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COMPILATION GEOLOGIC MAP OF THE GREEN RIVER COAL DISTRICT, KING COUNTY, WASHINGTON

by

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This report consists of a compilation geologic map (Plate 1), a table of radiometric age determinations (Table 1), a tabulation of available subsurface data (Table 2), and graphic columns from 14 drill holes (Plates 2 and 3). Table 1 and all the references cited in this report are contained in Plate 1.

The report was produced in order to supply a single-sheet geologic map of one of the most productive of Washington's coal mining districts. Because of its position on the join of four 1:24,000-scale U. S. Geological Survey topographic maps, the Green River area has not been mapped as a unit since 1945 (Warren and others, 1945).

In addition, this report summarizes the available (nonpropietary) subsurface data of the district. Since publication of the last major studies of the area (Mullineaux, 1965, 1970; Vine, 1969), a large amount of subsurface information has been collected, mostly as a result of oil, gas, and coal exploration. The drill holes illustrate very well the complex structure and abrupt facies changes present within the coal-bearing Eocene Puget Group. Understanding of the Puget Group on a regional, as well as a local basis, is a requirement for future extraction of energy resources.

TABLE 2 – SUBSURFACE DATA

Map No.	Total Depth (ft)	Date	Information Available	Comments	Source
K-3	1,403	1911	Driller's logs, well cuttings, gas analysis	Cable tools. Gas showings 900-1000 ft. Salt water below 1000 ft.	1
K-6	2,362	1928	Driller's log	Cable tools. Bottom of glacial drift at 256 ft. Good gas showing.	1
K-11	3,440	1937	Driller's log, ditch samples, gas analysis, E log.	Base of glacial drift at 294 ft. Good oil and gas showing.	1
K-12	5,047	1938	Driller's log, E log.	Cable tools. Slight gas and oil showing.	1
K-14	5,770	1942	Driller's log, core analysis, E log.	Traces of oil and gas	1
K-15	4,016	1944	Driller's log, core description, core analysis, ditch samples, E log.	Traces of oil and gas	1
K-16	4,319	1947	Core description, well history, sidewall core description, E log, ditch sample descriptions.	Several small gas showings, one small oil show at 3,210 ft.	1
K-17	3,509	1948	Core description, well history, sidewall core description, E log, ditch sample description.	Bottom of glacial drift at 660 ft. Cove from 900 ft. has oil odor.	1
125	6,023	1957	Driller's log, microlog, baroid log, E log, dipmeter survey.	Several gas showings	1
128	4,326	1957	Driller's log, microlog, baroid log, E log, core description, core analysis.	Gas and oil showings	1
151	3.944	1961	Sample description, E log, mud log, ditch samples.	Dry hole	1
158	3,411	1961	Sample descriptions, E log.	Dry hole	1
353	7,270	1983	–	Data available 3-85	2

TABLE 2 – Continued

Map No.	Total Depth (ft)	Date	Information Available	Comments	Source
374	1,736	1984	–	Data available 10-85	2
378	1,517	1984	–	Data available 10-85	2
Getty	2,150	1983	Graphic column constructed from downhole geophysical logs.	Base of glacial drift at 560 ft. Numerous coal beds encountered.	3
Muckleshoot	2,465	1983	Sample descriptions, ditch samples	Base of glacial drift at 400 ft. Penetrated volcanic and/or igneous intrusive rocks interbedded with coal-bearing sediments. Gas showing.	4
PCC-1	1,153	1960	Graphic column constructed from drill core logs. Coal analysis.	Core hole. Penetrated Big Dirty through Franklin No. 9 coal beds.	5
PCC-2	1,289	1960	Graphic column constructed from drill core logs. Coal analysis.	Core hole. Penetrated McKay through Franklin No. 9 coal beds.	5
PCC-3	683	1960	Graphic column constructed from drill core logs. Coal analysis.	Core hole. Penetrated Franklin No. 12 and 11 coal beds.	5
PCC-4	1,022	1960	Graphic column constructed from drill core logs. Coal analysis.	Core hole. Penetrated Big Dirty through Franklin No. 9 coal beds.	5
PCC-5	1,150	1960	Graphic column constructed from drill core logs.	Core hole. Penetrated thick andesite sill and fault zones.	5
GEO-3	2,000	1981	Temperature, density, and porosity logs.	Geothermal test hole (abandoned)	6
GEO-4	2,423	1982	Temperature, density, and porosity logs.	Geothermal test hole (adandoned)	6
GEO-5	2,006	1981	Temperature, E-log, with density logs.	Geothermal test hole (abandoned)	6

TABLE 2 – Continued

Map No.	Total Depth (ft)	Date	Information Available	Comments	Source
81-1	420	1981	Graphic column and sample descriptions	Coal reserve drilling for proposed John Henry coal mine.	7
81-2	700	1981	Graphic column and sample descriptions	Coal reserve drilling for proposed John Henry coal mine.	7
81-3	200	1981	Graphic column and sample descriptions	Coal reserve drilling for proposed John Henry coal mine.	7
81-4	553	1981	Graphic column and sample descriptions	Coal reserve drilling for proposed John Henry coal mine.	7
81-5c	320	1981	Graphic column, sample description and coal analysis	Coal reserve drilling for proposed John Henry coal mine.	7
81-6c	400	1981	Graphic column and sample descriptions	Coal reserve drilling for proposed John Henry coal mine.	7
81-7c	400	1981	Graphic column and sample descriptions	Coal reserve drilling for proposed John Henry coal mine.	7
82-1	310	1982	Graphic column and sample descriptions	Coal reserve drilling for proposed John Henry coal mine.	7
82-3c	420	1982	Graphic column and sample descriptions	Coal reserve drilling for proposed John Henry coal mine.	7
MW-5	687	1980	Ditch sample descriptions and graphic column.	Groundwater monitor well for Cedar River Watershed. Bedrock encountered at 660 ft.	8

Sources of data:

1. McFarland, 1983
2. Carl McFarland, Division of Geology and Earth Resources, personal communication, 1984.
3. Jon Lindberg; Getty Mining Company, personal communication, 1983
4. Shawn Muller, Council of Energy Resource Tribes, personal communication, 1983
5. Glaeser, 1960, 1961.
6. Division of Geology and Earth Resources geothermal well files.
7. Pacific Coast Coal Company, 1983.
8. Seattle Water Department, 1980.