

RECEIVED

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

DISTRICT II
811 S. FIRST ST., ARTESIA, NM 88210
Phone: (505) 748-1283 Fax: (505) 748-9720

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

DISTRICT IV
1220 S. ST. FRANCIS DR., SANTA FE, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION

1220 SOUTH ST. FRENCH
Santa Fe, New Mexico 87505

Form C-102

Revised August 1, 2011

Submit one copy to appropriate

District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-015-46128		Pool Code 98220	Pool Name Purple Sage; Wolfcamp
Property Code 325762	Property Name QUIEN SABE FEDERAL COM		Well Number 603H
OGRID No. 229137	Operator Name COG OPERATING, LLC		Elevation 3123.9'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
B	24	24-S	27-E		695	NORTH	2310	EAST	EDDY

Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
0	25	24-S	27-E		200	SOUTH	2295 ✓	EAST	EDDY

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

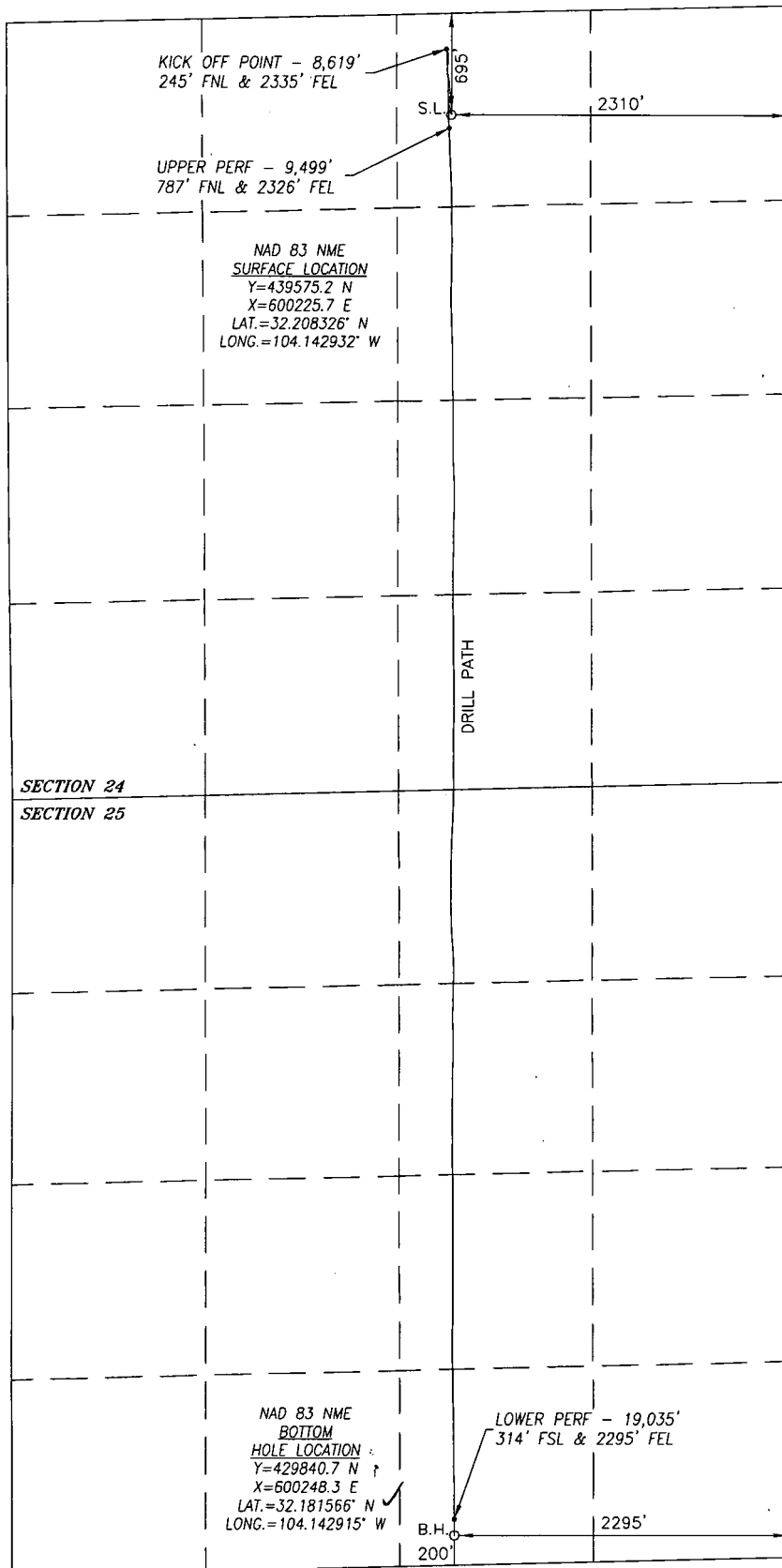
SEE PAGE 2

PAGE 1 OF 2

W.O. #20-204

DRAWN BY: WN

Property Code 325762	Property Name QUIEN SABE FEDERAL COM	Well Number 603H
OGRID No. 229137	Operator Name COG OPERATING, LLC	Elevation 3123.9'



SURFACE INFO AND BOREPATH SHOWN HEREON IS BASED ON DIRECTIONAL SURVEY REPORT PROVIDED BY COG OPERATING, LLC FOR THE QUIEN SABE FEDERAL COM #603H SUPPLIED TO HARCROW SURVEYING, LLC ON FEBRUARY 4, 2020

1200 0 1200
SCALE: 1"=1200'

OPERATOR CERTIFICATION

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

Amanda Avery 2/12/20
Signature Date

Amanda Avery
Printed Name

aaavery@concho.com
E-mail Address

SURVEYOR CERTIFICATION

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

DEC. 9, 2018/OCT. 2, 2019

Date of Survey/Date of Geographic Survey

Signature & Seal of Professional Surveyor



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

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FEB 14 2020

EMNRD-OGD ARTESIA

Intent ☐ As Drilled ☒ XAPI #
30-015-46128Operator Name:
COG OPERATING, LLCProperty Name:
QUIEN SABE FEDERAL COMWell Number
603H

Kick Off Point (KOP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
B	24	24S	27E		245	NORTH	2335	EAST	EDDY
Latitude 32.209561					Longitude -104.143038				NAD 83

First Take Point (FTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
B	24	24S	27E		787	NORTH	2326	EAST	EDDY
Latitude 32.208071					Longitude -104.142980				NAD 83

Last Take Point (LTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
O	25	24S	27E		314	SOUTH	2295	EAST	EDDY
Latitude 32.181880					Longitude -104.142916				NAD 83

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

☐ No

Is this well an infill well?

☐ Yes

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

API #
30-015-46125Operator Name:
COG Operating LLCProperty Name:
Quien Sabe Federal ComWell Number
603H

KZ 06/29/2018

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FEB 14 2020

ENINRD-009 ARTESIA

COG

SURVEY REPORT

QUIEN SABE FEDERAL COM #603H

ENGIN #155

9/13/2019

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

JAKE ELGER

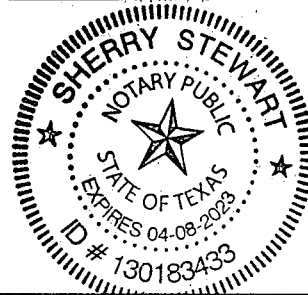
Notarized this date 07 of OCTOBER 2019

Sherry Stewart

Notary Signature

County of Midland

State of Texas

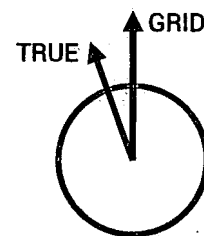


The Ultimate Partner In Wellbore Placement

SURVEY REPORT

JIEN SABE FEDERAL COM #603H

COMPUTED KEEPER GYRO WIRELINE SURVEY

CUSTOMER
PROJECT
FIELDCOG
Quien Sabe Federal Com #603H
Quien Sabe Federal Com #603HSDI JOB NO.
SDI DISTRICT
SDI KIT/UNITOP.020973
Midland**SITE INFORMATION**Site Name Quien Sabe Federal Com #603H
Lat/Long 32.208328° N, 104.142835° W
Northing 439,576 ft
Easting 600,255.7 ftSection
Township
Range**MAP INFORMATION**North Reference Grid North
Grid Correction -0.10 deg
System US State Plane 1983
Datum North American Datum 1983 (GRS 1980)
Map Zone New Mexico East: 3001**WELL INFORMATION**Lat/Long 32.208328° N, 104.142835° W
Northing 439,576 ft
Easting 600,255.7 ft
UWI 30-015-46125**DEPTH AND ELEVATION REFERENCE**Ground Level 3123.3 ft above Mean Sea
Level
Reference Datum RKB
Reference Height 24 ft above G.L.
Reference Elevation 3147.3 ft**VERTICAL SECTION REFERENCE**+N/-S 0 ft
+E/-W 0 ft
Proposal Direction 179.95°
Calculation Method Minimum Curvature**LOCAL GRAVITY REFERENCE INFORMATION**Local Gravity 998.526 mG [computed]
True to Grid subtract 0.1°**WELL NOTES****OPERATORS**

Nathan Yerby

SDI Operator Name (Printed)

SIGNATURE

DATE

MD	INC	AZIM	TVD	VS	IN/S	FEAW	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	0.57	45.39	100.00	-0.35	0.35	0.35	0.57	0.50	45.39
125.00	0.74	57.08	125.00	-0.52	0.52	0.58	0.85	0.78	47.79
150.00	0.58	46.44	150.00	-0.70	0.70	0.80	0.79	1.06	49.03
175.00	0.62	45.26	174.99	-0.88	0.88	0.99	0.18	1.32	48.39
200.00	0.67	38.93	199.99	-1.09	1.09	1.18	0.33	1.60	47.28
225.00	0.73	28.70	224.99	-1.34	1.34	1.34	0.56	1.90	45.11
250.00	0.77	13.08	249.99	-1.64	1.64	1.46	0.83	2.20	41.60
275.00	0.98	2.27	274.99	-2.02	2.02	1.51	1.07	2.52	36.68
300.00	1.28	352.98	299.98	-2.51	2.51	1.48	1.38	2.92	30.51
325.00	1.38	345.62	324.97	-3.08	3.08	1.37	0.79	3.37	24.01
350.00	1.43	344.36	349.97	-3.67	3.67	1.21	0.25	3.87	18.28
375.00	1.72	341.17	374.96	-4.33	4.33	1.01	1.21	4.45	13.10
400.00	2.14	334.56	399.94	-5.11	5.11	0.69	1.87	5.15	7.65
425.00	2.74	326.51	424.92	-6.03	6.03	0.16	2.78	6.03	1.48
450.00	3.63	321.24	449.88	-7.14	7.14	0.67	3.72	7.17	354.65
475.00	3.78	321.35	474.83	-8.40	8.40	1.68	0.62	8.57	348.70
500.00	3.78	321.54	499.77	-9.69	9.69	2.71	0.05	10.06	344.40
525.00	3.70	319.44	524.72	-10.95	10.95	3.74	0.64	11.57	341.13
550.00	3.57	318.64	549.67	-12.15	12.15	4.78	0.54	13.05	338.51
575.00	3.46	317.11	574.62	-13.29	13.28	-5.81	0.59	14.50	336.38
600.00	3.13	321.62	599.58	-14.38	14.37	-6.75	1.66	15.87	334.85
625.00	2.83	324.38	624.55	-15.41	15.41	-7.53	1.35	17.15	333.95
650.00	2.47	326.00	649.52	-16.36	16.35	-8.19	1.46	18.29	333.40
675.00	2.15	330.55	674.50	-17.22	17.21	-8.72	1.46	19.29	333.12
700.00	2.01	334.08	699.49	-18.02	18.01	-9.14	0.78	20.20	333.09
725.00	1.93	334.89	724.47	-18.79	18.78	-9.51	0.33	21.06	333.14
750.00	2.02	333.44	749.46	-19.57	19.56	-9.89	0.41	21.92	333.18
775.00	1.99	336.15	774.44	-20.36	20.35	-10.26	-0.39	22.79	333.24
800.00	2.06	333.37	799.42	-21.16	21.15	-10.64	0.48	23.67	333.30
825.00	2.05	335.93	824.41	-21.97	21.96	-11.02	0.37	24.57	333.35
850.00	1.91	334.89	849.39	-22.76	22.75	-11.38	0.60	25.43	333.42

MD	INC	AZIM	TVD	VS	N/S	E/W	DLS	CLOSURE DIST	CLOSURE DIR
ft	deg	deg	ft	ft	ft	ft	%/100ft	ft	deg
875.00	1.28	329.61	874.38	-23.37	23.36	-11.70	2.57	26.13	333.40
900.00	0.73	334.58	899.38	-23.76	23.75	-11.91	2.23	26.57	333.37
925.00	0.48	314.83	924.38	-23.98	23.97	-12.05	1.28	26.83	333.30
950.00	0.26	274.46	949.38	-24.06	24.05	-12.18	1.32	26.96	333.13
975.00	0.06	274.91	974.38	-24.06	24.05	-12.25	0.80	26.99	333.01
1000.00	0.19	256.46	999.38	-24.05	24.04	-12.31	0.57	27.01	332.90
1025.00	0.17	269.00	1024.38	-24.04	24.03	-12.38	0.19	27.03	332.74
1050.00	0.15	258.41	1049.38	-24.03	24.02	-12.45	0.14	27.06	332.60
1075.00	0.27	283.63	1074.38	-24.04	24.03	-12.54	0.59	27.11	332.44
1100.00	0.10	220.33	1099.38	-24.04	24.03	-12.61	0.96	27.14	332.30
1125.00	0.13	254.98	1124.38	-24.01	24.00	-12.66	0.30	27.14	332.20
1150.00	0.17	281.27	1149.38	-24.01	24.00	-12.72	0.30	27.16	332.08
1175.00	0.17	284.84	1174.38	-24.03	24.02	-12.79	0.05	27.21	331.96
1200.00	0.23	297.61	1199.38	-24.06	24.05	-12.87	0.28	27.28	331.85
1225.00	0.23	294.81	1224.38	-24.11	24.10	-12.96	0.05	27.36	331.73
1250.00	0.32	310.52	1249.38	-24.17	24.16	-13.06	0.48	27.47	331.61
1275.00	0.28	314.15	1274.38	-24.26	24.25	-13.15	0.21	27.59	331.52
1300.00	0.39	307.49	1299.38	-24.35	24.34	-13.26	0.47	27.72	331.41
1325.00	0.36	312.59	1324.38	-24.46	24.45	-13.39	0.16	27.87	331.29
1350.00	0.47	304.57	1349.37	-24.57	24.56	-13.53	0.47	28.04	331.15
1375.00	0.53	309.14	1374.37	-24.70	24.69	-13.70	0.30	28.24	330.97
1400.00	0.61	310.07	1399.37	-24.86	24.85	-13.90	0.34	28.47	330.78
1425.00	0.53	314.62	1424.37	-25.03	25.02	-14.08	0.38	28.71	330.63
1450.00	0.64	308.06	1449.37	-25.19	25.18	-14.27	0.52	28.95	330.46
1475.00	0.72	312.04	1474.37	-25.39	25.37	-14.50	0.38	29.22	330.26
1500.00	0.56	306.80	1499.37	-25.56	25.55	-14.71	0.69	29.49	330.07
1525.00	0.53	319.31	1524.37	-25.73	25.71	-14.89	0.49	29.71	329.93
1550.00	0.58	302.38	1549.36	-25.88	25.87	-15.07	0.68	29.94	329.78
1575.00	0.40	285.49	1574.36	-25.97	25.96	-15.26	0.92	30.11	329.55
1600.00	0.42	246.97	1599.36	-25.96	25.95	-15.43	1.08	30.19	329.26
1625.00	0.54	235.30	1624.36	-25.86	25.84	-15.61	0.63	30.19	328.87
1650.00	0.55	214.35	1649.36	-25.69	25.68	-15.77	0.79	30.14	328.44

MD	INC	AZIM	TVD	VS	N/S	E/W	DLS	CLOSURE	CLOSURE
ft	deg	deg	ft	ft	ft	ft	/100ft	DIST	DIR
1675.00	0.59	187.21	1674.36	-25.47	25.45	-15.86	1.07	29.99	328.08
1700.00	0.70	162.22	1699.36	-25.19	25.18	-15.83	1.21	29.74	327.85
1725.00	0.94	132.60	1724.36	-24.91	24.89	-15.63	1.92	29.39	327.88
1750.00	1.16	125.52	1749.35	-24.62	24.61	-15.27	1.03	28.96	328.18
1775.00	1.39	125.51	1774.35	-24.30	24.29	-14.82	0.89	28.45	328.61
1800.00	1.46	122.32	1799.34	-23.95	23.94	-14.30	0.43	27.89	329.14
1825.00	1.29	119.20	1824.33	-23.64	23.63	-13.79	0.74	27.36	329.74
1850.00	1.43	121.56	1849.32	-23.34	23.33	-13.28	0.62	26.84	330.36
1875.00	1.42	120.38	1874.32	-23.02	23.01	-12.74	0.13	26.30	331.02
1900.00	1.54	116.77	1899.31	-22.71	22.70	-12.18	0.61	25.76	331.79
1925.00	1.64	121.42	1924.30	-22.38	22.37	-11.57	0.65	25.18	332.65
1950.00	1.63	120.81	1949.29	-22.01	22.00	-10.96	-0.09	24.58	333.51
1975.00	1.86	119.64	1974.28	-21.62	21.61	-10.30	-0.95	23.95	334.51
2000.00	2.20	120.22	1999.26	-21.18	21.17	-9.54	1.37	23.22	335.75
2025.00	2.48	118.31	2024.24	-20.68	20.67	-8.65	1.14	22.41	337.31
2050.00	2.73	118.15	2049.21	-20.14	20.14	-7.65	1.01	21.54	339.21
2075.00	2.92	118.16	2074.18	-19.56	19.56	-6.56	0.77	20.63	341.46
2100.00	2.94	118.41	2099.15	-18.95	18.95	-5.43	0.09	19.71	344.00
2125.00	2.88	119.09	2124.12	-18.34	18.34	-4.32	0.28	18.84	346.75
2150.00	2.86	117.70	2149.09	-17.75	17.74	-3.22	0.29	18.03	349.72
2175.00	2.49	119.10	2174.06	-17.19	17.19	-2.19	1.48	17.33	352.73
2200.00	2.34	120.08	2199.04	-16.67	16.67	-1.28	0.62	16.72	355.62
2225.00	2.18	121.26	2224.02	-16.17	16.17	-0.43	0.68	16.17	358.48
2250.00	1.90	123.75	2249.00	-15.69	15.69	-0.32	1.17	15.69	361.18
2275.00	1.47	127.54	2273.99	-15.26	15.27	-0.92	1.77	15.29	364.46
2300.00	0.92	154.90	2298.99	-14.89	14.89	-1.26	3.12	14.94	4.85
2325.00	0.83	183.84	2323.98	-14.52	14.53	1.34	1.78	14.59	5.25
2350.00	0.81	206.28	2348.98	-14.19	14.19	1.25	1.27	14.24	5.02
2375.00	0.83	200.28	2373.98	-13.86	13.86	1.11	0.35	13.90	4.56
2400.00	0.85	203.32	2398.98	-13.52	13.52	0.97	0.21	13.55	4.10
2425.00	0.81	203.15	2423.97	-13.19	13.19	0.83	0.17	13.21	3.58
2450.00	0.85	210.76	2448.97	-12.86	12.86	0.66	0.47	12.88	2.94

MD	INC	AZIM	TVD	VS	N/S	E/W	DLS	CLOSURE DIST	CLOSURE DIR
ft	deg	deg	ft	ft	ft	ft	%/100ft	ft	deg
2475.00	0.88	208.15	2473.97	-12.53	12.53	0.47	0.20	12.54	217
2500.00	0.85	207.86	2498.96	-12.20	12.20	0.30	0.12	12.20	11.40
2525.00	0.71	206.07	2523.96	-11.90	11.90	0.14	0.59	11.90	0.69
2550.00	0.35	226.63	2548.96	-11.71	11.71	0.02	1.59	11.71	0.09
2575.00	0.60	342.09	2573.96	-11.78	11.78	-0.08	3.27	11.78	359.62
2600.00	1.03	313	2598.96	-12.13	12.13	-0.11	2.08	12.13	359.50
2625.00	1.32	389	2623.95	-12.64	12.64	-0.07	1.14	12.64	359.67
2650.00	1.48	359.40	2648.94	-13.25	13.25	-0.06	0.79	13.25	359.75
2675.00	1.54	359.15	2673.94	-13.91	13.91	-0.07	0.21	13.91	359.73
2700.00	1.46	0.72	2698.93	-14.56	14.56	-0.07	0.35	14.56	359.74
2725.00	1.56	358.11	2723.92	-15.22	15.22	-0.07	0.49	15.22	359.72
2750.00	1.55	357.85	2748.91	-15.90	15.90	-0.10	0.04	15.90	359.65
2775.00	1.69	356.98	2773.90	-16.60	16.60	-0.13	0.54	16.60	359.55
2800.00	2.06	352.44	2798.89	-17.42	17.42	-0.21	1.61	17.42	359.31
2825.00	2.12	350.45	2823.87	-18.32	18.32	-0.34	0.38	18.32	358.92
2850.00	2.30	346.42	2848.85	-19.26	19.26	-0.54	0.94	19.27	358.40
2875.00	2.47	344.13	2873.83	-20.27	20.27	-0.80	0.80	20.28	357.73
2900.00	2.58	345.00	2898.81	-21.33	21.33	-1.10	0.47	21.36	357.06
2925.00	2.62	346.25	2923.78	-22.43	22.43	-1.38	0.28	22.47	356.48
2950.00	2.57	346.07	2948.75	-23.53	23.53	-1.65	0.21	23.59	355.99
2975.00	2.64	345.14	2973.73	-24.63	24.63	-1.93	0.33	24.71	355.51
3000.00	2.72	345.96	2998.70	-25.76	25.76	-2.22	0.35	25.86	355.06
3025.00	2.84	342.52	3023.67	-26.93	26.93	-2.55	0.83	27.05	354.58
3050.00	2.77	344.26	3048.64	-28.11	28.11	-2.90	0.46	28.25	354.10
3075.00	2.86	344.26	3073.61	-29.29	29.28	-3.24	0.35	29.46	353.69
3100.00	2.91	344.05	3098.58	-30.50	30.49	-3.58	0.22	30.70	353.30
3125.00	2.90	343.83	3123.55	-31.71	31.71	-3.93	0.05	31.95	352.93
3150.00	2.96	342.58	3148.51	-32.94	32.93	-4.30	0.35	33.21	352.56
3175.00	3.05	343.10	3173.48	-34.19	34.19	-4.69	0.38	34.51	352.19
3200.00	3.19	340.00	3198.44	-35.48	35.48	-5.12	0.86	35.85	351.79
3225.00	3.20	340.62	3223.40	-36.79	36.79	-5.59	0.15	37.21	351.36
3250.00	3.11	343.78	3248.37	-38.10	38.10	-6.01	0.78	38.57	351.04

MD	INC	AZIM	TVD	VS	IN/S	HEAV	DLS	CLOSURE DIST	CLOSURE DIR
ft	deg	deg	ft	ft	ft	ft	/100ft	ft	deg
3275.00	3.31	339.17	3273.33	-39.43	39.42	-6.45	1.30	39.95	350.70
3300.00	3.26	339.52	3298.29	-40.77	40.76	-6.96	0.21	41.35	350.31
3325.00	3.30	338.10	3323.25	-42.10	42.09	-7.48	0.36	42.75	349.93
3350.00	3.29	339.06	3348.20	-43.44	43.43	-8.00	0.22	44.16	349.56
3375.00	3.40	339.55	3373.16	-44.80	44.80	-8.52	0.43	45.60	349.24
3400.00	3.37	340.84	3398.12	-46.19	46.19	-9.02	0.33	47.06	348.95
3425.00	3.40	341.88	3423.07	-47.59	47.58	-9.49	0.28	48.52	348.72
3450.00	3.36	340.29	3448.03	-48.99	48.98	-9.97	0.42	49.98	348.50
3475.00	3.31	339.75	3472.99	-50.35	50.34	-10.46	0.23	51.42	348.26
3500.00	3.36	339.11	3497.95	-51.72	51.71	-10.97	0.25	52.86	348.02
3525.00	3.45	336.94	3522.90	-53.09	53.08	-11.53	0.63	54.32	347.75
3550.00	3.40	337.35	3547.86	-54.47	54.46	-12.11	0.23	55.79	347.46
3575.00	3.40	338.29	3572.81	-55.84	55.83	-12.67	0.23	57.25	347.21
3600.00	3.52	337.89	3597.77	-57.24	57.23	-13.23	0.46	58.74	346.98
3625.00	3.56	337.79	3622.72	-58.67	58.66	-13.82	0.18	60.27	346.75
3650.00	3.32	338.43	3647.67	-60.07	60.06	-14.38	0.97	61.75	346.54
3675.00	2.54	328.66	3672.64	-61.22	61.20	-14.93	3.71	63.00	346.29
3700.00	2.19	326.06	3697.62	-62.08	62.07	-15.48	1.47	63.97	345.99
3725.00	2.05	329.59	3722.60	-62.86	62.85	-15.98	0.76	64.85	345.74
3750.00	2.18	323.27	3747.59	-63.63	63.62	-16.49	1.07	65.72	345.47
3775.00	2.08	324.59	3772.57	-64.38	64.37	-17.03	0.46	66.58	345.18
3800.00	2.16	322.79	3797.55	-65.13	65.11	-17.58	0.43	67.44	344.89
3825.00	2.12	326.72	3822.53	-65.89	65.87	-18.12	0.60	68.32	344.62
3850.00	2.19	324.23	3847.52	-66.67	66.65	-18.65	0.46	69.21	344.36
3875.00	2.12	325.17	3872.50	-67.43	67.42	-19.20	0.31	70.10	344.11
3900.00	2.14	325.74	3897.48	-68.20	68.18	-19.72	0.11	70.98	343.87
3925.00	1.98	335.52	3922.47	-68.98	68.96	-20.17	1.54	71.85	343.70
3950.00	1.64	352.53	3947.45	-69.73	69.71	-20.39	2.52	72.63	343.69
3975.00	1.65	372	3972.44	-70.44	70.43	-20.41	1.29	73.32	343.83
4000.00	1.71	10.05	3997.43	-71.17	71.15	-20.33	0.78	74.00	344.06
4025.00	1.74	14.10	4022.42	-71.90	71.89	-20.17	0.50	74.66	344.33
4050.00	1.76	12.35	4047.41	-72.65	72.63	-19.99	0.23	75.33	344.61

MD	INC	AZIM	TVD	VS	IN/S	FE/W	DLS	CLOSURE DIST	CLOSURE DIR
ft	deg	deg	ft	ft	ft	ft	%/100ft	ft	deg
4075.00	1.76	16.54	4072.40	-73.39	73.37	-19.80	0.51	76.00	344.90
4100.00	1.77	17.89	4097.39	-74.12	74.11	-19.58	0.17	76.65	345.20
4125.00	1.73	20.09	4122.37	-74.85	74.83	-19.33	0.30	77.28	345.52
4150.00	1.90	18.14	4147.36	-75.59	75.58	-19.07	0.71	77.95	345.84
4175.00	1.98	18.40	4172.35	-76.40	76.38	-18.80	0.30	78.66	346.17
4200.00	2.01	26.30	4197.33	-77.20	77.18	-18.47	1.11	79.36	346.54
4225.00	2.14	17.77	4222.32	-78.04	78.02	-18.14	1.34	80.10	346.91
4250.00	2.16	19.32	4247.30	-78.93	78.91	-17.84	0.25	80.90	347.26
4275.00	2.25	19.78	4272.28	-79.83	79.82	-17.52	0.34	81.71	347.62
4300.00	2.34	20.23	4297.26	-80.77	80.75	-17.17	0.37	82.56	347.99
4325.00	2.31	20.30	4322.24	-81.72	81.70	-16.82	0.10	83.42	348.37
4350.00	2.46	21.45	4347.22	-82.69	82.68	-16.45	0.62	84.30	348.75
4375.00	2.47	22.88	4372.19	-83.69	83.67	-16.05	0.25	85.20	349.14
4400.00	2.53	22.41	4397.17	-84.69	84.68	-15.63	0.26	86.11	349.54
4425.00	2.58	23.01	4422.15	-85.72	85.71	-15.20	0.22	87.04	349.94
4450.00	2.62	24.40	4447.12	-86.76	86.74	-14.74	0.29	87.99	350.35
4475.00	2.46	17.17	4472.10	-87.79	87.77	-14.35	1.43	88.94	350.72
4500.00	2.51	17.99	4497.07	-88.82	88.81	-14.02	0.26	89.91	351.03
4525.00	2.51	26.61	4522.05	-89.83	89.82	-13.61	1.51	90.84	351.39
4550.00	2.42	32.03	4547.03	-90.77	90.75	-13.08	1.00	91.69	351.80
4575.00	2.78	22.75	4572.00	-91.77	91.76	-12.57	2.22	92.62	352.20
4600.00	3.42	18.78	4596.96	-93.04	93.03	-12.09	2.68	93.81	352.59
4625.00	3.87	14.03	4621.91	-94.56	94.55	-11.65	2.18	95.26	352.98
4650.00	3.98	11.77	4646.85	-96.23	96.22	-11.27	0.75	96.87	353.32
4675.00	4.11	10.69	4671.79	-97.95	97.95	-10.92	0.59	98.55	353.64
4700.00	4.24	10.03	4696.73	-99.74	99.73	-10.60	0.57	100.30	353.93
4725.00	4.15	9.54	4721.66	-101.55	101.54	-10.29	0.38	102.06	354.22
4750.00	4.13	7.65	4746.59	-103.33	103.32	-10.02	0.55	103.81	354.46
4775.00	4.36	9.22	4771.52	-105.16	105.16	-9.74	1.02	105.61	354.71
4800.00	4.34	7.21	4796.45	-107.04	107.03	-9.47	0.62	107.45	354.94
4825.00	4.42	7.34	4821.38	-108.93	108.92	-9.23	0.32	109.31	355.16
4850.00	4.29	7.74	4846.31	-110.81	110.80	-8.98	0.51	111.17	355.37

MD	INC	AZIM	TVD	VS	IN/S	HEAV	DLS	CLOSURE DIST	CLOSURE DIR
ft	deg	deg	ft	ft	ft	ft	%/100ft	ft	deg
4875.00	4.48	7.24	4871.23	-112.71	112.70	-8.73	0.76	113.04	355.57
4900.00	4.39	6.81	4896.16	-114.63	114.62	-8.50	0.36	114.93	355.76
4925.00	4.52	4.43	4921.08	-116.56	116.55	-8.31	0.89	116.85	355.92
4950.00	4.83	6.25	4946.00	-118.59	118.58	-8.12	1.38	118.86	356.08
4975.00	4.62	4.51	4970.92	-120.64	120.63	-7.92	1.03	120.89	356.24
5000.00	4.93	3.07	4995.83	-122.71	122.71	-7.79	1.32	122.95	356.37
5025.00	4.92	2.19	5020.74	-124.86	124.85	-7.69	0.30	125.09	356.48
5050.00	5.01	0.71	5045.64	-127.02	127.01	-7.63	0.62	127.24	356.56
5075.00	5.17	359.50	5070.54	-129.23	129.23	-7.63	0.77	129.45	356.62
5100.00	5.23	359.24	5095.44	-131.50	131.49	-7.65	0.26	131.71	356.67
5125.00	5.33	359.56	5120.34	-133.80	133.79	-7.68	0.42	134.01	356.72
5150.00	5.52	359.46	5145.22	-136.16	136.15	-7.70	0.79	136.37	356.76
5175.00	5.55	358.17	5170.11	-138.57	138.56	-7.75	0.51	138.78	356.80
5200.00	5.87	358.08	5194.98	-141.06	141.05	-7.83	1.29	141.27	356.82
5225.00	5.98	357.65	5219.85	-143.64	143.63	-7.93	0.48	143.85	356.84
5250.00	5.96	356.38	5244.71	-146.24	146.23	-8.06	0.54	146.45	356.84
5275.00	6.10	356.55	5269.58	-148.85	148.85	-8.22	0.57	149.08	356.84
5300.00	6.12	356.91	5294.43	-151.52	151.51	-8.38	0.16	151.74	356.84
5325.00	6.25	356.44	5319.29	-154.20	154.20	-8.53	0.55	154.43	356.83
5350.00	6.21	356.77	5344.14	-156.91	156.90	-8.69	0.20	157.14	356.83
5375.00	6.49	354.68	5368.99	-159.67	159.66	-8.90	1.44	159.91	356.81
5400.00	6.53	354.48	5393.83	-162.49	162.48	-9.17	0.18	162.74	356.77
5425.00	6.74	355.27	5418.66	-165.36	165.35	-9.42	0.92	165.62	356.74
5450.00	6.68	352.75	5443.49	-168.27	168.26	-9.73	1.20	168.54	356.69
5475.00	6.87	355.15	5468.31	-171.20	171.19	-10.04	1.38	171.48	356.64
5500.00	6.86	355.22	5493.13	-174.18	174.17	-10.29	0.06	174.47	356.62
5525.00	7.06	354.21	5517.95	-177.19	177.18	-10.57	0.94	177.50	356.59
5550.00	7.11	355.03	5542.76	-180.26	180.25	-10.86	0.45	180.58	356.55
5575.00	7.27	354.63	5567.56	-183.38	183.37	-11.14	0.70	183.71	356.52
5600.00	7.38	355.14	5592.36	-186.55	186.54	-11.42	0.51	186.89	356.50
5625.00	7.60	354.88	5617.14	-189.80	189.79	-11.71	0.89	190.15	356.47
5650.00	7.69	355.65	5641.92	-193.12	193.11	-11.98	0.53	193.48	356.45

MD	INC	AZIM	TVD	VS	+N/-S	+E/-W	DLS	CLOSURE DIST	CLOSURE DIR
ft	deg	deg	ft	ft	ft	ft	%/100ft	ft	deg
5675.00	7.80	355.42	5666.69	-196.47	196.46	-12.24	0.47	196.85	356.43
5700:00	8:11	356:50	5691.45	-199.93	199.92	-12.49	1.39	200:31	356:43
5725:00	8:07	355:90	5716.21	-203.44	203.43	-12.72	0.37	203:82	356:42
5750:00	8:20	355:60	5740.95	-206.97	206.96	-12.98	0:53	207:36	356:41
5775:00	8:14	355:14	5765.70	-210.51	210.50	-13.27	0:36	210:91	356:39
5800:00	8:18	355:40	5790.45	-214.04	214.03	-13:56	0:21	214:46	356:37
5825.00	8.08	353.67	5815.20	-217.56	217.55	-13.90	1.05	217.99	356.34
5850.00	8.15	353.23	5839.95	-221.07	221.06	-14.30	0.35	221.52	356.30
5875.00	7.97	351.95	5864.70	-224.54	224.53	-14.75	1.02	225.02	356.24
5900.00	7.73	350.86	5889.46	-227.92	227.91	-15.26	1.10	228.42	356.17
5925.00	7.77	350.19	5914.24	-231.25	231.23	-15.82	0.39	231.77	356.09
5950:00	7:70	349:88	5939.01	-234.56	234.55	-16:40	0:32	235:12	356:00
5975:00	7:74	349:33	5963.78	-237.87	237.85	-17:01	0:34	238:46	355:91
6000:00	7:52	348:22	5988.56	-241.12	241.11	-17:65	1:07	241:75	355:81
6025:00	6:84	345:24	6013.36	-244.17	244.15	-18:37	3:08	244:84	355:70
6050:00	6:87	346:05	6038.19	-247.06	247.04	-19:11	0:40	247:78	355:58
6075.00	6.54	343.97	6063.01	-249.88	249.86	-19.86	1.65	250.65	355.46
6100.00	6.39	343.87	6087.86	-252.58	252.56	-20.64	0.61	253.41	355.33
6125.00	6.19	344.13	6112.70	-255.22	255.20	-21.39	0.77	256.09	355.21
6150.00	6.22	344.51	6137.56	-257.82	257.80	-22.13	0.20	258.75	355.09
6175.00	6.12	344.63	6162.41	-260.41	260.39	-22.84	0.41	261.39	354.99
6200:00	5:62	344:54	6187.28	-262.88	262.86	-23:52	2:01	263:91	354:89
6225:00	5:36	346:58	6212.17	-265.19	265.17	-24:12	1:29	266:27	354:80
6250:00	5:08	347:95	6237.06	-267.41	267.39	-24:62	1:22	268:52	354:74
6275:00	4:88	347:86	6261.97	-269.54	269.52	-25:07	0:83	270:68	354:68
6300:00	4:83	349:25	6286.88	-271.61	271.59	-25:49	0:50	272:78	354:64
6325.00	4.76	350.14	6311.79	-273.67	273.64	-25.87	0.42	274.86	354.60
6350.00	4.76	351.06	6336.71	-275.71	275.69	-26.21	0.30	276.93	354.57
6375.00	4.65	351.55	6361.62	-277.74	277.72	-26.52	0.47	278.98	354.55
6400.00	4.73	351.67	6386.54	-279.76	279.74	-26.81	0.33	281.02	354.52
6425.00	4.69	352.73	6411.45	-281.79	281.77	-27.09	0.38	283.07	354.51
6450.00	4.75	354:83	6436.37	-283.84	283.81	-27:32	0:73	285:12	354:50

MD	INC	AZIM	TVD	VS	N/S	HE/W	DLS	CLOSURE DIST	CLOSURE DIR
ft	deg	deg	ft	ft	ft	ft	%/100ft	ft	deg
6475.00	4.76	356.24	6461.28	-285.90	-285.88	-27.48	0.47	287.20	354.51
6500.00	4.82	358.12	6486.20	-287.99	-287.96	-27.58	0.67	289.28	354.53
6525.00	5.05	0.82	6511.10	-290.13	-290.11	-27.60	1.32	291.42	354.57
6550.00	5.19	0.48	6536.00	-292.36	-292.34	-27.57	0.56	293.64	354.61
6575.00	5.19	2.79	6560.90	-294.62	-294.60	-27.51	0.83	295.88	354.67
6600.00	5.37	3.05	6585.80	-296.92	-296.90	-27.39	0.74	298.16	354.73
6625.00	5.43	2.04	6610.68	-299.27	-299.25	-27.29	0.44	300.49	354.79
6650.00	5.51	3.56	6635.57	-301.65	-301.62	-27.17	0.66	302.84	354.85
6675.00	5.72	4.10	6660.45	-304.09	-304.06	-27.01	0.88	305.26	354.92
6700.00	5.91	2.49	6685.32	-306.61	-306.59	-26.86	1.01	307.77	354.99
6725.00	6.00	3.80	6710.19	-309.20	-309.18	-26.72	0.66	310.33	355.06
6750.00	6.04	4.35	6735.05	-311.82	-311.80	-26.53	0.27	312.92	355.14
6775.00	5.94	4.05	6759.91	-314.42	-314.40	-26.34	0.41	315.50	355.21
6800.00	5.97	3.62	6784.78	-317.01	-316.99	-26.17	0.22	318.07	355.28
6825.00	6.10	4.47	6809.64	-319.63	-319.61	-25.98	0.62	320.67	355.35
6850.00	6.12	4.36	6834.50	-322.29	-322.27	-25.78	0.08	323.29	355.43
6875.00	6.22	4.87	6859.35	-324.97	-324.94	-25.56	0.48	325.95	355.50
6900.00	6.26	3.84	6884.20	-327.68	-327.65	-25.36	0.47	328.63	355.57
6925.00	6.19	4.43	6909.06	-330.38	-330.36	-25.16	0.36	331.32	355.64
6950.00	6.22	4.93	6933.91	-333.07	-333.05	-24.94	0.23	333.98	355.72
6975.00	6.01	5.21	6958.77	-335.72	-335.70	-24.70	0.85	336.61	355.79
7000.00	5.99	5.58	6983.63	-338.32	-338.30	-24.46	0.17	339.19	355.86
7025.00	6.00	5.08	7008.49	-340.92	-340.90	-24.22	0.21	341.76	355.94
7050.00	6.04	4.47	7033.36	-343.53	-343.51	-24.00	0.30	344.35	356.00
7075.00	6.11	5.32	7058.22	-346.17	-346.15	-23.77	0.48	346.96	356.07
7100.00	5.90	5.77	7083.08	-348.77	-348.75	-23.52	0.89	349.54	356.14
7125.00	6.04	5.17	7107.94	-351.36	-351.34	-23.27	0.62	352.11	356.21
7150.00	5.70	3.92	7132.81	-353.91	-353.89	-23.07	1.44	354.64	356.27
7175.00	5.52	3.25	7157.69	-356.35	-356.33	-22.92	0.76	357.07	356.32
7200.00	5.54	2.35	7182.58	-358.76	-358.74	-22.80	0.35	359.46	356.36
7225.00	5.46	2.15	7207.46	-361.15	-361.13	-22.70	0.34	361.84	356.40
7250.00	5.52	2.76	7232.35	-363.54	-363.52	-22.60	0.34	364.22	356.44

MD	INC	AZIM	TVD	VS	N/S	E/W	DLS	CLOSURE DIST	CLOSURE DIR
ft	deg	deg	ft	ft	ft	ft	%/100ft	ft	deg
7275.00	5.60	1.86	7257.23	365.96	365.94	-22.50	0.47	366.63	356.48
7300.00	5.59	359.64	7282.11	368.39	368.38	-22.47	0.87	369.06	356.51
7325.00	5.57	358.78	7306.99	-370.83	370.81	-22.50	0.34	371.49	356.53
7350.00	5.68	359.87	7331.87	-373.28	373.26	-22.53	0.61	373.94	356.55
7375.00	5.53	1.37	7356.75	-375.72	375.70	-22.51	0.84	376.37	356.57
7400.00	6.00	358.49	7381.63	-378.23	378.21	-22.51	2.20	378.88	356.59
7425.00	5.85	0.02	7406.49	-380.81	380.79	-22.55	0.86	381.46	356.61
7450.00	5.47	357.86	7431.37	383.27	383.25	-22.59	1.76	383.92	356.63
7475.00	5.63	4.83	7456.25	385.69	385.67	-22.53	2.77	386.32	356.66
7500.00	5.42	358.74	7481.14	388.09	388.07	-22.45	2.48	388.72	356.69
7525.00	5.22	359.48	7506.03	390.41	390.39	-22.49	0.87	391.03	356.70
7550.00	5.10	0.44	7530.93	392.65	392.63	-22.49	0.57	393.28	356.72
7575.00	5.09	0.06	7555.83	-394.88	394.86	-22.48	0.15	395.50	356.74
7600.00	4.82	0.04	7580.74	-397.03	397.01	-22.48	1.09	397.65	356.76
7625.00	4.36	358.91	7605.66	-399.03	399.01	-22.50	1.88	399.65	356.77
7650.00	4.23	358.08	7630.59	-400.90	400.88	-22.55	0.58	401.52	356.78
7675.00	4.04	357.22	7655.52	-402.70	402.68	-22.62	0.79	403.32	356.78
7700.00	4.00	356.51	7680.46	-404.45	404.43	-22.72	0.24	405.07	356.79
7725.00	3.89	356.38	7705.40	-406.17	406.15	-22.82	0.47	406.79	356.78
7750.00	3.90	356.33	7730.34	-407.87	407.85	-22.93	0.06	408.49	356.78
7775.00	3.83	355.23	7755.28	-409.55	409.53	-23.06	0.42	410.18	356.78
7800.00	3.83	356.09	7780.23	-411.21	411.19	-23.18	0.23	411.84	356.77
7825.00	3.82	355.02	7805.17	-412.87	412.85	-23.31	0.29	413.51	356.77
7850.00	3.83	355.40	7830.12	-414.53	414.51	-23.45	0.12	415.18	356.76
7875.00	3.67	354.85	7855.06	-416.16	416.14	-23.59	0.65	416.81	356.76
7900.00	3.44	353.76	7880.02	-417.71	417.68	-23.74	0.98	418.36	356.75
7925.00	3.40	354.09	7904.97	-419.19	419.17	-23.90	0.17	419.85	356.74
7950.00	3.23	350.74	7929.93	-420.62	420.60	-24.09	1.03	421.29	356.72
7975.00	3.16	350.88	7954.89	-421.99	421.97	-24.31	0.26	422.67	356.70
8000.00	3.13	350.04	7979.85	-423.34	423.32	-24.54	0.23	424.03	356.68
8025.00	3.04	348.10	8004.82	-424.67	424.64	-24.79	0.53	425.37	356.66
8050.00	3.04	347.80	8029.78	-425.96	425.94	-25.07	0.07	426.68	356.63

MD ft	INC deg	AZIM deg	TVD ft	VS ft	N/S ft	E/W ft	DLS /100ft	CLOSURE DIST ft	CLOSURE DIR deg
8075.00	3.02	345.44	8054.75	-427.25	427.23	-25.38	0.51	427.98	356.60
8100.00	3.02	342.82	8079.71	-428.52	428.49	-25.74	0.55	429.27	356.56
8125.00	3.00	343.01	8104.68	-429.77	429.75	-26.12	0.09	430.54	356.52
8150.00	3.08	341.31	8129.64	-431.03	431.01	-26.53	0.48	431.82	356.48
8175.00	2.89	339.70	8154.61	-432.26	432.23	-26.96	0.83	433.07	356.43
8200.00	2.77	339.91	8179.58	-433.41	433.39	-27.39	0.48	434.26	356.38
8225.00	2.75	338.29	8204.55	-434.54	434.51	-27.82	0.32	435.40	356.34
8250.00	2.76	339.01	8229.52	-435.66	435.63	-28.25	0.15	436.55	356.29
8275.00	2.78	338.97	8254.49	-436.79	436.76	-28.69	0.07	437.70	356.24
8300.00	2.64	339.44	8279.46	-437.89	437.87	-29.11	0.54	438.83	356.20
8325.00	2.64	339.40	8304.44	-438.97	438.94	-29.51	0.01	439.94	356.15
8350.00	2.62	337.99	8329.41	-440.04	440.01	-29.93	0.27	441.03	356.11
8375.00	2.75	336.92	8354.38	-441.12	441.09	-30.38	0.54	442.14	356.06
8385.00	2.42	337.05	8364.37	-441.54	441.51	-30.55	3.21	442.57	356.04