Table 18.
Projected New Plus Existing Gross Disturbance for All Wells and for Federal Wells, for the Next 20 years

GROSS DISTURBANCE PROJECTIONS - FOR ALL NEW WELLS PLUS EXISTING WELLS THROUGH OCTOBER 2003 (based on figures supplied by RMG 11/14/03 - updated 11-18-03)
Unconstrained RFD values: CBM - 4832 wells and Conventional - 4477 wells. All alternatives reflect restrictions that reduce the unconstrained well numbers.

ALTERNATIVE 1 - NO ACTION

RMG Projections				
	CBM	4832-181=	4651	3.7% reduction
	CONVENTIONAL	4477-183=	4294	4.1% reduction
	TOTAL WELLS		8945	

				Disturbance				
	Existing Wells Modified From WOGCC[k]	New Wells Added[j]	Total Wells	Each Well and Road (acres)	Total Well and Roads (acres)	Roads Only (acres)	Roads (miles)	Added Pipeline Activity (acres)
Shallow CBM [a]	52	4172	4224	3.75	15838	7602	1600	2956
Deep CBM [b]	17	479	496	5	2482	894	248	348
Dual CBM[m]								
Intermediate Gas [c]	2098	3400	5498	6.6	36284	13744	2749	8246
Dual Intermed Gas[n]								
Intermediate Exploratory [d]	147	336	483	14.7	7103	3672	725	2174
Deep Gas [e]	341	508	849	16.1	13669	6452	1273	3820
Deep Exploratory [f]	35	50	85	40.5	3452	1952	384	1159
TOTALS	2690	8945	11635		78829	34317	6979	18705

Average acres disturbed per well= 8 **Total Acres Disturbed= 97533**
% of ALT 2= 0.98

ALTERNATIVE 2 - DEVELOPMENT EMPHASIS

RMG Projections				
	CBM	4832-54=	4779	1.1% reduction
	CONVENTIONAL	4477-59=	4419	1.3% reduction
	TOTAL WELLS		9198	

				Disturbance				
	Existing Wells Modified From WOGCC[k]	New Wells Added[j]	Total Wells	Each Well and Road (acres)	Total Well and Roads (acres)	Roads Only (acres)	Roads (miles)	Added Pipeline Activity (acres)
Shallow CBM [a]	52	4286	4338	3.75	16269	7809	1643	3037
Deep CBM [b]	17	493	510	5	2548	917	255	357
Dual CBM[m]								
Intermediate Gas [c]	2098	3499	5597	6.6	36937	13991	2798	8395
Dual Intermed Gas[n]								
Intermediate Exploratory [d]	147	346	493	14.7	7247	3747	740	2219
Deep Gas [e]	341	523	864	16.1	13907	6565	1296	3887
Deep Exploratory [f]	35	52	87	40.5	3511	1985	390	1179
TOTALS	2690	9198	11888		80419	35015	7122	19073

Average acres disturbed per well= 8 **Total Acres Disturbed= 99492**

ALTERNATIVE 3 - PROTECTION/CONSERVATION EMPHASIS

RMG Projections				
	CBM	4832-368=	4464	7.6% reduction
	CONVENTIONAL	4477-309=	4168	6.9% reduction
	TOTAL WELLS		8632	

				Disturbance				
	Existing Wells Modified From WOGCC[k]	New Wells Added[j]	Total Wells	Each Well and Road (acres)	Total Well and Roads (acres)	Roads Only (acres)	Roads (miles)	Added Pipeline Activity (acres)
Shallow CBM [a]	52	3984	4036	3.75	15135	7265	1529	2825
Deep CBM [b]	17	458	475	5	2375	855	237	332
Dual CBM[mp]		22	22	0.08	2			
Intermediate Gas [c]	2098	2838	4936	6.6	32576	12340	2468	7404
Dual Intermed Gas[np]		462	462	0.28	129			
Intermediate Exploratory [d]	147	326	473	14.7	6958	3597	710	2130
Deep Gas [e]	341	493	834	16.1	13429	6339	1251	3753
Deep Exploratory [f]	35	49	84	40.5	3393	1918	377	1139
TOTALS	2690	8632	11322		73997	32314	6572	17584

Average acres disturbed per well= 8 **Total Acres Disturbed= 91581**
% of ALT 2= 0.92

ALTERNATIVE 4 - PREFERRED ACTION

RMG Projections				
	CBM	4832-269=	4563	5.6% reduction
	CONVENTIONAL	4477-218=	4259	4.9% reduction
	TOTAL WELLS		8822	

				Disturbance				
	Existing Wells Modified From WOGCC[k]	New Wells Added[j]	Total Wells	Each Well and Road (acres)	Total Well and Roads (acres)	Roads Only (acres)	Roads (miles)	Added Pipeline Activity (acres)
Shallow CBM [a]	52	4073	4125	3.75	15468	7425	1562	2887
Deep CBM [b]	17	468	485	5	2426	873	243	340
Dual CBM[m]		22	22	0.08	2			
Intermediate Gas [c]	2098	2910	5008	6.6	33052	12520	2504	7512
Dual Intermed Gas[n]		462	462	0.28	129			
Intermediate Exploratory [d]	147	333	480	14.7	7063	3652	721	2162
Deep Gas [e]	341	504	845	16.1	13602	6421	1267	3802
Deep Exploratory [f]	35	50	85	40.5	3436	1943	382	1154
TOTALS	2690	8822	11512		75177	32833	6679	17856

Average acres disturbed per well= 8 **Total Acres Disturbed= 93034**
% of ALT 2= 0.94

GROSS DISTURBANCE PROJECTIONS - FOR ALL NEW FEDERAL WELLS PLUS EXISTING FEDERAL WELLS THROUGH OCTOBER 2003 (based on figures supplied by RMG 11/14/03 and assuming Federal actions will only affect Federal wells, with a Federal ratio of 45.1% of total initial projected wells)
Estimated Federal CBM wells are: 4832 X 0.451 = 2179 wells and estimated Federal conventional wells are: 4477 X 0.451 = 2019 wells

ALTERNATIVE 1 - NO ACTION for 2001-2020

RMG Projections				
	CBM	2179-181=	1998	8.3% reduction
	CONVENTIONAL	2019-183=	1836	9.1% reduction
	TOTAL WELLS		3834	

				Disturbance				
	Existing Wells Modified From WOGCC[k]	New Wells Added[j]	Total Wells	Each Well and Road (acres)	Total Well and Roads (acres)	Roads Only (acres)	Roads (miles)	Added Pipeline Activity (acres)
Shallow CBM [a]	23	1792	1815	3.75	6806	3267	688	1271
Deep CBM [b]	8	206	214	5	1070	385	107	150
Dual CBM[m]								
Intermediate Gas [c]	946	1454	2400	6.6	15837	5999	1200	3599
Dual Intermed Gas[n]								
Intermediate Exploratory [d]	66	144	210	14.7	3083	1594	315	944
Deep Gas [e]	154	217	371	16.1	5976	2821	557	1670
Deep Exploratory [f]	16	21	37	40.5	1518	858	169	510
TOTALS	1213	3834	5047		34291	14925	3034	8144

Average acres disturbed per well= 8 **Total Acres Disturbed= 42435**
% of ALT 2= 0.96

ALTERNATIVE 2 - DEVELOPMENT EMPHASIS for 2001-2020

RMG Projections				
	CBM	2179-54=	2125	2.4% reduction
	CONVENTIONAL	2019-59=	1960	2.9% reduction
	TOTAL WELLS		4085	

				Disturbance				
	Existing Wells Modified From WOGCC[k]	New Wells Added[j]	Total Wells	Each Well and Road (acres)	Total Well and Roads (acres)	Roads Only (acres)	Roads (miles)	Added Pipeline Activity (acres)
Shallow CBM [a]	23	1906	1929	3.75	7234	3472	731	1350
Deep CBM [b]	8	219	227	5	1135	409	114	159
Dual CBM[m]								
Intermediate Gas [c]	946	1552	2498	6.6	16485	6244	1249	3747
Dual Intermed Gas[n]								
Intermediate Exploratory [d]	66	153	219	14.7	3226	1668	329	988
Deep Gas [e]	154	232	386	16.1	6212	2933	579	1736
Deep Exploratory [f]	16	23	39	40.5	1577	892	175	529
TOTALS	1213	4085	5298		35869	15617	3176	8509

Average acres disturbed per well= 8 **Total Acres Disturbed= 44379**

ALTERNATIVE 3 - PROTECTION/CONSERVATION EMPHASIS for 2001-2020

RMG Projections				
	CBM	2179-368=	1811	16.9% reduction
	CONVENTIONAL	2019-309=	1710	15.3% reduction
	TOTAL WELLS		3521	

				Disturbance				
	Existing Wells Modified From WOGCC[k]	New Wells Added[j]	Total Wells	Each Well and Road (acres)	Total Well and Roads (acres)	Roads Only (acres)	Roads (miles)	Added Pipeline Activity (acres)
Shallow CBM [a]	23	1584	1607	3.75	6025	2892	609	1125
Deep CBM [b]	8	182	190	5	950	342	95	133
Dual CBM[m]		45	45	0.08	4			
Intermediate Gas [c]	946	892	1838	6.6	12132	4595	919	2757
Dual Intermed Gas[np]		462	462	0.28	129			
Intermediate Exploratory [d]	66	134	200	14.7	2938	1519	300	900
Deep Gas [e]	154	202	356	16.1	5736	2708	534	1603
Deep Exploratory [f]	16	20	36	40.5	1458	825	162	490
TOTALS	1213	3521	4734		29373	12881	2619	7007

Average acres disturbed per well= 8 **Total Acres Disturbed= 36380**
% of ALT 2= 0.82

ALTERNATIVE 4 - PREFERRED ACTION for 2001-2020

RMG Projections				
	CBM	2179-269=	1910	12.3% reduction
	CONVENTIONAL	2019-218=	1801	10.8% reduction
	TOTAL WELLS		3711	

				Disturbance				
	Existing Wells Modified From WOGCC[k]	New Wells Added[j]	Total Wells	Each Well and Road (acres)	Total Well and Roads (acres)	Roads Only (acres)	Roads (miles)	Added Pipeline Activity (acres)
Shallow CBM [a]	23	1670	1693	3.75	6350	3048	641	1185
Deep CBM [b]	8	192	200	5	1000	360	100	140
Dual CBM[m]		48	48	0.08	4			
Intermediate Gas [c]	946	940	1886	6.6	12445	4714	943	2828
Dual Intermed Gas[n]		486	486	0.28	136			
Intermediate Exploratory [d]	66	141	207	14.7	3043	1573	311	932
Deep Gas [e]	154	213	367	16.1	5910	2790	551	1652
Deep Exploratory [f]	16	21	37	40.5	1501	849	167	504
TOTALS	1213	3711	4924		30389	13334	2712	7241

Average acres disturbed per well= 8 **Total Acres Disturbed= 37630**
% of ALT 2= 0.85

[a]Shallow CBM wells are estimated to be 483[2] wells less 500 deep CBM wells

[b]Deep CBM wells are estimated to be 500 of the total CBM wells

[c]87% of the estimated 4477[j] conventional gas wells are Intermediate Gas.

[d]9% of the above intermediate conventional wells are exploratory

[e]13% of the estimated 4477[j] conventional gas wells are Deep Gas

[f]9% of the above Deep Gas wells are exploratory

[g]Pipeline disturbance is the total pipeline disturbance without any reclamation

[j]Reservoir Management Group estimates of total wells as adjusted February, 2003

[k]Wells through October 2003 are modified from previous total well numbers by adding 8 to the Shallow CBM, 20 to intermediate exploratory, 1 to deep exploratory (all estimated values) and 101 to intermediate gas as the difference. to arrive at the number of wells shown by WOGCC as completed wells effective 11/6/03 Rawlins Field Office

[m]Dual CBM wells are two wells drilled from the same pad and disturbance figure reflects only an increase in the well pad size It is estimated that 2.5% of Alternative 3 and Alternative 4 wells will be drilled in this manner and is reflected in a proportionate reduction of both shallow and deep CBM wells.

[n]Dual Intermed Gas are two wells drilled from the same pad and disturbance figures reflects only an increase in well pad size It is estimated that 27% of Alternative 3 and Alternative 4 wells will be drilled in this manner and is reflected in an equal reduction of Intermediate Gas wells.

[p]Considers that only Federal wells can be controlled and required to drill a directional well to limit surface disturbance.

Tables modified from Chism (2004)