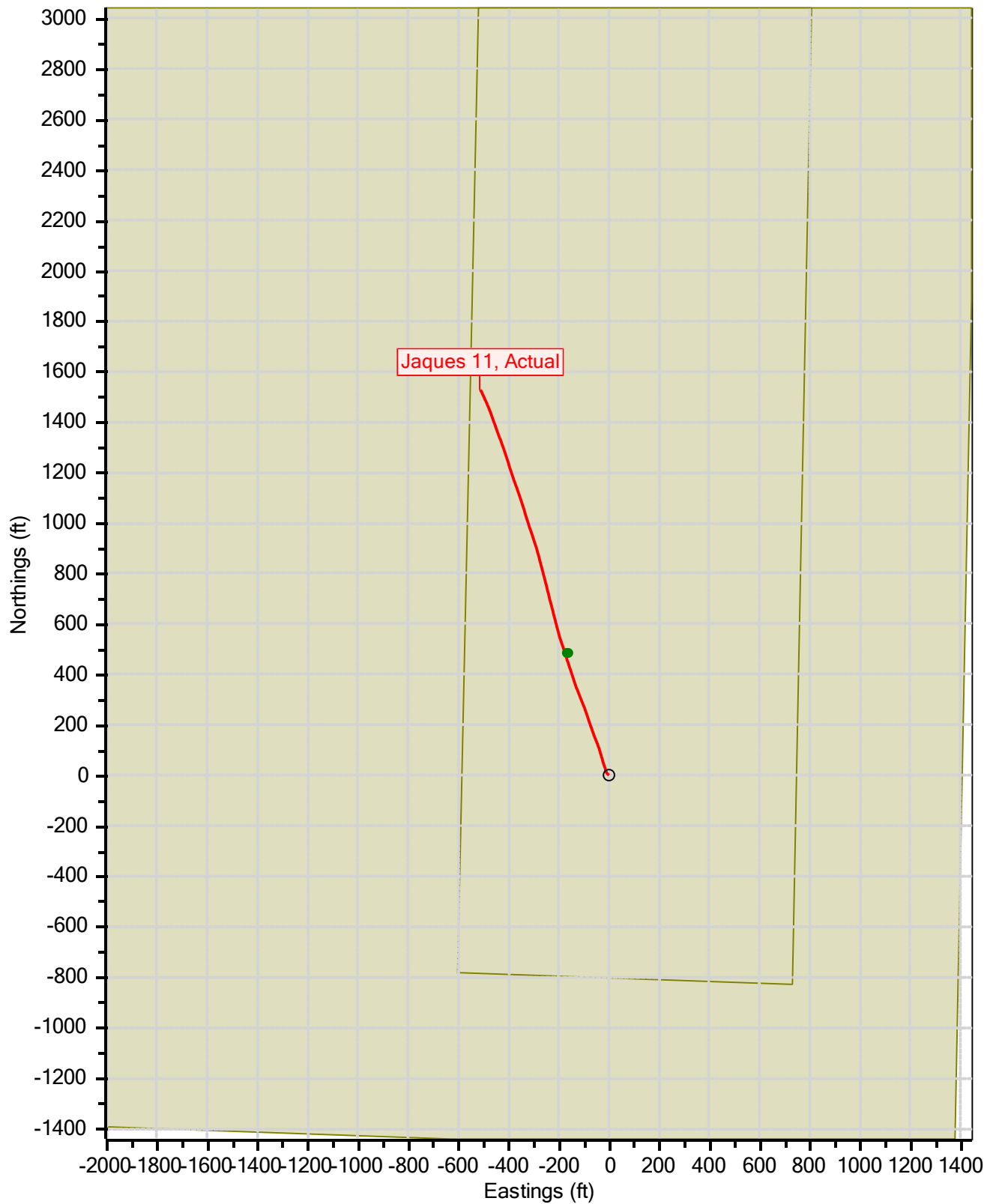


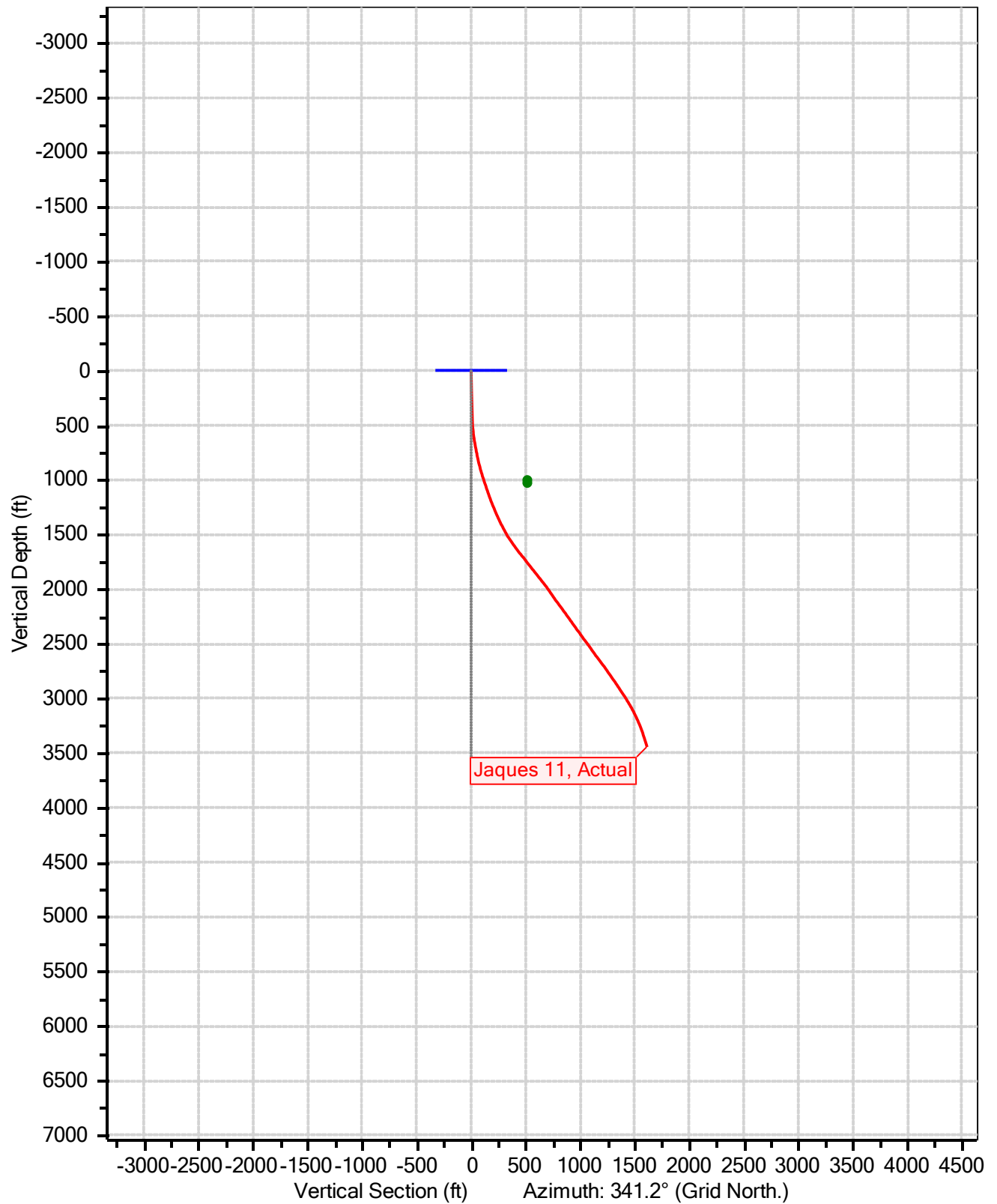
**Ignacio Blanco, Jaques Sec 27
Fruitland Coal
Jaques 11
Actual
Survey Date: Sunday, July 15, 2018**

**Catamount Energy Partners
Survey Report**

Fruitland Coal, Jaques 11



Fruitland Coal, Jaques 11



Catamount Energy Partners

Survey Report



Database:	San Juan Basin	Local Coordinate Reference:	Jaques 11
Company:		TVD Reference:	Jaques 11
Project:	Jaques Sec 27	MD Reference:	Jaques 11
Site:	Fruitland Coal	North reference:	Grid North
Well:	Jaques 11	Survey Calculation Method:	Minimum Curvature
Wellbore:			
Survey:	Actual		

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

Site	Fruitland Coal		
Site Position:		Northing:	0 N
From:	Map	Easting:	0 E
Position Uncertainty:	0ft	Slot Radius:	0in
		Latitude:	33.48902771° N
		Longitude:	115.33027986° W
		Grid Convergence:	-6.0°

Well	Jaques 11		
Well Position:	+N/-S	1155052ft	Northing: 1155052 N
	+E/-W	2358063ft	Easting: 2358063 E
Position Uncertainty:		1ft	Wellhead Elevation: 6739ft
			Latitude: 37.07172577° N
			Longitude: 107.70036851° W
			Ground Level: 6728ft

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF 2015	5/22/2018	9.2	63.6	50127.5

Survey	Actual		
Audit Notes:			
Version:		Phase:	Tie On Depth: 0ft

Vertical Section:	Depth from TVD (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0	0	0	341.2

Survey Program		7/16/2018		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0	3900	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
	449	2.9	314.2	449	-6290	8	-8	10	11	314.2	0.7	
	542	5.1	338.9	542	-6197	14	-11	16	18	319.8	3.0	
	574	7.1	344.3	573	-6166	17	-12	20	21	323.3	6.4	
	606	8.1	346.3	605	-6134	21	-14	24	25	327.0	3.4	
	638	10.0	343.4	637	-6102	26	-15	29	30	329.9	6.0	
	669	10.1	340.5	667	-6072	31	-17	35	35	331.8	1.7	
	699	9.7	339.4	697	-6042	36	-18	40	40	332.8	1.5	
	728	11.0	342.6	725	-6014	41	-20	45	45	333.8	4.8	
	760	11.6	343.9	757	-5982	47	-22	51	51	334.9	2.2	
	790	11.5	342.1	786	-5953	52	-24	57	57	335.8	1.3	
	820	12.9	344.7	815	-5924	58	-25	64	64	336.5	5.1	
	852	13.5	343.8	847	-5892	65	-27	71	71	337.3	2.0	
	882	15.1	342.8	876	-5863	73	-30	78	78	337.9	5.3	
	913	15.4	342.8	906	-5833	80	-32	86	86	338.3	1.2	

Catamount Energy Partners

Survey Report



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Project:	Jaques Sec 27	MD Reference:	Jaques 11
Site:	Fruitland Coal	North reference:	Grid North
Well:	Jaques 11	Survey Calculation Method:	Minimum Curvature
Wellbore:			
Survey:	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
943	17.4	343.6	934	-5805	88	-34	95	95	338.8	6.4	
974	17.5	343.2	964	-5775	97	-37	104	104	339.2	0.6	
1006	17.4	342.7	994	-5745	106	-40	114	114	339.5	0.6	
1037	18.9	340.0	1024	-5715	116	-43	123	123	339.6	5.7	
1068	18.8	337.4	1053	-5686	125	-47	133	133	339.6	2.7	
1100	18.0	338.2	1084	-5655	134	-50	143	143	339.4	2.5	
1132	19.1	339.0	1114	-5625	144	-54	154	154	339.4	3.6	
1164	19.7	338.6	1144	-5595	154	-58	164	164	339.3	1.8	
1195	20.6	340.1	1173	-5566	164	-62	175	175	339.3	3.4	
1227	21.1	341.0	1203	-5536	174	-66	186	186	339.4	1.7	
1258	22.1	340.8	1232	-5507	185	-69	198	198	339.5	3.2	
1290	22.1	340.3	1262	-5477	197	-73	210	210	339.6	0.6	
1321	23.3	340.5	1290	-5449	208	-77	222	222	339.6	3.9	
1353	23.5	340.7	1320	-5419	220	-82	234	234	339.7	0.7	
1384	25.3	341.8	1348	-5391	232	-86	247	247	339.7	5.9	
1416	26.5	341.5	1377	-5362	245	-90	261	261	339.8	3.8	
1448	26.5	340.6	1405	-5334	259	-95	275	275	339.9	1.1	
1479	27.3	338.9	1433	-5306	272	-100	289	290	339.9	3.7	
1511	28.1	337.0	1461	-5278	286	-105	304	304	339.8	3.7	
1543	29.8	337.3	1489	-5250	300	-111	320	320	339.7	5.3	
1573	31.7	338.4	1515	-5224	314	-117	335	335	339.6	6.6	
1603	33.3	339.0	1540	-5199	329	-123	351	351	339.5	5.2	
1638	34.9	339.3	1569	-5170	348	-130	371	371	339.5	4.6	
1669	36.3	341.2	1594	-5145	364	-136	389	389	339.6	5.8	
1700	35.9	341.5	1620	-5119	382	-142	407	407	339.6	1.3	
1731	37.1	341.5	1644	-5095	399	-148	426	426	339.7	3.9	
1762	38.8	341.3	1669	-5070	417	-154	445	445	339.8	5.4	
1794	39.2	342.5	1694	-5045	436	-160	465	465	339.9	2.7	
1826	38.6	342.0	1719	-5020	456	-166	485	485	340.0	2.0	
1857	37.8	342.0	1743	-4996	474	-172	504	504	340.1	2.5	
1889	37.6	341.9	1768	-4971	492	-178	524	524	340.1	0.6	
1920	38.8	342.0	1793	-4946	511	-184	543	543	340.2	3.8	
1952	39.0	341.3	1818	-4921	530	-190	563	563	340.2	1.5	
1984	38.5	343.2	1843	-4896	549	-196	583	583	340.3	3.9	
2048	38.4	345.7	1893	-4846	587	-207	623	623	340.6	2.4	
2079	38.2	345.0	1917	-4822	606	-212	642	642	340.7	1.4	
2111	37.8	345.6	1942	-4797	625	-217	661	661	340.9	1.7	
2142	37.1	345.6	1967	-4772	643	-222	680	680	341.0	2.2	
2174	36.1	345.5	1993	-4746	661	-226	699	699	341.1	3.0	
2206	35.4	345.6	2019	-4720	680	-231	718	718	341.2	2.2	
2237	34.8	344.7	2044	-4695	697	-236	736	736	341.3	2.6	
2269	35.1	345.9	2070	-4669	714	-240	754	754	341.4	2.2	
2301	35.0	346.0	2096	-4643	732	-245	772	772	341.5	0.3	
2332	36.4	346.1	2122	-4617	750	-249	790	790	341.6	4.5	
2395	36.6	345.1	2172	-4567	786	-258	827	828	341.8	1.0	
2427	36.7	345.3	2198	-4541	805	-263	847	847	341.9	0.4	
2458	36.2	345.2	2223	-4516	822	-268	865	865	342.0	1.6	
2490	35.8	345.2	2249	-4490	841	-273	884	884	342.0	1.2	
2522	35.4	345.4	2275	-4464	859	-277	902	902	342.1	1.2	
2553	35.5	344.7	2300	-4439	876	-282	920	920	342.1	1.3	

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Survey Report



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Well:	Jaques 11	Survey Calculation Method:	Minimum Curvature
Wellbore:			
Survey:	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
2585	34.7	343.6	2326	-4413	894	-287	939	939	342.2	3.3	
2617	35.7	342.6	2352	-4387	911	-292	957	957	342.2	3.8	
2648	35.6	342.0	2378	-4361	929	-298	975	975	342.2	1.1	
2680	36.8	341.2	2403	-4336	946	-304	994	994	342.2	3.8	
2711	37.0	340.7	2428	-4311	964	-310	1013	1013	342.2	1.2	
2743	36.4	340.5	2454	-4285	982	-316	1032	1032	342.1	2.0	
2775	36.6	342.2	2479	-4260	1000	-322	1051	1051	342.1	3.2	
2806	36.3	343.3	2504	-4235	1018	-328	1069	1069	342.1	2.5	
2838	35.7	343.2	2530	-4209	1036	-333	1088	1088	342.2	1.8	
2870	35.0	343.0	2556	-4183	1053	-339	1106	1107	342.2	2.2	
2901	35.9	342.1	2582	-4157	1071	-344	1124	1125	342.2	3.3	
2933	36.0	341.7	2608	-4131	1088	-350	1143	1143	342.2	0.7	
2964	36.8	341.2	2633	-4106	1106	-356	1162	1162	342.2	2.8	
2996	37.1	340.6	2658	-4081	1124	-362	1181	1181	342.1	1.5	
3027	36.9	340.2	2683	-4056	1142	-368	1199	1200	342.1	1.1	
3059	36.4	340.0	2708	-4031	1160	-375	1219	1219	342.1	1.5	
3091	35.9	341.1	2734	-4005	1177	-381	1237	1238	342.1	2.5	
3122	35.0	341.8	2760	-3979	1195	-387	1255	1256	342.1	3.3	
3154	34.4	341.8	2786	-3953	1212	-393	1274	1274	342.0	1.8	
3186	34.6	342.6	2812	-3927	1229	-398	1292	1292	342.1	1.5	
3217	34.4	342.5	2838	-3901	1246	-403	1309	1310	342.1	0.8	
3249	34.8	341.5	2864	-3875	1263	-409	1328	1328	342.1	2.4	
3280	34.8	341.1	2890	-3849	1280	-415	1345	1345	342.0	0.7	
3312	33.4	340.8	2916	-3823	1297	-421	1363	1363	342.0	4.6	
3343	32.9	339.9	2942	-3797	1313	-426	1380	1380	342.0	2.2	
3375	33.1	339.2	2969	-3770	1329	-432	1398	1398	342.0	1.3	
3407	33.1	339.4	2996	-3743	1345	-439	1415	1415	341.9	0.4	
3438	32.4	341.0	3022	-3717	1361	-444	1432	1432	341.9	3.4	
3470	30.8	340.3	3049	-3690	1377	-450	1449	1449	341.9	5.3	
3501	28.7	339.4	3076	-3663	1391	-455	1464	1464	341.9	6.7	
3533	28.2	340.6	3104	-3635	1406	-460	1479	1479	341.9	2.4	
3565	27.4	340.7	3132	-3607	1420	-465	1494	1494	341.9	2.6	
3596	26.2	339.4	3160	-3579	1433	-470	1508	1508	341.8	4.2	
3628	24.9	338.3	3189	-3550	1446	-475	1522	1522	341.8	4.4	
3660	22.9	337.5	3218	-3521	1458	-480	1535	1535	341.8	6.3	
3691	21.7	336.4	3247	-3492	1469	-484	1546	1547	341.7	4.1	
3723	21.1	336.5	3277	-3462	1479	-489	1558	1558	341.7	1.7	
3754	19.6	335.3	3306	-3433	1489	-493	1569	1569	341.7	4.9	
3786	18.3	335.2	3336	-3403	1499	-498	1579	1579	341.6	4.1	
3817	17.2	333.7	3366	-3373	1507	-502	1589	1589	341.6	3.9	
3848	16.7	333.4	3395	-3344	1515	-506	1598	1598	341.5	1.9	
3900	16.7	333.4	3445	-3294	1529	-513	1612	1612	341.5	0.0	

Checked By:	Approved By:	Date:
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