



DIRECTIONAL SURVEY REPORT

MACK ENERGY CORPORATION

REDSKINS FEDERAL COM #2

EDDY COUNTY, NM

PREPARED BY PHIL LEBLANC





July 21, 2009

MACK ENERGY CORPORATION
Mr. Matt Brewer
11352 Lovington Hwy
Box 960
Artesia, NM 88211-1288

RE: MACK ENERGY CORPORATION
REDSKINS FEDERAL COM #2
EDDY COUNTY, NM
RIG SILVER OAK #7
API Well No : 30-015-36587
PES Job No : 101008565-WT-WT

Dear Mr. Brewer:

We hereby certify that the enclosed Original Field Survey Data contained in this report represents to the best of our knowledge, a true and accurate survey of the well at the time the survey was run

DIRECTIONAL SURVEY DATA

1 - Original Directional Survey Report
1 - Email PDF to
charless@mackenergycorp.com
leel@mackenergycorp.com
donaldarcher@mackenergycorp.com
jimkrogman@mackenergycorp.com
sl423@su!log.com

We appreciate the opportunity to work with you and we look forward to your business support.
If you have any questions, I can be reached at (337) 233-3982

Sincerely,

Phil LeBlanc
M/LWD Service Coordinator
PathFinder Energy Services

PL II





DIRECTIONAL SURVEY COMPANY REPORT.

- 1 NAME OF SURVEYING COMPANY: PATHFINDER ENERGY SERVICES
- 2 NAME OF PERSON(S) PERFORMING SURVEY:
A) MAGID IBRAHIM
B) JOHN JOLIVETTE
D) JOHN OVERTON
3. POSITION OF SAID PERSON(S): (A-C) SURVEYORS (FIELD ENGINEERS)
4. DATE(S) ON WHICH SURVEY WAS PERFORMED: 06/05/09 TO 07/05/09
5. STATE IN WHICH SURVEY WAS PERFORMED: EDDY COUNTY
- 6 LOCATION OF WELL: NEW MEXICO
7. TYPE OF SURVEY(S) PERFORMED: MWD
- 8 COMPLETE IDENTIFICATION OF WELL:

MACK ENERGY CORPORATION
REDSKINS FEDERAL COM #2
EDDY COUNTY, NM
RIG. SILVER CAK #7
API Well No 30-015-36587

- 9 SURVEY(S) CERTIFIED FROM: 431 TO 11,502 FEET MEASURED DEPTH.

THIS IS TO VERIFY THAT ATTACHED DOCUMENTS SHOWING THE WELL TO BE
DISPLACED AT 4,707.16 FEET ON A BEARING OF 82 31 DEGREES FROM THE CENTER
OF THE ROTARY TABLE AT A PROJECTED BIT DEPTH OF 11,502 FEET, ARE TRUE AND
CORRECT TO THE BEST OF MY KNOWLEDGE

PHIL LEBLANC
M/LWD SERVICE COORDINATOR



PathFinder Energy Services, Inc.

BHL Report

Page 01/01
Tie-in Date: 06/05/2009
Date Completed: 07/05/2009

Mack Energy Corporation
Redskins Federal Com #2
Eddy COUNTY, New Mexico
Rig: Silver Oak 7
PathFinder Office Supervisor: Phil LeBlanc
PathFinder Field Engineers: Magid Ibrahim
John Jolivet
John Overton

Survey Horiz. Reference: WELLHEAD
Ref Coordinates: LAT: 32.54.54.8476 N LON: 104.6.15.1659 W
GRID Reference: NAD27 new mexico east Transverse Mercator
Ref GRID Coord: X: 570311.7000 Y: 696750.8000
North Aligned To: GRID NORTH
Total Magnetic Correction: 7.99° EAST TO GRID
Vertical Section Plane: 82.22
Survey Vert. Reference: 19.00' Kelly Bushing To Ground
Altitude: 3643.00' Ground To MSL

Measured Depth	11502.00	(feet)
Inclination	89.43	(deg)
Azimuth	89.17	(deg)
True Vertical Depth	7059.11	(feet)
Vertical Section	4707.16	(feet)
Survey X cord	574976.53	(feet)
Survey Y cord	697380.67	(feet)
Survey Lat	32.91693797 N	(deg)
Survey Lon	104.08900711 W	(deg)
Rectangular Corr. N/S	629.87 N	(feet)
Rectangular Corr. E/W	4664.83 E	(feet)
Closure Distance	4707.16	(feet)
Direction of Closure	82.31	(deg)
Dogleg Severity	0.00	(deg/100ft)

PathFinder Energy Services, Inc.

Survey Report

Page 01/10

Tie-in Date: 06/05/2009

Date Completed: 07/05/2009

Mack Energy Corporation
Redskins Federal Com #2
Eddy COUNTY, New Mexico
Rig: Silver Oak 7
PathFinder Office Supervisor: Phil LeBlanc
PathFinder Field Engineers: Magid Ibrahim
John Jolivet
John Overton

Survey Calculations by RX5 V5.11i using Minimum Curvature

Survey Horiz. Reference: WELLHEAD
Ref Coordinates: LAT: 32.54.54.8476 N LON: 104.6.15.1659 W
GRID Reference: NAD27 new mexico east Transverse Mercator
Ref GRID Coord: X: 570311.7000 Y: 696750.8000
North Aligned To: GRID NORTH
Total Magnetic Correction: 7.99° EAST TO GRID
Vertical Section Plane: 82.22
Survey Vert. Reference: 19.00' Kelly Bushing To Ground
Altitude: 3643.00' Ground To MSL

Measured Depth (ft)	Incl (deg)	Drift Dir. (deg)	TVD (ft)	Course Length (ft)	Vertical Section (ft)	TOTAL Rectangular Offsets (ft) (ft)		Survey Latitude (deg)	Survey Longitude (deg)	Closure Dist Dir (ft) (deg)		DLS (dg/100ft)
ORIGIN OF WELL AT SURFACE.												
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	32.91523546 N	104.10421276 W	0.00@	0.00	0.00
THE FOLLOWING ARE PATHFINDER MWD SURVEYS.												
431.00	0.97	23.11	430.98	431.00	1.87	3.36 N	1.43 E	32.91524467 N	104.10420807 W	3.65@	23.11	0.23
514.00	1.32	39.63	513.94	183.00	4.22	6.40 N	3.38 E	32.91525304 N	104.10420169 W	7.24@	27.86	0.26
796.00	1.32	47.28	795.89	182.00	7.48	9.44 N	6.26 E	32.91526137 N	104.10419229 W	11.33@	33.56	0.10
952.00	1.23	45.43	951.86	156.00	10.30	11.83 N	8.77 E	32.91526793 N	104.10418408 W	14.73@	36.55	0.06
1139.00	0.97	44.20	1138.82	187.00	13.15	14.38 N	11.31 E	32.91527491 N	104.10417581 W	18.29@	38.18	0.14
1332.00	1.06	61.95	1331.79	193.00	16.11	16.39 N	14.02 E	32.91528042 N	104.10416695 W	21.57@	40.55	0.17
1490.00	0.97	57.65	1489.77	158.00	18.70	17.79 N	16.44 E	32.91528426 N	104.10415906 W	24.23@	42.74	0.08
1675.00	0.70	35.85	1674.75	185.00	20.90	19.55 N	18.43 E	32.91528907 N	104.10415258 W	26.86@	43.31	0.22
1769.00	0.62	34.18	1768.74	94.00	21.64	20.43 N	19.05 E	32.91529150 N	104.10415054 W	27.93@	42.99	0.09
1800.00	0.62	32.69	1799.74	31.00	21.86	20.71 N	19.23 E	32.91529227 N	104.10414994 W	28.26@	42.88	0.05
1831.00	1.41	31.19	1830.73	31.00	22.21	21.18 N	19.52 E	32.91529355 N	104.10414900 W	28.80@	42.67	2.55
1862.00	1.93	23.46	1861.72	31.00	22.72	21.98 N	19.93 E	32.91529576 N	104.10414767 W	29.67@	42.19	1.82
1893.00	2.81	15.90	1892.69	31.00	23.30	23.19 N	20.34 E	32.91529909 N	104.10414631 W	30.85@	41.25	3.01
1924.00	3.61	11.51	1923.65	31.00	23.92	24.88 N	20.75 E	32.91530372 N	104.10414498 W	32.39@	39.82	2.70
1956.00	4.48	10.36	1955.57	32.00	24.64	27.10 N	21.17 E	32.91530981 N	104.10414358 W	34.39@	38.00	2.73
1987.00	5.28	10.10	1986.45	31.00	25.46	29.69 N	21.64 E	32.91531694 N	104.10414204 W	36.74@	36.08	2.58
2018.00	6.33	12.91	2017.29	31.00	26.50	32.76 N	22.27 E	32.91532538 N	104.10413995 W	39.62@	34.21	3.51
2049.00	7.47	8.43	2048.07	31.00	27.67	36.42 N	22.95 E	32.91533543 N	104.10413772 W	43.05@	32.21	4.06
2080.00	8.18	7.20	2078.78	31.00	28.80	40.60 N	23.52 E	32.91534692 N	104.10413583 W	46.92@	30.08	2.35
2111.00	8.88	4.39	2109.44	31.00	29.87	45.18 N	23.98 E	32.91535949 N	104.10413430 W	51.15@	27.96	2.63
2142.00	9.76	2.19	2140.03	31.00	30.83	50.19 N	24.26 E	32.91537326 N	104.10413334 W	55.75@	25.80	3.06

PathFinder Energy Services, Inc.

Survey Report

Mack Energy Corporation
Redskins Federal Com #2
Eddy COUNTY, New Mexico
RIG: Silver Oak 7

Page 02/10

Measured Depth (ft)	Incl (deg)	Drift Dir. (deg)	TVD (ft)	Course Length (ft)	Vertical Section (ft)	TOTAL Rectangular Offsets (ft) (ft)		Survey Latitude (deg)	Survey Longitude (deg)	Closure Dist Dir (ft) (deg)		DLS (dg/100ft)
2173.00	10.90	2.37	2170.52	31.00	31.81	55.74 N	24.49 E	32.91538853 N	104.10413258 W	60.88@	23.71	3.68
2204.00	12.05	3.68	2200.90	31.00	32.97	61.90 N	24.81 E	32.91540545 N	104.10413146 W	66.69@	21.84	3.80
2235.00	13.19	3.33	2231.16	31.00	34.29	68.56 N	25.23 E	32.91542403 N	104.10413007 W	73.15@	20.17	3.68
2266.00	13.89	2.19	2251.29	31.00	35.62	75.91 N	25.57 E	32.91544395 N	104.10412688 W	80.10@	18.62	2.42
2297.00	14.77	1.84	2291.33	31.00	36.92	83.58 N	25.84 E	32.91546503 N	104.10412795 W	87.48@	17.18	2.85
2329.00	15.92	1.31	2322.19	32.00	38.29	92.04 N	26.08 E	32.91548830 N	104.10412714 W	95.66@	15.82	3.62
2360.00	17.15	0.78	2351.90	31.00	39.65	100.86 N	26.23 E	32.91551254 N	104.10412656 W	104.22@	14.58	4.00
2391.00	18.03	0.34	2381.46	31.00	41.00	110.23 N	26.33 E	32.91553829 N	104.10412619 W	113.33@	13.43	2.87
2417.00	18.73	0.17	2406.13	26.00	42.15	118.43 N	26.36 E	32.91556082 N	104.10412602 W	121.33@	12.55	2.70
2453.00	19.96	0.17	2440.10	36.00	43.80	130.35 N	26.40 E	32.91559360 N	104.10412582 W	133.00@	11.45	3.42
2485.00	20.75	359.90	2470.10	32.00	45.31	141.48 N	26.40 E	32.91562419 N	104.10412572 W	143.93@	10.57	2.49
2516.00	21.10	1.49	2499.05	31.00	46.95	152.55 N	26.54 E	32.91565462 N	104.10412520 W	154.85@	9.87	2.15
2547.00	21.63	2.01	2527.92	31.00	48.82	163.84 N	26.88 E	32.91568565 N	104.10412399 W	166.03@	9.32	1.82
2578.00	21.90	3.60	2556.71	31.00	50.93	175.32 N	27.45 E	32.91571720 N	104.10412208 W	177.46@	8.90	2.09
2609.00	22.77	3.68	2585.39	31.00	53.26	187.08 N	28.20 E	32.91574951 N	104.10411956 W	189.19@	8.57	2.81
2640.00	23.92	3.68	2613.85	31.00	55.70	199.34 N	28.98 E	32.91578320 N	104.10411690 W	201.43@	8.27	3.71
2672.00	25.06	4.21	2642.97	32.00	58.40	212.57 N	29.90 E	32.91581957 N	104.10411383 W	214.66@	8.01	3.63
2703.00	25.59	3.60	2670.99	31.00	61.08	225.80 N	30.80 E	32.91585592 N	104.10411079 W	227.89@	7.77	1.91
2734.00	25.59	3.42	2698.95	31.00	63.70	239.17 N	31.62 E	32.91589265 N	104.10410803 W	241.25@	7.53	0.25
2765.00	25.32	3.60	2726.94	31.00	66.31	252.46 N	32.44 E	32.91592920 N	104.10410528 W	254.54@	7.32	0.91
2796.00	25.06	4.03	2754.99	31.00	68.96	265.63 N	33.31 E	32.91596538 N	104.10410232 W	267.71@	7.15	1.03
2890.00	24.36	4.83	2840.38	94.00	77.27	304.81 N	36.34 E	32.91607305 N	104.10409217 W	306.96@	6.80	0.83
2921.00	24.09	5.18	2868.65	31.00	80.09	317.48 N	37.45 E	32.91610787 N	104.10408846 W	319.68@	6.73	0.99
2983.00	26.29	5.18	2924.75	62.00	86.00	343.76 N	39.84 E	32.91618009 N	104.10408051 W	346.06@	6.61	3.55
3045.00	26.82	4.47	2980.21	62.00	92.05	371.37 N	42.17 E	32.91625599 N	104.10407272 W	373.76@	6.48	1.00
3076.00	26.82	3.42	3007.88	31.00	94.89	385.33 N	43.13 E	32.91629434 N	104.10406949 W	387.73@	6.39	1.53
3108.00	26.91	0.96	3036.43	32.00	97.40	399.78 N	43.68 E	32.91633404 N	104.10406759 W	402.15@	6.24	3.49

PathFinder Energy Services, Inc.

Survey Report

Mack Energy Corporation
Redskins Federal Com #2
Eddy COUNTY, New Mexico
RIG:Silver Oak 7

Page 03/10

Measured Depth (ft)	Incl (deg)	Drift Dir. (deg)	TVD (ft)	Course Length (ft)	Vertical Section (ft)	TOTAL Rectangular Offsets (ft) (ft)		Survey Latitude (deg)	Survey Longitude (deg)	Closure Dist Dir (ft) (deg)		DLS (dg/100ft)
3139.00	26.91	353.23	3064.07	31.00	99.20	413.50 N	43.58 E	32.91637260 N	104.10406781 W	416.09@	6.01	3.99
3170.00	26.73	357.36	3091.74	31.00	100.56	427.78 N	43.04 E	32.91641102 N	104.10406947 W	429.94@	5.75	1.39
3201.00	26.56	357.36	3119.44	31.00	101.80	441.67 N	42.40 E	32.91644919 N	104.10407145 W	443.70@	5.48	0.55
3232.00	26.20	356.74	3147.22	31.00	102.96	455.42 N	41.79 E	32.91648701 N	104.10407366 W	457.33@	5.23	1.46
3263.00	25.94	356.48	3175.06	31.00	104.00	469.02 N	40.89 E	32.91652439 N	104.10407619 W	470.80@	4.98	0.92
3294.00	25.32	355.16	3203.01	31.00	104.85	482.39 N	39.91 E	32.91656116 N	104.10407928 W	484.04@	4.73	2.72
3333.00	24.45	353.93	3238.39	39.00	105.52	498.73 N	38.36 E	32.91660607 N	104.10408424 W	500.20@	4.40	2.60
3364.00	24.18	354.37	3266.64	31.00	105.95	511.43 N	37.06 E	32.91664098 N	104.10408839 W	512.77@	4.14	1.05
3395.00	23.48	354.45	3295.00	31.00	106.42	523.89 N	35.84 E	32.91667525 N	104.10409227 W	525.12@	3.91	2.26
3427.00	22.51	356.04	3324.46	32.00	107.08	536.35 N	34.80 E	32.91670949 N	104.10409557 W	537.48@	3.71	3.60
3458.00	21.10	358.06	3353.24	31.00	108.04	547.85 N	34.20 E	32.91674110 N	104.10409744 W	548.91@	3.57	5.15
3489.00	19.87	359.46	3382.28	31.00	109.28	558.69 N	33.96 E	32.91677091 N	104.10409814 W	559.72@	3.48	4.27
3520.00	18.47	0.43	3411.56	31.00	110.64	568.87 N	33.95 E	32.91679889 N	104.10409811 W	569.88@	3.41	4.63
3551.00	17.15	2.01	3441.07	31.00	112.12	578.35 N	34.14 E	32.91682494 N	104.10409740 W	579.36@	3.38	4.53
3582.00	16.18	2.19	3470.77	31.00	113.64	587.23 N	34.47 E	32.91684936 N	104.10409628 W	588.24@	3.36	3.13
3613.00	15.83	2.19	3500.57	31.00	115.12	595.77 N	34.79 E	32.91687283 N	104.10409516 W	596.79@	3.34	1.13
3645.00	15.56	1.84	3531.37	32.00	116.60	604.43 N	35.10 E	32.91689661 N	104.10409410 W	605.44@	3.32	0.89
3676.00	14.95	2.72	3561.28	31.00	118.02	612.57 N	35.42 E	32.91691901 N	104.10409299 W	613.60@	3.31	2.10
3707.00	14.07	2.19	3591.29	31.00	119.40	620.33 N	35.76 E	32.91694034 N	104.10409185 W	621.36@	3.30	2.87
3738.00	12.66	1.49	3621.45	31.00	120.60	627.50 N	35.99 E	32.91696002 N	104.10409104 W	628.53@	3.28	4.58
3769.00	11.52	0.08	3651.76	31.00	121.57	633.99 N	36.08 E	32.91697786 N	104.10409069 W	635.01@	3.26	3.80
3800.00	10.11	1.57	3682.21	31.00	122.44	639.80 N	36.16 E	32.91699385 N	104.10409039 W	640.82@	3.23	4.64
3832.00	8.44	2.63	3713.79	32.00	123.32	644.96 N	36.35 E	32.91700801 N	104.10408976 W	645.98@	3.23	5.25
3863.00	7.03	0.26	3744.51	31.00	123.99	649.13 N	36.46 E	32.91701947 N	104.10408936 W	650.15@	3.21	4.66
3894.00	5.45	356.39	3775.33	31.00	124.37	652.49 N	36.37 E	32.91702873 N	104.10408961 W	653.51@	3.19	5.27
3925.00	3.96	4.39	3806.22	31.00	124.70	655.03 N	36.36 E	32.91703570 N	104.10408962 W	656.04@	3.18	5.24
3956.00	2.64	30.31	3837.17	31.00	125.37	656.71 N	36.81 E	32.91704033 N	104.10408817 W	657.74@	3.21	6.32

PathFinder Energy Services, Inc.

Survey Report

Mack Energy Corporation
Redskins Federal Com #2
Eddy COUNTY, New Mexico
RIG: Silver Oak 7

Page 04/10

Measured Depth (ft)	Incl (deg)	Drift Dir. (deg)	TVD (ft)	Course Length (ft)	Vertical Section (ft)	TOTAL Rectangular Offsets (ft) (ft)		Survey Latitude (deg)	Survey Longitude (deg)	Closure Dist Dir (ft) (deg)		DLS (dg/100ft)
4018.00	1.58	61.60	3899.13	62.00	127.05	656.35 N	38.28 E	32.91704482 N	104.10408336 W	659.47@	3.33	2.47
4081.00	0.62	161.35	3962.12	63.00	127.92	658.44 N	39.15 E	32.91704507 N	104.10408052 W	659.61@	3.40	2.84
4175.00	1.14	206.10	4056.11	94.00	127.50	657.12 N	38.90 E	32.91704143 N	104.10408134 W	658.27@	3.39	0.88
4268.00	1.40	225.08	4149.09	93.00	128.02	655.44 N	37.64 E	32.91703681 N	104.10408546 W	656.52@	3.29	0.60
4361.00	2.02	189.66	4242.04	93.00	124.56	652.97 N	36.51 E	32.91703003 N	104.10408917 W	653.99@	3.20	1.27
4450.00	2.11	175.69	4338.98	95.00	123.96	649.57 N	36.36 E	32.91702070 N	104.10408968 W	650.59@	3.20	0.54
4548.00	2.29	174.81	4428.92	92.00	123.77	646.05 N	36.65 E	32.91701102 N	104.10408875 W	647.09@	3.25	0.20
4641.00	2.55	177.27	4521.83	93.00	123.50	642.14 N	36.92 E	32.91700026 N	104.10408791 W	643.20@	3.29	0.30
4734.00	1.67	147.21	4614.77	93.00	123.90	638.93 N	37.75 E	32.91699144 N	104.10408522 W	640.05@	3.38	1.49
4827.00	0.26	269.48	4707.76	93.00	124.26	637.79 N	38.27 E	32.91698830 N	104.10408352 W	638.94@	3.43	1.96
4920.00	0.18	330.64	4800.76	93.00	124.00	637.92 N	37.99 E	32.91698865 N	104.10408444 W	639.05@	3.41	0.25
5014.00	0.35	357.80	4894.76	94.00	123.97	638.33 N	37.91 E	32.91698979 N	104.10408471 W	639.46@	3.40	0.22
5107.00	0.88	351.91	4987.75	93.00	123.99	639.32 N	37.80 E	32.91699251 N	104.10408507 W	640.44@	3.38	0.57
5200.00	0.44	134.29	5080.75	93.00	124.21	639.78 N	37.95 E	32.91699377 N	104.10408456 W	640.90@	3.39	1.35
5294.00	0.35	123.74	5174.75	94.00	124.65	639.37 N	38.45 E	32.91699264 N	104.10408294 W	640.52@	3.44	0.12
5387.00	0.26	97.46	5267.75	93.00	125.06	639.18 N	38.89 E	32.91699212 N	104.10408149 W	640.36@	3.48	0.18
5481.00	0.26	352.08	5361.74	94.00	125.27	639.37 N	39.08 E	32.91699263 N	104.10408090 W	640.56@	3.50	0.44
5574.00	0.88	128.14	5454.74	93.00	125.76	639.13 N	39.61 E	32.91699199 N	104.10407916 W	640.36@	3.55	1.16
5667.00	0.70	125.59	5547.73	93.00	126.67	638.36 N	40.63 E	32.91698986 N	104.10407583 W	639.65@	3.64	0.20
5761.00	0.62	118.91	5641.73	94.00	127.50	637.78 N	41.54 E	32.91698826 N	104.10407286 W	639.13@	3.73	0.12
5854.00	0.70	120.67	5734.72	93.00	128.35	637.25 N	42.47 E	32.91698679 N	104.10406984 W	638.66@	3.81	0.09
5948.00	0.62	103.62	5828.71	94.00	129.27	636.84 N	43.46 E	32.91698565 N	104.10406662 W	638.32@	3.90	0.23
6041.00	0.53	116.89	5921.71	93.00	130.09	636.52 N	44.33 E	32.91698478 N	104.10406378 W	638.07@	3.98	0.17
6134.00	0.26	114.69	6014.71	93.00	130.62	636.24 N	44.91 E	32.91698400 N	104.10406191 W	637.82@	4.04	0.29
6228.00	1.41	104.05	6108.70	94.00	131.88	635.87 N	46.23 E	32.91698298 N	104.10405762 W	637.55@	4.16	1.23
6321.00	2.02	102.47	6201.65	93.00	134.48	635.24 N	48.94 E	32.91698123 N	104.10404879 W	637.12@	4.41	0.66
6414.00	1.93	105.90	6294.60	93.00	137.45	634.46 N	52.04 E	32.91697906 N	104.10403868 W	636.59@	4.69	0.16

PathFinder Energy Services, Inc.

Survey Report

Mack Energy Corporation
Redskins Federal Com #2
Eddy COUNTY, New Mexico
RIG: Silver Oak 7

Page 05/10

Measured Depth (ft)	Incl (deg)	Drift Dir. (deg)	TVD (ft)	Course Length (ft)	Vertical Section (ft)	TOTAL Rectangular Offsets (ft) (ft)		Survey Latitude (deg)	Survey Longitude (deg)	Closure Dist (ft)	Dir (deg)	DLS (dg/100ft)
6508.00	2.02	107.04	6383.54	94.00	140.40	633.54 N	55.15 E	32.91697651 N	104.10402856 W	635.93@	4.98	0.10
6551.00	2.46	100.67	6431.51	43.00	141.97	633.14 N	56.78 E	32.91697542 N	104.10402325 W	635.69@	5.12	1.17
6582.00	5.45	98.42	6462.43	31.00	144.06	633.06 N	58.91 E	32.91697518 N	104.10401632 W	635.86@	5.32	9.97
6613.00	9.16	86.69	6493.18	31.00	147.98	633.24 N	62.84 E	32.91697586 N	104.10400350 W	636.36@	5.67	11.96
6644.00	13.10	86.66	6523.59	31.00	153.95	633.59 N	68.81 E	32.91697658 N	104.10398404 W	637.32@	6.20	12.74
6676.00	15.21	88.35	6554.61	32.00	161.74	633.92 N	76.63 E	32.91697745 N	104.10395857 W	638.54@	6.89	6.72
6707.00	15.04	88.41	6584.54	31.00	169.78	634.15 N	84.71 E	32.91697803 N	104.10393222 W	639.79@	7.61	0.55
6738.00	15.04	87.96	6614.48	31.00	177.78	634.41 N	92.75 E	32.91697868 N	104.10390602 W	641.15@	8.32	0.38
6769.00	18.93	88.19	6644.19	31.00	186.55	634.70 N	101.57 E	32.91697944 N	104.10387728 W	642.78@	9.09	9.65
6800.00	21.54	89.25	6673.38	31.00	196.38	634.93 N	112.06 E	32.91697990 N	104.10384310 W	644.74@	10.01	11.38
6831.00	25.15	91.41	6701.82	31.00	209.13	634.84 N	124.34 E	32.91697968 N	104.10380308 W	646.90@	11.08	11.97
6862.00	28.75	93.70	6729.45	31.00	222.95	634.20 N	138.37 E	32.91697783 N	104.10375737 W	649.12@	12.31	12.08
6894.00	31.57	94.76	6757.11	32.00	238.67	633.01 N	154.40 E	32.91697445 N	104.10370514 W	651.56@	13.71	8.97
6925.00	34.12	93.95	6783.15	31.00	255.10	631.73 N	171.16 E	32.91697086 N	104.10365052 W	654.51@	15.16	8.35
6956.00	36.93	92.38	6808.38	31.00	272.79	630.75 N	189.15 E	32.91696804 N	104.10359193 W	658.50@	16.69	9.53
6987.00	39.92	90.88	6832.67	31.00	291.79	630.21 N	208.40 E	32.91696644 N	104.10352919 W	663.77@	18.30	10.10
7018.00	43.00	90.75	6855.90	31.00	312.09	629.92 N	228.92 E	32.91696552 N	104.10346232 W	670.22@	19.97	9.94
7049.00	47.22	92.18	6877.77	31.00	333.75	629.34 N	250.87 E	32.91696381 N	104.10339080 W	677.50@	21.73	14.00
7081.00	49.68	91.49	6898.99	32.00	357.36	628.58 N	274.80 E	32.91696157 N	104.10331281 W	686.03@	23.61	7.86
7112.00	52.41	90.98	6918.48	31.00	381.17	628.06 N	298.90 E	32.91696000 N	104.10323428 W	695.56@	25.45	8.90
7143.00	55.49	89.84	6936.72	31.00	405.98	627.89 N	323.96 E	32.91695937 N	104.10315263 W	706.54@	27.29	10.37
7174.00	58.65	90.28	6953.57	31.00	431.75	627.86 N	349.98 E	32.91695914 N	104.10306785 W	718.81@	29.14	10.26
7205.00	62.78	90.39	6968.73	31.00	458.51	627.70 N	377.01 E	32.91695854 N	104.10297976 W	732.22@	30.99	13.33
7236.00	66.74	90.13	6981.95	31.00	486.27	627.58 N	405.04 E	32.91695803 N	104.10288841 W	746.93@	32.84	12.80
7268.00	70.79	89.65	6993.54	32.00	515.82	627.63 N	434.87 E	32.91695801 N	104.10279123 W	763.57@	34.72	12.73
7299.00	74.83	89.96	7002.70	31.00	545.17	627.73 N	464.47 E	32.91695810 N	104.10269474 W	780.89@	36.50	13.07
7330.00	78.35	89.46	7009.88	31.00	575.07	627.89 N	494.62 E	32.91695835 N	104.10259649 W	799.31@	38.23	11.46

PathFinder Energy Services, Inc.

Survey Report

Mack Energy Corporation
Redskins Federal Com #2
Eddy COUNTY, New Mexico
RIG.Silver Oak 7

Page 06/10

Measured Depth (ft)	Incl (deg)	Drift Dir, (deg)	TVD (ft)	Course Length (ft)	Vertical Section (ft)	TOTAL Rectangular Offsets (ft) (ft)		Survey Latitude (deg)	Survey Longitude (deg)	Closure Dist (ft)	Dir (deg)	DLS (dig/100ft)
7340.00	80.02	89.21	7011.76	10.00	584.81	628.00 N	504.44 E	32.91695860 N	104.10256449 W	805.51@	38.77	16.88
7377.00	84.28	88.50	7016.81	37.00	621.21	628.74 N	541.08 E	32.91696040 N	104.10244509 W	829.50@	40.74	11.67
7409.00	88.15	88.35	7016.92	32.00	652.95	629.61 N	572.89 E	32.91696262 N	104.10234110 W	851.31@	42.30	12.10
7440.00	88.60	88.37	7019.20	31.00	683.76	630.50 N	603.07 E	32.91696437 N	104.10224015 W	873.10@	43.77	1.45
7471.00	88.71	88.58	7020.53	31.00	714.57	631.32 N	634.95 E	32.91696695 N	104.10213919 W	895.38@	45.16	0.76
7502.00	89.44	89.09	7021.03	31.00	745.34	631.79 N	665.94 E	32.91696805 N	104.10203820 W	917.95@	46.51	4.29
7533.00	89.69	90.62	7021.21	31.00	776.04	631.71 N	696.94 E	32.91696763 N	104.10193718 W	940.63@	47.81	3.33
7564.00	89.89	90.73	7021.27	31.00	806.70	631.34 N	727.94 E	32.91696644 N	104.10183617 W	963.58@	49.06	0.35
7596.00	89.83	91.09	7021.35	32.00	838.33	639.93 N	759.93 E	32.91696485 N	104.10173191 W	987.65@	50.30	1.14
7627.00	90.11	91.01	7021.37	31.00	868.97	630.27 N	790.93 E	32.91696310 N	104.10163091 W	1011.34@	51.45	0.94
7658.00	90.28	90.93	7021.26	31.00	899.61	629.74 N	821.92 E	32.91696147 N	104.10152991 W	1035.44@	52.54	0.61
7689.00	90.39	90.84	7021.08	31.00	930.25	629.26 N	852.92 E	32.91695997 N	104.10142891 W	1059.93@	53.58	0.46
7720.00	90.39	90.45	7020.87	31.00	960.92	628.91 N	883.92 E	32.91695882 N	104.10132790 W	1084.82@	54.57	1.26
7751.00	90.62	90.06	7020.60	31.00	991.61	628.78 N	914.92 E	32.91695825 N	104.10122689 W	1110.15@	55.50	1.46
7782.00	89.33	91.02	7020.61	31.00	1022.28	628.48 N	945.91 E	32.91695726 N	104.10112588 W	1135.67@	56.40	5.19
7813.00	88.26	91.44	7021.26	31.00	1052.89	627.82 N	976.90 E	32.91695525 N	104.10102491 W	1161.24@	57.27	3.71
7844.00	88.32	91.36	7022.19	31.00	1083.48	627.06 N	1007.87 E	32.91695298 N	104.10092398 W	1187.02@	58.11	0.32
7876.00	88.49	91.31	7023.08	32.00	1115.07	626.32 N	1039.85 E	32.91695074 N	104.10081977 W	1213.91@	58.94	0.55
7907.00	88.49	91.23	7023.89	31.00	1145.67	625.63 N	1070.84 E	32.91694866 N	104.10071882 W	1240.20@	59.70	0.26
7938.00	88.49	91.18	7024.71	31.00	1176.28	624.98 N	1101.82 E	32.91694668 N	104.10061786 W	1266.73@	60.44	0.16
7969.00	88.60	91.27	7025.50	31.00	1206.89	624.32 N	1132.80 E	32.91694467 N	104.10051690 W	1293.45@	61.14	0.46
8000.00	88.99	90.70	7026.15	31.00	1237.52	623.78 N	1163.79 E	32.91694302 N	104.10041593 W	1320.42@	61.81	2.23
8031.00	89.22	90.38	7026.63	31.00	1268.19	623.49 N	1194.78 E	32.91694203 N	104.10031492 W	1347.68@	62.44	1.27
8062.00	89.16	90.39	7027.07	31.00	1298.87	623.28 N	1225.78 E	32.91694127 N	104.10021392 W	1375.14@	63.05	0.20
8094.00	89.27	90.58	7027.51	32.00	1330.54	623.01 N	1257.78 E	32.91694033 N	104.10010966 W	1403.62@	63.65	0.69
8125.00	89.27	91.08	7027.91	31.00	1361.18	622.56 N	1288.77 E	32.91693890 N	104.10000866 W	1431.26@	64.22	1.61
8156.00	89.38	91.40	7028.27	31.00	1391.80	621.89 N	1319.76 E	32.91693687 N	104.09990768 W	1458.94@	64.77	1.09

PathFinder Energy Services, Inc.

Survey Report

Mack Energy Corporation
Redskins Federal Com #2
Eddy COUNTY, New Mexico
RIG: Silver Oak 7

Page 07/10

Measured Depth (ft)	Incl (deg)	Drift Dir. (deg)	TVD (ft)	Course Length (ft)	Vertical Section (ft)	TOTAL Rectangular Offsets (ft) (ft)		Survey Latitude (deg)	Survey Longitude (deg)	Closure Dist Dir (ft) (deg)		DLS (dg/100ft)
8187.00	89.32	90.12	7029.01	31.00	1422.45	621.48 N	1350.78 E	32.91693555 N	104.09980668 W	1486.87@	65.29	4.13
8218.00	89.44	88.74	7028.93	31.00	1453.20	621.79 N	1381.75 E	32.91693621 N	104.09970567 W	1515.21@	65.77	4.46
8249.00	89.50	88.75	7029.21	31.00	1484.00	622.47 N	1412.74 E	32.91693789 N	104.09960467 W	1543.80@	66.22	0.20
8280.00	89.38	88.58	7029.52	31.00	1514.80	623.19 N	1443.73 E	32.91693969 N	104.09950368 W	1572.49@	66.65	0.07
8312.00	89.33	88.68	7029.88	32.00	1546.60	623.96 N	1475.72 E	32.91694161 N	104.09939944 W	1602.21@	67.08	0.30
8343.00	89.38	88.78	7030.22	31.00	1577.40	624.65 N	1506.71 E	32.91694332 N	104.09929844 W	1631.06@	67.48	0.42
8374.00	89.27	88.92	7030.59	31.00	1608.19	625.28 N	1537.70 E	32.91694484 N	104.09919745 W	1659.97@	67.87	0.57
8405.00	89.22	88.98	7031.00	31.00	1638.98	625.84 N	1568.70 E	32.91694622 N	104.09909645 W	1688.93@	68.25	0.25
8436.00	88.99	88.84	7031.48	31.00	1669.76	626.43 N	1599.60 E	32.91694765 N	104.09899546 W	1717.97@	68.61	0.87
8467.00	89.44	88.61	7031.91	31.00	1700.56	627.12 N	1630.68 E	32.91694935 N	104.09889447 W	1747.11@	68.98	1.63
8499.00	89.10	88.28	7032.32	32.00	1732.37	627.99 N	1662.66 E	32.91695155 N	104.09879023 W	1777.31@	69.31	1.48
8530.00	88.66	87.79	7032.92	31.00	1763.20	629.05 N	1693.64 E	32.91695428 N	104.09868928 W	1806.69@	69.62	2.12
8561.00	88.26	87.48	7033.75	31.00	1794.05	630.33 N	1724.60 E	32.91695760 N	104.09858838 W	1836.18@	69.92	1.63
8592.00	87.99	87.55	7034.77	31.00	1824.90	631.68 N	1755.55 E	32.91696111 N	104.09848750 W	1865.74@	70.21	0.90
8623.00	87.87	87.59	7035.89	31.00	1855.75	632.99 N	1786.51 E	32.91696453 N	104.09838663 W	1895.33@	70.49	0.41
8654.00	88.32	88.60	7036.92	31.00	1886.57	634.02 N	1817.47 E	32.91696717 N	104.09828571 W	1924.88@	70.77	3.56
8685.00	88.99	90.07	7037.65	31.00	1917.32	634.38 N	1848.46 E	32.91696797 N	104.09818473 W	1954.29@	71.06	5.21
8717.00	89.44	89.76	7038.09	32.00	1949.03	634.43 N	1880.46 E	32.91696790 N	104.09808046 W	1984.59@	71.36	1.71
8748.00	89.44	89.78	7038.39	31.00	1979.76	634.55 N	1911.45 E	32.91696805 N	104.09797945 W	2014.03@	71.64	0.06
8779.00	89.44	89.77	7038.69	31.00	2010.49	634.67 N	1942.45 E	32.91696820 N	104.09787843 W	2043.51@	71.91	0.03
8810.00	89.61	90.01	7038.95	31.00	2041.21	634.73 N	1973.45 E	32.91696817 N	104.09777742 W	2073.02@	72.17	0.95
8841.00	89.44	90.28	7039.20	31.00	2071.91	634.65 N	2004.45 E	32.91696776 N	104.09767640 W	2102.52@	72.43	1.03
8872.00	89.33	90.46	7039.54	31.00	2102.60	634.45 N	2035.45 E	32.91696702 N	104.09757539 W	2132.04@	72.69	0.68
8903.00	89.55	90.78	7039.84	31.00	2133.26	634.12 N	2066.44 E	32.91696591 N	104.09747439 W	2161.55@	72.94	1.25
8928.00	90.31	91.52	7039.87	25.00	2157.96	633.62 N	2091.44 E	32.91696438 N	104.09739294 W	2185.31@	73.15	4.24
8959.00	91.36	91.29	7039.42	31.00	2188.56	632.86 N	2122.43 E	32.91696210 N	104.09729197 W	2214.77@	73.40	3.47
8995.00	91.06	90.68	7038.66	36.00	2224.13	632.24 N	2158.41 E	32.91696018 N	104.09717471 W	2249.10@	73.67	1.89

PathFinder Energy Services, Inc.

Survey Report

Mack Energy Corporation
Redskins Federal Com #2
Eddy COUNTY, New Mexico
RIG: Silver Oak 7

Page 08/10

Measured Depth (ft)	Incl (deg)	Drift Dir. (deg)	TVD (ft)	Course Length (ft)	Vertical Section (ft)	TOTAL Rectangular Offsets (ft)		Survey Latitude (deg)	Survey Longitude (deg)	Closure Dist Dir (ft) (deg)		DLS (dg/100ft)
9028.00	91.22	90.89	7036.04	31.00	2254.78	631.81 N	2189.40 E	32.91695882 N	104.09707372 W	2278.74@	73.90	0.87
9057.00	90.22	91.25	7037.65	31.00	2285.41	631.23 N	2220.39 E	32.91695704 N	104.09697273 W	2308.38@	74.13	3.46
9088.00	90.17	91.07	7037.54	31.00	2316.03	630.81 N	2251.59 E	32.91695512 N	104.09687174 W	2338.04@	74.35	0.60
9120.00	90.20	91.05	7037.42	31.00	2347.65	630.91 N	2280.38 E	32.91695330 N	104.09676749 W	2368.70@	74.58	0.35
9151.00	90.39	91.52	7037.24	31.00	2378.26	629.32 N	2314.37 E	32.91695119 N	104.09666650 W	2398.41@	74.79	1.56
9182.00	89.33	90.57	7037.31	31.00	2408.89	628.75 N	2345.37 E	32.91694945 N	104.09656550 W	2428.19@	74.99	4.59
9213.00	88.43	90.47	7037.92	31.00	2439.56	628.47 N	2376.36 E	32.91694848 N	104.09646451 W	2458.06@	75.19	2.92
9244.00	88.55	90.38	7038.70	31.00	2470.24	628.24 N	2407.35 E	32.91694766 N	104.09636353 W	2487.98@	75.37	0.80
9275.00	88.43	90.83	7039.49	31.00	2500.89	627.92 N	2438.34 E	32.91694657 N	104.09626255 W	2517.89@	75.56	1.63
9306.00	88.32	90.74	7040.37	31.00	2531.54	627.49 N	2469.32 E	32.91694521 N	104.09616158 W	2547.80@	75.74	0.46
9337.00	89.33	90.18	7041.01	31.00	2562.21	627.24 N	2500.31 E	32.91694434 N	104.09606059 W	2577.79@	75.92	3.73
9368.00	90.00	89.98	7041.19	31.00	2592.92	627.20 N	2531.31 E	32.91694402 N	104.09595958 W	2607.86@	76.08	2.25
9400.00	90.00	90.66	7041.19	32.00	2624.60	627.02 N	2563.31 E	32.91694334 N	104.09585530 W	2638.89@	76.25	2.13
9431.00	89.94	91.01	7041.20	31.00	2655.25	626.57 N	2594.31 E	32.91694190 N	104.09575430 W	2668.90@	76.42	1.15
9462.00	90.06	90.96	7041.20	31.00	2685.89	626.04 N	2625.30 E	32.91694025 N	104.09565330 W	2698.92@	76.59	0.42
9493.00	90.06	91.39	7041.17	31.00	2716.51	625.40 N	2656.30 E	32.91693831 N	104.09555231 W	2728.93@	76.75	1.39
9525.00	90.00	91.77	7041.15	32.00	2748.08	624.52 N	2688.29 E	32.91693568 N	104.09544807 W	2759.87@	76.92	1.20
9556.00	90.39	91.99	7041.05	31.00	2778.64	623.50 N	2719.27 E	32.91693269 N	104.09534712 W	2789.83@	77.09	1.44
9587.00	90.45	91.06	7040.82	31.00	2809.23	622.68 N	2750.26 E	32.91693023 N	104.09524614 W	2819.87@	77.24	3.01
9618.00	90.50	90.14	7040.56	31.00	2839.90	622.35 N	2781.25 E	32.91692915 N	104.09514514 W	2850.03@	77.39	2.97
9649.00	89.61	89.53	7040.53	31.00	2870.63	622.44 N	2812.25 E	32.91692920 N	104.09504412 W	2880.31@	77.52	3.48
9680.00	89.10	89.10	7040.88	31.00	2901.39	622.81 N	2843.25 E	32.91693003 N	104.09494311 W	2910.66@	77.64	2.15
9712.00	88.88	89.17	7041.45	32.00	2933.15	623.29 N	2875.24 E	32.91693116 N	104.09483886 W	2942.02@	77.77	0.72
9743.00	88.71	89.29	7042.10	31.00	2963.91	623.71 N	2906.23 E	32.91693211 N	104.09473787 W	2972.40@	77.89	0.67
9774.00	88.49	89.37	7042.86	31.00	2994.66	624.07 N	2937.22 E	32.91693291 N	104.09463688 W	3002.79@	78.00	0.75
9804.00	88.94	88.82	7043.53	30.00	3024.44	624.55 N	2967.21 E	32.91693403 N	104.09453916 W	3032.22@	78.11	2.37
9836.00	89.27	88.46	7044.03	32.00	3056.23	625.31 N	2999.19 E	32.91693592 N	104.09443492 W	3063.69@	78.22	1.53

PathFinder Energy Services, Inc.

Survey Report

Mack Energy Corporation
Redskins Federal Com #2
Eddy COUNTY, New Mexico
RIG: Silver Oak 7

Page 09/10

Measured Depth (ft)	Incl (deg)	Drift Dir. (deg)	TVD (ft)	Course Length (ft)	Vertical Section (ft)	TOTAL Rectangular Offsets (ft)	Survey Latitude (deg)	Survey Longitude (deg)	Closure Dist Dir (ft) (deg)	DLS (dg/100ft)
9867.00	88.57	88.56	7044.42	31.00	3067.04	626.08 N 3360.18 E	32.91693786 N	104.09433393 W	3094.19@ 78.33	0.64
9898.00	89.11	88.87	7044.86	31.00	3117.84	626.75 N 3061.17 E	32.91693851 N	104.09423294 W	3124.68@ 78.43	0.85
9929.00	89.22	88.60	7045.31	31.00	3148.63	627.44 N 3092.16 E	32.91694123 N	104.09413195 W	3155.18@ 78.53	0.94
9960.00	89.61	88.69	7045.63	31.00	3179.44	628.17 N 3123.15 E	32.91694302 N	104.09403096 W	3185.70@ 78.63	1.29
9992.00	89.78	88.84	7045.80	32.00	3211.23	628.86 N 3155.14 E	32.91694471 N	104.09392671 W	3217.20@ 78.73	0.71
10023.00	89.72	88.82	7045.94	31.00	3242.02	629.49 N 3186.14 E	32.91694626 N	104.09382570 W	3247.73@ 78.82	0.20
10054.00	89.66	88.84	7046.10	31.00	3272.82	630.13 N 3217.13 E	32.91694781 N	104.09372470 W	3278.26@ 78.92	0.20
10085.00	89.50	89.12	7046.33	31.00	3303.60	630.68 N 3248.12 E	32.91694913 N	104.09362370 W	3308.79@ 79.01	1.04
10116.00	89.83	88.91	7046.51	31.00	3334.38	631.21 N 3278.12 E	32.91695040 N	104.09352269 W	3339.32@ 79.10	1.26
10147.00	89.55	89.50	7046.68	31.00	3365.15	631.64 N 3310.12 E	32.91695139 N	104.09342168 W	3369.84@ 79.20	2.11
10178.00	89.27	89.52	7047.00	31.00	3395.90	631.91 N 3341.11 E	32.91695192 N	104.09332067 W	3400.34@ 79.29	0.91
10209.00	89.27	88.93	7047.39	31.00	3426.66	632.32 N 3372.11 E	32.91695288 N	104.09321967 W	3430.88@ 79.38	1.90
10241.00	88.88	88.97	7047.91	32.00	3458.44	632.91 N 3404.10 E	32.91695429 N	104.09311541 W	3462.43@ 79.47	1.22
10272.00	89.05	89.72	7048.47	31.00	3489.19	633.27 N 3435.09 E	32.91695507 N	104.09301442 W	3492.97@ 79.55	2.48
10303.00	88.88	90.04	7049.03	31.00	3519.91	633.33 N 3466.08 E	32.91695506 N	104.09291341 W	3523.47@ 79.65	1.17
10334.00	90.00	90.31	7049.33	31.00	3550.61	633.24 N 3497.08 E	32.91695460 N	104.09281240 W	3553.95@ 79.74	3.72
10365.00	90.22	90.76	7049.27	31.00	3581.29	632.95 N 3528.08 E	32.91695361 N	104.09271139 W	3584.41@ 79.83	1.62
10396.00	89.83	90.73	7049.26	31.00	3611.94	632.54 N 3559.08 E	32.91695231 N	104.09261038 W	3614.85@ 79.92	1.26
10427.00	89.16	91.14	7049.53	31.00	3642.59	632.04 N 3590.07 E	32.91695073 N	104.09250939 W	3645.28@ 80.02	2.53
10459.00	88.88	91.18	7050.08	32.00	3674.19	631.39 N 3622.06 E	32.91694874 N	104.09240515 W	3676.68@ 80.11	0.88
10490.00	88.32	91.21	7050.84	31.00	3704.80	630.74 N 3653.05 E	32.91694677 N	104.09230419 W	3707.10@ 80.20	1.81
10521.00	88.77	90.26	7051.63	31.00	3735.45	630.35 N 3684.03 E	32.91694549 N	104.09220322 W	3737.57@ 80.29	3.39
10552.00	88.43	90.56	7052.38	31.00	3766.13	630.12 N 3715.02 E	32.91694468 N	104.09210223 W	3768.08@ 80.37	1.46
10583.00	89.61	90.34	7052.91	31.00	3796.80	629.88 N 3746.02 E	32.91694382 N	104.09200123 W	3798.60@ 80.46	3.87
10614.00	90.22	90.01	7052.96	31.00	3827.50	629.79 N 3777.02 E	32.91694336 N	104.09190022 W	3829.16@ 80.53	2.24
10645.00	90.00	90.34	7052.90	31.00	3858.20	629.69 N 3808.02 E	32.91694291 N	104.09179920 W	3859.73@ 80.61	1.28
10676.00	89.72	90.47	7052.98	31.00	3888.89	629.47 N 3839.01 E	32.91694211 N	104.09169818 W	3890.28@ 80.69	1.00

PathFinder Energy Services, Inc.

Survey Report

Mack Energy Corporation
Redskins Federal Com #2
Eddy COUNTY, New Mexico
RIG: Silver Oak 7

Page 10/10

Measured Depth (ft)	Incl (deg)	Drift Dir. (deg)	TVD (ft)	Course Length (ft)	Vertical Section (ft)	TOTAL Rectangular Offsets (ft) (ft)	Survey Latitude (deg)	Survey Longitude (deg)	Closure Dist Dir (ft) (deg)	DLS (dg/100ft)
10707.00	91.06	90.00	7052.76	31.00	3919.56	629.33 N 3970.01 E	32.91694152 N	104.09159717 W	3920.85@ 80.76	4.52
10738.00	91.68	89.70	7052.02	31.00	3950.26	629.38 N 3901.00 E	32.91694147 N	104.09149618 W	3951.45@ 80.83	2.24
10769.00	91.23	89.90	7051.22	31.00	3981.01	629.47 N 3931.99 E	32.91694153 N	104.09139520 W	3982.06@ 80.90	1.35
10800.00	91.57	89.88	7050.45	31.00	4011.72	629.53 N 3862.98 E	32.91694150 N	104.09129421 W	4012.67@ 80.97	0.91
10831.00	89.72	89.78	7050.10	31.00	4042.45	629.63 N 3593.98 E	32.91694156 N	104.09119320 W	4043.30@ 81.04	5.98
10862.00	88.60	89.66	7050.55	31.00	4073.18	629.78 N 4024.98 E	32.91694178 N	104.09109219 W	4073.95@ 81.11	3.63
10894.00	88.66	89.68	7051.32	32.00	4104.90	629.96 N 4056.97 E	32.91694208 N	104.09098795 W	4105.58@ 81.17	0.20
10925.00	88.43	89.96	7052.10	31.00	4135.62	630.03 N 4087.96 E	32.91694215 N	104.09088696 W	4136.22@ 81.24	1.17
10956.00	88.16	90.01	7053.03	31.00	4166.32	630.07 N 4118.94 E	32.91694198 N	104.09078599 W	4166.85@ 81.30	0.89
10987.00	88.21	89.90	7054.01	31.00	4197.02	630.09 N 4149.93 E	32.91694185 N	104.09068502 W	4197.49@ 81.37	0.39
11018.00	88.04	90.08	7055.02	31.00	4227.72	630.10 N 4180.91 E	32.91694167 N	104.09058405 W	4228.12@ 81.43	0.80
11050.00	87.98	89.79	7056.13	32.00	4259.41	630.13 N 4212.89 E	32.91694157 N	104.09047984 W	4259.76@ 81.49	0.93
11081.00	89.27	90.36	7056.88	31.00	4290.11	630.09 N 4243.88 E	32.91694126 N	104.09037885 W	4290.40@ 81.55	4.55
11107.00	90.48	90.17	7056.93	26.00	4315.86	629.97 N 4269.88 E	32.91694076 N	104.09029413 W	4316.10@ 81.61	4.71
11138.00	90.40	90.49	7056.70	31.00	4346.54	629.79 N 4300.88 E	32.91694008 N	104.09019312 W	4346.75@ 81.67	1.06
11169.00	90.31	90.63	7056.50	31.00	4377.21	629.48 N 4331.88 E	32.91693900 N	104.09009211 W	4377.37@ 81.73	0.71
11200.00	90.48	90.65	7056.29	31.00	4407.88	629.11 N 4362.87 E	32.91693781 N	104.08999110 W	4408.00@ 81.79	0.56
11231.00	90.66	90.73	7055.98	31.00	4438.54	628.74 N 4393.87 E	32.91693659 N	104.08989010 W	4438.63@ 81.86	0.64
11262.00	89.34	90.96	7055.98	31.00	4469.19	628.28 N 4424.87 E	32.91693513 N	104.08978909 W	4469.25@ 81.92	4.32
11293.00	88.99	89.80	7056.43	31.00	4499.87	628.08 N 4455.86 E	32.91693437 N	104.08968809 W	4499.91@ 81.98	3.91
11325.00	89.08	89.75	7056.97	32.00	4531.59	628.20 N 4487.86 E	32.91693451 N	104.08958383 W	4531.61@ 82.03	0.32
11356.00	88.99	90.09	7057.50	31.00	4562.30	628.25 N 4518.85 E	32.91693443 N	104.08948282 W	4562.31@ 82.09	1.14
11387.00	89.34	89.67	7057.95	31.00	4593.02	628.31 N 4549.85 E	32.91693442 N	104.08938182 W	4593.03@ 82.14	1.76
11411.00	89.43	89.17	7058.21	24.00	4616.83	628.55 N 4573.85 E	32.91693493 N	104.08930361 W	4616.83@ 82.18	2.12
STRAIGHT LINE PROJECTION TO BIT DEPTH AT 11502' MD.										
11502.00	89.43	89.17	7059.11	91.00	4707.16	629.87 N 4664.83 E	32.91693797 N	104.08900711 W	4707.16@ 82.31	0.00