



Directional Services

Job Number: 051117505003

Company: Yates Petroleum

Lease/Well: Koonunga Hill BGX Federal, Well #1

Location: Eddy County, NM

Rig Name: Patterson #512

RKB: 22'

G.L. or M.S.L.: GL

State/Country: New Mexico/USA

Declination: 8.70°

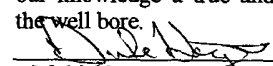
Grid: True North

File name: F:\2005SU~1\YATESD~1\KOONUNG1.SVY

Date/Time: 04-Jan-06 / 08:42

Curve Name: Surface - 3,990' M.D.

WINSERVE SURVEY CALCULATIONS
Minimum Curvature Method
Vertical Section Plane 334.09
Vertical Section Referenced to Wellhead
Rectangular Coordinates Referenced to Wellhead

We hereby certify that our survey data from
SURFACE MD to 3990' MD is, to the best of
our knowledge a true and accurate account of
the well bore.
 1/4/06
Multi-Shot Date

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	CLOSURE		Dogleg Severity Deg/100
							Distance FT	Direction Deg	
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
200.00	.25	7.13	200.00	.43	.05	.37	.44	7.13	.12
400.00	.25	256.88	400.00	.77	-.32	.83	.83	337.57	.21
600.00	.25	136.68	600.00	.35	-.44	.51	.56	308.39	.22
800.00	.25	244.47	800.00	-.16	-.54	.09	.56	253.88	.20
1000.00	.25	253.26	999.99	-.47	-1.35	.17	1.43	250.82	.02
1200.00	.75	23.05	1199.99	.61	-1.25	1.10	1.39	295.95	.47
1400.00	1.50	318.84	1399.96	3.79	-2.46	4.48	4.52	326.94	.68
1600.00	1.75	322.63	1599.88	8.18	-6.04	10.00	10.17	323.57	.14
1800.00	1.50	325.42	1799.79	12.77	-9.38	15.58	15.84	323.69	.13

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	C L O S U R E		Dogleg Severity Deg/100
							Distance FT	Direction Deg	
2000.00	1.25	307.22	1999.74	16.24	-12.60	20.11	20.56	322.19	.25
2200.00	1.00	306.01	2199.70	18.59	-15.75	23.60	24.36	319.72	.13
2400.00	1.50	302.83	2399.65	21.03	-19.36	27.38	28.59	317.37	.25
2600.00	1.25	284.68	2599.59	23.00	-23.67	31.03	33.01	314.18	.25
2800.00	1.50	312.51	2799.54	25.32	-27.71	34.89	37.54	312.42	.35
3000.00	1.75	293.36	2999.46	28.30	-32.45	39.64	43.06	311.10	.30
3200.00	1.75	287.21	3199.37	30.42	-38.17	44.04	48.81	308.56	.09
3400.00	1.50	281.05	3399.29	31.82	-43.65	47.70	54.02	306.09	.15
3600.00	2.00	290.89	3599.19	33.57	-49.48	51.82	59.80	304.15	.29
3800.00	2.00	304.73	3799.07	36.80	-55.61	57.40	66.69	303.50	.24
3900.00	2.25	302.57	3899.00	38.85	-58.70	60.60	70.39	303.50	.26
Last Survey Depth Recorded									
3990.00	2.25	304.25	3988.93	40.80	-61.65	63.64	73.93	303.50	.07

PathFinder

Survey Report

Company: Yates Petroleum Corporation	Date: 1/11/2006	Time: 09:39:41	Page: 1
Field: Section 19, T-22S R-25E (Koonunga #1)	Co-ordinate(NE) Reference: Field: Koonunga Hill "BGX" Fed. #1		
Site: Koonunga Hill "BGX" Fed. #1	Vertical (TVD) Reference: SITE 0.0		
Well: Koonunga Hill "BGX" Fed. #1	Section (VS) Reference: Well (0.00N,0.00E,334.09Azi)		
Wellpath: Koonunga Fed. #1	Survey Calculation Method: Minimum Curvature	Db: Sybase	

Field: Section 19, T-22S R-25E (Koonunga #1) Eddy County, New Mexico	Map System: US State Plane Coordinate System 1927	Map Zone: New Mexico, Eastern Zone
Geo Datum: NAD27 (Clarke 1866)	Coordinate System: Field Centre	
Sys Datum: Mean Sea Level	Geomagnetic Model: igrf2005	

Site: Koonunga Hill "BGX" Fed. #1 T-22S & R-25E 1072' FWL & 1838' FNL Section 19	Site Position:	North: 501781.50 ft	Latitude: 32 22 46.083 N
From: Map	Easting: 467233.70 ft	Longitude: 104 26 22.100 W	
Position Uncertainty: 0.00 ft		North Reference: True	
Ground Level: 3883.00 ft		Grid Convergence: -0.06 deg	

Well: Koonunga Hill "BGX" Fed. #1	Slot Name:
Well Position: +N/-S 0.00 ft North: 501781.50 ft	Latitude: 32 22 46.083 N
+E/-W 0.00 ft Easting: 467233.70 ft	Longitude: 104 26 22.100 W
Position Uncertainty: 0.00 ft	

Wellpath: Koonunga Fed. #1	Drilled From: Surface
Current Datum: SITE	Tie-on Depth: 0.00 ft
Magnetic Data: 11/14/2005	Above System Datum: Mean Sea Level
Field Strength: 49206 nT	Declination: 8.64 deg
Vertical Section: Depth From (TVD)	Mag Dip Angle: 60.31 deg
ft	+E/-W
	ft
	Direction
	deg
0.00	0.00
0.00	0.00
0.00	334.09

Survey: Pathfinder MWD Survey	Start Date: 1/2/2006
Company: PathFinder Energy Services	Engineer: Doug Tanner
Tool:	Tied-to: From: Gyro Survey

Survey: Pathfinder MWD Survey										
MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	Tool/Comment
3990.00	2.25	304.25	3988.93	40.80	-61.65	63.64	0.00	0.00	0.00	
4086.00	3.87	326.78	4084.80	44.57	-64.98	68.48	2.07	1.69	23.47	
4182.00	4.75	329.24	4180.52	50.70	-68.79	75.66	0.94	0.92	2.56	
4254.00	5.10	337.33	4252.26	56.21	-71.55	81.82	1.08	0.49	11.24	
4289.00	5.63	336.98	4287.11	59.23	-72.82	85.09	1.52	1.51	-1.00	
4385.00	7.39	339.09	4382.48	69.33	-76.86	95.95	1.85	1.83	2.20	
4449.00	8.27	340.14	4445.89	77.50	-79.90	104.62	1.39	1.37	1.64	
4513.00	8.97	339.09	4509.16	86.49	-83.24	114.17	1.12	1.09	-1.64	
4576.00	10.21	339.44	4571.28	96.31	-86.96	124.62	1.97	1.97	0.56	
4639.00	10.91	339.09	4633.21	107.11	-91.04	136.12	1.12	1.11	-0.56	
4703.00	11.61	339.09	4695.98	118.78	-95.50	148.57	1.09	1.09	0.00	
4766.00	12.67	337.68	4757.57	131.09	-100.39	161.78	1.75	1.68	-2.24	
4829.00	13.55	334.87	4818.93	144.17	-106.15	176.06	1.72	1.40	-4.46	
4924.00	13.72	332.41	4911.25	164.23	-116.09	198.45	0.64	0.18	-2.59	
5019.00	12.49	334.17	5003.78	183.46	-125.79	219.98	1.36	-1.29	1.85	
5112.00	12.14	336.28	5094.64	201.46	-134.10	239.81	0.61	-0.38	2.27	
5206.00	13.20	338.39	5186.35	220.49	-142.03	260.39	1.23	1.13	2.24	
5302.00	14.08	341.20	5279.64	241.74	-149.83	282.91	1.15	0.92	2.93	
5397.00	13.02	339.44	5372.00	262.70	-157.31	305.03	1.20	-1.12	-1.85	
5491.00	15.13	339.44	5463.17	284.10	-165.34	327.79	2.24	2.24	0.00	
5587.00	14.25	341.55	5556.03	307.04	-173.48	351.98	1.07	-0.92	2.20	
5682.00	13.90	345.42	5648.18	329.17	-180.05	374.76	1.06	-0.37	4.07	
5778.00	14.08	345.77	5741.33	351.65	-185.83	397.50	0.21	0.19	0.36	
5872.00	12.84	344.01	5832.75	372.78	-191.52	418.99	1.39	-1.32	-1.87	

PathFinder

Survey Report

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Well: Koonunga Hill "BGX" Fed. #1	Section (VS) Reference:	Well (0.00N,0.00E,334.09Azi)	
Wellpath: Koonunga Fed. #1	Survey Calculation Method:	Minimum Curvature	Db: Sybase

Survey: Pathfinder MWD Survey

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	Tool/Comment
5904.00	13.37	343.31	5863.92	379.74	-193.56	426.15	1.73	1.66	-2.19	
5936.00	13.72	341.90	5895.03	386.89	-195.80	433.56	1.50	1.09	-4.41	
6031.00	13.20	339.79	5987.42	407.78	-203.05	455.51	0.75	-0.55	-2.22	
6126.00	13.90	339.09	6079.77	428.62	-210.87	477.67	0.76	0.74	-0.74	
6221.00	12.84	339.79	6172.20	449.18	-218.59	499.54	1.13	-1.12	0.74	
6317.00	13.72	343.31	6265.63	470.10	-225.54	521.40	1.24	0.92	3.67	
6381.00	13.20	342.60	6327.87	484.34	-229.90	536.12	0.85	-0.81	-1.11	
6445.00	13.72	344.01	6390.11	498.61	-234.18	550.82	0.96	0.81	2.20	
6540.00	15.48	345.07	6482.04	521.69	-240.55	574.36	1.87	1.85	1.12	
6635.00	14.08	344.36	6573.90	545.07	-246.93	598.18	1.49	-1.47	-0.75	
6731.00	13.90	343.31	6667.05	567.36	-253.39	621.05	0.32	-0.19	-1.09	
6825.00	13.90	341.20	6758.30	588.87	-260.27	643.40	0.54	0.00	-2.24	
6920.00	14.43	341.90	6850.41	610.92	-267.63	666.45	0.59	0.56	0.74	
7016.00	13.37	340.50	6943.60	632.75	-275.05	689.33	1.16	-1.10	-1.46	
7112.00	11.79	345.42	7037.29	652.71	-281.22	709.98	1.99	-1.65	5.12	
7207.00	11.26	347.53	7130.38	671.16	-285.67	728.52	0.71	-0.56	2.22	
7303.00	10.03	345.07	7224.72	688.39	-289.85	745.84	1.37	-1.28	-2.56	
7398.00	9.33	339.09	7318.37	703.57	-294.73	761.64	1.29	-0.74	-6.29	
7493.00	7.92	341.90	7412.30	716.99	-299.51	775.79	1.55	-1.48	2.96	
7589.00	7.04	339.79	7507.48	728.80	-303.60	788.20	0.96	-0.92	-2.20	
7684.00	6.16	340.14	7601.85	739.06	-307.34	799.06	0.93	-0.93	0.37	
7780.00	5.45	340.50	7697.35	748.20	-310.61	808.71	0.74	-0.74	0.37	
7875.00	3.52	338.03	7792.06	755.16	-313.21	816.11	2.04	-2.03	-2.60	
7970.00	1.41	329.95	7886.97	758.87	-314.89	820.18	2.25	-2.22	-8.51	
8002.00	1.06	331.00	7918.96	759.47	-315.23	820.87	1.10	-1.09	3.28	