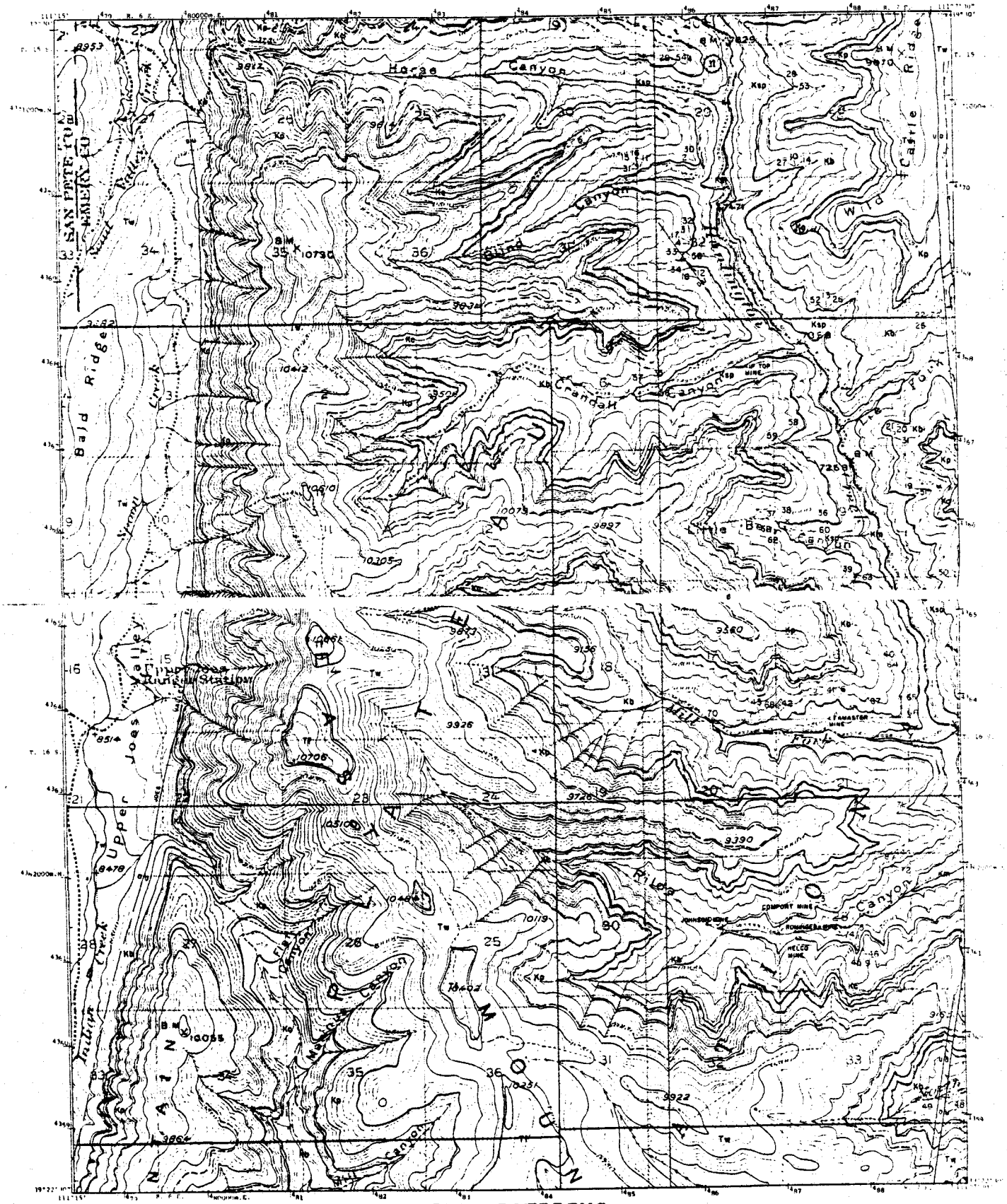
ITEM 6-4

REGIONAL STRATIGRAPHIC SECTION

2/10/88

ITEM 6-4
REGIONAL STRATIGRAPHIC
SECTION
4-15-86

HIAWATHA, UTAH N.W.



TOPOGRAPHY BY
UNITED STATES
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GEOLOGICAL SURVEY

FROM DOELLING

Geology and coal data by
E. M. Spieker, 1931, USGS

Figure 42. Coal and geology map, Hiawatha NW quadrangle (explanation pages 136-137).

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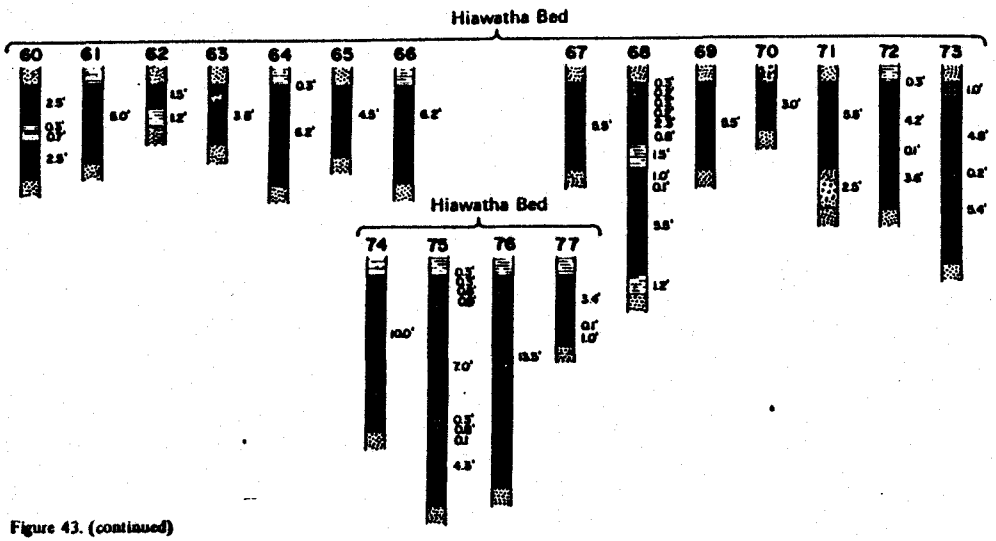

Figure 43. (continued)

Quality of Coal

Forty-one available analyses represent the Blind Canyon and Hiawatha seam (table 39). They are summarized together because the components making up the proximate analyses are similar. Table 40 lists sulfur-type determinations for the coal.

Table 39. Average coal analyses, Hiawatha NW quadrangle.

	No. Analyses	As-received (percent) Average	Range
Moisture	41	4.9	3.1 - 6.8
Volatile matter	35	43.4	40.4 -46.0
Fixed carbon	35	45.7	43.5 -51.1
Ash	41	6.0	2.8 -10.7
Sulfur	40	0.55	0.23- 0.80
Btu/lb	35	13,080	12,290-13,690

Table 40. Sulfur-type determinations, Hiawatha NW quadrangle (Walker and Hartner, 1966).

Mine	Bed	Percent Total Sulfur	Sulfate	Pyritic	Organic
Leamaster	Hiawatha	0.49	0.02	0.11	0.36
Rilda Canyon	Blind Canyon (?)	0.47	0.02	0.06	0.39
Comfort	Hiawatha	0.49	0.01	0.11	0.37
Rominger	Hiawatha	0.77	0.01	0.10	0.66
Tip Top	Hiawatha	0.50	0.01	0.07	0.42
Johnson	Hiawatha	0.38	0.01	0.05	0.32

Table 5 gives coal analyses by mines and prospects for the quadrangle.

Gomez, Landers and Boyd (1967, p. 9) calculated carbonization product yields for several mines on the quadrangle (table 41; end carbonization temperature 500° C).

Mines and Development

Several mines have been opened on the quadrangle mostly in the Hiawatha bed; a few have opened on the Blind Canyon (table 42).

Table 41. Carbonization product yields, Hiawatha NW quadrangle.

Mine	Carbonization yields wt. percent of maf coal: Char	Water of decomposition	Tar plus light oil	Gas	Gas volume scf/lb maf coal	Heating value of gas Btu/scf
Comfort	70.4	4.9	19.2	4.6	.906	812
Helco	70.6	4.6	20.8	3.7	.819	854
Johnson	70.2	4.8	20.0	4.2	.868	829
Leamaster	69.9	4.5	21.2	3.8	.820	851
Rominger	69.5	5.0	20.0	4.8	.911	806
Tip Top	69.6	4.7	21.0	4.0	.846	838

Table 42. Mines and their locations, Hiawatha NW quadrangle.

Mine	Location	Remarks
Comfort mine (Smith) adit 1 adit 2	W.SE.SE.NW.28-16S-7E 4,361,400m.N. 487,190m.E. 4,361,490m.N. 487,480m.E.	Active 1936-1954
Helco mine (Black Magic, Rilda Canyon)	S.NW.NW.SW.28-16S-7E 4,361,050m.N. 487,100m.E.	Active 1938-1969
Tip Top mine (Sam and Jim's, Jim Peterson)	SW.NW.SE.NE.5-16S-7E 4,367,760m.N. 386,800m.E.	Active 1939-1956
Johnson mine	29-16S-7E 4,361,250m.N. 486,250m.E.	Active 1943-1957
Leamaster mine (Mill Fork)	SE.SW.16-16S-7E 4,363,830m.N. 487,910m.E.	Active 1943-1964
Rominger mine	SE.SW.SW.NW.28-16S-7E 4,361,380m.N. 487,080m.E.	Intermittently active 1938-1954

The Comfort mine is believed opened on the Hiawatha bed in Rilda Canyon. The coal bed was reported 11 to 13 feet thick with an estimated production of almost 44,000 tons in 19 years. The Black Magic or Helco mine operates intermittently across the canyon from the Comfort mine. Its production has amounted to [illegible]

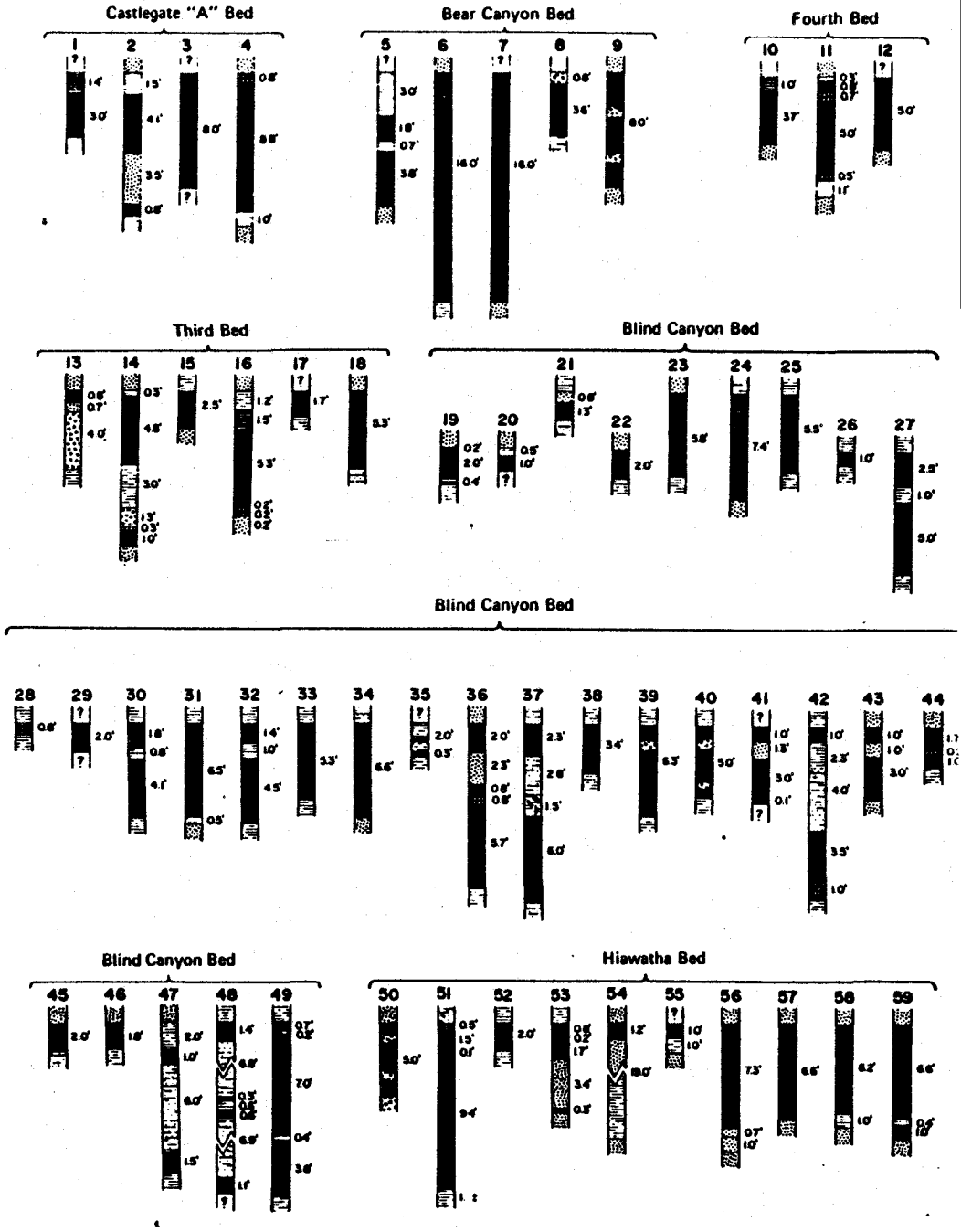

Figure 43. Coal sections of Hiawatha NW quadrangle (vertical scale: 1 inch = 8 feet).

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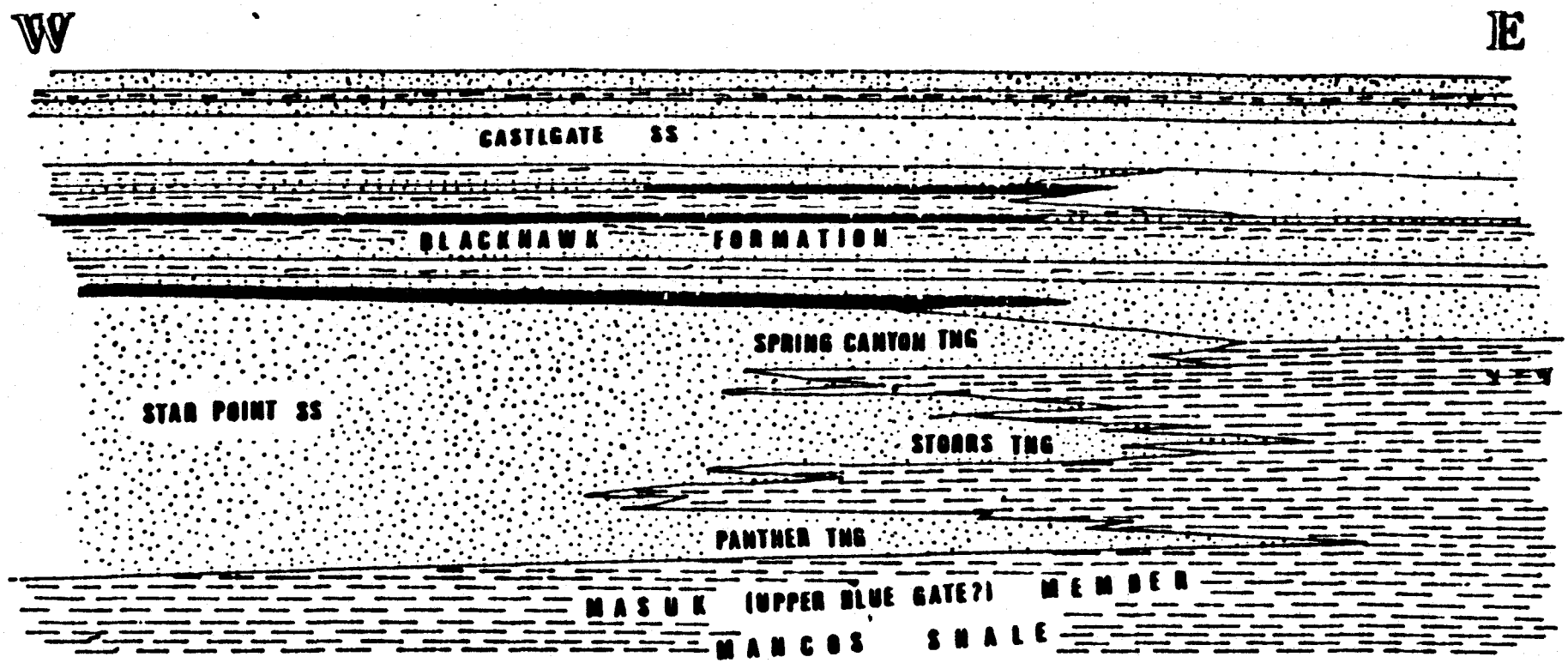

STRATIGRAPHIC FRAMEWORK OF CRANDALL CANYON

Figure 1