



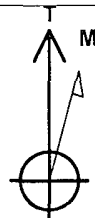
Project: Eddy County, NM
 Site: Sec 8-T24S-R29E
 Well: Balsam BNL Federal Com #1H
 Wellbore: Hz
 Design: Hz



DESIGN DETAILS Hz

WELL @ 3008 0ft (Original Well Elev)

Target	Azimuth	Origin	Type	V/SE/W	From	TVD
No Target (Freehand)	270.22	Slot	0.0	0.0	0.0	0.0



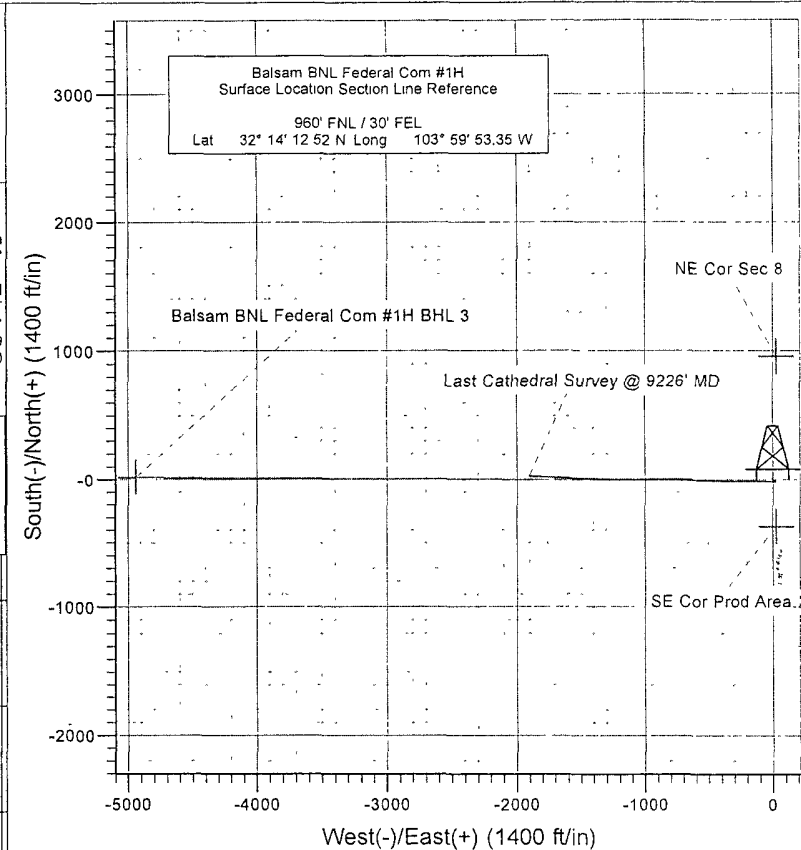
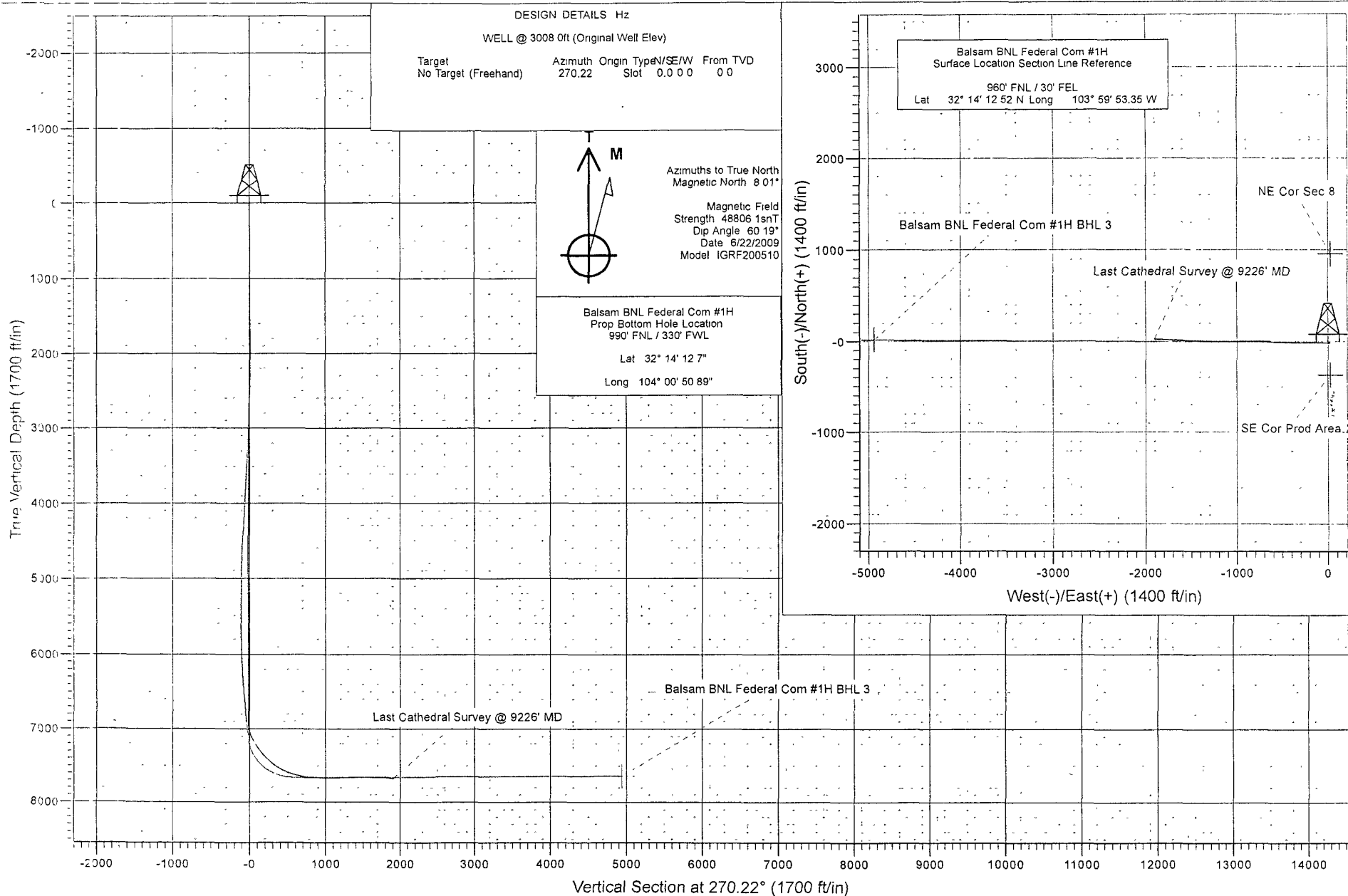
Azimuths to True North
 Magnetic North 8.01°

Magnetic Field
 Strength 48806 1snT
 Dip Angle 60.19°
 Date 6/22/2009
 Model IGRF200510

Balsam BNL Federal Com #1H
 Prop Bottom Hole Location
 990' FNL / 330' FVFL

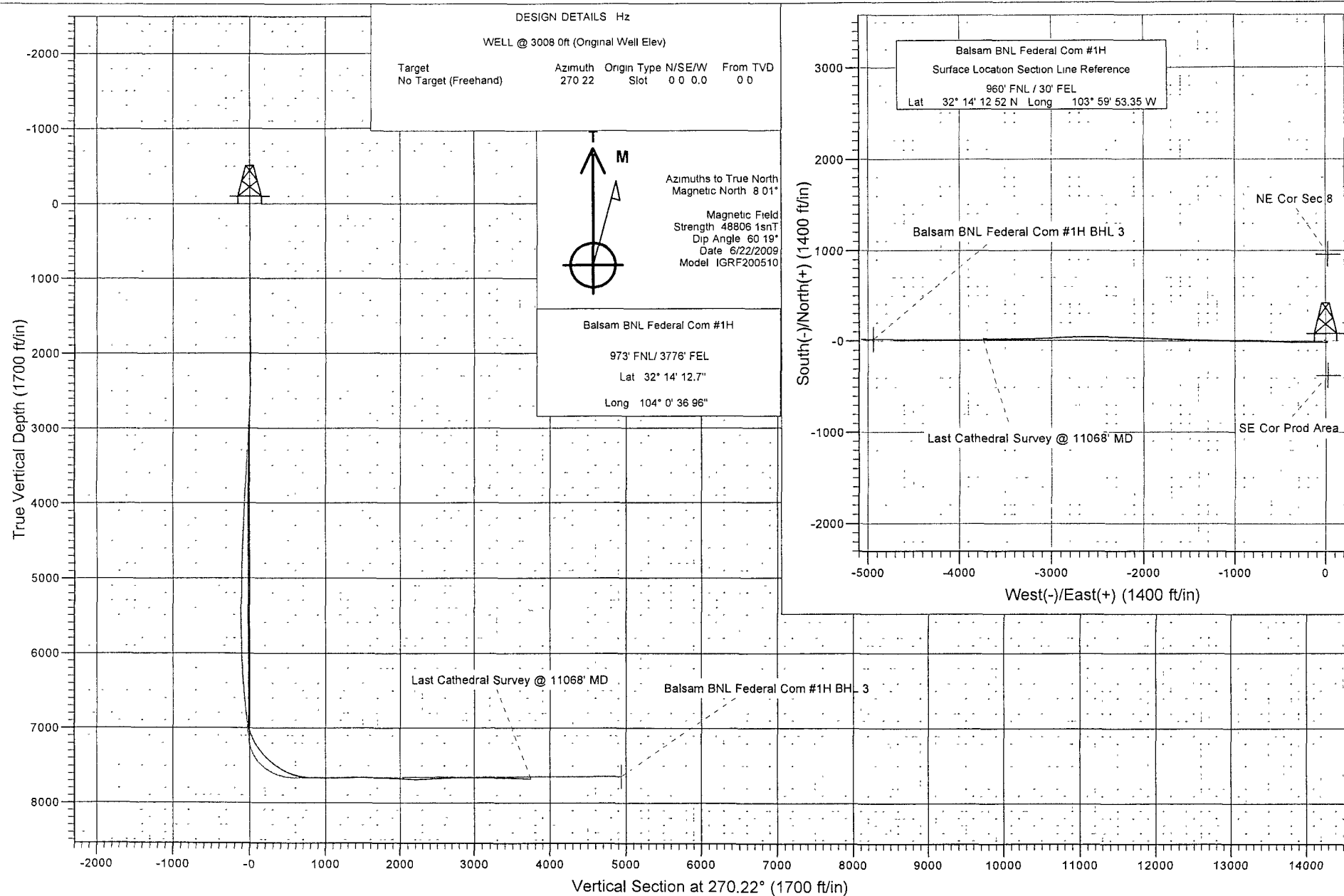
Lat 32° 14' 12.7"

Long 104° 00' 50.89"





Project: Eddy County, NM
Site: Sec 8-T24S-R29E
Well: Balsam BNL Federal Com #1H
Wellbore: Hz
Design: Final Survey



Directional Plus

Survey Report

Company:	Yates Petroleum Corp.	Local Co-ordinate Reference:	Well Balsam BNL Federal Com #1H
Project:	Eddy County, NM	TVD Reference:	WELL @ 3008.0ft (Original Well Elev)
Site:	Sec 8-T24S-R29E	MD Reference:	WELL @ 3008.0ft (Original Well Elev)
Well:	Balsam BNL Federal Com #1H	North Reference:	True
Wellbore:	Hz	Survey Calculation Method:	Minimum Curvature
Design:	Hz	Database:	EDM 2003.21 US Multi User Db

Project:	Eddy County, NM		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site		Sec 8-T24S-R29E			
Site Position:		Northing:	450,048.06ft	Latitude:	32° 14' 12.52 N
From:	Lat/Long	Easting:	644,973.08 ft	Longitude:	103° 59' 53.35 W
Position Uncertainty:	0.0 ft	Slot Radius:	in	Grid Convergence:	0.18 °

Well	Balsam BNL Federal Com #1H					
Well Position	+N/-S	0 0 ft	Northing:	450,048 06 ft	Latitude:	32° 14' 12 52 N
	+E/-W	0 0 ft	Easting:	644,973 08 ft	Longitude:	103° 59' 53 35 W
Position Uncertainty		0 0 ft	Wellhead Elevation:	ft	Ground Level:	2,990.0 ft

Wellbore	Hz				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	6/22/2009	8 01	60.19	48,806

Design:	Hz				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction	
	(ft)	(ft)	(ft)	(°)	
	0.0	0.0	0.0	270.22	

Survey Program		Date: 7/30/2009		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
202.0	388.0	Survey #1 (Hz)	GYRO	GYRO
649.0	2,765.0	Survey #2 (Hz)	MWD	Geolink MWD
2,998.0	6,636.0	Survey #3 (Hz)	GYRO	GYRO
6,819.0	11,068.0	Survey #4 (Hz)	MWD	Geolink MWD

Survey									
Measured			Vertical			Vertical	Dogleg	Build	Formations /
Depth	Inclination	Azimuth	Depth	+N/-S	+E/-W	Section	Rate	Rate	Comments
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(°/100ft)	(°/100ft)	
6,636.0	0.80	199.80	6,635.4	-20.9	15.2	-15.3	0.00	0.00	
6,819.0	1.20	33.50	6,818.4	-20.5	15.9	-15.9	1.09	0.22	
6,883.0	1.30	13.20	6,882.4	-19.3	16.4	-16.5	0.71	0.16	
6,914.0	1.10	358.30	6,913.4	-18.6	16.5	-16.5	1.19	-0.65	
6,946.0	3.00	294.40	6,945.3	-18.0	15.7	-15.8	8.45	5.94	
6,978.0	8.10	280.30	6,977.2	-17.2	12.7	-12.8	16.38	15.94	
7,009.0	12.40	278.80	7,007.7	-16.3	7.3	-7.3	13.90	13.87	
7,041.0	16.30	276.50	7,038.7	-15.3	-0.6	0.5	12.31	12.19	
7,073.0	19.30	274.10	7,069.1	-14.4	-10.3	10.3	9.65	9.37	
7,104.0	21.90	273.90	7,098.1	-13.6	-21.2	21.2	8.39	8.39	

Directional Plus

Survey Report

Company:	Yates Petroleum Corp.	Local Co-ordinate Reference:	Well Balsam BNL Federal Com #1H
Project:	Eddy County, NM	TVD Reference:	WELL @ 3008.0ft (Original Well Elev)
Site:	Sec 8-T24S-R29E	MD Reference:	WELL @ 3008.0ft (Original Well Elev)
Well:	Balsam BNL Federal Com #1H	North Reference:	True
Wellbore:	H2	Survey Calculation Method:	Minimum Curvature
Design:	H2	Database:	EDM 2003.21 US Multi User Db

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Formations / Comments
7,136.0	24.20	272.50	7,127.6	-12.9	-33.7	33.7	7.39	7.19	
7,168.0	26.60	271.80	7,156.5	-12.4	-47.4	47.4	7.56	7.50	
7,199.0	28.90	271.70	7,183.9	-12.0	-61.9	61.8	7.42	7.42	
7,231.0	30.90	271.10	7,211.7	-11.6	-77.8	77.8	6.32	6.25	
7,263.0	33.00	270.80	7,238.8	-11.3	-94.7	94.7	6.58	6.56	
7,294.0	35.00	270.80	7,264.5	-11.1	-112.1	112.0	6.45	6.45	
7,326.0	36.00	269.10	7,290.6	-11.1	-130.7	130.6	4.39	3.12	
7,358.0	36.70	269.20	7,316.3	-11.4	-149.6	149.6	2.20	2.19	
7,389.0	38.70	268.60	7,340.9	-11.7	-168.6	168.5	6.56	6.45	
7,421.0	41.80	269.20	7,365.3	-12.1	-189.2	189.2	9.76	9.69	
7,453.0	44.70	269.20	7,388.6	-12.4	-211.2	211.1	9.06	9.06	
7,484.0	46.10	268.40	7,410.4	-12.9	-233.2	233.2	4.88	4.52	
7,516.0	46.80	267.80	7,432.4	-13.7	-256.4	256.4	2.58	2.19	
7,548.0	48.40	269.20	7,454.0	-14.3	-280.0	280.0	5.95	5.00	
7,579.0	50.40	269.60	7,474.2	-14.5	-303.6	303.5	6.53	6.45	
7,611.0	52.70	271.50	7,494.1	-14.3	-328.6	328.6	8.56	7.19	
7,643.0	55.00	272.10	7,512.9	-13.5	-354.4	354.4	7.35	7.19	
7,674.0	56.90	271.90	7,530.3	-12.6	-380.1	380.1	6.15	6.13	
7,706.0	58.50	271.80	7,547.4	-11.7	-407.1	407.1	5.01	5.00	
7,738.0	61.10	271.50	7,563.5	-10.9	-434.8	434.7	8.17	8.12	
7,769.0	63.70	272.80	7,577.8	-9.9	-462.2	462.2	9.17	8.39	
7,801.0	66.50	274.70	7,591.3	-8.0	-491.2	491.2	10.27	8.75	
7,833.0	68.60	274.50	7,603.5	-5.6	-520.7	520.6	6.59	6.56	
7,871.0	70.80	272.90	7,616.7	-3.3	-556.2	556.2	7.01	5.79	
7,902.0	74.20	273.60	7,626.0	-1.6	-585.7	585.7	11.18	10.97	
7,934.0	77.20	273.60	7,633.9	0.3	-616.7	616.7	9.37	9.37	
7,966.0	78.00	272.90	7,640.8	2.1	-647.9	647.9	3.29	2.50	
7,997.0	79.30	271.70	7,646.9	3.3	-678.3	678.3	5.66	4.19	
8,029.0	81.00	270.70	7,652.4	4.0	-709.8	709.8	6.14	5.31	
8,061.0	84.00	271.70	7,656.6	4.6	-741.5	741.5	9.87	9.37	
8,092.0	86.90	271.30	7,659.0	5.4	-772.4	772.4	9.44	9.35	
8,124.0	87.30	271.10	7,660.6	6.1	-804.3	804.4	1.40	1.25	
8,156.0	88.80	270.40	7,661.7	6.5	-836.3	836.3	5.17	4.69	
8,187.0	89.10	269.20	7,662.3	6.4	-867.3	867.3	3.99	0.97	
8,219.0	87.70	268.10	7,663.2	5.7	-899.3	899.3	5.56	-4.37	
8,251.0	87.50	267.80	7,664.5	4.5	-931.2	931.2	1.13	-0.62	
8,282.0	89.10	267.70	7,665.5	3.3	-962.2	962.2	5.17	5.16	
8,308.0	89.50	268.90	7,665.8	2.5	-988.2	988.2	4.86	1.54	
8,340.0	89.70	269.20	7,666.0	2.0	-1,020.2	1,020.2	1.13	0.62	
8,371.0	90.60	270.00	7,665.9	1.8	-1,051.2	1,051.2	3.88	2.90	
8,403.0	91.00	269.20	7,665.5	1.6	-1,083.2	1,083.2	2.79	1.25	
8,434.0	91.00	270.00	7,664.9	1.3	-1,114.2	1,114.2	2.58	0.00	
8,466.0	93.00	270.60	7,663.8	1.5	-1,146.1	1,146.1	6.52	6.25	
8,497.0	93.20	270.70	7,662.1	1.9	-1,177.1	1,177.1	0.72	0.65	
8,529.0	93.20	271.40	7,660.4	2.4	-1,209.0	1,209.0	2.18	0.00	
8,561.0	93.10	271.80	7,658.6	3.3	-1,241.0	1,241.0	1.29	-0.31	
8,592.0	92.80	272.10	7,657.0	4.4	-1,271.9	1,271.9	1.37	-0.97	
8,624.0	91.70	271.40	7,655.7	5.4	-1,303.9	1,303.9	4.07	-3.44	
8,656.0	90.40	270.70	7,655.2	6.0	-1,335.9	1,335.9	4.61	-4.06	
8,687.0	90.40	272.30	7,654.9	6.8	-1,366.9	1,366.9	5.16	0.00	
8,719.0	89.70	271.20	7,654.9	7.7	-1,398.8	1,398.9	4.07	-2.19	
8,751.0	89.70	271.20	7,655.1	8.4	-1,430.8	1,430.9	0.00	0.00	
8,783.0	89.80	271.40	7,655.2	9.1	-1,462.8	1,462.9	0.70	0.31	

Directional Plus

Survey Report

Company:	Yates Petroleum Corp	Local/Co-ordinate Reference:	Well Balsam BNL Federal Com #1H
Project:	Eddy County, NM	TVD Reference:	WELL @ 3008.0ft (Original Well Elev)
Site:	Sec 8-T24S-R29E	MD Reference:	WELL @ 3008.0ft (Original Well Elev)
Well:	Balsam BNL Federal Com #1H	North Reference:	True
Wellbore:	Hz	Survey Calculation Method:	Minimum Curvature
Design:	Hz	Database:	EDM 2003 21 US Multi User Db

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Formations / Comments
8,814.0	89.60	271.40	7,655.4	9.9	-1,493.8	1,493.8	0.65	-0.65	
8,846.0	89.70	272.60	7,655.6	11.0	-1,525.8	1,525.8	3.76	0.31	
8,878.0	89.40	272.50	7,655.8	12.4	-1,557.8	1,557.8	0.99	-0.94	
8,909.0	88.70	271.40	7,656.3	13.5	-1,588.7	1,588.8	4.21	-2.26	
8,941.0	89.00	273.00	7,657.0	14.7	-1,620.7	1,620.8	5.09	0.94	
8,973.0	88.30	272.30	7,657.7	16.2	-1,652.7	1,652.7	3.09	-2.19	
9,004.0	88.30	272.10	7,658.7	17.4	-1,683.6	1,683.7	0.64	0.00	
9,036.0	88.50	273.00	7,659.5	18.8	-1,715.6	1,715.6	2.88	0.62	
9,067.0	88.30	272.70	7,660.4	20.4	-1,746.5	1,746.6	1.16	-0.65	
9,099.0	88.10	273.20	7,661.4	22.0	-1,778.5	1,778.5	1.68	-0.62	
9,131.0	87.60	273.00	7,662.6	23.7	-1,810.4	1,810.5	1.68	-1.56	
9,163.0	87.20	272.50	7,664.1	25.3	-1,842.3	1,842.4	2.00	-1.25	
9,194.0	86.80	272.50	7,665.7	26.6	-1,873.3	1,873.4	1.29	-1.29	
9,226.0	86.60	272.80	7,667.5	28.1	-1,905.2	1,905.3	1.13	-0.62	
9,258.0	86.10	272.00	7,669.6	29.4	-1,937.1	1,937.2	2.94	-1.56	
9,289.0	86.00	269.20	7,671.7	29.8	-1,968.0	1,968.1	9.02	-0.32	
9,321.0	86.60	272.50	7,673.8	30.2	-1,999.9	2,000.0	10.46	1.87	
9,353.0	86.70	272.10	7,675.6	31.5	-2,031.9	2,032.0	1.29	0.31	
9,385.0	87.40	272.60	7,677.3	32.8	-2,063.8	2,063.9	2.69	2.19	
9,416.0	87.50	272.00	7,678.7	34.1	-2,094.7	2,094.8	1.96	0.32	
9,448.0	87.90	271.80	7,680.0	35.1	-2,126.7	2,126.8	1.40	1.25	
9,479.0	88.20	271.80	7,681.0	36.1	-2,157.7	2,157.8	0.97	0.97	
9,511.0	89.00	272.20	7,681.8	37.2	-2,189.6	2,189.7	2.79	2.50	
9,543.0	90.30	272.90	7,682.0	38.6	-2,221.6	2,221.7	4.61	4.06	
9,575.0	91.20	272.90	7,681.6	40.3	-2,253.5	2,253.7	2.81	2.81	
9,606.0	91.40	272.50	7,680.9	41.7	-2,284.5	2,284.6	1.44	0.65	
9,638.0	92.50	272.70	7,679.8	43.2	-2,316.5	2,316.6	3.49	3.44	
9,675.0	93.20	271.40	7,677.9	44.5	-2,353.4	2,353.5	3.99	1.89	
9,707.0	93.40	271.40	7,676.1	45.3	-2,385.3	2,385.5	0.62	0.62	
9,739.0	93.00	271.00	7,674.3	45.9	-2,417.3	2,417.4	1.77	-1.25	
9,770.0	92.60	271.10	7,672.8	46.5	-2,448.2	2,448.4	1.33	-1.29	
9,802.0	92.60	270.70	7,671.3	47.0	-2,480.2	2,480.3	1.25	0.00	
9,833.0	93.10	270.60	7,669.8	47.4	-2,511.1	2,511.3	1.64	1.61	
9,865.0	93.30	270.60	7,668.0	47.7	-2,543.1	2,543.3	0.62	0.62	
9,897.0	93.00	269.40	7,666.3	47.7	-2,575.0	2,575.2	3.86	-0.94	
9,928.0	92.40	269.10	7,664.8	47.3	-2,606.0	2,606.2	2.16	-1.94	
9,960.0	92.00	268.50	7,663.6	46.6	-2,638.0	2,638.1	2.25	-1.25	
9,992.0	91.70	268.50	7,662.5	45.8	-2,669.9	2,670.1	0.94	-0.94	
10,023.0	91.20	267.80	7,661.7	44.8	-2,700.9	2,701.1	2.77	-1.61	
10,055.0	91.20	268.30	7,661.1	43.7	-2,732.9	2,733.0	1.56	0.00	
10,086.0	91.20	268.10	7,660.4	42.7	-2,763.9	2,764.0	0.65	0.00	
10,118.0	90.90	267.80	7,659.8	41.6	-2,795.8	2,796.0	1.33	-0.94	
10,150.0	90.40	267.50	7,659.5	40.3	-2,827.8	2,827.9	1.82	-1.56	
10,181.0	90.20	267.60	7,659.3	38.9	-2,858.8	2,858.9	0.72	-0.65	
10,213.0	89.70	267.50	7,659.3	37.6	-2,890.8	2,890.9	1.59	-1.56	
10,245.0	89.60	267.50	7,659.5	36.2	-2,922.7	2,922.8	0.31	-0.31	
10,276.0	89.20	267.50	7,659.9	34.8	-2,953.7	2,953.8	1.29	-1.29	
10,308.0	89.20	267.20	7,660.3	33.3	-2,985.7	2,985.8	0.94	0.00	
10,340.0	89.00	267.20	7,660.8	31.8	-3,017.6	3,017.7	0.62	-0.62	
10,371.0	89.10	267.40	7,661.3	30.3	-3,048.6	3,048.7	0.72	0.32	
10,403.0	89.70	267.90	7,661.7	29.0	-3,080.5	3,080.6	2.44	1.87	
10,435.0	89.70	267.70	7,661.8	27.8	-3,112.5	3,112.6	0.62	0.00	
10,466.0	89.80	267.80	7,662.0	26.6	-3,143.5	3,143.6	0.46	0.32	

Directional Plus

Survey Report

Company:	Yates/Petroleum Corp	Local Co-ordinate Reference:	Well/Balsam BNL Federal Com #1H
Project:	Eddy County NM	TVD Reference:	WELL @ 3008 0ft (Original Well Elev)
Site:	Sec 8-T24S-R29E	MD Reference:	WELL @ 3008 0ft (Original Well Elev)
Well:	Balsam BNL Federal Com #1H	North Reference:	True
Wellbore:	HZ	Survey Calculation Method:	Minimum Curvature
Design:	HZ	Database:	EDM 2003.21 US Multi User Db

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Formations / Comments
10,498.0	89.90	268.50	7,662.1	25.5	-3,175.5	3,175.6	2.21	0.31	
10,530.0	89.80	268.40	7,662.1	24.7	-3,207.5	3,207.5	0.44	-0.31	
10,561.0	90.10	269.20	7,662.2	24.0	-3,238.5	3,238.5	2.76	0.97	
10,593.0	89.70	268.50	7,662.2	23.4	-3,270.5	3,270.5	2.52	-1.25	
10,624.0	89.60	268.60	7,662.4	22.6	-3,301.4	3,301.5	0.46	-0.32	
10,656.0	89.50	269.20	7,662.7	22.0	-3,333.4	3,333.5	1.90	-0.31	
10,688.0	89.00	268.60	7,663.1	21.4	-3,365.4	3,365.5	2.44	-1.56	
10,719.0	88.80	269.10	7,663.7	20.7	-3,396.4	3,396.5	1.74	-0.65	
10,751.0	89.00	269.70	7,664.3	20.4	-3,428.4	3,428.5	1.98	0.62	
10,783.0	88.80	269.60	7,664.9	20.2	-3,460.4	3,460.5	0.70	-0.62	
10,814.0	88.80	270.00	7,665.6	20.1	-3,491.4	3,491.4	1.29	0.00	
10,846.0	88.50	269.70	7,666.3	20.0	-3,523.4	3,523.4	1.33	-0.94	
10,878.0	88.40	270.40	7,667.2	20.0	-3,555.4	3,555.4	2.21	-0.31	
10,910.0	87.90	270.10	7,668.2	20.2	-3,587.4	3,587.4	1.82	-1.56	
10,941.0	87.60	270.70	7,669.4	20.4	-3,618.3	3,618.4	2.16	-0.97	
10,973.0	87.60	271.10	7,670.8	20.9	-3,650.3	3,650.4	1.25	0.00	
11,005.0	87.70	271.00	7,672.1	21.5	-3,682.3	3,682.3	0.44	0.31	
11,036.0	87.50	271.30	7,673.4	22.1	-3,713.2	3,713.3	1.16	-0.65	
11,068.0	87.60	270.80	7,674.7	22.7	-3,745.2	3,745.3	1.59	0.31	Last Cathedral Survey @ 11068' MD

Targets

Target Name	hit/miss/target Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
NW Cor Sec 8	- survey misses target center by 15314.9ft at 6636.0ft MD (6635.4 TVD, -20.9 N, 15.2 E) - Point	0.00	0.00	-7,700.0	1,011.8	-5,274.0	451,043.41	639,695.96	32° 14' 22.53 N	104° 0' 54.76 W
Balsam BNL Federal Co	- survey misses target center by 1197.2ft at 11068 0ft MD (7674.7 TVD, 22.7 N, -3745.2 E) - Point	0.00	0.00	7,640.0	18.6	-4,941.9	450,051.20	640,031.12	32° 14' 12.70 N	104° 0' 50.89 W
SE Cor Prod Area	- survey misses target center by 14339.6ft at 6636.0ft MD (6635.4 TVD, -20.9 N, 15.2 E) - Point	0.00	0.00	-7,700.0	-368.8	29.1	449,679.34	645,003.37	32° 14' 8.87 N	103° 59' 53.01 W
SW Cor Prod Area	- survey misses target center by 15282.4ft at 6636.0ft MD (6635.4 TVD, -20.9 N, 15.2 E) - Point	0.00	0.00	-7,700.0	-316.0	-5,272.7	449,715.60	639,701.40	32° 14' 9.39 N	104° 0' 54.74 W
NE Cor Sec 8	- survey misses target center by 14368.8ft at 6636.0ft MD (6635.4 TVD, -20.9 N, 15.2 E) - Point	0.00	0.00	-7,700.0	958.7	27.5	451,006.82	644,997.64	32° 14' 22.01 N	103° 59' 53.03 W

Survey Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates	+N/-S (ft)	+E/-W (ft)	Comment
11,068.0	7,674.7		22.7	-3,745.2	Last Cathedral Survey @ 11068' MD

Checked By _____ Approved By _____ Date _____

Directional Plus

Survey Report

Company: Yates Petroleum Corp.
Project: Eddy County, NM
Site: Sec 8-T24S-R29E
Well: Balsam BNL Federal Com #1H
Wellbore: Hz
Design: Hz

Local Co-ordinate Reference: Well Balsam BNL Federal Com #1H
TVD Reference: WELL @ 3008.0ft (Original Well Elev)
MD Reference: WELL @ 3008.0ft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: EDM 2003.21 US Multi User Db

Project Eddy County, NM

Map System: US State Plane 1983
Geo Datum: North American Datum 1983
Map Zone: New Mexico Eastern Zone

System Datum: Mean Sea Level

Site Sec 8-T24S-R29E

Site Position:		Northing:	450,048.06 ft	Latitude:	32° 14' 12.52 N
From:	Lat/Long	Easting:	644,973.08 ft	Longitude:	103° 59' 53.35 W
Position Uncertainty:					

Well Balsam BNL Federal Com #1H

Well Position	+N/-S	0.0 ft	Northing:	450,048.06 ft	Latitude:	32° 14' 12.52 N
	+E/-W	0.0 ft	Easting:	644,973.08 ft	Longitude:	103° 59' 53.35 W
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	2,990.0 ft

Wellbore Hz

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	6/22/2009	8.01	60.19	48,806

Design Hz

Audit Notes:

Version: 1.0 **Phase:** ACTUAL **Tie On Depth:** 0.0

Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(ft)	(ft)	(ft)	(°)
	0.0	0.0	0.0	270.22

Survey Program **Date** 7/30/2009

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
202.0	388.0	Survey #1 (Hz)	GYRO	GYRO

649.0	2,765.0	Survey #2 (Hz)	MWD	Geolink MWD
2,998.0	6,636.0	Survey #3 (Hz)	GYRO	GYRO
6,819.0	11,068.0	Survey #4 (Hz)	MWD	Geolink MWD

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Formations / Comments
6,636.0	0.80	199.80	6,635.4	-20.9	15.2	-15.3	0.00	0.00	
6,819.0	1.20	33.50	6,818.4	-20.5	15.9	-15.9	1.09	0.22	
6,883.0	1.30	13.20	6,882.4	-19.3	16.4	-16.5	0.71	0.16	
6,914.0	1.10	358.30	6,913.4	-18.6	16.5	-16.5	1.19	-0.65	
6,946.0	3.00	294.40	6,945.3	-18.0	15.7	-15.8	8.45	5.94	
6,978.0	8.10	280.30	6,977.2	-17.2	12.7	-12.8	16.38	15.94	
7,009.0	12.40	278.80	7,007.7	-16.3	7.3	-7.3	13.90	13.87	
7,041.0	16.30	276.50	7,038.7	-15.3	-0.6	0.5	12.31	12.19	
7,073.0	19.30	274.10	7,069.1	-14.4	-10.3	10.3	9.65	9.37	
7,104.0	21.90	273.90	7,098.1	-13.6	-21.2	21.2	8.39	8.39	

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Formations / Comments
7,136.0	24.20	272.50	7,127.6	-12.9	-33.7	33.7	7.39	7.19	
7,168.0	26.60	271.80	7,156.5	-12.4	-47.4	47.4	7.56	7.50	
7,199.0	28.90	271.70	7,183.9	-12.0	-61.9	61.8	7.42	7.42	
7,231.0	30.90	271.10	7,211.7	-11.6	-77.8	77.8	6.32	6.25	
7,263.0	33.00	270.80	7,238.8	-11.3	-94.7	94.7	6.58	6.56	
7,294.0	35.00	270.80	7,264.5	-11.1	-112.1	112.0	6.45	6.45	
7,326.0	36.00	269.10	7,290.6	-11.1	-130.7	130.6	4.39	3.12	
7,358.0	36.70	269.20	7,316.3	-11.4	-149.6	149.6	2.20	2.19	
7,389.0	38.70	268.60	7,340.9	-11.7	-168.6	168.5	6.56	6.45	
7,421.0	41.80	269.20	7,365.3	-12.1	-189.2	189.2	9.76	9.69	
7,453.0	44.70	269.20	7,388.6	-12.4	-211.2	211.1	9.06	9.06	
7,484.0	46.10	268.40	7,410.4	-12.9	-233.2	233.2	4.88	4.52	
7,516.0	46.80	267.80	7,432.4	-13.7	-256.4	256.4	2.58	2.19	
7,548.0	48.40	269.20	7,454.0	-14.3	-280.0	280.0	5.95	5.00	
7,579.0	50.40	269.60	7,474.2	-14.5	-303.6	303.5	6.53	6.45	
7,611.0	52.70	271.50	7,494.1	-14.3	-328.6	328.6	8.56	7.19	
7,643.0	55.00	272.10	7,512.9	-13.5	-354.4	354.4	7.35	7.19	
7,674.0	56.90	271.90	7,530.3	-12.6	-380.1	380.1	6.15	6.13	
7,706.0	58.50	271.80	7,547.4	-11.7	-407.1	407.1	5.01	5.00	
7,738.0	61.10	271.50	7,563.5	-10.9	-434.8	434.7	8.17	8.12	
7,769.0	63.70	272.80	7,577.8	-9.9	-462.2	462.2	9.17	8.39	
7,801.0	66.50	274.70	7,591.3	-8.0	-491.2	491.2	10.27	8.75	
7,833.0	68.60	274.50	7,603.5	-5.6	-520.7	520.6	6.59	6.56	
7,871.0	70.80	272.90	7,616.7	-3.3	-556.2	556.2	7.01	5.79	
7,902.0	74.20	273.60	7,626.0	-1.6	-585.7	585.7	11.18	10.97	

7,934.0	77.20	273.60	7,633.9	0.3	-616.7	616.7	9.37	9.37
7,966.0	78.00	272.90	7,640.8	2.1	-647.9	647.9	3.29	2.50
7,997.0	79.30	271.70	7,646.9	3.3	-678.3	678.3	5.66	4.19
8,029.0	81.00	270.70	7,652.4	4.0	-709.8	709.8	6.14	5.31
8,061.0	84.00	271.70	7,656.6	4.6	-741.5	741.5	9.87	9.37
8,092.0	86.90	271.30	7,659.0	5.4	-772.4	772.4	9.44	9.35
8,124.0	87.30	271.10	7,660.6	6.1	-804.3	804.4	1.40	1.25
8,156.0	88.80	270.40	7,661.7	6.5	-836.3	836.3	5.17	4.69
8,187.0	89.10	269.20	7,662.3	6.4	-867.3	867.3	3.99	0.97
8,219.0	87.70	268.10	7,663.2	5.7	-899.3	899.3	5.56	-4.37
8,251.0	87.50	267.80	7,664.5	4.5	-931.2	931.2	1.13	-0.62
8,282.0	89.10	267.70	7,665.5	3.3	-962.2	962.2	5.17	5.16
8,308.0	89.50	268.90	7,665.8	2.5	-988.2	988.2	4.86	1.54
8,340.0	89.70	269.20	7,666.0	2.0	-1,020.2	1,020.2	1.13	0.62
8,371.0	90.60	270.00	7,665.9	1.8	-1,051.2	1,051.2	3.88	2.90
8,403.0	91.00	269.20	7,665.5	1.6	-1,083.2	1,083.2	2.79	1.25
8,434.0	91.00	270.00	7,664.9	1.3	-1,114.2	1,114.2	2.58	0.00
8,466.0	93.00	270.60	7,663.8	1.5	-1,146.1	1,146.1	6.52	6.25
8,497.0	93.20	270.70	7,662.1	1.9	-1,177.1	1,177.1	0.72	0.65
8,529.0	93.20	271.40	7,660.4	2.4	-1,209.0	1,209.0	2.18	0.00
8,561.0	93.10	271.80	7,658.6	3.3	-1,241.0	1,241.0	1.29	-0.31
8,592.0	92.80	272.10	7,657.0	4.4	-1,271.9	1,271.9	1.37	-0.97
8,624.0	91.70	271.40	7,655.7	5.4	-1,303.9	1,303.9	4.07	-3.44
8,656.0	90.40	270.70	7,655.2	6.0	-1,335.9	1,335.9	4.61	-4.06
8,687.0	90.40	272.30	7,654.9	6.8	-1,366.9	1,366.9	5.16	0.00
8,719.0	89.70	271.20	7,654.9	7.7	-1,398.8	1,398.9	4.07	-2.19
8,751.0	89.70	271.20	7,655.1	8.4	-1,430.8	1,430.9	0.00	0.00
8,783.0	89.80	271.40	7,655.2	9.1	-1,462.8	1,462.9	0.70	0.31

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Formations / Comments
8,814.0	89.60	271.40	7,655.4	9.9	-1,493.8	1,493.8	0.65	-0.65	
8,846.0	89.70	272.60	7,655.6	11.0	-1,525.8	1,525.8	3.76	0.31	
8,878.0	89.40	272.50	7,655.8	12.4	-1,557.8	1,557.8	0.99	-0.94	
8,909.0	88.70	271.40	7,656.3	13.5	-1,588.7	1,588.8	4.21	-2.26	
8,941.0	89.00	273.00	7,657.0	14.7	-1,620.7	1,620.8	5.09	0.94	
8,973.0	88.30	272.30	7,657.7	16.2	-1,652.7	1,652.7	3.09	-2.19	
9,004.0	88.30	272.10	7,658.7	17.4	-1,683.6	1,683.7	0.64	0.00	
9,036.0	88.50	273.00	7,659.5	18.8	-1,715.6	1,715.6	2.88	0.62	
9,067.0	88.30	272.70	7,660.4	20.4	-1,746.5	1,746.6	1.16	-0.65	
9,099.0	88.10	273.20	7,661.4	22.0	-1,778.5	1,778.5	1.68	-0.62	
9,131.0	87.60	273.00	7,662.6	23.7	-1,810.4	1,810.5	1.68	-1.56	
9,163.0	87.20	272.50	7,664.1	25.3	-1,842.3	1,842.4	2.00	-1.25	
9,194.0	86.80	272.50	7,665.7	26.6	-1,873.3	1,873.4	1.29	-1.29	
9,226.0	86.60	272.80	7,667.5	28.1	-1,905.2	1,905.3	1.13	-0.62	
9,258.0	86.10	272.00	7,669.6	29.4	-1,937.1	1,937.2	2.94	-1.56	
9,289.0	86.00	269.20	7,671.7	29.8	-1,968.0	1,968.1	9.02	-0.32	

9,321.0	86.60	272 50	7,673.8	30.2	-1,999.9	2,000.0	10.46	1.87
9,353.0	86.70	272.10	7,675.6	31.5	-2,031.9	2,032.0	1.29	0.31
9,385.0	87.40	272 60	7,677.3	32.8	-2,063.8	2,063.9	2.69	2.19
9,416.0	87.50	272.00	7,678.7	34.1	-2,094.7	2,094.8	1.96	0.32
9,448.0	87.90	271.80	7,680.0	35.1	-2,126.7	2,126.8	1.40	1.25
9,479.0	88.20	271 80	7,681.0	36.1	-2,157.7	2,157.8	0.97	0.97
9,511.0	89.00	272.20	7,681.8	37.2	-2,189.6	2,189.7	2.79	2.50
9,543.0	90.30	272.90	7,682.0	38.6	-2,221.6	2,221.7	4.61	4.06
9,575.0	91.20	272.90	7,681.6	40.3	-2,253.5	2,253.7	2.81	2.81
9,606.0	91.40	272.50	7,680.9	41.7	-2,284.5	2,284.6	1.44	0.65
9,638.0	92.50	272.70	7,679.8	43.2	-2,316.5	2,316.6	3.49	3.44
9,675.0	93.20	271.40	7,677.9	44.5	-2,353.4	2,353.5	3.99	1.89
9,707.0	93.40	271.40	7,676.1	45.3	-2,385.3	2,385.5	0.62	0.62
9,739.0	93.00	271.00	7,674.3	45.9	-2,417.3	2,417.4	1.77	-1.25
9,770.0	92.60	271.10	7,672.8	46.5	-2,448.2	2,448.4	1.33	-1.29
9,802.0	92.60	270.70	7,671.3	47.0	-2,480.2	2,480.3	1.25	0.00
9,833.0	93.10	270 60	7,669.8	47.4	-2,511.1	2,511.3	1.64	1.61
9,865.0	93.30	270.60	7,668.0	47.7	-2,543.1	2,543.3	0.62	0.62
9,897.0	93.00	269.40	7,666.3	47.7	-2,575.0	2,575.2	3.86	-0.94
9,928.0	92.40	269.10	7,664.8	47.3	-2,606.0	2,606.2	2.16	-1.94
9,960.0	92.00	268.50	7,663.6	46.6	-2,638.0	2,638.1	2.25	-1.25
9,992.0	91.70	268 50	7,662.5	45.8	-2,669.9	2,670.1	0.94	-0.94
10,023.0	91.20	267.80	7,661.7	44.8	-2,700.9	2,701.1	2.77	-1.61
10,055.0	91.20	268.30	7,661.1	43.7	-2,732.9	2,733.0	1.56	0.00
10,086.0	91.20	268.10	7,660.4	42.7	-2,763.9	2,764.0	0.65	0.00
10,118.0	90.90	267 80	7,659.8	41.6	-2,795.8	2,796.0	1.33	-0.94
10,150.0	90.40	267 50	7,659.5	40.3	-2,827.8	2,827.9	1.82	-1.56
10,181.0	90.20	267.60	7,659.3	38.9	-2,858.8	2,858.9	0.72	-0.65
10,213.0	89.70	267.50	7,659.3	37.6	-2,890.8	2,890.9	1.59	-1.56
10,245.0	89.60	267.50	7,659.5	36.2	-2,922.7	2,922.8	0.31	-0.31
10,276.0	89.20	267.50	7,659.9	34.8	-2,953.7	2,953.8	1.29	-1.29
10,308.0	89.20	267.20	7,660.3	33.3	-2,985.7	2,985.8	0.94	0.00
10,340.0	89.00	267.20	7,660.8	31.8	-3,017.6	3,017.7	0.62	-0.62
10,371.0	89.10	267 40	7,661.3	30.3	-3,048.6	3,048.7	0.72	0.32
10,403.0	89.70	267.90	7,661.7	29.0	-3,080.5	3,080.6	2.44	1.87
10,435.0	89.70	267.70	7,661.8	27.8	-3,112.5	3,112.6	0.62	0.00
10,466.0	89.80	267.80	7,662.0	26.6	-3,143.5	3,143.6	0.46	0.32

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Formations / Comments
10,498.0	89.90	268.50	7,662.1	25.5	-3,175.5	3,175.6	2.21	0.31	
10,530.0	89.80	268.40	7,662.1	24.7	-3,207.5	3,207.5	0.44	-0.31	
10,561.0	90.10	269.20	7,662.2	24.0	-3,238.5	3,238.5	2.76	0.97	
10,593.0	89.70	268.50	7,662.2	23.4	-3,270.5	3,270.5	2.52	-1.25	
10,624.0	89.60	268.60	7,662.4	22.6	-3,301.4	3,301.5	0.46	-0.32	
10,656.0	89.50	269.20	7,662.7	22.0	-3,333.4	3,333.5	1.90	-0.31	
10,688.0	89.00	268.60	7,663.1	21.4	-3,365.4	3,365.5	2.44	-1.56	

10,719.0	88.80	269.10	7,663.7	20.7	-3,396.4	3,396.5	1.74	-0.65
10,751.0	89.00	269.70	7,664.3	20.4	-3,428.4	3,428.5	1.98	0.62
10,783.0	88.80	269.60	7,664.9	20.2	-3,460.4	3,460.5	0.70	-0.62
10,814.0	88.80	270.00	7,665.6	20.1	-3,491.4	3,491.4	1.29	0.00
10,846.0	88.50	269.70	7,666.3	20.0	-3,523.4	3,523.4	1.33	-0.94
10,878.0	88.40	270.40	7,667.2	20.0	-3,555.4	3,555.4	2.21	-0.31
10,910.0	87.90	270.10	7,668.2	20.2	-3,587.4	3,587.4	1.82	-1.56
10,941.0	87.60	270.70	7,669.4	20.4	-3,618.3	3,618.4	2.16	-0.97
10,973.0	87.60	271.10	7,670.8	20.9	-3,650.3	3,650.4	1.25	0.00
11,005.0	87.70	271.00	7,672.1	21.5	-3,682.3	3,682.3	0.44	0.31
11,036.0	87.50	271.30	7,673.4	22.1	-3,713.2	3,713.3	1.16	-0.65
11,068.0	87.60	270.80	7,674.7	22.7	-3,745.2	3,745.3	1.59	0.31

Last Cathedral Survey @ 11068' MD

Targets

Target Name

- hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
NW Cor Sec 8 - survey misses target center by 15314.9ft at 6636.0ft MD (6635.4 TVD, -20.9 N, 15.2 E) - Point	0.00	0.00	-7,700.0	1,011.8	-5,274.0	451,043.41	639,695.96	32° 14' 22.53 N	104° 0' 54.76 W
Balsam BNL Federal - survey misses target center by 1197.2ft at 11068.0ft MD (7674.7 TVD, 22.7 N, -3745.2 E) - Point	0.00	0.00	7,640.0	18.6	-4,941.9	450,051.20	640,031.12	32° 14' 12.70 N	104° 0' 50.89 W
SE Cor Prod Area - survey misses target center by 14339.6ft at 6636.0ft MD (6635.4 TVD, -20.9 N, 15.2 E) - Point	0.00	0.00	-7,700.0	-368.8	29.1	449,679.34	645,003.37	32° 14' 8.87 N	103° 59' 53.01 W
SW Cor Prod Area - survey misses target center by 15282.4ft at 6636.0ft MD (6635.4 TVD, -20.9 N, 15.2 E) - Point	0.00	0.00	-7,700.0	-316.0	-5,272.7	449,715.60	639,701.40	32° 14' 9.39 N	104° 0' 54.74 W
NE Cor Sec 8 - survey misses target center by 14368.8ft at 6636.0ft MD (6635.4 TVD, -20.9 N, 15.2 E) - Point	0.00	0.00	-7,700.0	958.7	27.5	451,006.82	644,997.64	32° 14' 22.01 N	103° 59' 53.03 W

Survey Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	+E/-W (ft)	Comment
11,068.0	7,674.7	22.7	-3,745.2	Last Cathedral Survey @ 11068' MD

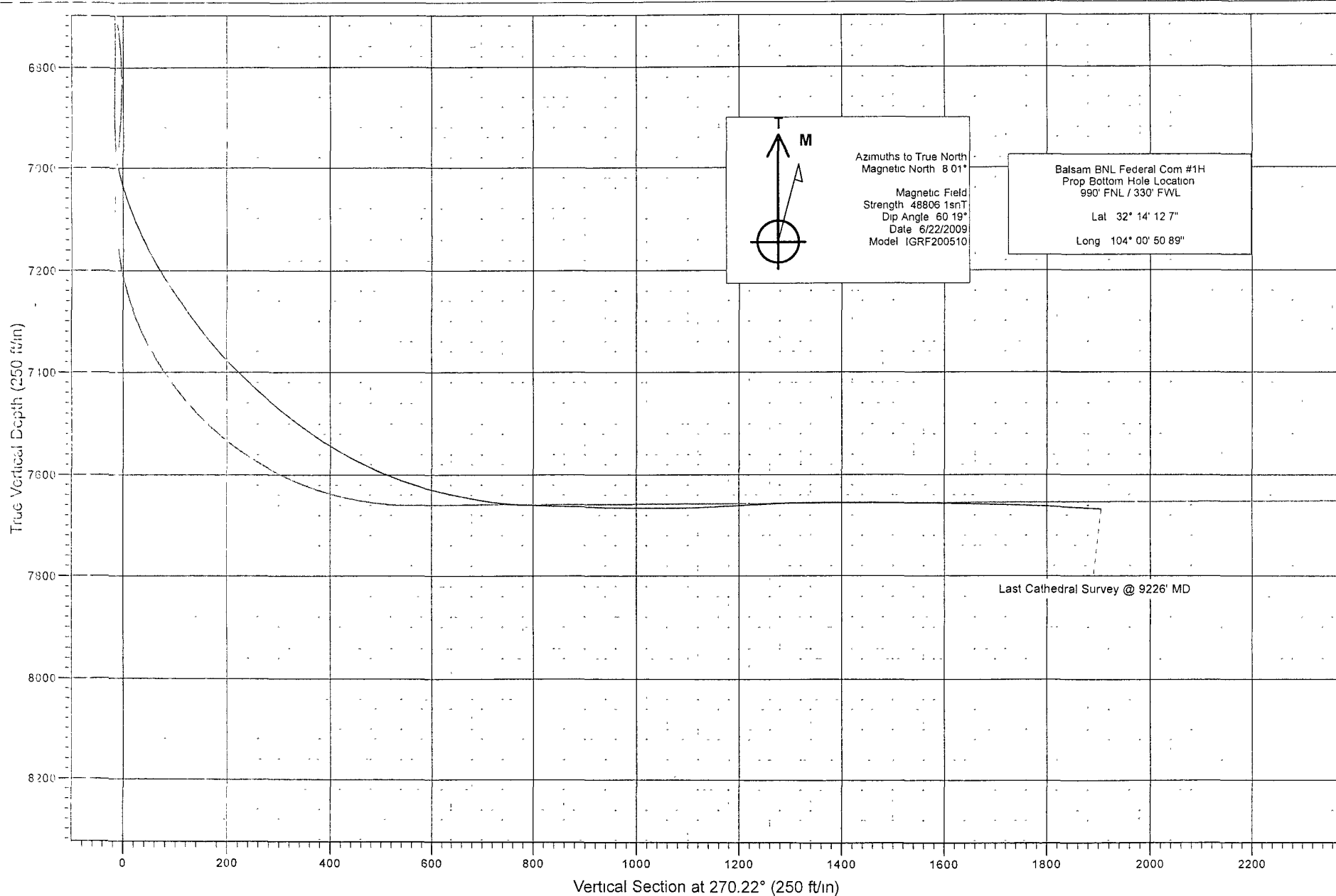
Checked By:

Approved By:

Date:



Project: Eddy County, NM
Site: Sec 8-T24S-R29E
Well: Balsam BNL Federal Com #1H
Wellbore: Hz
Design: Hz



Cathedral Energy Services

Survey Report

Company:	Yates Petroleum Corp	Local Co-ordinate Reference:	Well Balsam BNL Federal Com #1H
Project:	Eddy County, NM	TVD Reference:	WELL @ 3008.0ft (Original Well Elev)
Site:	Sec 8-T24S-R29E	MD Reference:	WELL @ 3008.0ft (Original Well Elev)
Well:	Balsam BNL Federal Com #1H	North Reference:	True
Wellbore:	Hz	Survey Calculation Method:	Minimum Curvature
Design:	Hz	Database:	US EDM 2003.21 Multi Users DB

Project:	Eddy County, NM		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site:	Sec 8-T24S-R29E				
Site Position:	Northing:	450,048.06 ft	Latitude:	32° 14' 12.52 N	
From:	Lat/Long	Easting:	644,973.08 ft	Longitude:	103° 59' 53.35 W
Position Uncertainty:	0 0 ft	Slot Radius:	in	Grid Convergence:	0 18 °

Well:	Balsam BNL Federal Com #1H					
Well Position	+N/-S	0 0 ft	Northing:	450,048.06 ft	Latitude:	32° 14' 12.52 N
	+E/-W	0 0 ft	Easting:	644,973.08 ft	Longitude:	103° 59' 53.35 W
Position Uncertainty	0.0 ft	Wellhead Elevation:	ft	Ground Level:	2,990.0 ft	

Wellbore:	Hz				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
	IGRF200510	6/22/2009	(°)	(°)	(nT)
			8 01	60 19	48,806

Design:	Hz				
Audit Notes:					
Version:	1 0	Phase:	ACTUAL	Tie On Depth:	0 0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction	
	(ft)	(ft)	(ft)	(°)	
	0 0	0 0	0 0	270.22	

Survey Program:	Date: 7/23/2009			
From	To	Survey (Wellbore)	Tool Name	Description
(ft)	(ft)			
202 0	388 0	Survey #1 (Hz)	GYRO	GYRO
649 0	2,765 0	Survey #2 (Hz)	MWD	Geolink MWD
2,998 0	6,636 0	Survey #3 (Hz)	GYRO	GYRO
6,819 0	9,226 0	Survey #4 (Hz)	MWD	Geolink MWD

Survey:									
Measured	Inclination	Azimuth	Vertical	+N/-S	+E/-W	Vertical	Dogleg	Build	Formations /
Depth	(°)	(°)	Depth	(ft)	(ft)	Section	Rate	Rate	Comments
(ft)			(ft)			(ft)	(°/100ft)	(°/100ft)	
0.0	0.00	0 00	0 0	0 0	0 0	0 0	0 00	0 00	
202.0	0.30	65 60	202.0	0.2	0.5	-0.5	0.15	0.15	
388.0	0.50	310 30	388.0	0.9	0.3	-0.3	0.37	0.11	
649.0	0.80	334 70	649.0	3.3	-1.3	1.4	0.15	0.11	
681.0	0.80	330 10	681.0	3.7	-1.5	1.6	0.20	0.00	
744.0	0.50	354 60	744.0	4.4	-1.8	1.8	0.64	-0.48	
776.0	0.40	322 70	776.0	4.6	-1.9	1.9	0.83	-0.31	
871.0	0.90	345.30	871.0	5.6	-2.3	2.3	0.58	0.53	
966.0	0.20	62 50	966.0	6.4	-2.3	2.3	0.92	-0.74	
1,060.0	0.10	18 20	1,060.0	6.5	-2.1	2.2	0.16	-0.11	

Cathedral Energy Services

Survey Report

Company:	Yates Petroleum Corp.	Local Co-ordinate Reference:	Well: Balsam BNL Federal Com #1H
Project:	Eddy County, NM	TVD Reference:	WELL @ 3008.0ft (Original Well Elev)
Site:	Sec 8-T24S-R29E	MD Reference:	WELL @ 3008.0ft (Original Well Elev)
Well:	Balsam BNL Federal Com #1H	North Reference:	True
Wellbore:	Hz	Survey Calculation Method:	Minimum Curvature
Design:	Hz	Database:	US EDM 2003.21 Multi Users DB

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Formations/Comments
1,155.0	0.10	253.90	1,155.0	6.6	-2.2	2.2	0.19	0.00	
1,250.0	0.90	254.70	1,250.0	6.4	-3.0	3.0	0.84	0.84	
1,345.0	0.30	324.50	1,345.0	6.4	-3.9	3.9	0.89	-0.63	
1,440.0	0.40	287.70	1,439.9	6.7	-4.3	4.3	0.25	0.11	
1,535.0	0.30	308.40	1,534.9	6.9	-4.8	4.8	0.17	-0.11	
1,630.0	0.30	248.90	1,629.9	7.0	-5.3	5.3	0.31	0.00	
1,725.0	0.60	271.70	1,724.9	6.9	-6.0	6.0	0.36	0.32	
1,820.0	0.60	246.50	1,819.9	6.8	-6.9	7.0	0.28	0.00	
1,915.0	1.10	271.30	1,914.9	6.6	-8.3	8.3	0.64	0.53	
2,010.0	0.40	222.40	2,009.9	6.3	-9.4	9.5	0.94	-0.74	
2,105.0	0.30	176.90	2,104.9	5.9	-9.6	9.7	0.30	-0.11	
2,200.0	0.40	145.60	2,199.9	5.3	-9.4	9.5	0.22	0.11	
2,390.0	1.00	118.70	2,389.9	4.0	-7.6	7.6	0.35	0.32	
2,485.0	2.20	106.80	2,484.9	3.1	-5.1	5.2	1.30	1.26	
2,580.0	2.40	118.10	2,579.8	1.6	-1.6	1.6	0.52	0.21	
2,643.0	2.50	126.90	2,642.7	0.2	0.6	-0.6	0.62	0.16	
2,707.0	2.00	127.60	2,706.7	-1.4	2.6	-2.6	0.78	-0.78	
2,765.0	1.20	128.20	2,764.7	-2.4	3.9	-3.9	1.38	-1.38	
2,998.0	0.70	117.10	2,997.6	-4.5	7.1	-7.1	0.23	-0.21	
3,219.0	0.80	118.80	3,218.6	-5.9	9.6	-9.7	0.05	0.05	
3,408.0	1.00	125.90	3,407.6	-7.5	12.1	-12.2	0.12	0.11	
3,597.0	0.70	103.20	3,596.6	-8.7	14.6	-14.6	0.24	-0.16	
3,787.0	0.60	82.10	3,786.6	-8.8	16.7	-16.7	0.14	-0.05	
3,977.0	0.30	42.30	3,976.5	-8.3	18.0	-18.1	0.22	-0.16	
4,200.0	0.30	94.70	4,199.5	-7.9	19.0	-19.0	0.12	0.00	
4,422.0	0.50	353.50	4,421.5	-7.0	19.5	-19.5	0.28	0.09	
4,643.0	0.10	0.00	4,642.5	-5.9	19.4	-19.4	0.18	-0.18	
4,865.0	0.30	71.60	4,864.5	-5.5	19.9	-19.9	0.13	0.09	
5,086.0	0.40	225.00	5,085.5	-5.9	19.9	-19.9	0.31	0.05	
5,308.0	0.60	224.10	5,307.5	-7.2	18.6	-18.6	0.09	0.09	
5,528.0	0.60	233.60	5,527.5	-8.8	16.8	-16.9	0.05	0.00	
5,750.0	0.70	224.60	5,749.5	-10.4	14.9	-15.0	0.06	0.05	
5,973.0	0.80	191.40	5,972.5	-12.9	13.7	-13.7	0.20	0.04	
6,194.0	1.10	84.20	6,193.5	-14.2	15.5	-15.5	0.70	0.14	
6,416.0	1.50	198.70	6,415.4	-16.7	16.7	-16.7	0.99	0.18	
6,636.0	0.80	199.80	6,635.4	-20.9	15.2	-15.3	0.32	-0.32	
6,819.0	1.20	33.50	6,818.4	-20.5	15.9	-15.9	1.09	0.22	
6,883.0	1.30	13.20	6,882.4	-19.3	16.4	-16.5	0.71	0.16	
6,914.0	1.10	358.30	6,913.4	-18.6	16.5	-16.5	1.19	-0.65	
6,946.0	3.00	294.40	6,945.3	-18.0	15.7	-15.8	8.45	5.94	
6,978.0	8.10	280.30	6,977.2	-17.2	12.7	-12.8	16.38	15.94	
7,009.0	12.40	278.80	7,007.7	-16.3	7.3	-7.3	13.90	13.87	
7,041.0	16.30	276.50	7,038.7	-15.3	-0.6	0.5	12.31	12.19	
7,073.0	19.30	274.10	7,069.1	-14.4	-10.3	10.3	9.65	9.37	
7,104.0	21.90	273.90	7,098.1	-13.6	-21.2	21.2	8.39	8.39	
7,136.0	24.20	272.50	7,127.6	-12.9	-33.7	33.7	7.39	7.19	
7,168.0	26.60	271.80	7,156.5	-12.4	-47.4	47.4	7.56	7.50	
7,199.0	28.90	271.70	7,183.9	-12.0	-61.9	61.8	7.42	7.42	
7,231.0	30.90	271.10	7,211.7	-11.6	-77.8	77.8	6.32	6.25	
7,263.0	33.00	270.80	7,238.8	-11.3	-94.7	94.7	6.58	6.56	
7,294.0	35.00	270.80	7,264.5	-11.1	-112.1	112.0	6.45	6.45	
7,326.0	36.00	269.10	7,290.6	-11.1	-130.7	130.6	4.39	3.12	
7,358.0	36.70	269.20	7,316.3	-11.4	-143.0	143.0	2.20	2.19	

Cathedral Energy Services

Survey Report

Company:	Yates Petroleum Corp.	Local Co-ordinate Reference:	Well Balsam BNL Federal Com #1H
Project:	Eddy County, NM	TVD Reference:	WELL @ 3008.0ft (Original Well Elev)
Site:	Sec 8-T24S-R29E	MD Reference:	WELL @ 3008.0ft (Original Well Elev)
Well:	Balsam BNL Federal Com #1H	North Reference:	True
Wellbore:	HZ	Survey Calculation Method:	Minimum Curvature
Design:	HZ	Database:	US EDM 2003.21 Multi Users DB

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (%/100ft)	Build Rate (%/100ft)	Formations / Comments
7,389.0	38.70	268.60	7,340.9	-11.7	-168.6	168.5	6.56	6.45	
7,421.0	41.80	269.20	7,365.3	-12.1	-189.2	189.2	9.76	9.69	
7,453.0	44.70	269.20	7,388.6	-12.4	-211.2	211.1	9.06	9.06	
7,484.0	46.10	268.40	7,410.4	-12.9	-233.2	233.2	4.88	4.52	
7,516.0	46.80	267.80	7,432.4	-13.7	-256.4	256.4	2.58	2.19	
7,548.0	48.40	269.20	7,454.0	-14.3	-280.0	280.0	5.95	5.00	
7,579.0	50.40	269.60	7,474.2	-14.5	-303.6	303.5	6.53	6.45	
7,611.0	52.70	271.50	7,494.1	-14.3	-328.6	328.6	8.56	7.19	
7,643.0	55.00	272.10	7,512.9	-13.5	-354.4	354.4	7.35	7.19	
7,674.0	56.90	271.90	7,530.3	-12.6	-380.1	380.1	6.15	6.13	
7,706.0	58.50	271.80	7,547.4	-11.7	-407.1	407.1	5.01	5.00	
7,738.0	61.10	271.50	7,563.5	-10.9	-434.8	434.7	8.17	8.12	
7,769.0	63.70	272.80	7,577.8	-9.9	-462.2	462.2	9.17	8.39	
7,801.0	66.50	274.70	7,591.3	-8.0	-491.2	491.2	10.27	8.75	
7,833.0	68.60	274.50	7,603.5	-5.6	-520.7	520.6	6.59	6.56	
7,871.0	70.80	272.90	7,616.7	-3.3	-556.2	556.2	7.01	5.79	
7,902.0	74.20	273.60	7,626.0	-1.6	-585.7	585.7	11.18	10.97	
7,934.0	77.20	273.60	7,633.9	0.3	-616.7	616.7	9.37	9.37	
7,966.0	78.00	272.90	7,640.8	2.1	-647.9	647.9	3.29	2.50	
7,997.0	79.30	271.70	7,646.9	3.3	-678.3	678.3	5.66	4.19	
8,029.0	81.00	270.70	7,652.4	4.0	-709.8	709.8	6.14	5.31	
8,061.0	84.00	271.70	7,656.6	4.6	-741.5	741.5	9.87	9.37	
8,092.0	86.90	271.30	7,659.0	5.4	-772.4	772.4	9.44	9.35	
8,124.0	87.30	271.10	7,660.6	6.1	-804.3	804.4	1.40	1.25	
8,156.0	88.80	270.40	7,661.7	6.5	-836.3	836.3	5.17	4.69	
8,187.0	89.10	269.20	7,662.3	6.4	-867.3	867.3	3.99	0.97	
8,219.0	87.70	268.10	7,663.2	5.7	-899.3	899.3	5.56	-4.37	
8,251.0	87.50	267.80	7,664.5	4.5	-931.2	931.2	1.13	-0.62	
8,282.0	89.10	267.70	7,665.5	3.3	-962.2	962.2	5.17	5.16	
8,308.0	89.50	268.90	7,665.8	2.5	-988.2	988.2	4.86	1.54	
8,340.0	89.70	269.20	7,666.0	2.0	-1,020.2	1,020.2	1.13	0.62	
8,371.0	90.60	270.00	7,665.9	1.8	-1,051.2	1,051.2	3.88	2.90	
8,403.0	91.00	269.20	7,665.5	1.6	-1,083.2	1,083.2	2.79	1.25	
8,434.0	91.00	270.00	7,664.9	1.3	-1,114.2	1,114.2	2.58	0.00	
8,466.0	93.00	270.60	7,663.8	1.5	-1,146.1	1,146.1	6.52	6.25	
8,497.0	93.20	270.70	7,662.1	1.9	-1,177.1	1,177.1	0.72	0.65	
8,529.0	93.20	271.40	7,660.4	2.4	-1,209.0	1,209.0	2.18	0.00	
8,561.0	93.10	271.80	7,658.6	3.3	-1,241.0	1,241.0	1.29	-0.31	
8,592.0	92.80	272.10	7,657.0	4.4	-1,271.9	1,271.9	1.37	-0.97	
8,624.0	91.70	271.40	7,655.7	5.4	-1,303.9	1,303.9	4.07	-3.44	
8,656.0	90.40	270.70	7,655.2	6.0	-1,335.9	1,335.9	4.61	-4.06	
8,687.0	90.40	272.30	7,654.9	6.8	-1,366.9	1,366.9	5.16	0.00	
8,719.0	89.70	271.20	7,654.9	7.7	-1,398.8	1,398.9	4.07	-2.19	
8,751.0	89.70	271.20	7,655.1	8.4	-1,430.8	1,430.9	0.00	0.00	
8,783.0	89.80	271.40	7,655.2	9.1	-1,462.8	1,462.9	0.70	0.31	
8,814.0	89.60	271.40	7,655.4	9.9	-1,493.8	1,493.8	0.65	-0.65	
8,846.0	89.70	272.60	7,655.6	11.0	-1,525.8	1,525.8	3.76	0.31	
8,878.0	89.40	272.50	7,655.8	12.4	-1,557.8	1,557.8	0.99	-0.94	
8,909.0	88.70	271.40	7,656.3	13.5	-1,588.7	1,588.8	4.21	-2.26	
8,941.0	89.00	273.00	7,657.0	14.7	-1,620.7	1,620.8	5.09	0.94	
8,973.0	88.30	272.30	7,657.7	16.2	-1,652.7	1,652.7	3.09	-2.19	
9,004.0	88.30	272.10	7,658.7	17.4	-1,683.6	1,683.7	0.64	0.00	
9,036.0	88.50	273.00	7,659.5	18.8	-1,715.6	1,715.6	2.88	0.62	

Cathedral Energy Services

Survey Report

Company:	Yates Petroleum Corp.	Local Co-ordinate Reference:	Well Balsam BNL Federal Com #1H
Project:	Eddy County, NM	TVD Reference:	WELL @ 3008.0ft (Original Well Elev)
Site:	Sec 8-T24S-R29E	MD Reference:	WELL @ 3008.0ft (Original Well Elev)
Well:	Balsam BNL Federal Com #1H	North Reference:	True
Wellbore:	Hz	Survey Calculation Method:	Minimum Curvature
Design:	Hz	Database:	US EDM 2003 21 Multi Users DB

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Formations / Comments
9,067.0	88.30	272.70	7,660.4	20.4	-1,746.5	1,746.6	1.16	-0.65	
9,099.0	88.10	273.20	7,661.4	22.0	-1,778.5	1,778.5	1.68	-0.62	
9,131.0	87.60	273.00	7,662.6	23.7	-1,810.4	1,810.5	1.68	-1.56	
9,163.0	87.20	272.50	7,664.1	25.3	-1,842.3	1,842.4	2.00	-1.25	
9,194.0	86.80	272.50	7,665.7	26.6	-1,873.3	1,873.4	1.29	-1.29	
9,226.0	86.60	272.80	7,667.5	28.1	-1,905.2	1,905.3	1.13	-0.62	Last Cathedral Survey @ 9226' MD

Targets									
Target Name	hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude Longitude
NW Cor Sec 8		0.00	0.00	-7,700.0	1,011.8	-5,274.0	451,043.41	639,695.96	32° 14' 22.53 N 104° 0' 54.76 W
- actual wellpath misses target center by 9387.7ft at 0.0ft MD (0.0 TVD, 0.0 N, 0.0 E)									
- Point									
Balsam BNL Federal Co		0.00	0.00	7,640.0	18.6	-4,941.9	450,051.20	640,031.12	32° 14' 12.70 N 104° 0' 50.89 W
- actual wellpath misses target center by 3036.9ft at 9226.0ft MD (7667.5 TVD, 28.1 N, -1905.2 E)									
- Point									
SE Cor Prod Area		0.00	0.00	-7,700.0	-368.8	29.1	449,679.34	645,003.37	32° 14' 8.87 N 103° 59' 53.01 W
- actual wellpath misses target center by 7708.9ft at 0.0ft MD (0.0 TVD, 0.0 N, 0.0 E)									
- Point									
SW Cor Prod Area		0.00	0.00	-7,700.0	-316.0	-5,272.7	449,715.60	639,701.40	32° 14' 9.39 N 104° 0' 54.74 W
- actual wellpath misses target center by 9337.6ft at 0.0ft MD (0.0 TVD, 0.0 N, 0.0 E)									
- Point									
NE Cor Sec 8		0.00	0.00	-7,700.0	958.7	27.5	451,006.82	644,997.64	32° 14' 22.01 N 103° 59' 53.03 W
- actual wellpath misses target center by 7759.5ft at 0.0ft MD (0.0 TVD, 0.0 N, 0.0 E)									
- Point									

Design Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
9,226.0	7,667.5	28.1	-1,905.2	Last Cathedral Survey @ 9226' MD

Checked By _____	Approved By _____	Date: _____
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