DMEA Form 9
(Rev. 5/57)

UNITED STATES
DEPARTMENT OF THE INTERIOR
Defense Minerals Exploration Administration

OFFICIAL DOCKET FILE | Idm-E No.____ | DMEA NO. 4744

Application (Denied ✓
(Withdrawn
(After disposition, delete items not applicable)

Contract (Terminated - not Certified
(Cancelled
(Terminated - Certified
(Royalty Agreement

The records contained in this file are marked (x) and arranged in this order:

Folder No. 1:

Left Side

Royalty Audits 1/
Certification of Discovery
Cost Audits 2/
Termination Notice or Agreement
Recision Notice
Assignment of Contract
Contract Amendments
Contract with all exhibits and annexes
Owner's Consent to Lien
Subordination Agreement
✓ Application and attachments
Envelope for maps

Right Side

✓ Project summary
Work completed analysis
All other material filed in chronological order including the following reports if checked:

Field Team Semi-Annual Report for Certified Project
Final Field Team Report (Tab)
Operator's Final Report (Tab)
Interim Field Team Reports
Operator's monthly reports and all attachments
✓ On-site Exam Report (Tab)
Settlement Sheets
Drill Logs

Additional Folders:

Left Side

Folder No.____:
Analysis of Semi-Annual Inspection Reports
Interim Summary Reports by DMEA Engineers

Right Side

Field Team Semi-Annual Report for Certified Project
Field Team Interim Reports
Operator's Monthly Report with transmittal, narrative, maps.

Folder No.____: Maps (Use pocket folder or envelope.)

Folder No.____: Settlement Sheets

Folder No.____: Drill Logs

Folder No.____: Royalty material

1/ Or reports of royalty review
2/ Or cost reports of review

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CARRIGAN MINES, INCORPORATED
1627 East 14th Street
San Leandro, California

(Areas attached hereunder)

December 31, 1957

Ernest Wm. Ellis, Director
Division of Rare and Miscellaneous Metals
D.M.E.A.
United States Department of the Interior
Washington 25, D.C.

Re: Docket No. D.M.E.A.-4744 (Uranium)
Autunite Mining Claim Group
Carrigan Mines, Incorporated
Tuolumne County, California

Dear Mr. Ellis:

The following and attached information is supplemental information for our application of May 1957. The program has been amended in line with information obtained since application for aid in May, 1957. Information submitted is in accordance with your requests and suggestions of May 15 and December 3, 1957.

Some of the attached information is a duplication of information supplied in the No. 4744 application but information supplied herewith is more complete and current.

The main information you requested is supplied in the new report by Francis H. Frederick, mining geologist. Mr. Frederick visited our drilling operations in July, and due to other trips, has just completed his report interpreting the data to date and giving his recommendations for the next stages of exploration.

The property is now covered with snow and we hope to have access to the property by some time in June. We will be in touch with the D.M.E.A. field offices at Reno and Menlo Park and advise them of the possible dates of accessibility when the roads start to open in that area.

Sincerely yours,

CARRIGAN MINES, INCORPORATED

By Marvin D. Carrigan
President

CARRIGAN MINES, INCORPORATED
1627 East 14th Street
San Leandro, California

Form MF-103 - Supplemental Data re No. DMEA-4744

Estimated Cost of Project: $51,470. Exploring for Uranium.
California Corporation

Corporate Officers: Marvin Dee Carrigan, President and Director
Eugene B. Swanson, Vice President and Director
John A. Buhl, 2nd Vice President and Director
Peter Bissett, Secretary and Director
James W. Farnan, Treasurer and Director
Daniel S. Johnson, Director
John J. Cracchiolo, Director

Address for all the above listed Corporate Officers is 1627 East 14th Street, San Leandro, California.

1. Applicant's Property Rights:
   (a) Unpatented mining claims held by location rights as placer mining claims in Sections 4, 5, 8, 9 in Township 5 North, Range 19 East, Tuolumne County, California. Nine claims held 160 acres each, named Autunite Claim No. 1 through No. 9; total acreage held is 1440 acres. Book and page numbers shown on first page of Mining Lease herewith.

   (b) Autunite Mine, Autunite Claims, Carrigan Mine.

   (c) Applicant holds property under mining lease from the owners. Two copies of mining lease herewith. Date of revised lease is October 21, 1957. Original lease is the same as to lessor and lessee; new lease extends duration of lease period. Address of one owner and owners' agent is Eugene B. Swanson, 27104 Underwood Avenue, Hayward, California. Other owners are: E. M. Tharp and Norman Boles, Box 328, Porterville, California.

   (d) No liens or encumbrances on the property.

2. Physical Description:
   (a) Exploration work conducted at the property is limited to work done by the owners as discovery and assessment work, and by the lessor. Total work done to date is open cuts, pits, shallow shafts, and vertical rotary drill holes for recovery of cuttings and for hole probing. Dozer cuts were made in 1955 and 1956, and drilling was done in 1957. A total of 572 feet was drilled in 4 holes in July 1957 as preliminary tests to attempt to determine the depth of holes needed for a comprehensive program, and the most economical type of drilling for efficient drilling and recovery of information. All holes indicated at least very

low grade uranium content at certain horizons. Probing in the 4th hole (long hole #23) indicated uranium content of 0.12% uranium oxide at 107 feet depth. The section from 107 to 110 feet depth indicates an average content of 0.08% uranium oxide at a horizon just below the elevation of the valley floor. Open cut work shows mineralization associated with carbon content at horizons above the elevation of the valley floor. Open cut and small pit work in 1955 exposed spots of ore; open cut work by dozer exposed additional spots of ore all above the level of the valley where leaching and consequent reduction of uranium content is effective. Drilling has shown existence of uranium in ore grade concentrations below the lowest surface exposed in the area. The adjoining property of Mr. Judd has been drilled and shows 0.10 to 0.30% uranium oxide content in layers or beds at 20 to 60 feet below the surface in volcanic sands and sediments. Drilling and ore discovery has also been done on the properties of Mr. Volks about 5 miles east from the Autunite and Judd properties. Shipments were made from the Volk property to Vitro Chemical in 1956.

The main work done to date on subject property has been in Section 4 and in the north half of Section 9, close to Niagara Creek, on both sides of the canyon. The section survey data on the topographic map (Dardenelles Quadrangle of 1896) is not correct with respect to the roads and topography. The property lies in the sections described in 1(a) above and the main work has been done at an area on the Eagle Meadow road at 2.5 miles southeasterly by road from State Highway No. 108.

(b) Applicant conducted the work at the property in 1957.

(c) No production.

(d) No measurable reserves.

(e) See report by Francis H. Frederick, herewith. Bedded deposit.

(f) See report by Francis H. Frederick, herewith. Core drilling needed for proper assaying.

(g) See report by Francis H. Frederick, herewith.

3. Accessibility of Project:
   (a) See application filed May, 1957. Excellent roads. Property is inaccessible during the heavy part of the winter, and is expected to become open for inspection some time in June, 1958. The turn off to the property is at a point on the old paved highway at about 1 mile west of Niagara Creek and the State Highway maintenance station. Turn off is at 13.5 miles east of Carter's Strawberry Lodge on Highway #108. DMEA representatives can be met by Francis H. Frederick, mining geologist, 1209 DeYoung Building, 690 Market Street, San Francisco 4, California or by Mr. Eugene B. Swanson, Vice President, Carrigan Mines, Inc., 27104 Underwood Avenue, Hayward, California.

   (b) See application of May, 1957. A new cabin, recently built by Carrigan Mines, Inc., at the property is suitable to house up to 10 people during examination, exploration, or operation. DMEA representatives can use the housing and cooking facilities at the cabin. Nearest important town is Sonora, about 44 miles from the property.

4. Exploration Project
   (a) The proposed exploration project is described in the accompanying report by Francis H. Frederick and is shown in part on the attached map.

   The first main stage is a drilling program of vertical rotary drill holes totaling up to 9,000 feet of drilling in 40 holes ranging from 125 feet to 450 feet depth. All holes are not shown on the map because some holes will be drilled close to any holes that find ore as described in the Frederick report.

   (b) Roads to drill sites must be built from the access roads on the property. Total lineal length of roads to be built to the drill sites is approximately 15,000 feet plus some leveling at the drill sites. All the work can be done by a tractor-dozer assisted in a few places by jackhammer drilling and blasting.

   (c) Work can start within 2 weeks of DMEA contract date and be completed in 3 months. Drill roads can be started within a week of contract date and drilling commence upon completion of the first short drill roads. Some drill roads are completed now. Road building may take 60 days including some drilling and blasting. Drilling time for a total of 9,000 feet in 40 holes may take 70 to 80 days working time on a one-shift basis including moving and preparation time.

5. Experience:

Road building will be done by a competent contractor on an hourly pay basis for tractor-dozer with operator. Drilling will be done by a drill contractor on a unit basis--payment being for footage of hole open for probing and footage core drilled. The program will be guided and generally supervised by Francis H. Frederick, mining geologist with considerable experience in mining and geologic work, in uranium mining and drilling, and other mining work. Mr. Frederick will work closely with the drillers and the company superintendent. Mr. E. B. Swanson will represent Carrigan Mines, Inc. in residence on the job and will work with the advice of Mr. Frederick.

6. Estimate of Costs:

(a) Independent Contracts: Rotary drilling will be done on contract for $3.50 per foot of hole open for probing--holes will be 4-1/4 inch diameter unless casing is necessary. Casing will be at cost of casing--at the rate of $10.00 per hour on casing work. Core drilling--Nx or Bx Core--will be at the rate of $6.50 per foot. Equipment for drilling will be a Failing #750 drill now available and contracted for the job. Experience in company drilling has shown that rotary drilling with hard cone type bits is satisfactory and that in most holes wet drilling and collar casing will be necessary.

Total for roads	$ 7,500
Estimated total for drilling	32,100

(b) Personal services: Supervision: $600 per month for 3 months — 1,800

Geological and engineering services: On the job and for company final report at completion of DMEA project--fee and expenses for consultant for service during the project and final report — 4,000

(c) Operating materials and supplies: Most equipment and supplies will be supplied by contractors paid on unit basis. Cans and sacks for samples, small tools, fuel supply for superintendent's vehicle on the job. — 120

(d) Operating equipment: None; contractors will furnish.

(e) Initial rehabilitation and repairs: None; new cabin suitable to sleep 8 or 10 workers and field men is complete and available for use on property.

(f) New buildings, fixtures, installations: None needed.

(g) Miscellaneous:

Assaying:	50 assays at $10 each	500
Accounting:	For 3 month period	450
Contingencies including possible casing of some holes		5,000

(Total) Estimated total cost of project: $51,470

7. (a) Carrigan Mines, Incorporated will pay its share of the proposed project.

   (b) Carrigan Mines, Incorporated will furnish its share of the costs by providing money.

CERTIFICATION

The undersigned, whether as an individual, corporate officer, partner, or otherwise, both in his own behalf and acting for the applicant, certifies that the information set forth in this form and accompanying papers is correct and complete, to the best of his knowledge and belief.

Dec. 31 1957
Dated

CARRIGAN MINES, INCORPORATED

By Marvin D. Carrigan
President

FRANCIS H. FREDERICK
MINING GEOLOGIST

1209 DE YOUNG BLDG.
690 MARKET STREET
SAN FRANCISCO 4, CALIFORNIA
PHONE SUTTER 1-1562
SUTTER 1-7982

RESIDENCE:
2715 STUART STREET
BERKELEY 5, CALIFORNIA
PHONE ASHBERRY 3-7651

December 30, 1957

Carrigan Mines, Incorporated
1627 East 14th Street
San Leandro, California

Re: Autunite Claims Group
Tuolumne County, California

Gentlemen:

This letter report is supplemental to my preliminary report of April 1, 1957, and summarizes the data available to date regarding the uranium mineralization and possibilities at the Autunite claims in Tuolumne County, California.

In July I visited the property during the test drilling work with the truck mounted rotary Porta-drill. The driller was not fully prepared with collar casing and other casing, nor was he prepared for wet drilling which turned out to be necessary for deep hole drilling. As a result of the test drilling it was concluded that the rotary type drilling with standard and extra hard cone bits would be a satisfactory way to drill the property. The 4-1/4 inch diameter holes were satisfactory. Core drilling can be done using the same equipment but using an NX core barrel and an NX coring bit to get good core results for the sections of the hole that should be cored in the ore horizons for assay purposes.

The recommendations in this report are based on drilling vertical rotary drill holes for probing information, with coring in special sections of some of the holes as determined by the probing data. It is proposed that the drilling be done with a truck mounted rotary drill, drilling to be dry when possible and wet drilling be resorted to when necessary.

A sketch geologic-topographic map of the property has been prepared by means of stereo study of air photos. The photo-geology expressed on the map shows the surface contact between the granitic rim rocks and the Tertiary volcanic rocks and sediments in the filled Tertiary basin or trough. The Tertiary sediments are the ore host rocks in the area. The topography shown on the sketch map is quite crude, having been made by stereo examination of the airphotos without accurate controls. The map must be regarded as strictly a sketch map to give the general expression of the terrain rather than true

elevations. The map is quite satisfactory for laying out the drill program with the understanding that the collar elevations of the holes shown on the map maybe as much as 50 to 100 feet off in elevation. The scale of the map is approximately 315 feet to 1 inch. The map shows the main access roads to the property as well as the drill roads that have been constructed to date. More drill roads will have to be constructed to the various proposed drill holes but most of the work can be readily done by dozer work and it is anticipated that the drill roads and preparation of drill sites will cost less than $8,000 for the entire project. It is not possible to make an accurate guess at this time as to the cost of the drill roads because some drilling and blasting in road preparation will be necessary and it has not been determined to what extent that will have to be done.

The 4 holes drilled in 1957 are shown on the map, holes No. 11, 12, 22, and 23. Those holes varied from 122 feet to 165 feet in depth. Hole No. 23 discovered ore at a depth of 107 feet or at an elevation of approximately 6955 feet, approximately at the elevation of the floor of Niagara Creek in that area. The places of ore discovery or known uranium occurrence have been indicated on the map by red marks.

The photo-geology study indicates that there is a possible drainage axis trending about south 80 degrees west through the property for a distance of about two miles. The lowest elevation on the property showing the Tertiary sediments is at about 6,750 feet at the extreme southwest corner of the map. About 1 mile west of the west boundary of the property the low spot of the Tertiary drainage system appears to be at an elevation of about 6,400 feet at the bottom of the indicated channel. The elevation of the floor of the valley where Niagara Creek cuts through the sediments in the area partially explored for uranium on the property is at an elevation 6,950 feet. Uranium has been disclosed in Tertiary sediments on the Judd property about 1.5 miles east of the east boundary of the Autunite Claims group and at a higher elevation. The ore disclosures there are approximately on the general "channel" trend as indicated by the photo-geology.

The host rocks, the volcanic rocks and Tertiary sediments, in the Tertiary basin or trough in the granitic surroundings are 1,200 feet wide at Niagara Creek at the narrowest exposure on the property. The extent of the Tertiary rocks at the surface is much greater at the east and west ends of the property; at the west end the entire north-south boundary of the property--a distance of more than a mile--is Tertiary sediments and volcanics. At the east end of the property the total width of Tertiary rocks exposed at the surface is about 4,000 feet. The actual depth from the surface to the basement granitic rocks in the center of the channel is not accurately known throughout the property but it is reasonable to assume that the lowest elevation of Tertiary sediments at the Niagara Creek explored area is

close to 6,750 to 6,800 feet elevation--about 150 to 200 feet below the valley floor. The low point known at 2-1/2 miles west is about 6,400 feet elevation. It is thought that drilling may need only extend to the depth of the favorable carbon and sand beds at a higher horizon than the very bottom of the Tertiary rocks. The Tertiary rocks have been identified as Miocene age.

The ore discovered to date on the property, and in the adjoining properties at both the Judd and the Volks properties, has been found in sandy members of the Tertiary sediments that resemble the Morrison sandstones of the Colorado Plateau in physical chacteristics--just as the uranium productive Tertiary sandstones in Wyoming somewhat resemble the Morrison and older uranium bearing sandstones of the Colorado Plateau. All of the ore discovered has been associated with carbon material, dispersed and scattered throughout the sandstones. In the south part of Section 4 in the Carrigan properties the favorable sandstone horizon appears to be at an elevation close to the floor of the valley of Niagara Creek. With respect to the elevations shown on the map that zone or horizon would be from elevation 6,920 to 6,970 feet. The larger fragments of carbonized material in the open cut in the south center of Section 4 close to the quarter corner is at elevation 6,970, the low grade material in the sand member along Niagara Creek about 1,000 feet down creek and north of the above-described occurrence is at elevation 6,930 to 6,945. The ore discovery in hole No. 23 at 107 to 110 feet depth is at an elevation of approximately 6,955 feet. The elevation of the ore in the sandstone at the Judd property about 1 mile east of these described occurrences is at a higher elevation and would be "upstream" in the present sandstone drainage system or channels.

Some of the sedimentary basin area of the property is capped by lavas and it may be somewhat costly to drill through the lavas and continue on into the softer sedimentary members to get the necessary information so the main drill program is based on drilling as close to the favorable members as possible but giving consideration to the possible need of deep cover to minimize leaching of the ore minerals, and to gain possible secondary enrichment in the carbon bearing beds.

The pattern of drilling laid out on the map is not to be considered as specific with respect to actual location of each hole, because as the drilling progresses information from one hole will control the position and depth drilled in the subsequent holes. The pattern is laid out to show the general plan of exploration to discover the benches that may be ore bearing, as well as main channels that may be ore bearing. The depth to which the holes will be drilled will be controlled by information received in the first several holes. It is planned that a few of the first holes be drilled in the Niagara Creek

basin or valley and go to the granitic floor in order to determine the sequence of rocks below the elevation of the valley floor and to determine the possible merit of further deep drilling. If no favorable appearing sand members are discovered in those first several holes then the subsequent holes starting at higher elevations will be drilled to the depths where favorable sand members are known to exist such as at the approximate elevation of the valley floor in that area. Some of the holes are planned rather close to the granite contact at the surface in order to determine the shape of the Tertiary canyon walls and to attempt to locate possible favorable high sand benches.

Because the ore mineralization is known to be largely autunite it is believed that considerable leaching of ore has taken place. Also because there is considerable carbon in some of the sand beds it is believed that there are substantial channels, remnant beaches, or sand beds that are capable of being good host rocks for uranium deposition--either secondary or primary. The planned drilling should find continuations of the carbon bearing sandstone beds already disclosed by the open cut work and drilling. Work done to date has been in areas where leaching or "robbing" of the uranium has been effective. The planned drilling should find enriched beds and beds that have not been made low grade by the leaching that is evident in Niagara Creek canyon where present water drainage and leaching is at work.

The total program will include 40 holes or more with an estimated total footage of 9,000 feet. The total number of holes displayed on the sketch map is 33. Some of the holes may only be 100 to 150 feet in depth, some of the holes may be as much as 450 or 500 feet in depth, depending on information obtained as the drilling progresses. It is thought that some of the holes shown on the map may not be drilled at all, decision depending on information obtained during the program; it is also planned that a number of holes be drilled close to and around any hole that discovers a substantial ore occurrence. It is also planned that the first holes be drilled for probing only and if favorable indications are found by probing then some of the off-set or nearby holes will be core drilled at the horizons indicated favorable by the probing. The cost of the project can be kept down considerably by using probe holes only for the initial exploration, with core drilling to follow with coring only in sections of the holes that are indicated to be ore bearing by the other information. The cuttings will be saved from the holes for radiometric and chemical determinations, and for comparison with core drilling in the areas containing ore. The project is based on 8,800 feet of rotary drill holes in 40 holes, plus 200 feet of core drilling in 5 to 15 foot sections in selected sections of some of the 40 holes. Coring will only be done when probing in nearby holes indicates strongly that ore can be cored at specific depths in the new holes.

The non-core drilling will be done by tri-cone rotary bits, and experience has shown that bit costs will be high because of certain conglomerate beds. Costs will be considerably lower as compared with core drilling. Core drilling will be done with standard diamond bit coring equipment attached to the truck mounted Failing 750 drill planned for the project.

Drill roads should be built by a tractor-dozer that will have to be available almost daily due to frequent moves of the drilling rig and need of leveling off at the drill sites as they are selected. Selection of each drill site will be based on the data from all drilling to that time including the hole just previously drilled. Probably the simplest contract system for the road work would be to pay for the drill roads on a lineal foot basis. An estimated 15,000 feet of road work will be required, plus leveling at about 40 drill sites. Leveling may cost $50 per site on the average, or a total of $2,000. Road work will involve some drilling and blasting and the average cost of roads may be $30 per hundred feet; 15,000 feet for $4,500. Standby cost and moving costs on the road building equipment will cost about $1,000. Total costs of roads, leveling at drill sites, and moving in and out would then total $7,500.

Drilling costs on the DMEA project should be on a unit basis, as if on a contract, whether drilled with company equipment or on an outside contract. The contract estimates of $3.50 per foot for a 4-1/4 inch hole for probing, drilled by a truck mounted wet drilling rig is a fair price. Core drilling with the same rig giving an Nx or Bx core for $6.50 per foot is also reasonable. Holes that need to be kept open for probing may have to be cased. Drilling experience at the property indicates that in many holes no casing, except collar casing, will be necessary. Casing cost will run about $10 per hour for drilling time, plus cost of casing pipe. I estimate that possibly 20 holes will be core drilled at possible ore horizons for 10 feet each hole. At $6.50 per foot for 200 feet the total cost of core drilling for the project will be $1,300. Assays of drill cores will serve to calibrate the hole probing results by chemical assaying. Assay costs for uranium at Abbot Hank's laboratory in San Francisco is $10 per assay. Approximately 50 samples will be submitted for assay. Other assay offices may be used if the work is accurate and the cost is less.

The project should be completed in 3 months or less after work starts. Work should start in July, if possible, in order to take advantage of the good weather. Work can continue into late October or possibly November, but it would be wise to try to complete the exploratory drilling by November 1.

Costs of supervision, accounting, administration, geology, engineering, and preparation of final engineering report are based on a 3 month project. Cost figures are shown in the following Summary Table of Estimated Costs.

SUMMARY OF ESTIMATED COSTS

Roads to drill sites	$4,500
Leveling at drill sites	2,000
Moving in and out and standby costs on dozer	1,000
Rotary Drilling: 8,800 ft. at $3.50 per ft.	30,800
Core drilling at $6.50 per ft. Nx or Bx core	1,300
Assaying at $10 per sample	500
Accounting	450
Sample sacks and cans, small tools, gasoline for superintendent	120
Supervision at $600 per month	1,800
Geological and Engineering, consultant and administration	4,000
Contingencies, including possible casing of holes	5,000
Total	$51,470

There will undoubtedly be other costs that are not covered in the outlined program, so the Company should be aware and prepared for expenditures that may not be included in a DMEA contract or in the above estimates.

Respectfully submitted,

Francis H. Frederick

FHF:ea

DMEA-4744
Carrigan Mines, Incorporated
1627 East 14th Street
San Leandro, California

MINING LEASE

THIS INDENTURE MADE THIS Twenty FIRST DAY OF ~~AUGUST~~ October, 1957, BETWEEN E.M. THARP, M.A. THARP, M. L. THARP, NORMAN BOLES, NORMAN ROGER BOLES, JANET L. BOLES, EUGENE B. SWANSON, HELEN V. SWANSON, AND DWIGHT F. SWANSON; HEREINAFTER REFERRED TO AS LESSORS, AND THE ~~AUTUNITE~~ CARRIGAN MINES INCORPORATED, HEREINAFTER REFERRED TO AS THE LESSEE, WITNESSETH:

1. THAT THE LESSORS, FOR AND IN CONSIDERATION OF THE COVENANTS, AND AGREEMENTS HEREINAFTER EXPRESSED TO BE KEPT AND PERFORMED BY THE LESSEE, HAVE LEASED, LET AND DEMISED, AND BY THESE PRESENTS DO LEASE, LET AND DEMISE UNTO THE LESSEE, THE FOLLOWING DESCRIBED PREMISES, KNOWN AS THE AUTUNITE URANIUM PLACER MINING CLAIM'S, SITUATED, LYING AND BEING IN THE SUMMIT MINING DIST. IN THE COUNTY OF TUOLUMNE, STATE OF CALIFORNIA, TO-WIT:

THE AUTUNITE URANIUM MINING CLAIMS (160 ACRES EACH)
RECORDED AS FOLLOWS:

AUTUNITE CLAIM NO.	1	RECORDED IN VOLUMNE	14	PAGE	398
AUTUNITE CLAIM NO.	2	RECORDED IN VOLUMNE	14	PAGE	467
AUTUNITE CLAIM NO.	3	RECORDED IN VOLUMNE	14	PAGE	466
AUTUNITE CLAIM NO.	4	RECORDED IN VOLUMNE	14	PAGE	466
AUTUNITE CLAIM NO.	5	RECORDED IN VOLUMNE	14	PAGE	468
AUTUNITE CLAIM NO.	6	RECORDED IN VOLUMNE	14	PAGE	469
AUTUNITE CLAIM NO.	7	RECORDED IN VOLUMNE	14	PAGE	470
AUTUNITE CLAIM NO.	8	RECORDED IN VOLUMNE	14	PAGE	470
AUTUNITE CLAIM NO.	9	RECORDED IN VOLUMNE	14	PAGE	476

ALL CLAIMS LOCATED IN TOWNSHIP 5, NORTH: RANGE 19, EAST: WITHIN SECTIONS 4,5,8,9; M.D.B.M. ON AND ALONG BOTH SIDES OF NIAGARA CREEK, AND EAGLE MEADOW ROAD.

2. TO HAVE AND TO HOLD THE SAME, FOR THE PURPOSE OF MINING, WITH FULL POWER TO ASSIGN THIS LEASE OR ANY INTEREST THEREUNDER, OR TO SUBLET THE WHOLE OR AND PART OF THE PREMISES, SUBJECT TO THE CONDITIONS HEREINAFTER EXPRESSED, FOR THE TERM OF TWENTY (20) YEARS FROM THE DATE HEREOF. AND THE LESSEE, FOR AND IN CONSIDERATION OF THE LEASING OF THE PREMISES, HAS COVENANTED AND AGREED, AND BY THESE PRESENTS DOES COVENANT AND AGREE WITH LESSORS TO ENTER UPON SAID PREMISES, AND AT HIS OWN EXPENSE, TO WORK THE SAME MINE FASHION ACCORDING TO THE PREVAILING RULES OF GOOD AND ECONOMICAL MINING. LESSEE AGREES THAT HE WILL CAUSE A DRIFT OF AT LEAST (50) FEET IN LENGTH, OR THAT HE WILL CAUSE TO BE SUNK A SHAFT OF AT LEAST TWENTY-FIVE (25) FEET IN DEPTH, OR THE EQUIVALENT THEREOF IN LABOR AND EXPLORATION EXPENDED, TO BE MADE, SUNK OR DONE ON SAID PREMISES PRIOR TO THE FIRST DAY OF NOVEMBER, OF EACH AND EVERY SUCCEEDING YEAR HEREAFTER. LESSEE FURTHER AGREES THAT LESSORS SHALL HAVE THE SOLE AND EXCLUSIVE RIGHT TO DECLARE THIS LEASE NULL AND VOID IN THE EVENT LESSEE FAILS TO DO; OR FAILS TO CAUSE TO BE DONE, THE MEASURE AND AMOUNT OF MINING WORK AFORESAID.

3. LESSORS AND LESSEE AGREE THAT THIS LEASE INCLUDES MINERAL RIGHTS TO THE PREMISES ONLY. LESSEE AGREES TO PAY LESSORS A TEN PERCENT (10%) GROSS ROYALTY ON ALL MONIES OR OTHER CONSIDERATION RECEIVED BY LESSEE, OR HIS ASSIGNS, FROM THE SALE OF ORE OR MINERALS OR MATERIALS TAKEN BY LESSEE, OR HIS ASSIGNS, FROM THE SALE OF SAME. THE ROYALTY PAYMENTS SHALL BE MADE TO LESSORS FROM THE MILL, OR ORE BUYING STATION.

4. LESSEE AGREES THAT IN CASE ANY LODES, LEDGES, OR OTHER KINDS OF DEPOSITS OF PRECIOUS METAL OR MATERIALS ARE DISCOVERED ON THE PROPERTY WHILE WORKING UNDER THIS LEASE, NOT TO LOCATE OR RECORD THEM EXCEPT IN THE NAME OF LESSORS: AND LESSEE IS HEREBY GIVEN THE POWER TO LOCATE AND RECORD THEM, PROVIDED THEY ARE NOT ALREADY COVERED BY LESSORS' LOCATION OR RIGHTS: TO KEEP AT ALL TIMES THE SHAFTS, DRIFTS, TUNNELS AND OTHER PASSAGES AND WORKINGS OF THE SAID PREMISES CLEAR OF LOOSE ROCK AND RUBBISH, TO MAINTAIN LOGS OF DRILL HOLES AND SAMPLES OF, OR ASSAYS REPORTS OF SAME, AND KEEP DRILL HOLES PLUGGED TO PERMIT INSPECTION OF SAME BY LESSORS AT ALL TIMES.

5. LESSEE FURTHER AGREES THAT ANY MINING CLAIM OR CLAIMS ON PROPERTY ADJOINING THE PREMISES HEREBY DEMISED, LOCATED BY SESSEE, HIS ASSIGNS, FRIENDS, RELATIVES, OR IN W HICH LESSEE MAY HAVE AN INTEREST, SHALL BE CONSIDERED A PART OF THE PREMISES HEREBY DEMISED AND LET BY THE INSTRUMENT OF THIS LEASE, AND SHALL BE SUBJECT TO THE PROVISIONS OF THIS LEASE.

6. LESSEE AGREES THAT HE WILL AND SHALL EMPLOY TWO OR MORE MINERS ACTUALLY ENGAGED FULL-TIME IN MINING ENDEAVORS ON SAID PREMISES WHEN IN HIS OPINION, AND IN THE OPINION OF LESSORS, THE NECESSITY OFR SUCH FULL-TIME EMPLOYMENT IS SHOWN. IN ANY EVENT, SHOULD ORE OR OTHER SUCH MATERIALS BE DISCOVERED ON SAID PROPERTY WHICH SHALL BE OF A PAYING QUANTITY, AND OF SUFFICIENT VALUE TO WARRENT FULL-TIME OPERATIONS, THEN LESSEE SHALL SO EMPLOY TWO OR MORE MINERS. (WEATHER PERMITTING.

7. LESSEE SHALL NOTIFY LESSORS IN WRITING OF ANY ACT OR ACTS OF THIRD PERSONS WHICH MAY ADVERSLY AFFECT LESSOR'S RIGHTS AND TITLES TO SAID PREMISES. LESSEE AGREES THAT THE INTEREST HEREIN GRANTED BY LESSORS IS SUBJECT TO ANY GOVERNMENTAL PATENTS TO BE ISSUED TO SAID PREMISES. LESSORS AND LESSEE AGREE THAT THERE IS EXPRESSLY EXCLUDED FROM THIS LEASE ANY PORTION OF THE PREMISES WHICH MAY BE TAKEN FROM, OR SURRENDERED BY, LESSORS, VOLUNTARILY OR INVOLUNTARILY, IN SATISFACTION OR SETTLEMENT OF CLAIMS, DEMANDS OR CONTROVERSIES OF ANY NATURE REGARDING THE SAID PREMISES. LESSORS MAKE NO WARRANTY OF TITLE TO, NOR DO THEY COVENANT TO INSURE TO LESSEE THE QUIET ENJOYMENT OF, THE PREMISES HEREBY DEMISED.

8. LESSEE AGREES THAT HE SHALL KEEP THE DEMISED PREMISES FREE AND CLEAR OF ALL MECHANIC'S ARTISAN'S MATERIALMAN'S OR OTHER LIENS OR CLAIMS ARISING FROM HIS OPERATIONS ON SAID PREMISES. HOWEVER LESSORS AGREE THAT LESSEE SHALL HAVE THE RIGHT TO SECURE THE BENEFIT OF THE D.M.E.A. (DEFENSE MINERALS EXPLORATION ADMINISTRATION) APPLICATION FOR ASSISTANCE: NO'S 4032 AND 4744 WITHOUT FURTHER AUTHORITY FROM LESSORS.

9. LESSEE AGREES TO KEEP ALL DITCHES, DRAINS, WATERWAYS AND PASSAGESWAYS CLEARED OF LOOSE ROCK AND RUBBISH, AND TO DO ALL THINGS NECESSARY TO PROMOTE THE USEFULNESS OF THE MINING PROPERTY AS A WORKABLE MINE, AND TO DEVELOP THE PROPERTY AND DO NO ACT THERON DURING THE TERM OF THIS LEASE THAT WOULD IMPEDE MINING OPERATIONS OR IMPAIR THE OPERATING CONDITIONS OF THE MINING CLAIMS, AND GENERALLY TO SO CONDUCT HIS OPERATIONS AS TO CONFORM TO THE LAWS OF THE UNITED STATES OF AMERICA AND THE STATE OF CALIFORNIA, AND THE LOCAL RULES AND REGULATIONS OF MINERS IN SAID MINING DIST., AND TO DO NO ACT AND SUFFER NO DEFAULT WHICH MIGHT IN ANY MANNER INVOLVE THE LESSORS, OR THEIR OWNERSHIP IN SAID MINING PROPERTY, IN LIABILITY OF ANY KIND OR CHARACTER. LESSEE FURTHER AGREES THAT HE SHALL DO, OR SHALL CAUSE TO BE DONE, ANNUAL ASSESSMENT WORK AS REQUIRED BY LAW PRIOR TO THE FIRST DAY OF JANUARY OF EACH AND EVERY YEAR ON AND DURING THE TERM OF THIS LEASE.

10. LESSEE AGREES TO KEEP POSTED IN A CONSPICIOUS PLACE, ON SIMPLE FORMS, ON SAID PREMISES A WRITTEN OR PRINTED NOTICE TO THE EFFECT THAT SAID PREMISES ARE LEASED TO LESSEE AND ARE BEING OPERATED BY LESSEE, AND THAT LESSORS ARE, NOR THEIR AGENTS, NOT RESPONSIBLE FOR ANY ACT, OR ACTS OF LESSEE ON SAID PREMISES.

11. LESSEE AGREES THAT HE SHALL PAY ALL TAXES ASSESSED AGAINST HIS PERSONAL PROPERTY, AND ON ANY PLANT OR PLANTS ERECTED BY HIM, ON SAID PREMISES. LESSEE AGREES THAT HE SHALL PAY ANY AND ALL OCCUPATIONAL AND PRODUCTION TAXES, ALONG WITH ANY PROPERTY TAXES ASSESSED BY REASON OF HIS OPERATIONS ON SAID PREMISES, FROM THE BEGINNING TO THE END OF SAID LEASE.

12. LESSEE AGREES THAT HE WILL DELIVER UP TO LESSORS THE PREMISES WITH THE APPURTENANCES AND ALL IMPROVEMENTS THERON BY WHOMSOEVER MADE OR ERECTED, INCLUDING ALL CABINS AND HOUSES, WITH ALL SHAFTS, TUNNELS AND OTHER PASSAGES THOROUGHLY CLEAR OF RUBBISH, AND THE MINE IN ALL POINTS READY FOR CONTINUED IMMEDIATE WORKING (ACCIDENTS NOT ARISING FROM NEGLIGENCE ALONE EXCUSING) WITHOUT DEMAND OR FURTHER NOTICE ON THE TWENTY FIRST DAY OF ~~AUGUST~~ OCTOBER, 1977, AT NOON OR AT ANY TIME PREVIOUS ON DEMAND IN CASE ANY OF THE COVENANTS OF THIS LEASE SHALL HAVE BEEN VIOLATED BY LESSEE.

A.) LESSEE MAY HAVE THE OPTION OF AN ADDITIONAL TWENTY YEARS (20) BY INCREASING THE GROSS ROYALTY TO LESSORS TO TWENTY PERCENT (20%) ON OR BEFORE SAID EXPIRATION DATE.

13. LESSORS AGREE THAT LESSEE SHALL HAVE THE RIGHT TO SUBLET OR ASSIGN ANY PORTION OF THE PREMISES COVERED BY THIS LEASE, UPON THE PAYMENT TO LESSORS OF A SUM EQUAL TO ~~XXX~~ TWENTY FIVE PERCENT (25%) OF ANY MONEY OR OTHER CONSIDERATION RECEIVED BY LESSEE AS AND FOR CONSIDERATION FOR ANY SUBLEASE, OR ASSIGNMENT HEREOF, WITH PAYMENT MADE IMMEDIATELY UPON SAID ASSIGNMENT TO LESSORS:

14. LESSORS AND LESSEE AGREE THAT ON THE VIOLATION BY LESSEE OR ANY PERSON UNDER HIM OF ANY COVENANT HEREINBEFORE EXPRESSED, THIS LEASE SHALL AT THE ELECTION OF LESSORS EXPIRE, AND THE PREMISES WITH THE APPURTENANCES AND IMPROVEMENTS ABOVE DESCRIBED SHALL BECOME FORFEITED TO LESSORS AND LESSORS MAY THEREAFTER DEMAND, IN WRITING, IMMEDIATE POSSESSION OF THE SAID PREMISES, MAY ENTER UPON THE PREMISES AND DISPOSSESS ALL PERSONS IN OCCUPATION THEROF WITH OR WITHOUT FORCE AND WITH OR WITHOUT PROCESS OF LAW, OR AT THE ELECTION OF LESSORS, LESSEE AND ALL PERSONS FOUND IN OCCUPATION MAY BE PROSECUTED AGAINST AS TRESPASSERS FROM THE BEGINNING OF SAID TERM OR AS GUILTY OF UNLAWFUL DETAINER.

15. LESSORS AND LESSEE AGREE THAT EACH AND EVERY CLAUSE AND COVENANTS OF THIS LEASE SHALL EXTEND TO THE HEIRS, EXECUTORS AND ADMINISTRATORS OF ALL THE PARTIES HERETO: AND TO THE ASSIGNS OF THE LESSORS AND TO THE ASSIGNS OF THE LESSEE. IT IS FURTHER UNDERSTOOD THAT THIS LEASE IS ENTERED INTO ON THE BASIS THAT LESSORS ARE THE OWNERS OF THE PREMISES AND ORE BODIES HEREINABOVE DESCRIBED AND REFERRED TO, BUT THAT SAID LEASE IS MADE EXPRESSLY SUBJECT TO THE CONDITIONS, CLAUSES AND COVENANTS HEREIN CONTAINED.

IN WITNESS WHEREOF THE PARTIES HERETO HAVE SET THEIR HANDS THIS TWENTY FIRST DAY OF ~~AUGUST~~ OCTOBER, 1957. (FIRST SIGNED LESSORS)

E. M. THARP, M. A. THARP, M. L. THARP,

NORMAN BOLES, NORMAN ROGER BOLES, JANET BOLES,

EUGENE B. SWANSON, HELEN V. SWANSON, DWIGHT F. SWANSON,

LESSEE, ~~XXXXXXXX~~ MINES, INC. (A CALIFORNIA CORPORATION)
1627-EAST 14TH STREET
SAN LEANDRO, CALIFORNIA

MARVIN DEE CARRIGAN (PRESIDENT)

EUGENE B. SWANSON (VICE PRESIDENT)
27104-UNDERWOOD AVENUE
HAYWARD, CALIFORNIA

PETER BISSETT (SECRETARY) JAMES W. FARNAN JR. (TREASURER) JOHN A. BUHL (2ND. VICE PRESIDENT)

DANIEL S. JOHNSON (DIRECTOR) JOHN J. CRACCHIOLO (DIRECTOR)

STATE OF CALIFORNIA)
) ss
COUNTY OF ALAMEDA)

On October 21, 1957, before me, the undersigned a Notary Public in and for said County and State personally appeared E. M. THARP, M. A. THARP, M. L. THARP, NORMAN BOLES, NORMAN ROGER BOLES, JANET BOLES, EUGENE B. SWANSON, HELEN V. SWANSON, DWIGHT F. SWANSON, MARVIN DEE CARRIGAN, PETER BISSETT, JAMES W. FARNAN JR., JOHN A. BUHL, DANIEL S. JOHNSON, and JOHN J. CRACCHIOLO, known to me to be the persons whose names are subscribed to the within instrument, and acknowledged to me that they executed the same.

Notary Public in and for said
County and State.

My commission expires Feb. 16, 1959.

OFFICIAL FILE COPY
DMEA
RECEIVED MAY 10 1957

DATE	INITIALS	CODE

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
1605 Evans Avenue
Reno, Nevada

May 8, 1957

Memorandum

To: Operating Committee, DMEA, Interior Building
Washington 25, D. C.

From: Executive Officer, DMEA Field Team, Region II

Subject: Loan Application (Uranium)
Carrigan Mines, Incorporated
Autunite Mining Claim Group
Tuolumne County, California

Enclosed are three sets of MF-103, Application for Aid forms relative to above subject. The fourth set has been retained in our files.

Please refer to DMEA Docket No. 4032 and our application report dated August 15, 1956. It is evident that the Applicant has added two more sections of ground to the area under Docket No. 4032, formed a company, obtained a revised geologist's report, but has submitted no pertinent data that would change the conclusion set forth in our previous report.

The geologist report is general in nature. Except for selected samples, his estimated U_3O_8 content range from 0.01 to 0.072 percent. The geologist is evidently suggesting random prospecting in search for a suitable target in a 1440 acre area.

S. Ricker

Encls.

MF-103
(Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

Form Approved.
Budget Bureau No. 42-R1035.2.

RECEIVED MAY 10 1957 D.M.E.A.

APPLICATION FOR AID IN AN EXPLORATION PROJECT, PURSUANT TO DMEA ORDER 1, UNDER THE DEFENSE PRODUCTION ACT OF 1950, AS AMENDED

Not to be filled in by applicant

Docket No. 4744
Metal or Mineral URANIUM
Date Received 5-10-57
Estimated Cost $ 12,000
Participation (Government %)

INSTRUCTIONS

1. *Name of applicant.*—(*a*) State here your full legal name, in the form in which you will wish to contract, and your mailing address: CARRIGAN MINES INCORPORATED
1627 East 14th Street
San Leandro, California

Marvin D. Carrigan, Pres. & Treas.
Eugene B. Swanson, Vice-Pres.
Don Brown, Sec.
All at address given.

(*b*) If other than an individual, add to your name above whether a corporation, partnership, etc., and the name of the State in which incorporated or otherwise organized.

(*c*) If a corporation, add to above statement, titles, names and addresses of officers.

(*d*) If a partnership, add to the above statement the names and addresses of all partners.

2. *General.*—Read DMEA Order 1, "Government Aid in Defense Exploration Projects," before completing this application. Submit this application and all accompanying papers in quadruplicate (four copies), with your name and address on each sheet of the application and on all accompanying papers. Where sufficient space is not provided on the form for all required information, state it on an accompanying paper, with a reference in each case to the instruction to which it refers by number. Comply with all applicable instructions; or, if not applicable, so state. File the application with Defense Minerals Exploration Administration, Department of the Interior, Washington 25, D. C., or with the nearest field executive officer thereof.

3. *Applicant's property rights.*—(*a*) State the legal description of the land upon which you wish to explore, including all land which you possess or control that may be benefited by the exploration, and excluding any land or interest in land which is not to be included in the exploration project contract Sections No. 4, 5, 8, and 9, Township 5 North, Range 19 East, M. D. B. M., Tuolumne County, California, all known as the Autunite Mining Claim Group, consisting of approximately 1440 acres, all adjoining. Recorded in Volume 14, of claims, page 398, Sonora Calif. Co. Court House index #3338.

(*b*) State any mine name by which the property is known.

(*c*) State your interest in the land, whether owner, lessee, purchaser under contract, or otherwise Lessee.

(*d*) If you are not the owner, submit with this application a copy of the lease, contract, or other document under which you control the property. Recorded at Sonora, Calif. Contains permission to secure DMEA assistance by Lessees.

(*e*) If you own the land, describe any liens or encumbrances on it None.

(*f*) If the land consists of unpatented claims, add to the description above, the book and page numbers for each recorded location notice. Refer to 3 (a).

4. *Physical description.*—(*a*) Describe in detail any mining or exploration operations which have been or now are being conducted upon the land, including existing mine workings and production facilities. State your interest, if any, in such operations. Also describe accessibility of mine workings for examination purposes.

(*b*) State past and current production, and ore reserves, if any, giving quantities and grades. Unknown.

(*c*) Describe the geologic features of the property, including mineralization, type of deposit (vein, bedded, etc.), and your reasons for wishing to explore. Illustrate with maps or sketches. Send with your application (but not necessarily as a part of it) any geologic or engineering report, assay maps, or other technologic information you may have, indicating on each whether you require its return to you. Refer to enclosed copy of geological report.

(*d*) State the facts with respect to the accessibility of the project: Access roads, distances to shipping, supply and residence points. Refer to enclosedcopy of geological report.

(*e*) State the availability of manpower, materials, supplies, equipment, water, and power. All of the above is given in the enclosures herewith.

16—66551-1

5. *The exploration project.*—(*a*) State the mineral or minerals for which you wish to explore Uranium U3O8 (Autunite). Select sample assay report enclosed.

(*b*) Describe fully the proposed work, including a map or sketch of the property showing a plan (and cross sections if needed) of any present mine workings, and the location of the proposed exploration work as related to such features as contacts, veins, ore-bearing beds, etc. As explained ingeological report enclosed herewith.

(*c*) The work will start within 30 days and be completed within 6 months from the date of an exploration project contract.

(*d*) State the operating experience and background of the applicant with relation to the ability to carry out such exploration project, and also that of the person or persons who will supervise the operations. Francis H. Frederick, Mining Geologist.

6. *Estimate of costs.*—Furnish a detailed estimate of the costs of the proposed work (you will have to use a separate sheet), under the following headings. Add the totals under all headings to give the estimated total cost of the project:

(*a*) *Independent contracts.*—(Note.—If the applicant does not intend to let any of the work to contractors, write "none" after this item. To the extent that the work is to be contracted, do not repeat the cost of the contract-work in subsequent items.) State the cost of any proposed independent contracts for the performance of all or any part of the work, expressed in terms of units of work (such as per foot of drilling, per foot of drifting, per hour of bulldozer operations, per cubic yard of material moved, etc.). All information in Item #6 is given in enclosed geological report.

(*b*) *Labor, supervision, consultants.*—Include an itemized schedule of numbers, classes and rates of wages, salaries or fees for necessary labor, supervision and engineering and geological consultants.

(*c*) *Operating materials and supplies.*—Furnish an itemized list, including items of equipment costing less than $50 each, and power, water and fuel. All to be furnished by unit cost contractors. (Contracts to be let).

(*d*) *Operating equipment.*—Furnish an itemized list of any operating equipment to be rented, purchased, or which is owned and will be furnished by the Operator, with the estimated rental, purchase price, or suggested use-allowance based on present value, as the case may be. None contemplated. Unit cost contracts to be let.

(*e*) *Rehabilitation and repairs.*—Furnish a detailed list showing the cost of any necessary initial rehabilitation or repairs of existing buildings, installations, fixtures, and movable operating equipment, now owned by the Operator and which will be devoted to the exploration project. None.

(*f*) *New buildings, improvements, installations.*—Furnish a detailed list showing the cost of any necessary buildings, fixed improvements, or installations to be purchased, installed or constructed for the benefit of the exploration project.

(*g*) *Miscellaneous.*—Furnish a detailed list showing the cost of repairs to and maintenance of operating equipment (not including initial rehabilitation or repairs of the Operator's equipment), analytical work, accounting, workmen's compensation and employers' liability insurance, and payroll taxes. Refer to item 6 (h).

(*h*) *Contingencies.*—Give an estimate of any necessary allowances for contingencies not included in the costs stated above.

NOTE.—No items of general overhead, corporate management, interest, taxes (other than payroll and sales taxes), or any other indirect costs, or work performed or costs incurred before the date of the contract, should be included in the estimate of costs. Final estimates of unincluded costs to be determined by applicant after consultation with DMEA inspectors.

7. (*a*) Are you prepared to furnish your share of the cost of the proposed project in accordance with the regulations on Government participation (Sec. 7, DMEA No. 1)? Yes.

(*b*) How do you propose to furnish your share of the costs?

[xx] Money [ ] Use of equipment owned by you. [ ] Other

Explain in detail on acompanying paper.

CERTIFICATION

The undersigned, whether as an individual, corporate officer, partner, or otherwise, both in his own behalf and acting for the applicant, certifies that the information set forth in this form and accompanying papers is correct and complete, to the best of his knowledge and belief.

Dated April 30, 1957

CARRIGAN MINES INCORPORATED
(Applicant)

By Maurice A. Carrigan
President

Title 18, U. S. Code (Crimes), Section 1001, makes it a criminal offense to make a willfully false statement or representation to any department or agency of the United States as to any matter within its jurisdiction.

U. S. GOVERNMENT PRINTING OFFICE 16—66551-1

TEL. 8-8567

P. O. BOX 867

HORNKOHL LABORATORIES

CHEMICAL AND TESTING ENGINEERS
714 TRUXTUN AVENUE
BAKERSFIELD, CALIFORNIA

September 10, 1955

Laboratory No. 59222 *Marked* Sample No. 1

Sample Ore

Received Sept. 7, 1955

Submitted by [illegible] Sherr,
Rt. 1, Box 320, Porterville, Calif.

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DATE	INITIALS	CODE

URANIUM ASSAY

Per cent Uranium (U_3O_8) ---- 1.76

Respectfully submitted,

HORNKOHL LABORATORIES

ALL REPORTS ARE SUBMITTED AS THE CONFIDENTIAL PROPERTY OF CLIENTS. AUTHORIZATION FOR PUBLICATION OF OUR REPORTS, CONCLUSIONS OR EXTRACTS FROM OR REGARDING THEM IS RESERVED PENDING OUR WRITTEN APPROVAL AS A MUTUAL PROTECTION TO CLIENTS, THE PUBLIC AND OURSELVES
KERN PTG. CO.

FRANCIS H. FREDERICKS
MINING GEOLOGIST

1209 DeYoung Bldg.
609 Market St.
San Francisco, Calif.
SUtter 1-1562

Residence
2715 Stuart St.
Berkeley 5, Calif.
AShberry 3-7651

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1957	INITIALS	CODE

April 1, 1957

Carrigan Mines, Inc.
1624 E. 14th Street
San Leandro, California

Gentlemen:

In September, 1955 I made an examination of the Tharp, Boles, and Swanson mining claim in Sections 4 and 9, Township 5 North, Range 19 ~~East, Tuolumne County,~~ California. The area examined lies about two and one-half miles by road southerly from the paved Highway Route 108 at an elevation of about 6,500 feet, and includes the basin and general area embracing a length of Niagara Creek.

Uranium mineralization, in the mineral autunite, and possibly in other mineral forms, is present in the sandstone, shale, and conglomerate beds of the area examined. The sedimentary beds containing the observed uranium content are probably largely of volcanic origin but resemble in physical characteristics some of the ore bearing horizons in the Morrison formation of Jurassic Age in the Colorado Plateau uranium area. The beds are nearly horizontal, dipping no more than 10° in the exposures observed. Granitic rocks, upon which the sediments have been deposited, are exposed in the general area, and were observed at 300 feet south of one of the important autunite exposures in the sandstone and conglomerate. The area of the Niagara Creek basin or swale within the property is probably also a trough shaped or basin shaped scoured or eroded area in the old (Tertiary) granitic land surface which has become filled with the sediments now observed. It is possible that enrichment of uranium minerals exist in the lower parts of the sedimentary filling. If the sediments contain carbon material, such as carbonized wood, the chances for uranium mineralization is increased. Within such a filled trough or basin there is a possibility of finding a concentration of uranium ore because it is known that the sedimentary fill is uranium bearing. Sediments exposed in the one basin area examined are a type favorable to uranium ore deposition. A number of important conditions that are favorable for uranium mineralization are present in the sediments exposed.

I understand the property ownership has been extended since my examination to include a total of 1,440 acres in Sections 4, 5, 8, and 9, Township 5 North, Range 19 East. Inclusion of a large acreage in the property at this time is a good plan so that general geologic and exploration work can be done within the property and so that the best areas may be selected for concentrated exploration. The area examined and found to be of interest, because it is known to contain sediments that contain indications of uranium mineralization, is 1,000 feet by 800 feet in area and is bounded on the south by granitic outcrops, and on the east and west by volcanic lava flown and hard cemented conglomerates. The sediments of interest extend northerly beyond the limits examined. The lavas and hard cemented conglomerates to the east and the west of the Niagara Creek Basin are cap rocks lying on top of the sediments of interest for exploration. At the time of my examination in the Fall of 1955 it was known that two other properties in the general area had interesting uranium discoveries; one property was about one mile easterly and another about five miles easterly from the Carrigan property. In a property the size now held by Carrigan Mining Company there are several opportunities for discovery of other basins and areas favorable for ore mineralization in the sedimentary formations.

The most important showing of uranium at the property was at the small open cut and trench west of Niagara Creek and south of the road. There readings with geiger counter

and a scintillation counter gave the equivalent of 0.12 to 0.15 per cent U_3O_8 by radioactive determination. Selected samples and specimens of the ore gave readings as high as 0.60 per cent U_3O_8. A small sample determined by the Atomic Energy Commission and U.S. Bureau of Mines at Salt Lake City, Utah, assayed 0.27 per cent U_3O_8 by assay, and 0.23 per cent by radioactive energy determination. A sample cut by myself in 1955 at the same place, representing a thickness of about one foot, assayed 0.05 per cent U_3O_8 by chemical determination. Three other samples ranging from four inches to twenty-four inches of conglomerate and gray soft sandstone assayed 0.05 per cent U_3O_8, 0.06 per cent U_3O_8, and 0.072 per cent U_3O_8. A one and one-quarter pound piece of rock from the same place, a select specimen, measured 0.40 per cent U_3O_8. The observed mineralization at this location was fine-grained autunite dispersed through the rock and around the conglomerate pebbles and disseminated in the matrix of the conglomerate, and finely dispersed in the sandy parts of the formation. Some bright green fluorescing opaline material is also associated with the autunite. Some bulldozing, trenching, and drilling is recommended for further exploration of this particular layer of conglomerate and sandstone. Carbonized wood material is scattered through the sandstone and conglomerate formation at the location of this small open cut. About twenty-five to fifty feet in elevation higher than this cut is a sloping bench from which drilling work can be done to drill down through this uranium bearing layer and into possible other uranium bearing layers at greater depth. The drilling should be done by vertical hole drilling from a number of places on the bench in order to determine the position of the best uranium bearing beds before other exploratory work is done in this area.

There are other exposures of uranium bearing sands in the area, particularly in the sand beds at a lower horizon than the conglomerate beds just described. About 500 feet northerly, down stream along Niagara Creek, is a small cut in the creek bank in a sandstone formation showing carbonized wood and uranium mineralization. Determination with a scintillation counter indicates an assay content of 0.01 to 0.03 per cent U_3O_8 in the sands close to the edge of the creek. About 200 to 300 feet farther downstream are two cuts in the sandstone bluffs at the edge of the creek which indicates similar mineralization in sandstone containing carbonized wood. Radioactive readings at these places indicate 0.01 to 0.05 per cent U_3O_8 in the sandstone at the edge of the creek. It is quite possible that considerable leaching has taken place in the sands so close to the creek bed. Enrichment may be found in beds directly below these surface exposures if the beds are porous and contain carbonized material. Carbonized material is not essential to uranium mineralization but it is associated with uranium in many deposits in the sediments.

About 400 feet almost directly east from the main conglomerate cut is a bluff of hard cemented volcanic gravels and conglomerate lying on top of the sandstone formation and containing a small natural cave and water seep near its base. Traces of autunite are exposed, and radioactive count is present, in the cave. Exploration should be done below the volcanic gravels and conglomerates by drilling from selected locations.

Drilling should be done in a number of places in the Niagara Creek flat and in the basin area. Drilling should be vertical down holes to the granitic basement rock to searhh for mineralized sedimentary layers in the sandstone where there may be a concentration of carbonized material and uranium. All of the mineralization observed and identified is the secondary mineral autunite which has been derived by leaching and reconcentration from some source material that may have been eroded away.

A general exploratory program in the area should include some geologic mapping of the area as a whole and some preliminary vertical drill holes to determine the general depth of the main sedimentary layers containing the uranium minerals. Sufficient is known about the area now to start a preliminary drilling program that can be started at about the same time the general geological mapping starts, so that by the time

some of the first holes are completed the geologist will be on the job and can determine the location placement for the subsequent drilling that is currently being planned. The first stage of a drilling program should be about ten holes, each 100 to 500 feet in depth. The depth of each hole depends on the depth to the basement rock or bedrock (granite) as determined as work progresses in the first drilling. The purpose of the first drilling would be more to determine the depth of the sediments and the carbon content of certain horizons in the sediments rather than specifically looking for uranium content. Once the general attitude or depth and position of the sedimentary formation has been determined, then a plan can be made for attempting to drill in the places most likely containing the concentrations of uranium mineralization. All holes should be drilled in such a manner so that they can be probed with a geiger counter probe in order to determine the horizons containing uranium mineralization. A total program of drilling on the property could include more than fifty holes ranging from 75 to 300 feet in depth. Some of the holes can be drilled to specific horizons such as the conglomerate bed from the bench between the small cut and the volcanic bluffs; such holes may need to extend to a depth of only 75 to 100 feet.

The fact that there is uranium mineralization in the conglomerate and sandstones in the area, and that the sandstones and comglomerate do contain carbonized material, which is usually essential to a concentration of uranium, is sufficient showing to warrant an exploration program searching for a concentration of uranium mineralization. Uranium minerals are not very resistant to weathering and leaching and migrate considerable distances through porous or permeable formations unless concentrated in structural traps or reservoirs by carbon material or phosphates, or both. The main plan in the exploration proposed is to look for structural positions in which the sedimentary formations are a good host rock for ore and contain the apparently necessary carbon material to cause enrichment of uranium minerals.

Drilling can be done for costs of $1.80 to $6.50 per foot depending on the type of drilling required. The lowest cost drilling-wagon drilling with section drill steel -- gives a small hole, two to two and one-half inches in diameter, with only a dust or slugge sample. Depth obtainable by such drilling is about 60 to 100 feet. Rotary drilling with a truck mounted compressor and drill unit, such as a Mayhew 1000, or a Fohling Drill, or a Porta Drill, or similar units, can drill 200 to 400 feet per eight-hour day and drill either dry or wet. Depth in excess of 1,000 feet can be drilled with such rigs. Hole size is about four and one-quarter inches and drilling can be converted to core drilling delivering a three inch diameter core from any depth specified for coring. Costs vary from $1.50 per foot dry to $3.50 per foot wet, plus moving time. Core drilling with the rotary drills varies from $3.50 to $6.00 per foot. Diamond drilling can also be done with standard diamond drill rigs with costs running from $5.50 per foot for plug bit drilling with no core to as much as $6.50 or even higher for core drilling. I propose that an attempt be made to arrange a contract to do the drilling with a rotary rig such as a truck mounted Mayhew 1000, a Porta Drill, or a Fohling Drill. Drilling at this property will probably have to be done wet as the sediments are moist or water bearing. Estimated cost per hole, as recommended, might not exceed an average price of $3.00 per foot plus transportation to and from the job. It may be possible to get wet drilling done for an average price of $3.00 per foot, including some core sections in ore zones. The operating season in the area for an initial drilling program will be limited by snow conditions to a period from sometime in late May to sometime in late November or December.

The preliminary drilling might include four holes at a depth of 300 feet each and an additional six holes at about 100 to 150 feet each distributed rather widely in the area to determine the general formational conditions and to determine uranium content at those holes. Subsequent drilling might include three holes at 300 feet, ten to twenty holes at 200 feet, ten to twoenty holes at 100 feet and many holes at approxim-

ately 50 to 100 feet each with a grand total of 6,000 to 10,000 feet of drilling. Preparation should be made for storing the sludge in containers or piles in such a way that determinations can be made on them at sometime after the drilling of each hole has been completed, and in order to compare the sludge or cuttings obtained with the result of the probing of the holes. When it has been determined that certain layers are ore bearing or are mineralized then arrangements should be made so that those particular sections can be cored by additional drilling, a core being recovered for assay purposes from the ore bearing or mineralized sections. In addition to the cost of the drilling will be the cost of preparing the drill sites and drill roads by a tractor-dozer, and the cost of the geologic work, interpretation of the results of the drilling, and supervision of the drilling and preservation of the cores and drill cuttings. It is estimated at this time that the total cost of the drilling will vary from $18,000 to $24,000 if the footage drilled is about as indicated above. If it turns out that the drilling is shallower than mentioned above to reach the basement of the potential ore bearing formation than it is proposed that additional short holes be drilled over a more extended area and other work such as short tunnels and shafts to be substitued for the drill footage not required. The total cost of preparatory work, geologic work, and supervision for the company might amount to a total of $6,000 to $12,000 during the period of drilling and exploration.

When the drilling has been completed it would then be in order to consider a means of further exploring the best ore horizons discovered to that time. In general shaft sinking or running of adits and cuts would be the best way to investigate the ore horizons depending on the depth and the location of such discoveries.

In order to constitute ore grade material the assays of the ore sections should range from 0.10 per cent U_3O_8 and upward. A good grade of shipping ore is from 0.20 per cent U_3O_8 or higher. It may be necessary to use some sort of upgrading system on ores that assay less than 0.20 per cent U_3O_8. Thicknesses of ore that would be interesting or that would be commercial for the assay grades mentioned above would be from two feet to five feet or thicker depending on the grade of ore being mined. If some high grade at 0.50 per cent U_3O_8 is discovered such ore can be mined commercially at a thickness as narrow as one or one and one-half feet.

Drilling should be planned with one drill rig of a satisfactory type to accomplish the type of drilling required at the property so that a minimum of moving and mobilizing costs will be entailed. The total drilling program can be carried out in thirty to sixty days time, depending on the efficiency of the rig and the nature of the ground encountered in the drilling.

Respectfully submitted,

s/ Francis H. Frederick

ba

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MINING LEASE

THIS INDENTURE made this first day of August, 1956, between E.M. THARP, M.A. THARP, M.L. THARP, NORMAN BOLES, ~~NORMAN ROGER BOLES~~, JANET L. BOLES, EUGENE B. SWANSON, HELEN V. SWANSON and DWIGHT F. SWANSON, hereinafter referred to as LESSORS, and MARVIN DEE CARRIGAN, hereinafter referred to as LESSEE, witnesseth:

1. That the Lessors, for and in consideration of the covenants and agreements hereinafter expressed to be kept and performed by the Lessee, have leased, let and demised, and by these presents do lease, let and demise unto the Lessee, the following described premises, known as the AUTUNITE URANIUM PLACER MINING CLAIM, situate, lying and being in the Summit Mining District, in the County of Tuolumne, State of California, to-wit:

> The SE¼ of the SW¼ of Section 4; and the SW¼ of the SE¼ of Section 4; The NE¼ of the NW¼ of Section 9; and the NW¼ of the NE¼ of Section 9, all in Township 5 North, Range 19 East, Mount Diablo Base and Meridian, containing 160 acres, and located in the Summit Mining District on Niagara Creek, Tuolumne County, California, as recorded September 29, 1955 in Volume 14 at Page 398, Official Records of said Tuolumne County, State of California.

2. To have and to hold the same, for the purpose of mining, with full power to assign this lease or any interest thereunder, or to sublet the whole or any part of the premises, subject to the conditions hereinafter expressed, for the term of twenty (20) years from the date hereof. And the Lessee, for and in consideration of the leasing of the premises, has covenanted and agreed, and by these presents does covenant and agree with Lessors to enter upon said premises, and at his own expense, to work the same mine fashion according to the prevailing rules of good and economical mining. Lessee agrees that he will cause a drift of at least fifty (50) feet in length, or that he will cause to be sunk a shaft of at least twenty five (25) feet in depth, or the equivalent thereof in labor and exploration expended, to be made, sunk or done on said premises prior to the first day of November, 1956. Lessee further agrees that he will do, or will cause to be done, a like amount, or more, of said work on said premises in each succeeding year thereafter, during the term hereof. Lessee further agrees that Lessors shall have the sole and exclusive right to declare this lease null and void in the event Lessee fails to do, or fails to cause to be done, the measure and amount of mining work aforesaid.

3. Lessors and Lessee agree that this lease includes mineral rights to the premises only. Lessee agrees to pay Lessors ten percent (10%) Gross Royalty on all monies or other consideration received by Lessee, or his assigns, from the sale of ore or minerals or materials taken by Lessee, or his assigns, from said premises. Royalty payments shall be made to Lessors from the mill or ore buying station.

4. Lessee agrees that in case any lodes, ledges, or other kinds of deposits of precious metal or material are discovered on the property while working under this lease, not to locate or record them except in the name of Lessors; and Lessee is hereby given the power to locate and record any such lodes, ledges, or deposits in the name of Lessors, provided they are not already covered by Lessors' location or right; to keep at all times the shafts, drifts, tunnels and other passages and workings of the said premises clear of loose rock and rubbish.

5. Lessee further agrees that any mining claim or claims on property adjoining the premises hereby demised, located by Lessee, his assigns, friends, relatives, or in which Lessee may have an interest, shall be considered a part of the premises hereby demised and let by the instrument of this lease, and shall be subject to the provisions of this lease.

6. Lessee agrees that he will and shall employ two or more miners actually engaged full-time in mining endeavors on said premises when in his opinion, and in the opinion of Lessors, the necessity for such full-time employment is shown. In any event, should ore or other materials be discovered on said property which shall be of a paying quantity, and of sufficient value to warrant full-time operations, then Lessee shall so employ two or more miners, weather permitting.

7. Lessee shall notify Lessors in writing of any act or acts of third persons which may adversly affect Lessors' right and title to said premises. Lessee agrees that the interest herein granted by Lessors is subject to any governmental patents to be issued to said premises. Lessors and Lessee agree that there is expressly excluded from this lease any portion of the premises which may be taken from, or surrendered by, Lessors, voluntarily or involuntarily, in satisfaction or settlement of claims, demands or controversies of any nature regarding the said premises. Lessors make no warranty of title to, nor do they covenant to insure to Lessee the quiet enjoyment of, the premises hereby demised.

8. Lessee agrees to keep all ditches, drains, waterways and passageways cleared of loose rock and rubbish, and to do all things necessary to promote the usefulness of the mining property as a workable mine, and to develop the property and do no act thereon during the term of this lease that would impede mining operations or impair the operating condition of the mining claim, and generally to so conduct his operations as to conform to the laws of the United States of America and the State of California, and the local rules and regulations of miners in said mining district, and to do no act and suffer no default which might in any manner involve the Lessors, or their ownership in said mining property, in liability of any kind or character. Lessee further agrees that he shall do, or shall cause to be done, annual assessment work as required by law prior to the first day of January of each and every year on and during the term of this lease.

9, Lessee agrees that he shall keep the demised premises free and clear of all mechanic's, artisan's, materialman's or other liens or claims arising from his operations on said premises, and that he will not encumber or otherwise hypothecate said premises without the express written prior consent of Lessors, especially in matters pertaining to the said operations, except as expressed hereinafter.

10. Lessee agrees to keep posted in a conspicious place, on simple forms, on said premises a written notice to the effect that said premises are leased to Lessee and are being operated by Lessee, and that Lessors are, nor their agents, not responsible for any act or acts of Lessee on said premises.

11. Lessee agrees that he shall pay all taxes assessed against his personal property, and on any plant or plants erected by him, on said premises. Lessee agrees that he shall pay any and all occupational and production taxes assessed by reason of his operations on said premises.

12. Lessee agrees that he will deliver up to Lessors the premises with the appurtenances and all improvements thereon by whomsoever made or erected, including all cabins and houses, with all shafts, tunnels and other passages thoroughly clear of rubbish, and the mine in all points ready for continued immediate working (accidents not arising from negligence alone excusing) without demand or further notice on the first day of August, 1976, at noon or at any time previous on demand in case any of the covenants of this lease shall have been violated by Lessee.

13. Lessors agree that Lessee shall have the right to sublet or assign any portion of the premises covered by this lease, upon the payment to Lessors of a sum equal to ten percent (10%) of any money or other consideration received by Lessee as and for consideration for any sublease or assignment hereof.

14. Lessors agree that Lessee can use, and shall have the benefit of, the Defense Minerals Exploration Administration "Application for Assistance" Number 4032, heretofore made by Lessors to said Administration, and that Lessee can, without further authority from Lessors, encumber or otherwise hypothecate said premises in any manner necessary to obtain such Defense Minerals Exploration Administration assistance.

15. Lessors and Lessee agree that on the violation by Lessee or any person under him of any covenant hereinbefore expressed, this lease shall at the election of Lessors expire, and the premises with the appurtenances and improvements above described shall become forfeited to Lessors, and Lessors may thereafter demand, in writing, immediate possession of the said premises, may enter upon the premises and dispossess all persons in occupation thereof with or without force, and with or without process of law, or at the election of Lessors, Lessee and all persons found in occupation may be prosecuted against as trespassers from the beginning of said term or a guilty of unlawful detainer.

16. Lessors and Lessee agree that each and every clause and covenant of this lease shall extend to the heirs, executors and administrators of all the parties hereto; and to the assigns of the Lessors and to the assigns of Lessee. It is further understood that this lease is entered into on the basis that Lessors are the owners of the premises and ore bodies hereinabove described and referred to, but that said lease is made expressly subject to the conditions, clauses and covenants herein contained.

IN WITNESS WHEREOF the parties hereto have set their hands this first day of August, 1956.

E.M. THARP

M.A. THARP

M.L. THARP

NORMAN BOLES

NORMAN ROGER BOLES

JANET L. BOLES

EUGENE B. SWANSON

HELEN V. SWANSON

DWIGHT F. SWANSON

LESSORS

MARVIN DEE CARRIGAN

LESSEE

Norman Boles & Witness to signatures of/M.A.Tharp; M. L. Tharp; Norman Roger Boles, by Norman Boles, attorney in fact; Janet L Boles, Eugene B Swanson, Helen V. Swanson, Dwight F Swanson, as lessors. Dated August 16th, 1956

Witness

STATE OF CALIFORNIA)
COUNTY OF ALAMEDA) ss.

On this 4th day of August, 1956, before me, Ned Crowl, personally appeared MARVIN DEE CARRIGAN, EUGENE B. SWANSON, HELEN V. SWANSON, and DWIGHT F. SWANSON known to me to be the persons whose names are subscribed to the within instrument and acknowledged to me that they executed the same.

My commission expires Feb. 16, 1959

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RECEIVED MAY 10 1957

DATE	INITIALS	CODE

PRELIMINARY REPORT

Description of property in the County of Tuolumne, State of California:

The Autunite Uranium Placer Mining Claim, situate, lying and being in the Summit Mining District, in the County of Tuolumne, State of California, to-wit: The SE¼ of SW¼ of Sec. 4; SW¼ of SE¼ of Sec. 4; NE¼ of NW¼ of Sec. 9; and NW¼ of NE¼ of Sec. 9, T. 5 N., R. 19 E., M. D. M., containing 160 acres, more or less, and located in the Summit Mining District on Niagara Creek, Tuolumne County, California, as recorded Sept. 29, 1955 in Vol. 14, at Page 538, Official Records (Claims) of said Tuolumne County, State of California.

Claim of title is vested in

E. M. THARP, M. A. THARP, M. L. THARP, NORMAN BOLES, JANET L. BOLES, NORMAN ROGER BOLES, EUGENE B. SWANSON, HELEN V. SWANSON and DWIGHT F. SWANSON, an association

Subject to:-

1. Taxes - Said claim does not appear on the assessment rolls of Tuolumne County.

2. Any actions pending or judgments rendered in any Federal Court.

3. This claim is held subject to a full compliance with all the mining laws of the United States which affect said claim, together with a full compliance with the regulations governing the mining district in which said claim is located.
Except as to suits, liens, encumbrances, agreements and conflicting locations.

4. Mining lease, E. M. Tharp, M. A. Tharp, M. L. Sharp, Norman Boles, Norman Roger Boles, Janet L. Boles, Eugene B. Swanson, Helen V. Swanson and Dwight F. Swanson, lessors, to Marvin D. Carrigan, lessee, dated Aug. 1, 1956, and recorded Sept. 7, 1956 in Vol. 77, Page ___ of Official Records of Tuolumne County, being Recorder's Number 3143.
Note: The signature of Norman Roger Boles is signed by Norman Boles, attorney in fact, said power of attorney not being of record in Tuolumne County.

5. This report is made subject to all the conditions and exceptions contained in our regular form of certificate of title. No liability is assumed under this report.

This report is made at the request of the North American Title Guaranty Corporation, 10440 MacArthur Blvd., Oakland 5, California. Their No. 330149 C M.

Dated at Sonora, California,
Sept. 7, 1958 at 11:45 o'clock A. M.

Search No. 11-864.

SONORA ABSTRACT and TITLE COMPANY

by: Lewis H. Bach
Manager.

Docket

Murphy
Ellis

May 12, 1958

Summary of Proposed Project

Object: Denial of application for exploration aid.

Docket No.: DMEA-4744

Commodity: Uranium

Amount of Application: $12,000 amended to $51,470

Applicant: Carrigan Mines, Inc.
Mr. Marvin D. Carrigan, President
1627 East 14th Street
San Leandro, California

Property Rights: Lessee of 9 placer claims, aggregating 1,440 acres, in secs. 4, 5, 8, and 9, T. 5 N., R. 19 E., M.D.B.M., Tuolumne County, California.

Date of Application: April 30, 1957. The application was incomplete. Supplemental data was submitted January 17, 1958, with an amended program and costs.

Referred to Region II: January 17, 1958

Field Team Report received: May 1, 1958. The Field Team recommended denial of the application without a field examination, since data submitted only confirmed DMEA findings when the same property was examined under application DMEA-4032. This application was denied 8-31-56.

Work Proposed in amended application: Fourty widely-spaced drill holes totaling 8,800 feet of rotary and 200 feet of diamond-core drilling.

Estimated Costs:

Bulldozing roads and drill sites	$7,500.00	
Drilling	32,100.00	
Supervision and consulting	5,800.00	
Operating materials	120.00	
Miscellaneous	950.00	
Contingencies	5,000.00	
Total		$51,470.00
Government Participation @ 75%		$38,602.50

Excerpts from memoranda, dated April 15, and 16, 1958, to Executive Officer, Region II, from B. H. Sheahan, USBM, and H. K. Stager, USGS, respectively:

AEC examiners, who have visited the claims, state there was nothing much to see at this property. A deposit five miles east in sec. 8, T. 5 N., R. 20 E., was explored by Lake View Mining Co., in 1957 and a few small shipments averaging 0.20% U_3O_8 were made.

The property is inaccessible until late spring or early summer being in a region of heavy snowfall. The DMEA field men state that sufficient data are available on the property, so that a re-examination is not warranted or possible at this time.

The deposits consist of scattered small pods and lenses of uranium-bearing carbonaceous material in sandstones and conglomerate. These rocks are remnants of stream or lake deposits in a basin 3000' long and 1000' wide, surrounded and underlain by rocks of the Sierra Nevada batholith of Cretaceous age. Except in the immediate vicinity of the small pods and lenses, the uranium content of the sandstone and conglomerate is estimated to be less than 0.01% U_3O_8. The basin contains much carbonaceous material which is barren.

The only new work on the property, since the previous examination, consists of four test holes, totaling 572 feet of drilling, in the immediate area of the surface exposures that were examined previously. Only one hole penetrated material that approaches ore-grade - 0.12% U_3O_8 between 107 and 110 feet. It is quite probably that the drill hole cut one of the small pods or lenses of carbonaceous material containing uranium.

The Applicant's geologist infers that the uranium content of the sedimentary rocks has been been leached from the carbonaceous layers and will be found in larger and higher grade ore-bodies in the lower parts of the sedimentary basin. These ore bodies are the target of the Applicant's proposed exploration project.

H. K. Stager, USGS, infers that the pods and lenses of uranium-bearing material exposed along Niagara Creek, which traveres the basin, are typical of the kind of concentration that is formed by the leaching of trace amounts of uranium from volcanic sediments and redeposition in carbonaceous horizons; and that uranium that is once precipitated by carbonaceous material is not readily redissolved by ground waters, therefore, it is unlikely that larger or higher grade ore bodies have been formed elsewhere in the claim area by this method.

Mr. Stager believes that not enough new work has been done on the claims to prove their reserve potential is significantly greater than was estimated as a result of the previous examination. The field members and Field Team recommended that the application be denied.

S. Ricker, Executive Officer, in his memorandum, dated April 29, 1958, notes that ---"The claims are on National Forests and the area is probably more valuable for timber than uranium."

Commodity Members' Comments:

In memoranda, dated May 7 and 8, 1958, T. H. Kiilsgaard, USGS, and James Paone, USBM, concur in the Field Team's recommendation.

Division of Rare & Misc. Metals, F. M. Murphy, May 12, 1958:

I agree with the Field Team that a field examination of the property is not warranted, and that the data relating to the new work done, (i.e., 4 drill holes) indicate that the original reasons for denying exploration aid remain unchanged.

Conclusions and Recommendations:

This Division concurs in the Field Team's recommendation that application DMEA-4744 should be denied and that a re-examination of the proposed project area is not warranted.

Ernest Wm. Ellis

Ernest Wm. Ellis, Director
Division of Rare and
Miscellaneous Metals

DMEA Form 7
(12-56)

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Date	Surname	Code
5/15	Murphy	700
5/15	Ellis	700
5/19	Selfridge	130
"	Johnson	110
"	Mittendorf	100
5/20	H.S.	220
		225
5/19	Yager	130
5/19	Eilsgaard	130

MAY 20 1958

Mr. Marvin D. Carrigan, President
Carrigan Mines, Inc.
1627 East 14th Street
San Leandro, California

Re: Docket No. DMEA-4744 (Uranium)
Autunite Mining Claim Group
Tuolumne County, California

Dear Mr. Carrigan:

Your application for aid in an exploration project and other information available to us in Washington concerning the above-named property have been reviewed.

Projects approved by the Defense Minerals Exploration Administration must, in its judgment, show definite promise of yielding materials of acceptable grade in quantities that will significantly improve the mineral supply position for the National Defense Program.

Mr. Ellis' letter, dated May 15, 1957, to you explained our reasons for denying the previous application, DMEA-4032, covering the same general area. In the opinion of the DMEA staff, the additional drilling done subsequent to the field examination has not disclosed any new geologic information that might alter its previous conclusions regarding the possibility of discovering significant ore deposits on your property. We regret to advise you that, under these circumstances, your application for exploration assistance is denied.

We wish to thank you for your interest in the Defense Minerals Exploration Program and for bringing your property to our attention.

Sincerely yours,

C. O. Mittendorf (for)

Administrator

FMMurphy/izm 5-15-58
cc: Mr. Murphy
Admr.'s Reading File
Operating Committee
THKiilsgaard, 5224
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UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
Washington 25, D. C.

Date May 8, 1958

DMEA Docket No. 4744
DMEA Contract No.
Commodity Uranium
Name of Applicant Carrigan Mines, Inc.
Name of property Autunite Mining Claim Group
Location of property Tuolumne County, Calif.
Estimated cost of project

To: Ernest William Ellis, DMEA Member
Uranium Commodity Committee

From: James Paone, Bureau of Mines Member
Uranium Commodity Committee

Subject: Review of Field Team Report
(Application, Field Team Report, etc.)

1. Date of subject document: 4/29/58. 2. Date received by reviewer: 4/30/58

3. Prior reports on this property known to reviewer: Yes ☐ No ☐

4. Prior reports on nearby properties known to reviewer: Yes ☐ No ☐

5. Information available on past production: Yes ☐ No ☐

6. Other pertinent factors known to reviewer: Yes ☐ No ☐

7. Explain items marked 'yes' above:

8. Factors needing special consideration:
   a. Location ☐
   b. Ownership ☐
   c. Evidence of mineralization ☐
   d. Geology ☐
   e. Proposed exploration method ☐
   f. Alternate exploration method ☐
   g. Costs
   h. ☐

9. Action advised:
   a. Obtain information from applicant ☐
   b. Refer to Field Team ☐
   c. Denial [x]
   d. Agree with Field Team [x]
   e. Disagree with Field Team ☐
   f. Suggest alternate plan ☐
   g. Request another examination ☐
   h. Approval ☐
   i. Consult with Mr. _____ at _____ AEC office.

10. Remarks: (Use back of page if necessary)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WASHINGTON 25, D. C.

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Memorandum

May 7, 1958

To: E. W. Ellis, Defense Minerals Exploration Administration

From: T. H. Kiilsgaard, U. S. Geological Survey

Subject: Review of Field Team Report, DMEA Docket 4744 (Uranium), The Autunite Mining Claim Group, Tuolumne County, California.

An application on the cited property was previously received by DMEA and filed under Docket DMEA 4032. As a result of this application, the property was examined in July of 1956, and a report recommending denial was issued by the Field Team. Since the original denial, the property has changed hands and the new owner now proposes the present exploration program.

Field Team has recommended denial, their recommendations based on the previous examination plus knowledge obtained from the AEC to the effect that no comprehensive additional work has been done since the previous exam. The Field Team believes the deposit to consist of small pods of uranium-bearing carbonaceous material. They believe the proposed work could expect to find only insignificant amounts of uranium and that a significant discovery would not be made.

I concur with Field Team recommendations. No field examination appears to be needed, nor are there any geologic reasons to expect the applicant's proposed work to result in a significant discovery. I recommend denial of the application.

T. H. Kiilsgaard

T. H. Kiilsgaard

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
1605 Evans Avenue
Reno, Nevada

April 29, 1958

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5/5	JHB	130
5/6	C	220
"	Murphy	700

Memorandum

To: Operating Committee, DMEA, Interior Building
Washington 25, D. C.

From: Executive Officer, DMEA Field Team, Region II

Subject: Docket No. DMEA-4744 (Uranium)
Carrigan Mines, Inc.
Autunite Mining Claim Group
Tuolumne County, California

Attached are three copies each of a memorandum from H. K. Stager, Geological Survey, and B. H. Sheahan, Bureau of Mines, relative to subject property.

Neither memorandum suggests that a contract can be justified or that a re-examination is required. Roscoe Smith and I concur and recommend that the application be denied.

The claims are on National Forests and the area is probably more valuable for timber than uranium.

S. Ricker

S. Ricker

Attachments

Reviewed by
DMEA OPERATING COMMITTEE
5-5-58
(date)

ON-SITE EXAM. REPORT

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UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
1605 Evans Avenue
Reno, Nevada

April 15, 1958

Memorandum

To: S. Ricker, Executive Officer, DMEA Field Team, Region II

From: B. H. Sheahan, mining engineer, U. S. Bureau of Mines

Subject: DMEA-4744 (Uranium)
Carrigan Mines, Inc.
Autunite Mining Claim Group
Tuolumne County, California

Carrigan Mines, Inc., a California corporation, with offices at 1627 East 14th Street, San Leandro, California, applied to the Defense Minerals Exploration Administration for Government assistance in a $51,470.00 program to explore for uranium at the Autunite uranium placer claims, Tuolumne County, California. Exploration proposed by the Applicant consists of 8,800 feet of rotary drilling and 200 feet of diamond-core drilling at approximately forty widely-spaced surface drill sites.

The application was referred to the field January 17, 1958 for a review, a field examination, if deemed advisable, and recommendations.

The property was examined July 12, 1956 by B. H.

Reviewed by
DMEA OPERATING COMMITTEE
5-5-58
(date)

Sheahan, U. S. Bureau of Mines, and H. K. Stager, U. S. Geological Survey, relative to a previous application under Docket No. DMEA-4032 (Uranium) and exploration assistance was denied. During the interim period since 1956, Mr. Eugene B. Swanson, the original applicant, leased the property to Carrigan Mines, Incorporated. Several placer claims within this heavily-wooded part of the Stanislaus National Forest were added to the property and a few shallow exploratory holes were drilled in 1957.

Examiners from the A. E. C., who have visited the Autunite uranium claims, state that there was nothing much to see at this property. A deposit five miles to the east in sec. 8, T. 5 N., R. 20 E., M.D.B.&M. was explored by Lake View Mining Company in 1957 and a few small shipments of material averaging 0.20 percent U_3O_8 were made.

CONCLUSIONS AND RECOMMENDATIONS

The recent and prior applications, field notes, and reports were carefully reviewed. The property is situated in a region of very heavy snowfall and will be inaccessible till late spring or early summer. Sufficient data ~~is~~ are available on the

property so that re-examination of the property is not warranted or possible at this time.

The Autunite uranium deposit consists of small pods and lenses of uranium-bearing carbonaceous material in sandstone and pebble conglomerate. The results of the previous examination indicate that the deposit may contain numerous small concentrations of low-grade material similar to those that have been exposed but that the grade is too low and the pods are too small and widely scattered to be economically mined. Samples taken of the most radioactive occurrences or pods do not represent minable quantities of ore.

It is recommended that Government assistance under the DMEA program be denied as the exploration targets contain only insignificant amounts of uranium.

LOCATION, ACCESSIBILITY AND LOCAL FACILITIES

The claims are in secs. 4, 5, 8, and 9, T. 5 N., R. 19 E., M.D.B.& M., Tuolumne County, California in the Eagle Peak area on the west side of the Sierra Nevada at an altitude of 7,000 feet.

To reach the deposit from Dardanelle, the nearest town, follow California Highway No. 108, 7.9 miles westerly, turn left and follow an old section of paved road 0.3 miles

easterly, turn right and follow a steep dirt logging road 2.4 miles southeasterly to Niagara Creek. From this point, the main open-cut trenches near the center of the Autunite No. 1 placer claim can be reached by following a trail one-eighth mile southerly along the west side of Niagara Creek. The claims cover a heavily-wooded portion of the Stanislaus National Forest which is inaccessible from about mid-October until June because of snow conditions.

Sonora, California, the nearest source of labor and supplies, is 48 miles by road from the property. A cabin has been built at the property near the access road, as indicated by the application.

HISTORY AND PRODUCTION

Traces of autunite were discovered in July 1955 by Messrs. Norman Boles, Eugene B. Swanson, and E. M. Tharp. No ore has been produced.

PROPERTY AND OWNERSHIP

The property includes nine placer claims with a total area of 1,440 acres in secs. 4, 5, 8, and 9, T. 5 N., R. 19 E., M.D.B.&M. The claims are now held by Carrigan Mines, Inc.,

lessee, under agreement dated October 21, 1957 with the locators, Eugene B. Swanson, E. M. Tharp, Norman Boles, and associates.

Location certificates are recorded at Sonora, California in the County Recorder's office in Vol. 14, pages 398, 466-470, and 476. Officers of the corporation listed in the application are:

Marvin Dee Carrigan, president and director
Eugene B. Swanson, vice-president and director
John A. Buhl, second vice-pres. and director
Peter Bissett, secretary and director
James Farnan, treasurer and director
Daniel S. Johnson, director
John J. Cracchiolo, director

DEVELOPMENT

Only a few shallow trenches and open cuts have been excavated on the property. Most of the work was done with a bulldozer. The largest trench is from one to five feet deep, 20 feet wide, and 40 feet long. Four shallow rotary drill holes with a total footage of 572 feet were drilled in 1957. One hole, No. 23, described in the application was drilled to a depth of 121.6 feet and showed uranium mineralization between interval 107-110 feet that assayed 0.12 percent U_3O_8. The hole evidently cut through a small pod and no significant tonnage of this type of material can be inferred.

GENERAL GEOLOGY

The claims are in the bottom of a small stream-cut canyon in an area of moderate relief. Because of slope wash, stream debris, and thick timber cover there are few outcrops. The rocks exposed in the claim area are chiefly sandstone and pebble conglomerate of probable late Tertiary age. These rocks are remnants of stream or lake deposits in a small basin surrounded and underlain by rocks of the Sierra Nevada batholith of Cretaceous age.

The oldest rock in the claim area is a light-gray, medium-grained granodiorite. Overlying the grandiorite is a light-gray to brown, lenticular, crossbedded, silty, sandstone bed from a few inches to about 20 feet thick. The sandstone consists chiefly of grains of andesite, basalt, and pumice, poorly cemented with limonite and secondary silica. Carbonaceous material in the form of fossil logs, branches, leaves, and finely divided plant remains is abundant near the base of the sandstone. Overlying the sandstone is a bed of dark red-brown, sandy, well cemented, pebble conglomerate from a few feet to about 100 feet thick. The conglomerate consists of well rounded pebbles of andesite, basalt, and granodiorite with sparse cobbles as much

as one foot in diameter. The source of the volcanic rocks that comprise the bulk of the sedimentary beds is a thick sequence of basalt and andesite flows 10 miles to the east.

The basin containing the sedimentary rocks is about 3,000 feet long and 1,000 feet wide. The beds are nearly flat lying over much of the area with maximum dips of about 5 degrees locally. The sedimentary rocks are thoroughly dissected by Niagara Creek and its tributaries so that all dimensions of the beds, both laterally and vertically, can be observed.

ORE DEPOSITS

The uranium deposit consists of small pods and lenses of uranium-bearing carbonaceous material in sedimentary rocks. The ore minerals were derived by leaching of trace amounts of uranium contained in overlying and surrounding volcanic and plutonic rocks and redeposition in shaly sandstone and pebble conglomerate.

The only uranium mineral observed was autunite that occurs as sparsely disseminated flakes coating sand grains and pebbles. Gangue minerals are limonite, goethite, marcasite, and hyalite with abundant carbonaceous material.

The uranium-bearing concentrations are from a few inches to a foot in diameter localized around nuclei of carbonized wood or finely divided plant remains. The uranium content ranges from a trace to 0.13 percent U_3O_8. Except in the immediate vicinity of these small pods of uranium-bearing material the radioactivity of the sandstone and conglomerate beds containing the pods is not above background and the uranium content is estimated to be less than 0.01 percent U_3O_8.

The localization of the uranium-bearing minerals is controlled by the carbonaceous material in the sedimentary beds. This carbonaceous material is abundant throughout the claim area but only part of it is mineralized and in many places concentrations of carbonaceous material only a few feet from uranium-bearing material is unmineralized.

In only two places on the claims has material containing more than 0.1 percent U_3O_8 been exposed. These two exposures are about 1,000 feet apart.

SAMPLING

Samples were taken from the most radioactive occurrences of conglomerate, sandstone, and fossil carbon.

Sample No.	Width, feet	Percent eU_3O_8	Percent cU_3O_8	Description	Location
S-494	1.2	0.04	0.13	Conglomerate with carbon.	Vertical cut 100 ft. east of $\frac{1}{4}$ sec. corner.
S-495	2.0	Trace	0.04	Conglomerate and sandstone.	Vertical cut, 75ft. north of sample S-494.
S-496	2.0	0.02	0.06	Sandstone with carbon.	Cave 1/10 mile NE of main trenches.
S-497	1.0	0.16	0.13	Fossil log with carbon.	Pit 1/5 mile north of main trenches along west side of Niagara Creek.

ORE RESERVES

There are no reserves of ore grade (over 0.2 percent U_3O_8) material on the Autunite Uranium Claims.

By careful mining and sorting of the uranium-bearing carbonaceous material a few hundred pounds of material containing about 0.15 percent U_3O_8 may be produced.

APPLICANT'S EXPLORATION PROPOSAL

The Applicant proposes to explore for uranium ore bodies by drilling 40 rotary drill holes from widely spaced surface drill sites. The work would consist of approximately 8,800 feet

of $4\frac{1}{4}$-inch diameter rotary drilling and 200 feet of diamond core drilling with the use of water as the drilling media. The work would be under field supervision of Eugene B. Swanson with geological assistance from a consulting engineer and geologist.

The proposed holes are very widely spaced, cost estimates are excessively high, and either dry or wet rotary drilling would give very little information because of difficult sampling problems involved in this type of deposit.

The concentrations of uranium-bearing material are too small and widely scattered to be found by a drilling program. Previous exploration by bulldozing has disclosed several small pods of uranium-bearing material but the cost of this type of exploration is prohibitive for the size of the ore body found.

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
Mineral Deposits Branch
4 HOMEWOOD PLACE
MENLO PARK, CALIFORNIA

IN REPLY REFER TO:
DMEA
RECEIVED MAY 1 1958
DATE
5/5 JHB 130
220

April 16, 1958

Memorandum

To: S. Ricker, Executive Officer, DMEA Field Team, Region II

From: H. K. Stager, U. S. Geological Survey
Through: R. M. Smith RMS

Subject: DMEA-4744 (Uranium)
Carrigan Mines, Inc.
Autunite mining claim group
Tuolumne County, California

The Autunite claims are at an altitude of over 7,000 feet in the Sierra Nevada and will not be free of snow and accessible for a field examination until June or July 1958. The following comments are based on the previous examination of this property, docket DMEA-4032 (Uranium), made on July 12, 1956. This memorandum is to supply the Operating Committee with a preliminary appraisal of the application.

The only new work at the property, since the previous examination, consists of four rotary-drill test holes and a geologic examination and report by Mr. Francis Frederick. The four test holes totaled 572 feet of drilling and are all in the immediate area of the surface radioactive exposures that were examined previously.

Reviewed by
DMEA OPERATING COMMITTEE
5-5-58
(date)

Only one hole (No. 23) cut radioactive material that approaches ore grade. About one foot of material that was estimated by geiger-counter probing to contain about 0.12 percent U_3O_8 was cut at a depth of 107 feet near the base of the sedimentary section.

All of the uranium concentrations exposed on the property are near the base of the sedimentary rocks or just above the granodiorite contact. These concentrations consist of small pods and lenses a few inches to a foot in diameter, localized around nuclei of carbonized wood or finely-divided plant remains, in sandstone and pebble conglomerate. The uranium content ranges from a trace to 0.13 percent cU_3O_8. Except in the immediate vicinity of these small pods the radioactivity of the sandstone and conglomerate is not above background and the uranium content is estimated to be less than 0.01 percent U_3O_8. The localization of the uranium-bearing minerals is controlled by the carbonaceous material. This carbonaceous material is abundant throughout the claim area but only part of it is mineralized and in many places concentrations of carbonaceous material only a few feet from uranium-bearing

material is unmineralized. It is probable that the applicant's drill hole cut one of these pods or lenses of uranium-bearing material.

The geologic map by Mr. Frederick indicates that the area underlain by sedimentary rocks is larger than was estimated by the DMEA examiners but no new surface exposures of radioactive material have been found. Frederick infers that the uranium content of the sedimentary rocks has been leached from the carbonaceous layers and will be found in larger and higher grade ore bodies in the lower parts of the sedimentary basin. These ore bodies are the target of the applicant's proposed exploration project.

I infer that the pods and lenses of uranium-bearing carbonaceous material exposed along Niagara Creek are typical of the kind of concentration that is formed by the leaching of trace amounts of uranium from volcanic sediments and redeposition in carbonaceous horizons. Uranium that is once precipitated by carbonaceous material is not readily redissolved by ground waters and it is not probable that larger or higher grade ore bodies have been formed elsewhere in the claim area by this method.

I do not believe that sufficient new work has been done to prove the reserve potential of the deposit is significantly greater than was estimated as a result of the previous examination. I do not believe that a new field examination is warranted but if one is made it will probably result in another denial of the application.

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
1/15/58	Murphy	700
1/16	Ellis	700
1/17	Selfridge	130
1/17	Johnson	110
1/17	Mittendorf	100
1/17	gb	220
		700
1/17	Lamb	130
1/17	Bilegan	100

JAN 17 1958

Mr. Marvin D. Carrigan, President
Carrigan Mines, Inc.
1627 East 14th Street
San Leandro, California

Re: Docket No. DMEA-4744 (Uranium)
Autunite Mining Claim Group
Tuolumne County, California

Dear Mr. Carrigan:

This is to acknowledge receipt of the supplementary data submitted with your letter of December 31, 1957, to Mr. Ellis. Your application is now being referred to Mr. Spangler Ricker, Executive Officer, DMEA Field Team, Region II, 1605 Evans Avenue, Reno, Nevada, for further consideration and possibly a field examination.

The Regional Office will contact you in regard to your proposed project if additional information is required.

Sincerely yours,

C. O. Mittendorf (for)

Administrator

Copy to: Eugene B. Swanson
27104 Underwood Avenue
Hayward, California

FMMurphy/gla 1-15-58
cc to: Admr.'s Reading File
Mr. Murphy
DMEA Field Team, Region II (2)

8623

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
1/15/58	Murphy	700
1/16	Ellis	700
1/17	[illegible]	130
"	Johnson	110
"	Fitzhenry	100
1/17	gb	220
		700

JAN 17 1958

Mr. Spangler Ricker
Executive Officer
DMEA Field Team, Region II
1605 Evans Avenue
Reno, Nevada

Re: Docket No. DMEA-4744 (Uranium)
Carrigan Mines, Inc.
Autunite Mining Claim Group
Tuolumne County, California

Dear Mr. Ricker:

The captioned application is referred to Region II Field Team for review, a field examination if deemed advisable, and recommendations.

Enclosed are copies of memoranda, dated January 9 and 13, 1958, by N. E. Nelson, USGS, and James Paone, USBM, respectively, relating to the application. Also enclosed, for Field Team use, are one copy of the application and two copies of the supplementary information received January 7, 1958.

In the event the Field Team concludes that a project to explore the subject group may be warranted, it should advise the Applicant that early submission of a set (5 copies) of Form MF-205, signed by all the lessees listed in its lease, dated October 21, 1957, will expedite the processing of the application. At the same time, the Applicant should be cautioned that the request for submission of these forms does not necessarily imply that a contract will be approved.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (GCS)

Enclosures

FMMurphy/gla 1-15-58
cc to: Admr.'s Reading File
Operating Committee
THKiilsgaard, 5224
Mr. Murphy

APPROVED:

Frank D. Lamb (FDL)
Member, Bureau of Mines

Thor H. Kiilsgaard (THK)
Member, Geological Survey

8623

OFFICIAL FILE COPY
DMEA
RECEIVED JAN 14 1958

DATE	INITIALS	CODE
1/14	C	220
1/15	Murphy	700

January 13, 1958

Case Number: 4744
Mineral: Uranium
Name of applicant: Marvin D. Carrigan
Name of property: Carrigan Mines, Incorporated
Location of property: Tuolumne County, Calif.
Estimated cost of project: $51,470

To: Ernest Williams Ellis, DMEA Member
Uranium Commodity Committee
From: James Paone, Bureau of Mines Member
Uranium Commodity Committee

Subject: Application
(Application, field report, etc.)

1. Date of original discovery: 4/30/57 2. Date received by reviewer: 1/10/58

3. Prior reports on this property known to reviewer: Yes [ ] No [ ]

4. Prior reports on nearby properties known to reviewer: Yes [ ] No [ ]

5. Information available on past production: Yes [ ] No [ ]

6. Other pertinent factors known to reviewer: Yes [ ] No [ ]

7. Explain items marked yes above:

8. Factors meeting special consideration:
   a. Location [ ]
   b. Ownership [ ]
   c. Evidence of mineralization [ ]
   d. Geology [ ]
   e. Proposed exploration method [ ]
   f. Alternate exploration method [ ]
   g. Costs [x]
   h. _____ [ ]

9. Action advised:
   a. Obtain information from applicant [ ]
   b. Refer to Field Team [x]
   c. Permit [ ]
   d. Agree with Field Team [ ]
      1. Consult with Mr. _____
   e. Disagree with Field Team [ ]
   f. Suggest changes to plan [ ]
   g. Request engineer examination [ ]
   h. Approval [ ]
   i. _____ AEC office

10. Remarks: (Use back of page if necessary)

MARVIN D. CARRIGAN
President & Treasurer
EUGENE B. SWANSON
Vice-President
DON BROWN
Secretary

1627 EAST 14th STREET
SAN LEANDRO, CALIFORNIA
LOckhaven 2-1128

CARRIGAN MINES
INCORPORATED

JANUARY 11, 1958

ERNEST WM. ELLIS, DIRECTOR
DIVISION OF RARE AND MISC. METALS
WASHINGTON 25, D.C.

EUGENE B. SWANSON
27104-UNDERWOOD AVE.
HAYWARD, CALIFORNIA

DEAR MR. ELLIS;

RE: DOCKET NO. DMEA-4744 (URANIUM)
AUTUNITE MINING CLAIM GROUP
TUOLUMNE COUNTY, CALIFORNIA

I AM IN RECEIPT OF YOUR LETTER DATED JANUARY 6, 1958 PLEASE BE INFORMED THAT SAID REQUIRED INFORMATION WAS MAILED DECEMBER 31, 1957 IN PACKET FORM REGERESTED MAIL, ADDRESSED TO YOURSELF.

WE ARE VERY MUCH INTERESTED IN THE PROCESSING OF THIS APPLICATION SUBMITTED FOR YOUR APPROVAL. IF YOU HAVEN'T RECEIVED SAID COMPILED INFORMATION BY THIS DATE PLEASE INFORM ME, AND I WILL REPEATE THE PROCEEDURE, IMMEDIATELY.

THANKING YOU FOR YOUR COOPERATION IN THIS MATTER I REMAIN,

SINCERELY YOURS;

Eugene B. Swanson
EUGENE B. SWANSON

OFFICIAL FILE COPY
DMEA
RECEIVED JAN 15 1958

DATE	INITIALS	CODE
1/15	C	220
		700

IN REPLY REFER TO:

OFFICIAL FILE COPY
DMEA
RECEIVED JAN 10 1958

DATE	INITIALS	CODE
1-10	gb	220
"	Murphy	700

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WASHINGTON 25, D. C.

January 9, 1958
Re: DMEA 4744
Carrigan Mines, Inc.
Autunite Group
Tuolumne County, California
$51,470.00 - Uranium

Memorandum

To: E. W. Ellis, Defense Minerals Exploration Administration

From: N. E. Nelson, U. S. Geological Survey

Subject: Review of application.

The applicant requests assistance in prospecting by drilling parts of a Tertiary sediments filled basin from several places in which specimens of uranium-bearing material have been taken. Such material is associated with carbonized material. No concentration of the carbonized material appears to have been found on the claims, but at the Judd property, one mile to the east and in the same basin, ore is said to have been found by drilling and perhaps a semblance of a channel is indicated. Material was shipped in 1956 from a property 5 miles to the east.

Drilling of 4 holes on the Autunite claims resulted in one "ore hole". Probing of Hole 23 indicated uranium content of 0.12% U_3O_8 at 107 feet, with 0.08% U_3O_8 between 107 and 110 feet. The only sampling mentioned, other than character samples, is that done by the consultant, Mr. Frederick. An "about one-foot" sample assayed 0.05% U_3O_8.

No definite target is offered as yet. Perhaps some prospective drilling is warranted.

Referral of the application to the Field Team is recommended.

N. E. Nelson

N. E. Nelson

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
1/3/58	Murphy	700
1/6	Ellis	700
6	Butterman	100
1/6	gb	220
		700

JAN 6 1958

Mr. Eugene B. Swanson
Vice President
Carrigan Mines, Incorporated
27104 Underwood Avenue
Hayward, California

Re: Docket No. DMEA-4744 (Uranium)
Autunite Mining Claim Group
Tuolumne County, California

Dear Mr. Swanson:

Reference is made to your letter of November 28, 1957, and our reply of December 3, relating to the captioned docket.

Action on your application is pending receipt of the information requested in the above-mentioned letter. If you are no longer interested in the processing of this application, please advise us.

Sincerely yours,

Ernest Wm. Ellis, Director
Division of Rare and
Miscellaneous Metals

FMMurphy/gla
1-3-58
cc to: Admr.'s Reading File
THKiilsgaard, 5224
FMMurphy
DMEA Field Team, Region II (2)

8623

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
12-3	Murphy	700
"	Ellis	700
"	Matthews	100
12/3	gr	200
		700

DEC 3 1957

Mr. Eugene B. Swanson
Vice President
Carrigan Mines, Incorporated
27104 Underwood Avenue
Hayward, California

Re: Docket No. DMEA-4744 (Uranium)
Autunite Mining Claim Group
Tuolumne County, California

Dear Mr. Swanson:

This is to acknowledge your letter of November 28, 1957, relating to the above-referenced application.

Since you have performed additional work and plan to add additional land to the original proposed project area, it is suggested that an amended application be submitted as soon as possible.

To assist you in preparing the amended application, enclosed is a sample copy of the application form. Please endeavor to answer all the questions as completely as possible. Also, note that we require four copies each of all supplementary information, maps, etc., (in the case of leases two copies are sufficient). The sample copy of the application need not be returned.

We note that Mr. Carrigan, in his letter, dated October 4, stated that the additional information would be submitted on or before December 1, 1957.

Sincerely yours,

(S)

Ernest Wm. Ellis, Director
Division of Rare and
Miscellaneous Metals

Enclosure
FMMurphy/izm 12-3-57
cc: Mr. Murphy
Admr.'s Reading File
THKiilsgaard, 5224
DMEA FT Reg. II (2) w/2 cc of incoming letter)

8623

OFFICIAL FILE COPY
DMEA
RECEIVED DEC 2 1957

DATE	INITIALS	CODE
12/2	C	220
12	~~FMM~~	~~700~~

MARVIN D. CARRIGAN
President & Treasurer
EUGENE B. SWANSON
Vice-President
~~DON BROWN~~ peter Bissett
Secretary

CARRIGAN MINES INCORPORATED

1627 EAST 14th STREET
SAN LEANDRO, CALIFORNIA
LOckhaven 2-1128

NOVEMBER 28, 1957

F.L. KNOUSE, ACTING DIRECTOR
DIVISION OF RARE AND MISC. METALS
WASHINGTON 25 D.C.

EUGENE B. SWANSON
27104-UNDERWOOD AVE.
HAYWARD, CALIFORNIA

RE: DOCKET NO. D.M.E.A. 4744 (URANIUM)
AUTUNITE MINING CLAIM GROUP
TUOLUMNE COUNTY, CALIFORNIA

DEAR MR. KNOUSE:

YOU WILL RECEIVE OUR ADDITIONAL INFORMATION VERY SOON AS OUR GEOLOGIST, MR. FRANCIS H. FREDERICK IS SUBMITTING HIS PACKAGE TO OUR ATTORNEY FOR HIS APPROVAL BEFORE BEING SIGNED BY OUR SEVEN BOARD OF DIRECTORS.
WE HAVE A FAILING DRILL NO. 750 UNDER CONTRACT FOR NEXT SUMMER, AS WE WERE SNOWED OUT ON NOVEMBER 18, 1957 WHILE COMPILING ADDITIONAL INFORMATION WITH THIS DRILL.
THE STATE HIGHWAY ORDERED ALL PERSONAL OUT OF THE AREA, BECAUSE OF SNOW CONDITIONS, AS HIGHWAY 108 IS NOT MAINTAINED ABOVE STRAWBERRY CALIFORNIA, WE ARE 13 MILES ABOVE STRAWBERRY CALIFORNIA. THE SNOW GATES ARE LOCKED FOR THE WINTER MONTHS, WE PLAN ON CONTINUING OUR EXPLORATION BY DRILLING JULY 1, 1957 BY CONTRACT, ALLREADY LET.
THE DRILL HAS BEEN ON STAND BY, IN HOPES THE SNOW WOULD MELT SO WE COULD RESUME OUR DRILLING EXPLORATION, HOWEVER WE ARE ASSURED IT WOULD NOT BE PRACTICLE TO ATTEMPT TO RETURN THIS WINTER.
THE INFORMATION YOU WILL RECEIVE IN MY OPINION IS MERRITABLE:
WE HAVE MINERALIZATION IN OUR NO. 23 DRILL HOLE FROM 107 TO 110' HOLE IS 121'.6" DEEP.
WE WERE NOT EQUIPPED WITH A CORE BARREL AT THE TIME, BUT OUR RADIOMETERIC READING ON THE BABBLE COUNTER WITH HOLE PROBE, MEASURED APPROX. 3' OF RADIO ACTIVITY.
WE HAVE CONSTRUCTED A WORKERS CABIN, WITH 10 BUNK BEDS FOR CONTINUED EXPLORATION AND DEVELOPMENT USE ONLY.
OUR HOLDING HAVE BEEN INCREASED FROM 160 ACRES UNDER LEASE TO 1440 ACRES ALL ADJOINING PROPERTY TO TAKE IN THE WHOLE OF THE BASIN AREA, FOR EXPLORATION.
MOST OF OUR NEEDED DRILLING ROADS ARE IN, AS OF NOW; AND OUR EFFORTS WILL BE CONCENTRATED TOWARDS DRILLING, UNDER THE DIRECTION OF OUR GEOLOGIST MR. FREDERICK.
THERE IS ADDITIONAL ACTIVITY NORTH, AND EAST OF OUR PROPERTY UNDER LEASE, ALL INFORMATION BEING COMPILED BY DRILLING, UNTIL SNOW CONDITIONS FORCED US OUT, FOR THE WINTER.

SINCERELY YOURS,

Eugene B. Swanson

EUGENE B. SWANSON.

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
10/10	Murphy	700
10/10	Knouse	700
10	Mattenton	100
10/10	B	220
		700

OCT 10 1957

Mr. Marvin D. Carrigan, President
Carrigan Mines, Incorporated
1627 East 14th Street
San Leandro, California

Re: Docket No. DMEA-4744 (Uranium)
Autunite Mining Claim Group
Tuolumne County, California

Dear Mr. Carrigan:

This is to acknowledge your letter of October 4, in response to Mr. Ellis' letter of September 27, 1957.

In view of your letter, we will hold the subject application in abeyance pending receipt of the information you plan to submit on or before December 1, 1957.

Sincerely yours,

S

F. L. Knouse, Acting Director
Division of Rare and
Miscellaneous Metals

FMMurphy/gla
10-10-57
cc to: Admr.'s Reading File
THKiilsgaard, 5224
FMMurphy
DMEA Field Team, Region II (2) w/2cc Mr. Carrigan's letter October 4, 1957

8623

MARVIN D. CARRIGAN
President & Treasurer
EUGENE B. SWANSON
Vice-President
DON BROWN
Secretary

1627 EAST 14th STREET
SAN LEANDRO, CALIFORNIA
LOckhaven 2-1128

CARRIGAN MINES INCORPORATED

UNITED STATES DEPT. OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
WASHINGTON 25, D.C.

OCTOBER 4, 1957

RE: DOCKET NO. D.M.E.A. 4744 (URANIUM)
AUTUNITE MINING CLAIM GROUP
TUOLUMNE COUNTY, CALIFORNIA

ERNEST WM. ELLIS, DIRECTOR
DIVISION OF RARE AND MISCELLANEOUS METALS.

DEAR MR. ELLIS;

I AM SORRY FOR THE DELAY, HOWEVER IT WAS DECIDED BY OUR CORPORATION NOT TO DISSOLVE THE CARRIGAN MINES INC. ; AND THAT AUTUNITE MINES INC. NEED NOT BE FORMED TO DEVELOP OUR LEASES,:

WE ARE AT THIS TIME OBTAINING ADDITIONAL HELPFUL GEOLOGICAL INFORMATION FROM MR. FRANCIS H. FREDERICK, ON OUR PROPERTY, AND GETTING READY FOR THE SECOND PHASE OF OUR DRILLING PROGRAM. WE INTEND TO HAVE A COMPLETE PACKAGE READY FOR YOUR OFFICE ON OR BEFORE DECEMBER 1, 1957 COMPILED BY MR. FREDERICK.

MR. FREDERICK WILL INFORM YOUR OFFICE OF OUR INTENTIONS, AND REORGANIZATION IN THE VERY NEAR FUTURE.

SINCERELY YOURS,

MARVIN D. CARRIGAN

OFFICIAL FILE COPY
DMEA
RECEIVED OCT 9 1957

DATE	INITIALS	CODE
10/9	B	220
"	Murphy	700

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
9/27	FMMurphy	700
"	[illegible]	100
9/27	B	220
		700

SEP 27 1957

Mr. Marvin D. Carrigan, President
Carrigan Mines, Incorporated
1627 East 14th Street
San Leandro, California

Re: Docket No. DMEA-4744 (Uranium)
Autunite Mining Claim Group
Tuolumne County, California

Dear Mr. Carrigan:

In a letter, dated August 9, 1957, Mr. Francis H. Frederick, Geologist, informed this office that Carrigan Mines, Inc., is being dissolved and Autunite Mines, Inc., is being formed in its place; also, that the new corporation will control the lands held by your corporation together with considerable other property.

In response to Mr. Frederick's letter, this office on August 14, 1957, suggested that he advise Carrigan Mines, Inc., to withdraw the above-docketed application; also, that a new application could then be submitted by Autunite Mines, Inc., if it so desires.

It was also suggested that the notice of withdrawal should be submitted as soon as possible to save needless correspondence.

We prefer not to hold an application in abeyance for an indefinite period. Therefore, will you kindly advise this office the action you wish this Agency to take in regard to the subject application.

Sincerely yours,

Ernest Wm. Ellis, Director
Division of Rare and
Miscellaneous Metals

FMMurphy/izm 9-27-57
cc: Mr. Murphy
Admr.'s Reading File
THKiilsgaard, 5224
DMEA FT Reg. II (2)

8623

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
8/13	Murphy	700
8/13	Knouse	700
14	Mitterdorf	100
8/15	P	220
		700

AUG 14 1957

Mr. Francis H. Frederick
1209 De Young Bldg.
690 Market Street
San Francisco 4, California

Re: Docket No. DMEA-4744 (Uranium)
Carrigan Mines, Incorporated
Autunite Mining Claim Group
Tuolumne County, California

Dear Mr. Frederick:

This is to acknowledge your letter, dated August 9, 1957, relating to the subject application.

It is suggested that you advise Carrigan Mines, Inc., to withdraw application DMEA-4744 and, then, when you have compiled the additional information mentioned in your letter, a new application in the name of Autunite Mines, Inc., may be submitted. Material included in applications DMEA-4032 and 4744 need not be duplicated in the new application.

In the event a new application is submitted, a re-examination of the project area will probably have to be made because additional work has been done on the property subsequent to the last DMEA field examination.

Although Mr. Swanson advised you that he would rather apply under one of the old docket numbers, the suggested new application will receive equal consideration and be processed as rapidly as possible.

A letter from Mr. Swanson requesting that application Docket No. DMEA-4744 be withdrawn should be submitted as soon as possible to save needless correspondence.

Enclosed are five copies, one extra copy, of our application form.

Sincerely yours,

F. L. Knouse, Acting Director
Division of Rare and
Miscellaneous Metals

FMMurphy/gla
8-13-57
cc to: Admr.'s Reading File
THKiilsgaard, Rm. 5224
Code 700, Mr. Murphy
DMEA Field Team, Region II (2)
w/2cc Mr. Frederick's letter
Enclosures

8623

FRANCIS H. FREDERICK
MINING GEOLOGIST

1209 DE YOUNG BLDG.
690 MARKET STREET
SAN FRANCISCO 4, CALIFORNIA
PHONE SUTTER 1-1562
SUTTER 1-7982

RESIDENCE:
2715 STUART STREET
BERKELEY 5, CALIFORNIA
PHONE ASHBERRY 3-7651

August 9, 1957

OFFICIAL FILE COPY
DMEA
RECEIVED AUG 13 1957

DATE	INITIALS	CODE
8/13	Q.	220
"	FMM	700

Ernest Wm. Ellis, Chief
Rare and Miscellaneous
Metals Division
Defense Minerals Exploration Administration
United States Department of the Interior
Washington 25, D.C.

Re: Docket No. DMEA-4744 (Uranium)
Autunite Mining Claim Group
Tuolumne County, California

Dear Mr. Ellis:

Mr. Eugene B. Swanson of Carrigan Mines, Incorporated has asked me to advise you in connection with their DMEA application. I have talked on the telephone to Mr. Ricker at Reno about the delay in information in connection with the application and Mr. Ricker advised me that I should advise you in writing about the mining corporation's plans.

I have not been able to prepare any data to this time that would be suitable as information to support an application for DMEA assistance. The season at the property is a short one unless considerable preparation for winter work is made in the summer season. I anticipate that the company will not have sufficient information to be of interest to DMEA until about the close of the present operating season, and therefore plan to submit an application in behalf of Mr. Swanson and his associates at about the end of the present operating season. That means that the DMEA application could be processed during the winter months and an examination considered for the beginning of the operating season in 1958.

In the last month a few holes were drilled to a depth of 100 and 165 feet at the property in an attempt to find a granite basement. (The granite basement to the Tertiary volcanics.) Some of the drilling has been encouraging. We plan to map the geology of the area looking for troughs in the granitic floor and for concentrations of carbonaceous material in certain of the volcanic sediments. Further drilling will be done by the company this season,

and some drilling is being done in two of the neighboring properties at this time. We hope to have the benfit of all of the information in the district to use in preparing a program of exploration to be submitted to DMEA for assistance.

Carrigan Mines, Incorporated is being dissolved and Autunite Mines, Incorporated is being formed in its place and will have the same properties under control that were controlled or held by Carrigan Mines, Inc. These are the same properties that were held by Swanson, et al in their original application under DMEA - 4032, but with considerable property added to the group.

We plan to follow the suggestions in your letter of May 15, 1957, addressed to Mr. Marvin D. Carrigan of Carrigan Mines, Inc. and will include a map of the property showing the locations of the dozer work done and the drilling already completed and the location of the proposed drilling and other work that will be planned at that time.

If it is proper to hold the present application in abeyance with the same docket number DMEA-4744 then the Autunite Mines, Inc. which is now being formed will apply for assistance under the same docket number that was used for Carrigan Mines, Inc. Mr. Eugene B. Swanson is the active head of the work that was going on for Carrigan Mines, Inc. and will be the active head in Autunite Mines, Inc. He was also the active one in the original application DMEA - 4032. If it is not in order for Autunite Mines, Inc. to apply under the old docket number, or either of the old docket numbers, please advise, although I think that Mr. Swanson would prefer to apply under one of the old numbers in the belief that it will save some time in getting consideration for his project.

Sincerely,

Francis H. Frederick

FHF:ea

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
7/12	Murphy	700
"	Kirsch	700
15	Intendlo	100
1-15	C	220
		700

JUL 15 1957

Mr. Eugene Bertram Swanson
Carrigan Mines, Incorporated
1627 East 14th Street
San Leandro, California

Re: Docket No. DMEA-4744 (Uranium)
Autunite Mining Claim Group
Tuolumne County, California

Dear Mr. Swanson:

This is to acknowledge your letter of July 8, in response to Mr. Ellis' letter of May 27, 1957.

As requested, we will hold the subject application in abeyance pending receipt of the additional information, which you state will be submitted about August 1, 1957. We note that your geologist will contact Mr. Ricker and explain the delay in submitting the additional information suggested by this office in our letter, dated May 15, 1957.

Sincerely yours,

SIGNED
W. L. Knouse, Acting Director
Division of Rare and
Miscellaneous Metals

FMMurphy/gla
7-12-57
cc to: Admr.'s Reading File
Code 700, Mr. Murphy
THKiilsgaard, Rm. 5224
DMEA Field Team, Region II (2) w/2cc incoming letter

8623

MARVIN D. CARRIGAN
President & Treasurer
EUGENE B. SWANSON
Vice-President
DON BROWN
Secretary

1627 EAST 14th STREET
SAN LEANDRO, CALIFORNIA
LOckhaven 2-1128

CARRIGAN MINES
INCORPORATED

JULY 8, 1957

ERNEST WM. ELLIS, CHIEF
RARE METALS DIVISION, AND MICELLANEOUS
UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
WASHINGTON 25, D.C.

EUGENE B. SWANSON
27104-UNDERWOOD AVE.
HAYWARD, CALIFORNIA

RE: D.M.E.A. 4032 AND D.M.E.A. 4744
AUTUNITE MINING CLAIM GROUP
TUOLUMNE COUNTY, CALIFORNIA

DEAR SIR;

OUR LETTER TO YOU OF MAY 21, 1957 REQUESTING UNTIL JULY 20, 1957 TO COMPLETE OUR GEOLOGICAL MAPING OF THE ABOVE MENTIONED MINING PROPERTY, BY OUR CORPORATION GEOLOGIST MR. FRANCIS H. FREDERICK, WILL BE DELAYED UNTIL AUGUST 1, 1957.

REASONS BEING THAT MR. FREDERICK WILL REQUIRE ADDITIONAL TIME TO COMPLETE SAME, AND HE WILL CONTACT MR. SPANGLER S. RICKER OF 1605-EVANS AVE. RENO, NEVADA (A.E.C.), AND EXPLAIN THE DELAY. WE REQUEST AN EXTENTION OF TIME TO COMPLETE OUR NECESSARY WORK, AS YOUR OFFICE REQUIRED, AND PREPARE REQUIRED DATA.

SINCERELY YOURS,

Eugene Bertram Swanson
EUGENE BERTRAM SWANSON

OFFICIAL FILE COPY
DMEA
RECEIVED JUL 11 1957

DATE	INITIALS	CODE
7/11	P.K.	220
"	Murphy	700
		[redacted]

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
5/27	Murphy	700
5/27	Ellis	700
"	Mittenwald	100
5/27	Ford	~~700~~
		700
		~~930~~

MAY 27 1957

Mr. Marvin D. Carrigan, President
Carrigan Mines, Incorporated
1627 East 14th Street
San Leandro, California

Re: Docket No. DMEA-4744 (Uranium)
Autunite Mining Claim Group
Tuolumne County, California

Dear Mr. Carrigan:

This is to acknowledge your letter of May 21, in response to ours of May 15, 1957, relating to the above-referenced application.

In view of your statement that you plan to do some preliminary work on the subject claim group and will submit the information requested in our letter by July 20, 1957, we will hold your application in abeyance until that time.

Sincerely yours,

SIGNED

Ernest Wm. Ellis, Director
Division of Rare and
Miscellaneous Metals

FMMurphy
~~EWEllis~~/izm 5-27-57
cc to: Mr. Ellis
Admr.'s Reading File
THKiilsgaard, 5224
DMEA FT Reg. II (2)

8623

MARVIN D. CARRIGAN
President & Treasurer
EUGENE B. SWANSON
Vice-President
DON BROWN
Secretary

CARRIGAN MINES INCORPORATED

1827 EAST 14th STREET
SAN LEANDRO, CALIFORNIA
LOckhaven 2-1128

OFFICIAL FILE COPY
D M E A
RECEIVED MAY 24 1957

DATE	INITIALS	CODE
5/24	JWD	220
	Mangley	700

MAY 21, 1957

ERNEST WM. ELLIS, CHIEF
RARE METALS DIVISION, AND MISCELLANEOUS
UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
WASHINGTON 25, D.C.

RE: D.M.E.A.-4744 (URANIUM)
AUTUNITE MINING CLAIM GROUP
TUOLUMNE COUNTY, CALIFORNIA

DEAR MR. ELLIS:

I AM IN RECEIPT OF YOUR LETTER DATED MAY 15,1957, WITH MENTION OF THE D.M.E.A. NO. 4032 AND REASON FOR DENIAL, SAID PROPERTY WAS LEASED FROM EUGENE B. SWANSON, ET AL, AND THE HOLDINGS WERE INCREASED TO INCLUDE THE BASIN, APPROX. ACREAGE NOW HELD IS 1440.

I MADE AN INSPECTION OF THE PROPERTY WITH SEVERAL DRILLING CONTRACTORS, ON MAY 10,1957 AS OUR CORPORATION IS READY TO COMPLETE THE NECESSARY EXPLORATION NEEDED TO PROVE OR DISPROVE THIS PROPERTY BEFORE D.M.E.A. ASSISTANCE WOULD BE REQUESTED, FOR A LARGE SCALE DEVELOPMENT, OR EXPLORATION PROGRAM, UNDER THE SUPERVISION OF OUR GEOLOGIST MR. FREDERICK.

THE ROADS TO THE PROPERTY WERE CLOSED BY SNOW DRIFTS AT LEAST 5' DEEP, APPROX. 200 YARDS APART, DOWN THE DRAINAGE DRAWES, AND WE WERE FORCED TO WALK IN TO COMPLETE OUR INSPECTION WITH THE DRILLERS, AND THE FOREST RANGER TO SELECT THE CABIN SITE, AGREEABLE WITH THE FOREST SERVICE OF THIS AREA.

IT IS MY OPINION THAT WE WILL BE REQUIRED TO WAIT UNTIL APPROX. JUNE 15,1957 BEFORE DOING ANY OF OUR PLANNED PRELIMINARIES THIS SEASON. MR. FREDERICK OUR GEOLOGIST WILL NEED AT LEAST SEVERAL WEEKS TO COMPLETE HIS MAPPING, AND ROUGH SURVEY WORK BEFORE WE WILL BE READY TO COMMENCE OUR FIRST STAGE DRILLING PROGRAM, WITHIN THIS BASIN.

I AM REQUESTING THAT YOU HOLD THIS DOCKET NO.D.M.E.A.4744 OPEN FOR THE ADDITIONAL INFORMATION WE BOTH REQUIRE BEFORE GOING AHEAD, WITH EXPLORATION EXPENSE MONEY, FOR SEVERAL MONTHS, I BELIEVE WE CAN COMPLETE THE FIRST STAGE AND HAVE READY FOR YOUR FILES AS YOU REQUIRE, BY JULY 20, 1957.

I WISH TO THANK YOU FOR YOUR PROMPT ATTENTION SO FAR TO THIS MATTER, AND YOU MAY BE ASSURED OF MY FULL COOPERATION AT ALL TIMES.

Marvin D. Carrigan

MARVIN DEE CARRIGAN, PRESIDENT

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
5-14	Murphy	700
5-14	Ellis	700
15	Mattendorf	100
		700
7/66	C	220

MAY 15 1957

Mr. Marvin D. Carrigan, President
Carrigan Mines, Incorporated
1627 East 14th Street
San Leandro, California

Re: Docket No. DMEA-4744 (Uranium)
Autunite Mining Claim Group
Tuolumne County, California

Dear Mr. Carrigan:

The above-referenced application for exploration aid has been reviewed by this Division. We note that the application covers land (in part) that was considered by this Agency under application DMEA-4032, Eugene B. Swanson, et al.

Application DMEA-4032 was denied on the basis that although some scattered pods of uranium minerals occurred as deposits around carbonaceous trash, the pods were not numerous or large enough to form a significant ore-grade deposit. At that time there had been some bulldozer trench work completed on the property. However, this work disclosed no geologic evidence which might indicate that the small pods of uranium mineralization would occur more frequently and be of higher grade at depth.

The geologic report by Francis H. Frederick submitted with your application appears to confirm our findings in respect to the subject property. However, if you have completed any of the preliminary work suggested in the report and have found favorable geologic information which might alter our conclusions in regard to the subject property we would be pleased to consider it.

It is suggested that together with the additional information you submit a map or sketch showing the location of the claims; also, a map or sketch showing the location and extent of past work done on the property and the work proposed under the application.

The geological report mentions an estimated cost of $6,000 to $12,000 during the period of drilling and exploration. However, we require a breakdown of costs as shown in Article 6 of the application form enclosed. Please note that we require four copies of each exhibit submitted.

8623

We will hold the subject application in abeyance pending receipt of the above-suggested additional information. If you anticipate that it will require more than a month from the date of this letter to compile and submit the information, kindly advise this office the approximate date we may expect to receive it.

Sincerely yours,

Ernest Wm. Ellis, Chief
Rare and Miscellaneous
Metals Division

Enclosure

FMMurphy/dlm 5-14-57
cc to : Mr. Murphy
cc to : Admr's Reading File
THKiilsgaard, Rm 5224
DMEA Reg. II (2)

UNITED STATES
DEPARTMENT OF THE INTERIOR
Defense Minerals Exploration Administration
Washington 25, D. C.

May 10, 1957

Mr. Marvin D. Carrigan, President,
Carrigan Mines, Incorporated,
1627 East 14th Street,
San Leandro, California

Subject: DMEA 4744
Re: Exploration Assistance

Dear Mr. Carrigan:

Your application for exploration assistance, dated April 30, 1957, submitted to our office at Reno, Nevada, has been assigned Docket Number DMEA 4744 and referred to the Rare & Miscellaneous Metals Division in the Washington office. Kindly identify all future correspondence relating to your application by this Docket Number.

Sincerely yours,

Allen S. Dakan, Chief
Operations Control and
Statistics Division

Copy to: Region II.

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WASHINGTON 25, D. C.

August 27, 1956

Memorandum

To: E. W. Ellis, Defense Minerals Exploration Administration

From: W. P. Williams, U. S. Geological Survey

Subject: Review of field examination report, DMEA 4032 (uranium), Eugene B. Swanson, et al., Autunite Uranium placer and lode claims, Tuolumne County, California.

The examining team reports that uranium mineralization on the applicant's property consists of small pods and lenses of uranium-bearing carbonaceous material in sandstone and pebble conglomerate. The grade of the widely scattered deposits is low. No ore has been mined from the property.

The examiners conclude that a worthwhile discovery would not result from exploration drilling. I concur with the Field Team's recommendation that the application be denied.

W. P. Williams

WPWilliams:iml
G-8/27/56

cc: Director's reading, 4212
Branch reading, 4212
DMEA (3)
Docket file
J. E. Crawford, 3641
J. O. Hosted, 3210

RECEIVED
AUG 28 1956

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
WASHINGTON 25, D. C.

August 24, 1956

Memorandum

To: Ernest William Ellis, DMEA Member
Uranium Commodity Committee

From: James Paone, Bureau of Mines Alternate Member
Uranium Commodity Committee

Subject: Report of Examination, DMEA Docket 4032 (Uranium)
Eugene B. Swanson, et al, Autunite Uranium Placer & Lode Claims, Tuolumne County, California

I have reviewed the report of examination, DMEA Docket 4032, Eugene B. Swanson, et al, Autunite Uranium Placer & Lode Claims, Tuolumne County, California, dated August 15 and received in this office August 24, 1956. I have also discussed it with Jack Kretchman, Atomic Energy Commission.

The field examiners recommend that the application for exploration assistance be denied because the small pods and lenses of uranium-bearing carbonaceous material in the sandstone and pebble conglomerate are too low grade and too widely scattered to be economically mined.

We concur in the recommendation that the application be denied.

The report is being forwarded to the Chief, Division of Minerals, in accordance with the routing slip attached thereto.

James Paone

RECEIVED
AUG 27 1956

8/30/56

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
WASHINGTON 25, D. C.

1605 Evans Avenue
Reno, Nevada
Aug. 17, 1956

Memorandum

To: Operating Committee, DMEA, Interior Building, Washington 25, ~~California~~, DC.

From: Executive Officer, DMEA Field Team, Region II

Subject: Docket No. DMEA-4032 (Uranium)
Eugene B. Swanson, et al
Autunite Uranium Placer & Lode Claims
Tuolumne County, California

Reference is made to your letter of January 4, 1956, stating you would hold docket in abeyance pending Field Team's report.

Attached are four copies of a report by H. K. Stager, USGS, and B. H. Sheahan, USBM, recommending that the application for a DMEA loan be denied.

Roscoe Smith and I concur in the recommendation.

Very truly yours,

S. Ricker
Executive Officer
DMEA Field Team, Region II

Attach.

RECEIVED
AUG 30 1956

Reviewed by
DMEA OPERATING COMMITTEE

(date)

UNITED STATES
DEPARTMENT OF THE INTERIOR
FRED A. SEATON, SECRETARY

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION II

APPLICATION REPORT

DMEA 4032 (Uranium)
Eugene B. Swanson, and others
Autunite Uranium placer and lode claims
Tuolumne County, California

by

B. H. Sheahan
U. S. Bureau of Mines

H. K. Stager
U. S. Geological Survey

August 15, 1956

RECEIVED
AUG 20 1956

Reviewed by
DMEA OPERATING COMMITTEE

(date)

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ILLUSTRATIONS

Figure 1 . . . . . Location map

INTRODUCTION

Mr. Eugene B. Swanson, 82 Marie Drive, Hayward, California, applied on October 18, 1955 to the Defense Minerals Exploration Administration for Government assistance in a $33,000.00 program to help finance 6,000 feet of exploratory surface core drilling to search for uranium at the Autunite Uranium placer and lode claims, Tuolumne County, California. A field examination was requested by the Operating Committee on November 15, 1955.

The examining engineer[1/] interviewed the applicant on

1/ Sheahan, B. H., Preliminary Examination Report, DMEA-4032, December 13, 1955.

November 29, 1955 and was informed that access roads were closed because of snow conditions.

The property was examined by B. H. Sheahan, U. S. Bureau of Mines, and H. K. Stager, U. S. Geological Survey, on July 12, 1956. They were accompanied by the applicant and Mr. Fred Spackman of Process Diamond Drilling Company, San Francisco, California.

CONCLUSIONS AND RECOMMENDATIONS

The Autunite Uranium deposit consists of small pods and lenses of uranium-bearing carbonaceous material in sandstone and pebble conglomerate. The results of the examination indicate that the deposit may contain numerous small concentrations of low grade material similar to those that have been exposed but that the grade is too low and the pods are too small and widely scattered to be economically mined. Samples taken of the most radioactive occurrences, or pods, do not represent minable quantities of ore.

It is recommended that Government assistance under the DMEA program be denied as the exploration targets contain only insignificant amounts of uranium.

LOCATION, ACCESSIBILITY, AND LOCAL FACILITIES

The property is in secs. 4 and 9, T. 5 N., R. 19 E., M.D.B.&M., Tuolumne County, California in the Eagle Peak area on the west side of the Sierra Nevada, at an altitude of 7,000 feet (fig. 1).

To reach the deposit from Dardanelle, the nearest town, follow California highway No. 108 7.9 miles westerly, turn left and follow an old section of paved road 0.3 mile easterly, turn right and follow a steep dirt logging road 2.4 miles southeasterly to Niagara Creek. From this point the main

open cut trenches near the center of the placer claim are reached by following a trail one-eighth mile southerly along the west side of Niagara Creek. The claims cover a heavily wooded portion of the Stanislaus National Forest which is inaccessible from about mid-October until June because of snow conditions.

Sonora, California, the nearest source of labor and supplies, is 48 miles by road from the claims.

HISTORY AND PRODUCTION

A discovery of traces of autunite was made in July 1955 by Messrs. Norman Boles, Eugene B. Swanson, and E. M. Tharp. No ore has been produced from the area.

PROPERTY AND OWNERSHIP

The property includes the 160-acre Autunite Uranium placer mining claim and two lode claims, the Autunite No. 5 and Autunite No. 6, along the west side of the placer claim.

Location certificates are recorded at Sonora, California in Vol. 14, page 398, under recording number 3338, by E. M. Tharp, M. A. Tharp, M. L. Tharp, Norman Boles, Norman Roger Boles, Janet L. Boles, Eugene B. Swanson, Helen V. Swanson, and Dwight F. Swanson, an association.

DEVELOPMENT

Only a few shallow trenches and open cuts have been excavated on the property. Most of the work was done with a bulldozer. The largest trench near the center of the placer claim is from one to five feet deep, 20 feet wide, and 40 feet long.

No equipment is on the land, and none is owned by the applicant.

GENERAL GEOLOGY

The claims are in the bottom of a small stream cut canyon in an area of moderate relief. Because of slope wash, stream debris, and thick timber cover there are few outcrops. The rocks exposed in the claim area are chiefly sandstone and pebble conglomerate of probable late Tertiary age. These rocks are remnants of stream or lake deposits in a small basin surrounded and underlain by rocks of the Sierra Nevada batholith of Cretaceous age.

The oldest rock in the claim area is a light-gray, medium-grained granodiorite. Overlying the granodiorite is a light-gray to brown, lenticular, crossbedded, silty, sandstone bed from a few inches to about 20 feet thick. The sandstone consists chiefly of grains of andesite, basalt, and pumice, poorly cemented with limonite and secondary silica. Carbonaceous material in the form of fossil logs, branches, leaves, and finely divided plant

remains is abundant near the base of the sandstone. Overlying the sandstone is a bed of dark red-brown, sandy, well cemented, pebble conglomerate from a few feet to about 100 feet thick. The conglomerate consists of well rounded pebbles of andesite, basalt, and granodiorite with sparse cobbles as much as one foot in diameter. The source of the volcanic rocks that comprise the bulk of the sedimentary beds is a thick sequence of basalt and andesite flows about 10 miles to the east.

The basin containing the sedimentary rocks is about 3,000 feet long and 1,000 feet wide. The beds are nearly flat lying over much of the area with maximum dips of about 5 degrees locally. The sedimentary rocks are thoroughly dissected by Niagara Creek and its tributaries so that all dimensions of the beds, both laterally and vertically, can be observed.

ORE DEPOSITS

The uranium deposit consists of small pods and lenses of uranium-bearing carbonaceous material in sedimentary rocks. The ore minerals were derived by leaching of trace amounts of uranium contained in overlying and surrounding volcanic and plutonic rocks and redeposition in shaly sandstone and pebble conglomerate.

The only uranium mineral observed was autunite that occurs as sparsely disseminated flakes coating sand grains and pebbles. Gangue minerals are limonite, goethite, marcasite, and hyalite with abundant carbonaceous material.

The uranium-bearing concentrations are from a few inches to a foot in diameter localized around nuclei of carbonized wood or finely divided plant remains. The uranium content ranges from a trace to 0.13 percent U_3O_8. Except in the immediate vicinity of these small pods of uranium-bearing material the radioactivity of the sandstone and conglomerate beds containing the pods is not above background and the uranium content is estimated to be less than 0.01 percent U_3O_8.

The localization of the uranium-bearing minerals is controlled by the carbonaceous material in the sedimentary beds. This carbonaceous material is abundant throughout the claim area but only part of it is mineralized and in many places concentrations of carbonaceous material only a few feet from uranium-bearing material is unmineralized.

In only two places on the claims has material containing more than 0.1 percent U_3O_8 been exposed. These two exposures are about 1,000 feet apart.

SAMPLING

Samples were taken from the most radioactive occurrences of conglomerate, sandstone and fossil carbon.

Sample No.	Width, feet	% $_eU_3O_8$	% $_cU_3O_8$	Description	Location
S-494	1.2	0.04	0.13	Conglomerate with carbon.	Vertical cut, 100 ft. east of 1/4 sec. corner.
S-495	2.0	Trace	0.04	Conglomerate and sandstone.	Vertical cut, 75 ft. north of sample S-494.
S-496	2.0	0.02	0.06	Sandstone with carbon.	Cave 1/10 mile NE of main trenches.
S-497	1.0	0.16	0.13	Fossil log with carbon.	Pit 1/5 mile north of main trenches along west side of Niagara Creek.

ORE RESERVES

There are no reserves of ore grade (over 0.2 percent U_3O_8) material on the Autunite Uranium claims.

By careful mining and sorting of the uranium-bearing carbonaceous material a few hundred pounds of material containing about 0.15 percent U_3O_8 may be produced.

PROPOSED EXPLORATION

The applicant proposed to explore for uranium ore bodies by 6,000 feet of exploratory drilling in unspecified locations on the claims. The Government's share of the total estimated cost of $33,000 would be $24,750.

The concentrations of uranium-bearing material are too small and widely scattered to be found by a drilling program. Previous exploration by bulldozing has disclosed several small pods of uranium-bearing material but the cost of this type of exploration is prohibitive for the size of the ore body found.

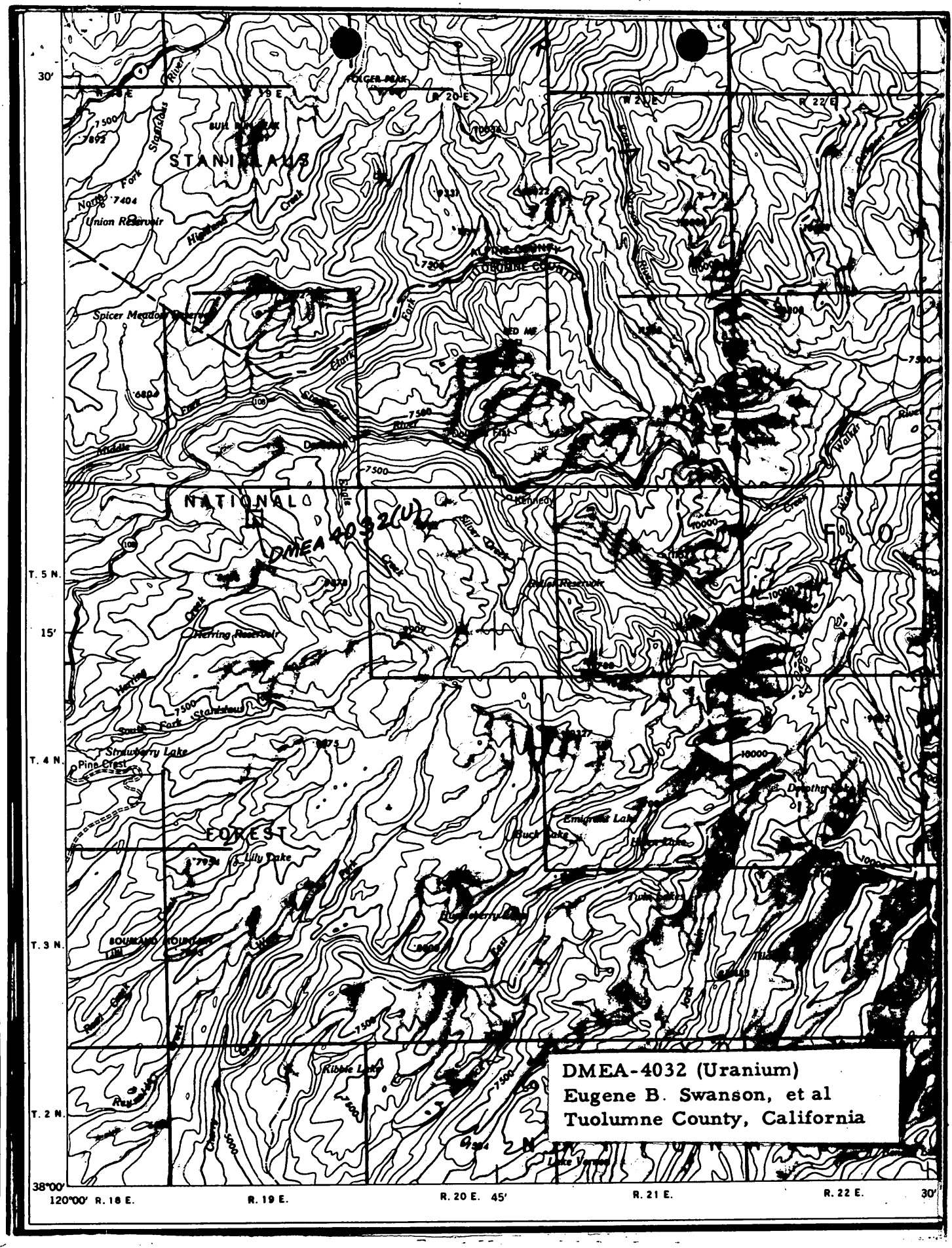

Fig. 1 LOCATION MAP CALIFORNIA

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
WASHINGTON 25, D. C.

RECEIVED
DEC 29 1955

December 28, 1955

Memorandum

To: Ernest William Ellis, DMEA Member
Uranium Commodity Committee, Room 4445

From: John E. Crawford, Bureau of Mines Member
Uranium Commodity Committee

Subject: Preliminary application report, DMEA Docket 4032, Eugene B. Swanson, et al., Autunite Uranium Placer and Lode Claims, Tuolumne County, California

I have reviewed the preliminary application report of Eugene B. Swanson, et al., DMEA Docket 4032, dated December 13 and received in this office December 20. I have also discussed it with Joseph O. Hosted, Washington representative of the Atomic Energy Commission.

We concur with the recommendation of the Field Team that an examination of subject property be held in abeyance until late spring of 1956.

In accordance with the routing slip attached thereto, the report is being forwarded to the Chief, Division of Minerals.

John E. Crawford

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
WASHINGTON 25, D. C.

RECEIVED
DEC 29 1955

December 28, 1955

Memorandum

To: Ernest William Ellis, DMEA Member
Uranium Commodity Committee, Room 4445

From: John E. Crawford, Bureau of Mines Member
Uranium Commodity Committee

Subject: Preliminary application report, DMEA Docket 4032, Eugene B. Swanson, et al., Autunite Uranium Placer and Lode Claims, Tuolumne County, California

I have reviewed the preliminary application report of Eugene B. Swanson, et al., DMEA Docket 4032, dated December 13 and received in this office December 20. I have also discussed it with Joseph O. Hosted, Washington representative of the Atomic Energy Commission.

We concur with the recommendation of the Field Team that an examination of subject property be held in abeyance until late spring of 1956.

In accordance with the routing slip attached thereto, the report is being forwarded to the Chief, Division of Minerals.

John E. Crawford

12/16/5-5gla

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
WASHINGTON 25, D. C.

RECEIVED
DEC 15 1955

1605 Evans Avenue
Reno, Nevada

December 13, 1955

Memorandum

To: Operating Committee, DMEA, Interior Building, Washington 25 D. C.

From: Executive Officer, DMEA Field Team, Region II

Subject: Docket No. DMEA-4032 (Uranium)
Eugene B. Swanson, etal
Autunite Uranium Placer and Lode Claims
Tuolumne County, California

Reference is made to your letter of November 15, 1955 relative to a field examination of subject property.

Four copies of a preliminary application report by B. H. Sheahan are attached. A field examination will be held in abeyance until late spring of 1956.

Two copies of my letter of December 13 to Mr. Swanson are also attached.

S. Ricker

Attach.

SRicker:gh
cc: R. M. Smith
File

Reviewed by
DMEA OPERATING COMMITTEE
12-19-55
(date)

RECEIVED
DEC 15 1955

1605 Evans Avenue
Reno, Nevada

December 13, 1955

Mr. Eugene B. Swanson
82 Marie Drive
Hayward, California

Re: Docket No. DMEA-4032 (Uranium)
Autunite Uranium Placer & Lode Claims
Tuolumne County, California

Dear Mr. Swanson:

We will postpone a possible field examination of the above referenced property until late spring as suggested in your letter of December 5, 1955.

In the meantime you should submit the data requested by our engineer, Mr. B. H. Sheahan, during his interview with you on November 29 and December 3. The data requested includes maps showing the lode and placer claims and the location of the proposed exploration work.

Very truly yours,

S. Ricker
Executive Officer
DMEA Field Team, Region II

SRicker:gh
cc: Opr. Com., DMEA, Wash., D.C.
R. M. Smith
File

Reviewed by
DMEA OPERATING COMMITTEE
12-19-55
(date)

UNITED STATES
DEPARTMENT OF THE INTERIOR
DOUGLAS McKAY, SECRETARY

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DEC 15 1955

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION II

PRELIMINARY APPLICATION REPORT

DMEA-4032 (Uranium)
Eugene B. Swanson, et al
Autunite Uranium Placer and Lode Claims
Tuolumne County, California

B. H. Sheahan, Mining Engineer
U. S. Bureau of Mines

December 13, 1955

Reviewed by
DMEA OPERATING COMMITTEE
12-19-55
(date)

INTRODUCTION

Mr. Eugene B. Swanson, 82 Marie Dr., Hayward, California, applied to the Defense Minerals Exploration Administration for Government assistance in a $33,000.00 program to help finance 6,000 feet of exploratory core drilling to search for uranium at the Autunite Uranium Placer and Lode claims on Niagara creek, near the Eagle Peak area of the high Sierra Nevada mountains, Tuolumne County, California. The application was dated October 18, 1955 and the Operating Committee requested a field examination on November 15, 1955.

Mr. B. H. Sheahan, mining engineer, U. S. Bureau of Mines interviewed Mr. Eugene B. Swanson on November 29 and December 3, 1955. The engineer was informed that access roads leading to the property were closed by the U.S. Forest Service because of snow conditions. An examination of the property will not be practical until late in the spring of 1956. Mr. Eugene B. Swanson was requested to submit claim maps showing the location of the proposed work and exploration targets.

The property was discussed with an engineer 1/ of the Atomic Energy Commission who had examined the deposit on October 12, 1955. Most of the factual data was obtained from this source.

1/ Rambosek, A. J., mining engineer, Atomic Energy Commission, Reno, Nev. Preliminary Reconnaissance Report File No. R-53.

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DEC 15 1955

CONCLUSIONS AND RECOMMENDATIONS

The applicant has no definite exploration plan. He evidently desires the field team to examine the property and propose an exploration core drilling program. Further prospecting and possibly some exploratory work might be justified.

A field examination should be held in abeyance until the late spring of 1956 because of snow conditions.

LOCATION, ACCESSIBILITY AND LOCAL RESOURCES

The property is in secs. 4 and 9, T. 5 N., R. 19 E., M.D.B. &M., Tuolumne County, Calif., in the Eagle Peak area of the Sierra Nevada mountains at an altitude of 7,000 feet (see fig. 1).

To reach the property from Dardanelles, the nearest town, follow California highway No. 108 west 6.1 miles; turn left and follow old highway 108 for 2.0 miles; turn left and follow Eagle Meadows logging road 2.0 miles to Niagara Creek crossing; turn right and follow a jeep trail to the claims. The property covers a very heavily wooded portion of the Stanislaus National Forest, which is usually not accessible from mid October until June.

HISTORY AND PRODUCTION

The claims were staked in 1955 following the discovery of traces of autunite mineralization in sandy conglomerates. There has been no production. Lode claims were later over lapped by placer locations.

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DEC 15 1955

PROPERTY AND OWNERSHIP

The property is owned by E. M. Tharp, M. A. Tharp, Norman Boles, Norman Roger Boles, Janet L. Boles, Eugene B. Swanson, Helen V. Swanson, and Dwight F. Swanson, an association. The claims are recorded at Sonora, Calif.

There are no surface improvements or equipment on the property.

DEVELOPMENT AND GEOLOGY

A few shallow trenches have been excavated in bedded sandstone conglomerate which covers granite. The material is probably of glacial origin, and carbonaceous impurities have been partly replaced with slight uranium mineralization.

Samples taken by the engineer of the Atomic Energy Commission are as follows:

No.	Type - width	Radioactivity	
		eU_3O_8	cU_3O_8
1435	1.0 feet, vertical chip	0.16	0.13
1253	-	0.23	0.276

Mr. Swanson had some select specimens of the sandstone conglomerate at his home. Traces of autunite could be identified, but most of the material was not of economic grade.

David B. Slemmons, Professor of Geology, University of Nevada, reportedly mapped this area in 1955.

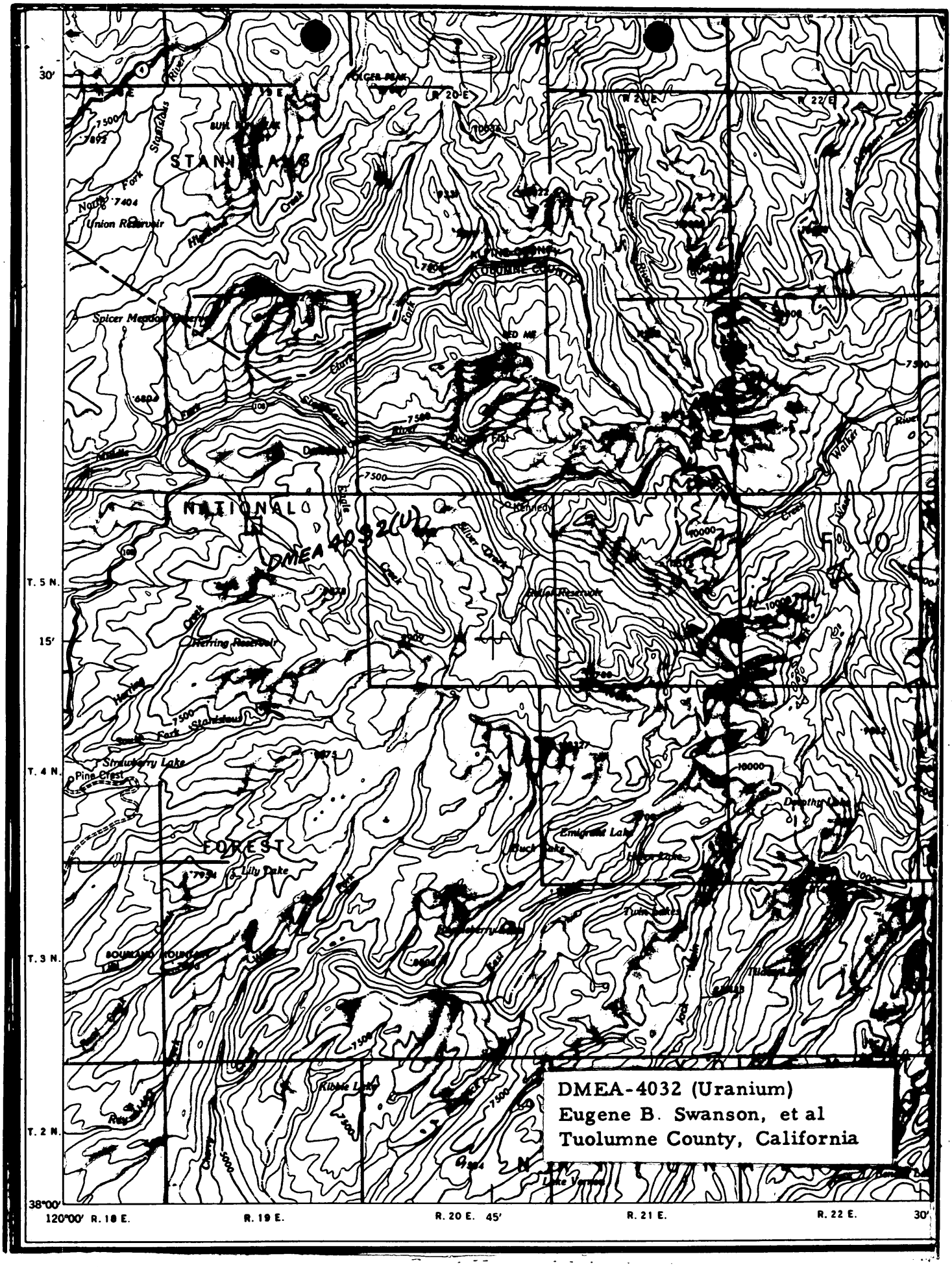

Fig. 1 LOCATION MAP CALIFORNIA

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700

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
WASHINGTON 25, D. C.

Mr. Spangler Ricker
Executive Officer
DMEA Field Team, Region II
U. S. Bureau of Mines
1605 Evans Avenue
Reno, Nevada

NOV 1 5 1955

Re: Docket No. DMEA-4032 (Uranium)
Eugene B. Swanson, et al.
Autunite Uranium Placer and Lode Claims
Tuolumne County, California

Dear Mr. Ricker:

The captioned application is referred to Region II Field Team for investigation, a field examination, and recommendation. A copy of the application was forwarded to your office on October 26.

Enclosed are copies of memoranda, dated October 27 and November 8, 1955, by W. E. Nelson, USGS, and J. E. Crawford, USBM, respectively, relating to the subject application.

In the event the Field Team recommends a project to explore the subject claims, it should advise the Applicants that we will require the name, book, and page number of each recorded claim.

The application as submitted lacks maps showing the placer and lode claims and the location of the proposed work, and other information. However, we have had a number of applications from Mr. Swanson and have not been very successful in getting precise information from him. The application is being referred to the Field Team with the thought that the field examiners might possibly obtain the information which is lacking.

Sincerely yours,

Chairman, Operating Committee

Enclosures
APPROVED:

Member, Bureau of Mines

Member, Geological Survey

FMMurphy/izm 11-9-55
cc to: Admr.'s Reading File
Operating Committee
Docket
Code 700
Mr. Murphy

JECrawford, 3641
THKiilsgaard,5224
JOHosted,3210,GSA

700

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
WASHINGTON 25, D. C.

NOV 15 1955

Mr. Eugene B. Swanson, et al.
82 Marie Drive
Hayward, California

Re: Docket No. DMEA-4032 (Uranium)
Antunite Uranium Placer and Lode Claims
Tuolumne County, California

Dear Mr. Swanson:

The application for assistance in exploring the subject claims in Tuolumne County, California, under the captioned docket number, has been reviewed by the Rare and Miscellaneous Metals Division of the Defense Minerals Exploration Administration. It has been referred for a field examination to the Executive Officer of Region II at the following address:

Mr. Spangler Hicker
Executive Officer
DMEA Field Team, Region II
U. S. Bureau of Mines
1605 Evans Avenue
Reno, Nevada

The Regional Office will contact you in regard to your project if additional information is required.

Sincerely yours,

C. O. Mittendorf

Administrator

FMMurphy/izm 11-9-55
cc to: Admr.'s Reading File
Docket
Code 700

Mr. Murphy
DMEA Field Team, Region II (2)

November 8, 1955

Memorandum

To: Ernest William Ellis, DMEA Member
Uranium Commodity Committee, Room 4445

From: John E. Crawford, Bureau of Mines Member
Uranium Commodity Committee

Subject: Application for assistance, DMEA Docket AO32, Eugene B. Swanson, Autunite Uranium Placer Mining Claim (16C), Tuolumne County, California

I have reviewed the attached application, DMEA Docket AO32, dated October 26, 1955, and received in this office on October 27, 1955. I have also discussed it with Joseph O. Hosted, Washington representative of the Atomic Energy Commission.

The applicant indicates that he has found economic-grade uranium mineralization consisting of autunite on four adjacent outcrops on Niagara Creek, in the Summit Mining District, California. He describes samples taken as containing 0.27 and 0.23 percent equivalent uranium, and states that A. J. Rambeck of the Atomic Energy Commission has inspected the claims. Sample analyses are apparently on file with Ernest E. Thurlow, Atomic Energy Commission, Salt Lake City; J. Grant Goodwin, mining geologist, State of California, San Francisco; and T. R. Graham, Bureau of Mines, Reno.

The applicant requests assistance with an exploration project requiring 6,000 feet of drilling at $5.00 per foot. No definite drilling plan has been established and described in the application.

Mr. Hosted determined that the AEC has conducted some investigations in the vicinity of Mr. Swanson's claims, but is not aware of whether or not work included the subject claims.

We suggest that the Field Team be requested to review the application, discuss it with Ernest E. Thurlow, AEC, Salt Lake City, and make a field examination if necessary.

JECrawford:ds
Copy to: Div of Minerals
Br of Rare and Precious Metals
J O Hosted, AEC - 2
T Killsgaard, USGS
Attachment J E Crawford
Files

John E. Crawford

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WASHINGTON 25, D. C.

RECEIVED
OCT 27 1955

October 27, 1955

Re: DMEA 4032
Eugene B. Swanson, et al.
Autunite Uranium Lode
Tuolumne Co., Calif.
$30,000.00 - Uranium

Memorandum

To: E. W. Ellis, Defense Minerals Exploration Administration

From: N. E. Nelson, U. S. Geological Survey

Subject: Review of application.

The applicants are requesting assistance in exploring claims on which considerable work has been done by them. Four outcrops of radioactive material are known but all are too small to support mining operations so 6,000 feet of drilling is proposed to determine if minable amounts do exist.

No drilling program has been worked out and no map accompanies the application.

Samples of the ore have been sent out which showed as much as 1.76% U_3O_8. The ore occurs in conglomerate containing carbonized woody material.

The applicant appears to be competent to judge a prospect and handle an operation.

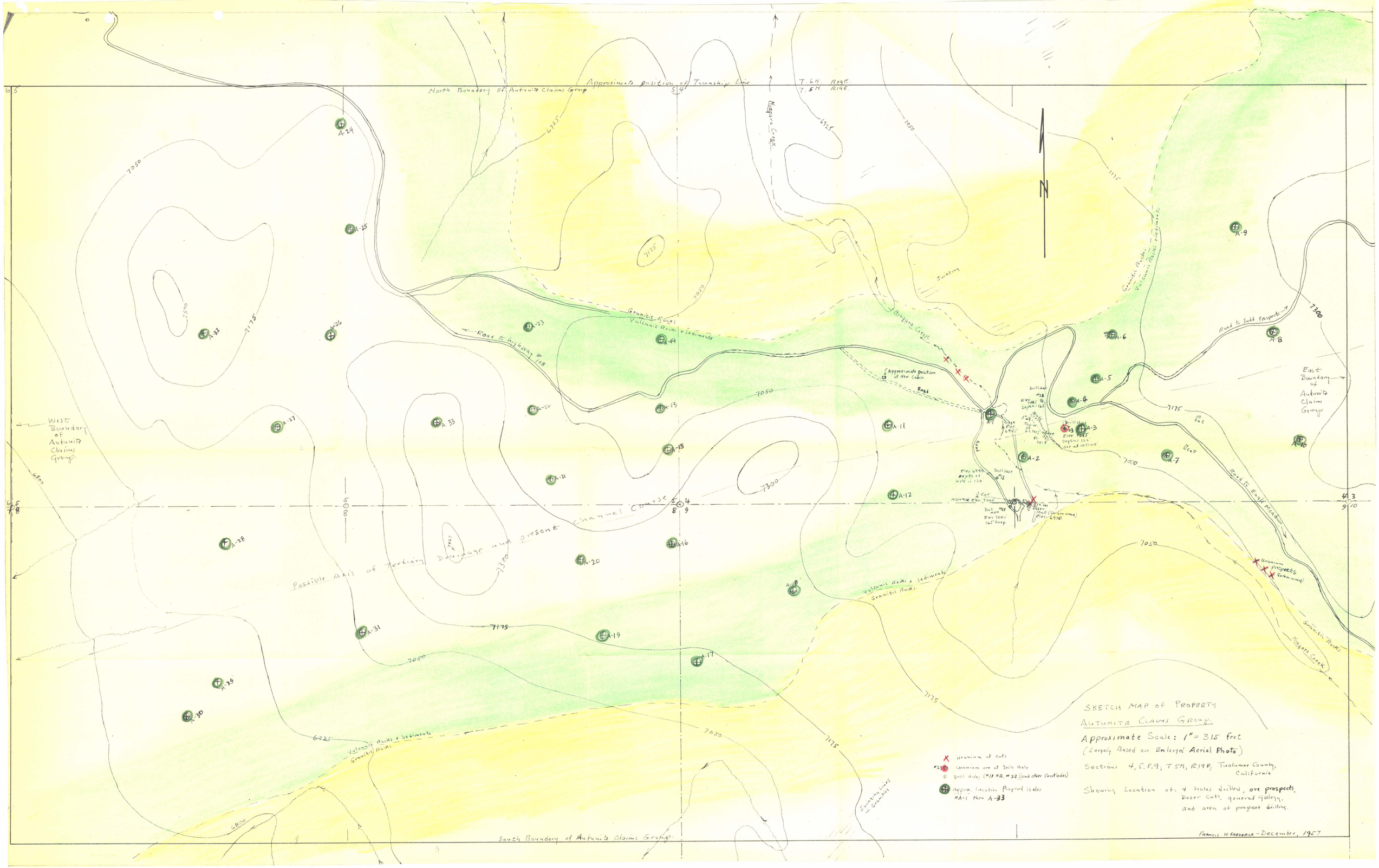
I recommend referral to the Field Team.

N. E. Nelson

N. E. Nelson

NENelson:iml
G-10/27/55

cc: Director's reading, 4212
Branch reading, 4212
DMEA (3)
Docket file
J. E. Crawford, 3641
J. O. Hosted, 3210


North Boundary of Autunite Claims Group
Approximate position of Township Line
T. 6N. R19E.
T. 5N. R19E.
Niagara Creek
Granitic Rocks
Volcanic Rocks & Sediments
Road to Highway #108
Approximate position of new cabin
Road
Road to Judd Prospect
Road to Eagle Meadows
East Boundary of Autunite Claims Group
West Boundary of Autunite Claims Group.
Possible Axis of Tertiary Drainage and present Channel Course
Uranium prospects (Carnwood)
Niagara Creek
Granitic Rocks
Volcanic Rocks & Sediments
Granitic Rocks
Surrounding Lines — Granitics
Uranium at cuts
Uranium ore at Drill Hole
Drill Holes (#11 #12, #22 (and other shallow holes)
Approx. Location Proposed holes #A-1 thru A-33
SKETCH MAP of PROPERTY
AUTUNITE CLAIMS GROUP
Approximate Scale: 1" = 315 feet
(Largely Based on Enlarged Aerial Photo)
Sections 4, 5, 8, 9; T 5N, R19E, Tuolumne County, California
Showing Location of: 4 holes drilled, ore prospects, Dozer Cuts, general Geology, and area of proposed drilling.
FRANCIS H. FREDDERICK - December, 1957
South Boundary of Autunite Claims Group.