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**SUBPLAYS, AREAS, AND TECHNICALLY RECOVERABLE  
RESOURCES USED IN THE ANALYSIS**

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**Table A.1a**  
**Subplays, Areas, and Technically Recoverable Resource Assessments Used in the Analysis: USGS-Based Scenario**

Subplay <sup>a</sup>	Area (square miles)				Proved Reserves		Gas (bcf)			Liquids <sup>b</sup> (MMbbl)		
	Producing	Extension	New Field	Total	Gas (Bcf)	Liquids <sup>b</sup> (MMbbl)	Res App	Undiscovered	Total	Res App	Undiscovered	Total
Axial Uplift	106	12	3,355	3,473	4	3	10	33	47	14	15	31
Basin Margin Anticline	180	203	2,744	3,127								
Tertiary-Upper Cretaceous					191	3	485	111	786	20	12	35
Lower Cretaceous					30	1	76	41	147	4	10	15
Miscellaneous					3	0	8	5	17	0	1	2
Cherokee Arch	118	31	802	951								
Tertiary					61	2	156	109	327	8	1	10
Upper Cretaceous					142	0	362	5	508	3	0	3
Lower Cretaceous					2	0	6	3	11	0	0	0
Jurassic and older					41	0	105	61	207	0	0	0
Miscellaneous					8	0	21	53	82	0	0	0
Deep Basin	23	377	1,074	1,474	565	0	250	0	815	0	0	0
Moxa Arch	691	356	507	1,554								
Tertiary					36	2	92	46	175	10	1	13
Upper Cretaceous					99	11	258	66	423	51	1	63
Lower Cretaceous					1,960	16	5,004	329	7,292	110	16	142
Jurassic—Penn					0	0	1	3	5	0	3	3
Miscellaneous					29	2	77	76	182	9	1	12
Platform	372	164	6,446	6,982								
Cretaceous					9	1	22	9	40	4	13	18
Pre-Cretaceous					239	52	646	38	923	236	5	294
Miscellaneous					13	13	35	17	65	60	22	95
Rock Springs Uplift	240	61	2,082	2,383								
Tertiary					0	0	0	0	0	0	0	0
Upper Cretaceous					108	5	274	158	539	22	22	49
Lower Cretaceous					81	0	203	109	393	1	5	5
Jurassic —Permian					11	1	29	9	49	3	21	25
Pennsylvanian					211	4	580	168	959	48	10	62
Miscellaneous					24	3	61	52	137	12	1	16
Subthrust	0	0	1,479	1,479	0	0	0	116	116	0	22	22
Jackson Hole	0	0	4,286	4,286	0	0	0	48	48	0	8	8

Table A.1a (continued)

Subplay <sup>a</sup>	Area (square miles)				Proved Reserves		Gas (bcf)			Liquids <sup>b</sup> (MMbbl)		
	Producing	Extension	New Field	Total	Gas (Bcf)	Liquids <sup>b</sup> (MMbbl)	Res App	Undiscovered	Total	Res App	Undiscovered	Total
Cloverly-Frontier Tight												
1 (0–15,000 feet)	0	0	1,910	1,910	0	0	0	10,625	10,626	0	116	116
2 (15,000–17,000)	0	0	3,529	3,529	0	0	0	13,552	13,552	0	136	136
3 (17,000–19,000)	0	0	2,829	2,829	0	0	0	7,328	7,328	0	73	73
4 (19,000–21,000)	0	0	1,911	1,911	0	0	0	3,271	3,271	0	33	33
5 (>21,000)	0	0	3,129	3,129	0	0	0	3,627	3,627	0	32	32
Mesaverde Tight												
1 (0–9,000)	189	137	733	1,059	466	6	0	10,932	11,398	26	185	216
2 (9,000–11,000)	276	235	1,941	2,452	747	10	0	21,293	22,040	41	360	412
3 (11,000–13,000)	93	81	1,353	1,527	161	1	0	10,206	10,366	9	52	62
4 (13,000–15,000)	13	12	1,457	1,482	12	0	0	7,035	7,046	1	36	37
5 (>15,000)	0	0	1,576	1,576	0	0	0	5,426	5,426	0	11	11
Lewis Tight												
1 (0–10,000)	137	112	1,047	1,296	241	3	0	7,573	7,815	14	99	115
2 (10,000–12,000)	35	29	1,225	1,289	60	1	0	5,831	5,891	3	87	92
3 (>12,000)	17	16	1,854	1,887	13	0	0	6,186	6,200	1	13	13
Fox Hills-Lance Tight												
1 (0–10,000)	61	77	960	1,098	920	9	0	4,484	5,404	40	43	92
2 (10,000–12,000)	14	17	1,123	1,154	50	1	0	2,739	2,789	2	28	31
3 (>12,000)	32	39	1,946	2,017	66	1	0	3,210	3,276	3	33	37
Fort Union Tight												
1 (0–10,000)	0	0	291	291	0	0	0	636	636	0	8	8
2 (10,000–12,000)	0	0	251	251	0	0	0	371	371	0	4	4
Rock Springs Coalbed												
Iles Coalbed	0	0	430	430	0	0	0	693	693	0	0	0
Williams Fork Coalbed	0	0	1,158	1,158	0	0	0	377	377	0	0	0
Almond Coalbed												
Lance Coalbed	0	0	730	730	1	0	0	1,385	1,386	0	0	0
Fort Union Coalbed	0	0	3,560	3,560	0	0	0	795	795	0	0	0
Lance Coalbed	0	0	2,946	2,946	0	0	0	230	230	0	0	0
Fort Union Coalbed	0	0	10,306	10,306	0	0	0	408	408	0	0	0
<b>Total</b>	<b>2,597</b>	<b>1,957</b>	<b>70,970</b>	<b>75,524</b>	<b>6,603</b>	<b>148</b>	<b>8,760</b>	<b>129,878</b>	<b>145,242</b>	<b>756</b>	<b>1,538</b>	<b>2,443</b>

<sup>a</sup>Conventional plays are divided into subplays according to stacked stratigraphic units, each with an identical surface aerial extent. Conventional subplays thus were used for calculating resource amounts and costs but were not distinguished spatially. Tight sandstone plays are divided into subplays according to depth intervals (depths listed in feet). Tight sandstone subplays have unique surface aerial extents and thus were used for calculating resource amounts and costs and were distinguished spatially. There are 50 subplays used to define resource amounts and costs, 33 of which are distinguished spatially.

<sup>b</sup>Liquids = crude oil plus natural gas liquids.

**Table A.1b**  
**Subplays, Areas, and Technically Recoverable Resource Assessments Used in the Analysis: NPC-Inspired Scenario**

Subplay <sup>a</sup>	Area (square miles)				Proved Reserves		Current Technology						Advanced Technology					
	Pro- ducing	Exten- sion	New Field	Total	Gas (Bcf)	Liquids <sup>b</sup> (MMbbl)	Gas (bcf)			Liquids <sup>b</sup> (MMbbl)			Gas (bcf)			Liquids <sup>b</sup> (MMbbl)		
							Res App	Undis- covered	Total	Res App	Undis- covered	Total	Res App	Undis- covered	Total	Res App	Undis- covered	Total
Axial Uplift	106	12	3,355	3,473	4	3	10	44	58	2	11	15	10	49	63	2	14	19
Basin Margin Anticline	180	203	2,744	3,127														
Tertiary—Upper Cretaceous					191	3	475	3,430	4,095	7	44	54	475	3,843	4,509	7	51	61
Lower Cretaceous					30	1	74	931	1,035	2	24	26	74	1,043	1,147	2	28	30
Miscellaneous					3	0	8	111	122	0	2	3	8	124	136	0	3	3
Cherokee Arch	118	31	802	951														
Tertiary					61	2	153	487	702	2	3	7	153	546	761	2	4	8
Upper Cretaceous					142	0	356	598	1,096	1	2	3	356	671	1,168	1	2	4
Lower Cretaceous					2	0	5	24	32	0	0	0	5	27	34	0	0	0
Jurassic and older					41	0	104	349	493	0	0	0	104	391	535	0	0	0
Miscellaneous					8	0	20	287	316	0	1	1	20	322	350	0	1	1
Deep Basin	23	377	1,074	1,474	565	0	14,689	6,693	21,947	0	0	0	14,689	7,500	22,754	0	0	0
Moxa Arch	691	356	507	1,554														
Tertiary					36	2	91	413	539	2	4	8	91	462	589	2	5	9
Upper Cretaceous					99	11	255	587	941	10	6	26	255	658	1,012	10	6	27
Lower Cretaceous					1,960	16	4,922	604	7,486	49	15	79	4,922	677	7,559	49	18	83
Jurassic—Penn					0	0	1	89	91	0	6	6	1	100	102	0	7	8
Miscellaneous					29	2	75	527	631	2	2	6	75	591	695	2	2	6
Platform	372	164	6,446	6,982														
Cretaceous					9	1	22	16	46	1	10	12	22	18	48	1	13	15
Pre-Cretaceous					239	52	621	621	1,481	48	16	115	621	696	1,556	48	18	118
Miscellaneous					13	13	33	94	140	10	17	41	33	106	151	10	23	46
Rock Springs Uplift	240	61	2,082	2,383														
Tertiary					0	0	0	1	1	0	0	0	0	1	1	0	0	0
Upper Cretaceous					108	5	269	655	1,032	5	19	29	269	734	1,111	5	25	34
Lower Cretaceous					81	0	200	455	735	0	4	4	200	510	790	0	5	5
Jurassic - Permian					11	1	28	40	80	1	15	17	28	46	85	1	20	22
Pennsylvanian					211	4	570	697	1,479	35	39	78	570	782	1,563	35	44	83
Miscellaneous					24	3	59	388	470	2	1	5	59	434	517	2	1	5
Subthrust	0	0	1,479	1,479	0	0	0	2,604	2,604	0	41	41	0	2,918	2,918	0	50	50
Jackson Hole	0	0	4,286	4,286	0	0	0	2,818	2,818	0	33	33	0	3,158	3,158	0	38	38

Table A.1b(continued)

Subplay <sup>a</sup>	Area (square miles)			Proved Resources			Current Technology						Advanced Technology						
	Pro- ducing	Exten- sion	New Field	Total	Gas (Bcf)	Liquids <sup>b</sup> (MMbbl)	Gas (bcf)			Liquids <sup>b</sup> (MMbbl)			Gas (bcf)			Liquids <sup>b</sup> (MMbbl)			
							Res App	Undis- covered	Total	Res App	Undis- covered	Total	Res App	Undis- covered	Total	Res App	Undis- covered	Total	
Cloverly-Frontier Tight																			
1 (0-15,000 feet)	0	0	1,910	1,910	0	0	2	8,125	8,127	0	89	89	2	10,620	10,622	0	116	116	
2 (15,000-17,000)	0	0	3,529	3,529	0	0	1	10,381	10,382	0	104	104	1	13,565	13,565	0	136	136	
3 (17,000-19,000)	0	0	2,829	2,829	0	0	0	5,588	5,588	0	56	56	0	7,306	7,306	0	73	73	
4 (19,000-21,000)	0	0	1,911	1,911	0	0	0	2,497	2,497	0	25	25	0	3,265	3,265	0	33	33	
5 (>21,000)	0	0	3,129	3,129	0	0	0	2,766	2,766	0	24	24	0	3,616	3,616	0	31	31	
Mesaverde Tight																			
1 (0-9,000)	189	137	733	1,059	466	6	1,191	3,966	5,623	24	67	97	1,191	5,163	6,820	24	87	117	
2 (9,000-11,000)	276	235	1,941	2,452	747	10	1,906	7,665	10,318	39	130	179	1,906	9,987	12,640	39	169	218	
3 (11,000-13,000)	93	81	1,353	1,527	161	1	410	3,797	4,367	3	19	24	410	4,925	5,496	3	25	29	
4 (13,000-15,000)	13	12	1,457	1,482	12	0	29	2,502	2,543	0	13	13	29	3,266	3,307	0	17	17	
5 (>15,000)	0	0	1,576	1,576	0	0	0	1,906	1,906	0	4	4	0	2,492	2,492	0	5	5	
Lewis Tight																			
1 (0-10,000)	137	112	1,047	1,296	241	3	597	4,310	5,149	10	56	69	597	5,592	6,430	10	73	86	
2 (10,000-12,000)	35	29	1,225	1,289	60	1	148	3,276	3,484	3	49	53	148	4,258	4,466	3	64	68	
3 (>12,000)	17	16	1,854	1,887	13	0	33	3,381	3,427	0	7	7	33	4,410	4,457	0	9	9	
Fox Hills-Lance Tight																			
1 (0-10,000)	61	77	960	1,098	920	9	2,258	4,921	8,098	28	47	84	2,258	6,272	9,450	28	60	97	
2 (10,000-12,000)	14	17	1,123	1,154	50	1	122	1,490	1,662	2	15	18	122	1,928	2,100	2	20	22	
3 (>12,000)	32	39	1,946	2,017	66	1	161	1,355	1,581	2	14	17	161	1,725	1,951	2	18	21	
Fort Union Tight																			
1 (0-10,000)	0	0	291	291	0	0	0	782	782	0	10	10	0	1,023	1,023	0	13	13	
2 (10,000 - 12,000)	0	0	251	251	0	0	0	783	783	0	8	8	0	1,023	1,023	0	10	10	
Rock Springs Coalbed	0	0	430	430	0	0	0	769	769	0	0	0	0	991	991	0	0	0	
lles Coalbed	0	0	1,158	1,158	0	0	0	418	418	0	0	0	0	539	539	0	0	0	
Williams Fork Coalbed	0	0	730	730	1	0	0	1,538	1,538	0	0	0	0	1,981	1,982	0	0	0	
Almond Coalbed	0	0	3,560	3,560	0	0	0	882	882	0	0	0	0	1,137	1,137	0	0	0	
Lance Coalbed	0	0	2,946	2,946	0	0	0	255	255	0	0	0	0	328	328	0	0	0	
Fort Union Coalbed	0	0	10,306	10,306	0	0	0	453	453	0	0	0	0	583	583	0	0	0	
<b>Total</b>	<b>2,597</b>	<b>1,957</b>	<b>70,970</b>	<b>75,524</b>	<b>6,603</b>	<b>148</b>	<b>29,898</b>	<b>97,369</b>	<b>133,870</b>	<b>290</b>	<b>1,052</b>	<b>1,491</b>	<b>29,898</b>	<b>122,399</b>	<b>158,901</b>	<b>290</b>	<b>1,338</b>	<b>1,777</b>	

<sup>a</sup>Conventional plays are divided into subplays according to stacked stratigraphic units, each with an identical surface aerial extent. Conventional subplays thus were used for calculating resource amounts and costs but were not distinguished spatially. Tight sandstone plays are divided into subplays according to depth intervals (depths listed in feet). Tight sandstone subplays have unique surface aerial extents and thus were used for calculating resource amounts and costs and were distinguished spatially. There are 50 subplays used to define resource amounts and costs, 33 of which are distinguished spatially.

<sup>b</sup>Liquids = crude oil plus natural gas liquids.