

Total Organic Carbon and Pyrolysis Analyses
Anschutz Exploration Corporation
555 17th St, Suite 2400
Denver, CO 80202
May 11, 2011

API	State	County	Operator	Lease	Formation	Sample Type	Black Shale	Dark Gray Shale	Medium Gray Shale	Light Gray Shale	Green Shale	Red Shale	Carbonate	Siltstone	Sandstone	HCl Reaction	Top Depth	Base Depth	Avg. Depth	Amorphous Kerogen Percentage	Structured Kerogen Percentage	Framboidal Pyrite	Granular Pyrite	Massive Pyrite	Leco TOC	Rock-Eval TOC	S1	S2	S3	Tmax	Tmax %Ro	Tmax Unreliable	VR %Ro	HI	OI	S1+S2	Free Oil S1/TOC * 100	PI	UV Fluorescence Intensity	UV Streaming Cut	UV Reaction Rating	Comments				
15131200140000	Kansas	Nemaha	Cities Service	Steele Griffe A #1	Chattanooga	cuttings		20	30		20		10		20	3	2490	2500	2495						0.60											122	20	0.79	10	0.08	moderate	no	3			
15131200140000	Kansas	Nemaha	Cities Service	Steele Griffe A #1	Chattanooga	core		70	30							0	2500.8	2500.8	2500.8						0.60		0.06	0.73	0.12	463	1.17						205	11	1.42	11	0.05	moderate	no	3		
15131200140000	Kansas	Nemaha	Cities Service	Steele Griffe A #1	Chattanooga	core	30	40	30							0	2503.2	2503.2	2503.2						0.66		0.07	1.35	0.07	456	1.05															
15131200140000	Kansas	Nemaha	Cities Service	Steele Griffe A #1	Chattanooga	core	10	40	50							0	2506	2506	2506	90	10	moderate	moderate	moderate	1.39		0.26	5.49	0.11	457	1.07			0.54	398	8	5.75	19	0.05	strong	no	4				
15131200140000	Kansas	Nemaha	Cities Service	Steele Griffe A #1	Chattanooga	cuttings		10	70				20			4	2500	2520	2510						0.54																					
15131200140000	Kansas	Nemaha	Cities Service	Steele Griffe A #1	Chattanooga	core	30	40	30							0	2512.1	2512.1	2512.1						0.50		0.07	0.95	0.10	457	1.07						190	20	1.02	14	0.07	very strong	yes	5		
15131200140000	Kansas	Nemaha	Cities Service	Steele Griffe A #1	Chattanooga	core			100							0	2519.5	2519.5	2519.5						0.18		0.01	0.17	0.05	448	0.90						94	28	0.18	6	0.06	weak	no	2		
15131200140000	Kansas	Nemaha	Cities Service	Steele Griffe A #1	Chattanooga	core		30	70							0	2525.8	2525.8	2525.8						0.27		0.14	0.29	0.42	446	0.87						107	156	0.43	52	0.33	moderate	yes	5		
15131200140000	Kansas	Nemaha	Cities Service	Steele Griffe A #1	Chattanooga	core	20	70	10							0	2529.8	2529.8	2529.8	99	1	abundant	abundant	abundant	3.01		0.82	13.08	0.19	459	1.10			0.54	435	6	13.90	27	0.06	very strong	yes	5				
15131200140000	Kansas	Nemaha	Cities Service	Steele Griffe A #1	Chattanooga	cuttings		40	40				10		10	3	2520	2540	2530						0.59																					
15131200140000	Kansas	Nemaha	Cities Service	Steele Griffe A #1	Chattanooga	core	10	70	20							0	2534.4	2534.4	2534.4						1.51		0.38	5.72	0.20	456	1.05						379	13	6.10	25	0.06	moderate	yes	5		
15131200140000	Kansas	Nemaha	Cities Service	Steele Griffe A #1	Maquoketa	cuttings		10		40			10		40	1	3100	3110	3105						0.93		0.40	4.17	0.23	437	0.71						448	25	4.57	43	0.09	very weak	no	1		
15131200140000	Kansas	Nemaha	Cities Service	Steele Griffe A #1	Maquoketa	cuttings		20		50			10		20	2	3110	3120	3115						0.35																					
15131200140000	Kansas	Nemaha	Cities Service	Steele Griffe A #1	Maquoketa	cuttings		10	20	30			20		20	2	3120	3130	3125						0.65																					
15131200140000	Kansas	Nemaha	Cities Service	Steele Griffe A #1	Maquoketa	cuttings		20	60				10		10	2	3130	3140	3135						0.71																					
15131200140000	Kansas	Nemaha	Cities Service	Steele Griffe A #1	Maquoketa	cuttings		10	30	50			10			2	3140	3150	3145						0.53																					
15131200140000	Kansas	Nemaha	Cities Service	Steele Griffe A #1	Maquoketa	cuttings		10	50	30					10	2	3150	3160	3155						0.47																					
15131200140000	Kansas	Nemaha	Cities Service	Steele Griffe A #1	Viola	cuttings		10	20	20			20		30	2	3160	3160	3160						0.28																					
15131200140000	Kansas	Nemaha	Cities Service	Steele Griffe A #1	Viola	cuttings		10	20	20			20		30	2	3160	3170	3165						0.10																					
15131200140000	Kansas	Nemaha	Cities Service	Steele Griffe A #1	Viola	core											3165.5	3165.5	3165.5						0.52		0.09	1.05	0.17	452	0.98						202	33	1.14	17	0.08	moderate	yes	5		
15131200140000	Kansas	Nemaha	Cities Service	Steele Griffe A #1	Viola	core	10	40	50								3166.5	3166.5	3166.5						0.52		0.11	0.90	0.18	456	1.05						173	35	1.01	21	0.11	very weak	no	1		
15131200140000	Kansas	Nemaha	Cities Service	Steele Griffe A #1	Viola	core	10	40	50								3167.4	3167.4	3167.4	80	20	minor	minor	minor	0.45		0.11	0.89	0.14	454	1.01						0.65	198	31	1.00	24	0.11	moderate	yes	5	

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