UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

TEXT TO ACCOMPANY:

COAL RESOURCE OCCURRENCE

AND

COAL DEVELOPMENT POTENTIAL

MAPS

OF THE

GLENROCK QUADRANGLE,

CONVERSE COUNTY, WYOMING

BY

INTRASEARCH INC.

DENVER, COLORADO

OPEN FILE REPORT 79-476

1979

TABLE OF CONTENTS

CONVERSION TABLE

TO CONVERT	MULTIPLY BY	TO OBTAIN
inches	2.54	centimeters (cm)
feet	0.3048	meters (m)
miles	1.609	kilometers (km)
acres	0.40469	hectares (ha)
tons (short)	0.9072	metric tons (t)
cubic yards/ton	0.8428	cubic meters per metric tons
acre feet	0.12335	hectare-meters
Btu/lb	2.326	kilojoules/kilogram (kJ/kg)
Btu/lb	0.55556	kilocalories/kilogram (kcal/kg)
Fahrenheit	5/9 (F-32)	Celsius

I. Introduction

This report and accompanying maps set forth the Coal Resource Occurrence (CRO) and Coal Development Potential (CDP) of coal beds within the Glenrock Quadrangle, Converse County, Wyoming. This CRO and CDP map series (U. S. Geological Survey Open-File Report 79-476) includes 2 plates. The project is compiled by IntraSearch Inc., 1600 Ogden Street, Denver, Colorado, under KRCRA Northeastern Powder River Basin, Wyoming Contract Number 14-08-0001-17180. This contract is a part of a program to provide an inventory of unleased federal coal in Known Recoverable Coal Areas (KRCRAs) in the western United States.

The Glenrock Quadrangle is located in Converse County, in eastern Wyoming. It encompasses all or parts of Townships 32, 33 and 34 North, Ranges 74 and 75 West, and covers the area: 42° 45' to 42°52' 30" north latitude: 105°45' to 105° 52'30" west longitude.

Main access to the Glenrock Quadrangle is provided by Interstate 25 which extends east to west across the northern half of the quadrangle. U. S. Highway (20, 87) parallels Interstate 25 to the north in the North Platte River valley providing access through Glenrock. State Highway 90 (Box Elder Road) branches southward from U. S. Highway (20, 87) and provides access to the southern and eastern portions of the quadrangle. State Highway 95 extends northward from Glenrock towards the Badger coal mine 16 miles (26 km) to the north. Morman Canyon Road extends north to south through Glenrock along the western edge of the quadrangle. Minor roads and trails that branch from these main highways provide additional access to more remote areas. The closest railroad trackage is the Burlington Northern and the Chicago and North Western railroads extending east to west across the northern third of the quadrangle along the North Platte River valley.

The most significant drainage is provided by the eastward flowing North Platte River meandering across the northern half of the Glenrock Quadrangle. Deer Creek, Dry Creek, Hunton Creek and Box Elder Creek flow northward into the North Platte River draining the rugged terrain of the southern half of the quadrangle. Sand Creek drains into the North Platte River from the north in the northeast quarter of the quadrangle. Additional intermittent streams provide drainage for more localized areas throughout the quadrangle. The most rugged terrain is located in the southern portion of the quadrangle where elevations of about 6600 feet (2012 m) above sea level occur. The topographic highs are 1600 to 1700 feet (488 to 518 m) above the North Platte River valley floor in the northern half of the quadrangle. The somber grays, yellows, and browns of outcropping shales and silt-stones contrast strikingly with the brilliant reds, oranges, and purples of "clinker", and deep greens of the juniper and pine tree growth.

The 10 to 12 inches (25 to 30 cm) of annual precipitation that falls in this semi-arid region accrues principally in the springtime. Summer and fall precipitation usually originates from thunderstorms, and infrequent snowfalls of six inches (15 cm) or less generally characterize winter precipitation. Although temperatures ranging from less than -25°F (-32°C) to more than 100°F (38°C) have been recorded near Glenrock, Wyoming, average wintertime minimums and summertime maximums approach +5° to +15°F (-15° and -9°C) and 75° to 90°F (24° to 32°C), respectively.

Surface ownership is divided among fee, state, and federal categories. State and federal lands are generally leased to ranchers for grazing purposes. Details of surface ownership are available at the Converse County Courthouse in Douglas, Wyoming. Details of mineral ownership on federal lands are available from the U. S. Bureau of Land Management in Cheyenne, Wyoming. Federal coal ownership is shown on Plate 2 of the Coal Resource Occurrence maps. The non-federal coal belongs to both fee and state owners.

The Coal Resource Occurrence and Coal Development Potential program is restricted to unleased federal coal and focuses upon: 1) the delineation of lignite, subbituminous coal, bituminous coal, and anthracite at the surface and in the subsurface on federal land; 2) subdivision of deposits into measured, indicated, and inferred reserve resource categories, and hypothetical resources; 3) the measurement of coal resources in place as well as recoverable reserves; and 4) the determination of the potential for surface or underground mining, and in-situ gasification of the coal beds. This report contains an evaluation of the coal resources of all unleased federal coal beds in the quadrangle, which are 5 feet (1.5 m) or greater in thickness and occur at depths down to 3000 feet (914 m). No resources or reserves are computed for leased federal coal, state coal, fee coal, or lands encompassed by coal prospecting permits and preference right lease applications.

Surface and subsurface geological and engineering extrapolations drawn from the current data base suggest the occurrence of approximately 80 thousand tons (73 thousand metric tons) of unleased federal coal resources in the Glenrock Quadrangle.

The suite of maps that accompany this report portray the coal resource and reserve occurrence in detail. For the most part, this report supplements the cartographic information, with minimum duplication of the map data.

II. Geology

Regional. The thick, economic coal deposits of the Powder River Basin in northeastern Wyoming occur mostly in the Tongue River Member of the Fort Union Formation, and in the lower part of the Wasatch Formation. Approximately 3000 feet (914 m) of the Fort Union Formation, that includes the Tongue River, Lebo, and Tullock Members of Paleocene age, are unconformably overlain by approximately 700 feet (213 m) of the Wasatch Formation of Eocene age. These Tertiary formations lie in a structural basin flanked on the east by the Black Hills uplift, on the south by the Hartville and Casper Mountain uplifts, and on the west by the Casper Arch and the Big Horn Mountain uplift. The structural configuration of the Powder River Basin originated in Late Cretaceous time, with episodic uplift thereafter. The Cretaceous Cordillera was the dominant positive land form throughout the Rocky Mountain area at the close of Mesozoic time.

Outcrops of the Wasatch Formation and the Tongue River Member of the Fort Union Formation cover most of the areas of major coal resource occurrence in the Powder River Basin. The Tongue River Member is composed of very fine-grained sandstones, siltstones, claystones, shales, carbonaceous shales, and numerous coal beds. The Lebo Shale Member of the Fort Union Formation consists of light-to dark-gray very fine-grained to conglomeratic sandstone with interbedded siltstone, claystone, carbonaceous shale and thin coal beds. Thin bedded calcareous ironstone concretions interbedded with massive white sandstone and slightly bentonitic shale occur throughout the unit

The Lebo Member is mapped at the surface northeast of Recluse, Wyoming, east of the principal coal outcrops and associated clinkers (McKay, 1974), and presumably projects into the subsurface beneath much of the basin. One of the principal characteristics for separating the Lebo and Tullock Members (collectively referred to as the Ludlow Member east of Miles City, Montana) from the overlying Tongue River Member is the color differential between the lighter-colored upper portion and the somewhat darker lower portion (Brown, 1958). Although geologists working with subsurface data, principally geophysical logs, in the basin are trying to develop criteria for subsurface recognition of the Lebo-Tullock and Tongue River-Lebo contacts, no definitive guidelines are known to have been published. Hence, for subsurface mapping purposes, the Fort Union Formation is not divided into its members for this study.

During the Paleocene epoch, the Powder River Basin tropic to subtropic depositional environment included broad, inland flood basins with extensive swamps, marshes, freshwater lakes, and a sluggish but active northeastward discharging drainage system, superimposed on an emerging sea floor, near base level. Much of the vast area where organic debris collected was within a reducing depositional environment. Localized uplifts began to disturb the near sea level terrain of northeastern Wyoming following retreat of the Cretaceous seas. However, the extremely fine-grained characteristics of the Tongue River Member clastics suggest that areas of recurring uplift peripheral to the Powder River Basin were subdued during major coal deposit formation.

The uplift of areas surrounding the Powder River Basin created a structural basin of asymmetric characteristic, with the steep west flank located on the eastern edge of the Big Horn Mountains. The axis of the Powder River Basin is difficult to specifically define, but is thought to be located in the western part of the Basin, and to display a north-south configuration some 15 to 20 miles (24 to 32 km) east of Sheridan, Wyoming. Thus, the sedimentary section described in this report lies on the east flank of the Powder River Basin, with gentle dips of two degrees or less disrupted by surface structure thought to relate to tectonic adjustment and differential compaction.

Some coal beds in the Powder River Basin exceed 200 feet (61 m) in thickness. Deposition of these thick, in-situ coal beds requires a discrete balance between subsidence of the earth's crust and in-filling by tрememdous volumes of organic debris. These conditions in concert with a favorable ground water table, non-oxidizing clear water, and a climate amenable to the luxuriant growth of vegetation produce a stabilized swamp critical to the deposition of coal beds.

Deposition of the unusually thick coal beds of the Powder River Basin may be partially attributable to short-distance water transportation of organic detritus into areas of crustal subsidence. Variations in coal bed thickness throughout the basin relate to changes in the depositional environment. Drill hole data that indicate either the complete absence or extreme attenuation of a thick coal bed probably relate to location of the drill holes within the ancient stream channel system draining this low land area in Early Cenozoic time. Where thick coal beds thin rapidly from the depocenter of a favorable depositional environment, it is not unusual to encounter a synclinal structure over the maximum coal thickness due to the differential compaction between organic debris in the coal depocenter and fine-grained clastics in the adjacent areas.

The Wasatch Formation of Eocene age crops out over most of the central part of the Powder River Basin and exhibits a disconformable contact with the underlying Fort Union Formation. The contact has been placed at various horizons by different workers; however, for the purpose of this report, the contact is positioned near the top of the Roland coal bed as mapped by Olive (1957) in northwestern Campbell County, Wyoming, and is considered to disconformably descend in the stratigraphic column to the top of the Wyodak-Anderson coal bed (Roland coal bed of Taff, 1909) along the eastern boundary of the coal measures. No attempt is made to differentiate the Wasatch and Fort Union Formations on geophysical logs or in the subsurface mapping program that is a part of this CRO-CDP project.

Although Wasatch and Fort Union lithologies are too similar to allow differentiation in some areas, most of the thicker coal beds occur in the Fort Union section on the east flank of the Powder River Basin. Furthermore, orogenic movements peripheral to the basin apparently increased in magnitude during Wasatch time causing the deposition of friable, coarse-grained to gritty arkosic sandstones, fine- to very fine-grained sandstones, siltstones, mudstones, claystones, brown-to-black carbonaceous shales and coal beds. These sediments are noticeably to imperceptibly coarser than the underlying Fort Union clastics.

The Glenrock Quadrangle is located at the southern edge of the Powder River Basin adjacent to the Casper Mountain uplift. This uplift, creates an abrupt increase in the northward dip of the strata, and erosion has exposed an extensive stratigraphic interval at the surface. The surface rocks are classified, in descending stratigraphic order, into the White River Formation, the Fort Union Formation, the Lance Formation, pre-Lance formations that include a thick sequence of Mesozoic and Paleozoic sediments, and Precambrian granite and metamorphic rocks (Love and others, 1955).

The Lance Formation shows the only evidence of measureable coal bed occurrence in the Glenrock Quadrangle. Geophysical log interpretations indicate that none of the other formations present in the quadrangle contain significant coal beds.

The Lance Formation comprises sandstones, siltstones, carbonaceous shales, and some thin coal beds. The Fort Union-Lance contact is generally marked by a change in color from bluish white of the Fort Union Formation to buff, and by the presence of large brown concretions in the Lance Formation (Wegemann, 1912).

III. Data Sources

Publications regarding the areal geology of coal outcrops and associated clinker in the Glenrock Quadrangle at a scale appropriate for the CRO-CDP mapping program are unknown at the time of this publication.

The major source of subsurface control, particularly on deep coal beds, is the geophysical logs from oil and gas test bores and producing wells. Some geophysical logs are not applicable to this study, for the logs relate only to the deep potentially productive oil and gas zones. More than eighty percent of the logs include resistivity, conductivity, and self-potential curves. Occasionally the logs include gamma, density, and sonic curves. These logs are available from several commercial sources.

All geophysical logs available in the quadrangle are scanned to select those with data applicable to Coal Resource Occurrence mapping. Paper copies of the logs are obtained, interpreted, and coal intervals annotated. Maximum accuracy of coal bed identification is accomplished where gamma, density, and resistivity curves are available. Coal bed tops and bottoms are picked on the logs at the midpoint between the minimum and maximum curve deflections. The correlation of coal beds within and between quadrangles is achieved utilizing a fence diagram to associate local correlations with regional coal occurrences.

The reliability of correlations, set forth by IntraSearch in this report, vary depending on: the density and quality of lithologic and geophysical logs; the detail, thoroughness, and accuracy of published and unpublished surface geological maps, and interpretative proficiency. There is no intent on the part of IntraSearch to refute nomenclature established in the literature or used locally by workers in the area. IntraSearch's nomenclature focuses upon the suggestion of regional coal bed names applicable throughout the eastern Powder River Basin. It is expected and entirely reasonable that some differences of opinion regarding correlations, as suggested by IntraSearch, exist. Additional drilling for coal, oil, gas, water, and uranium, coupled with expanded mapping of coal bed outcrops and associated clinkers will broaden the data base for coal bed correlations and allow continued improvement in the understanding of coal bed occurrences in the eastern Powder River Basin.

The topographic map of the Glenrock Quadrangle is published by the U. S. Geological Survey, compilation date, 1949, photorevised 1974. Land network and mineral ownership data are compiled from land plats available from the U. S. Bureau of Land Management in Cheyenne, Wyoming. The mineral ownership is shown within and adjacent to the KRCRA boundary (Figure 3). This information is current to October 13, 1977.

IV. Coal Bed Occurrence

Subsurface data indicates the presence of four thin, lenticular coal beds in the Glenrock Quadrangle. Local No. 1 coal bed, however, is the only coal bed showing sufficient thickness for CRO-CDP mapping purposes. A complete suite of maps (structure, isopach, mining ratio, overburden, identified resources and areal distribution of identified resources) is prepared for Local No. 1 coal bed (Figures 1,2,3,4).

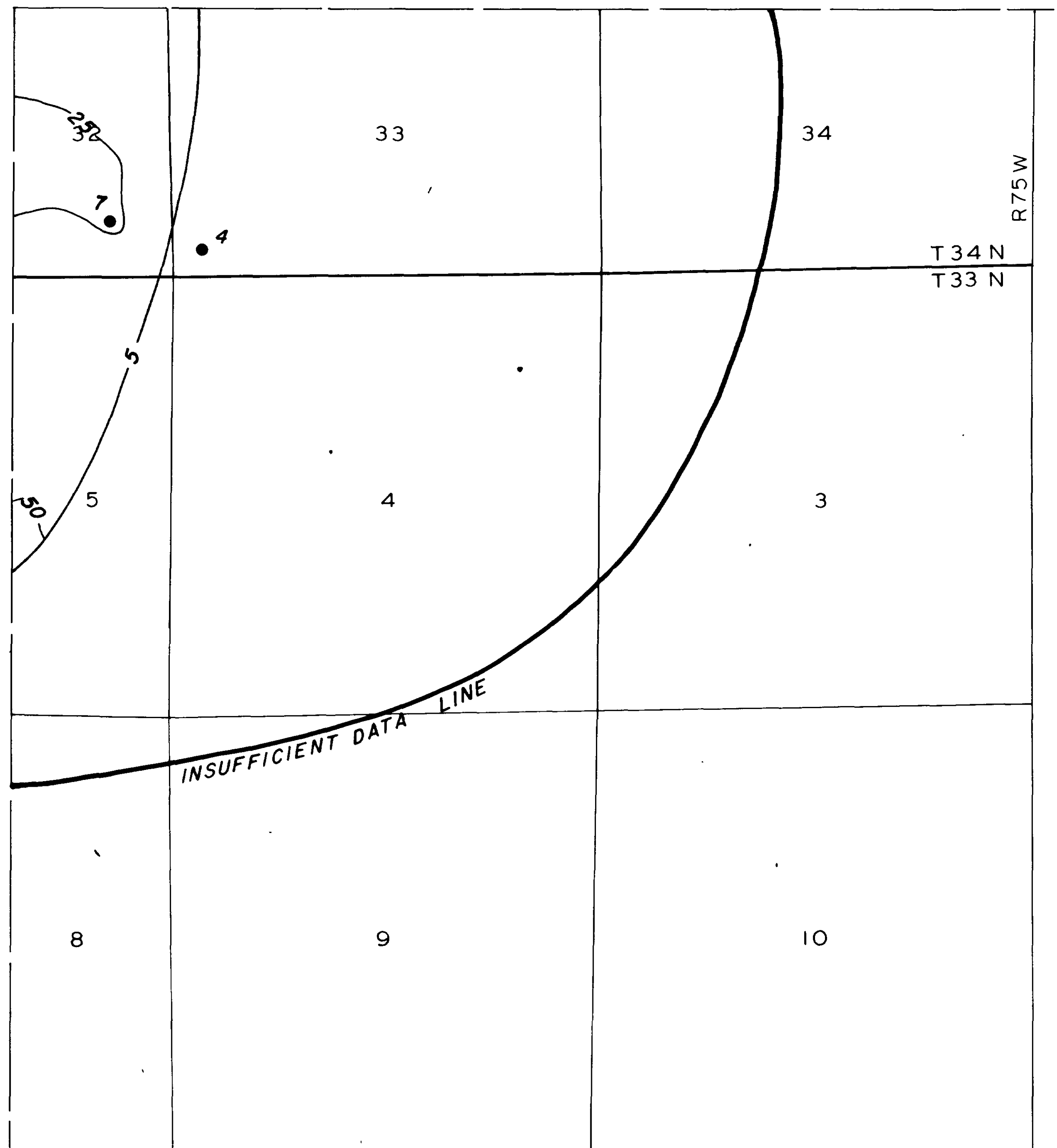
No physical and chemical analyses are known to have been published regarding the coal beds in the Glenrock Quadrangle. However, the general "as received" basis proximate analysis for a southwest Converse County coal bed is as follows:

COAL BED NAME		ASH %	FIXED CARBON %	MOISTURE %	VOLATILES %	SULFUR %	BTU/LB
local (*)	Sample 10835	12.7	34.9	24.0	28.4	0.6	7680

(*) - Fieldner and others, 1931.

The Coal Data Sheet, Plate 2, shows the downhole identification of coal beds within the quadrangle as interpreted from geophysical logs of oil and gas test bores and producing sites. This portrayal is schematic by design; hence, no structural or coal thickness implications are suggested by the dashed correlation lines projected through no record (NR) intervals. Inasmuch as no single coal bed underlies the entire quadrangle, mean sea level is designated as datum for the correlation diagram.

The Local No. 1 coal bed lies approximately 175 to 325 feet (53 to 99 m) beneath the surface. The coal bed thickness ranges from 4 to 7 feet (1.2 to 2.1 m) with maximum thickness occurring in the northwest corner of the quadrangle. Insufficient data limits the area of known coal bed occurrence for mapping purposes in the northwest quadrant.



Base from U.S Geological Survey, 1949

Compiled in 1979

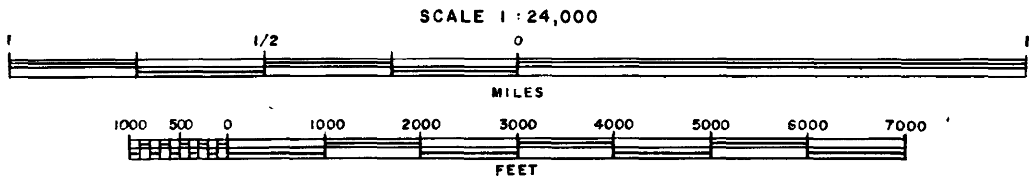


FIGURE [illegible]
ISOPACH AND MINING RATIO MAP
OF LOCAL 1 COAL BED IN
GLENROCK QUADRANGLE
CONVERSE COUNTY, WYOMING
(See following page for Explanation)

EXPLANATION FOR FIGURE 1

—— 5 ——	ISOPACHS OF COAL BED-Showing thickness in feet, interval 5 feet.
—— 25 ——	MINING RATIO CONTOUR-Number indicates cubic yards of overburden per ton of recoverable coal by surface mining methods. Contours shown only in area suitable for surface mining within the stripping limit.
● 7	DRILL HOLE-Showing coal thickness in feet.

To convert feet to meters multiply feet by 0.3048.

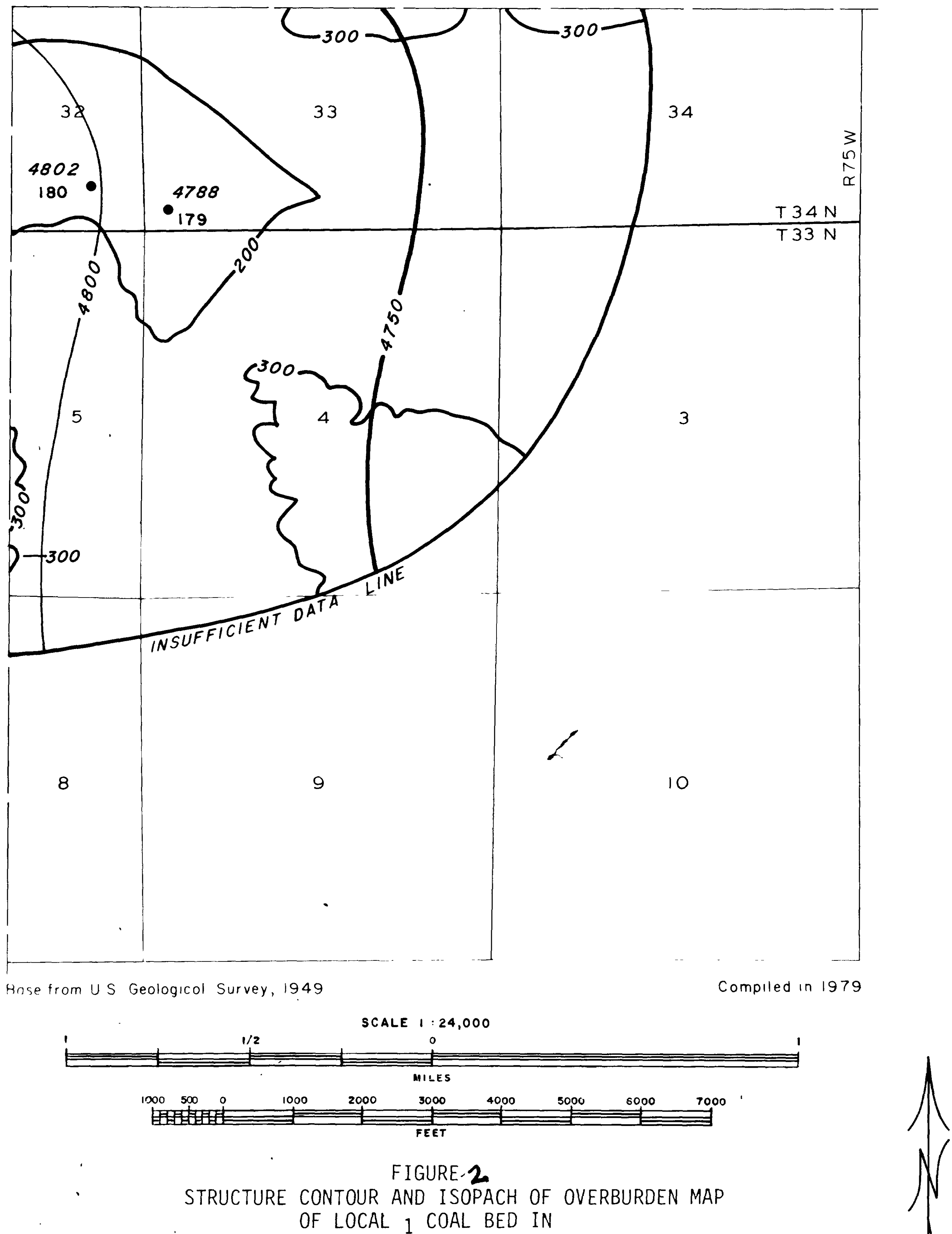


FIGURE 2
STRUCTURE CONTOUR AND ISOPACH OF OVERBURDEN MAP
OF LOCAL 1 COAL BED IN
GLENROCK QUADRANGLE
CONVERSE COUNTY, WYOMING
(See following page for Explanation)

EXPLANATION FOR FIGURE 2

4750 4800	STRUCTURE CONTOURS-Drawn on top of coal bed. Contour interval 50 feet. Datum is mean sea level.
200	OVERBURDEN ISOPACH-Showing thickness of overburden, in feet, from the surface to the top of the coal bed. Isopach interval 100 feet.
● 4788 179	DRILL HOLE-Slanted number showing elevation at top of coal bed; vertical number showing thickness of overburden from the surface to the top of coal bed. Measurements in feet.

To convert feet to meters multiply feet by 0.3048.

FIGURE 3
AREAL DISTRIBUTION OF IDENTIFIED RESOURCES
AND IDENTIFIED RESOURCES MAP
OF LOCAL 1 COAL BED IN
GLENROCK QUADRANGLE
CONVERSE COUNTY, WYOMING
(See following page for Explanation)

EXPLANATION FOR FIGURE 3

NON-FEDERAL COAL LAND-Coal tonnages not evaluated.

RB	R(95%)	
—	—	(Measured)
0.03	003	(Indicated)
—	—	(Inferred)

IDENTIFIED RESOURCES OF COAL BED-In millions of short tons. Dash indicates no resources in that category. Reserve Base (RB) x the recovery factor (95) = Reserves (R).

KRCRA

KNOWN RECOVERABLE COAL RESOURCE AREA-KRCRA

To convert short tons to metric tons multiply short tons by 0.9072.

To convert miles to kilometers multiply miles by 1.609.

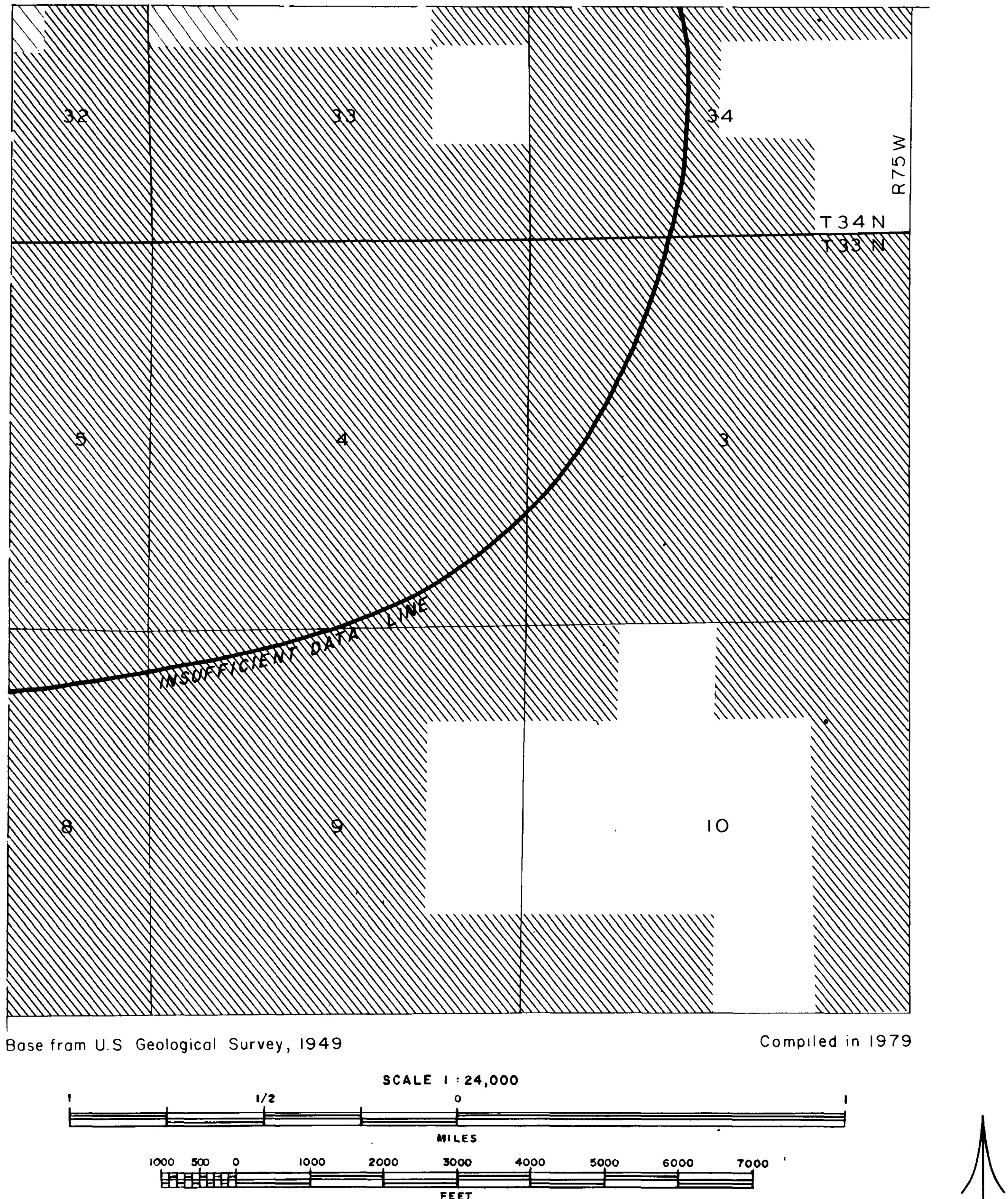
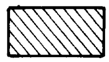
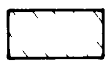


FIGURE 4
COAL DEVELOPMENT POTENTIAL
FOR SURFACE MINING METHODS MAP
GLENROCK QUADRANGLE
CONVERSE COUNTY, WYOMING
(See following page for Explanation)

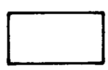
EXPLANATION FOR FIGURE 4



NON-FEDERAL COAL LAND-Coal development potential is not rated.



AREA OF LOW COAL DEVELOPMENT POTENTIAL FOR SURFACE MINING METHODS-Area has mining ratio values greater than 15.



AREA OF NO COAL DEVELOPMENT POTENTIAL FOR SURFACE MINING METHODS-Area contains no known coal in beds 5 feet (1.5 m) or more thick within 500 feet (152 m) of the surface.

The insufficient data line (Fig. 1,2,3,4) marks the projected limit for which mapping techniques could be reasonably applied. Structure contours on top of Local No. 1 coal bed indicate a gentle dip to the east.

V. Geological and Engineering Mapping Parameters

The correct horizontal location and elevation of drill holes utilized in subsurface mapping are critical to map accuracy. Intra-Search Inc., plots the horizontal location of the drill hole as described on the geophysical log heading. Occasionally this location is superimposed or near to a drillsite shown on the topographic map, and the topographic map horizontal location is utilized. If the ground elevation on the geophysical log does not agree with the topographic elevation of the drillsite, the geophysical log ground elevation is adjusted to conformance. If there is no indication of a drillsite on the topographic map, the "quarter, quarter, quarter" heading location is shifted within a small area until the ground elevation on the heading agrees with the topographic map elevation. If no elevation agreement can be reached, the well heading or data sheet is rechecked for footage measurements and ground elevation accuracy. Inquiries to the companies who provided the oil and gas geophysical logs frequently reveal that corrections have been made in the original survey. If all horizontal location data sources have been checked and the information accepted as the best available data, the drillsite elevation on the geophysical log is modified to agree with the topographic map elevation. IntraSearch Inc., considers this agreement mandatory for the proper construction of most subsurface maps, but in particular, the overburden isopach, the mining ratio, and Coal Development Potential maps.

Subsurface mapping is based on geologic data within and adjacent to the Glenrock Quadrangle area. Data from geophysical logs are used to correlate coal beds and control contour lines for the coal thickness, structure, and overburden maps. Isopach lines are also drawn to honor selected surface measured sections where there is sparse subsurface control. Where isopach contours do not honor surface measured sections, the surface thicknesses are thought to be attenuated by oxidation and/or erosion, hence not reflective of total coal thickness. Isopach lines extend to the coal bed outcrops, the projections of coal bed outcrops, and the contact between porcellanite (clinker) and unoxidized coal in place. Attenuation of total coal bed thickness is known to take place near these lines of definition; however, the overestimation of coal bed tonnages that results from this projection of total coal thickness is insignificant to the Coal Development Potential maps. Structure contour maps are constructed on the tops of the main coal beds. Where subsurface data are scarce, supplemental structural control points are selected from the topographic map along coal outcrops.

In preparing overburden isopach maps, no attempt is made to identify coal beds that occur in the overburden to a particular coal bed under study. Mining ratio maps for this quadrangle are constructed utilizing a ninety-five percent recovery factor. Contours of these maps identify the ratio of cubic yards of overburden to tons of recoverable coal. Where ratio control points are sparse, interpolated points are computed at the intersections of coal bed and overburden isopach contours using coal structure, coal isopach, and topographic control. On the Areal Distribution of Identified Resources Map (ADIR), coal bed reserves are not calculated where the coal is less than 5 feet (1.5 m) thick, where the coal occurs at a depth greater than 500 feet (152 m), where non-federal coal exists, or where federal coal leases, preference right lease applications, and coal prospecting permits exist.

Coal tonnage calculations involve the planimetering of areas of measured, indicated, inferred reserves and resources, and hypothetical resources to determine their areal extent in acres. An Insufficient Data Line is drawn to delineate areas where surface and subsurface data are too sparse for CRO map construction. Various categories of resources are calculated in the unmapped areas by utilizing coal bed thicknesses mapped in the geologically controlled area adjacent to the insufficient data line. Acres are multiplied by the average coal bed thickness and 1750, or 1770 (the number of tons of lignite A or subbituminous C coal per acre-foot, respectively; 12,874 or 13,018 metric tons per hectare-meter, respectively), to determine total tons in place. Recoverable tonnage is calculated at ninety-five percent of the total tons in place. Where tonnages are computed for the CRO-CDP map series, resources and reserves are expressed in millions of tons. Frequently the planimetering of coal resources on a sectionized basis involves complexly curvilinear lines (coal bed outcrop and 500-foot stripping limit designations) in relationship with linear section boundaries and circular resource category boundaries. Where these relationships occur, generalizations of complexly curvilinear lines are discretely utilized, and resources and/or reserves are calculated within an estimated two to three percent plus or minus accuracy.

VI. Coal Development Potential

Strippable Coal Development Potential. Areas where coal beds are 5 feet (1.5 m) or more in thickness and are overlain by 500 feet (152 m) or less of overburden are considered to have potential for surface mining and are assigned a high, moderate, or low development potential based on the mining ratio (cubic yards of overburden per ton of recoverable coal). The formula used to calculate mining ratios is as follows:

$$MR = \frac{to\ (0.911)^*}{tc\ (rf)}$$

where MR = mining ratio
to = thickness of overburden
tc = thickness of coal
rf = recovery factor
0.911*= conversion factor (cu. yds./ton)

*A conversion factor of 0.922 is used for lignite.

A surface mining potential map (Figure 4) is prepared utilizing the following mining ratio criteria for coal beds 5 to 40 feet (1.5 to 12 m) thick:

1. Low development potential = 15:1 and greater ratio.
2. Moderate development potential = 10:1 to 15:1 ratio.
3. High development potential = 0 to 10:1 ratio.

The following mining ratio criteria is utilized for coal beds greater than 40 feet (12 m) thick:

1. Low development potential = 7:1 and greater ratio.
2. Moderate development potential = 5:1 to 7:1 ratio.
3. High development potential = 0 to 5:1 ratio.

The surface mining potential is low for less than two percent of the Glenrock Quadrangle. The low potential area is located in the northwest quadrant. The low potential classification relates to high overburden to coal ratios for the Local No. 1 coal bed. The remainder of the quadrangle is either considered as no coal development potential or unknown coal development potential for surface mining, or is non-federal coal land. No coal development potential is assigned to underground mining and in-situ gasification, hence no CDP maps are presented. Table 1 sets forth the estimated strippable reserve base tonnages per coal bed for the quadrangle.

Table 1.--Strippable Coal Reserve Base Data (in short tons) for Federal Coal Lands in the Glenrock Quadrangle, Converse County, Wyoming.

Development potentials are based on mining ratios (cubic yards of overburden/ton of recoverable coal).

Coal Bed	High Development Potential (0-10:1 Mining Ratio)	Moderate Development Potential (10:1-15:1 Mining Ratio)	Low Development Potential (> 15:1 Mining Ratio)	Total
Local 1	------	------	80,000	80,000
TOTAL	------	------	80,000	80,000

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