



COAL NOMENCLATURE IN THE HANNA MINING DISTRICT OF THE HANNA COAL FIELD

SUMMARY OF COAL RESOURCES AND RESERVE BASE IN MILLIONS OF TONS

Coal name (Weighted average thickness, feet)	MEASURED RESERVE BASE			INDICATED RESERVE BASE			TOTAL RESERVE BASE			INFERRED RESOURCES			GRAND TOTAL		
	Overburden thickness (feet):			Overburden thickness (feet):			Overburden thickness (feet):			Overburden thickness (feet):			Overburden thickness (feet):		
	0-100	100-200	0-200	0-100	100-200	0-200	0-100	100-200	0-200	0-100	100-200	0-200	0-100	100-200	0-200
Bed No. 89 (9.03)	0.86	1.04	1.90	1.26	2.27	3.53	2.12	3.31	5.43	—	—	—	2.12	3.31	5.43
Bed No. RME 92 (13.44)	1.39	0.87	2.26	1.21	1.60	2.81	2.60	2.47	5.07	0.20	0.08	0.28	2.80	2.55	5.35
Bed No. 88 (7.11)	0.18	0.14	0.32	0.02	0.03	0.05	0.20	0.17	0.37	—	—	—	0.20	0.17	0.37
Bed No. 86 (8.23)	1.47	1.89	3.36	0.90	1.33	2.23	2.37	3.22	5.59	—	—	—	2.37	3.22	5.59
Bed No. 80 (18.93)	10.03	14.87	24.90	4.69	8.17	12.86	14.72	23.04	37.76	0.14	0.13	0.27	14.86	23.17	38.03
Bed No. 77 (15.73)	2.36	2.28	4.64	0.52	1.22	1.74	2.88	3.50	6.38	—	—	—	2.88	3.50	6.38
Bed No. 76 (16.50)	10.65	5.99	16.64	1.15	3.06	4.21	11.80	9.05	20.85	—	—	—	11.80	9.05	20.85
Bed No. 73 (6.36)	0.40	0.35	0.75	0.26	0.11	0.37	0.66	0.46	1.12	—	—	—	0.66	0.46	1.12
Hanna No. 5 (15.84)	5.80	5.43	11.23	0.89	0.94	1.83	6.69	6.37	13.06	—	—	—	6.69	6.37	13.06

COAL ANALYSES

ANALYTICAL DATA FOR:	Bed No. 89		Bed No. 80		Bed No. 77		Bed No. 76		Hanna No. 5 Coal Bed			
	Subbituminous A - Subbituminous B		High volatile C bituminous - Subbituminous A		High volatile C bituminous		High volatile C bituminous		High volatile C bituminous - Subbituminous C (wet)			
AS RECEIVED BASIS	RANGE ANALYSIS (1-3 samples)	PROXIMATE (3 samples)	ULTIMATE (1 sample)	RANGE ANALYSIS (7-32 samples)	PROXIMATE (17 samples)	ULTIMATE (7 samples)	RANGE ANALYSIS (1-2 samples)	PROXIMATE (1 sample)	ULTIMATE (1 sample)	RANGE ANALYSIS (2-4 samples)	PROXIMATE (4 samples)	ULTIMATE (2 samples)
MOISTURE (%)	15.06-15.52	15.30	15.30	5.97-15.44	10.83	9.56	10.3-10.5	10.3	10.3	10.3-20.56 <sup>1</sup>	15.82	15.82
VOLATILE MATTER (%)	33.63-36.42	35.48	35.48	35.03-47.34	39.23	37.45	39.4	39.4	37.45	36.3-38.9	37.45	37.45
FIXED CARBON (%)	35.19-45.34	37.92	37.92	35.65-60.92	43.68	42.70	40.5	40.5	42.70	37.2-47.3	42.70	42.70
ASH (%)	5.70-14.91	11.30	5.70	4.4-15.93	6.27	7.09	9.8-16.0	9.8	9.8	5.6-6.7	6.04	5.92
SULFUR (%)	0.99-2.27	1.13	2.27	0.48-1.24	0.98	1.42	0.5-0.7	0.7	0.7	0.34-0.6	0.47	0.47
HYDROGEN (%)	6.04	6.04	6.04	5.7-6.16	5.90	5.90	61.0	61.0	61.0	4.78-5.7	5.24	5.24
CARBON (%)	57.02	57.02	57.02	58.66-65.6	60.66	60.66	61.0	61.0	61.0	56.34-64.4	60.37	60.37
NITROGEN (%)	1.63	1.63	1.63	0.45-1.5	1.13	1.13	1.4	1.4	1.4	0.85-1.3	1.08	1.08
OXYGEN (%)	27.34	27.34	27.34	21.9-25.59	24.23	24.23	21.4	21.4	21.4	22.0-31.95	26.98	26.98
BTU/LB.	8,750-10,245	9,370 (3 samples)	9,370	9,940-12,600	11,000 (26 samples)	9,880 (1 sample)	9,760-10,690	10,225 (2 samples)	10,225	8,880-11,190	10,540 (4 samples)	10,540

  

FORMS OF SULFUR (AS RECEIVED BASIS)	(14 samples)		(1 sample)		(2 samples)	
	RANGE ANALYSIS	AVERAGE	RANGE ANALYSIS	AVERAGE	RANGE ANALYSIS	AVERAGE
PYRITIC (%)	0.08-0.44	0.25	0.16	0.16	0.05-0.16	0.11
SULFATE (%)	0.0-0.03	0.01	0.02	0.02	0.00-0.04	0.02
ORGANIC (%)	0.14-0.89	0.54	0.48	0.48	0.29-0.38	0.34

  

ASH FUSION TEMPERATURES (°F)	(11 samples)		(1 sample)		(1-3 samples)	
	RANGE ANALYSIS	AVERAGE	RANGE ANALYSIS	AVERAGE	RANGE ANALYSIS	AVERAGE
INITIAL DEFORMATION	2030-2410	2210	—	—	2080	2080 (1 sample)
SOFTENING TEMPERATURE	2080-2430	2250	—	—	2130-2510	2280 (3 samples)
FLUID TEMPERATURE	2130-2480	2300	—	—	2250	2250 (1 sample)

  

ASH COMPOSITION (%)	(16 samples)		(1 sample)		(2 samples)	
	RANGE ANALYSIS	AVERAGE	RANGE ANALYSIS	AVERAGE	RANGE ANALYSIS	AVERAGE
SiO <sub>2</sub>	20.19-42.56	30.14	41.0	41.0	29.1-31.0	30.1
Al <sub>2</sub> O <sub>3</sub>	12.01-21.53	16.37	20.0	20.0	14.7-16.0	15.4
CaO	8.74-26.05	18.10	12.0	12.0	16.0-27.0	21.5
MgO	2.62-8.05	4.42	3.4	3.4	2.92-4.34	3.63
Na <sub>2</sub> O	0.11-3.34	1.52	0.14	0.14	0.24-0.30	0.27
K <sub>2</sub> O	0.44-1.09	0.76	1.1	1.1	0.49-0.84	0.67
Fe <sub>2</sub> O <sub>3</sub>	5.39-12.0	9.30	5.6	5.6	4.8-11.3	8.1
TiO <sub>2</sub>	0.02-1.66	0.76	0.73	0.73	0.57-0.61	0.59
P <sub>2</sub> O <sub>5</sub>	<0.1-1.75	<0.82	1.4	1.4	0.22-2.4	1.31
SO <sub>3</sub>	6.44-28.75	15.1	6.2	6.2	9.9-12.1	11.0

Project sponsored by The U.S. Bureau of Mines, Department of Interior, under Grant Number GO 254010

This map has not been reviewed for conformity with the editorial standards of the Geological Survey of Wyoming

References: Glass, Gary B. and Roberts, Jay T., 1979, Remaining Stripable Coal Resources and Stripable Reserve Base in the Hanna Coal Field in Southcentral Wyoming? Geological Survey of Wyoming Report of Investigations No. 17, 168 p.