UNITED STATES
DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS EXPLORATION ADMINISTRATION

JOINT REPORT OF EXAMINATION BY EXAMINING TEAM
NUMBER XXI

DMEA 4179
BONNIE CLAIMS
PAUL A. PEDERSON
CHOKER GAP URANIUM DEPOSIT
FREMONT COUNTY, WYOMING

Uranium.

Joint Engineering and Geologic Report

By

R. E. Davis, Geologist
Geological Survey

E. F. Robertson, Mining Engineer
Bureau of Mines

May 16, 1956

DMEA 4179
Roger claims
Paul A. Peterson
Crooks Gap Uranium District
Fremont County, Wyoming

CONTENTS

Joint engineering and geologic report — Page

Introduction and summary 1
Acknowledgments 2
Location, topography and physical features 2
History and production 2
Ownership and extent 3
Geology 4
Minable ore reserves 5
Present Status 5
Exploration and Development 5
Mining, milling and other facilities 6
Project proposals with costs 6
Conclusions and recommendations 7

ILLUSTRATIONS

Figure — Follows page

1. Location map, Roger 1 and Roger 2 claims, Paul A. Peterson, Fremont County, Wyo. DMEA 4179 2

2. Claim map showing Roger No. 1 and Roger No. 2, Paul A. Peterson, Fremont County, Wyo. DMEA 4179 ... 7

3. Map showing topography on Roger Nos. 1 and 2, Paul A. Peterson, Fremont County, Wyo. DMEA 4179 ... 7

4. Geology and locations of claims, part of Crooks Gap area, Fremont County, Wyo. 7

DMEA 4179
ROGER 1 and ROGER 2
FAIR PROSPECT
FREMONT COUNTY, WYOMING

INTRODUCTION AND SUMMARY

Paul A. Peterson, of Buffalo, South Dakota, applied to the Defense Minerals Exploration Administration for assistance to explore for uranium on his two claims, known as the Roger Nos. 1 and 2, located in Sec. 22, T. 33 N., R. 92 W., Sixth Principal Meridian, Fremont County, Wyoming. The applicant proposes to explore the claims in one stage by drilling 198 holes ranging from 50 to 250 feet in depth at an estimated overall cost of $8,310.00.

Field examination of the property was made by a joint Geological Survey and Bureau of Mines team on April 11, 1956. The examining team consisted of R. F. Robertson and C. M. Barrow, Bureau of Mines, and R. A. Davis and M. E. Bergendahl, Geological Survey.

The field examination of the property disclosed only one very weak radioactive anomaly in the bank and floor of a shallow trench on the Roger 1. The anomaly was of such low magnitude that it would not be considered as a favorable indication of the probability of minable uranium reserves. There is no evidence to date to show that mineralization on other properties in the Crooks Gap area has any recognizable trend or continuity. The nearest drill holes, approximately one-half mile distant, cannot give projected stratigraphic information owing to the lenticular nature of the beds in the area.

The examining team recommends that the application be denied without prejudice. If Mr. Peterson should re-apply after completion of further prospecting, a field examination and supplementary report should suffice to re-evaluate the proposed exploration.

ACKNOWLEDGMENTS

Mr. Paul A. Peterson, owner of the subject claims accompanied the examining team over the property.

The Denver Exploration Branch of the Atomic Energy Commission was consulted for structural and geologic information concerning the Crooks Gap area, and results of previous geologic work by D. E. Mallory and J. S. Stephens of the U. S. Geological Survey has been used freely in the description of the geology.

LOCATION, TOPOGRAPHY AND PHYSICAL FEATURES

The Peterson property (figure 1) is in an area known as Crooks Gap, in section 26, T. 25 N., R. 92 W., sixth principal meridian, Fremont County, Wyoming. The property is situated on a steeply sloping hillside with altitudes ranging from 7400 to 7550 feet above sea level as shown on figure 3. The Roger claim group is reached by travelling 60 miles southeast from Lander, Wyoming, over U. S. Highway 287; thence 5 miles south on a graveled (Sinclair Oil Company) access road; thence 2 miles east over a dirt road. The area is semi-arid, but water for drilling and mining purposes is available locally. Supplies and equipment can be obtained at Lander, Rawlins, and Casper, Wyoming, 70, 85 and 113 miles distant, respectively. The nearest Atomic Energy Commission ore-buying station is located at Riverton, 95 miles distant. The nearest railroad terminals are the Chicago and North Western at Lander and the Union Pacific at Rawlins.

HISTORY AND PRODUCTION

Uranium was discovered in the Crooks Gap area during February 1954. Strip mining operations started at the Shortcall mine, in Sec. 23, T. 25 N., R. 92 W., from which 1,850 tons of uranium ore averaging 0.25 percent U_3O_8

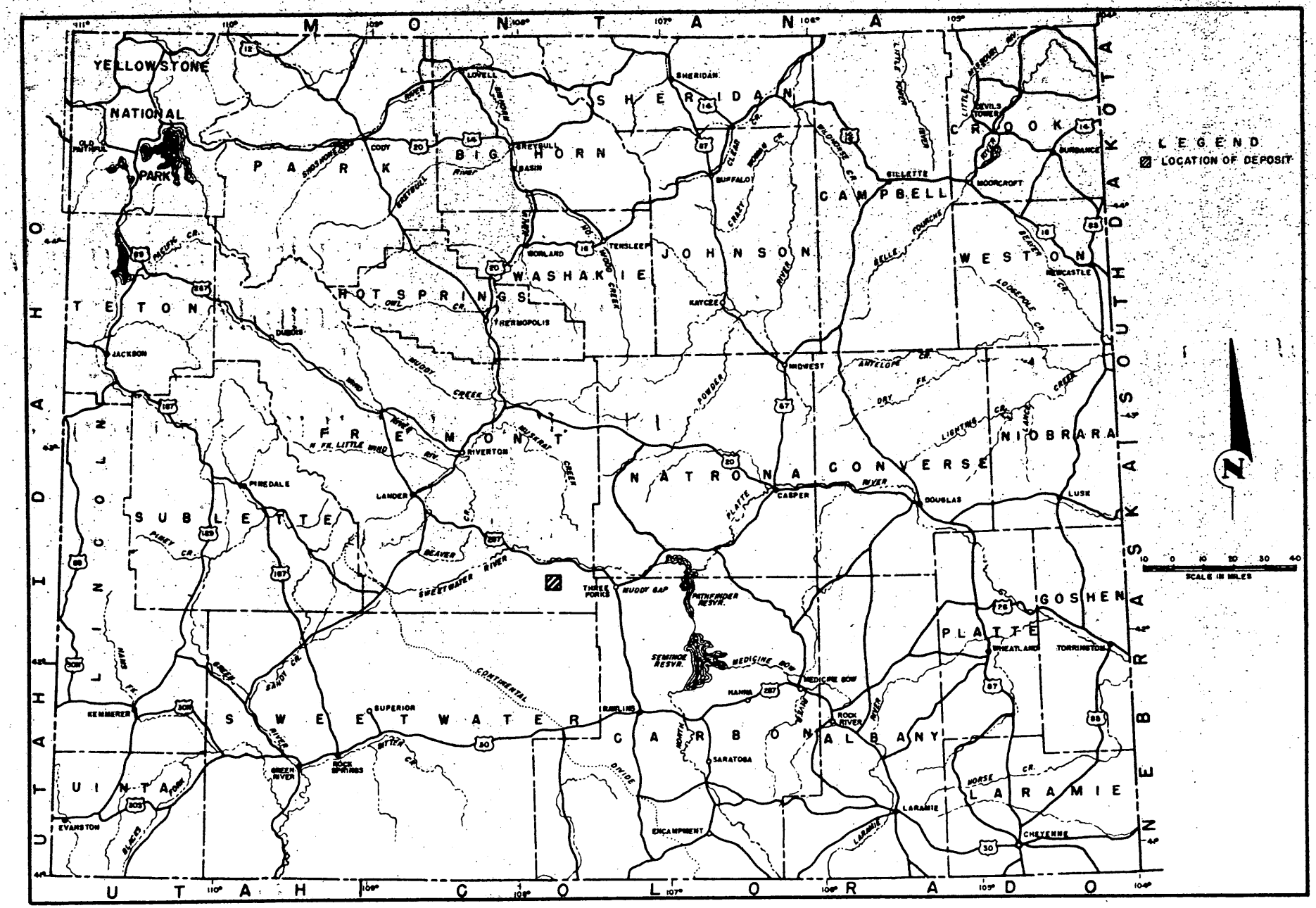

FIGURE 1 - LOCATION MAP, ROGER 1 AND ROGER 2 CLAIMS, PAUL A. PETERSON, FREMONT COUNTY, WYO. DMEA 4179

were shipped to the A. E. C. buying station at Edgemont, South Dakota. A trial shipment of 6.5 tons, mined from the Eden Bay No. 4 cut of Wyoming Uranium Corporation, in Sec. 20, T. 28 N., R. 92 W., averaged 0.29 percent U_3O_8.

An exploration contract with the Dublin Mining Company (DMA 5058, Lbs-2827) was recently completed. Their property is located in Secs. 17, 20 and 21, T. 28 N., R. 92 W. The program developed definite indications of uranium ore reserves, but no trends or continuity of ore zones were recognizable. Mining operations have not commenced at the present time.

There has been no production to date from the claims known as the Roger 1 and Roger 2.

OWNERSHIP AND TITLE

The Creeks Gap property of Paul Peterson consists of two unpatented lode locations acquired by Quit Claim Deed, dated March 27, 1956, from Vernon and Frances Ward to Paul A. Peterson. The grantors reserve a 5 percent interest in all minerals mined and sold at the prevailing market prices. The above interest does not apply to allowances for transportation or mine development but does include 5 percent of any bonuses and premiums paid on the ores and minerals.

The claims involved are the following:

Name of Claim	Locator	Discovery Date	Recording Date	Book	Page
Roger 1	Vernon D. Ward	8/18/55	8/18/55	125	64
Roger 2	"	"	"	"	65

The above information was taken from the records at the Fremont County Courthouse at Lander, Wyoming.

The area surrounding the subject property is claimed by various other Companies and individuals, but there are no obvious conflicts with the property owned by Mr. Peterson.

GEOLOGY

Rocks exposed in the Crooks Gap area in the vicinity of the applicant's claims, the Bager No. 1 and Bager No. 2, include the Cody Shale, of Cretaceous age, and the Fort Union and Wasatch Formations, of Tertiary age (Figure 4). These rocks are folded into anticlines and synclines, the major structure among which probably is the Crooks Gap anticline. The axis of this southeast-plunging fold line about one mile west of the applicant's claims. The applicant's property lies near, perhaps on, the axis of a southeast-plunging syncline, as determined by the attitude of beds in adjacent areas.

In the Crooks Gap area, deposits of secondary uranium minerals occur in the lower part of the Wasatch Formation, which consists largely of sandstone, containing granite conglomerate lenses and thin seams and lenses of clayey siltstone and carbonaceous material. In general, the lower part of the formation is somewhat finer-grained than the upper part and, consequently, has been more favorable for the concentration of uranium minerals. It has been suggested that uranium has been leached from the upper part of the Wasatch Formation by descending waters and has been redeposited in the lower fine-grained, less permeable seams and lenses. The presence of carbonaceous material was probably an important factor in localization of the deposits.

The experiences of the Cobalt Mining Company and the Wyoming Wasatch Company, whose properties are located one-half mile and more west and northwest of the applicant's property, have shown conclusively that deposits in the area display no preferred orientations or trends. This is due to the lenticular nature of the lithologic types within the Wasatch Formation.

With these possible exceptions, no exposures of bedrock were noted

on the applicant's property, but geologic mapping by J. G. Stephens of the U. S. Geological Survey indicates that the contact between the Wasatch formation and the rock underlying unit, either the Park Union or the Cody, may cross some part of the property. The steep hillside on which the claims are located is covered with a few feet of rock debris from the upper part of the Wasatch, which effectively conceals the underlying bedrock. The three excavations noted are shallow bulldozer cuts in each of the claims. Snow and mud covered most of the bottom of these cuts at the time of the examination, and it was not determined whether the cuts exposed were actually bedrock or merely part of the material slumped from above.

Only one locality of anomalous radioactivity was noted on the property. A small pocket of carbonaceous material in the bulldozer cut on the Roger No. 1 claim was checked with a P. R. I. Model III 3 Geiglitzer and found to be radioactive to the extent of about 1½ times background of the area. This pocket was very close to the surface and probably was part of the rock mantle rather than bedrock.

MINERAL ORE RESERVES

There is no basis on which to estimate ore reserves.

PRESENT STATUS

Exploration and Development

Three shallow trenches (Figure 2) that have been dug on the property by bulldozer represent all previous prospecting of the property. The cut in the center of Roger 1 shows very weak radioactivity and a small amount of carbonaceous material. Anomalous radioactivity was not noted in the other cuts.

Mining, Milling and Other Facilities

There are no mining, milling or other facilities on the property. The nearest ore purchasing depot is at Riverton, Wyoming, 95 miles distant.

PROPOSED PROGRAMS AND COSTS

Mr. Peterson proposes to explore his Cowboy Bay property with 150 holes ranging from 50 to 250 feet in depth at an estimated overall cost of $8,510.00. His plan was to drill 5 rows of holes parallel to the side lines of the claims. The rows would be 250 feet apart and each row would contain 30 holes spaced at 50-foot intervals. The applicant gives no estimate of the time required to complete the program. His costs are distributed as follows:

Independent Contractor

Drill road and site preparation for 150 holes. D-7 bulldozer rented 200 hrs. at $15.00 per hour	$1,500.00
Drilling and coring 150 holes 300 hours at $15.00 per hour	4,500.00
Total	$6,000.00

Personnel

Supervision - 160 hours at $3.50 per hour	$600.00
Geological consultants - 20 hours at $3.00 per hr.	60.00
Total	$660.00

Operating Materials and Supplies

Drill bits	$1,500.00

Equipment

Gas Rockbusters with 300-foot packs	$150.00

Miscellaneous

Chemical analysis of 50 samples at $5.00 per sample	$250.00

Contingencies

Unforeseen allowance	$300.00

Estimated overall cost $8,310.00

The above overall cost is based on a rough estimate and not on formal bids.

CONCLUSIONS AND RECOMMENDATIONS

The applicant's claims, Roger No. 1 and Roger No. 2, lie on a steep, debris-covered hillside, which probably is underlain largely by the lower part of the Wasatch formation. Some Fort Union or Cody rocks, perhaps both, may underlie the northeastern part of the Roger No. 1 claim. In the Crooks Gap area, the lower part of the Wasatch formation contains the ore-bearing horizons. Experience of operators in the immediate area has shown that the ore horizons have no preferred orientations or trends and are not continuous for any appreciable distances.

No work has been done on the applicant's claims except for a few shallow bulldozer cuts, one of which contains a small amount. Because of a lack of exposures on the property, the geology cannot be interpreted with any degree of certainty.

It is recommended by the examining team that the applicant's petition be denied without prejudice until additional prospecting has been done on the property and the applicant submits a sound exploration program based upon the results of such further prospecting.

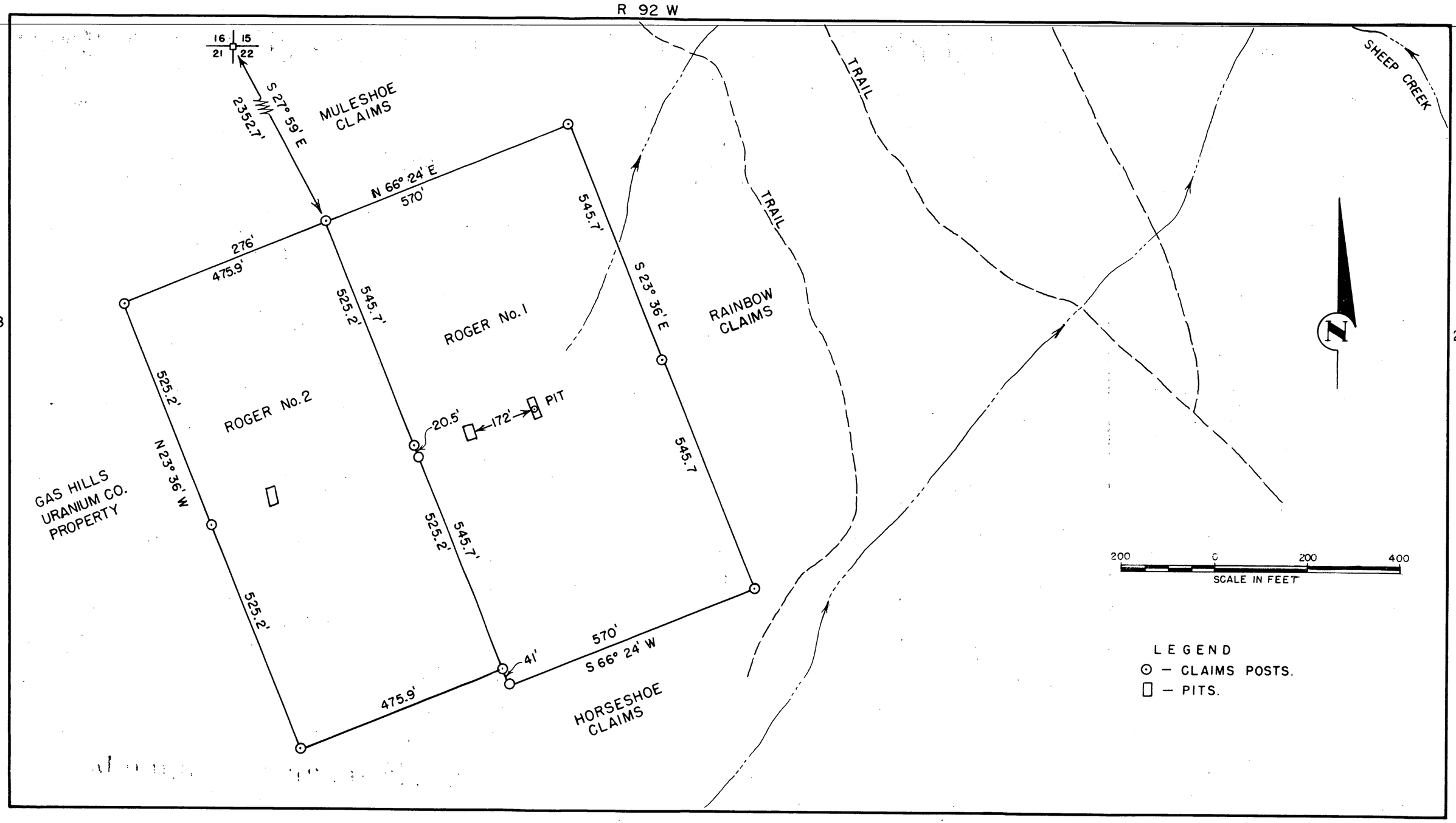

FIGURE 2 – CLAIM MAP SHOWING ROGER NO. 1 AND ROGER NO. 2, PAUL A. PETERSON, FREMONT COUNTY, WYO. DMEA 4179

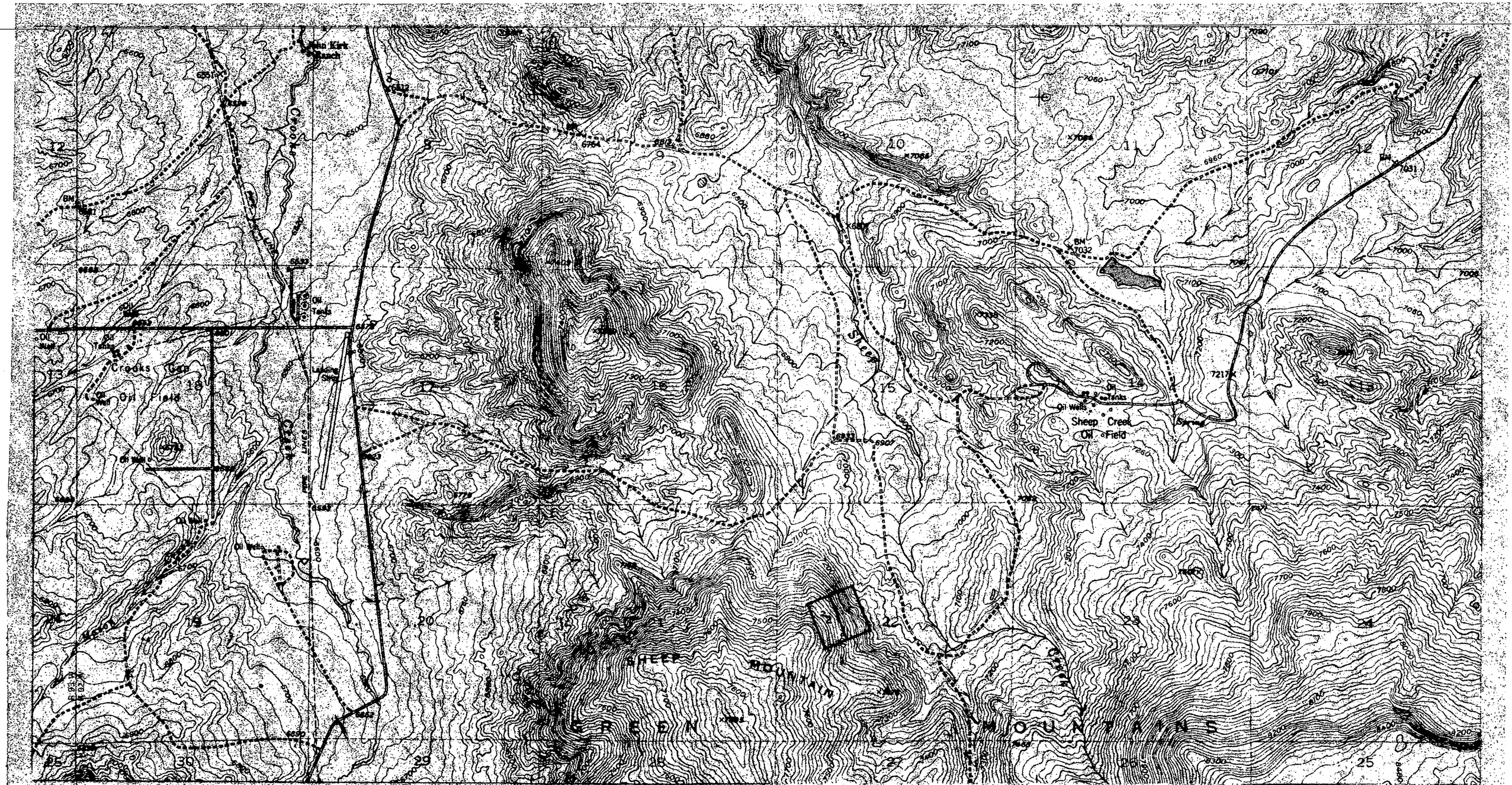

FIGURE 3 – MAP SHOWING TOPOGRAPHY ON ROGER NOS. 1 AND 2, PAUL A. PETERSON, FREMONT COUNTY, WYO. DMEA 4179