 N	103° 29' 2.915 W
13,307.0	88.70	358.20	9,799.4	3,624.0	-32.4	386,971.49	763,072.31	32° 3' 39.798 N	103° 29' 2.936 W
13,401.0	90.60	358.40	9,799.9	3,717.9	-35.2	387,065.44	763,069.52	32° 3' 40.728 N	103° 29' 2.960 W
13,495.0	88.80	358.50	9,800.4	3,811.9	-37.7	387,159.40	763,066.98	32° 3' 41.658 N	103° 29' 2.981 W
13,589.0	88.70	358.20	9,802.5	3,905.8	-40.4	387,253.34	763,064.28	32° 3' 42.588 N	103° 29' 3.004 W
13,683.0	90.40	357.70	9,803.2	3,999.8	-43.8	387,347.27	763,060.91	32° 3' 43.517 N	103° 29' 3.034 W
13,777.0	91.70	357.50	9,801.5	4,093.7	-47.7	387,441.17	763,056.98	32° 3' 44.447 N	103° 29' 3.071 W
13,871.0	90.00	358.20	9,800.1	4,187.6	-51.2	387,535.09	763,053.45	32° 3' 45.376 N	103° 29' 3.104 W
13,965.0	90.10	357.50	9,800.0	4,281.5	-54.8	387,629.02	763,049.93	32° 3' 46.306 N	103° 29' 3.136 W
14,059.0	90.90	356.80	9,799.2	4,375.4	-59.4	387,722.90	763,045.25	32° 3' 47.236 N	103° 29' 3.182 W
14,153.0	91.60	357.70	9,797.2	4,469.3	-64.0	387,816.77	763,040.74	32° 3' 48.165 N	103° 29' 3.226 W
14,237.0	90.60	359.90	9,795.5	4,553.2	-65.7	387,900.73	763,038.98	32° 3' 48.996 N	103° 29' 3.238 W
14,331.0	89.20	0.50	9,795.7	4,647.2	-65.4	387,994.73	763,039.31	32° 3' 49.926 N	103° 29' 3.226 W
14,425.0	89.00	0.50	9,797.2	4,741.2	-64.6	388,088.71	763,040.13	32° 3' 50.856 N	103° 29' 3.208 W
14,519.0	88.10	0.80	9,799.6	4,835.2	-63.5	388,182.68	763,041.20	32° 3' 51.786 N	103° 29' 3.187 W
14,613.0	89.20	1.00	9,801.8	4,929.1	-62.0	388,276.64	763,042.67	32° 3' 52.715 N	103° 29' 3.161 W
14,707.0	89.10	0.80	9,803.2	5,023.1	-60.5	388,370.61	763,044.15	32° 3' 53.645 N	103° 29' 3.135 W
14,802.0	88.50	0.10	9,805.2	5,118.1	-59.8	388,465.59	763,044.90	32° 3' 54.585 N	103° 29' 3.118 W
14,896.0	88.60	359.40	9,807.5	5,212.1	-60.2	388,559.56	763,044.49	32° 3' 55.515 N	103° 29' 3.114 W
14,990.0	90.30	359.10	9,808.4	5,306.0	-61.4	388,653.54	763,043.26	32° 3' 56.445 N	103° 29' 3.120 W
15,084.0	90.00	359.80	9,808.2	5,400.0	-62.3	388,747.54	763,042.35	32° 3' 57.375 N	103° 29' 3.122 W
15,178.0	90.80	358.70	9,807.5	5,494.0	-63.6	388,841.52	763,041.12	32° 3' 58.305 N	103° 29' 3.127 W
15,272.0	90.80	357.50	9,806.2	5,588.0	-66.7	388,935.46	763,038.01	32° 3' 59.235 N	103° 29' 3.155 W
15,366.0	91.50	357.10	9,804.3	5,681.8	-71.1	389,029.34	763,033.58	32° 4' 0.164 N	103° 29' 3.198 W
15,460.0	89.10	356.80	9,803.8	5,775.7	-76.1	389,123.20	763,028.58	32° 4' 1.094 N	103° 29' 3.247 W
15,554.0	87.00	359.10	9,807.0	5,869.6	-79.5	389,217.07	763,025.22	32° 4' 2.023 N	103° 29' 3.278 W
15,648.0	88.80	0.50	9,810.5	5,963.5	-79.8	389,311.00	763,024.89	32° 4' 2.952 N	103° 29' 3.273 W
15,742.0	90.50	1.00	9,811.1	6,057.5	-78.6	389,404.99	763,026.12	32° 4' 3.882 N	103° 29' 3.250 W
15,836.0	91.50	0.80	9,809.4	6,151.5	-77.1	389,498.96	763,027.60	32° 4' 4.812 N	103° 29' 3.225 W
15,931.0	92.90	0.80	9,805.8	6,246.4	-75.8	389,593.88	763,028.92	32° 4' 5.751 N	103° 29' 3.200 W
16,025.0	92.30	0.60	9,801.5	6,340.3	-74.6	389,687.77	763,030.07	32° 4' 6.680 N	103° 29' 3.179 W
16,119.0	90.90	359.40	9,798.9	6,434.2	-74.6	389,781.73	763,030.07	32° 4' 7.610 N	103° 29' 3.170 W
16,213.0	92.00	358.70	9,796.5	6,528.2	-76.2	389,875.69	763,028.51	32° 4' 8.540 N	103° 29' 3.179 W
16,307.0	89.70	358.00	9,795.1	6,622.1	-78.9	389,969.63	763,025.81	32° 4' 9.470 N	103° 29' 3.202 W
16,401.0	89.40	357.50	9,795.9	6,716.1	-82.6	390,063.56	763,022.12	32° 4' 10.399 N	103° 29' 3.237 W
16,496.0	90.00	356.80	9,796.3	6,810.9	-87.3	390,158.44	763,017.39	32° 4' 11.339 N	103° 29' 3.283 W
16,590.0	91.20	356.40	9,795.4	6,904.8	-92.9	390,252.26	763,011.82	32° 4' 12.268 N	103° 29' 3.339 W
16,684.0	90.50	357.10	9,794.0	6,998.6	-98.2	390,346.10	763,006.49	32° 4' 13.197 N	103° 29' 3.392 W
16,777.0	90.70	357.00	9,793.0	7,091.5	-103.0	390,438.97	763,001.70	32° 4' 14.116 N	103° 29' 3.439 W
16,871.0	91.70	358.20	9,791.0	7,185.4	-106.9	390,532.87	762,997.77	32° 4' 15.045 N	103° 29' 3.477 W
16,965.0	93.10	358.70	9,787.1	7,279.2	-109.5	390,626.75	762,995.23	32° 4' 15.975 N	103° 29' 3.498 W
17,060.0	92.50	359.40	9,782.5	7,374.1	-111.0	390,721.62	762,993.65	32° 4' 16.914 N	103° 29' 3.507 W
17,154.0	93.00	359.60	9,777.9	7,468.0	-111.9	390,815.51	762,992.84	32° 4' 17.843 N	103° 29' 3.508 W
17,248.0	92.20	359.40	9,773.7	7,561.9	-112.7	390,909.41	762,992.02	32° 4' 18.772 N	103° 29' 3.509 W
17,342.0	91.10	1.00	9,771.0	7,655.9	-112.4	391,003.36	762,992.34	32° 4' 19.702 N	103° 29' 3.497 W



Wellplanning
Survey Report - Geographic

Company:	COG Operating LLC	Local Co-ordinate Reference:	Well #4H
Project:	Lea County, NM	TVD Reference:	WELL @ 3361.0usft (Original Well Elev)
Site:	Gunner Federal	MD Reference:	WELL @ 3361.0usft (Original Well Elev)
Well:	#4H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Single User Db

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
17,436.0	91.20	1.30	9,769.1	7,749.8	-110.5	391,097.32	762,994.23	32° 4' 20.631 N	103° 29' 3.466 W
17,530.0	92.20	1.20	9,766.3	7,843.8	-108.4	391,191.26	762,996.28	32° 4' 21.561 N	103° 29' 3.434 W
17,624.0	93.20	1.20	9,761.9	7,937.6	-106.5	391,285.13	762,998.25	32° 4' 22.489 N	103° 29' 3.402 W
17,718.0	92.20	0.60	9,757.4	8,031.5	-105.0	391,379.02	762,999.72	32° 4' 23.418 N	103° 29' 3.377 W
17,812.0	89.90	0.10	9,755.7	8,125.5	-104.4	391,472.99	763,000.29	32° 4' 24.348 N	103° 29' 3.361 W
17,906.0	89.90	359.80	9,755.9	8,219.5	-104.5	391,566.99	763,000.21	32° 4' 25.278 N	103° 29' 3.354 W
18,000.0	91.90	358.90	9,754.4	8,313.5	-105.6	391,660.97	762,999.15	32° 4' 26.208 N	103° 29' 3.357 W
18,106.0	91.20	359.60	9,751.5	8,419.4	-106.9	391,766.92	762,997.76	32° 4' 27.257 N	103° 29' 3.364 W
18,200.0	92.30	359.80	9,748.7	8,513.4	-107.4	391,860.87	762,997.27	32° 4' 28.187 N	103° 29' 3.361 W
18,295.0	93.90	359.80	9,743.5	8,608.2	-107.8	391,955.73	762,996.94	32° 4' 29.125 N	103° 29' 3.356 W
18,389.0	93.50	359.40	9,737.5	8,702.0	-108.4	392,049.53	762,996.28	32° 4' 30.054 N	103° 29' 3.355 W
18,483.0	93.10	359.10	9,732.1	8,795.9	-109.6	392,143.37	762,995.05	32° 4' 30.982 N	103° 29' 3.361 W
18,577.0	92.00	359.40	9,727.9	8,889.8	-110.9	392,237.26	762,993.82	32° 4' 31.912 N	103° 29' 3.367 W
18,670.0	92.50	359.60	9,724.2	8,982.7	-111.7	392,330.19	762,993.01	32° 4' 32.831 N	103° 29' 3.367 W
18,764.0	92.30	359.40	9,720.3	9,076.6	-112.5	392,424.10	762,992.19	32° 4' 33.761 N	103° 29' 3.368 W
18,858.0	91.20	359.60	9,717.4	9,170.6	-113.3	392,518.05	762,991.37	32° 4' 34.690 N	103° 29' 3.369 W
18,953.0	91.90	359.20	9,714.8	9,265.5	-114.3	392,613.01	762,990.38	32° 4' 35.630 N	103° 29' 3.372 W
19,047.0	90.00	358.90	9,713.3	9,359.5	-115.9	392,706.98	762,988.82	32° 4' 36.560 N	103° 29' 3.382 W
19,141.0	89.30	357.80	9,713.9	9,453.4	-118.6	392,800.94	762,986.11	32° 4' 37.490 N	103° 29' 3.405 W
19,235.0	91.50	357.50	9,713.2	9,547.4	-122.4	392,894.85	762,982.26	32° 4' 38.420 N	103° 29' 3.441 W
19,329.0	92.90	357.50	9,709.6	9,641.2	-126.5	392,988.69	762,978.16	32° 4' 39.349 N	103° 29' 3.480 W
19,423.0	92.10	358.00	9,705.5	9,735.0	-130.2	393,082.53	762,974.48	32° 4' 40.277 N	103° 29' 3.514 W
19,517.0	92.60	357.70	9,701.6	9,828.9	-133.7	393,176.38	762,970.95	32° 4' 41.206 N	103° 29' 3.546 W
19,611.0	94.30	358.00	9,696.0	9,922.6	-137.3	393,270.14	762,967.43	32° 4' 42.135 N	103° 29' 3.579 W
19,726.2	94.30	358.00	9,687.3	10,037.5	-141.3	393,384.95	762,963.42	32° 4' 43.271 N	103° 29' 3.615 W
PBHL(GFed#4H)									
19,730.0	94.30	358.00	9,687.1	10,041.2	-141.4	393,388.74	762,963.29	32° 4' 43.308 N	103° 29' 3.616 W

Checked By: _____ Approved By: _____ Date: _____

Date	5/25/2015
Pressure test	9500'
Well	

Gunner B Fed #4/H

	Stage 1	Distance Between Perfs	Shots	Stage 2	Distance Between Perfs	Shots	Stage 3	Distance Between Perfs	Shots	Stage 4	Distance Between Perfs	Shots	Stage 5	Distance Between Perfs	Shots
From Bottom to Top	19,615	50	14	19,435	80	14	19,315	50	14	19,165	50	14	19,011	54	14
	19,595	50	12	19,397	32	12	19,262	47	12	19,115	50	12	18,960	50	12
	19,515		10	19,305		10	19,215		10	19,005		10	18,918		10
Perforated feet Frac Plug	100		36	Perforated feet Frac Plug	70		Perforated feet Frac Plug	100		Perforated feet Frac Plug	100		Perforated feet Frac Plug	95	
	19,640		Total Shots	19,447		Total Shots	19,340		Total Shots	19,195		Total Shots	19,040		Total Shots

	Stage 6	Distance Between Perfs	Shots	Stage 7	Distance Between Perfs	Shots	Stage 8	Distance Between Perfs	Shots	Stage 9	Distance Between Perfs	Shots	Stage 10	Distance Between Perfs	Shots
From Bottom to Top	18,898	50	14	18,714	53	14	18,598	50	14	18,410	58	14	18,268	50	14
	18,816	49	12	18,668	50	12	18,568	48	12	18,368	52	12	18,216	46	12
	18,767		10	18,616		10	18,488		10	18,316		10	18,170		10
Perforated feet Frac Plug	99		36	Perforated feet Frac Plug	103		Perforated feet Frac Plug	98		Perforated feet Frac Plug	110		Perforated feet Frac Plug	96	
	18,881		Total Shots	18,741		Total Shots	18,590		Total Shots	18,441		Total Shots	18,298		Total Shots

	Stage 11	Distance Between Perfs	Shots	Stage 12	Distance Between Perfs	Shots	Stage 13	Distance Between Perfs	Shots	Stage 14	Distance Between Perfs	Shots	Stage 15	Distance Between Perfs	Shots
From Bottom to Top	18,114	56	14	17,966	50	14	17,818	56	14	17,667	56	14	17,517	48	14
	18,068	50	12	17,920	48	12	17,767	50	12	17,620	50	12	17,467	50	12
	18,016		10	17,872		10	17,717		10	17,565		10	17,417		10
Perforated feet Frac Plug	106		36	Perforated feet Frac Plug	98		Perforated feet Frac Plug	106		Perforated feet Frac Plug	106		Perforated feet Frac Plug	98	
	18,141		Total Shots	17,981		Total Shots	17,841		Total Shots	17,694		Total Shots	17,542		Total Shots

	Stage 16	Distance Between Perfs	Shots	Stage 17	Distance Between Perfs	Shots	Stage 18	Distance Between Perfs	Shots	Stage 19	Distance Between Perfs	Shots	Stage 20	Distance Between Perfs	Shots
From Bottom to Top	17,387	50	14	17,217	53	14	17,088	49	14	16,917	50	14	16,767	50	14
	17,320	50	12	17,167	50	12	17,015	48	12	16,867	50	12	16,710	43	12
	17,270		10	17,117		10	16,967		10	16,817		10	16,667		10
Perforated feet Frac Plug	100		36	Perforated feet Frac Plug	103		Perforated feet Frac Plug	97		Perforated feet Frac Plug	100		Perforated feet Frac Plug	93	
	17,392		Total Shots	17,242		Total Shots	17,092		Total Shots	16,944		Total Shots	16,792		Total Shots

	Stage 21	Distance Between Perfs	Shots	Stage 22	Distance Between Perfs	Shots	Stage 23	Distance Between Perfs	Shots	Stage 24	Distance Between Perfs	Shots	Stage 25	Distance Between Perfs	Shots
From Bottom to Top	16,617	50	14	16,488	50	14	16,318	50	14	16,168	50	14	16,018	50	14
	16,568	50	12	16,421	53	12	16,268	50	12	16,115	47	12	15,968	50	12
	16,518		10	16,368		10	16,218		10	16,068		10	15,918		10
Perforated feet Frac Plug	100		36	Perforated feet Frac Plug	103		Perforated feet Frac Plug	100		Perforated feet Frac Plug	97		Perforated feet Frac Plug	100	
	16,642		Total Shots	16,492		Total Shots	16,343		Total Shots	16,193		Total Shots	16,043		Total Shots

	Stage 26	Distance Between Perfs	Shots	Stage 27	Distance Between Perfs	Shots	Stage 28	Distance Between Perfs	Shots	Stage 29	Distance Between Perfs	Shots	Stage 30	Distance Between Perfs	Shots
From Bottom to Top	15,870	48	14	15,718	50	14	15,570	48	14	15,418	50	14	15,265	54	14
	15,815	47	12	15,668	50	12	15,513	45	12	15,368	49	12	15,219	50	12
	15,768		10	15,618		10	15,468		10	15,319		10	15,169		10
Perforated feet Frac Plug	95		36	Perforated feet Frac Plug	100		Perforated feet Frac Plug	93		Perforated feet Frac Plug	15448		Perforated feet Frac Plug	104	
	15,893		Total Shots	15,743		Total Shots	15,593		Total Shots	15		Total Shots	15,284		Total Shots

	Stage 31	Distance Between Perfs	Shots	Stage 32	Distance Between Perfs	Shots	Stage 33	Distance Between Perfs	Shots	Stage 34	Distance Between Perfs	Shots	Stage 35	Distance Between Perfs	Shots
From Bottom to Top	15,119	50	14	14,965	54	14	14,819	57	14	14,669	50	14	14,519	50	14
	15,066	47	12	14,919	43	12	14,769	50	12	14,625	56	12	14,469	50	12
	15,019		10	14,876		10	14,719		10	14,569		10	14,419		10
Perforated feet Frac Plug	97		36	Perforated feet Frac Plug	97		Perforated feet Frac Plug	107		Perforated feet Frac Plug	106		Perforated feet Frac Plug	100	
	15,142		Total Shots	14,992		Total Shots	14,844		Total Shots	14,694		Total Shots	14,546		Total Shots

	Stage 36	Distance Between Perfs	Shots	Stage 37	Distance Between Perfs	Shots	Stage 38	Distance Between Perfs	Shots	Stage 39	Distance Between Perfs	Shots	Stage 40	Distance Between Perfs	Shots
From Bottom to Top	14,388	53	14	14,219	50	14	14,070	46	14	13,924	46	14	13,770	50	14
	14,319	50	12	14,170	54	12	14,020	50	12	13,870	50	12	13,720	52	12
	14,299		10	14,116		10	13,970		10	13,820		10	13,668		10
Perforated feet Frac Plug	103		36	Perforated feet Frac Plug	104		Perforated feet Frac Plug	96		Perforated feet Frac Plug	96		Perforated feet Frac Plug	102	
	14,394		Total Shots	14,238		Total Shots	14,095		Total Shots	13,945		Total Shots	13,803		Total Shots

	Stage 41	Distance Between Perfs	Shots	Stage 42	Distance Between Perfs	Shots	Stage 43	Distance Between Perfs	Shots	Stage 44	Distance Between Perfs	Shots	Stage 45	Distance Between Perfs	Shots
From Bottom to Top	13,620	48	14	13,470	54	14	13,322	48	14	13,170	50	14	13,020	50	14
	13,570	40	12	13,420	50	12	13,270	50	12	13,123	53	12	12,970	50	12
	13,524		10	13,370		10	13,220		10	13,070		10	12,920		10
Perforated feet Frac Plug	94		36	Perforated feet Frac Plug	104		Perforated feet Frac Plug	98		Perforated feet Frac Plug	103		Perforated feet Frac Plug	100	
	13,650		Total Shots	13,495		Total Shots	13,345		Total Shots	13,187		Total Shots	13,047		Total Shots

	Stage 46	Distance Between Perfs	Shots	Stage 47	Distance Between Perfs	Shots	Stage 48	Distance Between Perfs	Shots	Stage 49	Distance Between Perfs	Shots	Stage 50	Distance Between Perfs	Shots
From Bottom to Top	12,866	54	14	12,721	50	14	12,566	55	14	12,421	50	14	12,271	48	14
	12,821	50	12	12,671	50	12	12,521	50	12	12,373	54	12	12,221	50	12
	12,771		10	12,621		10	12,471		10	12,319		10	12,171		10
Perforated feet Frac Plug	104		36	Perforated feet Frac Plug	100		Perforated feet Frac Plug	105		Perforated feet Frac Plug	104		Perforated feet Frac Plug	98	
	12,896		Total Shots	12,750		Total Shots	12,596		Total Shots	12,439		Total Shots	12,286		Total Shots

	Stage 51	Distance Between Perfs	Shots	Stage 52	Distance Between Perfs	Shots	Stage 53	Distance Between Perfs	Shots	Stage 54	Distance Between Perfs	Shots	Stage 55	Distance Between Perfs	Shots
From Bottom to Top	12,118	53	14	11,971	50	14	11,821	49	14	11,668	53	14	11,518	56	14
	12,071	50	12	11,921	51	12	11,771	50	12	11,622	50	12	11,472	50	12
	12,021		10	11,870		10	11,721		10	11,572		10	11,422		10
Perforated feet Frac Plug	103		36	Perforated feet Frac Plug	101		Perforated feet Frac Plug	99		Perforated feet Frac Plug	103		Perforated feet Frac Plug	106	
	12,146		Total Shots	11,990		Total Shots	11,846		Total Shots	11,696		Total Shots	11,536		Total Shots

	Stage 56	Distance Between Perfs	Shots	Stage 57	Distance Between Perfs	Shots	Stage 58	Distance Between Perfs	Shots	Stage 59	Distance Between Perfs	Shots	Stage 60	Distance Between Perfs	Shots
From Bottom to Top	11,368	54	14	11,222	50	14	11,075	47	14	10,922	50	14	10,776	48	14
	11,322	50	12	11,172	50	12	11,022	50	12	10,872	50	12	10,722	50	12
	11,272		10	11,122		10	10,972		10	10,822		10	10,672		10
Perforated feet Frac Plug	104		36	Perforated feet Frac Plug	100		Perforated feet Frac Plug	97		Perforated feet Frac Plug	100		Perforated feet Frac Plug	96	
	11,397		Total Shots	11,253		Total Shots	11,097		Total Shots	10,951		Total Shots	10,797		Total Shots

	Stage 61	Distance Between Perfs	Shots	Stage 62	Distance Between Perfs	Shots	Stage 63	Distance Between Perfs	Shots	Stage 64	Distance Between Perfs	Shots	Stage 65	Distance Between Perfs	Shots
From Bottom to Top	10,622	50	14	10,467	55	14	10,320	53	14	10,173	50	14	10,023	50	14
	10,572	50	12	10,423	50	12	10,273	50	12	10,123	50	12	9,968	45	12
	10,522		10	10,373		10	10,223		10	10,073		10	9,923		10
Perforated feet Frac Plug	100		36	Perforated feet Frac Plug	105		Perforated feet Frac Plug	103		Perforated feet Frac Plug	100		Perforated feet Frac Plug	95	
	10,655		Total Shots	10,497		Total Shots	10,337		Total Shots	10,198		Total Shots	10,048		Total Shots

Gunner 8 Federal Com #4H (30-025-41187)**Sec 8-T26S-R34E**

<u>Stages</u>	<u>7 1/2% Acid (Gals)</u>	<u>Proppant (#)</u>	<u>Clean Fluid (Gals)</u>
1	1500	242664	252702
2	4608	242117	291367
3	3024	192315	347424
4	4020	225962	309402
5	3024	245287	280224
6	3012	245179	274290
7	3000	246099	274992
8	3000	246686	263106
9	3012	241735	262320
10	3000	246337	273522
11	3000	244625	266382
12	3000	245911	268735
13	3000	246002	261846
14	3000	240917	265458
15	3000	246486	268423
16	3000	246128	263400
17	3000	243064	256554
18	3012	244924	260220
19	3000	243517	258679
20	3033	241769	261068
21	3024	242447	257716
22	3003	252520	262958
23	3008	248822	259350
24	3000	246960	255991
25	3000	247510	257646
26	3000	245768	258402
27	3000	252776	262938
28	3129	246434	257767
29	2999	245166	253105
30	3000	244468	256344
31	3024	251384	258208
32	3016	243837	254751
33	3024	249276	255062
34	3003	246076	247116
35	3020	246807	253844
36	3000	247130	317286
37	3381	248763	252567
38	3012	245365	269577
39	3000	244793	246432
40	3000	246112	244668
41	3024	246771	254310
42	3071	247209	248720
43	3016	248209	254604
44	3016	245061	249972
45	3000	248545	248616
46	3012	245919	249510
47	3000	243688	249288
48	3024	245933	250976
49	3016	244862	247271
50	3079	246580	250866
51	3024	245878	247447
52	3012	246987	244890
53	3306	244210	247958
54	3180	245313	252744
55	3000	251110	251052
56	3054	247227	251820
57	3000	247820	248028
58	3138	244542	244008
59	3024	244960	244524
60	3024	246710	245616
61	3028	247121	246061
62	3028	243320	246141
63	3028	240242	236536
64	3024	243470	245183
65	<u>3192</u>	<u>232076</u>	<u>281950</u>
Totals	198198	15893901	16879928