

VERDAD RESOURCES

**WATTENBERG FIELD
9N-60W-25 PEGGY PAD
PEGGY 2501-01H**

Wellbore #1

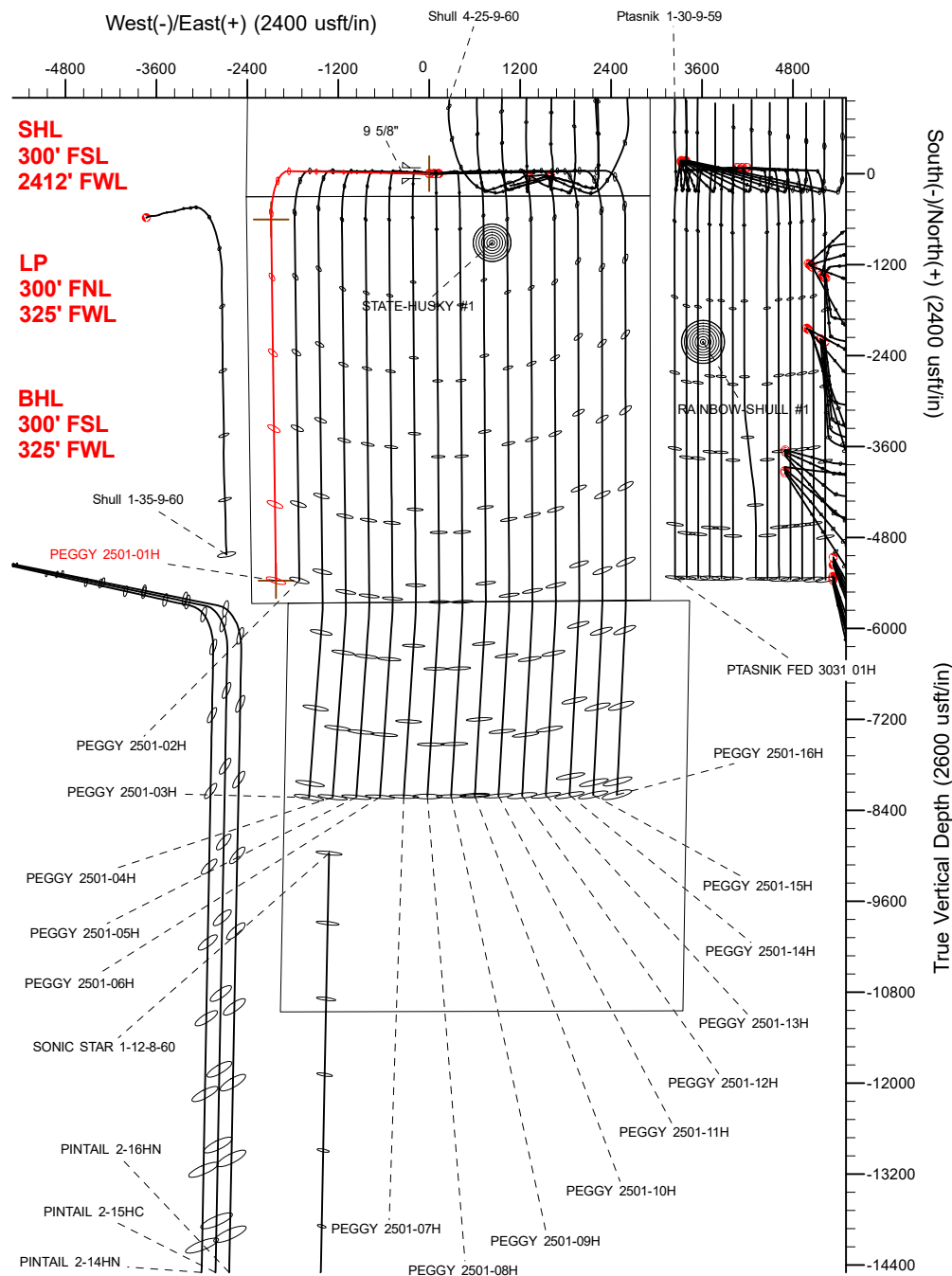
Plan: Design #1

Standard Planning Report

25 February, 2018

Project: WATTENBERG FIELD
Site: 9N-60W-25 PEGGY PAD
Well: PEGGY 2501-01H
Wellbore: Wellbore #1
Design: Design #1

VERDAD RESOURCES

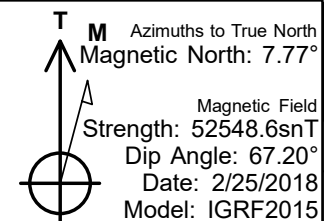
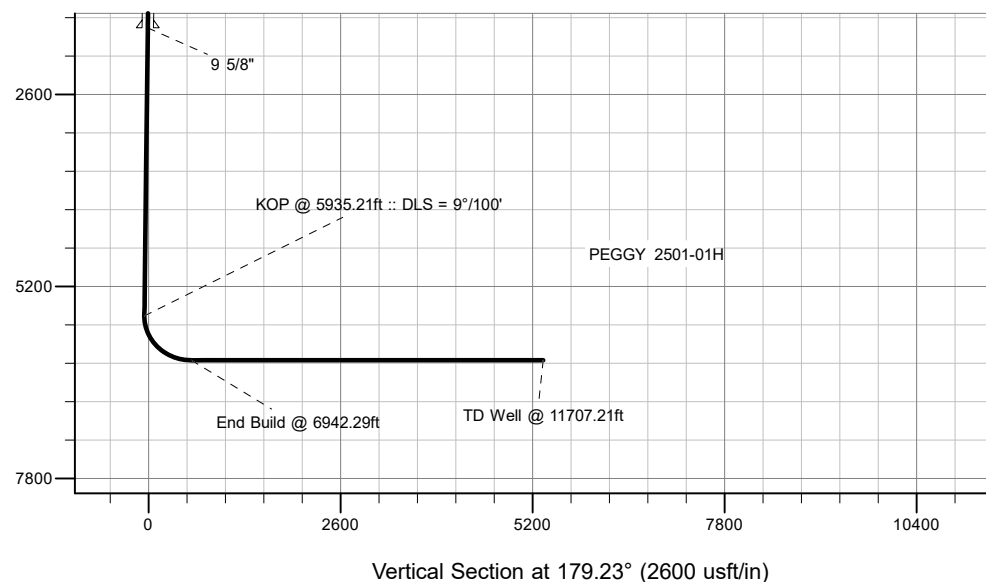


SECTION DETAILS

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	1307.50	21.15	271.00	1283.65	3.37	-192.95	2.00	271.00	-5.96	
4	5935.21	21.15	271.00	5599.63	32.51	-1862.42	0.00	0.00	-57.53	
5	6942.29	90.00	179.23	6200.00	-607.12	-2086.05	9.00	-91.65	579.03	
6	11707.21	90.00	179.23	6200.00	-5371.62	-2022.38	0.00	0.00	5343.95	PEGGY 2501-01H_BHL

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
PEGGY 2501-01H_SHL	0.00	0.00	0.00	40.714775	-104.040842
PEGGY 2501-01H_BHL	6200.00	-5371.62	-2022.38	40.700030	-104.048136



WELL DETAILS: PEGGY 2501-01H

GL = 4894'

RKB = 20' @ 4914.00usft (RIG)

Plan: Design #1 (PEGGY 2501-01H/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 2501-01H
Company:	VERDAD RESOURCES	TVD Reference:	RKB = 20' @ 4914.00usft (RIG)
Project:	WATTENBERG FIELD	MD Reference:	RKB = 20' @ 4914.00usft (RIG)
Site:	9N-60W-25 PEGGY PAD	North Reference:	True
Well:	PEGGY 2501-01H	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 2501-01H			
Well Position	+N/-S	0.00 usft	Northing:	1,506,564.37 usft
	+E/-W	0.00 usft	Easting:	3,404,485.26 usft
Position Uncertainty		3.28 usft	Wellhead Elevation:	Ground Level: 4,894.00 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	2/25/2018	7.77	67.20	52,548.61174822

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	179.23

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	11,707.21	Design #1 (Wellbore #1)	ISCWSA REV 2 MWD Fixed:v2:standard declination

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	
1,307.50	21.15	271.00	1,283.65	3.37	-192.95	2.00	2.00	0.00	271.00	
5,935.21	21.15	271.00	5,599.63	32.51	-1,862.42	0.00	0.00	0.00	0.00	
6,942.29	90.00	179.23	6,200.00	-607.12	-2,086.05	9.00	6.84	-9.11	-91.65	
11,707.21	90.00	179.23	6,200.00	-5,371.62	-2,022.38	0.00	0.00	0.00	0.00	PEGGY 2501-01H_BI

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Planning Report

Database:	EDM 5000.14 Single User Db	Local Co-ordinate Reference:	Well PEGGY 2501-01H
Company:	VERDAD RESOURCES	TVD Reference:	RKB = 20' @ 4914.00usft (RIG)
Project:	WATTENBERG FIELD	MD Reference:	RKB = 20' @ 4914.00usft (RIG)
Site:	9N-60W-25 PEGGY PAD	North Reference:	True
Well:	PEGGY 2501-01H	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	271.00	300.00	0.01	-0.44	-0.01	2.00	2.00	0.00
400.00	3.00	271.00	399.93	0.07	-3.93	-0.12	2.00	2.00	0.00
500.00	5.00	271.00	499.68	0.19	-10.90	-0.34	2.00	2.00	0.00
600.00	7.00	271.00	599.13	0.37	-21.35	-0.66	2.00	2.00	0.00
700.00	9.00	271.00	698.15	0.62	-35.26	-1.09	2.00	2.00	0.00
800.00	11.00	271.00	796.63	0.92	-52.63	-1.63	2.00	2.00	0.00
900.00	13.00	271.00	894.44	1.28	-73.41	-2.27	2.00	2.00	0.00
1,000.00	15.00	271.00	991.46	1.70	-97.60	-3.02	2.00	2.00	0.00
1,100.00	17.00	271.00	1,087.58	2.18	-125.16	-3.87	2.00	2.00	0.00
1,200.00	19.00	271.00	1,182.68	2.72	-156.05	-4.82	2.00	2.00	0.00
1,307.50	21.15	271.00	1,283.65	3.37	-192.95	-5.96	2.00	2.00	0.00
End Tangent @ 1307.50ft									
1,400.00	21.15	271.00	1,369.92	3.95	-226.32	-6.99	0.00	0.00	0.00
1,500.00	21.15	271.00	1,463.18	4.58	-262.39	-8.11	0.00	0.00	0.00
1,600.00	21.15	271.00	1,556.44	5.21	-298.47	-9.22	0.00	0.00	0.00
1,700.00	21.15	271.00	1,649.71	5.84	-334.54	-10.33	0.00	0.00	0.00
1,753.92	21.15	271.00	1,700.00	6.18	-354.00	-10.94	0.00	0.00	0.00
9 5/8"									
1,800.00	21.15	271.00	1,742.97	6.47	-370.62	-11.45	0.00	0.00	0.00
1,900.00	21.15	271.00	1,836.24	7.10	-406.69	-12.56	0.00	0.00	0.00
2,000.00	21.15	271.00	1,929.50	7.73	-442.77	-13.68	0.00	0.00	0.00
2,100.00	21.15	271.00	2,022.76	8.36	-478.84	-14.79	0.00	0.00	0.00
2,200.00	21.15	271.00	2,116.03	8.99	-514.92	-15.91	0.00	0.00	0.00
2,300.00	21.15	271.00	2,209.29	9.62	-551.00	-17.02	0.00	0.00	0.00
2,400.00	21.15	271.00	2,302.56	10.25	-587.07	-18.14	0.00	0.00	0.00
2,500.00	21.15	271.00	2,395.82	10.88	-623.15	-19.25	0.00	0.00	0.00
2,600.00	21.15	271.00	2,489.08	11.51	-659.22	-20.36	0.00	0.00	0.00
2,700.00	21.15	271.00	2,582.35	12.14	-695.30	-21.48	0.00	0.00	0.00
2,800.00	21.15	271.00	2,675.61	12.77	-731.37	-22.59	0.00	0.00	0.00
2,900.00	21.15	271.00	2,768.87	13.40	-767.45	-23.71	0.00	0.00	0.00
3,000.00	21.15	271.00	2,862.14	14.03	-803.52	-24.82	0.00	0.00	0.00
3,100.00	21.15	271.00	2,955.40	14.66	-839.60	-25.94	0.00	0.00	0.00
3,200.00	21.15	271.00	3,048.67	15.28	-875.68	-27.05	0.00	0.00	0.00
3,300.00	21.15	271.00	3,141.93	15.91	-911.75	-28.17	0.00	0.00	0.00
3,400.00	21.15	271.00	3,235.19	16.54	-947.83	-29.28	0.00	0.00	0.00
3,500.00	21.15	271.00	3,328.46	17.17	-983.90	-30.39	0.00	0.00	0.00
3,600.00	21.15	271.00	3,421.72	17.80	-1,019.98	-31.51	0.00	0.00	0.00
3,700.00	21.15	271.00	3,514.99	18.43	-1,056.05	-32.62	0.00	0.00	0.00
3,800.00	21.15	271.00	3,608.25	19.06	-1,092.13	-33.74	0.00	0.00	0.00
3,900.00	21.15	271.00	3,701.51	19.69	-1,128.21	-34.85	0.00	0.00	0.00
4,000.00	21.15	271.00	3,794.78	20.32	-1,164.28	-35.97	0.00	0.00	0.00
4,100.00	21.15	271.00	3,888.04	20.95	-1,200.36	-37.08	0.00	0.00	0.00
4,200.00	21.15	271.00	3,981.31	21.58	-1,236.43	-38.20	0.00	0.00	0.00
4,300.00	21.15	271.00	4,074.57	22.21	-1,272.51	-39.31	0.00	0.00	0.00
4,400.00	21.15	271.00	4,167.83	22.84	-1,308.58	-40.42	0.00	0.00	0.00
4,500.00	21.15	271.00	4,261.10	23.47	-1,344.66	-41.54	0.00	0.00	0.00
4,600.00	21.15	271.00	4,354.36	24.10	-1,380.73	-42.65	0.00	0.00	0.00
4,700.00	21.15	271.00	4,447.62	24.73	-1,416.81	-43.77	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 2501-01H
Company:	VERDAD RESOURCES	TVD Reference:	RKB = 20' @ 4914.00usft (RIG)
Project:	WATTENBERG FIELD	MD Reference:	RKB = 20' @ 4914.00usft (RIG)
Site:	9N-60W-25 PEGGY PAD	North Reference:	True
Well:	PEGGY 2501-01H	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)
4,800.00	21.15	271.00	4,540.89	25.36	-1,452.89	-44.88	0.00	0.00	0.00
4,900.00	21.15	271.00	4,634.15	25.99	-1,488.96	-46.00	0.00	0.00	0.00
5,000.00	21.15	271.00	4,727.42	26.62	-1,525.04	-47.11	0.00	0.00	0.00
5,100.00	21.15	271.00	4,820.68	27.25	-1,561.11	-48.23	0.00	0.00	0.00
5,200.00	21.15	271.00	4,913.94	27.88	-1,597.19	-49.34	0.00	0.00	0.00
5,300.00	21.15	271.00	5,007.21	28.51	-1,633.26	-50.45	0.00	0.00	0.00
5,400.00	21.15	271.00	5,100.47	29.14	-1,669.34	-51.57	0.00	0.00	0.00
5,500.00	21.15	271.00	5,193.74	29.77	-1,705.41	-52.68	0.00	0.00	0.00
5,600.00	21.15	271.00	5,287.00	30.40	-1,741.49	-53.80	0.00	0.00	0.00
5,700.00	21.15	271.00	5,380.26	31.03	-1,777.57	-54.91	0.00	0.00	0.00
5,800.00	21.15	271.00	5,473.53	31.66	-1,813.64	-56.03	0.00	0.00	0.00
5,900.00	21.15	271.00	5,566.79	32.29	-1,849.72	-57.14	0.00	0.00	0.00
5,935.21	21.15	271.00	5,599.63	32.51	-1,862.42	-57.53	0.00	0.00	0.00
KOP @ 5935.21ft :: DLS = 9°/100'									
5,950.00	21.15	267.31	5,613.42	32.43	-1,867.75	-57.53	9.00	0.01	-24.95
6,000.00	21.74	255.09	5,659.99	29.62	-1,885.72	-54.96	9.00	1.18	-24.45
6,050.00	23.16	243.89	5,706.22	22.91	-1,903.51	-48.49	9.00	2.85	-22.40
6,100.00	25.28	234.19	5,751.83	12.33	-1,921.01	-38.14	9.00	4.23	-19.39
6,150.00	27.93	226.06	5,796.54	-2.05	-1,938.11	-23.99	9.00	5.30	-16.26
6,200.00	30.98	219.32	5,840.09	-20.14	-1,954.71	-6.13	9.00	6.10	-13.48
6,250.00	34.33	213.73	5,882.19	-41.84	-1,970.70	15.35	9.00	6.68	-11.19
6,300.00	37.88	209.04	5,922.59	-66.99	-1,985.98	40.30	9.00	7.11	-9.38
6,350.00	41.59	205.06	5,961.04	-95.46	-2,000.47	68.57	9.00	7.43	-7.96
6,400.00	45.43	201.63	5,997.30	-127.07	-2,014.07	99.99	9.00	7.66	-6.86
6,450.00	49.35	198.63	6,031.15	-161.61	-2,026.70	134.36	9.00	7.84	-6.00
6,500.00	53.34	195.96	6,062.38	-198.89	-2,038.28	171.48	9.00	7.98	-5.33
6,550.00	57.38	193.56	6,090.80	-238.66	-2,048.74	211.10	9.00	8.09	-4.80
6,600.00	61.47	191.37	6,116.23	-280.68	-2,058.01	253.00	9.00	8.17	-4.38
6,650.00	65.59	189.34	6,138.51	-324.70	-2,066.04	296.90	9.00	8.24	-4.05
6,700.00	69.73	187.45	6,157.52	-370.44	-2,072.78	342.55	9.00	8.29	-3.80
6,750.00	73.89	185.65	6,173.12	-417.62	-2,078.19	389.65	9.00	8.33	-3.60
6,800.00	78.07	183.92	6,185.23	-465.95	-2,082.22	437.92	9.00	8.35	-3.45
6,850.00	82.26	182.25	6,193.78	-515.13	-2,084.87	487.06	9.00	8.38	-3.35
6,900.00	86.45	180.61	6,198.69	-564.86	-2,086.11	536.77	9.00	8.39	-3.28
6,942.29	90.00	179.23	6,200.00	-607.12	-2,086.05	579.03	9.00	8.39	-3.25
End Build @ 6942.29ft									
7,000.00	90.00	179.23	6,200.00	-664.82	-2,085.28	636.74	0.00	0.00	0.00
7,100.00	90.00	179.23	6,200.00	-764.82	-2,083.94	736.74	0.00	0.00	0.00
7,200.00	90.00	179.23	6,200.00	-864.81	-2,082.61	836.74	0.00	0.00	0.00
7,300.00	90.00	179.23	6,200.00	-964.80	-2,081.27	936.74	0.00	0.00	0.00
7,400.00	90.00	179.23	6,200.00	-1,064.79	-2,079.93	1,036.74	0.00	0.00	0.00
7,500.00	90.00	179.23	6,200.00	-1,164.78	-2,078.60	1,136.74	0.00	0.00	0.00
7,600.00	90.00	179.23	6,200.00	-1,264.77	-2,077.26	1,236.74	0.00	0.00	0.00
7,700.00	90.00	179.23	6,200.00	-1,364.76	-2,075.92	1,336.74	0.00	0.00	0.00
7,800.00	90.00	179.23	6,200.00	-1,464.75	-2,074.59	1,436.74	0.00	0.00	0.00
7,900.00	90.00	179.23	6,200.00	-1,564.74	-2,073.25	1,536.74	0.00	0.00	0.00
8,000.00	90.00	179.23	6,200.00	-1,664.74	-2,071.92	1,636.74	0.00	0.00	0.00
8,100.00	90.00	179.23	6,200.00	-1,764.73	-2,070.58	1,736.74	0.00	0.00	0.00
8,200.00	90.00	179.23	6,200.00	-1,864.72	-2,069.24	1,836.74	0.00	0.00	0.00
8,300.00	90.00	179.23	6,200.00	-1,964.71	-2,067.91	1,936.74	0.00	0.00	0.00
8,400.00	90.00	179.23	6,200.00	-2,064.70	-2,066.57	2,036.74	0.00	0.00	0.00
8,500.00	90.00	179.23	6,200.00	-2,164.69	-2,065.24	2,136.74	0.00	0.00	0.00
8,600.00	90.00	179.23	6,200.00	-2,264.68	-2,063.90	2,236.74	0.00	0.00	0.00
8,700.00	90.00	179.23	6,200.00	-2,364.67	-2,062.56	2,336.74	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 2501-01H
Company:	VERDAD RESOURCES	TVD Reference:	RKB = 20' @ 4914.00usft (RIG)
Project:	WATTENBERG FIELD	MD Reference:	RKB = 20' @ 4914.00usft (RIG)
Site:	9N-60W-25 PEGGY PAD	North Reference:	True
Well:	PEGGY 2501-01H	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)	
8,800.00	90.00	179.23	6,200.00	-2,464.66	-2,061.23	2,436.74	0.00	0.00	0.00	
8,900.00	90.00	179.23	6,200.00	-2,564.65	-2,059.89	2,536.74	0.00	0.00	0.00	
9,000.00	90.00	179.23	6,200.00	-2,664.65	-2,058.55	2,636.74	0.00	0.00	0.00	
9,100.00	90.00	179.23	6,200.00	-2,764.64	-2,057.22	2,736.74	0.00	0.00	0.00	
9,200.00	90.00	179.23	6,200.00	-2,864.63	-2,055.88	2,836.74	0.00	0.00	0.00	
9,300.00	90.00	179.23	6,200.00	-2,964.62	-2,054.55	2,936.74	0.00	0.00	0.00	
9,400.00	90.00	179.23	6,200.00	-3,064.61	-2,053.21	3,036.74	0.00	0.00	0.00	
9,500.00	90.00	179.23	6,200.00	-3,164.60	-2,051.87	3,136.74	0.00	0.00	0.00	
9,600.00	90.00	179.23	6,200.00	-3,264.59	-2,050.54	3,236.74	0.00	0.00	0.00	
9,700.00	90.00	179.23	6,200.00	-3,364.58	-2,049.20	3,336.74	0.00	0.00	0.00	
9,800.00	90.00	179.23	6,200.00	-3,464.57	-2,047.86	3,436.74	0.00	0.00	0.00	
9,900.00	90.00	179.23	6,200.00	-3,564.57	-2,046.53	3,536.74	0.00	0.00	0.00	
10,000.00	90.00	179.23	6,200.00	-3,664.56	-2,045.19	3,636.74	0.00	0.00	0.00	
10,100.00	90.00	179.23	6,200.00	-3,764.55	-2,043.86	3,736.74	0.00	0.00	0.00	
10,200.00	90.00	179.23	6,200.00	-3,864.54	-2,042.52	3,836.74	0.00	0.00	0.00	
10,300.00	90.00	179.23	6,200.00	-3,964.53	-2,041.18	3,936.74	0.00	0.00	0.00	
10,400.00	90.00	179.23	6,200.00	-4,064.52	-2,039.85	4,036.74	0.00	0.00	0.00	
10,500.00	90.00	179.23	6,200.00	-4,164.51	-2,038.51	4,136.74	0.00	0.00	0.00	
10,600.00	90.00	179.23	6,200.00	-4,264.50	-2,037.18	4,236.74	0.00	0.00	0.00	
10,700.00	90.00	179.23	6,200.00	-4,364.49	-2,035.84	4,336.74	0.00	0.00	0.00	
10,800.00	90.00	179.23	6,200.00	-4,464.49	-2,034.50	4,436.74	0.00	0.00	0.00	
10,900.00	90.00	179.23	6,200.00	-4,564.48	-2,033.17	4,536.74	0.00	0.00	0.00	
11,000.00	90.00	179.23	6,200.00	-4,664.47	-2,031.83	4,636.74	0.00	0.00	0.00	
11,100.00	90.00	179.23	6,200.00	-4,764.46	-2,030.49	4,736.74	0.00	0.00	0.00	
11,200.00	90.00	179.23	6,200.00	-4,864.45	-2,029.16	4,836.74	0.00	0.00	0.00	
11,300.00	90.00	179.23	6,200.00	-4,964.44	-2,027.82	4,936.74	0.00	0.00	0.00	
11,400.00	90.00	179.23	6,200.00	-5,064.43	-2,026.49	5,036.74	0.00	0.00	0.00	
11,500.00	90.00	179.23	6,200.00	-5,164.42	-2,025.15	5,136.74	0.00	0.00	0.00	
11,600.00	90.00	179.23	6,200.00	-5,264.41	-2,023.81	5,236.74	0.00	0.00	0.00	
11,707.21	90.00	179.23	6,200.00	-5,371.62	-2,022.38	5,343.95	0.00	0.00	0.00	
TD Well @ 11707.21ft										

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name		Casing Diameter (")	Hole Diameter (")
1,753.92	1,700.00	9 5/8"		9-5/8	13-1/2

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
250.00	250.00	+N/-S (usft)	+E/-W (usft)	Begin Tangent @ 250.00ft	
1,307.50	1,283.65	3.37	-192.95	End Tangent @ 1307.50ft	
5,935.21	5,599.63	32.51	-1,862.42	KOP @ 5935.21ft :: DLS = 9°/100'	
6,942.29	6,200.00	-607.12	-2,086.05	End Build @ 6942.29ft	
11,707.21	6,200.00	-5,371.62	-2,022.38	TD Well @ 11707.21ft	