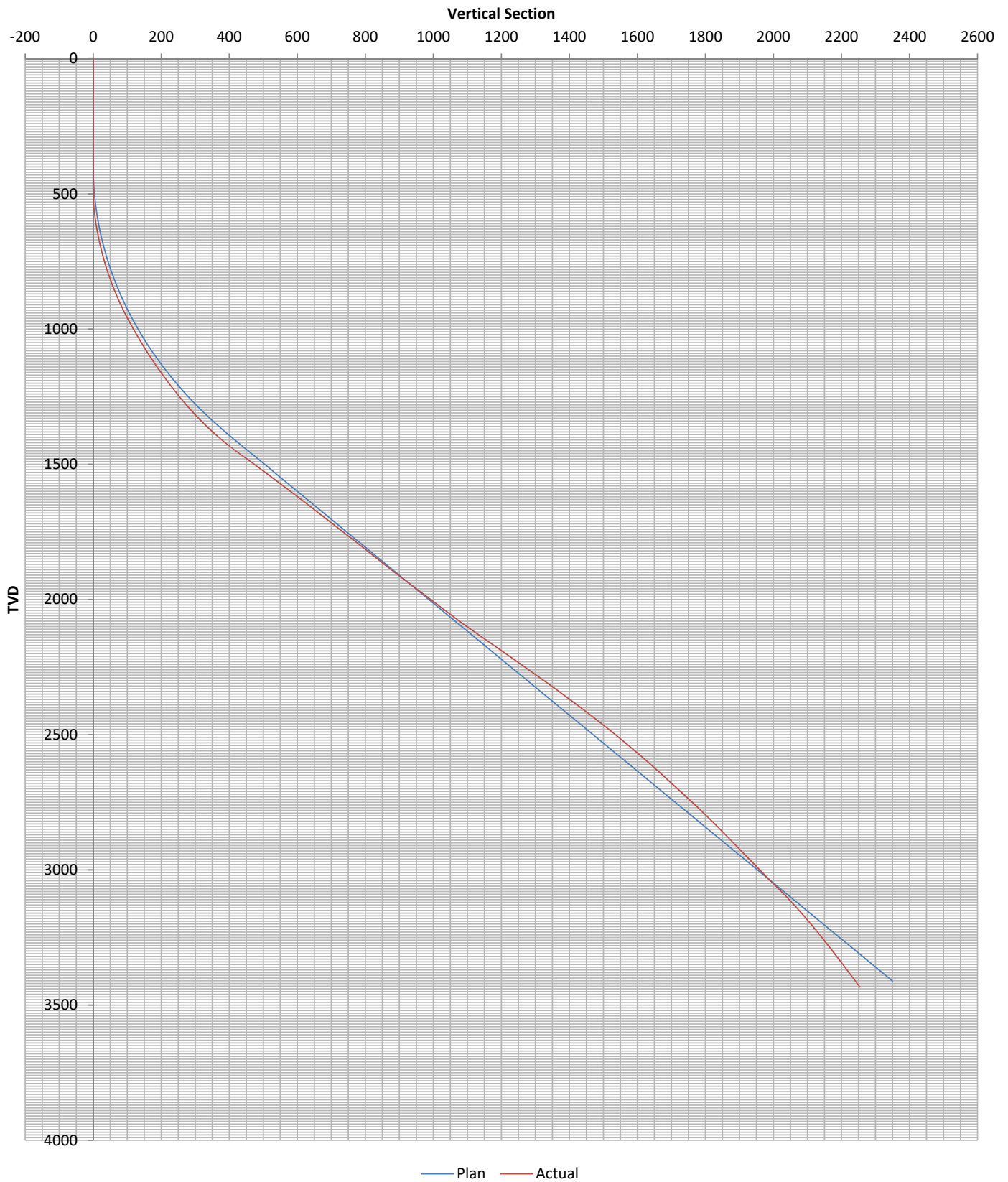


**Ignacio Blanco, Jaques Sec 27  
Fruitland Coal  
Jaques 10  
Actual  
Survey Date: Wednesday, July 11, 2018**

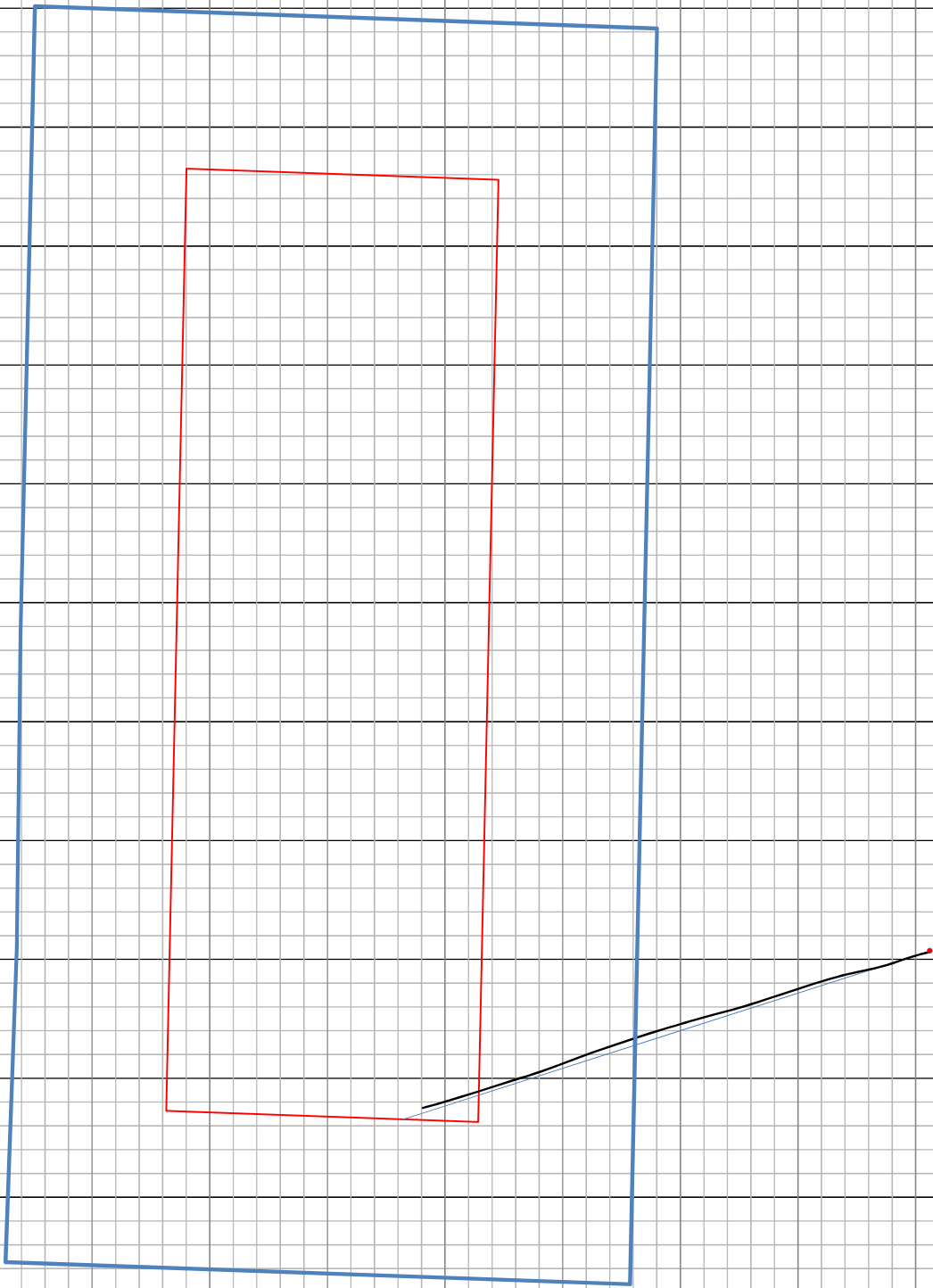
## **Catamount Energy Partners Survey Report**

# Jaques 10 VS View



Section Drawing- Jaques 10

Drilling Window    Jaques 10 Plan    Actual    Jaques 10 Wellhead    W / 2 S27 T33N R8W"



# Catamount Energy Partners

## Survey Report



<b>Database:</b>	San Juan Basin	<b>Local Coordinate Reference:</b>	Jaques 10
<b>Company:</b>		<b>TVD Reference:</b>	Jaques 10
<b>Project:</b>	Jaques Sec 27	<b>MD Reference:</b>	Jaques 10
<b>Site:</b>	Fruitland Coal	<b>North reference:</b>	Grid North
<b>Well:</b>	Jaques 10	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>			
<b>Survey:</b>	Actual		

<b>Project</b>	Jaques Sec 27		
<b>Map System:</b>	NAD83 Colorado State Planes	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	NAD 1983		
<b>Map Zone:</b>	Southern Zone		

<b>Site</b>	Fruitland Coal			
<b>Site Position:</b>		<b>Northing:</b>	0 N	<b>Latitude:</b> 33° 29' 20.4997" N
<b>From:</b>	Map	<b>Easting:</b>	0 E	<b>Longitude:</b> 115° 19' 49.0075" W
<b>Position Uncertainty:</b>	0ft	<b>Slot Radius:</b>	0in	<b>Grid Convergence:</b> -6.0°

<b>Well</b>	Jaques 10			
<b>Well Position:</b>	<b>+N/-S</b>	1155036ft	<b>Northing:</b>	1155036 N
	<b>+E/-W</b>	2358061ft	<b>Easting:</b>	2358061 E
<b>Position Uncertainty:</b>		1ft	<b>Wellhead Elevation:</b>	6739ft
			<b>Ground Level:</b>	6728ft

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF 2015	5/22/2018	9.2	63.6	50127.4

<b>Survey</b>	Actual			
<b>Audit Notes:</b>				
<b>Version:</b>		<b>Phase:</b>		<b>Tie On Depth:</b> 0ft

Vertical Section:	Depth from TVD (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0	0	0	252.5

Survey Program		7/13/2018		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0	4276	Actual	MWD	MWD

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	-6739	0	0	0	0	0.0	0.0	MWD
444	0.6	155.7	444	-6295	-2	1	0	2	155.7	0.1	
475	0.7	156.8	475	-6264	-3	1	0	3	155.7	0.2	
504	1.3	233.4	504	-6235	-3	1	0	3	161.7	4.4	
535	3.2	243.7	535	-6204	-3	0	1	3	181.8	6.5	
567	5.0	247.5	567	-6172	-4	-2	3	5	206.6	5.6	
599	6.3	253.3	599	-6140	-5	-5	7	7	223.6	4.5	
630	7.9	256.3	629	-6110	-6	-9	10	11	234.1	5.3	
662	9.5	256.9	661	-6078	-8	-14	15	16	241.0	5.0	
692	10.8	256.7	691	-6048	-9	-19	20	21	245.0	4.5	
721	11.9	255.5	719	-6020	-10	-24	26	26	247.4	3.7	
753	13.1	255.3	750	-5989	-12	-31	33	33	249.0	3.8	
783	14.2	256.8	779	-5960	-14	-38	40	40	250.3	3.8	
813	15.1	255.5	808	-5931	-15	-45	48	48	251.2	3.3	
843	17.0	256.0	837	-5902	-17	-53	56	56	251.9	6.2	

# Catamount Energy Partners

## Survey Report



<b>Database:</b>	San Juan Basin	<b>Local Coordinate Reference:</b>	Jaques 10
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<b>Project:</b>	Jaques Sec 27	<b>MD Reference:</b>	Jaques 10
<b>Site:</b>	Fruitland Coal	<b>North reference:</b>	Grid North
<b>Well:</b>	Jaques 10	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>			
<b>Survey:</b>	Actual		

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
873	18.3	254.0	866	-5873	-20	-62	65	65	252.3	5.0	
903	19.9	252.7	894	-5845	-23	-71	75	75	252.4	5.4	
934	21.6	251.8	923	-5816	-26	-82	86	86	252.4	5.4	
965	22.7	251.3	952	-5787	-30	-93	98	98	252.3	3.8	
997	23.5	251.6	981	-5758	-34	-105	110	110	252.2	2.4	
1028	24.5	251.5	1010	-5729	-38	-117	123	123	252.1	3.2	
1060	25.3	252.0	1039	-5700	-42	-130	136	136	252.1	2.6	
1092	26.1	251.9	1068	-5671	-46	-143	150	150	252.1	2.6	
1123	27.1	251.7	1095	-5644	-50	-156	164	164	252.1	3.3	
1155	28.1	252.4	1124	-5615	-55	-170	179	179	252.1	3.4	
1186	29.2	253.9	1151	-5588	-59	-184	194	194	252.1	4.2	
1218	30.4	255.0	1179	-5560	-64	-200	209	209	252.3	4.1	
1250	32.0	254.4	1206	-5533	-68	-216	226	226	252.5	4.9	
1281	32.3	255.4	1232	-5507	-72	-232	243	243	252.7	2.1	
1312	32.9	257.4	1258	-5481	-76	-248	259	259	252.9	4.0	
1344	34.6	258.5	1285	-5454	-80	-265	277	277	253.2	5.5	
1376	36.1	259.2	1311	-5428	-83	-283	295	295	253.6	4.8	
1407	38.7	258.8	1336	-5403	-87	-302	314	314	253.9	8.3	
1439	39.8	258.0	1360	-5379	-91	-322	334	334	254.2	4.0	
1471	42.0	256.7	1385	-5354	-96	-342	355	355	254.4	7.2	
1502	43.6	255.6	1407	-5332	-101	-363	376	376	254.5	5.8	
1534	45.4	255.3	1430	-5309	-106	-384	398	399	254.5	5.7	
1566	47.2	254.2	1452	-5287	-113	-407	422	422	254.5	5.9	
1597	47.6	253.5	1473	-5266	-119	-428	444	445	254.5	2.3	
1629	47.2	253.3	1495	-5244	-126	-451	468	468	254.4	1.6	
1660	47.0	253.6	1516	-5223	-132	-473	491	491	254.4	1.0	
1692	47.0	252.9	1538	-5201	-139	-495	514	514	254.3	1.6	
1724	47.0	252.9	1560	-5179	-146	-518	537	538	254.3	0.2	
1755	46.6	252.3	1581	-5158	-152	-539	560	560	254.2	2.0	
1787	46.6	252.1	1603	-5136	-160	-561	583	584	254.1	0.5	
1819	46.0	251.6	1625	-5114	-167	-583	606	607	254.0	2.0	
1850	45.5	251.1	1647	-5092	-174	-604	629	629	254.0	2.1	
1881	45.1	251.0	1668	-5071	-181	-625	651	651	253.9	1.2	
1913	46.1	252.1	1691	-5048	-188	-647	673	674	253.8	3.9	
1944	46.4	253.5	1712	-5027	-195	-668	696	696	253.7	3.4	
1976	46.2	252.7	1734	-5005	-202	-690	719	719	253.7	2.0	
2007	45.5	252.0	1756	-4983	-208	-712	741	741	253.7	2.8	
2039	44.8	251.6	1779	-4960	-215	-733	764	764	253.6	2.3	
2071	45.3	252.8	1801	-4938	-222	-755	787	787	253.6	3.1	
2086	45.4	253.5	1812	-4927	-225	-765	797	798	253.6	3.2	Animas
2102	45.5	254.2	1823	-4916	-229	-776	809	809	253.6	3.2	
2134	45.3	253.0	1845	-4894	-235	-798	831	832	253.6	2.7	
2166	45.0	253.3	1868	-4871	-242	-819	854	854	253.6	1.2	
2197	46.0	255.1	1890	-4849	-248	-841	876	876	253.6	5.2	
2229	46.6	255.1	1912	-4827	-254	-863	899	899	253.6	2.2	
2260	46.4	256.0	1933	-4806	-259	-885	922	922	253.7	2.3	
2292	46.1	255.1	1955	-4784	-265	-907	945	945	253.7	2.3	
2324	46.7	255.5	1977	-4762	-271	-930	968	968	253.8	2.0	
2355	47.3	255.3	1999	-4740	-277	-951	991	991	253.8	2.1	
2387	46.6	254.4	2020	-4719	-283	-974	1014	1014	253.8	3.2	

# Catamount Energy Partners

## Survey Report



<b>Database:</b>	San Juan Basin	<b>Local Coordinate Reference:</b>	Jaques 10
<b>Company:</b>		<b>TVD Reference:</b>	Jaques 10
<b>Project:</b>	Jaques Sec 27	<b>MD Reference:</b>	Jaques 10
<b>Site:</b>	Fruitland Coal	<b>North reference:</b>	Grid North
<b>Well:</b>	Jaques 10	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>			
<b>Survey:</b>	Actual		

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
2418	45.9	253.9	2042	-4697	-289	-996	1036	1037	253.8	2.5	Kirtland Shale
2450	46.6	253.8	2064	-4675	-295	-1018	1059	1060	253.8	2.2	
2481	47.2	253.6	2085	-4654	-302	-1039	1082	1082	253.8	2.2	
2498	47.8	253.5	2097	-4642	-305	-1052	1095	1095	253.8	3.5	
2513	48.3	253.4	2107	-4632	-308	-1062	1106	1106	253.8	3.5	
2545	49.3	254.6	2128	-4611	-315	-1085	1130	1130	253.8	4.2	
2576	49.2	253.6	2148	-4591	-321	-1108	1153	1154	253.8	2.7	
2608	48.9	253.1	2169	-4570	-328	-1131	1177	1178	253.8	1.5	
2640	48.6	252.8	2190	-4549	-335	-1154	1201	1202	253.8	1.1	
2671	48.7	252.8	2211	-4528	-342	-1176	1225	1225	253.8	0.3	
2703	48.4	252.3	2232	-4507	-349	-1199	1249	1249	253.8	1.5	
2735	48.2	252.3	2253	-4486	-357	-1222	1273	1273	253.7	0.6	
2766	48.2	252.3	2274	-4465	-364	-1244	1296	1296	253.7	0.1	
2798	48.2	251.9	2295	-4444	-371	-1267	1320	1320	253.7	0.9	
2829	47.8	251.8	2316	-4423	-378	-1289	1343	1343	253.6	1.5	
2835	47.7	251.7	2320	-4419	-380	-1293	1347	1348	253.6	1.1	Farmington SS
2861	47.5	251.7	2337	-4402	-386	-1311	1366	1367	253.6	1.1	
2892	47.4	251.6	2358	-4381	-393	-1333	1389	1389	253.6	0.3	
2924	47.0	251.5	2380	-4359	-400	-1355	1413	1413	253.5	1.4	
2956	46.5	251.1	2402	-4337	-408	-1377	1436	1436	253.5	1.8	
2987	46.0	251.3	2423	-4316	-415	-1398	1458	1458	253.5	1.5	
3019	45.5	250.8	2446	-4293	-422	-1420	1481	1481	253.4	2.0	
3051	45.1	250.9	2468	-4271	-430	-1441	1504	1504	253.4	1.3	
3082	44.8	250.5	2490	-4249	-437	-1462	1526	1526	253.4	1.4	
3114	44.2	249.9	2513	-4226	-445	-1483	1548	1548	253.3	2.1	
3146	43.6	249.3	2536	-4203	-452	-1504	1570	1571	253.3	2.4	
3177	43.2	248.9	2559	-4180	-460	-1524	1592	1592	253.2	1.5	
3209	43.0	248.5	2582	-4157	-468	-1544	1613	1614	253.1	1.1	
3240	42.2	250.1	2605	-4134	-475	-1564	1634	1635	253.1	4.4	
3272	41.5	251.2	2629	-4110	-482	-1584	1656	1656	253.1	3.3	
3304	41.1	250.5	2653	-4086	-489	-1604	1677	1677	253.0	1.9	
3335	40.9	250.3	2676	-4063	-496	-1623	1697	1697	253.0	0.6	
3367	40.7	250.2	2700	-4039	-503	-1643	1718	1718	253.0	0.7	
3399	41.1	251.9	2725	-4014	-510	-1663	1739	1739	252.9	3.5	
3430	40.9	252.1	2748	-3991	-516	-1682	1759	1759	252.9	0.6	
3462	40.2	252.8	2772	-3967	-523	-1702	1780	1780	252.9	2.7	Lower Kirtland
3493	39.6	253.0	2796	-3943	-528	-1721	1800	1800	252.9	2.0	
3494	39.6	253.0	2797	-3942	-529	-1721	1801	1801	252.9	2.0	
3525	38.6	252.8	2821	-3918	-534	-1740	1820	1820	252.9	3.2	
3557	38.3	253.6	2846	-3893	-540	-1759	1840	1840	252.9	1.8	
3589	37.8	253.7	2871	-3868	-546	-1778	1860	1860	252.9	1.7	
3620	37.9	252.2	2896	-3843	-551	-1796	1879	1879	252.9	3.0	
3652	37.6	250.9	2921	-3818	-557	-1815	1898	1899	252.9	2.8	
3683	37.7	250.8	2945	-3794	-564	-1833	1917	1917	252.9	0.4	
3715	37.1	252.0	2971	-3768	-570	-1851	1937	1937	252.9	2.8	
3746	37.2	252.8	2996	-3743	-575	-1869	1956	1956	252.9	1.7	
3778	38.9	253.3	3021	-3718	-581	-1888	1975	1975	252.9	5.6	
3809	40.0	253.3	3045	-3694	-587	-1907	1995	1995	252.9	3.6	
3841	38.4	252.5	3069	-3670	-593	-1926	2015	2015	252.9	5.2	
3872	37.1	252.6	3094	-3645	-599	-1944	2034	2034	252.9	4.5	

# Catamount Energy Partners

## Survey Report



<b>Database:</b>	San Juan Basin	<b>Local Coordinate Reference:</b>	Jaques 10
<b>Company:</b>		<b>TVD Reference:</b>	Jaques 10
<b>Project:</b>	Jaques Sec 27	<b>MD Reference:</b>	Jaques 10
<b>Site:</b>	Fruitland Coal	<b>North reference:</b>	Grid North
<b>Well:</b>	Jaques 10	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>			
<b>Survey:</b>	Actual		

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
3904	36.1	253.1	3120	-3619	-604	-1962	2053	2053	252.9	3.2	
3909	36.1	253.2	3124	-3615	-605	-1965	2056	2056	252.9	1.6	Upper Fruitland Coal
3936	35.9	253.9	3146	-3593	-609	-1980	2072	2072	252.9	1.6	
3967	35.0	253.5	3171	-3568	-615	-1998	2090	2090	252.9	3.0	
3999	34.1	253.2	3197	-3542	-620	-2015	2108	2108	252.9	2.7	
4014	33.7	253.0	3210	-3529	-622	-2023	2117	2117	252.9	2.5	Ignacio Seam
4031	33.4	252.8	3224	-3515	-625	-2032	2126	2126	252.9	2.5	
4062	32.3	252.4	3250	-3489	-630	-2048	2143	2143	252.9	3.4	
4113	31.8	254.0	3293	-3446	-638	-2074	2170	2170	252.9	1.9	Basal Coal
4125	31.7	254.4	3303	-3436	-639	-2080	2176	2176	252.9	1.9	Pictured Cliffs
4157	31.4	255.4	3331	-3408	-644	-2096	2193	2193	252.9	1.9	
4189	30.8	255.0	3358	-3381	-648	-2112	2209	2209	252.9	2.0	
4220	30.5	254.7	3385	-3354	-652	-2128	2225	2225	253.0	1.2	
4276	30.5	254.7	3433	-3306	-660	-2155	2254	2254	253.0	0.0	Jaques 10 TD

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
Jaques 10 TD					3411	-709	-2241	1154327 N	2355820 E	37° 04' 10.5187" N 07° 42' 28.7836" W
- survey misses the target center by 101ft at 4276ft MD (3433TVD, 660 S, 2155 W)										
- Point										

Formations							Dip Angle (°)	Dip Direction (°)
Measured Depth (ft)	Vertical Depth (ft)	Subsea Depth (ft)	Name					
2086	1812	-4927	Animas				0.0	0.0
2498	2097	-4642	Kirtland Shale				0.0	0.0
2835	2320	-4419	Farmington SS				0.0	0.0
3493	2796	-3943	Lower Kirtland				0.0	0.0
3909	3124	-3615	Upper Fruitland Coal				0.0	0.0
4014	3210	-3529	Ignacio Seam				0.0	0.0
4113	3293	-3446	Basal Coal				0.0	0.0
4125	3303	-3436	Pictured Cliffs				0.0	0.0

Checked By:	Approved By:	Date:
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