



PHOENIX

TECHNOLOGY SERVICES USA INC.

Celebrating 20 Years of Focused Solutions

3610 Elkins Road, Midland, Texas 79705 T. 432.684.0057 F. 432.686.7964 www.phxtech.com

30-025-43250

July 19, 2017

Oil Conservation Division
State of New Mexico
1625 N. French Drive
District 1 - Hobbs
Hobbs, New Mexico 88240

Attention: Regulatory Department

Re: Legacy Reserves
Hamon A Federal Com #9H
Lea County, New Mexico
API # 30-025-43250
Job No. 61530

HOBBS OCD

AUG 17 2017

RECEIVED

Enclosed please find the Survey Data Certification, and the original Plat and one copy of the Survey Report performed on the above referenced well by Phoenix Technology Services, Inc. (P-5 No. 664171). Other information required by your office is as follows:

Name & Title of Surveyor	Drain Hole Number	Surveyed Depths		Dates Performed		Type of Survey
		From	To	Start	End	
Leo Garza	9H	0	10,080	7/14/17	7/14/17	Gyro

A certified plat on which the bottom hole location is oriented both to the surface location and to the lease lines (or unit lines in case of pooling) is attached to the survey report. If any other information is required, please contact the undersigned at the letterhead address and phone number.

Best Regards,

Brittany Carley

Brittany Carley
Operations Administrator

30-025-43250

SURVEY CERTIFICATION FORM

3610 Elkins Road Midland, TX 79705 t:432-684-0057 f: 432-686-7964

**PHOENIX**
TECHNOLOGY SERVICES**HOBBS OCD****AUG 17 2017****RECEIVED**Company: Legacy ReservesWell Name: Hamon A Federal Com #9HSurvey Instrument Type: North Seek Rate GyroJob #: 61530County/State: Lea Co., New MexicoAPI # 30-025-43250**TIE-IN DATA**

Measure Depth (ft)	Vertical Depth (ft)	Inclination (°)	Azimuth (°)	N-S Coordinates	E-W Coordinates	Data Source
0	0	0	0	0	0	Surface

First Survey

Date	Depth (ft)	Inclination (°)	Azimuth (°)
2017-07-14	0	0	0

Last Survey

Date	Depth (ft)	Inclination (°)	Azimuth (°)
2017-07-14	10080	11.02	85.26

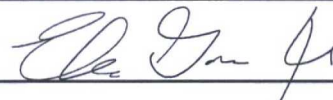
Projected TD Survey

Date	Depth (ft)	Inclination (°)	Azimuth (°)
0	0	0	0

Grid Correction
-0.32

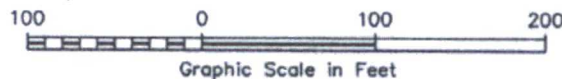
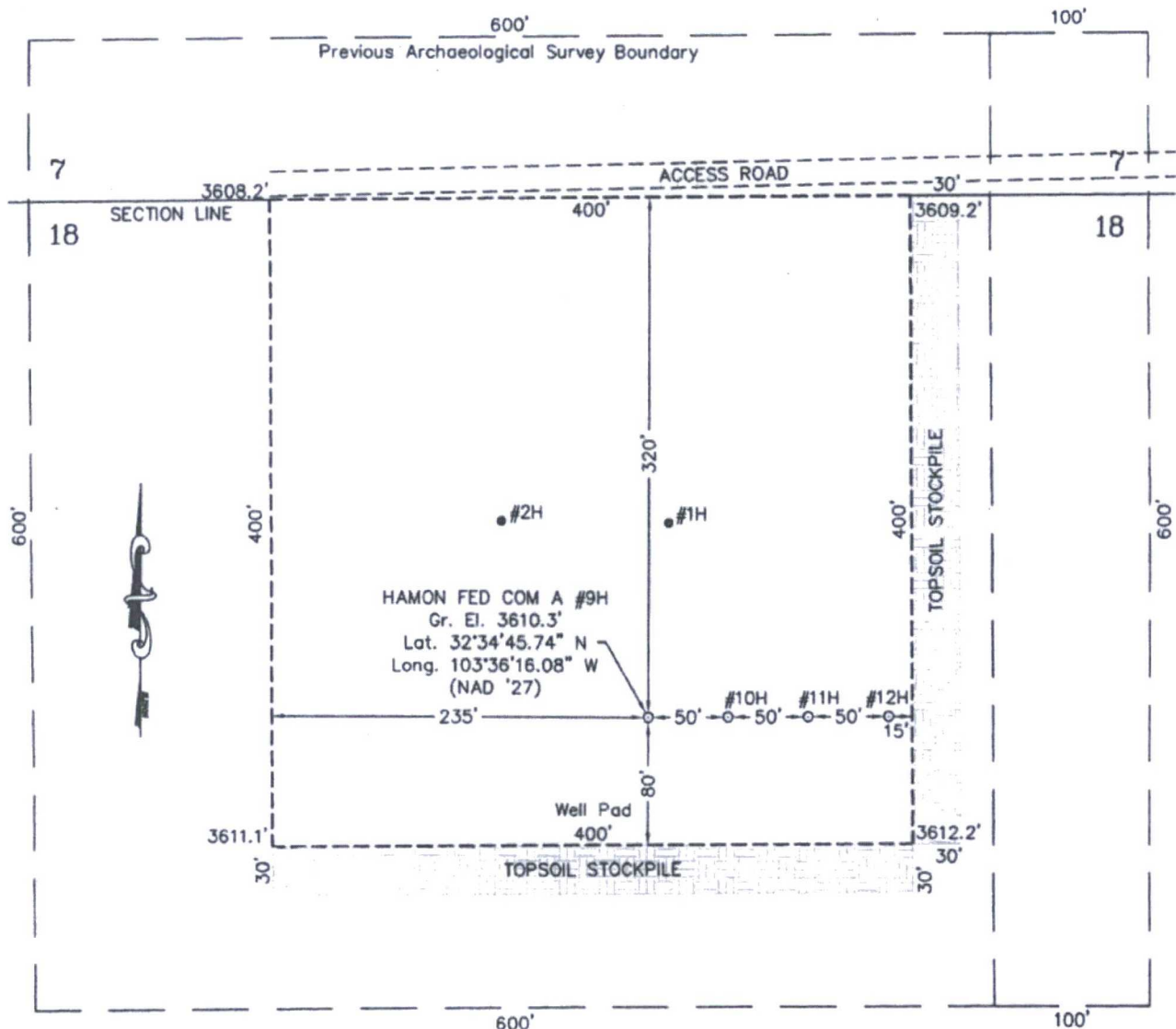
Gyro Operator: Phoenix Technology Services USA Ltd.Gyro Supervisor: Angel Guebara

To the best of my knowledge I certify this survey data to be correct and true

Date: 2017-07-14Print Name: Leo GarzaSignature: 

SECTION 18, TOWNSHIP 20 SOUTH, RANGE 34 EAST, N.M.P.M.
LEA COUNTY NEW MEXICO

L-2015-0491-E



DRIVING DIRECTIONS

FROM THE INTERSECTION OF STATE HIGHWAY 18 AND U.S. HIGHWAY 62-180 IN HOBBS, NEW MEXICO, GO WEST AND SOUTHWEST ON U.S. HIGHWAY 62-180 28.5 MILES TO LEASE ROAD ON SOUTH (LEFT) SIDE OF THE HIGHWAY, THEN GO SOUTH 1.6 MILES TO ANOTHER LEASE ROAD ON THE WEST (RIGHT) SIDE OF THE ROAD, THEN GO WEST 0.8 MILE TO THE PROPOSED LOCATION.

LEGACY RESERVES OPERATING LP

HAMON FED COM A #9H

Located 320' FNL & 995' FWL, Section 18
Township 20 South, Range 34 East, N.M.P.M.
Lea County, New Mexico



FIRM REGISTRATION NUMBER: 100682-00
110 W. LOUISIANA, STE. 110
MIDLAND TEXAS, 79701
(432) 687-0865 - (432) 687-0868 FAX

Drawn By: LVA / SC	Date: July 15, 2015
Scale: 1" = 100'	Field Book: 559 / 58-59
Revision Date: 7-22-2015	Quadrangle: Lea
W.O. No: 2015-0491	Dwg. No.: L-2015-0491-E

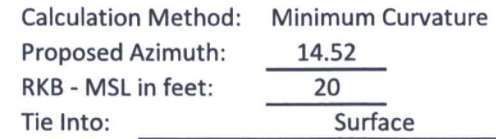


Company: Legacy Reserves
 Well: Hamon A Federal Com #9H
 Location: Lea Co., New Mexico
 Rig: McVay #5

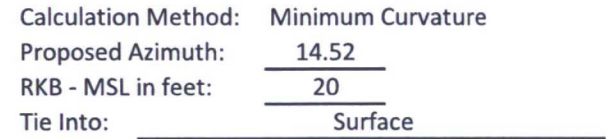
Job Number: 61530
 Grid Corr.: -0.32
 Lat: 32.58
 Long: -103.60

Date: 07-14-17
 Calculation Method: Minimum Curvature
 Proposed Azimuth: 14.52
 RKB - MSL in feet: 20
 Tie Into: Surface

Survey Tool Type	Survey Depth (ft)	Inclination (deg)	Azimuth (deg)	Course Length (ft)	True Vertical Depth (ft)	Vertical Section (ft)	Coordinates		Closure		Dogleg Severity (d/100')	Build Rate (d/100')	Walk Rate (d/100')
							N/S (ft)	E/W (ft)	Distance (ft)	Angle (deg)			
Enter Tie-In Survey on Line 10													
FIELD COPY, NON-DEFINITIVE													
TIE IN	0			0	0	0	0	0					
Gyro	100.00	0.55	282.49	100	100.00	-0.02	0.10 N	0.47 W	0.48	282.49	0.55	0.55	282.49
	200.00	0.51	292.54	100	199.99	0.03	0.38 N	1.35 W	1.40	285.67	0.10	-0.04	10.05
	300.00	0.52	230.28	100	299.99	-0.28	0.26 N	2.11 W	2.12	277.00	0.53	0.01	-62.26
	400.00	0.47	131.02	100	399.99	-0.83	0.30 S	2.15 W	2.17	262.04	0.75	-0.05	-99.26
	500.00	0.23	305.27	100	499.99	-0.94	0.45 S	2.00 W	2.05	257.23	0.70	-0.24	174.25
	600.00	0.26	251.16	100	599.99	-0.99	0.41 S	2.38 W	2.42	260.21	0.22	0.03	-54.11
	700.00	0.33	229.11	100	699.99	-1.36	0.67 S	2.81 W	2.89	256.55	0.13	0.07	-22.05
	800.00	0.28	217.96	100	799.98	-1.82	1.05 S	3.18 W	3.35	251.67	0.08	-0.05	-11.15
	900.00	0.36	264.42	100	899.98	-2.15	1.28 S	3.64 W	3.86	250.69	0.26	0.08	46.46
	1000.00	0.43	211.57	100	999.98	-2.62	1.63 S	4.15 W	4.46	248.60	0.36	0.07	-52.85
	1100.00	0.69	221.00	100	1099.98	-3.51	2.40 S	4.74 W	5.32	243.15	0.27	0.26	9.43
	1200.00	0.82	240.17	100	1199.97	-4.55	3.21 S	5.76 W	6.60	240.86	0.28	0.13	19.17
	1300.00	1.13	253.49	100	1299.95	-5.56	3.85 S	7.33 W	8.28	242.29	0.38	0.31	13.32
	1400.00	1.50	240.61	100	1399.93	-6.98	4.77 S	9.41 W	10.55	243.12	0.47	0.37	-12.88
	1500.00	1.54	245.57	100	1499.89	-8.73	5.97 S	11.78 W	13.20	243.12	0.14	0.04	4.96
	1600.00	1.36	237.15	100	1599.86	-10.45	7.17 S	14.00 W	15.73	242.88	0.28	-0.18	-8.42
	1700.00	1.16	197.94	100	1699.84	-12.33	8.77 S	15.31 W	17.64	240.17	0.87	-0.20	-39.21
	1800.00	1.14	186.90	100	1799.82	-14.33	10.73 S	15.74 W	19.04	235.72	0.22	-0.02	-11.04
	1900.00	0.70	188.98	100	1899.80	-15.92	12.32 S	15.95 W	20.15	232.33	0.44	-0.44	2.08
	2000.00	0.67	192.93	100	1999.80	-17.11	13.49 S	16.18 W	21.06	230.18	0.06	-0.03	3.95
	2100.00	0.47	181.02	100	2099.79	-18.10	14.47 S	16.32 W	21.81	228.43	0.23	-0.20	-11.91
	2200.00	0.13	140.75	100	2199.79	-18.56	14.97 S	16.25 W	22.09	227.36	0.38	-0.34	-40.27
	2300.00	0.26	234.16	100	2299.79	-18.81	15.19 S	16.36 W	22.33	227.13	0.30	0.13	93.41
	2400.00	0.29	96.73	100	2399.79	-18.95	15.35 S	16.30 W	22.39	226.71	0.51	0.03	-137.43
	2500.00	0.26	181.15	100	2499.79	-19.13	15.61 S	16.05 W	22.39	225.80	0.37	-0.03	84.42
	2600.00	0.31	52.00	100	2599.79	-19.14	15.67 S	15.84 W	22.28	225.32	0.52	0.05	-129.15
	2700.00	0.79	65.53	100	2699.78	-18.49	15.22 S	15.00 W	21.37	224.59	0.49	0.48	13.53



Survey Tool Type	Survey Depth (ft)	Inclination (deg)	Azimuth (deg)	Course Length (ft)	True Vertical Depth (ft)	Vertical Section (ft)	Coordinates		Closure		Dogleg Severity (d/100')	Build Rate (d/100')	Walk Rate (d/100')
							N/S (ft)	E/W (ft)	Distance (ft)	Angle (deg)			
	2800.00	1.03	67.57	100	2799.77	-17.52	14.59 S	13.54 W	19.90	222.87	0.24	0.24	2.04
	2900.00	1.11	70.51	100	2899.75	-16.43	13.92 S	11.80 W	18.25	220.28	0.10	0.08	2.94
	3000.00	1.02	70.97	100	2999.74	-15.40	13.31 S	10.04 W	16.67	217.04	0.09	-0.09	0.46
	3100.00	0.68	68.94	100	3099.72	-14.56	12.80 S	8.65 W	15.45	214.04	0.34	-0.34	-2.03
	3200.00	1.12	79.93	100	3199.71	-13.81	12.42 S	7.13 W	14.32	209.87	0.47	0.44	10.99
	3300.00	0.69	107.97	100	3299.70	-13.44	12.43 S	5.60 W	13.64	204.23	0.61	-0.43	28.04
	3400.00	0.84	102.55	100	3399.69	-13.45	12.78 S	4.31 W	13.49	198.63	0.17	0.15	-5.42
	3500.00	0.97	149.37	100	3499.68	-14.02	13.67 S	3.16 W	14.03	193.03	0.73	0.13	46.82
	3600.00	0.97	144.61	100	3599.66	-15.17	15.09 S	2.24 W	15.25	188.45	0.08	0.00	-4.76
	3700.00	1.28	106.69	100	3699.65	-15.75	16.10 S	0.68 W	16.11	182.42	0.79	0.31	-37.92
	3800.00	1.30	177.59	100	3799.63	-16.88	17.55 S	0.44 E	17.56	178.57	1.50	0.02	70.90
	3900.00	1.15	169.04	100	3899.60	-18.87	19.67 S	0.68 E	19.68	178.03	0.24	-0.15	-8.55
	4000.00	1.00	160.64	100	3999.59	-20.50	21.48 S	1.16 E	21.51	176.92	0.22	-0.15	-8.40
	4100.00	1.24	162.36	100	4099.57	-22.14	23.33 S	1.77 E	23.40	175.66	0.24	0.24	1.72
	4200.00	0.76	171.16	100	4199.55	-23.67	25.02 S	2.20 E	25.12	174.97	0.50	-0.48	8.80
	4300.00	1.44	188.71	100	4299.53	-25.53	26.92 S	2.11 E	27.00	175.51	0.75	0.68	17.55
	4400.00	0.29	196.10	100	4399.52	-27.03	28.40 S	1.85 E	28.46	176.27	1.15	-1.15	7.39
	4500.00	0.30	306.93	100	4499.52	-27.18	28.49 S	1.57 E	28.53	176.84	0.49	0.01	110.83
	4600.00	0.62	308.84	100	4599.52	-26.86	27.99 S	0.94 E	28.01	178.07	0.32	0.32	1.91
	4700.00	0.23	325.81	100	4699.51	-26.50	27.49 S	0.41 E	27.49	179.15	0.41	-0.39	16.97
	4800.00	0.27	342.58	100	4799.51	-26.17	27.09 S	0.23 E	27.10	179.52	0.08	0.04	16.77
	4900.00	0.28	354.26	100	4899.51	-25.74	26.63 S	0.13 E	26.63	179.72	0.06	0.01	11.68
	5000.00	0.03	40.60	100	4999.51	-25.49	26.36 S	0.12 E	26.36	179.73	0.26	-0.25	-313.66
	5100.00	0.11	169.97	100	5099.51	-25.55	26.44 S	0.16 E	26.44	179.66	0.13	0.08	129.37
	5200.00	0.08	86.13	100	5199.51	-25.62	26.53 S	0.24 E	26.53	179.47	0.13	-0.03	-83.84
	5300.00	0.17	186.35	100	5299.51	-25.74	26.67 S	0.30 E	26.67	179.36	0.20	0.09	100.22
	5400.00	0.23	70.82	100	5399.51	-25.78	26.75 S	0.47 E	26.76	178.99	0.34	0.06	-115.53
	5500.00	0.29	69.12	100	5499.51	-25.52	26.60 S	0.90 E	26.61	178.07	0.06	0.06	-1.70</



Survey Tool Type	Survey Depth (ft)	Inclination (deg)	Azimuth (deg)	Course Length (ft)	True Vertical Depth (ft)	Vertical Section (ft)	Coordinates		Closure		Dogleg Severity (d/100')	Build Rate (d/100')	Walk Rate (d/100')
							N/S (ft)	E/W (ft)	Distance (ft)	Angle (deg)			
	5800.00	4.38	78.43	100	5799.14	-19.24	23.50 S	14.00 E	27.35	149.21	0.95	0.95	0.73
	5900.00	6.32	80.48	100	5898.70	-15.31	21.82 S	23.17 E	31.83	133.28	1.95	1.94	2.05
	6000.00	7.27	81.65	100	5998.00	-10.61	19.99 S	34.86 E	40.18	119.83	0.96	0.95	1.17
	6100.00	8.45	84.64	100	6097.05	-5.66	18.39 S	48.43 E	51.81	110.79	1.25	1.18	2.99
	6200.00	8.65	89.55	100	6195.94	-1.21	17.64 S	63.27 E	65.68	105.58	0.76	0.20	4.91
	6300.00	10.50	88.76	100	6294.55	3.20	17.38 S	79.90 E	81.77	102.27	1.85	1.85	-0.79
	6400.00	12.70	86.48	100	6392.50	9.08	16.51 S	99.98 E	101.34	99.38	2.25	2.20	-2.28
	6500.00	16.05	85.75	100	6489.35	16.94	14.81 S	124.75 E	125.62	96.77	3.35	3.35	-0.73
	6600.00	16.77	86.39	100	6585.28	25.87	12.88 S	152.93 E	153.47	94.81	0.74	0.72	0.64
	6700.00	15.77	86.51	100	6681.27	34.57	11.14 S	180.89 E	181.24	93.53	1.00	-1.00	0.12
	6800.00	15.80	85.10	100	6777.50	43.29	9.15 S	208.02 E	208.22	92.52	0.38	0.03	-1.41
	6900.00	15.57	84.83	100	6873.78	52.34	6.78 S	234.95 E	235.05	91.65	0.24	-0.23	-0.27
	7000.00	15.12	85.10	100	6970.21	61.20	4.46 S	261.31 E	261.35	90.98	0.46	-0.45	0.27
	7100.00	16.20	88.06	100	7066.50	69.49	2.87 S	288.25 E	288.27	90.57	1.34	1.08	2.96
	7200.00	17.23	85.78	100	7162.28	78.20	1.31 S	316.96 E	316.97	90.24	1.22	1.03	-2.28
	7300.00	16.39	85.10	100	7258.00	87.65	0.99 N	345.79 E	345.79	89.84	0.86	-0.84	-0.68
	7400.00	16.11	85.38	100	7354.01	96.89	3.31 N	373.68 E	373.69	89.49	0.29	-0.28	0.28
	7500.00	16.67	86.47	100	7449.94	105.88	5.31 N	401.82 E	401.86	89.24	0.64	0.56	1.09
	7600.00	15.90	86.60	100	7545.93	114.54	7.00 N	429.81 E	429.87	89.07	0.77	-0.77	0.13
	7700.00	15.93	86.39	100	7642.10	123.03	8.68 N	457.18 E	457.27	88.91	0.06	0.03	-0.21
	7800.00	16.37	85.85	100	7738.15	131.81	10.56 N	484.93 E	485.05	88.75	0.46	0.44	-0.54
	7900.00	15.56	86.15	100	7834.29	140.55	12.48 N	512.37 E	512.52	88.60	0.81	-0.81	0.30
	8000.00	15.57	84.92	100	7930.63	149.28	14.57 N	539.12 E	539.32	88.45	0.33	0.01	-1.23
	8100.00	16.93	84.96	100	8026.63	158.65	17.04 N	567.00 E	567.25	88.28	1.36	1.36	0.04
	8200.00	17.08	86.51	100	8122.26	168.07	19.21 N	596.16 E	596.47	88.15	0.48	0.15	1.55
	8300.00	16.00	86.78	100	8218.12	176.81	20.88 N	624.58 E	624.93	88.09	1.08	-1.08	0.27
	8400.00	16.25	86.55	100	8314.18	185.32	22.50 N	652.30 E	652.69	88.02	0.26	0.25	-0.23
	8500.00	15.07	85.68	100	8410.47	193.84	24.32 N	679.23 E	679.67	87.95	1.20	-1.18	-0.87
	8600.00	14.52	84.89	100	8507.16	202.25	26.42 N	704.68 E	705.18	87.85	0.59	-0.55	-0.79
	8700.00	14.06	84.26	100	8604.06	210.67	28.75 N	729.25 E	729.82	87.74	0.49	-0.46	-0.63



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 Well: Hamon A Federal Com #9H
 Location: Lea Co., New Mexico
 Rig: McVay #5

Job Number: 61530
 Grid Corr.: -0.32
 Lat: 32.58
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Calculation Method: Minimum Curvature
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Survey Tool Type	Survey Depth (ft)	Inclination (deg)	Azimuth (deg)	Course Length (ft)	True Vertical Depth (ft)	Vertical Section (ft)	Coordinates		Closure		Dogleg Severity (d/100')	Build Rate (d/100')	Walk Rate (d/100')
							N/S (ft)	E/W (ft)	Distance (ft)	Angle (deg)			
	8800.00	14.35	85.60	100	8701.00	218.89	30.91 N	753.70 E	754.33	87.65	0.44	0.29	1.34
	8900.00	14.56	91.67	100	8797.84	225.70	31.50 N	778.62 E	779.25	87.68	1.53	0.21	6.07
	9000.00	14.96	94.92	100	8894.55	230.65	30.02 N	804.04 E	804.60	87.86	0.92	0.40	3.25
	9100.00	16.49	94.49	100	8990.80	235.28	27.81 N	831.05 E	831.52	88.08	1.53	1.53	-0.43
	9200.00	16.80	93.17	100	9086.61	240.59	25.90 N	859.63 E	860.02	88.27	0.49	0.31	-1.32
	9300.00	17.83	91.62	100	9182.08	246.86	24.66 N	889.36 E	889.71	88.41	1.13	1.03	-1.55
	9400.00	19.10	87.37	100	9276.93	255.10	24.98 N	921.01 E	921.35	88.45	1.85	1.27	-4.25
	9500.00	19.91	83.79	100	9371.20	265.95	27.57 N	954.29 E	954.69	88.34	1.44	0.81	-3.58
	9600.00	18.74	79.83	100	9465.56	278.69	32.25 N	987.03 E	987.56	88.13	1.76	-1.17	-3.96
	9700.00	17.43	77.85	100	9560.62	292.12	38.24 N	1017.48 E	1018.20	87.85	1.45	-1.31	-1.98
	9800.00	16.83	76.93	100	9656.19	305.55	44.67 N	1046.23 E	1047.18	87.56	0.66	-0.60	-0.92
	9900.00	14.47	76.27	100	9752.47	318.17	50.91 N	1072.47 E	1073.68	87.28	2.37	-2.36	-0.66
	10000.00	12.13	79.44	100	9849.78	328.54	55.80 N	1094.94 E	1096.36	87.08	2.45	-2.34	3.17
	10080.00	11.02	85.26	80	9928.16	334.62	57.97 N	1110.82 E	1112.33	87.01	2.01	-1.39	7.28