Apache Corporation (873)
6120 S. Yale Ste 1500
Tulsa, OK 74136

North East Drinkard Unit #353
Lea County, New Mexico

30-025-40785
N-3-21S-37E
1255' FSL & 2160' FWL

250	2.50	0.40	0.70	1.75	1.75
500	2.50	0.40	0.70	1.75	3.50
744	2.44	0.10	0.18	0.43	3.93
1000	2.56	0.30	0.53	1.34	5.27
1256	2.56	0.20	0.35	0.90	6.17

SUR: @ V-03-21s-37e, 1255/S & 2160/W
BHL @ S-03-21s-37e, 1401/S & 2134/W
API # 30-025-40785

HOBBS OCD

JAN 10 2013

RECEIVED

Archie Brown - General Manager

The attached instrument was acknowledged before me on the 29th day of November, 2012 by Archie Brown - General Manager, CapStar Drilling, Inc.

Jacki Ann Zent
Notary Public

JACKI ANN ZENT
Notary Public, State of Texas
My Commission Expires
March 03, 2015

Apache

SUR: @ V-03-21s-37e, 1255/S & 2160/W
BHL @ S-03-21s-37e, 1401/S & 2134/W
API # 30-025-40785

Apache

Lea County, New Mexico (NAD 27)
NEDU
353

30-025-40785
N-3-21S-37E
1255'FSL+2160'FWL

Wellbore #1

Survey: MS Gyro

Standard Survey Report

20 November, 2012

MS Energy Services™
WWW.MSENERGYSERVICES.COM

MS Energy Services

Survey Report

MS Energy Services
WWW.MSENERGYSERVICES.COM

Company:	Apache	**Local Co-ordinate Reference:**	Well 353
Project:	Lea County, New Mexico (NAD 27)	**TVD Reference:**	WELL @ 3435.00usft (Capstar 120)
Site:	NEDU	**MD Reference:**	WELL @ 3435.00usft (Capstar 120)
Well:	353	**North Reference:**	Grid
Wellbore:	Wellbore #1	**Survey Calculation Method:**	Minimum Curvature
Design:	Surveys	**Database:**	Southern Region

Project Lea County, New Mexico (NAD 27)

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		

Well 353

Well Position	**+N/-S**	0.00 usft	**Northing:**	549,100.66 usft	**Latitude:**	32° 30' 14.5488 N
	+E/-W	0.00 usft	**Easting:**	864,199.13 usft	**Longitude:**	103° 9' 7.217 W
Position Uncertainty		0.00 usft	**Wellhead Elevation:**	usft	**Ground Level:**	3,424.00 usft

Wellbore Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	WMM_2010	11/17/12	7.25	60.48	48,685

Design Surveys

Audit Notes:

Version:	1.0	**Phase:**	ACTUAL	**Tie On Depth:**	0.00

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	347.76

Survey Program **Date** 11/20/12

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
92.00	1,288.00	MS Gyro (Wellbore #1)	NS-GYRO-MS	North sensing gyrocompassing m/s
1,343.00	7,003.00	MS MWD (Wellbore #1)	MWD	MWD - Standard

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
92.00	0.49	320.33	92.00	0.30	-0.25	0.35	0.53	0.53	0.00
175.00	0.55	323.30	175.00	0.90	-0.72	1.03	0.08	0.07	3.58
258.00	0.69	330.97	257.99	1.65	-1.20	1.87	0.20	0.17	9.24
342.00	0.64	333.88	341.98	2.52	-1.65	2.81	0.07	-0.06	3.46
425.00	0.60	327.36	424.98	3.30	-2.09	3.66	0.10	-0.05	-7.86
509.00	0.64	328.24	508.98	4.07	-2.57	4.52	0.05	0.05	1.05
592.00	0.79	341.75	591.97	5.00	-2.99	5.53	0.27	0.18	16.28
675.00	0.78	341.09	674.96	6.08	-3.36	6.66	0.02	-0.01	-0.80
759.00	0.62	15.83	758.96	7.06	-3.42	7.62	0.53	-0.19	41.36
842.00	0.48	29.46	841.95	7.79	-3.12	8.28	0.23	-0.17	16.42
925.00	0.28	29.44	924.95	8.27	-2.85	8.69	0.24	-0.24	-0.02
1,011.00	0.46	352.35	1,010.95	8.80	-2.80	9.19	0.34	0.21	-43.13
1,093.00	0.46	352.01	1,092.95	9.45	-2.89	9.85	0.00	0.00	-0.41
1,176.00	0.26	351.94	1,175.94	9.97	-2.96	10.37	0.24	-0.24	-0.08

Company:	Apache	**Local Co-ordinate Reference:**	Well 353
Project:	Lea County, New Mexico (NAD 27)	**TVD Reference:**	WELL @ 3435.00usft (Capstar 120)
Site:	NEDU	**MD Reference:**	WELL @ 3435.00usft (Capstar 120)
Well:	353	**North Reference:**	Grid
Wellbore:	Wellbore #1	**Survey Calculation Method:**	Minimum Curvature
Design:	Surveys	**Database:**	Southern Region

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
1,258.00	0.18	353.66	1,257.94	10.28	-3.00	10.68	0.10	-0.10	2.10
1,288.00	0.19	351.86	1,287.94	10.38	-3.01	10.78	0.04	0.03	-6.00
Final MS Gyro Survey-1288.00' MD									

Survey Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
1,288.00	1,287.94	10.38	-3.01	Final MS Gyro Survey-1288.00' MD

SUR: @ V-03-21s-37e, 1255/S & 2160/W
BHL @ S-03-21s-37e, 1401/S & 2134/W
API # 30-025-40785

Apache

Lea County, New Mexico (NAD 27)
NEDU
353

30-025-40785
N-3-21S-37E
1255' FSL + 1260' FWL

Wellbore #1

Survey: MS MWD

Standard Survey Report

20 November, 2012

MS Energy Services™
WWW.MSENERGYSERVICES.COM

Company:	Apache	**Local Co-ordinate Reference:**	Well 353
Project:	Lea County, New Mexico (NAD 27)	**TVD Reference:**	WELL @ 3435.00usft (Capstar 120)
Site:	NEDU	**MD Reference:**	WELL @ 3435.00usft (Capstar 120)
Well:	353	**North Reference:**	Grid
Wellbore:	Wellbore #1	**Survey Calculation Method:**	Minimum Curvature
Design:	Surveys	**Database:**	Southern Region

Project Lea County, New Mexico (NAD 27)

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		

Well 353

Well Position	**+N/-S**	0.00 usft	**Northing:**	549,100.66 usft	**Latitude:**	32° 30' 14.5488 N
	+E/-W	0.00 usft	**Easting:**	864,199.13 usft	**Longitude:**	103° 9' 7.217 W
Position Uncertainty		0.00 usft	**Wellhead Elevation:**	usft	**Ground Level:**	3,424.00 usft

Wellbore Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	WMM_2010	11/17/12	7.25	60.48	48,685

Design Surveys

Audit Notes:

Version:	1.0	**Phase:**	ACTUAL	**Tie On Depth:**	0.00

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	347.76

Survey Program **Date** 11/20/12

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
92.00	1,288.00	MS Gyro (Wellbore #1)	NS-GYRO-MS	North sensing gyrocompassing m/s
1,343.00	7,003.00	MS MWD (Wellbore #1)	MWD	MWD - Standard

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
1,288.00	0.19	351.86	1,287.94	10.38	-3.01	10.78	0.00	0.00	0.00
Tie-In to MS Gyro-1288.00' MD									
1,343.00	0.50	270.90	1,342.94	10.47	-3.26	10.92	0.92	0.56	-147.20
1,405.00	1.00	309.80	1,404.94	10.82	-3.95	11.41	1.11	0.81	62.74
1,448.00	1.40	309.40	1,447.93	11.39	-4.64	12.12	0.93	0.93	-0.93
1,576.00	1.50	320.50	1,575.89	13.68	-6.92	14.84	0.23	0.08	8.67
1,619.00	1.20	315.60	1,618.87	14.44	-7.59	15.72	0.75	-0.70	-11.40
1,789.00	2.50	21.30	1,788.80	19.16	-7.49	20.31	1.34	0.76	38.65
2,002.00	2.10	329.40	2,001.65	26.85	-7.79	27.89	0.96	-0.19	-24.37
2,216.00	2.10	8.40	2,215.51	34.10	-9.21	35.28	0.66	0.00	18.22
2,429.00	2.10	12.90	2,428.37	41.77	-7.77	42.47	0.08	0.00	2.11
2,642.00	1.20	318.00	2,641.29	47.23	-8.39	47.94	0.81	-0.42	-25.77
2,855.00	0.80	330.80	2,854.26	50.19	-10.61	51.30	0.21	-0.19	6.01
3,068.00	2.00	340.00	3,067.19	54.98	-12.61	56.40	0.57	0.56	4.32
3,282.00	1.60	342.80	3,281.09	61.34	-14.77	63.08	0.19	-0.19	1.31

Company:	Apache	**Local Co-ordinate Reference:**	Well 353
Project:	Lea County, New Mexico (NAD 27)	**TVD Reference:**	WELL @ 3435.00usft (Capstar 120)
Site:	NEDU	**MD Reference:**	WELL @ 3435.00usft (Capstar 120)
Well:	353	**North Reference:**	Grid
Wellbore:	Wellbore #1	**Survey Calculation Method:**	Minimum Curvature
Design:	Surveys	**Database:**	Southern Region

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
3,495.00	0.80	341.20	3,494.04	65.59	-16.13	67.52	0.38	-0.38	-0.75
3,708.00	0.90	320.00	3,707.01	68.28	-17.68	70.47	0.15	0.05	-9.95
3,921.00	0.70	306.90	3,919.99	70.34	-19.80	72.94	0.13	-0.09	-6.15
4,134.00	1.50	318.60	4,132.95	73.21	-22.68	76.36	0.39	0.38	5.49
4,347.00	1.90	10.50	4,345.87	78.78	-23.88	82.05	0.72	0.19	24.37
4,561.00	1.90	1.50	4,559.75	85.81	-23.14	88.77	0.14	0.00	-4.21
4,774.00	1.80	12.70	4,772.64	92.60	-22.31	95.23	0.18	-0.05	5.26
4,987.00	1.60	17.20	4,985.55	98.71	-20.70	100.85	0.11	-0.09	2.11
5,201.00	1.80	7.70	5,199.46	104.89	-19.36	106.61	0.16	0.09	-4.44
5,414.00	1.30	346.90	5,412.38	110.56	-19.46	112.18	0.35	-0.23	-9.77
5,628.00	0.50	294.80	5,626.35	113.32	-20.86	115.17	0.50	-0.37	-24.35
5,841.00	1.30	302.70	5,839.33	115.01	-23.74	117.43	0.38	0.38	3.71
6,054.00	1.80	357.00	6,052.26	119.66	-25.95	122.44	0.70	0.23	25.49
6,267.00	1.70	344.60	6,265.16	126.05	-26.96	128.90	0.18	-0.05	-5.82
6,480.00	1.50	352.70	6,478.08	131.86	-28.15	134.83	0.14	-0.09	3.80
6,693.00	1.70	1.50	6,690.99	137.78	-28.43	140.68	0.15	0.09	4.13
6,951.00	1.50	23.20	6,948.89	144.71	-27.00	147.14	0.25	-0.08	8.41
7,003.00	1.50	23.20	7,000.88	145.96	-26.46	148.25	0.00	0.00	0.00
Projection to TD-7003.00' MD									

Survey Annotations

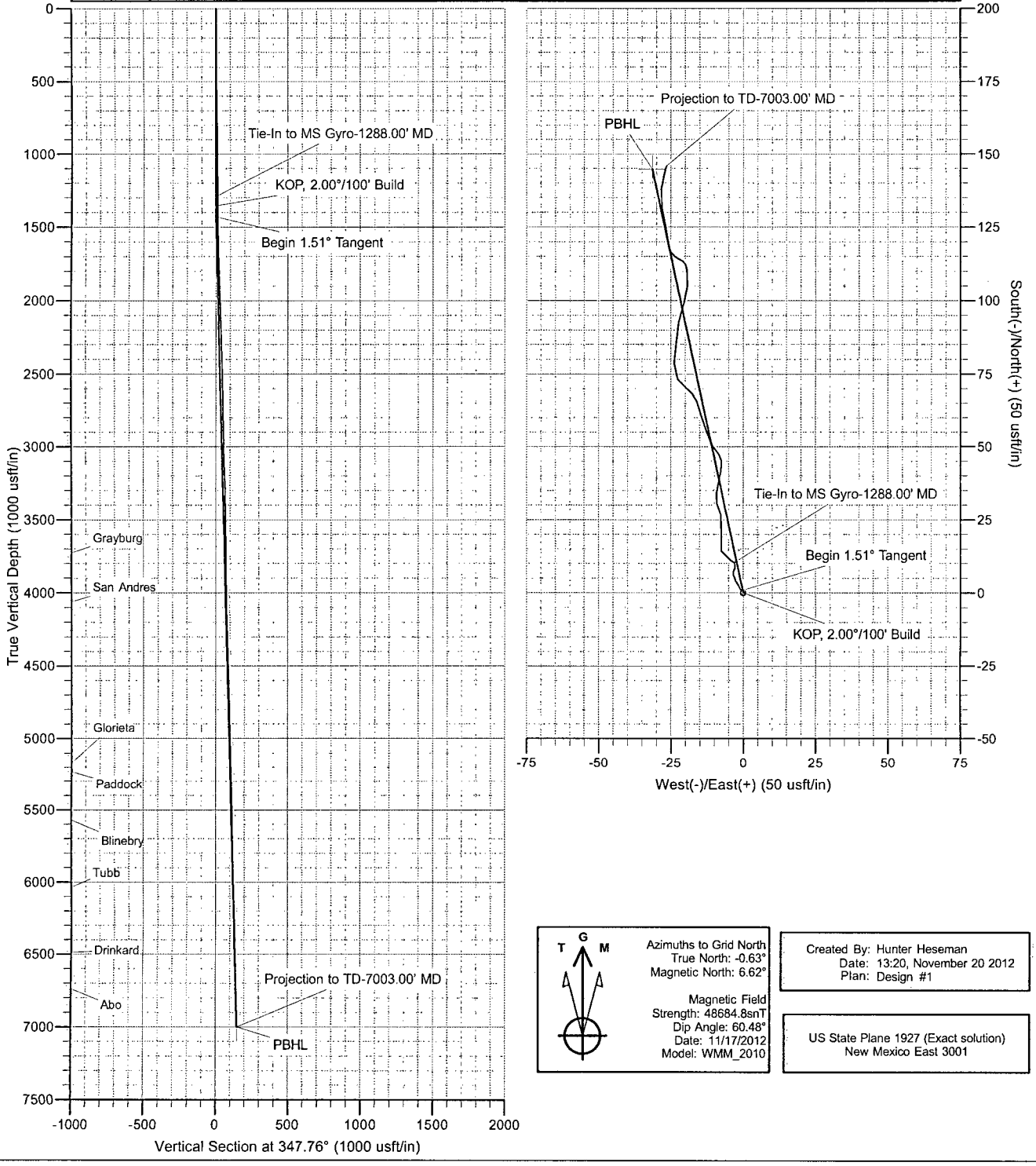
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
1,288.00	1,287.94	10.38	-3.01	Tie-In to MS Gyro-1288.00' MD
7,003.00	7,000.88	145.96	-26.46	Projection to TD-7003.00' MD

Company: Apache
Site: NEDU
Well: 353
Project: Lea County, New Mexico (NAD 27)
Rig Name: Capstar 120

MS Energy Services
WWW.MSENERGYSERVICES.COM
Planning: 936.442.2510 Fax: 936.442.2515
Operations: 936.442.2500 Fax: 936.442.2599

ANNOTATIONS

MD	Inc	Azi	TVD	+N/-S	+E/-W	VSect	Departure	Annotation
1355.00	0.00	0.00	1355.00	0.00	0.00	0.00	0.00	KOP, 2.00°/100' Build
1430.71	1.51	347.76	1430.70	0.98	-0.21	1.00	1.00	Begin 1.51° Tangent
7001.95	1.51	347.76	7000.00	144.85	-31.43	148.22	148.22	PBHL



T G M

Azimuths to Grid North
True North: -0.63°
Magnetic North: 6.62°

Magnetic Field
Strength: 48684.8snT
Dip Angle: 60.48°
Date: 11/17/2012
Model: WMM_2010

Created By: Hunter Heseman
Date: 13:20, November 20 2012
Plan: Design #1

US State Plane 1927 (Exact solution)
New Mexico East 3001

MD	INC	AZI	Course Length	TVD	Subsea Depth	N/-S	E/-W	X
0.00	0.00	0.00	0.00	0.00	3435.00	0.00	0.00	864199.13
92.00	0.49	320.33	92.00	92.00	3343.00	0.30	-0.25	864198.88
175.00	0.55	323.30	83.00	175.00	3260.00	0.90	-0.72	864198.41
258.00	0.69	330.97	83.00	257.99	3177.01	1.65	-1.20	864197.93
342.00	0.64	333.88	84.00	341.98	3093.02	2.52	-1.65	864197.48
425.00	0.60	327.36	83.00	424.98	3010.02	3.30	-2.09	864197.04
509.00	0.64	328.24	84.00	508.98	2926.02	4.07	-2.57	864196.56
592.00	0.79	341.75	83.00	591.97	2843.03	5.00	-2.99	864196.13
675.00	0.78	341.09	83.00	674.96	2760.04	6.08	-3.36	864195.77
759.00	0.62	15.83	84.00	758.96	2676.05	7.06	-3.42	864195.71
842.00	0.48	29.46	83.00	841.95	2593.05	7.79	-3.12	864196.00
925.00	0.28	29.44	83.00	924.95	2510.05	8.27	-2.85	864196.27
1011.00	0.46	352.35	86.00	1010.95	2424.05	8.80	-2.80	864196.33
1093.00	0.46	352.01	82.00	1092.95	2342.06	9.45	-2.89	864196.24
1176.00	0.26	351.94	83.00	1175.94	2259.06	9.97	-2.96	864196.17
1258.00	0.18	353.66	82.00	1257.94	2177.06	10.28	-3.00	864196.13
1288.00	0.19	351.86	30.00	1287.94	2147.06	10.38	-3.01	864196.12
1343.00	0.50	270.90	55.00	1342.94	2092.06	10.47	-3.26	864195.86
1405.00	1.00	309.80	62.00	1404.94	2030.06	10.82	-3.95	864195.18
1448.00	1.40	309.40	43.00	1447.93	1987.07	11.39	-4.64	864194.48
1576.00	1.50	320.50	128.00	1575.89	1859.11	13.68	-6.92	864192.21
1619.00	1.20	315.60	43.00	1618.87	1816.13	14.44	-7.59	864191.54
1789.00	2.50	21.30	170.00	1788.80	1646.20	19.16	-7.49	864191.64
2002.00	2.10	329.40	213.00	2001.65	1433.35	26.85	-7.79	864191.34
2216.00	2.10	8.40	214.00	2215.51	1219.49	34.10	-9.21	864189.92
2429.00	2.10	12.90	213.00	2428.37	1006.63	41.77	-7.77	864191.36
2642.00	1.20	318.00	213.00	2641.29	793.71	47.23	-8.39	864190.74
2855.00	0.80	330.80	213.00	2854.26	580.74	50.19	-10.61	864188.52
3068.00	2.00	340.00	213.00	3067.19	367.81	54.98	-12.61	864186.52
3282.00	1.60	342.80	214.00	3281.09	153.91	61.34	-14.77	864184.36
3495.00	0.80	341.20	213.00	3494.04	-59.04	65.59	-16.13	864183.00
3708.00	0.90	320.00	213.00	3707.01	-272.01	68.28	-17.68	864181.45
3921.00	0.70	306.90	213.00	3919.99	-484.99	70.34	-19.80	864179.33
4134.00	1.50	318.60	213.00	4132.95	-697.95	73.21	-22.68	864176.45
4347.00	1.90	10.50	213.00	4345.87	-910.87	78.78	-23.88	864175.25
4561.00	1.90	1.50	214.00	4559.75	-1124.75	85.81	-23.14	864175.99
4774.00	1.80	12.70	213.00	4772.64	-1337.64	92.60	-22.31	864176.81
4987.00	1.60	17.20	213.00	4985.55	-1550.55	98.71	-20.70	864178.43
5201.00	1.80	7.70	214.00	5199.46	-1764.46	104.89	-19.36	864179.76
5414.00	1.30	346.90	213.00	5412.38	-1977.38	110.56	-19.46	864179.66
5628.00	0.50	294.80	214.00	5626.35	-2191.35	113.32	-20.86	864178.27
5841.00	1.30	302.70	213.00	5839.33	-2404.33	115.01	-23.74	864175.39
6054.00	1.80	357.00	213.00	6052.26	-2617.26	119.66	-25.95	864173.18
6267.00	1.70	344.60	213.00	6265.16	-2830.16	126.05	-26.96	864172.17

6480.00	1.50	352.70	213.00	6478.08	-3043.08	131.86	-28.15	864170.97
6693.00	1.70	1.50	213.00	6690.99	-3255.99	137.78	-28.43	864170.70
6951.00	1.50	23.20	258.00	6948.89	-3513.89	144.71	-27.00	864172.13
7003.00	1.50	23.20	52.00	7000.88	-3565.88	145.96	-26.46	864172.67

Y	Lat	Long	Dogleg Severity
549100.66	32° 30' 14.	103° 9' 7.2	0.00
549100.96	32° 30' 14.	103° 9' 7.2	0.53
549101.55	32° 30' 14.	103° 9' 7.2	0.08
549102.31	32° 30' 14.	103° 9' 7.2	0.20
549103.17	32° 30' 14.	103° 9' 7.2	0.07
549103.95	32° 30' 14.	103° 9' 7.2	0.10
549104.72	32° 30' 14.	103° 9' 7.2	0.05
549105.66	32° 30' 14.	103° 9' 7.2	0.27
549106.74	32° 30' 14.	103° 9' 7.2	0.02
549107.72	32° 30' 14.	103° 9' 7.2	0.53
549108.45	32° 30' 14.	103° 9' 7.2	0.23
549108.93	32° 30' 14.	103° 9' 7.2	0.24
549109.45	32° 30' 14.	103° 9' 7.2	0.34
549110.11	32° 30' 14.	103° 9' 7.2	0.00
549110.62	32° 30' 14.	103° 9' 7.2	0.24
549110.94	32° 30' 14.	103° 9' 7.2	0.10
549111.03	32° 30' 14.	103° 9' 7.2	0.04
549111.13	32° 30' 14.	103° 9' 7.2	0.92
549111.48	32° 30' 14.	103° 9' 7.2	1.11
549112.05	32° 30' 14.	103° 9' 7.2	0.93
549114.33	32° 30' 14.	103° 9' 7.2	0.23
549115.09	32° 30' 14.	103° 9' 7.3	0.75
549119.82	32° 30' 14.	103° 9' 7.3	1.34
549127.51	32° 30' 14.	103° 9' 7.3	0.96
549134.76	32° 30' 14.	103° 9' 7.3	0.66
549142.42	32° 30' 14.	103° 9' 7.3	0.08
549147.89	32° 30' 15.	103° 9' 7.3	0.81
549150.84	32° 30' 15.	103° 9' 7.3	0.21
549155.63	32° 30' 15.	103° 9' 7.3	0.57
549162.00	32° 30' 15.	103° 9' 7.3	0.19
549166.24	32° 30' 15.	103° 9' 7.3	0.38
549168.93	32° 30' 15.	103° 9' 7.4	0.15
549171.00	32° 30' 15.	103° 9' 7.4	0.13
549173.87	32° 30' 15.	103° 9' 7.4	0.39
549179.43	32° 30' 15.	103° 9' 7.4	0.72
549186.47	32° 30' 15.	103° 9' 7.4	0.14
549193.26	32° 30' 15.	103° 9' 7.4	0.18
549199.36	32° 30' 15.	103° 9' 7.4	0.11
549205.55	32° 30' 15.	103° 9' 7.4	0.16
549211.22	32° 30' 15.	103° 9' 7.4	0.35
549213.97	32° 30' 15.	103° 9' 7.4	0.50
549215.67	32° 30' 15.	103° 9' 7.4	0.38
549220.31	32° 30' 15.	103° 9' 7.5	0.70
549226.70	32° 30' 15.	103° 9' 7.5	0.18

549232.51	32° 30' 15.	103° 9' 7.5	0.14
549238.44	32° 30' 15.	103° 9' 7.5	0.15
549245.37	32° 30' 15.	103° 9' 7.5	0.25
549246.62	32° 30' 15.	103° 9' 7.5	0.00