

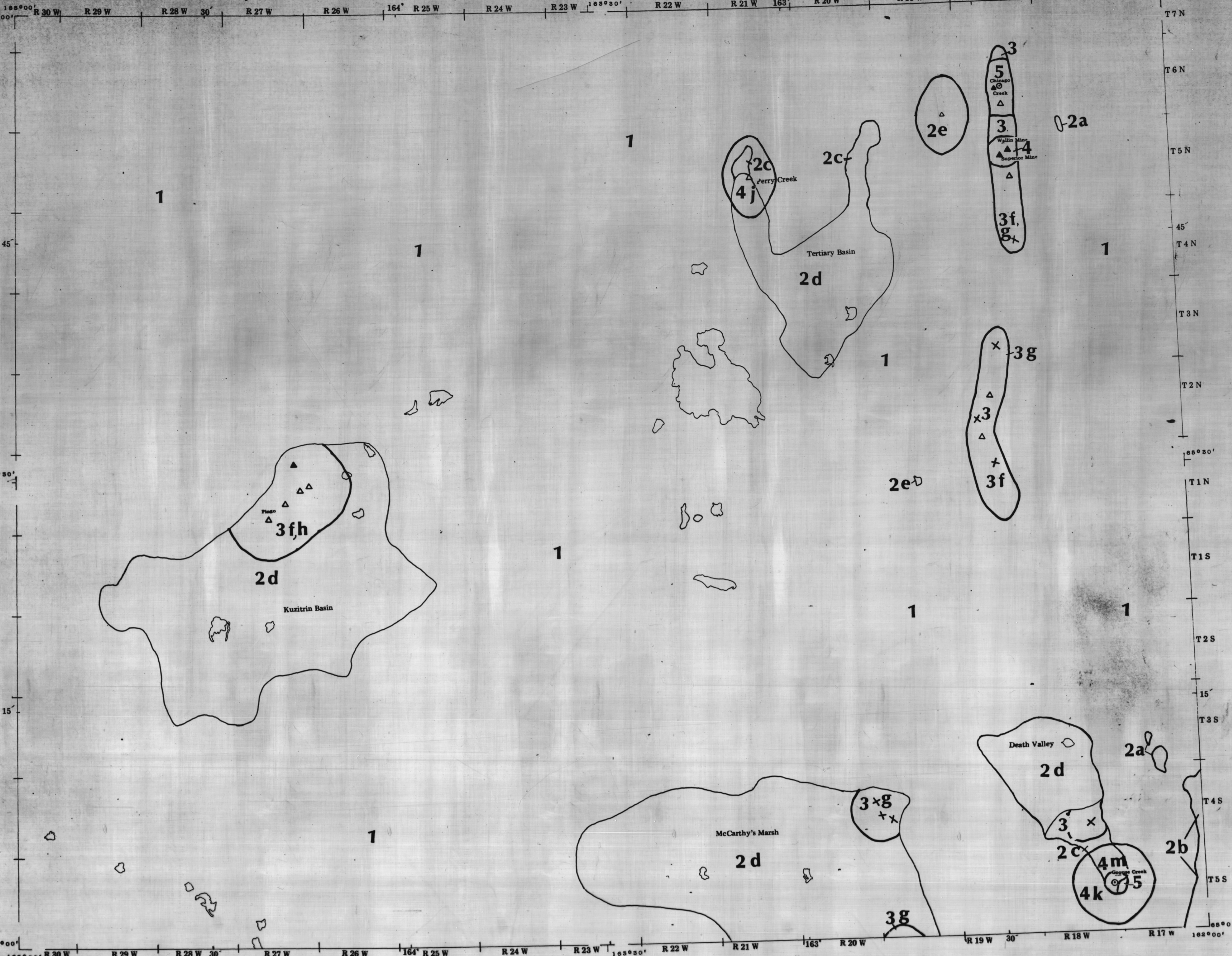
ALASKA DIVISION OF GEOLOGICAL & GEOPHYSICAL SURVEYS

BENDELEBEN

EXPLANATION

SUMMARY: BENDELEBEN QUADRANGLE

GLOSSARY



**COAL RESOURCE RATING CRITERIA**

The following resource rating criteria are organized on a scale of 1 - low to 5 - high potential. A rating of 1 indicates virtually no possibility for substantial coal discoveries, and no known coal in the area. Categories 2 and 3 are for possible but unverified occurrences of coal. A 4 is the highest possible rating under this system. The letters "a" through "m" that may accompany the numbers 2 through 4 are meant to clarify and justify the number ratings assigned. In some cases, more than one letter is used, as in "2a". These letters are only explanatory, like footnotes, and do not weight the ratings.

The areas outlined in heavy black on the map have been calculated according to the U.S. Geological Survey resource classification system (U.S.G.S. Circular 89), using available surface and subsurface data. The kinds and reliability of data available determine how the resource potential is calculated (see "Coal Reserves," Glossary).

**1** Very low to low possibility for substantial coal discoveries; sedimentary and other rock units not known to host coal; these "barren" units vary from map to map; this rating based almost entirely on published general, broad-brush geological maps.

**2** Low to medium possibility for substantial coal discoveries; these ratings based mostly on published general, broad-brush geology:

- a** units with very minor coal shows elsewhere; possibly favorable rocks but no coal known at location;
- b** queried rock unit or undifferentiated group (two or more rock units mapped together, so presence of coal-bearing unit is uncertain);
- c** cover of recent (Quaternary) unconsolidated sediments suspected of being underlain by a formation that hosts coal elsewhere;
- d** Tertiary basin; most of the coal on the Seward Peninsula is lignite (lower quality coal) found within Tertiary-aged sedimentary rocks confined in areas called basins (see "basin," Glossary); therefore, all such basins on the Peninsula potentially contain coal deposits;
- e** unverified report of coal occurrence; off-hand reference to coal in published geological report; other second-hand or unconfirmed reports.

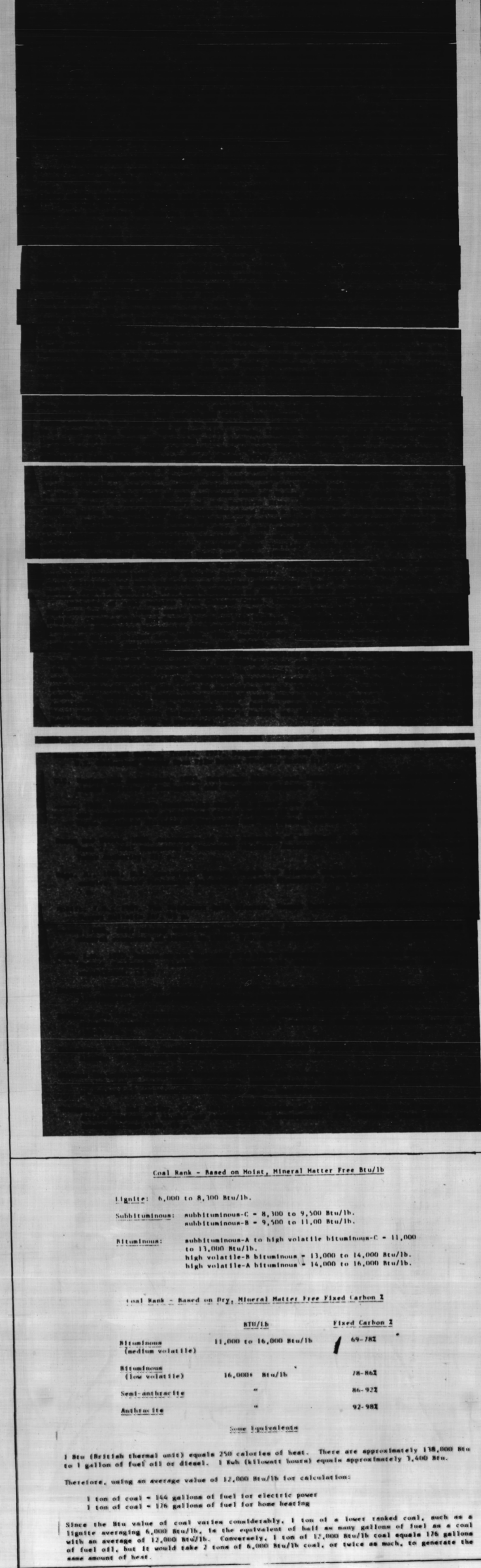
**3** Medium to high possibility for substantial coal discoveries:

- f** coal bearing formation close to exposed coal, e.g. other end of basin or syncline (see 2d, above, and Glossary) from known coal deposits;
- g** scattered, small surficial coal shows or float (see Glossary) that may be weathering out of a hidden coal deposit;
- h** "mined out" or formerly subeconomic sites where future investigation may reveal usable coal resources;
- i** Cretaceous basin (see 2d, above, and Glossary); composed of Cretaceous-aged rocks known elsewhere to contain medium to large tonnages of good quality (subbituminous to bituminous) coal; rated higher than 2d both because of likely higher coal quality and because of high tonnage potential demonstrated, for example, by the large Cretaceous-aged Cape Beaufort coal field.

**4** Known coal, lesser occurrences, and/or less well studied than 5's:

- j** marginal because of low rank (low Btu), low tonnage, structural complexity, or thin beds (even if coal is good quality and present in large amounts, thin beds may mean too much admixed waste).
- k** indicated and inferred resources (see Glossary) of 5's in favorable geology.
- m** may include cases where drilling has disclosed some coal but where its extent is still unknown.

**5** Known coal, medium to large measured resources (see Glossary) of usable quality coal. There is a large size difference between the smallest and largest but even the smallest is known to contain reserves that might be mineable under the right conditions. For example, the Chicago Creek coal deposit, on the Seward Peninsula, contains only one known thick bed of coal and is confined to a topographic basin (see Glossary); estimated tonnage for this deposit is a fraction of those calculated for the Deadfall syncline; and the Chicago Creek coal is lignite, while the Deadfall syncline coal is of higher, bituminous rank. Nevertheless, Chicago Creek rates a 5 as easily as the Deadfall syncline, for it contains potentially marketable coal, in adequate tonnage, close to tidewater.



**SYMBOLS**

- ▲ FORMER COAL MINE
- COAL OUTCROP OR PROSPECT
- COAL FLOAT GENERAL LOCATION
- DRILLING DONE IN THIS AREA

**LOCATIONS INDEX**

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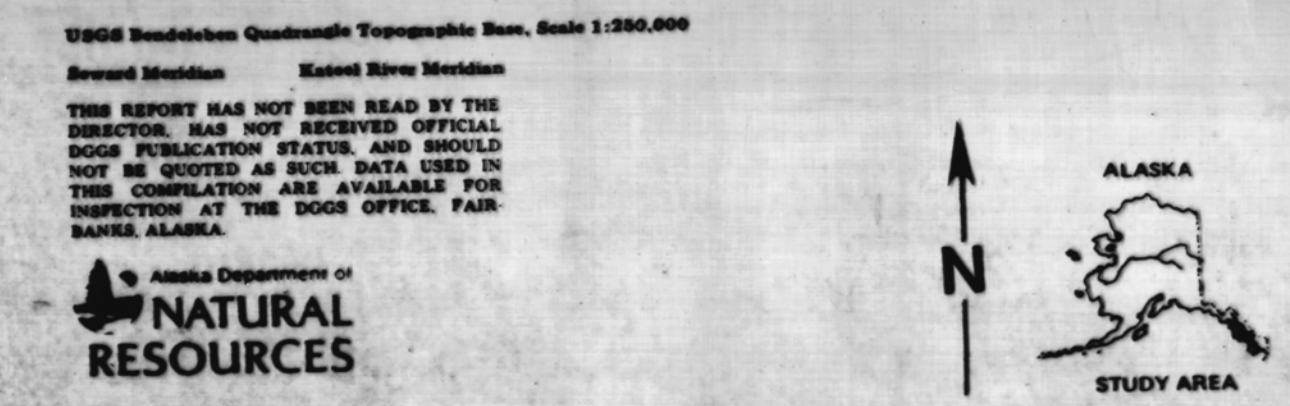
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COAL RESOURCE POTENTIAL OF THE BENDELEBEN QUADRANGLE, ALASKA 1985