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UNITED STATES ATOMIC ENERGY COMMISSION
DIVISION OF RAW MATERIALS
DENVER EXPLORATION BRANCH
CASPER SUB-OFFICE

PRELIMINARY REPORT ON THE BROWNS HILL PROSPECT CARBON COUNTY, WYOMING

By

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Casper, Wyoming

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PRELIMINARY REPORT ON THE BROWNS HILL PROSPECT, CARBON COUNTY, WYOMING

LOCATION

The Browns Hill Prospect is located in Sec. 8, T. 15 N., R. 89 W., southern Carbon County, Wyoming. The area can be reached via an unnumbered, improved country road that is maintained during the summer months but closed by heavy snowfall during the winter. The prospect is approximately 25 miles north of Dixon, Wyoming and 50 miles south of Rawlins, Wyoming.

PHYSICAL FEATURES

The immediate area around the Browns Hill prospect is a high gently rolling uninhabitated plateau. The mean altitude is approximately 8000 feet above sea level.

The area is characterized by short summers and long severe winters. There is moderate to heavy snowfall during the winter; there are numerous small perennial streams fed by meltwater. The principal vegetal growth is sagebrush and prairie grass.

The area serves primarily as summer range for the Sandstone Sheep Company. There are no electrical power or communication facilities available. The nearest railhead is the Union Pacific Railroad line through Rawlins, 50 miles north of the area.

HISTORY

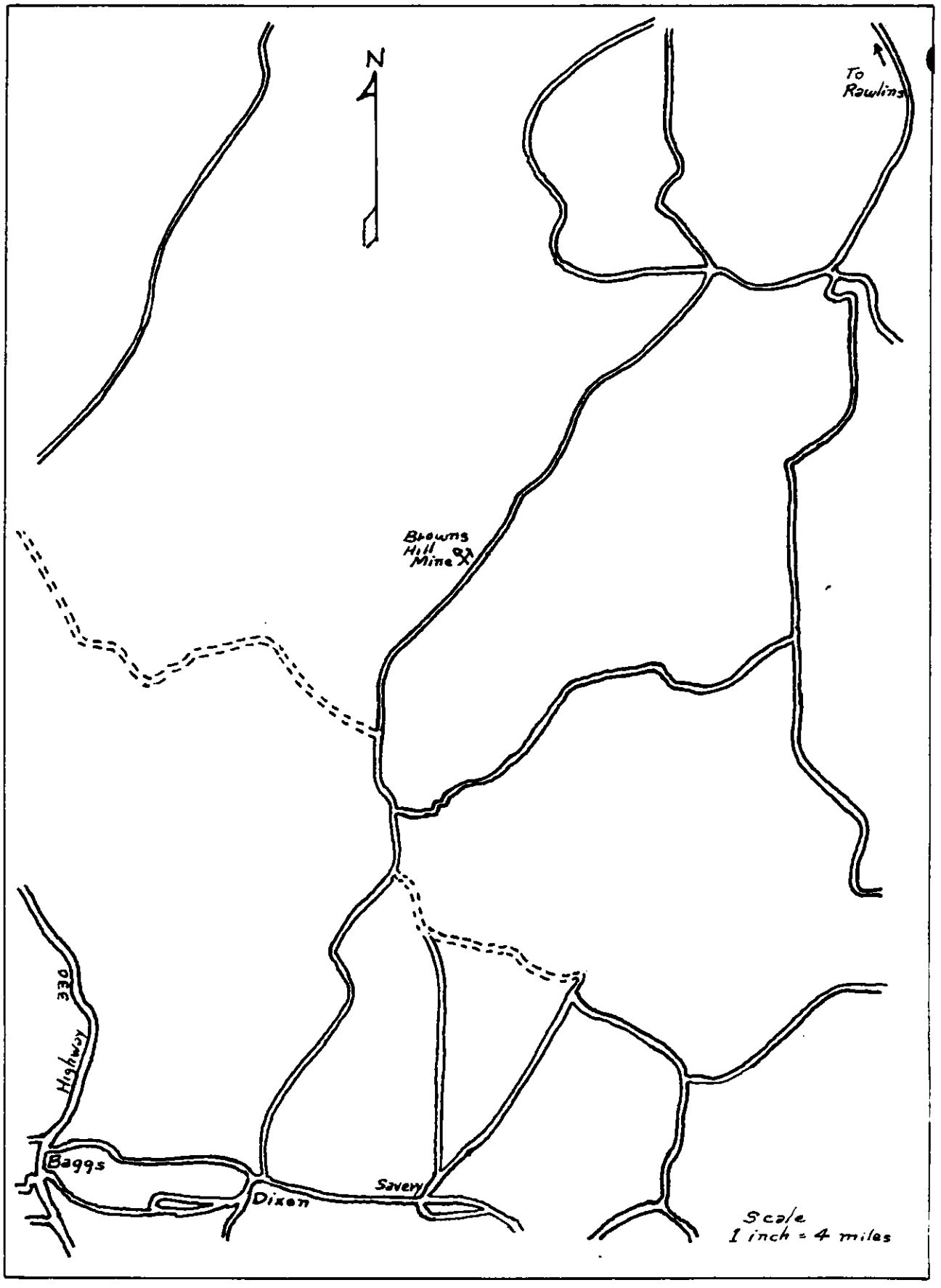
Thirty three areas of anomalous radioactivity were discovered in the Browns Park Formation of Miocene age, in the Ketchum Buttes area during an airborne scintillometer survey conducted by the U. S. Atomic Energy Commission in the fall of 1953. The Browns Hill prospect was one of these airborne anomalies. This anomaly is on fee mineral land and no exploratory or development work was done by the property owner. The mineral rights were leased by Lost Creek Oil & Uranium in September 1954. Drill roads were built and some exploratory drilling was done before heavy snowfall made it necessary to discontinue operations until spring. Work commenced again in May 1955.

The top 10 feet of a small local Butte was stripped off to provide access to uranium bearing sandstone beds. Approximately 250 tons of ore has been mined by strip mine methods, during late May and early June. This ore was shipped to Vitro Uranium Co., Salt Lake City, Utah. Settlement sheets have not yet been received on all the shipments; unofficial reports received indicate that the first 100 tons of ore shipped assayed approximately 0.13% U_3O_8.

Mining has temporarily been discontinued and rotary non-core exploratory and development drilling is now being done. The purpose of this drilling program is to try and discover and develop a sufficient quantity of higher grade uranium ore to make it possible to maintain a shipping grade of 0.20% U_3O_8 or higher.

OWNERSHIP

Surface and mineral rights on Browns Hill are owned by the Sandstone Sheep Company, Rawlins, Wyoming. Mineral rights have been leased by Lost Creek Oil & Uranium Company, a Wyoming Corporation.



Index Map

Southern Carbon County, Wyoming

GEOLOGY

General Geology

In southern Carbon County, Wyoming, the Browns Park Formation of Miocene age unconformably overlies older rocks that range in age from pre-Cambrian to Upper Cretaceous. In the Ketchum Buttes area the flat-lying Browns Park formation overlies tilted Mesaverde beds of upper Cretaceous age.

The Browns Hill occurrence and all other areas of anomalous radioactivity that have been discovered to date in southern Carbon County, Wyoming, are in the Browns Park Formation which is composed of an alternating series of very fine grained, moderately well-bedded, grey to buff sandstone and thin beds of white to grey claystone.

The sandstone has been altered in some highly fractured areas. Altered areas are more resistant than the poorly consolidated unaltered sandstone, and thus hold up small buttes. Uranium minerals are associated with this highly fractured altered sandstone that forms a cap rock on these buttes.

Detailed Geology

Grains of yellow non-fluorescent unidentified uranium minerals are disseminated in a grey to white very fine grained, tuffaceous sandstone. The same mineral also forms thick coatings on fracture and bedding planes. Uranium minerals appear to be closely related to zones of intense fracturing that show moderate to extremely heavy limonite staining.

The width of these vertical fracture zones ranges from 3 to 8 feet; the depth to which the fractures persist is not known. There is no displacement on most of the fractures, but in one area 18 inches displacement was measured.

DEVELOPMENT

Development work completed to date consists of road building, preparation of drill sites and approximately 1500 feet of rotary non-core exploratory and development drilling.

Ten feet of overburden was stripped from the orebody with a D-8 "Cat", subsequent mining was done with a 3/4 yard shovel and an 11 ton G.M.C. truck.

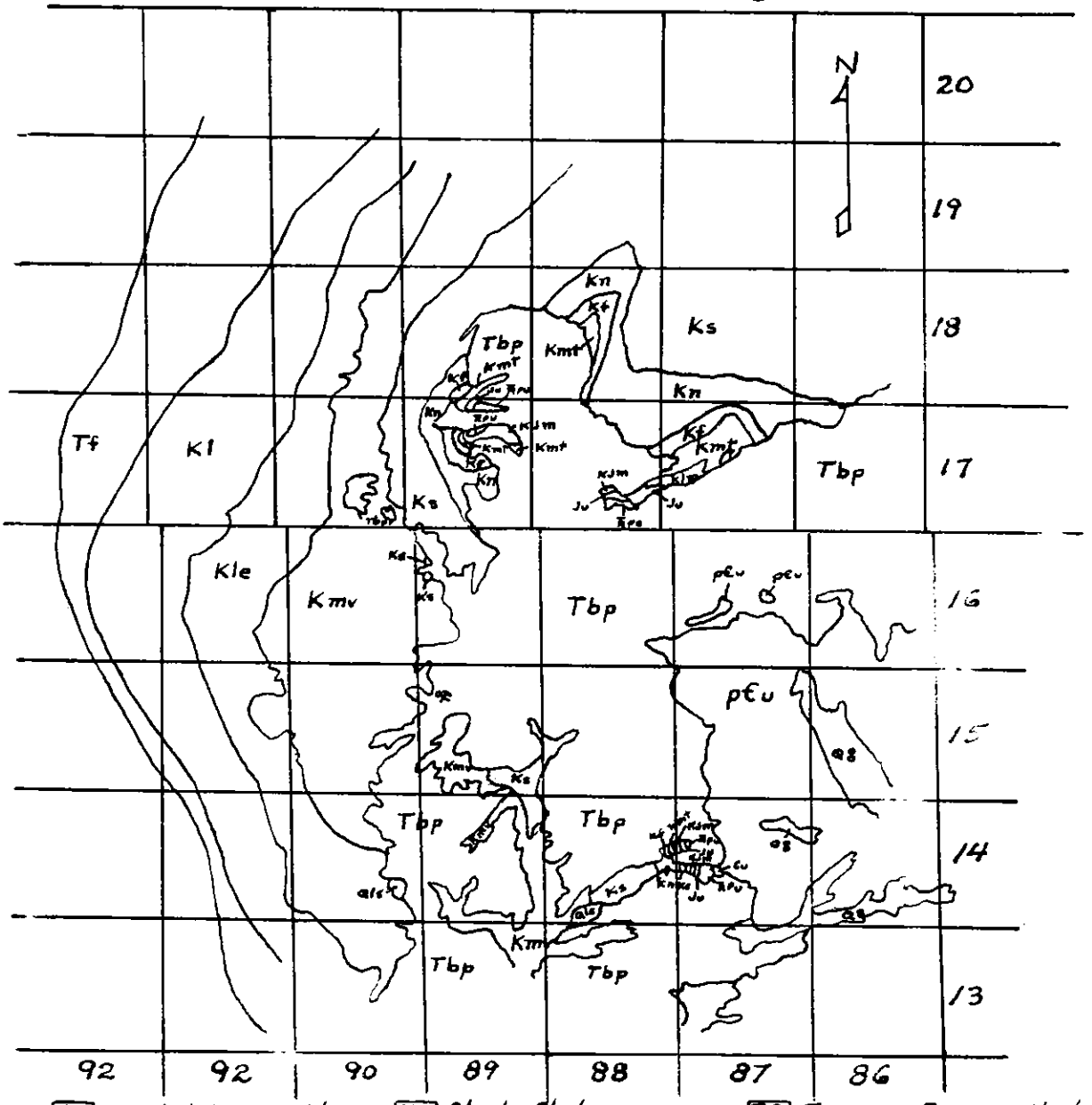
MINING COSTS

No figures are available on mining costs. A cost estimate, not to include drilling costs, based on observation of mine operation is as follows:

General Geology Map

Southern Carbon County, Wyoming

Scale - 1 inch = 8 miles



Qls Landslide Deposit
Qg Glacial Deposit
Tbp Brown's Park Formation
Tf Fort Union Formation
Kl Lance Formation
Kle Lewis Shale
Ks Steele Shale
Kf Frontier Formation
Kn Niobrara Formation
Kmt Mowry + Thermopolis Shales
KJm Cloverly + Morrison Form.
Ju Jurassic Und.
RPu Triassic + Permian Und.
kPc Triassic + Post Forelle Permian
Cu Cambrian Und
pEu Pre-Cambrian Und.

Estimated Mining Costs (6-6-55)

Item	Cost/day
Operating cost, 3/4 yd. shovel, operator, fuel & maintenance, $9.00 hr.	$ 72.00
Operating cost, 100 cu. ft. compressor, compressor fuel & maintenance; jackhammer & miscellaneous equipment.	10.00
Labor cost - two (2) pit men for drilling, blasting and ore control.	30.00
Total daily mine operation cost	$ 112.00
Average daily production, tons	25
Mining Cost/ton	4.48

Estimated Haulage Costs (6-6-55)

Item	Cost
Mine to Rawlins by truck $0.06/ton mile - 50 miles	$ 3.00/ton
Freight U.P.R.R., Rawlins to Salt Lake City, Utah	4.50/ton
Total haulage cost	$ 7.50/ton
Overall costs, mine to mill	$11.98/ton

ORE RESERVES

Total ore reserves were calculated on the basis that a bed that assays 0.10% U_3O_8 or higher for a thickness of three feet or more would be classified as ore. For the purpose of this report, a second ore reserve calculation based on a minimum thickness of 3 feet of ore assaying 0.20% U_3O_8 or higher was also made. A rectangular area of influence was used in making these ore reserve calculations. The size of this rectangle was limited to 12.5 feet each side of the center of a drill hole or half the distance between adjacent drill holes, whichever was shorter.

Channel samples of the mine face have been taken and submitted for chemical assay. Assay returns on these samples are not yet available.

All ore reserves calculations are based on thickness and grade as interpreted from gamma ray logs of drill holes. Ore reserves figured on this basis should be considered as reserves of inferred rather than indicated ore. If the assay returns on samples submitted appreciably changes the ore reserve figure on this property, this additional information will be forwarded, to be attached to this report as an appendix.

A plan map of the mine showing drill hole locations and the locations from which channel samples were taken is in the pocket.

Total inferred ore:

474 tons @ 0.13%

Ore reserves (0.20% U_3O_8 or higher):

52 tons @ 0.21%

CONCLUSIONS

Evaluation of all presently available information indicates that no appreciable quantity of uranium ore assaying 0.20% U_3O_8 or higher can be mined from presently known orebodies at the Browns Hill Prospect. It is estimated that 474 tons of protore that will assay approximately 0.13% U_3O_8 is present on the property. In view of the current price of uranium and the estimated mining and shipping cost, this cannot be profitably mined at this time.

If appreciable quantities of 0.20% U_3O_8 uranium ore are discovered during later stages of the present drilling program, ore reserves will be recalculated.