

MINERAL POTENTIAL REPORT
FOR ADDITIONAL PARCELS
AUGUST 2st 2004
ADDENDUM TO EMERALD MOUNTAIN
LAND EXCHANGE MINERAL REPORT
DATED 1/7/2004

ADDITIONAL PARCELS

Parcel #	Legal		Acres	Allot #	Valid Existing Rights	Mineral Potential
22a	T9N R86W	33	Lot 20	3.00		L/B
		34	Tract 40, Lot 12, 16 & 18	28.84	4114	n/a
83a	T5N R87W	27	N1/2NE1/4SW1/4	20.00	4163	COC 59177 og lease, COC 9771 coal cl
82a	T5N R87W	7	NW1/4NE1/4	40.00	4160	COC 57714 og lease
21a	T9N R86W	33	Tract 40, Lot 16	1.93		L/B
40a	T8N R86W	1	Lot 7	50.77	n/a	n/a
114b	T3N R86W	12	Lots 5 & 6	83.83	4186	COC 20371 KRCRA
114c	T3N R86W	12	Lots 9, 15 & 16	243.88	4186	COC 61729 og lease, COC 20371 KRCRA, COC 25900 GLO
		13	Lots 2 & 3			
	T3N R85W	7	Lot 10			
115a	T3N R86W	13	Lot 2	10.58	4186	COC 61729 og lease
105a	T4N R85W	17	Lot 8	39.97	4182	COC 010604 ROW, PWR S CL
105b	T4N R85W	20	Lots 3 & 6	82.33	4182	PWR S CL
105c	T4N R85W	20	Lot 7	41.40	4182	COC 9771 Coal CL

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MINERAL POTENTIAL REPORT
EMERALD MOUNTAIN LAND EXCHANGE
ROUTT COUNTY, COLORADO

PARCEL NO. 21a

General Geology: Surface mapped as Cretaceous Iles Formation and Tertiary Browns Park Formation (Miller, 1975). This 1.93 acre parcel sits nearly on top of a concealed high angle fault separating the two formations mentioned above.

Leasable Minerals: The parcel is located just east and outside of the area classified as containing bituminous coal (1 or more beds) with less than 1000 feet of overburden. This parcel is not leased for coal. Based on the geologic environment and lack of coal occurrence, there is low potential for coal within the parcel, based on indirect evidence.

Oil and gas potential: This parcel is approximately 4.5 miles southeast of the California Park oil field. Oil is produced from this field from the Niobrara Formation. There are no active or abandoned wells within this parcel. This parcel is not encumbered by an oil and gas lease. This parcel has a low oil and gas potential based on indirect evidence.

Locatable Minerals: Low potential for locatable minerals within parcel, based on indirect evidence.

Mineral Materials: Low potential for mineral materials within parcel, based on indirect evidence.

Overall Ranking:

Potential	L
Certainty	B

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MINERAL POTENTIAL REPORT
EMERALD MOUNTAIN LAND EXCHANGE
ROUTT COUNTY, COLORADO

PARCEL NO. 22a

General Geology: Surface mapped as Tertiary Browns Park Formation (Miller, 1975). Two igneous intrusive dikes intersect this sliver shaped parcel of approximately 31 acres. No faults or folds noted.

Leasable Minerals: The parcel is located just east and outside of the area classified as containing bituminous coal (1 or more beds) with less than 1000 feet of overburden. This parcel is not leased for coal. Based on the geologic environment and lack of coal occurrence, there is low potential for coal within the parcel, based on indirect evidence.

Oil and gas potential: This parcel is approximately 5 miles southeast of the California Park oil field and three miles northeast of the Renfro Creek Field. Oil is produced from both fields. There are no active or abandoned wells within this parcel. This parcel is not encumbered by an oil and gas lease. This parcel has a low oil and gas potential based on indirect evidence.

Locatable Minerals: Low potential for locatable minerals within parcel, based on indirect evidence.

Mineral Materials: Low potential for mineral materials within parcel, based on indirect evidence.

Overall Ranking:

Potential	L
Certainty	B

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MINERAL POTENTIAL REPORT
EMERALD MOUNTAIN LAND EXCHANGE
ROUTT COUNTY, COLORADO

PARCEL NO. 40a

General Geology: Surface mapped as Browns Park Formation (Miller, 1975). Mancos outcrops about a mile to the east. No faults or folds noted.

Leasable Minerals: Low potential for coal within parcel, based on indirect evidence.

There are no current or historical oil and gas wells and no oil and gas leases on this parcel. Low potential for oil and gas based on indirect evidence.

Locatable Minerals: Low potential for locatable minerals within parcel, based on indirect evidence.

Mineral Materials: Low potential for mineral materials within parcel, based on indirect evidence.

Overall Ranking:

Potential	L
Certainty	B

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MINERAL POTENTIAL REPORT
EMERALD MOUNTAIN LAND EXCHANGE
ROUTT COUNTY, COLORADO

PARCEL NO. 82a

General Geology: Surface mapped as Williams Fork Formation. The Twentymile Sandstone outcrops just ½ mile south of the parcel. The Lewis Shale outcrops just ¼ mile north of the parcel (Miller, 1975). No faults or folds noted.

Leasable Minerals: The parcel lies within an area containing bituminous coal (1 or more beds) with less than 1000 feet of overburden. Considering the favorable geologic environment and reported coal occurrence, there is moderate potential for coal within the parcel, based on indirect evidence.

This parcel is about two miles northeast of the Sage Creek North oil field and three miles west of the Grassy Creek oil field. Both fields have Niobrara oil production. This parcel has oil and gas lease COC 57714 on it. There are no wells drilled on this parcel. It has low potential for oil and gas development based on indirect evidence.

Locatable Minerals: Low potential for locatable minerals within parcel, based on indirect evidence.

Mineral Materials: Low potential for mineral materials within parcel, based on indirect evidence.

Overall Ranking:

Potential	M
Certainty	B

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MINERAL POTENTIAL REPORT
EMERALD MOUNTAIN LAND EXCHANGE
ROUTT COUNTY, COLORADO

PARCEL NO. 083a

General Geology: Surface mapped as Williams Fork Formation (Miller, 1975). This parcel is dissected by the Twentymile Sandstone outcrop. Immediately to the west is the Iles Formation and just to the east is the Lewis Formation. No known faults or folds noted.

Leasable Minerals: The parcel lies within an area containing bituminous coal (1 or more beds) with less than 1000 feet of overburden. Considering the favorable geologic environment and reported coal occurrence, there is moderate potential for coal within the parcel, based on indirect evidence.

This parcel is about 3 miles east of the Sage Creek oil field and 3 miles south of the Grassy Creek oil field. Both fields produce from the Niobrara Formation. The parcel is encumbered by oil and gas lease COC-59177. This parcel has low potential for oil and gas, based on indirect evidence.

Locatable Minerals: Low potential for locatable minerals within parcel, based on indirect evidence.

Mineral Materials: Low potential for mineral materials within parcel, based on indirect evidence.

Overall Ranking:

Potential	M
Certainty	B

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MINERAL POTENTIAL REPORT
EMERALD MOUNTAIN LAND EXCHANGE
ROUTT COUNTY, COLORADO

PARCEL NO. 105a

General Geology: Surface mapped as Cretaceous Mancos Shale (Miller, 1975). No faults or folds noted.

Leasable Minerals: There is no coal underlying this parcel. Low potential for coal within parcel, based on indirect evidence.

This parcel is not encumbered by an oil and gas lease and it has no wells drilled on it. This parcel is low potential for oil and gas development based on indirect evidence.

Locatable Minerals: Low potential for locatable minerals within parcel, based on indirect evidence.

Mineral Materials: Low potential for mineral materials within parcel, based on indirect evidence.

Overall Ranking:

Potential	L
Certainty	B

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MINERAL POTENTIAL REPORT
EMERALD MOUNTAIN LAND EXCHANGE
ROUTT COUNTY, COLORADO

PARCEL NO. 105b

General Geology: Surface mapped as Cretaceous Mancos Shale (Miller, 1975). No faults or folds noted.

Leasable Minerals: There is no coal underlying this parcel. Low potential for coal within parcel, based on indirect evidence.

This parcel is not encumbered by an oil and gas lease and it has no wells drilled on it. This parcel is low potential for oil and gas development based on indirect evidence.

Locatable Minerals: Low potential for locatable minerals within parcel, based on indirect evidence.

Mineral Materials: Low potential for mineral materials within parcel, based on indirect evidence.

Overall Ranking:

Potential	L
Certainty	B

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MINERAL POTENTIAL REPORT
EMERALD MOUNTAIN LAND EXCHANGE
ROUTT COUNTY, COLORADO

PARCEL NO. 105c

General Geology: Surface mapped as Cretaceous Mancos Shale (Miller, 1975). No faults or folds noted.

Leasable Minerals: There is no coal underlying this parcel. Low potential for coal within parcel, based on indirect evidence.

This parcel is not encumbered by an oil and gas lease and it has no wells drilled on it. This parcel is low potential for oil and gas development based on indirect evidence.

Locatable Minerals: Low potential for locatable minerals within parcel, based on indirect evidence.

Mineral Materials: Low potential for mineral materials within parcel, based on indirect evidence.

Overall Ranking:

Potential	L
Certainty	B

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MINERAL POTENTIAL REPORT
EMERALD MOUNTAIN LAND EXCHANGE
ROUTT COUNTY, COLORADO

PARCEL NO. 114b

General Geology: Surface mapped as Cretaceous Iles Formation with a little Mancos Shale on the very northwest corner of the parcel. The eastern edge of the parcel is on the axis of a major north-south trending syncline (Miller, 1975).

Leasable Minerals: There are three inactive or abandoned underground coal mines surrounding this parcel. The parcel lies within an area containing bituminous coal (1 or more beds) with less than 1000 feet of overburden. Considering the favorable geologic environment and reported coal occurrence, there is moderate potential for coal within the parcel, based on indirect evidence.

The Oak Creek oil field is located about a mile to the northwest of this parcel. Production is out of the Triassic Shinarump Formation. The parcel is not leased for oil and gas and there are no wells drilled on it. Low potential for oil and gas based on indirect evidence.

Locatable Minerals: Low potential for locatable minerals within parcel, based on direct visual evidence.

Mineral Materials: Low potential for mineral materials within parcel, based on direct visual evidence.

Overall Ranking:

Potential	M
Certainty	B

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MINERAL POTENTIAL REPORT
EMERALD MOUNTAIN LAND EXCHANGE
ROUTT COUNTY, COLORADO

PARCEL NO. 114c

General Geology: The vast majority of the surface of this parcel is mapped as Mancos Shale. There is a little Iles Formation on the extreme western edge of the parcel (Miller, 1975). The parcel is split by the synclinal axis of a large north-south trending syncline.

Leasable Minerals: This parcel is almost completely devoid of coal. Low potential for coal within parcel, based on indirect evidence.

The Oak Creek oil field is located about a mile and a half to the northwest of this parcel. Production is out of the Triassic Shinarump Formation. The parcel does have oil and gas lease COC 61729 on it but it has not been drilled. Low potential for oil and gas based on indirect evidence.

Locatable Minerals: Low potential for locatable minerals within parcel, based on indirect evidence.

Mineral Materials: Low potential for mineral materials within parcel, based on indirect evidence.

Overall Ranking:

Potential	L
Certainty	B

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ROUTT COUNTY, COLORADO

PARCEL NO. 115a

General Geology: Surface mapped as Quaternary alluvium overlying Mancos Shale (Miller, 1975). No faults or fold axis are noted for this approximately 10 acre parcel.

Leasable Minerals: There is no coal on this parcel. Low potential for coal within parcel, based on indirect evidence.

There are no historic or current oil and gas wells on this parcel. The parcel does have oil and gas lease COC 61729 on it but it has not been drilled. Low potential for oil and gas based on indirect evidence.

Locatable Minerals: Low potential for locatable minerals within parcel, based on indirect evidence.

Mineral Materials: Low potential for mineral materials within parcel, based on indirect evidence.

Overall Ranking:

Potential	L
Certainty	B