



Brush Creek Field

Reservoir Engineering

Increased Density Application

Laramie Energy, LLC.

(Exhibit 7 thru 11)

Brush Creek Field - Mesa County, Colorado
Laramie Energy, LLC. - Log Analysis

Well Name	Location	Williams Fork			Cozzette			Corcoran		
		Net Pay	Avg Phi (Pay)	Avg Sw (Pay)	Net Pay	Avg Phi (Pay)	Avg Sw (Pay)	Net Pay	Avg Phi (Pay)	Avg Sw (Pay)
Section 02										
1 McDaniel No. 02 - 03	Sec 02 T09S R94W	289.0	0.095	0.514	36.0	0.098	0.488	37.0	0.096	0.494
Section 11										
1 McDaniel No. 11 - 10	Sec 11 T09S R94W	285.5	0.097	0.511	32.0	0.092	0.460	3.0	0.082	0.318
2 Griffith No. 11 - 07	Sec 11 T09S R94W	330.0	0.098	0.483	48.5	0.093	0.495	5.5	0.087	0.485
3 Griffith No. 11 - 01	Sec 11 T09S R94W	279.5	0.104	0.448	48.0	0.103	0.453	19.0	0.084	0.450
4 Griffith No. 11 - 02	Sec 11 T09S R94W	265.5	0.100	0.495	45.4	0.095	0.515	26.5	0.096	0.488
5 McDaniel No. 11 - 08	Sec 11 T09S R94W	305.5	0.100	0.460	32.5	0.090	0.495	10.5	0.089	0.356
6 McDaniel No. 11 - 16	Sec 11 T09S R94W	221.0	0.098	0.433	36.0	0.094	0.512	13.5	0.095	0.361
Averages		281.2	0.100	0.472	40.4	0.095	0.488	13.0	0.089	0.410
Section 12										
1 McElwain No. 12 - 05A	Sec 12 T09S R94W	283.0	0.106	0.432	29.0	0.092	0.368	22.0	0.096	0.337
2 Gunderson Federal No. 12 - 14	Sec 12 T09S R94W	210.5	0.111	0.524	20.0	0.098	0.450	12.0	0.090	0.336
3 Gunderson No. 12 - 10B	Sec 12 T09S R94W	246.0	0.121	0.490	17.0	0.100	0.401	16.0	0.091	0.391
4 Gunderson Federal No. 12 - 02	Sec 12 T09S R94W	262.5	0.106	0.503	27.0	0.098	0.322	10.0	0.089	0.347
5 Gunderson Federal No. 12 - 09	Sec 12 T09S R94W	212.5	0.095	0.560	9.0	0.093	0.568	5.0	0.085	0.556
6 Gunderson Federal No. 12 - 08	Sec 12 T09S R94W	173.0	0.093	0.560	13.0	0.089	0.505	14.0	0.094	0.471
7 Gunderson Federal No. 12 - 07	Sec 12 T09S R94W	145.5	0.094	0.562	7.0	0.086	0.530	20.0	0.089	0.504
8 Gunderson Federal No. 12 - 06	Sec 12 T09S R94W	182.5	0.095	0.520	19.5	0.104	0.466	7.0	0.088	0.454
9 McElwain No. 12 - 12	Sec 12 T09S R94W	254.0	0.094	0.482	18.5	0.091	0.477	14.5	0.094	0.334
10 McElwain No. 12 - 04	Sec 12 T09S R94W	235.5	0.097	0.455	28.5	0.095	0.485	21.0	0.094	0.463
Averages		220.5	0.101	0.509	18.9	0.095	0.457	14.2	0.091	0.419
Section 14										
1 Brush Creek Ranch No. 14 - 10	Sec 14 T09S R94W	128.5	0.097	0.452	44.0	0.100	0.397	23.0	0.091	0.332
2 Griffith No. 14 - 02	Sec 14 T09S R94W	246.5	0.102	0.489	30.0	0.087	0.468	14.0	0.091	0.378
Averages		187.5	0.100	0.471	37.0	0.094	0.433	18.5	0.091	0.355
Averages (All 19 Wells)		239.8	0.100	0.493	28.5	0.095	0.466	15.4	0.091	0.413

**Original Gas In Place by Reservoir (Based on Log Analysis)
Full Mesaverde Section (William's Fork, Cozzette, Corcoran)**

Currently Spaced Sections

Township	Range	Section Number	Acres In The Application Area	Williams Fork OGIP (BCF)	Cozzette OGIP (BCF)	Corcoran OGIP (BCF)	Total OGIP (BCF)
9S	94W	1	640	56.0	5.4	4.2	65.6
9S	94W	2	640	68.3	10.0	10.0	88.3
9S	94W	11	640	76.0	10.8	3.8	90.6
9S	94W	12	640	56.0	5.4	4.2	65.6
9S	94W	13	640	53.4	8.2	5.1	66.7
9S	94W	14	640	50.8	10.9	6.0	67.7
Average (All Sections)			640	60.1	8.4	5.6	74.1

Application Area

Township	Range	Section Number	Acres In The Application Area	Williams Fork OGIP (BCF)	Cozzette OGIP (BCF)	Corcoran OGIP (BCF)	Total OGIP (BCF)
9S	94W	1 SE/4	160	14.0	1.4	1.0	16.4

- Section 1 – No well control – Used Section 12 for OGIP
- Section 13 – No well control – Used average of Sections 12 & 14
- All volumetrics assume:
 - ✓ Reservoir pressure based on normal pressure gradient
 - ✓ 0.64 specific gravity gas
 - ✓ 2.8% CO₂

Exhibit 8

Laramie Energy, LLC
Brian H. Ary / R. G. Hea

Cause No. 429
Docket No. 0512-AW-20
Mesa County, Colorado
Brush Creek Field

160 Acre Recoveries by Section at Varying Well Densities

Producing Sections Only

Town ship	Range	Section Number	# Wells Produced or Producing	Decline Curve EUR Average per Well (BCF)	Drainage Area (Acres)	OGIP In 160 Acres (BCF)	Recovery Factor @ 1 Well per 160 Acre Spacing	Recovery Factor @ 2 Wells per 160 Acre Spacing	Recovery Factor @ 4 Wells per 160 Acre Spacing
9S	94W	11	6	0.8	7	22.6	4%	7%	14%
9S	94W	12	10	0.7	8	16.4	4%	8%	17%
9S	94W	14	5	0.9	10	16.9	5%	11%	21%
Average All Wells			21	0.8	8	18.6	4%	9%	17%
Average New Wells Only			14	0.9	9	18.6	5%	10%	19%

For Proposed Increased Density Quarter Sections

Town ship	Range	Section Number	# Wells Produced or Producing	Decline Curve EUR Average per Well (BCF)	Drainage Area (Acres)	OGIP In 160 Acres (BCF)	Recovery Factor @ 1 Well per 160 Acre Spacing	Recovery Factor @ 2 Wells per 160 Acre Spacing	Recovery Factor @ 4 Wells per 160 Acre Spacing
9S	94W	1 SE/4	0	0.7	8	16.4	4%	8%	17%

- Section 1 – No producing wells. Used Section 12 for Decline Curve EUR, drainage area, and OGIP.

Exhibit 9

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4 Wells per 160 Acres - 40 Acre Spacing - Economic Summary

Initial Rate	1,000 MCFD
Initial Investment	\$1,400,000.00
Gas Price	\$6.00/MMBTU
Monthly Operating Expenses/ Well	\$1,000.00
Reserves	0.9 BCF
Rate of Return	Greater than 10%

Exhibit 10

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Increased Density Summary

- OGIP (all zones) By Section Averages 74 Bcf per Section
- Ultimate Recovery for New Wells Averaging 0.9 Bcf per Well
- Current Drainage Area for New Wells Averaging 9 Acres per Well (Range 7 – 10 Acres)
- For New Wells:
 - At 1 Well per 160 Acres: Average Recovery Efficiency = 5% (160 Acre Density)
 - At 2 Wells per 160 Acres: Average Recovery Efficiency = 10% (80 Acre Density)
 - At 4 Wells per 160 Acres: Average Recovery Efficiency = 19% (40 Acre Density) ← Current Request
- At 4 Wells per 160 Acres (40 Acre Spacing) – Wells will continue to be economical
- No Change In Set-Backs is Requested

Exhibit 11

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