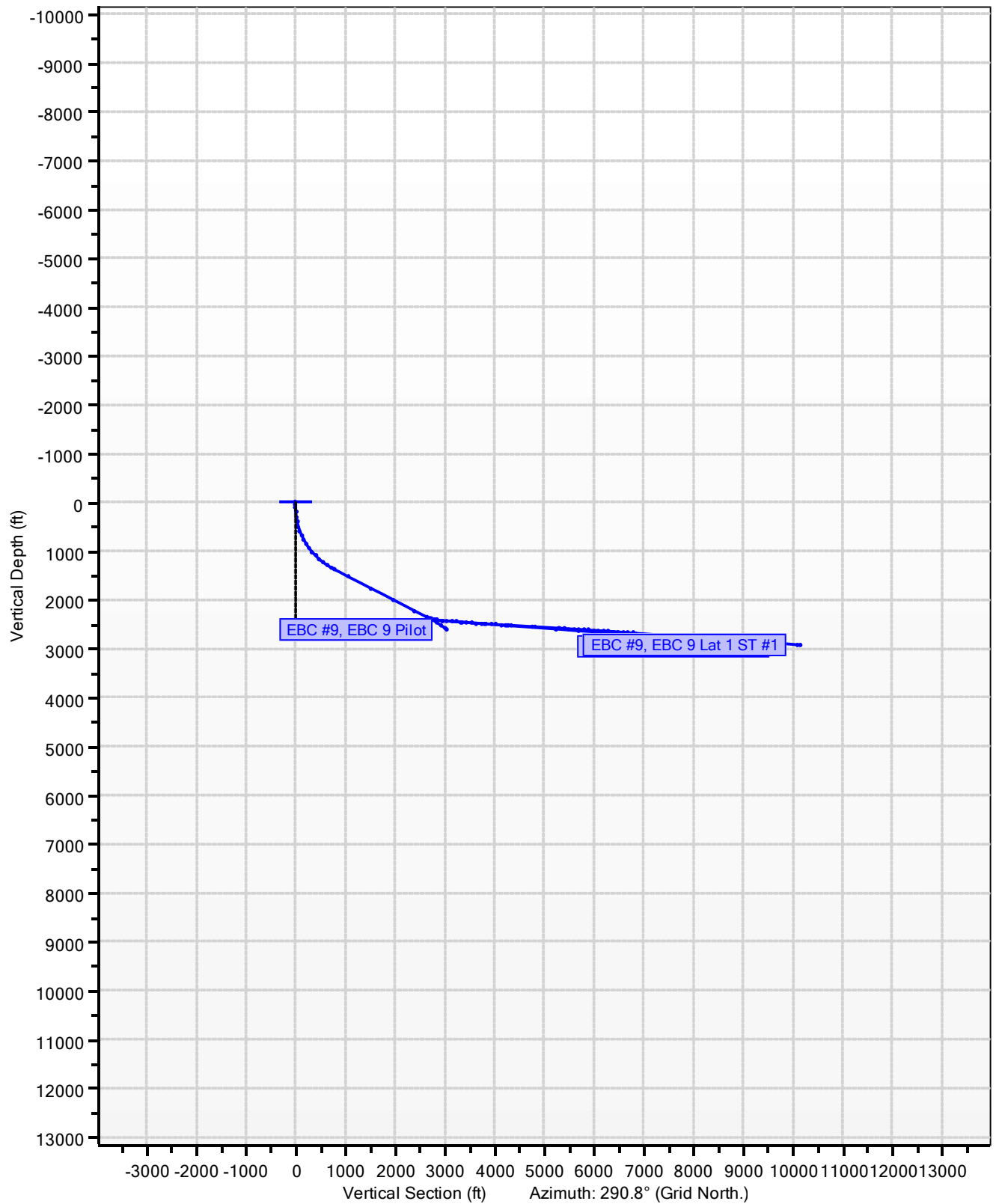


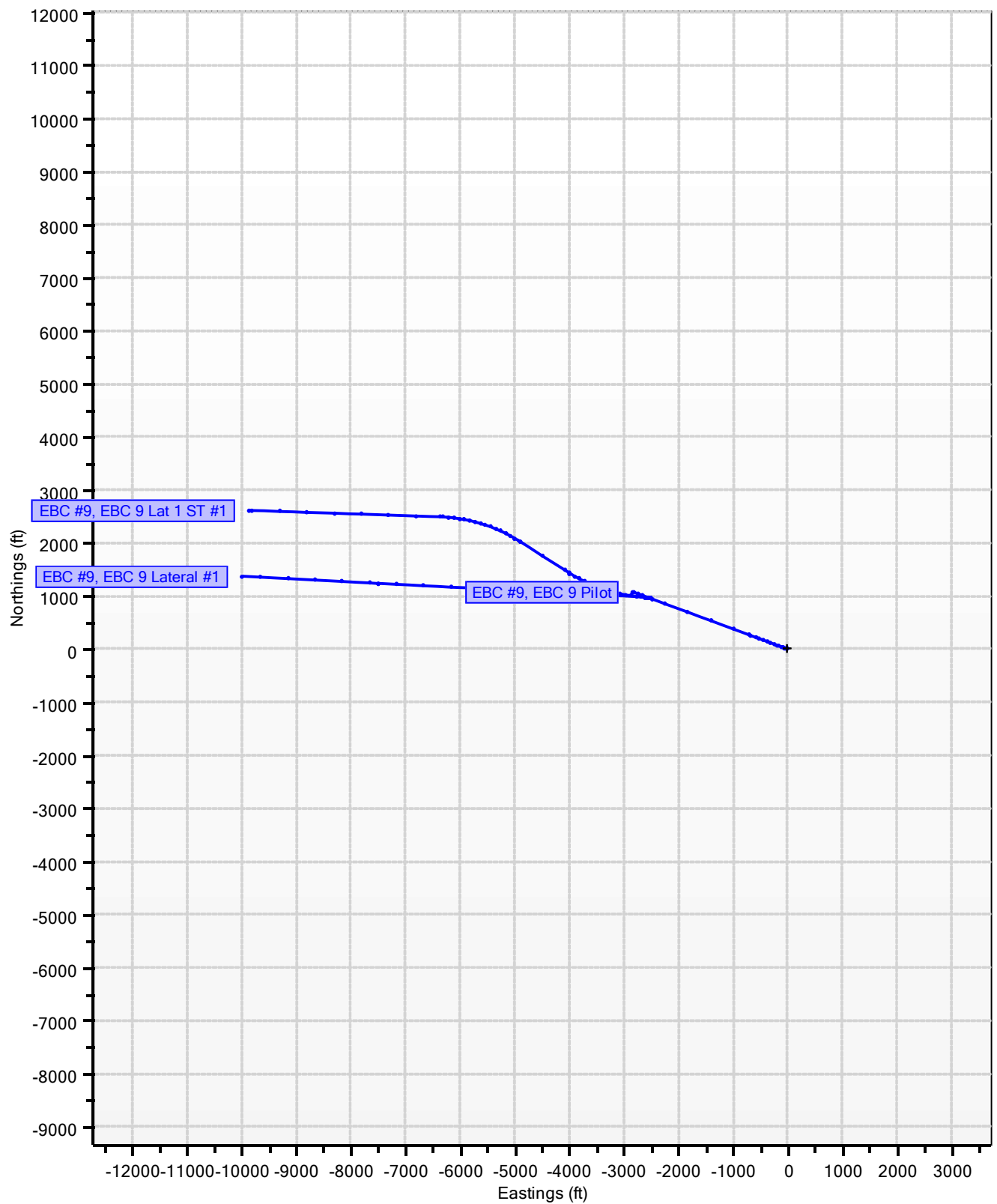
**East Bull Creek Well
EBC Pad 5
EBC #9
EBC 9 Pilot**

Catamount Energy Partners Proposal Report

EBC Pad 5, EBC #9



EBC Pad 5, EBC #9



Catamount Energy Partners

Proposal Report



Database:	San Juan Basin	Local Coordinate Reference:	EBC #9
Company:		TVD Reference:	EBC #9
Project:	East Bull Creek Well	MD Reference:	EBC #9
Site:	EBC Pad 5	North reference:	Grid North
Well:	EBC #9	Survey Calculation Method:	Minimum Curvature
Wellbore:			
Proposal:	EBC 9 Pilot		

Project	East Bull Creek Well		
Map System:	HPGN Colorado State Planes	System Datum:	Mean Sea Level
Geo Datum:	High Precision GPS Network (aka HARN, NAD83/9)		
Map Zone:	Southern Zone		

Site	EBC Pad 5			
Site Position:		Northing:	+1180469	Latitude: 37.14711221° N
From:	Map	Easting:	+2451364	Longitude: 107.38240999° W
Position Uncertainty:	0ft	Slot Radius:	0in	Grid Convergence: -1.2°

Well	EBC #9					
Well Position:	+N/-S	14ft	Northing:	+1180483	Latitude:	37.14715037° N
	+E/-W	-5ft	Easting:	+2451359	Longitude:	107.38242810° W
Position Uncertainty:		1ft	Wellhead Elevation:	6530ft	Ground Level:	6514ft

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	User Defined	2/7/2018	0.0	0.0	0.0

Proposal	EBC 9 Pilot			
Audit Notes:				
Version:		Phase:		Tie On Depth: 0ft

Vertical Section:	Depth from TVD (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0	0	0	290.8

Survey Program		2/22/2018			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0	4235	EBC 9 Pilot	MWD	MWD	

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0	0.0	0.0	0	0	0					
50	0.0	0.0	50	0	0	0.0	0.0	0.0	0.0	
100	0.0	0.0	100	0	0	0.0	0.0	0.0	0.0	
1657	62.3	290.8	1368	273	-716	4.0	4.0	0.0	-69.2	
3853	62.3	290.8	2389	964	-2533	0.0	0.0	0.0	0.0	Slant HL Target
4235	50.9	290.7	2599	1077	-2831	3.0	-3.0	0.0	-179.4	

Planned Survey											
Measured Depth (ft)	Incl. (°)	Az. (°)	Vertical Depth (ft)	Sub Sea Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Closure Distance (ft)	Closure Azimuth (°)	Dogleg Rate (°/100ft)	Comments/ Formations
0	0.0	0.0	0	-6530	0	0	0	0	0.0	0.0	MWD
16	0.0	0.0	16	-6514	0	0	0	0	0.0	0.0	Animas
50	0.0	0.0	50	-6480	0	0	0	0	0.0	0.0	
100	0.0	0.0	100	-6430	0	0	0	0	0.0	0.0	
120	0.8	290.8	120	-6410	0	0	0	0	290.8	4.0	

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Proposal Report



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Well:	EBC #9	Survey Calculation Method:	Minimum Curvature
Wellbore:			
Proposal:	EBC 9 Pilot		

Planned Survey											
Measured Depth (ft)	Incl. (°)	Az. (°)	Vertical Depth (ft)	Sub Sea Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Closure Distance (ft)	Closure Azimuth (°)	Dogleg Rate (°/100ft)	Comments/ Formations
150	2.0	290.8	150	-6380	0	-1	1	1	290.8	4.0	
180	3.2	290.8	180	-6350	1	-2	2	2	290.8	4.0	
210	4.4	290.8	210	-6320	2	-4	4	4	290.8	4.0	
240	5.6	290.8	240	-6290	2	-6	7	7	290.8	4.0	
270	6.8	290.8	270	-6260	4	-9	10	10	290.8	4.0	
300	8.0	290.8	299	-6231	5	-13	14	14	290.8	4.0	
330	9.2	290.8	329	-6201	7	-17	18	18	290.8	4.0	
360	10.4	290.8	359	-6171	8	-22	24	24	290.8	4.0	
390	11.6	290.8	388	-6142	10	-27	29	29	290.8	4.0	
420	12.8	290.8	417	-6113	13	-33	36	36	290.8	4.0	
450	14.0	290.8	447	-6083	15	-40	43	43	290.8	4.0	
480	15.2	290.8	476	-6054	18	-47	50	50	290.8	4.0	
510	16.4	290.8	504	-6026	21	-54	58	58	290.8	4.0	
540	17.6	290.8	533	-5997	24	-63	67	67	290.8	4.0	
570	18.8	290.8	562	-5968	27	-71	76	76	290.8	4.0	
600	20.0	290.8	590	-5940	31	-81	86	86	290.8	4.0	
630	21.2	290.8	618	-5912	34	-91	97	97	290.8	4.0	
660	22.4	290.8	646	-5884	38	-101	108	108	290.8	4.0	
690	23.6	290.8	673	-5857	43	-112	120	120	290.8	4.0	
720	24.8	290.8	701	-5829	47	-123	132	132	290.8	4.0	
750	26.0	290.8	728	-5802	52	-135	145	145	290.8	4.0	
780	27.2	290.8	755	-5775	56	-148	158	158	290.8	4.0	
810	28.4	290.8	781	-5749	61	-161	172	172	290.8	4.0	
840	29.6	290.8	808	-5722	66	-175	187	187	290.8	4.0	
870	30.8	290.8	833	-5697	72	-189	202	202	290.8	4.0	
900	32.0	290.8	859	-5671	77	-203	218	218	290.8	4.0	
930	33.2	290.8	884	-5646	83	-219	234	234	290.8	4.0	
960	34.4	290.8	909	-5621	89	-234	251	251	290.8	4.0	
990	35.6	290.8	934	-5596	95	-250	268	268	290.8	4.0	
1020	36.8	290.8	958	-5572	102	-267	285	285	290.8	4.0	
1050	38.0	290.8	982	-5548	108	-284	304	304	290.8	4.0	
1080	39.2	290.8	1005	-5525	115	-301	322	322	290.8	4.0	
1110	40.4	290.8	1028	-5502	121	-319	342	342	290.8	4.0	
1140	41.6	290.8	1051	-5479	128	-338	361	361	290.8	4.0	
1170	42.8	290.8	1073	-5457	136	-356	381	381	290.8	4.0	
1200	44.0	290.8	1095	-5435	143	-376	402	402	290.8	4.0	
1230	45.2	290.8	1116	-5414	150	-395	423	423	290.8	4.0	
1260	46.4	290.8	1137	-5393	158	-416	445	445	290.8	4.0	
1290	47.6	290.8	1158	-5372	166	-436	467	467	290.8	4.0	
1320	48.8	290.8	1178	-5352	174	-457	489	489	290.8	4.0	
1350	50.0	290.8	1197	-5333	182	-478	512	512	290.8	4.0	
1380	51.2	290.8	1216	-5314	190	-500	535	535	290.8	4.0	
1410	52.4	290.8	1235	-5295	199	-522	558	558	290.8	4.0	
1440	53.6	290.8	1253	-5277	207	-544	582	582	290.8	4.0	
1470	54.8	290.8	1270	-5260	216	-567	607	607	290.8	4.0	
1500	56.0	290.8	1288	-5242	225	-590	631	631	290.8	4.0	
1530	57.2	290.8	1304	-5226	233	-614	656	656	290.8	4.0	
1560	58.4	290.8	1320	-5210	243	-637	682	682	290.8	4.0	
1590	59.6	290.8	1335	-5195	252	-661	708	708	290.8	4.0	
1620	60.8	290.8	1350	-5180	261	-686	734	734	290.8	4.0	

Catamount Energy Partners

Proposal Report



Database:	San Juan Basin	Local Coordinate Reference:	EBC #9
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Site:	EBC Pad 5	North reference:	Grid North
Well:	EBC #9	Survey Calculation Method:	Minimum Curvature
Wellbore:			
Proposal:	EBC 9 Pilot		

Planned Survey											
Measured Depth (ft)	Incl. (°)	Az. (°)	Vertical Depth (ft)	Sub Sea Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Closure Distance (ft)	Closure Azimuth (°)	Dogleg Rate (°/100ft)	Comments/ Formations
1650	62.0	290.8	1365	-5165	270	-710	760	760	290.8	4.0	
1657	62.3	290.8	1368	-5162	273	-716	766	766	290.8	4.0	
1700	62.3	290.8	1388	-5142	286	-752	804	804	290.8	0.0	
1800	62.3	290.8	1434	-5096	318	-834	893	893	290.8	0.0	
1900	62.3	290.8	1481	-5049	349	-917	981	981	290.8	0.0	
2000	62.3	290.8	1527	-5003	381	-1000	1070	1070	290.8	0.0	
2100	62.3	290.8	1574	-4956	412	-1083	1158	1158	290.8	0.0	
2200	62.3	290.8	1620	-4910	443	-1165	1247	1247	290.8	0.0	
2300	62.3	290.8	1667	-4863	475	-1248	1335	1335	290.8	0.0	
2400	62.3	290.8	1713	-4817	506	-1331	1424	1424	290.8	0.0	
2479	62.3	290.8	1750	-4780	531	-1396	1493	1493	290.8	0.0	Kirtland
2500	62.3	290.8	1760	-4770	538	-1414	1512	1512	290.8	0.0	
2600	62.3	290.8	1806	-4724	569	-1496	1601	1601	290.8	0.0	
2674	62.3	290.8	1841	-4689	593	-1558	1667	1667	290.8	0.0	Farmington
2700	62.3	290.8	1853	-4677	601	-1579	1690	1690	290.8	0.0	
2800	62.3	290.8	1899	-4631	632	-1662	1778	1778	290.8	0.0	
2900	62.3	290.8	1946	-4584	664	-1745	1867	1867	290.8	0.0	
3000	62.3	290.8	1992	-4538	695	-1827	1955	1955	290.8	0.0	
3100	62.3	290.8	2039	-4491	727	-1910	2044	2044	290.8	0.0	
3200	62.3	290.8	2085	-4445	758	-1993	2132	2132	290.8	0.0	
3281	62.3	290.8	2123	-4407	784	-2060	2204	2204	290.8	0.0	Lower Kirtland
3300	62.3	290.8	2132	-4398	790	-2075	2221	2221	290.8	0.0	
3400	62.3	290.8	2178	-4352	821	-2158	2309	2309	290.8	0.0	
3500	62.3	290.8	2225	-4305	853	-2241	2398	2398	290.8	0.0	
3600	62.3	290.8	2271	-4259	884	-2324	2486	2486	290.8	0.0	
3700	62.3	290.8	2318	-4212	916	-2406	2575	2575	290.8	0.0	
3800	62.3	290.8	2364	-4166	947	-2489	2663	2663	290.8	0.0	
3853	62.3	290.8	2389	-4141	964	-2533	2710	2710	290.8	0.0	Slant HL Target
3870	61.8	290.8	2397	-4133	969	-2547	2725	2725	290.8	3.0	
3876	61.6	290.8	2400	-4130	971	-2552	2731	2731	290.8	3.0	Fruitland
3900	60.9	290.8	2411	-4119	979	-2572	2752	2752	290.8	3.0	
3930	60.0	290.8	2426	-4104	988	-2596	2778	2778	290.8	3.0	
3960	59.1	290.8	2441	-4089	997	-2620	2804	2804	290.8	3.0	
3990	58.2	290.8	2457	-4073	1006	-2644	2829	2829	290.8	3.0	
4020	57.3	290.8	2473	-4057	1015	-2668	2855	2855	290.8	3.0	
4040	56.7	290.8	2484	-4046	1021	-2684	2872	2872	290.8	3.0	Pictured Cliffs
4050	56.4	290.8	2489	-4041	1024	-2691	2880	2880	290.8	3.0	
4080	55.6	290.8	2506	-4024	1033	-2715	2905	2905	290.8	3.0	
4110	54.7	290.7	2523	-4007	1042	-2738	2929	2929	290.8	3.0	
4140	53.8	290.7	2541	-3989	1050	-2760	2954	2954	290.8	3.0	
4170	52.9	290.7	2559	-3971	1059	-2783	2978	2978	290.8	3.0	
4200	52.0	290.7	2577	-3953	1067	-2805	3001	3001	290.8	3.0	
4230	51.1	290.7	2596	-3934	1076	-2827	3025	3025	290.8	3.0	
4235	50.9	290.7	2599	-3931	1077	-2831	3029	3029	290.8	3.0	

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Proposal Report



Database:	San Juan Basin	Local Coordinate Reference:	EBC #9
Company:		TVD Reference:	EBC #9
Project:	East Bull Creek Well	MD Reference:	EBC #9
Site:	EBC Pad 5	North reference:	Grid North
Well:	EBC #9	Survey Calculation Method:	Minimum Curvature
Wellbore:			
Proposal:	EBC 9 Pilot		

Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
-hit/miss target									
-Shape									
Slant HL Target			2389	964	-2533	+1181447	+2448826	37.14965684° N	107.39118360° W
- proposal hits the target center									
- Point									

Formations						Dip Angle (°)	Dip Direction (°)
Measured Depth (ft)	Vertical Depth (ft)	Subsea Depth (ft)	Name				
16	16	-6514	Animas			0.0	0.0
2479	1750	-4780	Kirtland			0.0	0.0
2674	1841	-4689	Farmington			0.0	0.0
3281	2123	-4407	Lower Kirtland			0.0	0.0
3876	2400	-4130	Fruitland			0.0	0.0
4040	2484	-4046	Pictured Cliffs			0.0	0.0

Checked By:	Approved By:	Date:
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