ConocoPhillips

Company: ConocoPhillips
Site: East Vacuum GBSA Unit
Well: 3308-510
Project: Lea County, New Mexico (NAD 27)
Rig: Trinidad 417

MS Energy Services.
WWW.MSENERGYSERVICES.COM

T G M

Azimuths to Grid North
True North: -0.47°
Magnetic North: 6.49°

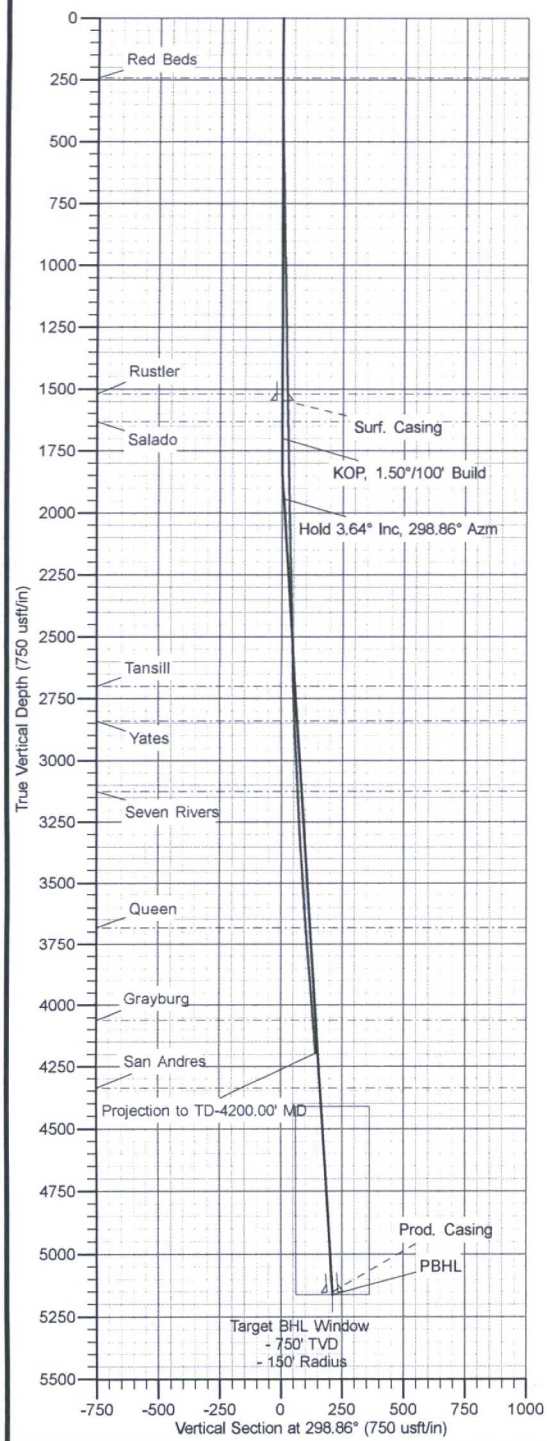
Magnetic Field
Strength: 48330.8snT
Dip Angle: 60.61°
Date: 8/10/2017
Model: BGGM2017

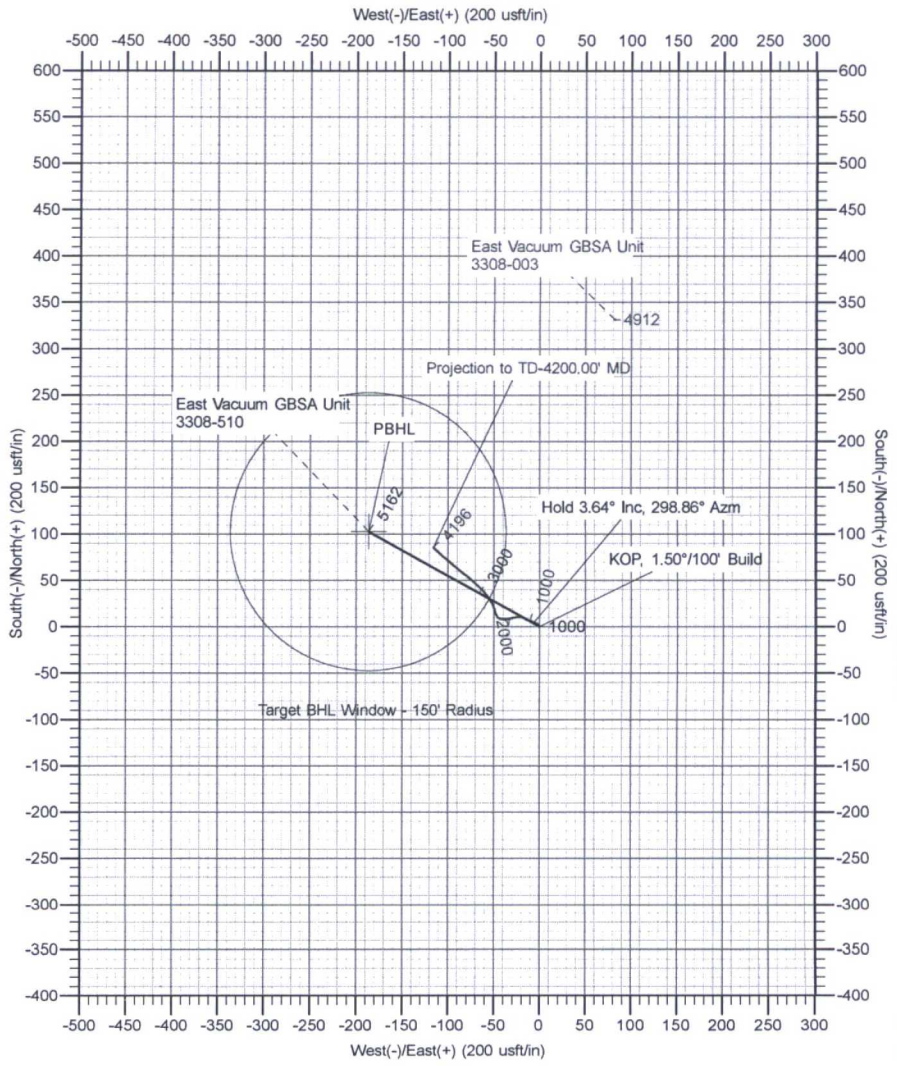
US State Plane 1927 (Exact solution)
New Mexico East 3001

Created By: MEB
Date: 10:09, August 16 2017
Plan: Design #1

ANNOTATIONS

MD	Inc	Azi	TVD	+N/-S	+E/-W	VSect	Departure	Annotation
1700.00	0.00	0.00	1700.00	0.00	0.00	0.00	0.00	KOP, 1.50°/100' Build
1942.83	3.64	298.86	1942.66	3.72	-6.76	7.72	7.72	Hold 3.64° Inc, 298.86° Azm
5168.38	3.64	298.86	5161.70	102.62	-186.23	212.63	212.63	PBHL





Company: CONOCO PHILLIPS
Lease/Well: EAST VACUUM (GSA) UNIT /#510
API: 30-025-42112
Rig Name: PRODUCTION
State/County: NEW MEXICO/LEA
VS-Azi: 0.00 Degrees
Latitude: 32.79449, Longitude: -103.46594
Grid North = True North -0.47 degs (NAD 27)
Grid Correction Applied = -0.47 degs

FIELD COPY ONLY (NOT DEFINITIVE)

Depth Reference : GROUND LEVEL

DRILLOG MS GYRO SURVEY CALCULATIONS
Error Model: VESSI_GYROFLEX_SLICKLINE.IPM
Filename: msgyro_run01-01-de_01.ut
Minimum Curvature Method
Report Date/Time: 9/26/2017 / 10:25

VES Survey International
Midland, Texas
432-563-5444
Mike Cook

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	****
100.00	0.60	2.72	100.00	0.52	0.02	0.52	0.52	2.72	0.60
200.00	0.71	348.77	199.99	1.65	-0.07	1.65	1.65	357.50	0.20
300.00	0.69	347.67	299.98	2.85	-0.32	2.85	2.87	353.55	0.03
400.00	0.87	304.44	399.98	3.87	-1.08	3.87	4.02	344.41	0.60
500.00	0.83	289.06	499.96	4.54	-2.40	4.54	5.14	332.20	0.23
600.00	0.87	282.78	599.95	4.95	-3.82	4.95	6.25	322.34	0.10
700.00	0.89	267.94	699.94	5.09	-5.33	5.09	7.37	313.67	0.23
800.00	0.90	265.82	799.93	5.00	-6.89	5.00	8.51	305.99	0.04
900.00	0.93	267.48	899.92	4.91	-8.48	4.91	9.79	300.07	0.04
1000.00	0.93	264.64	999.90	4.80	-10.09	4.80	11.18	295.42	0.05
1100.00	0.99	266.13	1099.89	4.66	-11.77	4.66	12.66	291.61	0.07
1200.00	1.05	270.31	1199.87	4.61	-13.55	4.61	14.31	288.79	0.09
1300.00	1.14	274.08	1299.86	4.68	-15.45	4.68	16.15	286.86	0.11
1400.00	1.19	272.83	1399.84	4.81	-17.48	4.81	18.13	285.37	0.06
1500.00	1.22	269.69	1499.81	4.85	-19.59	4.85	20.18	283.91	0.07
1600.00	1.40	260.91	1599.79	4.65	-21.86	4.65	22.35	282.01	0.27
1700.00	1.35	245.73	1699.76	3.97	-24.14	3.97	24.47	279.35	0.37
1800.00	1.34	244.82	1799.73	2.99	-26.28	2.99	26.45	276.49	0.02
1900.00	1.42	244.03	1899.70	1.95	-28.46	1.95	28.52	273.92	0.08
2000.00	1.42	243.00	1999.67	0.84	-30.67	0.84	30.69	271.58	0.03
2100.00	1.41	234.26	2099.64	-0.43	-32.77	-0.43	32.77	269.24	0.22
2200.00	1.39	231.73	2199.61	-1.90	-34.72	-1.90	34.77	266.86	0.06
2300.00	1.55	252.32	2299.58	-3.07	-36.97	-3.07	37.09	265.26	0.55
2400.00	1.49	273.93	2399.54	-3.39	-39.56	-3.39	39.70	265.10	0.57
2500.00	1.37	287.46	2499.51	-2.94	-42.00	-2.94	42.10	265.99	0.36
2600.00	1.20	310.99	2599.49	-1.90	-43.92	-1.90	43.96	267.52	0.55
2700.00	1.85	328.45	2699.45	0.16	-45.56	0.16	45.56	270.20	0.80
2800.00	2.78	328.36	2799.37	3.60	-47.67	3.60	47.81	274.32	0.93
2900.00	2.90	317.92	2899.25	7.54	-50.64	7.54	51.20	278.47	0.53
3000.00	3.04	314.63	2999.11	11.28	-54.22	11.28	55.38	281.75	0.22
3100.00	3.55	311.85	3098.95	15.21	-58.42	15.21	60.37	284.60	0.54
3200.00	3.64	309.89	3198.75	19.32	-63.16	19.32	66.05	287.01	0.15

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
3300.00	4.19	301.80	3298.52	23.28	-68.70	23.28	72.54	288.72	0.78
3400.00	3.81	303.45	3398.27	27.04	-74.59	27.04	79.33	289.93	0.40
3500.00	3.84	301.18	3498.05	30.60	-80.22	30.60	85.86	290.88	0.15
3600.00	3.38	302.66	3597.85	33.92	-85.56	33.92	92.04	291.63	0.47
3700.00	3.93	303.54	3697.65	37.40	-90.90	37.40	98.29	292.37	0.55
3800.00	4.37	301.53	3797.39	41.29	-97.01	41.29	105.43	293.06	0.47
3900.00	5.28	302.54	3897.03	45.76	-104.13	45.76	113.74	293.72	0.91
4000.00	4.72	303.12	3996.65	50.48	-111.46	50.48	122.36	294.37	0.55
4100.00	4.63	302.05	4096.32	54.87	-118.33	54.87	130.43	294.88	0.13
4200.00	4.60	298.80	4195.99	58.94	-125.26	58.94	138.43	295.20	0.26
4300.00	4.38	297.56	4295.69	62.64	-132.16	62.64	146.25	295.36	0.24
4400.00	4.49	301.39	4395.39	66.45	-138.89	66.45	153.96	295.57	0.31
4500.00	4.47	301.03	4495.08	70.50	-145.57	70.50	161.74	295.84	0.03
4600.00	4.63	297.53	4594.77	74.37	-152.48	74.37	169.65	296.00	0.32
4700.00	4.53	298.87	4694.45	78.14	-159.52	78.14	177.63	296.10	0.14
4800.00	4.50	298.11	4794.14	81.90	-166.44	81.90	185.50	296.20	0.07
4900.00	4.65	300.68	4893.82	85.82	-173.39	85.82	193.47	296.33	0.25
5000.00	4.89	299.58	4993.47	89.99	-180.58	89.99	201.76	296.49	0.25
5100.00	4.95	302.31	5093.10	94.40	-187.93	94.40	210.31	296.67	0.24
5140.00	5.10	301.32	5132.95	96.25	-190.91	96.25	213.80	296.75	0.43

HORIZONTAL DISPLACEMENT IS
213.80 FEET AT 296.75 DEGREES