Quality assessment of strippable coals in northwest New Mexico: drilling data, chemical and petrographic analyses for the Fruitland, Menefee, Crevasse Canyon, and Moreno Hill Formation

by
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Introduction

The New Mexico Bureau of Mines and Mineral Resources (NMBMMR) participated in a long term coal quality study funded in part by the New Mexico Research and Development Institute (NMRDI) and several private companies. NMBMMR personnel along with Ed Beaumont, a private consultant, conducted drilling programs during 1985, 1986, and 1987 to provide unweathered coal samples from strippable coal areas for chemical and petrographic analyses. The chemical analyses were done at the NMBMMR coal lab. Art Cohen, now of Univ. of South Carolina, Fred Kuellmer of New Mexico Institute of Mining and Technology, Fred Rich and Robert Finkelman of Environmental and Coal Associates, and Deborah and Kenneth Kuehn Western Kentucky University did the petrographic analyses for this study.

Method of Study

The Fruitland, Menefee, and Crevasse Canyon formations were sampled in the San Juan Basin, and the Moreno Hill Formation coals were sampled in the Salt Lake field of west central New Mexico (Fig. 1, 2). The drilling pattern for most locations was along a trend parallel to the Cretaceous shorelines on 2-mi centers. Forty-nine drill sites were completed in the Fruitland, Bisti and Star Lake fields in the Fruitland Formation. The Fruitland field drill sites are along a line perpendicular to the Cretaceous shorelines. Both the upper coal member and Cleary Coal Member of the Menefee Formation were drilled and sampled at 69 drill sites in the La Ventana, Chacra Mesa, San Mateo, and Standing Rock fields.

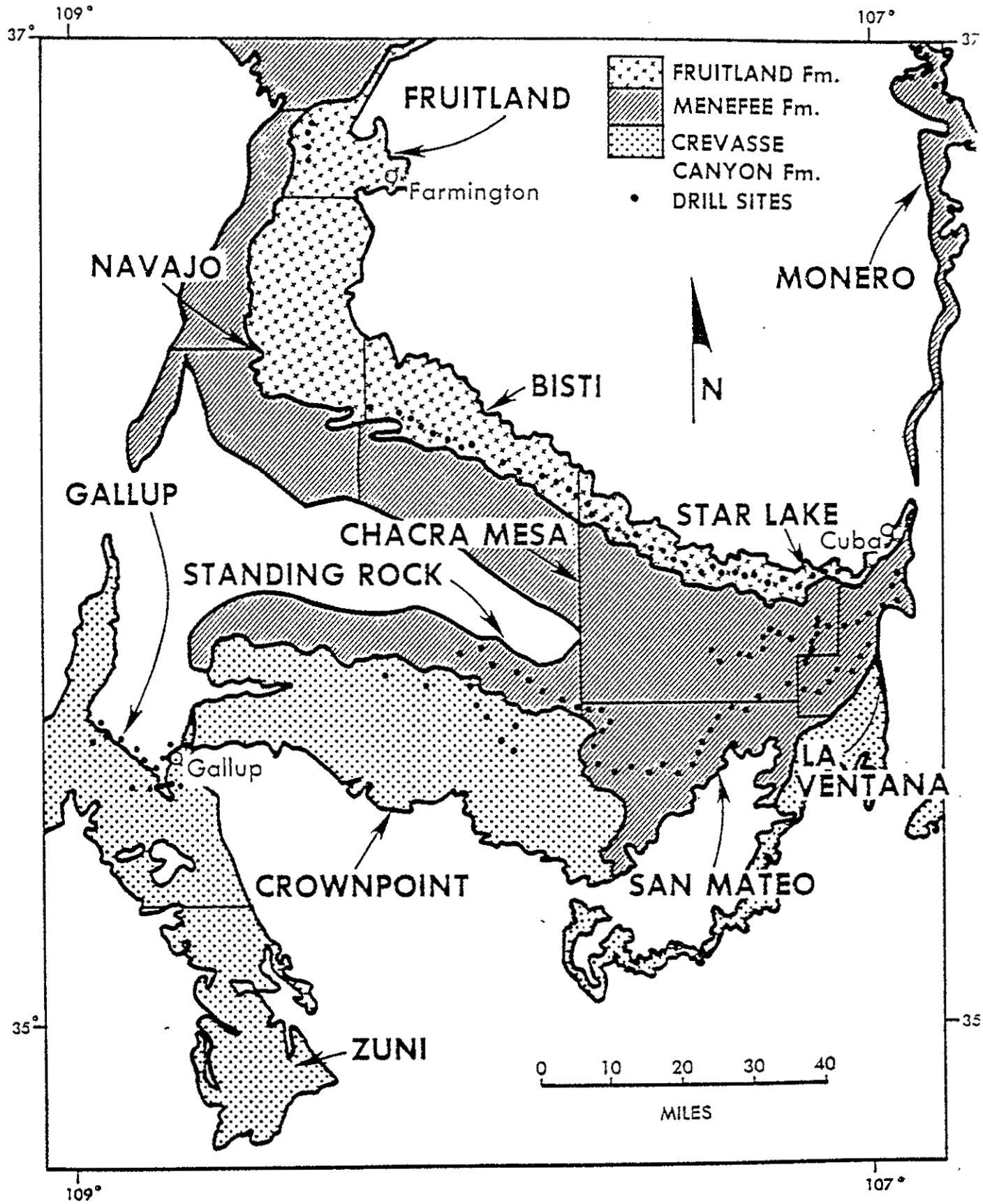

Figure 1. Generalized map of drill site locations, San Juan Basin coal fields.
From Hoffman, Campbell, and Beaumont, in press.

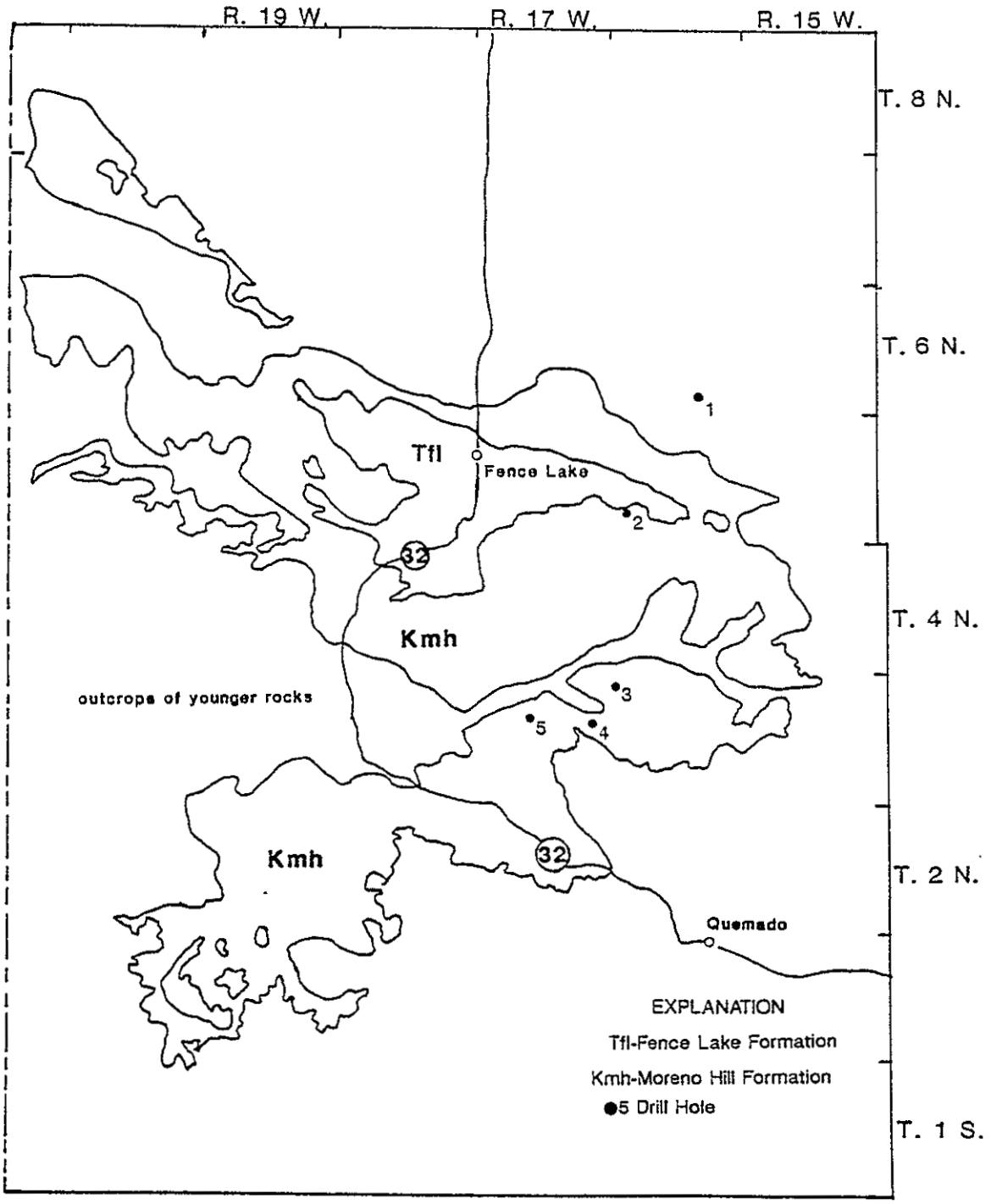

Figure 2. Correlation of Moreno Hill Formation, Salt Lake field to equivalent stratigraphic units in the Gallup-Zuni fields, San Juan Basin. Modified from Dane and Bachman, 1965.

In the Chacra Mesa field an additional 8 drill sites were located on a trend perpendicular to the shorelines and space 1 mi apart. Seven drill sites were completed in the Menefee Formation of the Monero field. In the Cleary-Gibson, Gibson and Dilco Coal members of the Crevasse Canyon twenty-one drill sites were completed in the Crownpoint and Gallup fields. Seven drill sites were drilled in the Salt Lake field, Moreno Hill Formation perpendicular to the shorelines. A stratigraphic diagram of the relationships in the San Juan Basin and of the Moreno Hill Formation are shown in Fig's. 3 and 4.

Organization of the Open-file

The contents of this open-file report are the descriptive and geophysical logs from the drilling and coring done at 148 drill sites and the chemical and petrographic analyses of the coal samples from these cores. The surveyed locations of the drill sites are included with this text and should be referred to for accurate locations. The data are compiled by drill site and are also labeled with the field, formation and year completed. The data may be requested by formation, field or by individual drill site. The chemical and petrographic data are also available on floppy disk. The chemical data computer files are grouped by formation and field, each individual sample analyzed with the resulting analyses is included in the drill site file. The petrographic data was done on selected samples therefore these analyses are grouped separately by formation, with every analyses listed. A compilation of all the drill sites and the sample depths

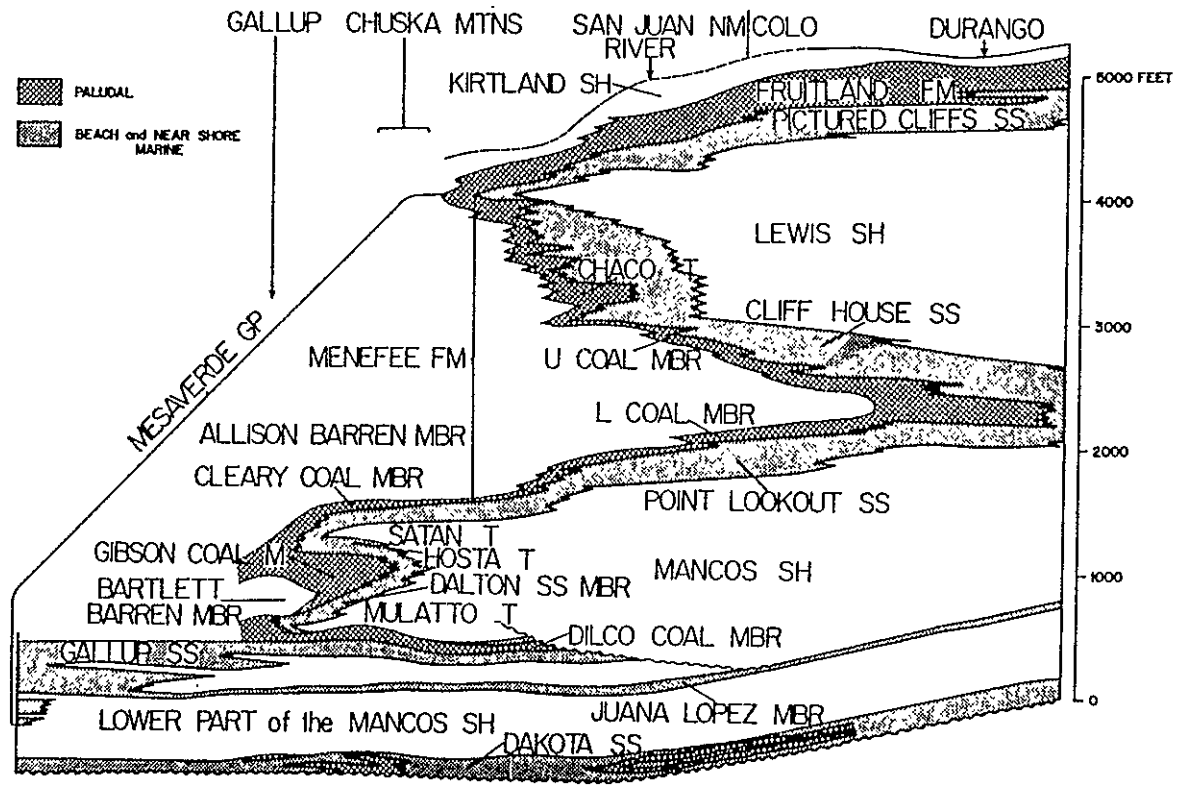

Figure 3. Stratigraphic diagram of Cretaceous rocks, San Juan Basin, New Mexico and Colorado. From Beaumont, 1982.

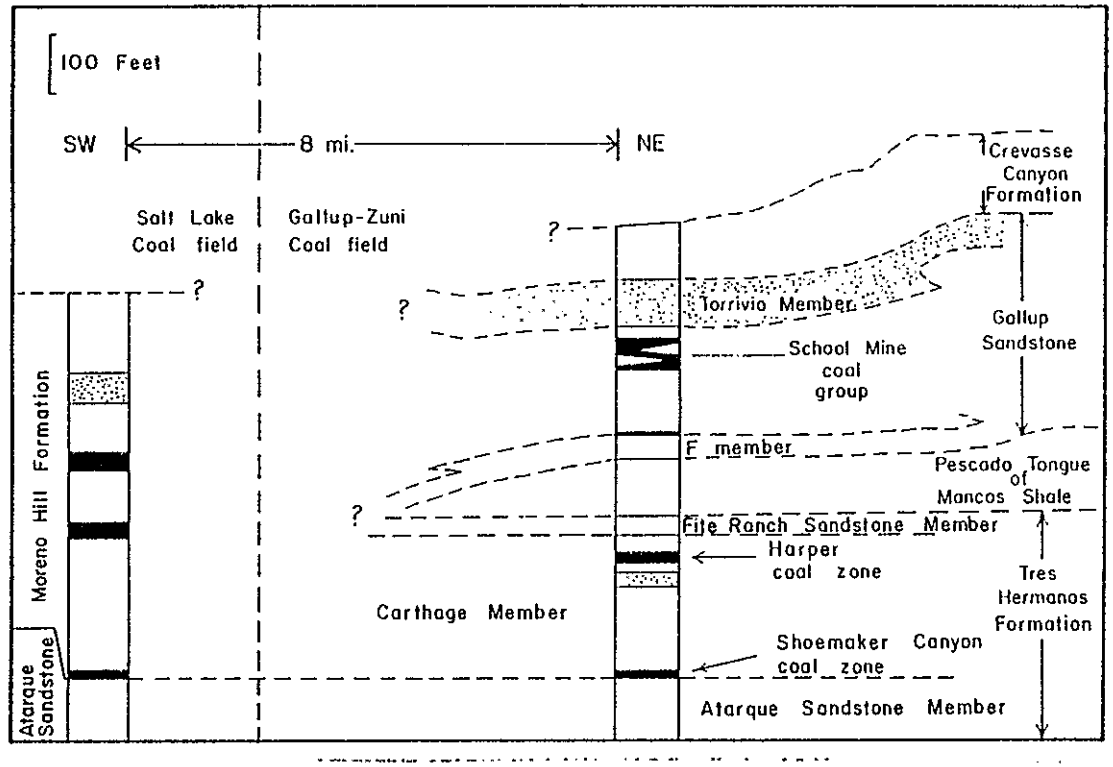

Figure 4. Map of Salt Lake field drill site locations. From Anderson and Stricker, 1987.

and thicknesses are included in Appendix A.

The lithologic data includes the cuttings descriptions on 5-foot intervals, and a detailed description of the cores taken at each location. Geophysical logs were run for both the pilot and core hole. In general the pilot hole has two sets of geophysical logs; the caliper, gamma, bulk density, and resistivity log, and the gamma and neutron log. For all but the part of the first year of drilling (1985) only the caliper-gamma-density-resistivity log was run in the core hole. In the first year both suites of logs were run on both the pilot and core hole.

The chemical analyses consist of the proximate, ultimate, Btu equilibrium moisture, and forms of sulfur analyses for all samples (524). Trace element analyses; elemental whole coal, whole coal oxide, and ashed oxide analyses, were run on a large percentage of the samples. Vitrinite reflectance and maceral analyses were completed on approximately 25% of the entire sample population. A detailed discussion of the lithologic, chemical, and petrographic data is presented in New Mexico Bureau of Mines and Mineral Resources Bulletin 141 (Hoffman, Campbell, and Beaumont, in press).

Key to folders for NMBMMR OF-377.

Drill hole designation: Example- 15N19W35: The first part of the alpha-numeric designation is the township (15N), followed by the range (19W) and the section (35). On the geophysical logs this designation may be followed by the letter "C" indicating the log of the core hole. Geophysical logs without the "C" are from the pilot hole.

Sample designation: Example 15N19W35A: The sample designation includes the drill hole identification and a letter. Sample "A" is nearest the top of the hole and succeeding alpha labels are given to the samples deeper in hole.

Lab no.: Each sample was assigned a number in the laboratory. This number was used for the both chemical and petrographic analyses and is cross-referenced with the sample designation assigned in the field.

Formations:

Kf- Fruitland Formation

Kmf- Menefee Formation (Monero field)

Kmfu- upper coal member, Menefee Formation

Kmfc- Cleary Coal Member, Menefee Formation

Kmfc/Kcg- Cleary and Gibson coal members of the Menefee and Crevasse Canyon formations, undivided (Gallup field)

Kcg- Gibson Coal Member, Crevasse Canyon Formation

Kcdi- Dilco Coal Member, Crevasse Canyon Formation

Kmh- Moreno Hill Formation (Salt Lake field)

Fields:

Frt- Fruitland field, Fruitland Formation

Bisti- Bisti field, Fruitland Formation

SL- Star Lake field, Fruitland Formation

LV- La Ventana field, upper and Cleary coal members, Menefee Formation

CM- Chacra Mesa field, upper and Cleary coal members, Menefee Formation

SM- San Mateo field, Cleary Coal Member, Menefee Formation

SR- Standing Rock field, Cleary Coal Member, Menefee Formation

MNRO- Monero field, Menefee Formation

GLP- Gallup field, Cleary-Gibson and Dilco coal members, Crevasse Canyon Formation

CRNPT- Crownpoint field, Gibson Coal Member, Crevasse Canyon Formation

SLTLK- Salt Lake field, Moreno Hill Formation

Key to computer disk files:

File Name:	**Description:**
	*.chm-- Chemical analyses
Frt_Bis.chm	Bisti field, Fruitland Formation
Frt-Frt.chm	Fruitland field, Fruitland Formation
Men_Mon.chm	Monero field, Menefee Formation
Frt_Str.chm	Star Lake field, Fruitland Formation
Men_Sm.chm	San Mateo field, Menefee Formation
Men_Cm.chm	Chacra Mesa field, Menefee Formation
Men_Lv.chm	La Ventana field, Menefee Formation

Men_Stdr.chm	Standing Rock field, Menefee Formation
Mh-Sl.chm	Salt Lake field, Moreno Hill Formation
Crv_Glp.chm	Gallup field, Crevasse Canyon Formation
Crv_Crn.chm	Crownpoint field, Crevasse Canyon Formation
	*pet.prt-- petrographic data
Crvpet.prt	Crevasse Canyon Formation
Menpet.prt	Menefee Formation
Frtpet.prt	Fruitland Formation
Mhpet.prt	Moreno Hill Formation

References

Anderson, O. J., and Stricker, G. D., 1987, Stratigraphy and coal occurrences of the Tres Hermanos Formationand Gallup Sandstone (Upper Cretaceous), Zuni Basin, west-central New Mexico; in Coal deposits and facies changes along the southwestern margin of the Late Creaceous seaway, west-central New Mexico: New Mexico Bureau of Mines and Mineral Resources Bull. 121, p. 62.

Beaumont, E. C., 1982, Geology of New Mexico coal deposits and geological setting for field trips; in Coal-bearing sequences-modern geological concepts for exploration and development: American Assoc. of Petroleum Geologist, short course notes, march 1982, Fig. 2.

Dane, C. H. and Bachman, G. O., 1965, Geologic map of New Mexico: U. S. Geological Survey, 1:500,000 scale, 2 sheets.

Hoffman, G. K., Campbell, F. W., and Beaumont, E. C., in press, Quality assessment of strippable coals in northwest New Mexico: The Fruitland, Menefee, and Crevasse Canyon formation coals in the San Juan Basin and Moreno Hill Formation coals in the Salt Lakd field: New Mexico Bureau of Mines and Mineral Resources Bulletin 141, 190 p.

D R I L L H O L E D A T A - BEAUMONT PROJECT - STATE PLANE, WEST ZONE.
11-07-1985 08:20:54

LOCATION	Y	X	ELEV.	LATITUDE	LONGITUDE
15N 7W 20.1	1,641,400.4	569,051.3	6628.8	35°30'40.260''N	107°36' 4.728''W
15N 7W 20.2	1,641,406.8	569,067.9	6628.5	35°30'40.323''N	107°36' 4.527''W
15N 7W 22.1	1,643,992.7	579,738.3	6629.8	35°31' 5.632''N	107°33'55.370''W
15N 7W 22.2	1,644,015.1	579,717.7	6629.3	35°31' 5.854''N	107°33'55.618''W
15N 7W 26.1	1,638,623.8	585,097.8	6660.5	35°30'12.380''N	107°32'50.722''W
15N 7W 26.2	1,638,633.6	585,104.7	6660.8	35°30'12.477''N	107°32'50.638''W
15N 8W 6.1	1,658,978.6	534,191.6	6897.7	35°33'34.731''N	107°43' 6.156''W
15N 8W 6.2	1,658,963.7	534,205.8	6898.4	35°33'34.583''N	107°43' 5.984''W
15N 8W 20.1	1,644,535.1	538,856.6	6933.8	35°31'11.814''N	107°42' 9.924''W
15N 8W 20.2	1,644,524.8	538,852.4	6933.7	35°31'11.712''N	107°42' 9.974''W
15N 8W 22.1	1,640,309.7	546,727.6	6812.8	35°30'29.907''N	107°40'34.784''W
15N 8W 22.2	1,640,309.3	546,744.3	6812.9	35°30'29.903''N	107°40'34.582''W
15N 8W 24.1	1,643,011.3	557,525.7	6721.5	35°30'56.439''N	107°38'24.107''W
15N 8W 24.2	1,643,028.1	557,528.7	6721.4	35°30'56.605''N	107°38'24.070''W
16N 8W 6.1	1,689,803.2	530,006.8	6855.3	35°38'39.656''N	107°43'56.424''W
16N 8W 6.2	1,689,794.5	529,997.2	6855.1	35°38'39.570''N	107°43'56.541''W
16N 8W 10.1	1,686,549.8	546,651.4	6777.5	35°38' 7.261''N	107°40'34.814''W
16N 8W 22.1	1,674,052.1	547,566.0	6683.0	35°36' 3.635''N	107°40'23.980''W
16N 8W 28.1	1,668,477.4	541,446.7	6724.7	35°35' 8.589''N	107°41'38.180''W
16N 8W 28.2	1,668,468.9	541,437.5	6724.8	35°35' 8.505''N	107°41'38.291''W
16N 9W 1.1	1,688,188.3	524,482.1	6868.1	35°38'23.734''N	107°45' 3.380''W
16N 9W 1.2	1,688,197.4	524,494.6	6868.4	35°38'23.824''N	107°45' 3.229''W
17N 9W 34.1	1,697,304.0	513,759.5	6977.6	35°39'53.965''N	107°47'13.241''W
17N 9W 34.2	1,697,304.2	513,745.2	6977.7	35°39'53.967''N	107°47'13.414''W
17N 10W 6.1	1,724,428.4	465,919.9	6702.7	35°44'22.077''N	107°56'53.420''W
17N 10W 6.2	1,724,437.7	465,909.9	6702.8	35°44'22.169''N	107°56'53.542''W
17N 10W 7.1	1,719,011.4	470,189.3	6705.8	35°43'18.656''N	107°56' 1.561''W
17N 10W 7.2	1,718,018.4	470,201.5	6705.4	35°43'18.725''N	107°56' 1.401''W
17N 10W 16.1	1,709,951.9	476,559.5	6719.2	35°41'59.000''N	107°54'44.212''W
17N 10W 16.2	1,709,951.4	476,569.5	6919.0	35°41'58.995''N	107°54'44.091''W

18N	12W	11.1	1,748,497.8	425,586.9	6392.9	35°48'19.391''N	108° 5' 3.438''W
18N	12W	11.2	1,748,509.5	425,588.8	6392.5	35°48'19.507''N	108° 5' 3.415''W
18N	12W	16.1	1,745,530.0	413,968.1	6473.7	35°47'49.721''N	108° 7'24.392''W
18N	12W	16.2	1,745,518.4	413,966.5	6743.2	35°47'49.606''N	108° 7'24.411''W
18N	12W	24.1	1,738,967.2	431,947.6	6472.0	35°46'45.283''N	108° 3'45.943''W
18N	12W	24.2	1,738,956.9	431,956.2	6472.3	35°46'45.182''N	108° 3'45.839''W
19N	2W	6.1	1,783,620.2	721,400.9	7065.2	35°53'59.332''N	107° 5' 8.339''W
19N	3W	9.1	1,781,125.3	697,214.4	6689.3	35°53'36.388''N	107°10' 3.017''W
19N	4W	1.1	1,787,898.8	686,715.6	6810.5	35°54'44.064''N	107°12'10.083''W
19N	4W	1.2	1,787,909.8	686,719.6	6810.7	35°54'44.173''N	107°12'10.034''W
19N	4W	3.1	1,786,852.4	674,426.9	6721.3	35°54'34.475''N	107°14'39.547''W
19N	5W	5.1	1,787,791.3	651,227.4	6594.5	35°54'45.052''N	107°19'21.506''W
20N	3W	34.1	1,788,210.8	704,292.8	6884.4	35°54'45.975''N	107° 9'36.382''W
20N	3W	36.1	1,790,937.9	716,346.3	7010.3	35°55'12.078''N	107° 6' 9.608''W
20N	4W	32.1	1,788,069.9	664,079.6	6706.5	35°54'47.114''N	107°16'45.247''W
20N	5W	28.1	1,793,565.2	635,303.6	6793.3	35°55'42.935''N	107°22'34.759''W
20N	5W	31.1	1,798,272.8	624,058.1	6658.7	35°54'51.093''N	107°24'51.773''W
20N	5W	31.2	1,798,286.9	624,062.4	6659.1	35°54'51.232''N	107°24'51.720''W
20N	5W	34.1	1,798,987.1	640,960.8	6644.5	35°54'57.391''N	107°21'26.243''W
20N	5W	34.2	1,798,999.9	640,945.8	6645.1	35°54'57.518''N	107°21'26.425''W
20N	6W	18.1	1,805,244.6	592,744.8	6699.8	35°57'40.106''N	107°31'11.794''W
20N	6W	18.2	1,805,256.5	592,736.0	6699.8	35°57'40.224''N	107°31'11.900''W
20N	6W	26.1	1,793,932.4	613,530.4	6656.9	35°55'47.494''N	107°26'59.490''W
20N	6W	26.2	1,793,920.1	613,519.0	6656.8	35°55'47.373''N	107°26'59.629''W
20N	6W	28.1	1,796,270.3	602,841.2	6618.5	35°56'11.012''N	107°29' 9.365''W
20N	6W	28.2	1,796,279.3	602,849.1	6618.5	35°56'11.100''N	107°29' 9.269''W
20N	7W	8.1	1,813,394.2	567,705.0	6636.6	35°59' 1.395''N	107°36'16.158''W
20N	7W	8.2	1,813,393.2	567,688.1	6636.4	35°59' 1.385''N	107°36'16.364''W
20N	7W	10.1	1,809,678.0	581,446.1	6630.4	35°58'24.290''N	107°33'29.085''W
20N	7W	10.1	1,809,692.4	581,454.3	6630.6	35°58'24.432''N	107°33'28.984''W
21N	7W	33.1	1,821,412.3	572,414.6	6624.1	36° 0'20.581''N	107°35'18.607''W
21N	7W	33.2	1,821,415.3	572,394.8	6624.3	36° 0'20.611''N	107°35'18.848''W

21N	8W	7.1	1,842,469.6	531,503.6	6610.8	36° 3'49.569''N	107°43'36.273''W
21N	8W	7.2	1,842,465.6	531,492.9	6609.8	36° 3'49.529''N	107°43'36.403''W
21N	8W	7.3	1,842,474.7	531,513.8	6611.2	36° 3'49.619''N	107°43'36.148''W
21N	8W	17.1	1,836,622.7	537,703.3	6588.0	36° 2'51.669''N	107°42'20.851''W
21N	8W	17.2	1,836,633.6	537,706.1	6588.5	36° 2'51.777''N	107°42'20.829''W
21N	8W	17.3	1,836,625.8	537,725.6	6588.4	36° 2'51.699''N	107°42'20.580''W
21N	8W	22.1	1,830,698.7	548,794.3	6539.9	36° 1'52.916''N	107°40' 5.908''W
21N	8W	22.2	1,830,684.7	548,795.2	6539.3	36° 1'52.777''N	107°40' 5.898''W
21N	8W	36.1	1,823,742.8	556,725.9	6586.4	36° 0'43.978''N	107°38'29.505''W
21N	8W	36.2	1,823,763.3	556,732.2	6586.9	36° 0'44.180''N	107°38'29.428''W
22N	9W	19.1	1,866,039.2	499,381.0	6414.3	36° 7'42.842''N	107°50' 7.546''W
22N	9W	19.2	1,866,045.7	499,380.6	6414.3	36° 7'42.907''N	107°50' 7.551''W
22N	9W	27.1	1,860,122.8	516,137.5	6536.5	36° 6'44.285''N	107°46'43.317''W
22N	9W	29.1	1,858,332.8	507,310.4	6460.3	36° 6'31.562''N	107°48'30.905''W
22N	9W	29.2	1,858,839.5	507,326.9	6460.3	36° 6'31.629''N	107°48'30.706''W
22N	9W	36.1	1,854,109.4	527,400.7	6473.9	36° 5'44.728''N	107°44'26.113''W
22N	9W	36.2	1,854,100.2	527,418.3	6474.4	36° 5'44.637''N	107°44'25.892''W
22N	10W	17.1	1,869,968.1	474,635.6	6314.9	36° 8'21.588''N	107°55' 9.245''W
22N	10W	17.2	1,869,966.1	474,612.9	6315.0	36° 8'21.568''N	107°55' 9.522''W
22N	10W	23.1	1,864,279.6	489,455.3	6306.0	36° 7'25.421''N	107°52' 8.537''W
22N	10W	23.2	1,864,294.4	489,471.1	6305.6	36° 7'25.567''N	107°52' 8.344''W
23N	11W	19.1	1,898,764.9	439,537.0	6115.0	36°13' 5.863''N	108° 2'17.910''W
23N	11W	19.2	1,898,739.4	439,545.9	6115.2	36°13' 5.611''N	108° 2'17.801''W
23N	11W	27.1	1,891,639.1	454,770.3	6276.4	36°11'55.669''N	107°59'11.861''W
23N	11W	27.2	1,891,647.1	454,749.3	6276.2	36°11'55.748''N	107°59'12.118''W
23N	11W	29.1	1,889,002.9	443,361.5	6181.1	36°11'29.397''N	108° 1'30.999''W
23N	11W	29.2	1,889,006.7	443,377.3	6181.2	36°11'29.435''N	108° 1'30.807''W
23N	11W	36.1	1,886,399.0	463,515.8	6368.2	36°11' 3.969''N	107°57'25.074''W
23N	11W	36.2	1,886,370.2	463,545.7	6368.2	36°11' 3.684''N	107°57'24.708''W
23N	12W	3.1	1,910,266.0	423,735.0	6025.6	36°14'59.232''N	108° 5'31.136''W
23N	12W	3.2	1,910,270.2	423,749.4	6025.8	36°14'59.274''N	108° 5'30.960''W
23N	12W	4.1	1,914,900.2	413,977.9	6064.6	36°15'44.788''N	108° 7'30.432''W
23N	12W	4.2	1,914,917.2	413,969.7	6065.1	36°15'44.956''N	108° 7'30.533''W
23N	12W	6.1	1,911,569.4	404,083.3	5918.3	36°15'11.536''N	108° 9'31.118''W
23N	12W	6.2	1,911,576.3	404,067.7	5919.5	36°15'11.604''N	108° 9'31.309''W

23N 12W 12.1	1,905,096.3	431,847.5	6049.2	36°14' 8.308''N	108° 3'51.939''W
23N 12W 12.2	1,905,082.7	431,845.7	6049.5	36°14' 8.173''N	108° 3'51.961''W
23N 13W 2.1	1,913,039.8	392,289.4	6601.4	36°15'25.662''N	108°11'55.184''W
23N 13W 2.2	1,913,042.7	392,306.6	6011.4	36°15'25.691''N	108°11'54.974''W
24N 13W 31.1	1,919,561.7	372,601.4	5765.2	36°16'29.358''N	108°15'55.931''W
24N 13W 31.2	1,919,549.1	372,594.6	5765.2	36°16'29.234''N	108°15'56.013''W
30N 15W 4.1	2,124,304.7	330,562.5	5364.7	36°50'11.843''N	108°24'44.385''W
30N 15W 4.2	2,124,285.9	330,558.2	5364.9	36°50'11.657''N	108°24'44.437''W
30N 15W 16.1	2,116,710.0	329,560.6	5278.1	36°48'56.684''N	108°24'56.141''W
30N 15W 16.2	2,116,711.9	329,546.7	5278.2	36°48'56.702''N	108°24'56.312''W
30N 15W 28.1	2,106,377.2	330,221.5	5204.1	36°47'14.550''N	108°24'47.243''W
30N 15W 28.2	2,106,369.2	330,221.3	5204.0	36°47'14.471''N	108°24'47.239''W
31N 13W 5.1	2,155,827.0	383,651.4	5930.7	36°55'26.231''N	108°13'52.931''W
32N 12W 8.1	2,181,681.0	416,132.3	5957.0	36°59'43.040''N	108° 7'13.866''W
32N 12W 8.2	2,181,660.9	416,125.6	5958.0	36°59'42.841''N	108° 7'13.948''W
32N 13W 13.1	2,178,025.0	407,989.0	6049.3	36°59' 6.633''N	108° 8'54.101''W
32N 13W 13.2	2,178,020.0	407,971.2	6050.0	36°59' 6.583''N	108° 8'54.320''W
32N 13W 14.1	2,176,263.6	401,536.9	6071.5	36°58'48.998''N	108°10'13.550''W
32N 13W 14.2	2,176,253.3	401,527.8	6071.4	36°58'48.895''N	108°10'13.662''W
32N 13W 28.1	2,167,413.1	388,985.5	6032.1	36°57'21.013''N	108°12'47.807''W
32N 13W 28.2	2,167,399.4	388,971.5	6032.4	36°57'20.878''N	108°12'47.979''W

STATE PLANE COORDINATES. CENTRAL ZONE

19N 2W 6.1	1,783,802.0	252,467.2	7065.2	35°53'59.332''N	107° 5' 8.839''W
19N 3W 9.1	1,781,699.0	228,243.5	6689.3	35°53'36.388''N	107°10' 3.017''W
19N 4W 1.1	1,788,642.0	217,855.8	6810.5	35°54'44.947''N	107°12' 8.395''W
19N 4W 1.2	1,788,653.0	217,859.9	6810.7	35°54'45.046''N	107°12' 8.348''W
19N 4W 3.1	1,787,795.0	205,551.7	6721.3	35°54'34.475''N	107°14'39.547''W
20N 3W 34.1	1,788,669.0	235,435.7	6884.4	35°54'45.975''N	107° 9'36.382''W
20N 3W 36.1	1,791,201.0	247,531.8	7010.3	35°55'12.078''N	107° 6' 9.608''W
21N 7W 33.1	1,824,002.0	104,112.4	6624.1	36° 0'20.285''N	107°35'17.910''W
21N 7W 33.2	1,824,005.0	104,092.8	6624.3	36° 0'20.317''N	107°35'18.150''W

DRILL HOLE LOCATION DATA

New Mexico State Plane Coordinates

11-18-1986 19:37:52

LOCATION	Y-Coord.	X-Coord.	ELEV.	LATITUDE	LONGITUDE	ZONE
19N 1W 4.1	1,783,771.5	297,027.7	7063.7	35°54' 2.458''N	106°56' 7.230''W	Central
19N 1W 4.2	1,783,768.2	297,020.9	7063.8	35°54' 2.425''N	106°56' 7.313''W	
19N 1W 8.1	1,778,427.8	291,688.2	6785.6	35°53' 9.235''N	106°57'11.663''W	Central
19N 1W 8.2	1,778,430.4	291,675.3	6785.3	35°53' 9.260''N	106°57'11.821''W	
19N 1W 21.1	1,768,411.0	293,617.3	6703.6	35°51'30.308''N	106°56'47.353''W	Central
19N 1W 30.1	1,763,012.5	284,832.6	6624.5	35°50'36.285''N	106°58'33.585''W	Central
20N 1W 33.1	1,789,360.5	293,556.3	6947.1	35°54'57.490''N	106°56'49.909''W	Central
20N 1W 33.2	1,789,323.8	293,547.9	6947.1	35°54'57.125''N	106°56'50.009''W	
17N 2W 7.1	1,718,748.7	249,385.6	6575.2	35°43'15.719''N	107° 5'39.479''W	Central
17N 2W 7.2	1,718,739.7	249,396.5	6575.1	35°43'15.631''N	107° 5'39.346''W	
17N 2W 9.1	1,718,087.7	261,088.1	6507.7	35°43'10.154''N	107° 3'17.496''W	Central
17N 2W 9.2	1,718,093.2	261,080.7	6507.0	35°43'10.208''N	107° 3'17.587''W	
18N 2W 3.1	1,753,120.7	266,062.2	6738.5	35°48'57.022''N	107° 2'20.597''W	Central
18N 2W 3.2	1,753,119.9	266,075.3	6738.7	35°48'57.015''N	107° 2'20.437''W	
18N 2W 5.1	1,752,614.2	255,181.5	6660.6	35°48'51.126''N	107° 4'32.651''W	Central
18N 2W 5.2	1,752,608.0	255,161.6	6660.2	35°48'51.062''N	107° 4'32.893''W	
18N 2W 23.1	1,737,120.9	271,823.3	6632.5	35°46'19.241''N	107° 1' 9.122''W	Central
18N 2W 23.2	1,737,134.6	271,829.0	6632.7	35°46'19.377''N	107° 1' 9.054''W	
18N 2W 34.1	1,728,306.5	267,982.0	6451.6	35°44'51.768''N	107° 1'54.883''W	Central
18N 2W 34.2	1,728,304.5	267,972.0	6451.9	35°44'51.747''N	107° 1'55.004''W	
19N 2W 35.1	1,759,469.4	275,399.5	6714.1	35°50' 0.539''N	107° 0'27.824''W	Central
17N 3W 14.1	1,712,345.8	243,436.0	6630.6	35°42'11.884''N	107° 6'50.945''W	Central
17N 3W 14.2	1,712,333.2	243,445.2	6630.8	35°42'11.761''N	107° 6'50.832''W	
17N 3W 20.1	1,706,857.3	223,487.4	6453.9	35°41'15.801''N	107°10'52.172''W	Central
17N 3W 20.2	1,706,847.8	223,481.8	6453.7	35°41'15.707''N	107°10'52.239''W	
17N 3W 22.1	1,704,979.6	234,960.4	6438.8	35°40'58.285''N	107° 8'32.893''W	Central
17N 3W 22.2	1,704,992.4	234,952.8	6439.2	35°40'58.411''N	107° 8'32.986''W	
18N 3W 10.1	1,747,616.6	235,073.1	6580.6	35°47'59.955''N	107° 8'36.235''W	Central
18N 3W 10.2	1,747,613.6	235,089.3	6580.9	35°47'59.927''N	107° 8'36.037''W	
18N 3W 11.1	1,751,860.4	243,749.2	6653.8	35°48'42.694''N	107° 6'51.371''W	Central
18N 3W 11.2	1,751,875.0	243,743.7	6654.2	35°48'42.839''N	107° 6'51.440''W	
18N 3W 21.1	1,740,891.6	232,140.0	6708.5	35°46'53.183''N	107° 9'11.086''W	Central
18N 3W 21.2	1,740,894.1	232,161.6	6708.9	35°46'53.210''N	107° 9'10.824''W	

LOCATION	Y-Coord.	X-Coord.	ELEV.	LATITUDE	LONGITUDE	ZONE
19N 3W 9.1	1,781,814.2	230,166.8	6766.1	35°53'37.700''N	107° 9'39.656''W	Central
17N 4W 13.1	1,711,018.2	213,208.5	6165.6	35°41'55.969''N	107°12'57.264''W	Central
17N 4W 13.2	1,711,003.2	213,213.6	6165.5	35°41'55.820''N	107°12'57.200''W	
17N 4W 32.1	1,695,013.8	662,266.6	6217.1	35°39'26.885''N	107°17'13.593''W	West
17N 4W 32.2	1,695,020.5	662,273.9	6217.3	35°39'26.951''N	107°17'13.504''W	
18N 4W 10.1	1,748,196.8	207,303.4	6384.2	35°48' 3.057''N	107°14'13.389''W	Central
18N 4W 10.2	1,748,159.3	207,327.5	6384.5	35°48' 2.688''N	107°14'13.091''W	
18N 4W 13.1	1,743,542.5	216,900.7	6461.9	35°47'17.970''N	107°12'16.340''W	Central
18N 4W 13.2	1,743,548.0	216,886.9	6461.9	35°47'18.023''N	107°12'16.508''W	
18N 4W 20.1	1,736,610.5	664,376.2	6559.0	35°46'18.166''N	107°16'45.184''W	West
18N 4W 20.2	1,736,609.3	664,364.1	6560.0	35°46'18.155''N	107°16'45.330''W	
16N 5W 2.1	1,691,091.7	649,860.7	6355.6	35°38'48.750''N	107°19'44.171''W	West
16N 5W 4.1	1,692,186.4	640,072.6	6302.5	35°39' 0.058''N	107°21'42.704''W	West
16N 5W 4.2	1,692,188.5	640,053.0	6302.3	35°39' 0.080''N	107°21'42.941''W	
16N 5W 8.1	1,682,668.4	631,999.5	6405.5	35°37'26.292''N	107°23'21.046''W	West
18N 5W 19.1	1,737,199.2	628,624.5	6879.9	35°46'25.771''N	107°23'59.010''W	West
18N 5W 19.2	1,737,185.2	628,616.3	6879.0	35°46'25.633''N	107°23'59.110''W	
18N 5W 25.1	1,731,651.6	655,449.9	6682.1	35°45'29.608''N	107°18'33.828''W	West
18N 5W 25.2	1,731,654.1	655,474.9	6681.9	35°45'29.632''N	107°18'33.525''W	
18N 5W 26.1	1,731,704.1	648,528.1	7021.4	35°45'30.485''N	107°19'57.808''W	West
18N 5W 33.1	1,727,636.5	635,158.8	6832.8	35°44'50.901''N	107°22'40.251''W	West
20N 5W 32.1	1,790,310.1	633,951.0	6719.8	35°55'10.804''N	107°22'51.389''W	West
20N 5W 32.2	1,790,322.3	633,965.5	6720.1	35°55'10.925''N	107°22'51.212''W	
20N 5W 36.1	1,789,964.5	650,557.1	6619.3	35°55' 6.579''N	107°19'29.517''W	West
20N 5W 36.2	1,789,979.2	650,560.2	6619.5	35°55' 6.725''N	107°19'29.478''W	
15N 6W 2.1	1,658,793.0	617,401.3	6590.5	35°33'30.766''N	107°26'19.034''W	West
15N 6W 15.1	1,650,193.0	611,321.1	6666.6	35°32' 5.941''N	107°27'33.020''W	West
15N 6W 20.1	1,643,282.8	599,806.0	6630.9	35°30'58.004''N	107°29'52.635''W	West
15N 6W 20.2	1,643,284.5	599,812.4	6630.8	35°30'58.020''N	107°29'52.556''W	
16N 6W 24.1	1,675,305.2	624,151.6	6522.3	35°36'13.806''N	107°24'56.486''W	West
16N 6W 24.2	1,675,304.9	624,161.5	6522.6	35°36'13.803''N	107°24'56.367''W	
16N 10W 16.1	1,680,447.5	479,691.4	7029.6	35°37' 7.203''N	107°54' 5.989''W	West
16N 10W 29.1	1,671,003.6	472,819.7	7204.1	35°35'33.741''N	107°55'29.117''W	West
16N 10W 29.2	1,671,011.9	472,834.7	7204.0	35°35'33.822''N	107°55'28.936''W	
16N 10W 33.1	1,662,909.9	479,928.0	7250.3	35°34'13.744''N	107°54' 2.978''W	West
16N 10W 33.2	1,662,908.3	479,918.1	7250.4	35°34'13.728''N	107°54' 3.097''W	

LOCATION	Y-Coord.	X-Coord.	ELEV.	LATITUDE	LONGITUDE	ZONE
16N 11W 2.1	1,687,822.4	460,431.1	6887.6	35°38'19.951''N	107°57'59.401''W	West
16N 11W 2.2	1,687,835.7	460,436.8	6887.8	35°38'20.083''N	107°57'59.332''W	
17N 11W 16.1	1,708,744.5	447,814.9	6659.3	35°41'46.689''N	108° 0'32.708''W	West
17N 11W 16.2	1,708,752.0	447,836.6	6659.5	35°41'46.764''N	108° 0'32.445''W	
17N 11W 34.1	1,694,326.8	454,059.3	6875.9	35°39'24.192''N	107°59'16.724''W	West
17N 12W 16.1	1,709,181.4	417,885.1	6739.2	35°41'50.328''N	108° 6'35.598''W	West
17N 13W 12.1	1,717,181.8	398,209.3	6691.9	35°43' 8.843''N	108°10'34.491''W	West
17N 13W 12.2	1,717,177.0	398,220.6	6692.0	35°43' 8.795''N	108°10'34.354''W	
15N 18W 4.1	1,657,587.0	226,808.9	6578.9	35°33' 8.570''N	108°45' 6.275''W	West
15N 18W 4.2	1,657,581.6	226,824.4	6579.0	35°33' 8.518''N	108°45' 6.087''W	
15N 18W 18.1	1,651,480.8	218,908.2	6609.7	35°32' 7.444''N	108°46'41.174''W	West
16N 18W 26.1	1,668,605.8	238,208.8	6877.7	35°34'58.572''N	108°42'49.516''W	West
16N 18W 33.1	1,667,731.5	229,057.2	6765.7	35°34'49.102''N	108°44'40.204''W	West
16N 18W 33.2	1,667,737.7	229,070.9	6765.4	35°34'49.165''N	108°44'40.039''W	
15N 19W 12.1	1,655,266.7	208,474.5	6594.7	35°32'43.878''N	108°48'47.858''W	West
15N 19W 12.2	1,655,248.6	208,493.5	6594.5	35°32'43.700''N	108°48'47.627''W	
16N 19W 19.1	1,673,737.9	183,424.9	6590.9	35°35'43.973''N	108°53'53.365''W	West
16N 19W 29.1	1,669,460.5	193,596.1	6534.5	35°35' 2.743''N	108°51'49.679''W	West
16N 19W 29.2	1,669,453.7	193,578.7	6534.3	35°35' 2.674''N	108°51'49.889''W	
16N 19W 35.1	1,663,610.3	205,321.4	6469.3	35°34' 6.079''N	108°49'27.026''W	West
16N 19W 35.2	1,663,619.5	205,344.5	6469.7	35°34' 6.172''N	108°49'26.748''W	
16N 20W 13.1	1,682,803.7	178,278.1	6671.2	35°37'13.070''N	108°54'56.885''W	West
16N 20W 13.2	1,682,797.1	178,286.0	6670.9	35°37'13.005''N	108°54'56.788''W	
16N 20W 27.1	1,669,496.1	170,829.5	6599.5	35°35' 0.650''N	108°56'25.278''W	West
16N 20W 27.2	1,669,494.5	170,848.5	6599.6	35°35' 0.637''N	108°56'25.049''W	

DRILL HOLE LOCATION DATA

New Mexico State Plane Coordinates

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LOCATION	Y-Coord.	X-Coord.	ELEV.	LATITUDE	LONGITUDE	ZONE
3N 17W 1 P	1,279,158.5	276,514.7	6762.0	34°30'49.732''N	108°34'30.724''W	West
3N 17W 1 C	1,279,147.7	276,531.4	6762.1	34°30'49.627''N	108°34'30.524''W	
3N 17W 14 P	1,270,616.3	271,945.7	6656.2	34°29'24.900''N	108°35'24.557''W	West
3N 17W 14 C	1,270,623.5	271,926.1	6655.5	34°29'24.969''N	108°35'24.792''W	
3N 17W 17 P	1,271,433.6	261,415.3	6719.5	34°29'32.187''N	108°37'30.430''W	West
3N 17W 17 C	1,271,442.9	261,396.9	6719.0	34°29'32.277''N	108°37'30.651''W	
5N 16W 30 P	1,323,138.6	282,720.4	7301.6	34°38' 5.215''N	108°33'20.329''W	West
5N 16W 30 C	1,323,131.0	292,701.5	7301.1	34°38' 5.139''N	108°33'20.555''W	
6N 16W 33 P	1,350,428.2	293,510.3	7237.5	34°42'35.900''N	108°31'13.436''W	West
6N 16W 33 C	1,350,446.5	293,514.9	7236.9	34°42'36.081''N	108°31'13.382''W	
15N 18W 31 P	1,633,349.8	218,473.9	6612.0	35°29' 8.094''N	108°46'44.324''W	West
15N 18W 31 C	1,633,345.8	218,492.9	6611.9	35°29' 8.055''N	108°46'44.094''W	
15N 18W 33 P	1,634,995.7	228,523.6	6856.5	35°29'25.307''N	108°44'42.997''W	West
15N 18W 33 C	1,635,002.6	228,522.0	6856.2	35°29'25.375''N	108°44'43.017''W	
15N 18W 34 P	1,631,727.3	233,819.1	6921.9	35°28'53.463''N	108°43'38.607''W	West
15N 18W 34 C	1,631,~~711.9~~ 710.9	234,~~196.1~~ 827.2	6921.8	35°28'~~50~~ 53.376''N	108°43'~~34~~ 38.132''W	
15N 19W 35 P	1,633,420.4	205,872.5	6510.7	35°29' 7.572''N	108°49'16.694''W	West
15N 19W 35 C	1,633,402.0	205,875.1	6510.9	35°29' 7.390''N	108°49'16.661''W	
18N 3W 3 P	1,757,191.8	236,656.3	6590.5	35°49'34.791''N	107° 8'18.070''W	Central
18N 3W 3 C	1,757,182.3	236,643.9	6590.8	35°49'34.696''N	107° 8'18.220''W	
18N 3W 3 2-P	1,754,012.9	236,362.1	6663.8	35°49' 3.329''N	107° 8'21.293''W	Central
18N 3W 3 2-C	1,753,998.8	236,344.4	6663.5	35°49' 3.187''N	107° 8'21.506''W	
18N 3W 16 P	1,744,099.3	231,854.8	6668.3	35°47'24.870''N	107° 9'14.906''W	Central
18N 3W 16 C	1,744,102.2	231,876.0	6668.6	35°47'24.910''N	107° 9'14.649''W	
18N 3W 21 P	1,736,855.0	230,976.4	6614.9	35°46'13.157''N	107° 9'24.754''W	Central
18N 3W 21 C	1,736,839.0	230,965.4	6614.6	35°46'12.998''N	107° 9'24.886''W	
18N 3W 28 P	1,732,036.8	228,824.9	6554.7	35°45'25.310''N	107° 9'50.316''W	Central
18N 3W 28 C	1,732,040.6	228,843.8	6554.0	35°45'25.349''N	107° 9'50.087''W	
18N 3W 32 P	1,727,204.3	227,284.6	6527.3	35°44'37.377''N	107°10' 8.453''W	Central
18N 4W 10 P	1,751,974.6	202,657.0	6420.3	35°48'39.949''N	107°15'10.259''W	Central
18N 4W 17 P	1,746,925.3	196,095.6	6767.2	35°47'48.365''N	107°16'29.260''W	Central
31N 1W 2 P	2,160,877.0	308,192.4	6956.9	36°56'12.398''N	106°54'22.698''W	Central

LOCATION	Y-Coord.	X-Coord.	ELEV.	LATITUDE	LONGITUDE	ZONE
31N 1W 10 P	2,152,704.8	304,973.0	7386.6	36°54'51.369''N	106°55' 1.649''W	Central
31N 1W 10 C	2,152,698.6	304,964.4	7387.1	36°54'51.307''N	106°55' 1.754''W	
32N 1W 14 P	2,181,687.2	309,503.3	7201.9	36°59'38.261''N	106°54' 7.868''W	Central
32N 1W 24 P	2,171,673.6	313,639.0	7194.7	36°57'39.521''N	106°53'15.513''W	Central
31N 1E 6 P	2,159,754.5	319,470.5	7447.5	36°56' 2.043''N	106°52' 3.692''W	Central
31N 1E 9 P	2,152,309.4	327,413.4	7962.0	36°54'48.922''N	106°50'25.291''W	Central
31N 1E 21 P	2,140,067.2	327,615.3	7617.9	36°52'47.880''N	106°50'21.974''W	Central
31N 1E 21 C-1	2,140,055.4	327,625.3	7617.8	36°52'47.764''N	106°50'21.750''W	
31N 1E 21 C-2	2,140,047.6	327,630.2	7618.4	36°52'47.687''N	106°50'21.652''W	

Appendix A:

Explanation of summary of coal drill holes tables.

The summary sheets are grouped according to the year drilled and by coal field. The columns are:

Order Dld: Order in which holes were drilled.

No: Number of the drill rig that drilled each hole if available.

Drill Hole:

Desig. - Alpha-numeric assigned to each drill site to indicate the location. The first alpha-numeric (i.e. 18N) is the Township. The second alpha-numeric (i.e. 5W) is the Range, and the last number or numbers represents the Section.

Type - Type of hole is either 'P' for pilot or 'C' for core hole.

Start:

Date - Month and day drilling began at each drill site.

Time - Time (in military time) drilling began.

Complete:

Date - Month and day drilling was completed.

Time - Time (in military time) drilling was completed.

Total Time: The total hours and minutes from the time the pilot hole was started to the completion of the core hole, or the pilot hole, if no core was taken.

Coal:

Top - Depth to the top of a coal sample.

Btm - Depth to the bottom of a coal sample.

Thick - Thickness of a coal sample.

Sample:

Type - 'C' indicates a coal sample

Ltr. - The designation given the coal sample for each hole. 'A' is the sample taken closest to the top of hole.

Total Depth: Total depth of the pilot and the core hole are indicated.

Remarks: The formation drilled is noted and the depth to the top of a formational contact as indicated. See Figure 8 in text for explanation of abbreviations.

NMRDI COAL QUALITY ASSESSMENT

SUMMARY OF COAL DRILL HOLES

AREA: Fruitland YEAR: 1985

ORDER DLD.	NO.	DRILL HOLE		START		COMPLETE		Total Time	COAL			SAMPLE		Total	REMARKS
		Desig.	Type	Date	Time	Date	Time		Top	Btm.	Thick	Type	Ltr.	Depth	
1	205	32N12W8	P	6/04	0900			9.5HRS						380.0	Kpc @ 365
						6/06	1630	22HRS	125.0	129.35	4.35	C	A		
									137.3	144.65	7.35	C	D		
									193.0	195.7	2.7	C	G		
									197.45	200.95	3.5	C	I		
									201.6	205.25	3.65	C	K		
									284.0	287.85	3.85	C	M		
									289.65	294.05	4.4	C	O		
									294.05	300.45	6.4	C	P		Core loss @
									300.45	305.75	5.3	C	Q	310.0	296.0-297.45
2	206	32N13W14	P	6/04	1021			7HRS						401.0	Kpc @ 375
			C			6/06	1555	22HRS	135.0	140.3	5.3	C	B		
									146.15	151.6	5.45	C	E		
									223.95	228.65	4.7	C	H		
									229.45	230.9	1.45	C	J		
									332.6	337.7	5.1	C	L		
									337.7	342.65	4.95	C	M		
									342.65	347.65	5.0	C	N		
									347.65	352.65	5.0	C	O		
									352.65	357.65	5.0	C	P		
									357.65	362.4	5.25	C	Q	367.15	
3	206	32N13W13	P	6/06	1607			3HRS						336.0	Kpc @ 304
			C			6/08	1550	7HRS&	39.6	45.4	5.8	C	B		
								50MIN	58.55	62.0	3.45	C	E		
									149.65	154.05	4.4	C	H		
									155.0	157.6	2.6	C	J		
									159.45	161.5	2.05	C	L		
									259.4	264.4	5.0	C	O		
									264.4	266.6	2.2	C	P		
									267.5	273.5	6.0	C	R		
									273.5	278.5	5.0	C	S		
									278.5	283.5	5.0	C	T		
									283.5	286.85	3.35	C	U		
									287.7	293.35	5.85	C	W	295.0	

NMRDI COAL QUALITY ASSESSMENT

SUMMARY OF COAL DRILL HOLES

AREA: Fruitland YEAR: 1985

ORDER DLD.	NO.	DRILL Desig.	HOLE Type	START Date	START Time	COMPLETE Date	COMPLETE Time	Total Time	COAL Top	COAL Btm.	COAL Thick	SAMPLE Type	SAMPLE Ltr.	Total Depth	REMARKS
4	205	32N13W28	P	6/07	0900			6.5HRS						460.0	Kpc @ 430
			C			6/09	1100	16HRS	138.7	141.55	2.85	C	B		
									141.55	149.0	7.45	C	C		
									152.55	155.8	3.25	C	E		
									200.55	206.1	5.75	C	G		
									371.55	376.1	4.6	C	J		
									377.35	382.45	5.1	C	L		
4	205	32N13W28	C						382.45	387.45	5.0	C	M		
									387.45	392.7	5.25	C	N		
									392.7	397.7	5.0	C	O		
									397.7	402.7	5.0	C	P		
									407.15	411.2	4.05	C	S		
5	206	32N13W15	P	6/08	1700	6/10	1120	14HRS& 20MIN	412.35	416.7	4.35	C	U	423.0	
														880.0	Kpc @ 775, no coring--too deep
6	205	30N15W4	P	6/10	0930									200	Kpc @ 173
			C			6/10	1300	3HRS& 30MIN	148.0	153.0	5.0	C	B		
									153.0	156.5	3.5	C	C		
									158.55	164.85	5.0	C	E		
									165.7	170.2	4.5	C	G	176.5	
7	205	30N15W16	P	6/10	1500									240.0	Kpc @ 212
			C			6/11	1100	≈5HR	165.5	168.95	3.45	C	B		
									169.95	174.0	4.05	C	D		
									174.0	178.8	4.8	C	E	190	
8	206	30N15W28	P	6/11	0828									200	Kpc @ 176
			C			6/11	1530	7HR	46.75	51.55	4.8	C	B		
									156.0	160.85	4.85	C	D		
									160.85	166.0	5.15	C	E		
									166.9	170.9	4.0	C	F		
									170.9	173.7	2.8	C	G	176	
9	205	30N15W34	P	6/11	1145									260	Kpc @ 217
			C			6/11	1700	5HRS& 15MIN	201.25	206.25	5.0	C	B		
									206.25	211.75	5.5	C	C		
									211.75	217.85	6.1	C	D		
									91.1	96.15	4.25	C	G	222.5	

NMRDI COAL QUALITY ASSESSMENT

SUMMARY OF COAL DRILL HOLES

AREA: Bisti YEAR: 1985 SHEET 3

ORDER DLD.	NO.	DRILL HOLE		START		COMPLETE		Total Time	COAL			SAMPLE		Total	REMARKS
		Desig.	Type	Date	Time	Date	Time		Top	Btm.	Thick	Type	Ltr.	Depth	
10	205	23N12W4	P	6/12	0945									420	Kpc @ 380
			C			6/13	1245	11HRS&	282.75	287.75	5.0	C	B		
								45MIN	287.75	293.65	5.9	C	C		
									293.65	300.1	6.45	C	D		
									356.75	360.25	3.5	C	G		
									360.25	363.8	3.55	C	H		
									366.2	370.0	3.8	C	J		
									370.0	373.5	3.5	C	K	380	
11	206	23N12W3	P	6/12	0945									260	Kpc @ 250
			C			6/13	1700	16HRS	201.0	202.4	1.4	C	B		
									204.0	209.0	5.0	C	D		
									209.0	211.55	2.55	C	E		
									211.55	216.95	5.4	C	F		
									217.9	223.75	5.85	C	H	227	
12	206	23N12W12	P	6/12	1000			2HRS						360	*Ph done at end
			C			*6/18	1200	3HRS	185.3	189.95	4.65	C	B		of one stint, ch
									285.3	291.7	6.4	C	E	297	beginning of next
															Kpc @ 340
13	205	23N11W19	P	6/18	0900									360	Kpc @ 325
			C			6/19	1400	5HRS	214.75	219.75	5.0	C	B		
									219.75	222.85	3.1	C	C		
									256.5	264.7	8.2	C	F		
									297.7	303.45	5.75	C	I		
									305.65	309.55	3.9	C	K		
									309.55	313.85	4.3	C	L	319.5	
14	205	23N11W27	P	6/19	1530									460	Kpc @ 440
			C			6/20	1730	12HRS	341.4	346.4	5.0	C	B		
									346.4	351.4	5.0	C	C		
									351.4	356.0	4.6	C	D		
									356.0	361.0	5.0	C	E		
									361.0	366.0	5.0	C	F		
									366.0	371.0	5.0	C	G		
									371.0	376.0	5.0	C	H		
									415.4	420.4	5.0	C	K		
									420.4	425.4	5.0	C	L		
									425.4	428.7	3.3	C	M	430	

NMRDI COAL QUALITY ASSESSMENT

SUMMARY OF COAL DRILL HOLES

AREA: Bisti YEAR: 1985

ORDER DLD.	NO.	DRILL HOLE		START		COMPLETE		Total Time	COAL			SAMPLE		Total	REMARKS
		Desig.	Type	Date	Time	Date	Time		Top	Btm.	Thick	Type	Ltr.	Depth	
15	206	23N11W29	P	6/18	1641									260	Kpc @ 240
			C			6/19	1500	9HRS	153.25	157.85	4.6	C	B		
									157.85	162.6	4.75	C	C		
									162.6	167.4	4.8	C	D		
									167.4	170.4	3.0	C	E		
									173.7	178.7	5.0	C	H		
									178.7	184.2	5.5	C	I		
									186.05	188.1	2.05	C	K	252	
16	206	23N11W36	P	6/19	1600									420	Kpc @ 400
			C			6/22	1030	24HRS	305.9	309.1	3.2	C	B		
									305.6	308.3	2.7	C	BA		
									318.6	320.8	2.2	C	E		
									385.7	390.7	5.0	C	G		
									390.7	395.3	4.6	C	H		
									395.3	400.55	5.25	C	I		
									400.55	404.3	3.75	C	J	410	
17	205	22N10W17	P	6/21	1300									260	Kpc @ 245
			C			6/22	1430	11HRS& 30MIN	125.6	130.6	5.0	C	B		
									130.6	135.6	5.0	C	C		
									135.6	140.0	4.4	C	D		
									140.0	145.0	5.0	C	E		
									145.0	150.0	5.0	C	F		
									150.0	152.8	2.8	C	G		
									165.7	169.9	4.2	C	J		
									213.85	219.1	5.25	C	M	224	
18	206	22N9W19	P	6/22	1430									300	Kpc @ 270
			C			6/23	1100	7HRS	123.7	128.0	4.3	C	B	128	
19	205	22N9W29	P	6/22	1600									460	Kpc @ 430
			C			6/23		11HRS	168.4	173.15	4.75	C	B		
									189.4	192.8	3.4	C	E		
									219.75	224.1	4.35	C	H		
									225.7	227.9	2.2	C	J	233	

NMRDI COAL QUALITY ASSESSMENT

SUMMARY OF COAL DRILL HOLES

AREA: Bisti YEAR: 1985 SHEET 5

ORDER DLD.	NO.	DRILL	HOLE	START		COMPLETE		Total Time	COAL			SAMPLE		Total	REMARKS
		Desig.	Type	Date	Time	Date	Time		Top	Btm.	Thick	Type	Ltr.	Depth	
64		22N10W23	P	9/05	1000									200	Kpc @ 185
			C			9/06	1100		46.65	51.65	5.0	C	D		
									51.65	56.7	5.05	C	E		
									56.7	60.35	3.65	C	F		
									123.55	127.55	4.0	C	I		
									127.55	131.55	4.0	C	J		
									131.55	135.25	3.7	C	K	152	
65		23N12W6	P	9/06	1445									220	Kpc @ 205
			C			9/07	1400	9HRS	114.4	118.4	4.0	C	B		
									118.4	122.0	3.6	C	C		
									123.7	127.0	3.3	C	E		
									127.0	131.05	4.05	C	F		
									134.55	138.45	3.9	C	I		
									153.85	156.5	2.65	C	L		
									158.0	161.95	3.95	C	N		
									177.6	182.8	5.2	C	Q		
									190.0	192.6	2.6	C	T	200	
20	206	22N9W27	P	6/23	1141									460	Kpc @ 395
			C			6/24	1400	12HRS	292.7	298.65	5.95	C	B	305	
21	205	22N9W36	P	6/24	1100									420	
			C			6/25	1200	8HRS	282.85	287.85	5.0	C	B		
									287.85	293.0	5.15	C	C		
									293.0	295.9	2.9	C	D		
									297.2	299.4	2.2	C	F		
									326.6	331.8	5.2	C	I	327	

NMRDI COAL QUALITY ASSESSMENT

SUMMARY OF COAL DRILL HOLES

AREA: Star Lake YEAR: 1988

ORDER DLD.	NO.	DRILL HOLE Desig.	Type	START Date	Time	COMPLETE Date	Time	Total Time	COAL Top	Btm.	Thick	SAMPLE Type	Ltr.	Total Depth	REMARKS
22	206	21N8W7	P	6/24	1500									320	Kpc @ 287
			C			6/25	1700	≈12HRS	258.95	267.7	7.75	C	B		
									275.25	281.9	6.65	C	E	287	
22	206	21N8W7A	C	6/26	1730	6/27	1430		259.3	264.2	4.9	C	BA		
									264.2	268.95	4.75	C	CA		
									277.35	283.55	6.2	C	FA	297	
23	206	21N8W17	P	6/26	0915									240	Kpc @ 230
			C			6/26	1545	6HRS&	148.15	154.0	5.85	C	B		
								30MIN	154.9	155.9	1.0	C	D		
									163.5	168.5	5.0	C	G		
									168.5	173.5	5.0	C	H		
									173.5	176.60	3.1	C	I		
									177.5	181.5	4.0	C	K		
									181.5	185.55	4.05	C	L	190	
		21N8W17A	C						147.3	150.8	3.5	C	BA		Recore with water
									150.8	155.8	5.0	C	CA		
									163.0	168.0	5.0	C	FA		
									168.0	175.0	5.0	C	GA		
									173.0	174.7	1.7	C	HA		
									176.75	181.75	5.0	C	JA		
									181.75	186.1	4.35	C	KA	190	
24	205	21N7W33	P	6/25	1500									440	Kpc @ 390
			C			6/27	1600	9HRS	342.0	347.0	5.0	C	A		
									347.0	350.0	3.0	C	B		
									350.0	353.3	3.3	C	C		
									354.05	357.85	3.8	C	E		
									357.85	362.0	4.15	C	F		
									362.0	366.35	4.35	C	G	371	
25	206	21N8W36	P	6/27	1700										
			C			6/28	1430	7HRS&	123.9	129.75	5.85	C	BA		Kpc @ 265
								30MIN	130.75	135.75	5.0	C	DA		
									135.75	139.8	4.05	C	EA	144	
26	205	20N7W10	P	6/27	1700									280	Kpc @230
			C			6/28	1300	6HRS	165.1	168.5	3.4	C	B		
									168.5	172.5	4.0	C	C		
									172.5	176.5	4.0	C	D		
									179.1	183.1	4.0	C	F		
									184.2	189.5	5.3	C	H	192	
27	206	20N6W18	P	6/28	1430									340	Kpc @ 275
			C			6/29	1000	5HRS	163.3	168.0	4.7	C	B		
									168.0	172.4	4.4	C	C	176.5	

NMRDI COAL QUALITY ASSESSMENT

SUMMARY OF COAL DRILL HOLES

AREA: Star Lake YEAR: 1985

ORDER DLD.	NO.	DRILL	HOLE	START		COMPLETE		Total Time	COAL			SAMPLE		Total	REMARKS
		Desig.	Type	Date	Time	Date	Time		Top	Btm.	Thick	Type	Ltr.	Depth	
28	206	20N6W28	P	6/29	1209									160	Kpc @ 130
						6/29	1600	4HRS	80.8	86.0	5.2	C	B		
									88.6	94.0	5.4	C	E		
									94.0	99.3	5.3	C	F	102	
29	205	20N6W26	P	6/29	1100									380	Kpc @ 235
			C			6/29	1700	6HRS	154.0	155.1	1.1	C	A		
									157.2	161.4	4.2	C	C		
									166.7	171.1	4.4	C	F	178	
30	206	20N5W31	P	6/30	0900									260	Kpc @ 240
			C			6/30	1630	7HRS&	164.35	167.35	3.0	C	B		
								30MIN	167.35	171.65	4.3	C	C		
									177.55	181.9	4.35	C	F		
									182.9	186.15	3.25	C	H		
									187.3	192.15	4.85	C	J		
									192.15	197.3	5.15	C	K	200	
31	205	20N5W28	P	6/30	0900									451	Kpc @ 410
			C			7/01	1300	14HRS	395.35	398.8	3.45	C	B		
									398.8	401.9	3.1	C	C		
									403.05	406.0	2.95	C	E	416	
32	206	20N5W34	P	7/01	0900									200	Kpc @ 140
			C			7/01	1330	4HRS&	124.4	129.4	5.0	C	B		
								30MIN	129.4	134.4	5.0	C	C		
									134.4	140.3	5.9	C	D	143.0	
33	205	19N4W3	P	7/09	0900									280.0	Kpc @ 220.0
			C			7/09	1630	7HRS&	184.8	188.8	4.0	C	B		
								30MIN	188.8	192.15	3.35	C	C	199.0	
34	206	20N4W32	P	7/09	1030	7/09	1500	4HRS& 30MIN						260.0	Kpc @ 175 not enough coal to core
35	206	19N4W1	P	7/09	1515									360	Kpc @ 345
			C			7/10	1700	11HRS	335.95	340.05	4.1	C	B	347.0	
36	205	19N3W9	P	7/09	1600									101	Kpc @ 55
			C			7/10	0953	4HRS	49.0	53.6	4.6	C	A	55	

NMRDI COAL QUALITY ASSESSMENT

SUMMARY OF COAL DRILL HOLES

AREA: Star Lake YEAR: 1985 SHEET 8

ORDER DLD.	NO.	DRILL HOLE Desig.	Type	START Date	Time	COMPLETE Date	Time	Total Time	COAL Top	Btm.	Thick	SAMPLE Type	Ltr.	Total Depth	REMARKS
37	205	20N3W34	P	7/10	1000									320	Kpc @ 295
			C			7/10	1438	4HRS& 30MIN	67.5	70.7	3.2	C	B	72	
38	205	19N2W6	P	7/10	1539	7/10	1700	1HR& 30MIN						280	Kpc @ 235 no coal to core
39	206	20N3W36	P	7/11	1005	7/11	1235	2HRS& 30MIN						240	Kpc @ 185? no coal to core
40	205	19N5W1	P	7/11	1105	7/11	1400	3HRS						315	Kpc @ 305
41	205	21N8W22	P	7/11	1549									400	Kpc @ 385
			C			7/12	1430	8HRS& 30MIN	345.6	350.6	5.0	C	B		
									350.6	357.0	6.4	C	C		
									357.0	362.0	5.0	C	D		
									362.0	367.0	5.0	C	E		
									367.0	372.0	5.0	C	F		
									372.0	376.65	4.65	C	G	382.0	
42	206	20N7W8	P	7/11	1550									280.0	Kpc @ 275.0
			C			7/12	1200	6HRS	187.5	192.5	5.0	C	B		
									192.5	197.8	5.3	C	C		
									199.2	204.05	4.85	C	E		
									204.05	209.4	5.35	C	F	217.0	
43	205	24N13W31	P	7/13	0900									180.0	Kpc @ 172
			C			7/13	1100	2HRS	36.7	39.0	2.3	C	B		
									103.55	109.8	6.25	C	E		
									111.45	115.55	4.1	C	G	130.0	
44	206	23N13W2	P	7/13	0930									300	Kpc @ 275
			C			7/13	1630	6HRS	225.8	230.8	5.0	C	B		
									230.8	236.35	5.55	C	C		
									237.35	242.8	5.45	C	E	250	

NMRDI COAL QUALITY ASSESSMENT

SUMMARY OF COAL DRILL HOLES

AREA: San Mateo YEAR: 1985

ORDER DLD.	NO.	DRILL HOLE		START		COMPLETE		Total Time	COAL			SAMPLE		Total	REMARKS
		Desig.	Type	Date	Time	Date	Time		Top	Btm.	Thick	Type	Ltr.	Depth	
45	205	15N7W26	P	7/25	1000									280	Kpl @ 220.0
			C			7/26	1215	11HRS& 15MIN	201.9	204.95	3.05	C	B		
									207.0	211.0	4.0	C	D		
									211.0	214.75	3.75	C	E	216.0	
46	206	15N7W22	P	7/25	1500									240.0	Kpl @ 225.0
			C			7/26	1100	8HRS	182.0	183.05	1.05	C	A		
									183.5	189.3	5.8	C	C		
									191.65	193.6	1.95	C	F		
									199.45	202.95	3.5	C	I		
									202.95	206.35	3.4	C	J	212.0	
47	206	15N7W20	P	7/26	1100									180.0	Kpl @ 150
			C			7/26	1830	7HRS& 30MIN	70.1	72.2	2.1	C	B		
									73.45	79.4	5.95	C	D	83.3	
48	205	15N8W24	P	7/26	1408									220.0	Kpl @ 195.0
			C			7/27	1405	9HRS& 30MIN	170.2	175.35	5.15	C	B		
									175.35	180.35	5.0	C	C		
									180.35	183.9	3.55	C	D		
									183.9	188.1	4.2	C	E	194.5	
49	206	15N8W22	P	7/27	1330									240	Kpl @ 185.0
			C			7/27	1730	4HRS	145.2	149.3	4.1	C	B		
									149.3	153.45	4.15	C	C	158.75	
50	205	15N8W20	P	7/27	1614									200	Kpl @ 185.0
			C			7/28	1120	5HRS& 30MIN	117.3	120.55	3.25	C	B		
									169.25	173.0	3.75	C	E	179.7	
51	206	15N8W6	P	7/28	0845									220.0	Kpl @ 200.0-Sample A from air core, samples C,E,G,I cored with water
			C			7/28	1400	5HRS& 15MIN	111.4	117.6	6.2	C	A		
									111.8	113.8	2.0	C	C		
									114.9	115.9	1.0	C	E		
									116.35	118.95	2.6	C	G		
									163.5	167.3	3.8	C	I	173.0	
52	205	16N8W28	P	7/28	1223									280.0	Kpl @ 247
			C			7/28	1739	5HRS& 16MIN	162.15	164.6	2.45	C	B		
									205.95	210.95	5.0	C	E		
									210.95	215.0	4.05	C	F	217.5	
53	206	16N8W22	P	7/28	1545	7/28	1845	3HRS						340	Kpl @ 300.0
54	206	16N8W10	P	7/29	1000	7/29	1130	1HR& 30MIN						260.0	Kpl @ 200.0
55	206	16N8W6	P	7/29	1030									240.0	Kpl @ 195.0
			C			7/29	1400	3HRS& 30MIN	133.2	136.2	3.0	C	B		
									140.05	145.3	5.25	C	D		
									152.55	158.1	5.55	C	G	161.0	

NMRDI COAL QUALITY ASSESSMENT

SUMMARY OF COAL DRILL HOLES

AREA: Standing Rock YEAR: 1985

ORDER DLD.	NO.	DRILL HOLE Desig.	Type	START Date	Time	COMPLETE Date	Time	Total Time	COAL Top	Btm.	Thick	SAMPLE Type	Ltr.	Total Depth	REMARKS
56	205	16N9W1	P	7/29	1441									140	Kpl @ 100.0
			C			7/29	1611	1HR& 30MIN	77.45	81.45	4.0	C	B		
									81.45	85.55	*3.45	C	C	91.0	*REMOVABLE PTG IN INTERVAL
57	205	18N12W11	P	8/06	1120									260.0	Kpl @ 225
			C			8/06	1400	2HRS& 40MIN	185.25	187.25	2.00	C	B		
									188.25	191.1	2.85	C	B	198.8	
58	206	18N12W16	P	8/06	1200									200.0	Kpl @ 120.0
			C			8/06	1655	4HRS& 55MIN	50.65	54.7	4.05	C	B	55.0	
59	205	17N10W6	P	8/07	0900									360.0	Kpl @ 285.0
			C			8/07	1600	7HRS	221.0	224.5	3.5	C	A		
									267.9	273.2	5.3	C	D	279.6	
60	206	17N10W7	P	8/07	1420									320.0	Kpl @ 300.0
			C			8/08	1340	8HRS& 40MIN	258.45	261.85	3.4	C	B	267.0	
61	205	17N10W16	P	9/03	0950									220.0	Kpl @ 180.0
			C			9/03	1200	2HRS& 10MIN	114.4	117.25	2.85	C	B		
									121.3	126.85	5.55	C	E	140.0	
62		18N12W24	P	9/03	1000									200.0	Kpl @ 175
			C			9/03	1700	7HRS	152.4	154.5	2.1		B		
									156.0	161.55	5.55		E		
63		17N9W34	P	9/04	1115									165.0	
			C			9/04	1700	4HRS& 45MIN	209.75	215.45	5.7		B	280.0	Kpl @ 230
									219.95	225.2	5.25		E		
														230.0	

NMRDI COAL QUALITY ASSESSMENT

SUMMARY OF COAL DRILL HOLES

AREA: La Ventana YEAR: 1986

ORDER DLD.	NO.	DRILL HOLE Desig.	Type	START Date	Time	COMPLETE Date	Time	Total Time	COAL Top	Btm.	Thick	SAMPLE Type	Ltr.	Total Depth	REMARKS
1	205	20N1W33	P	7/29	1054									320	Kmfu, petrographic
			C			7/30	1207	12HR&	239.95	245.55	5.60	C	A		
								7MIN	245.55	251.05	5.50	C	B	260	Kpl @ 205
2	206	19N1W4	P	7/29	1100									260	Kmfc, petrographic
			C			7/29	1700	6HRS	117.50	119.70	2.20	C	A	131	
3	206	19N1W8	P	7/30	0730									300	Kmfu
			C			7/30	1300	5HRS&	184.85	188.35	3.50	C	A		
								30MIN	188.35	191.85	3.50	C	B		
									191.85	195.55	3.70	C	C	210	Cored w/mist
4	205	19N1W21	P	7/30	1410									260	Kmfc, Kpl @ 230
			C			7/31	1300	9HRS&	193.70	195.40	1.70	C	A		
								50MIN	195.40	198.90	3.50	C	B		
									198.90	200.30	1.40	C	C	202	
5	206	19N1W30	P	7/30	1445									320	Kmfu
			C			7/31	1445	9HRS&	200.60	203.05	2.45	C	A		
								30MIN	206.10	207.60	1.50	C	B	225	
6	205	19N2W35	P	7/31	1330	7/31	1515	1HR&						240	Kmfc, no core
								45MIN							
7	206	18N2W3	P	7/31	1700									420	Kmfu, petrographic
			C			8/02	1930	14HRS&	299.75	301.70	1.95	C	A		
								30MIN	321.00	324.35	3.35	C	B		
									324.35	327.15	3.30	C	C	340	
8	205	18N2W5	P	8/01	0800									360	Kmfu
			C			8/01	1745	9HRS&	126.40	129.00	2.60	C	A		
								45MIN	130.35	135.85	5.50	C	B		
									141.40	144.90	3.50	C	C		
									144.90	148.30	3.40	C	D		
									166.10	167.35	3.25	C	E	179	

NMRDI COAL QUALITY ASSESSMENT

SUMMARY OF COAL DRILL HOLES

AREA: La Ventana YEAR: 1986

ORDER DLD.	NO.	DRILL HOLE Desig.	Type	START Date	Time	COMPLETE Date	Time	Total Time	COAL Top	Btm.	Thick	SAMPLE Type	Ltr.	Total Depth	REMARKS
9	205	17N2W7	P	8/02	0940									560	Kmfu
			C			8/04	2020	29HRS&	380.10	382.90	2.80	C	A		
								20MIN	462.00	464.05	2.05	C	B		
									487.75	489.90	2.15	C	C		
									509.40	512.40	3.00	C	D		
									512.40	515.70	3.30	C	E	523	
10	206	17N3W14	P	8/02	1000									582	Kmfc, Kpl @ 505
			C			8/05	1500	13HRS&	393.35	395.05	1.70	C	A		
								30MIN	439.30	440.70	1.40	C	B		
									450.60	452.95	2.35	C	C		
									458.95	460.55	1.60	C	D		
									469.45	471.25	1.80	C	E		
									484.05	486.50	2.45	C	F		
									487.85	491.35	3.50	C	G		
									493.95	496.20	2.25	C	H	506.8	
11	206	17N2W9	P	8/02	1554									320	Kmfc, Kpl @ 192
			C			8/03	1245	6HRS&	50.40	54.35	3.95	C	A		petrographic
								15MIN	135.40	139.35	3.95	C	B		
									156.10	158.00	1.90	C	C		
									175.65	179.85	4.20	C	D	183	
12	205	17N3W22	P	8/05	1245									320	Kmfc, Kpl @ 190
			C			8/06	1120	7HRS&	37.80	40.50	2.70	C	A		
								5MIN	70.25	74.30	4.05	C	B		
									112.00	113.50	1.50	C	C		
									136.00	137.45	1.45	C	D		
									142.50	143.85	1.35	C	E		
									175.50	177.50	2.00	C	F	189	
13	206	17N3W20	P	8/06	0800									540	
			C			8/07	1515	20HRS&	376.95	378.80	1.85	C	A		
								45MIN	501.50	503.30	1.80	C	B		
									507.25	510.40	3.15	C	C	530	

NMRDI COAL QUALITY ASSESSMENT

SUMMARY OF COAL DRILL HOLES

AREA: Chacra Mesa/La Ventana YEAR: 1986 SHEET 3

ORDER DLD.	NO.	DRILL HOLE Desig.	Type	START Date	Time	COMPLETE Date	Time	Total Time	COAL Top	Btm.	Thick	SAMPLE Type	Ltr.	Total Depth	REMARKS
14	205	18N2W34	P	8/07	1100									300	Kmfc, Kpl @ 255
			C			8/12	1830	9HRS& 30MIN	249.50	251.60	2.10	C	A		
15	205	17N4W13	P	8/06	1430									420	Kmfc, Kpl @ 377
			C			8/13	1800	14HRS	129.25	131.95	2.70	C	A		petrographic
									317.40	319.40	2.00	C	B		
									327.85	331.05	3.20	C	C		
									370.30	373.25	2.95	C	D		
16	206	18N2W23	P	8/13	0930									500	Kmfc, Kpl @ 461
			C			8/14	1430	14HRS	349.55	353.75	4.20	C	A	363	
17	205	18N3W11	P	8/14	0900									360	
						8/15	1200	12HRS&	62.00	65.20	3.20	C	A		
								30MIN	67.80	70.00	2.20	C	B		
									136.15	138.75	2.60	C	C		
									232.95	236.20	3.25	C	D	246	
18	206	18N3W10	P	8/15	0812									360	Kmfu
			C			8/15	1245	4HRS&	74.00	77.75	3.75	C	A		
								33MIN	237.60	240.95	3.35	C	B		
									276.80	282.55	5.75	C	C		
									300.95	303.30	2.35	C	D	313	
19	205	18N3W21	P	8/15	1300									500	Kmfu
			C			8/17	1130	15HRS&	32.55	36.15	3.60	C	A		
								30MIN	100.50	103.65	3.15	C	B		
									105.60	107.10	1.50	C	C		
									169.75	171.15	1.40	C	D		
									254.20	258.00	3.80	C	E		
									264.45	267.05	2.80	C	F		
									267.05	269.55	2.50	C	G	410	
20	206	18N4W13	P	8/16	1434									500	Kmfu, petrographic
			C			8/17	1245	7HRS&	158.40	162.50	4.10	C	A		
								41MIN	183.25	185.80	2.55	C	B		
									187.10	188.75	1.65	C	C		
									240.20	241.85	1.65	C	D		
									285.00	288.30	3.30	C	E		
									288.30	291.70	3.40	C	F	300	

NMRDI COAL QUALITY ASSESSMENT

SUMMARY OF COAL DRILL HOLES

AREA: Chacra Mesa YEAR: 1986

ORDER DLD.	NO.	DRILL HOLE		START		COMPLETE		Total Time	COAL			SAMPLE		Total	REMARKS
		Desig.	Type	Date	Time	Date	Time		Top	Btm.	Thick	Type	Ltr.	Depth	
21	205	18N4W10	P	8/17	1200									560	Kmfu
			C			8/19	1900	18HRS& 30MIN	162.20	164.25	2.05	C	A		
									276.00	280.15	4.15	C	B		
									283.85	285.70	1.85	C	C		
									302.35	305.60	3.25	C	D	373	
22	206	18N4W20	P	8/18	1435									445	Kmfu
			C			8/19	1115	5HRS& 45MIN	88.30	89.90	1.60	C	A		
									162.20	165.60	3.40	C	B	175	
23	206	17N4W32	P	8/19	1508									300	Kmfc, Kpl @ 208
			C			8/20	1015	4HRS& 15MIN	37.70	39.80	2.20	C	A		
									155.45	157.35	1.90	C	B	169.05	
24	205	18N5W25	P	8/20	1045									520	Kmfu
			C			8/21	1200	10HRS& 15MIN	187.85	190.50	2.65	C	A		petrographic
									242.20	243.75	1.55	C	B	253	
25	206	18N5W26	P	8/20	1250	8/21	1600	3HRS& 10MIN						560	Kmfu, no core
26	206	18N5W33	P	8/21	0830	8/21	1130	3HRS						560	Kmfu, no core
27	206	18N5W19	P	8/26	1215									502	Kmfu
			C			8/27	1445	7HRS& 45MIN	177.50	178.75	1.25	C	A	188	

NMRDI COAL QUALITY ASSESSMENT

SUMMARY OF COAL DRILL HOLES

AREA: Fruitland, Redrill YEAR: 1986 SHEET 5

ORDER DLD.	NO.	DRILL HOLE Desig.	Type	START Date	Time	COMPLETE Date	Time	Total Time	COAL Top	Btm.	Thick	SAMPLE Type	Ltr.	Total Depth	REMARKS
28	205	20N5W36	P	8/26	1433									180	Kf, Kpc @ 90
			C			8/26	1830	4HRS	59.10	64.05	4.95	C	A		
									65.50	67.25	1.75	C	B	73	
29	206	19N3W9	P	8/27	0800	8/27	1045	2HRS& 45MIN						340	Kf?, no core
30	205	20N5W32-2	P	8/27	0957									340	Kf, Kpc @ 300
						8/27	1722	7HRS& 19MIN	262.40	267.70	5.3	C	A		
									267.70	272.95	5.25	C	B		
									272.95	279.70	4.75	C	C		
									292.65	295.25	2.60	C	D	360	

NMRDI COAL QUALITY ASSESSMENT

SUMMARY OF COAL DRILL HOLES

AREA: San Mateo YEAR: 1986

ORDER DLD.	NO.	DRILL HOLE Desig.	Type	START Date	Time	COMPLETE Date	Time	Total Time	COAL Top	Btm.	Thick	SAMPLE Type	Ltr.	Total Depth	REMARKS
31	205	16N5W17	P	8/28	1200									300	Kmfc, Kpl @ 180
			C			8/29	1300	9HRS& 30MIN	155.60	157.50	1.90	C	A		H2O in coal above Kpl
									161.80	163.60	1.80	C	B		
									170.85	172.70	1.85	C	C	185	
32	206	16N5W2	P	8/28	1300									300	Kmfc, Kpl @ 275
			C			8/29	1200	4HRS	134.65	136.15	1.50	C	A		
									166.25	168.00	1.75	C	B		
									186.80	189.80	3.00	C	C	200	
33	206	16N5W24	P	9/02	1200									240	Kmfc, Kpl @ 190
			C			9/02	1800	6HRS	166.10	167.70	1.60	C	A		H2O @ 180, petrographic
									171.70	174.10	2.40	C	B		
									187.10	188.80	1.70	C	C	230	
34	205	16N5W4	P	9/02	1520									340	Kmfc, Kpl @ 301
			C			9/03	1415	7HRS	87.50	88.80	1.30	C	A		H2O @ 240
									236.35	238.90	2.55	C	B		
									239.70	241.40	1.70	C	D		Sample C interburden
									280.40	282.50	2.10	C	E	295	
35	206	16N6W36	P	9/03	0915									180	Kmfc, Kpl @ 145
			C			9/03	1200	2HRS& 45MIN	61.35	63.65	2.30	C	A	74	
36	206	15N6W2	P	9/03	1355									260	Kmfc, Kpl @ 212
			C			9/04	1130	4HRS& 30MIN	85.85	87.25	1.40	C	A		
									157.40	160.75	3.35	C	B	170	
37	205	15N6W15	P	9/04	0900									280	Kmfc, Kpl @ 240
			C			9/05	0930	11HRS& 30MIN	164.25	166.25	2.00	C	A		
									211.85	216.35	4.50	C	B		
									221.50	223.85	2.35	C	C		
									224.60	229.25	4.65	C	D	240	
38	206	15N6W20	P	9/04	1300									160	Kmfc, Kpl @ 125
			C			9/04	1630	3HRS& 30MIN	55.50	59.00	3.50	C	A		petrographic
									59.00	62.50	3.50	C	B		
									77.60	81.55	3.95	C	C	95	

NMRDI COAL QUALITY ASSESSMENT

SUMMARY OF COAL DRILL HOLES

AREA: Crownpoint YEAR: 1986

ORDER DLD.	NO.	DRILL HOLE		START		COMPLETE		Total Time	COAL			SAMPLE		Total	REMARKS
		Desig.	Type	Date	Time	Date	Time		Top	Btm.	Thick	Type	Ltr.	Depth	
39	206	16N10W33	P	9/05	1000									320	Kcg, Kcda @ 275
			C			9/09	1600	9HRS	86.70	90.10	3.40	C	A		petrographic
									104.80	107.40	2.60	C	B		
									139.45	141.60	2.15	C	C		
									170.00	173.05	3.05	C	D		
									179.75	182.30	2.55	C	E		
									195.65	198.20	2.55	C	F		
									207.10	210.65	3.55	C	G	214.55	
40	205	16N10W16	P	9/09	1000									360	Kcg, Kcda @ 330
			C			9/09	1600	6HRS	164.00	167.55	3.55	C	A		
									191.15	194.60	3.45	C	B	204	
41	205	16N11W2	P	9/10	0930									300	Kcg, Kcda @ 257
			C			9/11	1410	11HRS	124.95	128.30	3.35	C	A		petrographic
									146.30	147.80	1.50	C	B		
									149.60	153.00	3.40	C	C		
									186.10	188.00	1.90	C	D		
									188.75	191.40	2.65	C	E	200	
42	206	17N11W34	P	9/10	1045									300	Kcg, Kcda @ 250
			C			9/10	1600	4HRS&	119.00	121.55	2.55	C	A		
								45MIN	178.95	183.00	4.00	C	B		
									198.60	200.95	2.35	C	C	220	
43	206	17N12W16	P	9/11	1400	9/11	1700	3HRS						300	Kcg, no core
44	205	16N10W29	P	9/11	1525										
			C			9/12	1248	6HRS&	139.60	141.50	1.90	C	A		
								23MIN	142.65	144.05	1.40	C	B		
									169.10	173.50	4.40	C	C		
									203.45	208.15	4.70	C	D		
									220.50	223.45	2.95	C	E	255	
45	206	17N13W12	P	9/12	0900									320	Kcg, Kcda @ 285
			C			9/12	1700	8HRS	136.15	139.00	2.85	C	A		
									145.70	147.60	1.90	C	B		petrographic
									157.00	159.00	2.00	C	C		
									169.50	172.10	2.60	C	D		
									189.60	192.10	2.50	C	E		
									198.70	200.10	1.40	C	F	220	
46	205	17N11W16	P	9/12	1500									320	Kcg, Kcda @ 305
			C			9/13	1230	7HRS&	205.80	209.15	3.35	C	A		
								30MIN	277.65	280.55	2.90	C	B	292	

NMRDI COAL QUALITY ASSESSMENT

SUMMARY OF COAL DRILL HOLES

AREA: Gallup YEAR: 1986

ORDER DLD.	NO.	DRILL HOLE Desig.	Type	START Date	Time	COMPLETE Date	Time	Total Time	COAL Top	Btm.	Thick	SAMPLE Type	Ltr.	Total Depth	REMARKS
47	206	16N18W28	P	9/13	0800									540	Kmfc/Kcg
			C			9/14	1800	21HRS	403.65	407.40	3.75	C	A		
									433.30	436.85	3.55	C	B		
									499.95	502.95	3.00	C	C		
									502.95	506.25	3.30	C	D	511	
48	205	15N18W18	P	9/13	1557	9/14	1100	6HRS& 18MIN						560	Kmfa ? no core
49	205	16N18W26	P	9/14	1310									200	Kmfc/Kcg, petrographic
			C			9/14	1800	4HRS& 50MIN	67.75	70.65	2.90	C	A		
									85.50	89.00	3.50	C	B		
									117.65	120.85	3.20	C	C		
									125.90	128.95	3.05	C	D		
									135.70	138.50	2.80	C	E	141	
50	205	15N19W12	P	9/15	0840									431	Kmfc/Kcg
			C			9/15	1734	8HRS& 54MIN	190.00	193.00	3.00	C	A		
									193.00	196.35	3.35	C	B		
									231.20	235.80	4.60	C	C		
									249.65	255.10	5.45	C	D		
									275.35	278.20	2.85	C	E		
									309.50	312.00	2.50	C	F	321.90	
51	206	15N18W4	P	9/15	0915									543	Kcdi
			C			9/16	1300	14HRS& 45MIN	366.50	370.50	4.00	C	A		
									370.50	374.45	3.95	C	B		
									416.00	419.85	3.83	C	C		
									421.00	424.30	3.30	C	E	431	D is interburden
52	205	16N19W35	P	9/16	0830									480	Kmfc/Kcg
			C			9/16	1830	10HRS	224.00	227.00	3.00	C	A		petrographic
									227.00	230.50	3.50	C	B		
									249.65	252.25	2.60	C	C		
									276.20	278.45	2.25	C	D		
									312.45	314.30	1.85	C	E		
									343.50	346.60	3.10	C	F		
									346.60	349.60	3.00	C	G	350	
53	206	16N19W19	P	9/16	1600									543	Kmfc/Kcg
			C			9/17	1600	12HRS	352.60	355.90	3.30	C	A		
									355.90	359.20	3.30	C	B		
									365.60	367.55	1.95	C	C	377	
54	205	16N19W29	P	9/17	0906									420	
						9/17	1730	8HRS& 24MIN	228.10	230.00	1.90	C	A		
									232.15	234.85	2.70	C	B		
									267.75	269.50	1.75	C	C		
									285.50	287.25	1.75	C	D	295	

NMRDI COAL QUALITY ASSESSMENT

SUMMARY OF COAL DRILL HOLES

AREA: Gallup YEAR: 1986

ORDER DLD.	NO.	DRILL HOLE		START		COMPLETE		Total Time	COAL			SAMPLE		Total	REMARKS
		Desig.	Type	Date	Time	Date	Time		Top	Btm.	Thick	Type	Ltr.	Depth	
55	206	16N20W13	P	9/18	0800									420	Kmfc/Kcg
			C			9/18	1730	9HRS&	189.85	192.85	3.00	C	A		
								30MIN	192.85	195.60	2.75	C	B		
									201.15	204.35	3.20	C	C		
									227.00	228.15	1.15	C	D		
									232.90	235.55	2.65	C	E		
									238.55	240.70	2.15	C	F		
									265.00	268.00	3.00	C	G		
									268.00	271.15	3.15	C	H		
									282.50	284.70	2.20	C	I	295	
56	205	16N20W27	P	9/18	0850									320	Kmfc/Kcg
						9/18	1530	6HRS&	71.55	73.70	2.15	C	A		
								20MIN	128.20	130.10	1.90	C	B	141	

NMRDI COAL QUALITY ASSESSMENT

SUMMARY OF COAL DRILL HOLES

AREA: Salt Lake YEAR: 1988

ORDER DLD.	NO	DRILL HOLE Desig.	Type	START Date	Time	COMPLETE Date	Time	Total Time	COAL Top	Btm.	Thick	SAMPLE Type	Ltr.	Total Depth	Remarks
1	52	3N17W17	P	5/16	1150									300.0	Ka @ 186
			C			5/17	1106	10HRS	111.00	113.70	2.70	C	A		
									170.60	172.55	1.95	C	B	180.0	
2	52	3N17W14	P	5/17	1300									320.0	Ka @ 152
			C			5/18	1100	11HRS	122.05	123.30	1.25	C	A		
									125.10	126.50	1.40	C	B		
									129.90	134.10	4.20	C	C	140.0	
3		3N17W1	P	5/18	1320									260.0	Ka @ 151
			C			5/19	1045	7HRS&	128.20	130.00	1.80	C	A		
								45MIN	133.90	139.30	5.40	C	B		
									148.95	151.35	2.40	C	C	157.0	
4	52	5N16W30	P	5/19	1405									320.0	Ka @ 270
			C			5/20	1300	9HRS&	253.00	256.50	3.50	C	A		
	52							55MIN	256.50	260.40	3.90	C	B	275.0	
5		6N16W33	P	5/20	1545									260.0	Ka @ 129?
			C			5/23	1400	9HRS&							
								55MIN	129.45	130.85	1.40	C	A	137.0	

NMRDI COAL QUALITY ASSESSMENT

SUMMARY OF COAL DRILL HOLES

AREA: Gallup YEAR: 1988 SHEET 2

ORDER DLD.	NO	DRILL	HOLE	START		COMPLETE		Total Time	COAL			SAMPLE		Total	REMARKS
		Desig.	Type	Date	Time	Date	Time		Top	Btm.	Thick	Type	Ltr.	Depth	
6	52	15N18W31	P	5/24	700									200.0	Cleary/Gibson
			C			5/24	1300	5HRS	50.25	50.95	0.70	C	A	58.0	
7		15N18W34	P	5/24	1430									640.0	Kg @ 635
			C			5/26	1815	21HRS&	385.00	390.85	5.85	C	A		
								35MIN	394.90	299.15	4.25	C	B		
									424.35	426.05	1.70	C	C		
									430.65	433.40	2.75	C	D		
									434.25	436.55	2.30	C	E	443.0	
8		15N18W33	P	5/27	1030									260.0	Cleary/Gibson
			C			5/27	1735	7HRS& 35MIN	20.00	24.40	4.40	C	A	31.0	
9		15N19W35	P	5/31	1330									420.0	Kg @ 395
			C			6/01	1740	15HRS&	117.00	118.10	1.10	C	A		
								55MIN	193.40	197.30	3.90	C	B		
									225.00	227.60	2.60	C	C	237	

NMRDI COAL QUALITY ASSESSMENT

SUMMARY OF COAL DRILL HOLES

AREA: Chacra Mesa YEAR: 1988 SHEET 3

ORDER DLD.	NO	DRILL HOLE		START		COMPLETE		Total Time	COAL			SAMPLE		Total	Remarks
		Desig.	Type	Date	Time	Date	Time		Top	Btm.	Thick	Type	Ltr.	Depth	
10	52	18N3W28	P	6/02	1220									360.0	
			C			6/06	1210	13HRS& 26MIN	181.10	182.40	1.30	C	A	189.0	Kmfu
11	52	18N3W21	P	6/06	1400									440	Kmfu
			C			6/07	1900	19HRS	59.00	60.50	1.50	C	A		
									81.85	83.50	1.65	C	B		
									97.60	98.85	1.25	C	C		
									101.00	104.85	3.85	C	D		
									112.15	113.40	1.25	C	E		
									116.40	118.80	2.40	C	F		
									134.50	136.70	2.20	C	G	276.0	
12	52	18N3W32	P	6/08	0900	6/08	1215	3HRS& 15MIN						300.0	Kmfu, no core
13	52	18N3W16	P	6/08	1530									480.0	Kmfu
						6/10	1500	23HRS& 30MIN	117.20	120.70	3.50	C	A		
									250.70	253.30	2.60	C	B		
									269.55	271.70	2.15	C	C		
									275.80	280.30	4.50	C	D		
									335.55	337.95	2.40	C	E		
									447.10	450.60	3.50	C	F	455.0	
14	52	18N3W3-1	P	6/13	0930									640.0	Kmfu
			C			6/14	1740	22HRS	314.85	317.70	2.85	C	A		
									363.65	367.65	4.00	C	B		
									367.65	372.55	4.90	C	C	377.0	
15	52	18N3W3-2	P	6/15	0750									640.0	Kmfu
			C			6/16	1800	22HRS& 45MIN	84.50	88.50	4.00	C	A		
									291.65	297.45	5.80	C	B		
									349.40	355.75	6.35	C	C		
									386.55	390.00	3.45	C	D		
									391.05	394.20	3.15	C	E	404.0	
23	52	18N4W10	P	6/28	1430	6/29	1630	16HRS& 30MIN						640.0	Kmfu, no core
24	52	18N4W17	P	6/30	0740	6/30	1600	9HRS						640.0	Kmfu, no core

NMRDI COAL QUALITY ASSESSMENT

SUMMARY OF COAL DRILL HOLES

AREA: Chacra Mesa YEAR: 1988 SHEET 4

ORDER DLD.	NO	DRILL HOLE		START		COMPLETE		Total Time	COAL			SAMPLE		Total	REMARKS
		Desig.	Type	Date	Time	Date	Time		Top	Btm.	Thick	Type	Ltr.	Depth	
25		18N4W10A	P	8/23	0802	8/23	1900	11HRS						725.0	Kch/Kmfu
26		18N3W11A	P	8/24	1000	8/25	1057	11HRS& 45MIN						725.0	Kch/Kmfu
27		18N3W10	P	8/25	1500	8/26	1510	10HRS& 30MIN						725.0	Kch/Kmfu
28		18N3W21A	P	8/27	0805	8/27	1600	8HRS						725.0	Kch/Kmfu

NMRDI COAL QUALITY ASSESSMENT

SUMMARY OF COAL DRILL HOLES

AREA: Monero YEAR: 1988

ORDER DLD.	NO	DRILL	HOLE	START		COMPLETE		Total Time	COAL			SAMPLE		Total	REMARKS
		Desig.	Type	Date	Time	Date	Time		Top	Btm.	Thick	Type	Ltr.	Depth	
16	52	31N1W2	P	6/17	1140	6/17	1510	4HRS& 20MIN						260.0	Kmv, no core
17	52	31N1E21	P C	6/20	1210	6/21	1500	14HRS& 20MIN	226.35	227.30	0.95	C	A	320.0 232.0	Kmv, Km @ 300
18		32N1W14	P	6/22	0830	6/22	1600	7HRS& 30MIN						320.0	Kmv, no core Km @ 314
19		32N1W24	P	6/22	1820	6/23	1545	10HRS& 25MIN						360.0	Kmv, no core Km @ 332
20		31N1E6	P	6/24	0730	6/24	1500	7HRS& 30MIN						400.0	Kmv, no core Km @ 322
21	52	31N1E9	P	6/25	1100	6/25	1620	5HRS& 20MIN						320.0	Kmv, no core Km @ 298
22	52	31N1W10	P C	6/26	1100	6/27	1445	13HRS& 30MIN	63.30 105.30 165.50	65.45 106.90 168.30	2.15 1.60 2.80	C C C	A B C	320.0 173.0	

Petrographic Analyses, NMRDI Coal Quality Project

	Well Number	Lab#	Sample#	vR	PVIT	VIT1	VIT2	VITD	TEL	TC	DC	CC	VD	VIT	SP	CUT	RES	LD	EX	FUS	SF	MIC	MAC	ID	SCL	INERT
Fruitland Field																										
	32N12W08	034	G		0.00	33.75	24.25	0.00						58.00	1.25	0.50	22.25	3.25	14.75	2.25	12.50	0.00	0.00	0.00	0.00	27.25
	32N12W08	035	K	0.54	0.00	26.50	23.75	0.00						50.25	0.00	1.25	27.25	5.25	15.75	2.00	13.50	0.00	0.25	0.00	0.00	33.75
	32N12W08	016	O	0.50	0.00	29.50	26.25	0.00						55.75	2.25	0.50	20.75	2.75	17.75	0.25	16.50	0.00	1.00	0.00	0.00	26.25
	32N12W08	014	P		0.25	25.25	36.50	0.00						62.00	1.50	1.00	17.00	3.75	14.50	3.00	10.50	0.00	1.00	0.00	0.00	23.35
	32N13W13	090	G	0.47																						
	32N13W13	046	H		0.25	27.00	40.75	0.50						68.50	0.75	0.50	25.50	0.50	27.25	0.25	3.50	0.00	0.50	0.00	0.00	4.25
	32N13W13	047	L	0.58	1.25	25.50	53.75	0.00	0.30	6.70	82.60	5.40	0.00	83.60	1.20	0.75	3.50	1.50	8.13	0.10	3.50	0.00	0.00	0.70	0.00	6.78
	32N13W13	025	O	0.52	0.25	22.00	43.50	0.00						65.75	1.00	1.00	20.75	3.75	7.50	0.75	6.75	0.00	0.00	0.00	0.00	26.50
	32N13W13	032	P		0.00	24.63	36.25	0.00						60.88	1.00	0.25	21.75	2.75	13.38	0.75	12.00	0.00	0.25	0.00	0.00	25.75
	32N13W13	031	R	0.52	0.00	26.25	42.75	0.00						69.00	1.25	1.00	14.75	2.25	11.50	0.75	10.25	0.00	0.50	0.00	0.00	19.25
	32N13W13	050	T	0.60																						
	32N13W13	026	U	0.56	0.25	32.00	46.75	0.00						79.00	1.75	0.75	7.00	2.50	9.00	1.50	7.00	0.00	0.25	0.00	0.25	12.00
	32N13W13	027	W	0.54	0.00	33.50	42.00	0.00						75.70	1.00	1.00	12.00	2.00	7.75	0.50	6.25	0.00	1.00	0.00	0.00	16.75
	32N13W14	009	E		0.25	30.50	40.50	1.25						72.50	1.25	0.50	20.25	0.50	22.50	0.75	2.75	0.00	1.50	0.00	0.00	5.00
	32N13W14	002	P	0.52	0.25	33.00	41.25	0.00						74.50	1.50	1.00	13.25	2.00	7.75	0.75	6.50	0.00	0.50	0.00	0.00	17.75
	32N13W28	080	M	0.54																						
	30N15W03	077	B	0.59					0.10	1.60	91.30	2.60	0.00	86.40	2.10	0.30		0.20	12.00	0.30	1.20	0.00	0.00	0.30	0.00	1.60
	Total No.: 17		Avg's:	0.54	0.39	28.41	38.33	0.88	0.20	4.15	86.95	4.00		68.70	1.37	0.74	17.38	2.35	13.54	0.99	8.05		0.68	0.50	0.25	17.59
Bisti Field																										
	23N13W2	210	C	0.46																						
	23N12W12	061	D	0.46																						
	23N12W4	069	D	0.42	4.50	25.00	56.00	0.00						85.50	0.75	0.50	6.25	2.00	6.75	0.50	5.25	0.00	0.00	0.00	0.00	8.75
	23N11W19	098	F	0.43	3.25	17.25	39.25	0.25						60.00	0.50	2.25	26.75	1.00	9.50	0.00	8.50	0.00	0.25	0.50	0.25	30.50
	23N11W19	109	I	0.51	1.75	16.25	52.75	0.00						70.75	1.75	0.75	10.00	2.75	14.00	0.75	12.25	0.00	1.00	0.00	0.00	15.25
	23N11W27	119	F	0.42	2.75	18.00	44.00	0.00						64.75	1.25	0.50	16.75	2.25	14.50	0.50	13.00	0.00	0.75	0.00	0.25	20.75
	22N10W17	146	M	0.49	3.00	21.25	59.75	0.00						84.00	1.25	1.00	5.25	0.25	7.75	0.75	5.25	0.00	2.50	0.00	0.00	7.75
	22N09W36	150	B	0.49	3.25	26.00	48.25	0.25						77.75	0.50	0.25	13.75	0.25	14.75	0.50	5.00	0.00	1.75	0.00	0.25	7.50
	Total No.: 8		Avg's:	0.46	3.08	20.63	50.00	0.25						73.79	1.00	0.88	13.13	1.42	11.21	0.60	8.21		1.25	0.50	0.25	15.08

Petrographic Analyses, NMRDI Coal Quality Project

	Well Number	Lab#	Sample#	vR	PVIT	VIT1	VIT2	VITD	TEL	TC	DC	CC	VD	VIT	SP	CUT	RES	LD	EX	FUS	SF	MIC	MAC	ID	SCL	INERT
Star Lake Field																										
	21N08W7	154	B	0.44																						
	21N08W17	173	B	0.45	2.50	15.50	51.00	0.25						69.25	0.25	1.75	19.75	1.50	23.25		5.75	0.00	1.25	0.25	0.00	7.25
	21N08W17	203	D	0.45					0.40	0.70	83.00	4.60	0.00	82.60	2.50	0.50	1.60	0.20	11.30	0.40	4.20	0.10	0.10	1.70	0.00	6.10
	21N08W17	155	G	0.45	1.50	19.75	56.00	0.00						77.25	0.75	0.50	15.50	0.75	17.50	0.75	3.25	0.00	1.00	0.25	0.00	5.25
	21N08W17	186	K	0.53																						
	21N08W17	169	L	0.50																						
	21N08W17	200	AB	0.43																						
	21N08W17	180	AC	0.43	3.25	16.00	55.50	0.00						74.75	0.25	0.50	17.75	0.75	19.25	0.00	4.00	0.00	1.75	0.25	0.00	6.00
	21N08W17	185	AF	0.47																						
	21N08W17	156	AG	0.47																						
	21N08W17	160	AK	0.45	5.75	25.75	37.75	0.00						69.25	0.75	1.25	12.25	1.25	15.25	1.25	12.75	0.00	0.25	1.00	0.00	15.50
	21N08W22	220	B	0.42																						
	21N08W22	219	D	0.46																						
	21N08W22	226	G	0.46																						
	21N08W36	157	AB	0.41																						
	21N08W36	159	AD	0.42																						
	21N08W36	161	AE	0.42																						
	21N08W36	194	B	0.43																						
	21N07W33	187	A	0.41																						
	21N07W33	176	C	0.39																						
	21N07W33	177	E	0.44																						
	21N07W33	158	G	0.47	3.25	24.50	39.75	0.00						67.50	2.25	0.25	15.50	2.00	12.50	0.50	11.00	0.00	0.75	0.25	0.00	20.00
	20N07W08	207	B	0.44																						
	20N07W08	218	C	0.45																						
	20N07W10	181	D	0.42																						
	20N07W10	170	H	0.45																						
	20N06W18	193	B	0.43																						
	20N06W18	172	C	0.50																						
	20N06W28	165	F											55.75	1.25	1.25	23.50	3.25	15.00	0.75	13.75	0.00	0.50	0.00	0.00	29.25
	20N06W28	168	E	0.51																						
	20N06W26	191	C	0.46																						
	20N05W31	189	B	0.51																						
	20N05W31	163	F	0.44	3.50	20.50	31.75	0.00						55.75	2.50	1.25	19.25	1.75	19.25	1.50	17.50	0.00	0.25	0.00	0.00	24.75
	20N05W31	174	H	0.42																						
	20N05W31	188	J	0.43																						
	20N05W31	171	K	0.45																						
	20N05W28	166	B	0.48	1.25	24.50	43.25	0.00						69.00	1.25	0.50	8.25	3.00	18.00	1.50	16.00	0.00	0.25	0.00	0.25	13.00
	20N05W28	167	C	0.50																						
	20N05W28	190	E	0.44	2.00	25.25	41.00	0.00	0.50	1.50	78.80	2.90	0.00	72.28	3.10	0.20	6.50	2.75	15.25	0.75	11.50	0.00	0.25	0.75	0.00	12.47
	20N05W34	192	B	0.43																						
	20N05W34	175	D	0.40	1.75	22.50	57.00	0.25						81.50	0.75	1.25	8.00	0.50	10.50	0.25	4.75	0.00	3.00	0.00	0.00	10.50
	19N04W03	222	B	0.42																						
	19N04W03	221	C	0.42																						
	19N04W01	212	B	0.39	1.00	20.50	44.00	0.25						65.75	0.75	1.00	21.75	2.50	8.25	0.00	7.00	0.00	1.00	0.00	0.25	26.00
	19N03W03	217	B	0.51	7.25	14.75	35.75	0.00	1.40	6.50	67.30	6.20	0.10	57.25	3.90	1.00	13.00	1.00	13.90	0.25	8.10	0.20	0.80	2.00	0.00	18.38
	Total No.: 45		Avg's:	0.45	3.00	20.86	44.80	0.25	0.77	2.90	76.37	4.57	0.10	69.07	1.56	0.86	14.05	1.63	15.32	0.79	9.20	0.15	0.86	0.81	0.25	14.96

Petrographic Analyses, NMRDI Coal Quality Project

	Well Number	Lab#	Sample#	vR	PVIT	VIT1	VIT2	VITD	TEL	TC	DC	CC	VD	VIT	SP	CUT	RES	LD	EX	FUS	SF	MIC	MAC	ID	SCL	INERT
La Ventana Field																										
	20N01W33	622	A						0.00	0.90	79.80	4.30	0.00	85.00	2.00	0.30	0.40	0.10	2.80	1.40	7.40	0.20	0.00	3.20	0.00	12.20
	20N01W33	629	B	0.46					1.50	8.40	66.20	10.70	0.00	86.80	1.40	0.70	0.40	0.10	2.60	1.00	8.00	0.10	0.00	1.50	0.00	10.60
	19N01W04	612	A	0.41					0.30	6.50	70.70	3.00	0.00	80.50	2.90	0.00	0.70	0.00	3.60	1.00	11.10	0.20	0.00	3.60	0.00	15.90
	18N02W03	618	A						0.00	1.60	81.30	2.10	0.00	85.00	2.90	0.00	0.60	0.10	3.60	1.70	6.50	0.00	0.00	3.20	0.00	11.40
	18N02W03	631	B						0.00	0.40	76.10	4.10	0.00	80.60	3.40	0.10	0.40	0.20	4.10	3.20	9.20	0.30	0.20	2.40	0.00	15.30
	18N02W03	620	C	0.44					0.00	2.90	64.80	18.00	0.00	85.70	3.80	0.30	0.90	0.10	5.10	1.40	6.10	0.10	0.00	1.60	0.00	9.20
	17N02W09	616	A	0.48					0.00	1.30	76.60	2.40	0.10	80.40	3.00	0.00	1.30	0.10	4.40	1.50	9.50	0.10	0.00	4.10	0.00	15.20
	17N02W09	617	B	0.42					0.00	0.60	81.40	3.30	0.10	85.40	1.40	0.10	0.40	0.20	2.10	0.50	10.30	0.10	0.00	1.50	0.10	12.50
	17N02W09	613	C	0.45					0.70	0.60	67.10	14.20	0.00	82.60	3.70	0.20	1.90	0.00	15.80	0.70	9.10	0.00	0.00	1.70	0.10	10.90
	17N02W09	614	D	0.40					0.00	0.00	77.10	1.90	0.00	79.00	2.60	0.30	0.50	0.00	3.40	3.00	10.80	0.10	0.00	3.70	0.00	17.60
	17N04W13	676	A	0.49					0.20	0.90	77.30	4.30	0.00	87.70	3.40	0.00	1.40	0.00	4.80	1.30	10.00	0.50	0.00	0.60	0.10	12.50
	17N04W13	668	B	0.56					0.00	0.30	83.50	3.30	0.00	87.10	1.30	0.30	0.60	0.00	2.20	1.30	6.40	0.00	0.00	3.00	0.00	10.70
	17N04W13	668	B						0.10	0.80	77.00	6.00	0.00	83.90	2.50	0.00	0.70	0.00	3.30	1.00	10.30	0.00	0.10	1.50	0.00	11.40
	17N04W13	672	C	0.53					0.50	0.50	76.10	5.50	0.00	82.60	1.80	0.10	0.70	0.20	2.80	0.40	12.50	0.50	0.20	1.00	0.00	14.60
	17N04W13	671	D	0.50					0.10	0.50	65.90	11.10	0.00	77.60	5.80	0.00	2.00	0.20	8.00	0.60	10.70	0.40	0.00	2.70	0.00	14.40
	Total No.: 15		Avg's:	0.47					0.49	1.87	74.73	6.28	0.10	83.33	2.79	0.27	0.86	0.14	4.57	1.33	9.19	0.24	0.17	2.35	0.10	12.96
Chacra Mesa Field																										
	18N03W21	665	A	0.47					0.10	0.60	85.60	2.20	0.00	88.50	3.70	0.20	0.90	0.00	4.80	1.50	3.80	0.00	0.10	1.20	0.10	6.70
	18N03W21	666	B	0.47					0.10	2.00	78.90	7.40	0.00	88.40	2.10	0.20	0.90	0.00	3.20	1.40	4.60	0.10	0.10	2.10	0.10	8.40
	18N03W21	664	C	0.46					0.40	0.20	85.20	4.30	0.00	90.10	1.80	0.40	0.70	0.00	2.90	0.60	4.70	0.20	0.00	1.50	0.00	7.00
	18N03W21	663	D	0.44					0.00	2.30	84.90	6.20	0.00	93.40	1.70	0.40	0.70	0.00	2.80	0.50	2.60	0.00	0.00	0.70	0.00	3.80
	18N03W21	659	E	0.50					0.00	2.10	84.70	4.70	0.00	91.50	1.00	0.30	0.80	0.10	2.20	1.10	3.60	0.10	0.00	1.50	0.00	6.30
	18N03W21	656	F	0.47					0.50	2.30	82.50	6.80	0.10	92.20	1.90	0.30	0.50	0.30	6.00	0.70	3.30	0.30	0.00	0.60	0.00	4.90
	18N03W21	657	G	0.47					0.10	1.10	87.60	3.70	0.00	92.50	1.50	0.30	0.20	0.00	2.00	1.30	3.20	0.10	0.00	0.90	0.00	5.50
	18N05W25	686	A	0.47					0.20	0.30	82.80	5.70	0.00	89.00	2.30	0.20	0.20	0.40	3.10	1.00	5.40	0.60	0.00	0.90	0.00	7.90
	18N05W25	689	B	0.47					0.00	0.40	87.80	4.90	0.00	93.10	1.80	0.10	0.40	0.00	2.30	1.50	2.90	0.10	0.00	0.10	0.00	4.60
	Total No.: 9		Avg's:	0.47					0.23	1.26	84.44	5.10	0.10	90.97	1.98	0.27	0.59	0.27	3.26	1.07	3.79	0.21	0.10	1.06	0.10	6.12
San Mateo Field																										
	16N05W04	708	A	0.47					0.00	0.40	77.80	1.20	0.00	79.40	1.60	0.30	2.20	0.20	4.30	0.60	12.50	0.20	0.00	3.00	0.00	16.30
	16N05W24	714	B	0.46					0.00	0.90	81.00	7.60	0.00	89.50	2.70	0.40	1.00	0.30	4.40	0.70	3.60	0.00	0.00	1.80	0.00	6.10
	16N05W24	715	C	0.45					0.00	0.10	70.70	2.00	0.00	70.80	4.20	0.00	1.60	0.00	5.80	0.70	17.30	0.10	0.00	3.30	0.00	21.40
	15N06W20	722	A	0.47					0.00	2.10	77.90	6.40	0.00	86.40	3.00	0.10	1.20	0.40	4.30	0.60	5.50	0.20	0.00	2.60	0.00	8.90
	15N06W20	721	B	0.41					0.00	0.00	82.90	2.50	0.00	85.40	1.90	0.30	0.70	0.00	2.90	1.50	7.30	0.10	0.00	2.80	0.00	11.70
	15N08W20	334	B	0.41																						
	Total No.: 6		Avg's:	0.45						0.88	78.06	3.94		82.30	2.68	0.27	1.34	0.30	4.34	0.82	9.24	0.15		2.70		12.88
Standing Rock Field																										
	17N13W12	756	D	0.46																						
	18N12W16	404	B	0.50																						
	Total No.:	2	Avg's:	0.48																						

Petrographic Analyses, NMRDI Coal Quality Project

	Well Number	Lab#	Sample#	vR	PVIT	VIT1	VIT2	VITD	TEL	TC	DC	CC	VD	VIT	SP	CUT	RES	LD	EX	FUS	SF	MIC	MAC	ID	SCL	INERT
Monero Field																										
	31N01W10	1028		0.75					6.70	18.60	36.70	5.10	0.00	67.10	4.20	1.10	1.50	0.00		1.20	22.00	2.20	0.70	0	0	26.10
	31N01W10	1027		0.67					12.90	10.80	35.00	6.20	0.00	64.80	3.70	0.20	6.00	0.00		0.90	19.30	3.90	1.20	0	0	25.30
	31N01W10	1025		0.79					10.80	10.80	48.00	1.40	0.00	71.00	5.70	0.70	2.20	0.00		0.70	16.60	2.70	0.50	0	0	20.50
	31N01E21	1026		0.70					15.10	9.20	40.80	7.60	0.00	72.70	4.80	0.20	2.50	0.00		1.40	14.50	2.90	1.00	0	0	19.80
	Total No.: 4		Avg's:	0.73					11.38	12.35	40.13	5.08		68.90	4.60	0.55	3.05			1.05	18.10	2.93	0.85			22.93

Petrographic Analyses, NMRDI Coal Quality Project

	Well Number	Lab#	Sample#	vR	PVIT	VIT1	VIT2	VITD	TEL	TC	DC	CC	VD	VIT	SP	CUT	RES	LD	EX	FUS	SF	MIC	MAC	ID	SCL	INERT
Crownpoint Field																										
	16N10W33	735	A						0.00	0.00	85.00	2.30	0.00	87.30	2.30	0.20	0.40	0.00	2.90	2.10	5.20	0.00	0.00	2.50	0.00	9.80
	16N10W33	739	B	0.45					0.00	0.10	74.60	4.60	0.00	79.30	3.20	0.10	0.60	0.20	4.10	1.40	12.20	0.20	0.00	2.70	0.00	16.60
	16N10W33	734	D	0.42					0.40	0.90	63.30	21.40	0.00	86.00	2.90	0.30	0.50	0.50	4.20	0.60	8.50	0.00	0.00	0.70	0.00	9.80
	16N10W33	729	E	0.45					0.00	0.40	82.30	7.00	0.00	89.70	2.80	0.40	0.50	0.00	3.70	0.90	3.70	0.20	0.00	1.80	0.00	6.60
	16N10W33	743	F	0.45					0.50	0.40	78.20	6.30	0.00	85.40	2.50	0.40	1.10	0.20	4.20	1.80	6.90	0.20	0.10	1.20	0.20	10.40
	16N10W33	731	G						0.00	0.70	80.00	7.20	0.00	87.90	2.30	0.20	0.90	0.10	3.50	0.90	5.10	0.10	0.00	2.30	0.20	8.60
	16N11W02	742	A	0.41					0.20	1.50	71.40	10.60	0.00	83.70	2.90	0.20	1.20	0.40	4.70	1.00	9.40	0.00	0.00	1.10	0.10	11.60
	16N11W02	737	B	0.45					0.00	4.20	76.90	6.00	0.00	87.10	3.20	0.20	0.10	0.00	3.50	0.90	7.00	0.80	0.00	0.60	0.10	9.40
	16N11W02	741	C	0.41					0.00	0.10	79.20	4.40	0.00	83.70	4.70	0.20	1.10	0.00	6.00	0.80	6.90	0.00	0.00	2.60	0.00	10.30
	16N11W02	740	E	0.48					0.00	0.50	80.40	2.90	0.00	83.80	3.40	0.20	0.70	0.00	4.30	1.40	7.50	0.00	0.00	3.00	0.00	11.90
	17N13W12	760	A						0.00	1.00	81.40	2.80	0.00	85.20	3.30	0.10	0.60	0.00	4.00	0.80	8.20	0.10	0.00	1.70	0.00	10.80
	17N13W12	765	B	0.45					0.10	0.30	70.20	10.80	0.00	81.40	3.40	0.00	0.60	0.20	4.20	0.30	10.60	0.00	0.20	3.20	0.10	14.40
	17N13W12	766	C	0.48					0.10	0.80	76.20	7.60	0.00	84.70	2.70	0.20	1.30	0.60	4.80	0.80	7.50	0.00	0.00	2.20	0.00	10.50
	17N13W12	746	E	0.44					0.00	2.40	81.70	6.00	0.00	90.10	2.20	0.40	1.30	0.00	3.90	0.90	3.40	0.10	0.00	1.60	0.00	6.00
	17N13W12	769	F	0.47					0.00	0.80	89.50	1.80	0.00	92.10	1.40	0.00	0.40	0.00	1.80	0.20	4.40	0.00	0.00	1.50	0.00	4.10
	Total No.: 15		Avg's:	0.45					0.26	1.01	78.02	6.78		85.83	2.88	0.24	0.75	0.31	3.99	0.99	7.10	0.24	0.15	1.91	0.14	10.05
Gallup Field																										
	16N18W26	770	A	0.45					0.00	0.60	83.80	2.80	0.00	87.20	2.70	0.30	1.60	0.00	4.60	0.90	5.80	0.00	0.00	1.20	0.30	8.20
	16N18W26	748	C						0.00	0.90	82.00	1.90	0.00	84.80	2.50	0.00	0.70	0.00	3.20	1.00	8.30	0.10	0.00	2.60	0.00	12.00
	16N18W26	787	D	0.44					0.00	0.00	77.80	3.20	0.00	81.00	3.00	0.20	3.70	0.00	6.90	0.80	8.70	0.00	0.00	2.60	0.00	12.10
	16N19W33	761	A	0.47					0.00	0.00	81.30	2.20	0.00	82.50	2.80	0.10	3.10	0.00	6.00	0.30	8.50	0.10	0.00	1.60	0.00	10.50
	16N19W33	763	B						0.20	1.10	73.70	7.60	0.00	82.60	3.60	0.10	1.70	0.00	5.40	0.50	8.00	0.00	0.10	2.70	0.00	11.90
	16N19W33	762	C	0.49					0.00	0.50	80.90	2.70	0.00	84.10	3.30	0.10	1.20	0.00	4.60	0.50	8.00	0.00	0.10	2.70	0.00	11.30
	16N19W33	749	D	0.47					0.00	0.50	79.80	4.10	0.00	88.90	2.40	0.10	1.90	0.10	4.50	0.10	9.50	0.00	0.00	1.40	0.10	11.10
	16N19W33	751	E	0.47					0.10	0.80	82.80	3.00	0.00	86.70	1.30	0.00	1.30	0.00	2.60	0.30	8.30	0.00	0.00	2.10	0.00	10.70
	16N19W33	764	F	0.47					0.00	2.80	71.90	3.40	0.00	78.10	3.00	0.00	1.20	0.00	4.20	1.00	14.10	0.00	0.00	2.60	0.00	17.70
	16N19W33	747	G	0.49					0.00	0.00	79.70	8.00	0.00	86.70	2.60	0.20	1.00	0.00	3.80	0.30	6.80	0.10	0.00	1.00	0.30	8.50
	Total No.: 10		Avg's:	0.47					0.15	1.03	79.37	3.89		84.26	2.72	0.16	1.74	0.10	4.58	0.57	8.60	0.10	0.10	2.05	0.23	11.40

Petrographic Analyses, NMRDI Coal Quality Project

	Well Number	Lab#	Sample#	vR	PVIT	VIT1	VIT2	VITD	TEL	TC	DC	CC	VD	VIT	SP	CUT	RES	LD	EX	FUS	SF	MIC	MAC	ID	SCL	INERT
Salt Lake Field																										
	06N16W33	977	A	0.46					28.50	9.50	32.50	3.60	0.00	74.10	5.80	1.70	1.00	0.00		0.80	15.70	0.60	0.30	0.00	0.00	17.40
	05N16W30	991	A	0.49					16.20	7.20	31.80	4.20	0.00	59.40	6.40	0.80	2.40	0.00		0.40	29.50	0.90	0.20	0.00	0.00	31.00
	05N16W30	988	B	0.53					19.70	2.00	37.10	2.80	0.00	61.60	6.10	0.50	2.40	0.00		0.30	27.30	1.20	0.60	0.00	0.00	29.40
	03N17W17	993	A	0.52					33.90	3.40	31.40	1.00	0.00	69.70	6.10	2.10	1.70	0.00		1.50	17.30	1.10	0.50	0.00	0.00	20.40
	03N17W17	992	B	0.46					22.80	10.10	28.60	7.80	0.00	69.40	6.20	1.40	4.00	0.00		0.50	18.60	0.60	0.10	0.00	0.00	20.00
	03N17W14	990	A	0.53					21.50	1.40	31.30	6.90	0.00	61.10	6.30	0.60	4.50	0.00		0.40	26.30	0.50	0.30	0.00	0.00	27.50
	03N17W14	994	B	0.51					19.40	2.60	35.40	3.30	0.00	60.70	4.40	0.60	3.20	0.00		0.80	29.00	0.50	0.80	0.00	0.00	31.10
	03N17W14	985	C	0.49					17.80	2.30	33.60	0.60	0.00	54.30	4.50	0.70	2.10	0.00		0.80	37.10	0.40	0.10	0.00	0.00	38.40
	03N17W01	987	A	0.53					20.90	0.60	32.70	1.10	0.00	55.30	4.10	2.10	4.30	0.00		0.40	32.90	0.30	0.60	0.00	0.00	34.20
	03N17W01	989	B	0.47					25.50	2.10	38.50	5.10	0.00	71.20	5.10	1.40	1.70	0.00		1.60	18.50	0.40	0.10	0.00	0.00	20.60
	03N17W01	986	C	0.44					16.30	2.20	32.00	5.70	0.00	56.20	9.30	1.30	4.00	0.00		1.50	27.00	0.70	0.00	0.00	0.00	29.20
	Total No.: 11		Avg's:	0.49					22.05	3.95	33.17	3.83		63.00	5.85	1.20	2.85			0.82	25.38	0.65	0.36			27.20

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

377D

Lab No.: 40
Sample No.: 32N12W8A
Township: T32N Range: R12W Sec.: 8

Formation: Fruitland
Field: Fruitland Member: Zone: Upper

Depth to Seam: 125.00 Seam Thickness: 4.35
Sample Interval: 125.0-129.3 Sample Thickness: 4.35

Analyses on As-Received Basis

Air Dry Loss: 6.47
Eq. Moisture: 5.94 Moisture: 9.45 Vol. Matter: 32.87
Ash: 21.41 Fixed Carbon: 36.27

Carbon: 56.92 Btu: 10001 DAF Btu: 14465
Hydrogen: 4.50 Dry Btu: 11045 MMFBtu: 12878
Nitrogen: 1.06
Oxygen: 5.80 Sulfide: 0.19
Sulfur: 0.83 Sulfate: 0.011
Organic Sulfur: 0.06

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be:	SiO_2: 11.88	SiO_2ash: 55.5
Co:	Al_2O_3: 2.67	Al_2O_3ash: 12.48
Cr:	TiO_2: 0.15	TiO_2ash: 0.72
Cu:	Fe_2O_3: 0.6	Fe_2O_3ash: 2.8
Li:	MgO: 0.062	MgOash: 0.29
Mn:	CaO: 5.33	CaOash: 24.88
Nb: 15	K_2O: 0.079	K_2Oash: 0.37
Ni:	Na_2O: 0.1	Na_2Oash: 0.47
Pb:		
Sr:		
V:	AB Ratio: 0.41	
Zn:	Silica Ratio: 66.49	
	Total ashed Oxides: 97.51	

Calc oxygen: 15.28

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory Analyses, NMRDI Coal Quality Project

Lab No.: 42
Sample No.: 32N12W8D
Township: T32N Range: R12W Sec.: 8

Formation: Fruitland
Field: Fruitland Member: Zone: Upper

Depth to Seam: 137.30 Seam Thickness: 7.35
Sample Interval: 138.45-144. Sample Thickness: 7.35

Analyses on As-Received Basis

Air Dry Loss: 4.51
Eq. Moisture: 5.50 Moisture: 8.03 Vol. Matter: 31.66
Ash: 25.35 Fixed Carbon: 34.95

Carbon: 54.28 Btu: 9634 DAF Btu: 14462
Hydrogen: 4.15 Dry Btu: 10475 MMFBtu: 13118
Nitrogen: 1.08
Oxygen: 6.20 Sulfide: 0.39
Sulfur: 0.87 Sulfate: 0.002
Organic Sulfur: 0.48

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 28	SiO_2: 14.97	SiO_2ash: 59.04
Co: 31	Al_2O_3: 6.04	Al_2O_3ash: 23.85
Cr: 32	TiO_2: 0.18	TiO_2ash: 0.73
Cu: 56	Fe_2O_3: 0.38	Fe_2O_3ash: 1.48
Li: 52	MgO: 0.54	MgOash: 2.13
Mn: 33	CaO: 1.08	CaOash: 4.25
Nb: 15	K_2O: 0.086	K_2Oash: 0.34
Ni: 20	Na_2O: 0.15	Na_2Oash: 0.58
Pb: 57		
Sr: 540		
V: 160	AB Ratio: 0.1	
Zn: 84	Silica Ratio: 88.25	
	Total ashed Oxides: 92.4	

Calc oxygen: 14.27

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 34
Sample No.: 32N12W8G
Township: T32N Range: R12W Sec.: 8

Formation: Fruitland
Field: Fruitland Member: Zone: Middle

Depth to Seam: 193.00 Seam Thickness: 2.70
Sample Interval: 193.0-195.7 Sample Thickness: 2.70

Analyses on As-Received Basis

Air Dry Loss: 3.51
Eq. Moisture: 7.74

Moisture: 6.41
Ash: 31.60

Vol. Matter: 25.21
Fixed Carbon: 36.77

Carbon: 51.66
Hydrogen: 4.02
Nitrogen: 1.14
Oxygen: 4.50

Btu: 8720
Dry Btu: 9317

DAF Btu: 14067
MMFBtu: 13118

Sulfur: 0.64

Sulfide: 0.19
Sulfate: 0.000
Organic Sulfur: 0.45

Fluoride in ppm:

Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 30	SiO_2:	SiO_2ash: 70.75
Co: 26	Al_2O_3: 5.77	Al_2O_3ash: 18.26
Cr: 27	TiO_2: 0.17	TiO_2ash: 0.55
Cu: 28	Fe_2O_3: 0.46	Fe_2O_3ash: 1.46
Li: 27	MgO: 0.3	MgOash: 0.95
Mn: 20	CaO: 0.54	CaOash: 1.71
Nb: 7	K_2O: 0.079	K_2Oash: 0.25
Ni: 17	Na_2O: 0.46	Na_2Oash: 1.45
Pb: 50		
Sr: 460		
V: 80	AB Ratio: 0.06	
Zn: 85	Silica Ratio: 94.49	
	Total ashed Oxides: 95.38	

Calc oxygen: 10.94

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 41
Sample No.: 32N12W8I
Township: T32N Range: R12W Sec.: 8

Formation: Fruitland
Field: Fruitland Member: Zone: Middle

Depth to Seam: 197.45 Seam Thickness: 7.15
Sample Interval: 197.45-200. Sample Thickness: 3.50

Analyses on As-Received Basis

Air Dry Loss: 4.18
Eq. Moisture: 5.30 Moisture: 5.75 Vol. Matter: 28.32
Ash: 32.84 Fixed Carbon: 33.09

Carbon: 49.64 Btu: 8694 DAF Btu: 14158
Hydrogen: 3.88 Dry Btu: 9224 MMFBtu: 13364
Nitrogen: 1.03
Oxygen: 6.28 Sulfide: 0.23
Sulfur: 0.56 Sulfate: 0.002
Organic Sulfur: 0.33

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 19	SiO_2: 23.02	SiO_2ash: 70.1
Co: 24	Al_2O_3: 5.74	Al_2O_3ash: 17.47
Cr: 40	TiO_2: 0.32	TiO_2ash: 0.98
Cu: 30	Fe_2O_3: 0.7	Fe_2O_3ash: 2.14
Li: 44	MgO: 0.26	MgOash: 0.8
Mn: 30	CaO: 1.31	CaOash: 3.98
Nb: 17	K_2O: 0.068	K_2Oash: 0.21
Ni: 17	Na_2O: 0.14	Na_2Oash: 0.43
Pb: 42		
Sr: 890		
V: 120	AB Ratio: 0.08	
Zn: 53	Silica Ratio: 91.01	
	Total ashed Oxides: 96.11	

Calc oxygen: 12.05

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 35
Sample No.: 32N12W8K
Township: T32N Range: R12W Sec.: 8

Formation: Fruitland
Field: Fruitland Member: Zone: Middle

Depth to Seam: 201.60 Seam Thickness: 7.15
Sample Interval: 201.6-205.2 Sample Thickness: 3.65

Analyses on As-Received Basis

Air Dry Loss: 4.66
Eq. Moisture: 5.84 Moisture: 6.53 Vol. Matter: 28.85
Ash: 31.80 Fixed Carbon: 32.82

Carbon: 49.62 Btu: 8822 DAF Btu: 14305
Hydrogen: 3.87 Dry Btu: 9438 MMFBtu: 13338
Nitrogen: 1.24
Oxygen: 6.40 Sulfide: 0.11
Sulfur: 0.52 Sulfate: 0.001
Organic Sulfur: 0.41

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 18	SiO_2: 22.4	SiO_2ash: 70.45
Co: 26	Al_2O_3: 7.35	Al_2O_3ash: 23.12
Cr: 37	TiO_2: 0.26	TiO_2ash: 0.81
Cu: 43	Fe_2O_3: 0.19	Fe_2O_3ash: 0.6
Li: 45	MgO: 0.14	MgOash: 0.44
Mn: 25	CaO: 1.19	CaOash: 3.75
Nb: 15	K_2O: 0.089	K_2Oash: 0.28
Ni: 13	Na_2O: 0.31	Na_2Oash: 0.98
Pb: 55		
Sr: 320		
V: 130	AB Ratio: 0.06	
Zn: 96	Silica Ratio: 93.63	
	Total ashed Oxides: 100.43	

Calc oxygen: 12.95

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 15
Sample No.: 32N12W8M
Township: T32N Range: R12W Sec.: 8

Formation: Fruitland
Field: Fruitland Member: Zone: Lower

Depth to Seam: 284.00 Seam Thickness: 3.85
Sample Interval: 284.0-287.8 Sample Thickness: 3.85

Analyses on As-Received Basis

Air Dry Loss: 3.84
Eq. Moisture: 4.82 Moisture: 4.84 Vol. Matter: 31.73
Ash: 29.72 Fixed Carbon: 33.71

Carbon: 53.23 Btu: 9316 DAF Btu: 14237
Hydrogen: 4.15 Dry Btu: 9790 MMFBtu: 13556
Nitrogen: 1.16
Oxygen: 5.99 Sulfide: 0.41
Sulfur: 0.89 Sulfate: 0.001
Organic Sulfur: 0.48

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 25	SiO_2: 16.46	SiO_2ash: 55.4
Co: 23	Al_2O_3: 5.34	Al_2O_3ash: 17.98
Cr: 40	TiO_2: 0.2	TiO_2ash: 0.66
Cu: 34	Fe_2O_3: 1.14	Fe_2O_3ash: 3.85
Li: 32	MgO: 0.39	MgOash: 1.31
Mn: 120	CaO: 3.21	CaOash: 10.81
Nb: 35	K_2O: 0.36	K_2Oash: 1.21
Ni: 21	Na_2O: 0.092	Na_2Oash: 0.31
Pb: 60		
Sr: 1270		
V: 100	AB Ratio: 0.23	
Zn: 72	Silica Ratio: 77.62	
	Total ashed Oxides: 91.53	

Calc oxygen: 10.85

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 16
Sample No.: 32N12W8O
Township: T32N Range: R13W Sec.: 8

Formation: Fruitland
Field: Fruitland Member: Zone: Lower

Depth to Seam: 284.00 Seam Thickness: 16.10
Sample Interval: 289.65-294. Sample Thickness: 4.40

Analyses on As-Received Basis

Air Dry Loss: 3.91
Eq. Moisture: 4.85 Moisture: 4.32 Vol. Matter: 30.77
Ash: 27.10 Fixed Carbon: 37.80

Carbon: 56.03 Btu: 9552 DAF Btu: 13929
Hydrogen: 4.52 Dry Btu: 9983 MMFBtu: 13438
Nitrogen: 1.13
Oxygen: 6.50 Sulfide: 0.04
Sulfur: 0.38 Sulfate: 0.000
Organic Sulfur: 0.34

Fluoride in ppm: 59.8 Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 23	SiO_2: 17.74	SiO_2ash: 65.46
Co: 26	Al_2O_3: 6.27	Al_2O_3ash: 23.12
Cr: 50	TiO_2: 0.22	TiO_2ash: 0.8
Cu: 37	Fe_2O_3: 0.28	Fe_2O_3ash: 1.04
Li: 45	MgO: 0.11	MgOash: 0.41
Mn: 20	CaO: 0.41	CaOash: 1.51
Nb: 8	K_2O: 0.073	K_2Oash: 0.27
Ni: 13	Na_2O: 0.084	Na_2Oash: 0.31
Pb: 55		
Sr: 370		
V: 130	AB Ratio: 0.04	
Zn: 64	Silica Ratio: 95.67	
	Total ashed Oxides: 92.92	

Calc oxygen: 10.84

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 14
Sample No.: 32N12W8P
Township: T32N Range: R12W Sec.: 8

Formation: Fruitland
Field: Fruitland Member: Zone: Lower

Depth to Seam: 284.00 Seam Thickness: 16.10
Sample Interval: 294.65-300. Sample Thickness: 6.40

Analyses on As-Received Basis

Air Dry Loss: 3.52
Eq. Moisture: 5.37 Moisture: 4.07 Vol. Matter: 31.49
Ash: 23.77 Fixed Carbon: 40.66

Carbon: 58.50 Btu: 10315 DAF Btu: 14295
Hydrogen: 4.66 Dry Btu: 10753 MMFBtu: 13795
Nitrogen: 1.40
Oxygen: 7.08 Sulfide: 0.11
Sulfur: 0.49 Sulfate: 0.001
Organic Sulfur: 0.38

Fluoride in ppm: 53.1 Chloride in ppm: 61.4

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be:	SiO_2:	SiO_2ash:
Co:	Al_2O_3:	Al_2O_3ash:
Cr:	TiO_2:	TiO_2ash:
Cu:	Fe_2O_3:	Fe_2O_3ash:
Li:	MgO:	MgOash:
Mn:	CaO:	CaOash:
Nb:	K_2O:	K_2Oash:
Ni:	Na_2O:	Na_2Oash:
Pb:		
Sr:		
V:	AB Ratio: 0.08	
Zn:	Silica Ratio: 89.57	
	Total ashed Oxides:	

Calc oxygen: 11.18

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 19
Sample No.: 32N12W8Q
Township: T32N Range: R13W Sec.: 8

Formation: Fruitland
Field: Fruitland Member: Zone: Lower

Depth to Seam: 284.00 Seam Thickness: 16.10
Sample Interval: 300.45-305. Sample Thickness: 5.30

Analyses on As-Received Basis

Air Dry Loss: 1.71
Eq. Moisture: 4.43 Moisture: 4.02 Vol. Matter: 38.20
Ash: 12.65 Fixed Carbon: 45.12

Carbon: 69.38 Btu: 11811 DAF Btu: 14174
Hydrogen: 4.87 Dry Btu: 12306 MMFBtu: 13611
Nitrogen: 1.35
Oxygen: 7.24 Sulfide: 0.03
Sulfur: 0.48 Sulfate: 0.001
Organic Sulfur: 0.45

Fluoride in ppm: 33.6 Chloride in ppm: 53.7

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 14	SiO_2: 7.47	SiO_2ash: 59.04
Co: 26	Al_2O_3: 3.84	Al_2O_3ash: 30.38
Cr: 100	TiO_2: 0.084	TiO_2ash: 0.67
Cu: 64	Fe_2O_3: 0.16	Fe_2O_3ash: 1.25
Li: 60	MgO: 0.06	MgOash: 0.48
Mn: 35	CaO: 0.051	CaOash: 0.41
Nb: 10	K_2O: 0.048	K_2Oash: 0.38
Ni: 28	Na_2O: 0.067	Na_2Oash: 0.53
Pb: 79		
Sr: 190		
V: 160	AB Ratio:	
Zn: 135	Silica Ratio: 96.5	
	Total ashed Oxides: 93.14	

Calc oxygen: 11.27

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 13
Sample No.: 32N13W14B
Township: T32N Range: R13W Sec.: 14

Formation: Fruitland
Field: Fruitland Member: Zone: Upper

Depth to Seam: 135.00 Seam Thickness: 5.30
Sample Interval: 135.0-140.3 Sample Thickness: 5.30

Analyses on As-Received Basis

Air Dry Loss: 3.79
Eq. Moisture: 5.71 Moisture: 5.30 Vol. Matter: 33.61
Ash: 21.30 Fixed Carbon: 39.78

Carbon: 57.98 Btu: 10091 DAF Btu: 13749
Hydrogen: 4.80 Dry Btu: 10656 MMFBtu: 12902
Nitrogen: 1.14
Oxygen: 8.17 Sulfide: 0.63
Sulfur: 1.29 Sulfate: 0.000
Organic Sulfur: 0.66

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 30	SiO_2: 11.63	SiO_2ash: 54.59
Co: 32	Al_2O_3: 7.64	Al_2O_3ash: 35.86
Cr: 53	TiO_2: 0.26	TiO_2ash: 1.2
Cu: 93	Fe_2O_3: 1.12	Fe_2O_3ash: 5.27
Li: 76	MgO: 0.055	MgOash: 0.26
Mn: 28	CaO: 0.17	CaOash: 0.82
Nb: 15	K_2O: 0.074	K_2Oash: 0.35
Ni: 22	Na_2O: 0.038	Na_2Oash: 0.18
Pb: 73		
Sr: 290		
V: 250	AB Ratio: 0.08	
Zn: 110	Silica Ratio: 89.57	
	Total ashed Oxides: 98.53	

Calc oxygen: 13.49

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 9
Sample No.: 32N13W14E
Township: T32N Range: R13W Sec.: 14

Formation: Fruitland
Field: Fruitland Member: Zone: Upper

Depth to Seam: 146.15 Seam Thickness: 5.45
Sample Interval: 146.15-151. Sample Thickness: 5.45

Analyses on As-Received Basis

Air Dry Loss: 4.95
Eq. Moisture: 7.44 Moisture: 9.23 Vol. Matter: 30.41
Ash: 25.98 Fixed Carbon: 34.37

Carbon: 52.32 Btu: 8927 DAF Btu: 13781
Hydrogen: 4.20 Dry Btu: 9836 MMFBtu: 12289
Nitrogen: 1.05
Oxygen: 6.46 Sulfide: 0.26
Sulfur: 0.73 Sulfate: 0.000
Organic Sulfur: 0.47

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 11	SiO_2: 12.96	SiO_2ash: 49.88
Co: 25	Al_2O_3: 8.83	Al_2O_3ash: 33.98
Cr: 35	TiO_2: 0.33	TiO_2ash: 1.28
Cu: 53	Fe_2O_3: 1.39	Fe_2O_3ash: 5.36
Li: 46	MgO: 0.15	MgOash: 0.59
Mn: 87	CaO: 0.74	CaOash: 2.87
Nb: 10	K_2O: 0.098	K_2Oash: 0.38
Ni: 22	Na_2O: 0.37	Na_2Oash: 1.44
Pb: 86		
Sr: 110		
V: 210	AB Ratio: 0.12	
Zn: 86	Silica Ratio: 84.97	
	Total ashed Oxides: 95.78	

Calc oxygen: 15.72

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 55
Sample No.: 32N13W14H
Township: T32N Range: R13W Sec.: 14

Formation: Fruitland
Field: Fruitland Member: Zone: Middle

Depth to Seam: 223.95 Seam Thickness: 6.15
Sample Interval: 223.95-228. Sample Thickness: 4.70

Analyses on As-Received Basis

Air Dry Loss: 4.18
Eq. Moisture: 6.98 Moisture: 5.68 Vol. Matter: 22.65
Ash: 30.05 Fixed Carbon: 41.61

Carbon: 50.36 Btu: 8852 DAF Btu: 12954
Hydrogen: 4.14 Dry Btu: 9386 MMFBtu: 12972
Nitrogen: 0.94
Oxygen: 8.06 Sulfide: 0.39
Sulfur: 0.74 Sulfate:
Organic Sulfur: 0.35

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 19	SiO_2: 18.89	SiO_2ash: 62.85
Co: 28	Al_2O_3: 6.22	Al_2O_3ash: 20.69
Cr: 110	TiO_2: 0.23	TiO_2ash: 0.76
Cu: 42	Fe_2O_3: 1.04	Fe_2O_3ash: 3.45
Li: 40	MgO: 0.35	MgOash: 1.15
Mn: 27	CaO: 0.87	CaOash: 2.89
Nb: 15	K_2O: 0.072	K_2Oash: 0.24
Ni: 45	Na_2O: 0.3	Na_2Oash: 0.99
Pb: 50		
Sr: 590		
V: 120	AB Ratio: 0.1	
Zn: 114	Silica Ratio: 89.35	
	Total ashed Oxides: 93.02	

Calc oxygen: 13.77

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 56
Sample No.: 32N13W14J
Township: T32N Range: R13W Sec.: 14

Formation: Fruitland
Field: Fruitland Member: Zone: Middle

Depth to Seam: 223.95 Seam Thickness: 6.15
Sample Interval: 229.45-230. Sample Thickness: 1.45

Analyses on As-Received Basis

Air Dry Loss: 4.75
Eq. Moisture: 6.97

Moisture: 6.92
Ash: 28.86

Vol. Matter: 27.29
Fixed Carbon: 36.92

Carbon: 50.36
Hydrogen: 4.15
Nitrogen: 0.99
Oxygen: 7.31

Btu: 8821
Dry Btu: 9477

DAF Btu: 12810
MMFBtu: 12575

Sulfur: 1.39

Sulfide: 1.00
Sulfate:
Organic Sulfur: 0.39

Fluoride in ppm:

Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 11	SiO_2: 17.65	SiO_2ash: 61.16
Co: 24	Al_2O_3: 6.86	Al_2O_3ash: 23.78
Cr: 35	TiO_2: 0.27	TiO_2ash: 0.93
Cu: 39	Fe_2O_3: 1.85	Fe_2O_3ash: 6.4
Li: 45	MgO: 0.29	MgOash: 1.01
Mn: 27	CaO: 3.23	CaOash: 11.18
Nb: 2	K_2O: 0.14	K_2Oash: 0.47
Ni: 21	Na_2O: 0.34	Na_2Oash: 1.18
Pb: 57		
Sr: 280		
V: 150	AB Ratio: 0.23	
Zn: 110	Silica Ratio: 76.68	
	Total ashed Oxides: 106.11	

Calc oxygen: 14.25

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 6
Sample No.: 32N13W14L
Township: T32N Range: R13W Sec.: 14

Formation: Fruitland
Field: Fruitland Member: Zone: Lower

Depth to Seam: 332.60 Seam Thickness: 30.30
Sample Interval: 332.60-337. Sample Thickness: 5.10

Analyses on As-Received Basis

Air Dry Loss: 2.98
Eq. Moisture: 5.44 Moisture: 4.31 Vol. Matter: 33.11
Ash: 21.11 Fixed Carbon: 41.47

Carbon: 60.49 Btu: 10446 DAF Btu: 14006
Hydrogen: 4.92 Dry Btu: 10916 MMFBtu: 13440
Nitrogen: 1.05
Oxygen: 7.54 Sulfide: 0.06
Sulfur: 0.56 Sulfate: 0.000
Organic Sulfur: 0.50

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 20	SiO_2: 13.57	SiO_2ash: 64.27
Co: 26	Al_2O_3: 4.92	Al_2O_3ash: 23.31
Cr: 40	TiO_2: 0.18	TiO_2ash: 0.83
Cu: 51	Fe_2O_3: 0.3	Fe_2O_3ash: 1.43
Li: 41	MgO: 0.078	MgOash: 0.37
Mn: 25	CaO: 1.61	CaOash: 7.63
Nb: 7	K_2O: 0.075	K_2Oash: 0.36
Ni: 15	Na_2O: 0.052	Na_2Oash: 0.25
Pb: 57		
Sr: 440		
V: 110	AB Ratio: 0.12	
Zn: 100	Silica Ratio: 87.2	
	Total ashed Oxides: 98.45	

Calc oxygen: 11.87

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 4
Sample No.: 32N13W14M
Township: T32N Range: R13W Sec.: 14

Formation: Fruitland
Field: Fruitland Member: Zone: Lower

Depth to Seam: 332.60 Seam Thickness: 30.30
Sample Interval: 337.7-342.6 Sample Thickness: 4.95

Analyses on As-Received Basis

Air Dry Loss: 3.79
Eq. Moisture: 4.93 Moisture: 5.08 Vol. Matter: 35.00
Ash: 27.44 Fixed Carbon: 32.47

Carbon: 52.51 Btu: 9272 DAF Btu: 13741
Hydrogen: 4.36 Dry Btu: 9768 MMFBtu: 13094
Nitrogen: 1.01
Oxygen: 9.10 Sulfide: 0.04
Sulfur: 0.48 Sulfate: 0.003
Organic Sulfur: 0.44

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 6	SiO_2: 15.56	SiO_2ash: 56.7
Co: 24	Al_2O_3: 4.62	Al_2O_3ash: 16.82
Cr: 320	TiO_2: 0.25	TiO_2ash: 0.92
Cu: 60	Fe_2O_3: 0.38	Fe_2O_3ash: 1.4
Li: 40	MgO: 0.27	MgOash: 0.99
Mn: 160	CaO: 3.61	CaOash: 13.15
Nb: 25	K_2O: 0.2	K_2Oash: 0.74
Ni: 180	Na_2O: 0.33	Na_2Oash: 1.21
Pb: 100		
Sr: 510		
V: 190	AB Ratio: 0.18	
Zn: 55	Silica Ratio: 78.48	
	Total ashed Oxides: 91.93	

Calc oxygen: 14.20

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 3
Sample No.: 32N13W14N
Township: T32N Range: R13W Sec.: 14

Formation: Fruitland
Field: Fruitland Member: Zone: Lower

Depth to Seam: 332.60 Seam Thickness: 30.30
Sample Interval: 342.65-347. Sample Thickness: 5.00

Analyses on As-Received Basis

Air Dry Loss: 3.06
Eq. Moisture: 5.05 Moisture: 4.14 Vol. Matter: 38.97
Ash: 21.88 Fixed Carbon: 35.01

Carbon: 59.58 Btu: 10399 DAF Btu: 14057
Hydrogen: 4.88 Dry Btu: 10848 MMFBtu: 13541
Nitrogen: 1.06
Oxygen: 7.97 Sulfide: 0.07
Sulfur: 0.46 Sulfate: 0.001
Organic Sulfur: 0.39

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 19	SiO_2: 13.07	SiO_2ash: 59.75
Co: 22	Al_2O_3: 5.6	Al_2O_3ash: 25.58
Cr: 50	TiO_2: 0.21	TiO_2ash: 0.97
Cu: 53	Fe_2O_3: 0.32	Fe_2O_3ash: 1.48
Li: 46	MgO: 0.056	MgOash: 0.26
Mn: 260	CaO: 0.9	CaOash: 4.13
Nb: 2	K_2O: 0.089	K_2Oash: 0.41
Ni: 16	Na_2O: 0.056	Na_2Oash: 0.26
Pb: 60		
Sr: 630		
V: 120	AB Ratio: 0.07	
Zn: 85	Silica Ratio: 91.05	
	Total ashed Oxides: 92.84	

Calc oxygen: 12.14

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 5
Sample No.: 32N13W14O
Township: T32N Range: R13W Sec.: 14

Formation: Fruitland
Field: Fruitland Member: Zone: Lower

Depth to Seam: 332.60 Seam Thickness: 30.30
Sample Interval: 347.65-352. Sample Thickness: 5.00

Analyses on As-Received Basis

Air Dry Loss: 4.08
Eq. Moisture: 7.04

Moisture: 7.17
Ash: 10.20

Vol. Matter: 34.11
Fixed Carbon: 48.52

Carbon: 66.37
Hydrogen: 4.85
Nitrogen: 1.42
Oxygen: 9.61

Btu: 11938
Dry Btu: 12860

DAF Btu: 14447
MMFBtu: 13366

Sulfur: 0.35

Sulfide: 0.05
Sulfate: 0.001
Organic Sulfur: 0.30

Fluoride in ppm:

Chloride in ppm:

Trace Element Ashed Coal

Be: 26
Co: 33
Cr: 52
Cu: 67
Li: 63
Mn: 55
Nb: 2
Ni: 21
Pb: 79
Sr: 400
V: 180
Zn: 48

Whole Coal Oxide

SiO_2: 5.62
Al_2O_3: 3.36
TiO_2: 0.12
Fe_2O_3: 0.31
MgO: 0.063
CaO: 0.43
K_2O: 0.03
Na_2O: 0.036

AB Ratio: 0.09
Silica Ratio: 87.45
Total ashed Oxides: 97.74

Ashed Oxide

SiO_2ash: 55.06
Al_2O_3ash: 32.92
TiO_2ash: 1.2
Fe_2O_3ash: 3.06
MgOash: 0.62
CaOash: 4.22
K_2Oash: 0.3
Na_2Oash: 0.36

Calc oxygen: 16.81

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 2
Sample No.: 32N13W14P
Township: T32N Range: R13W Sec.: 14

Formation: Fruitland
Field: Fruitland Member: Zone: Lower

Depth to Seam: 332.60 Seam Thickness: 30.30
Sample Interval: 353.65-357. Sample Thickness: 5.00

Analyses on As-Received Basis

Air Dry Loss: 4.87
Eq. Moisture: 8.18 Moisture: 7.08 Vol. Matter: 35.51
Ash: 12.24 Fixed Carbon: 45.16

Carbon: 68.53 Btu: 11683 DAF Btu: 14480
Hydrogen: 5.40 Dry Btu: 12573 MMFBtu: 13403
Nitrogen: 1.35
Oxygen: 4.97 Sulfide: 0.07
Sulfur: 0.41 Sulfate: 0.001
Organic Sulfur: 0.34

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 7	SiO_2: 7.18	SiO_2ash: 58.7
Co: 27	Al_2O_3: 4.03	Al_2O_3ash: 32.92
Cr: 100	TiO_2: 0.16	TiO_2ash: 1.32
Cu: 62	Fe_2O_3: 0.3	Fe_2O_3ash: 2.44
Li: 66	MgO: 0.05	MgOash: 0.41
Mn: 52	CaO: 0.18	CaOash: 1.48
Nb: 10	K_2O: 0.044	K_2Oash: 0.36
Ni: 20	Na_2O: 0.044	Na_2Oash: 0.36
Pb: 91		
Sr: 350		
V: 160	AB Ratio: 0.05	
Zn: 120	Silica Ratio: 93.13	
	Total ashed Oxides: 97.99	

Calc oxygen: 12.07

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 1
Sample No.: 32N13W14Q
Township: T32N Range: R13W Sec.: 14

Formation: Fruitland
Field: Fruitland Member: Zone: Lower

Depth to Seam: 148.00 Seam Thickness: 30.30
Sample Interval: 357.15-362. Sample Thickness: 5.25

Analyses on As-Received Basis

Air Dry Loss: 2.87
Eq. Moisture: 5.29 Moisture: 5.91 Vol. Matter: 33.53
Ash: 20.36 Fixed Carbon: 40.19

Carbon: 60.38 Btu: 10592 DAF Btu: 14365
Hydrogen: 4.63 Dry Btu: 11257 MMFBtu: 13486
Nitrogen: 1.57
Oxygen: 6.56 Sulfide: 0.08
Sulfur: 0.57 Sulfate: 0.002
Organic Sulfur: 0.49

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 34	SiO_2: 12.13	SiO_2ash: 59.59
Co: 30	Al_2O_3: 5.63	Al_2O_3ash: 27.64
Cr: 190	TiO_2: 0.18	TiO_2ash: 0.86
Cu: 55	Fe_2O_3: 0.31	Fe_2O_3ash: 1.53
Li: 57	MgO: 0.1	MgOash: 0.5
Mn: 30	CaO: 1	CaOash: 4.91
Nb: 5	K_2O: 0.14	K_2Oash: 0.71
Ni: 71	Na_2O: 0.18	Na_2Oash: 0.87
Pb: 70		
Sr: 230		
V: 130	AB Ratio:	
Zn: 85	Silica Ratio: 89.56	
	Total ashed Oxides: 96.61	

Calc oxygen: 12.49

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 57
Sample No.: 32N13W13B
Township: T32N Range: R13W Sec.: 13

Formation: Fruitland
Field: Fruitland Member: Zone: Upper

Depth to Seam: 39.60 Seam Thickness: 5.80
Sample Interval: 39.6-45.4 Sample Thickness: 5.80

Analyses on As-Received Basis

Air Dry Loss: 3.24
Eq. Moisture: 6.12 Moisture: 4.39 Vol. Matter: 28.58
Ash: 19.72 Fixed Carbon: 47.31

Carbon: 59.05 Btu: 10524 DAF Btu: 13867
Hydrogen: 5.02 Dry Btu: 11007 MMFBtu: 13137
Nitrogen: 1.36
Oxygen: 8.93 Sulfide: 1.01
Sulfur: 1.50 Sulfate:
Organic Sulfur: 0.49

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 12	SiO_2: 10.31	SiO_2ash: 52.27
Co: 30	Al_2O_3: 6.39	Al_2O_3ash: 32.39
Cr: 41	TiO_2: 0.25	TiO_2ash: 1.29
Cu: 73	Fe_2O_3: 1.55	Fe_2O_3ash: 7.88
Li: 60	MgO: 0.065	MgOash: 0.33
Mn: 35	CaO: 0.19	CaOash: 0.98
Nb: 2	K_2O: 0.069	K_2Oash: 0.35
Ni: 29	Na_2O: 0.037	Na_2Oash: 0.19
Pb: 110		
Sr: 150		
V: 290	AB Ratio: 0.11	
Zn: 85	Silica Ratio: 85.04	
	Total ashed Oxides: 95.68	

Calc oxygen: 13.35

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 45
Sample No.: 32N13W13E
Township: T32N Range: R13W Sec.: 13

Formation: Fruitland
Field: Fruitland Member: Zone: Upper

Depth to Seam: 58.55 Seam Thickness: 3.45
Sample Interval: 58.55-62.00 Sample Thickness: 3.45

Analyses on As-Received Basis

Air Dry Loss: 6.36
Eq. Moisture: 7.29 Moisture: 10.48 Vol. Matter: 32.86
Ash: 15.18 Fixed Carbon: 41.47

Carbon: 59.06 Btu: 10306 DAF Btu: 13864
Hydrogen: 4.57 Dry Btu: 11513 MMFBtu: 12239
Nitrogen: 1.20
Oxygen: 8.86 Sulfide: 0.06
Sulfur: 0.62 Sulfate: 0.001
Organic Sulfur: 0.56

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 29	SiO_2: 8.47	SiO_2ash: 55.82
Co: 28	Al_2O_3: 4.9	Al_2O_3ash: 32.27
Cr: 47	TiO_2: 0.23	TiO_2ash: 1.51
Cu: 73	Fe_2O_3: 0.4	Fe_2O_3ash: 2.62
Li: 56	MgO: 0.1	MgOash: 0.67
Mn: 15	CaO: 0.23	CaOash: 1.52
Nb: 2	K_2O: 0.06	K_2Oash: 0.4
Ni: 16	Na_2O: 0.054	Na_2Oash: 0.36
Pb: 57		
Sr: 410		
V: 210	AB Ratio: 0.06	
Zn: 70	Silica Ratio: 92.06	
	Total ashed Oxides: 95.17	

Calc oxygen: 19.37

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 46
Sample No.: 32N13W13H
Township: T32N Range: R13W Sec.: 13

Formation: Fruitland
Field: Fruitland Member: Zone: Middle

Depth to Seam: 149.65´ Seam Thickness: 7.00
Sample Interval: 149.65-154. Sample Thickness: 4.40

Analyses on As-Received Basis

Air Dry Loss: 4.33
Eq. Moisture: 5.84

Moisture: 6.06
Ash: 33.54

Vol. Matter: 25.83
Fixed Carbon: 34.56

Carbon: 47.98
Hydrogen: 4.06
Nitrogen: 0.81
Oxygen: 7.04

Btu: 8355
Dry Btu: 8894

DAF Btu: 13833
MMFBtu: 13008

Sulfur: 0.48

Sulfide: 0.07
Sulfate: 0.000
Organic Sulfur: 0.41

Fluoride in ppm:

Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 15	SiO_2: 23.51	SiO_2ash: 70.09
Co: 27	Al_2O_3: 6.2	Al_2O_3ash: 18.48
Cr: 230	TiO_2: 0.19	TiO_2ash: 0.57
Cu: 34	Fe_2O_3: 0.51	Fe_2O_3ash: 1.51
Li: 35	MgO: 0.27	MgOash: 0.8
Mn: 28	CaO: 0.94	CaOash: 2.8
Nb: 25	K_2O: 0.08	K_2Oash: 0.24
Ni: 96	Na_2O: 0.093	Na_2Oash: 0.28
Pb: 50		
Sr: 390		
V: 100	AB Ratio: 0.06	
Zn: 52	Silica Ratio: 93.2	
	Total ashed Oxides: 94.77	

Calc oxygen: 13.13

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 48
Sample No.: 32N13W13J
Township: T32N Range: R13W Sec.: 13

Formation: Fruitland
Field: Fruitland Member: Zone: Middle

Depth to Seam: 149.65 Seam Thickness: 7.00
Sample Interval: 155.0-157.6 Sample Thickness: 2.60

Analyses on As-Received Basis

Air Dry Loss: 3.95
Eq. Moisture: 6.04

Moisture: 7.95
Ash: 27.55

Vol. Matter: 29.02
Fixed Carbon: 35.48

Carbon: 52.91
Hydrogen: 4.19
Nitrogen: 0.97
Oxygen: 5.03

Btu: 9313
Dry Btu: 10117

DAF Btu: 14439
MMFBtu: 13018

Sulfur: 1.38

Sulfide: 0.65
Sulfate: 0.000
Organic Sulfur: 0.73

Fluoride in ppm:

Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 25	SiO2: 16.8	SiO2ash: 60.99
Co: 30	Al2O3: 6.77	Al2O3ash: 24.57
Cr: 40	TiO2: 0.18	TiO2ash: 0.67
Cu: 55	Fe2O3: 1.25	Fe2O3ash: 4.53
Li: 37	MgO: 0.22	MgOash: 0.8
Mn: 12	CaO: 0.18	CaOash: 0.67
Nb: 20	K2O: 0.1	K2Oash: 0.38
Ni: 16	Na2O: 0.11	Na2Oash: 0.41
Pb: 67		
Sr: 370		
V: 120	AB Ratio: 0.08	
Zn: 84	Silica Ratio: 91.04	
	Total ashed Oxides: 93.02	

Calc oxygen: 13.00

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 47
Sample No.: 32N13W13L
Township: T32N Range: R13W Sec.: 13

Formation: Fruitland
Field: Fruitland Member: Zone: Middle

Depth to Seam: 149.65 Seam Thickness: 2.05
Sample Interval: 159.45-161. Sample Thickness: 2.05

Analyses on As-Received Basis

Air Dry Loss: 6.3
Eq. Moisture: 6.14

Moisture: 7.06
Ash: 19.96

Vol. Matter: 32.47
Fixed Carbon: 40.50

Carbon: 56.96
Hydrogen: 4.75
Nitrogen: 1.20
Oxygen: 7.45

Btu: 10152
Dry Btu: 10923

DAF Btu: 13910
MMFBtu: 12549

Sulfur: 2.58

Sulfide: 1.63
Sulfate: 0.000
Organic Sulfur: 0.95

Fluoride in ppm:

Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 23	SiO_2: 11.39	SiO_2ash: 57.08
Co: 38	Al_2O_3: 4.86	Al_2O_3ash: 24.37
Cr: 170	TiO_2: 0.22	TiO_2ash: 1.08
Cu: 74	Fe_2O_3: 2.62	Fe_2O_3ash: 13.15
Li: 43	MgO: 0.077	MgOash: 0.39
Mn: 20	CaO: 0.19	CaOash: 0.97
Nb: 47	K_2O: 0.095	K_2Oash: 0.48
Ni: 60	Na_2O: 0.12	Na_2Oash: 0.62
Pb: 62		
Sr: 470		
V: 200	AB Ratio: 0.4	
Zn: 131	Silica Ratio: 79.73	
	Total ashed Oxides: 98.14	

Calc oxygen: 14.55

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 92
Sample No.: 32N13W13NG
Township: T32N Range: R13W Sec.: 13

Formation: Fruitland
Field: Fruitland Member: Zone: Lower

Depth to Seam: 39.00 Seam Thickness: 6.00
Sample Interval: 39.0-45.0 Sample Thickness: 6.00

Analyses on As-Received Basis

Air Dry Loss: 3.17
Eq. Moisture: 6.61

Moisture: 5.56
Ash: 21.10

Vol. Matter: 34.62
Fixed Carbon: 38.71

Carbon: 58.79
Hydrogen: 4.83
Nitrogen: 1.13
Oxygen: 7.28

Btu: 10354
Dry Btu: 10964

DAF Btu: 14118
MMFBtu: 13205

Sulfur: 1.28

Sulfide: 0.55
Sulfate: 0.000
Organic Sulfur: 0.73

Fluoride in ppm:

Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 9	SiO_2: 13.01	SiO_2ash: 61.68
Co: 29	Al_2O_3: 5.99	Al_2O_3ash: 28.37
Cr: 140	TiO_2: 0.17	TiO_2ash: 0.8
Cu: 70	Fe_2O_3: 0.87	Fe_2O_3ash: 4.13
Li: 61	MgO: 0.1	MgOash: 0.49
Mn: 37	CaO: 0.63	CaOash: 2.99
Nb: 10	K_2O: 0.13	K_2Oash: 0.63
Ni: 30	Na_2O: 0.086	Na_2Oash: 0.41
Pb: 70		
Sr: 140		
V: 100	AB Ratio: 0.09	
Zn: 25	Silica Ratio: 89.01	
	Total ashed Oxides: 99.5	

Calc oxygen: 12.87

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 90
Sample No.: 32N13W13NG
Township: T32N Range: R13W Sec.: 13

Formation: Fruitland
Field: Fruitland Member: Zone: Middle

Depth to Seam: 55.50 Seam Thickness: 6.00
Sample Interval: 55.5-61.5 Sample Thickness: 6.00

Analyses on As-Received Basis

Air Dry Loss: 3.98
Eq. Moisture: 7.86 Moisture: 6.39 Vol. Matter: 30.86
Ash: 20.46 Fixed Carbon: 42.29

Carbon: 57.87 Btu: 10092 DAF Btu: 13796
Hydrogen: 4.66 Dry Btu: 10780 MMFBtu: 12865
Nitrogen: 1.26
Oxygen: 8.76 Sulfide: 0.09
Sulfur: 0.57 Sulfate: 0.006
Organic Sulfur: 0.47

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 9	SiO_2: 13.19	SiO_2ash: 66.49
Co: 30	Al_2O_3: 5.31	Al_2O_3ash: 25.96
Cr: 110	TiO_2: 0.11	TiO_2ash: 0.54
Cu: 53	Fe_2O_3: 0.39	Fe_2O_3ash: 1.92
Li: 48	MgO: 0.11	MgOash: 0.55
Mn: 32	CaO: 0.3	CaOash: 1.45
Nb: 2	K_2O: 0.13	K_2Oash: 0.62
Ni: 21	Na_2O: 0.25	Na_2Oash: 1.21
Pb: 77		
Sr: 450		
V: 150	AB Ratio: 0.06	
Zn: 420	Silica Ratio: 94.26	
	Total ashed Oxides: 96.74	

Calc oxygen: 15.18

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 25
Sample No.: 32N13W13O
Township: T32N Range: R13W Sec.: 13

Formation: Fruitland
Field: Fruitland Member: Zone: Lower

Depth to Seam: 259.45 Seam Thickness: 32.40
Sample Interval: 259.4-264.4 Sample Thickness: 5.00

Analyses on As-Received Basis

Air Dry Loss: 2.79
Eq. Moisture: 5.60

Moisture: 4.43
Ash: 28.49

Vol. Matter: 30.23
Fixed Carbon: 36.84

Carbon: 54.04
Hydrogen: 4.47
Nitrogen: 0.99
Oxygen: 6.62

Btu: 9329
Dry Btu: 9761

DAF Btu: 13907
MMFBtu: 13306

Sulfur: 0.95

Sulfide: 0.34
Sulfate: 0.002
Organic Sulfur: 0.61

Fluoride in ppm:

Chloride in ppm:

Trace Element Ashed Coal

Be: 20
Co: 20
Cr: 23
Cu: 35
Li: 26
Mn: 38
Nb: 25
Ni: 18
Pb: 50
Sr: 320
V: 110
Zn: 53

Whole Coal Oxide

SiO_2: 19.31
Al_2O_3: 5.92
TiO_2: 0.22
Fe_2O_3: 0.76
MgO: 0.22
CaO: 0.61
K_2O: 0.088
Na_2O: 0.11

AB Ratio: 0.07
Silica Ratio: 92.39
Total ashed Oxides: 95.62

Ashed Oxide

SiO_2ash: 67.77
Al_2O_3ash: 20.79
TiO_2ash: 0.77
Fe_2O_3ash: 2.67
MgOash: 0.78
CaOash: 2.13
K_2Oash: 0.31
Na_2Oash: 0.4

Calc oxygen: 11.06

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 32
Sample No.: 32N13W13P
Township: T32N Range: R13W Sec.: 13

Formation: Fruitland
Field: Fruitland Member: Zone: Lower

Depth to Seam: 259.45 Seam Thickness: 32.40
Sample Interval: 264.4-266.6 Sample Thickness: 2.20

Analyses on As-Received Basis

Air Dry Loss: 4.23
Eq. Moisture: 5.75

Moisture: 5.43
Ash: 26.53

Vol. Matter: 28.03
Fixed Carbon: 40.00

Carbon: 55.49
Hydrogen: 4.41
Nitrogen: 1.07
Oxygen: 6.42

Btu: 9487
Dry Btu: 10032

DAF Btu: 13944
MMFBtu: 13189

Sulfur: 0.63

Sulfide: 0.07
Sulfate: 0.000
Organic Sulfur: 0.56

Fluoride in ppm:

Chloride in ppm:

Trace Element Ashed Coal

Be: 6
Co: 13
Cr: 50
Cu: 48
Li: 40
Mn: 50
Nb: 17
Ni: 26
Pb: 66
Sr: 360
V: 100
Zn: 87

Whole Coal Oxide

SiO_2: 18.39
Al_2O_3: 5.15
TiO_2: 0.2
Fe_2O_3: 0.24
MgO: 0.18
CaO: 0.67
K_2O: 0.11
Na_2O: 0.074

AB Ratio: 0.05
Silica Ratio: 94.88
Total ashed Oxides: 94.36

Ashed Oxide

SiO_2ash: 69.31
Al_2O_3ash: 19.43
TiO_2ash: 0.77
Fe_2O_3ash: 0.9
MgOash: 0.7
CaOash: 2.54
K_2Oash: 0.43
Na_2Oash: 0.28

Calc oxygen: 11.87

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 31
Sample No.: 32N13W13R
Township: T32N Range: R13W Sec.: 13

Formation: Fruitland
Field: Fruitland Member: Zone: Lower

Depth to Seam: 259.40 Seam Thickness: 35.25
Sample Interval: 267.5-273.5 Sample Thickness: 6.00

Analyses on As-Received Basis

Air Dry Loss: 2.97
Eq. Moisture: 4.65 Moisture: 3.98 Vol. Matter: 34.98
Ash: 19.86 Fixed Carbon: 41.16

Carbon: 50.11 Btu: 10781 DAF Btu: 14157
Hydrogen: 4.12 Dry Btu: 11228 MMFBtu: 13648
Nitrogen: 0.96
Oxygen: 20.45 Sulfide: 0.06
Sulfur: 0.49 Sulfate: 0.000
Organic Sulfur: 0.43

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 9	SiO_2: 11.18	SiO_2ash: 56.28
Co: 25	Al_2O_3: 5.47	Al_2O_3ash: 27.53
Cr: 70	TiO_2: 0.26	TiO_2ash: 1.29
Cu: 54	Fe_2O_3: 0.31	Fe_2O_3ash: 1.56
Li: 32	MgO: 0.12	MgOash: 0.63
Mn: 80	CaO: 0.98	CaOash: 4.96
Nb: 27	K_2O: 0.081	K_2Oash: 0.41
Ni: 18	Na_2O: 0.049	Na_2Oash: 0.25
Pb: 55		
Sr: 820		
V: 140	AB Ratio: 0.09	
Zn: 40	Silica Ratio: 88.72	
	Total ashed Oxides: 92.91	

Calc oxygen: 24.46

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 51
Sample No.: 32N13W13S
Township: T32N Range: R13W Sec.: 13

Formation: Fruitland
Field: Fruitland Member: Zone: Lower

Depth to Seam: 259.40 Seam Thickness: 32.40
Sample Interval: 273.5-278.5 Sample Thickness: 5.00

Analyses on As-Received Basis

Air Dry Loss: 2.62
Eq. Moisture: 4.43 Moisture: 3.94 Vol. Matter: 33.08
Ash: 20.49 Fixed Carbon: 42.49

Carbon: 60.72 Btu: 8976 DAF Btu: 11878
Hydrogen: 4.91 Dry Btu: 9344 MMFBtu: 11440
Nitrogen: 1.02
Oxygen: 8.30 Sulfide: 0.09
Sulfur: 0.60 Sulfate: 0.000
Organic Sulfur: 0.51

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 6	SiO_2: 13.38	SiO_2ash: 65.29
Co: 23	Al_2O_3: 5.46	Al_2O_3ash: 26.64
Cr: 80	TiO_2: 0.18	TiO_2ash: 0.88
Cu: 64	Fe_2O_3: 0.3	Fe_2O_3ash: 1.46
Li: 47	MgO: 0.11	MgOash: 0.54
Mn: 100	CaO: 1.12	CaOash: 5.45
Nb: 2	K_2O: 0.053	K_2Oash: 0.26
Ni: 19	Na_2O: 0.067	Na_2Oash: 0.33
Pb: 67		
Sr: 910		
V: 160	AB Ratio: 0.1	
Zn: 57	Silica Ratio: 89.75	
	Total ashed Oxides: 100.85	

Calc oxygen: 12.26

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 50
Sample No.: 32N13W13T
Township: T32N Range: R13W Sec.: 13

Formation: Fruitland
Field: Fruitland Member: Zone: Lower

Depth to Seam: 259.40 Seam Thickness: 32.40
Sample Interval: 278.5-283.5 Sample Thickness: 5.00

Analyses on As-Received Basis

Air Dry Loss: 3.65
Eq. Moisture: 5.81 Moisture: 4.66 Vol. Matter: 37.12
Ash: 13.03 Fixed Carbon: 45.18

Carbon: 66.48 Btu: 11787 DAF Btu: 14320
Hydrogen: 4.98 Dry Btu: 12363 MMFBtu: 13640
Nitrogen: 1.23
Oxygen: 9.08 Sulfide: 0.19
Sulfur: 0.53 Sulfate: 0.000
Organic Sulfur: 0.34

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 5	SiO_2:	SiO_2ash:
Co: 25	Al_2O_3:	Al_2O_3ash:
Cr: 140	TiO_2:	TiO_2ash:
Cu: 48	Fe_2O_3:	Fe_2O_3ash:
Li: 60	MgO:	MgOash:
Mn: 110	CaO:	CaOash:
Nb: 37	K_2O:	K_2Oash:
Ni: 31	Na_2O:	Na_2Oash:
Pb: 92		
Sr: 410		
V: 130	AB Ratio: 0.08	
Zn: 60	Silica Ratio: 91.04	
	Total ashed Oxides:	

Calc oxygen: 13.75

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 26
Sample No.: 32N13W13U
Township: T32N Range: R13W Sec.: 13

Formation: Fruitland
Field: Fruitland Member: Zone: Lower

Depth to Seam: 259.40 Seam Thickness: 32.40
Sample Interval: 283.5-286.8 Sample Thickness: 3.35

Analyses on As-Received Basis

Air Dry Loss: 3.73
Eq. Moisture: 5.53

Moisture: 5.08
Ash: 6.95

Vol. Matter: 36.80
Fixed Carbon: 51.17

Carbon: 72.72
Hydrogen: 5.74
Nitrogen: 1.45
Oxygen: 7.56

Btu: 12638
Dry Btu: 13314

DAF Btu: 14366
MMFBtu: 13598

Sulfur: 0.48

Sulfide: 0.06
Sulfate: 0.000
Organic Sulfur: 0.42

Fluoride in ppm:

Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 12	SiO_2: 4.76	SiO_2ash: 68.45
Co: 40	Al_2O_3: 1.62	Al_2O_3ash: 23.26
Cr: 90	TiO_2: 0.11	TiO_2ash: 1.62
Cu: 91	Fe_2O_3: 0.29	Fe_2O_3ash: 4.16
Li: 65	MgO: 0.047	MgOash: 0.69
Mn: 43	CaO: 0.051	CaOash: 0.74
Nb: 2	K_2O: 0.018	K_2Oash: 0.27
Ni: 34	Na_2O: 0.031	Na_2Oash: 0.45
Pb: 790		
Sr: 500		
V: 220	AB Ratio: 0.06	
Zn: 690	Silica Ratio: 92.45	
	Total ashed Oxides: 99.64	

Calc oxygen: 12.66

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 27
Sample No.: 32N13W13W
Township: T32N Range: R13W Sec.: 13

Formation: Fruitland
Field: Fruitland Member: Zone: Lower

Depth to Seam: 259.40 Seam Thickness: 5.30
Sample Interval: 287.7-293.5 Sample Thickness: 5.85

Analyses on As-Received Basis

Air Dry Loss: 3.09
Eq. Moisture: 4.97

Moisture: 5.81
Ash: 15.73

Vol. Matter: 35.01
Fixed Carbon: 43.44

Carbon: 66.16
Hydrogen: 5.33
Nitrogen: 1.27
Oxygen: 5.11

Btu: 11369
Dry Btu: 12070

DAF Btu: 14490
MMFBtu: 13611

Sulfur: 0.56

Sulfide: 0.08
Sulfate: 0.003
Organic Sulfur: 0.48

Fluoride in ppm:

Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 29	SiO_2: 9.53	SiO_2ash: 60.6
Co: 25	Al_2O_3: 5.18	Al_2O_3ash: 32.91
Cr: 46	TiO_2: 0.21	TiO_2ash: 1.35
Cu: 49	Fe_2O_3: 0.33	Fe_2O_3ash: 2.09
Li: 36	MgO: 0.11	MgOash: 0.67
Mn: 33	CaO: 0.078	CaOash: 0.5
Nb: 27	K_2O: 0.12	K_2Oash: 0.74
Ni: 26	Na_2O: 0.059	Na_2Oash: 0.38
Pb: 88		
Sr: 140		
V: 130	AB Ratio: 0.04	
Zn: 110	Silica Ratio: 94.89	
	Total ashed Oxides: 99.24	

Calc oxygen: 10.95

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 54
Sample No.: 32N13W28B
Township: T32N Range: R13W Sec.: 28

Formation: Fruitland
Field: Fruitland Member: Zone: Upper

Depth to Seam: 138.70 Seam Thickness: 10.30
Sample Interval: 138.7-141.5 Sample Thickness: 2.85

Analyses on As-Received Basis

Air Dry Loss: 7.17
Eq. Moisture: 7.78 Moisture: 9.82 Vol. Matter: 31.08
Ash: 24.26 Fixed Carbon: 34.82

Carbon: 50.00 Btu: 8850 DAF Btu: 12167
Hydrogen: 4.30 Dry Btu: 9815 MMFBtu: 11581
Nitrogen: 1.23
Oxygen: 7.69 Sulfide: 1.54
Sulfur: 2.66 Sulfate:
Organic Sulfur: 1.12

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 15	SiO_2: 13.04	SiO_2ash: 53.75
Co: 31	Al_2O_3: 5.98	Al_2O_3ash: 24.66
Cr: 46	TiO_2: 0.28	TiO_2ash: 1.15
Cu: 79	Fe_2O_3: 2.34	Fe_2O_3ash: 9.66
Li: 49	MgO: 0.055	MgOash: 0.23
Mn: 40	CaO: 0.22	CaOash: 0.91
Nb: 2	K_2O: 0.11	K_2Oash: 0.47
Ni: 41	Na_2O: 0.036	Na_2Oash: 0.15
Pb: 78		
Sr: 100		
V: 340	AB Ratio: 0.14	
Zn: 104	Silica Ratio: 83.26	
	Total ashed Oxides: 90.98	

Calc oxygen: 17.55

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 53
Sample No.: 32N13W28C
Township: T32N Range: R13W Sec.: 28

Formation: Fruitland
Field: Fruitland Member: Zone: Upper

Depth to Seam: 138.70 Seam Thickness: 10.30
Sample Interval: 141.55-143. Sample Thickness: 7.45

Analyses on As-Received Basis

Air Dry Loss: 4.51
Eq. Moisture: 8.78 Moisture: 7.73 Vol. Matter: 23.27
Ash: 44.83 Fixed Carbon: 24.17

Carbon: 34.29 Btu: 6008 DAF Btu: 11613
Hydrogen: 3.03 Dry Btu: 6512 MMFBtu: 11103
Nitrogen: 0.65
Oxygen: 6.92 Sulfide: 1.73
Sulfur: 2.53 Sulfate: 0.080
Organic Sulfur: 0.72

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 6	SiO_2: 23.55	SiO_2ash: 52.53
Co: 28	Al_2O_3: 10.94	Al_2O_3ash: 24.41
Cr: 36	TiO_2: 0.65	TiO_2ash: 1.44
Cu: 65	Fe_2O_3: 3.59	Fe_2O_3ash: 8
Li: 28	MgO: 0.42	MgOash: 0.94
Mn: 42	CaO: 2.64	CaOash: 5.88
Nb: 25	K_2O: 0.8	K_2Oash: 1.78
Ni: 35	Na_2O: 2.35	Na_2Oash: 5.24
Pb: 55		
Sr: 100		
V: 200	AB Ratio: 0.11	
Zn: 100	Silica Ratio: 77.99	
	Total ashed Oxides: 100.22	

Calc oxygen: 14.67

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 18
Sample No.: 32N13W28D
Township: T32N Range: R13W Sec.: 28

Formation: Fruitland
Field: Fruitland Member: NA Zone: Upper

Depth to Seam: 138.70 Seam Thickness: 6.00
Sample Interval: 143.0-149.0 Sample Thickness: 7.10

Analyses on As-Received Basis

Air Dry Loss: 2.62

Eq. Moisture: 0.00	Moisture: 6.97	Vol. Matter: 29.43
	Ash: 28.10	Fixed Carbon: 35.50
Carbon: 50.28	Btu: 8744	DAF Btu: 13466
Hydrogen: 4.23	Dry Btu: 9399	MMFBtu: 12242
Nitrogen: 0.89		
Oxygen: 7.65		Sulfide: 0.99
	Sulfur: 1.85	Sulfate: 0.250
		Organic Sulfur: 0.61

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 25	SiO_2:	SiO_2ash:
Co: 28	Al_2O_3:	Al_2O_3ash:
Cr: 150	TiO_2:	TiO_2ash:
Cu: 64	Fe_2O_3:	Fe_2O_3ash:
Li: 60	MgO:	MgOash:
Mn: 38	CaO:	CaOash:
Nb: 35	K_2O:	K_2Oash:
Ni: 88	Na_2O:	Na_2Oash:
Pb: 68		
Sr: 150		
V: 190	AB Ratio: 0.14	
Zn: 110	Silica Ratio: 82.38	
	Total ashed Oxides:	

Calc oxygen: 14.65

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 17
Sample No.: 32N13W28E
Township: T32N Range: R13W Sec.: 28

Formation: Fruitland
Field: Fruitland Member: Zone: Upper

Depth to Seam: 152.55 Seam Thickness: 3.25
Sample Interval: 152.55-155. Sample Thickness: 3.25

Analyses on As-Received Basis

Air Dry Loss: 6.79
Eq. Moisture: 8.30 Moisture: 9.97 Vol. Matter: 33.87
Ash: 16.67 Fixed Carbon: 39.38

Carbon: 58.74 Btu: 10178 DAF Btu: 13894
Hydrogen: 4.61 Dry Btu: 11305 MMFBtu: 12230
Nitrogen: 1.19
Oxygen: 7.31 Sulfide: 0.85
Sulfur: 1.39 Sulfate: 0.000
Organic Sulfur: 0.54

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be:	SiO_2: 9.73	SiO_2ash: 58.04
Co:	Al_2O_3: 4.8	Al_2O_3ash: 28.63
Cr:	TiO_2: 0.22	TiO_2ash: 1.29
Cu:	Fe_2O_3: 1.22	Fe_2O_3ash: 7.29
Li:	MgO: 0.07	MgOash: 0.42
Mn:	CaO: 0.79	CaOash: 4.7
Nb: 42	K_2O: 0.033	K_2Oash: 0.2
Ni:	Na_2O: 0.011	Na_2Oash: 0.07
Pb:		
Sr:		
V:	AB Ratio: 0.14	
Zn:	Silica Ratio: 82.38	
	Total ashed Oxides: 100.64	

Calc oxygen: 17.40

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 52
Sample No.: 32N13W28G
Township: T32N Range: R13W Sec.: 28

Formation: Fruitland
Field: Fruitland Member: Zone: Middle

Depth to Seam: 200.55 Seam Thickness: 5.75
Sample Interval: 200.35-206. Sample Thickness: 5.75

Analyses on As-Received Basis

Air Dry Loss: 1.55
Eq. Moisture: 9.56 Moisture: 6.54 Vol. Matter: 27.64
Ash: 28.69 Fixed Carbon: 37.13

Carbon: 50.85 Btu: 8720 DAF Btu: 13165
Hydrogen: 4.18 Dry Btu: 9331 MMFBtu: 12485
Nitrogen: 0.85
Oxygen: 8.00 Sulfide: 0.33
Sulfur: 0.87 Sulfate: 0.000
Organic Sulfur: 0.54

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 29	SiO_2: 17.27	SiO_2ash: 60.19
Co: 27	Al_2O_3: 6.68	Al_2O_3ash: 23.28
Cr: 32	TiO_2: 0.19	TiO_2ash: 0.67
Cu: 39	Fe_2O_3: 1.02	Fe_2O_3ash: 3.54
Li: 34	MgO: 0.24	MgOash: 0.82
Mn: 35	CaO: 1.34	CaOash: 4.67
Nb: 18	K_2O: 0.14	K_2Oash: 0.48
Ni: 17	Na_2O: 0.083	Na_2Oash: 0.29
Pb: 55		
Sr: 660		
V: 110	AB Ratio: 0.11	
Zn: 102	Silica Ratio: 86.95	
	Total ashed Oxides: 93.94	

Calc oxygen: 14.56

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 23
Sample No.: 32N13W28J
Township: T32N Range: R13W Sec.: 28

Formation: Fruitland
Field: Fruitland Member: Zone: Lower

Depth to Seam: 371.50 Seam Thickness: 41.35
Sample Interval: 371.5-376.1 Sample Thickness: 4.60

Analyses on As-Received Basis

Air Dry Loss: 2
Eq. Moisture: 8.25 Moisture: 7.02 Vol. Matter: 31.42
Ash: 32.20 Fixed Carbon: 29.34

Carbon: 47.51 Btu: 8343 DAF Btu: 13729
Hydrogen: 4.00 Dry Btu: 8973 MMFBtu: 12524
Nitrogen: 1.26
Oxygen: 6.50 Sulfide: 0.60
Sulfur: 1.47 Sulfate: 0.010
Organic Sulfur: 0.86

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 23	SiO_2: 23.08	SiO_2ash: 71.66
Co: 27	Al_2O_3: 6.5	Al_2O_3ash: 20.19
Cr: 53	TiO_2: 0.28	TiO_2ash: 0.87
Cu: 50	Fe_2O_3: 0.86	Fe_2O_3ash: 2.67
Li: 44	MgO: 0.29	MgOash: 0.9
Mn: 13	CaO: 0.45	CaOash: 1.39
Nb: 25	K_2O: 0.15	K_2Oash: 0.46
Ni: 15	Na_2O: 0.26	Na_2Oash: 0.8
Pb: 45		
Sr: 300		
V: 130	AB Ratio: 0.06	
Zn: 65	Silica Ratio: 93.52	
	Total ashed Oxides: 98.94	

Calc oxygen: 13.56

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 81
Sample No.: 32N13W28L
Township: T32N Range: R13W Sec.: 28

Formation: Fruitland
Field: Fruitland Member: Zone: Lower

Depth to Seam: 371.50 Seam Thickness: 45.70
Sample Interval: 377.35-382. Sample Thickness: 5.10

Analyses on As-Received Basis

Air Dry Loss: 3.92
Eq. Moisture: 6.95

Moisture: 6.26
Ash: 20.33

Vol. Matter: 31.91
Fixed Carbon: 41.50

Carbon: 58.02
Hydrogen: 4.43
Nitrogen: 1.49
Oxygen: 8.56

Btu: 10210
Dry Btu: 10892

DAF Btu: 13908
MMFBtu: 12945

Sulfur: 0.88

Sulfide: 0.20
Sulfate: 0.000
Organic Sulfur: 0.68

Fluoride in ppm:

Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 4	SiO_2: 13.74	SiO_2ash: 67.59
Co: 25	Al_2O_3: 3.58	Al_2O_3ash: 17.6
Cr: 130	TiO_2: 0.087	TiO_2ash: 0.43
Cu: 49	Fe_2O_3: 0.58	Fe_2O_3ash: 2.83
Li: 39	MgO: 0.12	MgOash: 0.61
Mn: 30	CaO: 0.93	CaOash: 4.58
Nb: 7	K_2O: 0.065	K_2Oash: 0.32
Ni: 21	Na_2O: 0.15	Na_2Oash: 0.72
Pb: 60		
Sr: 570		
V: 130	AB Ratio: 0.1	
Zn: 92	Silica Ratio: 89.39	
	Total ashed Oxides: 94.68	

Calc oxygen: 14.85

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 80
Sample No.: 32N13W28M
Township: T32N Range: R13W Sec.: 28

Formation: Fruitland
Field: Fruitland Member: Zone: Lower

Depth to Seam: 371.55 Seam Thickness: 41.35
Sample Interval: 382.45-387. Sample Thickness: 5.00

Analyses on As-Received Basis

Air Dry Loss: 4.62
Eq. Moisture: 6.43 Moisture: 6.75 Vol. Matter: 30.78
Ash: 28.42 Fixed Carbon: 34.04

Carbon: 50.62 Btu: 8719 DAF Btu: 13450
Hydrogen: 4.09 Dry Btu: 9351 MMFBtu: 12472
Nitrogen: 1.01
Oxygen: 8.45 Sulfide: 0.20
Sulfur: 0.63 Sulfate: 0.000
Organic Sulfur: 0.43

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 16	SiO_2: 17.77	SiO_2ash: 62.52
Co: 22	Al_2O_3: 4.35	Al_2O_3ash: 15.32
Cr: 19	TiO_2: 0.13	TiO_2ash: 0.45
Cu: 44	Fe_2O_3: 2.01	Fe_2O_3ash: 7.06
Li: 27	MgO: 0.2	MgOash: 0.7
Mn: 250	CaO: 2.86	CaOash: 10.06
Nb: 5	K_2O: 0.22	K_2Oash: 0.77
Ni: 20	Na_2O: 0.16	Na_2Oash: 0.55
Pb: 60		
Sr: 600		
V: 180	AB Ratio: 0.24	
Zn: 36	Silica Ratio: 77.81	
	Total ashed Oxides: 97.43	

Calc oxygen: 15.23

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 64
Sample No.: 32N13W28N
Township: T32N Range: R13W Sec.: 28

Formation: Fruitland
Field: Fruitland Member: Zone: Lower

Depth to Seam: 371.50 Seam Thickness: 41.35
Sample Interval: 387.45-392. Sample Thickness: 5.25

Analyses on As-Received Basis

Air Dry Loss: 4.52
Eq. Moisture: 7.35 Moisture: 6.27 Vol. Matter: 31.31
Ash: 18.83 Fixed Carbon: 43.58

Carbon: 59.93 Btu: 10399 DAF Btu: 13883
Hydrogen: 4.85 Dry Btu: 11094 MMFBtu: 12953
Nitrogen: 1.00
Oxygen: 8.44 Sulfide: 0.15
Sulfur: 0.65 Sulfate: 0.000
Organic Sulfur: 0.50

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 7	SiO_2: 11.48	SiO_2ash: 60.94
Co: 25	Al_2O_3: 4.78	Al_2O_3ash: 25.39
Cr: 90	TiO_2: 0.3	TiO_2ash: 1.59
Cu: 74	Fe_2O_3: 0.36	Fe_2O_3ash: 1.89
Li: 42	MgO: 0.077	MgOash: 0.41
Mn: 47	CaO: 0.84	CaOash: 4.45
Nb: 26	K_2O: 0.047	K_2Oash: 0.25
Ni: 17	Na_2O: 0.03	Na_2Oash: 0.16
Pb: 79		
Sr: 350		
V: 170	AB Ratio: 0.08	
Zn: 32	Silica Ratio: 90.02	
	Total ashed Oxides: 95.08	

Calc oxygen: 14.74

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 65
Sample No.: 32N13W28O
Township: T32N Range: R13W Sec.: 28

Formation: Fruitland
Field: Fruitland Member: Zone: Lower

Depth to Seam: 371.50 Seam Thickness: 41.35
Sample Interval: 392.7-397.7 Sample Thickness: 5.00

Analyses on As-Received Basis

Air Dry Loss: 4.5
Eq. Moisture: 6.03 Moisture: 6.30 Vol. Matter: 32.54
Ash: 24.86 Fixed Carbon: 36.29

Carbon: 53.96 Btu: 9284 DAF Btu: 13486
Hydrogen: 4.46 Dry Btu: 9908 MMFBtu: 12613
Nitrogen: 1.03
Oxygen: 8.90 Sulfide: 0.06
Sulfur: 0.47 Sulfate: 0.000
Organic Sulfur: 0.41

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 6	SiO_2: 12.34	SiO_2ash: 49.64
Co: 23	Al_2O_3: 5.95	Al_2O_3ash: 23.94
Cr: 130	TiO_2: 0.25	TiO_2ash: 1.02
Cu: 36	Fe_2O_3: 0.63	Fe_2O_3ash: 2.54
Li: 25	MgO: 0.22	MgOash: 0.89
Mn: 220	CaO: 3.38	CaOash: 13.62
Nb: 19	K_2O: 0.062	K_2Oash: 0.25
Ni: 17	Na_2O: 0.047	Na_2Oash: 0.19
Pb: 90		
Sr: 880		
V: 90	AB Ratio: 0.23	
Zn: 30	Silica Ratio: 74.43	
	Total ashed Oxides: 92.09	

Calc oxygen: 15.22

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 82
Sample No.: 32N13W28P
Township: T32N Range: R13W Sec.: 28

Formation: Fruitland
Field: Fruitland Member: Zone: Lower

Depth to Seam: 371.50 Seam Thickness: 41.35
Sample Interval: 397.2-402.7 Sample Thickness: 5.00

Analyses on As-Received Basis

Air Dry Loss: 4.38
Eq. Moisture: 7.64

Moisture: 5.71
Ash: 9.48

Vol. Matter: 35.34
Fixed Carbon: 49.47

Carbon: 68.10
Hydrogen: 5.39
Nitrogen: 1.49
Oxygen: 9.29

Btu: 11978
Dry Btu: 12703

DAF Btu: 14123
MMFBtu: 13272

Sulfur: 0.52

Sulfide: 0.14
Sulfate: 0.000
Organic Sulfur: 0.38

Fluoride in ppm:

Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be:	SiO_2: 5.6	SiO_2ash: 59.1
Co:	Al_2O_3: 2.19	Al_2O_3ash: 23.14
Cr:	TiO_2: 0.11	TiO_2ash: 1.13
Cu:	Fe_2O_3: 0.4	Fe_2O_3ash: 4.17
Li:	MgO: 0.049	MgOash: 0.52
Mn:	CaO: 0.18	CaOash: 1.92
Nb:	K_2O: 0.012	K_2Oash: 0.13
Ni:	Na_2O: 0.035	Na_2Oash: 0.37
Pb:		
Sr:		
V:	AB Ratio: 0.08	
Zn:	Silica Ratio: 89.94	
	Total ashed Oxides: 90.48	

Calc oxygen: 15.02

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 68
Sample No.: 32N13W28Q
Township: T32N Range: R13W Sec.: 28

Formation: Fruitland
Field: Fruitland Member: Zone: Lower

Depth to Seam: 371.50 Seam Thickness: 41.35
Sample Interval: 402.7-405.7 Sample Thickness: 3.00

Analyses on As-Received Basis

Air Dry Loss: 6.14
Eq. Moisture: 7.55 Moisture: 8.71 Vol. Matter: 32.13
Ash: 16.36 Fixed Carbon: 42.79

Carbon: 60.23 Btu: 10400 DAF Btu: 13881
Hydrogen: 4.70 Dry Btu: 11392 MMFBtu: 12556
Nitrogen: 1.12
Oxygen: 8.30 Sulfide: 0.15
Sulfur: 0.53 Sulfate: 0.000
Organic Sulfur: 0.38

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 9	SiO_2: 9.18	SiO_2ash: 56.08
Co: 25	Al_2O_3: 4.85	Al_2O_3ash: 29.65
Cr: 100	TiO_2: 0.15	TiO_2ash: 0.92
Cu: 36	Fe_2O_3: 0.5	Fe_2O_3ash: 3.04
Li: 52	MgO: 0.1	MgOash: 0.64
Mn: 57	CaO: 1	CaOash: 6.11
Nb: 20	K_2O: 0.052	K_2Oash: 0.32
Ni: 29	Na_2O: 0.039	Na_2Oash: 0.24
Pb: 87		
Sr: 360		
V: 120	AB Ratio: 0.11	
Zn: 50	Silica Ratio: 85.13	
	Total ashed Oxides: 97	

Calc oxygen: 17.06

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 66
Sample No.: 32N13W28S
Township: T32N Range: R13W Sec.: 28

Formation: Fruitland
Field: Fruitland Member: Zone: Lower

Depth to Seam: 371.50 Seam Thickness: 41.35
Sample Interval: 407.15-411. Sample Thickness: 4.05

Analyses on As-Received Basis

Air Dry Loss: 6.79
Eq. Moisture: 7.27 Moisture: 9.07 Vol. Matter: 33.80
Ash: 14.13 Fixed Carbon: 42.99

Carbon: 61.26 Btu: 10805 DAF Btu: 14071
Hydrogen: 4.88 Dry Btu: 11884 MMFBtu: 12658
Nitrogen: 1.34
Oxygen: 8.64 Sulfide: 0.12
Sulfur: 0.65 Sulfate: 0.000
Organic Sulfur: 0.53

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 12	SiO_2: 9.12	SiO_2ash: 64.56
Co: 32	Al_2O_3: 3.88	Al_2O_3ash: 27.47
Cr: 100	TiO_2:	TiO_2ash:
Cu: 44	Fe_2O_3: 0.35	Fe_2O_3ash: 2.5
Li: 45	MgO: 0.093	MgOash: 0.66
Mn: 52	CaO: 0.47	CaOash: 3.33
Nb: 18	K_2O: 0.043	K_2Oash: 0.31
Ni: 36	Na_2O: 0.033	Na_2Oash: 0.24
Pb: 100		
Sr: 280		
V: 130	AB Ratio: 0.07	
Zn: 65	Silica Ratio: 90.86	
	Total ashed Oxides: 99.07	

Calc oxygen: 17.74

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 67
Sample No.: 32N13W28U
Township: T32N Range: R13W Sec.: 28

Formation: Fruitland
Field: Fruitland Member: Zone: Lower

Depth to Seam: 371.50 Seam Thickness: 41.35
Sample Interval: 412.35-416. Sample Thickness: 4.35

Analyses on As-Received Basis

Air Dry Loss: 2.4
Eq. Moisture: 6.80 Moisture: 3.59 Vol. Matter: 35.39
Ash: 18.79 Fixed Carbon: 42.22

Carbon: 63.09 Btu: 10794 DAF Btu: 13908
Hydrogen: 5.09 Dry Btu: 11196 MMFBtu: 13443
Nitrogen: 1.33
Oxygen: 7.42 Sulfide: 0.13
Sulfur: 0.65 Sulfate: 0.000
Organic Sulfur: 0.52

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 12	SiO_2: 12.23	SiO_2ash: 65.07
Co: 23	Al_2O_3: 4.03	Al_2O_3ash: 21.45
Cr: 100	TiO_2: 0.19	TiO_2ash: 1.03
Cu: 36	Fe_2O_3: 0.57	Fe_2O_3ash: 3.04
Li: 44	MgO: 0.14	MgOash: 0.76
Mn: 45	CaO: 0.45	CaOash: 2.41
Nb: 12	K_2O: 0.056	K_2Oash: 0.3
Ni: 20	Na_2O: 0.052	Na_2Oash: 0.28
Pb: 150		
Sr: 210		
V: 100	AB Ratio: 0.07	
Zn: 80	Silica Ratio: 91.28	
	Total ashed Oxides: 94.34	

Calc oxygen: 11.05

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 77
Sample No.: 30N15W4B
Township: T30N Range: R15W Sec.: 4

Formation: Fruitland
Field: Fruitland Member: Zone: Lower

Depth to Seam: 148.00 Seam Thickness: 8.50
Sample Interval: 148.0-153.0 Sample Thickness: 5.00

Analyses on As-Received Basis

Air Dry Loss: 3.86
Eq. Moisture: 11.22 Moisture: 9.39 Vol. Matter: 32.37
Ash: 12.62 Fixed Carbon: 45.61

Carbon: 61.43 Btu: 10801 DAF Btu: 13850
Hydrogen: 4.50 Dry Btu: 11921 MMFBtu: 12419
Nitrogen: 1.47
Oxygen: 9.94 Sulfide: 0.11
Sulfur: 0.63 Sulfate: 0.000
Organic Sulfur: 0.52

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 21	SiO_2: 6.99	SiO_2ash: 55.41
Co: 23	Al_2O_3: 3.06	Al_2O_3ash: 24.29
Cr: 25	TiO_2: 0.088	TiO_2ash: 0.7
Cu: 44	Fe_2O_3: 0.26	Fe_2O_3ash: 2.07
Li: 34	MgO: 0.14	MgOash: 1.1
Mn: 110	CaO: 0.72	CaOash: 5.69
Nb: 2	K_2O: 0.04	K_2Oash: 0.32
Ni: 25	Na_2O: 0.32	Na_2Oash: 2.57
Pb: 49		
Sr: 600		
V: 160	AB Ratio: 0.14	
Zn: 74	Silica Ratio: 86.21	
	Total ashed Oxides: 92.15	

Calc oxygen: 19.35

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 78
Sample No.: 30N15W3C
Township: T30N Range: R15W Sec.: 3

Formation: Fruitland
Field: Fruitland Member: Zone: Lower

Depth to Seam: 148.00 Seam Thickness: 8.30
Sample Interval: 153.0-156.5 Sample Thickness: 3.50

Analyses on As-Received Basis

Air Dry Loss: 2.15
Eq. Moisture: 10.34 Moisture: 6.77 Vol. Matter: 35.58
Ash: 15.69 Fixed Carbon: 41.96

Carbon: 60.80 Btu: 10482 DAF Btu: 13518
Hydrogen: 4.50 Dry Btu: 11243 MMFBtu: 12555
Nitrogen: 1.44
Oxygen: 10.32 Sulfide: 0.11
Sulfur: 0.45 Sulfate: 0.000
Organic Sulfur: 0.34

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be:	SiO_2: 7.6	SiO_2ash: 48.42
Co:	Al_2O_3: 3.08	Al_2O_3ash: 19.6
Cr:	TiO_2: 0.1	TiO_2ash: 0.64
Cu:	Fe_2O_3: 0.46	Fe_2O_3ash: 2.97
Li:	MgO: 0.35	MgOash: 2.25
Mn:	CaO: 1.96	CaOash: 12.51
Nb:	K_2O: 0.031	K_2Oash: 0.2
Ni:	Na_2O: 0.18	Na_2Oash: 1.18
Pb:		
Sr:		
V:	AB Ratio: 0.27	
Zn:	Silica Ratio: 73.19	
	Total ashed Oxides: 87.77	

Calc oxygen: 17.12

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 76
Sample No.: 30N15W3E
Township: T30N Range: R15W Sec.: 3

Formation: Fruitland
Field: Fruitland Member: Zone: Lower

Depth to Seam: 148.00 Seam Thickness: 5.00
Sample Interval: 158.55-164. Sample Thickness: 5.00

Analyses on As-Received Basis

Air Dry Loss: 4.07
Eq. Moisture: 9.26 Moisture: 8.37 Vol. Matter: 36.26
Ash: 15.02 Fixed Carbon: 40.34

Carbon: 60.75 Btu: 10618 DAF Btu: 13861
Hydrogen: 4.90 Dry Btu: 11588 MMFBtu: 12575
Nitrogen: 1.16
Oxygen: 9.08 Sulfide: 0.14
Sulfur: 0.70 Sulfate: 0.000
Organic Sulfur: 0.56

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 20	SiO_2: 8.06	SiO_2ash: 53.69
Co: 27	Al_2O_3: 3.9	Al_2O_3ash: 25.97
Cr: 37	TiO_2: 0.15	TiO_2ash: 0.99
Cu: 77	Fe_2O_3: 0.33	Fe_2O_3ash: 2.19
Li: 72	MgO: 0.11	MgOash: 0.71
Mn: 100	CaO: 0.5	CaOash: 3.31
Nb: 20	K_2O: 0.063	K_2Oash: 0.42
Ni: 25	Na_2O: 0.096	Na_2Oash: 0.64
Pb: 80		
Sr: 900		
V: 200	AB Ratio: 0.09	
Zn: 95	Silica Ratio: 89.63	
	Total ashed Oxides: 87.92	

Calc oxygen: 17.47

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 79
Sample No.: 30N15W4G
Township: T30N Range: R15W Sec.: 4

Formation: Fruitland
Field: Fruitland Member: Zone: Lower

Depth to Seam: 165.50 Seam Thickness: 13.30
Sample Interval: 165.7-170.2 Sample Thickness: 4.50

Analyses on As-Received Basis

Air Dry Loss: 3.97

Eq. Moisture: 9.38	Moisture: 7.77	Vol. Matter: 36.84
	Ash: 16.36	Fixed Carbon: 39.02
Carbon: 60.78	Btu: 10494	DAF Btu: 13833
Hydrogen: 4.97	Dry Btu: 11378	MMFBtu: 12583
Nitrogen: 1.23		
Oxygen: 7.72		Sulfide: 0.57
	Sulfur: 1.13	Sulfate:
		Organic Sulfur: 0.55

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be:	SiO_2: 7.88	SiO_2ash: 48.16
Co:	Al_2O_3: 3.28	Al_2O_3ash: 20.01
Cr:	TiO_2: 0.062	TiO_2ash: 0.38
Cu:	Fe_2O_3: 0.73	Fe_2O_3ash: 4.46
Li:	MgO: 0.11	MgOash: 0.65
Mn:	CaO: 1.1	CaOash: 6.71
Nb:	K_2O: 0.065	K_2Oash: 0.4
Ni:	Na_2O: 0.13	Na_2Oash: 0.77
Pb:		
Sr:		
V:	AB Ratio: 0.19	
Zn:	Silica Ratio: 80.29	
	Total ashed Oxides: 81.54	

Calc oxygen: 15.53

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 95
Sample No.: 30N15W16B
Township: T30N Range: R15W Sec.: 16

Formation: Fruitland
Field: Fruitland Member: Zone: Lower

Depth to Seam: 165.50 Seam Thickness: 12.30
Sample Interval: 165.5-168.9 Sample Thickness: 3.45

Analyses on As-Received Basis

Air Dry Loss: 3.06
Eq. Moisture: 8.53

Moisture: 5.61
Ash: 11.88

Vol. Matter: 39.75
Fixed Carbon: 42.76

Carbon: 62.76
Hydrogen: 5.10
Nitrogen: 1.26
Oxygen: 11.80

Btu: 11070
Dry Btu: 11728

DAF Btu: 13417
MMFBtu: 12486

Sulfur: 1.57

Sulfide: 0.80
Sulfate: 0.000
Organic Sulfur: 0.77

Fluoride in ppm:

Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 25	SiO_2: 5.22	SiO_2ash: 43.98
Co: 29	Al_2O_3: 2.71	Al_2O_3ash: 22.79
Cr: 55	TiO_2: 0.11	TiO_2ash: 0.89
Cu: 73	Fe_2O_3: 1.12	Fe_2O_3ash: 9.46
Li: 43	MgO: 0.091	MgOash: 0.77
Mn: 130	CaO: 0.62	CaOash: 5.2
Nb: 2	K_2O: 0.042	K_2Oash: 0.36
Ni: 33	Na_2O: 0.2	Na_2Oash: 1.66
Pb: 130		
Sr: 970		
V: 160	AB Ratio: 0.25	
Zn: 95	Silica Ratio: 74.02	
	Total ashed Oxides: 85.11	

Calc oxygen: 17.43

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 91
Sample No.: 30N15W16C
Township: T30N Range: R15W Sec.: 16

Formation: Fruitland
Field: Fruitland Member: Zone: Lower

Depth to Seam: 165.50 Seam Thickness: 13.30
Sample Interval: 168.95-169. Sample Thickness: 1.00

Analyses on As-Received Basis

Air Dry Loss: 4.83
Eq. Moisture: 11.46 Moisture: 8.50 Vol. Matter: 21.30
Ash: 51.02 Fixed Carbon: 19.18

Carbon: 28.59 Btu: 4573 DAF Btu: 11298
Hydrogen: 2.71 Dry Btu: 4998 MMFBtu: 9731
Nitrogen: 1.01
Oxygen: 6.17 Sulfide: 1.39
Sulfur: 1.97 Sulfate: 0.020
Organic Sulfur: 0.55

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 5	SiO_2: 29.12	SiO_2ash: 57.08
Co: 25	Al_2O_3: 11.55	Al_2O_3ash: 22.64
Cr: 130	TiO_2: 0.47	TiO_2ash: 0.92
Cu: 46	Fe_2O_3: 2.57	Fe_2O_3ash: 5.04
Li: 22	MgO: 0.3	MgOash: 0.58
Mn: 90	CaO: 1.74	CaOash: 3.42
Nb: 17	K_2O: 0.45	K_2Oash: 0.88
Ni: 24	Na_2O: 0.84	Na_2Oash: 1.65
Pb: 59		
Sr: 450		
V: 170	AB Ratio: 0.14	
Zn: 75	Silica Ratio: 86.32	
	Total ashed Oxides: 92.21	

Calc oxygen: 14.70

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 93
Sample No.: 30N15W16D
Township: T30N Range: R15W Sec.: 16

Formation: Fruitland
Field: Fruitland Member: Zone: Lower

Depth to Seam: 165.50 Seam Thickness: 13.30
Sample Interval: 169.95-174. Sample Thickness: 4.05

Analyses on As-Received Basis

Air Dry Loss: 3.29
Eq. Moisture: 8.45 Moisture: 6.46 Vol. Matter: 35.39
Ash: 14.49 Fixed Carbon: 43.66

Carbon: 62.20 Btu: 10909 DAF Btu: 13800
Hydrogen: 5.05 Dry Btu: 11662 MMFBtu: 12798
Nitrogen: 1.18
Oxygen: 9.66 Sulfide: 0.38
Sulfur: 0.94 Sulfate: 0.000
Organic Sulfur: 0.56

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 8	SiO_2: 7.06	SiO_2ash: 48.75
Co: 28	Al_2O_3: 3.08	Al_2O_3ash: 21.27
Cr: 260	TiO_2: 0.19	TiO_2ash: 1.33
Cu: 54	Fe_2O_3: 0.69	Fe_2O_3ash: 4.75
Li: 30	MgO: 0.37	MgOash: 2.57
Mn: 160	CaO: 1.2	CaOash: 8.25
Nb: 2	K_2O: 0.031	K_2Oash: 0.22
Ni: 89	Na_2O: 0.25	Na_2Oash: 1.73
Pb: 85		
Sr: 690		
V: 120	AB Ratio: 0.24	
Zn: 45	Silica Ratio: 75.79	
	Total ashed Oxides: 88.87	

Calc oxygen: 16.14

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 97
Sample No.: 30N15W16E
Township: T30N Range: R15W Sec.: 16

Formation: Fruitland
Field: Fruitland Member: Zone: Lower

Depth to Seam: 165.50 Seam Thickness: 13.30
Sample Interval: 174.0-178.8 Sample Thickness: 4.80

Analyses on As-Received Basis

Air Dry Loss: 2.72
Eq. Moisture: 8.63

Moisture: 7.44
Ash: 14.46

Vol. Matter: 35.23
Fixed Carbon: 42.86

Carbon: 58.80
Hydrogen: 4.66
Nitrogen: 1.27
Oxygen: 12.57

Btu: 10080
Dry Btu: 10890

DAF Btu: 12906
MMFBtu: 11839

Sulfur: 0.77

Sulfide: 0.25
Sulfate: 0.007
Organic Sulfur: 0.51

Fluoride in ppm:

Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 17	SiO_2: 7.06	SiO_2ash: 48.85
Co: 23	Al_2O_3: 5.1	Al_2O_3ash: 35.24
Cr: 32	TiO_2: 0.15	TiO_2ash: 1.07
Cu: 65	Fe_2O_3: 0.27	Fe_2O_3ash: 1.89
Li: 52	MgO: 0.08	MgOash: 0.56
Mn: 72	CaO: 0.74	CaOash: 5.14
Nb: 2	K_2O: 0.044	K_2Oash: 0.31
Ni: 24	Na_2O: 0.28	Na_2Oash: 1.95
Pb: 62		
Sr: 870		
V: 250	AB Ratio: 0.11	
Zn: 38	Silica Ratio: 86.55	
	Total ashed Oxides: 95.01	

Calc oxygen: 20.04

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 73
Sample No.: 30N15W28B
Township: T30N Range: R15W Sec.: 28

Formation: Fruitland
Field: Fruitland Member: Zone: Middle

Depth to Seam: 46.75 Seam Thickness: 4.80
Sample Interval: 46.75-51.55 Sample Thickness: 4.80

Analyses on As-Received Basis

Air Dry Loss: 4.88
Eq. Moisture: 10.48 Moisture: 10.32 Vol. Matter: 32.34
Ash: 20.96 Fixed Carbon: 36.37

Carbon: 54.51 Btu: 9281 DAF Btu: 13505
Hydrogen: 4.30 Dry Btu: 10349 MMFBtu: 11911
Nitrogen: 1.09
Oxygen: 8.11 Sulfide: 0.14
Sulfur: 0.71 Sulfate: 0.002
Organic Sulfur: 0.43

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 29	SiO_2: 11.02	SiO_2ash: 52.56
Co: 25	Al_2O_3: 6.05	Al_2O_3ash: 28.85
Cr: 40	TiO_2: 0.23	TiO_2ash: 1.08
Cu: 77	Fe_2O_3: 0.57	Fe_2O_3ash: 2.73
Li: 48	MgO: 0.064	MgOash: 0.31
Mn: 310	CaO: 1.1	CaOash: 5.23
Nb: 2	K_2O: 0.094	K_2Oash: 0.45
Ni: 25	Na_2O: 0.29	Na_2Oash: 1.4
Pb: 98		
Sr: 290		
V: 200	AB Ratio: 0.12	
Zn: 160	Silica Ratio: 86.4	
	Total ashed Oxides: 92.61	

Calc oxygen: 18.43

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 74
Sample No.: 30N15W28D
Township: T30N Range: R15W Sec.: 28

Formation: Fruitland
Field: Fruitland Member: Zone: Lower

Depth to Seam: 156.00 Seam Thickness: 10.00
Sample Interval: 156.0-160.8 Sample Thickness: 4.85

Analyses on As-Received Basis

Air Dry Loss: 3.83		
Eq. Moisture: 10.07	Moisture: 8.48	Vol. Matter: 32.53
	Ash: 25.70	Fixed Carbon: 33.28
Carbon: 51.09	Btu: 8713	DAF Btu: 13238
Hydrogen: 3.93	Dry Btu: 9520	MMFBtu: 11840
Nitrogen: 1.27		
Oxygen: 8.11		Sulfide: 0.53
	Sulfur: 1.38	Sulfate: 0.000
		Organic Sulfur: 0.85

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 19	SiO_2: 13.72	SiO_2ash: 53.38
Co: 21	Al_2O_3: 6.87	Al_2O_3ash: 26.75
Cr: 29	TiO_2: 0.39	TiO_2ash: 1.52
Cu: 50	Fe_2O_3: 0.81	Fe_2O_3ash: 3.16
Li: 37	MgO: 0.27	MgOash: 1.05
Mn: 120	CaO: 1.3	CaOash: 5.04
Nb: 23	K_2O: 0.12	K_2Oash: 0.45
Ni: 26	Na_2O: 0.36	Na_2Oash: 1.4
Pb: 96		
Sr: 570		
V: 180	AB Ratio: 0.13	
Zn: 135	Silica Ratio: 85.23	
	Total ashed Oxides: 92.75	

Calc oxygen: 16.63

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 75
Sample No.: 30N15W28E
Township: T30N Range: R15W Sec.: 28

Formation: Fruitland
Field: Fruitland Member: Zone: Lower

Depth to Seam: 156.00 Seam Thickness: 10.00
Sample Interval: 160.85-166. Sample Thickness: 5.15

Analyses on As-Received Basis

Air Dry Loss: 3.19
Eq. Moisture: 8.26 Moisture: 7.11 Vol. Matter: 37.98
Ash: 14.38 Fixed Carbon: 40.52

Carbon: 61.96 Btu: 10780 DAF Btu: 13731
Hydrogen: 4.91 Dry Btu: 11605 MMFBtu: 12680
Nitrogen: 1.20
Oxygen: 9.84 Sulfide: 0.07
Sulfur: 0.58 Sulfate: 0.000
Organic Sulfur: 0.51

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 19	SiO_2: 6.02	SiO_2ash: 41.84
Co: 24	Al_2O_3: 3.41	Al_2O_3ash: 23.73
Cr: 31	TiO_2: 0.21	TiO_2ash: 1.43
Cu: 71	Fe_2O_3: 0.32	Fe_2O_3ash: 2.22
Li: 47	MgO: 0.21	MgOash: 1.43
Mn: 340	CaO: 2.72	CaOash: 18.94
Nb: 2	K_2O: 0.058	K_2Oash: 0.41
Ni: 27	Na_2O: 0.17	Na_2Oash: 1.2
Pb: 82		
Sr: 970		
V: 250	AB Ratio: 0.36	
Zn: 45	Silica Ratio: 64.93	
	Total ashed Oxides: 91.2	

Calc oxygen: 16.97

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 72
Sample No.: 30N15W28F
Township: T30N Range: R15W Sec.: 28

Formation: Fruitland
Field: Fruitland Member: Zone: Lower

Depth to Seam: 156.00 Seam Thickness: 6.80
Sample Interval: 166.0-170.9 Sample Thickness: 4.00

Analyses on As-Received Basis

Air Dry Loss: 3.36
Eq. Moisture: 8.44 Moisture: 7.67 Vol. Matter: 37.13
Ash: 15.93 Fixed Carbon: 39.27

Carbon: 60.39 Btu: 10542 DAF Btu: 13799
Hydrogen: 4.99 Dry Btu: 11418 MMFBtu: 12631
Nitrogen: 1.33
Oxygen: 8.96 Sulfide: 0.15
Sulfur: 0.70 Sulfate: 0.000
Organic Sulfur: 0.55

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 16	SiO_2: 7.03	SiO_2ash: 44.11
Co: 23	Al_2O_3: 3.89	Al_2O_3ash: 24.43
Cr: 31	TiO_2: 0.12	TiO_2ash: 0.77
Cu: 64	Fe_2O_3: 0.34	Fe_2O_3ash: 2.15
Li: 61	MgO: 0.043	MgOash: 0.27
Mn: 330	CaO: 1.7	CaOash: 10.65
Nb: 2	K_2O: 0.054	K_2Oash: 0.34
Ni: 23	Na_2O: 0.16	Na_2Oash: 0.98
Pb: 120		
Sr: 660		
V: 210	AB Ratio: 0.2	
Zn: 150	Silica Ratio: 77.14	
	Total ashed Oxides: 83.7	

Calc oxygen: 16.66

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 87
Sample No.: 30N15W28G
Township: T30N Range: R15W Sec.: 28

Formation: Fruitland
Field: Fruitland Member: Zone: Lower

Depth to Seam: 156.00 Seam Thickness: 6.80
Sample Interval: 170.9-173.7 Sample Thickness: 2.80

Analyses on As-Received Basis

Air Dry Loss: 3.07
Eq. Moisture: 7.67 Moisture: 6.73 Vol. Matter: 36.38
Ash: 21.53 Fixed Carbon: 35.35

Carbon: 55.48 Btu: 9806 DAF Btu: 13670
Hydrogen: 4.47 Dry Btu: 10514 MMFBtu: 12444
Nitrogen: 1.43
Oxygen: 8.18 Sulfide: 1.26
Sulfur: 2.16 Sulfate: 0.000
Organic Sulfur: 0.90

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be:	SiO_2: 10.64	SiO_2ash: 49.4
Co:	Al_2O_3: 5.01	Al_2O_3ash: 23.29
Cr:	TiO_2:	TiO_2ash:
Cu:	Fe_2O_3: 2.12	Fe_2O_3ash: 9.86
Li:	MgO: 0.043	MgOash: 0.2
Mn:	CaO: 1.76	CaOash: 8.19
Nb: 29	K_2O: 0.19	K_2Oash: 0.89
Ni:	Na_2O: 0.47	Na_2Oash: 2.2
Pb:		
Sr:		
V:	AB Ratio: 0.08	
Zn:	Silica Ratio: 73.02	
	Total ashed Oxides: 94.03	

Calc oxygen: 14.93

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 96
Sample No.: 30N15W34B
Township: T30N Range: R15W Sec.: 34

Formation: Fruitland
Field: Fruitland Member: Zone: Lower

Depth to Seam: 201.25 Seam Thickness: 16.60
Sample Interval: 201.25-206. Sample Thickness: 5.00

Analyses on As-Received Basis

Air Dry Loss: 2.78
Eq. Moisture: 10.41

Moisture: 6.38
Ash: 20.98

Vol. Matter: 31.62
Fixed Carbon: 41.02

Carbon: 55.87
Hydrogen: 4.55
Nitrogen: 1.29
Oxygen: 9.84

Btu: 9477
Dry Btu: 10123

DAF Btu: 13047
MMFBtu: 12093

Sulfur: 1.06

Sulfide: 0.49
Sulfate: 0.010
Organic Sulfur: 0.56

Fluoride in ppm: 41.4 Chloride in ppm: 46.8

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 6	SiO_2: 11.23	SiO_2ash: 53.51
Co: 23	Al_2O_3: 5.2	Al_2O_3ash: 24.78
Cr: 110	TiO_2: 0.096	TiO_2ash: 0.46
Cu: 29	Fe_2O_3: 0.74	Fe_2O_3ash: 3.54
Li: 48	MgO: 0.12	MgOash: 0.55
Mn: 110	CaO: 1.5	CaOash: 7.15
Nb: 2	K_2O: 0.069	K_2Oash: 0.33
Ni: 21	Na_2O: 0.31	Na_2Oash: 1.48
Pb: 65		
Sr: 1120		
V: 100	AB Ratio: 0.16	
Zn: 47	Silica Ratio: 82.64	
	Total ashed Oxides: 91.8	

Calc oxygen: 16.25

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 94
Sample No.: 30N15W34C
Township: T30N Range: R15W Sec.: 34

Formation: Fruitland
Field: Fruitland Member: Zone: Lower

Depth to Seam: 201.25 Seam Thickness: 16.60
Sample Interval: 206.25-211. Sample Thickness: 5.50

Analyses on As-Received Basis

Air Dry Loss: 2.71
Eq. Moisture: 8.84 Moisture: 7.43 Vol. Matter: 35.65
Ash: 14.28 Fixed Carbon: 42.63

Carbon: 62.23 Btu: 10812 DAF Btu: 13811
Hydrogen: 4.91 Dry Btu: 11680 MMFBtu: 12704
Nitrogen: 1.23
Oxygen: 9.33 Sulfide: 0.09
Sulfur: 0.56 Sulfate: 0.000
Organic Sulfur: 0.47

Fluoride in ppm: 51.4 Chloride in ppm: 73.5

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 5	SiO_2: 8.04	SiO_2ash: 56.29
Co: 21	Al_2O_3: 4.48	Al_2O_3ash: 31.4
Cr: 80	TiO_2: 0.17	TiO_2ash: 1.18
Cu: 67	Fe_2O_3: 0.22	Fe_2O_3ash: 1.57
Li: 22	MgO: 0.088	MgOash: 0.62
Mn: 62	CaO: 0.46	CaOash: 3.19
Nb: 1	K_2O: 0.061	K_2Oash: 0.43
Ni: 22	Na_2O: 0.3	Na_2Oash: 2.07
Pb: 120		
Sr: 830		
V: 190	AB Ratio: 0.08	
Zn: 37	Silica Ratio: 91.27	
	Total ashed Oxides: 96.75	

Calc oxygen: 16.79

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 88
Sample No.: 30N15W34D
Township: T30N Range: R15W Sec.: 34

Formation: Fruitland
Field: Fruitland Member: Zone: Lower

Depth to Seam: 201.25 Seam Thickness: 16.60
Sample Interval: 211.75-217. Sample Thickness: 6.10

Analyses on As-Received Basis

Air Dry Loss: 2.77
Eq. Moisture: 9.05 Moisture: 6.94 Vol. Matter: 29.96
Ash: 18.49 Fixed Carbon: 44.61

Carbon: 58.76 Btu: 10094 DAF Btu: 13537
Hydrogen: 4.87 Dry Btu: 10847 MMFBtu: 12508
Nitrogen: 1.21
Oxygen: 9.00 Sulfide: 0.16
Sulfur: 0.70 Sulfate: 0.000
Organic Sulfur: 0.54

Fluoride in ppm: 46.8 Chloride in ppm: 96.9

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 26	SiO_2: 9.71	SiO_2ash: 52.52
Co: 22	Al_2O_3: 5.17	Al_2O_3ash: 27.97
Cr: 17	TiO_2: 0.19	TiO_2ash: 1.02
Cu: 52	Fe_2O_3: 1.55	Fe_2O_3ash: 8.37
Li: 77	MgO: 0.12	MgOash: 0.63
Mn: 170	CaO: 1.15	CaOash: 6.21
Nb: 2	K_2O: 0.068	K_2Oash: 0.37
Ni: 20	Na_2O: 0.21	Na_2Oash: 1.14
Pb: 70		
Sr: 380		
V: 180	AB Ratio: 0.2	
Zn: 62	Silica Ratio: 77.54	
	Total ashed Oxides: 98.23	

Calc oxygen: 15.97

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 89
Sample No.: 30N15W34G
Township: T30N Range: R15W Sec.: 34

Formation: Fruitland
Field: Fruitland Member: Zone: Middle

Depth to Seam: 91.10 Seam Thickness: 4.25
Sample Interval: 91.1-96.15 Sample Thickness: 4.25

Analyses on As-Received Basis

Air Dry Loss: 3.04
Eq. Moisture: 10.37 Moisture: 7.33 Vol. Matter: 34.53
Ash: 19.94 Fixed Carbon: 38.20

Carbon: 56.74 Btu: 9749 DAF Btu: 13405
Hydrogen: 4.78 Dry Btu: 10521 MMFBtu: 12316
Nitrogen: 1.15
Oxygen: 9.31 Sulfide: 0.12
Sulfur: 0.72 Sulfate: 0.000
Organic Sulfur: 0.60

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 37	SiO_2: 11.46	SiO_2ash: 57.49
Co: 26	Al_2O_3: 5.76	Al_2O_3ash: 28.88
Cr: 44	TiO_2: 0.2	TiO_2ash: 1.01
Cu: 86	Fe_2O_3: 0.83	Fe_2O_3ash: 4.14
Li: 52	MgO: 0.1	MgOash: 0.52
Mn: 96	CaO: 0.38	CaOash: 1.91
Nb: 2	K_2O:	K_2Oash:
Ni: 25	Na_2O: 0.21	Na_2Oash: 1.07
Pb: 78		
Sr: 240		
V: 300	AB Ratio: 0.08	
Zn: 56	Silica Ratio: 89.74	
	Total ashed Oxides: 95.02	

Calc oxygen: 16.67

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 70
Sample No.: 23N12W4B
Township: T23N Range: R12W Sec.: 4

Formation: Fruitland
Field: Bisti Member: Zone: Upper

Depth to Seam: 282.75 Seam Thickness: 17.35
Sample Interval: 282.75-287. Sample Thickness: 5.00

Analyses on As-Received Basis

Air Dry Loss: 4.01
Eq. Moisture: 12.55 Moisture: 10.31 Vol. Matter: 31.97
Ash: 22.76 Fixed Carbon: 34.96

Carbon: 51.19 Btu: 8712 DAF Btu: 13017
Hydrogen: 4.30 Dry Btu: 9714 MMFBtu: 11471
Nitrogen: 0.89
Oxygen: 9.99 Sulfide: 0.03
Sulfur: 0.53 Sulfate: 0.000
Organic Sulfur: 0.50

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 10	SiO_2: 13.66	SiO_2ash: 60
Co: 25	Al_2O_3: 5.48	Al_2O_3ash: 24.08
Cr: 70	TiO_2: 0.097	TiO_2ash: 0.43
Cu: 51	Fe_2O_3: 3.14	Fe_2O_3ash: 13.82
Li: 32	MgO: 0.075	MgOash: 0.33
Mn: 110	CaO: 0.38	CaOash: 1.69
Nb: 2	K_2O: 0.027	K_2Oash: 0.12
Ni: 20	Na_2O: 0.35	Na_2Oash: 1.55
Pb: 55		
Sr: 460		
V: 140	AB Ratio: 0.2	
Zn: 43	Silica Ratio: 79.11	
	Total ashed Oxides: 102.02	

Calc oxygen: 20.33
* Error = data not available

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 71
Sample No.: 23N12W4C
Township: T23N Range: R12W Sec.: 4

Formation: Fruitland
Field: Bisti Member: Zone: Upper

Depth to Seam: 282.75 Seam Thickness: 17.35
Sample Interval: 287.75-293. Sample Thickness: 5.90

Analyses on As-Received Basis

Air Dry Loss: 6.07
Eq. Moisture: 14.42 Moisture: 13.04 Vol. Matter: 34.08
Ash: 15.51 Fixed Carbon: 37.36

Carbon: 56.75 Btu: 9828 DAF Btu: 13755
Hydrogen: 4.21 Dry Btu: 11301 MMFBtu: 11766
Nitrogen: 0.92
Oxygen: 9.27 Sulfide: 0.02
Sulfur: 0.28 Sulfate: 0.000
Organic Sulfur: 0.26

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 8	SiO_2: 9.28	SiO_2ash: 59.81
Co: 24	Al_2O_3: 4.34	Al_2O_3ash: 28
Cr: 120	TiO_2: 0.12	TiO_2ash: 0.77
Cu: 50	Fe_2O_3: 0.5	Fe_2O_3ash: 3.25
Li: 60	MgO: 0.06	MgOash: 0.39
Mn: 45	CaO: 0.54	CaOash: 3.47
Nb: 2	K_2O: 0.029	K_2Oash: 0.19
Ni: 20	Na_2O: 0.21	Na_2Oash: 1.35
Pb: 69		
Sr: 410		
V: 180	AB Ratio: 0.09	
Zn: 15	Silica Ratio: 89.37	
	Total ashed Oxides: 97.23	

Calc oxygen: 22.33
* Error = data not available

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 69
Sample No.: 23N12W4D
Township: T23N Range: R12W Sec.: 4

Formation: Fruitland
Field: Bisti Member: Zone: Uppwe

Depth to Seam: 282.75 Seam Thickness: 17.35
Sample Interval: 293.65-300. Sample Thickness: 6.45

Analyses on As-Received Basis

Air Dry Loss: 5.63
Eq. Moisture: 13.55 Moisture: 11.60 Vol. Matter: 34.18
Ash: 15.34 Fixed Carbon: 38.87

Carbon: 55.84 Btu: 9627 DAF Btu: 13177
Hydrogen: 4.55 Dry Btu: 10891 MMFBtu: 11488
Nitrogen: 0.93
Oxygen: 11.35 Sulfide: 0.01
Sulfur: 0.37 Sulfate: 0.000
Organic Sulfur: 0.36

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 11	SiO_2: 7.93	SiO_2ash: 51.68
Co: 31	Al_2O_3: 4.21	Al_2O_3ash: 27.44
Cr: 150	TiO_2: 0.056	TiO_2ash: 0.37
Cu: 25	Fe_2O_3: 0.75	Fe_2O_3ash: 4.88
Li: 54	MgO: 0.07	MgOash: 0.46
Mn: 52	CaO: 0.55	CaOash: 3.57
Nb: 2	K_2O: 0.033	K_2Oash: 0.22
Ni: 29	Na_2O: 0.22	Na_2Oash: 1.41
Pb: 120		
Sr: 350		
V: 150	AB Ratio: 0.13	
Zn: 27	Silica Ratio: 85.29	
	Total ashed Oxides: 90.03	

Calc oxygen: 22.97
* Error = data not available

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 83
Sample No.: 23N12W4G
Township: T23N Range: R12W Sec.: 4

Formation: Fruitland
Field: Bisti Member: Zone: Lower

Depth to Seam: 356.75 Seam Thickness: 7.05
Sample Interval: 356.75-360. Sample Thickness: 3.55

Analyses on As-Received Basis

Air Dry Loss: 8.67
Eq. Moisture: 14.25 Moisture: 16.36 Vol. Matter: 31.08
Ash: 12.10 Fixed Carbon: 40.45

Carbon: 55.80 Btu: 9575 DAF Btu: 13385
Hydrogen: 4.17 Dry Btu: 11448 MMFBtu: 10964
Nitrogen: 0.94
Oxygen: 10.21 Sulfide: 0.02
Sulfur: 0.40 Sulfate: 0.000
Organic Sulfur: 0.38

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 8	SiO_2: 6.8	SiO_2ash: 56.17
Co: 30	Al_2O_3: 3.21	Al_2O_3ash: 26.49
Cr: 140	TiO_2: 0.14	TiO_2ash: 1.16
Cu: 49	Fe_2O_3: 0.56	Fe_2O_3ash: 4.63
Li: 72	MgO: 0.059	MgOash: 0.49
Mn: 49	CaO: 0.56	CaOash: 4.64
Nb: 2	K_2O: 0.064	K_2Oash: 0.53
Ni: 29	Na_2O: 0.48	Na_2Oash: 3.99
Pb: 67		
Sr: 640		
V: 150	AB Ratio: 0.09	
Zn: 57	Silica Ratio: 85.19	
	Total ashed Oxides: 98.1	

Calc oxygen: 26.59
* Error = data not available

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 85
Sample No.: 23N12W4H
Township: T23N Range: R12W Sec.: 4

Formation: Fruitland
Field: Bisti Member: Zone: Lower

Depth to Seam: 356.75 Seam Thickness: 7.30
Sample Interval: 360.25-363. Sample Thickness: 3.55

Analyses on As-Received Basis

Air Dry Loss: 6.69
Eq. Moisture: 16.10 Moisture: 13.83 Vol. Matter: 28.32
Ash: 25.22 Fixed Carbon: 32.63

Carbon: 47.31 Btu: 7949 DAF Btu: 13043
Hydrogen: 3.78 Dry Btu: 9225 MMFBtu: 10868
Nitrogen: 0.88
Oxygen: 8.58 Sulfide: 0.06
Sulfur: 0.38 Sulfate: 0.000
Organic Sulfur: 0.32

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 6	SiO_2:	SiO_2ash:
Co: 22	Al_2O_3:	Al_2O_3ash:
Cr: 51	TiO_2:	TiO_2ash:
Cu: 36	Fe_2O_3:	Fe_2O_3ash:
Li: 28	MgO:	MgOash:
Mn: 45	CaO:	CaOash:
Nb: 2	K_2O:	K_2Oash:
Ni: 25	Na_2O:	Na_2Oash:
Pb: 59		
Sr: 190		
V: 180	AB Ratio: 0.13	
Zn: 31	Silica Ratio: 86.84	
	Total ashed Oxides:	

Calc oxygen: 22.43
* Error = data not available

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 84
Sample No.: 23N12W4J
Township: T23N Range: R12W Sec.: 4

Formation: Fruitland
Field: Bisti Member: Zone: Lower

Depth to Seam: 356.75 Seam Thickness: 13.25
Sample Interval: 366.2-370.0 Sample Thickness: 3.80

Analyses on As-Received Basis

Air Dry Loss: 6.21
Eq. Moisture: 14.30 Moisture: 12.10 Vol. Matter: 33.33
Ash: 12.86 Fixed Carbon: 41.71

Carbon: 58.60 Btu: 9983 DAF Btu: 13304
Hydrogen: 4.64 Dry Btu: 11358 MMFBtu: 11531
Nitrogen: 0.90
Oxygen: 10.40 Sulfide: 0.05
Sulfur: 0.47 Sulfate: 0.000
Organic Sulfur: 0.42

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 12	SiO_2: 7.36	SiO_2ash: 57.22
Co: 32	Al_2O_3: 2.98	Al_2O_3ash: 23.16
Cr: 150	TiO_2: 0.05	TiO_2ash: 0.39
Cu: 54	Fe_2O_3: 0.52	Fe_2O_3ash: 4.02
Li: 43	MgO: 0.074	MgOash: 0.58
Mn: 118	CaO: 0.52	CaOash: 4.07
Nb: 2	K_2O: 0.032	K_2Oash: 0.25
Ni: 32	Na_2O: 0.27	Na_2Oash: 2.13
Pb: 120		
Sr: 350		
V: 140	AB Ratio: 0.13	
Zn: 51	Silica Ratio: 86.84	
	Total ashed Oxides: 91.82	

Calc oxygen: 22.53
* Error = data not available

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 86
Sample No.: 23N12W4K
Township: T23N Range: R12W Sec.: 4

Formation: Fruitland
Field: Bisti Member: Zone: Lower

Depth to Seam: 356.75 Seam Thickness: 7.30
Sample Interval: 370.0-373.5 Sample Thickness: 3.50

Analyses on As-Received Basis

Air Dry Loss: 7.55
Eq. Moisture: 13.65 Moisture: 15.28 Vol. Matter: 32.40
Ash: 16.56 Fixed Carbon: 35.75

Carbon: 52.82 Btu: 9050 DAF Btu: 13278
Hydrogen: 4.35 Dry Btu: 10683 MMFBtu: 10889
Nitrogen: 0.95
Oxygen: 9.04 Sulfide: 0.55
Sulfur: 0.99 Sulfate: 0.000
Organic Sulfur: 0.44

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 19	SiO_2: 10.04	SiO_2ash: 60.63
Co: 24	Al_2O_3: 3.33	Al_2O_3ash: 20.13
Cr: 96	TiO_2: 0.17	TiO_2ash: 1.02
Cu: 44	Fe_2O_3: 1.24	Fe_2O_3ash: 7.47
Li: 39	MgO: 0.092	MgOash: 0.56
Mn: 42	CaO: 0.91	CaOash: 5.48
Nb: 2	K_2O: 0.15	K_2Oash: 0.93
Ni: 26	Na_2O: 0.44	Na_2Oash: 2.63
Pb: 70		
Sr: 270		
V: 150	AB Ratio: 0.09	
Zn: 25	Silica Ratio: 81.77	
	Total ashed Oxides: 98.85	

Calc oxygen: 24.33
* Error = data not available

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 62
Sample No.: 23N12W3B
Township: T23N Range: R12W Sec.: 3

Formation: Fruitland
Field: Bisti Member: Zone: Middle

Depth to Seam: 201.00 Seam Thickness: 1.40
Sample Interval: 201.0-202.4 Sample Thickness: 1.40

Analyses on As-Received Basis

Air Dry Loss: 5.66
Eq. Moisture: 13.40 Moisture: 10.95 Vol. Matter: 24.97
Ash: 37.41 Fixed Carbon: 26.66

Carbon: 39.04 Btu: 6739 DAF Btu: 13051
Hydrogen: 3.30 Dry Btu: 7568 MMFBtu: 11232
Nitrogen: 0.55
Oxygen: 8.32 Sulfide: 0.02
Sulfur: 0.40 Sulfate: 0.000
Organic Sulfur: 0.38

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 14	SiO_2: 25.48	SiO_2ash: 68.1
Co: 26	Al_2O_3: 9.27	Al_2O_3ash: 24.78
Cr: 90	TiO_2: 0.51	TiO_2ash: 1.37
Cu: 50	Fe_2O_3: 1	Fe_2O_3ash: 2.66
Li: 37	MgO: 0.23	MgOash: 0.61
Mn: 52	CaO: 0.77	CaOash: 2.05
Nb: 1	K_2O: 0.16	K_2Oash: 0.43
Ni: 25	Na_2O: 0.38	Na_2Oash: 1.03
Pb: 55		
Sr: 170		
V: 210	AB Ratio: 0.07	
Zn: 38	Silica Ratio: 92.75	
	Total ashed Oxides: 101.03	

Calc oxygen: 19.30
* Error = data not available

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 61
Sample No.: 23N12W3D
Township: T23N Range: R12W Sec.: 3

Formation: Fruitland
Field: Bisti Member: Zone: Middle

Depth to Seam: 201.00 Seam Thickness: 12.95
Sample Interval: 204.0-209.0 Sample Thickness: 5.00

Analyses on As-Received Basis

Air Dry Loss: 5.51
Eq. Moisture: 14.03 Moisture: 9.21 Vol. Matter: 32.72
Ash: 22.30 Fixed Carbon: 35.77

Carbon: 51.36 Btu: 8849 DAF Btu: 12920
Hydrogen: 4.46 Dry Btu: 9746 MMFBtu: 11582
Nitrogen: 0.82
Oxygen: 11.34 Sulfide: 0.05
Sulfur: 0.49 Sulfate: 0.000
Organic Sulfur: 0.44

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 19	SiO_2: 12.78	SiO_2ash: 57.33
Co: 22	Al_2O_3: 5.54	Al_2O_3ash: 24.85
Cr: 29	TiO_2: 0.26	TiO_2ash: 1.16
Cu: 60	Fe_2O_3: 0.7	Fe_2O_3ash: 3.14
Li: 36	MgO: 0.093	MgOash: 0.42
Mn: 55	CaO: 2.36	CaOash: 10.6
Nb: 2	K_2O: 0.14	K_2Oash: 0.61
Ni: 22	Na_2O: 0.28	Na_2Oash: 1.25
Pb: 67		
Sr: 360		
V: 160	AB Ratio: 0.19	
Zn: 55	Silica Ratio: 80.19	
	Total ashed Oxides: 99.36	

Calc oxygen: 20.57
* Error = data not available

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 63
Sample No.: 23N12W3E
Township: T23N Range: R12W Sec.: 3

Formation: Fruitland
Field: Bisti Member: Zone: Middle

Depth to Seam: 201.00 Seam Thickness: 12.95
Sample Interval: 209.0-211.5 Sample Thickness: 2.55

Analyses on As-Received Basis

Air Dry Loss: 5.47
Eq. Moisture: 14.76 Moisture: 13.10 Vol. Matter: 32.95
Ash: 16.86 Fixed Carbon: 37.07

Carbon: 53.53 Btu: 9277 DAF Btu: 13247
Hydrogen: 4.18 Dry Btu: 10676 MMFBtu: 11270
Nitrogen: 0.80
Oxygen: 10.97 Sulfide: 0.01
Sulfur: 0.53 Sulfate: 0.000
Organic Sulfur: 0.52

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 10	SiO_2: 9.42	SiO_2ash: 55.84
Co: 25	Al_2O_3: 4.35	Al_2O_3ash: 25.81
Cr: 120	TiO_2: 0.24	TiO_2ash: 1.4
Cu: 82	Fe_2O_3: 0.32	Fe_2O_3ash: 1.88
Li: 35	MgO: 0.08	MgOash: 0.48
Mn: 70	CaO: 0.57	CaOash: 3.35
Nb: 2	K_2O: 0.06	K_2Oash: 0.36
Ni: 25	Na_2O: 0.2	Na_2Oash: 1.2
Pb: 77		
Sr: 520		
V: 190	AB Ratio: 0.08	
Zn: 40	Silica Ratio: 90.72	
	Total ashed Oxides: 90.32	

Calc oxygen: 24.10
* Error = data not available

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 58
Sample No.: 23N12W3F
Township: T23N Range: R12W Sec.: 3

Formation: Fruitland
Field: Bisti Member: Zone: Middle

Depth to Seam: 201.00 Seam Thickness: 5.85
Sample Interval: 211.55-216. Sample Thickness: 5.40

Analyses on As-Received Basis

Air Dry Loss: 5.65
Eq. Moisture: 14.16 Moisture: 11.93 Vol. Matter: 30.25
Ash: 21.65 Fixed Carbon: 36.17

Carbon: 50.94 Btu: 8719 DAF Btu: 13127
Hydrogen: 4.12 Dry Btu: 9900 MMFBtu: 11312
Nitrogen: 0.92
Oxygen: 9.96 Sulfide: 0.02
Sulfur: 0.46 Sulfate:
Organic Sulfur: 0.43

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 7	SiO_2: 11.55	SiO_2ash: 53.37
Co: 20	Al_2O_3: 5.67	Al_2O_3ash: 26.21
Cr: 36	TiO_2: 0.35	TiO_2ash: 1.6
Cu: 58	Fe_2O_3: 0.73	Fe_2O_3ash: 3.38
Li: 39	MgO: 0.14	MgOash: 0.64
Mn: 62	CaO: 0.35	CaOash: 1.61
Nb: 2	K_2O: 0.26	K_2Oash: 1.2
Ni: 25	Na_2O: 0.036	Na_2Oash: 0.17
Pb: 190		
Sr: 180		
V: 240	AB Ratio: 0.08	
Zn: 64	Silica Ratio: 90.45	
	Total ashed Oxides: 88.18	

Calc oxygen: 21.91
* Error = data not available

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 59
Sample No.: 23N12W3H
Township: T23N Range: R12W Sec.: 3

Formation: Fruitland
Field: Bisti Member: Zone: Middle

Depth to Seam: 201.00 Seam Thickness: 5.85
Sample Interval: 217.9-223.7 Sample Thickness: 5.85

Analyses on As-Received Basis

Air Dry Loss: 5.34
Eq. Moisture: 13.56 Moisture: 11.09 Vol. Matter: 30.77
Ash: 28.77 Fixed Carbon: 29.37

Carbon: 46.07 Btu: 7906 DAF Btu: 12149
Hydrogen: 3.90 Dry Btu: 8892 MMFBtu: 11404
Nitrogen: 0.89
Oxygen: 8.86 Sulfide: 0.03
Sulfur: 0.40 Sulfate:
Organic Sulfur: 0.36

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 10	SiO_2: 16.33	SiO_2ash: 56.75
Co: 20	Al_2O_3: 6.43	Al_2O_3ash: 22.35
Cr: 27	TiO_2: 0.26	TiO_2ash: 0.89
Cu: 42	Fe_2O_3: 0.63	Fe_2O_3ash: 2.19
Li: 40	MgO: 0.12	MgOash: 0.42
Mn: 32	CaO: 0.4	CaOash: 1.39
Nb: 2	K_2O: 0.13	K_2Oash: 0.46
Ni: 20	Na_2O: 0.37	Na_2Oash: 1.28
Pb: 81		
Sr: 160		
V: 150	AB Ratio: 0.07	
Zn: 45	Silica Ratio: 93.41	
	Total ashed Oxides: 85.73	

Calc oxygen: 19.97
* Error = data not available

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 105
Sample No.: 23N12W12B
Township: T23N Range: R12W Sec.: 12

Formation: Fruitland
Field: Bisti Member: Zone: Upper

Depth to Seam: 185.30 Seam Thickness: 4.65
Sample Interval: 185.3-189.9 Sample Thickness: 4.65

Analyses on As-Received Basis

Air Dry Loss: 8
Eq. Moisture: 15.27 Moisture: 13.93 Vol. Matter: 29.95
Ash: 17.68 Fixed Carbon: 38.44

Carbon: 51.56 Btu: 8819 DAF Btu: 12896
Hydrogen: 4.21 Dry Btu: 10247 MMFBtu: 10826
Nitrogen: 0.84
Oxygen: 11.20 Sulfide: 0.10
Sulfur: 0.55 Sulfate: 0.001
Organic Sulfur: 0.45

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 12	SiO_2: 10.26	SiO_2ash: 58.04
Co: 28	Al_2O_3: 4.99	Al_2O_3ash: 28.23
Cr: 160	TiO_2: 0.18	TiO_2ash: 1.04
Cu: 77	Fe_2O_3: 0.64	Fe_2O_3ash: 3.61
Li: 62	MgO: 0.14	MgOash: 0.77
Mn: 150	CaO: 0.81	CaOash: 4.6
Nb: 2	K_2O: 0.061	K_2Oash: 0.35
Ni: 45	Na_2O: 0.33	Na_2Oash: 1.88
Pb: 59		
Sr: 650		
V: 150	AB Ratio: 0.12	
Zn: 57	Silica Ratio: 86.6	
	Total ashed Oxides: 98.52	

Calc oxygen: 25.16
* Error = data not available

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 111
Sample No.: 23N12W12E
Township: T23N Range: R12W Sec.: 12

Formation: Fruitland
Field: Bisti Member: Zone: Middle

Depth to Seam: 285.30 Seam Thickness: 6.40
Sample Interval: 285.3-291.7 Sample Thickness: 6.40

Analyses on As-Received Basis

Air Dry Loss: 5.99
Eq. Moisture: 14.40 Moisture: 12.46 Vol. Matter: 34.90
Ash: 12.95 Fixed Carbon: 39.68

Carbon: 56.88 Btu: 9944 DAF Btu: 13332
Hydrogen: 4.40 Dry Btu: 11359 MMFBtu: 11500
Nitrogen: 0.98
Oxygen: 11.85 Sulfide: 0.02
Sulfur: 0.46 Sulfate: 0.000
Organic Sulfur: 0.44

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 10	SiO_2: 7.25	SiO_2ash: 55.99
Co: 25	Al_2O_3: 3.52	Al_2O_3ash: 27.18
Cr: 41	TiO_2: 0.076	TiO_2ash: 0.59
Cu: 57	Fe_2O_3: 0.58	Fe_2O_3ash: 4.52
Li: 57	MgO: 0.033	MgOash: 0.26
Mn: 87	CaO: 0.39	CaOash: 3.01
Nb: 2	K_2O: 0.046	K_2Oash: 0.36
Ni: 29	Na_2O: 0.22	Na_2Oash: 1.72
Pb: 86		
Sr: 270		
V: 200	AB Ratio: 0.11	
Zn: 42	Silica Ratio: 87.78	
	Total ashed Oxides: 93.63	

Calc oxygen: 24.33
* Error = data not available

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 128
Sample No.: 23N11W19B
Township: T23N Range: R11W Sec.: 19

Formation: Fruitland
Field: Bisti Member: Zone: Upper

Depth to Seam: 214.75 Seam Thickness: 8.10
Sample Interval: 214.75-219. Sample Thickness: 5.00

Analyses on As-Received Basis

Air Dry Loss: 13.01
Eq. Moisture: 15.26 Moisture: 19.02 Vol. Matter: 31.11
Ash: 13.01 Fixed Carbon: 36.86

Carbon: 51.02 Btu: 8874 DAF Btu: 13056
Hydrogen: 4.07 Dry Btu: 10958 MMFBtu: 10258
Nitrogen: 1.18
Oxygen: 11.15 Sulfide: 0.11
Sulfur: 0.53 Sulfate: 0.024
Organic Sulfur: 0.40

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 36	SiO_2: 6.52	SiO_2ash: 50.11
Co: 26	Al_2O_3: 3.63	Al_2O_3ash: 27.9
Cr: 21	TiO_2: 0.16	TiO_2ash: 1.23
Cu: 72	Fe_2O_3: 0.71	Fe_2O_3ash: 5.49
Li: 42	MgO: 0.079	MgOash: 0.61
Mn: 170	CaO: 0.57	CaOash: 4.41
Nb: 2	K_2O: 0.05	K_2Oash: 0.39
Ni: 35	Na_2O: 0.2	Na_2Oash: 1.51
Pb: 60		
Sr: 510		
V: 230	AB Ratio: 0.15	
Zn: 52	Silica Ratio: 82.66	
	Total ashed Oxides: 91.65	

Calc oxygen: 30.19
* Error = data not available

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 103
Sample No.: 23N11W19C
Township: T23N Range: R11W Sec.: 19

Formation: Fruitland
Field: Bisti Member: Zone: Upper

Depth to Seam: 214.75 Seam Thickness: 8.10
Sample Interval: 219.75-222. Sample Thickness: 3.10

Analyses on As-Received Basis

Air Dry Loss: 7.53
Eq. Moisture: 14.23 Moisture: 14.25 Vol. Matter: 33.55
Ash: 13.72 Fixed Carbon: 38.48

Carbon: 48.80 Btu: 9422 DAF Btu: 13080
Hydrogen: 4.06 Dry Btu: 10988 MMFBtu: 10986
Nitrogen: 0.82
Oxygen: 17.75 Sulfide: 0.02
Sulfur: 0.57 Sulfate: 0.003
Organic Sulfur: 0.55

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 35	SiO_2: 7.89	SiO_2ash: 57.48
Co: 28	Al_2O_3: 3.98	Al_2O_3ash: 29.01
Cr: 31	TiO_2: 0.23	TiO_2ash: 1.65
Cu: 91	Fe_2O_3: 0.4	Fe_2O_3ash: 2.89
Li: 68	MgO: 0.091	MgOash: 0.67
Mn: 91	CaO: 0.47	CaOash: 3.45
Nb: 2	K_2O: 0.085	K_2Oash: 0.62
Ni: 32	Na_2O: 0.17	Na_2Oash: 1.24
Pb: 83		
Sr: 310		
V: 270	AB Ratio: 0.09	
Zn: 129	Silica Ratio: 89.13	
	Total ashed Oxides: 97.01	

Calc oxygen: 32.03
* Error = data not available

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 98
Sample No.: 23N11W19F
Township: T23N Range: R11W Sec.: 19

Formation: Fruitland
Field: Bisti Member: Zone: Middle

Depth to Seam: 256.40 Seam Thickness: 8.20
Sample Interval: 256.5-264.7 Sample Thickness: 8.20

Analyses on As-Received Basis

Air Dry Loss: 6.08
Eq. Moisture: 14.54 Moisture: 11.97 Vol. Matter: 27.64
Ash: 34.19 Fixed Carbon: 26.19

Carbon: 39.91 Btu: 6686 DAF Btu: 12419
Hydrogen: 3.55 Dry Btu: 7596 MMFBtu: 10532
Nitrogen: 0.70
Oxygen: 9.25 Sulfide: 0.04
Sulfur: 0.40 Sulfate: 0.000
Organic Sulfur: 0.36

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 24	SiO_2: 19.69	SiO_2ash: 57.59
Co: 26	Al_2O_3: 8.88	Al_2O_3ash: 25.99
Cr: 20	TiO_2: 0.53	TiO_2ash: 1.54
Cu: 32	Fe_2O_3: 1.19	Fe_2O_3ash: 3.48
Li: 39	MgO: 0.27	MgOash: 0.78
Mn: 30	CaO: 0.44	CaOash: 1.29
Nb: 2	K_2O: 0.21	K_2Oash: 0.62
Ni: 18	Na_2O: 0.43	Na_2Oash: 1.26
Pb: 68		
Sr: 270		
V: 100	AB Ratio: 0.08	
Zn: 79	Silica Ratio: 91.21	
	Total ashed Oxides: 92.55	

Calc oxygen: 21.25
* Error = data not available

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 109
Sample No.: 23N11W19I
Township: T23N Range: R11W Sec.: 19

Formation: Fruitland
Field: Bisti Member: Zone: Lower

Depth to Seam: 297.70 Seam Thickness: 5.75
Sample Interval: 297.7-303.4 Sample Thickness: 5.75

Analyses on As-Received Basis

Air Dry Loss: 7.56		
Eq. Moisture: 17.55	Moisture: 14.98	Vol. Matter: 32.16
	Ash: 16.90	Fixed Carbon: 35.96
Carbon: 49.89	Btu: 8819	DAF Btu: 12947
Hydrogen: 3.77	Dry Btu: 10373	MMFBtu: 10741
Nitrogen: 0.80		
Oxygen: 13.29		Sulfide: 0.02
	Sulfur: 0.35	Sulfate: 0.000
		Organic Sulfur: 0.33

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be:	SiO_2: 10.06	SiO_2ash: 59.54
Co:	Al_2O_3: 5.33	Al_2O_3ash: 31.55
Cr:	TiO_2: 0.18	TiO_2ash: 1.06
Cu:	Fe_2O_3: 0.36	Fe_2O_3ash: 2.16
Li:	MgO: 0.099	MgOash: 0.59
Mn:	CaO: 0.28	CaOash: 1.64
Nb:	K_2O: 0.087	K_2Oash: 0.52
Ni:	Na_2O: 1.46	Na_2Oash: 8.64
Pb:		
Sr:		
V:	AB Ratio: 0.09	
Zn:	Silica Ratio: 93.13	
	Total ashed Oxides: 105.7	

Calc oxygen: 28.29
* Error = data not available

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 102
Sample No.: 23N11W19K
Township: T23N Range: R11W Sec.: 19

Formation: Fruitland
Field: Bisti Member: Zone: Lower

Depth to Seam: 297.70 Seam Thickness: 3.90
Sample Interval: 305.65-309. Sample Thickness: 3.90

Analyses on As-Received Basis

Air Dry Loss: 6.47
Eq. Moisture: 16.45 Moisture: 14.25 Vol. Matter: 31.24
Ash: 14.40 Fixed Carbon: 40.11

Carbon: 52.40 Btu: 9340 DAF Btu: 13091
Hydrogen: 4.09 Dry Btu: 10893 MMFBtu: 11008
Nitrogen: 0.80
Oxygen: 13.63 Sulfide: 0.03
Sulfur: 0.40 Sulfate: 0.000
Organic Sulfur: 0.37

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 10	SiO_2: 8.26	SiO_2ash: 57.37
Co: 23	Al_2O_3: 4.07	Al_2O_3ash: 28.26
Cr: 47	TiO_2: 0.13	TiO_2ash: 0.91
Cu: 41	Fe_2O_3: 0.5	Fe_2O_3ash: 3.46
Li: 74	MgO: 0.072	MgOash: 0.5
Mn: 62	CaO: 0.35	CaOash: 2.42
Nb: 3	K_2O: 0.061	K_2Oash: 0.43
Ni: 30	Na_2O: 0.25	Na_2Oash: 1.76
Pb: 100		
Sr: 300		
V: 220	AB Ratio: 0.09	
Zn: 59	Silica Ratio: 89.99	
	Total ashed Oxides: 95.11	

Calc oxygen: 27.91
* Error = data not available

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 107
Sample No.: 23N11W19L
Township: T23N Range: R11W Sec.: 19

Formation: Fruitland
Field: Bisti Member: Zone: Lower

Depth to Seam: 297.70 Seam Thickness: 4.30
Sample Interval: 309.55-313. Sample Thickness: 4.30

Analyses on As-Received Basis

Air Dry Loss: 8.57
Eq. Moisture: 15.04 Moisture: 13.46 Vol. Matter: 31.95
Ash: 14.48 Fixed Carbon: 40.10

Carbon: 54.21 Btu: 9408 DAF Btu: 13056
Hydrogen: 4.29 Dry Btu: 10871 MMFBtu: 11104
Nitrogen: 0.98
Oxygen: 12.18 Sulfide: 0.02
Sulfur: 0.36 Sulfate: 0.000
Organic Sulfur: 0.34

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 12	SiO_2: 9.48	SiO_2ash: 65.46
Co: 31	Al_2O_3: 3.06	Al_2O_3ash: 21.16
Cr: 55	TiO_2: 0.099	TiO_2ash: 0.69
Cu: 46	Fe_2O_3: 0.44	Fe_2O_3ash: 3.03
Li: 68	MgO: 0.079	MgOash: 0.55
Mn: 110	CaO: 0.39	CaOash: 2.72
Nb: 2	K_2O: 0.059	K_2Oash: 0.41
Ni: 34	Na_2O: 0.25	Na_2Oash: 1.72
Pb: 140		
Sr: 350		
V: 150	AB Ratio: 0.09	
Zn: 56	Silica Ratio: 91.22	
	Total ashed Oxides: 95.74	

Calc oxygen: 25.68
* Error = data not available

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 148
Sample No.: 23N11W27B
Township: T23N Range: R11W Sec.: 27

Formation: Fruitland
Field: Bisti Member: Zone: Middle

Depth to Seam: 341.40 Seam Thickness: 34.60
Sample Interval: 341.4-346.4 Sample Thickness: 5.00

Analyses on As-Received Basis

Air Dry Loss: 8.47
Eq. Moisture: 14.36 Moisture: 12.39 Vol. Matter: 32.55
Ash: 20.31 Fixed Carbon: 34.75

Carbon: 51.19 Btu: 8798 DAF Btu: 13073
Hydrogen: 4.24 Dry Btu: 10042 MMFBtu: 11181
Nitrogen: 0.92
Oxygen: 10.31 Sulfide: 0.02
Sulfur: 0.62 Sulfate: 0.000
Organic Sulfur: 0.60

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 25	SiO_2: 11.98	SiO_2ash: 59.01
Co: 28	Al_2O_3: 5.49	Al_2O_3ash: 27.02
Cr: 37	TiO_2: 0.15	TiO_2ash: 0.76
Cu: 90	Fe_2O_3: 0.43	Fe_2O_3ash: 2.11
Li: 43	MgO: 0.099	MgOash: 0.49
Mn: 50	CaO: 0.67	CaOash: 3.31
Nb: 2	K_2O: 0.073	K_2Oash: 0.36
Ni: 20	Na_2O: 0.45	Na_2Oash: 2.21
Pb: 70		
Sr: 310		
V: 210	AB Ratio: 0.09	
Zn: 72	Silica Ratio: 90.89	
	Total ashed Oxides: 95.27	

Calc oxygen: 22.72
* Error = data not available

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 124
Sample No.: 23N11W27C
Township: T23N Range: R11W Sec.: 27

Formation: Fruitland
Field: Bisti Member: Zone: Middle

Depth to Seam: 341.40 Seam Thickness: 34.60
Sample Interval: 346.4-351.4 Sample Thickness: 5.00

Analyses on As-Received Basis

Air Dry Loss: 5.5
Eq. Moisture: 13.77 Moisture: 12.11 Vol. Matter: 33.70
Ash: 15.35 Fixed Carbon: 38.83

Carbon: 52.95 Btu: 9208 DAF Btu: 12694
Hydrogen: 4.55 Dry Btu: 10477 MMFBtu: 10982
Nitrogen: 0.88
Oxygen: 13.72 Sulfide: 0.02
Sulfur: 0.42 Sulfate: 0.001
Organic Sulfur: 0.40

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 22	SiO_2: 8.48	SiO_2ash: 55.25
Co: 21	Al_2O_3: 4.58	Al_2O_3ash: 29.82
Cr: 27	TiO_2: 0.18	TiO_2ash: 1.16
Cu: 65	Fe_2O_3: 0.3	Fe_2O_3ash: 1.96
Li: 38	MgO: 0.052	MgOash: 0.34
Mn: 110	CaO: 0.46	CaOash: 2.97
Nb: 2	K_2O: 0.041	K_2Oash: 0.27
Ni: 23	Na_2O: 0.16	Na_2Oash: 1.05
Pb: 66		
Sr: 250		
V: 200	AB Ratio: 0.07	
Zn: 30	Silica Ratio: 91.29	
	Total ashed Oxides: 92.82	

Calc oxygen: 25.85
* Error = data not available

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 147
Sample No.: 23N11W27D
Township: T23N Range: R11W Sec.: 27

Formation: Fruitland
Field: Bisti Member: Zone: Middle

Depth to Seam: 341.40 Seam Thickness: 34.60
Sample Interval: 351.4-356.0 Sample Thickness: 4.60

Analyses on As-Received Basis

Air Dry Loss: 7.2
Eq. Moisture: 13.65 Moisture: 9.84 Vol. Matter: 33.34
Ash: 18.45 Fixed Carbon: 38.36

Carbon: 53.33 Btu: 9180 DAF Btu: 12802
Hydrogen: 4.61 Dry Btu: 10182 MMFBtu: 11410
Nitrogen: 0.96
Oxygen: 12.40 Sulfide: 0.01
Sulfur: 0.39 Sulfate: 0.000
Organic Sulfur: 0.38

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 19	SiO_2: 10.9	SiO_2ash: 59.1
Co: 25	Al_2O_3:5.32	Al_2O_3ash: 28.82
Cr: 50	TiO_2: 0.22	TiO_2ash: 1.17
Cu: 68	Fe_2O_3: 0.38	Fe_2O_3ash: 2.09
Li: 48	MgO: 0.084	MgOash: 0.46
Mn: 120	CaO: 1.31	CaOash: 7.09
Nb: 2	K_2O: 0.049	K_2Oash: 0.27
Ni: 36	Na_2O: 1.04	Na_2Oash: 5.66
Pb: 75		
Sr: 900		
V: 160	AB Ratio: 0.17	
Zn: 42	Silica Ratio: 85.97	
	Total ashed Oxides: 104.66	

Calc oxygen: 22.26
* Error = data not available

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 120
Sample No.: 23N11W27E
Township: T23N Range: R11W Sec.: 27

Formation: Fruitland
Field: Bisti Member: Zone: Middle

Depth to Seam: 341.40 Seam Thickness: 34.60
Sample Interval: 356.0-361.0 Sample Thickness: 5.00

Analyses on As-Received Basis

Air Dry Loss: 8.8
Eq. Moisture: 15.91 Moisture: 16.19 Vol. Matter: 30.12
Ash: 11.08 Fixed Carbon: 42.61

Carbon: 55.27 Btu: 9365 DAF Btu: 12876
Hydrogen: 4.42 Dry Btu: 11174 MMFBtu: 10590
Nitrogen: 0.96
Oxygen: 11.66 Sulfide: 0.01
Sulfur: 0.39 Sulfate: 0.000
Organic Sulfur: 0.38

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 20	SiO_2: 5.88	SiO_2ash: 53.11
Co: 24	Al_2O_3: 3.04	Al_2O_3ash: 27.44
Cr: 165	TiO_2: 0.15	TiO_2ash: 1.37
Cu: 76	Fe_2O_3: 0.34	Fe_2O_3ash: 3.07
Li: 32	MgO: 0.064	MgOash: 0.58
Mn: 96	CaO: 0.59	CaOash: 5.31
Nb: 2	K_2O: 0.032	K_2Oash: 0.29
Ni: 120	Na_2O: 0.025	Na_2Oash: 0.23
Pb: 92		
Sr: 540		
V: 270	AB Ratio: 0.11	
Zn: 92	Silica Ratio: 85.56	
	Total ashed Oxides: 91.4	

Calc oxygen: 27.88
* Error = data not available

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 119
Sample No.: 23N11W27F
Township: T23N Range: R11W Sec.: 27

Formation: Fruitland
Field: Bisti Member: Zone: Middle

Depth to Seam: 341.40 Seam Thickness: 34.60
Sample Interval: 361.0-366.0 Sample Thickness: 5.00

Analyses on As-Received Basis

Air Dry Loss: 7.15
Eq. Moisture: 14.35 Moisture: 14.50 Vol. Matter: 32.40
Ash: 16.83 Fixed Carbon: 36.27

Carbon: 51.83 Btu: 8898 DAF Btu: 12958
Hydrogen: 4.33 Dry Btu: 10407 MMFBtu: 10814
Nitrogen: 0.86
Oxygen: 11.17 Sulfide: 0.02
Sulfur: 0.45 Sulfate: 0.000
Organic Sulfur: 0.43

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 21	SiO_2: 10.64	SiO_2ash: 63.23
Co: 28	Al_2O_3: 5.01	Al_2O_3ash: 29.79
Cr: 62	TiO_2: 0.11	TiO_2ash: 0.63
Cu: 63	Fe_2O_3: 0.35	Fe_2O_3ash: 2.08
Li: 41	MgO: 0.075	MgOash: 0.45
Mn: 35	CaO: 0.75	CaOash: 4.47
Nb: 2	K_2O: 0.075	K_2Oash: 0.45
Ni: 37	Na_2O: 0.22	Na_2Oash: 1.33
Pb: 67		
Sr: 350		
V: 150	AB Ratio: 0.1	
Zn: 68	Silica Ratio: 90.03	
	Total ashed Oxides: 102.43	

Calc oxygen: 25.70
* Error = data not available

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 136
Sample No.: 23N11W27G
Township: T23N Range: R11W Sec.: 27

Formation: Fruitland
Field: Bisti Member: Zone: Lower

Depth to Seam: 341.40 Seam Thickness: 34.60
Sample Interval: 366.0-371.0 Sample Thickness: 5.00

Analyses on As-Received Basis

Air Dry Loss: 2.18
Eq. Moisture: 18.86 Moisture: 7.82 Vol. Matter: 32.81
Ash: 26.36 Fixed Carbon: 33.00

Carbon: 50.41 Btu: 8468 DAF Btu: 12866
Hydrogen: 4.09 Dry Btu: 9187 MMFBtu: 11766
Nitrogen: 1.00
Oxygen: 9.85 Sulfide: 0.03
Sulfur: 0.44 Sulfate: 0.018
Organic Sulfur: 0.39

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 17	SiO_2: 15.89	SiO_2ash: 60.27
Co: 18	Al_2O_3: 7.35	Al_2O_3ash: 27.88
Cr: 2	TiO_2: 0.16	TiO_2ash: 0.62
Cu: 40	Fe_2O_3: 0.52	Fe_2O_3ash: 1.96
Li: 29	MgO: 0.14	MgOash: 0.52
Mn: 170	CaO: 1.83	CaOash: 6.93
Nb: 1	K_2O: 0.14	K_2Oash: 0.52
Ni: 22	Na_2O: 1.9	Na_2Oash: 7.21
Pb: 65		
Sr: 300		
V: 140	AB Ratio: 0.12	
Zn: 57	Silica Ratio: 86.49	
	Total ashed Oxides: 105.91	

Calc oxygen: 17.70
* Error = data not available

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 138
Sample No.: 23N11W27H
Township: T23N Range: R11W Sec.: 27

Formation: Fruitland
Field: Bisti Member: Zone: Middle

Depth to Seam: 341.40 Seam Thickness: 34.60
Sample Interval: 371.0-376.- Sample Thickness: 5.00

Analyses on As-Received Basis

Air Dry Loss: 10.7
Eq. Moisture: 18.12 Moisture: 16.36 Vol. Matter: 36.53
Ash: 36.53 Fixed Carbon: 10.57

Carbon: 34.16 Btu: 5706 DAF Btu: 12113
Hydrogen: 3.27 Dry Btu: 6822 MMFBtu: 9357
Nitrogen: 0.61
Oxygen: 8.64 Sulfide: 0.06
Sulfur: 0.40 Sulfate: 0.000
Organic Sulfur: 0.34

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 19	SiO_2: 20.86	SiO_2ash: 57.1
Co: 20	Al_2O_3: 7.45	Al_2O_3ash: 20.39
Cr: 21	TiO_2: 0.24	TiO_2ash: 0.66
Cu: 28	Fe_2O_3: 1.02	Fe_2O_3ash: 2.79
Li: 29	MgO: 0.28	MgOash: 0.76
Mn: 33	CaO: 0.18	CaOash: 0.49
Nb: 2	K_2O: 0.26	K_2Oash: 0.7
Ni: 20	Na_2O: 0.43	Na_2Oash: 1.19
Pb: 57		
Sr: 130		
V: 130	AB Ratio: 0.07	
Zn: 60	Silica Ratio: 93.39	
	Total ashed Oxides: 84.08	

Calc oxygen: 25.03
* Error = data not available

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 126
Sample No.: 23N11W27K
Township: T23N Range: R11W Sec.: 27

Formation: Fruitland
Field: Bisti Member: Zone: Lower

Depth to Seam: 415.40 Seam Thickness: 13.30
Sample Interval: 415.4-420.4 Sample Thickness: 5.00

Analyses on As-Received Basis

Air Dry Loss: 6.14
Eq. Moisture: 15.30 Moisture: 13.83 Vol. Matter: 30.20
Ash: 15.14 Fixed Carbon: 40.83

Carbon: 53.38 Btu: 9164 DAF Btu: 12901
Hydrogen: 4.30 Dry Btu: 10635 MMFBtu: 10874
Nitrogen: 0.95
Oxygen: 11.76 Sulfide: 0.09
Sulfur: 0.61 Sulfate: 0.000
Organic Sulfur: 0.52

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 12	SiO_2: 9.14	SiO_2ash: 60.37
Co: 23	Al_2O_3: 4.21	Al_2O_3ash: 27.81
Cr: 96	TiO_2: 0.14	TiO_2ash: 0.96
Cu: 49	Fe_2O_3: 0.4	Fe_2O_3ash: 2.66
Li: 54	MgO: 0.072	MgOash: 0.48
Mn: 57	CaO: 0.4	CaOash: 2.63
Nb: 2	K_2O: 0.059	K_2Oash: 0.39
Ni: 54	Na_2O: 0.32	Na_2Oash: 2.13
Pb: 80		
Sr: 300		
V: 200	AB Ratio: 0.09	
Zn: 31	Silica Ratio: 91.27	
	Total ashed Oxides: 97.43	

Calc oxygen: 25.62
* Error = data not available

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 134
Sample No.: 23N11W27L
Township: T23N Range: R11W Sec.: 27

Formation: Fruitland
Field: Bisti Member: Zone: Lower

Depth to Seam: 415.40 Seam Thickness: 13.30
Sample Interval: 420.4-425.4 Sample Thickness: 5.00

Analyses on As-Received Basis

Air Dry Loss: 6.57
Eq. Moisture: 15.28 Moisture: 13.27 Vol. Matter: 30.51
Ash: 13.82 Fixed Carbon: 42.40

Carbon: 54.74 Btu: 9347 DAF Btu: 12820
Hydrogen: 4.42 Dry Btu: 10777 MMFBtu: 10900
Nitrogen: 0.98
Oxygen: 12.08 Sulfide: 0.28
Sulfur: 0.67 Sulfate: 0.055
Organic Sulfur: 0.33

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 8	SiO_2: 8.45	SiO_2ash: 61.12
Co: 23	Al_2O_3: 3.88	Al_2O_3ash: 28.09
Cr: 160	TiO_2: 0.11	TiO_2ash: 0.76
Cu: 41	Fe_2O_3: 0.7	Fe_2O_3ash: 5.1
Li: 84	MgO: 0.067	MgOash: 0.49
Mn: 70	CaO: 0.44	CaOash: 3.2
Nb: 2	K_2O: 0.049	K_2Oash: 0.36
Ni: 22	Na_2O: 0.31	Na_2Oash: 2.21
Pb: 84		
Sr: 570		
V: 130	AB Ratio: 0.12	
Zn: 15	Silica Ratio: 87.42	
	Total ashed Oxides: 101.33	

Calc oxygen: 25.37
* Error = data not available

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 130
Sample No.: 23N11W27M
Township: T23N Range: R11W Sec.: 27

Formation: Fruitland
Field: Bisti Member: Zone: Lower

Depth to Seam: 415.40 Seam Thickness: 13.30
Sample Interval: 425.4-428.7 Sample Thickness: 3.30

Analyses on As-Received Basis

Air Dry Loss: 10.47
Eq. Moisture: 15.30 Moisture: 18.50 Vol. Matter: 31.83
Ash: 7.79 Fixed Carbon: 41.88

Carbon: 55.96 Btu: 9752 DAF Btu: 13230
Hydrogen: 4.48 Dry Btu: 11966 MMFBtu: 10598
Nitrogen: 1.07
Oxygen: 11.75 Sulfide: 0.02
Sulfur: 0.42 Sulfate: 0.000
Organic Sulfur: 0.40

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 24	SiO_2: 4.92	SiO_2ash: 63.11
Co: 37	Al_2O_3: 1.62	Al_2O_3ash: 20.81
Cr: 340	TiO_2: 0.075	TiO_2ash: 0.97
Cu: 64	Fe_2O_3: 0.24	Fe_2O_3ash: 3.09
Li: 69	MgO: 0.01	MgOash: 0.13
Mn: 76	CaO: 0.26	CaOash: 3.38
Nb: 2	K_2O: 0.013	K_2Oash: 0.17
Ni: 190	Na_2O: 0.22	Na_2Oash: 2.89
Pb: 60		
Sr: 1250		
V: 150	AB Ratio: 0.11	
Zn: 38	Silica Ratio: 90.53	
	Total ashed Oxides: 94.55	

Calc oxygen: 30.28
* Error = data not available

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 104
Sample No.: 23N11W29B
Township: T23N Range: R11W Sec.: 29

Formation: Fruitland
Field: Bisti Member: Zone: Middle

Depth to Seam: 153.25 Seam Thickness: 17.15
Sample Interval: 153.25-157. Sample Thickness: 4.60

Analyses on As-Received Basis

Air Dry Loss: 9.11
Eq. Moisture: 13.93 Moisture: 15.23 Vol. Matter: 30.43
Ash: 21.55 Fixed Carbon: 32.79

Carbon: 47.37 Btu: 8171 DAF Btu: 12924
Hydrogen: 4.06 Dry Btu: 9639 MMFBtu: 10575
Nitrogen: 0.72
Oxygen: 10.52 Sulfide: 0.02
Sulfur: 0.52 Sulfate: 0.000
Organic Sulfur: 0.50

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 12	SiO_2: 12.67	SiO_2ash: 58.79
Co: 21	Al_2O_3: 6.33	Al_2O_3ash: 29.41
Cr: 60	TiO_2: 0.34	TiO_2ash: 1.57
Cu: 59	Fe_2O_3: 0.27	Fe_2O_3ash: 1.27
Li: 36	MgO: 0.077	MgOash: 0.36
Mn: 220	CaO: 0.95	CaOash: 4.41
Nb: 2	K_2O: 0.077	K_2Oash: 0.36
Ni: 30	Na_2O: 0.6	Na_2Oash: 2.77
Pb: 81		
Sr: 220		
V: 270	AB Ratio: 0.1	
Zn: 64	Silica Ratio: 90.68	
	Total ashed Oxides: 98.94	

Calc oxygen: 25.78
* Error = data not available

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 110
Sample No.: 23N11W29C
Township: T23N Range: R11W Sec.: 29

Formation: Fruitland
Field: Bisti Member: Zone: Middle

Depth to Seam: 153.25 Seam Thickness: 17.15
Sample Interval: 157.85-162. Sample Thickness: 4.75

Analyses on As-Received Basis

Air Dry Loss: 5.88
Eq. Moisture: 13.43 Moisture: 12.98 Vol. Matter: 35.30
Ash: 18.68 Fixed Carbon: 33.04

Carbon: 52.92 Btu: 8886 DAF Btu: 13003
Hydrogen: 4.31 Dry Btu: 10212 MMFBtu: 11060
Nitrogen: 0.83
Oxygen: 9.74 Sulfide: 0.08
Sulfur: 0.51 Sulfate: 0.000
Organic Sulfur: 0.43

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 10	SiO_2: 10.12	SiO_2ash: 54.17
Co: 26	Al_2O_3: 5.75	Al_2O_3ash: 30.78
Cr: 38	TiO_2: 0.15	TiO_2ash: 0.8
Cu: 72	Fe_2O_3: 0.61	Fe_2O_3ash: 3.26
Li: 59	MgO: 0.08	MgOash: 0.43
Mn: 87	CaO: 1.27	CaOash: 6.81
Nb: 2	K_2O: 0.061	K_2Oash: 0.33
Ni: 26	Na_2O: 0.6	Na_2Oash: 3.21
Pb: 74		
Sr: 340		
V: 260	AB Ratio: 0.09	
Zn: 89	Silica Ratio: 83.76	
	Total ashed Oxides: 99.79	

Calc oxygen: 22.75
* Error = data not available

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 100
Sample No.: 23N11W29D
Township: T23N Range: R11W Sec.: 29

Formation: Fruitland
Field: Bisti Member: Zone: Middle

Depth to Seam: 153.25 Seam Thickness: 17.15
Sample Interval: 162.6-167.4 Sample Thickness: 4.80

Analyses on As-Received Basis

Air Dry Loss: 7.04
Eq. Moisture: 14.66 Moisture: 13.28 Vol. Matter: 32.70
Ash: 14.63 Fixed Carbon: 39.38

Carbon: 52.97 Btu: 9354 DAF Btu: 12975
Hydrogen: 4.23 Dry Btu: 10786 MMFBtu: 11048
Nitrogen: 0.84
Oxygen: 13.57 Sulfide: 0.07
Sulfur: 0.46 Sulfate: 0.000
Organic Sulfur: 0.39

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 35	SiO_2: 8.16	SiO_2ash: 55.79
Co: 27	Al_2O_3: 4.69	Al_2O_3ash: 32.08
Cr: 32	TiO_2: 0.19	TiO_2ash: 1.29
Cu: 83	Fe_2O_3: 0.42	Fe_2O_3ash: 2.84
Li: 57	MgO: 0.076	MgOash: 0.52
Mn: 100	CaO: 0.71	CaOash: 4.84
Nb: 2	K_2O: 0.055	K_2Oash: 0.38
Ni: 24	Na_2O: 0.34	Na_2Oash: 2.35
Pb: 100		
Sr: 250		
V: 250	AB Ratio: 0.08	
Zn: 130	Silica Ratio: 87.18	
	Total ashed Oxides: 100.09	

Calc oxygen: 26.87
* Error = data not available

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 106
Sample No.: 23N11W29E
Township: T23N Range: R11W Sec.: 29

Formation: Fruitland
Field: Bisti Member: Zone: Middle

Depth to Seam: 153.25 Seam Thickness: 17.15
Sample Interval: 167.4-170.4 Sample Thickness: 3.00

Analyses on As-Received Basis

Air Dry Loss: 9.64
Eq. Moisture: 15.29 Moisture: 16.19 Vol. Matter: 33.45
Ash: 9.88 Fixed Carbon: 40.47

Carbon: 56.39 Btu: 9583 DAF Btu: 12962
Hydrogen: 4.45 Dry Btu: 11434 MMFBtu: 10672
Nitrogen: 1.06
Oxygen: 11.56 Sulfide: 0.06
Sulfur: 0.45 Sulfate: 0.021
Organic Sulfur: 0.37

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 37	SiO_2: 5.03	SiO_2ash: 50.92
Co: 47	Al_2O_3: 2.68	Al_2O_3ash: 27.1
Cr: 72	TiO_2: 0.093	TiO_2ash: 0.95
Cu: 58	Fe_2O_3: 0.44	Fe_2O_3ash: 4.5
Li: 61	MgO: 0.055	MgOash: 0.56
Mn: 67	CaO: 0.18	CaOash: 1.88
Nb: 2	K_2O: 0.034	K_2Oash: 0.35
Ni: 50	Na_2O: 0.27	Na_2Oash: 2.7
Pb: 70		
Sr: 840		
V: 120	AB Ratio: 0.12	
Zn: 36	Silica Ratio: 88	
	Total ashed Oxides: 88.96	

Calc oxygen: 27.77
* Error = data not available

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 101
Sample No.: 23N11W29H
Township: T23N Range: R11W Sec.: 29

Formation: Fruitland
Field: Bisti Member: Zone: Middle

Depth to Seam: 153.25 Seam Thickness: 14.40
Sample Interval: 173.7-178.2 Sample Thickness: 5.00

Analyses on As-Received Basis

Air Dry Loss: 7.75
Eq. Moisture: 16.08 Moisture: 14.41 Vol. Matter: 29.83
Ash: 18.59 Fixed Carbon: 37.17

Carbon: 50.65 Btu: 8570 DAF Btu: 12791
Hydrogen: 4.03 Dry Btu: 10012 MMFBtu: 10652
Nitrogen: 0.95
Oxygen: 10.83 Sulfide: 0.09
Sulfur: 0.51 Sulfate: 0.000
Organic Sulfur: 0.42

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 8	SiO_2: 11.17	SiO_2ash: 60.1
Co: 30	Al_2O_3: 4.9	Al_2O_3ash: 26.37
Cr: 210	TiO_2: 0.16	TiO_2ash: 0.88
Cu: 37	Fe_2O_3: 0.62	Fe_2O_3ash: 3.35
Li: 67	MgO: 0.11	MgOash: 0.58
Mn: 45	CaO: 0.49	CaOash: 2.66
Nb: 2	K_2O: 0.085	K_2Oash: 0.46
Ni: 52	Na_2O: 0.51	Na_2Oash: 2.74
Pb: 69		
Sr: 550		
V: 170	AB Ratio: 0.11	
Zn: 60	Silica Ratio: 90.11	
	Total ashed Oxides: 97.14	

Calc oxygen: 25.27
* Error = data not available

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 99
Sample No.: 23N11W29I
Township: T23N Range: R11W Sec.: 29

Formation: Fruitland
Field: Bisti Member: Zone: Middle

Depth to Seam: 153.25 Seam Thickness: 14.40
Sample Interval: 178.7-184.2 Sample Thickness: 5.50

Analyses on As-Received Basis

Air Dry Loss: 5.4
Eq. Moisture: 14.96 Moisture: 11.65 Vol. Matter: 28.01
Ash: 28.07 Fixed Carbon: 32.27

Carbon: 44.78 Btu: 7572 DAF Btu: 12561
Hydrogen: 3.87 Dry Btu: 8570 MMFBtu: 10780
Nitrogen: 0.73
Oxygen: 10.33 Sulfide: 0.04
Sulfur: 0.54 Sulfate: 0.001
Organic Sulfur: 0.50

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 25	SiO_2: 15.71	SiO_2ash: 55.96
Co: 21	Al_2O_3: 7.55	Al_2O_3ash: 26.9
Cr: 78	TiO_2: 0.21	TiO_2ash: 0.72
Cu: 34	Fe_2O_3: 0.75	Fe_2O_3ash: 2.67
Li: 39	MgO: 0.15	MgOash: 0.55
Mn: 40	CaO: 0.56	CaOash: 2.01
Nb: 2	K_2O: 0.12	K_2Oash: 0.43
Ni: 56	Na_2O: 0.3	Na_2Oash: 1.06
Pb: 87		
Sr: 130		
V: 160	AB Ratio: 0.08	
Zn: 43	Silica Ratio: 91.45	
	Total ashed Oxides: 90.3	

Calc oxygen: 22.01
* Error = data not available

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 140
Sample No.: 23N11W29J
Township: T23N Range: R11W Sec.: 29

Formation: Fruitland
Field: Bisti Member: NA Zone: Middle

Depth to Seam: 153.25 Seam Thickness: 14.40
Sample Interval: 184.2-186.0 Sample Thickness: 1.85

Analyses on As-Received Basis

Air Dry Loss: 13.99
Eq. Moisture: 0.00 Moisture: 16.90 Vol. Matter: 19.00
Ash: 54.10 Fixed Carbon: 9.99

Carbon: 18.63 Btu: 2304 DAF Btu: 7948
Hydrogen: 2.12 Dry Btu: 2773 MMFBtu: 5526
Nitrogen: 0.30
Oxygen: 7.83 Sulfide: 0.02
Sulfur: 0.08 Sulfate: 0.000
Organic Sulfur: 0.06

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be:	SiO_2: 30.79	SiO_2ash: 56.92
Co:	Al_2O_3: 13.29	Al_2O_3ash: 24.56
Cr:	TiO_2: 0.82	TiO_2ash: 1.52
Cu:	Fe_2O_3: 2.11	Fe_2O_3ash: 3.9
Li:	MgO: 0.59	MgOash: 1.09
Mn:	CaO: 3.98	CaOash: 7.36
Nb:	K_2O: 0.19	K_2Oash: 0.35
Ni:	Na_2O: 0.92	Na_2Oash: 1.71
Pb:		
Sr:		
V:	AB Ratio: 0.17	
Zn:	Silica Ratio: 82.17	
	Total ashed Oxides: 97.41	

Calc oxygen: 24.77
* Error = data not available

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 108
Sample No.: 23N11W29K
Township: T23N Range: R11W Sec.: 29

Formation: Fruitland
Field: Bisti Member: Zone: Middle

Depth to Seam: 153.25 Seam Thickness: 14.40
Sample Interval: 186.05-188. Sample Thickness: 2.05

Analyses on As-Received Basis

Air Dry Loss: 9.17		
Eq. Moisture: 14.49	Moisture: 14.16	Vol. Matter: 29.07
	Ash: 25.51	Fixed Carbon: 31.26
Carbon: 44.75	Btu: 7631	DAF Btu: 12649
Hydrogen: 3.75	Dry Btu: 8890	MMFBtu: 10471
Nitrogen: 0.77		
Oxygen: 10.62		Sulfide: 0.02
	Sulfur: 0.41	Sulfate: 0.000
		Organic Sulfur: 0.39

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be:	SiO_2: 16.71	SiO_2ash: 65.52
Co:	Al_2O_3: 6.75	Al_2O_3ash: 26.47
Cr:	TiO_2: 0.17	TiO_2ash: 0.66
Cu:	Fe_2O_3: 0.38	Fe_2O_3ash: 1.5
Li:	MgO: 0.084	MgOash: 0.33
Mn:	CaO: 0.74	CaOash: 2.92
Nb:	K_2O: 0.15	K_2Oash: 0.6
Ni:	Na_2O: 0.48	Na_2Oash: 1.9
Pb:		
Sr:		
V:	AB Ratio: 0.07	
Zn:	Silica Ratio: 93.24	
	Total ashed Oxides: 99.9	

Calc oxygen: 24.81
* Error = data not available

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 142
Sample No.: 23N11W29N
Township: T23N Range: R11W Sec.: 29

Formation: Fruitland
Field: Bisti Member: Zone: Lower

Depth to Seam: 238.70 Seam Thickness: 8.90
Sample Interval: 238.7-243.7 Sample Thickness: 5.00

Analyses on As-Received Basis

Air Dry Loss: 10.17
Eq. Moisture: 16.39

Moisture: 12.87
Ash: 10.78

Vol. Matter: 32.31
Fixed Carbon: 44.03

Carbon: 58.31
Hydrogen: 4.70
Nitrogen: 1.17
Oxygen: 11.74

Btu: 9824
Dry Btu: 11275

DAF Btu: 12867
MMFBtu: 11067

Sulfur: 0.40

Sulfide: 0.01
Sulfate: 0.000
Organic Sulfur: 0.39

Fluoride in ppm:

Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 23	SiO_2: 6.22	SiO_2ash: 57.7
Co: 26	Al_2O_3: 3.12	Al_2O_3ash: 28.96
Cr: 76	TiO_2: 0.14	TiO_2ash: 1.31
Cu: 51	Fe_2O_3: 0.4	Fe_2O_3ash: 3.71
Li: 146	MgO: 0.081	MgOash: 0.76
Mn: 68	CaO: 0.35	CaOash: 3.24
Nb: 2	K_2O: 0.029	K_2Oash: 0.27
Ni: 48	Na_2O: 0.42	Na_2Oash: 3.9
Pb: 89		
Sr: 440		
V: 240	AB Ratio: 0.13	
Zn: 30	Silica Ratio: 88.21	
	Total ashed Oxides: 99.85	

Calc oxygen: 24.64
* Error = data not available

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 141
Sample No.: 23N11W29O
Township: T23N Range: R11W Sec.: 29

Formation: Fruitland
Field: Bisti Member: Zone: Lower

Depth to Seam: 238.70 Seam Thickness: 8.90
Sample Interval: 234.7-247.6 Sample Thickness: 3.90

Analyses on As-Received Basis

Air Dry Loss: 11.21
Eq. Moisture: 16.88 Moisture: 15.28 Vol. Matter: 31.95
Ash: 11.57 Fixed Carbon: 41.19

Carbon: 55.85 Btu: 9729 DAF Btu: 13301
Hydrogen: 4.46 Dry Btu: 11484 MMFBtu: 11069
Nitrogen: 1.06
Oxygen: 11.37 Sulfide: 0.01
Sulfur: 0.39 Sulfate: 0.000
Organic Sulfur: 0.38

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 41	SiO_2: 6.66	SiO_2ash: 57.58
Co: 21	Al_2O_3: 3.41	Al_2O_3ash: 29.5
Cr: 18	TiO_2: 0.094	TiO_2ash: 0.82
Cu: 33	Fe_2O_3: 0.36	Fe_2O_3ash: 3.08
Li: 76	MgO: 0.15	MgOash: 1.29
Mn: 66	CaO: 0.37	CaOash: 3.24
Nb: 2	K_2O: 0.052	K_2Oash: 0.45
Ni: 30	Na_2O: 0.56	Na_2Oash: 4.85
Pb: 68		
Sr: 410		
V: 150	AB Ratio: 0.14	
Zn: 40	Silica Ratio: 88.32	
	Total ashed Oxides: 100.81	

Calc oxygen: 26.67
* Error = data not available

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 112
Sample No.: 23N11W36B
Township: T23N Range: R11W Sec.: 36

Formation: Fruitland
Field: Bisti Member: Zone: Middle

Depth to Seam: 305.90 Seam Thickness: 3.20
Sample Interval: 305.9-309.1 Sample Thickness: 3.20

Analyses on As-Received Basis

Air Dry Loss: 14.12
Eq. Moisture: 13.93 Moisture: 18.72 Vol. Matter: 27.20
Ash: 23.49 Fixed Carbon: 30.58

Carbon: 43.17 Btu: 7351 DAF Btu: 12721
Hydrogen: 3.17 Dry Btu: 9044 MMFBtu: 9793
Nitrogen: 0.85
Oxygen: 10.17 Sulfide: 0.03
Sulfur: 0.41 Sulfate: 0.000
Organic Sulfur: 0.38

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be:	SiO_2: 14.98	SiO_2ash: 63.79
Co:	Al_2O_3: 6.22	Al_2O_3ash: 26.48
Cr:	TiO_2: 0.25	TiO_2ash: 1.07
Cu:	Fe_2O_3: 0.8	Fe_2O_3ash: 3.41
Li:	MgO: 0.18	MgOash: 0.79
Mn:	CaO: 0.61	CaOash: 2.6
Nb:	K_2O: 0.15	K_2Oash: 0.64
Ni:	Na_2O: 0.28	Na_2Oash: 1.21
Pb:		
Sr:		
V:	AB Ratio: 0.09	
Zn:	Silica Ratio: 90.36	
	Total ashed Oxides: 99.99	

Calc oxygen: 28.91
* Error = data not available

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 114
Sample No.: 23N11W36B
Township: T23N Range: R11W Sec.: 36

Formation: Fruitland
Field: Bisti Member: Zone: Middle

Depth to Seam: 305.90 Seam Thickness: 2.70
Sample Interval: 305.6-308.3 Sample Thickness: 2.70

Analyses on As-Received Basis

Air Dry Loss: 9.04
Eq. Moisture: 14.08 Moisture: 12.69 Vol. Matter: 27.55
Ash: 26.74 Fixed Carbon: 33.01

Carbon: 43.93 Btu: 5371 DAF Btu: 9011
Hydrogen: 3.98 Dry Btu: 6251 MMFBtu: 7613
Nitrogen: 0.81
Oxygen: 11.37 Sulfide: 0.04
Sulfur: 0.47 Sulfate: 0.000
Organic Sulfur: 0.43

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 35	SiO_2: 15.1	SiO_2ash: 56.47
Co: 27	Al_2O_3: 8.03	Al_2O_3ash: 30.04
Cr: 31	TiO_2: 0.14	TiO_2ash: 0.52
Cu: 53	Fe_2O_3: 0.9	Fe_2O_3ash: 3.37
Li: 57	MgO: 0.15	MgOash: 0.57
Mn: 100	CaO: 0.97	CaOash: 3.63
Nb: 2	K_2O: 0.19	K_2Oash: 0.7
Ni: 38	Na_2O: 0.41	Na_2Oash: 1.52
Pb: 79		
Sr: 250		
V: 250	AB Ratio: 0.09	
Zn: 160	Silica Ratio: 88.17	
	Total ashed Oxides: 96.82	

Calc oxygen: 24.07
* Error = data not available

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 117
Sample No.: 23N11W36E
Township: T23N Range: R11W Sec.: 36

Formation: Fruitland
Field: Bisti Member: Zone: Middle

Depth to Seam: 318.60 Seam Thickness: 2.20
Sample Interval: 318.6-320.8 Sample Thickness: 2.20

Analyses on As-Received Basis

Air Dry Loss: 17.9		
Eq. Moisture: 15.35	Moisture: 20.22	Vol. Matter: 25.74
	Ash: 21.36	Fixed Carbon: 32.57
Carbon: 43.49	Btu: 7310	DAF Btu: 12536
Hydrogen: 3.80	Dry Btu: 9175	MMFBtu: 9432
Nitrogen: 0.74		
Oxygen: 9.73		Sulfide: 0.24
	Sulfur: 0.53	Sulfate: 0.000
		Organic Sulfur: 0.29

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be:	SiO_2: 11.45	SiO_2ash: 53.59
Co:	Al_2O_3: 5.41	Al_2O_3ash: 25.31
Cr:	TiO_2: 0.23	TiO_2ash: 1.07
Cu:	Fe_2O_3: 1.63	Fe_2O_3ash: 7.64
Li:	MgO: 0.098	MgOash: 0.46
Mn:	CaO: 0.48	CaOash: 2.23
Nb:	K_2O: 0.014	K_2Oash: 0.07
Ni:	Na_2O: 0.39	Na_2Oash: 1.84
Pb:		
Sr:		
V:	AB Ratio: 0.15	
Zn:	Silica Ratio: 83.83	
	Total ashed Oxides: 92.21	

Calc oxygen: 30.08
* Error = data not available

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 133
Sample No.: 23N11W36G
Township: T23N Range: R11W Sec.: 36

Formation: Fruitland
Field: Bisti Member: Zone: Lower

Depth to Seam: 385.70 Seam Thickness: 17.30
Sample Interval: 385.7-390.7 Sample Thickness: 5.00

Analyses on As-Received Basis

Air Dry Loss: 12.27		
Eq. Moisture: 15.76	Moisture: 19.15	Vol. Matter: 29.25
	Ash: 16.44	Fixed Carbon: 35.15
Carbon: 48.98	Btu: 8424	DAF Btu: 13080
Hydrogen: 3.97	Dry Btu: 10420	MMFBtu: 10184
Nitrogen: 0.76		
Oxygen: 10.21		Sulfide: 0.03
	Sulfur: 0.44	Sulfate: 0.040
		Organic Sulfur: 0.37

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 24	SiO_2: 9.75	SiO_2ash: 59.29
Co: 23	Al_2O_3: 4.57	Al_2O_3ash: 27.78
Cr: 55	TiO_2: 0.15	TiO_2ash: 0.91
Cu: 63	Fe_2O_3: 0.53	Fe_2O_3ash: 3.21
Li: 74	MgO: 0.11	MgOash: 0.64
Mn: 77	CaO: 0.82	CaOash: 4.96
Nb: 2	K_2O: 0.049	K_2Oash: 0.3
Ni: 40	Na_2O: 0.54	Na_2Oash: 3.29
Pb: 79		
Sr: 300		
V: 250	AB Ratio: 0.14	
Zn: 32	Silica Ratio: 87.06	
	Total ashed Oxides: 100.38	

Calc oxygen: 29.41
* Error = data not available

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 261
Sample No.: 23N11W36H
Township: T23N Range: R11W Sec.: 36

Formation: Fruitland
Field: Bisti Member: Zone:

Depth to Seam: 290.70 Seam Thickness: 17.30
Sample Interval: 390.7-395.3 Sample Thickness: 4.60

Analyses on As-Received Basis

Air Dry Loss: 8.33
Eq. Moisture: 14.90 Moisture: 12.78 Vol. Matter: 35.79
Ash: 22.65 Fixed Carbon: 28.77

Carbon: 48.73 Btu: 8238 DAF Btu: 11391
Hydrogen: 3.81 Dry Btu: 9445 MMFBtu: 10832
Nitrogen: 1.09
Oxygen: 10.42 Sulfide: 0.05
Sulfur: 0.50 Sulfate: 0.001
Organic Sulfur: 0.45

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 10	SiO_2: 12.92	SiO_2ash: 57.06
Co: 25	Al_2O_3: 5.52	Al_2O_3ash: 24.35
Cr: 55	TiO_2: 0.25	TiO_2ash: 1.12
Cu: 52	Fe_2O_3: 0.46	Fe_2O_3ash: 2.01
Li: 52	MgO: 0.55	MgOash: 2.45
Mn: 50	CaO: 0.61	CaOash: 2.69
Nb: 2	K_2O: 0.09	K_2Oash: 0.4
Ni: 19	Na_2O: 0.37	Na_2Oash: 1.62
Pb: 77		
Sr: 600		
V: 110	AB Ratio: 0.14	
Zn: 30	Silica Ratio: 85.68	
	Total ashed Oxides: 91.7	

Calc oxygen: 23.22
* Error = data not available

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory Analyses, NMRDI Coal Quality Project

Lab No.: 115
Sample No.: 23N11W36I
Township: T23N Range: R11W Sec.: 36

Formation: Fruitland
Field: Bisti Member: Zone: Lower

Depth to Seam: 385.70 Seam Thickness: 17.30
Sample Interval: 395.3-400.5 Sample Thickness: 5.25

Analyses on As-Received Basis

Air Dry Loss: 8.85		
Eq. Moisture: 13.92	Moisture: 13.66	Vol. Matter: 24.19
	Ash: 40.18	Fixed Carbon: 21.97
Carbon: 45.34	Btu: 5024	DAF Btu: 10885
Hydrogen: 3.86	Dry Btu: 5819	MMFBtu: 8821
Nitrogen: 0.82		
Oxygen:		Sulfide: 0.03
	Sulfur: 0.31	Sulfate: 0.000
		Organic Sulfur: 0.28

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 17	SiO_2: 24.72	SiO_2ash: 61.52
Co: 20	Al_2O_3: 10.46	Al_2O_3ash: 26.04
Cr: 16	TiO_2: 0.28	TiO_2ash: 0.7
Cu: 31	Fe_2O_3: 0.78	Fe_2O_3ash: 1.94
Li: 76	MgO: 0.34	MgOash: 0.84
Mn: 78	CaO: 0.53	CaOash: 1.31
Nb: 2	K_2O: 0.26	K_2Oash: 0.65
Ni: 16	Na_2O: 0.76	Na_2Oash: 1.89
Pb: 150		
Sr: 110		
V: 120	AB Ratio: 0.07	
Zn: 86	Silica Ratio: 93.76	
	Total ashed Oxides: 94.89	

Calc oxygen: 9.49
* Error = data not available

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory Analyses, NMRDI Coal Quality Project

Lab No.: 116
Sample No.: 23N11W36J
Township: T23N Range: R11W Sec.: 36

Formation: Fruitland
Field: Bisti Member: Zone: Lower

Depth to Seam: 385.70 Seam Thickness: 17.30
Sample Interval: 400.55-403 Sample Thickness: 2.45

Analyses on As-Received Basis

Air Dry Loss: 11.82
Eq. Moisture: 15.40 Moisture: 15.98 Vol. Matter: 24.75
Ash: 32.40 Fixed Carbon: 26.86

Carbon: 30.09 Btu: 6424 DAF Btu: 10229
Hydrogen: 2.93 Dry Btu: 7646 MMFBtu: 9821
Nitrogen: 0.45
Oxygen: 17.76 Sulfide: 0.05
Sulfur: 0.37 Sulfate: 0.000
Organic Sulfur: 0.32

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 21	SiO_2: 18.41	SiO_2ash: 56.81
Co: 23	Al_2O_3: 9.58	Al_2O_3ash: 29.56
Cr: 35	TiO_2: 0.13	TiO_2ash: 0.41
Cu: 33	Fe_2O_3: 0.59	Fe_2O_3ash: 1.81
Li: 21	MgO: 0.43	MgOash: 1.33
Mn: 33	CaO: 0.12	CaOash: 0.36
Nb: 2	K_2O: 0.19	K_2Oash: 0.6
Ni: 21	Na_2O: 0.43	Na_2Oash: 1.33
Pb: 77		
Sr: 110		
V: 140	AB Ratio: 0.06	
Zn: 140	Silica Ratio: 94.19	
	Total ashed Oxides: 92.21	

Calc oxygen: 33.76
* Error = data not available

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 118
Sample No.: 22N10W17B
Township: T22N Range: R10W Sec.: 17

Formation: Fruitland
Field: Bisti Member: Zone: Middle

Depth to Seam: 125.60 Seam Thickness: 27.20
Sample Interval: 125.6-130.6 Sample Thickness: 5.00

Analyses on As-Received Basis

Air Dry Loss: 15.39
Eq. Moisture: 13.84

Moisture: 20.66
Ash: 13.83

Vol. Matter: 29.65
Fixed Carbon: 35.86

Carbon: 48.93
Hydrogen: 4.14
Nitrogen: 0.80
Oxygen: 11.15

Btu: 8579
Dry Btu: 9959

DAF Btu: 12061
MMFBtu: 9235

Sulfur: 0.45

Sulfide: 0.04
Sulfate: 0.000
Organic Sulfur: 0.41

Fluoride in ppm: 63.4 Chloride in ppm: 17.1

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 39	SiO_2: 8.17	SiO_2ash: 59.06
Co: 22	Al_2O_3: 3.48	Al_2O_3ash: 25.16
Cr: 25	TiO_2: 0.19	TiO_2ash: 1.39
Cu: 78	Fe_2O_3: 0.48	Fe_2O_3ash: 3.44
Li: 40	MgO: 0.044	MgOash: 0.32
Mn: 400	CaO: 0.28	CaOash: 2.01
Nb: 2	K_2O: 0.052	K_2Oash: 0.38
Ni: 21	Na_2O: 0.37	Na_2Oash: 2.68
Pb: 96		
Sr: 390		
V: 300	AB Ratio: 0.1	
Zn: 42	Silica Ratio: 91.09	
	Total ashed Oxides: 94.44	

Calc oxygen: 31.85
* Error = data not available

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 151
Sample No.: 22N10W17C
Township: T22N Range: R10W Sec.: 17

Formation: Fruitland
Field: Bisti Member: Zone: Middle

Depth to Seam: 125.60 Seam Thickness: 27.20
Sample Interval: 130.6-135.6 Sample Thickness: 5.00

Analyses on As-Received Basis

Air Dry Loss: 7.77
Eq. Moisture: 14.39 Moisture: 9.73 Vol. Matter: 34.63
Ash: 16.96 Fixed Carbon: 38.67

Carbon: 54.34 Btu: 8970 DAF Btu: 12903
Hydrogen: 4.75 Dry Btu: 10478 MMFBtu: 11513
Nitrogen: 0.92
Oxygen: 12.80 Sulfide: 0.04
Sulfur: 0.48 Sulfate: 0.000
Organic Sulfur: 0.44

Fluoride in ppm: 38.4 Chloride in ppm: 24.4

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 21	SiO_2: 9.45	SiO_2ash: 55.71
Co: 22	Al_2O_3: 4.55	Al_2O_3ash: 26.81
Cr: 38	TiO_2: 0.15	TiO_2ash: 0.87
Cu: 73	Fe_2O_3: 0.33	Fe_2O_3ash: 1.95
Li: 34	MgO: 0.059	MgOash: 0.35
Mn: 67	CaO: 1.21	CaOash: 7.14
Nb: 1	K_2O: 0.58	K_2Oash: 3.44
Ni: 43	Na_2O: 0.28	Na_2Oash: 1.65
Pb: 72		
Sr: 450		
V: 150	AB Ratio: 0.17	
Zn: 33	Silica Ratio: 85.51	
	Total ashed Oxides: 97.92	

Calc oxygen: 22.55
* Error = data not available

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 152
Sample No.: 22N10W17D
Township: T22N Range: R10W Sec.: 17

Formation: Fruitland
Field: Bisti Member: Zone: Middle

Depth to Seam: 125.60 Seam Thickness: 27.20
Sample Interval: 135.6-140.0 Sample Thickness: 4.40

Analyses on As-Received Basis

Air Dry Loss: 8.06
Eq. Moisture: 14.62 Moisture: 10.34 Vol. Matter: 34.26
Ash: 16.68 Fixed Carbon: 38.71

Carbon: 54.12 Btu: 8572 DAF Btu: 12887
Hydrogen: 4.68 Dry Btu: 10489 MMFBtu: 11400
Nitrogen: 0.96
Oxygen: 12.69 Sulfide: 0.11
Sulfur: 0.51 Sulfate: 0.000
Organic Sulfur: 0.40

Fluoride in ppm: 36.5 Chloride in ppm: 24

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 18	SiO_2: 9.01	SiO_2ash: 54.01
Co: 21	Al_2O_3: 5.47	Al_2O_3ash: 32.8
Cr: 51	TiO_2: 0.18	TiO_2ash: 1.07
Cu: 60	Fe_2O_3: 0.41	Fe_2O_3ash: 2.47
Li: 48	MgO: 0.075	MgOash: 0.45
Mn: 48	CaO: 0.5	CaOash: 2.98
Nb: 2	K_2O: 0.046	K_2Oash: 0.28
Ni: 32	Na_2O: 0.27	Na_2Oash: 1.62
Pb: 120		
Sr: 430		
V: 150	AB Ratio: 0.08	
Zn: 43	Silica Ratio: 90.15	
	Total ashed Oxides: 95.68	

Calc oxygen: 23.05
* Error = data not available

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 125
Sample No.: 22N10W17E
Township: T22N Range: R10W Sec.: 17

Formation: Fruitland
Field: Bisti Member: Zone: Middle

Depth to Seam: 125.60 Seam Thickness: 27.20
Sample Interval: 140.0-145.0 Sample Thickness: 5.00

Analyses on As-Received Basis

Air Dry Loss: 5.27		
Eq. Moisture: 14.95	Moisture: 12.04	Vol. Matter: 33.03
	Ash: 18.07	Fixed Carbon: 36.86
Carbon: 52.65	Btu: 8866	DAF Btu: 12685
Hydrogen: 4.22	Dry Btu: 10079	MMFBtu: 10947
Nitrogen: 0.77		
Oxygen: 11.72		Sulfide: 0.09
	Sulfur: 0.50	Sulfate: 0.021
		Organic Sulfur: 0.39

Fluoride in ppm: 67.7 Chloride in ppm: 11.2

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 6	SiO_2: 7.68	SiO_2ash: 42.48
Co: 22	Al_2O_3: 4.65	Al_2O_3ash: 25.72
Cr: 15	TiO_2: 0.16	TiO_2ash: 0.87
Cu: 43	Fe_2O_3: 0.58	Fe_2O_3ash: 3.22
Li: 46	MgO: 0.092	MgOash: 0.51
Mn: 760	CaO: 2.6	CaOash: 14.41
Nb: 2	K_2O: 0.22	K_2Oash: 1.2
Ni:	Na_2O: 0.18	Na_2Oash: 1.02
Pb: 140		
Sr: 900		
V: 160	AB Ratio: 0.29	
Zn: 35	Silica Ratio: 70.07	
	Total ashed Oxides: 89.43	

Calc oxygen: 23.79
* Error = data not available

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 143
Sample No.: 22N10W17F
Township: T22N Range: R10W Sec.: 17

Formation: Fruitland
Field: Bisti Member: Zone: Middle

Depth to Seam: 125.60 Seam Thickness: 27.20
Sample Interval: 145.0-150.0 Sample Thickness: 5.00

Analyses on As-Received Basis

Air Dry Loss: 9.53
Eq. Moisture: 15.93 Moisture: 12.29 Vol. Matter: 32.47
Ash: 15.80 Fixed Carbon: 39.44

Carbon: 53.42 Btu: 8365 DAF Btu: 12863
Hydrogen: 4.48 Dry Btu: 10545 MMFBtu: 11086
Nitrogen: 0.87
Oxygen: 12.63 Sulfide: 0.10
Sulfur: 0.49 Sulfate: 0.016
Organic Sulfur: 0.37

Fluoride in ppm: 24.8 Chloride in ppm: 24

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be:	SiO_2: 9.39	SiO_2ash: 59.44
Co:	Al_2O_3: 4.57	Al_2O_3ash: 28.93
Cr:	TiO_2: 0.16	TiO_2ash: 0.99
Cu:	Fe_2O_3: 0.33	Fe_2O_3ash: 2.09
Li:	MgO: 0.066	MgOash: 0.42
Mn:	CaO: 0.43	CaOash: 2.71
Nb:	K_2O: 0.069	K_2Oash: 0.44
Ni:	Na_2O: 0.36	Na_2Oash: 2.31
Pb:		
Sr:		
V:	AB Ratio: 0.08	
Zn:	Silica Ratio: 91.92	
	Total ashed Oxides: 97.33	

Calc oxygen: 24.94
* Error = data not available

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 129
Sample No.: 22N10W17G
Township: T22N Range: R10W Sec.: 17

Formation: Fruitland
Field: Bisti Member: Zone: Middle

Depth to Seam: 125.60 Seam Thickness: 27.20
Sample Interval: 150.0-152.8 Sample Thickness: 2.80

Analyses on As-Received Basis

Air Dry Loss: 4.91
Eq. Moisture: 14.35

Moisture: 13.63
Ash: 21.57

Vol. Matter: 31.23
Fixed Carbon: 33.57

Carbon: 50.97
Hydrogen: 4.10
Nitrogen: 1.01
Oxygen: 8.13

Btu: 8212
Dry Btu: 9646

DAF Btu: 12857
MMFBtu: 10780

Sulfur: 0.57

Sulfide: 0.06
Sulfate: 0.000
Organic Sulfur: 0.51

Fluoride in ppm: 53.3 Chloride in ppm: 34

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 12	SiO_2: 12.76	SiO_2ash: 59.14
Co:	Al_2O_3: 6.26	Al_2O_3ash: 29.02
Cr:	TiO_2: 0.32	TiO_2ash: 1.48
Cu: 71	Fe_2O_3: 0.39	Fe_2O_3ash: 1.83
Li: 53	MgO: 0.1	MgOash: 0.47
Mn: 25	CaO: 0.28	CaOash: 1.31
Nb:	K_2O: 0.062	K_2Oash: 0.29
Ni:	Na_2O: 0.39	Na_2Oash: 1.82
Pb:		
Sr: 600		
V: 100	AB Ratio: 0.06	
Zn:	Silica Ratio: 94.24	
	Total ashed Oxides: 95.36	

Calc oxygen: 21.78
* Error = data not available

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 132
Sample No.: 22N10W17J
Township: T22N Range: R10W Sec.: 17

Formation: Fruitland
Field: Bisti Member: Zone: Middle

Depth to Seam: 165.70 Seam Thickness: 4.20
Sample Interval: 165.7-169.9 Sample Thickness: 4.20

Analyses on As-Received Basis

Air Dry Loss: 4.09
Eq. Moisture: 14.46 Moisture: 9.89 Vol. Matter: 28.50
Ash: 30.99 Fixed Carbon: 30.60

Carbon: 43.29 Btu: 7000 DAF Btu: 12475
Hydrogen: 3.81 Dry Btu: 8184 MMFBtu: 11010
Nitrogen: 0.72
Oxygen: 10.82 Sulfide: 0.02
Sulfur: 0.44 Sulfate: 0.000
Organic Sulfur: 0.42

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 33	SiO_2: 18.12	SiO_2ash: 58.48
Co: 29	Al_2O_3: 9.18	Al_2O_3ash: 29.61
Cr: 25	TiO_2: 0.21	TiO_2ash: 0.68
Cu: 41	Fe_2O_3: 0.61	Fe_2O_3ash: 1.97
Li: 56	MgO: 0.18	MgOash: 0.57
Mn: 35	CaO: 0.41	CaOash: 1.31
Nb: 2	K_2O: 0.26	K_2Oash: 0.84
Ni: 20	Na_2O: 0.83	Na_2Oash: 2.69
Pb: 83		
Sr: 280		
V: 120	AB Ratio: 0.08	
Zn: 81	Silica Ratio: 93.82	
	Total ashed Oxides: 96.15	

Calc oxygen: 20.75
* Error = data not available

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 146
Sample No.: 22N10W17M
Township: T22N Range: R10W Sec.: 17

Formation: Fruitland
Field: Bisti Member: Zone: Lower

Depth to Seam: 213.85 Seam Thickness: 5.25
Sample Interval: 213.85-219. Sample Thickness: 5.25

Analyses on As-Received Basis

Air Dry Loss: 9.87
Eq. Moisture: 16.29 Moisture: 14.23 Vol. Matter: 31.84
Ash: 13.49 Fixed Carbon: 40.44

Carbon: 54.46 Btu: 9229 DAF Btu: 13082
Hydrogen: 4.32 Dry Btu: 11024 MMFBtu: 10945
Nitrogen: 0.96
Oxygen: 11.57 Sulfide: 0.38
Sulfur: 0.95 Sulfate: 0.000
Organic Sulfur: 0.57

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 31	SiO_2: 8.54	SiO_2ash: 63.32
Co: 35	Al_2O_3: 3.43	Al_2O_3ash: 25.4
Cr: 160	TiO_2: 0.039	TiO_2ash: 0.29
Cu: 36	Fe_2O_3: 0.9	Fe_2O_3ash: 6.7
Li: 34	MgO: 0.087	MgOash: 0.65
Mn: 55	CaO: 0.26	CaOash: 1.93
Nb: 2	K_2O: 0.053	K_2Oash: 0.4
Ni: 32	Na_2O: 0.039	Na_2Oash: 0.29
Pb: 190		
Sr: 680		
V: 150	AB Ratio: 0.11	
Zn: 25	Silica Ratio: 87.21	
	Total ashed Oxides: 98.98	

Calc oxygen: 25.82
* Error = data not available

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 113
Sample No.: 22N9W19B
Township: T22N Range: R9W Sec.: 19

Formation: Fruitland
Field: Bisti Member: Zone: Middle

Depth to Seam: 123.70 Seam Thickness: 4.30
Sample Interval: 123.7-128.0 Sample Thickness: 4.30

Analyses on As-Received Basis

Air Dry Loss: 11.16
Eq. Moisture: 13.97 Moisture: 15.97 Vol. Matter: 31.40
Ash: 21.76 Fixed Carbon: 30.87

Carbon: 45.63 Btu: 8086 DAF Btu: 12986
Hydrogen: 3.96 Dry Btu: 9623 MMFBtu: 10485
Nitrogen: 0.79
Oxygen: 11.28 Sulfide: 0.08
Sulfur: 0.60 Sulfate: 0.000
Organic Sulfur: 0.52

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be:	SiO2: 12.97	SiO2ash: 59.59
Co:	Al2O3: 6.8	Al2O3ash: 31.24
Cr:	TiO2: 0.3	TiO2ash: 1.37
Cu:	Fe2O3: 0.64	Fe2O3ash: 2.96
Li:	MgO: 0.17	MgOash: 0.77
Mn:	CaO: 0.55	CaOash: 2.53
Nb:	K2O: 0.18	K2Oash: 0.83
Ni:	Na2O: 0.29	Na2Oash: 1.33
Pb:		
Sr:		
V:	AB Ratio: 0.09	
Zn:	Silica Ratio: 90.49	
	Total ashed Oxides: 100.62	

Calc oxygen: 27.26
* Error = data not available

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 122
Sample No.: 22N9W29B
Township: T22N Range: R9W Sec.: 29

Formation: Fruitland
Field: Bisti Member: Zone: Upper

Depth to Seam: 168.40 Seam Thickness: 4.75
Sample Interval: 168.4-172.1 Sample Thickness: 4.75

Analyses on As-Received Basis

Air Dry Loss: 3.19		
Eq. Moisture: 13.97	Moisture: 8.82	Vol. Matter: 32.45
	Ash: 25.38	Fixed Carbon: 33.33
Carbon: 48.34	Btu: 7890	DAF Btu: 12709
Hydrogen: 4.41	Dry Btu: 9171	MMFBtu: 11424
Nitrogen: 0.93		
Oxygen: 11.48		Sulfide: 0.03
	Sulfur: 0.60	Sulfate: 0.000
		Organic Sulfur: 0.57

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 26	SiO_2: 14.02	SiO_2ash: 55.25
Co: 23	Al_2O_3: 7.08	Al_2O_3ash: 27.88
Cr: 57	TiO_2: 0.12	TiO_2ash: 0.46
Cu: 65	Fe_2O_3: 0.59	Fe_2O_3ash: 2.32
Li: 43	MgO: 0.18	MgOash: 0.72
Mn: 150	CaO: 0.61	CaOash: 2.41
Nb: 2	K_2O: 0.15	K_2Oash: 0.58
Ni: 39	Na_2O: 0.32	Na_2Oash: 1.25
Pb: 114		
Sr: 180		
V: 250	AB Ratio: 0.08	
Zn: 45	Silica Ratio: 91.02	
	Total ashed Oxides: 90.87	

Calc oxygen: 20.34
* Error = data not available

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 131
Sample No.: 22N9W29E
Township: T22N Range: R9W Sec.: 29

Formation: Fruitland
Field: Bisti Member: Zone: Upper

Depth to Seam: 189.40 Seam Thickness: 3.40
Sample Interval: 189.4-192.8 Sample Thickness: 3.40

Analyses on As-Received Basis

Air Dry Loss: 0.35
Eq. Moisture: 14.13 Moisture: 11.97 Vol. Matter: 30.65
Ash: 14.96 Fixed Carbon: 42.42

Carbon: 56.77 Btu: 9289 DAF Btu: 12712
Hydrogen: 4.69 Dry Btu: 10552 MMFBtu: 11001
Nitrogen: 1.26
Oxygen: 9.74 Sulfide: 0.02
Sulfur: 0.58 Sulfate: 0.012
Organic Sulfur: 0.55

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 13	SiO_2: 9.08	SiO_2ash: 60.7
Co: 28	Al_2O_3: 4.07	Al_2O_3ash: 27.18
Cr: 130	TiO_2: 0.22	TiO_2ash: 1.44
Cu: 72	Fe_2O_3: 0.48	Fe_2O_3ash: 3.2
Li: 64	MgO: 0.083	MgOash: 0.56
Mn: 77	CaO: 0.53	CaOash: 3.55
Nb: 2	K_2O: 0.08	K_2Oash: 0.54
Ni: 30	Na_2O: 0.29	Na_2Oash: 1.97
Pb: 90		
Sr: 900		
V: 180	AB Ratio: 0.1	
Zn: 60	Silica Ratio: 89.25	
	Total ashed Oxides: 99.14	

Calc oxygen: 21.74
* Error = data not available

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 139
Sample No.: 22N9W29H
Township: T22N Range: R9W Sec.: 29

Formation: Fruitland
Field: Bisti Member: - NA Zone: Middle

Depth to Seam: 219.75 Seam Thickness: 4.35
Sample Interval: 219.75-224. Sample Thickness: 4.35

Analyses on As-Received Basis

Air Dry Loss: 7.03
Eq. Moisture: 15.70

Moisture: 13.01
Ash: 32.08

Vol. Matter: 28.67
Fixed Carbon: 26.23

Carbon: 39.70
Hydrogen: 3.55
Nitrogen: 0.72
Oxygen: 10.46

Btu: 6790
Dry Btu: 7806

DAF Btu: 12366
MMFBtu: 10316

Sulfur: 0.45

Sulfide: 0.04
Sulfate: 0.000
Organic Sulfur: 0.41

Fluoride in ppm:

Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 24	SiO_2: 18.54	SiO_2ash: 57.78
Co: 29	Al_2O_3: 8.63	Al_2O_3ash: 26.89
Cr: 78	TiO_2: 0.26	TiO_2ash: 0.81
Cu: 34	Fe_2O_3: 1.06	Fe_2O_3ash: 3.32
Li: 32	MgO: 0.3	MgOash: 0.93
Mn: 30	CaO: 0.62	CaOash: 1.92
Nb: 2	K_2O: 0.26	K_2Oash: 0.81
Ni: 36	Na_2O: 0.53	Na_2Oash: 1.64
Pb: 120		
Sr: 260		
V: 130	AB Ratio: 0.1	
Zn: 80	Silica Ratio: 90.35	
	Total ashed Oxides: 94.1	

Calc oxygen: 23.50
* Error = data not available

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 123
Sample No.: 22N9W29J
Township: T22N Range: R9W Sec.: 29

Formation: Fruitland
Field: Bisti Member: Zone: Middle

Depth to Seam: 219.75 Seam Thickness: 2.20
Sample Interval: 225.7-227.9 Sample Thickness: 2.20

Analyses on As-Received Basis

Air Dry Loss: 4.2
Eq. Moisture: 14.47 Moisture: 13.89 Vol. Matter: 36.93
Ash: 20.15 Fixed Carbon: 29.01

Carbon: 51.31 Btu: 8837 DAF Btu: 13399
Hydrogen: 3.92 Dry Btu: 10262 MMFBtu: 11212
Nitrogen: 1.18
Oxygen: 8.92 Sulfide: 0.04
Sulfur: 0.59 Sulfate:
Organic Sulfur: 0.54

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 37	SiO_2: 11.99	SiO_2ash: 59.49
Co: 39	Al_2O_3: 4.81	Al_2O_3ash: 23.85
Cr: 62	TiO_2: 0.22	TiO_2ash: 1.11
Cu: 60	Fe_2O_3: 0.51	Fe_2O_3ash: 2.52
Li: 39	MgO: 0.13	MgOash: 0.64
Mn: 57	CaO: 0.45	CaOash: 2.25
Nb: 2	K_2O: 0.15	K_2Oash: 0.75
Ni: 29	Na_2O: 0.33	Na_2Oash: 1.66
Pb: 75		
Sr: 440		
V: 200	AB Ratio: 0.09	
Zn: 125	Silica Ratio: 91.66	
	Total ashed Oxides: 92.27	

Calc oxygen: 22.85
* Error = data not available

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 421
Sample No.: 22N10W23A
Township: T22N Range: R10W Sec.: 23

Formation: Fruitland
Field: Bisti Member: Zone: Upper

Depth to Seam: 33.00 Seam Thickness: 5.45
Sample Interval: 33.0-38.45 Sample Thickness: 5.45

Analyses on As-Received Basis

Air Dry Loss: 7.7
Eq. Moisture: 13.86 Moisture: 14.57 Vol. Matter: 34.98
Ash: 19.14 Fixed Carbon: 31.29

Carbon: 51.04 Btu: 8785 DAF Btu: 11974
Hydrogen: 4.27 Dry Btu: 10284 MMFBtu: 10977
Nitrogen: 0.95
Oxygen: 9.31 Sulfide: 0.12
Sulfur: 0.70 Sulfate: 0.001
Organic Sulfur: 0.58

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 30	SiO_2: 10.18	SiO_2ash: 53.21
Co: 30	Al_2O_3: 5.79	Al_2O_3ash: 30.24
Cr: 22	TiO_2: 0.22	TiO_2ash: 1.17
Cu: 78	Fe_2O_3: 0.64	Fe_2O_3ash: 3.33
Li: 34	MgO: 0.14	MgOash: 0.73
Mn: 310	CaO: 0.72	CaOash: 3.76
Nb: 2	K_2O: 0.019	K_2Oash: 0.1
Ni: 22	Na_2O: 0.54	Na_2Oash: 2.82
Pb: 84		
Sr: 370		
V: 290	AB Ratio: 0.12	
Zn: 52	Silica Ratio: 87.18	
	Total ashed Oxides: 95.36	

Calc oxygen: 23.90
* Error = data not available

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 425
Sample No.: 23N10W23D
Township: T22N Range: R10W Sec.: 23

Formation: Fruitland
Field: Bisti Member: Zone: middle

Depth to Seam: 46.65 Seam Thickness: 13.70
Sample Interval: 46.65-51.65 Sample Thickness: 5.00

Analyses on As-Received Basis

Air Dry Loss: 6.04
Eq. Moisture: 13.45 Moisture: 12.94 Vol. Matter: 32.84
Ash: 24.16 Fixed Carbon: 30.05

Carbon: 48.02 Btu: 8279 DAF Btu: 12169
Hydrogen: 4.06 Dry Btu: 9566 MMFBtu: 11177
Nitrogen: 0.94
Oxygen: 9.26 Sulfide: 0.13
Sulfur: 0.61 Sulfate: 0.000
Organic Sulfur: 0.48

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 21	SiO_2: 13.65	SiO_2ash: 56.49
Co: 26	Al_2O_3: 6.23	Al_2O_3ash: 25.8
Cr: 57	TiO_2: 0.33	TiO_2ash: 1.37
Cu: 67	Fe_2O_3: 0.72	Fe_2O_3ash: 2.96
Li: 52	MgO: 0.29	MgOash: 1.2
Mn: 70	CaO: 0.6	CaOash: 2.48
Nb: 1	K_2O: 0.14	K_2Oash: 0.56
Ni: 20	Na_2O: 0.25	Na_2Oash: 1.02
Pb: 82		
Sr: 410		
V: 190	AB Ratio: 0.09	
Zn: 53	Silica Ratio: 89.48	
	Total ashed Oxides: 91.88	

Calc oxygen: 22.21
* Error = data not available

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 418
Sample No.: 22N10W23E
Township: T22N Range: R10W Sec.: 23

Formation: Fruitland
Field: Bisti Member: Zone: Middle

Depth to Seam: 33.00 Seam Thickness: 13.70
Sample Interval: 51.65-56.70 Sample Thickness: 5.05

Analyses on As-Received Basis

Air Dry Loss: 7.87		
Eq. Moisture: 15.10	Moisture: 15.14	Vol. Matter: 36.62
	Ash: 13.47	Fixed Carbon: 34.76
Carbon: 55.22	Btu: 9546	DAF Btu: 12147
Hydrogen: 4.38	Dry Btu: 11250	MMFBtu: 11106
Nitrogen: 0.98		
Oxygen: 10.28		Sulfide: 0.10
	Sulfur: 0.50	Sulfate: 0.045
		Organic Sulfur: 0.35

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be:	SiO_2: 6.75	SiO_2ash: 50.08
Co:	Al_2O_3: 4.24	Al_2O_3ash: 31.46
Cr:	TiO_2: 0.18	TiO_2ash: 1.31
Cu:	Fe_2O_3: 0.76	Fe_2O_3ash: 5.63
Li:	MgO: 0.33	MgOash: 2.46
Mn:	CaO: 0.75	CaOash: 5.55
Nb:	K_2O: 0.025	K_2Oash: 0.19
Ni:	Na_2O: 0.56	Na_2Oash: 4.19
Pb:		
Sr:		
V:	AB Ratio: 0.21	
Zn:	Silica Ratio: 78.59	
	Total ashed Oxides: 100.87	

Calc oxygen: 25.45
* Error = data not available

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 426
Sample No.: 22N10W23F
Township: T22N Range: R10W Sec.: 23

Formation: Fruitland
Field: Bisti Member: Zone: middle

Depth to Seam: 33.00 Seam Thickness: 13.70
Sample Interval: 56.7-60.35 Sample Thickness: 3.65

Analyses on As-Received Basis

Air Dry Loss: 8.62		
Eq. Moisture: 16.20	Moisture: 14.80	Vol. Matter: 28.09
	Ash: 28.85	Fixed Carbon: 28.25
Carbon: 42.88	Btu: 7162	DAF Btu: 11325
Hydrogen: 3.45	Dry Btu: 8547	MMFBtu: 10492
Nitrogen: 1.01		
Oxygen: 8.44		Sulfide: 0.08
	Sulfur: 0.54	Sulfate: 0.019
		Organic Sulfur: 0.44

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 20	SiO_2: 17.73	SiO_2ash: 61.45
Co: 21	Al_2O_3: 7.11	Al_2O_3ash: 24.64
Cr: 5	TiO_2: 0.3	TiO_2ash: 1.04
Cu: 54	Fe_2O_3: 0.81	Fe_2O_3ash: 2.81
Li: 34	MgO: 0.38	MgOash: 1.3
Mn: 47	CaO: 0.46	CaOash: 1.61
Nb: 2	K_2O: 0.4	K_2Oash: 1.38
Ni: 16	Na_2O: 0.46	Na_2Oash: 1.61
Pb: 63		
Sr: 190		
V: 290	AB Ratio: 0.09	
Zn: 109	Silica Ratio: 91.48	
	Total ashed Oxides: 95.84	

Calc oxygen: 23.27
* Error = data not available

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 419
Sample No.: 22N10W23I
Township: T22N Range: R10W Sec.: 23

Formation: Fruitland
Field: Bisti Member: Zone: Lower

Depth to Seam: 123.55 Seam Thickness: 11.70
Sample Interval: 123.55-127. Sample Thickness: 4.00

Analyses on As-Received Basis

Air Dry Loss: 6.78
Eq. Moisture: 16.90 Moisture: 16.08 Vol. Matter: 32.06
Ash: 14.10 Fixed Carbon: 37.75

Carbon: 54.92 Btu: 9638 DAF Btu: 13805
Hydrogen: 4.09 Dry Btu: 11485 MMFBtu: 11298
Nitrogen: 1.25
Oxygen: 9.00 Sulfide: 0.02
Sulfur: 0.54 Sulfate: 0.000
Organic Sulfur: 0.52

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 36	SiO_2: 8.16	SiO_2ash: 57.9
Co: 28	Al_2O_3: 3.95	Al_2O_3ash: 28.03
Cr: 61	TiO_2: 0.17	TiO_2ash: 1.23
Cu: 59	Fe_2O_3: 0.53	Fe_2O_3ash: 3.76
Li: 94	MgO: 0.13	MgOash: 0.9
Mn: 41	CaO: 0.67	CaOash: 4.77
Nb: 2	K_2O: 0.06	K_2Oash: 0.43
Ni: 24	Na_2O: 0.57	Na_2Oash: 4.02
Pb: 79		
Sr: 590		
V: 200	AB Ratio: 0.15	
Zn: 69	Silica Ratio: 85.99	
	Total ashed Oxides: 101.04	

Calc oxygen: 25.10
* Error = data not available

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 420
Sample No.: 22N10W23J
Township: T22N Range: R10W Sec.: 23

Formation: Fruitland
Field: Bisti Member: Zone: Lower

Depth to Seam: 123.55 Seam Thickness: 11.70
Sample Interval: 127.55-131. Sample Thickness: 4.00

Analyses on As-Received Basis

Air Dry Loss: 10.14
Eq. Moisture: 13.76 Moisture: 17.75 Vol. Matter: 28.01
Ash: 26.34 Fixed Carbon: 27.90

Carbon: 42.75 Btu: 7510 DAF Btu: 11552
Hydrogen: 3.52 Dry Btu: 9130 MMFBtu: 10440
Nitrogen: 0.85
Oxygen: 8.41 Sulfide: 0.02
Sulfur: 0.36 Sulfate: 0.000
Organic Sulfur: 0.34

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 18	SiO_2: 15.43	SiO_2ash: 58.59
Co: 28	Al_2O_3: 7.21	Al_2O_3ash: 27.37
Cr: 44	TiO_2: 0.21	TiO_2ash: 0.78
Cu: 33	Fe_2O_3: 0.86	Fe_2O_3ash: 3.25
Li: 43	MgO: 0.16	MgOash: 0.6
Mn: 35	CaO: 0.72	CaOash: 2.73
Nb: 2	K_2O:	K_2Oash:
Ni: 22	Na_2O: 1.04	Na_2Oash: 3.95
Pb: 68		
Sr: 350		
V: 140	AB Ratio: 0.12	
Zn: 70	Silica Ratio: 89.9	
	Total ashed Oxides: 97.27	

Calc oxygen: 26.18
* Error = data not available

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 424
Sample No.: 22N10W23K
Township: T22N Range: R10W Sec.: 23

Formation: Fruitland
Field: Bisti Member: Zone: lower

Depth to Seam: 123.55 Seam Thickness: 11.70
Sample Interval: 131.55-135. Sample Thickness: 3.70

Analyses on As-Received Basis

Air Dry Loss: 7.67
Eq. Moisture: 17.33 Moisture: 14.22 Vol. Matter: 29.75
Ash: 27.06 Fixed Carbon: 28.97

Carbon: 44.85 Btu: 7698 DAF Btu: 11703
Hydrogen: 3.79 Dry Btu: 8974 MMFBtu: 10739
Nitrogen: 0.94
Oxygen: 8.22 Sulfide: 0.35
Sulfur: 0.89 Sulfate: 0.000
Organic Sulfur: 0.54

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 15	SiO_2: 17.52	SiO_2ash: 64.76
Co: 30	Al_2O_3: 6	Al_2O_3ash: 22.18
Cr: 65	TiO_2: 0.29	TiO_2ash: 1.07
Cu: 56	Fe_2O_3: 0.89	Fe_2O_3ash: 3.29
Li: 47	MgO: 0.24	MgOash: 0.89
Mn: 42	CaO: 0.67	CaOash: 2.46
Nb: 2	K_2O: 0.083	K_2Oash: 0.31
Ni: 30	Na_2O: 0.87	Na_2Oash: 3.225
Pb: 60		
Sr: 350		
V: 200	AB Ratio: 0.11	
Zn: 84	Silica Ratio: 90.7	
	Total ashed Oxides: 98.18	

Calc oxygen: 22.47
* Error = data not available

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 413
Sample No.: 23N12W6B
Township: T23N Range: R12W Sec.: 6

Formation: Fruitland
Field: Bisti Member: Zone: Upper

Depth to Seam: 114.40 Seam Thickness: 7.60
Sample Interval: 114.4-118.4 Sample Thickness: 4.00

Analyses on As-Received Basis

Air Dry Loss: 7.13
Eq. Moisture: 14.07 Moisture: 13.81 Vol. Matter: 34.43
Ash: 18.63 Fixed Carbon: 33.13

Carbon: 52.06 Btu: 8920 DAF Btu: 12039
Hydrogen: 4.27 Dry Btu: 10349 MMFBtu: 11074
Nitrogen: 1.02
Oxygen: 9.53 Sulfide: 0.10
Sulfur: 0.66 Sulfate: 0.004
Organic Sulfur: 0.56

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 20	SiO_2: 9.72	SiO_2ash: 52.2
Co: 20	Al_2O_3: 5.4	Al_2O_3ash: 28.98
Cr: 31	TiO_2: 0.091	TiO_2ash: 0.49
Cu: 81	Fe_2O_3: 0.41	Fe_2O_3ash: 2.21
Li: 60	MgO: 0.059	MgOash: 0.32
Mn: 190	CaO: 0.87	CaOash: 4.67
Nb: 2	K_2O: 0.044	K_2Oash: 0.24
Ni: 22	Na_2O: 0.36	Na_2Oash: 1.96
Pb: 61		
Sr: 270		
V: 250	AB Ratio: 0.11	
Zn: 40	Silica Ratio: 87.87	
	Total ashed Oxides: 91.07	

Calc oxygen: 23.36
* Error = data not available

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 409
Sample No.: 23N12W6C
Township: T23N Range: R12W Sec.: 6

Formation: Fruitland
Field: Bisti Member: Zone: Upper

Depth to Seam: 114.40 Seam Thickness: 7.60
Sample Interval: 118.4-122.0 Sample Thickness: 3.60

Analyses on As-Received Basis

Air Dry Loss: 8.22
Eq. Moisture: 15.80 Moisture: 16.03 Vol. Matter: 37.17
Ash: 9.07 Fixed Carbon: 37.72

Carbon: 57.95 Btu: 10004 DAF Btu: 12153
Hydrogen: 4.59 Dry Btu: 11914 MMFBtu: 11029
Nitrogen: 1.06
Oxygen: 10.77 Sulfide: 0.08
Sulfur: 0.50 Sulfate: 0.004
Organic Sulfur: 0.42

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be:	SiO_2: 4.58	SiO_2ash: 50.48
Co:	Al_2O_3: 2.33	Al_2O_3ash: 25.64
Cr:	TiO_2: 0.067	TiO_2ash: 0.74
Cu:	Fe_2O_3: 0.43	Fe_2O_3ash: 4.75
Li:	MgO: 0.047	MgOash: 0.52
Mn:	CaO: 0.59	CaOash: 6.52
Nb:	K_2O: 0.027	K_2Oash: 0.3
Ni:	Na_2O: 0.22	Na_2Oash: 2.45
Pb:		
Sr:		
V:	AB Ratio: 0.18	
Zn:	Silica Ratio: 81.06	
	Total ashed Oxides: 91.4	

Calc oxygen: 26.83
* Error = data not available

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 410
Sample No.: 23N12W6E
Township: T23N Range: R12W Sec.: 6

Formation: Fruitland
Field: Bisti Member: Zone: Upper

Depth to Seam: 114.40 Seam Thickness: 7.35
Sample Interval: 123.7-127.0 Sample Thickness: 3.30

Analyses on As-Received Basis

Air Dry Loss: 9.09
Eq. Moisture: 15.89 Moisture: 17.33 Vol. Matter: 30.29
Ash: 14.24 Fixed Carbon: 38.14

Carbon: 53.53 Btu: 8718 DAF Btu: 11387
Hydrogen: 4.00 Dry Btu: 10546 MMFBtu: 10255
Nitrogen: 1.02
Oxygen: 9.47 Sulfide: 0.04
Sulfur: 0.38 Sulfate: 0.000
Organic Sulfur: 0.34

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be:	SiO_2:	SiO_2ash:
Co:	Al_2O_3:	Al_2O_3ash:
Cr:	TiO_2:	TiO_2ash:
Cu:	Fe_2O_3:	Fe_2O_3ash:
Li:	MgO:	MgOash:
Mn:	CaO:	CaOash:
Nb:	K_2O:	K_2Oash:
Ni:	Na_2O:	Na_2Oash:
Pb:		
Sr:		
V:	AB Ratio: 0.18	
Zn:	Silica Ratio: 81.06	
	Total ashed Oxides:	

Calc oxygen: 26.83
* Error = data not available

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 412
Sample No.: 23N12W6F
Township: T23N Range: R12W Sec.: 6

Formation: Fruitland
Field: Bisti Member: Zone: Upper

Depth to Seam: 114.40 Seam Thickness: 7.35
Sample Interval: 127.0-131.0 Sample Thickness: 4.05

Analyses on As-Received Basis

Air Dry Loss: 9.64
Eq. Moisture: 12.80 Moisture: 18.47 Vol. Matter: 31.80
Ash: 10.03 Fixed Carbon: 39.70

Carbon: 55.31 Btu: 9421 DAF Btu: 11765
Hydrogen: 4.28 Dry Btu: 11555 MMFBtu: 10511
Nitrogen: 1.01
Oxygen: 10.43 Sulfide: 0.01
Sulfur: 0.45 Sulfate: 0.002
Organic Sulfur: 0.44

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be:	SiO_2: 5.51	SiO_2ash: 54.98
Co:	Al_2O_3: 2.7	Al_2O_3ash: 26.92
Cr:	TiO_2: 0.13	TiO_2ash: 1.27
Cu:	Fe_2O_3: 0.51	Fe_2O_3ash: 5.08
Li:	MgO: 0.055	MgOash: 0.55
Mn:	CaO: 0.23	CaOash: 2.31
Nb:	K_2O: 0.038	K_2Oash: 0.38
Ni:	Na_2O: 0.23	Na_2Oash: 2.33
Pb:		
Sr:		
V:	AB Ratio: 0.12	
Zn:	Silica Ratio: 87.38	
	Total ashed Oxides: 93.82	

Calc oxygen: 28.92
* Error = data not available

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 407
Sample No.: 23N12W6I
Township: T23N Range: R12W Sec.: 6

Formation: Fruitland
Field: Bisti Member: Zone: Upper

Depth to Seam: 114.40 Seam Thickness: 3.90
Sample Interval: 134.55-138. Sample Thickness: 3.90

Analyses on As-Received Basis

Air Dry Loss: 6.57
Eq. Moisture: 16.54 Moisture: 13.94 Vol. Matter: 34.19
Ash: 20.96 Fixed Carbon: 30.91

Carbon: 49.94 Btu: 8507 DAF Btu: 11969
Hydrogen: 4.19 Dry Btu: 9885 MMFBtu: 10917
Nitrogen: 0.96
Oxygen: 9.42 Sulfide: 0.02
Sulfur: 0.56 Sulfate: 0.000
Organic Sulfur: 0.54

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 27	SiO_2: 11.67	SiO_2ash: 55.66
Co: 25	Al_2O_3: 6.31	Al_2O_3ash: 30.12
Cr: 12	TiO_2: 0.24	TiO_2ash: 1.17
Cu: 57	Fe_2O_3: 0.1	Fe_2O_3ash: 0.49
Li: 42	MgO: 0.079	MgOash: 0.38
Mn: 41	CaO: 0.42	CaOash: 2
Nb: 2	K_2O: 0.12	K_2Oash: 0.6
Ni: 20	Na_2O: 0.68	Na_2Oash: 3.26
Pb: 95		
Sr: 150		
V: 220	AB Ratio: 0.07	
Zn: 137	Silica Ratio: 95.09	
	Total ashed Oxides: 93.68	

Calc oxygen: 23.39
* Error = data not available

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 415
Sample No.: 23N12W6L
Township: T23N Range: R12W Sec.: 6

Formation: Fruitland
Field: Bisti Member: Zone: Middle

Depth to Seam: 153.85 Seam Thickness: 2.65
Sample Interval: 153.85-156. Sample Thickness: 2.65

Analyses on As-Received Basis

Air Dry Loss: 9.99
Eq. Moisture: 16.35 Moisture: 17.63 Vol. Matter: 34.00
Ash: 8.23 Fixed Carbon: 40.13

Carbon: 58.06 Btu: 9911 DAF Btu: 11916
Hydrogen: 4.50 Dry Btu: 12032 MMFBtu: 10826
Nitrogen: 1.02
Oxygen: 10.08 Sulfide: 0.02
Sulfur: 0.44 Sulfate: 0.003
Organic Sulfur: 0.42

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be:	SiO_2: 4.76	SiO_2ash: 57.74
Co:	Al_2O_3: 2	Al_2O_3ash: 24.31
Cr:	TiO_2: 0.075	TiO_2ash: 0.92
Cu:	Fe_2O_3: 0.73	Fe_2O_3ash: 8.9
Li:	MgO: 0.091	MgOash: 1.11
Mn:	CaO: 0.32	CaOash: 3.85
Nb:	K_2O: 0.025	K_2Oash: 0.31
Ni:	Na_2O: 0.27	Na_2Oash: 3.33
Pb:		
Sr:		
V:	AB Ratio: 0.21	
Zn:	Silica Ratio: 80.64	
	Total ashed Oxides: 100.47	

Calc_oxygen: 27.75
* Error = data not available

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 414
Sample No.: 23N12W6N
Township: T23N Range: R12W Sec.: 6

Formation: Fruitland
Field: Bisti Member: Zone: Middle

Depth to Seam: 153.85 Seam Thickness: 3.95
Sample Interval: 158.0-161.9 Sample Thickness: 3.95

Analyses on As-Received Basis

Air Dry Loss: 7.47
Eq. Moisture: 15.70 Moisture: 16.15 Vol. Matter: 34.18
Ash: 10.31 Fixed Carbon: 39.34

Carbon: 57.40 Btu: 9865 DAF Btu: 12300
Hydrogen: 4.39 Dry Btu: 11766 MMFBtu: 11044
Nitrogen: 1.07
Oxygen: 10.20 Sulfide: 0.01
Sulfur: 0.45 Sulfate: 0.002
Organic Sulfur: 0.44

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be:	SiO_2: 6.68	SiO_2ash: 64.79
Co:	Al_2O_3: 2.24	Al_2O_3ash: 21.71
Cr:	TiO_2: 0.092	TiO_2ash: 0.9
Cu:	Fe_2O_3: 0.39	Fe_2O_3ash: 3.79
Li:	MgO: 0.092	MgOash: 0.9
Mn:	CaO: 0.38	CaOash: 3.66
Nb:	K_2O: 0.026	K_2Oash: 0.26
Ni:	Na_2O: 0.26	Na_2Oash: 2.55
Pb:		
Sr:		
V:	AB Ratio: 0.12	
Zn:	Silica Ratio: 88.58	
	Total ashed Oxides: 98.56	

Calc oxygen: 26.38
* Error = data not available

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 408
Sample No.: 23N12W6Q
Township: T23N Range: R12W Sec.: 6

Formation: Fruitland
Field: Bisti Member: Zone: Lower

Depth to Seam: 177.60 Seam Thickness: 5.20
Sample Interval: 177.6-182.8 Sample Thickness: 5.20

Analyses on As-Received Basis

Air Dry Loss: 6.95
Eq. Moisture: 14.70 Moisture: 16.70 Vol. Matter: 33.51
Ash: 13.64 Fixed Carbon: 36.14

Carbon: 54.39 Btu: 9274 DAF Btu: 12235
Hydrogen: 4.34 Dry Btu: 11133 MMFBtu: 10827
Nitrogen: 1.06
Oxygen: 9.47 Sulfide: 0.02
Sulfur: 0.38 Sulfate: 0.000
Organic Sulfur: 0.36

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 12	SiO_2: 7.55	SiO_2ash: 55.34
Co: 26	Al_2O_3: 4.11	Al_2O_3ash: 30.12
Cr: 50	TiO_2: 0.1	TiO_2ash: 0.74
Cu: 34	Fe_2O_3: 0.51	Fe_2O_3ash: 3.75
Li: 75	MgO: 0.077	MgOash: 0.57
Mn: 58	CaO: 0.32	CaOash: 2.33
Nb: 2	K_2O: 0.06	K_2Oash: 0.44
Ni: 18	Na_2O: 0.26	Na_2Oash: 1.94
Pb: 67		
Sr: 500		
V: 100	AB Ratio: 0.1	
Zn: 54	Silica Ratio: 89.27	
	Total ashed Oxides: 95.23	

Calc oxygen: 26.19
* Error = data not available

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 416
Sample No.: 23N12W6T
Township: T23N Range: R12W Sec.: 6

Formation: Fruitland
Field: Bisti Member: Zone: Lower

Depth to Seam: 189.50 Seam Thickness: 2.60
Sample Interval: 190.0-192.6 Sample Thickness: 2.60

Analyses on As-Received Basis

Air Dry Loss: 10.46
Eq. Moisture: 15.58 Moisture: 17.60 Vol. Matter: 34.31
Ash: 10.37 Fixed Carbon: 37.71

Carbon: 56.14 Btu: 9785 DAF Btu: 11995
Hydrogen: 4.44 Dry Btu: 11875 MMFBtu: 10950
Nitrogen: 1.10
Oxygen: 9.77 Sulfide: 0.02
Sulfur: 0.55 Sulfate: 0.003
Organic Sulfur: 0.53

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be:	SiO_2: 6.87	SiO_2ash: 66.28
Co:	Al_2O_3: 2.25	Al_2O_3ash: 21.73
Cr:	TiO_2: 0.051	TiO_2ash: 0.5
Cu:	Fe_2O_3: 0.42	Fe_2O_3ash: 4.06
Li:	MgO: 0.091	MgOash: 0.88
Mn:	CaO: 0.72	CaOash: 6.91
Nb:	K_2O: 0.046	K_2Oash: 0.45
Ni:	Na_2O: 0.29	Na_2Oash: 2.76
Pb:		
Sr:		
V:	AB Ratio: 0.17	
Zn:	Silica Ratio: 84.83	
	Total ashed Oxides: 103.57	

Calc oxygen: 27.40
* Error = data not available

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 145
Sample No.: 22N9W27B
Township: T22N Range: R9W Sec.: 27

Formation: Fruitland
Field: Bisti Member: Zone: Upper

Depth to Seam: 292.70 Seam Thickness: 5.95
Sample Interval: 292.70-298. Sample Thickness: 5.95

Analyses on As-Received Basis

Air Dry Loss: 6.24
Eq. Moisture: 11.04 Moisture: 8.37 Vol. Matter: 31.85
Ash: 24.45 Fixed Carbon: 31.13

Carbon: 45.97 Btu: 7782 DAF Btu: 12728
Hydrogen: 4.26 Dry Btu: 8748 MMFBtu: 11507
Nitrogen: 0.85
Oxygen: 11.27 Sulfide: 0.03
Sulfur: 0.61 Sulfate: 0.000
Organic Sulfur: 0.58

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be:	SiO_2: 17.64	SiO_2ash: 61.56
Co:	Al_2O_3: 7.43	Al_2O_3ash: 25.93
Cr:	TiO_2: 0.14	TiO_2ash: 0.48
Cu:	Fe_2O_3: 0.64	Fe_2O_3ash: 2.22
Li:	MgO: 0.18	MgOash: 0.63
Mn:	CaO: 0.91	CaOash: 3.16
Nb:	K_2O: 0.19	K_2Oash: 0.68
Ni:	Na_2O: 0.22	Na_2Oash: 0.78
Pb:		
Sr:		
V:	AB Ratio: 0.08	
Zn:	Silica Ratio: 91.1	
	Total ashed Oxides: 95.44	

Calc oxygen: 23.86
* Error = data not available

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 150
Sample No.: 22N9W36B
Township: T22N Range: R9W Sec.: 36

Formation: Fruitland
Field: Bisti Member: Zone: Lower

Depth to Seam: 282.85 Seam Thickness: 13.05
Sample Interval: 282.85-287. Sample Thickness: 5.00

Analyses on As-Received Basis

Air Dry Loss: 7.11
Eq. Moisture: 15.51 Moisture: 9.72 Vol. Matter: 31.77
Ash: 25.35 Fixed Carbon: 33.16

Carbon: 47.49 Btu: 7689 DAF Btu: 12655
Hydrogen: 4.00 Dry Btu: 9101 MMFBtu: 11230
Nitrogen: 0.95
Oxygen: 11.92 Sulfide: 0.10
Sulfur: 0.54 Sulfate: 0.000
Organic Sulfur: 0.44

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 23	SiO2: 15.13	SiO2ash: 59.69
Co: 24	Al2O3: 6.94	Al2O3ash: 27.39
Cr: 37	TiO2: 0.19	TiO2ash: 0.76
Cu: 41	Fe2O3: 0.88	Fe2O3ash: 3.48
Li: 64	MgO: 0.16	MgOash: 0.65
Mn: 65	CaO: 0.41	CaOash: 1.63
Nb: 2	K2O: 0.2	K2Oash: 0.8
Ni: 20	Na2O: 0.38	Na2Oash: 1.5
Pb: 70		
Sr: 260		
V: 160	AB Ratio: 0.09	
Zn: 20	Silica Ratio: 91.19	
	Total ashed Oxides: 95.9	

Calc oxygen: 21.67
* Error = data not available

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 149
Sample No.: 22N9W36C
Township: T22N Range: R9W Sec.: 36

Formation: Fruitland
Field: Bisti Member: Zone: Lower

Depth to Seam: 282.85 Seam Thickness: 13.05
Sample Interval: 287.85-293. Sample Thickness: 5.15

Analyses on As-Received Basis

Air Dry Loss: 8.14
Eq. Moisture: 14.68 Moisture: 10.65 Vol. Matter: 30.40
Ash: 24.59 Fixed Carbon: 34.36

Carbon: 43.83 Btu: 7823 DAF Btu: 12651
Hydrogen: 3.77 Dry Btu: 9170 MMFBtu: 11093
Nitrogen: 0.93
Oxygen: 15.79 Sulfide: 0.02
Sulfur: 0.41 Sulfate: 0.000
Organic Sulfur: 0.39

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 19	SiO_2: 14.44	SiO_2ash: 58.71
Co: 27	Al_2O_3: 7.88	Al_2O_3ash: 32.03
Cr: 57	TiO_2: 0.22	TiO_2ash: 0.91
Cu: 41	Fe_2O_3: 1.25	Fe_2O_3ash: 5.1
Li: 99	MgO: 0.11	MgOash: 0.46
Mn: 50	CaO: 0.44	CaOash: 1.81
Nb: 2	K_2O: 0.19	K_2Oash: 0.79
Ni: 31	Na_2O: 0.54	Na_2Oash: 2.18
Pb: 80		
Sr: 250		
V: 140	AB Ratio: 0.11	
Zn: 35	Silica Ratio: 88.84	
	Total ashed Oxides: 101.99	

Calc oxygen: 26.47
* Error = data not available

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 153
Sample No.: 22N9W36D
Township: T22N Range: R9W Sec.: 36

Formation: Fruitland
Field: Bisti Member: Zone: Lower

Depth to Seam: 282.85 Seam Thickness: 13.05
Sample Interval: 293.0-295.9 Sample Thickness: 2.90

Analyses on As-Received Basis

Air Dry Loss: 6.57		
Eq. Moisture: 14.44	Moisture: 8.67	Vol. Matter: 30.85
	Ash: 27.23	Fixed Carbon: 33.25
Carbon: 46.71	Btu: 7589	DAF Btu: 12638
Hydrogen: 4.23	Dry Btu: 8870	MMFBtu: 11409
Nitrogen: 0.92		
Oxygen: 11.80		Sulfide: 0.02
	Sulfur: 0.42	Sulfate: 0.000
		Organic Sulfur: 0.40

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 15	SiO_2: 15.8	SiO_2ash: 58.02
Co: 17	Al_2O_3: 7.75	Al_2O_3ash: 28.45
Cr: 12	TiO_2: 0.26	TiO_2ash: 0.97
Cu: 28	Fe_2O_3: 0.5	Fe_2O_3ash: 1.84
Li: 33	MgO: 0.11	MgOash: 0.41
Mn: 40	CaO: 0.25	CaOash: 0.91
Nb: 1	K_2O: 0.24	K_2Oash: 0.89
Ni: 37	Na_2O: 0.37	Na_2Oash: 1.37
Pb: 103		
Sr: 120		
V: 120	AB Ratio: 0.06	
Zn: 32	Silica Ratio: 94.83	
	Total ashed Oxides: 92.86	

Calc oxygen: 20.49
* Error = data not available

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 127
Sample No.: 22N9W36F
Township: T22N Range: R9W Sec.: 36

Formation: Fruitland
Field: Bisti Member: Zone: Lower

Depth to Seam: 282.85 Seam Thickness: 2.20
Sample Interval: 297.2-299.4 Sample Thickness: 2.20

Analyses on As-Received Basis

Air Dry Loss: 15.21		
Eq. Moisture: 14.73	Moisture: 21.06	Vol. Matter: 27.13
	Ash: 20.24	Fixed Carbon:
Carbon: 43.35	Btu: 8138	DAF Btu: 12836
Hydrogen: 3.69	Dry Btu: 9545	MMFBtu: 9587
Nitrogen: 0.78		
Oxygen: 10.45		Sulfide: 0.01
	Sulfur: 0.41	Sulfate: 0.000
		Organic Sulfur: 0.40

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 15	SiO_2: 11.92	SiO_2ash: 58.92
Co: 30	Al_2O_3: 5.57	Al_2O_3ash: 27.53
Cr: 54	TiO_2: 0.3	TiO_2ash: 1.47
Cu: 46	Fe_2O_3: 0.6	Fe_2O_3ash: 2.95
Li: 40	MgO: 0.13	MgOash: 0.65
Mn: 45	CaO: 0.47	CaOash: 2.32
Nb: 2	K_2O: 0.12	K_2Oash: 0.6
Ni: 32	Na_2O: 0.35	Na_2Oash: 1.72
Pb: 91		
Sr: 210		
V: 230	AB Ratio: 0.09	
Zn: 79	Silica Ratio: 90.86	
	Total ashed Oxides: 96.16	

Calc oxygen: 31.53
* Error = data not available

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 137
Sample No.: 22N9W36I
Township: T22N Range: R9W Sec.: 36

Formation: Fruitland
Field: Bisti Member: Zone: Lower

Depth to Seam: 326.60 Seam Thickness: 5.20
Sample Interval: 326.6-331.8 Sample Thickness: 5.20

Analyses on As-Received Basis

Air Dry Loss: 10.46
Eq. Moisture: 14.01 Moisture: 16.25 Vol. Matter: 29.72
Ash: 18.72 Fixed Carbon: 35.31

Carbon: 49.21 Btu: 8398 DAF Btu: 12914
Hydrogen: 4.10 Dry Btu: 10027 MMFBtu: 10468
Nitrogen: 0.91
Oxygen: 10.36 Sulfide: 0.02
Sulfur: 0.43 Sulfate: 0.000
Organic Sulfur: 0.41

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 41	SiO_2: 10.05	SiO_2ash: 53.69
Co: 23	Al_2O_3: 5.16	Al_2O_3ash: 27.59
Cr: 10	TiO_2: 0.19	TiO_2ash: 1.03
Cu: 34	Fe_2O_3: 0.46	Fe_2O_3ash: 2.47
Li: 38	MgO: 0.13	MgOash: 0.71
Mn: 60	CaO: 0.6	CaOash: 3.18
Nb: 1	K_2O: 0.056	K_2Oash: 0.3
Ni: 30	Na_2O: 0.32	Na_2Oash: 1.73
Pb: 643		
Sr: 240		
V: 180	AB Ratio: 0.1	
Zn: 45	Silica Ratio: 89.4	
	Total ashed Oxides: 90.7	

Calc oxygen: 26.63
* Error = data not available

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 215
Sample No.: 23N13W2B
Township: T23N Range: R13W Sec.: 2

Formation: Fruitland
Field: Bisti Member: Zone: Lower

Depth to Seam: 225.80 Seam Thickness: 10.55
Sample Interval: 225.8-230.8 Sample Thickness: 5.00

Analyses on As-Received Basis

Air Dry Loss: 7.68
Eq. Moisture: 13.49

Moisture: 10.02
Ash: 19.04

Vol. Matter: 33.37
Fixed Carbon: 37.56

Carbon: 51.94
Hydrogen: 4.11
Nitrogen: 1.07
Oxygen: 13.22

Btu: 8910
Dry Btu: 9902

DAF Btu: 12560
MMFBtu: 11135

Sulfur: 0.58

Sulfide: 0.06
Sulfate: 0.000
Organic Sulfur: 0.52

Fluoride in ppm:

Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 6	SiO_2: 8.67	SiO_2ash: 45.56
Co: 25	Al_2O_3: 3.93	Al_2O_3ash: 20.65
Cr: 65	TiO_2: 0.2	TiO_2ash: 1.06
Cu: 62	Fe_2O_3: 0.68	Fe_2O_3ash: 3.57
Li: 79	MgO: 0.17	MgOash: 0.89
Mn: 1500	CaO: 3.19	CaOash: 16.75
Nb: 3	K_2O: 0.12	K_2Oash: 0.65
Ni: 30	Na_2O: 1	Na_2Oash: 5.24
Pb: 94		
Sr: 1100		
V: 130	AB Ratio: 0.14	
Zn: 35	Silica Ratio: 85.68	
	Total ashed Oxides: 94.37	

Calc oxygen: 23.26
* Error = data not available

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 210
Sample No.: 23N13W2C
Township: T23N Range: R13W Sec.: 2

Formation: Fruitland
Field: Bisti Member: Zone: Lower

Depth to Seam: 225.80 Seam Thickness: 10.55
Sample Interval: 230.8-236.3 Sample Thickness: 5.45

Analyses on As-Received Basis

Air Dry Loss: 9.76
Eq. Moisture: 15.29 Moisture: 14.39 Vol. Matter: 32.93
Ash: 13.12 Fixed Carbon: 39.55

Carbon: 55.56 Btu: 9601 DAF Btu: 11780
Hydrogen: 4.32 Dry Btu: 11215 MMFBtu: 11089
Nitrogen: 1.05
Oxygen: 10.79 Sulfide: 0.27
Sulfur: 0.75 Sulfate: 0.000
Organic Sulfur: 0.48

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 19	SiO_2: 6.82	SiO_2ash: 52.01
Co: 25	Al_2O_3: 3.69	Al_2O_3ash: 28.11
Cr: 56	TiO_2: 0.11	TiO_2ash: 0.86
Cu: 55	Fe_2O_3: 0.79	Fe_2O_3ash: 6.01
Li: 71	MgO: 0.052	MgOash: 0.4
Mn: 170	CaO: 0.67	CaOash: 5.08
Nb: 2	K_2O: 0.039	K_2Oash: 0.3
Ni: 30	Na_2O: 0.56	Na_2Oash: 4.3
Pb: 65		
Sr: 540		
V: 140	AB Ratio: 0.19	
Zn: 20	Silica Ratio: 81.9	
	Total ashed Oxides: 97.07	

Calc oxygen: 25.20
* Error = data not available

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 206
Sample No.: 23N13W2E
Township: T23N Range: R13W Sec.: 2

Formation: Fruitland
Field: Bisti Member: Zone: Lower

Depth to Seam: 225.80 Seam Thickness: 5.45
Sample Interval: 237.35-242. Sample Thickness: 5.45

Analyses on As-Received Basis

Air Dry Loss: 9.21
Eq. Moisture: 15.13 Moisture: 13.18 Vol. Matter: 29.44
Ash: 26.68 Fixed Carbon: 30.69

Carbon: 44.90 Btu: 7795 DAF Btu: 12962
Hydrogen: 3.98 Dry Btu: 8979 MMFBtu: 10876
Nitrogen: 1.00
Oxygen: 9.77 Sulfide: 0.02
Sulfur: 0.48 Sulfate: 0.000
Organic Sulfur: 0.46

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 11	SiO_2: 15.21	SiO_2ash: 57.02
Co: 22	Al_2O_3: 7.56	Al_2O_3ash: 28.32
Cr: 92	TiO_2: 0.15	TiO_2ash: 0.57
Cu: 40	Fe_2O_3: 0.68	Fe_2O_3ash: 2.54
Li: 40	MgO: 0.11	MgOash: 0.42
Mn: 50	CaO: 0.59	CaOash: 2.22
Nb: 2	K_2O: 0.15	K_2Oash: 0.55
Ni: 40	Na_2O: 0.17	Na_2Oash: 0.65
Pb: 79		
Sr: 400		
V: 100	AB Ratio: 0.07	
Zn: 47	Silica Ratio: 91.67	
	Total ashed Oxides: 92.29	

Calc oxygen: 22.96
* Error = data not available

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 211
Sample No.: 24N13W31B
Township: T24N Range: R13W Sec.: 31

Formation: Fruitland
Field: Bisti Member: Zone: Upper

Depth to Seam: 36.70 Seam Thickness: 2.30
Sample Interval: 36.70-39.0 Sample Thickness: 2.30

Analyses on As-Received Basis

Air Dry Loss: 5.26
Eq. Moisture: 15.09 Moisture: 8.93 Vol. Matter: 34.83
Ash: 17.54 Fixed Carbon: 38.70

Carbon: 53.60 Btu: 9451 DAF Btu: 12853
Hydrogen: 4.78 Dry Btu: 10377 MMFBtu: 11572
Nitrogen: 1.12
Oxygen: 13.38 Sulfide: 0.01
Sulfur: 0.62 Sulfate: 0.000
Organic Sulfur: 0.61

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be:	SiO_2: 9.66	SiO_2ash: 55.08
Co:	Al_2O_3: 4.23	Al_2O_3ash: 24.14
Cr:	TiO_2: 0.21	TiO_2ash: 1.22
Cu:	Fe_2O_3: 0.27	Fe_2O_3ash: 1.52
Li:	MgO: 0.56	MgOash: 3.21
Mn:	CaO: 0.98	CaOash: 5.62
Nb:	K_2O: 0.078	K_2Oash: 0.45
Ni:	Na_2O: 0.64	Na_2Oash: 3.65
Pb:		
Sr:		
V:	AB Ratio: 0.19	
Zn:	Silica Ratio: 81.9	
	Total ashed Oxides: 94.89	

Calc oxygen: 22.34
* Error = data not available

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 214
Sample No.: 24N13W31E
Township: T24N Range: R13W Sec.: 31

Formation: Fruitland
Field: Bisti Member: Zone: Lower

Depth to Seam: 103.55 Seam Thickness: 6.25
Sample Interval: 103.55-109. Sample Thickness: 6.25

Analyses on As-Received Basis

Air Dry Loss: 9.32
Eq. Moisture: 16.03 Moisture: 11.78 Vol. Matter: 33.33
Ash: 10.90 Fixed Carbon: 43.99

Carbon: 57.15 Btu: 9922 DAF Btu: 12833
Hydrogen: 4.44 Dry Btu: 11247 MMFBtu: 11172
Nitrogen: 1.15
Oxygen: 13.97 Sulfide: 0.24
Sulfur: 0.59 Sulfate: 0.010
Organic Sulfur: 0.32

Fluoride in ppm: 28.5 Chloride in ppm: 72.4

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 12	SiO_2: 5.5	SiO_2ash: 50.47
Co: 35	Al_2O_3: 2.81	Al_2O_3ash: 25.77
Cr: 33	TiO_2:	TiO_2ash:
Cu: 33	Fe_2O_3: 0.53	Fe_2O_3ash: 4.88
Li: 46	MgO: 0.14	MgOash: 1.25
Mn: 150	CaO: 0.7	CaOash: 6.38
Nb: 2	K_2O: 0.035	K_2Oash: 0.33
Ni: 42	Na_2O: 0.29	Na_2Oash: 2.65
Pb: 57		
Sr: 700		
V: 140	AB Ratio: 0.14	
Zn: 26	Silica Ratio: 85.68	
	Total ashed Oxides: 91.73	

Calc oxygen: 25.77
* Error = data not available

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 213
Sample No.: 24N13W31G
Township: T24N Range: R13W Sec.: 31

Formation: Fruitland
Field: Bisti Member: Zone: Lower

Depth to Seam: 103.55 Seam Thickness: 4.10
Sample Interval: 111.45-115. Sample Thickness: 4.10

Analyses on As-Received Basis

Air Dry Loss: 8.42
Eq. Moisture: 14.80 Moisture: 9.72 Vol. Matter: 35.70
Ash: 10.11 Fixed Carbon: 44.46

Carbon: 59.03 Btu: 10449 DAF Btu: 13033
Hydrogen: 4.81 Dry Btu: 11574 MMFBtu: 11647
Nitrogen: 1.21
Oxygen: 14.46 Sulfide: 0.14
Sulfur: 0.64 Sulfate: 0.007
Organic Sulfur: 0.49

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 14	SiO_2: 5.46	SiO_2ash: 53.99
Co: 30	Al_2O_3: 2.47	Al_2O_3ash: 24.44
Cr: 180	TiO_2: 0.11	TiO_2ash: 1.11
Cu: 52	Fe_2O_3: 0.4	Fe_2O_3ash: 3.99
Li: 58	MgO: 0.084	MgOash: 0.84
Mn: 99	CaO: 0.39	CaOash: 3.85
Nb: 2	K_2O: 0.025	K_2Oash: 0.25
Ni: 44	Na_2O: 0.26	Na_2Oash: 2.58
Pb: 77		
Sr: 1360		
V: 170	AB Ratio: 0.14	
Zn: 83	Silica Ratio: 85.68	
	Total ashed Oxides: 93.53	

Calc oxygen: 24.20
* Error = data not available

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 144
Sample No.: 21N8W7E
Township: T21N Range: R8W Sec.: 7

Formation: Fruitland
Field: Star Lake Member: Zone:

Depth to Seam: 274.75 Seam Thickness: 6.65
Sample Interval: 275.25-281.90 Sample Thickness: 6.65

Analyses on As-Received Basis

Air Dry Loss: 9.29
Eq. Moisture: 15.31 Moisture: 13.13 Vol. Matter: 28.91
Ash: 24.82 Fixed Carbon: 33.13

Carbon: 46.47 Btu: 8008 DAF Btu: 12906
Hydrogen: 3.93 Dry Btu: 9219 MMFBtu: 10873
Nitrogen: 0.88
Oxygen: 10.29 Sulfide: 0.08
Sulfur: 0.45 Sulfate: 0.000
Organic Sulfur: 0.37

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 20	SiO_2: 15.53	SiO_2ash: 62.57
Co: 28	Al_2O_3: 7.09	Al_2O_3ash: 28.57
Cr: 80	TiO_2: 0.25	TiO_2ash: 1.01
Cu: 45	Fe_2O_3: 0.6	Fe_2O_3ash: 2.44
Li: 70	MgO: 0.12	MgOash: 0.5
Mn: 45	CaO: 0.38	CaOash: 1.52
Nb: 2	K_2O: 0.13	K_2Oash: 0.54
Ni: 35	Na_2O: 0.46	Na_2Oash: 1.86
Pb: 65		
Sr: 360		
V: 130	AB Ratio: 0.07	
Zn: 36	Silica Ratio: 93.34	
	Total ashed Oxides: 99.01	
Calc oxygen: 23.45		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 154
Sample No.: 21N8W7A
Township: T21N Range: R8W Sec.: 7

Formation: Fruitland
Field: Star Lake Member: Zone: Lower

Depth to Seam: 259.30 Seam Thickness: 9.65
Sample Interval: 259.3-264.20 Sample Thickness: 4.90

Analyses on As-Received Basis

Air Dry Loss: 9.51
Eq. Moisture: 15.26 Moisture: 13.30 Vol. Matter: 29.70
Ash: 22.22 Fixed Carbon: 34.78

Carbon: 48.57 Btu: 8459 DAF Btu: 13119
Hydrogen: 4.05 Dry Btu: 9757 MMFBtu: 10975
Nitrogen: 0.87
Oxygen: 9.90 Sulfide: 0.36
Sulfur: 1.06 Sulfate: 0.000
Organic Sulfur: 0.70

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 15	SiO_2: 14.25	SiO_2ash: 64.11
Co: 20	Al_2O_3: 5.08	Al_2O_3ash: 22.84
Cr: 32	TiO_2: 0.17	TiO_2ash: 0.75
Cu: 59	Fe_2O_3: 0.73	Fe_2O_3ash: 3.29
Li: 61	MgO: 0.12	MgOash: 0.55
Mn: 57	CaO: 0.35	CaOash: 1.59
Nb: 1	K_2O: 0.13	K_2Oash: 0.57
Ni: 21	Na_2O: 0.34	Na_2Oash: 1.51
Pb: 67		
Sr: 300		
V: 110	AB Ratio: 0.08	
Zn: 25	Silica Ratio: 92.19	
	Total ashed Oxides: 95.21	
Calc oxygen: 23.23		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 196
Sample No.: 21N8W7AC
Township: T21N Range: R8W Sec.: 7

Formation: Fruitland
Field: Star Lake Member: Zone: Lower

Depth to Seam: 259.30 Seam Thickness: 9.65
Sample Interval: 264.2-268.95 Sample Thickness: 4.75

Analyses on As-Received Basis

Air Dry Loss: 8.52
Eq. Moisture: 15.81 Moisture: 11.06 Vol. Matter: 26.98
Ash: 33.04 Fixed Carbon: 28.92

Carbon: 40.23 Btu: 7107 DAF Btu: 12714
Hydrogen: 3.67 Dry Btu: 7991 MMFBtu: 10967
Nitrogen: 0.86
Oxygen: 10.64 Sulfide: 0.03
Sulfur: 0.48 Sulfate: 0.000
Organic Sulfur: 0.45

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be:	SiO_2: 18.73	SiO_2ash: 56.69
Co:	Al_2O_3: 8.23	Al_2O_3ash: 24.9
Cr:	TiO_2: 0.41	TiO_2ash: 1.24
Cu:	Fe_2O_3: 2.67	Fe_2O_3ash: 8.09
Li:	MgO: 0.49	MgOash: 1.48
Mn:	CaO: 0.98	CaOash: 2.98
Nb:	K_2O: 0.17	K_2Oash: 0.51
Ni:	Na_2O: 0.18	Na_2Oash: 0.53
Pb:		
Sr:		
V:	AB Ratio: 0.08	
Zn:	Silica Ratio: 93.32	
	Total ashed Oxides: 96.42	
Calc oxygen: 21.72		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 195
Sample No.: 21N8W7AF
Township: T21N Range: R8W Sec.: 7

Formation: Fruitland
Field: Star Lake Member: Zone: Lower

Depth to Seam: 277.35 Seam Thickness: 6.20
Sample Interval: 277.35-283.55 Sample Thickness: 6.20

Analyses on As-Received Basis

Air Dry Loss: 7.61
Eq. Moisture: 14.45

Moisture: 11.33
Ash: 16.36

Vol. Matter: 31.63
Fixed Carbon: 40.67

Carbon: 53.92
Hydrogen: 4.38
Nitrogen: 1.09
Oxygen: 12.45

Btu: 9379
Dry Btu: 10578

DAF Btu: 12971
MMFBtu: 11330

Sulfur: 0.45

Sulfide: 0.05
Sulfate: 0.000
Organic Sulfur: 0.40

Fluoride in ppm:

Chloride in ppm:

Trace Element Ashed Coal

Be: 18
Co: 22
Cr: 52
Cu: 59
Li: 76
Mn: 55
Nb: 2
Ni: 33
Pb: 70
Sr: 360
V: 140
Zn: 18

Calc oxygen: 23.80

Whole Coal Oxide

SiO_2: 9.49
Al_2O_3: 4.36
TiO_2: 0.091
Fe_2O_3: 0.53
MgO: 0.081
CaO: 0.69
K_2O: 0.06
Na_2O: 0.39

Ashed Oxide

SiO_2ash: 57.98
Al_2O_3ash: 26.64
TiO_2ash: 0.56
Fe_2O_3ash: 3.23
MgOash: 0.5
CaOash: 4.2
K_2Oash: 0.37
Na_2Oash: 2.38

AB Ratio: 0.08
Silica Ratio: 93.32
Total ashed Oxides: 95.86

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 173
Sample No.: 21N8W17B
Township: T21N Range: R8W Sec.: 17

Formation: Fruitland
Field: Star Lake Member: Zone: Middle

Depth to Seam: 148.15 Seam Thickness: 5.85
Sample Interval: 148.15-154.00 Sample Thickness: 5.85

Analyses on As-Received Basis

Air Dry Loss: 8.51
Eq. Moisture: 14.98

Moisture: 12.76
Ash: 26.99

Vol. Matter: 32.90
Fixed Carbon: 27.34

Carbon: 44.38
Hydrogen: 3.80
Nitrogen: 0.88
Oxygen: 10.46

Btu: 8166
Dry Btu: 9361

DAF Btu: 13554
MMFBtu: 11414

Sulfur: 0.70

Sulfide: 0.21
Sulfate: 0.000
Organic Sulfur: 0.49

Fluoride in ppm:

Chloride in ppm:

Trace Element Ashed Coal

Be: 18
Co: 21
Cr: 60
Cu: 50
Li: 42
Mn: 100
Nb: 1
Ni: 50
Pb: 73
Sr: 140
V: 160
Zn: 47

Calc oxygen: 23.25

Whole Coal Oxide

SiO_2: 14.99
Al_2O_3: 0.072
TiO_2: 0.28
Fe_2O_3: 0.54
MgO: 0.094
CaO: 0.39
K_2O: 0.32
Na_2O: 0.28

Ashed Oxide

SiO_2ash: 55.53
Al_2O_3ash: 29.91
TiO_2ash: 1.03
Fe_2O_3ash: 1.99
MgOash: 0.35
CaOash: 1.46
K_2Oash: 1.2
Na_2Oash: 1.02

AB Ratio: 0.06
Silica Ratio: 93.59
Total ashed Oxides: 92.49

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 203
Sample No.: 21N8W17D
Township: T21N Range: R8W Sec.: 17

Formation: Fruitland
Field: Star Lake Member: Zone: Lower

Depth to Seam: 148.15 Seam Thickness: 1.00
Sample Interval: 154.9-155.9 Sample Thickness: 1.00

Analyses on As-Received Basis

Air Dry Loss: 7.9
Eq. Moisture: 17.76

Moisture: 10.63
Ash: 15.16

Vol. Matter: 34.75
Fixed Carbon: 39.45

Carbon: 54.27
Hydrogen: 4.44
Nitrogen: 1.04
Oxygen: 13.59

Btu: 9616
Dry Btu: 10760

DAF Btu: 12958
MMFBtu: 11385

Sulfur: 0.84

Sulfide: 0.17
Sulfate: 0.000
Organic Sulfur: 0.67

Fluoride in ppm:

Chloride in ppm:

Trace Element Ashed Coal

Be: 30
Co: 49
Cr: 170
Cu: 73
Li: 38
Mn: 200
Nb: 2
Ni: 40
Pb: 80
Sr: 650
V: 190
Zn: 105

Calc oxygen: 24.25

Whole Coal Oxide

SiO_2: 8.17
Al_2O_3: 3.74
TiO_2: 0.13
Fe_2O_3: 0.68
MgO: 0.17
CaO: 0.63
K_2O: 0.069
Na_2O: 0.74

Ashed Oxide

SiO_2ash: 53.9
Al_2O_3ash: 24.67
TiO_2ash: 0.84
Fe_2O_3ash: 4.49
MgOash: 1.15
CaOash: 4.15
K_2Oash: 0.46
Na_2Oash: 4.86

AB Ratio: 0.19
Silica Ratio: 84.62
Total ashed Oxides: 94.52

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 155
Sample No.: 21N8W17G
Township: T21N Range: R8W Sec.: 17G

Formation: Fruitland
Field: Star Lake Member: Zone: Lower

Depth to Seam: 163.50 Seam Thickness: 13.10
Sample Interval: 163.5-168.5 Sample Thickness: 5.00

Analyses on As-Received Basis

Air Dry Loss: 8.77
Eq. Moisture: 16.69

Moisture: 11.86
Ash: 20.74

Vol. Matter: 29.32
Fixed Carbon: 38.07

Carbon: 50.17
Hydrogen: 4.16
Nitrogen: 0.98
Oxygen: 11.58

Btu: 8626
Dry Btu: 9787

DAF Btu: 12799
MMFBtu: 11047

Sulfur: 0.48

Sulfide: 0.03
Sulfate: 0.000
Organic Sulfur: 0.45

Fluoride in ppm: 66 Chloride in ppm: 139.7

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 26	SiO_2: 11.51	SiO_2ash: 55.51
Co: 22	Al_2O_3: 6.61	Al_2O_3ash: 31.87
Cr: 17	TiO_2: 0.23	TiO_2ash: 1.1
Cu: 56	Fe_2O_3: 0.39	Fe_2O_3ash: 1.88
Li: 64	MgO: 0.091	MgOash: 0.44
Mn: 48	CaO: 0.4	CaOash: 1.92
Nb: 2	K_2O:	K_2Oash: 4.64
Ni: 21	Na_2O: 0.21	Na_2Oash: 1.04
Pb: 73		
Sr: 360		
V: 130	AB Ratio: 0.11	
Zn: 20	Silica Ratio: 92.9	
	Total ashed Oxides: 98.4	
Calc oxygen: 23.47		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 179
Sample No.: 21N8W17H
Township: T21N Range: R8W Sec.: 17

Formation: Fruitland
Field: Star Lake Member: Zone: Lower

Depth to Seam: 163.50 Seam Thickness: 13.10
Sample Interval: 168.5-173.5 Sample Thickness: 5.00

Analyses on As-Received Basis

Air Dry Loss: 6.87
Eq. Moisture: 14.61

Moisture: 13.14
Ash: 24.12

Vol. Matter: 34.62
Fixed Carbon: 28.11

Carbon: 46.44
Hydrogen: 3.95
Nitrogen: 0.90
Oxygen: 10.96

Btu: 8095
Dry Btu: 9320

DAF Btu: 12903
MMFBtu: 10877

Sulfur: 0.47

Sulfide: 0.03
Sulfate: 0.000
Organic Sulfur: 0.44

Fluoride in ppm: 69.8 Chloride in ppm: 127.2

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 8	SiO_2: 13.84	SiO_2ash: 57.39
Co: 21	Al_2O_3: 7.44	Al_2O_3ash: 30.84
Cr: 100	TiO_2: 0.084	TiO_2ash: 0.35
Cu: 51	Fe_2O_3: 0.65	Fe_2O_3ash: 2.68
Li: 31	MgO: 0.1	MgOash: 0.43
Mn: 45	CaO: 0.33	CaOash: 1.36
Nb: 2	K_2O: 0.17	K_2Oash: 0.71
Ni: 17	Na_2O: 0.41	Na_2Oash: 1.7
Pb: 80		
Sr: 290		
V: 100	AB Ratio: 0.07	
Zn: 45	Silica Ratio: 92.77	
	Total ashed Oxides: 95.46	
Calc oxygen: 24.12		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory Analyses, NMRDI Coal Quality Project

Lab No.: 201
Sample No.: 21N8W17I
Township: T21N Range: R8W Sec.: 17

Formation: Fruitland
Field: Star Lake Member: Zone: Lower

Depth to Seam: 163.50 Seam Thickness: 13.10
Sample Interval: 173.50-176.60 Sample Thickness: 3.10

Analyses on As-Received Basis

Air Dry Loss: 7.81
Eq. Moisture: 15.71

Moisture: 11.55
Ash: 29.84

Vol. Matter: 28.95
Fixed Carbon: 29.66

Carbon: 43.14
Hydrogen: 3.54
Nitrogen: 0.74
Oxygen: 10.66

Btu: 7531
Dry Btu: 8514

DAF Btu: 12849
MMFBtu: 11029

Sulfur: 0.50

Sulfide: 0.02
Sulfate: 0.000
Organic Sulfur: 0.48

Fluoride in ppm: 72.6 Chloride in ppm: 96.8

Trace Element Ashed Coal

Be: 10
Co: 20
Cr: 65
Cu: 46
Li: 46
Mn: 32
Nb: 2
Ni: 21
Pb: 140
Sr: 500
V: 100
Zn: 76

Calc oxygen: 22.24

Whole Coal Oxide

SiO_2: 17.47
Al_2O_3: 9.25
TiO_2: 0.32
Fe_2O_3: 0.57
MgO: 0.13
CaO: 0.31
K_2O: 0.25
Na_2O: 0.39

Ashed Oxide

SiO_2ash: 58.55
Al_2O_3ash: 30.99
TiO_2ash: 1.06
Fe_2O_3ash: 1.91
MgOash: 0.44
CaOash: 1.04
K_2Oash: 0.85
Na_2Oash: 1.31

AB Ratio: 0.06
Silica Ratio: 94.52
Total ashed Oxides: 96.15

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 186
Sample No.: 21N8W17K
Township: T21N Range: R8W Sec.: 17

Formation: Fruitland
Field: Star Lake Member: Zone: Lower

Depth to Seam: 163.50 Seam Thickness: 8.05
Sample Interval: 177.5-181.5 Sample Thickness: 4.00

Analyses on As-Received Basis

Air Dry Loss: 8.93
Eq. Moisture: 15.65

Moisture: 15.44
Ash: 13.51

Vol. Matter: 33.00
Fixed Carbon: 38.05

Carbon: 53.80
Hydrogen: 4.10
Nitrogen: 1.05
Oxygen: 11.68

Btu: 9488
Dry Btu: 11221

DAF Btu: 13354
MMFBtu: 11058

Sulfur: 0.39

Sulfide: 0.01
Sulfate: 0.000
Organic Sulfur: 0.38

Fluoride in ppm:

Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 24	SiO_2: 7.78	SiO_2ash: 57.6
Co: 24	Al_2O_3: 4.16	Al_2O_3ash: 30.81
Cr: 37	TiO_2: 0.11	TiO_2ash: 0.82
Cu: 63	Fe_2O_3: 0.56	Fe_2O_3ash: 4.13
Li: 62	MgO: 0.025	MgOash: 0.19
Mn: 52	CaO: 0.44	CaOash: 3.25
Nb: 2	K_2O: 0.049	K_2Oash: 0.37
Ni: 25	Na_2O: 0.31	Na_2Oash: 2.26
Pb: 67		
Sr: 400		
V: 150	AB Ratio: 0.11	
Zn: 54	Silica Ratio: 88.38	
	Total ashed Oxides: 99.43	
Calc oxygen: 27.15		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 169
Sample No.: 21N8W17L
Township: T21N Range: R8W Sec.: 17

Formation: Fruitland
Field: Star Lake Member: Zone: Lower

Depth to Seam: 163.50 Seam Thickness: 8.05
Sample Interval: 181.5-188.55 Sample Thickness: 4.05

Analyses on As-Received Basis

Air Dry Loss: 8.83
Eq. Moisture: 15.57

Moisture: 12.30
Ash: 18.15

Vol. Matter: 33.45
Fixed Carbon: 36.09

Carbon: 52.11
Hydrogen: 4.39
Nitrogen: 1.03
Oxygen: 11.57

Btu: 9007
Dry Btu: 10270

DAF Btu: 12951
MMFBtu: 11144

Sulfur: 0.42

Sulfide: 0.02
Sulfate: 0.000
Organic Sulfur: 0.40

Fluoride in ppm:

Chloride in ppm:

Trace Element Ashed Coal

Be: 12
Co: 29
Cr: 120
Cu: 46
Li: 51
Mn: 35
Nb: 2
Ni: 42
Pb: 79
Sr: 410
V: 130
Zn: 67

Calc oxygen: 23.90

Whole Coal Oxide

SiO_2: 10.39
Al_2O_3: 5.24
TiO_2: 0.23
Fe_2O_3: 0.48
MgO: 0.076
CaO: 0.53
K_2O: 0.049
Na_2O: 0.3

Ashed Oxide

SiO_2ash: 57.22
Al_2O_3ash: 28.87
TiO_2ash: 1.3
Fe_2O_3ash: 2.66
MgOash: 0.42
CaOash: 2.93
K_2Oash: 0.27
Na_2Oash: 1.68

AB Ratio: 0.13
Silica Ratio: 90.49
Total ashed Oxides: 95.35

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory Analyses, NMRDI Coal Quality Project

Lab No.: 200
Sample No.: 21N8W17AB
Township: T21N Range: R8W Sec.: 17

Formation: Fruitland
Field: Star Lake Member: Zone: Lower

Depth to Seam: 147.30 Seam Thickness: 8.50
Sample Interval: 147.3-150.8 Sample Thickness: 3.50

Analyses on As-Received Basis

Air Dry Loss: 9.35
Eq. Moisture: 15.03

Moisture: 12.62
Ash: 30.91

Vol. Matter: 28.05
Fixed Carbon: 28.41

Carbon: 41.76
Hydrogen: 3.46
Nitrogen: 0.69
Oxygen: 9.89

Btu: 7327
Dry Btu: 8386

DAF Btu: 12976
MMFBtu: 10893

Sulfur: 0.64

Sulfide: 0.07
Sulfate: 0.000
Organic Sulfur: 0.57

Fluoride in ppm:

Chloride in ppm:

Trace Element Ashed Coal

Be: 10
Co: 27
Cr: 110
Cu: 50
Li: 56
Mn: 67
Nb: 2
Ni: 47
Pb: 64
Sr: 500
V: 120
Zn: 52

Calc oxygen: 22.54

Whole Coal Oxide

SiO_2: 21.77
Al_2O_3: 5.39
TiO_2: 0.32
Fe_2O_3: 0.62
MgO: 0.13
CaO: 0.61
K_2O: 0.23
Na_2O: 0.45

Ashed Oxide

SiO_2ash: 70.42
Al_2O_3ash: 17.43
TiO_2ash: 1.02
Fe_2O_3ash: 2
MgOash: 0.42
CaOash: 1.98
K_2Oash: 0.75
Na_2Oash: 1.45

AB Ratio: 0.07
Silica Ratio: 94.11
Total ashed Oxides: 95.47

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 180
Sample No.: 21N8W17AC
Township: T21N Range: R8W Sec.: 17

Formation: Fruitland
Field: Star Lake Member: Zone: Lower

Depth to Seam: 147.30 Seam Thickness: 8.50
Sample Interval: 150.8-155.8 Sample Thickness: 5.00

Analyses on As-Received Basis

Air Dry Loss: 10.44
Eq. Moisture: 15.90

Moisture: 14.24
Ash: 29.07

Vol. Matter: 28.05
Fixed Carbon: 28.63

Carbon: 42.12
Hydrogen: 3.51
Nitrogen: 0.84
Oxygen: 9.64

Btu: 7348
Dry Btu: 8569

DAF Btu: 12963
MMFBtu: 10622

Sulfur: 0.56

Sulfide: 0.08
Sulfate: 0.000
Organic Sulfur: 0.48

Fluoride in ppm:

Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 9	SiO_2: 18.49	SiO_2ash: 63.6
Co: 25	Al_2O_3: 6.59	Al_2O_3ash: 22.66
Cr: 180	TiO_2: 0.2	TiO_2ash: 0.68
Cu: 51	Fe_2O_3: 0.77	Fe_2O_3ash: 2.64
Li: 38	MgO: 0.48	MgOash: 1.64
Mn: 60	CaO: 0.48	CaOash: 1.66
Nb: 2	K_2O: 0.34	K_2Oash: 1.17
Ni: 39	Na_2O: 0.61	Na_2Oash: 2.11
Pb: 77		
Sr: 320		
V: 140	AB Ratio: 0.1	
Zn: 47	Silica Ratio: 91.45	
	Total ashed Oxides: 96.16	
Calc oxygen: 23.90		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 185
Sample No.: 21N8W17AF
Township: T21N Range: R8W Sec.: 17

Formation: Fruitland
Field: Star Lake Member: Zone: Lower

Depth to Seam: 163.00 Seam Thickness: 11.70
Sample Interval: 163.0-168.0 Sample Thickness: 5.00

Analyses on As-Received Basis

Air Dry Loss: 7
Eq. Moisture: 15.34 Moisture: 11.62 Vol. Matter: 30.60
Ash: 18.32 Fixed Carbon: 39.45

Carbon: 51.54 Btu: 9702 DAF Btu: 13849
Hydrogen: 4.21 Dry Btu: 10978 MMFBtu: 12034
Nitrogen: 1.00
Oxygen: 12.86 Sulfide: 0.03
Sulfur: 0.42 Sulfate: 0.000
Organic Sulfur: 0.39

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 13	SiO_2: 10.08	SiO_2ash: 55
Co: 24	Al_2O_3: 5.86	Al_2O_3ash: 31.97
Cr: 110	TiO_2: 0.13	TiO_2ash: 0.73
Cu: 57	Fe_2O_3: 0.44	Fe_2O_3ash: 2.43
Li: 49	MgO: 0.065	MgOash: 0.36
Mn: 72	CaO: 0.39	CaOash: 2.15
Nb: 2	K_2O: 0.097	K_2Oash: 0.53
Ni: 21	Na_2O: 0.31	Na_2Oash: 1.67
Pb: 81		
Sr: 390		
V: 130	AB Ratio: 0.08	
Zn: 22	Silica Ratio: 91.75	
	Total ashed Oxides: 94.84	
Calc oxygen: 24.51		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 156
Sample No.: 21N8W17AG
Township: T21N Range: R8W Sec.: 17

Formation: Fruitland
Field: Star Lake Member: Zone: Lower

Depth to Seam: 163.00 Seam Thickness: 11.70
Sample Interval: 168.0-173.0 Sample Thickness: 5.00

Analyses on As-Received Basis

Air Dry Loss: 7.85
Eq. Moisture: 15.71 Moisture: 11.13 Vol. Matter: 30.86
Ash: 20.64 Fixed Carbon: 37.36

Carbon: 50.69 Btu: 8772 DAF Btu: 12857
Hydrogen: 4.41 Dry Btu: 9871 MMFBtu: 11214
Nitrogen: 0.91
Oxygen: 11.69 Sulfide: 0.02
Sulfur: 0.51 Sulfate: 0.000
Organic Sulfur: 0.49

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 25	SiO_2: 11.34	SiO_2ash: 54.97
Co: 20	Al_2O_3: 6.45	Al_2O_3ash: 31.24
Cr: 25	TiO_2: 0.13	TiO_2ash: 0.65
Cu: 63	Fe_2O_3: 0.47	Fe_2O_3ash: 2.28
Li: 46	MgO: 0.074	MgOash: 0.36
Mn: 47	CaO: 0.35	CaOash: 1.71
Nb: 2	K_2O: 0.13	K_2Oash: 0.63
Ni: 19	Na_2O: 0.28	Na_2Oash: 1.35
Pb: 72		
Sr: 350		
V: 140	AB Ratio: 0.07	
Zn: 36	Silica Ratio: 92.66	
	Total ashed Oxides: 93.19	
Calc oxygen: 22.84		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 204
Sample No.: 21N8W17AH
Township: T21N Range: R8W Sec.: 17

Formation: Fruitland
Field: Star Lake Member: Zone: Lower

Depth to Seam: 173.00 Seam Thickness: 11.70
Sample Interval: 173.0-174.7 Sample Thickness: 1.70

Analyses on As-Received Basis

Air Dry Loss: 8.23
Eq. Moisture: 17.14 Moisture: 11.81 Vol. Matter: 31.03
Ash: 23.18 Fixed Carbon: 33.97

Carbon: 47.02 Btu: 8238 DAF Btu: 12673
Hydrogen: 3.92 Dry Btu: 9342 MMFBtu: 10905
Nitrogen: 0.80
Oxygen: 12.66 Sulfide: 0.01
Sulfur: 0.57 Sulfate: 0.000
Organic Sulfur: 0.56

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 11	SiO_2: 13.55	SiO_2ash: 58.45
Co: 25	Al_2O_3: 7.51	Al_2O_3ash: 32.41
Cr: 47	TiO_2: 0.17	TiO_2ash: 0.72
Cu: 53	Fe_2O_3: 0.38	Fe_2O_3ash: 1.66
Li: 40	MgO: 0.11	MgOash: 0.48
Mn: 37	CaO: 0.31	CaOash: 1.33
Nb: 2	K_2O: 0.18	K_2Oash: 0.78
Ni: 22	Na_2O: 0.36	Na_2Oash: 1.54
Pb: 89		
Sr: 500		
V: 110	AB Ratio: 0.06	
Zn: 77	Silica Ratio: 94.39	
	Total ashed Oxides: 97.37	
Calc oxygen: 24.51		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 182
Sample No.: 21N8W17AJ
Township: T21N Range: R8W Sec.: 17

Formation: Fruitland
Field: Star Lake Member: Zone: Lower

Depth to Seam: 163.00 Seam Thickness: 9.35
Sample Interval: 176.75-181.75 Sample Thickness: 5.00

Analyses on As-Received Basis

Air Dry Loss: 8.43
Eq. Moisture: 14.55 Moisture: 13.86 Vol. Matter: 29.17
Ash: 29.51 Fixed Carbon: 27.45

Carbon: 41.85 Btu: 7188 DAF Btu: 12694
Hydrogen: 3.48 Dry Btu: 8345 MMFBtu: 10498
Nitrogen: 0.77
Oxygen: 10.17 Sulfide: 0.03
Sulfur: 0.33 Sulfate: 0.000
Organic Sulfur: 0.30

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be:	SiO_2: 17.3	SiO_2ash: 58.61
Co:	Al_2O_3: 7.72	Al_2O_3ash: 26.18
Cr:	TiO_2: 0.19	TiO_2ash: 0.66
Cu:	Fe_2O_3: 0.68	Fe_2O_3ash: 2.31
Li:	MgO: 0.11	MgOash: 0.37
Mn:	CaO: 1.55	CaOash: 5.24
Nb:	K_2O: 0.21	K_2Oash: 0.71
Ni:	Na_2O: 0.47	Na_2Oash: 1.6
Pb:		
Sr:		
V:	AB Ratio: 0.11	
Zn:	Silica Ratio: 88.09	
	Total ashed Oxides: 95.68	
Calc oxygen: 24.06		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 160
Sample No.: 21N8W17AK
Township: T21N Range: R8W Sec.: 17

Formation: Fruitland
Field: Star Lake Member: Zone: Lower

Depth to Seam: 163.00 Seam Thickness: 9.35
Sample Interval: 181.75-186.1 Sample Thickness: 4.35

Analyses on As-Received Basis

Air Dry Loss: 10.58
Eq. Moisture: 16.54

Moisture: 15.62
Ash: 16.77

Vol. Matter: 30.02
Fixed Carbon: 37.58

Carbon: 51.69
Hydrogen: 4.11
Nitrogen: 0.94
Oxygen: 10.42

Btu: 8916
Dry Btu: 10567

DAF Btu: 13188
MMFBtu: 10831

Sulfur: 0.43

Sulfide: 0.02
Sulfate: 0.000
Organic Sulfur: 0.41

Fluoride in ppm:

Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be:	SiO_2: 9.78	SiO_2ash: 58.34
Co:	Al_2O_3: 5.03	Al_2O_3ash: 30
Cr:	TiO_2: 0.2	TiO_2ash: 1.22
Cu:	Fe_2O_3: 0.32	Fe_2O_3ash: 1.94
Li:	MgO: 0.077	MgOash: 0.46
Mn:	CaO: 0.24	CaOash: 1.43
Nb:	K_2O: 0.036	K_2Oash: 0.22
Ni:	Na_2O: 0.31	Na_2Oash: 1.85
Pb:		
Sr:		
V:	AB Ratio: 0.06	
Zn:	Silica Ratio: 93.83	
	Total ashed Oxides: 95.46	
Calc oxygen: 26.06		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 187
Sample No.: 21N7W33A
Township: T21N Range: R7W Sec.: 33

Formation: Fruitland
Field: Star Lake Member: Zone: Lower

Depth to Seam: 342.00 Seam Thickness: 23.60
Sample Interval: 342.0-347.0 Sample Thickness: 5.00

Analyses on As-Received Basis

Air Dry Loss: 8.21
Eq. Moisture: 12.21

Moisture: 12.65
Ash: 17.31

Vol. Matter: 30.95
Fixed Carbon: 39.08

Carbon: 52.60
Hydrogen: 4.18
Nitrogen: 0.97
Oxygen: 11.84

Btu: 9156
Dry Btu: 10482

DAF Btu: 13073
MMFBtu: 11204

Sulfur: 0.42

Sulfide: 0.02
Sulfate: 0.000
Organic Sulfur: 0.40

Fluoride in ppm:

Chloride in ppm:

Trace Element Ashed Coal

Be: 21
Co: 22
Cr: 46
Cu: 51
Li: 60
Mn: 100
Nb: 2
Ni: 21
Pb: 120
Sr: 400
V: 150
Zn: 29

Calc oxygen: 24.52

Whole Coal Oxide

SiO_2: 11.22
Al_2O_3: 4.25
TiO_2: 0.16
Fe_2O_3: 0.48
MgO: 0.088
CaO: 0.77
K_2O: 0.079
Na_2O: 0.26

Ashed Oxide

SiO_2ash: 64.84
Al_2O_3ash: 24.53
TiO_2ash: 0.9
Fe_2O_3ash: 2.8
MgOash: 0.51
CaOash: 4.45
K_2Oash: 0.46
Na_2Oash: 1.48

AB Ratio: 0.1
Silica Ratio: 89.31
Total ashed Oxides: 99.97

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 202
Sample No.: 21N7W33B
Township: T21N Range: R7W Sec.: 33

Formation: Fruitland
Field: Star Lake Member: Zone: Lower

Depth to Seam: 342.00 Seam Thickness: 23.60
Sample Interval: 347.0-350.0 Sample Thickness: 3.00

Analyses on As-Received Basis

Air Dry Loss: 6.93
Eq. Moisture: 13.55

Moisture: 10.98
Ash: 23.83

Vol. Matter: 28.49
Fixed Carbon: 36.69

Carbon: 49.53
Hydrogen: 3.83
Nitrogen: 0.79
Oxygen: 10.61

Btu: 8647
Dry Btu: 9714

DAF Btu: 13265
MMFBtu: 11581

Sulfur: 0.41

Sulfide: 0.01
Sulfate: 0.000
Organic Sulfur: 0.40

Fluoride in ppm:

Chloride in ppm:

Trace Element Ashed Coal

Be: 20
Co: 19
Cr: 10
Cu: 42
Li: 43
Mn: 40
Nb: 2
Ni: 40
Pb: 74
Sr: 190
V: 180
Zn: 32

Calc oxygen: 21.61

Whole Coal Oxide

SiO_2: 14.34
Al_2O_3: 6.83
TiO_2: 0.23
Fe_2O_3: 0.31
MgO: 0.3
CaO: 0.53
K_2O: 0.073
Na_2O: 0.28

Ashed Oxide

SiO_2ash: 60.19
Al_2O_3ash: 28.68
TiO_2ash: 0.96
Fe_2O_3ash: 1.32
MgOash: 1.24
CaOash: 2.21
K_2Oash: 0.31
Na_2Oash: 1.19

AB Ratio: 0.06
Silica Ratio: 92.65
Total ashed Oxides: 96.1

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 176
Sample No.: 21N7W33C
Township: T21N Range: R7W Sec.: 33

Formation: Fruitland
Field: Star Lake Member: Zone: Lower

Depth to Seam: 342.00 Seam Thickness: 23.60
Sample Interval: 350.0-353.3 Sample Thickness: 3.30

Analyses on As-Received Basis

Air Dry Loss: 6.89
Eq. Moisture: 12.37

Moisture: 10.95
Ash: 19.03

Vol. Matter: 31.83
Fixed Carbon: 38.19

Carbon: 52.88
Hydrogen: 4.29
Nitrogen: 1.07
Oxygen: 11.32

Btu: 9247
Dry Btu: 10384

DAF Btu: 13206
MMFBtu: 11575

Sulfur: 0.44

Sulfide: 0.02
Sulfate: 0.000
Organic Sulfur: 0.42

Fluoride in ppm:

Chloride in ppm:

Trace Element Ashed Coal

Be: 17
Co: 19
Cr: 35
Cu: 51
Li: 37
Mn: 48
Nb: 2
Ni: 53
Pb: 70
Sr: 250
V: 180
Zn: 38

Calc oxygen: 22.29

Whole Coal Oxide

SiO_2: 12.79
Al_2O_3: 4.86
TiO_2: 0.23
Fe_2O_3: 0.29
MgO: 0.079
CaO: 0.25
K_2O: 0.079
Na_2O: 0.3

Ashed Oxide

SiO_2ash: 67.23
Al_2O_3ash: 25.52
TiO_2ash: 1.21
Fe_2O_3ash: 1.54
MgOash: 0.42
CaOash: 1.3
K_2Oash: 0.42
Na_2Oash: 1.57

AB Ratio: 0.05
Silica Ratio: 95.37
Total ashed Oxides: 99.21

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 177
Sample No.: 21N7W33E
Township: T21N Range: R7W Sec.: 33

Formation: Fruitland
Field: Star Lake Member: Zone: Lower

Depth to Seam: 342.00 Seam Thickness: 23.60
Sample Interval: 354.05-357.85 Sample Thickness: 3.80

Analyses on As-Received Basis

Air Dry Loss: 6.94
Eq. Moisture: 13.37 Moisture: 11.64 Vol. Matter: 27.18
Ash: 30.24 Fixed Carbon: 30.94

Carbon: 42.78 Btu: 7451 DAF Btu: 12821
Hydrogen: 3.47 Dry Btu: 8433 MMFBtu: 11006
Nitrogen: 0.81
Oxygen: 10.67 Sulfide: 0.03
Sulfur: 0.36 Sulfate: 0.000
Organic Sulfur: 0.33

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 10	SiO_2: 18.1	SiO_2ash: 59.87
Co: 18	Al_2O_3: 0.025	Al_2O_3ash: 26.54
Cr: 80	TiO_2: 0.18	TiO_2ash: 0.6
Cu: 25	Fe_2O_3: 0.54	Fe_2O_3ash: 1.8
Li: 27	MgO: 0.21	MgOash: 0.69
Mn: 37	CaO: 0.47	CaOash: 1.56
Nb: 2	K_2O: 0.29	K_2Oash: 0.95
Ni: 12	Na_2O: 0.49	Na_2Oash: 1.62
Pb: 120		
Sr: 270		
V: 80	AB Ratio: 0.07	
Zn: 60	Silica Ratio: 93.66	
	Total ashed Oxides: 93.63	
Calc oxygen: 22.34		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 199
Sample No.: 21N7W33F
Township: T21N Range: R7W Sec.: 33

Formation: Fruitland
Field: Star Lake Member: Zone: Lower

Depth to Seam: 342.00 Seam Thickness: 23.00
Sample Interval: 357.85-362.0 Sample Thickness: 4.15

Analyses on As-Received Basis

Air Dry Loss: 7.42
Eq. Moisture: 13.77

Moisture: 9.34
Ash: 33.17

Vol. Matter: 27.58
Fixed Carbon: 29.91

Carbon: 41.94
Hydrogen: 3.69
Nitrogen: 0.74
Oxygen: 10.75

Btu: 7167
Dry Btu: 7905

DAF Btu: 12466
MMFBtu: 11106

Sulfur: 0.35

Sulfide: 0.03
Sulfate: 0.000
Organic Sulfur: 0.32

Fluoride in ppm:

Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 10	SiO_2: 19.15	SiO_2ash: 57.73
Co: 16	Al_2O_3: 9.56	Al_2O_3ash: 28.83
Cr: 90	TiO_2: 0.18	TiO_2ash: 0.54
Cu: 33	Fe_2O_3: 0.63	Fe_2O_3ash: 1.89
Li: 40	MgO: 0.44	MgOash: 1.34
Mn: 27	CaO: 0.31	CaOash: 0.93
Nb: 2	K_2O: 0.37	K_2Oash: 1.11
Ni: 19	Na_2O: 0.52	Na_2Oash: 1.57
Pb: 92		
Sr: 180		
V: 90	AB Ratio: 0.08	
Zn: 50	Silica Ratio: 93.09	
	Total ashed Oxides: 93.94	
Calc oxygen: 20.11		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 158
Sample No.: 21N7W33G
Township: T21N Range: R7W Sec.: 33

Formation: Fruitland
Field: Star Lake Member: Zone: Lower

Depth to Seam: 342.00 Seam Thickness: 23.60
Sample Interval: 362.0-366.35 Sample Thickness: 4.35

Analyses on As-Received Basis

Air Dry Loss: 8.45
Eq. Moisture: 13.91

Moisture: 11.91
Ash: 15.94

Vol. Matter: 31.73
Fixed Carbon: 40.42

Carbon: 55.01
Hydrogen: 4.41
Nitrogen: 0.94
Oxygen: 11.29

Btu: 9578
Dry Btu: 10873

DAF Btu: 13275
MMFBtu: 11504

Sulfur: 0.47

Sulfide: 0.03
Sulfate: 0.000
Organic Sulfur: 0.44

Fluoride in ppm:

Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 17	SiO_2: 9.61	SiO_2ash: 60.27
Co: 22	Al_2O_3: 4.66	Al_2O_3ash: 29.24
Cr: 19	TiO_2: 0.2	TiO_2ash: 1.26
Cu: 46	Fe_2O_3: 0.4	Fe_2O_3ash: 2.51
Li: 61	MgO: 0.074	MgOash: 0.47
Mn: 49	CaO: 0.27	CaOash: 1.67
Nb: 1	K_2O: 0.036	K_2Oash: 0.23
Ni: 37	Na_2O: 0.22	Na_2Oash: 1.4
Pb: 63		
Sr: 220		
V: 160		
Zn: 37		

Calc oxygen: 23.23

AB Ratio: 0.06
Silica Ratio: 92.83
Total ashed Oxides: 97.05

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 194
Sample No.: 21N8W36B
Township: T21N Range: R8W Sec.: 36

Formation: Fruitland
Field: Star Lake Member: Zone: Lower

Depth to Seam: 123.25 Seam Thickness: 5.15
Sample Interval: 123.25-128.4 Sample Thickness: 5.15

Analyses on As-Received Basis

Air Dry Loss: 8.17
Eq. Moisture: 14.70

Moisture: 12.61
Ash: 21.88

Vol. Matter: 32.64
Fixed Carbon: 32.86

Carbon: 49.26
Hydrogen: 4.14
Nitrogen: 1.03
Oxygen: 10.44

Btu: 8724
Dry Btu: 9983

DAF Btu: 13317
MMFBtu: 11333

Sulfur: 0.61

Sulfide: 0.07
Sulfate: 0.009
Organic Sulfur: 0.53

Fluoride in ppm:

Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 14	SiO_2: 11.79	SiO_2ash: 53.88
Co: 22	Al_2O_3: 6.39	Al_2O_3ash: 29.19
Cr: 110	TiO_2: 0.15	TiO_2ash: 0.68
Cu: 74	Fe_2O_3: 0.43	Fe_2O_3ash: 1.95
Li: 35	MgO: 0.22	MgOash: 1
Mn: 140	CaO: 0.57	CaOash: 2.62
Nb: 2	K_2O: 0.14	K_2Oash: 0.65
Ni: 21	Na_2O: 0.31	Na_2Oash: 1.42
Pb: 93		
Sr: 400		
V: 200	AB Ratio: 0.09	
Zn: 42	Silica Ratio: 90.63	
	Total ashed Oxides: 91.39	
Calc oxygen: 23.08		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 157
Sample No.: 21N8W36AB
Township: T21N Range: R8W Sec.: 36

Formation: Fruitland
Field: Star Lake Member: Zone: Upper

Depth to Seam: 123.90 Seam Thickness: 5.85
Sample Interval: 123.9-129.75 Sample Thickness: 5.85

Analyses on As-Received Basis

Air Dry Loss: 6.82
Eq. Moisture: 13.31

Moisture: 9.78
Ash: 24.56

Vol. Matter: 31.18
Fixed Carbon: 34.48

Carbon: 48.91
Hydrogen: 4.38
Nitrogen: 0.95
Oxygen: 10.67

Btu: 8590
Dry Btu: 9521

DAF Btu: 13082
MMFBtu: 11578

Sulfur: 0.72

Sulfide: 0.13
Sulfate: 0.000
Organic Sulfur: 0.59

Fluoride in ppm:

Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 28	SiO_2: 13.4	SiO_2ash: 54.54
Co: 22	Al_2O_3: 7.87	Al_2O_3ash: 32.05
Cr: 26	TiO_2: 0.29	TiO_2ash: 1.19
Cu: 68	Fe_2O_3: 0.45	Fe_2O_3ash: 1.82
Li: 40	MgO: 0.068	MgOash: 0.28
Mn: 63	CaO: 1.06	CaOash: 4.3
Nb: 1	K_2O: 0.16	K_2Oash: 0.65
Ni: 22	Na_2O: 0.17	Na_2Oash: 0.69
Pb: 72		
Sr: 290		
V: 170		
Zn: 39		

Calc oxygen: 20.48

AB Ratio: 0.08
Silica Ratio: 89.49
Total ashed Oxides: 95.52

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 159
Sample No.: 21N8W36AD
Township: T21N Range: R8W Sec.: 36

Formation: Fruitland
Field: Star Lake Member: Zone: Upper

Depth to Seam: 123.90 Seam Thickness: 9.05
Sample Interval: 130.75-135.75 Sample Thickness: 5.00

Analyses on As-Received Basis

Air Dry Loss: 7.5
Eq. Moisture: 13.33

Moisture: 11.78
Ash: 22.05

Vol. Matter: 32.31
Fixed Carbon: 33.84

Carbon: 49.99
Hydrogen: 4.31
Nitrogen: 0.92
Oxygen: 10.29

Btu: 8808
Dry Btu: 9984

DAF Btu: 13311
MMFBtu: 11466

Sulfur: 0.63

Sulfide: 0.10
Sulfate: 0.007
Organic Sulfur: 0.52

Fluoride in ppm:

Chloride in ppm:

Trace Element Ashed Coal

Be: 9
Co: 19
Cr: 70
Cu: 65
Li: 39
Mn: 180
Nb: 2
Ni: 21
Pb: 85
Sr: 380
V: 170
Zn: 35

Calc oxygen: 22.10

Whole Coal Oxide

SiO_2: 12.22
Al_2O_3: 6.64
TiO_2: 0.27
Fe_2O_3: 0.33
MgO: 0.083
CaO: 1.31
K_2O: 0.11
Na_2O: 0.22

Ashed Oxide

SiO_2ash: 55.4
Al_2O_3ash: 30.13
TiO_2ash: 1.23
Fe_2O_3ash: 1.48
MgOash: 0.38
CaOash: 5.95
K_2Oash: 0.5
Na_2Oash: 0.99

AB Ratio: 0.1
Silica Ratio: 87.64
Total ashed Oxides: 96.06

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 161
Sample No.: 21N8W36AE
Township: T21N Range: R8W Sec.: 36

Formation: Fruitland
Field: Star Lake Member: Zone: Upper

Depth to Seam: 123.90 Seam Thickness: 9.05
Sample Interval: 135.75-139.80 Sample Thickness: 4.05

Analyses on As-Received Basis

Air Dry Loss: 7.85
Eq. Moisture: 14.01

Moisture: 13.16
Ash: 11.33

Vol. Matter: 34.38
Fixed Carbon: 41.13

Carbon: 59.47
Hydrogen: 4.65
Nitrogen: 1.13
Oxygen: 9.51

Btu: 10285
Dry Btu: 11844

DAF Btu: 13621
MMFBtu: 11623

Sulfur: 0.73

Sulfide: 0.16
Sulfate: 0.000
Organic Sulfur: 0.57

Fluoride in ppm:

Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 23	SiO_2: 6.41	SiO_2ash: 56.61
Co: 30	Al_2O_3: 3	Al_2O_3ash: 26.49
Cr: 76	TiO_2: 0.16	TiO_2ash: 1.37
Cu: 91	Fe_2O_3: 0.47	Fe_2O_3ash: 4.2
Li: 35	MgO: 0.078	MgOash: 0.69
Mn: 130	CaO: 0.49	CaOash: 4.34
Nb: 2	K_2O: 0.026	K_2Oash: 0.23
Ni: 46	Na_2O: 0.41	Na_2Oash: 3.63
Pb: 71		
Sr: 520		
V: 260	AB Ratio: 0.15	
Zn: 23	Silica Ratio: 85.98	
	Total ashed Oxides: 97.56	
Calc oxygen: 22.69		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 184
Sample No.: 20N7W10B
Township: T20N Range: R7W Sec.: 10

Formation: Fruitland
Field: Star Lake Member: Zone: Lower

Depth to Seam: 165.10 Seam Thickness: 11.40
Sample Interval: 165.1-168.5 Sample Thickness: 3.40

Analyses on As-Received Basis

Air Dry Loss: 7.04
Eq. Moisture: 10.60

Moisture: 10.36
Ash: 27.12

Vol. Matter: 33.12
Fixed Carbon: 29.39

Carbon: 46.59
Hydrogen: 4.03
Nitrogen: 0.75
Oxygen: 10.44

Btu: 8220
Dry Btu: 9170

DAF Btu: 13148
MMFBtu: 11515

Sulfur: 0.68

Sulfide: 0.13
Sulfate: 0.014
Organic Sulfur: 0.54

Fluoride in ppm:

Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be:	SiO_2: 15.38	SiO_2ash: 56.72
Co:	Al_2O_3: 8.64	Al_2O_3ash: 31.87
Cr:	TiO_2: 0.43	TiO_2ash: 1.59
Cu:	Fe_2O_3: 0.73	Fe_2O_3ash: 2.69
Li:	MgO: 0.084	MgOash: 0.31
Mn:	CaO: 0.32	CaOash: 1.19
Nb:	K_2O: 0.12	K_2Oash: 0.44
Ni:	Na_2O: 0.21	Na_2Oash: 0.76
Pb:		
Sr:		
V:	AB Ratio: 0.06	
Zn:	Silica Ratio: 93.12	
	Total ashed Oxides: 95.57	
Calc oxygen: 20.83		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 198
Sample No.: 20N7W10C
Township: T20N Range: R7W Sec.: 10

Formation: Fruitland
Field: Star Lake Member: Zone: Lower

Depth to Seam: 165.10 Seam Thickness: 11.40
Sample Interval: 168.5-172.5 Sample Thickness: 4.00

Analyses on As-Received Basis

Air Dry Loss: 7.39
Eq. Moisture: 12.80 Moisture: 8.73 Vol. Matter: 32.80
Ash: 22.12 Fixed Carbon: 36.34

Carbon: 51.36 Btu: 8969 DAF Btu: 12970
Hydrogen: 4.42 Dry Btu: 9827 MMFBtu: 11705
Nitrogen: 0.85
Oxygen: 11.97 Sulfide: 0.10
Sulfur: 0.52 Sulfate: 0.014
Organic Sulfur: 0.41

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 8	SiO_2: 12.79	SiO_2ash: 57.84
Co: 18	Al_2O_3: 7.53	Al_2O_3ash: 34.03
Cr: 130	TiO_2: 0.16	TiO_2ash: 0.71
Cu: 42	Fe_2O_3: 0.26	Fe_2O_3ash: 1.17
Li: 65	MgO: 0.099	MgOash: 0.45
Mn: 52	CaO: 0.95	CaOash: 4.31
Nb: 2	K_2O: 0.066	K_2Oash: 0.3
Ni: 15	Na_2O: 0.3	Na_2Oash: 1.35
Pb: 77		
Sr: 390		
V: 130	AB Ratio: 0.08	
Zn: 20	Silica Ratio: 90.7	
	Total ashed Oxides: 100.16	
Calc oxygen: 20.73		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 181
Sample No.: 20N7W10D
Township: T20N Range: R7W Sec.: 10

Formation: Fruitland
Field: Star Lake Member: Zone: Lower

Depth to Seam: 165.10 Seam Thickness: 11.40
Sample Interval: 172.5-176.5 Sample Thickness: 4.00

Analyses on As-Received Basis

Air Dry Loss: 4.11
Eq. Moisture: 12.15 Moisture: 8.36 Vol. Matter: 33.75
Ash: 13.65 Fixed Carbon: 44.24

Carbon: 59.40 Btu: 10411 DAF Btu: 13349
Hydrogen: 4.65 Dry Btu: 11361 MMFBtu: 12126
Nitrogen: 1.17
Oxygen: 12.12 Sulfide: 0.10
Sulfur: 0.62 Sulfate: 0.009
Organic Sulfur: 0.51

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 9	SiO_2: 7.49	SiO_2ash: 54.88
Co: 24	Al_2O_3: 4.05	Al_2O_3ash: 29.68
Cr: 150	TiO_2: 0.16	TiO_2ash: 1.19
Cu: 57	Fe_2O_3: 0.35	Fe_2O_3ash: 2.55
Li: 72	MgO: 0.066	MgOash: 0.49
Mn: 70	CaO: 0.43	CaOash: 3.18
Nb: 2	K_2O: 0.032	K_2Oash: 0.24
Ni: 24	Na_2O: 0.31	Na_2Oash: 2.28
Pb: 200		
Sr: 580		
V: 170	AB Ratio: 0.1	
Zn: 20	Silica Ratio: 89.81	
	Total ashed Oxides: 94.49	
Calc oxygen: 20.51		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 183
Sample No.: 20N7W10F
Township: T20N Range: R7W Sec.: 10

Formation: Fruitland
Field: Star Lake Member: Zone: Lower

Depth to Seam: 179.10 Seam Thickness: 4.00
Sample Interval: 179.1-183.1 Sample Thickness: 4.00

Analyses on As-Received Basis

Air Dry Loss: 6.51
Eq. Moisture: 11.78

Moisture: 11.14
Ash: 19.22

Vol. Matter: 35.06
Fixed Carbon: 34.57

Carbon: 52.54
Hydrogen: 4.37
Nitrogen: 1.02
Oxygen: 10.95

Btu: 9235
Dry Btu: 10392

DAF Btu: 13261
MMFBtu: 11549

Sulfur: 0.72

Sulfide: 0.04
Sulfate: 0.000
Organic Sulfur: 0.68

Fluoride in ppm:

Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 24	SiO_2: 11.57	SiO_2ash: 60.21
Co: 20	Al_2O_3: 5.21	Al_2O_3ash: 27.12
Cr: 31	TiO_2: 0.27	TiO_2ash: 1.43
Cu: 71	Fe_2O_3: 0.32	Fe_2O_3ash: 1.69
Li: 36	MgO: 0.11	MgOash: 0.56
Mn: 40	CaO: 0.98	CaOash: 5.1
Nb: 2	K_2O: 0.09	K_2Oash: 0.47
Ni: 22	Na_2O: 0.63	Na_2Oash: 3.27
Pb: 87		
Sr: 260		
V: 160	AB Ratio: 0.11	
Zn: 50	Silica Ratio: 89.12	
	Total ashed Oxides: 99.85	
Calc oxygen: 22.13		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory Analyses, NMRDI Coal Quality Project

Lab No.: 170
Sample No.: 20N7W10H
Township: T20N Range: R7W Sec.: 10

Formation: Fruitland
Field: Star Lake Member: Zone: Lower

Depth to Seam: 179.10 Seam Thickness: 5.30
Sample Interval: 184.2-189.5 Sample Thickness: 5.35

Analyses on As-Received Basis

Air Dry Loss: 7.16
Eq. Moisture: 14.00

Moisture: 10.86
Ash: 33.09

Vol. Matter: 27.10
Fixed Carbon: 28.95

Carbon: 40.93
Hydrogen: 3.65
Nitrogen: 0.68
Oxygen: 10.25

Btu: 7110
Dry Btu: 7976

DAF Btu: 12686
MMFBtu: 10977

Sulfur: 0.51

Sulfide: 0.08
Sulfate: 0.000
Organic Sulfur: 0.43

Fluoride in ppm:

Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be:	SiO_2: 20.01	SiO_2ash: 60.46
Co:	Al_2O_3: 8.62	Al_2O_3ash: 26.06
Cr:	TiO_2: 0.24	TiO_2ash: 0.74
Cu:	Fe_2O_3: 0.76	Fe_2O_3ash: 2.29
Li:	MgO: 0.25	MgOash: 0.76
Mn:	CaO: 0.4	CaOash: 1.2
Nb:	K_2O: 0.19	K_2Oash: 0.58
Ni:	Na_2O: 0.71	Na_2Oash: 2.15
Pb:		
Sr:		
V:	AB Ratio: 0.08	
Zn:	Silica Ratio: 93.43	
	Total ashed Oxides: 94.24	
Calc oxygen: 21.14		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 193
Sample No.: 20N6W18B
Township: T20N Range: R6W Sec.: 18

Formation: Fruitland
Field: Star Lake Member: Zone: Middle

Depth to Seam: 163.30 Seam Thickness: 9.10
Sample Interval: 163.3-168.0 Sample Thickness: 4.70

Analyses on As-Received Basis

Air Dry Loss: 6.34
Eq. Moisture: 12.57

Moisture: 11.14
Ash: 29.49

Vol. Matter: 30.24
Fixed Carbon: 20.13

Carbon: 42.09
Hydrogen: 3.54
Nitrogen: 0.74
Oxygen: 12.30

Btu: 7872
Dry Btu: 8859

DAF Btu: 13260
MMFBtu: 11438

Sulfur: 0.68

Sulfide: 0.26
Sulfate: 0.000
Organic Sulfur: 0.42

Fluoride in ppm:

Chloride in ppm:

Trace Element Ashed Coal

Be: 10
Co: 25
Cr: 220
Cu: 41
Li: 28
Mn: 200
Nb: 2
Ni: 44
Pb: 77
Sr: 310
V: 130
Zn: 42

Calc oxygen: 23.46

Whole Coal Oxide

SiO_2: 18.93
Al_2O_3: 6.89
TiO_2: 0.14
Fe_2O_3: 0.98
MgO: 0.4
CaO: 0.13
K_2O: 0.21
Na_2O: 0.63

Ashed Oxide

SiO_2ash: 64.18
Al_2O_3ash: 23.38
TiO_2ash: 0.48
Fe_2O_3ash: 3.31
MgOash: 1.37
CaOash: 0.45
K_2Oash: 0.72
Na_2Oash: 2.13

AB Ratio: 0.13
Silica Ratio: 88.05
Total ashed Oxides: 96.02

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 172
Sample No.: 20N6W18C
Township: T20N Range: R6W Sec.: 18

Formation: Fruitland
Field: Star Lake Member: Zone: Middle

Depth to Seam: 163.30 Seam Thickness: 9.10
Sample Interval: 168.6-172.4 Sample Thickness: 4.40

Analyses on As-Received Basis

Air Dry Loss: 5.44
Eq. Moisture: 11.86 Moisture: 9.32 Vol. Matter: 33.22
Ash: 23.75 Fixed Carbon: 33.70

Carbon: 50.48 Btu: 8899 DAF Btu: 13296
Hydrogen: 4.37 Dry Btu: 9814 MMFBtu: 11851
Nitrogen: 0.88
Oxygen: 10.41 Sulfide: 0.20
Sulfur: 0.76 Sulfate: 0.000
Organic Sulfur: 0.56

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 21	SiO_2: 13.19	SiO_2ash: 55.56
Co: 24	Al_2O_3: 6.74	Al_2O_3ash: 28.39
Cr: 23	TiO_2: 0.61	TiO_2ash: 2.57
Cu: 66	Fe_2O_3: 0.78	Fe_2O_3ash: 3.27
Li: 49	MgO: 0.12	MgOash: 0.49
Mn: 70	CaO: 0.61	CaOash: 2.58
Nb: 2	K_2O: 0.14	K_2Oash: 0.57
Ni: 22	Na_2O: 0.4	Na_2Oash: 1.68
Pb: 170		
Sr: 370		
V: 140	AB Ratio: 0.09	
Zn: 50	Silica Ratio: 89.75	
	Total ashed Oxides: 95.11	
Calc oxygen: 19.76		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 162
Sample No.: 20N6W28B
Township: T20N Range: R6W Sec.: 28

Formation: Fruitland
Field: Star Lake Member: Zone: Lower

Depth to Seam: 80.80 Seam Thickness: 5.20
Sample Interval: 80.8-86.0 Sample Thickness: 5.20

Analyses on As-Received Basis

Air Dry Loss: 10.08
Eq. Moisture: 29.60 Moisture: 14.99 Vol. Matter: 26.78
Ash: 30.30 Fixed Carbon: 27.93

Carbon: 42.16 Btu: 7454 DAF Btu: 13624
Hydrogen: 3.52 Dry Btu: 8768 MMFBtu: 11002
Nitrogen: 0.82
Oxygen: 7.72 Sulfide: 0.06
Sulfur: 0.46 Sulfate: 0.000
Organic Sulfur: 0.40

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 26	SiO_2: 19.18	SiO_2ash: 63.31
Co: 25	Al_2O_3: 7.39	Al_2O_3ash: 24.39
Cr: 15	TiO_2: 0.26	TiO_2ash: 0.87
Cu: 31	Fe_2O_3: 0.65	Fe_2O_3ash: 2.13
Li: 30	MgO: 0.24	MgOash: 0.79
Mn: 28	CaO: 0.28	CaOash: 0.94
Nb: 2	K_2O: 0.87	K_2Oash: 2.87
Ni: 17	Na_2O: 0.66	Na_2Oash: 2.17
Pb: 70		
Sr: 260		
V: 100	AB Ratio: 0.1	
Zn: 35	Silica Ratio: 94.25	
	Total ashed Oxides: 97.47	
Calc oxygen: 22.74		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 168
Sample No.: 20N6W28E
Township: T20N Range: R6W Sec.: 28

Formation: Fruitland
Field: Star Lake Member: Zone: Lower

Depth to Seam: 88.60 Seam Thickness: 10.70
Sample Interval: 88.6-94.0 Sample Thickness: 5.40

Analyses on As-Received Basis

Air Dry Loss: 6.61
Eq. Moisture: 13.30

Moisture: 10.39
Ash: 29.18

Vol. Matter: 28.48
Fixed Carbon: 31.95

Carbon: 45.98
Hydrogen: 3.83
Nitrogen: 0.89
Oxygen: 9.23

Btu: 7957
Dry Btu: 8879

DAF Btu: 13167
MMFBtu: 11539

Sulfur: 0.47

Sulfide: 0.14
Sulfate: 0.008
Organic Sulfur: 0.32

Fluoride in ppm:

Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 20	SiO_2: 17.59	SiO_2ash: 60.28
Co: 20	Al_2O_3: 8.15	Al_2O_3ash: 27.92
Cr: 100	TiO_2: 0.22	TiO_2ash: 0.77
Cu: 38	Fe_2O_3: 0.95	Fe_2O_3ash: 3.24
Li: 38	MgO: 0.28	MgOash: 0.95
Mn: 45	CaO: 0.41	CaOash: 1.41
Nb: 2	K_2O: 0.22	K_2Oash: 0.77
Ni: 92	Na_2O: 0.39	Na_2Oash: 1.33
Pb: 77		
Sr: 200		
V: 90		
Zn: 42		

Calc oxygen: 19.65

AB Ratio: 0.08
Silica Ratio: 91.49
Total ashed Oxides: 96.67

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 164
Sample No.: 20N6W28F
Township: T20N Range: R6W Sec.: 28

Formation: Fruitland
Field: Star Lake Member: Zone: Lower

Depth to Seam: 88.60 Seam Thickness: 10.70
Sample Interval: 94.0-99.3 Sample Thickness: 5.30

Analyses on As-Received Basis

Air Dry Loss: 9.07
Eq. Moisture: 13.50

Moisture: 13.41
Ash: 17.50

Vol. Matter: 31.38
Fixed Carbon: 37.70

Carbon: 53.53
Hydrogen: 4.29
Nitrogen: 1.02
Oxygen: 9.71

Btu: 9324
Dry Btu: 10768

DAF Btu: 13496
MMFBtu: 11425

Sulfur: 0.51

Sulfide: 0.08
Sulfate: 0.000
Organic Sulfur: 0.43

Fluoride in ppm:

Chloride in ppm:

Trace Element Ashed Coal

Be: 19
Co: 24
Cr: 55
Cu: 48
Li: 44
Mn: 38
Nb: 2
Ni: 41
Pb: 70
Sr: 230
V: 120
Zn: 31

Calc oxygen: 23.15

Whole Coal Oxide

SiO_2: 10.47
Al_2O_3: 5.24
TiO_2: 0.2
Fe_2O_3: 0.43
MgO: 0.11
CaO: 0.17
K_2O: 0.049
Na_2O: 0.28

Ashed Oxide

SiO_2ash: 59.8
Al_2O_3ash: 29.94
TiO_2ash: 1.15
Fe_2O_3ash: 2.46
MgOash: 0.61
CaOash: 0.99
K_2Oash: 0.28
Na_2Oash: 1.62

AB Ratio: 0.06
Silica Ratio: 93.64
Total ashed Oxides: 96.85

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 205
Sample No.: 20N6W26A
Township: T20N Range: R6W Sec.: 26

Formation: Fruitland
Field: Star Lake Member: Zone: Middle

Depth to Seam: 154.00 Seam Thickness: 5.30
Sample Interval: 154.0-155.1 Sample Thickness: 1.10

Analyses on As-Received Basis

Air Dry Loss: 4.89
Eq. Moisture: 12.68 Moisture: 6.59 Vol. Matter: 30.94
Ash: 24.18 Fixed Carbon: 38.28

Carbon: 52.33 Btu: 9175 DAF Btu: 12404
Hydrogen: 4.23 Dry Btu: 9822 MMFBtu: 12339
Nitrogen: 1.17
Oxygen: 10.99 Sulfide: 0.04
Sulfur: 0.49 Sulfate: 0.000
Organic Sulfur: 0.45

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be:	SiO_2: 17.12	SiO_2ash: 70.8
Co:	Al_2O_3: 3.2	Al_2O_3ash: 13.24
Cr:	TiO_2: 0.089	TiO_2ash: 0.37
Cu:	Fe_2O_3: 0.95	Fe_2O_3ash: 3.92
Li:	MgO: 0.1	MgOash: 0.42
Mn:	CaO: 0.084	CaOash: 0.35
Nb:	K_2O: 0.089	K_2Oash: 0.37
Ni:	Na_2O: 0.35	Na_2Oash: 1.47
Pb:		
Sr:		
V:	AB Ratio: 0.07	
Zn:	Silica Ratio: 93.78	
	Total ashed Oxides: 90.94	
Calc oxygen: 17.60		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 191
Sample No.: 20N6W26C
Township: T20N Range: R6W Sec.: 26

Formation: Fruitland
Field: Star Lake Member: Zone: Middle

Depth to Seam: 154.00 Seam Thickness: 4.20
Sample Interval: 157.2-161.4 Sample Thickness: 4.20

Analyses on As-Received Basis

Air Dry Loss: 6.82
Eq. Moisture: 13.74

Moisture: 10.85
Ash: 22.34

Vol. Matter: 32.52
Fixed Carbon: 34.28

Carbon: 51.39
Hydrogen: 4.19
Nitrogen: 1.18
Oxygen: 9.19

Btu: 9063
Dry Btu: 10166

DAF Btu: 13565
MMFBtu: 11818

Sulfur: 0.83

Sulfide: 0.33
Sulfate: 0.000
Organic Sulfur: 0.50

Fluoride in ppm:

Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 10	SiO_2: 13.33	SiO_2ash: 59.67
Co: 28	Al_2O_3: 5.89	Al_2O_3ash: 26.35
Cr: 250	TiO_2: 0.27	TiO_2ash: 1.22
Cu: 60	Fe_2O_3: 1.07	Fe_2O_3ash: 4.8
Li: 74	MgO: 0.093	MgOash: 0.42
Mn: 220	CaO: 0.51	CaOash: 2.27
Nb: 2	K_2O: 0.11	K_2Oash: 0.51
Ni: 54	Na_2O: 0.39	Na_2Oash: 1.74
Pb: 110		
Sr: 260		
V: 160	AB Ratio: 0.11	
Zn: 42	Silica Ratio: 88.84	
	Total ashed Oxides: 96.98	
Calc oxygen: 20.07		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 165
Sample No.: 20N6W26F
Township: T20N Range: R6W Sec.: 26

Formation: Fruitland
Field: Star Lake Member: Zone:

Depth to Seam: 166.70 Seam Thickness: 4.40
Sample Interval: 166.7-171.1 Sample Thickness: 4.40

Analyses on As-Received Basis

Air Dry Loss:
Eq. Moisture: 36.32 Moisture: 0.00 Vol. Matter: 0.00
Ash: 0.00 Fixed Carbon: 0.00

Carbon: 0.00 Btu: 0 DAF Btu: 0
Hydrogen: 0.00 Dry Btu: 0 MMFBtu: 0
Nitrogen: 0.00
Oxygen: 0.00 Sulfide: 0.15
Sulfur: 0.47 Sulfate: 0.003
Organic Sulfur: 0.32

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be:	SiO_2:	SiO_2ash:
Co:	Al_2O_3:	Al_2O_3ash:
Cr:	TiO_2:	TiO_2ash:
Cu:	Fe_2O_3:	Fe_2O_3ash:
Li:	MgO:	MgOash:
Mn:	CaO:	CaOash:
Nb:	K_2O:	K_2Oash:
Ni:	Na_2O:	Na_2Oash:
Pb:		
Sr:		
V:	AB Ratio:	
Zn:	Silica Ratio:	
	Total ashed Oxides:	

Calc oxygen: 99.53

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 189
Sample No.: 20N5W31B
Township: T20N Range: R5W Sec.: 31

Formation: Fruitland
Field: Star Lake Member: Zone: Middle

Depth to Seam: 164.35 Seam Thickness: 7.30
Sample Interval: 164.35-167.35 Sample Thickness: 3.00

Analyses on As-Received Basis

Air Dry Loss: 6.9
Eq. Moisture: 10.52

Moisture: 9.23
Ash: 23.19

Vol. Matter: 31.86
Fixed Carbon: 35.71

Carbon: 50.28
Hydrogen: 4.28
Nitrogen: 0.80
Oxygen: 11.59

Btu: 8793
Dry Btu: 9688

DAF Btu: 13014
MMFBtu: 11639

Sulfur: 0.60

Sulfide: 0.13
Sulfate: 0.000
Organic Sulfur: 0.47

Fluoride in ppm:

Chloride in ppm:

Trace Element Ashed Coal

Be:
Co:
Cr:
Cu:
Li:
Mn:
Nb:
Ni:
Pb:
Sr:
V:
Zn:

Calc oxygen: 20.85

Whole Coal Oxide

SiO_2: 12.66
Al_2O_3: 6.83
TiO_2: 0.1
Fe_2O_3: 0.79
MgO: 0.055
CaO: 0.55
K_2O: 0.069
Na_2O: 0.31

Ashed Oxide

SiO_2ash: 54.59
Al_2O_3ash: 29.47
TiO_2ash: 0.45
Fe_2O_3ash: 3.39
MgOash: 0.24
CaOash: 2.38
K_2Oash: 0.3
Na_2Oash: 1.35

AB Ratio: 0.09
Silica Ratio: 90.08
Total ashed Oxides: 92.17

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 197
Sample No.: 20N5W31C
Township: T20N Range: R5W Sec.: 31

Formation: Fruitland
Field: Star Lake Member: Zone: Middle

Depth to Seam: 164.35 Seam Thickness: 7.30
Sample Interval: 167.35-171.65 Sample Thickness: 4.30

Analyses on As-Received Basis

Air Dry Loss: 8.72
Eq. Moisture: 14.01 Moisture: 10.07 Vol. Matter: 33.98
Ash: 17.59 Fixed Carbon: 38.34

Carbon: 54.05 Btu: 9575 DAF Btu: 11862
Hydrogen: 4.53 Dry Btu: 10648 MMFBtu: 11744
Nitrogen: 1.16
Oxygen: 12.03 Sulfide: 0.08
Sulfur: 0.53 Sulfate: 0.000
Organic Sulfur: 0.45

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 12	SiO_2: 10.47	SiO_2ash: 59.54
Co: 21	Al_2O_3: 4.92	Al_2O_3ash: 28
Cr: 130	TiO_2: 0.22	TiO_2ash: 1.25
Cu: 51	Fe_2O_3: 0.86	Fe_2O_3ash: 4.91
Li: 56	MgO: 0.063	MgOash: 0.36
Mn: 65	CaO: 0.27	CaOash: 1.56
Nb: 2	K_2O: 0.052	K_2Oash: 0.3
Ni: 22	Na_2O: 0.27	Na_2Oash: 1.55
Pb: 95		
Sr: 310		
V: 110	AB Ratio: 0.09	
Zn: 40	Silica Ratio: 89.7	
	Total ashed Oxides: 97.47	
Calc oxygen: 22.14		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 163
Sample No.: 20N5W31F
Township: T20N Range: R5W Sec.: 31

Formation: Fruitland
Field: Star Lake Member: Zone: Middle

Depth to Seam: 177.55 Seam Thickness: 7.70
Sample Interval: 177.55-181.90 Sample Thickness: 4.35

Analyses on As-Received Basis

Air Dry Loss: 9.18
Eq. Moisture: 13.10 Moisture: 13.22 Vol. Matter: 31.85
Ash: 22.70 Fixed Carbon: 32.23

Carbon: 49.17 Btu: 8597 DAF Btu: 13416
Hydrogen: 4.01 Dry Btu: 9906 MMFBtu: 11305
Nitrogen: 0.89
Oxygen: 9.43 Sulfide: 0.07
Sulfur: 0.56 Sulfate: 0.000
Organic Sulfur: 0.49

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 25	SiO_2: 13.7	SiO_2ash: 60.34
Co: 21	Al_2O_3: 6.76	Al_2O_3ash: 29.8
Cr: 20	TiO_2: 0.29	TiO_2ash: 1.29
Cu: 54	Fe_2O_3: 0.47	Fe_2O_3ash: 2.07
Li: 54	MgO: 0.09	MgOash: 0.4
Mn: 45	CaO: 0.33	CaOash: 1.46
Nb: 2	K_2O: 0.074	K_2Oash: 0.33
Ni: 19	Na_2O: 0.22	Na_2Oash: 0.98
Pb: 80		
Sr: 210		
V: 110	AB Ratio: 0.1	
Zn: 44	Silica Ratio: 93.88	
	Total ashed Oxides: 96.67	
Calc oxygen: 22.67		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 174
Sample No.: 20N5W31H
Township: T20N Range: R5W Sec.: 31

Formation: Fruitland
Field: Star Lake Member: Zone: Middle

Depth to Seam: 177.55 Seam Thickness: 7.70
Sample Interval: 182.9-186.15 Sample Thickness: 3.25

Analyses on As-Received Basis

Air Dry Loss: 9.34
Eq. Moisture: 14.38 Moisture: 12.16 Vol. Matter: 29.73
Ash: 25.49 Fixed Carbon: 32.62

Carbon: 46.77 Btu: 8266 DAF Btu: 13257
Hydrogen: 3.96 Dry Btu: 9410 MMFBtu: 11334
Nitrogen: 0.88
Oxygen: 10.26 Sulfide: 0.07
Sulfur: 0.46 Sulfate: 0.000
Organic Sulfur: 0.39

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 11	SiO_2: 16.97	SiO_2ash: 66.59
Co: 23	Al_2O_3: 6.28	Al_2O_3ash: 24.63
Cr: 100	TiO_2: 0.13	TiO_2ash: 0.5
Cu: 25	Fe_2O_3: 0.48	Fe_2O_3ash: 1.88
Li: 21	MgO: 0.16	MgOash: 0.61
Mn: 77	CaO: 0.57	CaOash: 2.25
Nb: 2	K_2O: 0.14	K_2Oash: 0.54
Ni: 17	Na_2O: 0.43	Na_2Oash: 1.68
Pb: 70		
Sr: 310		
V: 90	AB Ratio: 0.07	
Zn: 35	Silica Ratio: 93.35	
	Total ashed Oxides: 98.68	
Calc oxygen: 22.44		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 188
Sample No.: 20N5W31J
Township: T20N Range: R5W Sec.: 31

Formation: Fruitland
Field: Star Lake Member: Zone: Middle

Depth to Seam: 177.55 Seam Thickness: 10.00
Sample Interval: 187.3-192.15 Sample Thickness: 4.85

Analyses on As-Received Basis

Air Dry Loss: 8.1
Eq. Moisture: 11.80

Moisture: 10.64
Ash: 35.39

Vol. Matter: 24.68
Fixed Carbon: 29.29

Carbon: 39.26
Hydrogen: 3.50
Nitrogen: 0.59
Oxygen: 10.15

Btu: 6729
Dry Btu: 7530

DAF Btu: 12468
MMFBtu: 10814

Sulfur: 0.44

Sulfide: 0.11
Sulfate: 0.000
Organic Sulfur: 0.33

Fluoride in ppm:

Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be:	SiO_2: 23.17	SiO_2ash: 65.47
Co:	Al_2O_3: 8.61	Al_2O_3ash: 24.34
Cr:	TiO_2: 0.16	TiO_2ash: 0.45
Cu:	Fe_2O_3: 0.66	Fe_2O_3ash: 1.86
Li:	MgO: 0.2	MgOash: 0.57
Mn:	CaO: 0.52	CaOash: 1.48
Nb:	K_2O: 0.26	K_2Oash: 0.74
Ni:	Na_2O: 0.47	Na_2Oash: 1.32
Pb:		
Sr:		
V:	AB Ratio: 0.06	
Zn:	Silica Ratio: 94.36	
	Total ashed Oxides: 96.23	
Calc oxygen: 20.82		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 171
Sample No.: 20N5W31K
Township: T20N Range: R5W Sec.: 31

Formation: Fruitland
Field: Star Lake Member: Zone: Middle

Depth to Seam: 177.55 Seam Thickness: 10.00
Sample Interval: 192.15-197.3 Sample Thickness: 5.15

Analyses on As-Received Basis

Air Dry Loss: 8.55
Eq. Moisture: 13.63 Moisture: 12.47 Vol. Matter: 32.54
Ash: 19.50 Fixed Carbon: 35.48

Carbon: 51.81 Btu: 9177 DAF Btu: 13489
Hydrogen: 4.27 Dry Btu: 10484 MMFBtu: 11560
Nitrogen: 1.07
Oxygen: 10.41 Sulfide: 0.04
Sulfur: 0.44 Sulfate: 0.000
Organic Sulfur: 0.40

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be:	SiO_2: 12.24	SiO_2ash: 62.79
Co:	Al_2O_3: 5.06	Al_2O_3ash: 25.96
Cr:	TiO_2: 0.24	TiO_2ash: 1.24
Cu:	Fe_2O_3: 0.36	Fe_2O_3ash: 1.85
Li:	MgO: 0.07	MgOash: 0.36
Mn:	CaO: 0.44	CaOash: 2.26
Nb:	K_2O: 0.095	K_2Oash: 0.49
Ni:	Na_2O: 0.38	Na_2Oash: 1.93
Pb:		
Sr:		
V:	AB Ratio: 0.07	
Zn:	Silica Ratio: 93.35	
	Total ashed Oxides: 96.88	
Calc oxygen: 22.91		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 166
Sample No.: 20N5W28B
Township: T20N Range: R5W Sec.: 28

Formation: Fruitland
Field: Star Lake Member: Zone: Lower

Depth to Seam: 395.35 Seam Thickness: 6.55
Sample Interval: 395.35-398.8 Sample Thickness: 3.45

Analyses on As-Received Basis

Air Dry Loss: 7.62
Eq. Moisture: 12.43 Moisture: 10.26 Vol. Matter: 33.40
Ash: 15.60 Fixed Carbon: 40.73

Carbon: 56.62 Btu: 9917 DAF Btu: 13376
Hydrogen: 4.64 Dry Btu: 11051 MMFBtu: 11860
Nitrogen: 1.10
Oxygen: 11.28 Sulfide: 0.03
Sulfur: 0.48 Sulfate: 0.000
Organic Sulfur: 0.45

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 32	SiO_2: 9.22	SiO_2ash: 59.08
Co: 31	Al_2O_3: 3.9	Al_2O_3ash: 24.98
Cr: 11	TiO_2: 0.043	TiO_2ash: 0.28
Cu: 60	Fe_2O_3: 0.7	Fe_2O_3ash: 4.48
Li: 25	MgO: 0.068	MgOash: 0.44
Mn: 200	CaO: 0.58	CaOash: 3.73
Nb: 2	K_2O: 0.032	K_2Oash: 0.21
Ni: 40	Na_2O: 0.28	Na_2Oash: 1.8
Pb: 64		
Sr: 400		
V: 270	AB Ratio: 0.12	
Zn: 15	Silica Ratio: 87.22	
	Total ashed Oxides: 95	
Calc oxygen: 21.56		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 167
Sample No.: 20N5W28C
Township: T20N Range: R5W Sec.: 28

Formation: Fruitland
Field: Star Lake Member: Zone: Lower

Depth to Seam: 395.35 Seam Thickness: 6.55
Sample Interval: 398.8-401.9 Sample Thickness: 3.10

Analyses on As-Received Basis

Air Dry Loss: 8.51
Eq. Moisture: 12.22 Moisture: 11.29 Vol. Matter: 27.44
Ash: 29.12 Fixed Carbon: 32.15

Carbon: 44.80 Btu: 7728 DAF Btu: 12969
Hydrogen: 3.90 Dry Btu: 8712 MMFBtu: 11219
Nitrogen: 0.83
Oxygen: 9.70 Sulfide: 0.02
Sulfur: 0.33 Sulfate: 0.000
Organic Sulfur: 0.31

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 28	SiO_2: 17.16	SiO_2ash: 58.92
Co: 19	Al_2O_3: 8.42	Al_2O_3ash: 28.91
Cr: 36	TiO_2: 0.26	TiO_2ash: 0.88
Cu: 31	Fe_2O_3: 0.48	Fe_2O_3ash: 1.65
Li: 35	MgO: 0.13	MgOash: 0.43
Mn: 53	CaO: 0.75	CaOash: 2.59
Nb: 2	K_2O: 0.058	K_2Oash: 0.2
Ni: 29	Na_2O: 0.39	Na_2Oash: 1.33
Pb: 68		
Sr: 310		
V: 140	AB Ratio: 0.06	
Zn: 10	Silica Ratio: 92.65	
	Total ashed Oxides: 94.91	
Calc oxygen: 21.02		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 190
Sample No.: 20N5W28E
Township: T20N Range: R5W Sec.: 28

Formation: Fruitland
Field: Star Lake Member: Zone: Lower

Depth to Seam: 395.35 Seam Thickness: 2.95
Sample Interval: 403.05-406.0 Sample Thickness: 2.95

Analyses on As-Received Basis

Air Dry Loss: 6.46
Eq. Moisture: 11.70

Moisture: 11.04
Ash: 18.18

Vol. Matter: 33.95
Fixed Carbon: 36.82

Carbon: 54.99
Hydrogen: 4.54
Nitrogen: 1.16
Oxygen: 9.59

Btu: 9746
Dry Btu: 10956

DAF Btu: 13770
MMFBtu: 12057

Sulfur: 0.48

Sulfide: 0.01
Sulfate: 0.000
Organic Sulfur: 0.47

Fluoride in ppm:

Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 30	SiO_2: 10.71	SiO_2ash: 58.92
Co: 24	Al_2O_3: 5.28	Al_2O_3ash: 29.03
Cr: 76	TiO_2: 0.14	TiO_2ash: 0.77
Cu: 78	Fe_2O_3: 1.3	Fe_2O_3ash: 7.14
Li: 70	MgO: 0.12	MgOash: 0.66
Mn: 65	CaO: 0.26	CaOash: 1.44
Nb: 2	K_2O: 0.17	K_2Oash: 0.94
Ni: 23	Na_2O: 0.3	Na_2Oash: 1.65
Pb: 92		
Sr: 310		
V: 210	AB Ratio: 0.13	
Zn: 24	Silica Ratio: 86.44	
	Total ashed Oxides: 100.55	
Calc oxygen: 20.65		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 192
Sample No.: 20N5W34B
Township: T20N Range: R5W Sec.: 34

Formation: Fruitland
Field: Star Lake Member: Zone: Lower

Depth to Seam: 124.40 Seam Thickness: 15.90
Sample Interval: 124.4-129.4 Sample Thickness: 5.00

Analyses on As-Received Basis

Air Dry Loss: 7.03
Eq. Moisture: 13.92 Moisture: 10.73 Vol. Matter: 31.72
Ash: 27.28 Fixed Carbon: 30.26

Carbon: 46.76 Btu: 8210 DAF Btu: 13244
Hydrogen: 4.11 Dry Btu: 9197 MMFBtu: 11543
Nitrogen: 0.80
Oxygen: 9.70 Sulfide: 0.07
Sulfur: 0.59 Sulfate: 0.014
Organic Sulfur: 0.51

Fluoride in ppm: 57.2 Chloride in ppm: 37.1

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 19	SiO_2: 15.2	SiO_2ash: 55.71
Co: 20	Al_2O_3: 8.98	Al_2O_3ash: 32.92
Cr: 15	TiO_2: 0.34	TiO_2ash: 1.24
Cu: 51	Fe_2O_3: 0.6	Fe_2O_3ash: 2.21
Li: 66	MgO: 0.11	MgOash: 0.4
Mn: 180	CaO: 0.24	CaOash: 0.88
Nb: 2	K_2O: 0.12	K_2Oash: 0.45
Ni: 22	Na_2O: 0.48	Na_2Oash: 1.77
Pb: 71		
Sr: 170		
V: 160	AB Ratio: 0.06	
Zn: 47	Silica Ratio: 94.1	
	Total ashed Oxides: 95.58	
Calc oxygen: 20.46		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 178
Sample No.: 20N5W34C
Township: T20N Range: R5W Sec.: 34

Formation: Fruitland
Field: Star Lake Member: Zone: Lower

Depth to Seam: 124.40 Seam Thickness: 15.90
Sample Interval: 129.4-134.4 Sample Thickness: 5.00

Analyses on As-Received Basis

Air Dry Loss: 5.65
Eq. Moisture: 11.55 Moisture: 10.33 Vol. Matter: 33.70
Ash: 20.69 Fixed Carbon: 35.28

Carbon: 52.10 Btu: 9205 DAF Btu: 13345
Hydrogen: 4.29 Dry Btu: 10266 MMFBtu: 11772
Nitrogen: 0.88
Oxygen: 11.13 Sulfide: 0.07
Sulfur: 0.55 Sulfate: 0.000
Organic Sulfur: 0.48

Fluoride in ppm: 93 Chloride in ppm: 40.2

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 7	SiO_2: 11.01	SiO_2ash: 53.23
Co: 17	Al_2O_3: 6.66	Al_2O_3ash: 32.2
Cr: 110	TiO_2: 0.16	TiO_2ash: 0.78
Cu: 71	Fe_2O_3: 0.4	Fe_2O_3ash: 1.93
Li: 110	MgO: 0.095	MgOash: 0.46
Mn: 150	CaO: 0.71	CaOash: 3.43
Nb: 2	K_2O: 0.068	K_2Oash: 0.33
Ni: 15	Na_2O: 0.27	Na_2Oash: 1.3
Pb: 90		
Sr: 480		
V: 150	AB Ratio: 0.08	
Zn: 37	Silica Ratio: 90.14	
	Total ashed Oxides: 93.66	
Calc oxygen: 21.49		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 175
Sample No.: 20N5W34D
Township: T20N Range: R5W Sec.: 34

Formation: Fruitland
Field: Star Lake Member: Zone: Lower

Depth to Seam: 124.40 Seam Thickness: 15.90
Sample Interval: 134.4-140.3 Sample Thickness: 5.90

Analyses on As-Received Basis

Air Dry Loss: 6.8
Eq. Moisture: 11.83

Moisture: 10.23
Ash: 12.32

Vol. Matter: 38.52
Fixed Carbon: 38.92

Carbon: 58.68
Hydrogen: 4.96
Nitrogen: 1.16
Oxygen: 12.07

Btu: 10422
Dry Btu: 11610

DAF Btu: 13456
MMFBtu: 11945

Sulfur: 0.56

Sulfide: 0.05
Sulfate: 0.000
Organic Sulfur: 0.51

Fluoride in ppm: 62.4 Chloride in ppm: 30.6

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 8	SiO_2: 6.84	SiO_2ash: 55.55
Co:	Al_2O_3: 3.37	Al_2O_3ash: 27.39
Cr:	TiO_2: 0.13	TiO_2ash: 1.04
Cu: 82	Fe_2O_3: 0.31	Fe_2O_3ash: 2.55
Li:	MgO: 0.11	MgOash: 0.93
Mn:	CaO: 0.36	CaOash: 2.97
Nb:	K_2O: 0.013	K_2Oash: 0.11
Ni:	Na_2O: 0.54	Na_2Oash: 4.39
Pb:		
Sr: 800		
V:	AB Ratio: 0.13	
Zn:	Silica Ratio: 89.59	
	Total ashed Oxides: 94.93	
Calc oxygen: 22.32		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 222
Sample No.: 19N4W3B
Township: T19N Range: R4W Sec.: 3

Formation: Fruitland
Field: Star Lake Member: Zone: Lower

Depth to Seam: 184.80 Seam Thickness: 7.35
Sample Interval: 184.8-188.8 Sample Thickness: 4.00

Analyses on As-Received Basis

Air Dry Loss: 4.38		
Eq. Moisture: 11.63	Moisture: 8.64	Vol. Matter: 29.69
	Ash: 30.80	Fixed Carbon: 30.85
Carbon: 44.01	Btu: 7786	DAF Btu: 12860
Hydrogen: 4.12	Dry Btu: 8524	MMFBtu: 11557
Nitrogen: 0.80		
Oxygen: 10.94		Sulfide: 0.03
	Sulfur: 0.65	Sulfate: 0.000
		Organic Sulfur: 0.62

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 26	SiO_2: 15.95	SiO_2ash: 51.8
Co: 17	Al_2O_3: 8.94	Al_2O_3ash: 29.01
Cr: 31	TiO_2: 0.47	TiO_2ash: 1.52
Cu: 70	Fe_2O_3: 0.28	Fe_2O_3ash: 0.92
Li: 110	MgO: 1.07	MgOash: 3.48
Mn: 140	CaO: 2.16	CaOash: 7.01
Nb: 2	K_2O: 0.21	K_2Oash: 0.68
Ni: 25	Na_2O: 0.25	Na_2Oash: 0.8
Pb: 110		
Sr: 300		
V: 140	AB Ratio: 0.07	
Zn: 35	Silica Ratio: 93.55	
	Total ashed Oxides: 95.22	
Calc oxygen: 19.62		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 221
Sample No.: 19N4W3C
Township: T19N Range: R4W Sec.: 3

Formation: Fruitland
Field: Star Lake Member: Zone: Lower

Depth to Seam: 184.80 Seam Thickness: 7.35
Sample Interval: 188.8-192.15 Sample Thickness: 3.35

Analyses on As-Received Basis

Air Dry Loss: 4.55
Eq. Moisture: 13.03 Moisture: 11.93 Vol. Matter: 43.97
Ash: 17.33 Fixed Carbon: 26.77

Carbon: 54.82 Btu: 9670 DAF Btu: 13670
Hydrogen: 4.62 Dry Btu: 10980 MMFBtu: 11807
Nitrogen: 1.04
Oxygen: 9.62 Sulfide: 0.03
Sulfur: 0.63 Sulfate: 0.000
Organic Sulfur: 0.60

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be:	SiO_2: 9.59	SiO_2ash: 55.32
Co:	Al_2O_3: 5.34	Al_2O_3ash: 30.82
Cr:	TiO_2: 0.12	TiO_2ash: 0.69
Cu:	Fe_2O_3: 0.4	Fe_2O_3ash: 2.32
Li:	MgO: 0.065	MgOash: 0.38
Mn:	CaO: 0.47	CaOash: 2.7
Nb:	K_2O: 0.065	K_2Oash: 0.38
Ni:	Na_2O: 0.27	Na_2Oash: 1.57
Pb:		
Sr:		
V:	AB Ratio: 0.07	
Zn:	Silica Ratio: 93.55	
	Total ashed Oxides: 94.18	
Calc oxygen: 21.56		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory Analyses, NMRDI Coal Quality Project

Lab No.: 212
Sample No.: 19N4W1B
Township: T19N Range: R4W Sec.: 1

Formation: Fruitland
Field: Star Lake Member: Zone: Lower

Depth to Seam: 335.95 Seam Thickness: 4.10
Sample Interval: 335.95-340.05 Sample Thickness: 4.10

Analyses on As-Received Basis

Air Dry Loss: 7.18
Eq. Moisture: 12.25 Moisture: 9.55 Vol. Matter: 30.46
Ash: 26.03 Fixed Carbon: 33.95

Carbon: 46.05 Btu: 8094 DAF Btu: 12566
Hydrogen: 4.05 Dry Btu: 8949 MMFBtu: 11157
Nitrogen: 1.07
Oxygen: 12.56 Sulfide: 0.21
Sulfur: 0.65 Sulfate: 0.000
Organic Sulfur: 0.44

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be:	SiO_2: 16	SiO_2ash: 61.47
Co:	Al_2O_3: 5.58	Al_2O_3ash: 21.43
Cr:	TiO_2: 0.31	TiO_2ash: 1.2
Cu:	Fe_2O_3: 1.22	Fe_2O_3ash: 4.7
Li:	MgO: 0.41	MgOash: 1.58
Mn:	CaO: 1.13	CaOash: 4.33
Nb:	K_2O: 0.25	K_2Oash: 0.96
Ni:	Na_2O: 0.27	Na_2Oash: 1.02
Pb:		
Sr:		
V:	AB Ratio: 0.09	
Zn:	Silica Ratio: 89.51	
	Total ashed Oxides: 96.69	
Calc oxygen: 22.15		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 223
Sample No.: 19N3W9A
Township: T19N Range: R3W Sec.: 9

Formation: Fruitland
Field: Star Lake Member: NA Zone: Lower

Depth to Seam: 49.00 Seam Thickness: 4.60
Sample Interval: 49.0-53.6 Sample Thickness: 4.60

Analyses on As-Received Basis

Air Dry Loss: 4.61
Eq. Moisture: 13.24 Moisture: 11.20 Vol. Matter: 31.55
Ash: 26.23 Fixed Carbon: 31.02

Carbon: 45.87 Btu: 7902 DAF Btu: 12630
Hydrogen: 4.04 Dry Btu: 8899 MMFBtu: 10911
Nitrogen: 0.70
Oxygen: 11.19 Sulfide: 0.06
Sulfur: 0.74 Sulfate: 0.056
Organic Sulfur: 0.62

Fluoride in ppm: 67.4 Chloride in ppm: 58.6

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 11	SiO_2: 14.25	SiO_2ash: 54.32
Co: 20	Al_2O_3: 8.3	Al_2O_3ash: 31.64
Cr: 19	TiO_2: 0.24	TiO_2ash: 0.9
Cu: 49	Fe_2O_3: 0.45	Fe_2O_3ash: 1.71
Li: 114	MgO: 0.14	MgOash: 0.53
Mn: 200	CaO: 1.21	CaOash: 4.62
Nb: 1	K_2O: 0.081	K_2Oash: 0.31
Ni: 50	Na_2O: 0.46	Na_2Oash: 1.76
Pb: 23		
Sr: 350		
V: 160	AB Ratio: 0.13	
Zn: 43	Silica Ratio: 88.05	
	Total ashed Oxides: 95.79	
Calc oxygen: 22.42		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 217
Sample No.: 19N3W3B
Township: T19N Range: R3W Sec.: 3

Formation: Fruitland
Field: Star Lake Member: Zone: Middle

Depth to Seam: 67.50 Seam Thickness: 3.20
Sample Interval: 67.50-70.7 Sample Thickness: 3.20

Analyses on As-Received Basis

Air Dry Loss: 4.04
Eq. Moisture: 12.64 Moisture: 9.25 Vol. Matter: 30.32
Ash: 30.70 Fixed Carbon: 29.73

Carbon: 44.08 Btu: 7668 DAF Btu: 12770
Hydrogen: 3.98 Dry Btu: 8450 MMFBtu: 11349
Nitrogen: 1.05
Oxygen: 10.19 Sulfide: 0.17
Sulfur: 0.72 Sulfate: 0.000
Organic Sulfur: 0.55

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 18	SiO_2: 16.95	SiO_2ash: 55.2
Co: 21	Al_2O_3: 8.94	Al_2O_3ash: 29.11
Cr: 11	TiO_2: 0.41	TiO_2ash: 1.35
Cu: 48	Fe_2O_3: 0.7	Fe_2O_3ash: 2.29
Li: 94	MgO: 0.2	MgOash: 0.65
Mn: 220	CaO: 0.94	CaOash: 3.08
Nb: 2	K_2O: 0.07	K_2Oash: 0.23
Ni: 33	Na_2O: 0.12	Na_2Oash: 0.4
Pb: 64		
Sr: 290		
V: 160	AB Ratio: 0.14	
Zn: 45	Silica Ratio: 86.09	
	Total ashed Oxides: 92.31	
Calc oxygen: 19.47		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 220
Sample No.: 21N8W22B
Township: T21N Range: R8W Sec.: 22

Formation: Fruitland
Field: Star Lake Member: Zone: Lower

Depth to Seam: 345.60 Seam Thickness: 31.05
Sample Interval: 345.6-350.6 Sample Thickness: 5.00

Analyses on As-Received Basis

Air Dry Loss: 3.57
Eq. Moisture: 11.31

Moisture: 7.36
Ash: 27.68

Vol. Matter: 31.41
Fixed Carbon: 33.54

Carbon: 48.00
Hydrogen: 4.32
Nitrogen: 0.84
Oxygen: 11.12

Btu: 8363
Dry Btu: 9027

DAF Btu: 12874
MMFBtu: 11823

Sulfur: 0.64

Sulfide: 0.09
Sulfate: 0.000
Organic Sulfur: 0.55

Fluoride in ppm:

Chloride in ppm:

Trace Element Ashed Coal

Be: 16
Co: 16
Cr: 10
Cu: 54
Li: 51
Mn: 53
Nb: 1
Ni: 27
Pb: 58
Sr: 140
V: 160
Zn: 30

Calc oxygen: 18.52

Whole Coal Oxide

SiO_2: 15.87
Al_2O_3: 8.3
TiO_2: 0.27
Fe_2O_3: 0.43
MgO: 0.096
CaO: 0.53
K_2O: 0.19
Na_2O: 0.6

Ashed Oxide

SiO_2ash: 57.34
Al_2O_3ash: 29.99
TiO_2ash: 0.99
Fe_2O_3ash: 1.54
MgOash: 0.35
CaOash: 1.92
K_2Oash: 0.67
Na_2Oash: 2.16

AB Ratio: 0.07
Silica Ratio: 93.55
Total ashed Oxides: 94.96

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 209
Sample No.: 21N8W22C
Township: T21N Range: R8W Sec.: 22

Formation: Fruitland
Field: Star Lake Member: Zone: Lower

Depth to Seam: 345.60 Seam Thickness: 31.05
Sample Interval: 350.6-357.0 Sample Thickness: 6.40

Analyses on As-Received Basis

Air Dry Loss: 6.52
Eq. Moisture: 11.41 Moisture: 9.67 Vol. Matter: 33.77
Ash: 20.92 Fixed Carbon: 35.63

Carbon: 52.32 Btu: 9202 DAF Btu: 13257
Hydrogen: 4.28 Dry Btu: 10187 MMFBtu: 11799
Nitrogen: 1.12
Oxygen: 11.07 Sulfide: 0.08
Sulfur: 0.59 Sulfate: 0.000
Organic Sulfur: 0.51

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 7	SiO_2: 11.18	SiO_2ash: 53.43
Co: 19	Al_2O_3: 6.01	Al_2O_3ash: 28.71
Cr: 55	TiO_2: 0.24	TiO_2ash: 1.15
Cu: 72	Fe_2O_3: 0.35	Fe_2O_3ash: 1.66
Li: 50	MgO: 0.058	MgOash: 0.28
Mn: 110	CaO: 0.9	CaOash: 4.32
Nb: 2	K_2O: 0.066	K_2Oash: 0.32
Ni: 21	Na_2O: 0.33	Na_2Oash: 1.59
Pb: 85		
Sr: 600		
V: 100	AB Ratio: 0.09	
Zn: 29	Silica Ratio: 89.51	
	Total ashed Oxides: 91.46	
Calc oxygen: 20.77		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 219
Sample No.: 21N8W22D
Township: T21N Range: R8W Sec.: 22

Formation: Fruitland
Field: Star Lake Member: Zone: Lower

Depth to Seam: 345.60 Seam Thickness: 31.05
Sample Interval: 357.0-362.0 Sample Thickness: 5.00

Analyses on As-Received Basis

Air Dry Loss: 5.07
Eq. Moisture: 12.88

Moisture: 10.42
Ash: 16.81

Vol. Matter: 34.97
Fixed Carbon: 37.80

Carbon: 55.11
Hydrogen: 4.53
Nitrogen: 1.14
Oxygen: 11.45

Btu: 9474
Dry Btu: 10576

DAF Btu: 13020
MMFBtu: 11504

Sulfur: 0.52

Sulfide: 0.08
Sulfate: 0.000
Organic Sulfur: 0.44

Fluoride in ppm:

Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 18	SiO_2: 9.23	SiO_2ash: 54.89
Co: 21	Al_2O_3: 4.07	Al_2O_3ash: 24.24
Cr: 37	TiO_2:	TiO_2ash:
Cu: 61	Fe_2O_3: 0.4	Fe_2O_3ash: 2.38
Li: 37	MgO: 0.055	MgOash: 0.33
Mn: 240	CaO: 1.12	CaOash: 6.65
Nb: 2	K_2O: 0.052	K_2Oash: 0.31
Ni: 30	Na_2O: 0.66	Na_2Oash: 3.91
Pb: 78		
Sr: 920		
V: 150		
Zn: 29		

AB Ratio: 0.17
Silica Ratio: 85.43
Total ashed Oxides: 92.71

Calc oxygen: 21.89

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 216
Sample No.: 21N8W22E
Township: T21N Range: R8W Sec.: 22

Formation: Fruitland
Field: Star Lake Member: Zone: Lower

Depth to Seam: 345.60 Seam Thickness: 31.05
Sample Interval: 362.0-367.0 Sample Thickness: 5.00

Analyses on As-Received Basis

Air Dry Loss: 4.36
Eq. Moisture: 12.50

Moisture: 9.69
Ash: 18.63

Vol. Matter: 33.36
Fixed Carbon: 38.31

Carbon: 54.34
Hydrogen: 4.11
Nitrogen: 1.16
Oxygen: 11.53

Btu: 9784
Dry Btu: 10833

DAF Btu: 13649
MMFBtu: 12172

Sulfur: 0.51

Sulfide: 0.01
Sulfate: 0.000
Organic Sulfur: 0.50

Fluoride in ppm:

Chloride in ppm:

Trace Element Ashed Coal

Be: 22
Co: 22
Cr: 94
Cu: 77
Li: 41
Mn: 170
Nb: 2
Ni: 66
Pb: 29
Sr: 360
V: 250
Zn: 19

Calc oxygen: 21.25

Whole Coal Oxide

SiO_2: 10.66
Al_2O_3: 4.81
TiO_2: 0.24
Fe_2O_3: 0.37
MgO: 0.061
CaO: 1.28
K_2O: 0.068
Na_2O: 0.55

Ashed Oxide

SiO_2ash: 57.2
Al_2O_3ash: 25.82
TiO_2ash: 1.32
Fe_2O_3ash: 2.01
MgOash: 0.33
CaOash: 6.9
K_2Oash: 0.37
Na_2Oash: 2.97

AB Ratio: 0.14
Silica Ratio: 86.09
Total ashed Oxides: 96.92

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 224
Sample No.: 21N8W22F
Township: T21N Range: R8W Sec.: 22

Formation: Fruitland
Field: Star Lake Member: - NA Zone: Lower

Depth to Seam: 367.00 Seam Thickness: 5.00
Sample Interval: 367.0-372.0 Sample Thickness: 5.00

Analyses on As-Received Basis

Air Dry Loss: 4.06
Eq. Moisture: 0.00 Moisture: 9.27 Vol. Matter: 31.20
Ash: 48.71 Fixed Carbon: 10.81

Carbon: 28.96 Btu: 4884 DAF Btu: 11625
Hydrogen: 2.87 Dry Btu: 5384 MMFBtu: 10234
Nitrogen: 0.36
Oxygen: 9.49 Sulfide: 0.02
Sulfur: 0.32 Sulfate: 0.000
Organic Sulfur: 0.30

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 16	SiO_2: 26.27	SiO_2ash: 53.93
Co: 17	Al_2O_3: 12.99	Al_2O_3ash: 26.66
Cr: 20	TiO_2: 0.23	TiO_2ash: 0.47
Cu: 19	Fe_2O_3: 0.76	Fe_2O_3ash: 1.57
Li: 24	MgO: 0.28	MgOash: 0.57
Mn: 170	CaO: 2.89	CaOash: 5.94
Nb: 2	K_2O: 0.32	K_2Oash: 0.65
Ni: 27	Na_2O: 0.62	Na_2Oash: 1.27
Pb: 70		
Sr: 200		
V: 80	AB Ratio: 0.13	
Zn: 35	Silica Ratio: 88.05	
	Total ashed Oxides: 91.06	
Calc oxygen: 18.78		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 226
Sample No.: 21N8W22G
Township: T21N Range: R8W Sec.: 22

Formation: Fruitland
Field: Star Lake Member: Zone: Lower

Depth to Seam: 345.60 Seam Thickness: 31.05
Sample Interval: 372.0-376.65 Sample Thickness: 4.65

Analyses on As-Received Basis

Air Dry Loss: 4.15
Eq. Moisture: 11.76

Moisture: 9.39
Ash: 35.94

Vol. Matter: 28.62
Fixed Carbon: 26.05

Carbon: 39.94
Hydrogen: 3.63
Nitrogen: 0.77
Oxygen: 9.94

Btu: 6917
Dry Btu: 7634

DAF Btu: 11815
MMFBtu: 11239

Sulfur: 0.36

Sulfide: 0.01
Sulfate: 0.000
Organic Sulfur: 0.35

Fluoride in ppm:

Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 29	SiO_2: 20.55	SiO_2ash: 57.19
Co: 22	Al_2O_3: 10.5	Al_2O_3ash: 29.22
Cr: 26	TiO_2: 0.33	TiO_2ash: 0.91
Cu: 35	Fe_2O_3: 0.51	Fe_2O_3ash: 1.42
Li: 41	MgO: 0.13	MgOash: 0.36
Mn: 33	CaO: 1.32	CaOash: 3.66
Nb: 2	K_2O: 0.38	K_2Oash: 1.07
Ni: 19	Na_2O: 0.77	Na_2Oash: 2.14
Pb: 82		
Sr: 120		
V: 180	AB Ratio: 0.05	
Zn: 174	Silica Ratio: 96.79	
	Total ashed Oxides: 96.26	
Calc oxygen: 19.36		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 207
Sample No.: 20N7W8B
Township: T20N Range: R7W Sec.: 8

Formation: Fruitland
Field: Star Lake Member: Zone: Lower

Depth to Seam: 187.50 Seam Thickness: 10.30
Sample Interval: 187.5~192.5 Sample Thickness: 5.00

Analyses on As-Received Basis

Air Dry Loss: 8.19
Eq. Moisture: 11.60 Moisture: 9.77 Vol. Matter: 31.55
Ash: 21.14 Fixed Carbon: 37.53

Carbon: 51.43 Btu: 9144 DAF Btu: 13235
Hydrogen: 4.16 Dry Btu: 10134 MMFBtu: 11763
Nitrogen: 1.10
Oxygen: 11.80 Sulfide: 0.04
Sulfur: 0.57 Sulfate: 0.000
Organic Sulfur: 0.53

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 12	SiO_2: 13.68	SiO_2ash: 64.73
Co: 27	Al_2O_3: 5.31	Al_2O_3ash: 25.12
Cr: 72	TiO_2: 0.16	TiO_2ash: 0.75
Cu: 69	Fe_2O_3: 0.57	Fe_2O_3ash: 2.69
Li: 70	MgO: 0.095	MgOash: 0.45
Mn: 52	CaO: 0.51	CaOash: 2.39
Nb: 2	K_2O: 0.1	K_2Oash: 0.5
Ni: 24	Na_2O: 0.29	Na_2Oash: 1.4
Pb: 76		
Sr: 600		
V: 150	AB Ratio: 0.08	
Zn: 25	Silica Ratio: 92.12	
	Total ashed Oxides: 98.03	
Calc oxygen: 21.60		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 218
Sample No.: 20N7W8C
Township: T20N Range: R7W Sec.: 8

Formation: Fruitland
Field: Star Lake Member: Zone: Lower

Depth to Seam: 187.50 Seam Thickness: 10.30
Sample Interval: 192.5-197.8 Sample Thickness: 5.30

Analyses on As-Received Basis

Air Dry Loss: 4.19
Eq. Moisture: 13.47 Moisture: 9.80 Vol. Matter: 29.43
Ash: 25.43 Fixed Carbon: 35.33

Carbon: 49.54 Btu: 8368 DAF Btu: 12921
Hydrogen: 4.10 Dry Btu: 9278 MMFBtu: 11467
Nitrogen: 1.21
Oxygen: 9.45 Sulfide: 0.02
Sulfur: 0.44 Sulfate: 0.000
Organic Sulfur: 0.42

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 25	SiO_2: 16.43	SiO_2ash: 64.61
Co: 21	Al_2O_3: 7.01	Al_2O_3ash: 27.57
Cr: 40	TiO_2: 0.28	TiO_2ash: 1.11
Cu: 41	Fe_2O_3: 0.59	Fe_2O_3ash: 2.32
Li: 46	MgO: 0.081	MgOash: 0.32
Mn: 56	CaO: 0.48	CaOash: 1.91
Nb: 2	K_2O: 0.094	K_2Oash: 0.37
Ni: 23	Na_2O: 0.92	Na_2Oash: 3.61
Pb: 88		
Sr: 160		
V: 200	AB Ratio: 0.09	
Zn: 30	Silica Ratio: 93.42	
	Total ashed Oxides: 101.82	
Calc oxygen: 19.28		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 225
Sample No.: 20N7W8E
Township: T20N Range: R7W Sec.: 8

Formation: Fruitland
Field: Star Lake Member: Zone: Lower

Depth to Seam: 187.50 Seam Thickness: 10.20
Sample Interval: 199.2-204.05 Sample Thickness: 4.85

Analyses on As-Received Basis

Air Dry Loss: 4.93
Eq. Moisture: 19.33 Moisture: 12.01 Vol. Matter: 34.47
Ash: 36.92 Fixed Carbon: 16.59

Carbon: 38.91 Btu: 6872 DAF Btu: 13457
Hydrogen: 3.39 Dry Btu: 7810 MMFBtu: 11366
Nitrogen: 0.69
Oxygen: 7.71 Sulfide: 0.02
Sulfur: 0.34 Sulfate: 0.000
Organic Sulfur: 0.32

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 17	SiO_2: 18.42	SiO_2ash: 49.89
Co: 17	Al_2O_3: 8	Al_2O_3ash: 21.67
Cr: 17	TiO_2: 0.27	TiO_2ash: 0.74
Cu: 21	Fe_2O_3: 0.64	Fe_2O_3ash: 1.74
Li: 19	MgO: 1.78	MgOash: 4.83
Mn: 58	CaO: 2.57	CaOash: 6.96
Nb: 1	K_2O: 0.24	K_2Oash: 0.64
Ni: 27	Na_2O: 0.63	Na_2Oash: 1.7
Pb: 119		
Sr: 220		
V: 100	AB Ratio: 0.07	
Zn: 55	Silica Ratio: 93.55	
	Total ashed Oxides: 88.17	
Calc oxygen: 19.75		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 208
Sample No.: 20N7W8F
Township: T20N Range: R7W Sec.: 8

Formation: Fruitland
Field: Star Lake Member: Zone: Lower

Depth to Seam: 187.50 Seam Thickness: 10.20
Sample Interval: 204.05-209.4 Sample Thickness: 5.35

Analyses on As-Received Basis

Air Dry Loss: 7.71
Eq. Moisture: 13.78 Moisture: 8.88 Vol. Matter: 28.61
Ash: 32.02 Fixed Carbon: 30.49

Carbon: 42.97 Btu: 7350 DAF Btu: 12436
Hydrogen: 3.66 Dry Btu: 8066 MMFBtu: 11167
Nitrogen: 1.02
Oxygen: 11.03 Sulfide: 0.02
Sulfur: 0.39 Sulfate: 0.000
Organic Sulfur: 0.37

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 9	SiO_2: 20.09	SiO_2ash: 62.73
Co: 24	Al_2O_3: 7.85	Al_2O_3ash: 24.51
Cr: 63	TiO_2: 0.34	TiO_2ash: 1.07
Cu: 34	Fe_2O_3: 0.63	Fe_2O_3ash: 1.96
Li: 41	MgO: 0.15	MgOash: 0.48
Mn: 45	CaO: 1.04	CaOash: 3.26
Nb: 2	K_2O: 0.21	K_2Oash: 0.67
Ni: 21	Na_2O: 0.44	Na_2Oash: 1.37
Pb: 75		
Sr: 400		
V: 90	AB Ratio: 0.08	
Zn: 63	Silica Ratio: 91.67	
	Total ashed Oxides: 96.05	
Calc oxygen: 19.94		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 705
Sample No.: 20N5W32-2A
Township: T20N Range: R5W Sec.: 23

Formation: Fruitland
Field: Star Lake Member: Zone: lower

Depth to Seam: 262.40 Seam Thickness: 17.30
Sample Interval: 262.40-267.70 Sample Thickness: 5.30

Analyses on As-Received Basis

Air Dry Loss: 4.24		
Eq. Moisture: 10.43	Moisture: 10.74	Vol. Matter: 32.44
	Ash: 27.41	Fixed Carbon: 29.41
Carbon: 49.55	Btu: 8397	DAF Btu: 13576
Hydrogen: 3.94	Dry Btu: 9407	MMFBtu: 11792
Nitrogen: 0.94		
Oxygen: 6.57		Sulfide: 0.47
	Sulfur: 0.83	Sulfate: 0.040
		Organic Sulfur: 0.32

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be:	SiO_2:	SiO_2ash:
Co: 7	Al_2O_3:	Al_2O_3ash:
Cr:	TiO_2:	TiO_2ash:
Cu:	Fe_2O_3:	Fe_2O_3ash:
Li:	MgO:	MgOash:
Mn:	CaO:	CaOash:
Nb:	K_2O:	K_2Oash:
Ni:	Na_2O:	Na_2Oash:
Pb:		
Sr:		
V:	AB Ratio:	
Zn:	Silica Ratio: 82.16	
	Total ashed Oxides:	
Calc oxygen: 17.33		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 698
Sample No.: 20N5W32-2B
Township: T20N Range: R5W Sec.: 32

Formation: Fruitland
Field: Star Lake Member: Zone: Lower

Depth to Seam: 262.40 Seam Thickness: 17.30
Sample Interval: 267.7-272.95 Sample Thickness: 5.25

Analyses on As-Received Basis

Air Dry Loss: 4.36
Eq. Moisture: 10.80 Moisture: 15.39 Vol. Matter: 35.45
Ash: 14.41 Fixed Carbon: 34.74

Carbon: 57.84 Btu: 10370 DAF Btu: 14772
Hydrogen: 3.82 Dry Btu: 12556 MMFBtu: 12196
Nitrogen: 1.07
Oxygen: 6.84 Sulfide: 0.18
Sulfur: 0.61 Sulfate: 0.002
Organic Sulfur: 0.43

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be:	SiO_2:	SiO_2ash:
Co: 6	Al_2O_3:	Al_2O_3ash:
Cr:	TiO_2:	TiO_2ash:
Cu:	Fe_2O_3:	Fe_2O_3ash:
Li:	MgO:	MgOash:
Mn:	CaO:	CaOash:
Nb:	K_2O:	K_2Oash:
Ni:	Na_2O:	Na_2Oash:
Pb:		
Sr:		
V:	AB Ratio:	
Zn:	Silica Ratio: 82.16	
	Total ashed Oxides:	
Calc oxygen: 22.25		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 702
Sample No.: 20N5W32-2C
Township: T20N Range: R5W Sec.: 32

Formation: Fruitland
Field: Star Lake Member: Zone: lower

Depth to Seam: 262.40 Seam Thickness: 17.30
Sample Interval: 272.95-279.7 Sample Thickness: 4.75

Analyses on As-Received Basis

Air Dry Loss: 5.14
Eq. Moisture: 11.85 Moisture: 13.52 Vol. Matter: 31.47
Ash: 23.24 Fixed Carbon: 31.76

Carbon: 49.51 Btu: 8959 DAF Btu: 14167
Hydrogen: 3.66 Dry Btu: 10360 MMFBtu: 11888
Nitrogen: 1.05
Oxygen: 8.52 Sulfide: 0.08
Sulfur: 0.47 Sulfate: 0.100
Organic Sulfur: 0.29

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be:	SiO_2:	SiO_2ash:
Co: 5	Al_2O_3:	Al_2O_3ash:
Cr:	TiO_2:	TiO_2ash:
Cu:	Fe_2O_3:	Fe_2O_3ash:
Li:	MgO:	MgOash:
Mn:	CaO:	CaOash:
Nb:	K_2O:	K_2Oash:
Ni:	Na_2O:	Na_2Oash:
Pb:		
Sr:		
V:	AB Ratio:	
Zn:	Silica Ratio: 82.16	
	Total ashed Oxides:	
Calc oxygen: 22.07		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 700
Sample No.: 20N5W32-2D
Township: T20N Range: R5W Sec.: 32

Formation: Fruitland
Field: Star Lake Member: Zone: Lower

Depth to Seam: 292.65 Seam Thickness: 2.60
Sample Interval: 292.65-295.25 Sample Thickness: 2.60

Analyses on As-Received Basis

Air Dry Loss: 5.13
Eq. Moisture: 12.23

Moisture: 11.54
Ash: 30.06

Vol. Matter: 29.61
Fixed Carbon: 28.78

Carbon: 44.85
Hydrogen: 3.48
Nitrogen: 0.98
Oxygen: 8.08

Btu: 7873
Dry Btu: 8900

DAF Btu: 13482
MMFBtu: 11493

Sulfur: 0.98

Sulfide: 0.05
Sulfate: 0.000
Organic Sulfur: 0.93

Fluoride in ppm:

Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be:	SiO_2:	SiO_2ash:
Co: 5	Al_2O_3:	Al_2O_3ash:
Cr:	TiO_2:	TiO_2ash:
Cu:	Fe_2O_3:	Fe_2O_3ash:
Li:	MgO:	MgOash:
Mn:	CaO:	CaOash:
Nb:	K_2O:	K_2Oash:
Ni:	Na_2O:	Na_2Oash:
Pb:		
Sr:		
V:	AB Ratio:	
Zn:	Silica Ratio: 82.16	
	Total ashed Oxides:	
Calc oxygen: 19.65		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 699
Sample No.: 20N5W36A
Township: T20N Range: R5W Sec.: 36

Formation: Fruitland
Field: Star Lake Member: Zone:

Depth to Seam: 59.10 Seam Thickness: 4.95
Sample Interval: 59.1-64.05 Sample Thickness: 4.95

Analyses on As-Received Basis

Air Dry Loss:		
Eq. Moisture: 12.03	Moisture:	Vol. Matter:
	Ash:	Fixed Carbon:
Carbon: 0.00	Btu: 0	DAF Btu: 0
Hydrogen:	Dry Btu: 0	MMFBtu: 0
Nitrogen:		
Oxygen:		Sulfide: 0.02
	Sulfur: 0.64	Sulfate:
		Organic Sulfur: 0.59

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 7	SiO_2:	SiO_2ash:
Co: 5	Al_2O_3:	Al_2O_3ash:
Cr: 69	TiO_2:	TiO_2ash:
Cu: 81	Fe_2O_3:	Fe_2O_3ash:
Li: 76	MgO:	MgOash:
Mn: 225	CaO:	CaOash:
Nb:	K_2O:	K_2Oash:
Ni: 57	Na_2O:	Na_2Oash:
Pb: 61		
Sr: 212		
V: 92	AB Ratio:	
Zn: 5	Silica Ratio: 89.98	
	Total ashed Oxides:	
Calc oxygen:		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 704
Sample No.: 20N5W36B
Township: T20N Range: R5W Sec.: 36

Formation: Fruitland
Field: Star Lake Member: Zone: lower

Depth to Seam: 65.50 Seam Thickness: 1.75
Sample Interval: 65.5-67.25 Sample Thickness: 1.75

Analyses on As-Received Basis

Air Dry Loss: 5.3
Eq. Moisture: 19.14 Moisture: 11.61 Vol. Matter: 29.84
Ash: 31.03 Fixed Carbon: 27.51

Carbon: Btu: 8171 DAF Btu: 14246
Hydrogen: Dry Btu: 9245 MMFBtu: 12220
Nitrogen:
Oxygen: 57.67 Sulfide: 0.07
Sulfur: 0.39 Sulfate: 0.050
Organic Sulfur: 0.27

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be:	SiO_2:	SiO_2ash:
Co: 13	Al_2O_3:	Al_2O_3ash:
Cr:	TiO_2:	TiO_2ash:
Cu:	Fe_2O_3:	Fe_2O_3ash:
Li:	MgO:	MgOash:
Mn:	CaO:	CaOash:
Nb:	K_2O:	K_2Oash:
Ni:	Na_2O:	Na_2Oash:
Pb:		
Sr:		
V:	AB Ratio:	
Zn:	Silica Ratio: 82.16	
	Total ashed Oxides:	

Calc oxygen:

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 359
Sample No.: 15N7W26B
Township: T15N Range: R7W Sec.: 26

Formation: Menefee
Field: San Mateo Member: Cleary Zone:

Depth to Seam: 201.90 Seam Thickness: 3.05
Sample Interval: 201.9-204.95 Sample Thickness: 3.05

Analyses on As-Received Basis

Air Dry Loss: 10.39
Eq. Moisture: 13.48 Moisture: 14.44 Vol. Matter: 34.59
Ash: 15.67 Fixed Carbon: 35.30

Carbon: 55.39 Btu: 9474 DAF Btu: 11908
Hydrogen: 4.13 Dry Btu: 11073 MMFBtu: 11169
Nitrogen: 1.13
Oxygen: 7.46 Sulfide: 1.23
Sulfur: 1.75 Sulfate:
Organic Sulfur: 0.52

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be:	SiO_2:	SiO_2ash:
Co:	Al_2O_3:	Al_2O_3ash:
Cr:	TiO_2:	TiO_2ash:
Cu:	Fe_2O_3:	Fe_2O_3ash:
Li:	MgO:	MgOash:
Mn:	CaO:	CaOash:
Nb:	K_2O:	K_2Oash:
Ni:	Na_2O:	Na_2Oash:
Pb:		
Sr:		
V:	AB Ratio:	
Zn:	Silica Ratio:	
	Total ashed Oxides:	
Calc oxygen: 21.93		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 342
Sample No.: 15N7W26D
Township: T15N Range: R7W Sec.: 26

Formation: Menefee
Field: San Mateo Member: Cleary Zone:

Depth to Seam: 207.00 Seam Thickness: 7.75
Sample Interval: 207.0-211.0 Sample Thickness: 4.00

Analyses on As-Received Basis

Air Dry Loss: 9.04
Eq. Moisture: 16.34

Moisture: 12.96
Ash: 13.12

Vol. Matter: 34.93
Fixed Carbon: 38.98

Carbon: 55.96
Hydrogen: 4.53
Nitrogen: 1.20
Oxygen: 10.84

Btu: 9607
Dry Btu: 11038

DAF Btu: 11666
MMFBtu: 11017

Sulfur: 1.36

Sulfide: 0.70
Sulfate: 0.000
Organic Sulfur: 0.66

Fluoride in ppm:

Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be:	SiO_2:	SiO_2ash:
Co:	Al_2O_3:	Al_2O_3ash:
Cr:	TiO_2:	TiO_2ash:
Cu:	Fe_2O_3:	Fe_2O_3ash:
Li:	MgO:	MgOash:
Mn:	CaO:	CaOash:
Nb:	K_2O:	K_2Oash:
Ni:	Na_2O:	Na_2Oash:
Pb:		
Sr:		
V:	AB Ratio:	
Zn:	Silica Ratio:	
	Total ashed Oxides:	

Calc oxygen: 23.83

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 352
Sample No.: 15N7W26E
Township: T15N Range: R7W Sec.: 26

Formation: Menefee
Field: San Mateo Member: Cleary Zone:

Depth to Seam: 207.00 Seam Thickness: 7.25
Sample Interval: 211.0-214.75 Sample Thickness: 3.75

Analyses on As-Received Basis

Air Dry Loss: 8.43
Eq. Moisture: 14.02 Moisture: 11.65 Vol. Matter: 35.18
Ash: 8.13 Fixed Carbon: 45.04

Carbon: 60.93 Btu: 10914 DAF Btu: 12379
Hydrogen: 4.82 Dry Btu: 12353 MMFBtu: 11880
Nitrogen: 1.13
Oxygen: 12.65 Sulfide: 0.14
Sulfur: 0.66 Sulfate: 0.001
Organic Sulfur: 0.52

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be:	SiO_2:	SiO_2ash:
Co:	Al_2O_3:	Al_2O_3ash:
Cr:	TiO_2:	TiO_2ash:
Cu:	Fe_2O_3:	Fe_2O_3ash:
Li:	MgO:	MgOash:
Mn:	CaO:	CaOash:
Nb:	K_2O:	K_2Oash:
Ni:	Na_2O:	Na_2Oash:
Pb:		
Sr:		
V:	AB Ratio:	
Zn:	Silica Ratio:	
	Total ashed Oxides:	
Calc oxygen: 24.33		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 362
Sample No.: 15N7W22A
Township: T15N Range: R7W Sec.: 22

Formation: Menefee
Field: San Mateo Member: Cleary Zone:

Depth to Seam: 182.00 Seam Thickness: 6.85
Sample Interval: 182.0-183.05 Sample Thickness: 1.05

Analyses on As-Received Basis

Air Dry Loss: 7.44
Eq. Moisture: 15.17 Moisture: 10.07 Vol. Matter: 39.48
Ash: 13.77 Fixed Carbon: 36.67

Carbon: 57.82 Btu: 9998 DAF Btu: 12010
Hydrogen: 4.64 Dry Btu: 11118 MMFBtu: 11623
Nitrogen: 1.12
Oxygen: 11.65 Sulfide: 0.22
Sulfur: 0.90 Sulfate: 0.003
Organic Sulfur: 0.68

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be:	SiO_2:	SiO_2ash:
Co:	Al_2O_3:	Al_2O_3ash:
Cr:	TiO_2:	TiO_2ash:
Cu:	Fe_2O_3:	Fe_2O_3ash:
Li:	MgO:	MgOash:
Mn:	CaO:	CaOash:
Nb:	K_2O:	K_2Oash:
Ni:	Na_2O:	Na_2Oash:
Pb:		
Sr:		
V:	AB Ratio:	
Zn:	Silica Ratio:	
	Total ashed Oxides:	
Calc oxygen: 21.75		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 357
Sample No.: 15N7W22C
Township: T15N Range: R7W Sec.: 22

Formation: Menefee
Field: San Mateo Member: Cleary Zone:

Depth to Seam: 182.00 Seam Thickness: 6.85
Sample Interval: 183.5-189.3 Sample Thickness: 5.80

Analyses on As-Received Basis

Air Dry Loss: 8.77
Eq. Moisture: 13.61 Moisture: 10.94 Vol. Matter: 39.23
Ash: 7.67 Fixed Carbon: 42.16

Carbon: 62.74 Btu: 10918 DAF Btu: 12165
Hydrogen: 5.04 Dry Btu: 12259 MMFBtu: 11774
Nitrogen: 1.31
Oxygen: 11.25 Sulfide: 0.29
Sulfur: 1.03 Sulfate: 0.020
Organic Sulfur: 0.72

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be:	SiO_2:	SiO_2ash:
Co:	Al_2O_3:	Al_2O_3ash:
Cr:	TiO_2:	TiO_2ash:
Cu:	Fe_2O_3:	Fe_2O_3ash:
Li:	MgO:	MgOash:
Mn:	CaO:	CaOash:
Nb:	K_2O:	K_2Oash:
Ni:	Na_2O:	Na_2Oash:
Pb:		
Sr:		
V:	AB Ratio:	
Zn:	Silica Ratio:	
	Total ashed Oxides:	
Calc oxygen: 22.21		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 343
Sample No.: 15N7W22F
Township: T15N Range: R7W Sec.: 22

Formation: Menefee
Field: San Mateo Member: Cleary Zone:

Depth to Seam: 191.65 Seam Thickness: 1.95
Sample Interval: 191.65-193.6 Sample Thickness: 1.95

Analyses on As-Received Basis

Air Dry Loss: 7.02
Eq. Moisture: 12.61 Moisture: 10.58 Vol. Matter: 40.22
Ash: 9.02 Fixed Carbon: 40.17

Carbon: 61.56 Btu: 10939 DAF Btu: 12570
Hydrogen: 4.68 Dry Btu: 12233 MMFBtu: 11930
Nitrogen: 0.98
Oxygen: 11.68 Sulfide: 0.53
Sulfur: 1.48 Sulfate: 0.040
Organic Sulfur: 0.91

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be:	SiO_2:	SiO_2ash:
Co:	Al_2O_3:	Al_2O_3ash:
Cr:	TiO_2:	TiO_2ash:
Cu:	Fe_2O_3:	Fe_2O_3ash:
Li:	MgO:	MgOash:
Mn:	CaO:	CaOash:
Nb:	K_2O:	K_2Oash:
Ni:	Na_2O:	Na_2Oash:
Pb:		
Sr:		
V:	AB Ratio:	
Zn:	Silica Ratio:	
	Total ashed Oxides:	
Calc oxygen: 22.28		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 358
Sample No.: 15N7W22I
Township: T15N Range: R7W Sec.: 22

Formation: Menefee
Field: San Mateo Member: Cleary Zone:

Depth to Seam: 199.45 Seam Thickness: 6.90
Sample Interval: 199.45-202.95 Sample Thickness: 3.50

Analyses on As-Received Basis

Air Dry Loss: 7.79
Eq. Moisture: 14.45 Moisture: 10.86 Vol. Matter: 40.06
Ash: 9.14 Fixed Carbon: 39.93

Carbon: 61.10 Btu: 10121 DAF Btu: 11583
Hydrogen: 4.65 Dry Btu: 11355 MMFBtu: 11143
Nitrogen: 1.26
Oxygen: 12.27 Sulfide: 0.12
Sulfur: 0.70 Sulfate: 0.006
Organic Sulfur: 0.57

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be:	SiO_2:	SiO_2ash:
Co:	Al_2O_3:	Al_2O_3ash:
Cr:	TiO_2:	TiO_2ash:
Cu:	Fe_2O_3:	Fe_2O_3ash:
Li:	MgO:	MgOash:
Mn:	CaO:	CaOash:
Nb:	K_2O:	K_2Oash:
Ni:	Na_2O:	Na_2Oash:
Pb:		
Sr:		
V:	AB Ratio:	
Zn:	Silica Ratio:	
	Total ashed Oxides:	
Calc oxygen: 23.15		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 360
Sample No.: 15N7W22J
Township: T15N Range: R7W Sec.: 22

Formation: Menefee
Field: San Mateo Member: Cleary Zone:

Depth to Seam: 199.45 Seam Thickness: 6.90
Sample Interval: 202.95-206.35 Sample Thickness: 3.40

Analyses on As-Received Basis

Air Dry Loss: 8.38
Eq. Moisture: 13.48 Moisture: 10.75 Vol. Matter: 40.84
Ash: 6.94 Fixed Carbon: 41.47

Carbon: 63.41 Btu: 10864 DAF Btu: 12034
Hydrogen: 5.02 Dry Btu: 12173 MMFBtu: 11642
Nitrogen: 0.91
Oxygen: 12.10 Sulfide: 0.10
Sulfur: 0.83 Sulfate: 0.006
Organic Sulfur: 0.72

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be:	SiO_2:	SiO_2ash:
Co:	Al_2O_3:	Al_2O_3ash:
Cr:	TiO_2:	TiO_2ash:
Cu:	Fe_2O_3:	Fe_2O_3ash:
Li:	MgO:	MgOash:
Mn:	CaO:	CaOash:
Nb:	K_2O:	K_2Oash:
Ni:	Na_2O:	Na_2Oash:
Pb:		
Sr:		
V:	AB Ratio:	
Zn:	Silica Ratio:	
	Total ashed Oxides:	
Calc oxygen: 22.89		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 337
Sample No.: 15N7W20B
Township: T15N Range: R7W Sec.: 20

Formation: Menefee
Field: San Mateo Member: Cleary Zone:

Depth to Seam: 70.10 Seam Thickness: 2.10
Sample Interval: 70.1-72.2 Sample Thickness: 2.10

Analyses on As-Received Basis

Air Dry Loss: 4.91
Eq. Moisture: 12.51

Moisture: 6.84
Ash: 10.25

Vol. Matter: 37.39
Fixed Carbon: 45.52

Carbon: 61.89
Hydrogen: 5.07
Nitrogen: 1.18
Oxygen: 14.10

Btu: 10939
Dry Btu: 11742

DAF Btu: 12480
MMFBtu: 12215

Sulfur: 0.64

Sulfide: 0.01
Sulfate: 0.006
Organic Sulfur: 0.62

Fluoride in ppm:

Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be:	SiO_2:	SiO_2ash:
Co:	Al_2O_3:	Al_2O_3ash:
Cr:	TiO_2:	TiO_2ash:
Cu:	Fe_2O_3:	Fe_2O_3ash:
Li:	MgO:	MgOash:
Mn:	CaO:	CaOash:
Nb:	K_2O:	K_2Oash:
Ni:	Na_2O:	Na_2Oash:
Pb:		
Sr:		
V:	AB Ratio:	
Zn:	Silica Ratio:	
	Total ashed Oxides:	
Calc oxygen: 20.97		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 332
Sample No.: 15N7W20D
Township: T15N Range: R7W Sec.: 20

Formation: Menefee
Field: San Mateo Member: Cleary Zone:

Depth to Seam: 70.10 Seam Thickness: 5.95
Sample Interval: 73.45-79.4 Sample Thickness: 5.95

Analyses on As-Received Basis

Air Dry Loss: 5.62
Eq. Moisture: 13.35 Moisture: 8.71 Vol. Matter: 37.64
Ash: 12.40 Fixed Carbon: 41.25

Carbon: 60.04 Btu: 10198 DAF Btu: 12103
Hydrogen: 4.67 Dry Btu: 11171 MMFBtu: 11656
Nitrogen: 1.23
Oxygen: 12.03 Sulfide: 0.31
Sulfur: 0.89 Sulfate: 0.000
Organic Sulfur: 0.58

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be:	SiO_2:	SiO_2ash:
Co:	Al_2O_3:	Al_2O_3ash:
Cr:	TiO_2:	TiO_2ash:
Cu:	Fe_2O_3:	Fe_2O_3ash:
Li:	MgO:	MgOash:
Mn:	CaO:	CaOash:
Nb:	K_2O:	K_2Oash:
Ni:	Na_2O:	Na_2Oash:
Pb:		
Sr:		
V:	AB Ratio:	
Zn:	Silica Ratio:	
	Total ashed Oxides:	
Calc oxygen: 20.77		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 351
Sample No.: 15N8W24B
Township: T15N Range: R8W Sec.: 24

Formation: Menefee
Field: San Mateo Member: Cleary Zone:

Depth to Seam: 170.20 Seam Thickness: 17.90
Sample Interval: 170.2-175.35 Sample Thickness: 5.15

Analyses on As-Received Basis

Air Dry Loss: 9.82
Eq. Moisture: 14.26

Moisture: 14.00
Ash: 13.83

Vol. Matter: 37.38
Fixed Carbon: 34.78

Carbon: 56.31
Hydrogen: 4.36
Nitrogen: 1.01
Oxygen: 9.89

Btu: 9572
Dry Btu: 11130

DAF Btu: 11778
MMFBtu: 11175

Sulfur: 0.58

Sulfide: 0.08
Sulfate: 0.003
Organic Sulfur: 0.05

Fluoride in ppm: 41.8 Chloride in ppm: 24.9

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be:	SiO_2:	SiO_2ash:
Co:	Al_2O_3:	Al_2O_3ash:
Cr:	TiO_2:	TiO_2ash:
Cu:	Fe_2O_3:	Fe_2O_3ash:
Li:	MgO:	MgOash:
Mn:	CaO:	CaOash:
Nb:	K_2O:	K_2Oash:
Ni:	Na_2O:	Na_2Oash:
Pb:		
Sr:		
V:	AB Ratio:	
Zn:	Silica Ratio:	
	Total ashed Oxides:	
Calc oxygen: 23.91		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 353
Sample No.: 15N8W24C
Township: T15N Range: R8W Sec.: 24

Formation: Menefee
Field: San Mateo Member: Cleary Zone:

Depth to Seam: 170.20 Seam Thickness: 17.90
Sample Interval: 175.35-180.35 Sample Thickness: 5.00

Analyses on As-Received Basis

Air Dry Loss: 10.46
Eq. Moisture: 14.65

Moisture: 14.74
Ash: 12.30

Vol. Matter: 36.77
Fixed Carbon: 36.19

Carbon: 56.99
Hydrogen: 4.23
Nitrogen: 1.14
Oxygen: 9.93

Btu: 9727
Dry Btu: 11409

DAF Btu: 11772
MMFBtu: 11133

Sulfur: 0.65

Sulfide: 0.18
Sulfate: 0.013
Organic Sulfur: 0.46

Fluoride in ppm: 33

Chloride in ppm: 28

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be:	SiO_2:	SiO_2ash:
Co:	Al_2O_3:	Al_2O_3ash:
Cr:	TiO_2:	TiO_2ash:
Cu:	Fe_2O_3:	Fe_2O_3ash:
Li:	MgO:	MgOash:
Mn:	CaO:	CaOash:
Nb:	K_2O:	K_2Oash:
Ni:	Na_2O:	Na_2Oash:
Pb:		
Sr:		
V:	AB Ratio:	
Zn:	Silica Ratio:	
	Total ashed Oxides:	

Calc oxygen: 24.69

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 341
Sample No.: 15N8W24D
Township: T15N Range: R8W Sec.: 24

Formation: Menefee
Field: San Mateo Member: Cleary Zone:

Depth to Seam: 170.20 Seam Thickness: 17.90
Sample Interval: 180.35-183.4 Sample Thickness: 3.05

Analyses on As-Received Basis

Air Dry Loss: 8.18
Eq. Moisture: 15.17 Moisture: 10.66 Vol. Matter: 33.65
Ash: 15.68 Fixed Carbon: 40.00

Carbon: 56.61 Btu: 9677 DAF Btu: 11882
Hydrogen: 4.53 Dry Btu: 10831 MMFBtu: 11532
Nitrogen: 0.77
Oxygen: 10.87 Sulfide: 0.03
Sulfur: 0.86 Sulfate: 0.000
Organic Sulfur: 0.83

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be:	SiO_2:	SiO_2ash:
Co:	Al_2O_3:	Al_2O_3ash:
Cr:	TiO_2:	TiO_2ash:
Cu:	Fe_2O_3:	Fe_2O_3ash:
Li:	MgO:	MgOash:
Mn:	CaO:	CaOash:
Nb:	K_2O:	K_2Oash:
Ni:	Na_2O:	Na_2Oash:
Pb:		
Sr:		
V:	AB Ratio:	
Zn:	Silica Ratio:	
	Total ashed Oxides:	
Calc oxygen: 21.55		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 349
Sample No.: 15N8W24E
Township: T15N Range: R8W Sec.: 24

Formation: Menefee
Field: San Mateo Member: Cleary Zone:

Depth to Seam: 170.20 Seam Thickness: 17.90
Sample Interval: 183.9-188.1 Sample Thickness: 4.20

Analyses on As-Received Basis

Air Dry Loss: 9.63
Eq. Moisture: 13.05 Moisture: 12.64 Vol. Matter: 37.93
Ash: 15.51 Fixed Carbon: 33.91

Carbon: 54.80 Btu: 9513 DAF Btu: 11757
Hydrogen: 4.42 Dry Btu: 10889 MMFBtu: 11298
Nitrogen: 0.85
Oxygen: 10.81 Sulfide: 0.32
Sulfur: 0.96 Sulfate: 0.000
Organic Sulfur: 0.64

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be:	SiO_2:	SiO_2ash:
Co:	Al_2O_3:	Al_2O_3ash:
Cr:	TiO_2:	TiO_2ash:
Cu:	Fe_2O_3:	Fe_2O_3ash:
Li:	MgO:	MgOash:
Mn:	CaO:	CaOash:
Nb:	K_2O:	K_2Oash:
Ni:	Na_2O:	Na_2Oash:
Pb:		
Sr:		
V:	AB Ratio:	
Zn:	Silica Ratio:	
	Total ashed Oxides:	
Calc oxygen: 23.46		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 354
Sample No.: 15N8W22B
Township: T15N Range: R8W Sec.: 22

Formation: Menefee
Field: San Mateo Member: Cleary Zone:

Depth to Seam: 145.20 Seam Thickness: 8.25
Sample Interval: 145.2-149.3 Sample Thickness: 4.10

Analyses on As-Received Basis

Air Dry Loss: 9.74
Eq. Moisture: 15.86 Moisture: 12.57 Vol. Matter: 40.48
Ash: 6.00 Fixed Carbon: 40.94

Carbon: 62.24 Btu: 10659 DAF Btu: 11764
Hydrogen: 4.73 Dry Btu: 12192 MMFBtu: 11209
Nitrogen: 0.91
Oxygen: 11.95 Sulfide: 0.68
Sulfur: 1.58 Sulfate: 0.078
Organic Sulfur: 0.82

Fluoride in ppm: Chloride in ppm: 190

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be:	SiO_2:	SiO_2ash:
Co:	Al_2O_3:	Al_2O_3ash:
Cr:	TiO_2:	TiO_2ash:
Cu:	Fe_2O_3:	Fe_2O_3ash:
Li:	MgO:	MgOash:
Mn:	CaO:	CaOash:
Nb:	K_2O:	K_2Oash:
Ni:	Na_2O:	Na_2Oash:
Pb:		
Sr:		
V:	AB Ratio:	
Zn:	Silica Ratio:	
	Total ashed Oxides:	
Calc oxygen: 24.54		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 335
Sample No.: 15N8W22C
Township: T15N Range: R8W Sec.: 22

Formation: Menefee
Field: San Mateo Member: Cleary Zone:

Depth to Seam: 145.20 Seam Thickness: 8.25
Sample Interval: 149.3-153.45 Sample Thickness: 4.15

Analyses on As-Received Basis

Air Dry Loss: 9.92
Eq. Moisture: 14.93 Moisture: 11.97 Vol. Matter: 36.20
Ash: 9.87 Fixed Carbon: 41.96

Carbon: 59.12 Btu: 10178 DAF Btu: 11620
Hydrogen: 4.60 Dry Btu: 11562 MMFBtu: 11240
Nitrogen: 1.15
Oxygen: 12.05 Sulfide: 0.49
Sulfur: 1.21 Sulfate: 0.000
Organic Sulfur: 0.72

Fluoride in ppm: Chloride in ppm: 206

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be:	SiO_2:	SiO_2ash:
Co:	Al_2O_3:	Al_2O_3ash:
Cr:	TiO_2:	TiO_2ash:
Cu:	Fe_2O_3:	Fe_2O_3ash:
Li:	MgO:	MgOash:
Mn:	CaO:	CaOash:
Nb:	K_2O:	K_2Oash:
Ni:	Na_2O:	Na_2Oash:
Pb:		
Sr:		
V:	AB Ratio:	
Zn:	Silica Ratio:	
	Total ashed Oxides:	
Calc oxygen: 24.05		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 334
Sample No.: 15N8W20B
Township: T15N Range: R8W Sec.: 20

Formation: Menefee
Field: San Mateo Member: Cleary Zone:

Depth to Seam: 117.30 Seam Thickness: 3.25
Sample Interval: 117.3-120.55 Sample Thickness: 3.25

Analyses on As-Received Basis

Air Dry Loss: 4.18
Eq. Moisture: 12.75 Moisture: 7.27 Vol. Matter: 40.65
Ash: 11.58 Fixed Carbon: 40.49

Carbon: 62.22 Btu: 10708 DAF Btu: 12575
Hydrogen: 4.97 Dry Btu: 11547 MMFBtu: 12174
Nitrogen: 0.80
Oxygen: 12.66 Sulfide: 0.09
Sulfur: 0.47 Sulfate: 0.000
Organic Sulfur: 0.38

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be:	SiO_2:	SiO_2ash:
Co:	Al_2O_3:	Al_2O_3ash:
Cr:	TiO_2:	TiO_2ash:
Cu:	Fe_2O_3:	Fe_2O_3ash:
Li:	MgO:	MgOash:
Mn:	CaO:	CaOash:
Nb:	K_2O:	K_2Oash:
Ni:	Na_2O:	Na_2Oash:
Pb:		
Sr:		
V:	AB Ratio:	
Zn:	Silica Ratio:	
	Total ashed Oxides:	
Calc oxygen: 19.96		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 345
Sample No.: 15N8W20E
Township: T15N Range: R8W Sec.: 20

Formation: Menefee
Field: San Mateo Member: Cleary Zone:

Depth to Seam: 169.25 Seam Thickness: 3.75
Sample Interval: 169.25-173.0 Sample Thickness: 3.75

Analyses on As-Received Basis

Air Dry Loss: 7.26
Eq. Moisture: 14.96 Moisture: 12.23 Vol. Matter: 34.16
Ash: 25.89 Fixed Carbon: 27.72

Carbon: 48.38 Btu: 8322 DAF Btu: 12130
Hydrogen: 4.00 Dry Btu: 9482 MMFBtu: 11438
Nitrogen: 0.99
Oxygen: 7.76 Sulfide: 0.21
Sulfur: 0.73 Sulfate: 0.001
Organic Sulfur: 0.05

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be:	SiO_2:	SiO_2ash:
Co:	Al_2O_3:	Al_2O_3ash:
Cr:	TiO_2:	TiO_2ash:
Cu:	Fe_2O_3:	Fe_2O_3ash:
Li:	MgO:	MgOash:
Mn:	CaO:	CaOash:
Nb:	K_2O:	K_2Oash:
Ni:	Na_2O:	Na_2Oash:
Pb:		
Sr:		
V:	AB Ratio:	
Zn:	Silica Ratio:	
	Total ashed Oxides:	
Calc oxygen: 20.01		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 333
Sample No.: 15N8W6A
Township: T15N Range: R8W Sec.: 6

Formation: Menefee
Field: San Mateo Member: Cleary Zone:

Depth to Seam: 111.40 Seam Thickness: 6.20
Sample Interval: 111.4-117.6 Sample Thickness: 6.20

Analyses on As-Received Basis

Air Dry Loss: 8.8
Eq. Moisture: 14.37 Moisture: 11.09 Vol. Matter: 32.97
Ash: 22.52 Fixed Carbon: 33.41

Carbon: 49.60 Btu: 8596 DAF Btu: 11499
Hydrogen: 4.30 Dry Btu: 9668 MMFBtu: 11163
Nitrogen: 1.04
Oxygen: 10.09 Sulfide: 0.95
Sulfur: 1.33 Sulfate: 0.000
Organic Sulfur: 0.38

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be:	SiO_2:	SiO_2ash:
Co:	Al_2O_3:	Al_2O_3ash:
Cr:	TiO_2:	TiO_2ash:
Cu:	Fe_2O_3:	Fe_2O_3ash:
Li:	MgO:	MgOash:
Mn:	CaO:	CaOash:
Nb:	K_2O:	K_2Oash:
Ni:	Na_2O:	Na_2Oash:
Pb:		
Sr:		
V:	AB Ratio:	
Zn:	Silica Ratio:	
	Total ashed Oxides:	
Calc oxygen: 21.21		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 336
Sample No.: 15N8W6C
Township: T15N Range: R8W Sec.: 6

Formation: Menefee
Field: San Mateo Member: Cleary Zone:

Depth to Seam: 111.80 Seam Thickness: 2.00
Sample Interval: 111.8-113.8 Sample Thickness: 2.00

Analyses on As-Received Basis

Air Dry Loss: 11.05
Eq. Moisture: 17.63 Moisture: 15.98 Vol. Matter: 36.54
Ash: 8.32 Fixed Carbon: 39.15

Carbon: 59.50 Btu: 10155 DAF Btu: 11823
Hydrogen: 4.56 Dry Btu: 12086 MMFBtu: 11066
Nitrogen: 0.95
Oxygen: 9.92 Sulfide: 0.01
Sulfur: 0.74 Sulfate: 0.000
Organic Sulfur: 0.73

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be:	SiO_2:	SiO_2ash:
Co:	Al_2O_3:	Al_2O_3ash:
Cr:	TiO_2:	TiO_2ash:
Cu:	Fe_2O_3:	Fe_2O_3ash:
Li:	MgO:	MgOash:
Mn:	CaO:	CaOash:
Nb:	K_2O:	K_2Oash:
Ni:	Na_2O:	Na_2Oash:
Pb:		
Sr:		
V:	AB Ratio:	
Zn:	Silica Ratio:	
	Total ashed Oxides:	
Calc oxygen: 25.93		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 361
Sample No.: 15N8W6E
Township: T15N Range: R8W Sec.: 6

Formation: Menefee
Field: San Mateo Member: Cleary Zone:

Depth to Seam: 114.90 Seam Thickness: 1.00
Sample Interval: 114.9-115.9 Sample Thickness: 1.00

Analyses on As-Received Basis

Air Dry Loss:		
Eq. Moisture:	Moisture:	Vol. Matter:
	Ash:	Fixed Carbon:
Carbon:	Btu: 0	DAF Btu:
Hydrogen:	Dry Btu:	MMFBtu:
Nitrogen:		
Oxygen:		Sulfide: 0.35
	Sulfur:	Sulfate: 0.019
		Organic Sulfur:

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be:	SiO_2:	SiO_2ash:
Co:	Al_2O_3:	Al_2O_3ash:
Cr:	TiO_2:	TiO_2ash:
Cu:	Fe_2O_3:	Fe_2O_3ash:
Li:	MgO:	MgOash:
Mn:	CaO:	CaOash:
Nb:	K_2O:	K_2Oash:
Ni:	Na_2O:	Na_2Oash:
Pb:		
Sr:		
V:	AB Ratio:	
Zn:	Silica Ratio:	
	Total ashed Oxides:	
Calc oxygen:		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 331
Sample No.: 15N8W6G
Township: T15N Range: R8W Sec.: 6

Formation: Menefee
Field: San Mateo Member: Cleary Zone:

Depth to Seam: 111.80 Seam Thickness: 3.60
Sample Interval: 116.35-118.95 Sample Thickness: 2.60

Analyses on As-Received Basis

Air Dry Loss: 9.43
Eq. Moisture: 19.56

Moisture: 11.62
Ash: 15.52

Vol. Matter: 37.12
Fixed Carbon: 35.73

Carbon: 55.76
Hydrogen: 4.59
Nitrogen: 1.02
Oxygen: 10.30

Btu: 9696
Dry Btu: 10971

DAF Btu: 11851
MMFBtu: 11491

Sulfur: 1.16

Sulfide: 0.59
Sulfate: 0.000
Organic Sulfur: 0.57

Fluoride in ppm:

Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be:	SiO_2:	SiO_2ash:
Co:	Al_2O_3:	Al_2O_3ash:
Cr:	TiO_2:	TiO_2ash:
Cu:	Fe_2O_3:	Fe_2O_3ash:
Li:	MgO:	MgOash:
Mn:	CaO:	CaOash:
Nb:	K_2O:	K_2Oash:
Ni:	Na_2O:	Na_2Oash:
Pb:		
Sr:		
V:	AB Ratio:	
Zn:	Silica Ratio:	
	Total ashed Oxides:	
Calc oxygen: 21.95		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 339
Sample No.: 15N8W6I
Township: T15N Range: R8W Sec.: 6

Formation: Menefee
Field: San Mateo Member: Cleary Zone:

Depth to Seam: 163.50 Seam Thickness: 3.80
Sample Interval: 163.5-167.3 Sample Thickness: 3.80

Analyses on As-Received Basis

Air Dry Loss: 6.46
Eq. Moisture: 15.18 Moisture: 10.27 Vol. Matter: 39.70
Ash: 13.80 Fixed Carbon: 36.22

Carbon: 57.07 Btu: 10057 DAF Btu: 12257
Hydrogen: 4.59 Dry Btu: 11208 MMFBtu: 11635
Nitrogen: 1.07
Oxygen: 11.81 Sulfide: 0.65
Sulfur: 1.36 Sulfate: 0.000
Organic Sulfur: 0.71

Fluoride in ppm: Chloride in ppm: 157

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be:	SiO_2:	SiO_2ash:
Co:	Al_2O_3:	Al_2O_3ash:
Cr:	TiO_2:	TiO_2ash:
Cu:	Fe_2O_3:	Fe_2O_3ash:
Li:	MgO:	MgOash:
Mn:	CaO:	CaOash:
Nb:	K_2O:	K_2Oash:
Ni:	Na_2O:	Na_2Oash:
Pb:		
Sr:		
V:	AB Ratio:	
Zn:	Silica Ratio:	
	Total ashed Oxides:	
Calc oxygen: 22.11		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 355
Sample No.: 16N8W28B
Township: T16N Range: R8W Sec.: 28

Formation: Menefee
Field: San Mateo Member: Cleary Zone:

Depth to Seam: 162.15 Seam Thickness: 2.45
Sample Interval: 162.15-164.6 Sample Thickness: 2.45

Analyses on As-Received Basis

Air Dry Loss: 7.95
Eq. Moisture: 12.42 Moisture: 10.83 Vol. Matter: 36.23
Ash: 19.11 Fixed Carbon: 33.81

Carbon: 53.95 Btu: 9314 DAF Btu: 12004
Hydrogen: 4.53 Dry Btu: 10445 MMFBtu: 11657
Nitrogen: 1.09
Oxygen: 9.89 Sulfide: 0.04
Sulfur: 0.56 Sulfate: 0.000
Organic Sulfur: 0.52

Fluoride in ppm: Chloride in ppm: 199

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be:	SiO_2:	SiO_2ash:
Co:	Al_2O_3:	Al_2O_3ash:
Cr:	TiO_2:	TiO_2ash:
Cu:	Fe_2O_3:	Fe_2O_3ash:
Li:	MgO:	MgOash:
Mn:	CaO:	CaOash:
Nb:	K_2O:	K_2Oash:
Ni:	Na_2O:	Na_2Oash:
Pb:		
Sr:		
V:	AB Ratio:	
Zn:	Silica Ratio:	
	Total ashed Oxides:	
Calc oxygen: 20.76		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 347
Sample No.: 16N8W28E
Township: T16N Range: R8W Sec.: 28

Formation: Menefee
Field: San Mateo Member: Cleary Zone:

Depth to Seam: 205.95 Seam Thickness: 9.05
Sample Interval: 205.95-210.95 Sample Thickness: 5.00

Analyses on As-Received Basis

Air Dry Loss: 7.94
Eq. Moisture: 14.95 Moisture: 10.36 Vol. Matter: 37.20
Ash: 11.78 Fixed Carbon: 40.66

Carbon: 59.35 Btu: 10219 DAF Btu: 11962
Hydrogen: 4.78 Dry Btu: 11401 MMFBtu: 11553
Nitrogen: 1.06
Oxygen: 11.45 Sulfide: 0.47
Sulfur: 1.19 Sulfate: 0.075
Organic Sulfur: 0.64

Fluoride in ppm: Chloride in ppm: 187

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be:	SiO_2:	SiO_2ash:
Co:	Al_2O_3:	Al_2O_3ash:
Cr:	TiO_2:	TiO_2ash:
Cu:	Fe_2O_3:	Fe_2O_3ash:
Li:	MgO:	MgOash:
Mn:	CaO:	CaOash:
Nb:	K_2O:	K_2Oash:
Ni:	Na_2O:	Na_2Oash:
Pb:		
Sr:		
V:	AB Ratio:	
Zn:	Silica Ratio:	
	Total ashed Oxides:	
Calc oxygen: 21.84		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 340
Sample No.: 16N8W28F
Township: T16N Range: R8W Sec.: 28

Formation: Menefee
Field: San Mateo Member: Cleary Zone:

Depth to Seam: 205.95 Seam Thickness: 9.05
Sample Interval: 210.95-215.0 Sample Thickness: 4.50

Analyses on As-Received Basis

Air Dry Loss: 9.13
Eq. Moisture: 14.14 Moisture: 13.03 Vol. Matter: 34.59
Ash: 15.43 Fixed Carbon: 36.94

Carbon: 54.93 Btu: 9717 DAF Btu: 12138
Hydrogen: 4.43 Dry Btu: 11173 MMFBtu: 11573
Nitrogen: 0.91
Oxygen: 10.61 Sulfide:
Sulfur: 0.64 Sulfate: 0.000
Organic Sulfur:

Fluoride in ppm: Chloride in ppm: 109

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be:	SiO_2:	SiO_2ash:
Co:	Al_2O_3:	Al_2O_3ash:
Cr:	TiO_2:	TiO_2ash:
Cu:	Fe_2O_3:	Fe_2O_3ash:
Li:	MgO:	MgOash:
Mn:	CaO:	CaOash:
Nb:	K_2O:	K_2Oash:
Ni:	Na_2O:	Na_2Oash:
Pb:		
Sr:		
V:	AB Ratio:	
Zn:	Silica Ratio:	
	Total ashed Oxides:	
Calc oxygen: 23.66		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 344
Sample No.: 16N8W6B
Township: T16N Range: R8W Sec.: 6

Formation: Menefee
Field: San Mateo Member: Cleary Zone:

Depth to Seam: 133.20 Seam Thickness: 3.00
Sample Interval: 133.2-136.2 Sample Thickness: 3.00

Analyses on As-Received Basis

Air Dry Loss: 5.93
Eq. Moisture: 15.68

Moisture: 11.59
Ash: 7.59

Vol. Matter: 42.45
Fixed Carbon: 38.36

Carbon: 62.40
Hydrogen: 4.65
Nitrogen: 1.17
Oxygen: 11.76

Btu: 11063
Dry Btu: 12513

DAF Btu: 12819
MMFBtu: 11947

Sulfur: 0.81

Sulfide: 0.36
Sulfate: 0.006
Organic Sulfur: 0.44

Fluoride in ppm:

Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be:	SiO_2:	SiO_2ash:
Co:	Al_2O_3:	Al_2O_3ash:
Cr:	TiO_2:	TiO_2ash:
Cu:	Fe_2O_3:	Fe_2O_3ash:
Li:	MgO:	MgOash:
Mn:	CaO:	CaOash:
Nb:	K_2O:	K_2Oash:
Ni:	Na_2O:	Na_2Oash:
Pb:		
Sr:		
V:	AB Ratio:	
Zn:	Silica Ratio:	
	Total ashed Oxides:	
Calc oxygen: 23.38		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 338
Sample No.: 16N8W6D
Township: T16N Range: R8W Sec.: 6

Formation: Menefee
Field: San Mateo Member: Cleary Zone:

Depth to Seam: 140.05 Seam Thickness: 5.25
Sample Interval: 140.05-145.3 Sample Thickness: 5.25

Analyses on As-Received Basis

Air Dry Loss: 8.61
Eq. Moisture: 14.62 Moisture: 13.30 Vol. Matter: 34.13
Ash: 17.70 Fixed Carbon: 34.87

Carbon: 54.26 Btu: 9249 DAF Btu: 12017
Hydrogen: 4.23 Dry Btu: 10668 MMFBtu: 11336
Nitrogen: 0.81
Oxygen: 8.97 Sulfide: 0.14
Sulfur: 0.71 Sulfate: 0.000
Organic Sulfur: 0.57

Fluoride in ppm: 60.8 Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be:	SiO_2:	SiO_2ash:
Co:	Al_2O_3:	Al_2O_3ash:
Cr:	TiO_2:	TiO_2ash:
Cu:	Fe_2O_3:	Fe_2O_3ash:
Li:	MgO:	MgOash:
Mn:	CaO:	CaOash:
Nb:	K_2O:	K_2Oash:
Ni:	Na_2O:	Na_2Oash:
Pb:		
Sr:		
V:	AB Ratio:	
Zn:	Silica Ratio:	
	Total ashed Oxides:	
Calc oxygen: 22.29		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 350
Sample No.: 16N8W6G
Township: T16N Range: R8W Sec.: 6

Formation: Menefee
Field: San Mateo Member: Cleary Zone:

Depth to Seam: 152.55 Seam Thickness: 5.55
Sample Interval: 152.55-158.1 Sample Thickness: 5.55

Analyses on As-Received Basis

Air Dry Loss: 11.03
Eq. Moisture: 15.10

Moisture: 14.65
Ash: 8.23

Vol. Matter: 36.50
Fixed Carbon: 40.61

Carbon: 59.53
Hydrogen: 4.39
Nitrogen: 1.15
Oxygen: 10.72

Btu: 10358
Dry Btu: 12137

DAF Btu: 11857
MMFBtu: 11211

Sulfur: 1.30

Sulfide: 0.57
Sulfate: 0.072
Organic Sulfur: 0.66

Fluoride in ppm:

Chloride in ppm: 167

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be:	SiO_2:	SiO_2ash:
Co:	Al_2O_3:	Al_2O_3ash:
Cr:	TiO_2:	TiO_2ash:
Cu:	Fe_2O_3:	Fe_2O_3ash:
Li:	MgO:	MgOash:
Mn:	CaO:	CaOash:
Nb:	K_2O:	K_2Oash:
Ni:	Na_2O:	Na_2Oash:
Pb:		
Sr:		
V:	AB Ratio:	
Zn:	Silica Ratio:	
	Total ashed Oxides:	
Calc oxygen: 25.40		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 693
Sample No.: 16N5W17A
Township: T16N Range: R5W Sec.: 17

Formation: Menefee
Field: San Mateo Member: Cleary Zone:

Depth to Seam: 155.60 Seam Thickness: 1.90
Sample Interval: 155.60-157.50 Sample Thickness: 1.90

Analyses on As-Received Basis

Air Dry Loss: 5.88
Eq. Moisture: 13.21

Moisture: 13.96
Ash: 11.27

Vol. Matter: 36.95
Fixed Carbon: 37.81

Carbon: 60.66
Hydrogen: 4.48
Nitrogen: 1.12
Oxygen: 7.95

Btu: 11143
Dry Btu: 12951

DAF Btu: 14903
MMFBtu: 12614

Sulfur: 0.53

Sulfide: 0.11
Sulfate: 0.000
Organic Sulfur: 0.42

Fluoride in ppm:

Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 28	SiO_2: 7.345	SiO_2ash: 65.18
Co: 28	Al_2O_3: 2.97	Al_2O_3ash: 26.35
Cr: 77	TiO_2: 0.11	TiO_2ash: 1.02
Cu: 67	Fe_2O_3: 0.34	Fe_2O_3ash: 3.03
Li: 52	MgO: 0.11	MgOash: 1.01
Mn: 203	CaO: 0.21	CaOash: 1.9
Nb: 25	K_2O: 0.092	K_2Oash: 0.82
Ni: 81	Na_2O: 0.27	Na_2Oash: 2.38
Pb: 25		
Sr: 531		
V: 181	AB Ratio: 0.09	
Zn: 12	Silica Ratio: 91.64	
	Total ashed Oxides: 101.69	
Calc oxygen: 21.94		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 694
Sample No.: 16N5W17B
Township: T16N Range: R5W Sec.: 17

Formation: Menefee
Field: San Mateo Member: Cleary Zone:

Depth to Seam: 161.80 Seam Thickness: 1.80
Sample Interval: 161.80-163.60 Sample Thickness: 1.80

Analyses on As-Received Basis

Air Dry Loss: 6.09
Eq. Moisture: 12.82 Moisture: 13.06 Vol. Matter: 36.91
Ash: 14.86 Fixed Carbon: 35.16

Carbon: 57.35 Btu: 10743 DAF Btu: 14904
Hydrogen: 4.31 Dry Btu: 12357 MMFBtu: 12677
Nitrogen: 1.20
Oxygen: 8.37 Sulfide: 0.41
Sulfur: 0.83 Sulfate: 0.060
Organic Sulfur: 0.36

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 27	SiO_2: 9.49	SiO_2ash: 63.86
Co: 15	Al_2O_3: 3.04	Al_2O_3ash: 20.46
Cr: 105	TiO_2: 0.15	TiO_2ash: 1.01
Cu: 90	Fe_2O_3: 0.8	Fe_2O_3ash: 5.36
Li: 29	MgO: 0.13	MgOash: 0.9
Mn: 194	CaO: 0.55	CaOash: 3.69
Nb: 31	K_2O: 0.22	K_2Oash: 1.47
Ni: 27	Na_2O: 0.23	Na_2Oash: 1.55
Pb: 38		
Sr: 858		
V: 233	AB Ratio: 0.15	
Zn: 71	Silica Ratio: 86.51	
	Total ashed Oxides: 98.3	
Calc oxygen: 21.45		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 695
Sample No.: 16N5W17C
Township: T16N Range: R5W Sec.: 17

Formation: Menefee
Field: San Mateo Member: Cleary Zone:

Depth to Seam: 170.85 Seam Thickness: 1.85
Sample Interval: 170.85-172.70 Sample Thickness: 1.85

Analyses on As-Received Basis

Air Dry Loss: 6.49
Eq. Moisture: 13.16 Moisture: 14.25 Vol. Matter: 32.94
Ash: 19.25 Fixed Carbon: 33.56

Carbon: 51.85 Btu: 9541 DAF Btu: 14348
Hydrogen: 3.89 Dry Btu: 11127 MMFBtu: 11883
Nitrogen: 1.08
Oxygen: 8.54 Sulfide: 0.64
Sulfur: 1.11 Sulfate:
Organic Sulfur: 0.46

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 19	SiO_2: 11.64	SiO_2ash: 60.47
Co: 16	Al_2O_3: 5.41	Al_2O_3ash: 28.09
Cr: 175	TiO_2: 0.22	TiO_2ash: 1.15
Cu: 23	Fe_2O_3: 1.28	Fe_2O_3ash: 6.63
Li: 40	MgO: 0.2	MgOash: 1.04
Mn: 320	CaO: 0.26	CaOash: 1.38
Nb: 37	K_2O: 0.36	K_2Oash: 1.86
Ni: 37	Na_2O: 0.22	Na_2Oash: 1.12
Pb: 40		
Sr: 414		
V: 182	AB Ratio: 0.13	
Zn: 33	Silica Ratio: 86.98	
	Total ashed Oxides: 101.74	
Calc oxygen: 22.82		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 701
Sample No.: 16N5W2A
Township: T16N Range: R5W Sec.: 2

Formation: Menefee
Field: San Mateo Member: Cleary Zone:

Depth to Seam: 134.65 Seam Thickness: 1.50
Sample Interval: 134.65-136.15 Sample Thickness: 1.50

Analyses on As-Received Basis

Air Dry Loss: 5.85
Eq. Moisture: 13.22 Moisture: 12.98 Vol. Matter: 38.95
Ash: 7.46 Fixed Carbon: 40.60

Carbon: 63.52 Btu: 11856 DAF Btu: 14903
Hydrogen: 4.56 Dry Btu: 13625 MMFBtu: 12829
Nitrogen: 1.36
Oxygen: 9.59 Sulfide: 0.01
Sulfur: 0.50 Sulfate: 0.040
Organic Sulfur: 0.45

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 40	SiO_2: 5.28	SiO_2ash: 70.74
Co: 52	Al_2O_3: 1.33	Al_2O_3ash: 17.81
Cr: 80	TiO_2: 0.077	TiO_2ash: 1.04
Cu: 98	Fe_2O_3: 0.28	Fe_2O_3ash: 3.76
Li: 27	MgO: 0.64	MgOash: 0.86
Mn: 64	CaO: 0.14	CaOash: 1.85
Nb: 17	K_2O: 0.098	K_2Oash: 1.32
Ni: 53	Na_2O: 0.21	Na_2Oash: 2.82
Pb: 42		
Sr: 497		
V: 180	AB Ratio: 0.11	
Zn: 987	Silica Ratio: 91.62	
	Total ashed Oxides: 100.2	
Calc oxygen: 22.60		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 696
Sample No.: 16N5W2B
Township: T16N Range: R5W Sec.: 2

Formation: Menefee
Field: San Mateo Member: Cleary Zone:

Depth to Seam: 166.25 Seam Thickness: 1.75
Sample Interval: 166.25-168.00 Sample Thickness: 1.75

Analyses on As-Received Basis

Air Dry Loss: 4.76
Eq. Moisture: 10.81

Moisture: 11.45
Ash: 10.11

Vol. Matter: 38.68
Fixed Carbon: 39.75

Carbon: 63.43
Hydrogen: 4.57
Nitrogen: 1.27
Oxygen: 8.86

Btu: 11583
Dry Btu: 13081

DAF Btu: 14767
MMFBtu: 12964

Sulfur: 0.28

Sulfide: 0.07
Sulfate: 0.010
Organic Sulfur: 0.20

Fluoride in ppm:

Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 23	SiO_2: 5.52	SiO_2ash: 54.59
Co: 30	Al_2O_3: 3.34	Al_2O_3ash: 32.99
Cr: 24	TiO_2: 0.11	TiO_2ash: 1.06
Cu: 51	Fe_2O_3: 0.53	Fe_2O_3ash: 5.21
Li: 32	MgO: 0.086	MgOash: 0.86
Mn: 104	CaO: 0.34	CaOash: 3.38
Nb: 20	K_2O: 0.018	K_2Oash: 0.18
Ni: 130	Na_2O: 0.16	Na_2Oash: 1.6
Pb: 40		
Sr: 330		
V: 122		
Zn: 123		

Calc oxygen: 20.34

AB Ratio: 0.12
Silica Ratio: 85.24
Total ashed Oxides: 99.87

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 697
Sample No.: 16N5W2C
Township: T16N Range: R5W Sec.: 2

Formation: Menefee
Field: San Mateo Member: Cleary Zone:

Depth to Seam: 186.80 Seam Thickness: 3.00
Sample Interval: 186.8-189.80 Sample Thickness: 3.00

Analyses on As-Received Basis

Air Dry Loss: 5.48
Eq. Moisture: 12.07 Moisture: 13.12 Vol. Matter: 35.08
Ash: 13.46 Fixed Carbon: 38.33

Carbon: 60.00 Btu: 10773 DAF Btu: 14674
Hydrogen: 4.09 Dry Btu: 12400 MMFBtu: 12549
Nitrogen: 1.22
Oxygen: 7.68 Sulfide: 0.05
Sulfur: 0.40 Sulfate: 0.050
Organic Sulfur: 0.30

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 185	SiO_2: 8.01	SiO_2ash: 59.54
Co: 34	Al_2O_3: 2.46	Al_2O_3ash: 18.29
Cr: 100	TiO_2: 0.16	TiO_2ash: 1.19
Cu: 59	Fe_2O_3: 0.81	Fe_2O_3ash: 6.01
Li: 25	MgO: 0.26	MgOash: 1.96
Mn: 184	CaO: 0.83	CaOash: 6.21
Nb: 27	K_2O: 0.11	K_2Oash: 0.79
Ni: 36	Na_2O: 0.3	Na_2Oash: 2.21
Pb: 27		
Sr: 230		
V: 160	AB Ratio: 0.21	
Zn: 79	Silica Ratio: 80.76	
	Total ashed Oxides: 96.2	
Calc oxygen: 20.83		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 709
Sample No.: 16N5W24A
Township: T16N Range: R5W Sec.: 24

Formation: Menefee
Field: San Mateo Member: Cleary Zone:

Depth to Seam: 166.10 Seam Thickness: 1.60
Sample Interval: 166.10-167.70 Sample Thickness: 1.60

Analyses on As-Received Basis

Air Dry Loss: 3.12
Eq. Moisture: 13.79 Moisture: 11.89 Vol. Matter: 33.68
Ash: 21.42 Fixed Carbon: 33.00

Carbon: 54.94 Btu: 9362 DAF Btu: 14038
Hydrogen: 4.16 Dry Btu: 10625 MMFBtu: 12085
Nitrogen: 0.88
Oxygen: 6.08 Sulfide: 0.08
Sulfur: 0.62 Sulfate: 0.060
Organic Sulfur: 0.48

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 17	SiO_2: 14.65	SiO_2ash: 68.41
Co: 47	Al_2O_3: 7.15	Al_2O_3ash: 33.37
Cr: 75	TiO_2: 0.27	TiO_2ash: 1.27
Cu: 60	Fe_2O_3: 0.9	Fe_2O_3ash: 4.19
Li: 35	MgO: 0.21	MgOash: 0.98
Mn: 185	CaO: 0.3	CaOash: 1.41
Nb: 22	K_2O: 0.18	K_2Oash: 0.86
Ni: 36	Na_2O: 0.37	Na_2Oash: 1.74
Pb: 50		
Sr: 370		
V: 106	AB Ratio: 0.08	
Zn: 6	Silica Ratio: 91.22	
	Total ashed Oxides: 112.23	
Calc oxygen: 17.98		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 714
Sample No.: 16N5W24B
Township: T16N Range: R5W Sec.: 24

Formation: Menefee
Field: San Mateo Member: Cleary Zone:

Depth to Seam: 171.70 Seam Thickness: 2.40
Sample Interval: 171.70-174.10 Sample Thickness: 2.40

Analyses on As-Received Basis

Air Dry Loss: 5.73
Eq. Moisture: 14.28 Moisture: 16.40 Vol. Matter: 33.89
Ash: 18.71 Fixed Carbon: 30.98

Carbon: 54.10 Btu: 9341 DAF Btu: 14397
Hydrogen: 4.06 Dry Btu: 11175 MMFBtu: 11611
Nitrogen: 0.93
Oxygen: 5.11 Sulfide: 0.21
Sulfur: 0.66 Sulfate: 0.020
Organic Sulfur: 0.43

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 13	SiO_2:	SiO_2ash:
Co: 20	Al_2O_3:	Al_2O_3ash:
Cr: 58	TiO_2:	TiO_2ash:
Cu: 74	Fe_2O_3:	Fe_2O_3ash:
Li: 30	MgO:	MgOash:
Mn: 168	CaO:	CaOash:
Nb: 14	K_2O:	K_2Oash:
Ni: 30	Na_2O:	Na_2Oash:
Pb: 13		
Sr: 290		
V: 144	AB Ratio: 0.08	
Zn: 87	Silica Ratio: 91.22	
	Total ashed Oxides:	
Calc oxygen: 21.54		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 715
Sample No.: 16N5W24C
Township: T16N Range: R5W Sec.: 24

Formation: Menefee
Field: San Mateo Member: Cleary Zone:

Depth to Seam: 187.10 Seam Thickness: 1.70
Sample Interval: 187.10-188.80 Sample Thickness: 1.70

Analyses on As-Received Basis

Air Dry Loss: 4.49
Eq. Moisture: 12.75 Moisture: 14.03 Vol. Matter: 37.63
Ash: 9.62 Fixed Carbon: 38.72

Carbon: 64.88 Btu: 11187 DAF Btu: 14652
Hydrogen: 4.44 Dry Btu: 13013 MMFBtu: 12357
Nitrogen: 1.15
Oxygen: 4.90 Sulfide: 0.41
Sulfur: 0.96 Sulfate: 0.040
Organic Sulfur: 0.51

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 45	SiO_2: 5.76	SiO_2ash: 59.9
Co: 15	Al_2O_3: 2.26	Al_2O_3ash: 23.49
Cr: 72	TiO_2: 0.15	TiO_2ash: 1.58
Cu: 123	Fe_2O_3: 0.59	Fe_2O_3ash: 6.18
Li: 62	MgO: 0.08	MgOash: 0.84
Mn: 503	CaO: 0.4	CaOash: 4.15
Nb: 33	K_2O: 0.034	K_2Oash: 0.36
Ni: 137	Na_2O: 0.15	Na_2Oash: 1.54
Pb: 49		
Sr: 966		
V: 163	AB Ratio: 0.15	
Zn: 94	Silica Ratio: 84.28	
	Total ashed Oxides: 98.04	
Calc oxygen: 18.95		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 708
Sample No.: 16N5W4A
Township: T16N Range: R5W Sec.: 4

Formation: Menefee
Field: San Mateo Member: Cleary Zone:

Depth to Seam: 87.50 Seam Thickness: 1.30
Sample Interval: 87.50-88.80 Sample Thickness: 1.30

Analyses on As-Received Basis

Air Dry Loss: 5.24
Eq. Moisture: 10.38 Moisture: 11.25 Vol. Matter: 35.86
Ash: 18.40 Fixed Carbon: 34.47

Carbon: 59.49 Btu: 10419 DAF Btu: 14813
Hydrogen: 4.35 Dry Btu: 11740 MMFBtu: 12945
Nitrogen: 1.07
Oxygen: 5.01 Sulfide: 0.18
Sulfur: 0.39 Sulfate: 0.010
Organic Sulfur: 0.20

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 23	SiO_2: 15.03	SiO_2ash: 81.63
Co: 14	Al_2O_3: 1.5	Al_2O_3ash: 8.16
Cr: 120	TiO_2: 0.23	TiO_2ash: 1.25
Cu: 63	Fe_2O_3: 1.32	Fe_2O_3ash: 7.17
Li: 20	MgO: 0.051	MgOash: 0.28
Mn: 606	CaO: 0.22	CaOash: 1.19
Nb: 22	K_2O: 0.036	K_2Oash: 0.2
Ni: 48	Na_2O: 0.25	Na_2Oash: 1.36
Pb: 22		
Sr: 187		
V: 36	AB Ratio: 0.11	
Zn: 57	Silica Ratio: 90.42	
	Total ashed Oxides: 101.24	
Calc oxygen: 16.30		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 717
Sample No.: 16N5W4B
Township: T16N Range: R5W Sec.: 4

Formation: Menefee
Field: San Mateo Member: Cleary Zone:

Depth to Seam: 236.35 Seam Thickness: 5.05
Sample Interval: 236.35-238.90 Sample Thickness: 2.55

Analyses on As-Received Basis

Air Dry Loss: 2.11
Eq. Moisture: 12.93 Moisture: 9.94 Vol. Matter: 37.91
Ash: 7.85 Fixed Carbon: 44.30

Carbon: 70.27 Btu: 11988 DAF Btu: 14583
Hydrogen: 4.47 Dry Btu: 13312 MMFBtu: 13051
Nitrogen: 1.31
Oxygen: 5.78 Sulfide: 0.03
Sulfur: 0.36 Sulfate: 0.040
Organic Sulfur: 0.29

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 42	SiO_2: 5.34	SiO_2ash: 68.01
Co: 34	Al_2O_3: 1.8	Al_2O_3ash: 22.92
Cr: 108	TiO_2: 0.11	TiO_2ash: 1.45
Cu: 77	Fe_2O_3: 0.33	Fe_2O_3ash: 4.21
Li: 51	MgO: 0.53	MgOash: 0.68
Mn: 126	CaO: 0.12	CaOash: 1.53
Nb: 20	K_2O: 0.022	K_2Oash: 0.29
Ni: 103	Na_2O: 0.17	Na_2Oash: 2.16
Pb: 34		
Sr: 428		
V: 143	AB Ratio: 0.09	
Zn: 132	Silica Ratio: 91.37	
	Total ashed Oxides: 101.25	
Calc oxygen: 15.74		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 707
Sample No.: 16N5W4C
Township: T16N Range: R5W Sec.: 4

Formation: Menefee
Field: San Mateo Member: Cleary Zone:

Depth to Seam: 236.35 Seam Thickness: 5.05
Sample Interval: 238.9-239.7 Sample Thickness: 0.80

Analyses on As-Received Basis

Air Dry Loss: 5
Eq. Moisture: 46.01 Moisture: 8.95 Vol. Matter: 8.48
Ash: 80.72 Fixed Carbon: 1.84

Carbon: Btu: 0 DAF Btu:
Hydrogen: Dry Btu: MMFBtu:
Nitrogen:
Oxygen: 10.64 Sulfide: 0.15
Sulfur: 0.11 Sulfate: 0.008
Organic Sulfur:

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 2	SiO_2:	SiO_2ash:
Co: 8	Al_2O_3:	Al_2O_3ash:
Cr: 70	TiO_2:	TiO_2ash:
Cu: 50	Fe_2O_3:	Fe_2O_3ash:
Li: 20	MgO:	MgOash:
Mn: 72	CaO:	CaOash:
Nb: 10	K_2O:	K_2Oash:
Ni: 20	Na_2O:	Na_2Oash:
Pb: 30		
Sr: 163		
V: 113	AB Ratio: 0.09	
Zn: 6	Silica Ratio: 91.37	
	Total ashed Oxides:	
Calc oxygen:		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 706
Sample No.: 16N5W4D
Township: T16N Range: R5W Sec.: 4

Formation: Menefee
Field: San Mateo Member: Cleary Zone:

Depth to Seam: 239.70 Seam Thickness: 5.05
Sample Interval: 239.70-241.40 Sample Thickness: 1.70

Analyses on As-Received Basis

Air Dry Loss: 5.28
Eq. Moisture: 10.95 Moisture: 11.67 Vol. Matter: 31.62
Ash: 25.96 Fixed Carbon: 30.75

Carbon: 52.63 Btu: 9120 DAF Btu: 14622
Hydrogen: 3.90 Dry Btu: 10325 MMFBtu: 12588
Nitrogen: 0.98
Oxygen: 4.33 Sulfide: 0.14
Sulfur: 0.51 Sulfate: 0.007
Organic Sulfur: 0.36

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 15	SiO_2: 18.86	SiO_2ash: 72.66
Co: 30	Al_2O_3: 5.58	Al_2O_3ash: 21.51
Cr: 117	TiO_2: 0.25	TiO_2ash: 0.96
Cu: 69	Fe_2O_3: 0.84	Fe_2O_3ash: 3.22
Li: 27	MgO: 0.26	MgOash: 1
Mn: 79	CaO: 0.13	CaOash: 0.51
Nb: 12	K_2O: 0.44	K_2Oash: 1.69
Ni: 48	Na_2O: 0.28	Na_2Oash: 1.07
Pb: 44		
Sr: 210		
V: 193	AB Ratio: 0.07	
Zn: 14	Silica Ratio: 93.88	
	Total ashed Oxides: 102.62	
Calc oxygen: 16.02		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 716
Sample No.: 16N5W4E
Township: T16N Range: R5W Sec.: 4

Formation: Menefee
Field: San Mateo Member: Cleary Zone:

Depth to Seam: 280.40 Seam Thickness: 2.10
Sample Interval: 280.4-282.5 Sample Thickness: 2.10

Analyses on As-Received Basis

Air Dry Loss: 4.36
Eq. Moisture: 10.31

Moisture: 10.95
Ash: 14.42

Vol. Matter: 37.87
Fixed Carbon: 36.75

Carbon: 63.23
Hydrogen: 4.64
Nitrogen: 1.06
Oxygen: 4.99

Btu: 10813
Dry Btu: 12143

DAF Btu: 14489
MMFBtu: 12709

Sulfur: 0.69

Sulfide: 0.27
Sulfate: 0.100
Organic Sulfur: 0.32

Fluoride in ppm:

Chloride in ppm:

Trace Element Ashed Coal

Be: 14
Co: 36
Cr: 103
Cu: 65
Li: 61
Mn: 89
Nb: 57
Ni: 53
Pb: 59
Sr: 250
V: 147
Zn: 370

Calc oxygen: 15.96

Whole Coal Oxide

SiO_2: 9.38
Al_2O_3: 4
TiO_2: 0.29
Fe_2O_3: 0.74
MgO: 0.08
CaO: 0.13
K_2O: 0.06
Na_2O: 0.22

AB Ratio: 0.08
Silica Ratio: 90.78
Total ashed Oxides: 103.37

Ashed Oxide

SiO_2ash: 65.04
Al_2O_3ash: 27.76
TiO_2ash: 2.04
Fe_2O_3ash: 5.12
MgOash: 0.56
CaOash: 0.92
K_2Oash: 0.42
Na_2Oash: 1.51

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 720
Sample No.: 16N6W36A
Township: T16N Range: R6W Sec.: 36

Formation: Menefee
Field: San Mateo Member: Cleary Zone:

Depth to Seam: 61.35 Seam Thickness: 2.30
Sample Interval: 61.35-63.65 Sample Thickness: 2.30

Analyses on As-Received Basis

Air Dry Loss: 5.28
Eq. Moisture: 15.17 Moisture: 16.89 Vol. Matter: 32.34
Ash: 18.90 Fixed Carbon: 31.85

Carbon: 53.36 Btu: 8935 DAF Btu: 13916
Hydrogen: 3.65 Dry Btu: 10751 MMFBtu: 11170
Nitrogen: 1.05
Oxygen: 5.73 Sulfide: 0.07
Sulfur: 0.40 Sulfate: 0.015
Organic Sulfur: 0.31

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 19	SiO_2: 11.49	SiO_2ash: 60.81
Co: 19	Al_2O_3: 3.87	Al_2O_3ash: 20.47
Cr: 53	TiO_2: 0.18	TiO_2ash: 0.94
Cu: 45	Fe_2O_3: 0.62	Fe_2O_3ash: 3.26
Li: 35	MgO: 0.24	MgOash: 1.26
Mn: 935	CaO: 2.14	CaOash: 11.3
Nb: 19	K_2O: 0.26	K_2Oash: 1.36
Ni: 31	Na_2O: 0.21	Na_2Oash: 1.12
Pb: 11		
Sr: 233		
V: 104	AB Ratio: 0.22	
Zn: 112	Silica Ratio: 79.35	
	Total ashed Oxides: 100.52	
Calc oxygen: 22.64		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory Analyses, NMRDI Coal Quality Project

Lab No.: 718
Sample No.: 15N6W2A
Township: T15N Range: R6W Sec.: 2

Formation: Menefee
Field: San Mateo Member: Cleary Zone:

Depth to Seam: 85.85 Seam Thickness: 1.40
Sample Interval: 85.85-87.25 Sample Thickness: 1.40

Analyses on As-Received Basis

Air Dry Loss: 4.85
Eq. Moisture: 14.88

Moisture: 14.15
Ash: 18.86

Vol. Matter: 35.31
Fixed Carbon: 31.66

Carbon: 55.21
Hydrogen: 3.83
Nitrogen: 0.95
Oxygen: 6.28

Btu: 9629
Dry Btu: 11216

DAF Btu: 14376
MMFBtu: 11992

Sulfur: 0.69

Sulfide: 0.17
Sulfate: 0.010
Organic Sulfur: 0.51

Fluoride in ppm:

Chloride in ppm:

Trace Element Ashed Coal

Be: 25
Co: 35
Cr: 106
Cu: 40
Li: 27
Mn: 140
Nb: 2
Ni: 64
Pb: 1
Sr: 193
V: 20
Zn: 52

Calc oxygen: 20.46

Whole Coal Oxide

SiO_2: 14.98
Al_2O_3: 1.67
TiO_2: 0.2
Fe_2O_3: 0.58
MgO: 0.084
CaO: 0.38
K_2O: 0.079
Na_2O: 0.28

Ashed Oxide

SiO_2ash: 79.38
Al_2O_3ash: 8.87
TiO_2ash: 1.08
Fe_2O_3ash: 3.06
MgOash: 0.45
CaOash: 1.99
K_2Oash: 0.42
Na_2Oash: 1.49

AB Ratio: 0.08
Silica Ratio: 93.52
Total ashed Oxides: 96.74

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 719
Sample No.: 15N6W2B
Township: T16N Range: R5W Sec.: 2

Formation: Menefee
Field: San Mateo Member: Cleary Zone:

Depth to Seam: 157.40 Seam Thickness: 3.35
Sample Interval: 157.4-160.75 Sample Thickness: 3.35

Analyses on As-Received Basis

Air Dry Loss: 5.4
Eq. Moisture: 14.46 Moisture: 10.77 Vol. Matter: 40.48
Ash: 20.85 Fixed Carbon: 27.88

Carbon: 51.16 Btu: 8589 DAF Btu: 12561
Hydrogen: 4.05 Dry Btu: 9625 MMFBtu: 10889
Nitrogen: 0.84
Oxygen: 10.93 Sulfide: 0.69
Sulfur: 1.38 Sulfate: 0.060
Organic Sulfur: 0.63

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 11	SiO_2: 12.3	SiO_2ash: 58.97
Co: 10	Al_2O_3: 2.83	Al_2O_3ash: 13.59
Cr: 56	TiO_2: 0.17	TiO_2ash: 0.83
Cu: 33	Fe_2O_3: 3.18	Fe_2O_3ash: 15.23
Li: 20	MgO: 0.16	MgOash: 0.77
Mn: 3056	CaO: 1.42	CaOash: 6.81
Nb: 37	K_2O: 0.072	K_2Oash: 0.35
Ni: 25	Na_2O: 0.23	Na_2Oash: 1.09
Pb: 17		
Sr: 245		
V: 100	AB Ratio: 0.33	
Zn: 97	Silica Ratio: 72.1	
	Total ashed Oxides: 97.64	
Calc oxygen: 21.72		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 713
Sample No.: 15N6W15A
Township: T15N Range: R6W Sec.: 15

Formation: Menefee
Field: San Mateo Member: Cleary Zone:

Depth to Seam: 164.25 Seam Thickness: 2.00
Sample Interval: 164.25-166.25 Sample Thickness: 2.00

Analyses on As-Received Basis

Air Dry Loss: 5.8
Eq. Moisture: 15.75 Moisture: 15.97 Vol. Matter: 37.66
Ash: 9.55 Fixed Carbon: 36.81

Carbon: 62.58 Btu: 10924 DAF Btu: 13728
Hydrogen: 4.54 Dry Btu: 13001 MMFBtu: 12153
Nitrogen: 0.98
Oxygen: 6.14 Sulfide: 0.04
Sulfur: 0.21 Sulfate: 0.010
Organic Sulfur: 0.16

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 30	SiO_2: 6.65	SiO_2ash: 69.63
Co: 87	Al_2O_3: 1.55	Al_2O_3ash: 16.25
Cr: 82	TiO_2: 0.11	TiO_2ash: 1.19
Cu: 50	Fe_2O_3: 0.36	Fe_2O_3ash: 3.8
Li: 28	MgO: 0.098	MgOash: 1.03
Mn: 187	CaO: 0.35	CaOash: 3.63
Nb: 19	K_2O: 0.082	K_2Oash: 0.86
Ni: 80	Na_2O: 0.24	Na_2Oash: 2.49
Pb: 3		
Sr: 563		
V: 85	AB Ratio: 0.13	
Zn: 378	Silica Ratio: 89.16	
	Total ashed Oxides: 98.88	
Calc oxygen: 22.14		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 711
Sample No.: 15N6W15B
Township: T15N Range: R6W Sec.: 15

Formation: Menefee
Field: San Mateo Member: Cleary Zone:

Depth to Seam: 211.85 Seam Thickness: 4.50
Sample Interval: 211.85-216.35 Sample Thickness: 4.50

Analyses on As-Received Basis

Air Dry Loss: 6.63
Eq. Moisture: 14.22 Moisture: 13.59 Vol. Matter: 36.16
Ash: 13.19 Fixed Carbon: 37.06

Carbon: 60.03 Btu: 10001 DAF Btu: 13659
Hydrogen: 4.32 Dry Btu: 11574 MMFBtu: 11478
Nitrogen: 0.99
Oxygen: 6.45 Sulfide: 0.57
Sulfur: 1.40 Sulfate: 0.120
Organic Sulfur: 0.71

Fluoride in ppm: 31.9 Chloride in ppm: 23

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 9	SiO_2: 7.71	SiO_2ash: 58.49
Co: 10	Al_2O_3: 3.78	Al_2O_3ash: 28.68
Cr: 59	TiO_2: 0.15	TiO_2ash: 1.16
Cu: 51	Fe_2O_3: 0.78	Fe_2O_3ash: 5.92
Li: 56	MgO: -0.12	MgOash: 0.88
Mn: 137	CaO: 0.35	CaOash: 2.66
Nb: 30	K_2O: 0.069	K_2Oash: 0.53
Ni: 25	Na_2O: 0.18	Na_2Oash: 1.39
Pb: 51		
Sr: 387		
V: 120	AB Ratio: 0.12	
Zn: 221	Silica Ratio: 86.07	
	Total ashed Oxides: 99.71	
Calc oxygen: 20.07		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 710
Sample No.: 15N6W15C
Township: T15N Range: R6W Sec.: 15

Formation: Menefee
Field: San Mateo Member: Cleary Zone:

Depth to Seam: 221.50 Seam Thickness: 2.35
Sample Interval: 221.50-223.85 Sample Thickness: 2.35

Analyses on As-Received Basis

Air Dry Loss: 5.14
Eq. Moisture: 13.62 Moisture: 14.13 Vol. Matter: 39.90
Ash: 7.21 Fixed Carbon: 38.75

Carbon: 65.70 Btu: 11428 DAF Btu: 14528
Hydrogen: 4.62 Dry Btu: 13308 MMFBtu: 12255
Nitrogen: 1.07
Oxygen: 6.17 Sulfide: 0.35
Sulfur: 1.08 Sulfate: 0.020
Organic Sulfur: 0.71

Fluoride in ppm: 18.6 Chloride in ppm: 38.1

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 29	SiO_2: 3.99	SiO_2ash: 55.29
Co: 20	Al_2O_3: 1.38	Al_2O_3ash: 19.12
Cr: 125	TiO_2: 0.075	TiO_2ash: 1.05
Cu: 48	Fe_2O_3: 0.66	Fe_2O_3ash: 9.17
Li: 23	MgO: 0.09	MgOash: 1.25
Mn: 270	CaO: 0.43	CaOash: 5.94
Nb: 29	K_2O: 0.041	K_2Oash: 0.58
Ni: 67	Na_2O: 0.14	Na_2Oash: 1.93
Pb: 28		
Sr: 505		
V: 130	AB Ratio: 0.25	
Zn: 104	Silica Ratio: 77.16	
	Total ashed Oxides: 94.33	
Calc oxygen: 20.32		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 712
Sample No.: 15N6W15D
Township: T15N Range: R6W Sec.: 15

Formation: Menefee
Field: San Mateo Member: Cleary Zone:

Depth to Seam: 224.60 Seam Thickness: 4.65
Sample Interval: 224.60-229.25 Sample Thickness: 4.65

Analyses on As-Received Basis

Air Dry Loss: 7.97
Eq. Moisture: 13.71 Moisture: 14.16 Vol. Matter: 37.34
Ash: 13.67 Fixed Carbon: 34.83

Carbon: 60.60 Btu: 10496 DAF Btu: 13156
Hydrogen: 4.46 Dry Btu: 12227 MMFBtu: 12203
Nitrogen: 1.01
Oxygen: 5.28 Sulfide: 0.34
Sulfur: 0.80 Sulfate: 0.040
Organic Sulfur: 0.42

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 7	SiO_2:	SiO_2ash:
Co: 8	Al_2O_3:	Al_2O_3ash:
Cr: 145	TiO_2:	TiO_2ash:
Cu: 39	Fe_2O_3:	Fe_2O_3ash:
Li: 30	MgO:	MgOash:
Mn: 100	CaO:	CaOash:
Nb:	K_2O:	K_2Oash:
Ni: 56	Na_2O:	Na_2Oash:
Pb: 37		
Sr: 244		
V: 88	AB Ratio: 0.25	
Zn: 398	Silica Ratio: 77.16	
	Total ashed Oxides:	
Calc oxygen: 19.46		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 722
Sample No.: 15N6W20A
Township: T15N Range: R6W Sec.: 20

Formation: Menefee
Field: San Mateo Member: Cleary Zone:

Depth to Seam: 55.50 Seam Thickness: 7.00
Sample Interval: 55.5-59.0 Sample Thickness: 3.50

Analyses on As-Received Basis

Air Dry Loss: 2.57
Eq. Moisture: 15.44 Moisture: 12.92 Vol. Matter: 37.50
Ash: 13.03 Fixed Carbon: 36.55

Carbon: 61.41 Btu: 10590 DAF Btu: 14301
Hydrogen: 4.44 Dry Btu: 12161 MMFBtu: 11974
Nitrogen: 0.90
Oxygen: 4.68 Sulfide: 0.10
Sulfur: 2.60 Sulfate: 0.010
Organic Sulfur: 2.49

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 7	SiO_2:	SiO_2ash:
Co: 9	Al_2O_3:	Al_2O_3ash:
Cr: 117	TiO_2:	TiO_2ash:
Cu: 39	Fe_2O_3:	Fe_2O_3ash:
Li: 67	MgO:	MgOash:
Mn: 197	CaO:	CaOash:
Nb: 26	K_2O:	K_2Oash:
Ni: 104	Na_2O:	Na_2Oash:
Pb: 46		
Sr: 717		
V: 65	AB Ratio: 0.22	
Zn: 95	Silica Ratio: 79.35	
	Total ashed Oxides:	
Calc oxygen: 17.62		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 721
Sample No.: 15N6W20B
Township: T15N Range: R6W Sec.: 20

Formation: Menefee
Field: San Mateo Member: Cleary Zone:

Depth to Seam: 55.50 Seam Thickness: 7.00
Sample Interval: 59.0-62.50 Sample Thickness: 3.50

Analyses on As-Received Basis

Air Dry Loss: 5.19
Eq. Moisture: 15.66

Moisture: 15.98
Ash: 10.01

Vol. Matter: 36.65
Fixed Carbon: 37.35

Carbon: 61.34
Hydrogen: 4.23
Nitrogen: 0.77
Oxygen: 6.88

Btu: 10688
Dry Btu: 12721

DAF Btu: 14441
MMFBtu: 11883

Sulfur: 0.77

Sulfide: 0.19
Sulfate: 0.015
Organic Sulfur: 0.57

Fluoride in ppm:

Chloride in ppm:

Trace Element Ashed Coal		Whole Coal Oxide		Ashed Oxide	
Be:	6	SiO_2:	5.53	SiO_2ash:	55.26
Co:	11	Al_2O_3:	2.86	Al_2O_3ash:	28.55
Cr:	65	TiO_2:	0.12	TiO_2ash:	1.16
Cu:	48	Fe_2O_3:	0.51	Fe_2O_3ash:	5.11
Li:	71	MgO:	0.082	MgOash:	0.82
Mn:	237	CaO:	0.4	CaOash:	3.97
Nb:		K_2O:	0.035	K_2Oash:	0.35
Ni:	32	Na_2O:	0.23	Na_2Oash:	2.34
Pb:	12				
Sr:	413				
V:	73				
Zn:	121				

AB Ratio: 0.14
Silica Ratio: 84.8
Total ashed Oxides: 97.56

Calc oxygen: 22.88

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 723
Sample No.: 15N6W20C
Township: T15N Range: R6W Sec.: 20

Formation: Menefee
Field: San Mateo Member: Cleary Zone:

Depth to Seam: 77.60 Seam Thickness: 3.95
Sample Interval: 77.60-81.55 Sample Thickness: 3.95

Analyses on As-Received Basis

Air Dry Loss: 4.99
Eq. Moisture: 16.27 Moisture: 15.75 Vol. Matter: 38.14
Ash: 10.16 Fixed Carbon: 35.95

Carbon: 61.25 Btu: 10513 DAF Btu: 14190
Hydrogen: 4.35 Dry Btu: 12479 MMFBtu: 11588
Nitrogen: 1.04
Oxygen: 5.71 Sulfide: 0.45
Sulfur: 1.73 Sulfate: 0.050
Organic Sulfur: 1.23

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 9	SiO_2: 4.91	SiO_2ash: 48.34
Co: 11	Al_2O_3: 2.77	Al_2O_3ash: 27.22
Cr: 70	TiO_2: 0.1	TiO_2ash: 1
Cu: 53	Fe_2O_3: 1.39	Fe_2O_3ash: 13.64
Li: 59	MgO: 0.078	MgOash: 0.77
Mn: 583	CaO: 0.47	CaOash: 4.64
Nb: 44	K_2O: 0.013	K_2Oash: 0.13
Ni: 35	Na_2O: 0.12	Na_2Oash: 1.2
Pb: 15		
Sr: 565		
V: 73	AB Ratio: 0.26	
Zn: 121	Silica Ratio: 71.73	
	Total ashed Oxides: 96.94	
Calc oxygen: 21.47		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 676
Sample No.: 17N4W13A
Township: T17N Range: 4W Sec.: 13

Formation: Menefee
Field: San Mateo Member: Cleary Zone:

Depth to Seam: 129.25 Seam Thickness: 2.70
Sample Interval: 129.25-131.95 Sample Thickness: 2.70

Analyses on As-Received Basis

Air Dry Loss: 4.38
Eq. Moisture: 16.98

Moisture: 11.70
Ash: 9.69

Vol. Matter: 37.43
Fixed Carbon: 41.18

Carbon: 62.37
Hydrogen: 4.35
Nitrogen: 1.30
Oxygen: 10.34

Btu: 10735
Dry Btu: 12158

DAF Btu: 13657
MMFBtu: 11959

Sulfur: 0.23

Sulfide: 0.01
Sulfate: 0.000
Organic Sulfur: 0.22

Fluoride in ppm:

Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 19	SiO_2: 6.19	SiO_2ash: 63.85
Co: 30	Al_2O_3: 1.84	Al_2O_3ash: 18.95
Cr: 68	TiO_2: 0.13	TiO_2ash: 1.39
Cu: 82	Fe_2O_3: 0.29	Fe_2O_3ash: 2.97
Li: 64	MgO: 0.041	MgOash: 0.43
Mn: 35	CaO: 0.1	CaOash: 1.08
Nb: 13	K_2O: 0.044	K_2Oash: 0.46
Ni: 117	Na_2O: 0.26	Na_2Oash: 2.71
Pb: 42		
Sr: 300		
V: 156	AB Ratio: 0.09	
Zn: 55	Silica Ratio: 93.44	
	Total ashed Oxides: 91.84	
Calc oxygen: 22.06		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 668
Sample No.: 17N4W13B
Township: T17N Range: R4W Sec.: 13

Formation: Menefee
Field: San Mateo Member: Cleary Zone:

Depth to Seam: 317.40 Seam Thickness: 2.00
Sample Interval: 317.40-319.40 Sample Thickness: 2.00

Analyses on As-Received Basis

Air Dry Loss: 15.73
Eq. Moisture: 17.46

Moisture: 17.07
Ash: 15.39

Vol. Matter: 31.68
Fixed Carbon: 35.86

Carbon: 56.33
Hydrogen: 3.96
Nitrogen: 0.97
Oxygen: 5.79

Btu: 9584
Dry Btu: 11557

DAF Btu: 14191
MMFBtu: 11431

Sulfur: 0.47

Sulfide: 0.08
Sulfate: 0.000
Organic Sulfur: 0.39

Fluoride in ppm:

Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 10	SiO_2: 10.93	SiO_2ash: 71.02
Co: 9	Al_2O_3: 3.32	Al_2O_3ash: 21.59
Cr: 83	TiO_2: 0.17	TiO_2ash: 1.11
Cu: 68	Fe_2O_3: 0.58	Fe_2O_3ash: 3.78
Li: 25	MgO: 0.15	MgOash: 0.98
Mn: 110	CaO: 0.22	CaOash: 1.45
Nb: 20	K_2O: 0.23	K_2Oash: 1.51
Ni: 18	Na_2O: 0.3	Na_2Oash: 1.93
Pb: 38		
Sr: 200		
V: 163	AB Ratio: 0.1	
Zn: 220	Silica Ratio: 91.95	
	Total ashed Oxides: 103.37	
Calc oxygen: 22.88		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 672
Sample No.: 17N4W13C
Township: T17N Range: R4W Sec.: 13

Formation: Menefee
Field: San Mateo Member: Cleary Zone:

Depth to Seam: 327.85 Seam Thickness: 3.20
Sample Interval: 327.85-331.05 Sample Thickness: 3.20

Analyses on As-Received Basis

Air Dry Loss: 19.16
Eq. Moisture: 17.51

Moisture: 20.07
Ash: 17.36

Vol. Matter: 31.92
Fixed Carbon: 30.64

Carbon: 51.70
Hydrogen: 3.73
Nitrogen: 0.96
Oxygen: 5.51

Btu: 8902
Dry Btu: 11137

DAF Btu: 14228
MMFBtu: 10869

Sulfur: 0.64

Sulfide: 0.16
Sulfate: 0.000
Organic Sulfur: 0.48

Fluoride in ppm:

Chloride in ppm:

Trace Element Ashed Coal

Be: 5
Co: 22
Cr: 170
Cu: 56
Li: 25
Mn: 91
Nb: 28
Ni: 100
Pb: 43
Sr: 194
V: 150
Zn: 389

Calc oxygen: 25.61

Whole Coal Oxide

SiO_2: 11.69
Al_2O_3: 3.74
TiO_2: 0.18
Fe_2O_3: 0.99
MgO: 0.16
CaO: 0.17
K_2O: 0.31
Na_2O: 0.35

AB Ratio: 0.12
Silica Ratio: 89.82
Total ashed Oxides: 101.37

Ashed Oxide

SiO_2ash: 67.36
Al_2O_3ash: 21.54
TiO_2ash: 1.06
Fe_2O_3ash: 5.71
MgOash: 0.92
CaOash: 1
K_2Oash: 1.78
Na_2Oash: 2

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 671
Sample No.: 17N4W13D
Township: T17N Range: R4W Sec.: 13

Formation: Menefee
Field: San Mateo Member: Cleary Zone:

Depth to Seam: 370.30 Seam Thickness: 2.95
Sample Interval: 370.3-373.25 Sample Thickness: 2.95

Analyses on As-Received Basis

Air Dry Loss: 15.07
Eq. Moisture: 11.95

Moisture: 16.53
Ash: 9.80

Vol. Matter: 34.58
Fixed Carbon: 39.08

Carbon: 62.15
Hydrogen: 4.42
Nitrogen: 1.01
Oxygen: 5.31

Btu: 10267
Dry Btu: 12301

DAF Btu: 13937
MMFBtu: 11386

Sulfur: 0.76

Sulfide: 0.15
Sulfate: 0.000
Organic Sulfur: 0.61

Fluoride in ppm:

Chloride in ppm:

Trace Element Ashed Coal

Be: 13
Co: 9
Cr: 140
Cu: 63
Li: 48
Mn: 104
Nb: 25
Ni: 45
Pb: 41
Sr: 260
V: 150
Zn: 135

Calc oxygen: 21.86

Whole Coal Oxide

SiO_2: 6.06
Al_2O_3: 2.4
TiO_2: 0.12
Fe_2O_3: 0.61
MgO: 0.065
CaO: 0.19
K_2O: 0.073
Na_2O: 0.21

Ashed Oxide

SiO_2ash: 61.84
Al_2O_3ash: 24.54
TiO_2ash: 1.23
Fe_2O_3ash: 6.21
MgOash: 0.67
CaOash: 1.98
K_2Oash: 0.75
Na_2Oash: 2.13

AB Ratio: 0.13
Silica Ratio: 87.46
Total ashed Oxides: 99.35

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 684
Sample No.: 17N4W32A
Township: T17N Range: R4W Sec.: 32

Formation: Menefee
Field: San Mateo Member: Cleary Zone:

Depth to Seam: 37.70 Seam Thickness: 2.65
Sample Interval: 37.70-39.80 Sample Thickness: 2.65

Analyses on As-Received Basis

Air Dry Loss: 2.28
Eq. Moisture: 13.41 Moisture: 8.23 Vol. Matter: 37.84
Ash: 37.79 Fixed Carbon: 16.12

Carbon: 64.98 Btu: 11394 DAF Btu: 21112
Hydrogen: 4.54 Dry Btu: 12417 MMFBtu: 19133
Nitrogen: 1.31
Oxygen: Sulfide: 0.04
Sulfur: 0.44 Sulfate: 0.005
Organic Sulfur: 0.39

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 30	SiO_2:	SiO_2ash:
Co: 0	Al_2O_3:	Al_2O_3ash:
Cr: 129	TiO_2:	TiO_2ash:
Cu: 87	Fe_2O_3:	Fe_2O_3ash:
Li: 35	MgO:	MgOash:
Mn: 121	CaO:	CaOash:
Nb: 21	K_2O:	K_2Oash:
Ni: 61	Na_2O:	Na_2Oash:
Pb: 25		
Sr: 250		
V: 169	AB Ratio: 0.12	
Zn: 10	Silica Ratio: 88.65	
	Total ashed Oxides:	
Calc oxygen: -9.06		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 683
Sample No.: 17N4W32B
Township: T17N Range: R4W Sec.: 32

Formation: Menefee
Field: San Mateo Member: Cleary Zone:

Depth to Seam: 155.45 Seam Thickness: 1.90
Sample Interval: 155.45-157.35 Sample Thickness: 1.90

Analyses on As-Received Basis

Air Dry Loss: 2.84
Eq. Moisture: 13.46 Moisture: 7.59 Vol. Matter: 41.23
Ash: 9.23 Fixed Carbon: 41.94

Carbon: 67.68 Btu: 12034 DAF Btu: 14469
Hydrogen: 4.89 Dry Btu: 13022 MMFBtu: 13316
Nitrogen: 1.31
Oxygen: 8.89 Sulfide: 0.01
Sulfur: 0.37 Sulfate: 0.020
Organic Sulfur: 0.34

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 20	SiO_2: 6.91	SiO_2ash: 74.8
Co: 66	Al_2O_3: 1.71	Al_2O_3ash: 18.49
Cr: 175	TiO_2: 0.13	TiO_2ash: 1.44
Cu: 112	Fe_2O_3: 0.18	Fe_2O_3ash: 1.99
Li: 45	MgO: 0.031	MgOash: 0.34
Mn: 85	CaO: 0.14	CaOash: 1.54
Nb: 50	K_2O: 0.029	K_2Oash: 0.32
Ni: 74	Na_2O: 0.17	Na_2Oash: 1.88
Pb: 55		
Sr: 335		
V: 217	AB Ratio: 0.06	
Zn: 65	Silica Ratio: 95.08	
	Total ashed Oxides: 100.8	
Calc oxygen: 16.52		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 356
Sample No.: 16N9W1B
Township: T16N Range: R9W Sec.: 1

Formation: Menefee
Field: Standing Rock Member: Cleary Zone:

Depth to Seam: 77.45 Seam Thickness: 7.45
Sample Interval: 77.45-81.45 Sample Thickness: 4.00

Analyses on As-Received Basis

Air Dry Loss: 12.4
Eq. Moisture: 18.08 Moisture: 14.89 Vol. Matter: 33.95
Ash: 8.14 Fixed Carbon: 43.01

Carbon: 58.92 Btu: 9928 DAF Btu: 11205
Hydrogen: 4.51 Dry Btu: 11665 MMFBtu: 10763
Nitrogen: 0.90
Oxygen: 11.58 Sulfide: 0.33
Sulfur: 1.02 Sulfate: 0.006
Organic Sulfur: 0.68

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be:	SiO_2:	SiO_2ash:
Co:	Al_2O_3:	Al_2O_3ash:
Cr:	TiO_2:	TiO_2ash:
Cu:	Fe_2O_3:	Fe_2O_3ash:
Li:	MgO:	MgOash:
Mn:	CaO:	CaOash:
Nb:	K_2O:	K_2Oash:
Ni:	Na_2O:	Na_2Oash:
Pb:		
Sr:		
V:	AB Ratio:	
Zn:	Silica Ratio:	
	Total ashed Oxides:	
Calc oxygen: 26.51		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 346
Sample No.: 16N9W1C
Township: T16N Range: R9W Sec.: 1

Formation: Menefee
Field: Standing Rock Member: Cleary Zone:

Depth to Seam: 77.45 Seam Thickness: 7.45
Sample Interval: 81.45-85.85 Sample Thickness: 4.40

Analyses on As-Received Basis

Air Dry Loss: 7.98
Eq. Moisture: 16.71 Moisture: 12.03 Vol. Matter: 40.51
Ash: 8.07 Fixed Carbon: 39.38

Carbon: 61.50 Btu: 10906 DAF Btu: 12481
Hydrogen: 4.95 Dry Btu: 12397 MMFBtu: 11859
Nitrogen: 1.16
Oxygen: 11.56 Sulfide: 0.16
Sulfur: 0.70 Sulfate: 0.011
Organic Sulfur: 0.53

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be:	SiO_2:	SiO_2ash:
Co:	Al_2O_3:	Al_2O_3ash:
Cr:	TiO_2:	TiO_2ash:
Cu:	Fe_2O_3:	Fe_2O_3ash:
Li:	MgO:	MgOash:
Mn:	CaO:	CaOash:
Nb:	K_2O:	K_2Oash:
Ni:	Na_2O:	Na_2Oash:
Pb:		
Sr:		
V:	AB Ratio:	
Zn:	Silica Ratio:	
	Total ashed Oxides:	
Calc oxygen: 23.62		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory Analyses, NMRDI Coal Quality Project

Lab No.: 399
Sample No.: 18N12W11B
Township: T18N Range: R12W Sec.: 11

Formation: Menefee
Field: Standing Rock Member: Cleary Zone:

Depth to Seam: 185.25 Seam Thickness: 2.00
Sample Interval: 185.25-187.25 Sample Thickness: 2.00

Analyses on As-Received Basis

Air Dry Loss: 13.58
Eq. Moisture: 13.05

Moisture: 15.78
Ash: 20.91

Vol. Matter: 30.56
Fixed Carbon: 32.75

Carbon: 48.31
Hydrogen: 3.87
Nitrogen: 1.01
Oxygen: 8.87

Btu: 8290
Dry Btu: 9844

DAF Btu: 10901
MMFBtu: 10537

Sulfur: 1.23

Sulfide: 0.46
Sulfate: 0.002
Organic Sulfur: 0.77

Fluoride in ppm:

Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be:	SiO_2: 11.59	SiO_2ash: 55.43
Co:	Al_2O_3: 5.99	Al_2O_3ash: 28.67
Cr:	TiO_2: 0.23	TiO_2ash: 1.12
Cu:	Fe_2O_3: 1.12	Fe_2O_3ash: 5.38
Li:	MgO: 0.087	MgOash: 0.42
Mn:	CaO: 0.39	CaOash: 1.85
Nb:	K_2O: 0.066	K_2Oash: 0.32
Ni:	Na_2O: 0.35	Na_2Oash: 1.7
Pb:		
Sr:		
V:	AB Ratio: 0.11	
Zn:	Silica Ratio: 87.87	
	Total ashed Oxides: 94.89	
Calc oxygen: 24.67		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 400
Sample No.: 18N12W11D
Township: T18N Range: R12W Sec.: 11

Formation: Menefee
Field: Standing Rock Member: Cleary Zone:

Depth to Seam: 185.25 Seam Thickness: 2.85
Sample Interval: 188.5-191.1 Sample Thickness: 2.85

Analyses on As-Received Basis

Air Dry Loss: 13.77
Eq. Moisture: 14.34

Moisture: 16.76
Ash: 9.89

Vol. Matter: 34.72
Fixed Carbon: 38.63

Carbon: 56.77
Hydrogen: 4.53
Nitrogen: 0.90
Oxygen: 9.89

Btu: 9646
Dry Btu: 11589

DAF Btu: 11198
MMFBtu: 10649

Sulfur: 1.23

Sulfide: 0.32
Sulfate: 0.022
Organic Sulfur: 0.89

Fluoride in ppm:

Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be:	SiO_2: 5.62	SiO_2ash: 56.88
Co:	Al_2O_3: 2.56	Al_2O_3ash: 25.87
Cr:	TiO_2: 0.053	TiO_2ash: 0.54
Cu:	Fe_2O_3: 0.63	Fe_2O_3ash: 6.34
Li:	MgO: 0.062	MgOash: 0.63
Mn:	CaO: 0.43	CaOash: 4.31
Nb:	K_2O: 0.036	K_2Oash: 0.37
Ni:	Na_2O: 0.21	Na_2Oash: 2.09
Pb:		
Sr:		
V:	AB Ratio: 0.16	
Zn:	Silica Ratio: 83.45	
	Total ashed Oxides: 97.03	

Calc oxygen: 26.68

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 404
Sample No.: 18N12W16B
Township: T18N Range: R12W Sec.: 16

Formation: Menefee
Field: Standing Rock Member: Cleary Zone:

Depth to Seam: 50.65 Seam Thickness: 4.05
Sample Interval: 50.65-54.70 Sample Thickness: 4.05

Analyses on As-Received Basis

Air Dry Loss: 15.65
Eq. Moisture: 15.09 Moisture: 20.81 Vol. Matter: 32.70
Ash: 14.52 Fixed Carbon: 31.97

Carbon: 51.79 Btu: 8678 DAF Btu: 11024
Hydrogen: 4.24 Dry Btu: 10958 MMFBtu: 10219
Nitrogen: 0.80
Oxygen: 7.24 Sulfide: 0.11
Sulfur: 0.57 Sulfate: 0.080
Organic Sulfur: 0.37

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be:	SiO_2: 8.53	SiO_2ash: 58.75
Co:	Al_2O_3: 3.82	Al_2O_3ash: 26.32
Cr:	TiO_2: 0.17	TiO_2ash: 1.16
Cu:	Fe_2O_3: 0.59	Fe_2O_3ash: 4.05
Li:	MgO: 0.19	MgOash: 1.29
Mn:	CaO: 0.78	CaOash: 5.35
Nb:	K_2O: 0.12	K_2Oash: 0.82
Ni:	Na_2O: 0.28	Na_2Oash: 1.94
Pb:		
Sr:		
V:	AB Ratio: 0.15	
Zn:	Silica Ratio: 84.6	
	Total ashed Oxides: 99.68	
Calc oxygen: 28.08		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 406
Sample No.: 17N10W6A
Township: T17N Range: R10W Sec.: 6

Formation: Menefee
Field: Standing Rock Member: Cleary Zone:

Depth to Seam: 221.00 Seam Thickness: 3.50
Sample Interval: 221.0-224.5 Sample Thickness: 3.50

Analyses on As-Received Basis

Air Dry Loss: 9.12
Eq. Moisture: 15.21 Moisture: 15.05 Vol. Matter: 36.67
Ash: 8.32 Fixed Carbon: 39.94

Carbon: 60.62 Btu: 10468 DAF Btu: 12295
Hydrogen: 4.52 Dry Btu: 12322 MMFBtu: 11402
Nitrogen: 1.27
Oxygen: 9.39 Sulfide: 0.40
Sulfur: 0.80 Sulfate: 0.020
Organic Sulfur: 0.38

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be:	SiO_2:	SiO_2ash:
Co:	Al_2O_3:	Al_2O_3ash:
Cr:	TiO_2:	TiO_2ash:
Cu:	Fe_2O_3:	Fe_2O_3ash:
Li:	MgO:	MgOash:
Mn:	CaO:	CaOash:
Nb:	K_2O:	K_2Oash:
Ni:	Na_2O:	Na_2Oash:
Pb:		
Sr:		
V:	AB Ratio: 0.16	
Zn:	Silica Ratio: 83.08	
	Total ashed Oxides:	

Calc oxygen: 24.47

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 405
Sample No.: 17N10W6D
Township: T17N Range: R10W Sec.: 6

Formation: Menefee
Field: Standing Rock Member: Cleary Zone:

Depth to Seam: 267.90 Seam Thickness: 5.30
Sample Interval: 267.9-273.2 Sample Thickness: 5.30

Analyses on As-Received Basis

Air Dry Loss: 14.98
Eq. Moisture: 15.11 Moisture: 18.58 Vol. Matter: 33.53
Ash: 13.30 Fixed Carbon: 34.59

Carbon: 52.51 Btu: 8954 DAF Btu: 10937
Hydrogen: 4.23 Dry Btu: 10998 MMFBtu: 10284
Nitrogen: 0.80
Oxygen: 9.18 Sulfide: 0.67
Sulfur: 1.38 Sulfate: 0.040
Organic Sulfur: 0.67

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be:	SiO_2: 7.4	SiO_2ash: 55.66
Co:	Al_2O_3: 3.42	Al_2O_3ash: 25.73
Cr:	TiO_2: 0.14	TiO_2ash: 1.08
Cu:	Fe_2O_3: 1.1	Fe_2O_3ash: 8.31
Li:	MgO: 0.078	MgOash: 0.59
Mn:	CaO: 0.32	CaOash: 2.43
Nb:	K_2O: 0.055	K_2Oash: 0.42
Ni:	Na_2O: 0.26	Na_2Oash: 1.92
Pb:		
Sr:		
V:	AB Ratio: 0.16	
Zn:	Silica Ratio: 83.08	
	Total ashed Oxides: 96.14	
Calc oxygen: 27.78		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 402
Sample No.: 17N10W7B
Township: T17N Range: R10W Sec.: 7

Formation: Menefee
Field: Standing Rock Member: Cleary Zone:

Depth to Seam: 258.45 Seam Thickness: 3.40
Sample Interval: 258.45-261.85 Sample Thickness: 3.40

Analyses on As-Received Basis

Air Dry Loss: 14.59
Eq. Moisture: 13.15 Moisture: 17.47 Vol. Matter: 31.76
Ash: 24.48 Fixed Carbon: 26.28

Carbon: 44.95 Btu: 7577 DAF Btu: 10593
Hydrogen: 3.87 Dry Btu: 9182 MMFBtu: 10242
Nitrogen: 0.66
Oxygen: 8.15 Sulfide: 0.05
Sulfur: 0.40 Sulfate: 0.000
Organic Sulfur: 0.35

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be:	SiO_2: 16.17	SiO_2ash: 66.05
Co:	Al_2O_3: 4.42	Al_2O_3ash: 18.07
Cr:	TiO_2: 0.083	TiO_2ash: 0.34
Cu:	Fe_2O_3: 1.02	Fe_2O_3ash: 4.17
Li:	MgO: 0.11	MgOash: 0.47
Mn:	CaO: 1.14	CaOash: 4.65
Nb:	K_2O: 0.4	K_2Oash: 1.64
Ni:	Na_2O: 0.29	Na_2Oash: 1.18
Pb:		
Sr:		
V:	AB Ratio: 0.14	
Zn:	Silica Ratio: 87.66	
	Total ashed Oxides: 96.57	
Calc oxygen: 25.64		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 403
Sample No.: 17N10W16B
Township: T17N Range: R10W Sec.: 16

Formation: Menefee
Field: Standing Rock Member: Cleary Zone:

Depth to Seam: 114.40 Seam Thickness: 2.85
Sample Interval: 114.4-117.25 Sample Thickness: 2.85

Analyses on As-Received Basis

Air Dry Loss: 15.92
Eq. Moisture: 15.41 Moisture: 18.61 Vol. Matter: 33.45
Ash: 16.86 Fixed Carbon: 31.06

Carbon: 49.84 Btu: 8546 DAF Btu: 10778
Hydrogen: 3.98 Dry Btu: 10500 MMFBtu: 10160
Nitrogen: 0.73
Oxygen: 7.71 Sulfide: 1.44
Sulfur: 2.23 Sulfate: 0.050
Organic Sulfur: 0.73

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be:	SiO_2: 8.98	SiO_2ash: 53.21
Co:	Al_2O_3: 2.8	Al_2O_3ash: 16.61
Cr:	TiO_2: 0.15	TiO_2ash: 0.9
Cu:	Fe_2O_3: 2.81	Fe_2O_3ash: 12.93
Li:	MgO: 0.067	MgOash: 0.4
Mn:	CaO: 0.96	CaOash: 5.7
Nb:	K_2O: 0.038	K_2Oash: 0.23
Ni:	Na_2O: 0.29	Na_2Oash: 1.74
Pb:		
Sr:		
V:	AB Ratio: 0.29	
Zn:	Silica Ratio: 73.65	
	Total ashed Oxides: 91.72	
Calc oxygen: 26.36		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory Analyses, NMRDI Coal Quality Project

Lab No.: 401
Sample No.: 17N10W16E
Township: T17N Range: R10W Sec.: 16

Formation: Menefee
Field: Standing Rock Member: Cleary Zone:

Depth to Seam: 121.30 Seam Thickness: 5.58
Sample Interval: 121.3-126.85 Sample Thickness: 5.55

Analyses on As-Received Basis

Air Dry Loss: 15.19
Eq. Moisture: 16.84 Moisture: 21.29 Vol. Matter: 30.88
Ash: 8.32 Fixed Carbon: 39.50

Carbon: 55.58 Btu: 8856 DAF Btu: 10556
Hydrogen: 4.24 Dry Btu: 11252 MMFBtu: 9668
Nitrogen: 1.17
Oxygen: 8.82 Sulfide: 0.10
Sulfur: 0.55 Sulfate: 0.006
Organic Sulfur: 0.44

Fluoride in ppm: 14.4 Chloride in ppm: 20.6

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be:	SiO_2: 4.32	SiO_2ash: 51.99
Co:	Al_2O_3: 2.07	Al_2O_3ash: 24.84
Cr:	TiO_2: 0.04	TiO_2ash: 0.49
Cu:	Fe_2O_3: 0.59	Fe_2O_3ash: 7.12
Li:	MgO: 0.08	MgOash: 0.97
Mn:	CaO: 0.37	CaOash: 4.4
Nb:	K_2O: 0.021	K_2Oash: 0.26
Ni:	Na_2O: 0.21	Na_2Oash: 2.59
Pb:		
Sr:		
V:	AB Ratio: 0.19	
Zn:	Silica Ratio: 80.62	
	Total ashed Oxides: 92.66	
Calc oxygen: 30.14		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 423
Sample No.: 18N12W24B
Township: T18N Range: R12W Sec.: 24

Formation: Menefee
Field: Standing Rock Member: Cleary Zone:

Depth to Seam: 152.40 Seam Thickness: 2.10
Sample Interval: 152.4-154.5 Sample Thickness: 2.10

Analyses on As-Received Basis

Air Dry Loss: 10.8
Eq. Moisture: 13.73 Moisture: 16.52 Vol. Matter: 35.04
Ash: 14.47 Fixed Carbon: 33.97

Carbon: 54.43 Btu: 9313 DAF Btu: 11789
Hydrogen: 4.08 Dry Btu: 11156 MMFBtu: 10849
Nitrogen: 1.20
Oxygen: 7.82 Sulfide: 0.73
Sulfur: 1.45 Sulfate: 0.089
Organic Sulfur: 0.63

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be:	SiO_2: 7.41	SiO_2ash: 51.19
Co:	Al_2O_3: 3.13	Al_2O_3ash: 21.63
Cr:	TiO_2: 0.12	TiO_2ash: 0.84
Cu:	Fe_2O_3: 1.47	Fe_2O_3ash: 10.19
Li:	MgO: 0.15	MgOash: 1.01
Mn:	CaO: 0.91	CaOash: 6.28
Nb:	K_2O: 0.062	K_2Oash: 0.43
Ni:	Na_2O: 0.32	Na_2Oash: 2.19
Pb:		
Sr:		
V:	AB Ratio: 0.27	
Zn:	Silica Ratio: 74.54	
	Total ashed Oxides: 93.76	
Calc oxygen: 24.37		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 422
Sample No.: 18N12W24E
Township: T18N Range: R12W Sec.: 24

Formation: Menefee
Field: Standing Rock Member: Cleary Zone:

Depth to Seam: 152.40 Seam Thickness: 5.55
Sample Interval: 156.0-161.55 Sample Thickness: 5.55

Analyses on As-Received Basis

Air Dry Loss: 10.16
Eq. Moisture: 16.75

Moisture: 18.67
Ash: 8.25

Vol. Matter: 35.90
Fixed Carbon: 37.17

Carbon: 57.20
Hydrogen: 4.43
Nitrogen: 1.02
Oxygen: 9.52

Btu: 9805
Dry Btu: 12056

DAF Btu: 11936
MMFBtu: 10658

Sulfur: 0.89

Sulfide: 0.34
Sulfate:
Organic Sulfur: 0.54

Fluoride in ppm: 11.7 Chloride in ppm: 21.7

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be:	SiO_2: 4.1	SiO_2ash: 49.68
Co:	Al_2O_3: 1.96	Al_2O_3ash: 23.73
Cr:	TiO_2: 0.076	TiO_2ash: 0.93
Cu:	Fe_2O_3: 1.25	Fe_2O_3ash: 15.14
Li:	MgO: 0.12	MgOash: 1.43
Mn:	CaO: 0.63	CaOash: 7.64
Nb:	K_2O: 0.04	K_2Oash: 0.49
Ni:	Na_2O: 0.25	Na_2Oash: 3.05
Pb:		
Sr:		
V:	AB Ratio: 0.37	
Zn:	Silica Ratio: 67.23	
	Total ashed Oxides: 102.09	
Calc oxygen: 28.21		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 411
Sample No.: 17N9W34B
Township: T17N Range: R9W Sec.: 34

Formation: Menefee
Field: Standing Rock Member: Cleary Zone:

Depth to Seam: 209.75 Seam Thickness: 5.70
Sample Interval: 209.75-215.45 Sample Thickness: 5.70

Analyses on As-Received Basis

Air Dry Loss: 6.8
Eq. Moisture: 25.52 Moisture: 13.58 Vol. Matter: 35.23
Ash: 15.47 Fixed Carbon: 35.72

Carbon: 55.60 Btu: 9489 DAF Btu: 12294
Hydrogen: 4.51 Dry Btu: 10981 MMFBtu: 11183
Nitrogen: 0.92
Oxygen: 8.34 Sulfide: 0.56
Sulfur: 1.56 Sulfate: 0.077
Organic Sulfur: 0.92

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be:	SiO_2: 9.48	SiO_2ash: 61.27
Co:	Al_2O_3: 3.79	Al_2O_3ash: 24.51
Cr:	TiO_2: 0.19	TiO_2ash: 1.22
Cu:	Fe_2O_3: 1.2	Fe_2O_3ash: 7.78
Li:	MgO: 0.11	MgOash: 0.74
Mn:	CaO: 0.86	CaOash: 5.56
Nb:	K_2O: 0.12	K_2Oash: 0.8
Ni:	Na_2O: 0.38	Na_2Oash: 2.48
Pb:		
Sr:		
V:	AB Ratio: 0.19	
Zn:	Silica Ratio: 81.31	
	Total ashed Oxides: 104.36	
Calc oxygen: 21.94		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory Analyses, NMRDI Coal Quality Project

Lab No.: 417
Sample No.: 17N9W34E
Township: T17N Range: R9W Sec.: 34

Formation: Menefee
Field: Standing Rock Member: Cleary Zone:

Depth to Seam: 219.95 Seam Thickness: 5.25
Sample Interval: 219.95-225.2 Sample Thickness: 5.25

Analyses on As-Received Basis

Air Dry Loss: 9.41
Eq. Moisture: 16.40 Moisture: 16.90 Vol. Matter: 35.29
Ash: 10.86 Fixed Carbon: 36.94

Carbon: 56.53 Btu: 9737 DAF Btu: 12050
Hydrogen: 4.38 Dry Btu: 11718 MMFBtu: 10916
Nitrogen: 0.96
Oxygen: 9.42 Sulfide: 0.30
Sulfur: 0.92 Sulfate: 0.007
Organic Sulfur: 0.61

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be:	SiO_2: 5.47	SiO_2ash: 50.38
Co:	Al_2O_3: 2.25	Al_2O_3ash: 20.72
Cr:	TiO_2: 0.1	TiO_2ash: 0.97
Cu:	Fe_2O_3: 1.23	Fe_2O_3ash: 11.29
Li:	MgO: 0.085	MgOash: 0.79
Mn:	CaO: 0.49	CaOash: 4.5
Nb:	K_2O: 0.042	K_2Oash: 0.39
Ni:	Na_2O: 0.22	Na_2Oash: 2.05
Pb:		
Sr:		
V:	AB Ratio: 0.26	
Zn:	Silica Ratio: 75.23	
	Total ashed Oxides: 91.09	
Calc oxygen: 26.35		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 622
Sample No.: 20N1W33A
Township: T20N Range: R1W Sec.: 33

Formation: Menefee
Field: La Ventana Member: Upper Zone:

Depth to Seam: 139.95 Seam Thickness: 11.10
Sample Interval: 139.95-145.55 Sample Thickness: 5.60

Analyses on As-Received Basis

Air Dry Loss: 4.1
Eq. Moisture: 19.83 Moisture: 17.03 Vol. Matter: 37.67
Ash: 4.82 Fixed Carbon: 40.47

Carbon: 59.93 Btu: 10283 DAF Btu: 13158
Hydrogen: 4.27 Dry Btu: 12393 MMFBtu: 10597
Nitrogen: 1.26
Oxygen: 10.48 Sulfide: 0.40
Sulfur: 2.18 Sulfate: 0.030
Organic Sulfur: 1.75

Fluoride in ppm: 31.6 Chloride in ppm: 70

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 5	SiO_2: 1.74	SiO_2ash: 36.11
Co: 10	$Al2O_3$: 0.96	$Al2O_3$ash: 19.85
Cr: 181	TiO_2: 0.047	TiO_2ash: 0.99
Cu: 62	Fe_2O_3: 0.63	Fe_2O_3ash: 13.01
Li: 68	MgO: 0.16	MgOash: 3.26
Mn: 706	CaO: 0.56	CaOash: 11.63
Nb: 40	K_2O: 0.012	K_2Oash: 0.25
Ni: 115	Na_2O: 0.045	Na_2Oash: 0.95
Pb: 31		
Sr:		
V: 71	AB Ratio: 0.51	
Zn: 175	Silica Ratio: 56.41	
	Total ashed Oxides: 86.05	
Calc oxygen: 27.54		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 629
Sample No.: 20N1W33B
Township: T20N Range: R1W Sec.: 33

Formation: Menefee
Field: La Ventana Member: Upper Zone:

Depth to Seam: 139.95 Seam Thickness: 11.10
Sample Interval: 145.55-151.05 Sample Thickness: 5.50

Analyses on As-Received Basis

Air Dry Loss: 3.93
Eq. Moisture: 18.92 Moisture: 19.27 Vol. Matter: 35.53
Ash: 5.28 Fixed Carbon: 39.91

Carbon: 60.20 Btu: 10312 DAF Btu: 13667
Hydrogen: 4.07 Dry Btu: 12773 MMFBtu: 10764
Nitrogen: 1.34
Oxygen: 8.34 Sulfide: 0.21
Sulfur: 1.47 Sulfate: 0.060
Organic Sulfur: 1.20

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 21	SiO_2: 1.96	SiO_2ash: 37.05
Co: 19	$Al2O_3$: 0.7	$Al2O_3$ash: 13.21
Cr: 73	TiO_2: 0.064	TiO_2ash: 1.23
Cu: 65	Fe_2O_3: 0.55	Fe_2O_3ash: 10.39
Li: 35	MgO: 0.17	MgOash: 3.18
Mn: 50	CaO: 0.55	CaOash: 10.45
Nb: 22	K_2O: 0.013	K_2Oash: 0.25
Ni: 99	Na_2O: 0.069	Na_2Oash: 1.32
Pb: 59		
Sr: 750		
V: 240	AB Ratio: 0.49	
Zn: 63	Silica Ratio: 60.66	
	Total ashed Oxides: 77.08	
Calc oxygen: 27.64		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 612
Sample No.: 19N1W4A
Township: T19N Range: R1W Sec.: 4

Formation: Menefee
Field: La Ventana Member: Cleary Zone:

Depth to Seam: 117.50 Seam Thickness: 2.20
Sample Interval: 117.5-119.7 Sample Thickness: 2.20

Analyses on As-Received Basis

Air Dry Loss: 4.23
Eq. Moisture: 18.61 Moisture: 17.04 Vol. Matter: 37.42
Ash: 8.39 Fixed Carbon: 37.14

Carbon: 58.57 Btu: 9903 DAF Btu: 13283
Hydrogen: 4.31 Dry Btu: 11938 MMFBtu: 10731
Nitrogen: 1.14
Oxygen: 9.18 Sulfide: 0.66
Sulfur: 1.34 Sulfate: 0.010
Organic Sulfur: 0.67

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 32	SiO_2: 3.25	SiO_2ash: 38.65
Co: 36	$Al2O_3$: 0.78	$Al2O_3$ash: 9.33
Cr: 170	TiO_2: 0.057	TiO_2ash: 0.68
Cu: 56	Fe_2O_3: 1.21	Fe_2O_3ash: 14.38
Li: 15	MgO: 0.23	MgOash: 2.75
Mn: 780	CaO: 1.1	CaOash: 13.13
Nb:	K_2O: 0.054	K_2Oash: 0.65
Ni: 140	Na_2O: 0.07	Na_2Oash: 0.84
Pb: 56		
Sr: 2200		
V: 120	AB Ratio: 0.65	
Zn:	Silica Ratio: 56.08	
	Total ashed Oxides: 80.41	
Calc oxygen: 26.25		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 623
Sample No.: 19N1W8A
Township: T19N Range: R1W Sec.: 8

Formation: Menefee
Field: La Ventana Member: Upper Zone:

Depth to Seam: 184.85 Seam Thickness: 10.70
Sample Interval: 184.85-188.35 Sample Thickness: 3.50

Analyses on As-Received Basis

Air Dry Loss: 2.6
Eq. Moisture: 18.02 Moisture: 14.43 Vol. Matter: 38.69
Ash: 8.32 Fixed Carbon: 38.55

Carbon: 59.41 Btu: 10347 DAF Btu: 13395
Hydrogen: 4.39 Dry Btu: 12091 MMFBtu: 10996
Nitrogen: 1.20
Oxygen: 9.14 Sulfide: 1.15
Sulfur: 3.07 Sulfate: 0.130
Organic Sulfur: 1.79

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 8	SiO_2: 3.4	SiO_2ash: 40.84
Co: 5	$Al2O_3$: 1.52	$Al2O_3$ash: 18.19
Cr: 98	TiO_2: 0.09	TiO_2ash: 1.09
Cu: 41	Fe_2O_3: 1.58	Fe_2O_3ash: 18.97
Li: 41	MgO: 0.25	MgOash: 3.06
Mn: 270	CaO: 0.64	CaOash: 7.65
Nb: 46	K_2O: 0.019	K_2Oash: 0.23
Ni: 31	Na_2O: 0.069	Na_2Oash: 0.83
Pb: 65		
Sr: 500		
V: 130	AB Ratio: 0.51	
Zn: 40	Silica Ratio: 57.91	
	Total ashed Oxides: 90.86	
Calc oxygen: 23.61		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 626
Sample No.: 19N1W8B
Township: T19N Range: R1W Sec.: 8

Formation: Menefee
Field: La Ventana Member: Upper Zone:

Depth to Seam: 184.85 Seam Thickness: 10.70
Sample Interval: 188.35-191.85 Sample Thickness: 3.50

Analyses on As-Received Basis

Air Dry Loss: 3.01
Eq. Moisture: 18.68 Moisture: 17.58 Vol. Matter: 52.17
Ash: 3.81 Fixed Carbon: 26.44

Carbon: 61.55 Btu: 10498 DAF Btu: 13354
Hydrogen: 4.27 Dry Btu: 12737 MMFBtu: 10807
Nitrogen: 1.29
Oxygen: 10.23 Sulfide: 0.18
Sulfur: 1.24 Sulfate: 0.180
Organic Sulfur: 0.88

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 2	SiO_2:	SiO_2ash:
Co: 11	$Al2O_3$:	$Al2O_3$ash:
Cr: 81	TiO_2:	TiO_2ash:
Cu: 62	Fe_2O_3:	Fe_2O_3ash:
Li: 22	MgO:	MgOash:
Mn: 719	CaO:	CaOash:
Nb: 20	K_2O:	K_2Oash:
Ni: 79	Na_2O:	Na_2Oash:
Pb: 20		
Sr: 468		
V: 56	AB Ratio: 0.51	
Zn: 35	Silica Ratio: 57.91	
	Total ashed Oxides:	
Calc oxygen: 27.84		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 627
Sample No.: 19N1W8C
Township: T19N Range: R1W Sec.: 8

Formation: Menefee
Field: La Ventana Member: Upper Zone:

Depth to Seam: 184.85 Seam Thickness: 10.70
Sample Interval: 191.85-195.58 Sample Thickness: 3.70

Analyses on As-Received Basis

Air Dry Loss: 2.23
Eq. Moisture: 18.76 Moisture: 15.44 Vol. Matter: 38.22
Ash: 5.91 Fixed Carbon: 40.42

Carbon: 61.76 Btu: 10502 DAF Btu: 13353
Hydrogen: 4.40 Dry Btu: 12420 MMFBtu: 11099
Nitrogen: 1.29
Oxygen: 10.17 Sulfide: 0.38
Sulfur: 1.00 Sulfate: 0.260
Organic Sulfur: 0.36

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 12	SiO_2: 2.32	SiO_2ash: 39.28
Co: 36	$Al2O_3$: 0.9	$Al2O_3$ash: 15.18
Cr: 130	TiO_2: 0.052	TiO_2ash: 0.89
Cu: 56	Fe_2O_3: 0.42	Fe_2O_3ash: 7.18
Li: 32	MgO: 0.34	MgOash: 5.71
Mn: 480	CaO: 0.75	CaOash: 12.74
Nb:	K_2O: 0.01	K_2Oash: 0.18
Ni: 84	Na_2O: 0.047	Na_2Oash: 0.81
Pb: 64		
Sr: 920		
V: 120	AB Ratio: 0.48	
Zn: 66	Silica Ratio: 60.51	
	Total ashed Oxides: 81.97	
Calc oxygen: 25.64		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 611
Sample No.: 19N1W21A
Township: T19N Range: R1W Sec.: 21

Formation: Menefee
Field: La Ventana Member: Cleary Zone:

Depth to Seam: 193.70 Seam Thickness: 6.60
Sample Interval: 193.7-195.4 Sample Thickness: 1.70

Analyses on As-Received Basis

Air Dry Loss: 6.56
Eq. Moisture: 17.65 Moisture: 16.90 Vol. Matter: 33.95
Ash: 16.76 Fixed Carbon: 32.38

Carbon: 51.63 Btu: 9047 DAF Btu: 13640
Hydrogen: 3.90 Dry Btu: 10889 MMFBtu: 10977
Nitrogen: 1.15
Oxygen: 9.10 Sulfide: 0.14
Sulfur: 0.52 Sulfate: 0.009
Organic Sulfur: 0.37

Fluoride in ppm: 51.3 Chloride in ppm: 25.5

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 17	SiO_2: 9.39	SiO_2ash: 56.04
Co: 25	$Al2O_3$: 3.09	$Al2O_3$ash: 18.42
Cr: 100	TiO_2: 0.15	TiO_2ash: 0.87
Cu: 79	Fe_2O_3: 0.56	Fe_2O_3ash: 3.37
Li: 41	MgO: 0.25	MgOash: 1.47
Mn: 1700	CaO: 1.77	CaOash: 10.58
Nb: 30	K_2O: 0.21	K_2Oash: 1.26
Ni: 84	Na_2O: 0.19	Na_2Oash: 1.13
Pb: 61		
Sr: 1000		
V: 200	AB Ratio: 0.23	
Zn: 100	Silica Ratio: 78.42	
	Total ashed Oxides: 93.14	
Calc oxygen: 26.04		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 628
Sample No.: 19N1W21B
Township: T19N Range: R1W Sec.: 21

Formation: Menefee
Field: La Ventana Member: Cleary Zone:

Depth to Seam: 193.70 Seam Thickness: 6.60
Sample Interval: 195.4-198.9 Sample Thickness: 3.50

Analyses on As-Received Basis

Air Dry Loss: 2.12
Eq. Moisture: 29.95 Moisture: 5.42 Vol. Matter:
Ash: 86.62 Fixed Carbon:

Carbon: Btu: DAF Btu:
Hydrogen: Dry Btu: MMFBtu:
Nitrogen:
Oxygen: Sulfide: 0.34
Sulfur: Sulfate: 0.000
Organic Sulfur:

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 2	SiO_2:	SiO_2ash:
Co: 19	$Al2O_3$:	$Al2O_3$ash:
Cr: 45	TiO_2:	TiO_2ash:
Cu: 39	Fe_2O_3:	Fe_2O_3ash:
Li: 40	MgO:	MgOash:
Mn: 60	CaO:	CaOash:
Nb:	K_2O:	K_2Oash:
Ni: 24	Na_2O:	Na_2Oash:
Pb: 49		
Sr: 106		
V: 104	AB Ratio: 0.23	
Zn: 123	Silica Ratio: 78.42	
	Total ashed Oxides:	
Calc oxygen:		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 615
Sample No.: 19N1W21C
Township: T19N Range: R1W Sec.: 21

Formation: Menefee
Field: La Ventana Member: Cleary Zone:

Depth to Seam: 193.70 Seam Thickness: 6.60
Sample Interval: 198.9-200.3 Sample Thickness: 1.40

Analyses on As-Received Basis

Air Dry Loss: 10.13
Eq. Moisture: 16.68 Moisture: 16.01 Vol. Matter: 26.47
Ash: 33.48 Fixed Carbon: 24.03

Carbon: 37.54 Btu: 6358 DAF Btu: 12587
Hydrogen: 2.86 Dry Btu: 7569 MMFBtu: 8893
Nitrogen: 0.93
Oxygen: 2.29 Sulfide: 2.30
Sulfur: 6.87 Sulfate: 0.020
Organic Sulfur: 4.55

Fluoride in ppm: 88.2 Chloride in ppm: 26.3

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 13	SiO_2: 20.15	SiO_2ash: 60.18
Co: 40	$Al2O_3$: 7.14	$Al2O_3$ash: 21.32
Cr: 180	TiO_2: 0.23	TiO_2ash: 0.68
Cu: 41	Fe_2O_3: 3.86	Fe_2O_3ash: 11.535
Li: 41	MgO: 0.41	MgOash: 1.235
Mn: 150	CaO: 0.65	CaOash: 1.95
Nb:	K_2O: 0.55	K_2Oash: 1.64
Ni: 140	Na_2O: 0.31	Na_2Oash: 0.945
Pb: 61		
Sr: 450		
V: 140	AB Ratio: 0.21	
Zn: 100	Silica Ratio: 80.35	
	Total ashed Oxides: 99.47	
Calc oxygen: 18.32		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 633
Sample No.: 19N1W30A
Township: T19N Range: R1W Sec.: 30

Formation: Menefee
Field: La Ventana Member: Upper Zone:

Depth to Seam: 200.60 Seam Thickness: 2.90
Sample Interval: 200.60-203.50 Sample Thickness: 2.90

Analyses on As-Received Basis

Air Dry Loss: 3.37
Eq. Moisture: 14.91 Moisture: 14.18 Vol. Matter: 38.61
Ash: 8.63 Fixed Carbon: 38.58

Carbon: 60.11 Btu: 10767 DAF Btu: 13949
Hydrogen: 4.49 Dry Btu: 12546 MMFBtu: 11802
Nitrogen: 1.20
Oxygen: 10.80 Sulfide: 0.12
Sulfur: 0.57 Sulfate: 0.003
Organic Sulfur: 0.45

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 18	SiO_2: 3.57	SiO_2ash: 41.37
Co: 62	$Al2O_3$: 1.51	$Al2O_3$ash: 17.44
Cr: 95	TiO_2: 0.071	TiO_2ash: 0.83
Cu: 56	Fe_2O_3: 0.33	Fe_2O_3ash: 3.84
Li: 40	MgO: 0.19	MgOash: 2.23
Mn: 1000	CaO: 1.88	CaOash: 21.82
Nb: 22	K_2O: 0.027	K_2Oash: 0.32
Ni: 71	Na_2O: 0.11	Na_2Oash: 1.24
Pb: 85		
Sr: 1400		
V: 120	AB Ratio: 0.49	
Zn: 19	Silica Ratio: 59.73	
	Total ashed Oxides: 89.09	
Calc oxygen: 25.00		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 630
Sample No.: 19N1W30B
Township: T19N Range: R1W Sec.: 30

Formation: Menefee
Field: La Ventana Member: Upper Zone:

Depth to Seam: 206.10 Seam Thickness: 1.50
Sample Interval: 206.1-207.6 Sample Thickness: 1.50

Analyses on As-Received Basis

Air Dry Loss: 6.3
Eq. Moisture: 18.87 Moisture: 18.63 Vol. Matter: 33.31
Ash: 9.05 Fixed Carbon: 38.98

Carbon: 58.18 Btu: 10086 DAF Btu: 13948
Hydrogen: 3.93 Dry Btu: 12395 MMFBtu: 11087
Nitrogen: 1.17
Oxygen: 8.26 Sulfide: 0.24
Sulfur: 0.74 Sulfate: 0.005
Organic Sulfur: 0.49

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 44	SiO_2: 5.47	SiO_2ash: 60.38
Co: 63	$Al2O_3$: 1.49	$Al2O_3$ash: 16.48
Cr: 220	TiO_2: 0.12	TiO_2ash: 1.35
Cu: 93	Fe_2O_3: 0.57	Fe_2O_3ash: 6.28
Li: 47	MgO: 0.17	MgOash: 1.83
Mn: 320	CaO: 0.66	CaOash: 7.23
Nb: 22	K_2O: 0.057	K_2Oash: 0.64
Ni: 171	Na_2O: 0.11	Na_2Oash: 1.22
Pb: 38		
Sr: 877		
V: 179	AB Ratio: 0.21	
Zn: 93	Silica Ratio: 79.74	
	Total ashed Oxides: 95.41	
Calc oxygen: 26.93		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 618
Sample No.: 18N2W3A
Township: T18N Range: R2W Sec.: 3

Formation: Menefee
Field: La Ventana Member: Upper Zone:

Depth to Seam: 299.75 Seam Thickness: 1.95
Sample Interval: 299.75-301.70 Sample Thickness: 1.95

Analyses on As-Received Basis

Air Dry Loss: 5.24
Eq. Moisture: 18.30

Moisture: 16.83
Ash: 7.96

Vol. Matter: 37.68
Fixed Carbon: 37.52

Carbon: 58.72
Hydrogen: 4.15
Nitrogen: 1.21
Oxygen: 10.03

Btu: 10799
Dry Btu: 12985

DAF Btu: 14359
MMFBtu: 11680

Sulfur: 1.08

Sulfide: 0.22
Sulfate: 0.025
Organic Sulfur: 0.84

Fluoride in ppm:

Chloride in ppm:

Trace Element Ashed Coal

Be: 8
Co: 23
Cr: 150
Cu: 31
Li: 16
Mn: 3300
Nb: 15
Ni: 110
Pb: 66
Sr: 1200
V: 55
Zn: 68

Calc oxygen: 26.88

Whole Coal Oxide

SiO_2: 2.57
$Al2O_3$: 0.83
TiO_2: 0.038
Fe_2O_3: 0.4
MgO: 0.18
CaO: 1.92
K_2O: 0.022
Na_2O: 0.082

Ashed Oxide

SiO_2ash: 32.3
$Al2O_3$ash: 10.38
TiO_2ash: 0.48
Fe_2O_3ash: 5.05
MgOash: 2.31
CaOash: 24.18
K_2Oash: 0.28
Na_2Oash: 1.04

AB Ratio: 0.76
Silica Ratio: 50.59
Total ashed Oxides: 76.02

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 631
Sample No.: 18N2W3B
Township: T18N Range: R3W Sec.: 3

Formation: Menefee
Field: La Ventana Member: Upper Zone:

Depth to Seam: 321.00 Seam Thickness: 7.15
Sample Interval: 321.0-324.35 Sample Thickness: 3.35

Analyses on As-Received Basis

Air Dry Loss: 3.17
Eq. Moisture: 17.46 Moisture: 16.90 Vol. Matter: 36.58
Ash: 5.38 Fixed Carbon: 41.13

Carbon: 63.39 Btu: 10771 DAF Btu: 13860
Hydrogen: 4.32 Dry Btu: 12963 MMFBtu: 11361
Nitrogen: 1.31
Oxygen: 8.05 Sulfide: 0.11
Sulfur: 0.61 Sulfate: 0.011
Organic Sulfur: 0.49

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 7	SiO_2: 2.58	SiO_2ash: 47.92
Co: 11	$Al2O_3$: 1.25	$Al2O_3$ash: 23.2
Cr: 136	TiO_2: 0.06	TiO_2ash: 1.135
Cu: 61	Fe_2O_3: 0.28	Fe_2O_3ash: 5.165
Li: 71	MgO: 0.16	MgOash: 3.01
Mn: 793	CaO: 0.5	CaOash: 9.385
Nb: 22	K_2O: 0.005	K_2Oash: 0.115
Ni: 100	Na_2O: 0.11	Na_2Oash: 1.97
Pb: 34		
Sr: 1301		
V: 89	AB Ratio: 0.27	
Zn: 36	Silica Ratio: 73.19	
	Total ashed Oxides: 91.88	
Calc oxygen: 24.99		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 620
Sample No.: 18N2W3C
Township: T18N Range: R2W Sec.: 3

Formation: Menefee
Field: La Ventana Member: Upper Zone:

Depth to Seam: 321.00 Seam Thickness: 7.15
Sample Interval: 324.35-327.65 Sample Thickness: 3.80

Analyses on As-Received Basis

Air Dry Loss: 3.29
Eq. Moisture: 16.92 Moisture: 17.32 Vol. Matter: 36.11
Ash: 6.45 Fixed Carbon: 40.11

Carbon: 60.96 Btu: 10211 DAF Btu: 13396
Hydrogen: 4.36 Dry Btu: 12351 MMFBtu: 10908
Nitrogen: 1.19
Oxygen: 9.12 Sulfide: 0.12
Sulfur: 0.57 Sulfate: 0.010
Organic Sulfur: 0.35

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 3	SiO_2: 3.38	SiO_2ash: 52.42
Co: 35	$Al2O_3$: 1.26	$Al2O_3$ash: 19.59
Cr: 71	TiO_2: 0.067	TiO_2ash: 1.04
Cu: 59	Fe_2O_3: 0.33	Fe_2O_3ash: 5.11
Li: 48	MgO: 0.12	MgOash: 1.9
Mn: 540	CaO: 0.44	CaOash: 6.85
Nb:	K_2O: 0.025	K_2Oash: 0.4
Ni: 37	Na_2O: 0.076	Na_2Oash: 1.18
Pb: 66		
Sr: 1900		
V: 140	AB Ratio: 0.21	
Zn: 46	Silica Ratio: 79.08	
	Total ashed Oxides: 88.49	
Calc oxygen: 26.47		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 621
Sample No.: 18N2W5A
Township: T18N Range: R2W Sec.: 5

Formation: Menefee
Field: La Ventana Member: Upper Zone:

Depth to Seam: 126.40 Seam Thickness: 2.60
Sample Interval: 126.40-129.0 Sample Thickness: 2.60

Analyses on As-Received Basis

Air Dry Loss: 4.26
Eq. Moisture: 15.58 Moisture: 15.26 Vol. Matter: 40.05
Ash: 7.15 Fixed Carbon: 37.53

Carbon: 60.02 Btu: 10769 DAF Btu: 13879
Hydrogen: 4.51 Dry Btu: 12708 MMFBtu: 11259
Nitrogen: 1.21
Oxygen: 8.44 Sulfide: 1.63
Sulfur: 3.38 Sulfate: 0.110
Organic Sulfur: 1.64

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 41	SiO_2: 2.66	SiO_2ash: 37.18
Co: 23	$Al2O_3$: 0.76	$Al2O_3$ash: 10.71
Cr: 179	TiO_2: 0.033	TiO_2ash: 0.47
Cu: 41	Fe_2O_3: 2.06	Fe_2O_3ash: 28.84
Li: 19	MgO: 0.16	MgOash: 2.22
Mn: 175	CaO: 0.46	CaOash: 6.49
Nb:	K_2O: 0.015	K_2Oash: 0.22
Ni: 55	Na_2O: 0.074	Na_2Oash: 1.04
Pb: 53		
Sr: 787		
V: 90	AB Ratio: 0.8	
Zn: 171	Silica Ratio: 49.75	
	Total ashed Oxides: 87.17	
Calc oxygen: 23.73		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 625
Sample No.: 18N2W5B
Township: T18N Range: R2W Sec.: 5

Formation: Menefee
Field: La Ventana Member: Upper Zone:

Depth to Seam: 130.35 Seam Thickness: 5.50
Sample Interval: 130.35-135.85 Sample Thickness: 5.50

Analyses on As-Received Basis

Air Dry Loss: 4.05
Eq. Moisture: 20.64 Moisture: 17.34 Vol. Matter: 36.39
Ash: 5.08 Fixed Carbon: 41.19

Carbon: 60.66 Btu: 11489 DAF Btu: 14810
Hydrogen: 4.19 Dry Btu: 13899 MMFBtu: 12050
Nitrogen: 1.32
Oxygen: 10.53 Sulfide: 0.25
Sulfur: 0.86 Sulfate: 0.034
Organic Sulfur: 0.58

Fluoride in ppm: 6.4 Chloride in ppm: 36.7

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 36	SiO_2: 3.41	SiO_2ash: 67.12
Co: 72	$Al2O_3$: 0.97	$Al2O_3$ash: 19.06
Cr: 400	TiO_2: 0.075	TiO_2ash: 1.48
Cu: 220	Fe_2O_3: 0.36	Fe_2O_3ash: 7.1
Li: 27	MgO: 0.1	MgOash: 2.08
Mn: 510	CaO: 0.53	CaOash: 10.55
Nb:	K_2O: 0.037	K_2Oash: 0.73
Ni: 420	Na_2O: 0.061	Na_2Oash: 1.22
Pb: 75		
Sr: 2200		
V: 190	AB Ratio: 0.24	
Zn: 130	Silica Ratio: 77.28	
	Total ashed Oxides: 109.34	
Calc oxygen: 27.89		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 624
Sample No.: 18N2W5C
Township: T18N Range: R2W Sec.: 5

Formation: Menefee
Field: La Ventana Member: Upper Zone:

Depth to Seam: 141.10 Seam Thickness: 6.90
Sample Interval: 141.4-144.9 Sample Thickness: 3.50

Analyses on As-Received Basis

Air Dry Loss: 4.66
Eq. Moisture: 18.25 Moisture: 17.65 Vol. Matter: 35.23
Ash: 8.63 Fixed Carbon: 38.48

Carbon: 57.24 Btu: 9842 DAF Btu: 13350
Hydrogen: 4.21 Dry Btu: 11951 MMFBtu: 10789
Nitrogen: 1.19
Oxygen: 10.52 Sulfide: 0.11
Sulfur: 0.53 Sulfate: 0.010
Organic Sulfur: 0.41

Fluoride in ppm: 38.3 Chloride in ppm: 33.9

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 16	SiO_2:	SiO_2ash:
Co: 6	$Al2O_3$:	$Al2O_3$ash:
Cr: 50	TiO_2:	TiO_2ash:
Cu: 35	Fe_2O_3:	Fe_2O_3ash:
Li: 40	MgO:	MgOash:
Mn: 280	CaO:	CaOash:
Nb: 29	K_2O:	K_2Oash:
Ni: 56	Na_2O:	Na_2Oash:
Pb: 88		
Sr: 1200		
V: 110	AB Ratio: 0.24	
Zn: 110	Silica Ratio: 77.28	
	Total ashed Oxides:	
Calc oxygen: 28.20		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 632
Sample No.: 18N2W5D
Township: T18N Range: R2W Sec.: 5

Formation: Menefee
Field: La Ventana Member: Upper Zone:

Depth to Seam: 141.40 Seam Thickness: 6.90
Sample Interval: 144.9-148.3 Sample Thickness: 3.40

Analyses on As-Received Basis

Air Dry Loss: 5.33
Eq. Moisture: 17.46 Moisture: 19.84 Vol. Matter: 35.77
Ash: 5.57 Fixed Carbon: 38.81

Carbon: 60.19 Btu: 10328 DAF Btu: 13846
Hydrogen: 4.16 Dry Btu: 12884 MMFBtu: 10856
Nitrogen: 1.13
Oxygen: 7.95 Sulfide: 0.46
Sulfur: 1.13 Sulfate: 0.020
Organic Sulfur: 0.65

Fluoride in ppm: 15.6 Chloride in ppm: 4.2

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 12	SiO_2: 2.23	SiO_2ash: 40.05
Co: 28	$Al2O_3$: 0.79	$Al2O_3$ash: 14.19
Cr: 360	TiO_2: 0.045	TiO_2ash: 0.81
Cu: 66	Fe_2O_3: 0.75	Fe_2O_3ash: 13.45
Li: 52	MgO: 0.17	MgOash: 3.01
Mn: 1000	CaO: 0.83	CaOash: 14.97
Nb:	K_2O: 0.017	K_2Oash: 0.31
Ni: 230	Na_2O: 0.05	Na_2Oash: 0.9
Pb: 71		
Sr: 2400		
V: 36	AB Ratio: 0.59	
Zn: 190	Silica Ratio: 56.02	
	Total ashed Oxides: 87.69	
Calc oxygen: 27.82		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 619
Sample No.: 18N2W5E
Township: T18N Range: R2W Sec.: 5

Formation: Menefee
Field: La Ventana Member: Upper Zone:

Depth to Seam: 166.10 Seam Thickness: 3.25
Sample Interval: 166.1-169.35 Sample Thickness: 3.25

Analyses on As-Received Basis

Air Dry Loss: 8.68
Eq. Moisture: 15.86 Moisture: 18.58 Vol. Matter: 36.45
Ash: 6.17 Fixed Carbon: 38.80

Carbon: 58.93 Btu: 10236 DAF Btu: 13602
Hydrogen: 4.23 Dry Btu: 12572 MMFBtu: 10825
Nitrogen: 1.13
Oxygen: 9.74 Sulfide: 0.21
Sulfur: 1.20 Sulfate: 0.020
Organic Sulfur: 0.97

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 25	SiO_2: 3.25	SiO_2ash: 52.64
Co: 11	$Al2O_3$: 1.04	$Al2O_3$ash: 16.88
Cr: 320	TiO_2: 0.066	TiO_2ash: 1.08
Cu: 51	Fe_2O_3: 0.37	Fe_2O_3ash: 6.01
Li: 22	MgO: 0.17	MgOash: 2.71
Mn: 880	CaO: 0.51	CaOash: 8.23
Nb: 20	K_2O: 0.049	K_2Oash: 0.81
Ni: 150	Na_2O: 0.074	Na_2Oash: 1.21
Pb: 58		
Sr: 1000		
V: 180	AB Ratio: 0.26	
Zn: 360	Silica Ratio: 75.64	
	Total ashed Oxides: 89.57	
Calc oxygen: 28.34		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 661
Sample No.: 18N2W23A
Township: T18N Range: R2W Sec.: 23

Formation: Menefee
Field: La Ventana Member: Cleary Zone:

Depth to Seam: 349.55 Seam Thickness: 2.85
Sample Interval: 349.55-352.4 Sample Thickness: 2.85

Analyses on As-Received Basis

Air Dry Loss: 5.61
Eq. Moisture: 18.89 Moisture: 14.65 Vol. Matter: 33.18
Ash: 14.98 Fixed Carbon: 37.18

Carbon: 56.88 Btu: 9205 DAF Btu: 13081
Hydrogen: 3.88 Dry Btu: 10785 MMFBtu: 10915
Nitrogen: 1.10
Oxygen: 7.98 Sulfide: 0.04
Sulfur: 0.50 Sulfate: 0.000
Organic Sulfur: 0.46

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 12	SiO_2: 9.15	SiO_2ash: 61.06
Co: 0	$Al2O_3$: 4.69	$Al2O_3$ash: 31.3
Cr: 53	TiO_2: 0.13	TiO_2ash: 0.86
Cu: 49	Fe_2O_3: 0.39	Fe_2O_3ash: 2.58
Li: 69	MgO: 0.13	MgOash: 0.88
Mn: 104	CaO: 0.33	CaOash: 2.2
Nb:	K_2O: 0.11	K_2Oash: 0.73
Ni: 20	Na_2O: 0.3	Na_2Oash: 2.02
Pb: 53		
Sr: 260		
V: 112	AB Ratio: 0.09	
Zn: 202	Silica Ratio: 91.51	
	Total ashed Oxides: 101.63	
Calc oxygen: 22.66		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 660
Sample No.: 18N2W34A
Township: T18N Range: R2W Sec.: 34

Formation: Menefee
Field: La Ventana Member: Cleary Zone:

Depth to Seam: 249.50 Seam Thickness: 2.10
Sample Interval: 249.5-251.6 Sample Thickness: 2.10

Analyses on As-Received Basis

Air Dry Loss: 7.27
Eq. Moisture: 17.26 Moisture: 17.97 Vol. Matter: 34.01
Ash: 8.48 Fixed Carbon: 39.52

Carbon: 58.78 Btu: 9635 DAF Btu: 13104
Hydrogen: 3.92 Dry Btu: 11747 MMFBtu: 10450
Nitrogen: 1.13
Oxygen: 8.34 Sulfide: 0.64
Sulfur: 1.33 Sulfate: 0.010
Organic Sulfur: 0.68

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 35	SiO_2: 4.61	SiO_2ash: 54.345
Co: 0	$Al2O_3$: 1.88	$Al2O_3$ash: 22.2
Cr: 230	TiO_2: 0.079	TiO_2ash: 0.94
Cu: 48	Fe_2O_3: 0.93	Fe_2O_3ash: 10.97
Li: 23	MgO: 0.089	MgOash: 1.06
Mn: 373	CaO: 0.3	CaOash: 3.57
Nb:	K_2O: 0.085	K_2Oash: 1.01
Ni: 134	Na_2O: 0.3	Na_2Oash: 3.49
Pb: 53		
Sr: 519		
V: 113	AB Ratio: 0.25	
Zn: 570	Silica Ratio: 77.69	
	Total ashed Oxides: 97.58	
Calc oxygen: 26.36		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 647
Sample No.: 17N2W7A
Township: T17N Range: R2W Sec.: 7

Formation: Menefee
Field: La Ventana Member: Cleary Zone:

Depth to Seam: 380.10 Seam Thickness: 2.80
Sample Interval: 380.1-382.9 Sample Thickness: 2.80

Analyses on As-Received Basis

Air Dry Loss: 4.96
Eq. Moisture: 12.33 Moisture: 13.02 Vol. Matter: 36.11
Ash: 13.23 Fixed Carbon: 37.64

Carbon: 58.29 Btu: 10774 DAF Btu: 14609
Hydrogen: 4.08 Dry Btu: 12387 MMFBtu: 12511
Nitrogen: 0.98
Oxygen: 9.95 Sulfide: 0.06
Sulfur: 0.42 Sulfate: 0.080
Organic Sulfur: 0.28

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 23	SiO_2:	SiO_2ash:
Co: 29	$Al2O_3$:	$Al2O_3$ash:
Cr: 80	TiO_2:	TiO_2ash:
Cu: 85	Fe_2O_3:	Fe_2O_3ash:
Li: 44	MgO:	MgOash:
Mn: 150	CaO:	CaOash:
Nb: 15	K_2O:	K_2Oash:
Ni: 65	Na_2O:	Na_2Oash:
Pb: 56		
Sr: 880		
V: 270	AB Ratio: 0.24	
Zn: 96	Silica Ratio: 80.01	
	Total ashed Oxides:	
Calc oxygen: 23.00		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 644
Sample No.: 17N2W7B
Township: T17N Range: R2W Sec.: 7

Formation: Menefee
Field: La Ventana Member: Cleary Zone:

Depth to Seam: 462.00 Seam Thickness: 2.05
Sample Interval: 462.0-464.05 Sample Thickness: 2.05

Analyses on As-Received Basis

Air Dry Loss: 11.51
Eq. Moisture: 17.01 Moisture: 15.72 Vol. Matter: 32.48
Ash: 15.09 Fixed Carbon: 36.70

Carbon: 55.59 Btu: 9773 DAF Btu: 14125
Hydrogen: 4.04 Dry Btu: 11596 MMFBtu: 11371
Nitrogen: 1.04
Oxygen: 6.24 Sulfide: 1.71
Sulfur: 2.26 Sulfate: 0.060
Organic Sulfur: 0.49

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 22	SiO_2: 9.33	SiO_2ash: 61.84
Co: 23	$Al2O_3$: 2.11	$Al2O_3$ash: 13.99
Cr: 120	TiO_2: 0.11	TiO_2ash: 0.76
Cu: 48	Fe_2O_3: 2.41	Fe_2O_3ash: 16.01
Li: 15	MgO: 0.17	MgOash: 1.1
Mn: 250	CaO: 0.41	CaOash: 2.71
Nb: 39	K_2O: 0.21	K_2Oash: 1.39
Ni: 35	Na_2O: 0.42	Na_2Oash: 2.81
Pb: 37		
Sr: 1000		
V: 150	AB Ratio: 0.31	
Zn: 150	Silica Ratio: 75.72	
	Total ashed Oxides: 100.61	
Calc oxygen: 21.98		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 642
Sample No.: 17N2W7C
Township: T17N Range: R2W Sec.: 7

Formation: Menefee
Field: La Ventana Member: Cleary Zone:

Depth to Seam: 487.75 Seam Thickness: 2.15
Sample Interval: 487.75-489.90 Sample Thickness: 2.15

Analyses on As-Received Basis

Air Dry Loss: 9.38
Eq. Moisture: 16.18 Moisture: 21.06 Vol. Matter: 33.54
Ash: 7.09 Fixed Carbon: 38.30

Carbon: 56.43 Btu: 9982 DAF Btu: 13893
Hydrogen: 3.77 Dry Btu: 12646 MMFBtu: 10623
Nitrogen: 1.06
Oxygen: 8.97 Sulfide: 0.36
Sulfur: 1.59 Sulfate: 0.080
Organic Sulfur: 1.15

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 37	SiO_2: 3.7	SiO_2ash: 52.17
Co: 29	$Al2O_3$: 1.18	$Al2O_3$ash: 16.67
Cr: 73	TiO_2: 0.056	TiO_2ash: 0.79
Cu: 62	Fe_2O_3: 1.39	Fe_2O_3ash: 19.57
Li: 15	MgO: 0.083	MgOash: 1.18
Mn: 347	CaO: 0.15	CaOash: 2.18
Nb:	K_2O: 0.11	K_2Oash: 1.62
Ni: 73	Na_2O: 0.25	Na_2Oash: 3.59
Pb: 144		
Sr: 630		
V: 125	AB Ratio: 0.4	
Zn: 205	Silica Ratio: 69.46	
	Total ashed Oxides: 97.77	
Calc oxygen: 30.06		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 641
Sample No.: 17N2W7D
Township: T17N Range: R2W Sec.: 7

Formation: Menefee
Field: La Ventana Member: Cleary Zone:

Depth to Seam: 509.40 Seam Thickness: 6.30
Sample Interval: 509.4-512.4 Sample Thickness: 3.00

Analyses on As-Received Basis

Air Dry Loss: 7.13
Eq. Moisture: 15.06 Moisture: 11.01 Vol. Matter: 35.70
Ash: 10.30 Fixed Carbon: 42.98

Carbon: 62.18 Btu: 10677 DAF Btu: 13569
Hydrogen: 4.27 Dry Btu: 11998 MMFBtu: 11848
Nitrogen: 1.11
Oxygen: 9.83 Sulfide: 0.54
Sulfur: 1.28 Sulfate: 0.040
Organic Sulfur: 0.70

Fluoride in ppm: 45.4 Chloride in ppm: 36.8

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 7	SiO_2: 6.42	SiO_2ash: 62.33
Co: 19	$Al2O_3$: 1.93	$Al2O_3$ash: 18.76
Cr: 210	TiO_2: 0.097	TiO_2ash: 0.95
Cu: 70	Fe_2O_3: 1.012	Fe_2O_3ash: 9.83
Li: 35	MgO: 0.12	MgOash: 1.21
Mn: 290	CaO: 0.2	CaOash: 1.95
Nb:	K_2O: 0.15	K_2Oash: 1.48
Ni: 88	Na_2O: 0.32	Na_2Oash: 3.15
Pb: 36		
Sr: 940		
V: 230	AB Ratio: 0.21	
Zn: 150	Silica Ratio: 82.75	
	Total ashed Oxides: 99.66	
Calc oxygen: 20.86		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 646
Sample No.: 17N2W7E
Township: T17N Range: R2W Sec.: 7

Formation: Menefee
Field: La Ventana Member: Cleary Zone:

Depth to Seam: 509.40 Seam Thickness: 6.30
Sample Interval: 512.4-515.7 Sample Thickness: 3.30

Analyses on As-Received Basis

Air Dry Loss: 6.99
Eq. Moisture: 19.20 Moisture: 16.77 Vol. Matter: 35.23
Ash: 8.64 Fixed Carbon: 39.35

Carbon: 59.30 Btu: 10303 DAF Btu: 13814
Hydrogen: 3.97 Dry Btu: 12380 MMFBtu: 11270
Nitrogen: 1.06
Oxygen: 9.48 Sulfide: 0.19
Sulfur: 0.76 Sulfate: 0.022
Organic Sulfur: 0.55

Fluoride in ppm: 25.9 Chloride in ppm: 2.1

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 12	SiO_2: 5.52	SiO_2ash: 63.91
Co: 19	$Al2O_3$: 1.73	$Al2O_3$ash: 19.97
Cr: 540	TiO_2: 0.092	TiO_2ash: 1.07
Cu: 75	Fe_2O_3: 0.61	Fe_2O_3ash: 7.08
Li: 38	MgO: 0.13	MgOash: 1.56
Mn: 360	CaO: 0.2	CaOash: 2.28
Nb:	K_2O: 0.14	K_2Oash: 1.62
Ni: 280	Na_2O: 0.3	Na_2Oash: 3.46
Pb: 57		
Sr: 1000		
V: 200	AB Ratio: 0.18	
Zn: 180	Silica Ratio: 85.4	
	Total ashed Oxides: 100.95	
Calc oxygen: 26.27		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 655
Sample No.: 17N3W14A
Township: T17N Range: R3W Sec.: 14

Formation: Menefee
Field: La Ventana Member: Cleary Zone:

Depth to Seam: 393.35 Seam Thickness: 1.70
Sample Interval: 393.35-395.05 Sample Thickness: 1.70

Analyses on As-Received Basis

Air Dry Loss:
Eq. Moisture: 14.57 Moisture: 12.72 Vol. Matter: 38.95
Ash: 5.18 Fixed Carbon: 43.14

Carbon: 67.88 Btu: 12087 DAF Btu: 14722
Hydrogen: 4.62 Dry Btu: 13849 MMFBtu: 12736
Nitrogen: 1.36
Oxygen: 7.70 Sulfide: 0.53
Sulfur: 0.53 Sulfate: 0.010
Organic Sulfur: -0.02

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 22	SiO_2: 3.4	SiO_2ash: 65.69
Co: 42	$Al2O_3$: 0.86	$Al2O_3$ash: 16.66
Cr: 345	TiO_2: 0.069	TiO_2ash: 1.34
Cu: 105	Fe_2O_3: 0.18	Fe_2O_3ash: 3.45
Li: 42	MgO: 0.058	MgOash: 1.12
Mn: 187	CaO: 0.22	CaOash: 4.21
Nb: 15	K_2O: 0.018	K_2Oash: 0.36
Ni: 317	Na_2O: 0.23	Na_2Oash: 4.39
Pb: 30		
Sr: 1219		
V: 114	AB Ratio: 0.16	
Zn: 158	Silica Ratio: 88.21	
	Total ashed Oxides: 97.22	
Calc oxygen: 20.43		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 654
Sample No.: 17N13W14B
Township: T17N Range: R3W Sec.: 14

Formation: Menefee
Field: La Ventana Member: Cleary Zone:

Depth to Seam: 439.30 Seam Thickness: 1.40
Sample Interval: 439.3-440.7 Sample Thickness: 1.40

Analyses on As-Received Basis

Air Dry Loss: 4.43
Eq. Moisture: 14.51 Moisture: 16.56 Vol. Matter: 39.09
Ash: 10.48 Fixed Carbon: 33.86

Carbon: 60.52 Btu: 10848 DAF Btu: 14869
Hydrogen: 4.05 Dry Btu: 13001 MMFBtu: 12138
Nitrogen: 1.25
Oxygen: 6.41 Sulfide: 0.14
Sulfur: 0.71 Sulfate: 0.000
Organic Sulfur: 0.57

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 37	SiO_2: 7.1	SiO_2ash: 67.77
Co: 19	Al_2O_3: 1.83	Al_2O_3ash: 17.5
Cr: 300	TiO_2: 0.093	TiO_2ash: 0.89
Cu: 47	Fe_2O_3: 0.54	Fe_2O_3ash: 5.16
Li: 21	MgO: 0.11	MgOash: 1.08
Mn: 260	CaO: 0.42	CaOash: 3.99
Nb: 17	K_2O: 0.19	K_2Oash: 1.79
Ni: 170	Na_2O: 0.32	Na_2Oash: 3.08
Pb: 19		
Sr: 1000		
V: 240	AB Ratio: 0.17	
Zn: 90	Silica Ratio: 86.88	
	Total ashed Oxides: 101.26	
Calc oxygen: 22.99		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 650
Sample No.: 17N3W14C
Township: T17N Range: R3W Sec.: 14

Formation: Menefee
Field: La Ventana Member: Cleary Zone:

Depth to Seam: 450.60 Seam Thickness: 2.35
Sample Interval: 450.6-452.95 Sample Thickness: 2.35

Analyses on As-Received Basis

Air Dry Loss: 4.24
Eq. Moisture: 12.40 Moisture: 14.62 Vol. Matter: 30.78
Ash: 21.49 Fixed Carbon: 33.10

Carbon: 45.49 Btu: 9310 DAF Btu: 14571
Hydrogen: Dry Btu: 10904 MMFBtu: 11804
Nitrogen: 0.90
Oxygen: 16.52 Sulfide: 0.15
Sulfur: 2.13 Sulfate: 0.120
Organic Sulfur: 1.85

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 11	SiO_2: 14.57	SiO_2ash: 67.78
Co: 13	$Al2O_3$: 3.56	$Al2O_3$ash: 16.55
Cr: 73	TiO_2: 0.19	TiO_2ash: 0.87
Cu: 54	Fe_2O_3: 2.35	Fe_2O_3ash: 10.96
Li: 20	MgO: 0.22	MgOash: 1.04
Mn: 130	CaO: 0.3	CaOash: 1.4
Nb: 37	K_2O: 0.29	K_2Oash: 1.34
Ni: 21	Na_2O: 0.42	Na_2Oash: 1.94
Pb: 29		
Sr: 750		
V: 210	AB Ratio: 0.19	
Zn: 84	Silica Ratio: 83.49	
	Total ashed Oxides: 101.88	
Calc oxygen:		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 653
Sample No.: 17N3W14D
Township: T17N Range: R3W Sec.: 14

Formation: Menefee
Field: La Ventana Member: Cleary Zone:

Depth to Seam: 458.95 Seam Thickness: 1.60
Sample Interval: 458.95-460.55 Sample Thickness: 1.60

Analyses on As-Received Basis

Air Dry Loss: 4.21
Eq. Moisture: 13.93 Moisture: 14.79 Vol. Matter: 31.89
Ash: 17.61 Fixed Carbon: 35.69

Carbon: 53.33 Btu: 9212 DAF Btu: 13630
Hydrogen: 3.83 Dry Btu: 10811 MMFBtu: 11295
Nitrogen: 1.09
Oxygen: 8.72 Sulfide: 0.07
Sulfur: 0.59 Sulfate: 0.000
Organic Sulfur: 0.52

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal

Be: 23
Co: 20
Cr: 78
Cu: 25
Li: 23
Mn: 75
Nb: 12
Ni: 41
Pb: 50
Sr: 730
V: 150
Zn: 130

Calc oxygen: 23.55

Whole Coal Oxide

SiO_2: 10.04
$Al2O_3$: 5.86
TiO_2: 0.2
Fe_2O_3: 0.44
MgO: 0.13
CaO: 0.56
K_2O: 0.093
Na_2O: 0.32

Ashed Oxide

SiO_2ash: 56.98
$Al2O_3$ash: 33.27
TiO_2ash: 1.13
Fe_2O_3ash: 2.48
MgOash: 0.75
CaOash: 3.18
K_2Oash: 0.53
Na_2Oash: 1.8

AB Ratio: 0.09
Silica Ratio: 89.88
Total ashed Oxides: 100.12

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 652
Sample No.: 17N3W14E
Township: T17N Range: R3W Sec.: 14

Formation: Menefee
Field: La Ventana Member: Cleary Zone:

Depth to Seam: 469.45 Seam Thickness: 1.80
Sample Interval: 469.45-471.25 Sample Thickness: 1.80

Analyses on As-Received Basis

Air Dry Loss: 4.34
Eq. Moisture: 16.05 Moisture: 15.63 Vol. Matter: 35.38
Ash: 9.10 Fixed Carbon: 39.89

Carbon: 60.74 Btu: 10457 DAF Btu: 13892
Hydrogen: 3.74 Dry Btu: 12394 MMFBtu: 11454
Nitrogen: 1.16
Oxygen: 8.46 Sulfide: 0.45
Sulfur: 1.13 Sulfate: 0.190
Organic Sulfur: 0.49

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 150	SiO_2: 5.55	SiO_2ash: 60.99
Co: 69	$Al2O_3$: 2.05	$Al2O_3$ash: 22.49
Cr: 180	TiO_2: 0.095	TiO_2ash: 1.05
Cu: 95	Fe_2O_3: 0.87	Fe_2O_3ash: 9.54
Li: 22	MgO: 0.099	MgOash: 1.09
Mn: 110	CaO: 0.15	CaOash: 1.61
Nb: 29	K_2O: 0.12	K_2Oash: 1.29
Ni: 158	Na_2O: 0.27	Na_2Oash: 2.93
Pb: 64		
Sr: 1100		
V: 380	AB Ratio: 0.19	
Zn: 196	Silica Ratio: 83.28	
	Total ashed Oxides: 100.99	
Calc oxygen: 24.13		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 649
Sample No.: 17N3W14F
Township: T17N Range: R3W Sec.: 14

Formation: Menefee
Field: La Ventana Member: Cleary Zone:

Depth to Seam: 484.05 Seam Thickness: 2.45
Sample Interval: 484.05-486.50 Sample Thickness: 2.45

Analyses on As-Received Basis

Air Dry Loss: 10.85
Eq. Moisture: 16.67 Moisture: 22.01 Vol. Matter: 32.54
Ash: 6.37 Fixed Carbon: 39.08

Carbon: 57.82 Btu: 10424 DAF Btu: 14555
Hydrogen: 3.51 Dry Btu: 13366 MMFBtu: 11019
Nitrogen: 0.98
Oxygen: 7.82 Sulfide: 0.43
Sulfur: 1.47 Sulfate: 0.090
Organic Sulfur: 0.95

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 25	SiO_2: 3.45	SiO_2ash: 54.22
Co: 0	$Al2O_3$: 0.95	$Al2O_3$ash: 14.92
Cr: 73	TiO_2: 0.06	TiO_2ash: 0.95
Cu: 68	Fe_2O_3: 1.19	Fe_2O_3ash: 18.69
Li: 21	MgO: 0.07	MgOash: 1.1
Mn: 215	CaO: 0.21	CaOash: 3.23
Nb:	K_2O: 0.032	K_2Oash: 0.51
Ni: 130	Na_2O: 0.23	Na_2Oash: 3.6
Pb: 54		
Sr: 1400		
V: 230	AB Ratio: 0.38	
Zn: 200	Silica Ratio: 70.19	
	Total ashed Oxides: 97.22	
Calc oxygen: 29.85		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory Analyses, NMRDI Coal Quality Project

Lab No.: 648
Sample No.: 17N3W14G
Township: T17N Range: R3W Sec.: 14

Formation: Menefee
Field: La Ventana Member: Cleary Zone:

Depth to Seam: 487.85 Seam Thickness: 3.50
Sample Interval: 487.85-491.35 Sample Thickness: 3.50

Analyses on As-Received Basis

Air Dry Loss: 3.52
Eq. Moisture: 15.30 Moisture: 13.13 Vol. Matter: 36.92
Ash: 7.15 Fixed Carbon: 42.80

Carbon: 65.41 Btu: 12205 DAF Btu: 15310
Hydrogen: 4.31 Dry Btu: 14050 MMFBtu: 13182
Nitrogen: 1.22
Oxygen: 8.42 Sulfide: 0.03
Sulfur: 0.33 Sulfate: 0.000
Organic Sulfur: 0.30

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 17	SiO_2: 4.34	SiO_2ash: 60.74
Co: 74	$Al2O_3$: 1.76	$Al2O_3$ash: 24.69
Cr: 87	TiO_2: 0.091	TiO_2ash: 1.28
Cu: 82	Fe_2O_3: 0.38	Fe_2O_3ash: 5.29
Li: 42	MgO: 0.13	MgOash: 1.75
Mn: 281	CaO: 0.15	CaOash: 2.14
Nb: 23	K_2O: 0.075	K_2Oash: 1.05
Ni: 79	Na_2O: 0.24	Na_2Oash: 3.44
Pb: 32		
Sr: 562		
V: 185	AB Ratio: 0.15	
Zn: 39	Silica Ratio: 86.87	
	Total ashed Oxides: 100.38	
Calc oxygen: 21.58		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 651
Sample No.: 17N3W14H
Township: T17N Range: R3W Sec.: 14

Formation: Menefee
Field: La Ventana Member: Cleary Zone:

Depth to Seam: 493.95 Seam Thickness: 2.25
Sample Interval: 493.95-496.2 Sample Thickness: 2.25

Analyses on As-Received Basis

Air Dry Loss: 6.03
Eq. Moisture: 12.34 Moisture: 16.47 Vol. Matter: 35.52
Ash: 8.23 Fixed Carbon: 39.78

Carbon: 62.46 Btu: 11234 DAF Btu: 14920
Hydrogen: 3.83 Dry Btu: 13449 MMFBtu: 12223
Nitrogen: 1.19
Oxygen: 6.97 Sulfide: 0.28
Sulfur: 0.83 Sulfate: 0.010
Organic Sulfur: 0.54

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 39	SiO_2: 4.71	SiO_2ash: 57.22
Co: 88	$Al2O_3$: 2.23	$Al2O_3$ash: 27.07
Cr: 420	TiO_2: 0.11	TiO_2ash: 1.38
Cu: 88	Fe_2O_3: 0.7	Fe_2O_3ash: 8.51
Li: 46	MgO: 0.094	MgOash: 1.15
Mn: 390	CaO: 0.17	CaOash: 2.04
Nb: 28	K_2O: 0.024	K_2Oash: 0.3
Ni: 290	Na_2O: 0.27	Na_2Oash: 3.25
Pb: 58		
Sr: 1100		
V: 320	AB Ratio: 0.17	
Zn: 330	Silica Ratio: 83.02	
	Total ashed Oxides: 100.92	
Calc oxygen: 23.46		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 616
Sample No.: 17N2W9A
Township: T17N Range: R2W Sec.: 9

Formation: Menefee
Field: La Ventana Member: Cleary Zone:

Depth to Seam: 50.40 Seam Thickness: 3.95
Sample Interval: 50.4-54.35 Sample Thickness: 3.95

Analyses on As-Received Basis

Air Dry Loss: 2.6
Eq. Moisture: 15.96 Moisture: 14.72 Vol. Matter: 39.16
Ash: 4.15 Fixed Carbon: 41.97

Carbon: 65.71 Btu: 12385 DAF Btu: 15266
Hydrogen: 4.29 Dry Btu: 14523 MMFBtu: 12927
Nitrogen: 1.26
Oxygen: 9.54 Sulfide: 0.02
Sulfur: 0.31 Sulfate: 0.020
Organic Sulfur: 0.27

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 57	SiO_2: 2.44	SiO_2ash: 58.87
Co: 57	$Al2O_3$: 0.53	$Al2O_3$ash: 12.8
Cr: 142	TiO_2: 0.052	TiO_2ash: 1.26
Cu: 105	Fe_2O_3: 0.12	Fe_2O_3ash: 2.93
Li: 50	MgO: 0.057	MgOash: 1.39
Mn: 232	CaO: 0.34	CaOash: 8.21
Nb: 20	K_2O: 0.007	K_2Oash: 0.19
Ni: 116	Na_2O: 0.23	Na_2Oash: 5.59
Pb: 23		
Sr: 3471		
V: 122	AB Ratio: 0.25	
Zn:	Silica Ratio: 82.45	
	Total ashed Oxides: 91.24	
Calc oxygen: 24.28		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 617
Sample No.: 17N2W9B
Township: T17N Range: R2W Sec.: 9

Formation: Menefee
Field: La Ventana Member: Cleary Zone:

Depth to Seam: 135.40 Seam Thickness: 3.95
Sample Interval: 135.4-139.35 Sample Thickness: 3.95

Analyses on As-Received Basis

Air Dry Loss: 2.44
Eq. Moisture: 15.72 Moisture: 13.63 Vol. Matter: 33.48
Ash: 16.04 Fixed Carbon: 36.83

Carbon: 55.23 Btu: 9882 DAF Btu: 14053
Hydrogen: 3.74 Dry Btu: 11441 MMFBtu: 11684
Nitrogen: 1.14
Oxygen: 8.24 Sulfide: 1.10
Sulfur: 1.95 Sulfate: 0.050
Organic Sulfur: 0.80

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 15	SiO_2: 9.26	SiO_2ash: 57.73
Co: 0	$Al2O_3$: 4.14	$Al2O_3$ash: 25.79
Cr: 160	TiO_2: 0.17	TiO_2ash: 1.07
Cu: 35	Fe_2O_3: 1.77	Fe_2O_3ash: 11.02
Li: 127	MgO: 0.12	MgOash: 0.75
Mn: 82	CaO: 0.25	CaOash: 1.54
Nb:	K_2O: 0.13	K_2Oash: 0.81
Ni: 97	Na_2O: 0.37	Na_2Oash: 2.32
Pb: 61		
Sr: 750		
V: 130	AB Ratio: 0.19	
Zn: 63	Silica Ratio: 81.26	
	Total ashed Oxides: 101.02	
Calc oxygen: 21.90		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 613
Sample No.: 17N2W9C
Township: T17N Range: R2W Sec.: 9

Formation: Menefee
Field: La Ventana Member: Cleary Zone:

Depth to Seam: 156.00 Seam Thickness: 1.90
Sample Interval: 156.1-158.0 Sample Thickness: 1.90

Analyses on As-Received Basis

Air Dry Loss: 3.79
Eq. Moisture: 15.88 Moisture: 14.55 Vol. Matter: 37.13
Ash: 9.76 Fixed Carbon: 38.56

Carbon: 59.80 Btu: 10129 DAF Btu: 13382
Hydrogen: 4.19 Dry Btu: 11853 MMFBtu: 11049
Nitrogen: 1.22
Oxygen: 8.26 Sulfide: 1.11
Sulfur: 2.20 Sulfate: 0.040
Organic Sulfur: 1.05

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 48	SiO_2: 4.37	SiO_2ash: 44.74
Co: 56	$Al2O_3$: 1.57	$Al2O_3$ash: 16.11
Cr: 130	TiO_2: 0.074	TiO_2ash: 0.76
Cu: 49	Fe_2O_3: 1.67	Fe_2O_3ash: 17.14
Li: 20	MgO: 0.12	MgOash: 1.25
Mn: 210	CaO: 0.72	CaOash: 7.38
Nb:	K_2O: 0.094	K_2Oash: 0.97
Ni: 90	Na_2O: 0.28	Na_2Oash: 2.93
Pb: 75		
Sr: 1375		
V: 180	AB Ratio: 0.48	
Zn: 150	Silica Ratio: 63.45	
	Total ashed Oxides: 91.28	
Calc oxygen: 22.83		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 614
Sample No.: 17N2W9D
Township: T17N Range: R2W Sec.: 9

Formation: Menefee
Field: La Ventana Member: Cleary Zone:

Depth to Seam: 175.65 Seam Thickness: 4.00
Sample Interval: 175.65-179.65 Sample Thickness: 4.00

Analyses on As-Received Basis

Air Dry Loss: 3.75
Eq. Moisture: 16.89 Moisture: 14.26 Vol. Matter: 38.29
Ash: 6.54 Fixed Carbon: 40.90

Carbon: 62.88 Btu: 11161 DAF Btu: 14092
Hydrogen: 4.42 Dry Btu: 13017 MMFBtu: 11829
Nitrogen: 1.18
Oxygen: 9.25 Sulfide: 0.42
Sulfur: 1.45 Sulfate: 0.020
Organic Sulfur: 1.01

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 22	SiO_2: 3.33	SiO_2ash: 50.95
Co: 37	$Al2O_3$: 1.43	$Al2O_3$ash: 21.84
Cr: 100	TiO_2: 0.099	TiO_2ash: 1.52
Cu: 72	Fe_2O_3: 0.67	Fe_2O_3ash: 10.2
Li: 41	MgO: 0.053	MgOash: 0.82
Mn: 480	CaO: 0.21	CaOash: 3.23
Nb:	K_2O: 0.047	K_2Oash: 0.73
Ni: 60	Na_2O: 0.069	Na_2Oash: 1.07
Pb: 73		
Sr: 1500		
V: 250	AB Ratio: 0.21	
Zn: 41	Silica Ratio: 78.14	
	Total ashed Oxides: 90.36	
Calc oxygen: 23.53		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory Analyses, NMRDI Coal Quality Project

Lab No.: 636
Sample No.: 17N3W22A
Township: T17N Range: R3W Sec.: 22

Formation: Menefee
Field: La Ventana Member: Cleary Zone:

Depth to Seam: 37.80 Seam Thickness: 2.70
Sample Interval: 37.8-40.5 Sample Thickness: 2.70

Analyses on As-Received Basis

Air Dry Loss: 5.29
Eq. Moisture: 15.64 Moisture: 16.34 Vol. Matter: 36.78
Ash: 7.78 Fixed Carbon: 39.09

Carbon: 64.64 Btu: 10605 DAF Btu: 13976
Hydrogen: 4.17 Dry Btu: 12676 MMFBtu: 11522
Nitrogen: 1.33
Oxygen: 5.28 Sulfide: 0.02
Sulfur: 0.44 Sulfate: 0.010
Organic Sulfur: 0.41

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 42	SiO_2: 5.88	SiO_2ash: 75.53
Co: 30	$Al2O_3$: 1.24	$Al2O_3$ash: 16
Cr: 320	TiO_2: 0.1	TiO_2ash: 1.3
Cu: 86	Fe_2O_3: 0.2	Fe_2O_3ash: 2.6
Li: 41	MgO: 0.085	MgOash: 1.1
Mn: 80	CaO: 0.14	CaOash: 1.85
Nb: 18	K_2O: 0.025	K_2Oash: 0.33
Ni: 190	Na_2O: 0.91	Na_2Oash: 2.46
Pb: 37		
Sr: 1200		
V: 210	AB Ratio: 0.08	
Zn: 78	Silica Ratio: 93.15	
	Total ashed Oxides: 101.17	
Calc oxygen: 21.64		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 643
Sample No.: 17N3W22B
Township: T17N Range: R3W Sec.: 22

Formation: Menefee
Field: La Ventana Member: Cleary Zone:

Depth to Seam: 70.25 Seam Thickness: 3.05
Sample Interval: 70.25-73.30 Sample Thickness: 3.05

Analyses on As-Received Basis

Air Dry Loss: 4.25
Eq. Moisture: 13.97 Moisture: 8.80 Vol. Matter: 29.52
Ash: 28.60 Fixed Carbon: 33.07

Carbon: 48.57 Btu: 8387 DAF Btu: 13401
Hydrogen: 3.55 Dry Btu: 9198 MMFBtu: 12086
Nitrogen: 0.89
Oxygen: 9.26 Sulfide: 0.05
Sulfur: 0.29 Sulfate: 0.006
Organic Sulfur: 0.23

Fluoride in ppm: 93.6 Chloride in ppm: 40.7

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 10	SiO_2: 20.22	SiO_2ash: 70.72
Co: 15	$Al2O_3$: 7.07	$Al2O_3$ash: 24.72
Cr: 140	TiO_2: 0.3	TiO_2ash: 1.05
Cu: 49	Fe_2O_3: 0.72	Fe_2O_3ash: 2.51
Li: 40	MgO: 0.23	MgOash: 0.82
Mn: 50	CaO: 0.17	CaOash: 0.6
Nb:	K_2O: 0.34	K_2Oash: 1.19
Ni: 54	Na_2O: 0.49	Na_2Oash: 1.72
Pb: 44		
Sr: 670		
V: 250	AB Ratio: 0.07	
Zn: 73	Silica Ratio: 94.73	
	Total ashed Oxides: 103.33	
Calc oxygen: 18.10		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory Analyses, NMRDI Coal Quality Project

Lab No.: 640
Sample No.: 17N3W22C
Township: T17N Range: R3W Sec.: 22

Formation: Menefee
Field: La Ventana Member: Cleary Zone:

Depth to Seam: 112.00 Seam Thickness: 1.50
Sample Interval: 112.0-113.5 Sample Thickness: 1.50

Analyses on As-Received Basis

Air Dry Loss: 7.87
Eq. Moisture: 14.43 Moisture: 15.94 Vol. Matter: 30.76
Ash: 20.09 Fixed Carbon: 33.21

Carbon: 52.47 Btu: 8642 DAF Btu: 13509
Hydrogen: 3.44 Dry Btu: 10281 MMFBtu: 10770
Nitrogen: 0.93
Oxygen: 5.20 Sulfide: 1.26
Sulfur: 1.90 Sulfate: 0.060
Organic Sulfur: 0.58

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 13	SiO_2: 12.99	SiO_2ash: 64.68
Co: 37	$Al2O_3$: 3.7	$Al2O_3$ash: 18.39
Cr: 280	TiO_2: 0.19	TiO_2ash: 0.93
Cu: 140	Fe_2O_3: 2.16	Fe_2O_3ash: 10.73
Li: 18	MgO: 0.24	MgOash: 1.17
Mn: 63	CaO: 0.14	CaOash: 0.7
Nb:	K_2O: 0.41	K_2Oash: 2.06
Ni: 140	Na_2O: 0.5	Na_2Oash: 2.48
Pb: 42		
Sr: 680		
V: 200	AB Ratio: 0.2	
Zn: 210	Silica Ratio: 83.69	
	Total ashed Oxides: 101.14	
Calc oxygen: 21.17		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 639
Sample No.: 17N3W22D
Township: T17N Range: R3W Sec.: 22

Formation: Menefee
Field: La Ventana Member: Cleary Zone:

Depth to Seam: 136.00 Seam Thickness: 1.45
Sample Interval: 136.0-137.45 Sample Thickness: 1.45

Analyses on As-Received Basis

Air Dry Loss: 8.89
Eq. Moisture: 17.42 Moisture: 17.44 Vol. Matter: 30.86
Ash: 19.88 Fixed Carbon: 31.81

Carbon: 51.54 Btu: 8424 DAF Btu: 13441
Hydrogen: 3.62 Dry Btu: 10204 MMFBtu: 10679
Nitrogen: 1.00
Oxygen: 6.15 Sulfide: 0.10
Sulfur: 0.35 Sulfate: 0.009
Organic Sulfur: 0.24

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 17	SiO_2: 12.94	SiO_2ash: 65.08
Co: 21	$Al2O_3$: 5.09	$Al2O_3$ash: 25.6
Cr: 83	TiO_2: 0.21	TiO_2ash: 1.06
Cu: 58	Fe_2O_3: 0.83	Fe_2O_3ash: 4.18
Li: 29	MgO: 0.26	MgOash: 1.33
Mn: 80	CaO: 0.2	CaOash: 0.99
Nb: 15	K_2O: 0.25	K_2Oash: 1.27
Ni: 31	Na_2O: 0.45	Na_2Oash: 2.24
Pb: 46		
Sr: 680		
V: 280	AB Ratio: 0.1	
Zn: 350	Silica Ratio: 90.91	
	Total ashed Oxides: 101.75	
Calc oxygen: 23.61		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 637
Sample No.: 17N3W22E
Township: T17N Range: R3W Sec.: 22

Formation: Menefee
Field: La Ventana Member: Cleary Zone:

Depth to Seam: 142.50 Seam Thickness: 1.35
Sample Interval: 142.5-143.85 Sample Thickness: 1.35

Analyses on As-Received Basis

Air Dry Loss: 7.34
Eq. Moisture: 16.77 Moisture: 16.40 Vol. Matter: 37.12
Ash: 5.18 Fixed Carbon: 41.29

Carbon: 66.20 Btu: 10975 DAF Btu: 13997
Hydrogen: 4.29 Dry Btu: 13130 MMFBtu: 11548
Nitrogen: 1.35
Oxygen: 5.90 Sulfide: 0.09
Sulfur: 0.64 Sulfate: 0.010
Organic Sulfur: 0.54

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 68	SiO_2: 3.15	SiO_2ash: 60.84
Co: 43	$Al2O_3$: 1.1	$Al2O_3$ash: 21.33
Cr: 90	TiO_2: 0.058	TiO_2ash: 1.12
Cu: 62	Fe_2O_3: 0.27	Fe_2O_3ash: 5.3
Li: 22	MgO: 0.073	MgOash: 1.42
Mn: 300	CaO: 0.13	CaOash: 2.56
Nb:	K_2O: 0.068	K_2Oash: 1.33
Ni: 75	Na_2O: 0.27	Na_2Oash: 5.2
Pb: 54		
Sr: 2000		
V: 280	AB Ratio: 0.18	
Zn: 170	Silica Ratio: 86.76	
	Total ashed Oxides: 99.1	
Calc oxygen: 22.34		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 638
Sample No.: 17N3W22F
Township: T17N Range: R3W Sec.: 22

Formation: Menefee
Field: La Ventana Member: Cleary Zone:

Depth to Seam: 175.50 Seam Thickness: 2.00
Sample Interval: 175.50-177.50 Sample Thickness: 2.00

Analyses on As-Received Basis

Air Dry Loss: 7.88
Eq. Moisture: 20.90 Moisture: 16.68 Vol. Matter: 36.59
Ash: 10.39 Fixed Carbon: 36.33

Carbon: 62.72 Btu: 10249 DAF Btu: 14054
Hydrogen: 4.09 Dry Btu: 12301 MMFBtu: 11356
Nitrogen: 1.49
Oxygen: 3.12 Sulfide: 0.84
Sulfur: 1.49 Sulfate: 0.060
Organic Sulfur: 0.59

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 25	SiO_2: 6.92	SiO_2ash: 66.6
Co: 37	$Al2O_3$: 1.4	$Al2O_3$ash: 13.49
Cr: 520	TiO_2: 0.1	TiO_2ash: 1.01
Cu: 55	Fe_2O_3: 1.42	Fe_2O_3ash: 13.65
Li: 23	MgO: 0.11	MgOash: 1.07
Mn: 310	CaO: 0.2	CaOash: 1.91
Nb: 26	K_2O: 0.077	K_2Oash: 0.75
Ni: 265	Na_2O: 0.28	Na_2Oash: 2.7
Pb: 56		
Sr: 1300		
V: 170	AB Ratio: 0.24	
Zn: 160	Silica Ratio: 80.01	
	Total ashed Oxides: 101.18	
Calc oxygen: 19.82		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory Analyses, NMRDI Coal Quality Project

Lab No.: 634
Sample No.: 17N3W20A
Township: T17N Range: R3W Sec.: 20

Formation: Menefee
Field: La Ventana Member: Cleary Zone:

Depth to Seam: 376.95 Seam Thickness: 1.85
Sample Interval: 376.95-378.8 Sample Thickness: 1.85

Analyses on As-Received Basis

Air Dry Loss: 7.29
Eq. Moisture: 14.25 Moisture: 16.97 Vol. Matter: 33.12
Ash: 13.34 Fixed Carbon: 36.55

Carbon: 55.98 Btu: 9536 DAF Btu: 13685
Hydrogen: 4.06 Dry Btu: 11486 MMFBtu: 11080
Nitrogen: 1.21
Oxygen: 7.93 Sulfide: 0.06
Sulfur: 0.47 Sulfate: 0.005
Organic Sulfur: 0.40

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 21	SiO_2: 5.73	SiO_2ash: 42.98
Co: 54	$Al2O_3$: 2.43	$Al2O_3$ash: 18.2
Cr: 73	TiO_2: 0.11	TiO_2ash: 0.86
Cu: 65	Fe_2O_3: 0.53	Fe_2O_3ash: 3.95
Li: 35	MgO: 0.32	MgOash: 2.41
Mn: 50	CaO: 2.95	CaOash: 22.11
Nb: 12	K_2O: 0.042	K_2Oash: 0.32
Ni: 99	Na_2O: 0.16	Na_2Oash: 1.19
Pb: 59		
Sr: 750		
V: 240	AB Ratio: 0.48	
Zn: 110	Silica Ratio: 60.15	
	Total ashed Oxides: 92.02	
Calc oxygen: 24.94		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 645
Sample No.: 17N3W20B
Township: T17N Range: R3W Sec.: 20

Formation: Menefee
Field: La Ventana Member: Cleary Zone:

Depth to Seam: 500.50 Seam Thickness: 1.80
Sample Interval: 500.5-502.3 Sample Thickness: 1.80

Analyses on As-Received Basis

Air Dry Loss: 4.13
Eq. Moisture: 13.81 Moisture: 12.56 Vol. Matter: 38.47
Ash: 9.66 Fixed Carbon: 39.31

Carbon: 61.67 Btu: 11007 DAF Btu: 14152
Hydrogen: 4.48 Dry Btu: 12589 MMFBtu: 12227
Nitrogen: 1.13
Oxygen: 10.00 Sulfide: 0.03
Sulfur: 0.47 Sulfate: 0.003
Organic Sulfur: 0.44

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 31	SiO_2: 5.67	SiO_2ash: 58.65
Co: 27	$Al2O_3$: 2.16	$Al2O_3$ash: 22.36
Cr: 110	TiO_2: 0.096	TiO_2ash: 1
Cu: 54	Fe_2O_3: 0.23	Fe_2O_3ash: 2.35
Li: 53	MgO: 0.1	MgOash: 1.07
Mn: 110	CaO: 0.74	CaOash: 7.62
Nb: 15	K_2O: 0.08	K_2Oash: 0.83
Ni: 100	Na_2O: 0.25	Na_2Oash: 2.54
Pb: 42		
Sr: 1300		
V: 350	AB Ratio: 0.17	
Zn: 410	Silica Ratio: 84.15	
	Total ashed Oxides: 96.42	
Calc oxygen: 22.59		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 635
Sample No.: 17N3W20C
Township: T17N Range: R3W Sec.: 20

Formation: Menefee
Field: La Ventana Member: Cleary Zone:

Depth to Seam: 508.25 Seam Thickness: 3.15
Sample Interval: 506.25-509.4 Sample Thickness: 3.15

Analyses on As-Received Basis

Air Dry Loss: 4.37
Eq. Moisture: 12.91 Moisture: 13.59 Vol. Matter: 35.61
Ash: 14.72 Fixed Carbon: 36.08

Carbon: 57.19 Btu: 9886 DAF Btu: 13791
Hydrogen: 3.95 Dry Btu: 11441 MMFBtu: 11640
Nitrogen: 1.05
Oxygen: 8.63 Sulfide: 0.24
Sulfur: 0.85 Sulfate: 0.010
Organic Sulfur: 0.60

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 13	SiO_2: 8.77	SiO_2ash: 59.59
Co: 16	$Al2O_3$: 3.44	$Al2O_3$ash: 23.34
Cr: 1500	TiO_2: 0.16	TiO_2ash: 1.08
Cu: 56	Fe_2O_3: 0.85	Fe_2O_3ash: 5.77
Li: 43	MgO: 0.17	MgOash: 1.13
Mn: 210	CaO: 0.65	CaOash: 4.41
Nb:	K_2O: 0.15	K_2Oash: 1.03
Ni: 76	Na_2O: 0.34	Na_2Oash: 2.33
Pb: 33		
Sr: 980		
V: 240	AB Ratio: 0.17	
Zn: 380	Silica Ratio: 84.04	
	Total ashed Oxides: 98.68	
Calc oxygen: 22.24		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 675
Sample No.: 18N3W11A
Township: T18N Range: R3W Sec.: 11

Formation: Menefee
Field: Chacra Mesa Member: Upper Zone:

Depth to Seam: 62.00 Seam Thickness: 3.20
Sample Interval: 62.00-65.20 Sample Thickness: 3.20

Analyses on As-Received Basis

Air Dry Loss: 4.61
Eq. Moisture: 15.17 Moisture: 16.60 Vol. Matter: 35.91
Ash: 9.23 Fixed Carbon: 38.25

Carbon: 58.06 Btu: 10023 DAF Btu: 13514
Hydrogen: 3.66 Dry Btu: 12018 MMFBtu: 11085
Nitrogen: 1.25
Oxygen: 10.78 Sulfide: 0.03
Sulfur: 0.39 Sulfate: 0.030
Organic Sulfur: 0.33

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 22	SiO_2:	SiO_2ash:
Co: 18	Al_2O_3:	Al_2O_3ash:
Cr: 34	TiO_2:	TiO_2ash:
Cu: 36	Fe_2O_3:	Fe_2O_3ash:
Li: 33	MgO:	MgOash:
Mn: 254	CaO:	CaOash:
Nb:	K_2O:	K_2Oash:
Ni:	Na_2O:	Na_2Oash:
Pb: 44		
Sr: 342		
V: 90	AB Ratio: 0.09	
Zn: 592	Silica Ratio: 91.51	
	Total ashed Oxides:	
Calc oxygen: 27.41		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory Analyses, NMRDI Coal Quality Project

Lab No.: 670
Sample No.: 18N3W11B
Township: T18N Range: R3W Sec.: 11

Formation: Menefee
Field: Chacra Mesa Member: Upper Zone:

Depth to Seam: 67.80 Seam Thickness: 2.20
Sample Interval: 67.80-70.0 Sample Thickness: 2.20

Analyses on As-Received Basis

Air Dry Loss: 7.46
Eq. Moisture: 18.15 Moisture: 17.88 Vol. Matter: 36.84
Ash: 10.28 Fixed Carbon: 34.99

Carbon: 58.84 Btu: 9169 DAF Btu: 12763
Hydrogen: 4.03 Dry Btu: 11165 MMFBtu: 10231
Nitrogen: 1.11
Oxygen: 7.14 Sulfide: 0.14
Sulfur: 0.69 Sulfate: 0.070
Organic Sulfur: 0.48

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 13	SiO_2: 3.78	SiO_2ash: 36.81
Co: 0	Al_2O_3: 1.02	Al_2O_3ash: 9.97
Cr: 190	TiO_2: 0.06	TiO_2ash: 0.59
Cu: 34	Fe_2O_3: 0.39	Fe_2O_3ash: 3.83
Li: 14	MgO: 0.27	MgOash: 2.61
Mn: 543	CaO: 2.88	CaOash: 27.97
Nb: 15	K_2O: 0.052	K_2Oash: 0.51
Ni: 110	Na_2O: 0.15	Na_2Oash: 1.5
Pb: 79		
Sr: 690		
V: 78	AB Ratio: 0.76	
Zn: 70	Silica Ratio: 51.68	
	Total ashed Oxides: 83.79	
Calc oxygen: 25.05		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 667
Sample No.: 18N3W11C
Township: T18N Range: R3W Sec.: 11

Formation: Menefee
Field: Chacra Mesa Member: Upper Zone:

Depth to Seam: 136.15 Seam Thickness: 2.60
Sample Interval: 136.15-138.75 Sample Thickness: 2.60

Analyses on As-Received Basis

Air Dry Loss: 5.63
Eq. Moisture: 16.82 Moisture: 17.76 Vol. Matter: 36.62
Ash: 6.50 Fixed Carbon: 39.11

Carbon: 61.91 Btu: 10006 DAF Btu: 13211
Hydrogen: 4.26 Dry Btu: 12167 MMFBtu: 10579
Nitrogen: 1.06
Oxygen: 6.92 Sulfide: 0.35
Sulfur: 1.56 Sulfate: 0.020
Organic Sulfur: 1.19

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 17	SiO_2:	SiO_2ash:
Co: 8	Al_2O_3:	Al_2O_3ash:
Cr: 32	TiO_2:	TiO_2ash:
Cu: 42	Fe_2O_3:	Fe_2O_3ash:
Li: 30	MgO:	MgOash:
Mn: 395	CaO:	CaOash:
Nb: 40	K_2O:	K_2Oash:
Ni: 25	Na_2O:	Na_2Oash:
Pb: 15		
Sr: 1035		
V: 90	AB Ratio: 0.76	
Zn: 116	Silica Ratio: 51.68	
	Total ashed Oxides:	
Calc oxygen: 24.71		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 669
Sample No.: 18N3W11D
Township: T18N Range: R3W Sec.: 11

Formation: Menefee
Field: Chacra Mesa Member: Upper Zone:

Depth to Seam: 232.95 Seam Thickness: 3.25
Sample Interval: 232.95-236.2 Sample Thickness: 3.25

Analyses on As-Received Basis

Air Dry Loss: 15.13
Eq. Moisture: 17.13 Moisture: 18.43 Vol. Matter: 30.45
Ash: 18.02 Fixed Carbon: 33.09

Carbon: 51.10 Btu: 8705 DAF Btu: 13698
Hydrogen: 3.67 Dry Btu: 10672 MMFBtu: 10731
Nitrogen: 0.83
Oxygen: 7.35 Sulfide: 0.18
Sulfur: 0.57 Sulfate: 0.009
Organic Sulfur: 0.38

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 7	SiO_2: 7.55	SiO_2ash: 41.89
Co: 0	Al_2O_3: 4.76	Al_2O_3ash: 26.4
Cr: 25	TiO_2: 0.14	TiO_2ash: 0.77
Cu: 22	Fe_2O_3: 0.72	Fe_2O_3ash: 3.99
Li: 26	MgO: 0.13	MgOash: 0.74
Mn: 190	CaO: 0.64	CaOash: 3.58
Nb: 20	K_2O: 0.073	K_2Oash: 0.41
Ni: 12	Na_2O: 0.21	Na_2Oash: 1.14
Pb: 56		
Sr: 287		
V: 44	AB Ratio: 0.14	
Zn: 99	Silica Ratio: 83.44	
	Total ashed Oxides: 78.92	
Calc oxygen: 25.81		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory Analyses, NMRDI Coal Quality Project

Lab No.: 658
Sample No.: 18N3W10A
Township: T18N Range: R3W Sec.: 10

Formation: Menefee
Field: Chacra Mesa Member: Upper Zone:

Depth to Seam: 74.00 Seam Thickness: 3.75
Sample Interval: 74.00-77.75 Sample Thickness: 3.75

Analyses on As-Received Basis

Air Dry Loss: 8.04
Eq. Moisture: 16.25 Moisture: 17.56 Vol. Matter: 34.44
Ash: 14.31 Fixed Carbon: 33.69

Carbon: 51.61 Btu: 9283 DAF Btu: 13625
Hydrogen: 3.90 Dry Btu: 11260 MMFBtu: 10540
Nitrogen: 1.06
Oxygen: 8.10 Sulfide: 1.72
Sulfur: 3.43 Sulfate: 0.470
Organic Sulfur: 1.24

Fluoride in ppm: 41 Chloride in ppm: 64.4

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 6	SiO_2: 7.28	SiO_2ash: 50.88
Co: 9	Al_2O_3: 2.41	Al_2O_3ash: 16.81
Cr: 150	TiO_2: 0.11	TiO_2ash: 0.75
Cu: 36	Fe_2O_3: 3.01	Fe_2O_3ash: 21.03
Li: 23	MgO: 0.23	MgOash: 1.59
Mn: 202	CaO: 0.46	CaOash: 3.22
Nb: 47	K_2O: 0.14	K_2Oash: 0.96
Ni: 61	Na_2O: 0.12	Na_2Oash: 0.83
Pb: 21		
Sr: 363		
V: 113	AB Ratio: 0.4	
Zn: 68	Silica Ratio: 66.31	
	Total ashed Oxides: 96.07	
Calc oxygen: 25.69		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 674
Sample No.: 18N3W10B
Township: T18N Range: R3W Sec.: 10

Formation: Menefee
Field: Chacra Mesa Member: Upper Zone:

Depth to Seam: 237.60 Seam Thickness: 3.35
Sample Interval: 237.6-240.95 Sample Thickness: 3.35

Analyses on As-Received Basis

Air Dry Loss: 8.78
Eq. Moisture: 18.24 Moisture: 18.59 Vol. Matter: 35.53
Ash: 2.98 Fixed Carbon: 42.90

Carbon: 62.00 Btu: 10712 DAF Btu: 13659
Hydrogen: 4.02 Dry Btu: 13159 MMFBtu: 11017
Nitrogen: 1.17
Oxygen: 10.76 Sulfide: 0.09
Sulfur: 0.45 Sulfate: 0.010
Organic Sulfur: 0.35

Fluoride in ppm: 11.4 Chloride in ppm: 61

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 40	SiO_2: 1.62	SiO_2ash: 54.49
Co: 15	Al_2O_3: 0.49	Al_2O_3ash: 16.58
Cr: 64	TiO_2: 0.028	TiO_2ash: 0.95
Cu: 56	Fe_2O_3: 0.2	Fe_2O_3ash: 6.74
Li: 25	MgO: 0.044	MgOash: 1.49
Mn: 588	CaO: 0.22	CaOash: 7.33
Nb: 15	K_2O: 0.008	K_2Oash: 0.3
Ni: 48	Na_2O: 0.18	Na_2Oash: 6.04
Pb: 24		
Sr: 1666		
V: 83	AB Ratio: 0.3	
Zn: 153	Silica Ratio: 77.78	
	Total ashed Oxides: 93.92	
Calc oxygen: 29.38		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 662
Sample No.: 18N3W10C
Township: T18N Range: R3W Sec.: 10

Formation: Menefee
Field: Chacra Mesa Member: Upper Zone:

Depth to Seam: 276.80 Seam Thickness: 5.75
Sample Interval: 276.8-282.55 Sample Thickness: 5.75

Analyses on As-Received Basis

Air Dry Loss: 3.5
Eq. Moisture: 15.76 Moisture: 12.94 Vol. Matter: 36.14
Ash: 9.44 Fixed Carbon: 41.47

Carbon: 61.33 Btu: 9891 DAF Btu: 12743
Hydrogen: 4.17 Dry Btu: 11361 MMFBtu: 10850
Nitrogen: 1.12
Oxygen: 9.64 Sulfide: 1.19
Sulfur: 1.34 Sulfate: 0.460
Organic Sulfur:

Fluoride in ppm: 62.7 Chloride in ppm: 33.8

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 6	SiO_2: 5.91	SiO_2ash: 62.61
Co: 12	Al_2O_3: 2.03	Al_2O_3ash: 21.54
Cr: 85	TiO_2: 0.089	TiO_2ash: 0.95
Cu: 43	Fe_2O_3: 0.62	Fe_2O_3ash: 6.62
Li: 28	MgO: 0.081	MgOash: 0.86
Mn: 86	CaO: 0.21	CaOash: 2.23
Nb: 20	K_2O: 0.11	K_2Oash: 1.13
Ni: 33	Na_2O: 0.16	Na_2Oash: 1.69
Pb: 35		
Sr: 320		
V: 107	AB Ratio: 0.14	
Zn: 11	Silica Ratio: 86.57	
	Total ashed Oxides: 97.63	
Calc oxygen: 22.60		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory Analyses, NMRDI Coal Quality Project

Lab No.: 673
Sample No.: 18N3W10D
Township: T18N Range: R3W Sec.: 10

Formation: Menefee
Field: Chacra Mesa Member: Upper Zone:

Depth to Seam: 300.95 Seam Thickness: 2.35
Sample Interval: 300.95-303.3 Sample Thickness: 2.35

Analyses on As-Received Basis

Air Dry Loss: 3.93
Eq. Moisture: 14.38 Moisture: 11.78 Vol. Matter: 36.00
Ash: 15.47 Fixed Carbon: 36.75

Carbon: 59.82 Btu: 9765 DAF Btu: 13422
Hydrogen: 4.31 Dry Btu: 11068 MMFBtu: 11625
Nitrogen: 1.04
Oxygen: 6.83 Sulfide: 0.07
Sulfur: 0.72 Sulfate: 0.010
Organic Sulfur: 0.64

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 11	SiO_2: 10.49	SiO_2ash: 67.78
Co: 8	Al_2O_3: 4.48	Al_2O_3ash: 28.95
Cr: 85	TiO_2: 0.13	TiO_2ash: 0.86
Cu: 36	Fe_2O_3: 0.36	Fe_2O_3ash: 2.32
Li: 29	MgO: 0.13	MgOash: 0.87
Mn: 85	CaO: 0.24	CaOash: 1.55
Nb: 32	K_2O: 0.19	K_2Oash: 1.24
Ni: 40	Na_2O: 0.21	Na_2Oash: 1.37
Pb: 59		
Sr: 180		
V: 36	AB Ratio: 0.07	
Zn: 83	Silica Ratio: 93.46	
	Total ashed Oxides: 104.94	
Calc oxygen: 18.64		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory Analyses, NMRDI Coal Quality Project

Lab No.: 665
Sample No.: 18N3W21A
Township: T18N Range: R3W Sec.: 21

Formation: Menefee
Field: Chacra Mesa Member: Upper Zone:

Depth to Seam: 31.55 Seam Thickness: 3.60
Sample Interval: 31.55-35.15 Sample Thickness: 3.60

Analyses on As-Received Basis

Air Dry Loss: 6.96
Eq. Moisture: 30.17 Moisture: 19.92 Vol. Matter: 42.82
Ash: 9.80 Fixed Carbon: 27.46

Carbon: 49.27 Btu: 7459 DAF Btu: 10613
Hydrogen: 3.21 Dry Btu: 9314 MMFBtu: 8118
Nitrogen: 1.07
Oxygen: 14.59 Sulfide: 0.07
Sulfur: 2.11 Sulfate: 0.980
Organic Sulfur: 1.06

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 12	SiO_2: 6.15	SiO_2ash: 62.72
Co: 18	Al_2O_3: 2.21	Al_2O_3ash: 22.53
Cr: 160	TiO_2: 0.097	TiO_2ash: 0.99
Cu: 52	Fe_2O_3: 0.93	Fe_2O_3ash: 9.49
Li: 19	MgO: 0.093	MgOash: 0.95
Mn: 124	CaO: 0.099	CaOash: 1.02
Nb: 25	K_2O: 0.14	K_2Oash: 1.39
Ni: 87	Na_2O: 0.88	Na_2Oash: 0.9
Pb: 91		
Sr: 300		
V: 128	AB Ratio: 0.15	
Zn: 430	Silica Ratio: 84.55	
	Total ashed Oxides: 99.99	
Calc oxygen: 34.54		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 1000
Sample No.: 18N3W21A
Township: T18N Range: R3W Sec.: 21

Formation: Menefee
Field: Chacra Mesa Member: Upper Zone:

Depth to Seam: Seam Thickness: 1.50
Sample Interval: 59.0-60.5 Sample Thickness: 1.50

Analyses on As-Received Basis

Air Dry Loss: 13.16
Eq. Moisture: 17.22 Moisture: 17.40 Vol. Matter: 36.59
Ash: 5.73 Fixed Carbon: 40.26

Carbon: 60.94 Btu: 10603 DAF Btu: 13795
Hydrogen: 4.55 Dry Btu: 12838 MMFBtu: 11276
Nitrogen: 1.31
Oxygen: 9.82 Sulfide: 0.06
Sulfur: 0.57 Sulfate: 0.008
Organic Sulfur: 0.50

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 66	SiO_2: 3.6	SiO_2ash: 62.91
Co: 49	Al_2O_3: 1.01	Al_2O_3ash: 17.6
Cr: 83	TiO_2: 0.052	TiO_2ash: 0.92
Cu: 66	Fe_2O_3: 0.23	Fe_2O_3ash: 3.96
Li: 24	MgO: 0.092	MgOash: 1.62
Mn: 206	CaO: 0.21	CaOash: 3.72
Nb:	K_2O: 0.079	K_2Oash: 1.39
Ni: 71	Na_2O: 0.25	Na_2Oash: 4.4
Pb: 66		
Sr: 2410		
V: 196	AB Ratio: 0.18	
Zn: 100	Silica Ratio: 87.12	
	Total ashed Oxides: 96.52	
Calc oxygen: 26.90		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory Analyses, NMRDI Coal Quality Project

Lab No.: 1005
Sample No.: 18N3W21B
Township: T18N Range: R3W Sec.: 21

Formation: Menefee
Field: Chacra Mesa Member: Upper Zone:

Depth to Seam: 81.85 Seam Thickness: 1.65
Sample Interval: 81.85-83.50 Sample Thickness: 1.65

Analyses on As-Received Basis

Air Dry Loss: 11.91
Eq. Moisture: 18.56 Moisture: 17.27 Vol. Matter: 36.29
Ash: 3.80 Fixed Carbon: 42.63

Carbon: 62.86 Btu: 10071 DAF Btu: 12759
Hydrogen: 4.60 Dry Btu: 12173 MMFBtu: 10476
Nitrogen: 1.26
Oxygen: 9.96 Sulfide: 0.04
Sulfur: 0.55 Sulfate: 0.000
Organic Sulfur: 0.51

Fluoride in ppm: 9.3 Chloride in ppm: 37.8

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 64	SiO_2: 2.51	SiO_2ash: 66.01
Co: 47	Al_2O_3: 0.34	Al_2O_3ash: 9.02
Cr: 71	TiO_2: 0.029	TiO_2ash: 0.77
Cu: 47	Fe_2O_3: 0.12	Fe_2O_3ash: 3.17
Li: 15	MgO: 0.034	MgOash: 0.9
Mn: 230	CaO: 0.15	CaOash: 3.93
Nb:	K_2O: 0.012	K_2Oash: 0.32
Ni: 96	Na_2O: 0.21	Na_2Oash: 5.59
Pb: 43		
Sr: 2006		
V: 125	AB Ratio: 0.18	
Zn: 36	Silica Ratio: 89.19	
	Total ashed Oxides: 89.71	
Calc oxygen: 26.93		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 666
Sample No.: 18N3W21B
Township: T18N Range: R3W Sec.: 21

Formation: Menefee
Field: Chacra Mesa Member: Upper Zone:

Depth to Seam: 100.50 Seam Thickness: 3.15
Sample Interval: 100.5-103.65 Sample Thickness: 3.15

Analyses on As-Received Basis

Air Dry Loss: 5.45
Eq. Moisture: 16.07 Moisture: 16.06 Vol. Matter: 37.09
Ash: 6.14 Fixed Carbon: 40.70

Carbon: 64.16 Btu: 10420 DAF Btu: 13393
Hydrogen: 4.44 Dry Btu: 12413 MMFBtu: 11072
Nitrogen: 1.12
Oxygen: 7.32 Sulfide: 0.04
Sulfur: 0.73 Sulfate: 0.040
Organic Sulfur: 0.65

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 12	SiO_2: 3.41	SiO_2ash: 55.57
Co: 12	Al_2O_3: 1.67	Al_2O_3ash: 27.14
Cr: 230	TiO_2: 0.06	TiO_2ash: 0.98
Cu: 65	Fe_2O_3: 0.21	Fe_2O_3ash: 3.5
Li: 34	MgO: 0.086	MgOash: 1.41
Mn: 276	CaO: 0.29	CaOash: 4.75
Nb: 18	K_2O: 0.041	K_2Oash: 0.68
Ni: 130	Na_2O: 0.27	Na_2Oash: 4.49
Pb: 67		
Sr: 190		
V: 83	AB Ratio: 0.17	
Zn: 290	Silica Ratio: 85.19	
	Total ashed Oxides: 98.52	
Calc oxygen: 23.41		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 999
Sample No.: 18N3W21C
Township: T18N Range: R3W Sec.: 21

Formation: Menefee
Field: Chacra Mesa Member: Upper Zone:

Depth to Seam: 97.60 Seam Thickness: 1.25
Sample Interval: 97.6-98.85 Sample Thickness: 1.25

Analyses on As-Received Basis

Air Dry Loss: 8.69
Eq. Moisture: 16.90 Moisture: 13.49 Vol. Matter: 33.68
Ash: 20.90 Fixed Carbon: 31.92

Carbon: 50.85 Btu: 8630 DAF Btu: 13154
Hydrogen: 4.22 Dry Btu: 9976 MMFBtu: 11102
Nitrogen: 0.88
Oxygen: 9.33 Sulfide: 0.04
Sulfur: 0.60 Sulfate: 0.003
Organic Sulfur: 0.56

Fluoride in ppm: 62.3 Chloride in ppm: 19

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 38	SiO_2:	SiO_2ash:
Co: 16	Al_2O_3:	Al_2O_3ash:
Cr: 30	TiO_2:	TiO_2ash:
Cu: 19	Fe_2O_3:	Fe_2O_3ash:
Li: 28	MgO:	MgOash:
Mn: 27	CaO:	CaOash:
Nb:	K_2O:	K_2Oash:
Ni: 30	Na_2O:	Na_2Oash:
Pb: 83		
Sr: 467		
V: 103	AB Ratio: 0.16	
Zn: 37	Silica Ratio: 84.87	
	Total ashed Oxides:	
Calc oxygen: 22.55		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 664
Sample No.: 18N3W21C
Township: T18N Range: R3W Sec.: 21

Formation: Menefee
Field: Chacra Mesa Member: Upper Zone:

Depth to Seam: 105.60 Seam Thickness: 1.50
Sample Interval: 105.60-107.10 Sample Thickness: 1.50

Analyses on As-Received Basis

Air Dry Loss: 7.57
Eq. Moisture: 15.11 Moisture: 15.34 Vol. Matter: 38.88
Ash: 5.38 Fixed Carbon: 40.40

Carbon: 65.48 Btu: 10905 DAF Btu: 13756
Hydrogen: 4.53 Dry Btu: 12881 MMFBtu: 11338
Nitrogen: 1.07
Oxygen: 6.17 Sulfide: 0.40
Sulfur: 2.01 Sulfate: 0.230
Organic Sulfur: 1.38

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 26	SiO_2: 2.35	SiO_2ash: 43.77
Co: 27	Al_2O_3: 0.64	Al_2O_3ash: 11.84
Cr: 340	TiO_2: 0.041	TiO_2ash: 0.77
Cu: 47	Fe_2O_3: 1.17	Fe_2O_3ash: 21.83
Li: 11	MgO: 0.074	MgOash: 1.39
Mn: 129	CaO: 0.29	CaOash: 5.42
Nb: 49	K_2O: 0.011	K_2Oash: 0.22
Ni: 230	Na_2O: 0.25	Na_2Oash: 4.63
Pb: 6		
Sr: 410		
V: 106	AB Ratio: 0.59	
Zn: 134	Silica Ratio: 60.44	
	Total ashed Oxides: 89.87	
Calc oxygen: 21.53		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 1002
Sample No.: 18N3W21D
Township: T18N Range: R3W Sec.: 21

Formation: Menefee
Field: Chacra Mesa Member: Upper Zone:

Depth to Seam: 101.00 Seam Thickness: 3.85
Sample Interval: 101.0-104.85 Sample Thickness: 3.85

Analyses on As-Received Basis

Air Dry Loss: 9.55
Eq. Moisture: 16.46 Moisture: 15.52 Vol. Matter: 35.97
Ash: 9.34 Fixed Carbon: 39.17

Carbon: 60.07 Btu: 9847 DAF Btu: 13104
Hydrogen: 4.50 Dry Btu: 11656 MMFBtu: 10922
Nitrogen: 1.19
Oxygen: 9.12 Sulfide: 0.05
Sulfur: 0.47 Sulfate: 0.005
Organic Sulfur: 0.41

Fluoride in ppm: 24.8 Chloride in ppm: 47.7

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 10	SiO_2: 7.31	SiO_2ash: 78.23
Co: 24	Al_2O_3: 1.29	Al_2O_3ash: 13.77
Cr: 118	TiO_2: 0.094	TiO_2ash: 1.01
Cu: 46	Fe_2O_3: 0.2	Fe_2O_3ash: 2.11
Li: 21	MgO: 0.17	MgOash: 1.87
Mn: 85	CaO: 0.19	CaOash: 2.04
Nb:	K_2O: 0.075	K_2Oash: 0.81
Ni: 74	Na_2O: 0.27	Na_2Oash: 2.9
Pb: 28		
Sr: 1357		
V: 149	AB Ratio: 0.1	
Zn: 67	Silica Ratio: 92.85	
	Total ashed Oxides: 102.74	
Calc oxygen: 24.43		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 663
Sample No.: 18N3W21D
Township: T18N Range: R3W Sec.: 21

Formation: Menefee
Field: Chacra Mesa Member: Upper Zone:

Depth to Seam: 169.75 Seam Thickness: 1.40
Sample Interval: 169.75-171.15 Sample Thickness: 1.40

Analyses on As-Received Basis

Air Dry Loss: 6.64
Eq. Moisture: 16.70 Moisture: 15.91 Vol. Matter: 37.19
Ash: 7.38 Fixed Carbon: 39.52

Carbon: 63.39 Btu: 10044 DAF Btu: 13094
Hydrogen: 4.45 Dry Btu: 11945 MMFBtu: 10841
Nitrogen: 1.09
Oxygen: 7.15 Sulfide: 0.01
Sulfur: 0.61 Sulfate: 0.000
Organic Sulfur: 0.60

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 59	SiO_2: 4.78	SiO_2ash: 64.74
Co: 0	Al_2O_3: 1.6	Al_2O_3ash: 21.66
Cr: 110	TiO_2: 0.073	TiO_2ash: 0.99
Cu: 59	Fe_2O_3: 0.023	Fe_2O_3ash: 3.13
Li: 26	MgO: 0.093	MgOash: 1.27
Mn: 101	CaO: 0.2	CaOash: 2.68
Nb: 18	K_2O: 0.13	K_2Oash: 1.74
Ni: 93	Na_2O: 0.29	Na_2Oash: 3.93
Pb: 51		
Sr: 500		
V: 395	AB Ratio: 0.14	
Zn: 145	Silica Ratio: 90.14	
	Total ashed Oxides: 100.14	
Calc oxygen: 23.08		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory Analyses, NMRDI Coal Quality Project

Lab No.: 1004
Sample No.: 18N3W21E
Township: T18N Range: R3W Sec.: 21

Formation: Menefee
Field: Chacra Mesa Member: Upper Zone:

Depth to Seam: 112.15 Seam Thickness: 1.25
Sample Interval: 112.15-113.4 Sample Thickness: 1.25

Analyses on As-Received Basis

Air Dry Loss: 8.9
Eq. Moisture: 17.43 Moisture: 14.39 Vol. Matter: 37.45
Ash: 5.88 Fixed Carbon: 42.27

Carbon: 63.53 Btu: 10388 DAF Btu: 13029
Hydrogen: 4.89 Dry Btu: 12134 MMFBtu: 11041
Nitrogen: 1.49
Oxygen: 9.36 Sulfide: 0.05
Sulfur: 0.71 Sulfate: 0.000
Organic Sulfur: 0.66

Fluoride in ppm: 28.5 Chloride in ppm: 47.1

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 67	SiO_2: 3.66	SiO_2ash: 62.29
Co: 32	Al_2O_3: 1.22	Al_2O_3ash: 20.74
Cr: 111	TiO_2: 0.05	TiO_2ash: 0.86
Cu: 59	Fe_2O_3: 0.2	Fe_2O_3ash: 3.48
Li: 20	MgO: 0.1	MgOash: 1.73
Mn: 159	CaO: 0.15	CaOash: 2.5
Nb:	K_2O: 0.072	K_2Oash: 1.23
Ni: 84	Na_2O: 0.24	Na_2Oash: 4.16
Pb: 40		
Sr: 1209		
V: 346	AB Ratio: 0.15	
Zn: 54	Silica Ratio: 88.98	
	Total ashed Oxides: 96.99	
Calc oxygen: 23.50		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 659
Sample No.: 18N3W21E
Township: T18N Range: R3W Sec.: 21

Formation: Menefee
Field: Chacra Mesa Member: Upper Zone:

Depth to Seam: 254.20 Seam Thickness: 3.80
Sample Interval: 254.2-258.0 Sample Thickness: 3.80

Analyses on As-Received Basis

Air Dry Loss: 5.92
Eq. Moisture: 15.95 Moisture: 16.53 Vol. Matter: 34.94
Ash: 7.20 Fixed Carbon: 41.33

Carbon: 59.37 Btu: 10346 DAF Btu: 13565
Hydrogen: 4.23 Dry Btu: 12394 MMFBtu: 11171
Nitrogen: 1.28
Oxygen: 10.98 Sulfide: 0.02
Sulfur: 0.38 Sulfate: 0.000
Organic Sulfur: 0.36

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 10	SiO_2: 5.84	SiO_2ash: 81.09
Co: 10	Al_2O_3: 0.65	Al_2O_3ash: 8.97
Cr: 350	TiO_2: 0.035	TiO_2ash: 0.49
Cu: 46	Fe_2O_3: 0.23	Fe_2O_3ash: 3.22
Li: 17	MgO: 0.048	MgOash: 0.68
Mn: 157	CaO: 0.19	CaOash: 2.6
Nb: 8	K_2O: 0.027	K_2Oash: 0.38
Ni: 180	Na_2O: 0.22	Na_2Oash: 3.09
Pb: 34		
Sr: 588		
V: 33	AB Ratio: 0.11	
Zn: 113	Silica Ratio: 92.57	
	Total ashed Oxides: 100.52	
Calc oxygen: 27.54		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 1007
Sample No.: 18N3W21F
Township: T18N Range: R3W Sec.: 21

Formation: Menefee
Field: Chacra Mesa Member: Upper Zone:

Depth to Seam: 116.40 Seam Thickness: 2.40
Sample Interval: 116.4-118.8 Sample Thickness: 2.40

Analyses on As-Received Basis

Air Dry Loss: 8.26
Eq. Moisture: 18.20 Moisture: 14.04 Vol. Matter: 38.18
Ash: 4.68 Fixed Carbon: 43.10

Carbon: 64.41 Btu: 11207 DAF Btu: 13789
Hydrogen: 4.84 Dry Btu: 13038 MMFBtu: 11759
Nitrogen: 1.24
Oxygen: 10.39 Sulfide: 0.05
Sulfur: 0.65 Sulfate: 0.005
Organic Sulfur: 0.59

Fluoride in ppm: 13.5 Chloride in ppm: 40.7

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 119	SiO_2:	SiO_2ash: 59.72
Co: 50	Al_2O_3:	Al_2O_3ash: 18.83
Cr: 71	TiO_2:	TiO_2ash: 0.88
Cu: 98	Fe_2O_3:	Fe_2O_3ash: 3.25
Li: 25	MgO:	MgOash: 1.49
Mn: 159	CaO:	CaOash: 3.39
Nb:	K_2O:	K_2Oash: 0.9
Ni: 60	Na_2O:	Na_2Oash: 5.3
Pb: 238		
Sr: 2874		
V: 206	AB Ratio: 0.17	
Zn: 172	Silica Ratio: 83.78	
	Total ashed Oxides: 93.76	
Calc oxygen: 24.18		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 656
Sample No.: 18N3W21F
Township: T18N Range: R3W Sec.: 21

Formation: Menefee
Field: Chacra Mesa Member: Upper Zone:

Depth to Seam: 264.45 Seam Thickness: 5.30
Sample Interval: 264.45-267.05 Sample Thickness: 2.80

Analyses on As-Received Basis

Air Dry Loss: 11.37
Eq. Moisture: 17.74 Moisture: 18.01 Vol. Matter: 44.88
Ash: 3.44 Fixed Carbon: 33.67

Carbon: 58.42 Btu: 9928 DAF Btu: 12639
Hydrogen: 4.60 Dry Btu: 12109 MMFBtu: 10269
Nitrogen: 1.18
Oxygen: 13.95 Sulfide: 0.02
Sulfur: 0.38 Sulfate: 0.000
Organic Sulfur: 0.36

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 20	SiO_2:	SiO_2ash:
Co: 25	Al_2O_3:	Al_2O_3ash:
Cr: 52	TiO_2:	TiO_2ash:
Cu: 62	Fe_2O_3:	Fe_2O_3ash:
Li: 36	MgO:	MgOash:
Mn: 263	CaO:	CaOash:
Nb: 19	K_2O:	K_2Oash:
Ni: 57	Na_2O:	Na_2Oash:
Pb: 32		
Sr:		
V: 98	AB Ratio: 0.11	
Zn: 283	Silica Ratio: 92.57	
	Total ashed Oxides:	
Calc oxygen: 31.98		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory Analyses, NMRDI Coal Quality Project

Lab No.: 1003
Sample No.: 18N3W21G
Township: T18N Range: R3W Sec.: 21

Formation: Menefee
Field: Chacra Mesa Member: Upper Zone:

Depth to Seam: 134.50 Seam Thickness: 2.20
Sample Interval: 134.5-136.7 Sample Thickness: 2.20

Analyses on As-Received Basis

Air Dry Loss: 9
Eq. Moisture: 16.57 Moisture: 14.84 Vol. Matter: 33.87
Ash: 13.71 Fixed Carbon: 37.57

Carbon: 56.62 Btu: 9564 DAF Btu: 13386
Hydrogen: 4.25 Dry Btu: 11231 MMFBtu: 11161
Nitrogen: 1.14
Oxygen: 8.92 Sulfide: 0.06
Sulfur: 0.77 Sulfate: 0.010
Organic Sulfur: 0.70

Fluoride in ppm: 39.1 Chloride in ppm: 23.1

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 32	SiO_2: 9.3	SiO_2ash: 67.8
Co: 13	Al_2O_3: 2.61	Al_2O_3ash: 19.04
Cr: 54	TiO_2: 0.12	TiO_2ash: 0.89
Cu: 66	Fe_2O_3: 0.3	Fe_2O_3ash: 2.17
Li: 17	MgO: 0.12	MgOash: 0.89
Mn: 45	CaO: 0.15	CaOash: 1.06
Nb:	K_2O: 0.21	K_2Oash: 1.5
Ni: 31	Na_2O: 0.3	Na_2Oash: 2.16
Pb: 45		
Sr: 315		
V: 249	AB Ratio: 0.08	
Zn: 76	Silica Ratio: 94.27	
	Total ashed Oxides: 95.51	
Calc oxygen: 23.51		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 657
Sample No.: 18N3W21G
Township: T18N Range: R3W Sec.: 21

Formation: Menefee
Field: Chacra Mesa Member: Upper Zone:

Depth to Seam: 264.45 Seam Thickness: 5.30
Sample Interval: 267.05-269.55 Sample Thickness: 2.50

Analyses on As-Received Basis

Air Dry Loss: 5.23
Eq. Moisture: 17.41 Moisture: 16.69 Vol. Matter: 34.84
Ash: 9.29 Fixed Carbon: 39.17

Carbon: 56.90 Btu: 9951 DAF Btu: 13444
Hydrogen: 4.13 Dry Btu: 11945 MMFBtu: 11006
Nitrogen: 1.19
Oxygen: 11.33 Sulfide: 0.02
Sulfur: 0.44 Sulfate: 0.000
Organic Sulfur: 0.42

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 5	SiO_2: 4.61	SiO_2ash: 49.63
Co: 11	Al_2O_3: 1.54	Al_2O_3ash: 16.54
Cr: 63	TiO_2: 0.09	TiO_2ash: 0.97
Cu: 51	Fe_2O_3: 1.86	Fe_2O_3ash: 19.98
Li: 37	MgO: 0.13	MgOash: 1.42
Mn: 78	CaO: 0.43	CaOash: 4.64
Nb: 35	K_2O: 0.058	K_2Oash: 0.63
Ni: 86	Na_2O: 0.09	Na_2Oash: 0.97
Pb: 48		
Sr: 556		
V: 30	AB Ratio: 0.41	
Zn: 314	Silica Ratio: 65.58	
	Total ashed Oxides: 94.78	
Calc oxygen: 28.05		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 679
Sample No.: 18N4W13A
Township: T18N Range: R4W Sec.: 13

Formation: Menefee
Field: Chacra Mesa Member: Upper Zone:

Depth to Seam: 158.00 Seam Thickness: 4.10
Sample Interval: 158.4-162.5 Sample Thickness: 4.10

Analyses on As-Received Basis

Air Dry Loss: 1.97
Eq. Moisture: 20.33 Moisture: 12.58 Vol. Matter: 41.63
Ash: 5.69 Fixed Carbon: 40.10

Carbon: 65.35 Btu: 11800 DAF Btu: 14438
Hydrogen: 4.30 Dry Btu: 13498 MMFBtu: 12444
Nitrogen: 1.32
Oxygen: 9.73 Sulfide: 0.27
Sulfur: 1.01 Sulfate: 0.060
Organic Sulfur: 0.68

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 29	SiO_2: 3.29	SiO_2ash: 57.85
Co: 0	Al_2O_3: 1.05	Al_2O_3ash: 18.47
Cr: 517	TiO_2: 0.051	TiO_2ash: 0.9
Cu: 74	Fe_2O_3: 0.49	Fe_2O_3ash: 8.65
Li: 31	MgO: 0.036	MgOash: 0.64
Mn: 251	CaO: 0.17	CaOash: 3.01
Nb: 22	K_2O: 0.033	K_2Oash: 0.59
Ni: 36	Na_2O: 0.22	Na_2Oash: 3.9
Pb: 68		
Sr: 669		
V: 77	AB Ratio: 0.21	
Zn: 10	Silica Ratio: 82.46	
	Total ashed Oxides: 94.01	
Calc oxygen: 22.33		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 681
Sample No.: 18N4W13B
Township: T18N Range: R4W Sec.: 13

Formation: Menefee
Field: Chacra Mesa Member: Upper Zone:

Depth to Seam: 183.25 Seam Thickness: 2.55
Sample Interval: 183.25-185.80 Sample Thickness: 2.55

Analyses on As-Received Basis

Air Dry Loss: 2.23
Eq. Moisture: 16.30 Moisture: 15.39 Vol. Matter: 36.34
Ash: 5.24 Fixed Carbon: 43.02

Carbon: 63.98 Btu: 10839 DAF Btu: 13656
Hydrogen: 3.81 Dry Btu: 12811 MMFBtu: 11339
Nitrogen: 1.26
Oxygen: 9.05 Sulfide: 0.17
Sulfur: 1.26 Sulfate: 0.000
Organic Sulfur: 1.09

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 27	SiO_2: 3.02	SiO_2ash: 57.63
Co: 0	Al_2O_3: 1.05	Al_2O_3ash: 20
Cr: 95	TiO_2: 0.049	TiO_2ash: 0.95
Cu: 65	Fe_2O_3: 0.45	Fe_2O_3ash: 8.54
Li: 26	MgO: 0.041	MgOash: 0.8
Mn: 304	CaO: 0.14	CaOash: 2.76
Nb: 23	K_2O: 0.031	K_2Oash: 0.6
Ni: 37	Na_2O: 0.224	Na_2Oash: 4.29
Pb: 26		
Sr: 536		
V: 536	AB Ratio: 0.21	
Zn: 11	Silica Ratio: 82.64	
	Total ashed Oxides: 95.57	
Calc oxygen: 24.45		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory Analyses, NMRDI Coal Quality Project

Lab No.: 688
Sample No.: 18N4W13C
Township: T18N Range: R4W Sec.: 13

Formation: Menefee
Field: Chacra Mesa Member: Upper Zone:

Depth to Seam: 187.10 Seam Thickness: 1.65
Sample Interval: 187.10-188.75 Sample Thickness: 1.65

Analyses on As-Received Basis

Air Dry Loss: 2.23
Eq. Moisture: 14.21 Moisture: 9.26 Vol. Matter: 40.26
Ash: 6.94 Fixed Carbon: 43.54

Carbon: 65.66 Btu: 11495 DAF Btu: 13717
Hydrogen: 4.60 Dry Btu: 12668 MMFBtu: 12279
Nitrogen: 1.32
Oxygen: 11.03 Sulfide: 0.21
Sulfur: 1.15 Sulfate: 0.010
Organic Sulfur: 0.93

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 22	SiO_2: 3.9	SiO_2ash: 56.26
Co: 17	Al_2O_3: 1.81	Al_2O_3ash: 26.08
Cr: 97	TiO_2: 0.074	TiO_2ash: 1.08
Cu: 42	Fe_2O_3: 0.38	Fe_2O_3ash: 5.42
Li: 42	MgO: 0.048	MgOash: 0.7
Mn: 150	CaO: 0.26	CaOash: 3.81
Nb: 30	K_2O: 0.02	K_2Oash: 0.3
Ni: 47	Na_2O: 0.24	Na_2Oash: 3.42
Pb: 2		
Sr: 589		
V: 105	AB Ratio: 0.16	
Zn: 6	Silica Ratio: 84.99	
	Total ashed Oxides: 97.07	
Calc oxygen: 20.33		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 690
Sample No.: 18N4W13D
Township: T18N Range: R4W Sec.: 13

Formation: Menefee
Field: Chacra Mesa Member: Upper Zone:

Depth to Seam: 240.20 Seam Thickness: 1.65
Sample Interval: 240.2-241.85 Sample Thickness: 1.65

Analyses on As-Received Basis

Air Dry Loss: 2.02
Eq. Moisture: 15.76 Moisture: 10.58 Vol. Matter: 40.39
Ash: 4.60 Fixed Carbon: 44.43

Carbon: 67.83 Btu: 11570 DAF Btu: 13641
Hydrogen: 4.69 Dry Btu: 12939 MMFBtu: 12112
Nitrogen: 1.52
Oxygen: 10.25 Sulfide: 0.02
Sulfur: 0.50 Sulfate: 0.010
Organic Sulfur: 0.47

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 60	SiO_2: 3.25	SiO_2ash: 70.77
Co: 36	Al_2O_3: 0.7	Al_2O_3ash: 15.2
Cr: 120	TiO_2: 0.052	TiO_2ash: 1.14
Cu: 60	Fe_2O_3: 0.12	Fe_2O_3ash: 2.69
Li: 26	MgO: 0.031	MgOash: 0.68
Mn: 252	CaO: 0.15	CaOash: 3.24
Nb: 27	K_2O: 0.023	K_2Oash: 0.51
Ni: 122	Na_2O: 0.18	Na_2Oash: 3.92
Pb: 20		
Sr: 840		
V: 193	AB Ratio: 0.12	
Zn: 57	Silica Ratio: 91.45	
	Total ashed Oxides: 98.15	
Calc oxygen: 20.86		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 687
Sample No.: 18N4W13E
Township: T18N Range: R4W Sec.: 13

Formation: Menefee
Field: Chacra Mesa Member: Upper Zone:

Depth to Seam: 285.00 Seam Thickness: 6.70
Sample Interval: 285.00-288.3 Sample Thickness: 3.30

Analyses on As-Received Basis

Air Dry Loss: 1.82
Eq. Moisture: 14.82 Moisture: 13.07 Vol. Matter: 34.31
Ash: 14.87 Fixed Carbon: 37.74

Carbon: 55.97 Btu: 10624 DAF Btu: 14743
Hydrogen: 3.73 Dry Btu: 12221 MMFBtu: 12622
Nitrogen: 1.15
Oxygen: 10.94 Sulfide: 0.03
Sulfur: 0.24 Sulfate: 0.000
Organic Sulfur: 0.21

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 8	SiO_2: 9.37	SiO_2ash: 63.04
Co: 0	Al_2O_3: 5.3	Al_2O_3ash: 35.65
Cr: 79	TiO_2: 0.15	TiO_2ash: 1.02
Cu: 15	Fe_2O_3: 0.31	Fe_2O_3ash: 2.08
Li: 44	MgO: 0.095	MgOash: 0.64
Mn: 69	CaO: 0.18	CaOash: 1.22
Nb: 22	K_2O: 0.086	K_2Oash: 0.58
Ni: 35	Na_2O: 0.27	Na_2Oash: 1.8
Pb: 56		
Sr: 147		
V: 74	AB Ratio: 0.06	
Zn: 14	Silica Ratio: 94.11	
	Total ashed Oxides: 106.03	
Calc oxygen: 24.04		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory Analyses, NMRDI Coal Quality Project

Lab No.: 691
Sample No.: 18N4W13F
Township: T18N Range: R4W Sec.: 13

Formation: Menefee
Field: Chacra Mesa Member: Upper Zone:

Depth to Seam: 285.00 Seam Thickness: 6.70
Sample Interval: 288.3-291.7 Sample Thickness: 3.40

Analyses on As-Received Basis

Air Dry Loss: 1.08
Eq. Moisture: 15.55 Moisture: 9.80 Vol. Matter: 40.48
Ash: 5.61 Fixed Carbon: 44.09

Carbon: 68.22 Btu: 11736 DAF Btu: 13876
Hydrogen: 4.57 Dry Btu: 13012 MMFBtu: 12429
Nitrogen: 1.46
Oxygen: 9.81 Sulfide: 0.08
Sulfur: 0.50 Sulfate: 0.010
Organic Sulfur: 0.41

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 10	SiO_2: 3.55	SiO_2ash: 63.35
Co: 14	Al_2O_3: 1.51	Al_2O_3ash: 26.95
Cr: 222	TiO_2: 0.06	TiO_2ash: 1.08
Cu: 64	Fe_2O_3: 0.28	Fe_2O_3ash: 5.02
Li: 26	MgO: 0.078	MgOash: 1.4
Mn: 194	CaO: 0.094	CaOash: 1.69
Nb: 8	K_2O: 0.072	K_2Oash: 1.29
Ni: 204	Na_2O: 0.091	Na_2Oash: 1.63
Pb: 44		
Sr: 570		
V: 94	AB Ratio: 0.12	
Zn: 87	Silica Ratio: 88.65	
	Total ashed Oxides: 102.41	
Calc oxygen: 19.64		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
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Lab No.: 680
Sample No.: 18N4W10A
Township: T18N Range: R4W Sec.: 10

Formation: Menefee
Field: Chacra Mesa Member: Upper Zone:

Depth to Seam: 162.20 Seam Thickness: 2.05
Sample Interval: 162.20-164.25 Sample Thickness: 2.05

Analyses on As-Received Basis

Air Dry Loss: 16.78
Eq. Moisture: 16.71 Moisture: 21.82 Vol. Matter: 35.31
Ash: 4.01 Fixed Carbon: 38.86

Carbon: 61.59 Btu: 10252 DAF Btu: 13822
Hydrogen: 4.23 Dry Btu: 13113 MMFBtu: 10679
Nitrogen: 1.16
Oxygen: 6.84 Sulfide: 0.01
Sulfur: 0.32 Sulfate: 0.000
Organic Sulfur: 0.31

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 52	SiO_2:	SiO_2ash:
Co: 44	Al_2O_3:	Al_2O_3ash:
Cr: 342	TiO_2:	TiO_2ash:
Cu: 84	Fe_2O_3:	Fe_2O_3ash:
Li: 38	MgO:	MgOash:
Mn: 202	CaO:	CaOash:
Nb: 4	K_2O:	K_2Oash:
Ni: 213	Na_2O:	Na_2Oash:
Pb: 103		
Sr: 1164		
V: 83	AB Ratio: 0.21	
Zn: 369	Silica Ratio: 82.64	
	Total ashed Oxides:	
Calc oxygen: 28.69		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory Analyses, NMRDI Coal Quality Project

Lab No.: 677
Sample No.: 18N4W10B
Township: T18N Range: R4W Sec.: 10

Formation: Menefee
Field: Chacra Mesa Member: Upper Zone:

Depth to Seam: 276.00 Seam Thickness: 4.15
Sample Interval: 276.0-280.15 Sample Thickness: 4.15

Analyses on As-Received Basis

Air Dry Loss: 19.87
Eq. Moisture: 15.48 Moisture: 24.42 Vol. Matter:
Ash: 8.77 Fixed Carbon: 66.81

Carbon: 54.89 Btu: 9324 DAF Btu: 13956
Hydrogen: 3.78 Dry Btu: 12336 MMFBtu: 10280
Nitrogen: 1.01
Oxygen: 6.95 Sulfide: 0.03
Sulfur: 0.16 Sulfate: 0.010
Organic Sulfur: 0.12

Fluoride in ppm: 50.6 Chloride in ppm: 40.4

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 3	SiO_2: 5.64	SiO_2ash: 64.32
Co: 0	Al_2O_3: 1.68	Al_2O_3ash: 19.18
Cr: 99	TiO_2: 0.073	TiO_2ash: 0.84
Cu: 39	Fe_2O_3: 0.28	Fe_2O_3ash: 3.15
Li: 25	MgO: 0.076	MgOash: 0.87
Mn: 186	CaO: 0.19	CaOash: 2.13
Nb: 17	K_2O: 0.14	K_2Oash: 1.56
Ni: 46	Na_2O: 0.22	Na_2Oash: 2.46
Pb: 27		
Sr: 505		
V: 74	AB Ratio: 0.12	
Zn: 23	Silica Ratio: 91.27	
	Total ashed Oxides: 94.51	
Calc oxygen: 31.39		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 682
Sample No.: 18N4W10C
Township: T18N Range: R4W Sec.: 10

Formation: Menefee
Field: Chacra Mesa Member: Upper Zone:

Depth to Seam: 283.85 Seam Thickness: 1.85
Sample Interval: 283.85-285.7 Sample Thickness: 1.85

Analyses on As-Received Basis

Air Dry Loss: 15.2
Eq. Moisture: 17.49 Moisture: 19.88 Vol. Matter: 32.41
Ash: 5.39 Fixed Carbon: 42.32

Carbon: Btu: 10492 DAF Btu: 14040
Hydrogen: Dry Btu: 13096 MMFBtu: 11110
Nitrogen:
Oxygen: 75.01 Sulfide: 0.03
Sulfur: 0.26 Sulfate: 0.055
Organic Sulfur: 0.17

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 37	SiO_2: 3.49	SiO_2ash: 64.72
Co: 66	Al_2O_3: 1.1	Al_2O_3ash: 20.46
Cr: 116	TiO_2: 0.056	TiO_2ash: 1.04
Cu: 59	Fe_2O_3: 0.025	Fe_2O_3ash: 4.58
Li: 27	MgO: 0.053	MgOash: 0.99
Mn: 167	CaO: 0.12	CaOash: 2.17
Nb: 32	K_2O: 0.058	K_2Oash: 1.095
Ni: 110	Na_2O: 0.2	Na_2Oash: 3.65
Pb: 8		
Sr: 520		
V: 363	AB Ratio: 0.14	
Zn: 26	Silica Ratio: 89.31	
	Total ashed Oxides: 98.7	
Calc oxygen:		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory Analyses, NMRDI Coal Quality Project

Lab No.: 678
Sample No.: 18N4W10D
Township: T18N Range: R4W Sec.: 10

Formation: Menefee
Field: Chacra Mesa Member: Upper Zone:

Depth to Seam: 302.35 Seam Thickness: 3.25
Sample Interval: 302.35-305.60 Sample Thickness: 3.25

Analyses on As-Received Basis

Air Dry Loss: 20.83
Eq. Moisture: 14.34 Moisture: 23.41 Vol. Matter: 32.97
Ash: 7.82 Fixed Carbon: 35.80

Carbon: 56.79 Btu: 9510 DAF Btu: 13828
Hydrogen: 4.06 Dry Btu: 12416 MMFBtu: 10348
Nitrogen: 1.00
Oxygen: 6.56 Sulfide: 0.01
Sulfur: 0.33 Sulfate: 0.020
Organic Sulfur: 0.30

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 17	SiO_2: 5.64	SiO_2ash: 72.06
Co: 16	Al_2O_3: 1.52	Al_2O_3ash: 19.43
Cr: 141	TiO_2: 0.072	TiO_2ash: 0.93
Cu: 44	Fe_2O_3: 0.3	Fe_2O_3ash: 3.9
Li: 20	MgO: 0.064	MgOash: 0.82
Mn: 151	CaO: 0.14	CaOash: 1.74
Nb: 15	K_2O: 0.13	K_2Oash: 1.73
Ni: 57	Na_2O: 0.22	Na_2Oash: 2.83
Pb: 27		
Sr: 245		
V: 33	AB Ratio: 0.11	
Zn: 16	Silica Ratio: 91.77	
	Total ashed Oxides: 103.44	
Calc oxygen: 30.00		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory Analyses, NMRDI Coal Quality Project

Lab No.: 685
Sample No.: 18N4W20A
Township: T18N Range: R4W Sec.: 20

Formation: Menefee
Field: Chacra Mesa Member: Upper Zone:

Depth to Seam: 88.30 Seam Thickness: 1.60
Sample Interval: 88.3-89.90 Sample Thickness: 1.60

Analyses on As-Received Basis

Air Dry Loss: 2.77
Eq. Moisture: 16.64 Moisture: 11.91 Vol. Matter: 38.52
Ash: 7.00 Fixed Carbon: 42.57

Carbon: 65.80 Btu: 11533 DAF Btu: 14223
Hydrogen: 4.39 Dry Btu: 13093 MMFBtu: 12409
Nitrogen: 1.35
Oxygen: 9.01 Sulfide: 0.03
Sulfur: 0.52 Sulfate: 0.010
Organic Sulfur: 0.48

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 17	SiO_2: 3.6	SiO_2ash: 51.4
Co: 16	Al_2O_3: 1.63	Al_2O_3ash: 23.22
Cr: 93	TiO_2: 0.069	TiO_2ash: 0.99
Cu: 53	Fe_2O_3: 0.22	Fe_2O_3ash: 3.19
Li: 56	MgO: 0.078	MgOash: 1.12
Mn: 193	CaO: 0.67	CaOash: 9.61
Nb: 18	K_2O: 0.009	K_2Oash: 0.13
Ni: 37	Na_2O: 0.21	Na_2Oash: 2.98
Pb: 33		
Sr: 589		
V: 95	AB Ratio: 0.22	
Zn: 4	Silica Ratio: 78.68	
	Total ashed Oxides: 92.64	
Calc oxygen: 20.94		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory Analyses, NMRDI Coal Quality Project

Lab No.: 692
Sample No.: 18N4W20B
Township: T18N Range: R4W Sec.: 20

Formation: Menefee
Field: Chacra Mesa Member: Upper Zone:

Depth to Seam: 162.20 Seam Thickness: 3.40
Sample Interval: 162.2-165.60 Sample Thickness: 3.40

Analyses on As-Received Basis

Air Dry Loss: 1.99
Eq. Moisture: 16.31 Moisture: 12.52 Vol. Matter: 38.36
Ash: Fixed Carbon: 49.12

Carbon: 65.10 Btu: 11081 DAF Btu: 12667
Hydrogen: 4.20 Dry Btu: 12667 MMFBtu: 11033
Nitrogen: 1.47
Oxygen: 16.27 Sulfide: 0.03
Sulfur: 0.43 Sulfate: 0.000
Organic Sulfur: 0.40

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 18	SiO_2:	SiO_2ash: 61.73
Co: 14	Al_2O_3:	Al_2O_3ash: 25.69
Cr: 162	TiO_2:	TiO_2ash: 1.33
Cu: 60	Fe_2O_3:	Fe_2O_3ash: 3.02
Li: 53	MgO:	MgOash: 0.93
Mn: 108	CaO:	CaOash: 2.4
Nb: 22	K_2O:	K_2Oash: 0.48
Ni: 79	Na_2O:	Na_2Oash: 4.11
Pb: 28		
Sr: 588		
V: 133	AB Ratio: 0.12	
Zn: 27	Silica Ratio: 90.67	
	Total ashed Oxides: 99.69	
Calc oxygen:		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 1001
Sample No.: 18N3W28A
Township: T18N Range: R3W Sec.: 28

Formation: Menefee
Field: Chacra Mesa Member: Upper Zone:

Depth to Seam: 181.10 Seam Thickness: 1.30
Sample Interval: 181.1-182.4 Sample Thickness: 1.30

Analyses on As-Received Basis

Air Dry Loss: 12.95
Eq. Moisture: 16.67 Moisture: 16.56 Vol. Matter: 35.12
Ash: 7.53 Fixed Carbon: 40.78

Carbon: 61.34 Btu: 9879 DAF Btu: 13014
Hydrogen: 4.62 Dry Btu: 11839 MMFBtu: 10721
Nitrogen: 1.38
Oxygen: 8.29 Sulfide: 0.01
Sulfur: 0.56 Sulfate: 0.004
Organic Sulfur: 0.55

Fluoride in ppm: 25.9 Chloride in ppm: 21.3

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 520	SiO_2: 5.43	SiO_2ash: 72.06
Co: 38	Al_2O_3: 1.42	Al_2O_3ash: 18.81
Cr: 85	TiO_2: 0.06	TiO_2ash: 0.81
Cu: 62	Fe_2O_3: 0.19	Fe_2O_3ash: 2.56
Li: 33	MgO: 0.18	MgOash: 2.37
Mn: 86	CaO: 0.13	CaOash: 1.77
Nb:	K_2O: 0.064	K_2Oash: 0.86
Ni: 70	Na_2O: 0.24	Na_2Oash: 3.24
Pb: 63		
Sr: 1341		
V: 197	AB Ratio: 0.11	
Zn: 70	Silica Ratio: 91.49	
	Total ashed Oxides: 102.48	
Calc oxygen: 24.57		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory Analyses, NMRDI Coal Quality Project

Lab No.: 1006
Sample No.: 18N3W16A
Township: T18N Range: R3W Sec.: 16

Formation: Menefee
Field: Chacra Mesa Member: Upper Zone:

Depth to Seam: 117.20 Seam Thickness: 3.50
Sample Interval: 117.2-120.7 Sample Thickness: 3.50

Analyses on As-Received Basis

Air Dry Loss: 9.61
Eq. Moisture: 13.66 Moisture: 15.70 Vol. Matter: 39.88
Ash: 10.65 Fixed Carbon: 73.65

Carbon: 57.86 Btu: 9402 DAF Btu: 12766
Hydrogen: 4.53 Dry Btu: 11153 MMFBtu: 10506
Nitrogen: 1.17
Oxygen: 9.10 Sulfide: 0.43
Sulfur: 1.17 Sulfate: 0.010
Organic Sulfur: 0.73

Fluoride in ppm: 37.7 Chloride in ppm: 40

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 14	SiO_2: 5.96	SiO_2ash: 55.98
Co: 20	Al_2O_3: 2.57	Al_2O_3ash: 24.16
Cr: 48	TiO_2: 0.087	TiO_2ash: 0.82
Cu: 47	Fe_2O_3: 0.7	Fe_2O_3ash: 6.59
Li: 29	MgO: 0.13	MgOash: 1.19
Mn: 178	CaO: 0.32	CaOash: 3.05
Nb:	K_2O: 0.15	K_2Oash: 1.4
Ni: 26	Na_2O: 0.22	Na_2Oash: 2.04
Pb: 100		
Sr: 1381		
V: 216	AB Ratio: 0.17	
Zn: 110	Silica Ratio: 83.78	
	Total ashed Oxides: 95.23	
Calc oxygen: 24.62		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory Analyses, NMRDI Coal Quality Project

Lab No.: 1008
Sample No.: 18N3W16B
Township: T18N Range: R3W Sec.: 16

Formation: Menefee
Field: Chacra Mesa Member: Upper Zone:

Depth to Seam: 250.70 Seam Thickness: 2.60
Sample Interval: 250.7-253.3 Sample Thickness: 2.60

Analyses on As-Received Basis

Air Dry Loss: 10.32
Eq. Moisture: 18.18 Moisture: 18.81 Vol. Matter: 33.95
Ash: 6.93 Fixed Carbon: 40.30

Carbon: 59.01 Btu: 9702 DAF Btu: 13066
Hydrogen: 4.30 Dry Btu: 11950 MMFBtu: 10423
Nitrogen: 1.19
Oxygen: 9.18 Sulfide: 0.26
Sulfur: 0.78 Sulfate: 0.020
Organic Sulfur: 0.50

Fluoride in ppm: 19.1 Chloride in ppm: 52.6

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 36	SiO_2: 4.58	SiO_2ash: 66.04
Co: 19	Al_2O_3: 1.02	Al_2O_3ash: 14.74
Cr: 223	TiO_2: 0.054	TiO_2ash: 0.79
Cu: 44	Fe_2O_3: 0.44	Fe_2O_3ash: 6.4
Li: 12	MgO: 0.09	MgOash: 1.3
Mn: 116	CaO: 0.19	CaOash: 2.78
Nb:	K_2O: 0.08	K_2Oash: 1.16
Ni: 131	Na_2O: 0.21	Na_2Oash: 3
Pb: 46		
Sr: 709		
V: 174	AB Ratio: 0.17	
Zn: 45	Silica Ratio: 86.3	
	Total ashed Oxides: 96.21	
Calc oxygen: 27.79		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 995
Sample No.: 18N3W16C
Township: T18N Range: R3W Sec.: 16

Formation: Menefee
Field: Chacra Mesa Member: Upper Zone:

Depth to Seam: 269.55 Seam Thickness: 2.15
Sample Interval: 269.55-271.7 Sample Thickness: 2.15

Analyses on As-Received Basis

Air Dry Loss: 11.26
Eq. Moisture: 19.10 Moisture: 17.33 Vol. Matter: 37.20
Ash: 4.23 Fixed Carbon: 41.23

Carbon: 62.41 Btu: 10544 DAF Btu: 13442
Hydrogen: 4.69 Dry Btu: 12754 MMFBtu: 11000
Nitrogen: 1.21
Oxygen: 9.70 Sulfide: 0.06
Sulfur: 0.69 Sulfate: 0.006
Organic Sulfur: 0.62

Fluoride in ppm: 16.2 Chloride in ppm: 10.2

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 19	SiO_2: 2.57	SiO_2ash: 60.76
Co: 49	Al_2O_3: 0.65	Al_2O_3ash: 15.46
Cr: 88	TiO_2: 0.042	TiO_2ash: 1
Cu: 72	Fe_2O_3: 0.18	Fe_2O_3ash: 4.33
Li: 25	MgO: 0.061	MgOash: 1.46
Mn: 291	CaO: 0.19	CaOash: 4.48
Nb:	K_2O: 0.029	K_2Oash: 0.7
Ni: 120	Na_2O: 0.19	Na_2Oash: 4.58
Pb: 91		
Sr: 2655		
V: 179	AB Ratio: 0.2	
Zn: 87	Silica Ratio: 85.54	
	Total ashed Oxides: 92.77	
Calc oxygen: 26.77		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 998
Sample No.: 18N3W16D
Township: T18N Range: R3W Sec.: 16

Formation: Menefee
Field: Chacra Mesa Member: Upper Zone:

Depth to Seam: 275.80 Seam Thickness: 4.50
Sample Interval: 275.8-280.3 Sample Thickness: 4.50

Analyses on As-Received Basis

Air Dry Loss: 9.93
Eq. Moisture: 17.46 Moisture: 15.95 Vol. Matter: 36.20
Ash: 8.48 Fixed Carbon: 39.36

Carbon: 60.34 Btu: 9450 DAF Btu: 12506
Hydrogen: 4.59 Dry Btu: 11244 MMFBtu: 10328
Nitrogen: 1.31
Oxygen: 8.67 Sulfide: 0.27
Sulfur: 0.88 Sulfate: 0.010
Organic Sulfur: 0.60

Fluoride in ppm: 34 Chloride in ppm: 44

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 26	SiO_2: 5.05	SiO_2ash: 59.59
Co: 21	Al_2O_3: 1.89	Al_2O_3ash: 22.26
Cr: 133	TiO_2: 0.075	TiO_2ash: 0.89
Cu: 64	Fe_2O_3: 0.47	Fe_2O_3ash: 5.5
Li: 23	MgO: 0.11	MgOash: 1.3
Mn: 145	CaO: 0.32	CaOash: 3.82
Nb:	K_2O: 0.1	K_2Oash: 1.19
Ni: 77	Na_2O: 0.17	Na_2Oash: 2.05
Pb: 53		
Sr: 645		
V: 210	AB Ratio: 0.16	
Zn: 58	Silica Ratio: 84.87	
	Total ashed Oxides: 96.6	
Calc oxygen: 24.40		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 996
Sample No.: 18N3W16E
Township: T18N Range: R3W Sec.: 16

Formation: Menefee
Field: Chacra Mesa Member: Upper Zone:

Depth to Seam: 335.55 Seam Thickness: 2.40
Sample Interval: 335.55-337.95 Sample Thickness: 2.40

Analyses on As-Received Basis

Air Dry Loss: 8.98
Eq. Moisture: 16.07

Moisture: 14.59
Ash: 12.57

Vol. Matter: 34.51
Fixed Carbon: 38.32

Carbon: 57.71
Hydrogen: 4.53
Nitrogen: 1.14
Oxygen: 9.03

Btu: 9208
Dry Btu: 10781

DAF Btu: 12642
MMFBtu: 10583

Sulfur: 0.83

Sulfide: 0.13
Sulfate: 0.006
Organic Sulfur: 0.69

Fluoride in ppm: 33 Chloride in ppm: 47.1

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 28	SiO_2: 8.81	SiO_2ash: 70.1
Co: 18	Al_2O_3: 2.34	Al_2O_3ash: 18.62
Cr: 305	TiO_2: 0.11	TiO_2ash: 0.87
Cu: 42	Fe_2O_3: 0.36	Fe_2O_3ash: 2.84
Li: 17	MgO: 0.086	MgOash: 0.69
Mn: 145	CaO: 0.27	CaOash: 2.13
Nb:	K_2O: 0.14	K_2Oash: 1.13
Ni: 178	Na_2O: 0.21	Na_2Oash: 1.66
Pb: 44		
Sr: 557		
V: 189		
Zn: 41		

Calc oxygen: 23.22

AB Ratio: 0.09
Silica Ratio: 92.52
Total ashed Oxides: 98.04

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 997
Sample No.: 18N3W16F
Township: T18N Range: R3W Sec.: 16

Formation: Menefee
Field: Chacra Mesa Member: Upper Zone:

Depth to Seam: 447.10 Seam Thickness: 3.50
Sample Interval: 447.1-450.6 Sample Thickness: 3.50

Analyses on As-Received Basis

Air Dry Loss: 9.9
Eq. Moisture: 14.81 Moisture: 14.43 Vol. Matter: 34.39
Ash: 14.15 Fixed Carbon: 37.03

Carbon: 57.00 Btu: 9478 DAF Btu: 13270
Hydrogen: 4.45 Dry Btu: 11076 MMFBtu: 11122
Nitrogen: 1.31
Oxygen: 8.14 Sulfide: 0.07
Sulfur: 0.76 Sulfate: 0.000
Organic Sulfur: 0.69

Fluoride in ppm: 29.7 Chloride in ppm: 26.9

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 14	SiO_2: 9.69	SiO_2ash: 68.47
Co: 19	Al_2O_3: 4.66	Al_2O_3ash: 32.95
Cr: 69	TiO_2: 0.13	TiO_2ash: 0.9
Cu: 33	Fe_2O_3: 0.31	Fe_2O_3ash: 2.17
Li: 36	MgO: 0.22	MgOash: 1.56
Mn: 52	CaO: 0.21	CaOash: 1.48
Nb:	K_2O: 0.11	K_2Oash: 0.77
Ni: 46	Na_2O: 0.19	Na_2Oash: 1.36
Pb: 49		
Sr: 581		
V: 110	AB Ratio: 0.07	
Zn: 30	Silica Ratio: 92.92	
	Total ashed Oxides: 109.66	
Calc oxygen: 22.33		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory Analyses, NMRDI Coal Quality Project

Lab No.: 1009
Sample No.: 18N3W3-1A
Township: T18N Range: R3W Sec.: 3

Formation: Menefee
Field: Chacra Mesa Member: Upper Zone:

Depth to Seam: 314.85 Seam Thickness: 2.85
Sample Interval: 314.85-317.7 Sample Thickness: 2.85

Analyses on As-Received Basis

Air Dry Loss: 10.04
Eq. Moisture: 16.59

Moisture: 15.19
Ash: 5.11

Vol. Matter: 38.25
Fixed Carbon: 41.44

Carbon: 63.94
Hydrogen: 4.80
Nitrogen: 1.31
Oxygen: 8.98

Btu: 10973
Dry Btu: 12938

DAF Btu: 13767
MMFBtu: 11537

Sulfur: 0.88

Sulfide: 0.14
Sulfate: 0.020
Organic Sulfur: 0.72

Fluoride in ppm: 18.2 Chloride in ppm: 28.2

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 201	SiO_2:	SiO_2ash:
Co: 15	Al_2O_3:	Al_2O_3ash:
Cr: 68	TiO_2:	TiO_2ash:
Cu: 63	Fe_2O_3:	Fe_2O_3ash:
Li: 31	MgO:	MgOash:
Mn: 743	CaO:	CaOash:
Nb:	K_2O:	K_2Oash:
Ni: 17	Na_2O:	Na_2Oash:
Pb: 35		
Sr: 2999		
V: 331	AB Ratio: 0.17	
Zn: 67	Silica Ratio: 86.3	
	Total ashed Oxides:	
Calc oxygen: 23.96		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 1016
Sample No.: 18N3W3-1B
Township: T18N Range: R3W Sec.: 3

Formation: Menefee
Field: Chacra Mesa Member: Upper Zone:

Depth to Seam: 363.65 Seam Thickness: 4.00
Sample Interval: 363.65-367.65 Sample Thickness: 4.00

Analyses on As-Received Basis

Air Dry Loss: 12.95
Eq. Moisture: 18.39 Moisture: 18.26 Vol. Matter: 36.48
Ash: 3.59 Fixed Carbon: 41.66

Carbon: 62.42 Btu: 10507 DAF Btu: 13445
Hydrogen: 4.47 Dry Btu: 12854 MMFBtu: 10815
Nitrogen: 1.15
Oxygen: 9.08 Sulfide: 0.24
Sulfur: 1.22 Sulfate: 0.014
Organic Sulfur: 0.97

Fluoride in ppm: 22.5 Chloride in ppm: 60.1

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 48	SiO_2:	SiO_2ash:
Co: 14	Al_2O_3:	Al_2O_3ash:
Cr: 63	TiO_2:	TiO_2ash:
Cu: 68	Fe_2O_3:	Fe_2O_3ash:
Li: 29	MgO:	MgOash:
Mn: 1676	CaO:	CaOash:
Nb:	K_2O:	K_2Oash:
Ni: 18	Na_2O:	Na_2Oash:
Pb: 58		
Sr: 3250		
V: 194	AB Ratio: 0.23	
Zn: 245	Silica Ratio: 79.18	
	Total ashed Oxides:	
Calc oxygen: 27.15		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 1013
Sample No.: 18N3W3-1C
Township: T18N Range: R3W Sec.: 3

Formation: Menefee
Field: Chacra Mesa Member: Upper Zone:

Depth to Seam: 367.65 Seam Thickness: 4.90
Sample Interval: 367.65-372.55 Sample Thickness: 4.90

Analyses on As-Received Basis

Air Dry Loss: 9.66
Eq. Moisture: 17.08 Moisture: 16.78 Vol. Matter: 35.03
Ash: 7.67 Fixed Carbon: 40.52

Carbon: 61.09 Btu: 10213 DAF Btu: 13519
Hydrogen: 4.43 Dry Btu: 12273 MMFBtu: 10989
Nitrogen: 1.18
Oxygen: 7.60 Sulfide: 0.74
Sulfur: 1.42 Sulfate: 0.045
Organic Sulfur: 0.63

Fluoride in ppm: 31.6 Chloride in ppm: 60.5

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 15	SiO_2: 3.47	SiO_2ash: 45.3
Co: 15	Al_2O_3: 2.07	Al_2O_3ash: 26.96
Cr: 62	TiO_2: 0.094	TiO_2ash: 1.23
Cu: 40	Fe_2O_3: 0.3	Fe_2O_3ash: 3.89
Li: 15	MgO: 0.12	MgOash: 1.51
Mn: 55	CaO: 0.25	CaOash: 3.27
Nb:	K_2O: 0.03	K_2Oash: 0.4
Ni: 43	Na_2O: 0.14	Na_2Oash: 1.79
Pb: 36		
Sr: 1003		
V: 189	AB Ratio: 0.14	
Zn: 75	Silica Ratio: 83.93	
	Total ashed Oxides: 84.35	
Calc oxygen: 24.21		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 1010
Sample No.: 18N3W3-2A
Township: T18N Range: R3W Sec.: 3

Formation: Menefee
Field: Chacra Mesa Member: Upper Zone:

Depth to Seam: 84.50 Seam Thickness: 4.00
Sample Interval: 84.5-88.5 Sample Thickness: 4.00

Analyses on As-Received Basis

Air Dry Loss: 9.88
Eq. Moisture: 16.89 Moisture: 14.19 Vol. Matter: 40.02
Ash: 6.39 Fixed Carbon: 39.39

Carbon: 62.24 Btu: 10591 DAF Btu: 13336
Hydrogen: 5.00 Dry Btu: 12343 MMFBtu: 11344
Nitrogen: 1.32
Oxygen: 10.57 Sulfide: 0.12
Sulfur: 0.56 Sulfate: 0.009
Organic Sulfur: 0.43

Fluoride in ppm: 27.8 Chloride in ppm: 25.3

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 28	SiO_2:	SiO_2ash:
Co: 16	Al_2O_3:	Al_2O_3ash:
Cr: 121	TiO_2:	TiO_2ash:
Cu: 69	Fe_2O_3:	Fe_2O_3ash:
Li: 32	MgO:	MgOash:
Mn: 212	CaO:	CaOash:
Nb:	K_2O:	K_2Oash:
Ni: 51	Na_2O:	Na_2Oash:
Pb: 35		
Sr: 1661		
V: 218	AB Ratio: 0.17	
Zn: 42	Silica Ratio: 86.3	
	Total ashed Oxides:	
Calc oxygen: 24.49		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 1014
Sample No.: 18N3W3-2B
Township: T18N Range: R3W Sec.: 3

Formation: Menefee
Field: Chacra Mesa Member: Upper Zone:

Depth to Seam: 291.65 Seam Thickness: 5.80
Sample Interval: 291.65-297.45 Sample Thickness: 5.80

Analyses on As-Received Basis

Air Dry Loss: 12.46
Eq. Moisture: 18.29 Moisture: 18.31 Vol. Matter: 22.22
Ash: 5.30 Fixed Carbon: 54.16

Carbon: 61.94 Btu: 10518 DAF Btu: 13769
Hydrogen: 4.49 Dry Btu: 12876 MMFBtu: 11118
Nitrogen: 1.27
Oxygen: 8.34 Sulfide: 0.03
Sulfur: 0.64 Sulfate: 0.003
Organic Sulfur: 0.61

Fluoride in ppm: 35.5 Chloride in ppm: 42.1

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 38	SiO_2: 2.83	SiO_2ash: 53.45
Co: 22	Al_2O_3: 1.42	Al_2O_3ash: 26.78
Cr: 79	TiO_2: 0.059	TiO_2ash: 1.13
Cu: 49	Fe_2O_3: 0.1	Fe_2O_3ash: 1.94
Li: 57	MgO: 0.085	MgOash: 1.61
Mn: 116	CaO: 0.31	CaOash: 5.78
Nb:	K_2O: 0.02	K_2Oash: 0.39
Ni: 60	Na_2O: 0.21	Na_2Oash: 3.9
Pb: 52		
Sr: 1531		
V: 230	AB Ratio: 0.16	
Zn: 29	Silica Ratio: 85.13	
	Total ashed Oxides: 94.98	
Calc oxygen: 26.36		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory Analyses, NMRDI Coal Quality Project

Lab No.: 1011
Sample No.: 18N3W3-2C
Township: T18N Range: R3W Sec.: 3

Formation: Menefee
Field: Chacra Mesa Member: Upper Zone:

Depth to Seam: 349.40 Seam Thickness: 6.35
Sample Interval: 349.4-355.75 Sample Thickness: 6.35

Analyses on As-Received Basis

Air Dry Loss: 9.38
Eq. Moisture: 16.86 Moisture: 16.24 Vol. Matter: 31.62
Ash: 18.40 Fixed Carbon: 33.74

Carbon: 52.77 Btu: 8955 DAF Btu: 13701
Hydrogen: 3.74 Dry Btu: 10691 MMFBtu: 11067
Nitrogen: 1.00
Oxygen: 7.04 Sulfide: 0.29
Sulfur: 1.01 Sulfate: 0.005
Organic Sulfur: 0.71

Fluoride in ppm: 64.4 Chloride in ppm: 12.9

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 28	SiO_2: 11.26	SiO_2ash: 61.19
Co: 9	Al_2O_3: 4.56	Al_2O_3ash: 24.78
Cr:	TiO_2: 0.13	TiO_2ash: 0.7
Cu: 21	Fe_2O_3: 0.63	Fe_2O_3ash: 3.43
Li: 18	MgO: 0.19	MgOash: 1.02
Mn: 127	CaO: 0.37	CaOash: 1.99
Nb:	K_2O: 0.26	K_2Oash: 1.4
Ni: 39	Na_2O: 0.35	Na_2Oash: 1.9
Pb: 44		
Sr: 539		
V: 95	AB Ratio: 0.11	
Zn: 56	Silica Ratio: 90.47	
	Total ashed Oxides: 96.41	
Calc oxygen: 23.08		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 1012
Sample No.: 18N3W3-2D
Township: T18N Range: R3W Sec.: 3

Formation: Menefee
Field: Chacra Mesa Member: Upper Zone:

Depth to Seam: 386.55 Seam Thickness: 3.45
Sample Interval: 386.55-390.0 Sample Thickness: 3.45

Analyses on As-Received Basis

Air Dry Loss: 12.8
Eq. Moisture: 17.45 Moisture: 17.61 Vol. Matter: 35.54
Ash: 6.87 Fixed Carbon: 39.97

Carbon: 60.30 Btu: 9784 DAF Btu: 12958
Hydrogen: 4.51 Dry Btu: 11877 MMFBtu: 10531
Nitrogen: 0.00
Oxygen: 10.36 Sulfide: 0.14
Sulfur: 0.58 Sulfate: 0.004
Organic Sulfur: 0.44

Fluoride in ppm: 24.4 Chloride in ppm: 43.4

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 28	SiO_2:	SiO_2ash:
Co: 19	Al_2O_3:	Al_2O_3ash:
Cr: 62	TiO_2:	TiO_2ash:
Cu: 46	Fe_2O_3:	Fe_2O_3ash:
Li: 15	MgO:	MgOash:
Mn: 222	CaO:	CaOash:
Nb:	K_2O:	K_2Oash:
Ni: 43	Na_2O:	Na_2Oash:
Pb: 54		
Sr: 1001		
V: 215	AB Ratio: 0.11	
Zn: 132	Silica Ratio: 90.47	
	Total ashed Oxides:	
Calc oxygen: 27.74		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 1015
Sample No.: 18N3W3-2E
Township: T18N Range: R3W Sec.: 3

Formation: Menefee
Field: Chacra Mesa Member: Upper Zone:

Depth to Seam: 391.05 Seam Thickness: 3.15
Sample Interval: 391.05-394.2 Sample Thickness: 3.15

Analyses on As-Received Basis

Air Dry Loss: 11.42
Eq. Moisture: 15.02 Moisture: 15.96 Vol. Matter: 31.96
Ash: 18.95 Fixed Carbon: 33.13

Carbon: 51.35 Btu: 10185 DAF Btu: 15648
Hydrogen: 4.05 Dry Btu: 12119 MMFBtu: 12539
Nitrogen: 0.97
Oxygen: 6.92 Sulfide: 1.04
Sulfur: 1.74 Sulfate: 0.033
Organic Sulfur: 0.67

Fluoride in ppm: 74.8 Chloride in ppm: 20.3

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 17	SiO_2: 11.66	SiO_2ash: 61.53
Co: 13	Al_2O_3: 3.47	Al_2O_3ash: 18.31
Cr: 60	TiO_2: 0.15	TiO_2ash: 0.81
Cu: 28	Fe_2O_3: 1.79	Fe_2O_3ash: 9.43
Li: 14	MgO: 0.98	MgOash: 5.16
Mn: 63	CaO: 0.3	CaOash: 1.58
Nb:	K_2O: 0.34	K_2Oash: 1.77
Ni: 34	Na_2O: 0.23	Na_2Oash: 1.19
Pb: 32		
Sr: 524		
V: 215	AB Ratio: 0.23	
Zn: 60	Silica Ratio: 79.18	
	Total ashed Oxides: 99.78	
Calc oxygen: 22.94		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory Analyses, NMRDI Coal Quality Project

Lab No.: 703
Sample No.: 18N5W19A
Township: T18N Range: R5W Sec.: 19

Formation: Menefee
Field: Chacra Mesa Member: Upper Zone:

Depth to Seam: 177.50 Seam Thickness: 1.25
Sample Interval: 177.50-178.75 Sample Thickness: 1.25

Analyses on As-Received Basis

Air Dry Loss: 5.07
Eq. Moisture: 13.16 Moisture: 12.10 Vol. Matter: 32.81
Ash: 13.77 Fixed Carbon: 41.31

Carbon: 61.09 Btu: 10481 DAF Btu: 14139
Hydrogen: 4.55 Dry Btu: 11924 MMFBtu: 12286
Nitrogen: 1.22
Oxygen: 7.06 Sulfide: 0.06
Sulfur: 0.18 Sulfate: 0.030
Organic Sulfur: 0.09

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 28	SiO_2: 9.38	SiO_2ash: 68.1
Co: 13	Al_2O_3: 2.79	Al_2O_3ash: 20.28
Cr: 146	TiO_2: 0.15	TiO_2ash: 1.07
Cu: 44	Fe_2O_3: 0.26	Fe_2O_3ash: 1.86
Li: 36	MgO: 0.07	MgOash: 0.51
Mn: 159	CaO: 0.72	CaOash: 5.21
Nb: 15	K_2O: 0.044	K_2Oash: 0.32
Ni: 63	Na_2O: 0.25	Na_2Oash: 1.8
Pb: 50		
Sr: 504		
V: 127	AB Ratio: 0.1	
Zn: 92	Silica Ratio: 89.98	
	Total ashed Oxides: 99.15	
Calc oxygen: 19.19		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory Analyses, NMRDI Coal Quality Project

Lab No.: 686
Sample No.: 18N5W25A
Township: T16N Range: R5W Sec.: 25

Formation: Menefee
Field: Chacra Mesa Member: Upper Zone:

Depth to Seam: 187.85 Seam Thickness: 2.65
Sample Interval: 187.85-190.50 Sample Thickness: 2.65

Analyses on As-Received Basis

Air Dry Loss: 12.48
Eq. Moisture: 16.08 Moisture: 17.79 Vol. Matter: 34.22
Ash: 7.35 Fixed Carbon: 40.63

Carbon: 63.24 Btu: 10094 DAF Btu: 13486
Hydrogen: 4.28 Dry Btu: 12280 MMFBtu: 10933
Nitrogen: 1.21
Oxygen: 5.84 Sulfide: 0.02
Sulfur: 0.26 Sulfate: 0.000
Organic Sulfur: 0.24

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 32	SiO_2: 4.84	SiO_2ash: 65.9
Co: 15	Al_2O_3: 2.1	Al_2O_3ash: 28.52
Cr: 87	TiO_2: 0.071	TiO_2ash: 0.97
Cu: 49	Fe_2O_3: 0.24	Fe_2O_3ash: 3.34
Li: 42	MgO: 0.08	MgOash: 1.09
Mn: 63	CaO: 0.14	CaOash: 1.91
Nb: 20	K_2O: 0.065	K_2Oash: 0.89
Ni: 48	Na_2O: 0.23	Na_2Oash: 3.17
Pb: 35		
Sr: 406		
V: 77	AB Ratio: 0.1	
Zn: 11	Silica Ratio: 91.22	
	Total ashed Oxides: 105.79	
Calc oxygen: 23.66		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 689
Sample No.: 18N5W25B
Township: T18N Range: R5W Sec.: 25

Formation: Menefee
Field: Chacra Mesa Member: Upper Zone:

Depth to Seam: 242.20 Seam Thickness: 1.55
Sample Interval: 242.2-243.75 Sample Thickness: 1.55

Analyses on As-Received Basis

Air Dry Loss: 3.07
Eq. Moisture: 14.23 Moisture: 10.02 Vol. Matter: 22.63
Ash: Fixed Carbon: 56.35

Carbon: 57.42 Btu: 9710 DAF Btu: 10791
Hydrogen: 4.02 Dry Btu: 10791 MMFBtu: 9666
Nitrogen: 1.31
Oxygen: 26.77 Sulfide: 0.01
Sulfur: 0.42 Sulfate: 0.000
Organic Sulfur: 0.41

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 11	SiO_2:	SiO_2ash: 76.64
Co: 14	Al_2O_3:	Al_2O_3ash: 18.36
Cr: 95	TiO_2:	TiO_2ash: 0.98
Cu: 39	Fe_2O_3:	Fe_2O_3ash: 2.27
Li: 24	MgO:	MgOash: 0.54
Mn: 26	CaO:	CaOash: 0.49
Nb: 73	K_2O:	K_2Oash: 0.97
Ni: 31	Na_2O:	Na_2Oash: 1.63
Pb: 40		
Sr: 188		
V: 123	AB Ratio: 0.06	
Zn: 46	Silica Ratio: 95.87	
	Total ashed Oxides: 101.88	
Calc oxygen:		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 1026
Sample No.: 31N1E21A
Township: T31N Range: R1E Sec.: 21

Formation: Menefee
Field: Monero Member: Zone:

Depth to Seam: 226.35 Seam Thickness: 0.95
Sample Interval: 226.35-227.3 Sample Thickness: 0.95

Analyses on As-Received Basis

Air Dry Loss: 7.81
Eq. Moisture: 11.36 Moisture: 8.37 Vol. Matter: 36.50
Ash: 10.29 Fixed Carbon: 44.83

Carbon: 66.28 Btu: 11566 DAF Btu: 14219
Hydrogen: 5.23 Dry Btu: 12622 MMFBtu: 13012
Nitrogen: 1.47
Oxygen: 8.34 Sulfide: 0.78
Sulfur: 2.06 Sulfate: 0.036
Organic Sulfur: 1.24

Fluoride in ppm: 26.6 Chloride in ppm: 17.2

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 28	SiO_2: 5.93	SiO_2ash: 57.67
Co: 210	Al_2O_3: 1.72	Al_2O_3ash: 16.73
Cr: 923	TiO_2: 0.097	TiO_2ash: 0.95
Cu: 1160	$Fe2O_3$: 1.9	$Fe2O_3$ash: 18.48
Li: 16	MgO: 0.033	MgOash: 0.33
Mn: 132	CaO: 0.097	CaOash: 0.95
Nb:	K_2O: 0.11	K_2Oash: 1.06
Ni: 999	Na_2O: 0.12	Na_2Oash: 1.14
Pb: 233		
Sr: 703		
V: 179	AB Ratio: 0.29	
Zn: 233	Silica Ratio: 74.48	
	Total ashed Oxides: 97.31	
Calc oxygen: 14.67		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 1028
Sample No.: 31N1W10A
Township: T31N Range: R1W Sec.: 10

Formation: Menefee
Field: Monero Member: Zone:

Depth to Seam: 63.30 Seam Thickness: 2.15
Sample Interval: 63.3-65.45 Sample Thickness: 2.15

Analyses on As-Received Basis

Air Dry Loss: 3.93
Eq. Moisture: 2.82 Moisture: 4.50 Vol. Matter: 36.00
Ash: 17.82 Fixed Carbon: 41.68

Carbon: 65.64 Btu: 11466 DAF Btu: 14761
Hydrogen: 5.12 Dry Btu: 12007 MMFBtu: 14199
Nitrogen: 1.32
Oxygen: 5.58 Sulfide: 1.08
Sulfur: 4.74 Sulfate: 0.020
Organic Sulfur: 3.64

Fluoride in ppm: 47.1 Chloride in ppm: 29.4

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 26	SiO_2: 10.23	SiO_2ash: 57.41
Co: 43	Al_2O_3: 3.27	Al_2O_3ash: 18.34
Cr: 176	TiO_2: 0.21	TiO_2ash: 1.17
Cu: 201	$Fe2O_3$: 3.48	$Fe2O_3$ash: 19.53
Li: 17	MgO: 0.023	MgOash: 0.13
Mn: 64	CaO: 0.074	CaOash: 0.42
Nb:	K_2O: 0.19	K_2Oash: 1.08
Ni: 55	Na_2O: 0.15	Na_2Oash: 0.82
Pb: 60		
Sr: 366		
V: 202	AB Ratio: 0.28	
Zn: 142	Silica Ratio: 74.08	
	Total ashed Oxides: 98.9	
Calc oxygen: 5.36		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 1027
Sample No.: 31N1W10B
Township: T31N Range: R1W Sec.: 10

Formation: Menefee
Field: Monero Member: Zone:

Depth to Seam: 105.30 Seam Thickness: 1.60
Sample Interval: 105.3-106.9 Sample Thickness: 1.60

Analyses on As-Received Basis

Air Dry Loss: 1.95
Eq. Moisture: 2.09 Moisture: 2.30 Vol. Matter: 38.79
Ash: 16.78 Fixed Carbon: 42.11

Carbon: 70.11 Btu: 12196 DAF Btu: 15073
Hydrogen: 5.67 Dry Btu: 12484 MMFBtu: 14895
Nitrogen: 1.49
Oxygen: 3.62 Sulfide: 0.43
Sulfur: 0.87 Sulfate: 0.008
Organic Sulfur: 0.43

Fluoride in ppm: 20 Chloride in ppm: 37.4

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 22	SiO_2:	SiO_2ash:
Co: 35	Al_2O_3:	Al_2O_3ash:
Cr: 136	TiO_2:	TiO_2ash:
Cu: 55	$Fe2O_3$:	$Fe2O_3$ash:
Li: 26	MgO:	MgOash:
Mn: 26	CaO:	CaOash:
Nb:	K_2O:	K_2Oash:
Ni: 95	Na_2O:	Na_2Oash:
Pb: 57		
Sr: 504		
V: 140	AB Ratio: 0.29	
Zn: 150	Silica Ratio: 74.48	
	Total ashed Oxides:	
Calc oxygen: 5.08		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 1025
Sample No.: 31N1W10C
Township: T31N Range: R1W Sec.: 10

Formation: Menefee
Field: Monero Member: Zone:

Depth to Seam: 165.50 Seam Thickness: 2.50
Sample Interval: 165.5-168.3 Sample Thickness: 2.50

Analyses on As-Received Basis

Air Dry Loss: 2.22
Eq. Moisture: 6.50 Moisture: 2.81 Vol. Matter: 38.44
Ash: 12.86 Fixed Carbon: 45.89

Carbon: 72.75 Btu: 12631 DAF Btu: 14978
Hydrogen: 6.00 Dry Btu: 12996 MMFBtu: 14668
Nitrogen: 1.90
Oxygen: 3.66 Sulfide: 0.18
Sulfur: 0.63 Sulfate: 0.004
Organic Sulfur: 0.45

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 11	SiO_2:	SiO_2ash:
Co: 22	Al_2O_3:	Al_2O_3ash:
Cr: 147	TiO_2:	TiO_2ash:
Cu: 101	$Fe2O_3$:	$Fe2O_3$ash:
Li: 77	MgO:	MgOash:
Mn: 93	CaO:	CaOash:
Nb:	K_2O:	K_2Oash:
Ni: 89	Na_2O:	Na_2Oash:
Pb: 59		
Sr: 731		
V: 240	AB Ratio: 0.23	
Zn: 98	Silica Ratio: 79.18	
	Total ashed Oxides:	
Calc oxygen: 5.86		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 768
Sample No.: 16N18W28A
Township: T16N Range: R18W Sec.: 28

Formation: Crevasse Cnyn
Field: Gallup Member: Gibson-Cleary Zone:

Depth to Seam: 403.65 Seam Thickness: 3.75
Sample Interval: 403.65-407. Sample Thickness: 3.75

Analyses on As-Received Basis

Air Dry Loss: 2.76
Eq. Moisture: 13.67 Moisture: 10.03 Vol. Matter: 33.30
Ash: 23.12 Fixed Carbon: 33.54

Carbon: 55.33 Btu: 9096 DAF Btu: 13606
Hydrogen: 3.94 Dry Btu: 10110 MMFBtu: 11953
Nitrogen: 1.01
Oxygen: 5.46 Sulfide: 0.35
Sulfur: 1.09 Sulfate: 0.007
Organic Sulfur: 0.73

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 4	SiO_2: 14.3	SiO_2ash: 61.87
Co: 7	Al_2O_3: 5.07	Al_2O_3ash: 21.94
Cr: 28	TiO_2: 0.23	TiO_2ash: 0.99
Cu: 51	Fe_2O_3: 1.17	Fe_2O_3ash: 5.08
Li: 27	MgO: 0.26	MgOash: 1.11
Mn: 140	CaO: 1.2	CaOash: 5.17
Nb: 18	K_2O: 0.31	K_2Oash: 1.33
Ni: 26	Na_2O: 0.58	Na_2Oash: 2.52
Pb: 24		
Sr: 367		
V: 33	AB Ratio: 0.17	
Zn: 47	Silica Ratio: 84.48	
	Total ashed Oxides: 100.01	

Calc oxygen: 15.51

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 767
Sample No.: 16N18W28B
Township: T16N Range: R18W Sec.: 28

Formation: Crevasse Cnyn
Field: Gallup Member: Gibson-Cleary Zone:

Depth to Seam: 433.30 Seam Thickness: 3.55
Sample Interval: 433.30-436. Sample Thickness: 3.55

Analyses on As-Received Basis

Air Dry Loss: 7.87
Eq. Moisture: 13.61 Moisture: 14.83 Vol. Matter: 38.98
Ash: 4.69 Fixed Carbon: 41.50

Carbon: 66.95 Btu: 11136 DAF Btu: 13837
Hydrogen: 4.69 Dry Btu: 13075 MMFBtu: 11666
Nitrogen: 1.19
Oxygen: 7.09 Sulfide: 0.02
Sulfur: 0.53 Sulfate:
Organic Sulfur: 0.49

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 18	SiO_2:	SiO_2ash:
Co: 17	Al_2O_3:	Al_2O_3ash:
Cr: 42	TiO_2:	TiO_2ash:
Cu: 89	Fe_2O_3:	Fe_2O_3ash:
Li: 44	MgO:	MgOash:
Mn: 69	CaO:	CaOash:
Nb: 28	K_2O:	K_2Oash:
Ni: 60	Na_2O:	Na_2Oash:
Pb: 51		
Sr: 1712		
V: 39	AB Ratio: 0.17	
Zn: 383	Silica Ratio: 84.48	
	Total ashed Oxides:	

Calc oxygen: 21.95

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 757
Sample No.: 16N18W28C
Township: T16N Range: R18W Sec.: 28

Formation: Crevasse Cnyn
Field: Gallup Member: Gibson-Cleary Zone:

Depth to Seam: 499.95 Seam Thickness: 6.30
Sample Interval: 499.95-502. Sample Thickness: 3.00

Analyses on As-Received Basis

Air Dry Loss: 7.38
Eq. Moisture: 12.63 Moisture: 14.15 Vol. Matter: 38.39
Ash: 3.88 Fixed Carbon: 43.58

Carbon: 68.90 Btu: 11456 DAF Btu: 12903
Hydrogen: 4.66 Dry Btu: 13345 MMFBtu: 11906
Nitrogen: 1.01
Oxygen: 6.94 Sulfide: 0.06
Sulfur: 0.42 Sulfate: 0.000
Organic Sulfur: 0.36

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 10	SiO_2: 2.02	SiO_2ash: 52.03
Co: 48	Al_2O_3: 0.79	Al_2O_3ash: 20.28
Cr: 78	TiO_2: 0.062	TiO_2ash: 1.6
Cu: 91	Fe_2O_3: 0.35	Fe_2O_3ash: 9.04
Li: 50	MgO: 0.057	MgOash: 1.49
Mn: 13	CaO: 0.23	CaOash: 6.02
Nb:	K_2O: 0.003	K_2Oash: 0.1
Ni: 61	Na_2O: 0.2	Na_2Oash: 5.23
Pb: 52		
Sr: 1915		
V: 155	AB Ratio: 0.29	
Zn: 104	Silica Ratio: 75.86	
	Total ashed Oxides: 0	

Calc oxygen: 21.13

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 758
Sample No.: 16N18W28D
Township: T16N Range: R18W Sec.: 28

Formation: Crevasse Cnyn
Field: Gallup Member: Gibson-Cleary Zone:

Depth to Seam: 499.95 Seam Thickness: 6.30
Sample Interval: 502.95-506. Sample Thickness: 3.30

Analyses on As-Received Basis

Air Dry Loss: 5.08
Eq. Moisture: 13.04 Moisture: 12.27 Vol. Matter: 37.95
Ash: 9.34 Fixed Carbon: 40.44

Carbon: 65.00 Btu: 10677 DAF Btu: 13621
Hydrogen: 4.57 Dry Btu: 12171 MMFBtu: 11795
Nitrogen: 1.09
Oxygen: 7.09 Sulfide: 0.25
Sulfur: 0.62 Sulfate: 0.002
Organic Sulfur: 0.37

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 8	SiO_2: 4.51	SiO_2ash: 48.33
Co: 18	Al_2O_3: 2.48	Al_2O_3ash: 26.56
Cr: 34	TiO_2: 0.16	TiO_2ash: 1.72
Cu: 45	Fe_2O_3: 0.59	Fe_2O_3ash: 6.37
Li: 38	MgO: 0.09	MgOash: 0.97
Mn: 214	CaO: 0.84	CaOash: 9.04
Nb:	K_2O: 0.013	K_2Oash: 0.14
Ni: 28	Na_2O: 0.25	Na_2Oash: 2.68
Pb: 0		
Sr: 1287		
V: 38	AB Ratio: 0.25	
Zn:	Silica Ratio: 74.68	
	Total ashed Oxides: 95.81	

Calc oxygen: 19.38

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 770
Sample No.: 16N18W26A
Township: T16N Range: R18W Sec.: 26

Formation: Crevasse Cnyn
Field: Gallup Member: Gibson-Cleary Zone:

Depth to Seam: 67.75 Seam Thickness: 2.90
Sample Interval: 67.75-70.65 Sample Thickness: 2.90

Analyses on As-Received Basis

Air Dry Loss: 7.02
Eq. Moisture: 14.74 Moisture: 12.79 Vol. Matter: 39.23
Ash: 12.05 Fixed Carbon: 35.92

Carbon: 61.69 Btu: 10404 DAF Btu: 12747
Hydrogen: 4.63 Dry Btu: 11930 MMFBtu: 11876
Nitrogen: 1.07
Oxygen: 7.10 Sulfide: 0.13
Sulfur: 0.64 Sulfate: 0.001
Organic Sulfur: 0.51

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 18	SiO_2: 7.62	SiO_2ash: 63.27
Co: 25	Al_2O_3: 2.45	Al_2O_3ash: 20.3
Cr: 59	TiO_2: 0.12	TiO_2ash: 1.02
Cu: 77	Fe_2O_3: 4.54	Fe_2O_3ash: 4.54
Li: 46	MgO: 0.17	MgOash: 1.38
Mn: 145	CaO: 0.6	CaOash: 4.97
Nb:	K_2O: 0.13	K_2Oash: 1.07
Ni: 35	Na_2O: 0.14	Na_2Oash: 1.14
Pb: 49		
Sr: 837		
V: 167	AB Ratio: 0.15	
Zn: 94	Silica Ratio: 85.31	
	Total ashed Oxides: 712.69	

Calc oxygen: 19.92

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 794
Sample No.: 16N18W26B
Township: T16N Range: R18W Sec.: 26

Formation: Crevasse Cnyn
Field: Gallup Member: Gibson-Cleary Zone:

Depth to Seam: 85.50 Seam Thickness: 3.50
Sample Interval: 85.50-89.00 Sample Thickness: 3.50

Analyses on As-Received Basis

Air Dry Loss: 4.55
Eq. Moisture: 13.62 Moisture: 13.68 Vol. Matter: 39.73
Ash: 7.75 Fixed Carbon: 38.83

Carbon: 65.70 Btu: 11184 DAF Btu: 14234
Hydrogen: 4.85 Dry Btu: 12956 MMFBtu: 12157
Nitrogen: 1.07
Oxygen: 6.54 Sulfide: 0.08
Sulfur: 0.38 Sulfate: 0.060
Organic Sulfur: 0.24

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 21	SiO_2:	SiO_2ash:
Co: 34	Al_2O_3:	Al_2O_3ash:
Cr: 40	TiO_2:	TiO_2ash:
Cu: 77	Fe_2O_3:	Fe_2O_3ash:
Li: 48	MgO:	MgOash:
Mn: 69	CaO:	CaOash:
Nb:	K_2O:	K_2Oash:
Ni: 40	Na_2O:	Na_2Oash:
Pb: 0		
Sr: 2030		
V: 40	AB Ratio: 0.15	
Zn: 93	Silica Ratio: 85.31	
	Total ashed Oxides:	

Calc oxygen: 20.25

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 748
Sample No.: 16N18W26C
Township: T16N Range: R18W Sec.: 26

Formation: Crevasse Cnyn
Field: Gallup Member: Gibson-Cleary Zone:

Depth to Seam: 117.65 Seam Thickness: 3.20
Sample Interval: 117.65-120. Sample Thickness: 3.20

Analyses on As-Received Basis

Air Dry Loss: 8.46
Eq. Moisture: 14.32 Moisture: 16.92 Vol. Matter: 36.23
Ash: 5.83 Fixed Carbon: 41.02

Carbon: 66.53 Btu: 10745 DAF Btu: 13910
Hydrogen: 4.30 Dry Btu: 12934 MMFBtu: 11408
Nitrogen: 1.26
Oxygen: 4.65 Sulfide: 0.06
Sulfur: 0.49 Sulfate: 0.020
Organic Sulfur: 0.41

Fluoride in ppm: 18.5 Chloride in ppm: 23.1

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 31	SiO_2: 3.46	SiO_2ash: 59.3
Co: 60	Al_2O_3: 0.98	Al_2O_3ash: 16.74
Cr: 82	TiO_2: 0.076	TiO_2ash: 1.31
Cu: 93	Fe_2O_3: 0.34	Fe_2O_3ash: 5.83
Li: 36	MgO: 0.073	MgOash: 1.26
Mn: 98	CaO: 0.37	CaOash: 6.36
Nb: 22	K_2O: 0.023	K_2Oash: 0.4
Ni: 100	Na_2O: 0.23	Na_2Oash: 3.86
Pb: 38		
Sr: 1004		
V: 36	AB Ratio: 0.22	
Zn: 134	Silica Ratio: 81.51	
	Total ashed Oxides: 95.06	

Calc oxygen: 21.59

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 787
Sample No.: 16N18W26D
Township: T16N Range: R18W Sec.: 26

Formation: Crevasse Cnyn
Field: Gallup Member: Gibson-Cleary Zone:

Depth to Seam: 125.90 Seam Thickness: 3.05
Sample Interval: 125.9-128.9 Sample Thickness: 3.05

Analyses on As-Received Basis

Air Dry Loss: 8.4
Eq. Moisture: 12.87 Moisture: 14.65 Vol. Matter: 38.43
Ash: 8.03 Fixed Carbon: 38.88

Carbon: 64.02 Btu: 10858 DAF Btu: 14044
Hydrogen: 4.66 Dry Btu: 12722 MMFBtu: 11786
Nitrogen: 1.16
Oxygen: 6.64 Sulfide: 0.25
Sulfur: 0.82 Sulfate: 0.027
Organic Sulfur: 0.54

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 26	SiO_2: 53.4	SiO_2ash:
Co:	Al_2O_3:	Al_2O_3ash:
Cr:	TiO_2:	TiO_2ash:
Cu:	Fe_2O_3:	Fe_2O_3ash:
Li:	MgO:	MgOash:
Mn:	CaO:	CaOash:
Nb:	K_2O:	K_2Oash:
Ni:	Na_2O:	Na_2Oash:
Pb:		
Sr:		
V:	AB Ratio: 0.22	
Zn:	Silica Ratio: 81.51	
	Total ashed Oxides:	

Calc oxygen: 21.31

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 791
Sample No.: 16N18W26E
Township: T16N Range: R18W Sec.: 26

Formation: Crevasse Cnyn
Field: Gallup Member: Gibson-Cleary Zone:

Depth to Seam: 135.70 Seam Thickness: 2.80
Sample Interval: 135.70-138. Sample Thickness: 2.80

Analyses on As-Received Basis

Air Dry Loss: 6.74
Eq. Moisture:

Moisture: 17.11
Ash: 9.80

Vol. Matter: 34.42
Fixed Carbon: 38.66

Carbon: 58.70
Hydrogen: 4.25
Nitrogen: 0.97
Oxygen: 6.09

Btu: 10043
Dry Btu: 12116

DAF Btu: 13743
MMFBtu: 10858

Sulfur: 3.06

Sulfide: 0.37
Sulfate: 0.340
Organic Sulfur: 2.35

Fluoride in ppm:

Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 24	SiO_2:	SiO_2ash:
Co: 16	Al_2O_3:	Al_2O_3ash:
Cr: 43	TiO_2:	TiO_2ash:
Cu: 62	Fe_2O_3:	Fe_2O_3ash:
Li: 13	MgO:	MgOash:
Mn:	CaO:	CaOash:
Nb:	K_2O:	K_2Oash:
Ni: 39	Na_2O:	Na_2Oash:
Pb: 0		
Sr: 1191		
V: 34	AB Ratio: 0.22	
Zn:	Silica Ratio: 81.51	
	Total ashed Oxides:	

Calc oxygen: 23.22

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 773
Sample No.: 15N19W11A
Township: T15N Range: R19W Sec.: 11

Formation: Crevasse Cnyn
Field: Gallup Member: Gibson-Cleary Zone:

Depth to Seam: 190.00 Seam Thickness: 6.35
Sample Interval: 190.0-193.0 Sample Thickness: 3.00

Analyses on As-Received Basis

Air Dry Loss: 6.62
Eq. Moisture: 12.55 Moisture: 11.92 Vol. Matter: 39.19
Ash: 15.46 Fixed Carbon: 33.43

Carbon: 59.56 Btu: 9927 DAF Btu: 13669
Hydrogen: 4.63 Dry Btu: 11270 MMFBtu: 11857
Nitrogen: 0.93
Oxygen: 7.05 Sulfide: 0.05
Sulfur: 0.43 Sulfate: 0.030
Organic Sulfur: 0.35

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 6	SiO_2: 8.61	SiO_2ash: 55.69
Co: 11	Al_2O_3: 5.46	Al_2O_3ash: 35.34
Cr: 23	TiO_2: 0.25	TiO_2ash: 1.62
Cu: 34	Fe_2O_3: 0.62	Fe_2O_3ash: 4.02
Li: 80	MgO: 0.12	MgOash: 0.8
Mn: 63	CaO: 0.4	CaOash: 2.6
Nb:	K_2O: 0.032	K_2Oash: 0.21
Ni: 15	Na_2O: 0.3	Na_2Oash: 1.94
Pb: 30		
Sr: 292		
V: 78	AB Ratio: 0.1	
Zn: 60	Silica Ratio: 88.24	
	Total ashed Oxides: 669.22	

Calc oxygen: 18.99

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 788
Sample No.: 15N19W11B
Township: T15N Range: R19W Sec.: 11

Formation: Crevasse Cnyn
Field: Gallup Member: Gibson-Cleary Zone:

Depth to Seam: 190.00 Seam Thickness: 6.35
Sample Interval: 193.0-196.3 Sample Thickness: 3.35

Analyses on As-Received Basis

Air Dry Loss: 7.88
Eq. Moisture: 14.70 Moisture: 13.81 Vol. Matter: 43.75
Ash: 6.04 Fixed Carbon: 36.39

Carbon: 66.05 Btu: 11203 DAF Btu: 13978
Hydrogen: 4.93 Dry Btu: 12998 MMFBtu: 11925
Nitrogen: 1.15
Oxygen: 7.52 Sulfide: 0.06
Sulfur: 0.48 Sulfate: 0.006
Organic Sulfur: 0.41

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 22	SiO_2:	SiO_2ash:
Co: 80	Al_2O_3:	Al_2O_3ash:
Cr: 47	TiO_2:	TiO_2ash:
Cu: 78	Fe_2O_3:	Fe_2O_3ash:
Li: 42	MgO:	MgOash:
Mn: 58	CaO:	CaOash:
Nb:	K_2O:	K_2Oash:
Ni: 45	Na_2O:	Na_2Oash:
Pb: 0		
Sr:		
V: 96	AB Ratio: 0.1	
Zn:	Silica Ratio: 88.24	
	Total ashed Oxides:	

Calc oxygen: 21.35

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 771
Sample No.: 15N19W12C
Township: Range: R19W Sec.: 12

Formation: Crevasse Cnyn
Field: Gallup Member: Gibson-Cleary Zone:

Depth to Seam: 231.20 Seam Thickness: 4.60
Sample Interval: 231.2-235.8 Sample Thickness: 4.60

Analyses on As-Received Basis

Air Dry Loss: 7.96
Eq. Moisture: 14.17 Moisture: 15.56 Vol. Matter: 35.12
Ash: 11.86 Fixed Carbon: 37.45

Carbon: 60.01 Btu: 9895 DAF Btu: 13634
Hydrogen: 4.39 Dry Btu: 11719 MMFBtu: 11252
Nitrogen: 1.18
Oxygen: 6.24 Sulfide: 0.34
Sulfur: 0.75 Sulfate: 0.075
Organic Sulfur: 0.34

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 15	SiO_2: 7.55	SiO_2ash: 63.65
Co: 27	Al_2O_3: 2.39	Al_2O_3ash: 20.17
Cr: 54	TiO_2: 0.12	TiO_2ash: 1.02
Cu: 73	Fe_2O_3: 0.69	Fe_2O_3ash: 5.8
Li: 25	MgO: 0.15	MgOash: 1.23
Mn: 70	CaO: 0.26	CaOash: 2.2
Nb:	K_2O: 0.12	K_2Oash: 1.03
Ni: 33	Na_2O: 0.37	Na_2Oash: 3.11
Pb: 41		
Sr: 306		
V: 155	AB Ratio: 0.15	
Zn: 109	Silica Ratio: 87.33	
	Total ashed Oxides: 98.21	

Calc oxygen: 21.81

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 750
Sample No.: 15N19W12D
Township: T15N Range: R19W Sec.: 12

Formation: Crevasse Cnyn
Field: Gallup Member: Gibson-Cleary Zone:

Depth to Seam: 249.65 Seam Thickness: 5.45
Sample Interval: 249.65-255. Sample Thickness: 5.45

Analyses on As-Received Basis

Air Dry Loss: 8.74
Eq. Moisture: 14.04 Moisture: 16.19 Vol. Matter: 36.78
Ash: 7.69 Fixed Carbon: 39.78

Carbon: 64.05 Btu: 10682 DAF Btu: 12700
Hydrogen: 4.57 Dry Btu: 12746 MMFBtu: 11598
Nitrogen: 1.01
Oxygen: 6.05 Sulfide: 0.10
Sulfur: 0.41 Sulfate: 0.006
Organic Sulfur: 0.30

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 10	SiO_2: 4.01	SiO_2ash: 52.2
Co: 37	Al_2O_3: 1.41	Al_2O_3ash: 18.36
Cr: 49	TiO_2: 0.084	TiO_2ash: 1.1
Cu: 68	Fe_2O_3: 1.19	Fe_2O_3ash: 15.44
Li: 26	MgO: 0.099	MgOash: 1.29
Mn: 2719	CaO: 0.31	CaOash: 4.02
Nb: 42	K_2O: 0.02	K_2Oash: 0.27
Ni: 55	Na_2O: 0.33	Na_2Oash: 4.28
Pb: 36		
Sr: 920		
V: 37	AB Ratio: 0.35	
Zn: 258	Silica Ratio: 71.55	
	Total ashed Oxides: 96.96	

Calc oxygen: 22.27

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 783
Sample No.: 15N19W11E
Township: T15N Range: R19W Sec.: 11

Formation: Crevasse Cnyn
Field: Gallup Member: Gibson-Cleary Zone:

Depth to Seam: 275.35 Seam Thickness: 2.85
Sample Interval: 275.35-278. Sample Thickness: 2.85

Analyses on As-Received Basis

Air Dry Loss: 8
Eq. Moisture: 12.56 Moisture: 12.30 Vol. Matter: 27.26
Ash: 35.02 Fixed Carbon: 25.42

Carbon: 42.54 Btu: 7251 DAF Btu: 12057
Hydrogen: 3.23 Dry Btu: 8268 MMFBtu: 11634
Nitrogen: 0.74
Oxygen: 6.01 Sulfide: 0.03
Sulfur: 0.14 Sulfate: 0.003
Organic Sulfur: 0.11

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 5	SiO_2:	SiO_2ash:
Co: 11	Al_2O_3:	Al_2O_3ash:
Cr: 29	TiO_2:	TiO_2ash:
Cu: 42	Fe_2O_3:	Fe_2O_3ash:
Li: 26	MgO:	MgOash:
Mn: 226	CaO:	CaOash:
Nb:	K_2O:	K_2Oash:
Ni: 16	Na_2O:	Na_2Oash:
Pb: 37		
Sr: 162		
V: 95	AB Ratio: 0.35	
Zn: 86	Silica Ratio: 71.55	
	Total ashed Oxides:	

Calc oxygen: 18.33

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 789
Sample No.: 15N19W12F
Township: T15N Range: R19W Sec.: 12

Formation: Crevasse Cnyn
Field: Gallup Member: Gibson-Cleary Zone:

Depth to Seam: 309.50 Seam Thickness: 2.50
Sample Interval: 309.5-312.0 Sample Thickness: 2.50

Analyses on As-Received Basis

Air Dry Loss: ERROR		
Eq. Moisture: 14.70	Moisture:	Vol. Matter:
	Ash:	Fixed Carbon:
Carbon:	Btu:	DAF Btu:
Hydrogen:	Dry Btu:	MMFBtu:
Nitrogen:		
Oxygen:		Sulfide: 0.06
	Sulfur: 0.48	Sulfate: 0.002
		Organic Sulfur: 0.42

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be:	SiO_2:	SiO_2ash:
Co:	Al_2O_3:	Al_2O_3ash:
Cr:	TiO_2:	TiO_2ash:
Cu:	Fe_2O_3:	Fe_2O_3ash:
Li:	MgO:	MgOash:
Mn:	CaO:	CaOash:
Nb:	K_2O:	K_2Oash:
Ni:	Na_2O:	Na_2Oash:
Pb:		
Sr:		
V:	AB Ratio:	
Zn:	Silica Ratio:	
	Total ashed Oxides:	

Calc oxygen:

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 755
Sample No.: 15N18W4A
Township: T15N Range: R18W Sec.: 4

Formation: Crevasse Cnyn
Field: Gallup Member: Dilco Zone:

Depth to Seam: 366.50 Seam Thickness: 7.95
Sample Interval: 366.5-370.5 Sample Thickness: 4.00

Analyses on As-Received Basis

Air Dry Loss: 4.08
Eq. Moisture: 15.24 Moisture: 9.53 Vol. Matter: 32.38
Ash: 24.12 Fixed Carbon: 33.97

Carbon: 55.79 Btu: 9197 DAF Btu: 13862
Hydrogen: 4.06 Dry Btu: 10166 MMFBtu: 12360
Nitrogen: 0.91
Oxygen: 5.09 Sulfide: 0.04
Sulfur: 0.47 Sulfate: 0.003
Organic Sulfur: 0.43

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 1	SiO_2: 17.71	SiO_2ash: 73.43
Co: 5	Al_2O_3: 5.1	Al_2O_3ash: 21.13
Cr: 33	TiO_2: 0.4	TiO_2ash: 1.67
Cu: 47	Fe_2O_3: 0.7	Fe_2O_3ash: 2.92
Li: 41	MgO: 0.21	MgOash: 0.86
Mn: 37	CaO: 0.15	CaOash: 0.62
Nb: 10	K_2O: 0.25	K_2Oash: 1.03
Ni: 16	Na_2O: 0.27	Na_2Oash: 1.11
Pb: 30		
Sr: 126		
V: 93	AB Ratio: 0.06	
Zn: 56	Silica Ratio: 94.34	
	Total ashed Oxides: 102.77	

Calc oxygen: 14.65

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 759
Sample No.: 15N18W4B
Township: T15N Range: R18W Sec.: 4

Formation: Crevasse Cnyn
Field: Gallup Member: Dilco Zone:

Depth to Seam: 366.50 Seam Thickness: 7.95
Sample Interval: 370.5-374.4 Sample Thickness: 3.95

Analyses on As-Received Basis

Air Dry Loss: 4.34
Eq. Moisture: 10.98 Moisture: 10.79 Vol. Matter: 39.01
Ash: 8.02 Fixed Carbon: 42.18

Carbon: 67.95 Btu: 11336 DAF Btu: 13963
Hydrogen: 4.75 Dry Btu: 12707 MMFBtu: 12340
Nitrogen: 1.22
Oxygen: 6.69 Sulfide: 0.08
Sulfur: 0.55 Sulfate: 0.001
Organic Sulfur: 0.47

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 14	SiO_2: 4.81	SiO_2ash: 59.98
Co: 11	Al_2O_3: 2.39	Al_2O_3ash: 29.79
Cr: 43	TiO_2: 0.13	TiO_2ash: 1.69
Cu: 47	Fe_2O_3: 0.35	Fe_2O_3ash: 4.4
Li: 47	MgO: 0.062	MgOash: 0.78
Mn: 57	CaO: 0.17	CaOash: 2.08
Nb: 32	K_2O: 0.016	K_2Oash: 0.21
Ni: 38	Na_2O: 0.16	Na_2Oash: 2.03
Pb: 51		
Sr: 315		
V: 39	AB Ratio: 0.1	
Zn: 52	Silica Ratio: 89.2	
	Total ashed Oxides: 100.96	

Calc oxygen: 17.51

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 754
Sample No.: 15N18W4C
Township: T15N Range: R18W Sec.: 4

Formation: Crevasse Cnyn
Field: Gallup Member: Dilco Zone:

Depth to Seam: 416.00 Seam Thickness: 3.85
Sample Interval: 416.0-419.8 Sample Thickness: 3.85

Analyses on As-Received Basis

Air Dry Loss: 5.06
Eq. Moisture: 9.70

Moisture: 9.73
Ash: 18.72

Vol. Matter: 34.56
Fixed Carbon: 36.98

Carbon: 59.52
Hydrogen: 4.29
Nitrogen: 1.12
Oxygen: 5.26

Btu: 9771
Dry Btu: 10824

DAF Btu: 13656
MMFBtu: 12052

Sulfur: 1.33

Sulfide: 0.65
Sulfate: ERROR
Organic Sulfur: 0.68

Fluoride in ppm:

Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 4	SiO_2: 14.25	SiO_2ash: 76.15
Co: 11	Al_2O_3: 5.38	Al_2O_3ash: 28.72
Cr: 33	TiO_2: 0.26	TiO_2ash: 1.38
Cu: 57	Fe_2O_3: 1.4	Fe_2O_3ash: 7.49
Li: 54	MgO: 0.22	MgOash: 1.17
Mn: 70	CaO: 0.19	CaOash: 1.03
Nb: 30	K_2O: 0.22	K_2Oash: 1.17
Ni: 37	Na_2O: 0.25	Na_2Oash: 1.31
Pb: 38		
Sr: 135		
V: 35	AB Ratio: 0.11	
Zn: 206	Silica Ratio: 88.71	
	Total ashed Oxides: 118.42	

Calc oxygen: 15.02

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 753
Sample No.: 15N18W4D
Township: T15N Range: R18W Sec.: 4

Formation: Crevasse Cnyn
Field: Gallup Member: Dilco Zone:

Depth to Seam: 416.00 Seam Thickness: 1.15
Sample Interval: 419.85-421. Sample Thickness: 1.15

Analyses on As-Received Basis

Air Dry Loss: 5.22

Eq. Moisture:	Moisture: 7.60	Vol. Matter:
	Ash: 67.46	Fixed Carbon: 24.94
Carbon:	Btu: 2050	DAF Btu: 8220
Hydrogen:	Dry Btu: 2218	MMFBtu: 7454
Nitrogen:		
Oxygen: 24.91		Sulfide: 0.06
	Sulfur: 0.29	Sulfate: 0.005
		Organic Sulfur: 0.22

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 2	SiO_2: 48.27	SiO_2ash: 71.55
Co: 3	Al_2O_3: 16.08	Al_2O_3ash: 23.84
Cr: 38	TiO_2: 0.78	TiO_2ash: 1.15
Cu: 32	Fe_2O_3: 1.74	Fe_2O_3ash: 2.58
Li: 31	MgO: 0.64	MgOash: 0.95
Mn: 33	CaO: 0.23	CaOash: 0.34
Nb: 15	K_2O: 0.94	K_2Oash: 1.4
Ni: 22	Na_2O: 0.63	Na_2Oash: 0.93
Pb: 26		
Sr:		
V: 166	AB Ratio: 0.06	
Zn: 58	Silica Ratio: 94.86	
	Total ashed Oxides: 102.74	

Calc oxygen:

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 752
Sample No.: 15N18W4E
Township: T15N Range: R18W Sec.: 4

Formation: Crevasse Cnyn
Field: Gallup Member: Dilco Zone:

Depth to Seam: 416.00 Seam Thickness: 3.30
Sample Interval: 421.0-424.3 Sample Thickness: 3.30

Analyses on As-Received Basis

Air Dry Loss: 4.86
Eq. Moisture: 9.76 Moisture: 8.84 Vol. Matter: 29.69
Ash: 28.56 Fixed Carbon: 32.91

Carbon: 51.68 Btu: 8509 DAF Btu: 13593
Hydrogen: 3.68 Dry Btu: 9334 MMFBtu: 12208
Nitrogen: 0.95
Oxygen: 5.71 Sulfide: 0.24
Sulfur: 0.57 Sulfate: 0.001
Organic Sulfur: 0.33

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 5	SiO_2:	SiO_2ash:
Co: 13	Al_2O_3:	Al_2O_3ash:
Cr: 34	TiO_2:	TiO_2ash:
Cu: 48	Fe_2O_3:	Fe_2O_3ash:
Li: 33	MgO:	MgOash:
Mn: 35	CaO:	CaOash:
Nb: 7	K_2O:	K_2Oash:
Ni: 39	Na_2O:	Na_2Oash:
Pb: 25		
Sr: 80		
V: 97	AB Ratio: 0.06	
Zn: 67	Silica Ratio: 94.86	
	Total ashed Oxides:	

Calc oxygen: 14.56

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 761
Sample No.: 16N19W35A
Township: T16N Range: R19W Sec.: 35

Formation: Crevasse Cnyn
Field: Gallup Member: Gibson-Cleary Zone:

Depth to Seam: 224.00 Seam Thickness: 6.50
Sample Interval: 224.0-227.0 Sample Thickness: 3.00

Analyses on As-Received Basis

Air Dry Loss: 6.6
Eq. Moisture: 12.41 Moisture: 13.90 Vol. Matter: 37.98
Ash: 11.16 Fixed Carbon: 36.95

Carbon: 62.22 Btu: 10441 DAF Btu: 13933
Hydrogen: 4.69 Dry Btu: 12127 MMFBtu: 11819
Nitrogen: 1.08
Oxygen: 6.52 Sulfide: 0.10
Sulfur: 0.41 Sulfate: 0.001
Organic Sulfur: 0.31

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 4	SiO_2: 5.95	SiO_2ash: 53.29
Co: 14	Al_2O_3: 3.64	Al_2O_3ash: 32.6
Cr: 23	TiO_2: 0.2	TiO_2ash: 1.8
Cu: 30	Fe_2O_3: 0.52	Fe_2O_3ash: 4.64
Li: 105	MgO: 0.12	MgOash: 1.08
Mn: 72	CaO: 0.39	CaOash: 3.51
Nb: 18	K_2O: 0.01	K_2Oash: 0.09
Ni: 23	Na_2O: 0.35	Na_2Oash: 3.18
Pb: 30		
Sr: 481		
V: 38	AB Ratio: 0.14	
Zn: 144	Silica Ratio: 85.23	
	Total ashed Oxides: 100.19	

Calc oxygen: 20.44

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 763
Sample No.: 16N19W35B
Township: T16N Range: R19W Sec.: 35

Formation: Crevasse Cnyn
Field: Gallup Member: Gibson-Cleary Zone:

Depth to Seam: 224.00 Seam Thickness: 6.50
Sample Interval: 227.0-230.5 Sample Thickness: 3.50

Analyses on As-Received Basis

Air Dry Loss: 6.73
Eq. Moisture: 13.95 Moisture: 12.66 Vol. Matter: 30.09
Ash: 29.24 Fixed Carbon: 28.00

Carbon: 47.49 Btu: 9850 DAF Btu: 16954
Hydrogen: 3.68 Dry Btu: 11278 MMFBtu: 14333
Nitrogen: 0.92
Oxygen: 5.66 Sulfide: 0.10
Sulfur: 0.33 Sulfate: 0.001
Organic Sulfur: 0.23

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 23	SiO_2:	SiO_2ash:
Co: 7	Al_2O_3:	Al_2O_3ash:
Cr: 36	TiO_2:	TiO_2ash:
Cu: 43	Fe_2O_3:	Fe_2O_3ash:
Li: 54	MgO:	MgOash:
Mn: 248	CaO:	CaOash:
Nb: 15	K_2O:	K_2Oash:
Ni: 23	Na_2O:	Na_2Oash:
Pb: 39		
Sr: 534		
V: 116	AB Ratio: 0.14	
Zn: 83	Silica Ratio: 85.23	
	Total ashed Oxides:	

Calc oxygen: 18.34

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 762
Sample No.: 16N19W35C
Township: T16N Range: R19W Sec.: 35

Formation: Crevasse Cnyn
Field: Gallup Member: Gibson-Cleary Zone:

Depth to Seam: 249.65 Seam Thickness: 2.60
Sample Interval: 249.65-252. Sample Thickness: 2.60

Analyses on As-Received Basis

Air Dry Loss: 8
Eq. Moisture: 12.71 Moisture: 15.64 Vol. Matter: 36.78
Ash: 9.12 Fixed Carbon: 38.45

Carbon: 63.62 Btu: 10607 DAF Btu: 12850
Hydrogen: 4.54 Dry Btu: 12573 MMFBtu: 11648
Nitrogen: 1.06
Oxygen: 5.07 Sulfide: 0.33
Sulfur: 0.92 Sulfate: 0.020
Organic Sulfur: 0.57

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 13	SiO_2: 5.58	SiO_2ash: 61.17
Co: 11	Al_2O_3: 1.88	Al_2O_3ash: 20.61
Cr: 55	TiO_2: 0.12	TiO_2ash: 1.29
Cu: 82	Fe_2O_3: 0.64	Fe_2O_3ash: 7.04
Li: 28	MgO: 0.097	MgOash: 1.07
Mn: 94	CaO: 0.3	CaOash: 3.24
Nb: 25	K_2O: 0.057	K_2Oash: 0.63
Ni: 41	Na_2O: 0.29	Na_2Oash: 3.2
Pb: 48		
Sr: 576		
V: 37	AB Ratio: 0.18	
Zn: 68	Silica Ratio: 84.34	
	Total ashed Oxides: 98.25	

Calc oxygen: 20.74

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 749
Sample No.: 16N19W35D
Township: T16N Range: R19W Sec.: 35

Formation: Crevasse Cnyn
Field: Gallup Member: Gibson-Cleary Zone:

Depth to Seam: 276.20 Seam Thickness: 2.25
Sample Interval: 276.20-.278 Sample Thickness: 2.25

Analyses on As-Received Basis

Air Dry Loss: 8.02
Eq. Moisture: 13.21 Moisture: 15.71 Vol. Matter: 37.00
Ash: 5.74 Fixed Carbon: 41.55

Carbon: 65.61 Btu: 10824 DAF Btu: 13780
Hydrogen: 4.42 Dry Btu: 12841 MMFBtu: 11478
Nitrogen: 1.27
Oxygen: 6.72 Sulfide: 0.07
Sulfur: 0.50 Sulfate: 0.007
Organic Sulfur: 0.42

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 1	SiO_2: 3.43	SiO_2ash: 59.77
Co: 18	Al_2O_3: 0.96	Al_2O_3ash: 16.77
Cr: 47	TiO_2: 0.074	TiO_2ash: 1.29
Cu: 54	Fe_2O_3: 0.36	Fe_2O_3ash: 6.24
Li: 38	MgO: 0.078	MgOash: 1.36
Mn: 81	CaO: 0.38	CaOash: 6.5
Nb: 22	K_2O: 0.022	K_2Oash: 0.4
Ni: 36	Na_2O: 0.21	Na_2Oash: 3.71
Pb: 29		
Sr: 2189		
V: 37	AB Ratio: 0.23	
Zn: 67	Silica Ratio: 80.91	
	Total ashed Oxides: 96.04	

Calc oxygen: 22.46

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 751
Sample No.: 16N19W35E
Township: T16N Range: R19W Sec.: 33

Formation: Crevasse Cnyn
Field: Gallup Member: Gibson-Cleary Zone:

Depth to Seam: 312.54 Seam Thickness: 1.85
Sample Interval: 312.45-314. Sample Thickness: 1.85

Analyses on As-Received Basis

Air Dry Loss: 9.74
Eq. Moisture: 15.64 Moisture: 17.26 Vol. Matter: 35.90
Ash: 5.11 Fixed Carbon: 41.72

Carbon: 65.23 Btu: 10827 DAF Btu: 12514
Hydrogen: 4.43 Dry Btu: 13086 MMFBtu: 11412
Nitrogen: 1.12
Oxygen: 6.41 Sulfide: 0.07
Sulfur: 0.40 Sulfate: 0.001
Organic Sulfur: 0.33

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 22	SiO_2: 2.77	SiO_2ash: 54.15
Co: 59	Al_2O_3: 0.86	Al_2O_3ash: 16.83
Cr: 40	TiO_2: 0.056	TiO_2ash: 1.1
Cu: 56	Fe_2O_3: 0.3	Fe_2O_3ash: 5.84
Li: 33	MgO: 0.077	MgOash: 1.52
Mn: 278	CaO: 0.41	CaOash: 8.02
Nb: 22	K_2O: 0.029	K_2Oash: 0.58
Ni: 71	Na_2O: 0.28	Na_2Oash: 5.42
Pb: 26		
Sr: 1268		
V: 94	AB Ratio: 0.29	
Zn: 136	Silica Ratio: 77.88	
	Total ashed Oxides: 93.46	

Calc oxygen: 23.71

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 764
Sample No.: 16N19W35F
Township: T16N Range: R19W Sec.: 35

Formation: Crevasse Cnyn
Field: Gallup Member: Gibson-Cleary Zone:

Depth to Seam: 343.50 Seam Thickness: 6.10
Sample Interval: 343.5-346.6 Sample Thickness: 3.10

Analyses on As-Received Basis

Air Dry Loss: 2.97
Eq. Moisture: 12.52 Moisture: 9.86 Vol. Matter: 33.23
Ash: 18.58 Fixed Carbon: 38.33

Carbon: 59.84 Btu: 9810 DAF Btu: 13204
Hydrogen: 4.22 Dry Btu: 10884 MMFBtu: 12202
Nitrogen: 1.16
Oxygen: 5.84 Sulfide: 0.08
Sulfur: 0.48 Sulfate: 0.000
Organic Sulfur: 0.40

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 5	SiO2: 11.35	SiO2ash: 61.07
Co: 5	Al2O3: 5.6	Al2O3ash: 30.15
Cr: 40	TiO2: 0.24	TiO2ash: 1.31
Cu: 44	Fe2O3: 0.88	Fe2O3ash: 4.76
Li: 69	MgO: 0.17	MgOash: 0.91
Mn: 60	CaO: 0.27	CaOash: 1.44
Nb: 25	K2O: 0.13	K2Oash: 0.69
Ni: 17	Na2O: 0.38	Na2Oash: 2.03
Pb: 37		
Sr: 291		
V: 33	AB Ratio: 0.1	
Zn: 45	Silica Ratio: 89.57	
	Total ashed Oxides: 102.36	

Calc oxygen: 15.72

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 747
Sample No.: 16N19W35G
Township: T16N Range: R19W Sec.: 35

Formation: Crevasse Cnyn
Field: Gallup Member: Gibson-Cleary Zone:

Depth to Seam: 343.50 Seam Thickness: 6.10
Sample Interval: 346.60-349. Sample Thickness: 3.00

Analyses on As-Received Basis

Air Dry Loss: 6.85
Eq. Moisture: 9.68 Moisture: 12.63 Vol. Matter: 36.91
Ash: 15.16 Fixed Carbon: 35.30

Carbon: 58.86 Btu: 9858 DAF Btu: 12544
Hydrogen: 4.48 Dry Btu: 11283 MMFBtu: 11731
Nitrogen: 1.15
Oxygen: 7.29 Sulfide: 0.06
Sulfur: 0.41 Sulfate: 0.001
Organic Sulfur: 0.35

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 9	SiO_2:	SiO_2ash:
Co: 23	Al_2O_3:	Al_2O_3ash:
Cr: 36	TiO_2:	TiO_2ash:
Cu: 63	Fe_2O_3:	Fe_2O_3ash:
Li: 30	MgO:	MgOash:
Mn: 71	CaO:	CaOash:
Nb:	K_2O:	K_2Oash:
Ni: 27	Na_2O:	Na_2Oash:
Pb: 0		
Sr:		
V: 37	AB Ratio:	
Zn: 58	Silica Ratio: 89.57	
	Total ashed Oxides:	

Calc _oxygen: 19.94

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 786
Sample No.: 16N19W19A
Township: T16N Range: R19W Sec.: 19

Formation: Crevasse Cnyn
Field: Gallup Member: Gibson-Cleary Zone:

Depth to Seam: 352.60 Seam Thickness: 6.60
Sample Interval: 352.60-355. Sample Thickness: 3.30

Analyses on As-Received Basis

Air Dry Loss: 7.7
Eq. Moisture: 13.73 Moisture: 13.99 Vol. Matter: 39.23
Ash: 4.48 Fixed Carbon: 42.30

Carbon: 67.53 Btu: 11075 DAF Btu: 12506
Hydrogen: 4.82 Dry Btu: 12877 MMFBtu: 11606
Nitrogen: 1.30
Oxygen: 7.60 Sulfide: 0.10
Sulfur: 0.26 Sulfate: 0.003
Organic Sulfur: 0.16

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 6	SiO_2:	SiO_2ash:
Co: 86	Al_2O_3:	Al_2O_3ash:
Cr: 15	TiO_2:	TiO_2ash:
Cu: 0	Fe_2O_3:	Fe_2O_3ash:
Li: 24	MgO:	MgOash:
Mn:	CaO:	CaOash:
Nb:	K_2O:	K_2Oash:
Ni:	Na_2O:	Na_2Oash:
Pb: 0		
Sr: 758		
V: 67	AB Ratio:	
Zn:	Silica Ratio: 76.57	
	Total ashed Oxides:	

Calc oxygen: 21.61

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 796
Sample No.: 16N19W19B
Township: T16N Range: R19W Sec.: 19

Formation: Crevasse Cnyn
Field: Gallup Member: Gibson-Cleary Zone:

Depth to Seam: 352.60 Seam Thickness: 6.60
Sample Interval: 355.9-359.2 Sample Thickness: 3.30

Analyses on As-Received Basis

Air Dry Loss: 4.51
Eq. Moisture: 15.53 Moisture: 15.01 Vol. Matter: 38.13
Ash: 3.88 Fixed Carbon: 42.98

Carbon: 68.05 Btu: 11786 DAF Btu: 14530
Hydrogen: 4.78 Dry Btu: 13867 MMFBtu: 12257
Nitrogen: 1.14
Oxygen: 6.76 Sulfide: 0.02
Sulfur: 0.36 Sulfate: 0.003
Organic Sulfur: 0.34

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 18	SiO_2:	SiO_2ash:
Co: 31	Al_2O_3:	Al_2O_3ash:
Cr: 61	TiO_2:	TiO_2ash:
Cu: 0	Fe_2O_3:	Fe_2O_3ash:
Li: 41	MgO:	MgOash:
Mn:	CaO:	CaOash:
Nb:	K_2O:	K_2Oash:
Ni:	Na_2O:	Na_2Oash:
Pb: 0		
Sr: 1017		
V: 122	AB Ratio:	
Zn:	Silica Ratio: 76.57	
	Total ashed Oxides:	

Calc oxygen: 21.79

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 780
Sample No.: 16N19W19C
Township: T16N Range: R19W Sec.: 19

Formation: Crevasse Cnyn
Field: Gallup Member: Gibson-Cleary Zone:

Depth to Seam: 365.60 Seam Thickness: 1.95
Sample Interval: 365.6-367.5 Sample Thickness: 1.95

Analyses on As-Received Basis

Air Dry Loss: 7.73
Eq. Moisture: 12.05 Moisture: 13.62 Vol. Matter: 40.34
Ash: 6.23 Fixed Carbon: 39.80

Carbon: 66.69 Btu: 11272 DAF Btu: 14063
Hydrogen: 4.93 Dry Btu: 13049 MMFBtu: 12033
Nitrogen: 1.31
Oxygen: 6.79 Sulfide: 0.02
Sulfur: 0.41 Sulfate: 0.003
Organic Sulfur: 0.39

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 29	SiO_2: 3.54	SiO_2ash: 56.9
Co: 61	Al_2O_3: 1.35	Al_2O_3ash: 21.73
Cr: 47	TiO_2: 0.084	TiO_2ash: 1.36
Cu: 0	Fe_2O_3: 0.29	Fe_2O_3ash: 4.72
Li: 38	MgO: 0.084	MgOash: 1.36
Mn:	CaO: 0.39	CaOash: 6.27
Nb:	K_2O: 0.01	K_2Oash: 0.17
Ni:	Na_2O: 0.29	Na_2Oash: 4.62
Pb: 0		
Sr: 787		
V: 130	AB Ratio:	
Zn:	Silica Ratio: 82.16	
	Total ashed Oxides: 97.13	

Calc oxygen: 20.43

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 793
Sample No.: 16N19W29A
Township: T16N Range: R19W Sec.: 29

Formation: Crevasse Cnyn
Field: Gallup Member: Gibson-Cleary Zone:

Depth to Seam: 228.10 Seam Thickness: 1.90
Sample Interval: 228.1-230.0 Sample Thickness: 1.90

Analyses on As-Received Basis

Air Dry Loss: 5.04
Eq. Moisture: 13.19 Moisture: 13.90 Vol. Matter: 38.92
Ash: 5.00 Fixed Carbon: 42.18

Carbon: 66.69 Btu: 11338 DAF Btu: 13980
Hydrogen: 4.90 Dry Btu: 13168 MMFBtu: 11933
Nitrogen:
Oxygen: 9.06 Sulfide: 0.02
Sulfur: 0.42 Sulfate: 0.002
Organic Sulfur: 0.40

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 45	SiO_2:	SiO_2ash:
Co: 46	Al_2O_3:	Al_2O_3ash:
Cr: 63	TiO_2:	TiO_2ash:
Cu: 100	Fe_2O_3:	Fe_2O_3ash:
Li: 35	MgO:	MgOash:
Mn: 67	CaO:	CaOash:
Nb:	K_2O:	K_2Oash:
Ni: 68	Na_2O:	Na_2Oash:
Pb: 53		
Sr: 956		
V: 183	AB Ratio: 0.1	
Zn: 133	Silica Ratio: 89.57	
	Total ashed Oxides:	

Calc oxygen:

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 795
Sample No.: 16N19W29B
Township: T16N Range: R19W Sec.: 29

Formation: Crevasse Cnyn
Field: Gallup Member: Gibson-Cleary Zone:

Depth to Seam: 232.15 Seam Thickness: 2.70
Sample Interval: 232.15-234. Sample Thickness: 2.70

Analyses on As-Received Basis

Air Dry Loss: 5.14
Eq. Moisture: 15.80 Moisture: 15.36 Vol. Matter: 36.15
Ash: 9.00 Fixed Carbon: 39.48

Carbon: 63.69 Btu: 10678 DAF Btu: 14118
Hydrogen: 4.46 Dry Btu: 12616 MMFBtu: 11765
Nitrogen: 1.11
Oxygen: 5.87 Sulfide: 0.05
Sulfur: 0.49 Sulfate: 0.001
Organic Sulfur: 0.44

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 12	SiO2:	SiO2ash:
Co: 22	Al2O3:	Al2O3ash:
Cr: 42	TiO2:	TiO2ash:
Cu: 62	Fe2O3:	Fe2O3ash:
Li: 27	MgO:	MgOash:
Mn: 111	CaO:	CaOash:
Nb: 23	K2O:	K2Oash:
Ni: 58	Na2O:	Na2Oash:
Pb: 29		
Sr: 657		
V: 147	AB Ratio: 0.1	
Zn: 45	Silica Ratio: 89.57	
	Total ashed Oxides:	

Calc oxygen: 21.25

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 792
Sample No.: 16N19W29C
Township: T16N Range: R19W Sec.: 29

Formation: Crevasse Cnyn
Field: Gallup Member: Gibson-Cleary Zone:

Depth to Seam: 267.75 Seam Thickness: 1.75
Sample Interval: 267.75-269. Sample Thickness: 1.75

Analyses on As-Received Basis

Air Dry Loss: 5.76

Eq. Moisture: 12.10	Moisture: 13.77	Vol. Matter: 38.18
	Ash: 7.81	Fixed Carbon: 40.23
Carbon: 65.67	Btu: 11196	DAF Btu: 14277
Hydrogen: 4.75	Dry Btu: 12984	MMFBtu: 12180
Nitrogen: 1.01		
Oxygen: 6.60		Sulfide: 0.03
	Sulfur: 0.36	Sulfate: 0.020
		Organic Sulfur: 0.31

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 12	SiO_2:	SiO_2ash:
Co: 19	Al_2O_3:	Al_2O_3ash:
Cr: 53	TiO_2:	TiO_2ash:
Cu: 83	Fe_2O_3:	Fe_2O_3ash:
Li: 54	MgO:	MgOash:
Mn: 159	CaO:	CaOash:
Nb: 18	K_2O:	K_2Oash:
Ni: 57	Na_2O:	Na_2Oash:
Pb: 35		
Sr:		
V: 124	AB Ratio: 0.1	
Zn: 351	Silica Ratio: 89.57	
	Total ashed Oxides:	

Calc oxygen: 20.40

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 790
Sample No.: 16N19W29D
Township: T16N Range: R19W Sec.: 29

Formation: Crevasse Cnyn
Field: Gallup Member: Gibson-Cleary Zone:

Depth to Seam: 285.50 Seam Thickness: 1.75
Sample Interval: 285.5-287.2 Sample Thickness: 1.75

Analyses on As-Received Basis

Air Dry Loss: 4.66
Eq. Moisture: 13.03 Moisture: 13.41 Vol. Matter: 37.70
Ash: 9.25 Fixed Carbon: 39.63

Carbon: 63.61 Btu: 10092 DAF Btu: 13049
Hydrogen: 4.52 Dry Btu: 11655 MMFBtu: 11158
Nitrogen: 1.19
Oxygen: 7.57 Sulfide: 0.03
Sulfur: 0.43 Sulfate: 0.030
Organic Sulfur: 0.37

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 22	SiO_2:	SiO_2ash:
Co: 11	Al_2O_3:	Al_2O_3ash:
Cr: 51	TiO_2:	TiO_2ash:
Cu: 83	Fe_2O_3:	Fe_2O_3ash:
Li: 38	MgO:	MgOash:
Mn: 313	CaO:	CaOash:
Nb: 27	K_2O:	K_2Oash:
Ni: 24	Na_2O:	Na_2Oash:
Pb: 20		
Sr: 445		
V: 146	AB Ratio: 0.1	
Zn: 35	Silica Ratio: 89.57	
	Total ashed Oxides:	

Calc oxygen: 21.00

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 782
Sample No.: 16N20W13A
Township: T16N Range: R20W Sec.: 13

Formation: Crevasse Cnyn
Field: Gallup Member: Gibson-Cleary Zone:

Depth to Seam: 189.85 Seam Thickness: 5.75
Sample Interval: 189.85-192. Sample Thickness: 3.00

Analyses on As-Received Basis

Air Dry Loss: 5.29
Eq. Moisture: 12.70 Moisture: 11.24 Vol. Matter: 40.01
Ash: 10.36 Fixed Carbon: 38.38

Carbon: 64.67 Btu: 10817 DAF Btu: 13797
Hydrogen: 4.76 Dry Btu: 12187 MMFBtu: 12124
Nitrogen: 1.14
Oxygen: 7.38 Sulfide: 0.09
Sulfur: 0.42 Sulfate: 0.003
Organic Sulfur: 0.33

Fluoride in ppm: 46.3 Chloride in ppm: 43.3

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 13	SiO_2:	SiO_2ash:
Co: 58	Al_2O_3:	Al_2O_3ash:
Cr: 48	TiO_2:	TiO_2ash:
Cu: 69	Fe_2O_3:	Fe_2O_3ash:
Li: 24	MgO:	MgOash:
Mn: 116	CaO:	CaOash:
Nb:	K_2O:	K_2Oash:
Ni: 50	Na_2O:	Na_2Oash:
Pb: 38		
Sr: 297		
V: 129	AB Ratio: 0.1	
Zn: 118	Silica Ratio: 89.57	
	Total ashed Oxides:	

Calc oxygen: 18.65

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 781
Sample No.: 16N20W13B
Township: T16N Range: R20W Sec.: 13

Formation: Crevasse Cnyn
Field: Gallup Member: Gibson-Cleary Zone:

Depth to Seam: 189.95 Seam Thickness: 5.75
Sample Interval: 192.85-195. Sample Thickness: 2.75

Analyses on As-Received Basis

Air Dry Loss: 6.88
Eq. Moisture: 14.20 Moisture: 12.99 Vol. Matter: 40.20
Ash: 4.09 Fixed Carbon: 42.72

Carbon: 68.80 Btu: 11424 DAF Btu: 13777
Hydrogen: 4.87 Dry Btu: 13129 MMFBtu: 11903
Nitrogen: 1.18
Oxygen: 7.65 Sulfide: 0.19
Sulfur: 0.40 Sulfate: 0.001
Organic Sulfur: 0.21

Fluoride in ppm: 17.5 Chloride in ppm: 33.8

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 21	SiO_2: 2.25	SiO_2ash: 55
Co: 12	Al_2O_3: 0.68	Al_2O_3ash: 16.59
Cr: 42	TiO_2: 0.052	TiO_2ash: 1.28
Cu: 52	Fe_2O_3: 0.3	Fe_2O_3ash: 7.29
Li: 17	MgO: 0.062	MgOash: 1.54
Mn: 213	CaO: 0.33	CaOash: 8.11
Nb: 64	K_2O: 0.005	K_2Oash: 0.13
Ni: 34	Na_2O: 0.22	Na_2Oash: 5.41
Pb: 34		
Sr: 1354		
V: 40	AB Ratio: 0.3	
Zn: 78	Silica Ratio: 76.45	
	Total ashed Oxides: 95.35	

Calc oxygen: 20.66

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 798
Sample No.: 16N20W13C
Township: T16N Range: R20W Sec.: 13

Formation: Crevasse Cnyn
Field: Gallup Member: Gibson-Cleary Zone:

Depth to Seam: 201.15 Seam Thickness: 3.20
Sample Interval: 201.15-204. Sample Thickness: 3.20

Analyses on As-Received Basis

Air Dry Loss: 5.46
Eq. Moisture: 17.76 Moisture: 15.67 Vol. Matter: 37.38
Ash: 6.38 Fixed Carbon: 40.56

Carbon: 65.21 Btu: 10570 DAF Btu: 13560
Hydrogen: 4.48 Dry Btu: 12534 MMFBtu: 11297
Nitrogen: 1.05
Oxygen: 6.72 Sulfide: 0.06
Sulfur: 0.45 Sulfate: 0.001
Organic Sulfur: 0.39

Fluoride in ppm: 16.9 Chloride in ppm: 64.9

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 26	SiO_2:	SiO_2ash:
Co: 20	Al_2O_3:	Al_2O_3ash:
Cr: 38	TiO_2:	TiO_2ash:
Cu: 69	Fe_2O_3:	Fe_2O_3ash:
Li: 24	MgO:	MgOash:
Mn: 140	CaO:	CaOash:
Nb:	K_2O:	K_2Oash:
Ni: 40	Na_2O:	Na_2Oash:
Pb: 0		
Sr: 768		
V: 37	AB Ratio: 0.3	
Zn: 210	Silica Ratio: 76.45	
	Total ashed Oxides:	

Calc oxygen: 22.43

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 799
Sample No.: 16N20W13D
Township: T16N Range: R20W Sec.: 13

Formation: Crevasse Cnyn
Field: Gallup Member: Gibson-Cleary Zone:

Depth to Seam: 227.00 Seam Thickness: 1.15
Sample Interval: 227.0-228.1 Sample Thickness: 1.15

Analyses on As-Received Basis

Air Dry Loss: 4.52
Eq. Moisture: 14.23 Moisture: 12.13 Vol. Matter: 40.16
Ash: 8.38 Fixed Carbon: 39.33

Carbon: 66.38 Btu: 11473 DAF Btu: 14434
Hydrogen: 4.95 Dry Btu: 13057 MMFBtu: 12566
Nitrogen: 1.07
Oxygen: 6.69 Sulfide: 0.01
Sulfur: 0.37 Sulfate: 0.009
Organic Sulfur: 0.35

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 22	SiO_2:	SiO_2ash:
Co: 56	Al_2O_3:	Al_2O_3ash:
Cr: 52	TiO_2:	TiO_2ash:
Cu: 56	Fe_2O_3:	Fe_2O_3ash:
Li: 32	MgO:	MgOash:
Mn: 106	CaO:	CaOash:
Nb:	K_2O:	K_2Oash:
Ni: 53	Na_2O:	Na_2Oash:
Pb: 56		
Sr:		
V: 40	AB Ratio: 0.3	
Zn: 210	Silica Ratio: 76.45	
	Total ashed Oxides:	

Calc oxygen: 18.85

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 779
Sample No.: 16N20W13E
Township: T16N Range: R20W Sec.: 13

Formation: Crevasse Cnyn
Field: Gallup Member: Gibson-Cleary Zone:

Depth to Seam: 232.90 Seam Thickness: 2.65
Sample Interval: 232.90-235. Sample Thickness: 2.65

Analyses on As-Received Basis

Air Dry Loss: 6.32
Eq. Moisture: 13.71 Moisture: 13.29 Vol. Matter: 38.98
Ash: 4.66 Fixed Carbon: 43.06

Carbon: 68.49 Btu: 11428 DAF Btu: 13928
Hydrogen: 4.76 Dry Btu: 13180 MMFBtu: 11984
Nitrogen: 1.15
Oxygen: 7.21 Sulfide: 0.05
Sulfur: 0.41 Sulfate: 0.000
Organic Sulfur: 0.36

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 30	SiO_2: 2.53	SiO_2ash: 54.33
Co: 77	Al_2O_3: 0.78	Al_2O_3ash: 16.72
Cr: 61	TiO_2: 0.062	TiO_2ash: 1.34
Cu: 92	Fe_2O_3: 0.38	Fe_2O_3ash: 8.1
Li: 28	MgO: 0.083	MgOash: 1.8
Mn: 159	CaO: 0.31	CaOash: 6.72
Nb:	K_2O: 0.017	K_2Oash: 0.38
Ni: 93	Na_2O: 0.21	Na_2Oash: 4.51
Pb: 28		
Sr: 699		
V: 134	AB Ratio: 0.29	
Zn: 131	Silica Ratio: 76.57	
	Total ashed Oxides: 93.9	

Calc oxygen: 20.53

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 784
Sample No.: 16N20W13F
Township: T16N Range: R20W Sec.: 13

Formation: Crevasse Cnyn
Field: Gallup Member: Gibson-Cleary Zone:

Depth to Seam: 238.55 Seam Thickness: 2.15
Sample Interval: 238.55-240. Sample Thickness: 2.15

Analyses on As-Received Basis

Air Dry Loss: 5.44
Eq. Moisture: 10.65 Moisture: 10.41 Vol. Matter: 41.69
Ash: 9.80 Fixed Carbon: 38.09

Carbon: 66.53 Btu: 11180 DAF Btu: 14014
Hydrogen: 5.00 Dry Btu: 12480 MMFBtu: 12441
Nitrogen: 1.23
Oxygen: 6.52 Sulfide: 0.08
Sulfur: 0.48 Sulfate: 0.045
Organic Sulfur: 0.36

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 20	SiO_2:	SiO_2ash:
Co: 45	Al_2O_3:	Al_2O_3ash:
Cr: 59	TiO_2:	TiO_2ash:
Cu: 141	Fe_2O_3:	Fe_2O_3ash:
Li: 45	MgO:	MgOash:
Mn: 130	CaO:	CaOash:
Nb:	K_2O:	K_2Oash:
Ni: 39	Na_2O:	Na_2Oash:
Pb: 31		
Sr: 450		
V: 126	AB Ratio: 0.29	
Zn: 85	Silica Ratio: 76.57	
	Total ashed Oxides:	

Calc oxygen: 16.96

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 803
Sample No.: 16N20W13G
Township: T16N Range: R20W Sec.: 13

Formation: Crevasse Cnyn
Field: Gallup Member: Gibson-Cleary Zone:

Depth to Seam: 265.00 Seam Thickness: 6.15
Sample Interval: 265.0-268.0 Sample Thickness: 3.00

Analyses on As-Received Basis

Air Dry Loss: 3.96
Eq. Moisture: 13.10 Moisture: 13.04 Vol. Matter: 38.59
Ash: 3.54 Fixed Carbon: 44.83

Carbon: 69.77 Btu: 11687 DAF Btu: 14010
Hydrogen: 4.80 Dry Btu: 13440 MMFBtu: 12111
Nitrogen: 1.07
Oxygen: 7.43 Sulfide: 0.01
Sulfur: 0.33 Sulfate: 0.010
Organic Sulfur: 0.31

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 28	SiO_2:	SiO_2ash:
Co: 29	Al_2O_3:	Al_2O_3ash:
Cr: 74	TiO_2:	TiO_2ash:
Cu: 85	Fe_2O_3:	Fe_2O_3ash:
Li: 35	MgO:	MgOash:
Mn: 247	CaO:	CaOash:
Nb:	K_2O:	K_2Oash:
Ni: 54	Na_2O:	Na_2Oash:
Pb: 57		
Sr:		
V: 117	AB Ratio: 0.29	
Zn: 401	Silica Ratio: 76.57	
	Total ashed Oxides:	

Calc oxygen: 20.49

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 801
Sample No.: 16N20W13H
Township: T16N Range: R20W Sec.: 13

Formation: Crevasse Cnyn
Field: Gallup Member: Gibson-Cleary Zone:

Depth to Seam: 265.00 Seam Thickness: 6.15
Sample Interval: 268.0-271.1 Sample Thickness: 3.15

Analyses on As-Received Basis

Air Dry Loss: 4
Eq. Moisture: 11.52 Moisture: 12.21 Vol. Matter: 39.06
Ash: 4.83 Fixed Carbon: 43.89

Carbon: 68.16 Btu: 12277 DAF Btu: 14799
Hydrogen: 4.83 Dry Btu: 13984 MMFBtu: 12916
Nitrogen: 1.19
Oxygen: 8.47 Sulfide: 0.02
Sulfur: 0.28 Sulfate: 0.015
Organic Sulfur: 0.24

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be:	SiO_2:	SiO_2ash:
Co:	Al_2O_3:	Al_2O_3ash:
Cr:	TiO_2:	TiO_2ash:
Cu: 0	Fe_2O_3:	Fe_2O_3ash:
Li: 0	MgO:	MgOash:
Mn: 98	CaO:	CaOash:
Nb:	K_2O:	K_2Oash:
Ni:	Na_2O:	Na_2Oash:
Pb:		
Sr: 1085		
V:	AB Ratio: 0.29	
Zn:	Silica Ratio: 76.57	
	Total ashed Oxides:	

Calc oxygen: 20.71

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 800
Sample No.: 16N20W13I
Township: T16N Range: R20W Sec.: 13

Formation: Crevasse Cnyn
Field: Gallup Member: Gibson-Cleary Zone:

Depth to Seam: 282.50 Seam Thickness: 2.20
Sample Interval: 282.5-284.7 Sample Thickness: 2.20

Analyses on As-Received Basis

Air Dry Loss: 4.35
Eq. Moisture: 9.00 Moisture: 10.94 Vol. Matter: 35.55
Ash: 18.70 Fixed Carbon: 34.81

Carbon: 57.00 Btu: 9634 DAF Btu: 13692
Hydrogen: 4.34 Dry Btu: 10817 MMFBtu: 11987
Nitrogen: 1.00
Oxygen: 7.41 Sulfide: 0.08
Sulfur: 0.58 Sulfate: 0.004
Organic Sulfur: 0.50

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 11	SiO_2:	SiO_2ash:
Co: 54	Al_2O_3:	Al_2O_3ash:
Cr: 69	TiO_2:	TiO_2ash:
Cu: 63	Fe_2O_3:	Fe_2O_3ash:
Li: 52	MgO:	MgOash:
Mn: 263	CaO:	CaOash:
Nb:	K_2O:	K_2Oash:
Ni:	Na_2O:	Na_2Oash:
Pb: 61		
Sr: 856		
V: 109	AB Ratio: 0.29	
Zn: 207	Silica Ratio: 76.57	
	Total ashed Oxides:	

Calc oxygen: 18.38

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 802
Sample No.: 16N20W27A
Township: T16N Range: R20W Sec.: 27

Formation: Crevasse Cnyn
Field: Gallup Member: Gibson-Cleary Zone:

Depth to Seam: 71.55 Seam Thickness: 2.15
Sample Interval: 71.55-73.7 Sample Thickness: 2.15

Analyses on As-Received Basis

Air Dry Loss: 6.12
Eq. Moisture: 12.64 Moisture: 15.83 Vol. Matter: 46.78
Ash: 10.83 Fixed Carbon: 26.56

Carbon: 59.34 Btu: 9504 DAF Btu: 12959
Hydrogen: 4.38 Dry Btu: 11292 MMFBtu: 10709
Nitrogen: 1.03
Oxygen: 8.13 Sulfide: 0.04
Sulfur: 0.44 Sulfate: 0.025
Organic Sulfur: 0.37

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 21	SiO_2:	SiO_2ash:
Co: 55	Al_2O_3:	Al_2O_3ash:
Cr: 28	TiO_2:	TiO_2ash:
Cu: 52	Fe_2O_3:	Fe_2O_3ash:
Li: 47	MgO:	MgOash:
Mn: 446	CaO:	CaOash:
Nb:	K_2O:	K_2Oash:
Ni: 38	Na_2O:	Na_2Oash:
Pb: 52		
Sr: 699		
V: 130	AB Ratio: 0.29	
Zn: 83	Silica Ratio: 76.57	
	Total ashed Oxides:	

Calc oxygen: 23.98

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 785
Sample No.: 16N20W27B
Township: T16N Range: R20W Sec.: 27

Formation: Crevasse Cnyn
Field: Gallup Member: Gibson-Cleary Zone:

Depth to Seam: 128.20 Seam Thickness: 1.90
Sample Interval: 128.2-130.1 Sample Thickness: 1.90

Analyses on As-Received Basis

Air Dry Loss: 7.77
Eq. Moisture: 12.45 Moisture: 13.22 Vol. Matter: 40.91
Ash: 7.67 Fixed Carbon: 38.20

Carbon: 65.66 Btu: 11031 DAF Btu: 13944
Hydrogen: 4.88 Dry Btu: 12712 MMFBtu: 11972
Nitrogen: 1.13
Oxygen: 6.97 Sulfide: 0.03
Sulfur: 0.44 Sulfate: 0.003
Organic Sulfur: 0.41

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 30	SiO_2:	SiO_2ash:
Co: 57	Al_2O_3:	Al_2O_3ash:
Cr: 54	TiO_2:	TiO_2ash:
Cu: 110	Fe_2O_3:	Fe_2O_3ash:
Li: 35	MgO:	MgOash:
Mn: 98	CaO:	CaOash:
Nb:	K_2O:	K_2Oash:
Ni: 47	Na_2O:	Na_2Oash:
Pb: 23		
Sr: 726		
V: 140	AB Ratio:	
Zn: 247	Silica Ratio: 76.57	
	Total ashed Oxides:	

Calc oxygen: 20.22

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 974
Sample No.: 15N18W31A
Township: T15N Range: R18W Sec.: 31

Formation: Crevasse Cnyn
Field: Gallup Member: Gibson-Cleary Zone: na

Depth to Seam: 50.25 Seam Thickness: 0.70
Sample Interval: 50.25-50.95 Sample Thickness: 0.70

Analyses on As-Received Basis

Air Dry Loss: 7.26
Eq. Moisture: 12.83 Moisture: 8.85 Vol. Matter: 40.84
Ash: 9.64 Fixed Carbon: 40.66

Carbon: 65.01 Btu: 11149 DAF Btu: 13679
Hydrogen: 5.20 Dry Btu: 12232 MMFBtu: 12413
Nitrogen: 1.30
Oxygen: 9.74 Sulfide: 0.08
Sulfur: 0.57 Sulfate: 0.004
Organic Sulfur: 0.49

Fluoride in ppm: 15.7 Chloride in ppm: 20.2

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 40	SiO_2: 7	SiO_2ash: 72.59
Co: 21	Al_2O_3: 1.22	Al_2O_3ash: 12.61
Cr: 84	TiO_2: 0.12	TiO_2ash: 1.27
Cu: 54	Fe_2O_3: 0.34	Fe_2O_3ash: 3.48
Li: 19	MgO: 0.076	MgOash: 0.79
Mn: 66	CaO: 0.38	CaOash: 3.94
Nb: N/A	K_2O: 0.072	K_2Oash: 0.75
Ni: 31	Na_2O: 0.18	Na_2Oash: 1.89
Pb: 27		
Sr: 965		
V: 162	AB Ratio: 0.12	
Zn: 25	Silica Ratio: 89.83	
	Total ashed Oxides: 97.32	

Calc oxygen: 18.28

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 982
Sample No.: 15N18W34A
Township: T15N Range: R18W Sec.: 34

Formation: Crevasse Cnyn
Field: Gallup Member: Dilco Zone:

Depth to Seam: 385.00 Seam Thickness: 5.30
Sample Interval: 385.0-390.3 Sample Thickness: 5.30

Analyses on As-Received Basis

Air Dry Loss: 9.85
Eq. Moisture: 12.01 Moisture: 11.06 Vol. Matter: 39.86
Ash: 7.29 Fixed Carbon: 41.79

Carbon: 65.50 Btu: 11079 DAF Btu: 13569
Hydrogen: 5.19 Dry Btu: 12457 MMFBtu: 11965
Nitrogen: 1.27
Oxygen: 9.18 Sulfide: 0.02
Sulfur: 0.75 Sulfate: 0.004
Organic Sulfur: 0.73

Fluoride in ppm: 14 Chloride in ppm: 20.1

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 21	SiO_2: 4.96	SiO_2ash: 68.08
Co: 41	Al_2O_3: 1.3	Al_2O_3ash: 17.9
Cr: 637	TiO_2: 0.11	TiO_2ash: 1.46
Cu: 386	Fe_2O_3: 0.39	Fe_2O_3ash: 5.32
Li: 19	MgO: 0.097	MgOash: 1.34
Mn: 179	CaO: 0.18	CaOash: 2.52
Nb:	K_2O: 0.016	K_2Oash: 0.22
Ni: 645	Na_2O: 0.11	Na_2Oash: 1.51
Pb: 540		
Sr: 799		
V: 191	AB Ratio: 0.12	
Zn: 231	Silica Ratio: 88.11	
	Total ashed Oxides: 98.35	

Calc oxygen: 20.00

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 975
Sample No.: 15N18W34B
Township: T15N Range: R18W Sec.: 34

Formation: Crevasse Cnyn
Field: Gallup Member: Dilco Zone:

Depth to Seam: 394.90 Seam Thickness: 4.25
Sample Interval: 394.9-399.1 Sample Thickness: 4.25

Analyses on As-Received Basis

Air Dry Loss: 8.21
Eq. Moisture: 14.56 Moisture: 10.27 Vol. Matter: 36.06
Ash: 17.38 Fixed Carbon: 36.28

Carbon: 57.70 Btu: 9794 DAF Btu: 13537
Hydrogen: 4.78 Dry Btu: 10915 MMFBtu: 11991
Nitrogen: 1.19
Oxygen: 8.19 Sulfide: 0.09
Sulfur: 0.73 Sulfate: 0.003
Organic Sulfur: 0.64

Fluoride in ppm: 53 Chloride in ppm: 22.3

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 36	SiO_2:	SiO_2ash:
Co: 13	Al_2O_3:	Al_2O_3ash:
Cr: 33	TiO_2:	TiO_2ash:
Cu: 29	Fe_2O_3:	Fe_2O_3ash:
Li: 18	MgO:	MgOash:
Mn: 155	CaO:	CaOash:
Nb: N/A	K_2O:	K_2Oash:
Ni: 24	Na_2O:	Na_2Oash:
Pb: 70		
Sr: 398		
V: 136	AB Ratio: 0.12	
Zn: 94	Silica Ratio: 89.83	
	Total ashed Oxides:	

Calc oxygen: 18.22

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 984
Sample No.: 15N18W34C
Township: T15N Range: R18W Sec.: 34

Formation: Crevasse Cnyn
Field: Gallup Member: Dilco Zone:

Depth to Seam: 424.35 Seam Thickness: 1.70
Sample Interval: 424.35-426. Sample Thickness: 1.70

Analyses on As-Received Basis

Air Dry Loss: 8.01
Eq. Moisture: 10.95 Moisture: 10.45 Vol. Matter: 41.06
Ash: 12.44 Fixed Carbon: 36.05

Carbon: 62.16 Btu: 10882 DAF Btu: 14112
Hydrogen: 4.96 Dry Btu: 12151 MMFBtu: 12449
Nitrogen: 1.20
Oxygen: 7.89 Sulfide: 0.31
Sulfur: 1.09 Sulfate: 0.006
Organic Sulfur: 0.77

Fluoride in ppm: 28.9 Chloride in ppm: 15.6

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 38	SiO_2: 8.81	SiO_2ash: 70.86
Co: 16	Al_2O_3: 2.2	Al_2O_3ash: 17.68
Cr: 142	TiO_2: 0.14	TiO_2ash: 1.15
Cu: 82	Fe_2O_3: 0.6	Fe_2O_3ash: 4.84
Li: 22	MgO: 0.29	MgOash: 2.37
Mn: 28	CaO: 0.42	CaOash: 3.38
Nb:	K_2O: 0.089	K_2Oash: 0.72
Ni: 102	Na_2O: 0.13	Na_2Oash: 1.07
Pb: 26		
Sr: 483		
V: 156	AB Ratio: 0.13	
Zn: 32	Silica Ratio: 86.99	
	Total ashed Oxides: 102.07	

Calc oxygen: 18.15

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 980
Sample No.: 15N18W34D
Township: T15N Range: R18W Sec.: 34

Formation: Crevasse Cnyn
Field: Gallup Member: Dilco Zone:

Depth to Seam: 430.65 Seam Thickness: 2.75
Sample Interval: 430.65-433. Sample Thickness: 2.75

Analyses on As-Received Basis

Air Dry Loss: 10.69
Eq. Moisture: 13.77 Moisture: 11.78 Vol. Matter: 32.59
Ash: 21.83 Fixed Carbon: 33.79

Carbon: 52.27 Btu: 9269 DAF Btu: 13962
Hydrogen: 4.16 Dry Btu: 10507 MMFBtu: 11926
Nitrogen: 1.06
Oxygen: 7.54 Sulfide: 0.74
Sulfur: 1.49 Sulfate: 0.016
Organic Sulfur: 0.25

Fluoride in ppm: 58.6 Chloride in ppm: 36.6

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 25	SiO_2: 13.78	SiO_2ash: 63.13
Co: 11	Al_2O_3: 5.63	Al_2O_3ash: 25.81
Cr: 101	TiO_2: 0.26	TiO_2ash: 1.19
Cu: 47	Fe_2O_3: 1.55	Fe_2O_3ash: 7.12
Li: 27	MgO: 0.22	MgOash: 1.03
Mn: 14	CaO: 0.24	CaOash: 1.08
Nb:	K_2O: 0.12	K_2Oash: 0.54
Ni: 73	Na_2O: 0.16	Na_2Oash: 0.72
Pb: 44		
Sr: 262		
V: 148	AB Ratio: 0.11	
Zn: 57	Silica Ratio: 87.24	
	Total ashed Oxides: 100.62	

Calc oxygen: 19.19

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 981
Sample No.: 15N18W34E
Township: T15N Range: R18W Sec.: 34

Formation: Crevasse Cnyn
Field: Gallup Member: Dilco Zone:

Depth to Seam: 434.25 Seam Thickness: 2.30
Sample Interval: 434.25-436. Sample Thickness: 2.30

Analyses on As-Received Basis

Air Dry Loss: 9.48
Eq. Moisture: 12.11 Moisture: 10.95 Vol. Matter: 38.73
Ash: 10.62 Fixed Carbon: 39.69

Carbon: 61.98 Btu: 10749 DAF Btu: 13706
Hydrogen: 4.81 Dry Btu: 12071 MMFBtu: 12043
Nitrogen: 1.18
Oxygen: 9.68 Sulfide: 0.34
Sulfur: 0.98 Sulfate: 0.005
Organic Sulfur: 0.63

Fluoride in ppm: 29.8 Chloride in ppm: 24.8

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 24	SiO_2: 5.75	SiO_2ash: 54.14
Co: 45	Al_2O_3: 2.08	Al_2O_3ash: 19.61
Cr: 90	TiO_2: 0.12	TiO_2ash: 1.1
Cu: 80	Fe_2O_3: 0.73	Fe_2O_3ash: 6.87
Li: 12	MgO: 0.15	MgOash: 1.45
Mn: 111	CaO: 1.02	CaOash: 9.56
Nb:	K_2O: 0.064	K_2Oash: 0.61
Ni: 86	Na_2O: 0.13	Na_2Oash: 1.21
Pb: 44		
Sr: 534		
V: 240	AB Ratio: 0.26	
Zn: 67	Silica Ratio: 75.17	
	Total ashed Oxides: 94.55	

Calc oxygen: 20.43

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 979
Sample No.: 15N18W33A
Township: T15N Range: R18W Sec.: 33

Formation: Crevasse Cnyn
Field: Gallup Member: Gibson-Cleary Zone:

Depth to Seam: 20.00 Seam Thickness: 4.40
Sample Interval: 20.0-24.40 Sample Thickness: 4.40

Analyses on As-Received Basis

Air Dry Loss: 12.94
Eq. Moisture: 16.58 Moisture: 15.59 Vol. Matter: 36.98
Ash: 6.36 Fixed Carbon: 41.06

Carbon: 58.62 Btu: 9593 DAF Btu: 12290
Hydrogen: 4.28 Dry Btu: 11364 MMFBtu: 10236
Nitrogen: 1.21
Oxygen: 13.36 Sulfide: 0.11
Sulfur: 0.78 Sulfate: 0.260
Organic Sulfur: 0.41

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 32	SiO_2: 3.04	SiO_2ash: 47.84
Co: 45	Al_2O_3: 1.12	Al_2O_3ash: 17.67
Cr: 72	TiO_2: 0.68	TiO_2ash: 1.07
Cu: 85	Fe_2O_3: 0.68	Fe_2O_3ash: 10.69
Li: 24	MgO: 0.18	MgOash: 2.79
Mn: 192	CaO: 0.55	CaOash: 8.59
Nb:	K_2O: 0.037	K_2Oash: 0.59
Ni: 87	Na_2O: 0.058	Na_2Oash: 0.92
Pb: 47		
Sr: 1990		
V: 222	AB Ratio: 0.35	
Zn: 147	Silica Ratio: 68.43	
	Total ashed Oxides: 90.16	

Calc oxygen: 28.75

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 976
Sample No.: 15N19W35A
Township: T15N Range: R19W Sec.: 35

Formation: Crevasse Cnyn
Field: Gallup Member: Dilco Zone:

Depth to Seam: 117.00 Seam Thickness: 1.10
Sample Interval: 117.0-118.1 Sample Thickness: 1.10

Analyses on As-Received Basis

Air Dry Loss: 8.21
Eq. Moisture: 10.98 Moisture: 10.82 Vol. Matter: 35.23
Ash: 20.79 Fixed Carbon: 33.15

Carbon: 53.73 Btu: 9385 DAF Btu: 13722
Hydrogen: 4.57 Dry Btu: 10523 MMFBtu: 12003
Nitrogen: 1.29
Oxygen: 8.11 Sulfide: 0.18
Sulfur: 0.90 Sulfate: 0.000
Organic Sulfur: 0.72

Fluoride in ppm: 88.8 Chloride in ppm: 23.1

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 35	SiO_2: 12.28	SiO_2ash: 59.09
Co: 17	Al_2O_3: 5.88	Al_2O_3ash: 5.88
Cr: 36	TiO_2: 0.26	TiO_2ash: 1.26
Cu: 55	Fe_2O_3: 0.72	Fe_2O_3ash: 3.47
Li: 45	MgO: 0.45	MgOash: 2.19
Mn: 98	CaO: 0.31	CaOash: 1.48
Nb:	K_2O: 0.13	K_2Oash: 0.63
Ni: 25	Na_2O: 0.28	Na_2Oash: 1.34
Pb: 71		
Sr: 480		
V: 179	AB Ratio: 0.1	
Zn: 34	Silica Ratio: 89.21	
	Total ashed Oxides: 97.72	

Calc oxygen: 18.72

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 978
Sample No.: 15N19W35B
Township: T15N Range: R19W Sec.: 35

Formation: Crevasse Cnyn
Field: Gallup Member: Dilco Zone:

Depth to Seam: 193.40 Seam Thickness: 3.90
Sample Interval: 193.4-197.3 Sample Thickness: 3.90

Analyses on As-Received Basis

Air Dry Loss: 9.04
Eq. Moisture: 11.28 Moisture: 10.43 Vol. Matter: 36.09
Ash: 18.45 Fixed Carbon: 35.03

Carbon: 56.26 Btu: 9897 DAF Btu: 13916
Hydrogen: 4.60 Dry Btu: 11050 MMFBtu: 12257
Nitrogen: 1.25
Oxygen: 8.28 Sulfide: 0.30
Sulfur: 0.92 Sulfate: 0.003
Organic Sulfur: 0.62

Fluoride in ppm: 64.4 Chloride in ppm: 40.7

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 30	SiO2: 12.02	SiO2ash: 65.16
Co: 23	Al2O3: 4.89	Al2O3ash: 26.48
Cr: 49	TiO2: 0.25	TiO2ash: 1.37
Cu: 63	Fe2O3: 0.72	Fe2O3ash: 3.9
Li: 32	MgO: 0.2	MgOash: 1.1
Mn: 21	CaO: 0.27	CaOash: 1.45
Nb:	K2O: 0.081	K2Oash: 0.44
Ni: 33	Na2O: 0.21	Na2Oash: 1.16
Pb: 100		
Sr: 365		
V: 156	AB Ratio: 0.08	
Zn: 130	Silica Ratio: 90.99	
	Total ashed Oxides: 101.06	

Calc oxygen: 18.52

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 983
Sample No.: 15N19W35C
Township: T15N Range: R19W Sec.: 35

Formation: Crevasse Cnyn
Field: Gallup Member: Dilco Zone:

Depth to Seam: 225.00 Seam Thickness: 2.60
Sample Interval: 225.0-227.6 Sample Thickness: 2.60

Analyses on As-Received Basis

Air Dry Loss: 9.73
Eq. Moisture: 12.22 Moisture: 11.67 Vol. Matter: 31.39
Ash: 23.19 Fixed Carbon: 33.75

Carbon: 51.74 Btu: 8820 DAF Btu: 13540
Hydrogen: 4.23 Dry Btu: 9985 MMFBtu: 11683
Nitrogen: 1.03
Oxygen: 7.57 Sulfide: 0.07
Sulfur: 0.78 Sulfate: 0.002
Organic Sulfur: 0.71

Fluoride in ppm: 92.7 Chloride in ppm: 15

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 25	SiO_2:	SiO_2ash:
Co: 54	Al_2O_3:	Al_2O_3ash:
Cr: 75	TiO_2:	TiO_2ash:
Cu: 102	Fe_2O_3:	Fe_2O_3ash:
Li: 15	MgO:	MgOash:
Mn: 131	CaO:	CaOash:
Nb:	K_2O:	K_2Oash:
Ni: 50	Na_2O:	Na_2Oash:
Pb: 47		
Sr: 424		
V: 268	AB Ratio: 0.12	
Zn: 97	Silica Ratio: 88.11	
	Total ashed Oxides:	

Calc oxygen: 19.03

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 735
Sample No.: 16N10W33A
Township: T16N Range: R10W Sec.: 33

Formation: Crevasse Cnyn
Field: Crownpoint Member: Gibson Zone:

Depth to Seam: 86.70 Seam Thickness: 3.40
Sample Interval: 86.70-90.10 Sample Thickness: 3.40

Analyses on As-Received Basis

Air Dry Loss: 4.63
Eq. Moisture: 16.58 Moisture: 17.79 Vol. Matter: 36.81
Ash: 6.77 Fixed Carbon: 38.61

Carbon: 62.61 Btu: 10526 DAF Btu: 13955
Hydrogen: 4.45 Dry Btu: 12805 MMFBtu: 11109
Nitrogen: 1.04
Oxygen: 5.24 Sulfide: 0.96
Sulfur: 2.06 Sulfate: 0.160
Organic Sulfur: 0.94

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 14	SiO_2: 2.57	SiO_2ash: 37.92
Co: 5	Al_2O_3: 0.87	Al_2O_3ash: 12.8
Cr: 52	TiO_2: 0.089	TiO_2ash: 1.32
Cu: 47	Fe_2O_3: 1.48	Fe_2O_3ash: 21.81
Li: 37	MgO: 0.17	MgOash: 2.48
Mn: 204	CaO: 0.48	CaOash: 7.11
Nb: 68	K_2O: 0.015	K_2Oash: 0.23
Ni: 31	Na_2O: 0.11	Na_2Oash: 1.57
Pb: 11		
Sr: 818		
V: 102	AB Ratio: 0.63	
Zn: 135	Silica Ratio: 54.7	
	Total ashed Oxides: 85.24	

Calc oxygen: 23.07

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 739
Sample No.: 16N10W33B
Township: T16N Range: R10W Sec.: 33

Formation: Crevasse Cnyn
Field: Crownpoint Member: Gibson Zone:

Depth to Seam: 104.80 Seam Thickness: 2.60
Sample Interval: 104.80-107. Sample Thickness: 2.60

Analyses on As-Received Basis

Air Dry Loss: 2.95
Eq. Moisture: 16.91 Moisture: 13.56 Vol. Matter: 34.66
Ash: 13.61 Fixed Carbon: 38.17

Carbon: 61.60 Btu: 9920 DAF Btu: 13621
Hydrogen: 4.19 Dry Btu: 11476 MMFBtu: 11324
Nitrogen: 1.05
Oxygen: 3.65 Sulfide: 0.65
Sulfur: 2.31 Sulfate: 0.060
Organic Sulfur: 1.60

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 11	SiO_2: 7.78	SiO_2ash: 57.17
Co: 40	Al_2O_3: 2.66	Al_2O_3ash: 19.58
Cr: 60	TiO_2: 0.15	TiO_2ash: 1.08
Cu: 51	Fe_2O_3: 1.79	Fe_2O_3ash: 13.16
Li: 38	MgO: 0.18	MgOash: 1.34
Mn: 179	CaO: 0.5	CaOash: 3.66
Nb: 39	K_2O: 0.14	K_2Oash: 1.05
Ni: 44	Na_2O: 0.18	Na_2Oash: 1.29
Pb: 30		
Sr: 887		
V: 110	AB Ratio: 0.26	
Zn: 123	Silica Ratio: 75.89	
	Total ashed Oxides: 98.33	

Calc oxygen: 17.24

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 736
Sample No.: 16N10W33C
Township: T16N Range: R10W Sec.: 33

Formation: Crevasse Cnyn
Field: Crownpoint Member: Gibson Zone:

Depth to Seam: 139.45 Seam Thickness: 2.15
Sample Interval: 139.45-141. Sample Thickness: 2.15

Analyses on As-Received Basis

Air Dry Loss: 4.88
Eq. Moisture: 12.65 Moisture: 14.11 Vol. Matter: 38.34
Ash: 11.50 Fixed Carbon: 36.05

Carbon: 63.96 Btu: 10693 DAF Btu: 14374
Hydrogen: 4.65 Dry Btu: 12450 MMFBtu: 12135
Nitrogen: 0.98
Oxygen: 4.23 Sulfide: 0.02
Sulfur: 0.56 Sulfate: 0.000
Organic Sulfur: 0.54

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 12	SiO_2:8.3	SiO_2ash: 72.14
Co: 44	Al_2O_3: 1.68	Al_2O_3ash: 14.58
Cr: 90	TiO_2: 0.17	TiO_2ash: 1.51
Cu: 49	Fe_2O_3: 0.3	Fe_2O_3ash: 2.59
Li: 37	MgO: 0.11	MgOash: 0.94
Mn: 90	CaO: 0.51	CaOash: 4.45
Nb:	K_2O: 0.052	K_2Oash: 0.46
Ni: 51	Na_2O: 0.18	Na_2Oash: 1.59
Pb: 0		
Sr: 1134		
V: 85	AB Ratio: 0.11	
Zn: 19	Silica Ratio: 90.03	
	Total ashed Oxides: 98.26	

Calc oxygen: 18.35

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 734
Sample No.: 16N10W33D
Township: T16N Range:R10W Sec.: 33

Formation: Crevasse Cnyn
Field: Crownpoint Member: Gibson Zone:

Depth to Seam: 170.00 Seam Thickness: 3.05
Sample Interval: 170.0-173.0 Sample Thickness: 3.05

Analyses on As-Received Basis

Air Dry Loss: 5
Eq. Moisture: 15.38 Moisture: 15.49 Vol. Matter: 37.51
Ash: 9.62 Fixed Carbon: 37.38

Carbon: 60.96 Btu: 10419 DAF Btu: 13912
Hydrogen: 4.49 Dry Btu: 12328 MMFBtu: 11320
Nitrogen: 1.06
Oxygen: 5.92 Sulfide: 2.00
Sulfur: 2.44 Sulfate: 0.140
Organic Sulfur: 0.30

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 19	SiO_2: 3.15	SiO_2ash: 32.79
Co: 24	Al_2O_3: 1.16	Al_2O_3ash: 12.01
Cr: 86	TiO_2: 0.076	TiO_2ash: 0.8
Cu: 40	Fe_2O_3: 3.84	Fe_2O_3ash: 39.9
Li: 16	MgO: 0.13	MgOash: 1.33
Mn: 293	CaO: 0.32	CaOash: 3.37
Nb:	K_2O: 0.037	K_2Oash: 0.39
Ni: 65	Na_2O: 0.24	Na_2Oash: 2.46
Pb: 43		
Sr: 888		
V: 82	AB Ratio: 1.04	
Zn: 161	Silica Ratio: 42.36	
	Total ashed Oxides: 93.05	

Calc oxygen: 21.43

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 729
Sample No.: 16N10W33E
Township: T16N Range: R10W Sec.: 33

Formation: Crevasse Cnyn
Field: Crownpoint Member: Gibson Zone:

Depth to Seam: 179.75 Seam Thickness: 2.55
Sample Interval: 179.75-182. Sample Thickness: 2.55

Analyses on As-Received Basis

Air Dry Loss: 5.6
Eq. Moisture: 16.61 Moisture: 16.54 Vol. Matter: 37.70
Ash: 5.87 Fixed Carbon: 39.89

Carbon: 64.89 Btu: 10628 DAF Btu: 13698
Hydrogen: 4.66 Dry Btu: 12735 MMFBtu: 11268
Nitrogen: 1.03
Oxygen: 6.32 Sulfide: 0.06
Sulfur: 0.67 Sulfate: 0.004
Organic Sulfur: 0.61

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 22	SiO_2: 3.38	SiO_2ash: 57.56
Co: 28	Al_2O_3: 1.23	Al_2O_3ash: 21
Cr: 68	TiO_2: 0.079	TiO_2ash: 1.36
Cu: 65	Fe_2O3: 0.21	Fe_2O_3ash: 3.53
Li: 25	MgO: 0.066	MgOash: 1.13
Mn: 162	CaO: 0.37	CaOash: 6.27
Nb: 19	K_2O: 0.014	K_2Oash: 0.25
Ni: 92	Na_2O: 0.17	Na_2Oash: 2.9
Pb: 30		
Sr: 1208		
V: 107	AB Ratio: 0.17	
Zn: 226	Silica Ratio: 84.04	
	Total ashed Oxides: 94	

Calc oxygen: 22.88

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 743
Sample No.: 16N10W33F
Township: T16N Range: R10W Sec.: 33

Formation: Crevasse Cnyn
Field: Crownpoint Member: Gibson Zone:

Depth to Seam: 195.65 Seam Thickness: 2.55
Sample Interval: 195.65-198. Sample Thickness: 2.55

Analyses on As-Received Basis

Air Dry Loss: 5.8
Eq. Moisture: 15.43 Moisture: 16.47 Vol. Matter: 37.26
Ash: 8.98 Fixed Carbon: 37.28

Carbon: 62.98 Btu: 10479 DAF Btu: 14057
Hydrogen: 4.53 Dry Btu: 12546 MMFBtu: 11539
Nitrogen: 0.97
Oxygen: 5.52 Sulfide: 0.01
Sulfur: 0.52 Sulfate: 0.020
Organic Sulfur: 0.49

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 31	SiO_2: 5.88	SiO_2ash: 65.49
Co: 25	Al_2O_3: 1.75	Al_2O_3ash: 19.45
Cr: 76	TiO_2: 0.13	TiO_2ash: 1.48
Cu: 76	Fe_2O_3: 0.28	Fe_2O_3ash: 3.12
Li: 44	MgO: 0.11	MgOash: 1.23
Mn: 217	CaO: 0.41	CaOash: 4.6
Nb: 15	K_2O: 0.07	K_2Oash: 0.78
Ni: 49	Na_2O: 0.17	Na_2Oash: 1.94
Pb: 12		
Sr: 836		
V: 37	AB Ratio: 0.13	
Zn: 70	Silica Ratio: 87.97	
	Total ashed Oxides: 98.09	

Calc oxygen: 22.02

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 731
Sample No.: 16N10W33G
Township: T16N Range: R10W Sec.: 33

Formation: Crevasse Cnyn
Field: Crownpoint Member: Gibson Zone:

Depth to Seam: 207.10 Seam Thickness: 3.55
Sample Interval: 207.10-210. Sample Thickness: 3.55

Analyses on As-Received Basis

Air Dry Loss: 5.08
Eq. Moisture: 14.90 Moisture: 16.38 Vol. Matter: 38.11
Ash: 7.96 Fixed Carbon: 37.55

Carbon: 63.23 Btu: 10552 DAF Btu: 13947
Hydrogen: 4.64 Dry Btu: 12619 MMFBtu: 11477
Nitrogen: 1.11
Oxygen: 6.11 Sulfide: 0.02
Sulfur: 0.55 Sulfate: 0.002
Organic Sulfur: 0.53

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 18	SiO_2: 4.67	SiO_2ash: 58.67
Co: 13	Al_2O_3: 1.78	Al_2O_3ash: 22.38
Cr: 69	TiO_2: 0.1	TiO_2ash: 1.26
Cu: 67	Fe_2O_3: 0.34	Fe_2O_3ash: 4.26
Li: 46	MgO: 0.12	MgOash: 1.45
Mn: 265	CaO: 0.44	CaOash: 5.52
Nb: 20	K_2O: 0.035	K_2Oash: 0.44
Ni: 56	Na_2O: 0.14	Na_2Oash: 1.79
Pb: 33		
Sr: 1280		
V: 130	AB Ratio: 0.16	
Zn:	Silica Ratio: 83.93	
	Total ashed Oxides: 95.77	

Calc oxygen: 22.51

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 730
Sample No.: 16N10W16A
Township: T16N Range: R10W Sec.: 16

Formation: Crevasse Cnyn
Field: Crownpoint Member: Gibson Zone:

Depth to Seam: 164.00 Seam Thickness: 3.55
Sample Interval: 164.00-167. Sample Thickness: 3.55

Analyses on As-Received Basis

Air Dry Loss: 4.94
Eq. Moisture: 15.23

Moisture: 16.70
Ash: 9.97

Vol. Matter: 36.51
Fixed Carbon: 36.81

Carbon: 60.45
Hydrogen: 4.28
Nitrogen: 1.08
Oxygen: 4.91

Btu: 10055
Dry Btu: 12070

DAF Btu: 13712
MMFBtu: 10948

Sulfur: 2.58

Sulfide: 0.38
Sulfate: 0.010
Organic Sulfur: 2.20

Fluoride in ppm:

Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 20	SiO_2: 4.17	SiO_2ash: 41.8
Co: 12	Al_2O_3: 1.6	Al_2O_3ash: 16.06
Cr: 53	TiO_2: 0.095	TiO_2ash: 0.96
Cu: 51	Fe_2O_3: 2.62	Fe_2O_3ash: 26.28
Li: 56	MgO: 0.15	MgOash: 1.52
Mn: 609	CaO: 0.46	CaOash: 4.63
Nb: 45	K_2O: 0.049	K_2Oash: 0.5
Ni: 23	Na_2O: 0.26	Na_2Oash:2.63
Pb: 11		
Sr: 1133		
V: 81	AB Ratio: 0.6	
Zn: 79	Silica Ratio: 56.31	
	Total ashed Oxides: 94.38 Calc oxygen: 21.64	

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 732
Sample No.: 16N10W16B
Township: T16N Range: R10W Sec.: 16

Formation: Crevasse Cnyn
Field: Crownpoint Member: Gibson Zone:

Depth to Seam: 191.15 Seam Thickness: 3.45
Sample Interval: 191.15-194. Sample Thickness: 3.45

Analyses on As-Received Basis

Air Dry Loss: 5.56
Eq. Moisture: 15.00 Moisture: 17.38 Vol. Matter: 36.29
Ash: 9.20 Fixed Carbon: 37.12

Carbon: 61.97 Btu: 10533 DAF Btu: 14346
Hydrogen: 4.39 Dry Btu: 12749 MMFBtu: 11545
Nitrogen: 0.98
Oxygen: 4.87 Sulfide: 0.25
Sulfur: 1.19 Sulfate: 0.010
Organic Sulfur: 0.93

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be:	SiO_2:	SiO_2ash:
Co: 17	Al_2O_3:	Al_2O_3ash:
Cr:	TiO_2:	TiO_2ash:
Cu: 79	Fe_2O_3:	Fe_2O_3ash:
Li: 53	MgO:	MgOash:
Mn:	CaO:	CaOash:
Nb:	K_2O:	K_2Oash:
Ni:	Na_2O:	Na_2Oash:
Pb: 13		
Sr: 1043		
V:	AB Ratio:	
Zn: 75	Silica Ratio: 82.16	
	Total ashed Oxides:	

Calc oxygen: 22.27

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 742
Sample No.: 16N11W2A
Township: T16N Range: R11W Sec.: 2

Formation: Crevasse Cnyn
Field: Crownpoint Member: Gibson Zone:

Depth to Seam: 124.95 Seam Thickness: 3.35
Sample Interval: 124.95-128. Sample Thickness: 3.35

Analyses on As-Received Basis

Air Dry Loss: 7.48
Eq. Moisture: 13.58 Moisture: 16.50 Vol. Matter: 34.94
Ash: 15.57 Fixed Carbon: 32.98

Carbon: 55.79 Btu: 9135 DAF Btu: 13448
Hydrogen: 3.87 Dry Btu: 10940 MMFBtu: 10589
Nitrogen: 1.02
Oxygen: 4.20 Sulfide: 0.19
Sulfur: 3.02 Sulfate: 0.180
Organic Sulfur: 2.65

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 9	SiO_2: 8.07	SiO_2ash: 51.81
Co: 5	Al_2O_3: 3.07	Al_2O_3ash: 19.72
Cr: 81	TiO_2: 0.17	TiO_2ash: 1.07
Cu: 58	Fe_2O_3: 2.82	Fe_2O_3ash: 18.15
Li: 63	MgO: 0.26	MgOash: 1.68
Mn: 183	CaO: 0.54	CaOash: 3.49
Nb: 62	K_2O: 0.15	K_2Oash: 0.94
Ni: 50	Na_2O: 0.13	Na_2Oash: 0.85
Pb: 33		
Sr: 578		
V: 35	AB Ratio: 0.34	
Zn: 87	Silica Ratio: 68.96	
	Total ashed Oxides: 97.71	

Calc oxygen: 20.73

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 737
Sample No.: 16N11W2B
Township: T16N Range: R11W Sec.: 2

Formation: Crevasse Cnyn
Field: Crownpoint Member: Gibson Zone:

Depth to Seam: 146.30 Seam Thickness: 1.50
Sample Interval: 146.30-147. Sample Thickness: 1.50

Analyses on As-Received Basis

Air Dry Loss: 4.91
Eq. Moisture: 14.85 Moisture: 14.75 Vol. Matter: 33.84
Ash: 19.89 Fixed Carbon: 31.51

Carbon: 54.04 Btu: 9142 DAF Btu: 13987
Hydrogen: 4.04 Dry Btu: 10724 MMFBtu: 11544
Nitrogen: 0.68
Oxygen: 5.90 Sulfide: 0.02
Sulfur: 0.68 Sulfate: 0.007
Organic Sulfur: 0.65

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 14	SiO_2: 14.27	SiO_2ash: 71.75
Co: 0	Al_2O_3: 3.95	Al_2O_3ash: 19.88
Cr: 68	TiO_2: 0.22	TiO_2ash: 1.09
Cu: 68	Fe_2O_3: 0.49	Fe_2O_3ash: 2.45
Li: 36	MgO: 0.28	MgOash: 1.39
Mn: 49	CaO: 0.42	CaOash: 2.11
Nb: 21	K_2O: 0.28	K_2Oash: 1.4
Ni: 25	Na_2O: 0.22	Na_2Oash: 1.13
Pb: 32		
Sr: 516		
V: 208	AB Ratio: 0.09	
Zn: 68	Silica Ratio: 92.34	
	Total ashed Oxides: 101.2	

Calc oxygen: 20.67

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 741
Sample No.: 16N11W2C
Township: T16N Range: R11W Sec.: 2

Formation: Crevasse Cnyn
Field: Crownpoint Member: Gibson Zone:

Depth to Seam: 149.60 Seam Thickness: 3.40
Sample Interval: 149.6-153.0 Sample Thickness: 3.40

Analyses on As-Received Basis

Air Dry Loss: 5.77
Eq. Moisture: 13.83 Moisture: 15.34 Vol. Matter: 36.66
Ash: 10.42 Fixed Carbon: 37.58

Carbon: 61.37 Btu: 10802 DAF Btu: 14550
Hydrogen: 4.34 Dry Btu: 12759 MMFBtu: 11863
Nitrogen: 1.01
Oxygen: 5.12 Sulfide: 0.30
Sulfur: 2.37 Sulfate: 0.090
Organic Sulfur: 1.98

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 12	SiO_2: 5.2	SiO_2ash: 49.93
Co: 14	Al_2O_3: 1.9	Al_2O_3ash: 18.28
Cr: 57	TiO_2: 0.11	TiO_2ash: 1.07
Cu: 79	Fe_2O_3: 1.87	Fe_2O_3ash: 17.99
Li: 46	MgO: 0.11	MgOash: 1.1
Mn: 159	CaO: 0.44	CaOash: 4.23
Nb: 64	K_2O: 0.043	K_2Oash: 0.42
Ni: 54	Na_2O: 0.19	Na_2Oash: 1.86
Pb: 31		
Sr: 1317		
V: 218	AB Ratio: 0.36	
Zn: 187	Silica Ratio: 68.16	
	Total ashed Oxides: 397.88	

Calc oxygen: 20.49

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 744
Sample No.: 16N11W2D
Township: T16N Range: R11W Sec.: 2

Formation: Crevasse Cnyn
Field: Crownpoint Member: Gibson Zone:

Depth to Seam: 186.10 Seam Thickness: 1.90
Sample Interval: 186.10-188. Sample Thickness: 1.90

Analyses on As-Received Basis

Air Dry Loss: 6.42
Eq. Moisture: 13.43 Moisture: 15.07 Vol. Matter: 30.13
Ash: 24.40 Fixed Carbon: 30.40

Carbon: 49.17 Btu: 8423 DAF Btu: 13916
Hydrogen: 3.60 Dry Btu: 9918 MMFBtu: 11329
Nitrogen: 0.85
Oxygen: 6.18 Sulfide: 0.14
Sulfur: 0.71 Sulfate: 0.000
Organic Sulfur: 0.57

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 6	SiO_2: 16.8	SiO_2ash: 68.85
Co: 11	Al_2O_3: 5.7	Al_2O_3ash: 23.36
Cr: 33	TiO_2: 0.23	TiO_2ash: 0.96
Cu: 58	Fe_2O_3: 0.79	Fe_2O_3ash: 3.23
Li: 42	MgO: 0.31	MgOash: 1.25
Mn: 83	CaO: 0.47	CaOash: 1.91
Nb: 12	K_2O: 0.39	K_2Oash: 1.6
Ni: 34	Na_2O: 0.26	Na_2Oash: 1.05
Pb: 31		
Sr: 458		
V: 30	AB Ratio: 0.09	
Zn: 141	Silica Ratio: 91.5	
	Total ashed Oxides: 102.21	

Calc oxygen: 21.27

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 740
Sample No.: 16N11W2E
Township: T16N Range: R11W Sec.: 2

Formation: Crevasse Cnyn
Field: Crownpoint Member: Gibson Zone:

Depth to Seam: 188.75 Seam Thickness: 2.65
Sample Interval: 188.75-191. Sample Thickness: 2.65

Analyses on As-Received Basis

Air Dry Loss: 4.74
Eq. Moisture: 13.97 Moisture: 12.41 Vol. Matter: 33.97
Ash: 19.43 Fixed Carbon: 34.19

Carbon: 55.74 Btu: 7310 DAF Btu: 10724
Hydrogen: 4.06 Dry Btu: 8345 MMFBtu: 9073
Nitrogen: 0.96
Oxygen: 5.98 Sulfide: 0.45
Sulfur: 1.41 Sulfate: 0.020
Organic Sulfur: 0.94

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 10	SiO_2: 11.9	SiO_2ash: 61.23
Co: 13	Al_2O_3: 5.65	Al_2O_3ash: 29.1
Cr: 32	TiO_2: 0.24	TiO_2ash: 1.24
Cu: 40	Fe_2O_3: 1.12	Fe_2O_3ash: 5.74
Li: 107	MgO: 0.18	MgOash: 0.91
Mn: 86	CaO: 0.37	CaOash: 1.9
Nb: 18	K_2O: 0.14	K_2Oash: 0.7
Ni: 28	Na_2O: 0.22	Na_2Oash: 1.12
Pb: 35		
Sr: 474		
V: 147	AB Ratio: 0.11	
Zn: 93	Silica Ratio: 87.74	
	Total ashed Oxides: 101.94	

Calc oxygen: 18.40

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 738
Sample No.: 17N11W34A
Township: T17N Range: R11W Sec.: 34

Formation: Crevasse Cnyn
Field: Crownpoint Member: Gibson Zone:

Depth to Seam: 119.00 Seam Thickness: 2.55
Sample Interval: 119.0-121.5 Sample Thickness: 2.55

Analyses on As-Received Basis

Air Dry Loss: 6.04
Eq. Moisture: 15.63 Moisture: 16.61 Vol. Matter: 33.18
Ash: 8.87 Fixed Carbon: 41.33

Carbon: 62.32 Btu: 10590 DAF Btu: 14211
Hydrogen: 4.37 Dry Btu: 12700 MMFBtu: 11412
Nitrogen: 1.00
Oxygen: 4.40 Sulfide: 0.31
Sulfur: 2.40 Sulfate: 0.120
Organic Sulfur: 1.97

Fluoride in ppm: 15.1 Chloride in ppm: 12.8

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 14	SiO_2: 4.21	SiO_2ash: 47.41
Co: 17	Al_2O_3: 0.98	Al_2O_3ash: 11.09
Cr: 58	TiO_2: 0.079	TiO_2ash: 0.9
Cu: 46	Fe_2O_3: 2.23	Fe_2O_3ash: 25.13
Li: 22	MgO: 0.13	MgOash: 1.41
Mn: 390	CaO: 0.46	CaOash: 5.23
Nb: 50	K_2O: 0.046	K_2Oash: 0.52
Ni: 28	Na_2O: 0.13	Na_2Oash: 1.51
Pb: 3		
Sr: 593		
V: 89	AB Ratio: 0.56	
Zn: 109	Silica Ratio: 59.87	
	Total ashed Oxides: 93.2	

Calc oxygen: 21.04

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 733
Sample No.: 17N11W34B
Township: T17N Range: R11W Sec.: 34

Formation: Crevasse Cnyn
Field: Crownpoint Member: Gibson Zone:

Depth to Seam: 178.95 Seam Thickness: 4.05
Sample Interval: 178.95-183. Sample Thickness: 4.05

Analyses on As-Received Basis

Air Dry Loss: 5.23
Eq. Moisture: 14.44 Moisture: 15.66 Vol. Matter: 39.13
Ash: 7.27 Fixed Carbon: 37.94

Carbon: 63.67 Btu: 10829 DAF Btu: 14051
Hydrogen: 4.66 Dry Btu: 12840 MMFBtu: 11602
Nitrogen: 0.96
Oxygen: 6.54 Sulfide: 0.16
Sulfur: 1.21 Sulfate: 0.010
Organic Sulfur: 1.03

Fluoride in ppm: 10.8 Chloride in ppm: 6.4

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 14	SiO_2:	SiO_2ash:
Co: 17	Al_2O_3:	Al_2O_3ash:
Cr: 54	TiO_2:	TiO_2ash:
Cu: 64	Fe_2O_3:	Fe_2O_3ash:
Li: 56	MgO:	MgOash:
Mn: 266	CaO:	CaOash:
Nb: 48	K_2O:	K_2Oash:
Ni: 45	Na_2O:	Na_2Oash:
Pb: 28		
Sr: 1336		
V: 111	AB Ratio: 0.56	
Zn: 471	Silica Ratio: 59.87	
	Total ashed Oxides:	

Calc oxygen: 22.23

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 745
Sample No.: 17N11W34C
Township: T17N Range: R11W Sec.: 34

Formation: Crevasse Cnyn
Field: Crownpoint Member: Gibson Zone:

Depth to Seam: 198.60 Seam Thickness: 2.35
Sample Interval: 198.6-200.9 Sample Thickness: 2.35

Analyses on As-Received Basis

Air Dry Loss: 5.54
Eq. Moisture: 14.61 Moisture: 15.63 Vol. Matter: 37.12
Ash: 8.29 Fixed Carbon: 38.95

Carbon: 63.83 Btu: 10770 DAF Btu: 14156
Hydrogen: 4.49 Dry Btu: 12765 MMFBtu: 11708
Nitrogen: 0.96
Oxygen: 5.81 Sulfide: 0.11
Sulfur: 0.96 Sulfate: 0.001
Organic Sulfur: 0.85

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 13	SiO_2:	SiO_2ash:
Co: 27	Al_2O_3:	Al_2O_3ash:
Cr: 51	TiO_2:	TiO_2ash:
Cu: 73	Fe_2O_3:	Fe_2O_3ash:
Li: 40	MgO:	MgOash:
Mn: 684	CaO:	CaOash:
Nb: 25	K_2O:	K_2Oash:
Ni: 58	Na_2O:	Na_2Oash:
Pb: 34		
Sr: 1121		
V: 37	AB Ratio: 0.56	
Zn:	Silica Ratio: 59.87	
	Total ashed Oxides:	

Calc oxygen: 21.47

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 726
Sample No.: 16N10W29A
Township: T16N Range: R10W Sec.: 29

Formation: Crevasse Cnyn
Field: Crownpoint Member: Gibson Zone:

Depth to Seam: 139.60 Seam Thickness: 1.90
Sample Interval: 139.60-141. Sample Thickness: 1.90

Analyses on As-Received Basis

Air Dry Loss: 5.8
Eq. Moisture: 14.97 Moisture: 14.92 Vol. Matter: 30.86
Ash: 25.59 Fixed Carbon: 28.63

Carbon: 47.32 Btu: 7783 DAF Btu: 13084
Hydrogen: 3.53 Dry Btu: 9148 MMFBtu: 10172
Nitrogen: 0.84
Oxygen: 3.79 Sulfide: 2.74
Sulfur: 3.98 Sulfate: 0.120
Organic Sulfur: 1.12

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 5	SiO_2: 15.21	SiO_2ash: 59.42
Co: 17	Al_2O_3: 5.69	Al_2O_3ash: 22.22
Cr: 95	TiO_2: 0.27	TiO_2ash: 1.04
Cu: 52	Fe_2O_3: 3.62	Fe_2O_3ash: 14.13
Li: 50	MgO: 0.3	MgOash: 1.19
Mn: 84	CaO: 0.54	CaOash: 2.1
Nb: 50	K_2O: 0.31	K_2Oash: 1.23
Ni: 55	Na_2O: 0.18	Na_2Oash: 0.72
Pb: 31		
Sr: 277		
V: 81	AB Ratio: 0.23	
Zn: 125	Silica Ratio: 77.32	
	Total ashed Oxides: 102.5	

Calc oxygen: 18.74

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 727
Sample No.: 16N10W29B
Township: T16N Range: R10W Sec.: 29

Formation: Crevasse Cnyn
Field: Crownpoint Member: Gibson Zone:

Depth to Seam: 142.65 Seam Thickness: 1.40
Sample Interval: 142.65-144. Sample Thickness: 1.40

Analyses on As-Received Basis

Air Dry Loss: 5.56
Eq. Moisture: 16.13 Moisture: 15.42 Vol. Matter: 39.22
Ash: 9.29 Fixed Carbon: 36.06

Carbon: 62.19 Btu: 10408 DAF Btu: 13824
Hydrogen: 4.72 Dry Btu: 12305 MMFBtu: 11470
Nitrogen: 1.02
Oxygen: 6.55 Sulfide: 0.03
Sulfur: 0.78 Sulfate: ERROR
Organic Sulfur: 0.74

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 37	SiO_2: 5.6	SiO_2ash: 60.23
Co: 34	Al_2O_3: 1.98	Al_2O_3ash: 21.32
Cr: 80	TiO_2: 0.12	TiO_2ash: 1.27
Cu: 81	Fe_2O_3: 0.29	Fe_2O_3ash: 3.17
Li: 53	MgO: 0.13	MgOash: 1.39
Mn: 134	CaO: 0.52	CaOash: 5.58
Nb: 23	K_2O: 0.039	K_2Oash: 0.43
Ni: 58	Na_2O: 0.1	Na_2Oash: 1.12
Pb: 18		
Sr: 931		
V: 120	AB Ratio: 0.14	
Zn: 236	Silica Ratio: 85.59	
	Total ashed Oxides: 94.51	

Calc oxygen: 22.00

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 725
Sample No.: 16N10W29C
Township: T16N Range: R10W Sec.: 29

Formation: Crevasse Cnyn
Field: Crownpoint Member: Gibson Zone:

Depth to Seam: 169.10 Seam Thickness: 4.40
Sample Interval: 169.1-173.5 Sample Thickness: 4.40

Analyses on As-Received Basis

Air Dry Loss: 7.45
Eq. Moisture: 15.60 Moisture: 18.34 Vol. Matter: 36.30
Ash: 6.90 Fixed Carbon: 38.45

Carbon: 62.78 Btu: 10548 DAF Btu: 14110
Hydrogen: 4.36 Dry Btu: 12917 MMFBtu: 11311
Nitrogen: 1.01
Oxygen: 5.88 Sulfide: 0.28
Sulfur: 0.71 Sulfate: 0.013
Organic Sulfur: 0.42

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 21	SiO_2: 5.04	SiO_2ash: 73.09
Co: 15	Al_2O_3: 1.03	Al_2O_3ash: 14.97
Cr: 73	TiO_2: 0.072	TiO_2ash: 1.05
Cu: 98	Fe_2O_3: 0.29	Fe_2O_3ash: 4.22
Li: 65	MgO: 0.047	MgOash: 0.69
Mn: 160	CaO: 0.23	CaOash: 3.38
Nb: 32	K_2O: 0.043	K_2Oash: 0.63
Ni: 65	Na_2O: 0.12	Na_2Oash: 1.81
Pb: 29		
Sr: 2958		
V: 144	AB Ratio: 0.12	
Zn: 92	Silica Ratio: 89.81	
	Total ashed Oxides: 99.84	

Calc oxygen: 24.24

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 724
Sample No.: 16N10W29D
Township: T16N Range: R10W Sec.: 29

Formation: Crevasse Cnyn
Field: Crownpoint Member: Gibson Zone:

Depth to Seam: 203.45 Seam Thickness: 4.70
Sample Interval: 203.45-208. Sample Thickness: 4.70

Analyses on As-Received Basis

Air Dry Loss: 10.84
Eq. Moisture: 15.90

Moisture: 15.66
Ash: 7.50

Vol. Matter: 37.54
Fixed Carbon: 39.29

Carbon: 62.55
Hydrogen: 4.50
Nitrogen: 1.00
Oxygen: 6.72

Btu: 10123
Dry Btu: 12003

DAF Btu: 13175
MMFBtu: 10772

Sulfur: 2.05

Sulfide: 0.32
Sulfate: ERROR
Organic Sulfur: 1.73

Fluoride in ppm:

Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 13	SiO_2:	SiO_2ash:
Co: 11	Al_2O_3:	Al_2O_3ash:
Cr: 57	TiO_2:	TiO_2ash:
Cu: 57	Fe_2O_3:	Fe_2O_3ash:
Li: 58	MgO:	MgOash:
Mn: 225	CaO:	CaOash:
Nb: 60	K_2O:	K_2Oash:
Ni: 47	Na_2O:	Na_2Oash:
Pb: 36		
Sr:		
V: 116	AB Ratio: 0.12	
Zn: 73	Silica Ratio: 89.81	
	Total ashed Oxides:	

Calc oxygen: 22.40

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 728
Sample No.: 16N10W29E
Township: T16N Range: R10W Sec.: 29

Formation: Crevasse Cnyn
Field: Crownpoint Member: Gibson Zone:

Depth to Seam: 220.50 Seam Thickness: 2.95
Sample Interval: 220.5-223.4 Sample Thickness: 2.95

Analyses on As-Received Basis

Air Dry Loss: 5.83
Eq. Moisture: 14.69 Moisture: 16.06 Vol. Matter: 32.33
Ash: 19.42 Fixed Carbon: 32.19

Carbon: 53.44 Btu: 8742 DAF Btu: 13549
Hydrogen: 3.93 Dry Btu: 10414 MMFBtu: 10927
Nitrogen: 0.87
Oxygen: 5.29 Sulfide: 0.23
Sulfur: 0.97 Sulfate: ERROR
Organic Sulfur: 0.73

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 9	SiO_2: 13.06	SiO2ash: 67.24
Co: 15	Al_2O_3: 4.18	Al_2O_3ash: 21.51
Cr: 52	TiO_2: 0.21	TiO_2ash: 1.08
Cu: 52	Fe_2O_3: 1.1	Fe_2O_3ash: 5.69
Li: 31	MgO: 0.24	MgOash: 1.25
Mn: 78	CaO: 0.37	CaOash: 1.88
Nb: 20	K_2O: 0.24	K_2Oash: 1.25
Ni: 31	Na_2O: 0.22	Na_2Oash: 1.11
Pb: 32		
Sr: 500		
V: 115	AB Ratio: 0.12	
Zn: 85	Silica Ratio: 88.4	
	Total ashed Oxides: 101.01	

Calc oxygen: 21.37

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 760
Sample No.: 17N13W12A
Township: T17N Range: R13W Sec.: 12

Formation: Crevasse Cnyn
Field: Crownpoint Member: Gibson Zone:

Depth to Seam: 136.15 Seam Thickness: 2.85
Sample Interval: 136.15-139. Sample Thickness: 2.85

Analyses on As-Received Basis

Air Dry Loss: 6.11
Eq. Moisture: 18.47 Moisture: 13.58 Vol. Matter: 38.42
Ash: 6.93 Fixed Carbon: 41.07

Carbon: 65.44 Btu: 10849 DAF Btu: 13649
Hydrogen: 4.58 Dry Btu: 12554 MMFBtu: 11618
Nitrogen: 1.13
Oxygen: 7.43 Sulfide: 0.17
Sulfur: 0.88 Sulfate: 0.190
Organic Sulfur: 0.50

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 31	SiO_2: 2.82	SiO_2ash: 40.66
Co: 10	Al_2O_3: 1.24	Al_2O_3ash: 17.85
Cr: 51	TiO_2: 0.071	TiO_2ash: 1.03
Cu: 42	Fe_2O_3: 1.33	Fe_2O_3ash: 19.22
Li: 38	MgO: 0.1	MgOash: 1.45
Mn: 319	CaO: 0.61	CaOash: 8.83
Nb: 43	K_2O: 0.035	K_2Oash: 0.51
Ni: 48	Na_2O: 0.21	Na_2Oash: 2.98
Pb: 23		
Sr: 634		
V: 38	AB Ratio: 0.55	
Zn: 102	Silica Ratio: 57.95	
	Total ashed Oxides:	

Calc oxygen: 21.04

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 765
Sample No.: 17N13W12B
Township: T17N Range: R13W Sec.: 12

Formation: Crevasse Cnyn
Field: Crownpoint Member: Gibson Zone:

Depth to Seam: 145.70 Seam Thickness: 1.90
Sample Interval: 145.70-147. Sample Thickness: 1.90

Analyses on As-Received Basis

Air Dry Loss: 6.4
Eq. Moisture: 13.40 Moisture: 13.69 Vol. Matter: 37.64
Ash: 8.68 Fixed Carbon: 39.98

Carbon: 63.07 Btu: 10815 DAF Btu: 13931
Hydrogen: 4.60 Dry Btu: 12530 MMFBtu: 11860
Nitrogen: 1.16
Oxygen: 8.21 Sulfide: 0.12
Sulfur: 0.58 Sulfate: 0.040
Organic Sulfur: 0.42

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 25	SiO_2:	SiO_2ash:
Co: 12	Al_2O_3:	Al_2O_3ash:
Cr: 47	TiO_2:	TiO_2ash:
Cu: 56	Fe_2O_3:	Fe_2O_3ash:
Li: 46	MgO:	MgOash:
Mn: 207	CaO:	CaOash:
Nb: 35	K_2O:	K_2Oash:
Ni: 39	Na_2O:	Na_2Oash:
Pb: 37		
Sr: 2265		
V: 95	AB Ratio: 0.55	
Zn: 907	Silica Ratio: 57.95	
	Total ashed Oxides:	

Calc oxygen: 21.91

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 766
Sample No.: 17N13W12C
Township: T17N Range: R13W Sec.: 12

Formation: Crevasse Cnyn
Field: Crownpoint Member: Gibson Zone:

Depth to Seam: 159.00 Seam Thickness: 2.00
Sample Interval: 157.0-159.0 Sample Thickness: 2.00

Analyses on As-Received Basis

Air Dry Loss: 5.05
Eq. Moisture: 14.25 Moisture: 13.70 Vol. Matter: 37.40
Ash: 7.28 Fixed Carbon: 41.61

Carbon: 66.19 Btu: 11066 DAF Btu: 14004
Hydrogen: 5.60 Dry Btu: 12823 MMFBtu: 11887
Nitrogen: 1.17
Oxygen: 5.06 Sulfide: 0.45
Sulfur: 0.98 Sulfate: 0.030
Organic Sulfur: 0.50

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 28	SiO_2:	SiO_2ash:
Co: 30	Al_2O_3:	Al_2O_3ash:
Cr: 45	TiO_2:	TiO_2ash:
Cu: 66	Fe_2O_3:	Fe_2O_3ash:
Li: 30	MgO:	MgOash:
Mn: 183	CaO:	CaOash:
Nb: 35	K_2O:	K_2Oash:
Ni: 61	Na_2O:	Na_2Oash:
Pb: 38		
Sr: 1883		
V: 117	AB Ratio: 0.55	
Zn: 99	Silica Ratio: 57.95	
	Total ashed Oxides:	

Calc oxygen: 18.78

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 756
Sample No.: 17N13W12D
Township: T17N Range: R13W Sec.: 12

Formation: Crevasse Cnyn
Field: Crownpoint Member: Gibson Zone:

Depth to Seam: 169.50 Seam Thickness: 2.60
Sample Interval: 169.50-172. Sample Thickness: 2.60

Analyses on As-Received Basis

Air Dry Loss: 6.93
Eq. Moisture: 14.84

Moisture: 16.44
Ash: 6.47

Vol. Matter: 36.69
Fixed Carbon: 40.40

Carbon: 64.63
Hydrogen: 4.49
Nitrogen: 1.07
Oxygen: 6.47

Btu: 10425
Dry Btu: 12476

DAF Btu: 13523
MMFBtu: 11159

Sulfur: 0.40

Sulfide: ERROR
Sulfate: ERROR
Organic Sulfur: ERROR

Fluoride in ppm:

Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 37	SiO_2: 3.27	SiO_2ash: 50.52
Co: 27	Al_2O_3: 1.14	Al_2O_3ash: 17.64
Cr: 50	TiO_2: 0.084	TiO_2ash: 1.31
Cu: 62	Fe_2O_3: 0.54	Fe_2O_3ash: 8.39
Li: 32	MgO: 0.096	MgOash: 1.49
Mn: 179	CaO: 0.63	CaOash: 9.78
Nb: 25	K_2O: 0.023	K_2Oash: 0.37
Ni: 58	Na_2O: 0.23	Na_2Oash: 3.61
Pb: 19		
Sr: 1848		
V: 146	AB Ratio: 0.34	
Zn:	Silica Ratio: 71.98	
	Total ashed Oxides: 93.11	

Calc oxygen: 22.94

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 746
Sample No.: 17N13W12E
Township: T17N Range: R13W Sec.: 12

Formation: Crevasse Cnyn
Field: Crownpoint Member: Gibson Zone:

Depth to Seam: 189.60 Seam Thickness: 2.50
Sample Interval: 189.60-192. Sample Thickness: 2.50

Analyses on As-Received Basis

Air Dry Loss: 5.78
Eq. Moisture: 15.73 Moisture: 15.52 Vol. Matter: 36.90
Ash: 7.02 Fixed Carbon: 40.55

Carbon: 65.32 Btu: 10864 DAF Btu: 14025
Hydrogen: 4.53 Dry Btu: 12860 MMFBtu: 11630
Nitrogen: 1.06
Oxygen: 5.51 Sulfide: 0.16
Sulfur: 1.01 Sulfate: 0.120
Organic Sulfur: 0.73

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 36	SiO_2: 2.9	SiO_2ash: 41.36
Co: 31	Al_2O_3: 1.23	Al_2O_3ash: 17.49
Cr: 58	TiO_2: 0.07	TiO_2ash: 1.01
Cu: 86	Fe_2O_3: 1.08	Fe_2O_3ash: 15.45
Li: 42	MgO: 0.091	MgOash: 1.31
Mn: 330	CaO: 0.84	CaOash: 11.92
Nb:	K_2O: 0.025	K_2Oash: 0.37
Ni: 52	Na_2O: 0.25	Na_2Oash: 3.5
Pb: 53		
Sr: 1119		
V: 136	AB Ratio: 0.54	
Zn: 696	Silica Ratio: 59.05	
	Total ashed Oxides: 92.41	

Calc oxygen: 21.06

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 769
Sample No.: 17N13W12F
Township: T17N Range: R13W Sec.: 12

Formation: Crevasse Cnyn
Field: Crownpoint Member: Gibson Zone:

Depth to Seam: 198.70 Seam Thickness: 1.40
Sample Interval: 198.7-200.1 Sample Thickness: 1.40

Analyses on As-Received Basis

Air Dry Loss: 7.41
Eq. Moisture: 16.02 Moisture: 16.46 Vol. Matter: 34.29
Ash: 5.59 Fixed Carbon: 43.65

Carbon: 64.70 Btu: 10710 DAF Btu: 13740
Hydrogen: 4.43 Dry Btu: 12821 MMFBtu: 11101
Nitrogen: 2.51
Oxygen: 3.76 Sulfide: 0.27
Sulfur: 2.51 Sulfate: 0.130
Organic Sulfur: 2.10

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 67	SiO_2: 1.8	SiO_2ash: 32.27
Co: 33	Al_2O_3: 0.73	Al_2O_3ash: 12.97
Cr: 54	TiO_2: 0.036	TiO_2ash: 0.65
Cu: 50	Fe_2O_3: 1.54	Fe_2O_3ash: 27.54
Li: 21	MgO: 0.092	MgOash: 1.65
Mn: 315	CaO: 0.56	CaOash: 10.03
Nb: 80	K_2O: 0.024	K_2Oash: 0.43
Ni: 82	Na_2O: 0.25	Na_2Oash: 4.47
Pb: 38		
Sr: 2400		
V: 83	AB Ratio: 0.96	
Zn:	Silica Ratio: 45.13	
	Total ashed Oxides: 44.01	

Calc oxygen: 20.26

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 797
Sample No.: 17N11W16A
Township: T17N Range: R11W Sec.: 16

Formation: Crevasse Cnyn
Field: Crownpoint Member: Gibson Zone:

Depth to Seam: 205.80 Seam Thickness: 3.35
Sample Interval: 205.8-209.1 Sample Thickness: 3.35

Analyses on As-Received Basis

Air Dry Loss: 7.9
Eq. Moisture: 16.11 Moisture: 18.72 Vol. Matter: 34.20
Ash: 8.28 Fixed Carbon: 38.78

Carbon: 59.71 Btu: 10019 DAF Btu: 13726
Hydrogen: 4.22 Dry Btu: 12328 MMFBtu: 10723
Nitrogen: 0.95
Oxygen: 5.76 Sulfide: 0.19
Sulfur: 2.33 Sulfate: 0.060
Organic Sulfur: 2.08

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 17	SiO_2:	SiO_2ash:
Co: 17	Al_2O_3:	Al_2O_3ash:
Cr: 67	TiO_2:	TiO_2ash:
Cu: 67	Fe_2O_3:	Fe_2O_3ash:
Li: 44	MgO:	MgOash:
Mn: 1076	CaO:	CaOash:
Nb:	K_2O:	K_2Oash:
Ni: 35	Na_2O:	Na_2Oash:
Pb: 67		
Sr: 958		
V: 143	AB Ratio: 0.96	
Zn: 175	Silica Ratio: 45.13	
	Total ashed Oxides:	

Calc oxygen: 24.51

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 772
Sample No.: 17N11W16B
Township: T17N Range: R11W Sec.: 16

Formation: Crevasse Cnyn
Field: Crownpoint Member: Gibson Zone:

Depth to Seam: 277.65 Seam Thickness: 29.00
Sample Interval: 277.65-280. Sample Thickness: 29.00

Analyses on As-Received Basis

Air Dry Loss: 7.93
Eq. Moisture: 12.20 Moisture: 13.72 Vol. Matter: 35.14
Ash: 16.85 Fixed Carbon: 34.30

Carbon: 56.25 Btu: 9392 DAF Btu: 13527
Hydrogen: 4.22 Dry Btu: 10885 MMFBtu: 11120
Nitrogen: 1.07
Oxygen: 5.22 Sulfide: 0.28
Sulfur: 2.65 Sulfate: 0.120
Organic Sulfur: 2.25

Fluoride in ppm: Chloride in ppm:

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 11	SiO_2: 9.048	SiO_2ash: 53.7
Co: 16	Al_2O_3: 3.88	Al_2O_3ash: 23
Cr: 46	TiO_2: 0.17	TiO_2ash: 1.02
Cu: 44	Fe_2O_3: 2.24	Fe_2O_3ash: 13.32
Li: 48	MgO: 0.15	MgOash: 0.89
Mn: 382	CaO: 0.29	CaOash: 1.7
Nb:	K_2O: 0.18	K_2Oash: 1.06
Ni: 27	Na_2O: 0.26	Na_2Oash: 1.54
Pb: 56		
Sr: 416		
V: 115	AB Ratio: 0.23	
Zn: 315	Silica Ratio: 77.14	
	Total ashed Oxides: 96.23	

Calc oxygen: 18.96

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory Analyses, NMRDI Coal Quality Project

Lab No.: 990
Sample No.: 3N17W14A
Township: T3N Range: R17W Sec.: 14

Formation: Moreno Hill
Field: Salt Lake Member: Zone: CP

Depth to Seam: 122.05 Seam Thickness: 1.25
Sample Interval: 122.05-123.30 Sample Thickness: 1.25

Analyses on As-Received Basis

Air Dry Loss: 12.77
Eq. Moisture: 16.77 Moisture: 15.33 Vol. Matter: 36.05
Ash: 9.07 Fixed Carbon: 39.54

Carbon: 60.83 Btu: 10405 DAF Btu: 13765
Hydrogen: 4.69 Dry Btu: 12289 MMFBtu: 11421
Nitrogen: 1.19
Oxygen: 7.94 Sulfide: 0.50
Sulfur: 1.13 Sulfate: 0.010
Organic Sulfur: 0.62

Fluoride in ppm: 6.6 Chloride in ppm: 12.7

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 59	SiO_2: 4.53	SiO_2ash: 49.9
Co: 22	Al_2O_3: 1.59	Al_2O_3ash: 17.48
Cr: 137	TiO_2: 0.12	TiO_2ash: 1.38
Cu: 101	Fe_2O_3: 0.99	Fe_2O_3ash: 10.85
Li: 17	MgO: 0.1	MgOash: 1.11
Mn: 309	CaO: 0.75	CaOash: 8.24
Nb:	K_2O: 0.025	K_2Oash: 0.28
Ni: 92	Na_2O: 0.094	Na_2Oash: 1.04
Pb: 46		
Sr: 906		
V: 215	AB Ratio: 0.31	
Zn: 20	Silica Ratio: 71.18	
	Total ashed Oxides: 90.28	
Calc oxygen: 23.09		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 994
Sample No.: 3N17W14B
Township: T3N Range: R17W Sec.: 14

Formation: Moreno Hill
Field: Salt Lake Member: Zone:

Depth to Seam: 125.10 Seam Thickness: 1.40
Sample Interval: 125.1-126.5 Sample Thickness: 1.40

Analyses on As-Received Basis

Air Dry Loss: 10.95
Eq. Moisture: 14.08 Moisture: 14.85 Vol. Matter: 32.29
Ash: 16.32 Fixed Carbon: 36.53

Carbon: 55.45 Btu: 8717 DAF Btu: 12665
Hydrogen: 3.96 Dry Btu: 10238 MMFBtu: 10490
Nitrogen: 1.11
Oxygen: 7.58 Sulfide: 0.40
Sulfur: 0.87 Sulfate: 0.010
Organic Sulfur: 0.46

Fluoride in ppm: 24.7 Chloride in ppm: 27.1

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 11	SiO_2: 11.37	SiO_2ash: 69.69
Co: 29	Al_2O_3: 1.83	Al_2O_3ash: 11.23
Cr: 99	TiO_2: 0.21	TiO_2ash: 1.31
Cu: 51	Fe_2O_3: 1	Fe_2O_3ash: 6.15
Li: 17	MgO: 0.26	MgOash: 1.62
Mn: 3602	CaO: 1	CaOash: 6.1
Nb:	K_2O: 0.07	K_2Oash: 0.43
Ni: 55	Na_2O: 0.11	Na_2Oash: 0.69
Pb: 30		
Sr: 1156		
V: 211	AB Ratio: 0.18	
Zn: 28	Silica Ratio: 83.4	
	Total ashed Oxides: 97.22	
Calc oxygen: 22.29		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory Analyses, NMRDI Coal Quality Project

Lab No.: 985
Sample No.: 3N17W14C
Township: T3N Range: R17W Sec.: 14

Formation: Moreno Hill
Field: Salt Lake Member: Zone: CP

Depth to Seam: 129.90 Seam Thickness: 4.20
Sample Interval: 129.9-134.1 Sample Thickness: 4.20

Analyses on As-Received Basis

Air Dry Loss: 10.08
Eq. Moisture: 16.60 Moisture: 13.92 Vol. Matter: 31.90
Ash: 17.24 Fixed Carbon: 36.94

Carbon: 54.81 Btu: 9219 DAF Btu: 13392
Hydrogen: 4.12 Dry Btu: 10710 MMFBtu: 11228
Nitrogen: 1.02
Oxygen: 8.13 Sulfide: 0.27
Sulfur: 0.96 Sulfate: 0.006
Organic Sulfur: 0.68

Fluoride in ppm: 43.7 Chloride in ppm: 25.7

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 25	SiO_2:	SiO_2ash:
Co: 24	Al_2O_3:	Al_2O_3ash:
Cr: 180	TiO_2:	TiO_2ash:
Cu: 88	Fe_2O_3:	Fe_2O_3ash:
Li: 19	MgO:	MgOash:
Mn: 262	CaO:	CaOash:
Nb:	K_2O:	K_2Oash:
Ni: 114	Na_2O:	Na_2Oash:
Pb: 42		
Sr: 538		
V: 231	AB Ratio: 0.13	
Zn: 87	Silica Ratio: 86.99	
	Total ashed Oxides:	
Calc oxygen: 21.85		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 993
Sample No.: 3N17W17A
Township: T3N Range: R17W Sec.: 17

Formation: Moreno Hill
Field: Salt Lake Member: Zone:

Depth to Seam: 111.00 Seam Thickness: 2.70
Sample Interval: 111.0-113.7 Sample Thickness: 2.70

Analyses on As-Received Basis

Air Dry Loss: 10.09
Eq. Moisture: 17.37 Moisture: 13.57 Vol. Matter: 30.85
Ash: 25.07 Fixed Carbon: 30.51

Carbon: 47.29 Btu: 7734 DAF Btu: 12605
Hydrogen: 3.98 Dry Btu: 8949 MMFBtu: 10528
Nitrogen: 0.96
Oxygen: 8.58 Sulfide: 0.22
Sulfur: 0.86 Sulfate: 0.020
Organic Sulfur: 0.62

Fluoride in ppm: 67.3 Chloride in ppm: 10.3

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 33	SiO_2: 14.43	SiO_2ash: 57.54
Co: 16	Al_2O_3: 8.09	Al_2O_3ash: 32.25
Cr: 49	TiO_2: 0.27	TiO_2ash: 1.07
Cu: 41	Fe_2O_3: 0.73	Fe_2O_3ash: 2.9
Li: 20	MgO: 0.44	MgOash: 1.76
Mn: 84	CaO: 0.77	CaOash: 3.07
Nb:	K_2O: 0.057	K_2Oash: 0.23
Ni: 28	Na_2O: 0.16	Na_2Oash: 0.64
Pb: 48		
Sr: 427		
V: 106	AB Ratio: 0.09	
Zn: 47	Silica Ratio: 88.15	
	Total ashed Oxides: 99.46	
Calc oxygen: 21.84		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 992
Sample No.: 3N17W17B
Township: T3N Range: R17W Sec.: 17

Formation: Moreno Hill
Field: Salt Lake Member: Zone: A

Depth to Seam: 170.60 Seam Thickness: 1.95
Sample Interval: 170.6-172.55 Sample Thickness: 1.95

Analyses on As-Received Basis

Air Dry Loss: 13.13
Eq. Moisture: 14.03

Moisture: 14.96
Ash: 15.72

Vol. Matter: 35.23
Fixed Carbon: 34.09

Carbon: 54.72
Hydrogen: 4.44
Nitrogen: 1.06
Oxygen: 8.12

Btu: 8662
Dry Btu: 10185

DAF Btu: 12495
MMFBtu: 10309

Sulfur: 1.28

Sulfide: 0.48
Sulfate: 0.004
Organic Sulfur: 0.80

Fluoride in ppm: 43.5 Chloride in ppm: 14.3

Trace Element Ashed Coal		Whole Coal Oxide		Ashed Oxide	
Be:	30	SiO_2:	8.27	SiO_2ash:	52.61
Co:	23	Al_2O_3:	4.21	Al_2O_3ash:	26.75
Cr:	71	TiO_2:	0.22	TiO_2ash:	1.42
Cu:	118	Fe_2O_3:	0.9	Fe_2O_3ash:	5.72
Li:	16	MgO:	0.13	MgOash:	0.86
Mn:	185	CaO:	0.77	CaOash:	4.92
Nb:		K_2O:	0.069	K_2Oash:	0.44
Ni:	39	Na_2O:	0.16	Na_2Oash:	0.99
Pb:	47				
Sr:	540				
V:	302				
Zn:	104				

AB Ratio: 0.16
Silica Ratio: 82.06
Total ashed Oxides: 93.71

Calc oxygen: 22.78

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 987
Sample No.: 3N17W1A
Township: T3N Range: R17W Sec.: 1

Formation: Moreno Hill
Field: Salt Lake Member: Zone: CP

Depth to Seam: 128.20 Seam Thickness: 1.80
Sample Interval: 128.2-130.0 Sample Thickness: 1.80

Analyses on As-Received Basis

Air Dry Loss: 10.59
Eq. Moisture: 13.73

Moisture: 13.09
Ash: 21.81

Vol. Matter: 29.24
Fixed Carbon: 35.86

Carbon: 52.41
Hydrogen: 3.80
Nitrogen: 1.04
Oxygen: 7.22

Btu: 8603
Dry Btu: 9898

DAF Btu: 13215
MMFBtu: 11166

Sulfur: 0.85

Sulfide: 0.26
Sulfate: 0.006
Organic Sulfur: 0.58

Fluoride in ppm: 45.4 Chloride in ppm: 9.6

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 19	SiO_2: 16.53	SiO_2ash: 75.78
Co: 35	Al_2O_3: 2.73	Al_2O_3ash: 12.54
Cr: 139	TiO_2: 0.32	TiO_2ash: 1.49
Cu: 117	Fe_2O_3: 1	Fe_2O_3ash: 4.59
Li: 13	MgO: 0.14	MgOash: 0.64
Mn: 401	CaO: 0.6	CaOash: 2.75
Nb:	K_2O: 0.098	K_2Oash: 0.45
Ni: 29	Na_2O: 0.16	Na_2Oash: 0.73
Pb: 42		
Sr: 768		
V: 207	AB Ratio: 0.1	
Zn: 44	Silica Ratio: 90.47	
	Total ashed Oxides: 98.97	
Calc oxygen: 20.09		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 989
Sample No.: 3N17W1B
Township: T3N Range: R17W Sec.: 1

Formation: Moreno Hill
Field: Salt Lake Member: Zone:

Depth to Seam: 133.90 Seam Thickness: 5.40
Sample Interval: 133.9-139.3 Sample Thickness: 5.40

Analyses on As-Received Basis

Air Dry Loss: 11.62
Eq. Moisture: 15.58

Moisture: 15.04
Ash: 19.13

Vol. Matter: 31.28
Fixed Carbon: 34.54

Carbon: 51.98
Hydrogen: 4.14
Nitrogen: 1.06
Oxygen: 7.80

Btu: 8758
Dry Btu: 10309

DAF Btu: 13304
MMFBtu: 10924

Sulfur: 1.03

Sulfide: 0.35
Sulfate: 0.004
Organic Sulfur: 0.68

Fluoride in ppm: 64.7 Chloride in ppm: 62.8

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 27	SiO_2: 13.49	SiO_2ash: 70.54
Co: 23	Al_2O_3: 5.48	Al_2O_3ash: 28.64
Cr: 149	TiO_2: 0.28	TiO_2ash: 1.45
Cu: 77	Fe_2O_3: 1.31	Fe_2O_3ash: 6.85
Li: 20	MgO: 0.4	MgOash: 2.11
Mn: 94	CaO: 0.69	CaOash: 3.6
Nb:	K_2O: 0.11	K_2Oash: 0.56
Ni: 80	Na_2O: 0.2	Na_2Oash: 1.07
Pb: 36		
Sr: 567		
V: 238	AB Ratio: 0.14	
Zn: 70	Silica Ratio: 84.88	
	Total ashed Oxides: 114.82	
Calc oxygen: 22.66		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 986
Sample No.: 3N17W1C
Township: T3N Range: R17W Sec.: 1

Formation: Moreno Hill
Field: Salt Lake Member: Zone:

Depth to Seam: 148.95 Seam Thickness: 2.40
Sample Interval: 148.95-151.35 Sample Thickness: 2.40

Analyses on As-Received Basis

Air Dry Loss: 9.15
Eq. Moisture: 12.71 Moisture: 13.01 Vol. Matter: 34.84
Ash: 16.39 Fixed Carbon: 35.75

Carbon: 55.09 Btu: 9553 DAF Btu: 13531
Hydrogen: 4.48 Dry Btu: 10981 MMFBtu: 11463
Nitrogen: 1.00
Oxygen: 8.97 Sulfide: 0.59
Sulfur: 1.24 Sulfate: 0.007
Organic Sulfur: 0.64

Fluoride in ppm: 33.3 Chloride in ppm: 41.7

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 36	SiO_2: 9.03	SiO_2ash: 55.1
Co: 36	Al_2O_3: 4.33	Al_2O_3ash: 26.44
Cr: 81	TiO_2: 0.32	TiO_2ash: 1.93
Cu: 141	Fe_2O_3: 1.1	Fe_2O_3ash: 6.73
Li: 26	MgO: 0.11	MgOash: 0.69
Mn: 114	CaO: 0.6	CaOash: 3.69
Nb:	K_2O: 0.06	K_2Oash: 0.37
Ni: 45	Na_2O: 0.12	Na_2Oash: 0.74
Pb: 38		
Sr: 540		
V: 351	AB Ratio: 0.14	
Zn: 106	Silica Ratio: 83.22	
	Total ashed Oxides: 95.69	
Calc oxygen: 21.80		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory Analyses, NMRDI Coal Quality Project

Lab No.: 991
Sample No.: 5N16W30A
Township: T5N Range: R16W Sec.: 30

Formation: Moreno Hill
Field: Salt Lake Member: Zone: R

Depth to Seam: 253.00 Seam Thickness: 3.50
Sample Interval: 253.0-256.5 Sample Thickness: 3.50

Analyses on As-Received Basis

Air Dry Loss: 10.27
Eq. Moisture: 14.14 Moisture: 13.11 Vol. Matter: 32.23
Ash: 19.33 Fixed Carbon: 35.31

Carbon: 53.68 Btu: 8992 DAF Btu: 13310
Hydrogen: 4.10 Dry Btu: 10349 MMFBtu: 11307
Nitrogen: 1.07
Oxygen: 8.29 Sulfide: 0.11
Sulfur: 0.68 Sulfate: 0.003
Organic Sulfur: 0.57

Fluoride in ppm: 46.1 Chloride in ppm: 3.4

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 19	SiO_2: 11.6	SiO_2ash: 60.01
Co: 8	Al_2O_3: 4.99	Al_2O_3ash: 25.8
Cr: 63	TiO_2: 0.33	TiO_2ash: 1.73
Cu: 87	Fe_2O_3: 0.54	Fe_2O_3ash: 2.79
Li: 28	MgO: 0.26	MgOash: 1.33
Mn: 86	CaO: 0.77	CaOash: 3.97
Nb:	K_2O: 0.065	K_2Oash: 0.34
Ni: 21	Na_2O: 0.063	Na_2Oash: 0.33
Pb: 45		
Sr: 530		
V: 232	AB Ratio: 0.1	
Zn: 19	Silica Ratio: 88.12	
	Total ashed Oxides: 96.3	
Calc oxygen: 21.14		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory Analyses, NMRDI Coal Quality Project

Lab No.: 988
Sample No.: 5N16W30B
Township: T5N Range: R16W Sec.: 30

Formation: Moreno Hill
Field: Salt Lake Member: Zone: R

Depth to Seam: 256.50 Seam Thickness: 5.10
Sample Interval: 256.5-260.4 Sample Thickness: 5.10

Analyses on As-Received Basis

Air Dry Loss: 12.81
Eq. Moisture: 14.17 Moisture: 15.48 Vol. Matter: 33.70
Ash: 12.77 Fixed Carbon: 38.04

Carbon: 56.92 Btu: 9223 DAF Btu: 12854
Hydrogen: 4.38 Dry Btu: 10912 MMFBtu: 10580
Nitrogen: 1.07
Oxygen: 8.41 Sulfide: 0.42
Sulfur: 1.15 Sulfate: 0.006
Organic Sulfur: 0.72

Fluoride in ppm: 35.3 Chloride in ppm: 10

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 23	SiO_2: 8.37	SiO_2ash: 65.58
Co: 14	Al_2O_3: 3.8	Al_2O_3ash: 29.8
Cr: 156	TiO_2: 0.26	TiO_2ash: 2.06
Cu: 104	Fe_2O_3: 0.95	Fe_2O_3ash: 7.41
Li: 19	MgO: 0.16	MgOash: 1.28
Mn: 129	CaO: 0.8	CaOash: 6.31
Nb:	K_2O: 0.051	K_2Oash: 0.4
Ni: 95	Na_2O: 0.038	Na_2Oash: 0.3
Pb: 43		
Sr: 523		
V: 271	AB Ratio: 0.16	
Zn: 24	Silica Ratio: 81.38	
	Total ashed Oxides: 113.14	
Calc oxygen: 23.71		

New Mexico Bureau of Mines and Mineral Resources Coal Laboratory
Analyses, NMRDI Coal Quality Project

Lab No.: 977
Sample No.: 6N16W33A
Township: T6N Range: R16W Sec.: 33

Formation: Moreno Hill
Field: Salt Lake Member: Zone:

Depth to Seam: 129.45 Seam Thickness: 1.40
Sample Interval: 129.45-130.85 Sample Thickness: 1.40

Analyses on As-Received Basis

Air Dry Loss: 10.24
Eq. Moisture: 25.24

Moisture: 14.94
Ash: 13.63

Vol. Matter: 34.90
Fixed Carbon: 36.52

Carbon: 56.27
Hydrogen: 4.43
Nitrogen: 0.99
Oxygen: 8.17

Btu: 9313
Dry Btu: 10949

DAF Btu: 13038
MMFBtu: 10723

Sulfur: 1.60

Sulfide: 1.05
Sulfate: 0.017
Organic Sulfur: 0.53

Fluoride in ppm: 35 Chloride in ppm: 31.8

Trace Element Ashed Coal	Whole Coal Oxide	Ashed Oxide
Be: 63	SiO_2: 7.38	SiO_2ash: 54.16
Co: 35	Al_2O_3: 3.09	Al_2O_3ash: 22.66
Cr: 83	TiO_2: 0.22	TiO_2ash: 1.61
Cu: 65	Fe_2O_3: 1.77	Fe_2O_3ash: 13.01
Li: 18	MgO: 0.19	MgOash: 1.41
Mn: 269	CaO: 0.45	CaOash: 3.28
Nb:	K_2O: 0.066	K_2Oash: 0.49
Ni: 46	Na_2O: 0.059	Na_2Oash: 0.44
Pb: 43		
Sr: 379		
V: 274	AB Ratio: 0.23	
Zn: 92	Silica Ratio: 75.36	
	Total ashed Oxides: 97.06	
Calc oxygen: 23.08		