

VERDAD RESOURCES

**WATTENBERG FIELD
9N-60W-25 PEGGY PAD
PEGGY 2501-16H**

Wellbore #1

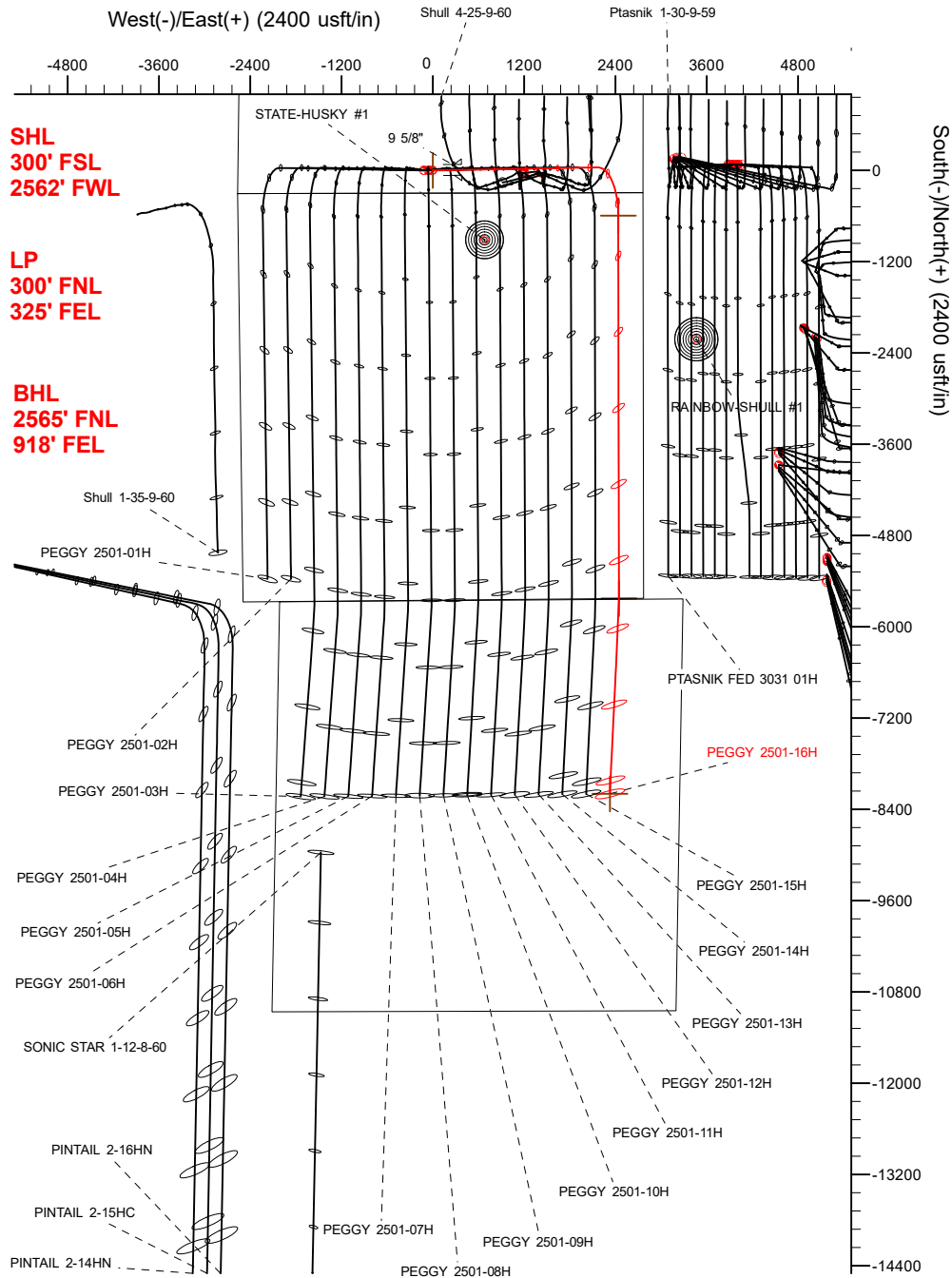
Plan: Design #1

Standard Planning Report

25 February, 2018

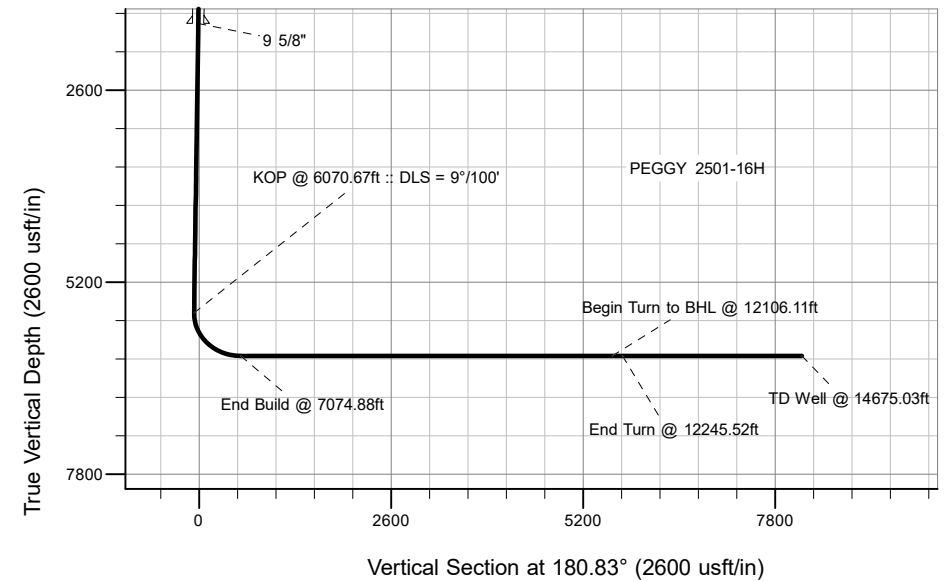
Project: WATTENBERG FIELD
Site: 9N-60W-25 PEGGY PAD
Well: PEGGY 2501-16H
Wellbore: Wellbore #1
Design: Design #1

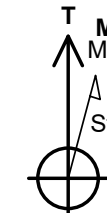
VERDAD RESOURCES



SECTION DETAILS										
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	
3	1479.00	24.58	89.00	1441.65	4.53	259.56	2.00	89.00	-8.29	
4	6070.67	24.58	89.00	5617.23	37.86	2169.24	0.00	0.00	-69.28	
5	7074.88	90.00	179.91	6200.00	-598.33	2436.76	9.00	90.83	562.96	
6	12106.11	90.00	179.91	6200.00	-5629.55	2444.59	0.00	0.00	5593.55	PEGGY 2501-16H_Deflection
7	12245.52	90.00	182.70	6200.00	-5768.91	2441.41	2.00	90.00	5732.94	
8	14675.03	90.00	182.70	6200.00	-8195.73	2327.02	0.00	0.00	8161.16	PEGGY 2501-16H_BHL

WELLBORE TARGET DETAILS (LAT/LONG)					
Name	TVD	+N/-S	+E/-W	Latitude	Longitude
PEGGY 2501-16H_SHL	0.00	0.00	0.00	40.714776	-104.040301
PEGGY 2501-16H_BHL	6200.00	-8195.73	2327.02	40.692280	-104.031910



 <p>M Azimuths to True North Magnetic North: 7.77° Magnetic Field Strength: 52548.7snT Dip Angle: 67.20° Date: 2/25/2018 Model: IGRF2015</p>	WELL DETAILS: PEGGY 2501-16H	
	GL = 4893'	
	RKB = 20' @ 4913.00usft (RIG)	
	Plan: Design #1 (PEGGY 2501-16H/Wellbore #1)	
Created By: _____		Date: 2/25/2018
Reviewed: _____		Date: _____

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Planning Report

Database:	EDM 5000.14 Single User Db	Local Co-ordinate Reference:	Well PEGGY 2501-16H
Company:	VERDAD RESOURCES	TVD Reference:	RKB = 20' @ 4913.00usft (RIG)
Project:	WATTENBERG FIELD	MD Reference:	RKB = 20' @ 4913.00usft (RIG)
Site:	9N-60W-25 PEGGY PAD	North Reference:	True
Well:	PEGGY 2501-16H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Project	WATTENBERG FIELD		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site	9N-60W-25 PEGGY PAD			
Site Position:		Northing:	1,506,564.37 usft	Latitude: 40.714775
From:	Lat/Long	Easting:	3,404,485.26 usft	Longitude: -104.040843
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence: 0.94 °

Well	PEGGY 2501-16H			
Well Position	+N/-S	0.32 usft	Northing:	1,506,567.16 usft
	+E/-W	150.00 usft	Easting:	3,404,635.24 usft
Position Uncertainty		3.28 usft	Wellhead Elevation:	Latitude: 40.714776
				Longitude: -104.040301
				Ground Level: 4,893.00 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	2/25/2018	7.77	67.20	52,548.67394932

Design	Design #1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	180.83

Plan Survey Tool Program	Date	2/25/2018		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	1,700.00	Design #1 (Wellbore #1)	ISCWSA REV 2 MWD
				Fixed:v2:standard declination
2	1,700.00	14,675.03	Design #1 (Wellbore #1)	ISCWSA REV 2 MWD
				Fixed:v2:standard declination

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Planning Report

Database:	EDM 5000.14 Single User Db	Local Co-ordinate Reference:	Well PEGGY 2501-16H
Company:	VERDAD RESOURCES	TVD Reference:	RKB = 20' @ 4913.00usft (RIG)
Project:	WATTENBERG FIELD	MD Reference:	RKB = 20' @ 4913.00usft (RIG)
Site:	9N-60W-25 PEGGY PAD	North Reference:	True
Well:	PEGGY 2501-16H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,479.00	24.58	89.00	1,441.65	4.53	259.56	2.00	2.00	0.00	89.00	
6,070.67	24.58	89.00	5,617.23	37.86	2,169.24	0.00	0.00	0.00	0.00	
7,074.88	90.00	179.91	6,200.00	-598.33	2,436.76	9.00	6.51	9.05	90.83	
12,106.11	90.00	179.91	6,200.00	-5,629.55	2,444.59	0.00	0.00	0.00	0.00	PEGGY 2501-16H_D
12,245.52	90.00	182.70	6,200.00	-5,768.91	2,441.41	2.00	0.00	2.00	90.00	
14,675.03	90.00	182.70	6,200.00	-8,195.73	2,327.02	0.00	0.00	0.00	0.00	PEGGY 2501-16H_BI

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Planning Report

Database:	EDM 5000.14 Single User Db	Local Co-ordinate Reference:	Well PEGGY 2501-16H
Company:	VERDAD RESOURCES	TVD Reference:	RKB = 20' @ 4913.00usft (RIG)
Project:	WATTENBERG FIELD	MD Reference:	RKB = 20' @ 4913.00usft (RIG)
Site:	9N-60W-25 PEGGY PAD	North Reference:	True
Well:	PEGGY 2501-16H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Planned 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
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	0.00
Begin Tangent @ 250.00ft									
300.00	1.00	89.00	300.00	0.01	0.44	-0.01	2.00	2.00	0.00
400.00	3.00	89.00	399.93	0.07	3.93	-0.13	2.00	2.00	0.00
500.00	5.00	89.00	499.68	0.19	10.90	-0.35	2.00	2.00	0.00
600.00	7.00	89.00	599.13	0.37	21.35	-0.68	2.00	2.00	0.00
700.00	9.00	89.00	698.15	0.62	35.26	-1.13	2.00	2.00	0.00
800.00	11.00	89.00	796.63	0.92	52.63	-1.68	2.00	2.00	0.00
900.00	13.00	89.00	894.44	1.28	73.41	-2.34	2.00	2.00	0.00
1,000.00	15.00	89.00	991.46	1.70	97.60	-3.12	2.00	2.00	0.00
1,100.00	17.00	89.00	1,087.58	2.18	125.16	-4.00	2.00	2.00	0.00
1,200.00	19.00	89.00	1,182.68	2.72	156.05	-4.98	2.00	2.00	0.00
1,300.00	21.00	89.00	1,276.65	3.32	190.25	-6.08	2.00	2.00	0.00
1,400.00	23.00	89.00	1,369.36	3.97	227.70	-7.27	2.00	2.00	0.00
1,479.00	24.58	89.00	1,441.65	4.53	259.56	-8.29	2.00	2.00	0.00
End Tangent @ 1479.00ft									
1,500.00	24.58	89.00	1,460.74	4.68	268.30	-8.57	0.00	0.00	0.00
1,600.00	24.58	89.00	1,551.68	5.41	309.89	-9.90	0.00	0.00	0.00
1,700.00	24.58	89.00	1,642.62	6.14	351.48	-11.23	0.00	0.00	0.00
1,763.10	24.58	89.00	1,700.00	6.59	377.72	-12.06	0.00	0.00	0.00
9 5/8"									
1,800.00	24.58	89.00	1,733.56	6.86	393.07	-12.55	0.00	0.00	0.00
1,900.00	24.58	89.00	1,824.50	7.59	434.66	-13.88	0.00	0.00	0.00
2,000.00	24.58	89.00	1,915.44	8.31	476.25	-15.21	0.00	0.00	0.00
2,100.00	24.58	89.00	2,006.37	9.04	517.84	-16.54	0.00	0.00	0.00
2,200.00	24.58	89.00	2,097.31	9.76	559.43	-17.87	0.00	0.00	0.00
2,300.00	24.58	89.00	2,188.25	10.49	601.02	-19.20	0.00	0.00	0.00
2,400.00	24.58	89.00	2,279.19	11.22	642.61	-20.52	0.00	0.00	0.00
2,500.00	24.58	89.00	2,370.13	11.94	684.20	-21.85	0.00	0.00	0.00
2,600.00	24.58	89.00	2,461.06	12.67	725.79	-23.18	0.00	0.00	0.00
2,700.00	24.58	89.00	2,552.00	13.39	767.38	-24.51	0.00	0.00	0.00
2,800.00	24.58	89.00	2,642.94	14.12	808.97	-25.84	0.00	0.00	0.00
2,900.00	24.58	89.00	2,733.88	14.85	850.56	-27.17	0.00	0.00	0.00
3,000.00	24.58	89.00	2,824.82	15.57	892.15	-28.49	0.00	0.00	0.00
3,100.00	24.58	89.00	2,915.75	16.30	933.74	-29.82	0.00	0.00	0.00
3,200.00	24.58	89.00	3,006.69	17.02	975.33	-31.15	0.00	0.00	0.00
3,300.00	24.58	89.00	3,097.63	17.75	1,016.92	-32.48	0.00	0.00	0.00
3,400.00	24.58	89.00	3,188.57	18.48	1,058.51	-33.81	0.00	0.00	0.00
3,500.00	24.58	89.00	3,279.51	19.20	1,100.10	-35.14	0.00	0.00	0.00
3,600.00	24.58	89.00	3,370.45	19.93	1,141.69	-36.46	0.00	0.00	0.00
3,700.00	24.58	89.00	3,461.38	20.65	1,183.28	-37.79	0.00	0.00	0.00
3,800.00	24.58	89.00	3,552.32	21.38	1,224.87	-39.12	0.00	0.00	0.00
3,900.00	24.58	89.00	3,643.26	22.11	1,266.46	-40.45	0.00	0.00	0.00
4,000.00	24.58	89.00	3,734.20	22.83	1,308.05	-41.78	0.00	0.00	0.00
4,100.00	24.58	89.00	3,825.14	23.56	1,349.64	-43.11	0.00	0.00	0.00
4,200.00	24.58	89.00	3,916.07	24.28	1,391.23	-44.43	0.00	0.00	0.00
4,300.00	24.58	89.00	4,007.01	25.01	1,432.82	-45.76	0.00	0.00	0.00
4,400.00	24.58	89.00	4,097.95	25.74	1,474.41	-47.09	0.00	0.00	0.00
4,500.00	24.58	89.00	4,188.89	26.46	1,516.00	-48.42	0.00	0.00	0.00
4,600.00	24.58	89.00	4,279.83	27.19	1,557.59	-49.75	0.00	0.00	0.00

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Planning Report

Database:	EDM 5000.14 Single User Db	Local Co-ordinate Reference:	Well PEGGY 2501-16H
Company:	VERDAD RESOURCES	TVD Reference:	RKB = 20' @ 4913.00usft (RIG)
Project:	WATTENBERG FIELD	MD Reference:	RKB = 20' @ 4913.00usft (RIG)
Site:	9N-60W-25 PEGGY PAD	North Reference:	True
Well:	PEGGY 2501-16H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Planned 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)	
4,700.00	24.58	89.00	4,370.76	27.91	1,599.18	-51.08	0.00	0.00	0.00	
4,800.00	24.58	89.00	4,461.70	28.64	1,640.77	-52.40	0.00	0.00	0.00	
4,900.00	24.58	89.00	4,552.64	29.37	1,682.36	-53.73	0.00	0.00	0.00	
5,000.00	24.58	89.00	4,643.58	30.09	1,723.95	-55.06	0.00	0.00	0.00	
5,100.00	24.58	89.00	4,734.52	30.82	1,765.54	-56.39	0.00	0.00	0.00	
5,200.00	24.58	89.00	4,825.46	31.54	1,807.13	-57.72	0.00	0.00	0.00	
5,300.00	24.58	89.00	4,916.39	32.27	1,848.72	-59.05	0.00	0.00	0.00	
5,400.00	24.58	89.00	5,007.33	33.00	1,890.31	-60.37	0.00	0.00	0.00	
5,500.00	24.58	89.00	5,098.27	33.72	1,931.90	-61.70	0.00	0.00	0.00	
5,600.00	24.58	89.00	5,189.21	34.45	1,973.49	-63.03	0.00	0.00	0.00	
5,700.00	24.58	89.00	5,280.15	35.17	2,015.08	-64.36	0.00	0.00	0.00	
5,800.00	24.58	89.00	5,371.08	35.90	2,056.67	-65.69	0.00	0.00	0.00	
5,900.00	24.58	89.00	5,462.02	36.63	2,098.26	-67.02	0.00	0.00	0.00	
6,000.00	24.58	89.00	5,552.96	37.35	2,139.85	-68.34	0.00	0.00	0.00	
6,070.67	24.58	89.00	5,617.23	37.86	2,169.24	-69.28	0.00	0.00	0.00	
KOP @ 6070.67ft :: DLS = 9°/100'										
6,100.00	24.67	95.33	5,643.89	37.40	2,181.44	-69.00	9.00	0.32	21.59	
6,150.00	25.43	105.82	5,689.21	33.50	2,202.17	-65.40	9.00	1.52	20.97	
6,200.00	26.89	115.49	5,734.11	25.71	2,222.71	-57.90	9.00	2.91	19.34	
6,250.00	28.93	124.07	5,778.31	14.06	2,242.95	-46.55	9.00	4.08	17.16	
6,300.00	31.45	131.50	5,821.54	-1.37	2,262.74	-31.41	9.00	5.03	14.86	
6,350.00	34.33	137.87	5,863.53	-20.47	2,281.98	-12.58	9.00	5.77	12.74	
6,400.00	37.50	143.32	5,904.03	-43.15	2,300.54	9.82	9.00	6.34	10.91	
6,450.00	40.88	148.02	5,942.79	-69.25	2,318.30	35.66	9.00	6.77	9.40	
6,500.00	44.43	152.10	5,979.56	-98.61	2,335.17	64.77	9.00	7.10	8.17	
6,550.00	48.11	155.69	6,014.12	-131.06	2,351.02	96.99	9.00	7.36	7.18	
6,600.00	51.89	158.89	6,046.26	-166.39	2,365.78	132.10	9.00	7.56	6.39	
6,650.00	55.75	161.76	6,075.78	-204.38	2,379.34	169.89	9.00	7.71	5.75	
6,700.00	59.66	164.39	6,102.49	-244.81	2,391.62	210.14	9.00	7.83	5.24	
6,750.00	63.63	166.80	6,126.23	-287.42	2,402.54	252.59	9.00	7.93	4.84	
6,800.00	67.63	169.06	6,146.86	-331.95	2,412.05	296.97	9.00	8.01	4.51	
6,850.00	71.66	171.19	6,164.25	-378.12	2,420.07	343.02	9.00	8.07	4.26	
6,900.00	75.72	173.23	6,178.29	-425.65	2,426.57	390.46	9.00	8.11	4.07	
6,950.00	79.79	175.19	6,188.89	-474.25	2,431.49	438.98	9.00	8.14	3.92	
7,000.00	83.87	177.10	6,196.00	-523.62	2,434.82	488.30	9.00	8.17	3.82	
7,050.00	87.96	178.98	6,199.56	-573.45	2,436.52	538.10	9.00	8.18	3.76	
7,074.88	90.00	179.91	6,200.00	-598.33	2,436.76	562.96	9.00	8.18	3.74	
End Build @ 7074.88ft										
7,100.00	90.00	179.91	6,200.00	-623.45	2,436.80	588.08	0.00	0.00	0.00	
7,200.00	90.00	179.91	6,200.00	-723.45	2,436.96	688.07	0.00	0.00	0.00	
7,300.00	90.00	179.91	6,200.00	-823.45	2,437.11	788.06	0.00	0.00	0.00	
7,400.00	90.00	179.91	6,200.00	-923.45	2,437.27	888.04	0.00	0.00	0.00	
7,500.00	90.00	179.91	6,200.00	-1,023.45	2,437.42	988.03	0.00	0.00	0.00	
7,600.00	90.00	179.91	6,200.00	-1,123.45	2,437.58	1,088.02	0.00	0.00	0.00	
7,700.00	90.00	179.91	6,200.00	-1,223.45	2,437.74	1,188.01	0.00	0.00	0.00	
7,800.00	90.00	179.91	6,200.00	-1,323.45	2,437.89	1,287.99	0.00	0.00	0.00	
7,900.00	90.00	179.91	6,200.00	-1,423.45	2,438.05	1,387.98	0.00	0.00	0.00	
8,000.00	90.00	179.91	6,200.00	-1,523.45	2,438.20	1,487.97	0.00	0.00	0.00	
8,100.00	90.00	179.91	6,200.00	-1,623.45	2,438.36	1,587.95	0.00	0.00	0.00	
8,200.00	90.00	179.91	6,200.00	-1,723.45	2,438.51	1,687.94	0.00	0.00	0.00	
8,300.00	90.00	179.91	6,200.00	-1,823.45	2,438.67	1,787.93	0.00	0.00	0.00	
8,400.00	90.00	179.91	6,200.00	-1,923.44	2,438.82	1,887.91	0.00	0.00	0.00	
8,500.00	90.00	179.91	6,200.00	-2,023.44	2,438.98	1,987.90	0.00	0.00	0.00	
8,600.00	90.00	179.91	6,200.00	-2,123.44	2,439.14	2,087.89	0.00	0.00	0.00	

Hewlett-Packard

Planning Report

Database:	EDM 5000.14 Single User Db	Local Co-ordinate Reference:	Well PEGGY 2501-16H
Company:	VERDAD RESOURCES	TVD Reference:	RKB = 20' @ 4913.00usft (RIG)
Project:	WATTENBERG FIELD	MD Reference:	RKB = 20' @ 4913.00usft (RIG)
Site:	9N-60W-25 PEGGY PAD	North Reference:	True
Well:	PEGGY 2501-16H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Planned 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)	
8,700.00	90.00	179.91	6,200.00	-2,223.44	2,439.29	2,187.88	0.00	0.00	0.00	
8,800.00	90.00	179.91	6,200.00	-2,323.44	2,439.45	2,287.86	0.00	0.00	0.00	
8,900.00	90.00	179.91	6,200.00	-2,423.44	2,439.60	2,387.85	0.00	0.00	0.00	
9,000.00	90.00	179.91	6,200.00	-2,523.44	2,439.76	2,487.84	0.00	0.00	0.00	
9,100.00	90.00	179.91	6,200.00	-2,623.44	2,439.91	2,587.82	0.00	0.00	0.00	
9,200.00	90.00	179.91	6,200.00	-2,723.44	2,440.07	2,687.81	0.00	0.00	0.00	
9,300.00	90.00	179.91	6,200.00	-2,823.44	2,440.22	2,787.80	0.00	0.00	0.00	
9,400.00	90.00	179.91	6,200.00	-2,923.44	2,440.38	2,887.79	0.00	0.00	0.00	
9,500.00	90.00	179.91	6,200.00	-3,023.44	2,440.54	2,987.77	0.00	0.00	0.00	
9,600.00	90.00	179.91	6,200.00	-3,123.44	2,440.69	3,087.76	0.00	0.00	0.00	
9,700.00	90.00	179.91	6,200.00	-3,223.44	2,440.85	3,187.75	0.00	0.00	0.00	
9,800.00	90.00	179.91	6,200.00	-3,323.44	2,441.00	3,287.73	0.00	0.00	0.00	
9,900.00	90.00	179.91	6,200.00	-3,423.44	2,441.16	3,387.72	0.00	0.00	0.00	
10,000.00	90.00	179.91	6,200.00	-3,523.44	2,441.31	3,487.71	0.00	0.00	0.00	
10,100.00	90.00	179.91	6,200.00	-3,623.44	2,441.47	3,587.70	0.00	0.00	0.00	
10,200.00	90.00	179.91	6,200.00	-3,723.44	2,441.62	3,687.68	0.00	0.00	0.00	
10,300.00	90.00	179.91	6,200.00	-3,823.44	2,441.78	3,787.67	0.00	0.00	0.00	
10,400.00	90.00	179.91	6,200.00	-3,923.44	2,441.94	3,887.66	0.00	0.00	0.00	
10,500.00	90.00	179.91	6,200.00	-4,023.44	2,442.09	3,987.64	0.00	0.00	0.00	
10,600.00	90.00	179.91	6,200.00	-4,123.44	2,442.25	4,087.63	0.00	0.00	0.00	
10,700.00	90.00	179.91	6,200.00	-4,223.44	2,442.40	4,187.62	0.00	0.00	0.00	
10,800.00	90.00	179.91	6,200.00	-4,323.44	2,442.56	4,287.61	0.00	0.00	0.00	
10,900.00	90.00	179.91	6,200.00	-4,423.44	2,442.71	4,387.59	0.00	0.00	0.00	
11,000.00	90.00	179.91	6,200.00	-4,523.44	2,442.87	4,487.58	0.00	0.00	0.00	
11,100.00	90.00	179.91	6,200.00	-4,623.44	2,443.02	4,587.57	0.00	0.00	0.00	
11,200.00	90.00	179.91	6,200.00	-4,723.44	2,443.18	4,687.55	0.00	0.00	0.00	
11,300.00	90.00	179.91	6,200.00	-4,823.44	2,443.34	4,787.54	0.00	0.00	0.00	
11,400.00	90.00	179.91	6,200.00	-4,923.44	2,443.49	4,887.53	0.00	0.00	0.00	
11,500.00	90.00	179.91	6,200.00	-5,023.44	2,443.65	4,987.52	0.00	0.00	0.00	
11,600.00	90.00	179.91	6,200.00	-5,123.44	2,443.80	5,087.50	0.00	0.00	0.00	
11,700.00	90.00	179.91	6,200.00	-5,223.44	2,443.96	5,187.49	0.00	0.00	0.00	
11,800.00	90.00	179.91	6,200.00	-5,323.44	2,444.11	5,287.48	0.00	0.00	0.00	
11,900.00	90.00	179.91	6,200.00	-5,423.44	2,444.27	5,387.46	0.00	0.00	0.00	
12,000.00	90.00	179.91	6,200.00	-5,523.44	2,444.42	5,487.45	0.00	0.00	0.00	
12,106.11	90.00	179.91	6,200.00	-5,629.55	2,444.59	5,593.55	0.00	0.00	0.00	
Begin Turn to BHL @ 12106.11ft										
12,200.00	90.00	181.79	6,200.00	-5,723.43	2,443.20	5,687.43	2.00	0.00	2.00	
12,245.52	90.00	182.70	6,200.00	-5,768.91	2,441.41	5,732.94	2.00	0.00	2.00	
End Turn @ 12245.52ft										
12,300.00	90.00	182.70	6,200.00	-5,823.33	2,438.85	5,787.39	0.00	0.00	0.00	
12,400.00	90.00	182.70	6,200.00	-5,923.22	2,434.14	5,887.34	0.00	0.00	0.00	
12,500.00	90.00	182.70	6,200.00	-6,023.11	2,429.43	5,987.28	0.00	0.00	0.00	
12,600.00	90.00	182.70	6,200.00	-6,123.00	2,424.72	6,087.23	0.00	0.00	0.00	
12,700.00	90.00	182.70	6,200.00	-6,222.89	2,420.01	6,187.18	0.00	0.00	0.00	
12,800.00	90.00	182.70	6,200.00	-6,322.78	2,415.31	6,287.12	0.00	0.00	0.00	
12,900.00	90.00	182.70	6,200.00	-6,422.66	2,410.60	6,387.07	0.00	0.00	0.00	
13,000.00	90.00	182.70	6,200.00	-6,522.55	2,405.89	6,487.02	0.00	0.00	0.00	
13,100.00	90.00	182.70	6,200.00	-6,622.44	2,401.18	6,586.97	0.00	0.00	0.00	
13,200.00	90.00	182.70	6,200.00	-6,722.33	2,396.47	6,686.91	0.00	0.00	0.00	
13,300.00	90.00	182.70	6,200.00	-6,822.22	2,391.76	6,786.86	0.00	0.00	0.00	
13,400.00	90.00	182.70	6,200.00	-6,922.11	2,387.05	6,886.81	0.00	0.00	0.00	
13,500.00	90.00	182.70	6,200.00	-7,022.00	2,382.34	6,986.75	0.00	0.00	0.00	
13,600.00	90.00	182.70	6,200.00	-7,121.89	2,377.64	7,086.70	0.00	0.00	0.00	
13,700.00	90.00	182.70	6,200.00	-7,221.78	2,372.93	7,186.65	0.00	0.00	0.00	

Hewlett-Packard

Planning Report

Database:	EDM 5000.14 Single User Db	Local Co-ordinate Reference:	Well PEGGY 2501-16H
Company:	VERDAD RESOURCES	TVD Reference:	RKB = 20' @ 4913.00usft (RIG)
Project:	WATTENBERG FIELD	MD Reference:	RKB = 20' @ 4913.00usft (RIG)
Site:	9N-60W-25 PEGGY PAD	North Reference:	True
Well:	PEGGY 2501-16H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Planned 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)	
13,800.00	90.00	182.70	6,200.00	-7,321.67	2,368.22	7,286.59	0.00	0.00	0.00	
13,900.00	90.00	182.70	6,200.00	-7,421.56	2,363.51	7,386.54	0.00	0.00	0.00	
14,000.00	90.00	182.70	6,200.00	-7,521.44	2,358.80	7,486.49	0.00	0.00	0.00	
14,100.00	90.00	182.70	6,200.00	-7,621.33	2,354.09	7,586.43	0.00	0.00	0.00	
14,200.00	90.00	182.70	6,200.00	-7,721.22	2,349.38	7,686.38	0.00	0.00	0.00	
14,300.00	90.00	182.70	6,200.00	-7,821.11	2,344.67	7,786.33	0.00	0.00	0.00	
14,400.00	90.00	182.70	6,200.00	-7,921.00	2,339.97	7,886.27	0.00	0.00	0.00	
14,500.00	90.00	182.70	6,200.00	-8,020.89	2,335.26	7,986.22	0.00	0.00	0.00	
14,600.00	90.00	182.70	6,200.00	-8,120.78	2,330.55	8,086.17	0.00	0.00	0.00	
14,675.03	90.00	182.70	6,200.00	-8,195.73	2,327.02	8,161.16	0.00	0.00	0.00	
TD Well @ 14675.03ft										

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name		Casing Diameter (")	Hole Diameter (")
1,763.10	1,700.00	9 5/8"		9-5/8	13-1/2

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
250.00	250.00	0.00	0.00	Begin Tangent @ 250.00ft	
1,479.00	1,441.65	4.53	259.56	End Tangent @ 1479.00ft	
6,070.67	5,617.23	37.86	2,169.24	KOP @ 6070.67ft :: DLS = 9°/100'	
7,074.88	6,200.00	-598.33	2,436.76	End Build @ 7074.88ft	
12,106.11	6,200.00	-5,629.55	2,444.59	Begin Turn to BHL @ 12106.11ft	
12,245.52	6,200.00	-5,768.91	2,441.41	End Turn @ 12245.52ft	
14,675.03	6,200.00	-8,195.73	2,327.02	TD Well @ 14675.03ft	