224 New Customhouse
Denver 2, Colorado

July 15, 1955

Memorandum

To: Secretary to the Operating Committee, DMEA

From: DMEA Field Team, Region III

Subject: Report of Examination, DMEA Docket 3772 (Uranium), Bears Ears Uranium Company, (Blue Jay claims), San Juan County, Utah

Enclosed are the original and three copies of the report pertaining to the above application.

We concur in the recommendation for a two stage exploration project as outlined in the engineering report at a total cost of $11,065.25.

Nine extra copies of Figure 2 are attached for possible use in the contract.

DMEA Field Team, Region III

W. M. Traver

E. N. Harshman

Bert

Enclosures
HMC:sr

cc Docket
Harshman
King
Shaw
Hasler
Gordon - AEC
Chron

DMEA
Date Rec'd.
JUL 13 1955
BUREAU OF MINES
Denver, Colorado

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

TRANSMITTED
JUL 15 1955

Region III

Building 20, Room 137
Denver Federal Center
Denver 2, Colorado
July 8, 1955

Summary Reports of Examination and Review of Examination Reports, To Merrill Aug. 12, 1955

Memorandum

To: Executive Officer, DMEA Field Team, Region III

From: John F. Shaw

Subject: DMEA 3772, (Uranium) Blue Jay claims, Bears Ears Uranium Company, San Juan County, Utah

Enclosed are the original and ten copies of a "Summary, Conclusions, and Recommendations" by W. P. Williams, geologist, and C. M. Harrer, mining engineer and the original and ten copies of an engineering report by C. M. Harrer covering docket DMEA 3772.

The Bears Ears Uranium Company applied for exploration assistance in the amount of $39,600.00 to explore the Blue Jay group of claims with 24 diamond drill holes totaling 7,200 feet and to strip the rim rock contact on their Blue Jay claims 27 and 28.

The field examination was made on May 18, 1955, by W. P. Williams of the Geological Survey and C. M. Harrer, mining engineer, Bureau of Mines.

The examining team concluded that the chance for making a significant discovery for uranium on the Blue Jay claims is good.

A revised exploration program was proposed, and it was agreed to by the applicant's representative. The revised program would consist of diamond drilling in two stages. Stage I would consist of 12 holes totaling 2,400 feet, and Stage II would consist of 12 holes totaling 2,400 feet. Stage II would be depended upon in result of Stage I and would require prior written approval of the DMEA Field Team.

It is recommended that a contract be prepared authorizing 24 diamond drill holes at a total cost of $11,069.25. The amount of Government participation would be $8,301.94.

John F. Shaw
John F. Shaw
Supervising Mining Engineer

Enclosures

cc 10
DMEA 3772
Chron

JFS/ph

UNITED STATES
DEPARTMENT OF THE INTERIOR
DOUGLAS McKAY, SECRETARY

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION III

DMEA 3772, Blue Jay Claims

Bears Ears Uranium Company

San Juan County, Utah

Uranium

W. P. Williams, Geologist
Geological Survey

C. M. Harrer, Mining Engineer
Bureau of Mines

June 29, 1955

DMEA 3772

BLUE JAY CLAIMS
BEARS EARS URANIUM COMPANY
SAN JUAN COUNTY, UTAH

Summary, Conclusions, and Recommendations

By W. P. Williams
Geologist
Geological Survey

C. M. Harrer
Mining Engineer
Bureau of Mines

TRANSMITTED
JUL 15 1955

DMEA 3772

BLUE JAY CLAIMS
BEARS EARS URANIUM COMPANY
SAN JUAN COUNTY, UTAH

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

By W. P. Williams and C. M. Harrer

Bears Ears Uranium Company, unincorporated, of Blanding and Monticello, Utah, has applied to the Defense Minerals Exploration Administration for assistance to explore their Blue Jay group of claims with 24 diamond drill holes totaling 7,200 feet and to strip the rim rock contact on their Blue Jay claims 27 and 28. Total cost of the project was estimated at $39,600.00.

Field investigation of the property was made on May 18, 1955, by representatives of the Geological Survey and Bureau of Mines. Clynn Young of Monticello, Utah, accompanied the examiners and represented the applicant.

The Blue Jay group consists of 23 unpatented lode claims in section 15, T. 36 S., R. 18 E., Salt Lake meridian, San Juan County, Utah.

Rocks exposed on and near the Blue Jay claims include the Cedar Mesa Sandstone member and the Organ Rock and Hoskinnini tongues of the Cutler formation of Permian age, the Moenkopi formation of lower Triassic age, the Shinarump conglomerate of upper Triassic age, the lower part of the Chinle formation of upper Triassic age, and sandstone units within the lower Chinle formation of Triassic age.

The chance of making a significant discovery of uranium on the Blue Jay claims appears to be good since:

1. Favorable structure in the form of a channel in the Triassic Shinarump formation has been uncovered by the applicant's rim stripping.

2. The property lies along a trend formed by known uranium ore deposits.

3. The property is near the center of the belt of continuous Shinarump conglomerate which assures the presence of a thick and continuous host rock.

4. The property lies along a trend of known geo-botanical anomalies.

5. The rim rock outcrop of the channel gives high scintillometer readings at accumulations of carbonaceous material and green-gray mudstones which are favorable for the occurrence of uranium ore deposits.

A two-stage exploration program consisting of 24 diamond drill holes totaling 4,800 feet is recommended for approval at an overall cost of $11,069.25. Stage I would consist of 12 holes totaling 2,400 feet as shown on figure 2 and would cost $5,592.25. Stage II would also consist of 12 holes totaling 2,400 feet which would be drilled around Stage I holes exhibiting uranium or favorable structure or to further explore the channel. It would cost $5,477.00.

Government participation in this exploration program would be 75 percent of $11,069.25 or $8,301.94.

Exploration costs have been estimated on the lowest of three bids submitted by the applicant. It should be noted that this bid by the Europa Exploration and Mining Corporation is exceptionally low and probably could not be duplicated if they were not on a nearby property.

DMRA 3772

BLUE JAY CLAIMS
BEARS EARS URANIUM COMPANY
SAN JUAN COUNTY, UTAH

Engineering Report

By C. M. Harrer
Mining Engineer
Bureau of Mines

DMRA 3772

BLUE JAY CLAIMS
BEARS EARS URANIUM COMPANY
SAN JUAN COUNTY, UTAH

CONTENTS

Engineering Report — Page

Introduction..... 1
Acknowledgments..... 2
Location, topography, and physical features..... 2
History and production..... 3
Ownership and extent..... 3
Description of deposits..... 5
Minable ore reserves..... 6
Present status..... 6
    Exploration and development..... 6
    Mining, milling and other facilities..... 6
Proposed exploration and costs..... 6
Revised and recommended exploration program and costs..... 7
Recapitulation..... 14
Proposed financing..... 14
Conclusions..... 15
Recommendations..... 15

ILLUSTRATIONS

Figure — Follows page

1. Location map, Bears Ears Uranium Company, Blue Jay claims, San Juan County, Utah..... 1

2. Map of property and exploration, Bears Ears Uranium Company, Blue Jay claims, San Juan County, Utah..... 1

DMEA 3772

BLUE JAY CLAIMS
BEARS EARS URANIUM COMPANY
SAN JUAN COUNTY, UTAH

ENGINEERING REPORT

By

C. M. Harrer

INTRODUCTION

Bears Ears Uranium Company, of Blanding and Monticello, Utah, has requested assistance of the Defense Minerals Exploration Administration to explore their Blue Jay group of unpatented lode claims (figs. 1 and 2) for uranium. They propose to explore the most favorable location on their Blue Jay claims no., 3, 4, and 26, with 24 diamond drill holes totaling 7,200 feet and to carry on rim stripping on their Blue Jay claims no., 26 and 27. The total estimated cost for the project was $39,600.00. The proposed program would explore the basal Shinarump sandstone-conglomerate formation (Triassic) where it fills channels cut into the Moenkopi formation also of Triassic age. The possibility of making a significant discovery of uranium appears good.

A field examination was made on May 18, 1955, by a joint Geological Survey and Bureau of Mines team, accompanied by a representative of the applicant.

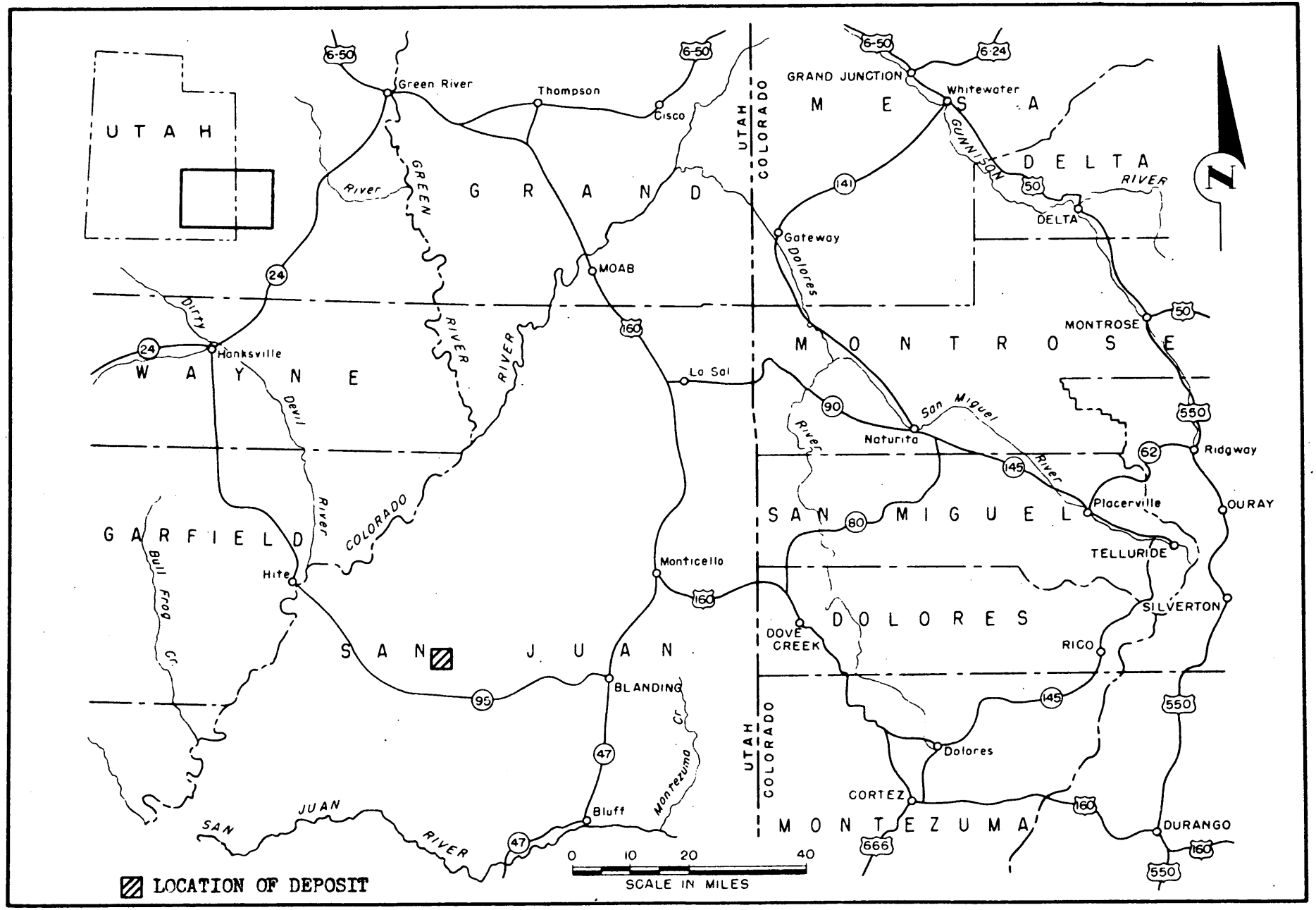


FIGURE 1 - LOCATION MAP, BEARS EARS URANIUM COMPANY, BLUE JAY CLAIMS, SAN JUAN COUNTY, UTAH. DMEA 3772

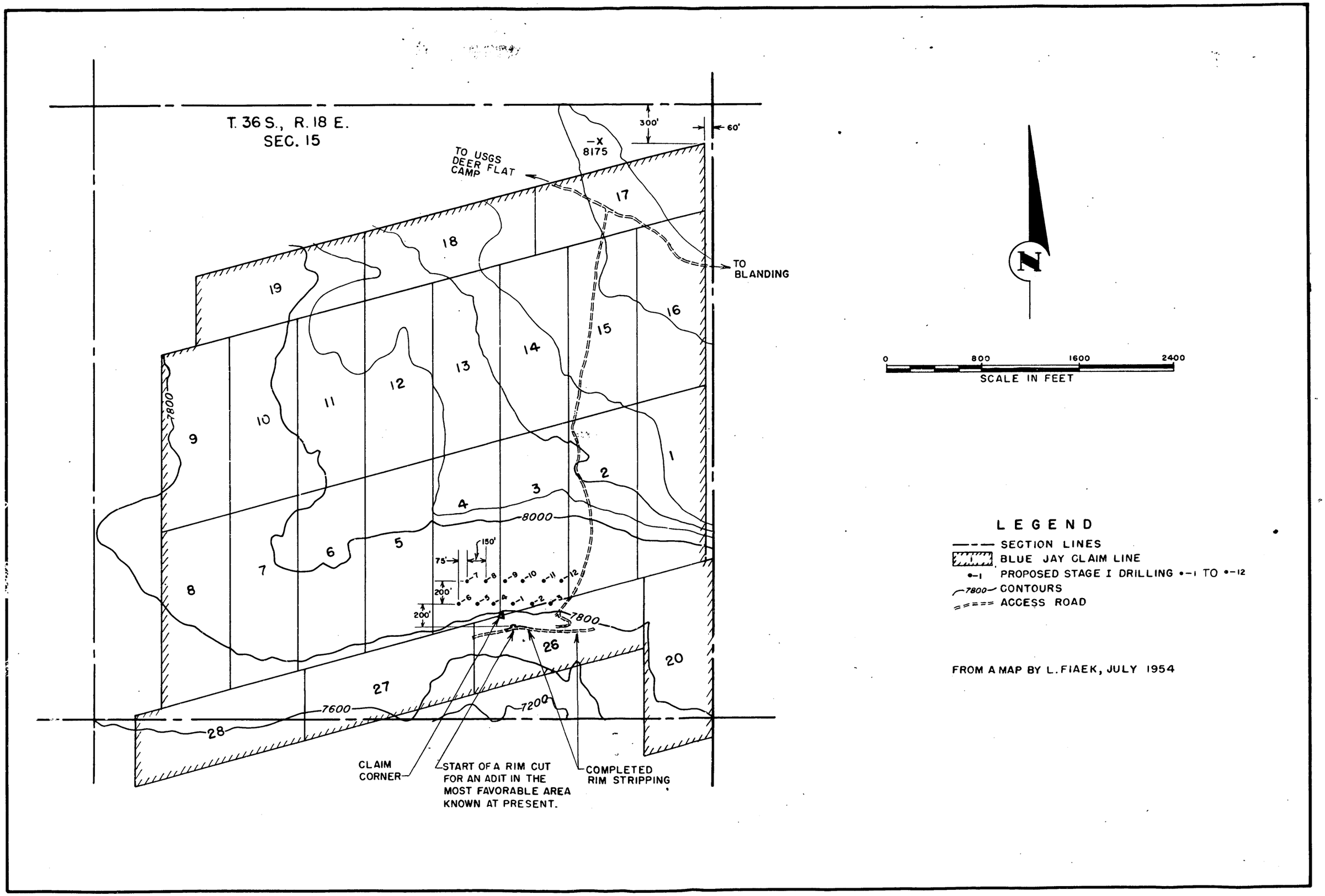


FIGURE 2 – MAP OF PROPERTY AND EXPLORATION, BEARS EARS URANIUM COMPANY, BLUE JAY CLAIMS, SAN JUAN COUNTY, UTAH. DMEA 3772

ACKNOWLEDGMENTS

Clynn Young of Monticello, Utah, accompanied the examining team and represented the applicant, Bears Ears Uranium Company.

W. P. Williams, geologist of the Geological Survey, was the Geological Survey member of the examining team. He was accompanied by F. J. Kleinhampl, also of the Geological Survey and stationed at the local Deer Flat camp.

LOCATION, TOPOGRAPHY, AND PHYSICAL FEATURES

The Blue Jay group of claims are in section 15, T. 36 S., R. 18 E., Salt Lake meridian, in San Juan County, Utah. The claims are variously described as in the Bears Ears, Deer Flat and White Canyon Mining Districts. Altitudes range between 7,600 and 8,200 feet above sea-level. The property is 60 miles from Monticello, 35 miles from Blanding, and 40 miles from the White Canyon purchasing depot at the Happy Jack mine.

The area is typical Colorado Plateau mesa land with deep canyons cutting into the higher areas. The mesa rims are almost vertical cliffs grading into steep slopes covered by landslide debris and talus. The normally semi-arid climate permits year around mining operations. Access to the region is over rough roads. Water for domestic and drilling use must be hauled from springs or catch basins or the nearest creek. All supplies must be hauled from Blanding or Monticello which are connected by motor freight transportation with Grand Junction, the nearest major supply center. Labor is available locally and in nearby towns.

HISTORY AND PRODUCTION

The Blue Jay group of claims was located on February 12, 1954, by the members of Bears Ears Uranium Company. There has been no production from the claims. The nearest production has been from the Sandy No. 3 and Sandy mines about 1 to 1-1/2 miles northwest (section 8, T. 36 N., R. 18 E.) and the Hideout mine (section 14, T. 36 N., R. 17 E.) about 4-1/2 miles west. The following production statistics were secured from the Atomic Energy Commission and are correct through March 1955.

Mine	Dry Tons Uranium Ore	Percent U_3O_8
Hideout	6,582.19	0.25
Sandy	1,027.25	0.22
Sandy No. 3	1,969.37	0.17

The search for uranium in the Deer Flats area dates from 1951 when it was first considered for exploration by the Atomic Energy Commission. The Atomic Energy Commission estimates about 10,000 tons of indicated and inferred uranium ore at the head of Burch Canyon which is about 1-1/2 miles to the southeast of the Blue Jay claims.

OWNERSHIP AND EXTENT

The contiguous group of standard, unpatented lode locations (fig. 2) known as the Blue Jay claims has been located and is owned by the members of the Bears Ears Uranium Company. The company is unincorporated and consists of members of the "Young family" and close relations. A Power-of-Attorney agreement executed on February 14, 1955, designated W. R. Young of Blanding, Utah, as the official representative of Bears Ears Uranium Company.

The company consists of Clyde P. Young, Darrell P. Young, Daryle M. Redd and DeMar Perkins of Monticello, Utah; W. R. Young of Blanding, Utah; Mildruff H. Young of Moab, Utah; Harold Young of Mac, Colorado; Calvin Black and Therald N. Jensen of Price, Utah.

The company's group of 23 contiguous lode claims are in section 15, T. 36 S., R. 18 E., Salt Lake meridian (fig. 2) in San Juan County, Utah. They have been reported as in the Bears Ears, Deer Flat, and White Canyon Mining Districts; approximately 3 miles northeast of Maverick Point on the north rim of a tributary running into Burch Canyon.

Claims held by Bears Ears Uranium Company and information on file in the records of the San Juan County courthouse at Monticello, Utah, are as follows:

	Original Location			Location under A.E.C. Circ. 7, lease application			Amended locations Public Law 585		
Claim No.	Date	Book	Page	Date	Book	Page	Date	Book	Page
Blue Jay-1	2/12/54	63	286	4/14/54	93	96	10/20/54	219	361
2	2/12/54	63	287	4/14/54	93	96	10/20/54	219	361
3	2/12/54	63	287	4/14/54	93	97	10/20/54	219	362
4	2/12/54	63	288	4/14/54	93	97	10/20/54	219	362
5	2/12/54	63	288	4/14/54	93	98	10/20/54	219	363
6	2/12/54	63	289	4/14/54	93	98	10/20/54	219	363
7	2/12/54	63	289	4/14/54	93	99	10/20/54	219	364
8	2/12/54	63	289	4/14/54	93	99	10/20/54	219	364
9	2/12/54	63	290	4/14/54	93	100	10/20/54	219	365
10	2/12/54	63	291	4/14/54	93	100	10/20/54	219	365
11	2/12/54	63	291	4/14/54	93	101	10/20/54	219	366
12	2/12/54	63	292	4/14/54	93	101	10/20/54	219	366
13	2/12/54	63	292	4/14/54	93	102	10/20/54	219	367
14	2/12/54	63	293	4/14/54	93	102	10/20/54	219	367
15	2/12/54	63	293	4/14/54	93	103	10/20/54	219	368
16	2/12/54	63	294	4/14/54	93	103	10/20/54	219	368
17	2/12/54	63	294	4/14/54	93	104	10/20/54	219	369
18	2/12/54	63	295	4/14/54	93	104	10/20/54	219	369
19	2/12/54	63	295	4/14/54	93	105	10/20/54	219	370
20	2/12/54	63	296	4/14/54	93	105	10/20/54	219	370
26	9/21/54	193	343	4/14/54	93	108	10/20/54	219	373
27	9/21/54	193	344	--			--		
28	9/21/54	193	344	--			--		

DESCRIPTION OF DEPOSITS

Permian and Triassic rocks are exposed on the Blue Jay group of claims. The only exposures of the potentially ore-bearing Shinarump (Triassic) formation are along the cliff-like rim rock on the Blue Jay claims no. 26 and 27. The applicants have stripped about 1,000 feet of the rim rock contact between the Shinarump and Moenkopi formations on the Blue Jay claim no. 26 (fig. 2) and have exposed a channel in the Moenkopi formation which is filled with Shinarump sediments. This channel structure is an important guide in the search for uranium ore. The channel outcrop on the Blue Jay no. 26 claim is filled with up to 40 feet of gray to white sandstone with small lenses of conglomerate and mudstone. Considerable carbonaceous material is also present. Radioactivity was evidenced by scintillometer readings of two to ten times background count. Known uranium ore bodies in the general area consist of uraninite and copper sulfide minerals disseminated through Shinarump conglomerate-sandstone. There are no copper or uranium outcrops on the property; however, deposits of 1,000 to 10,000 tons can be inferred in the lower Shinarump sandstone units from data available on deposits in the general area. Geologists of the U. S. Geological Survey have located geo-botanical-uranium anomalies on the property.

The most favorable exposure for uranium occurrence, as indicated by channel thickness and radioactive anomalies was at the prepared location of an intended adit (fig. 2) and recommended exploration is planned around this exposure.

MINABLE ORE RESERVES

There are no calculable reserves of uranium ore on the property and there was no basis for sampling the property.

PRESENT STATUS

Exploration and Development

During December 1954 and early in 1955, the applicants improved their Blue Jay claims with a very steep and rough access road and about 1,000 feet of rim stripping (fig. 2) which partly exposes the Triassic, Shinarump-Moenkopi contact. Preparations were made at the time to start an adit along this contact. The adit has not been driven to date, since the applicant decided on a program of exploration drilling.

Mining, Milling, and other Facilities

There are no buildings or equipment of any kind on the property.

PROPOSED EXPLORATION AND COSTS

Bears Ears Uranium Company originally proposed to partly explore their Blue Jay group of claims for uranium by stripping the Shinarump-Moenkopi rim contact on their Blue Jay claim no. 27 and by drilling 24 holes, totaling 7,200 feet, on their Blue Jay claims no., 3, 4, and 26. These holes would be arranged in four fences or rows which would be 200 feet apart in a north-south direction. The six holes in each fence would be 50 feet apart in an east-west direction.

The cost of this proposed work has been roughly estimated from the applicant's figures as follows:

7,200 feet of drilling at $3.00 per foot		$21,600.00
Engineering and geologic services		2,000.00
Supervision, accounting, and sampling		4,000.00
Rim Stripping		
Rental of a TD-18 Bulldozer 750 hours at $12.00 per hour	$9,000.00	
Employment of a driller-powderman 750 hours at $2.00 per hour	1,500.00	
Blasting and drilling equipment rental 750 hours at $2.00 per hour	1,500.00	
Total Rim Stripping Cost		12,000.00
Total estimated cost of the applicant's project		$39,600.00

The above estimate is based on rough figures and not on formal bids.

REVISED AND RECOMMENDED EXPLORATION PROGRAM AND COSTS

During the field examination and conference on May 18, 1955, Glynn P. Young, representing the applicant, Bears Ears Uranium Company, agreed on the following modified and two-stage exploration program in which the stripping of the Triassic, Shinarump-Moenkopi rim was eliminated.

Stage I would consist of 12 diamond drill holes with an average depth of about 200 feet and totaling 2,400 feet. The holes would be arranged in two fences of 6-holes each which would be 200 feet apart in a north-south direction and the holes in each fence would be spaced

150 feet apart in an east-west direction. The first fence of holes would be 200 feet north or back from the rim, and the first hole would be 200 feet north of a former adit location and favorable area shown on figure 2. The second fence of holes would be 200 feet north of the first fence and its holes would be staggered as shown on figure 2. Stage I holes would not necessarily have to be drilled in the order shown, but would be influenced by results obtained.

The first hole would be drilled by non-core plug bit to a depth of 25 feet and core drilled for the remainder of its depth. The results obtained from this hole will establish the general limits of the Chinle and Shinarump formations and the first red mudstone of the Moenkopi formation, all of Triassic age. All remaining holes would be drilled by non-core, plug bit to the top of the potentially ore-bearing Shinarump conglomerate and then core drilled through the Shinarump formation to the first red mudstone in the Moenkopi formation. Core drilling should recover core not less than AX size.

All holes, cuttings, and core should be logged radiometrically and geologically and copies of the logs, patterned after those of the Geological Survey, and certified by a competent geologist, should be a contract requirement.

Those portions of the core containing significant amounts of uranium should be split and analyzed for U_3O_8. One half of the core split should remain in place in the core boxes until disposed of by the DMEA. Provision is made for the chemical analyses of 12 samples for U_3O_8 and $CaCO_3$.

Stage I would be completed in 30 days at an over-all cost of $5,592.00.

Stage II would consist of an additional 12 holes with an average depth of about 200 feet and totaling 2,400 feet. The holes would form a pattern of drilling, offsetting those holes of Stage I which contain significant amounts of uranium in the opinion of the Field Team or which exhibit particularly favorable structure. Stage II drilling would be determined from the results of Stage I and would require prior approval of the [redacted] Field Team.

Provision should be made to transfer funds from or to either stage, as approved.

Stage II would be completed in 30 days at an over-all cost of $5,462.00.

Hole no. 1 of Stage I is estimated on the basis of 25 feet of plug bit, non-core diamond drilling and 175 feet of core drilling, not less than AX size. Since the thickness of the Shinarump conglomerate exposed on the property was measured at about 40 feet, the remaining 23 holes of Stages I and II are estimated on the basis of 150 feet of plug bit, non-core diamond drilling and 50 feet of core-drilling, not less than AX size.

Detailed costs of the revised and recommended exploration program are estimated as follows:

Stage I (12 holes completed in 30 days)

Independent contracts	Costs	Distribution: Plug bit, non-core diamond drilling	Distribution: Core diamond drilling
Approximately 1,675 feet of diamond plug bit, non-core drilling at $1.00 per foot (0-200 feet depth)	$1,675.00	$1,675.00	
Approximately 725 feet of core drilling (minimum size AX) at $2.00 per foot (0-200 feet depth)	1,450.00		$1,450.00
Standby time to log holes 24 hours at $10.00 per hour	240.00	120.00	120.00
Access roads and drill sites preparation - 50 hours at $12.00 per hour	600.00	300.00	300.00
Moving bulldozer in and out twice	150.00	75.00	75.00
Total	$4,115.00	$2,170.00	$1,945.00
Labor, supervision and consultants			
Geologist consultant at $500.00 for 1 month	$ 500.00	$ 250.00	$ 250.00
1-full time field supervisor to spot holes, take care of samples, core and records at $500.00 per month	500.00	250.00	250.00
Total	$1,000.00	$ 500.00	$ 500.00
Operating equipment			
Rental of a Babbel counter and deep hole probe for 1 month at $175.00 per month	$ 175.00	$ 100.00	$ 75.00

	Costs	Distribution: Plug bit, non-core diamond drilling	Distribution: Core diamond drilling
1-pick-up truck or Jeep station wagon. Depreciation at $40.00 per month	$ 40.00	$ 20.00	$ 20.00
Total	$ 215.00	$ 120.00	$ 95.00
Operating materials and supplies			
Service charge on pick-up truck or Jeep station wagon 1,000 miles at .07 per mile	$ 70.00	$ 35.00	$ 35.00
Drill logs and engineering supplies	30.00	15.00	15.00
15-core boxes at $3.50 each	52.50		52.50
Total	$ 152.50	$ 50.00	$ 102.50
Miscellaneous			
Assaying 12 samples for U_3O_8 and $CaCO_3$ at $5.00 per sample	$ 60.00		$ 60.00
Payroll taxes - 5 percent of $1,000.00	$ 50.00	$ 25.00	$ 25.00
Total	$ 110.00	$ 25.00	$ 85.00
Total Costs of Stage I	$5,592.00	$2,865.00	$2,727.00

Stage II (12 holes completed in 30 days)

Independent contracts			
Approximately 1800 feet of diamond plug bit, non-core drilling at $1.00 per foot (0-200 feet depth)	$1,800.00	$1,800.00	
Approximately 600 feet of core drilling (minimum size AX) at $2.00 per foot (0-200 feet depth)	1,200.00		$1,200.00

	Costs	Distribution: Plug bit, non-core diamond drilling	Distribution: Core diamond drilling
Standby time to log holes - 24 hours at $10.00 per hour	$ 240.00	$ 120.00	$ 120.00
Access roads and drill sites preparation - 50 hours at $12.00 per hour	600.00	300.00	300.00
Moving bulldozer in and out twice	150.00	75.00	75.00
Total	$3,990.00	$2,295.00	$1,695.00
Labor, supervision and consultants			
Geologist consultant at $500.00 for 1 month	$ 500.00	$ 250.00	$ 250.00
Fulltime field supervisor to spot holes, take care of samples, core and records - $500.00 for one month	500.00	250.00	250.00
Total	$1,000.00	$ 500.00	$ 500.00
Operating equipment			
Rental of a Nabbel counter and deep hole probe for 1 month at $175.00	$ 175.00	$ 100.00	$ 75.00
1-pickup truck or Jeep station wagon. Depreciation at $40.00 per month	40.00	20.00	20.00
Total	$ 215.00	$ 120.00	$ 95.00
Operating materials and supplies			
Service charge on pick-up truck or Jeep station wagon - 1,000 miles at .07 per mile	$ 70.00	$ 35.00	$ 35.00

	Costs	Distribution: Plug bit, non-core diamond drilling	Distribution: Core diamond drilling
Drill logs and engineering supplies	$ 30.00	$ 15.00	$ 15.00
12-core boxes at $3.50 each	42.00		42.00
Total	$ 142.00	$ 50.00	$ 92.00
Miscellaneous			
Assaying 13 samples for U_3O_8 and $CaCO_3$ at $5.00 per sample	$ 65.00		$ 65.00
Payroll taxes - 5 percent of $1,000.00	50.00	$ 25.00	25.00
Total	$ 115.00	$ 25.00	$ 90.00
Total Costs of Stage II	$3,462.00	$2,990.00	$2,472.00

The total over-all cost of Stages I and II is estimated at $11,054.00 on the basis of the lowest estimate submitted by the applicant. It should be noted that this bid by Europa Exploration and Mining Corporation is exceptionally low and probably could not be duplicated if they were not already in the area.

Three formal drilling bids were submitted by the applicant and copies are appended at the end of the report.

The applicant's revised program of exploration is outlined in his letter to the Executive Officer, DMEA Field Team, dated May 29, 1955.

RECAPITULATION

Average cost of Stage I plug bit drilling	($2,865.00) / (1675 ft.)	$ 1.71 per ft.
Average cost of Stage I core drilling	($2,667.00) / (725 ft.)	$ 3.68 per ft.
Cost of chemical analyses for 12 samples in Stage I		$ 60.00
Average cost of Stage II plug bit drilling	($2,990.00) / (1800 ft.)	$ 1.67 per ft.
Average cost of Stage II core drilling	($2,407.00) / (600 ft.)	$ 4.01 per ft.
Cost of chemical analyses for 13 samples in Stage II		$ 65.00
Total over-all cost per foot of hole completed in Stage I		$ 2.33
Total over-all cost per foot of hole completed in Stage II		$ 2.28
Total over-all cost per foot of hole completed in Stages I and II		$ 2.30
Total cost of Stage I		$ 5,592.25
Total cost of Stage II		$ 5,477.00
Total cost of Stages I and II		$ 11,069.25
Government participation of 75 percent is		$ 8,301.94
Time to complete Stage I and II		2-months

PROPOSED FINANCING

Bears Ears Uranium Company is prepared to furnish its share of the cost of the proposed exploration in cash.

CONCLUSIONS

The possibility of making a significant discovery of uranium appears good.

The 12 holes of Stage I, as shown on figure 2, should be sufficient to determine the existence of uranium ore bodies. Should these holes fail to show evidence of uranium or particularly favorable structure for its occurrence, the project should be terminated.

The second stage of 12 holes should be drilled to explore uranium indications or exceptionally favorable structure found in Stage I drilling.

The basal part of the Triassic Shimarump formation is the only ore-bearing horizon in this locality.

The estimated footages of plug-bit non-core drilling and core drilling must be kept flexible since their actual amounts are dependent upon geologic attitudes which at present cannot be determined.

RECOMMENDATIONS

A two-stage exploration program consisting of 24 diamond drill holes totaling 4,800 feet is recommended for approval at an overall cost of $11,069.25. Stage I will consist of 12 holes totaling 2,400 feet, as shown on figure 2. Stage II will consist of 12 holes totaling 2,400 feet, which will be drilled around holes containing uranium or favorable structure, and as authorized by the Field Team. Provision should be made to transfer funds from Stage II to Stage I, or vice versa, as required and approved. The geologic and

radiometric logs of all holes should be certified by a qualified geologist and submitted as soon as they are completed. All core must be at least of AX size. Since the actual depths of non-core and core drilling are an approximation and will be set by the results obtained in the first hole, the amounts of each type of drilling should be held flexible.

Government participation would be 75 percent of $11,069.25 or $8,301.94.

/ph

STEWART URANIUM DRILLING CO., INC.

P. O. BOX 534 SUDCO MONTICELLO, UTAH

M. R. STEWART, PRESIDENT
D. W. STEWART, VICE-PRESIDENT
H. A. REID, JR., SEC.-TREAS.

MAIN OFFICE
BAYTOWN, TEXAS

May 23, 1955

Bears Ears Uranium
c/o Clynn Young
Monticello, Utah

Dear Mr. Young:

I wish to take this means of submitting my bid for drilling on your companies' properties located in San Juan County, Utah.

Plug drilling:

0' to 100'	$1.50 per foot
100' to 200'	$2.00 per foot
200' to 300'	$2.50 per foot
300' to 400'	$3.00 per foot

(The hole diameter will be from 4¼" to 4 3/4").

Core drilling:

0' to 100'	$3.00 per foot
100' to 200'	$4.00 per foot
200' to 300'	$5.00 per foot
300' to 400'	$6.00 per foot

(The hole diameter will be 3 3/4": core diameter 2 5/16")

In the event casing is to be used, you will furnish the casing and pay for setting it at rate of $15.00 per hour.

Washout Time	$15.00 per hour
Standby Time	$10.00 per hour
Fishing Time	$10.00 per hour

A maximum of 48 hours per month. (Fishing Time only)

The bid I have made is for drilling and coring in the Chinlee and Shinarump conglomerate formation. There will no "move-in-time" for a minimum of 3,600 feet of drilling, in case the footage falls short of 3,600 feet, we will charge .90¢ per mile, per truck from our office

in Monticello to your prospect. Also the same rate will be charged from your prospect back to our office in Monticello.

I think this pretty well covers everything and hope that I can be of service to you, I am

Sincerely

STEWART URANIUM DRILLING CO.

Harry A. Reid Jr.

Harry A. Reid, Jr.
Secretary-Treasurer

HAR:dss

H. B. MILLER DRILLING COMPANY
P. O. BOX 45
BUDE, MISSISSIPPI

GEN. DEL. GREEN RIVER, UTAH

$2.75 Per ft.	Plug drilling (Water & Air) Up to 300 Ft.
$3.00 Per ft.	20 ft. Lengths, first and second runs of Core
$3.75 Per ft.	Core drilling, up to 300 ft.
Water Truck	10¢ per mile for water haul, plus $200.00 per month.
$8.00 Per hr.	Travel time to job.

All material such as bran, drilling mud, etc. furnished by client. Client provides for roads to site of drilling.

LLOYD WALTER VIVELL
Attorney at Law Average Adjuster
232 SPRECKELS BUILDING
San Diego 1, California

Telephone
BElmont 9-1030

EUROPA EXPLORATION & MINING CORP.

P.O. BOX 269 BLANDING, UTAH

May 21, 1955

Bear's Ears Uranium Co.,
C/O Young's Machine Co.,
Monticello, Utah.

Gentlemen:

We submit the following bid on your drilling job on Elk Ridge in San Juan County, Utah.

Plug hole drilling to a maximum depth of 200 feet or 2 feet into the Moenkopi: Per ft. $1.~~00~~ - $1.00 flat.

Core drilling to a maximum depth of 200 feet of 2 feet into the Moenkopi: Per ft. $2.00

Our equipment consists of new Mayhew 1000 drills in first class condition and, as we are now drilling on Elk Ridge, near your property, we can move on to your job on very short notice.

We will post a performance bond, if required, guaranteeing completion of the contract in accordance with its terms. Mr. R. C. Hanford, our General Manager may be contacted through P. O. Box 269 in Blanding.

Very truly yours,

EUROPA EXPLORATION & MINING CORP.

By _____
Exec. Vice President.

LWV/W

IN REPLY REFER TO:

DMEA
Date Rec'd
JUN 14 1955
BUREAU OF MINES
Denver, Colorado

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
Defense Minerals Exploration Administration
Denver Federal Center
Denver, Colorado

June 13, 1955

Memorandum

TRANSMITTED
JUL 15 1955

To: Field Team, Region III

From: E. N. Harshman

Subject: DMEA Docket 3772, Bears Ears Uranium Company, Unincorporated, Blue Jay group of claims, San Juan County, Utah

Enclosed are 10 copies of a geologic report by W. P. Williams, U. S. Geological Survey, covering his examination of the above subject property.

Geological conditions on the Blue Jay claims appear favorable for the occurrence of significant uranium ore deposits, and Williams recommends a two-stage exploration program with a total of 4,800 feet of core and non-core drilling.

I concur with this recommendation.

Should the exploration recommended by Williams result in the discovery of significant ore deposits, exploration of other parts of the Blue Jay claim group may be warranted.

Nine extra copies of the figures in the geologic report are included also.

E. N. Harshman

E. N. Harshman
Member, Field Team

Enclosures (46)

MINERAL DEPOSITS
DMEA
RECEIVED
JUN 9 1955
U. S.
GEOLOGICAL SURVEY
DENVER, COLORADO

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
COLORADO PLATEAU DISTRICT
P. O. BOX 360
GRAND JUNCTION, COLORADO

June 7, 1955

Memorandum

To: E. N. Harshman, DMEA Field Team, Region III

From: W. P. Williams

Subject: DMEA 3772, Bears Ears Uranium Company, Unincorporated, Blue Jay group of claims, San Juan County, Utah

Transmitted herewith are 12 copies of a geological report by W. P. Williams, covering the field examination of the above-referenced property.

Because the property contains a favorable structure in the form of a Shinarump channel and the property lies along trends formed by known ore deposits and geobotanical anomalies, and because other geologic conditions are favorable for uranium ore deposits, I recommend that a DMEA contract be approved to provide for a total of 4,800 feet of ~~core~~ drilling. The drilling should be performed in two stages of 2,400 feet per stage.

Mr. Philip H. Dodd, district geologist, Exploration Division, U. S. Atomic Energy Commission, Grand Junction Operations Office, concurs with my recommendations.

We are enclosing herewith 9 extra copies of the maps accompanying the geological report. Returned herewith is the brochure covering this application.

W P Williams

W. P. Williams,
Geologist

WPW/mlr

Enclosures

UNITED STATES DEPARTMENT OF THE INTERIOR

DOUGLAS McKAY, SECRETARY

DEFENSE MINERALS EXPLORATION ADMINISTRATION
REPORT OF EXAMINATION BY FIELD TEAM
REGION III

DMEA 3772, Bears Ears Uranium Company, Unincorporated, Blue Jay group of claims, San Juan County, Utah

Uranium

Geologic Report

by

W. P. Williams
U. S. Geological Survey

June 9, 1955

DMEA 3772

INTRODUCTION AND SUMMARY

The Bears Ears Uranium Company, Blanding, Utah, has applied to the Defense Minerals Exploration Administration (docket No. 3772) for assistance to explore for uranium ore. The property involved consists of 23 unpatented mining claims, known as the Blue Jay group, located in sec. 15, T. 36 S., R. 18 ~~W.~~ E., S.L.M., southwestern Elk Ridge, San Juan County, Utah, (fig. 1).

The property was examined on May 18, 1955, by a party composed of C. M. Harrer, U. S. Bureau of Mines, F. J. Kleinhampl and W. P. Williams, U. S. Geological Survey, and Clynn Young of Bears Ears Uranium Company.

The Blue Jay claims may be reached by traveling about 40 miles west from Blanding, Utah, over graded dirt roads. The property may be inaccessible at times during the winter months.

GEOLOGY

The exposed rocks on and near the Blue Jay claims include in ascending order the Cedar Mesa sandstone member and the Organ Rock and Hoskinnini tongues of the Cutler formation of Permian age, the Moenkopi formation of Lower Triassic age, the Shinarump conglomerate of Upper Triassic age, the lower part of the Chinle formation of Upper Triassic age, and sandstone units within the lower Chinle.

Table I shows the stratigraphic sequence, thickness, and characteristics of the rocks in the vicinity of the Blue Jay claims.

Table I

Partial stratigraphy of southwest Elk Ridge

Age	Member or Unit	Formation	Estimated thickness (feet)	Character of rocks
Upper Triassic	Moss Back sandstone member	Chinle	75	Massive gray to white conglomeratic sandstone.
		Lower Chinle	75	Blue, gray, and red mudstone. Locally contains many thin gray flaggy sandstone ledges.
		Shinarump Conglomerate	30	Discontinuous gray and white, quartz sandstone with minor lenses of conglomerate and mudstone. Fills channels cut into top of underlying moenkopi formation.
Unconformity				
Lower and Mid-Triassic		Moenkopi	250	Red, buff, and brown shale and sandstone. Shale dominant at top and base. Some thick sandstone ledges near middle of formation.

Table I (continued)

Partial stratigraphy of southwest Elk Ridge

Age	Member of Unit	Formation	Estimated thickness (feet)	Character of rocks
Permian	Hoskinnini tongue	Cutler	60	Reddish to buff silty sandstone and minor interbedded shale.
	Organ Rock tongue		200	Massive red sandy silt stone.
Permian	Cedar Mesa sandstone	Cutler	1,000	Thick, gray, festoon cross-bedded sandstone.

In the vicinity of the Blue Jay claims all radioactivity noted is in the lower part of the Shinarump conglomerate. The Shinarump is a light gray, friable, medium- to coarse-grained quartz sandstone with thin lenses of clay and conglomerate. In the Elk Ridge area the Shinarump fills channels and scours cut into the underlying Moenkopi formation. Channel structures in the Shinarump are important guides to exploration for uranium ore. No uranium deposits are known in the Shinarump where channel control is not present. Figure 2 shows the limits of continuous outcrop of the Shinarump on Elk Ridge. The Blue Jay claims are located near the center of the belt of continuous Shinarump.

The applicants have stripped the rim on the Blue Jay claims for a distance of about 1,000 feet. Over most of that distance the contact of the Shinarump with the Moenkopi is well exposed. The regional dip of the rocks in the vicinity is about 2 degrees southwest. Where the Shinarump has been uncovered by stripping on the Blue Jay claims, the dip increases several degrees and a

well-defined channel appears to be present on the property. I cannot say with certainty, at present, which direction the channel is trending. The average thickness of the Shinarump in the vicinity is about 20 feet. In the channel on the Blue Jay claims the Shinarump thickens to about 40 feet, thus affording about 20 feet of relief in the channel.

Scintillometer readings along the base of the channel on the Blue Jay claims were anomalously high. At the small cut show on figure 4, readings were about ten time as high as the background count for the area. At the cut a favorable environment for the localization of uranium mineralization exists. A lens of green and gray mudstone, about 8 feet thick and 30 feet wide, is at the base of a well-defined channel in Shinarump sandstone that is 30 to 40 feet thick. Abundant carbonaceous material is present in the mudstone. Neither copper nor uranium minerals could be seen in the outcrops on the property.

Many other Shinarump channels are known on Elk Ridge near the Blue Jay claims. The locations and trends of a few are shown on figure 3. The Exploration Division, U. S. Atomic Energy Commission, Grand Junction Operations Office, drilled about 38 holes at the head of Burch Canyon about 1¼ miles east of the Blue Jay claims. Consultation with Messrs. Philip H. Dodd and Louis Garbrecht, Exploration Division, AEC, afforded the following information on the drilling: the drill holes were on about 100 foot centers. A total of 4,880 feet was drilled. Seventy-one percent of the holes drilled were mineralized. Thirty-three percent of the mineralized holes penetrated material of ore grade. Reserve calculations by the AEC

showed 10,000 tons of indicated and inferred ore was discovered by that drilling. The drilling was successful in discovering a "strong" channel that is trending toward the Blue Jay claims, figure 3.

Geologists of the Mineral Deposits Branch, U. S. Geological Survey, Colorado Plateau District, have been engaged in a geobotanical program in which an attempt is made to correlate anomalous amounts of uranium and other trace elements in plants and trees with the occurrence of uranium ore bodies. Cedar, Juniper, and pinon trees have been sampled along the Shinarump outcrop on the Blue Jay claims and the surrounding territory. The locations of geobotanical anomalies - trees that contained 1.0 or more parts per million uranium - are shown on figure 3.

It is readily apparent that the Blue Jay claims are located on a channel in the Shinarump conglomerate, the ore host, in a position where the Shinarump is continuous. Trends of other channels in the vicinity appear to either pass through or intersect on the Blue Jay claims. The line of geobotanical anomalies passes through the claims.

ORE DEPOSITS

There are no developed ore reserves on the Blue Jay claims. The history of production in the immediate vicinity of the claims has been poor, but much prospecting and exploration remains to be done before the uranium producing potential of the Elk Ridge area can be accurately evaluated.

The largest mine in the vicinity, the Hideout mine about $4\frac{1}{2}$ miles west of the Blue Jay claims, produced 6,582 dry tons of ore containing 0.25 percent U_3O_8, through March, 1955. The Hideout deposit is estimated by USGS geologists to contain about 10,000 tons of uranium ore. The Sandy No. 3 mine, about $1\frac{1}{2}$ miles west produced 1,969 tons of ore containing 0.17 percent U_3O_8. The Sandy mine, about a mile west, produced 1,027 tons containing 0.22 percent U_3O_8. The AEC estimates that 10,000 tons of indicated and inferred ore exist at the head of Burch Canyon $1\frac{1}{2}$ miles southeast. In Burch Canyon uranium is associated with copper minerals, and carbonaceous and petroliferous material. No uranium minerals have been identified. West of the Blue Jay claims the ore minerals are uraninite, chalcopyrite, chalcocite, bornite, and covellite. The ore minerals replace wood fragments and are disseminated in sandstone.

Ore deposits in the vicinity of the Blue Jay claims may be expected to range in size from 1,000 to 10,000 tons and consist of relatively unoxidized uranium and copper minerals that are associated with carbonaceous material or are disseminated in lower Shinarump sandstones.

PROPOSED EXPLORATION

The applicant proposes to explore the Blue Jay claims by doing 750 hours of rim stripping and road building, and drilling four rows of drill holes, six holes in each row, with the average depth of holes estimated at 300 feet, for a total of 7,200 feet of drilling. The total project cost, including assaying and geological, engineering, and supervisory, and accounting services, is estimated by the applicant to be $39,600.

It is my opinion that enough rim stripping has been completed by the applicant to reveal the presence of the channel and that no mineable ore exists in the stripped outcrop. Further rim stripping would uncover the west flank of the channel, but ore bodies would probably not be found very far up on the flank. I believe that two rows of stage I core drill holes placed 200 and 400 feet behind the rim with holes 150 feet apart within the rows will probably establish the trend of the channel and find favorable or mineralized rock that may be present within the drilling area. Hole depths would probably not be in excess of 175 feet, but 200 feet average depth might be used if a contract is prepared to avoid the possibility of a shortage of drilling footage. The first hole should be drilled 200 feet behind the small cut made by the applicant in the basal Shinarump. With that hole as a starting point, 11 more holes should be drilled in the pattern shown on figure 4.

Stage II should consist of 12 more drill holes placed between favorable stage I holes or used to explore further the channel by extending the drill hole pattern of stage I but only in the event stage I reveals the trend of the channel or discovers favorable or mineralized rock.

Drilling Summary

Hole No.	Plug-bit footage	Coring footage	Total Drilling (ft.)
		Stage I	
1	25	175 40' ea.	200
	(160' ea.)	(~~48'~~ ea.)	(200' ea.)
2-12, incl.	1760	440	2200
	Total stage I drilling - - -		2400
		Stage II	
13-24, incl.	(160' ea.	(40' ea)	
	1920	480	2400
	Total project footage - - -		4800

Collar elevations of all drill holes should be accurately determined by the operator so that relief within the channel may be accurately determined.

The first drill hole should be cored in its entirety below overburden for geologic information and to establish geologic control for succeeding holes. Succeeding holes may be cored only through the Shinarump conglomerate. All holes should be bottomed in the red mudstone and shale immediately beneath the Shinarump.

Provision should be made in the contract for the cost of about ten assays for U_3O_8 in each stage. Provision should also be made for the preparation of drill sites and roads, surveying, supervision, and geological-engineering service.

The applicant stated that he has a Babbel gamma-ray detection instrument with which to probe the holes. The Babbel probe would be adequate for the project. The holes will be check-logged with USGS "Barnaby" equipment.

CONCLUSIONS AND RECOMMENDATIONS

The Blue Jay claims appear favorable for the occurrence of uranium ore deposits for the following reasons: 1) Favorable structure in the form of a channel in the Triassic Shinarump formation has been uncovered by rim-stripping by the applicant, 2) the property lies along a trend formed by known ore deposits, 3) the property is located near the center of the belt of continuous Shinarump conglomerate which assures the presence of a thick, continuous ore host rock, 4) the property lies along a trend formed by known geobotanical anomalies, 5) the outcrop of the channel gives high scintillometer readings (several times above background) in accumulations of carbonaceous material and green and gray mudstones which are favorable for ore deposits.

The chances of finding a significant ore deposit on the property appear to be good. I recommend that a DMEA contract be approved to provide for exploration work in the manner outlined above. The application was reviewed and discussed with Mr. Philip H. Dodd and Mr. Louis Garbrecht, geologists, Exploration Division, U. S. Atomic Energy Commission, Grand Junction Operations Office. They concur with my recommendation for approval. The above exploration program was reviewed with the applicant, and he concurs with the program.

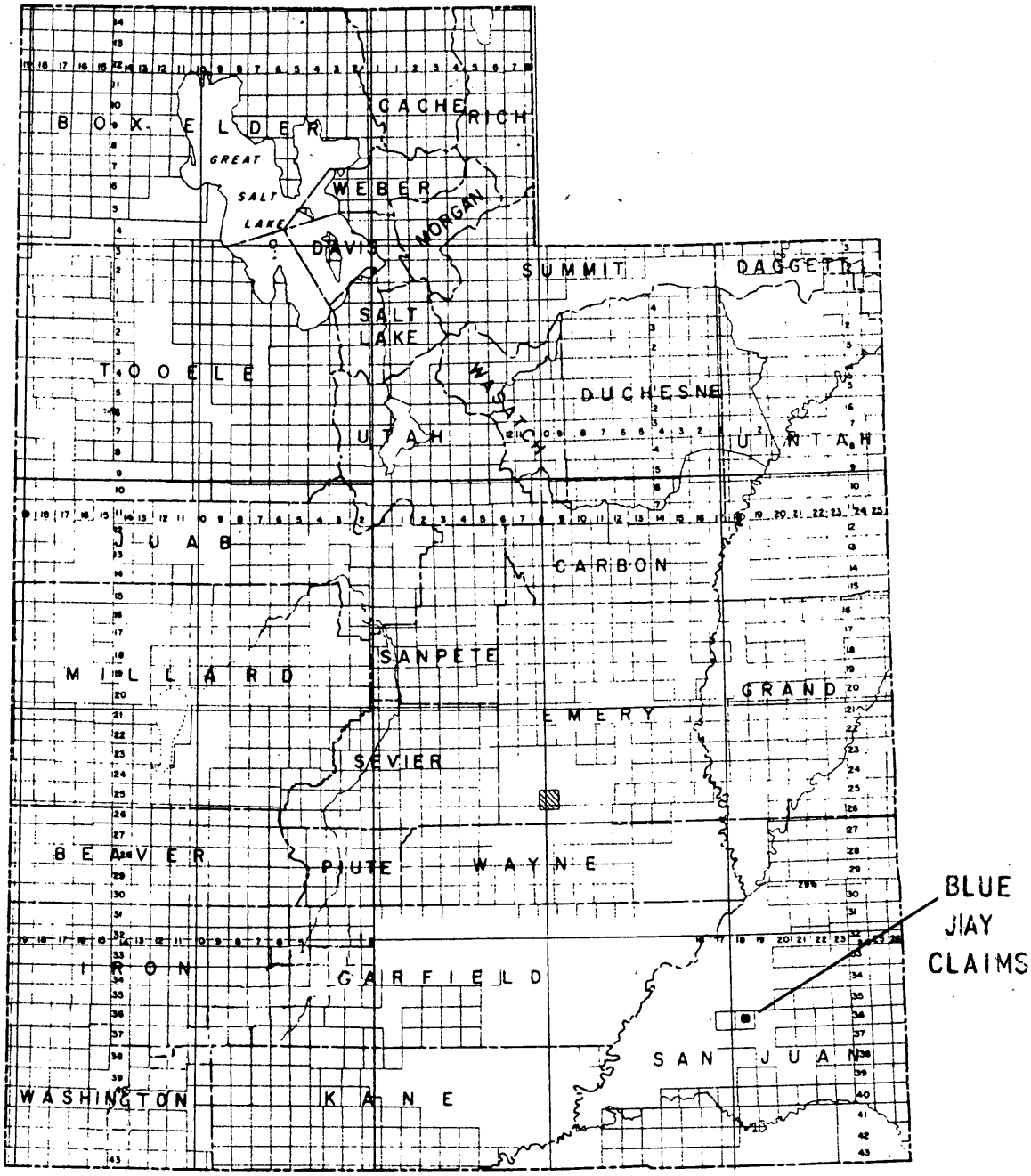


Figure 1. INDEX MAP OF UTAH SHOWING LOCATION OF BLUE JAY CLAIMS, BEARS EARS URANIUM COMPANY, SAN JUAN COUNTY, UTAH

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

DEFENSE MINERALS EXPLORATION ADMINISTRATION
DOCKET NO. 3772

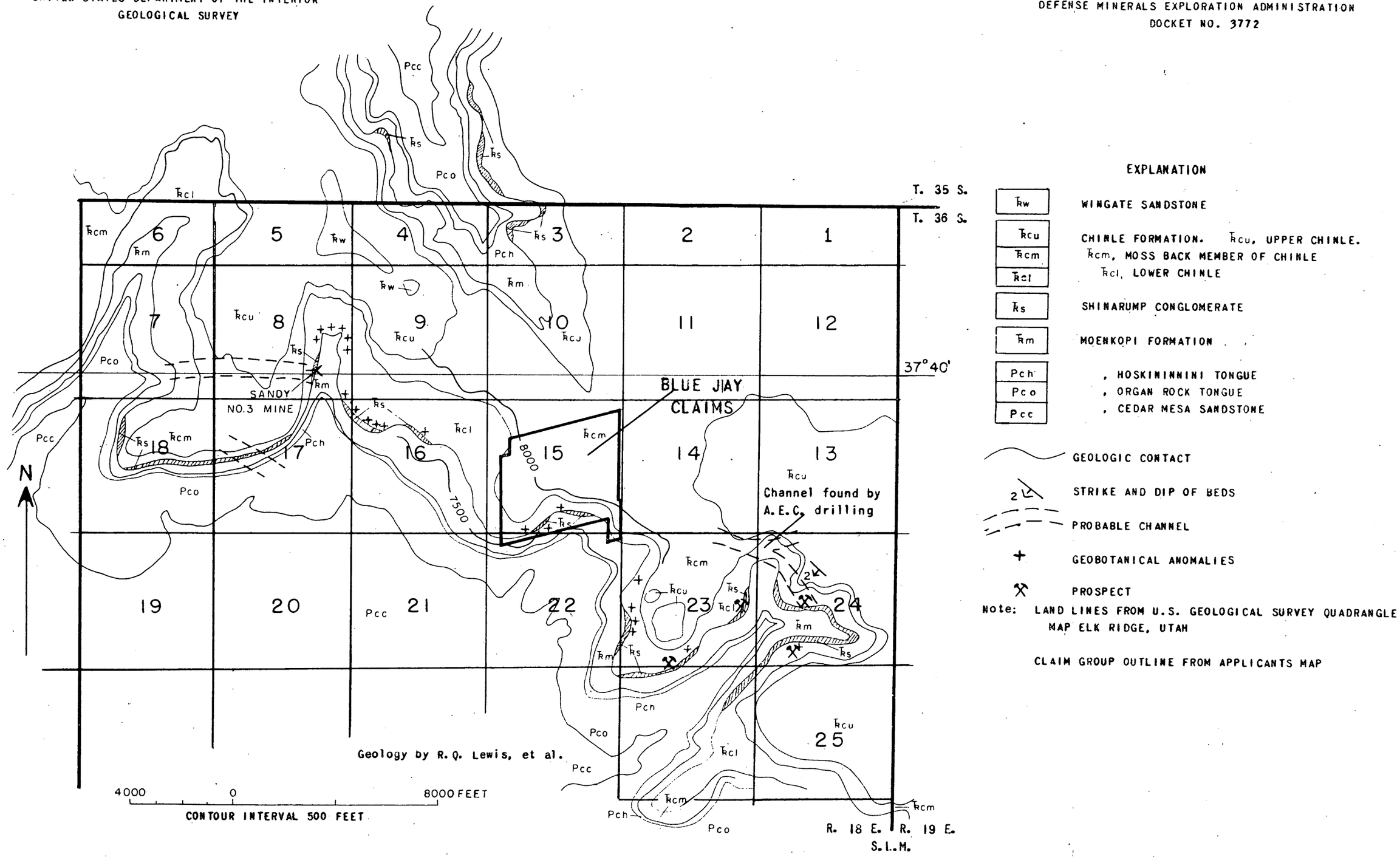
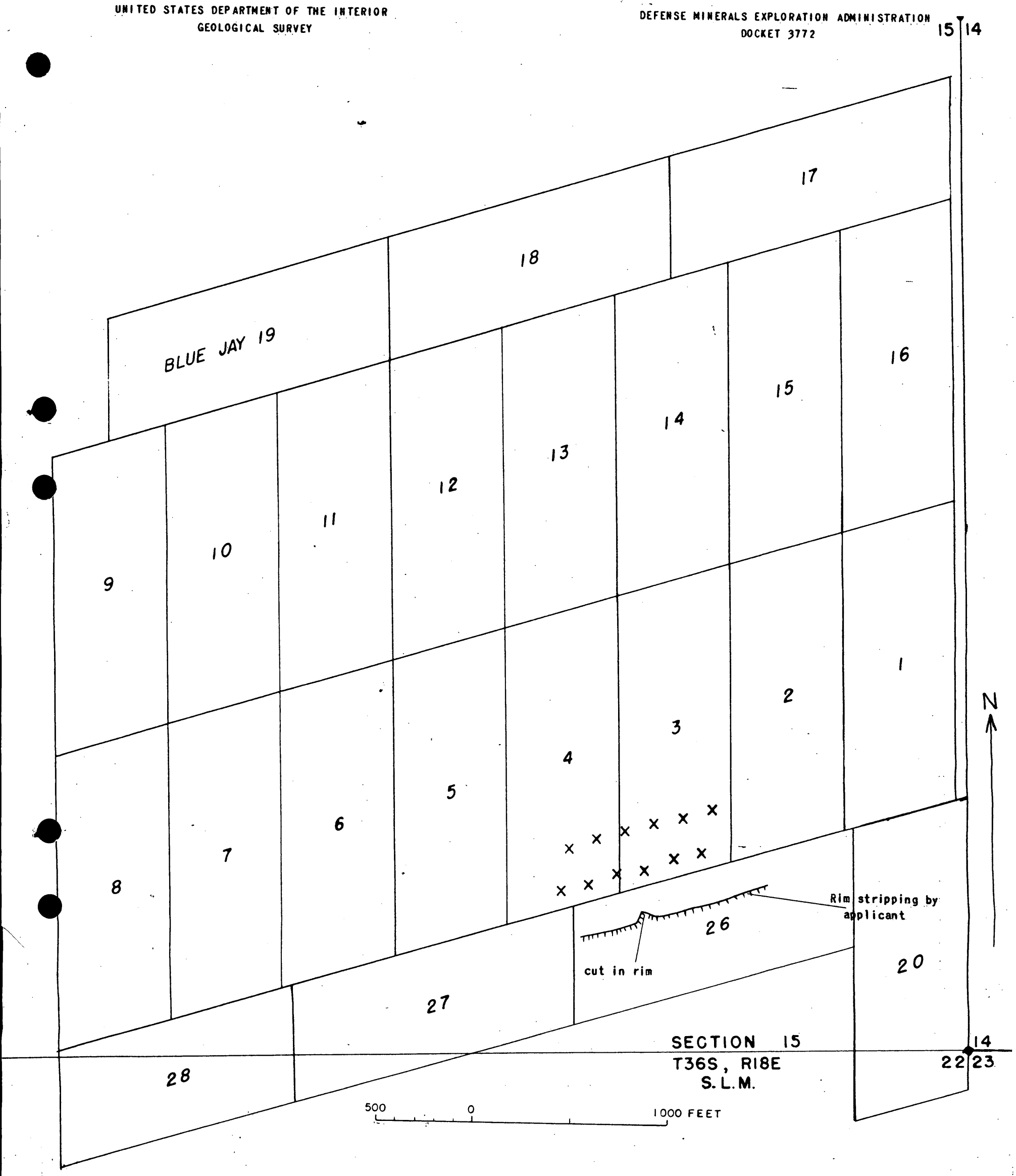


Figure 3. GEOLOGIC MAP SHOWING LOCATION OF BLUE JAY CLAIMS, BEARS EARS URANIUM COMPANY, ELK RIDGE AREA, SAN JUAN COUNTY, UTAH

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

DEFENSE MINERALS EXPLORATION ADMINISTRATION
DOCKET 3772



EXPLANATION

X LOCATION OF PROPOSED STAGE I DRILL HOLE

Note: CLAIM BOUNDARIES FROM MAP BY APPLICANT

Figure 4. CLAIM MAP OF BLUE JAY CLAIMS, SHOWING LOCATION OF PROPOSED STAGE I DRILL HOLES, BEARS EARS URANIUM COMPANY, SAN JUAN COUNTY, UTAH

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

DEFENSE MINERALS EXPLORATION ADMINISTRATION
DOCKET 3772

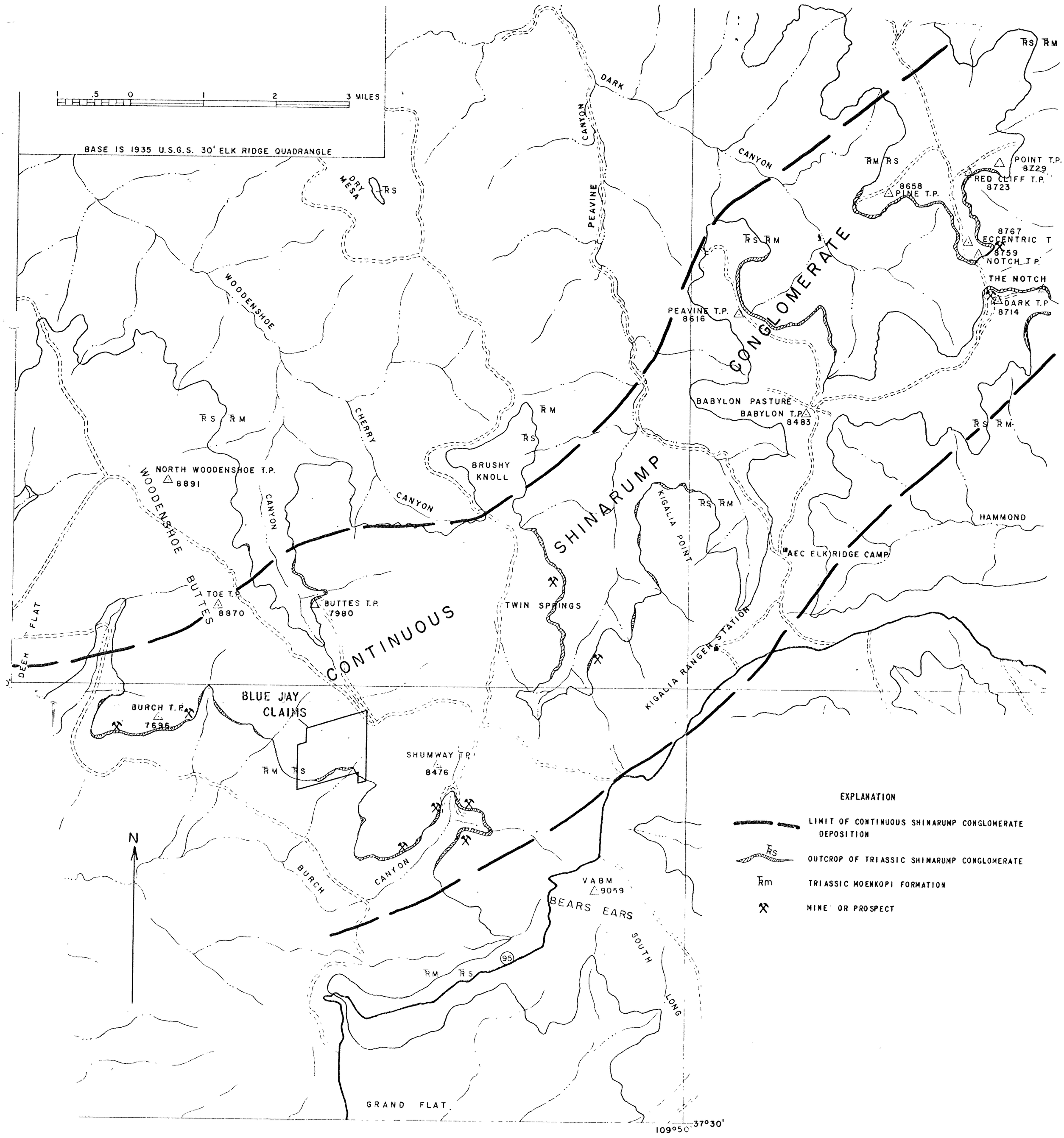


Figure 2. MAP OF SOUTHWESTERN ELK RIDGE SHOWING LIMITS OF CONTINUOUS SHINARUMP CONGLOMERATE, BEARS EARS URANIUM COMPANY, ELK RIDGE QUADRANGLE, SAN JUAN COUNTY, UTAH