DMEA Form 9
Rev. 6/57

UNITED STATES
DEPARTMENT OF THE INTERIOR
Defense Minerals Exploration Administration

OFFICIAL DOCKET FILE Idm-E NO._____ DMEA NO. 4894

Application
- [X] Denied
- [ ] Withdrawn

Contract
- [ ] Terminated - Not Certified
- [ ] Terminated - Certified
- [ ] Cancelled
- [ ] Royalty Agreement

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

Folder No. 1:

Left Side

- [ ] Royalty Audits
- [ ] Certification of Discovery
- [ ] Closing Letter
- [ ] Cost Audits
- [ ] Termination Notice or Agreement
- [ ] Recision Notice
- [ ] Assignment of Contract
- [ ] Contract Amendments
- [ ] Contract with all exhibits and annexes
- [ ] Owner's Consent to Lien and Subordination Agreement
- [X] Application and attachments

Right Side

- [ ] Project summary (final)
- [ ] Work Comoleted analysis (final)

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
- [X] On-site Exam Report (Tab)
- [ ] Settlement Sheets
- [ ] Drill Logs

Additional Folders:

Left Side

Folders No._____: Reports

- [ ] Analysis of Semi-Annual Inspection Reports
- [ ] Project Summary (Interim) by DMEA Engineers

Right Side

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

Folders No. II: Maps (Use pocket folder or envelope)

Folders No._____: Settlement Sheets

Folders No._____: Drill Logs

Folders No._____: Royalty material

17963

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

ORIGINAL FILE COPY
DMEA
RECEIVED DEC 6 1957
DATE | INITIALS | ACTIONS
12/6 | 7-30

December 4, 1957

Memorandum

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

From: Acting Executive Officer, DMEA Field Team,
Region II

Subject: Loan Application (Uranium)
Kern Uranium Company
Little Sparkler No. 4
Kern River Canyon, Kern County, Calif.

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

Roscoe M Smith

Roscoe M. Smith
Acting Executive Officer

Enclosures

BUREAU OF MINES
WASHINGTON, D. C.
DEC 6 9 19 AM '57

KERN URANIUM CO.

POST OFFICE BOX 163

RIO VISTA, CALIFORNIA

November 26, 1957

OFFICIAL FILE COPY
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DATE | INITIALS | COPY

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

Re: New Application For Aid in Exploration Project
Prior Application: DMEA-4501

Dear Mr. Ricker:

Enclosed is subject revised application for aid (Form MF-103) in our uranium project in the Kern River Canyon, Kern County, California, submitted in quadruplicate.

Of probable interest to your office is the fact that while our first carload shipment of outcrop-produced ore was amenable to Vitro Uranium Company's process at Salt Lake City, Utah, the said mill, through R. B. Coleman, Ore Buyer, advised us by telephone on November 21, 1957 that by actual test of a sample from our underground ore, now in stockpile at the mine, that the latter ore is also amenable. Mr. Coleman has further advised that Vitro is very much interested in high quality ore such as ours, although they can not take delivery until after the first of the year.

In passing, we would relay a request by Mr. Miller, Atomic Energy Commission, that in the event DMEA decides the application merits an examination by your field team, he would appreciate having the team contact:-

Mr. Richard Miller, Chief
Bakersfield Section
U.S.Atomic Energy Commission
Haberfelde Building, Room 558
Bakersfield, California
Phone: Fairview 5-1098

Yours very truly,

KERN URANIUM CO

By: Lloyd Scouler
President

LS/h
Encl.

Form MF-103
Revised Feb. 1957

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

Budget Bureau No. 42-R1035.3
Approval expires June 30, 1958

APPLICATION FOR AID IN AN EXPLORATION PROJECT

PURSUANT TO DMEA ORDER I, UNDER THE DEFENSE PRODUCTION ACT OF 1950, AS AMENDED

NAME OF APPLICANT (Full legal name and mailing address as it should appear on contract if one is executed)

KERN URANIUM CO
P. O. Box 163
Rio Vista, California

APPLICANT NOT TO USE THIS BLOCK

Docket Number: DMEA- 4894
Date Received: 12/6/57
Government Participation %:
Region: II
Division Code: 700

BUSINESS ORGANIZATION (Check one)

- Individual [ ]
- Corporation [X]
- Partnership [ ]
- Other (Specify) [ ]

State in which firm is organized: California

LIST CORPORATE OFFICERS OR PARTNERS HERE, IF APPLICABLE

Name	Address	Title
Lloyd Scouler	P.O.Box 163, Rio Vista, Calif.	President
J.H.Baumann	135 No.Front , Rio Vista, Calif.	Vice-Pres.
S.W.Gardiner	Albert Building, San Rafael, Calif.	Secretary

Mineral(s) for which you wish to explore: Uranium

Estimated Cost of Project: $ 47,005.10

LOCATION OF PROPERTY

Name	County	State
Little Sparkler No. 4	Kern River Canyon, Kern,	California

GENERAL INSTRUCTIONS

Before filling out this application, please read DMEA Order-I, Amended, "Government Aid in Defense Exploration Projects." To assure prompt action, your application must provide all applicable material and information specified on the back of this application form. Avoid unnecessary correspondence and delays by submitting complete and accurate information. *Please submit four copies of this application and all accompanying papers* except as otherwise noted. Place your name and address on each sheet. Each item of information, maps, and reports required as a part of this application is described on the back of this form. Identify each attached statement by the item number to which it applies. If an item does not apply to your application, show the item number on your statement and after it write "not applicable." Maps or sketches should be used to supplement narrative descriptions of the property location and boundaries in item 1, existing mine workings and geology in item 2, and the proposed exploration project in item 4. When this information is not too complex, all of it may be shown on one map or sketch. All documents and other attachments submitted as a part of this application, except those in item 2(g) which you mark to be returned, become the property of the Government and will not be returned to the applicant. Send true copies, *not originals*, of leases, contracts, and other documents which are an essential part of your business records. *File this application with the Defense Minerals Exploration Administration, Department of the Interior, Washington 25, D. C., or with the nearest DMEA Field Office.*

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.

Kern Uranium Co

November 26, 1957
Dated

BY (Signature) Lloyd Scouler

President
Title

A wilfully false statement or certification to any Department or Agency of the United States Government is a criminal offense. U. S. Code, Title 18, Sec. 1001

INFORMATION REQUIRED WITH THIS APPLICATION

1. *Applicant's Property Rights:*

(a) State the legal description (section, township, and range; metes and bounds; patent number of claims) of the land upon which you wish to explore and all land adjacent to the proposed project area which you own or control. Describe any part of the project land or workings which should not be subject to Government lien for royalty payments. If the land consists of unpatented claims, state the book and page number for each recorded location notice, including amended locations, and the place where recorded (courthouse, recorder's office, county, and state).

(b) State all the names by which you know the property.

(c) State your interest in the land, whether owner, lessee, purchaser under contract, or otherwise. If you are not the owner, submit with this application one exact copy of the lease, contract, or other document (with address of owner) under which you control the property.

(d) Describe all liens, mortgages, or other encumbrances on the property.

2. *Physical Description:*

(a) Describe in detail and illustrate with maps or sketches all mining or exploration operations which you know have been or are being conducted upon the lands, including existing mine workings. Describe all production facilities.

(b) State your interest, if any, in operations stated in 2*(a)*.

(c) State, as far as you know, the past and current production, supporting your statement with copies of settlement sheets, mine records, or published data if available.

(d) Describe known ore reserves on the property giving quantities and grades and sampling methods used, supporting your statement with copies of assay certificates and assay maps if available.

(e) Describe by narrative and maps or sketches the geologic features of the property, including ore minerals, geologic formations if known, and type of deposit (vein, bedded, etc.).

(f) State your reasons for expecting to find ore, and if you have sampled the area you propose to explore, show where the samples were taken, describe sampling methods used, and provide copies of assay certificates.

(g) Send with your application at least *two* copies of all geologic or engineering reports, assay maps, or technologic information which you may have, indicating on each whether you require its return to you.

3. *Accessibility of Project:*

(a) To aid DMEA representatives who may be required to examine the property, state the name and address of the person who will meet the DMEA representative; give directions for reaching the property; and describe accessibility of the property including the mine workings.

(b) Name the shipping and supply points and places where employees reside and state the distances between them and the property.

4. *The Exploration Project:*

(a) Describe fully the proposed exploration project giving individual footages and sizes of openings *for each item of work.* Use narrative, maps, plans, and longitudinal and cross sections as necessary. Show the location of the proposed work as related to geologic features such as veins, ore-bearing beds, contacts of rock formations, etc. Show also the relation of the proposed work to any existing mine workings and to *property boundaries* or to the closest identifiable corner.

(b) If an access road to the project must be built, show the location on the property map and state the length, type, and construction methods proposed.

(c) In the event that an exploration contract with DMEA is executed, how soon will the work start and how many months will be required to complete it? State your anticipated average daily or monthly rate of progress for each type of work.

5. *Experience:*

State your operating experience and background with relation to your ability to carry out this exploration project, and also that of the person or persons who will supervise the operations.

6. *Estimate of Costs:*

Furnish detailed estimates of the costs *for each item of the work proposed in 4(a)* under the headings listed below with a total for each heading and the estimated total cost of the project. Costs for any work to be performed by an independent contractor should be shown separately under category *(a)* below. Costs for any work that is not to be performed by an independent contractor should be given in detail under categories *(b)* through *(g)*.

(a) Independent contracts. State the cost of any proposed independent contract for the performance of all or any part of the work, expressed in units of work, such as per foot of drilling, per foot of drifting, per hour of bulldozer operations, per cubic yard of material moved. Cost estimates should be supported by bids from three contractors if possible. *(Note* – If none of the work is to be contracted, write "none" after this item.)

(b) Personal services. For necessary supervision, engineering and geological services, and labor, include an itemized schedule of numbers, classes, rates of wages, salaries or fees, and periods of employment. State whether these technicians and employees are available.

(c) Operating materials and supplies. List items of material and supplies with their cost. Include under this heading power, water, and fuel, and units of equipment and tools costing less than $50 each.

(d) Operating equipment. List items of operating equipment to be used giving specifications and indicating how each item is to be acquired – i.e., rented, purchased, or provided by the applicant. If it is rented or purchased, state the estimated rental or purchase price. If it is to be furnished by the applicant, give its present fair market value.

(e) Initial rehabilitation and repairs. Describe the type and the cost of necessary *initial* rehabilitation or repair of existing buildings, fixtures, installations (exclusive of mine workings), and movable operating equipment now owned by the applicant, which will be used on the exploration project.

(f) New buildings, fixtures, installations. Describe each building, fixed improvement, and installation to be purchased, constructed, or installed for the exploration project stating specifications and cost including labor, materials and supervision.

(g) Miscellaneous. For the operating equipment listed in 6*(d)*, describe the type and estimate the cost of repairs and maintenance expected during project operations. Do not repeat initial repairs listed in 6*(e)*. Show also the costs of analytical work, accounting, workmen's compensation and employees' liability insurance, payroll taxes, and other required costs that do not fall within the previous categories.

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.

7. *(a)* State whether you are prepared to furnish your share of the cost of the proposed project in accordance with the regulations on Government participation stated in Sec. 7 of DMEA Order–I, Amended.

(b) Explain to what extent you propose to furnish your share of the costs by providing money, by use of equipment owned by you, or otherwise.

* * * * *

INT.-DUP. SEC., WASH., D.C. 15539

DMEA
RECEIVED DEC 6
DATE

KERN URANIUM CO
P. O. Box 163
Rio Vista, California

APPLICATION FOR AID IN AN EXPLORATION PROJECT

Please refer, also, to:-

(1) Docket No. DMEA-3980 (Uranium) filed by predecessor partnership

(2) Docket No. DMEA-4501 (Uranium) filed by this applicant

1. APPLICANT'S PROPERTY RIGHTS:

(a) Please refer to detail contained in prior applications, named hereinabove, relative to:

Claims: Little Sparkler No's. 1,2,3,4 & 6 & 7
McTom No's. 1,2,3,4,5, & 6

Located in: Sections 17-20, T27S., R32E., MDB&M

Said prior data submitted includes:
(1) History and Status of Claims
(2) Notices of Location - 1954
(3) Proofs of Annual Labor
(4) Notices of Location, As Of June 3, 1955
(5) Amended Notices of Location, As Of August 18, 1956
(6) Deeds
(7) Notices of Location - Little Sparkler No's. 6 & 7 (6/10/56)
(8) Survey Maps
(9) Sale & Royalty Agreement - McTom Claims
(10) Amendment to Item (9) - 7/14/56
(11) Quit Claim Deed - McTom Claims
(12) Resolution Accepting Conveyance - McTom Claims
(13) Notices of Location - June 9, 1956 - McTom Claims
(14) Survey Map - McTom Claims
(15) Composite Map Showing Claims (in immediate area)

There is no change in the foregoing.

1. (b) Property known as "Little Sparkler" and "McTom" claims.

1. (c) Applicant's interest in land is as sole owner of located claims on public domain, open for mineral entry, and purchaser under contract (the latter on McTom claims only).

1. (d) There are no liens, mortgages, or other encumbrances on the property.

2. PHYSICAL DESCRIPTION:

(a) Please refer to maps contained in prior applications, consisting of:-

(1) Aforementioned survey maps

(2) Reports named in Item 2 (e) hereinbelow

Please see "Drift & Assay Map of Surface & 60 Foot Level", by A. B. Scouler, Drawing No. 1, attached hereto (marked Schedule 2 (a)-1).

The principal mining or exploration operations are those conducted by applicant on Little Sparkler No. 4 as indicated on map named next hereinabove which consist of:-

(1) Surface trenched outcrop of steeply dipping vein, approximately 300 lineal feet. Deepest surface pit to approximately 14 feet (depth). Bulldozed cross-cut trenches in area.

(2) Erected and installed surface facilities and sank 1½ compartment shaft in footwall to 60 foot level, plus sump; cross-cut approximately 40 feet back into and through vein; drifted approximately 380 feet along vein; cross-cut additional approximate 60 feet, seeking parallel structure; raised to surface on one stope and started to mine ore adjacent thereto; opened and mined second stope.

Production Facilities

Facilities are complete and on the site to execute fully the proposed exploration program and consist of, but are not limited to, the following, all of which are in excellent working condition:-

(1) Compressed air and pressure water system
(2) Four-wheel-drive utility truck
(3) "315" cfm Ingersoll-Rand air compressor, diesel engine
(4) Jackhammer, jackleg, air spade, I-R "JR38B" jackdrill complete, I-R stopehamer, plus air hose, steel, bits, line oilers and related tools.
(5) Electric generator and (mine) approved distribution system for underground and surface lighting and power.
(6) Fire suppression equipment.
(7) Headframe, ore and waste dumps complete.
(8) Air hoist

2. (a) Continued

(9) Machine shop, complete. (Includes blacksmith equipment, electric drill, electric saw, pipe tools and equipment, welding and cutting torches, plus).
(10) Mine cars
(11) Combination office/change house.
(12) Explosives magazines
(13) Radiological and geological equipment
(14) Water system - (mine water supply)
(15) Graded storage area (ore and supply storage)
(16) Underground ventilation system -- blower/exhauster high efficiency type (3,000 cfm), powered with gasoline engine. (Plus rigid and flexible ventilation duct.)
(17) Underground water disposal system with electrical submersible pump.
(18) Manway - highline River crossing
(19) Access road
(20) Miscellaneous tools and equipment.

Please see, also, section herein entitled "Photographs".

2. (b) Applicant's interest in operations and facilities named in 2 (a) next hereinabove is as sole owner, excepting only the I-R "315" cfm air compressor which is on a rental-purchase contract.

2. (c) Past production:

Applicant produced approximately 100 tons of uranium ore by surface - trenching and open-pitting the vein along the outcrop. Of this production, applicant shipped, under Atomic Energy Commission Contract, 51 wet tons to Vitro Uranium Company's mill at Salt Lake City, Utah. Shipment settled at 0.43% U_3O_8. Photocopy of ore settlement sheet is enclosed herewith (marked: Schedule 2 (c) -1).

Current production:

Applicant started underground for first time on these series of claims on March 26, 1957 and has produced to date 276 tons of uranium ore from underground operations, the average grade of which is believed to be 0.66% U_3O_8. Please refer to "Recapitulation Underground Ore Production" enclosed herewith (marked: Schedule 2 (c)-2). Please see, also, "Underground Ore Production Assays, 10-Ton Lots" enclosed herewith (marked: Schedule 2 (c)-3).

2. Continued

2. (d) Ore reserves:

Please refer to "Drift & Assay Map of Surface & 60 Foot Level", enclosed herewith (marked: Schedule 2 (a)-1 and 2 (d)-1).

"Proved Ore" in stope shown as "W1-No.1" has been mined. "Possible Ore" exists as an offshoot to this stope, but cannot be calculated.

"Probable Ore", outlined on three sides, exists in stope raise shown as "E1-No.1". It is estimated that 200 tons of ore of a grade of 0.50%, or better, U_3O_8 remain to be mined. Grade is estimated on basis of channel samples taken from back of drift over length of mineralized zone, modified by actual production experience to date in this stope, which was daylighted and outcrop ore taken first.

2. (e) Geologic report:

Refer "Progress Report, Kern Uranium Co., Inc., Little Sparkler No. 4 Mine, Kern Canyon - - - -" enclosed herewith (marked: Schedule 2 (e)-1).

Refer engineering and geological maps and reports submitted previously under Docket No. DMEA-4501.

2. (f) Reasons for expecting to find ore:

Please refer to report under 2 (e) hereinabove together with other preceding data submitted.

2. (g) Reports and maps:

Submitted in quadruplicate. Need not be returned.

3. ACCESSIBILITY OF PROJECT:

(a) Name and address of person to meet DMEA representative:

Lloyd Scouler, President & General Manager
P. O. Box 163
Rio Vista, California
Phone: Office 4-4861, Home 4-4261

Mine is located about 35 miles easterly of Bakersfield, in the Kern River Canyon, Kern County, California, about 1½ miles westerly of Miracle Hot Springs. State Sign Route No. 178 crosses the Little Sparkler series of claims on the south side of the Kern River. The mine is located on the north side of the River, and may be reached via the "manway access" (by short trail and highline) or by 4-wheel drive vehicle over existing access road to mine workings (through Isabella and Keysville).

APPLICATION FOR AID

3. Continued

3. (b) Shipping and supply points:

Ore will eventually be shipped from a Bakersfield siding, a distance of 63 road miles from the mine. Ore presently will be shipped from more distant Southern Pacific Company siding at Cantil, about 20 miles north of the City of Mojave, which is approximately 78 road miles from mine. Applicant has in hand a firm contract with a competent trucker who will haul ore from mine stockpile and dump directly into rail cars for the unit cost of Eight Cents ($0.08) per ton/mile.
(If further exploration warrants it, an ore highline spanning the River will decrease road miles to Bakersfield by approximately 23 miles.)

Rail freight rates from either Cantil or Bakersfield to Vitro's mill at Salt Lake City, Utah, are in brief:

	Rate Per Ton
Value per ton not exceeding $30.00	$ 9.82
Value per ton over $30.00 but not exceeding $50.00	11.28
Value per ton over $50.00 but not exceeding $70.00	12.66
Value per ton over $70.00 but not exceeding $80.00	13.55
Value per ton over $80.00 but not exceeding $100.00	14.98

(All rates quoted hereinabove are subject to 3% Federal Transportation Tax.)

Principal supply point is Bakersfield; however, fuel, lubricants, hardware, explosives, some timber and other supplies may be purchased in Bodfish, Isabella or Kernville, in the general vicinity of the mine.

Mine workings by road to Bakersfield - Approximately 58 miles
Mine workings by road to Bodfish - Approximately 15 miles
Mine workings by road to Isabella - Approximately 12 miles
Mine workings by road to Kernville- Approximately 20 miles

Employees reside at Miracle Hot Springs (1½ miles), Bodfish, Isabella and Kernville (miles as above)

4. THE EXPLORATION PROJECT

(a) Description

Please refer to geologic report (Progress Report, Kern Uranium Co., Little Sparkler No. 4 Mine ---, (marked: Schedule 2 (e)-1 and 4 (a)-1) and specifically to page 2, item 2, sub-paragraphs a, b, c and d. To explore the structure at depth to determine whether significant uranium mineralization exists, including increase in values over those encountered at surface and first level.

Second Level

Shaft: Sink to 2nd level at 160 feet, from 60 feet, and provide 5 foot sump, a total of 100 vertical feet. Overall dimensions, 6 feet by 8 feet, consisting of hoisting compartment and manway.

Cross-cut/Main Entry to Level: Cross-cut an estimated 55 feet to intercept structure. Overall dimensions, 5 feet by 7 feet.

Drifts: Drift northwesterly and southeasterly (double heading) along structure to determine mineralization at this depth. On the basis of what we have seen at outcrop and on first level, recommend a total of 450 feet. Overall dimensions, 4 feet by 7 feet.

First Level

Cross-cut N 40°E, 75 feet, into the footwall, from a point 150 feet SE from Center-bolt of turntable, toward area shown on map (Schedule 2 (a)-1, 2 (d)-1, 2 (e)-1, 4 (a)-1) as Stake No. 600 and surface samples No's. 1,2,3 & 5. For purpose of exploring indicated parallel zone of mineralization. Overall dimensions, 4 feet by 7 feet.

Comment on possible alternative method of exploring for mineralization on 2nd level:-

Applicant had considered diamond coring but abandoned proposal on: (1) advice of experts that diamond drilling the structure in question would produce inconclusive results because of probable difficulty in retrieving cores or cuttings and general inconclusiveness of probing with counter: (2) actual recent experience of adjacent mine and failure of their substantial drilling program for reasons expressed in (1).

4. (a) Continued

Relation of proposed work to property boundaries:

Please refer to base map (Geologic Map of the Little Sparkler/Kergon-Miracle Area, Dwg. #137) previously submitted under Docket No. DMEA-4501 and to currently submitted Drift & Assay Map of Surface & 60 foot level (Schedule No. 2 (a)-1 et al). Survey stake No. 47 (circled in red on latter map) is the same stake No.47 shown on the former map. The nearest property line lies approximately 550 feet northwesterly of this stake, which property line is the northwesterly end line of claim Little Sparkler No. 4.

4. (b) Access Road

Access road is complete and in good condition.

4. (c) Progress (time) estimate:

Start work within 10 days of execution of contract.

Complete proposed project within 6 months.

Shaft sinking:	2 feet per working day
Main X-Cut:	4 feet per working day
Drifts (Dble.heading)	8 feet per working day
Other X-Cuts:	8 feet per working day

5. EXPERIENCE:

Company has carried on exploration, development and mining work to date, in what we believe your field team will find to have been an efficient, safe and economical manner.

Personnel:

Lloyd Scouler, President & General Manager, Business management. 17 years in heavy construction, including 2 years coal mining with Kaiser Steel, all in administrative capacity.

Samuel W. Gardiner, Secretary
Attorney-at-Law

Allen B. Scouler, Geologist
Graduate in Geology, University of California at Berkeley. Employed by Standard Oil Company of California, Exploration Department. (His report and map submitted herewith.)

5. EXPERIENCE: Continued

L. F. Ivanhoe, Consulting Engineer-Geologist
B.S. in Mining Engineering and Engineer of Mines degree from South Dakota School of Mines; M.S. in Geology from Stanford University.

Experience includes two years as exploration-evaluation mining engineer in Ecuador, six years of geology and seven years in geophysics. Now in full-time consulting. (His reports and maps submitted with prior applications -- Refer Docket DMEA-4501)

Vern R. Harrington, Mine Superintendent
In excess twenty years hard rock mining and heavy construction.

6. ESTIMATE OF COSTS:

Applicant proposes unit-cost form of contract and proposes as the fixed unit costs, per foot of advance, those totals for each category of work shown on accompanying Schedule No. 6. & 6-A.

6. (a) Independent contracts: None

(b) Personal services: Included in unit costs. Technicians and employees are available.

(c) Operating Materials & Supplies: Not applicable

(d) Operating Equipment: Not applicable, except as listed hereinbefore in this application, your Item No. 2 (a).

(e) Initial rehabilitation & repairs:) Not applicable.
) All facilities on hand
(f) New buildings, etc.:) and in working condition

(g) Miscellaneous: Not applicable, except insofar as cost of analytical work and accounting may be allowable under unit-cost form of contract, which two categories are not included in the proposed unit costs presented herewith.

7. (a) Applicant is prepared to furnish his share of cost in accordance with Section 7 of DMEA Order-1, Amended.

(b) Applicant proposes to furnish his share of costs in cash.

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DATE		CODE

Form No. 0-4 (Rev.) 20M 9-56 W&Y

KERN URANIUM CO.
POST OFFICE BOX 163
RIO VISTA, CALIFORNIA

WESTERN URANIUM PROJECT

LUCIUS PITKIN INC.

Ore Purchasing Agent for United States Atomic Energy Commission

SCHEDULE 2 (c) - 1

Receiving Station OP Vitro — Grand Junction, Colorado April 2 19 57

Liquidation No. 3152 — Lot No. OP-289VS — Shippers Lot No. 1

Bought of Kern Uranium Company — A.E.C. License No. P-3380

Address P. O. Box 163; Rio Vista, California

Type of Ore Uranium Bearing — Contract No. AT(05-1)-1078 — Date Received 3/19/57

Mining Claim Little Sparkler — Mining District Miricle Hot Springs — Pile No.

County - Kern — State - California

Lot No.	Wet Weight Pounds	H_2O	Dry Weight Pounds	SETTLEMENT ASSAYS U_3O_8	V_2O_5	$CaCO_3$	Cu	CONTENTS POUNDS U_3O_8	V_2O_5	$CaCO_3$	Cu
OP-289 VS	102,100	5.4	96,587	0.43		0.9		415.32		869	

U308	Per Lb.	Per Ton	Short Tons	Total Value
0.43% = 8.6# at	3.50	30.10	48.2935	$1,453.64
Development allowance 8.6# at	.50	4.30	"	207.66
Premium in excess of 4# per ton (8.6# - 4#) = 4.6# at	.75	3.45	"	166.61
TOTAL U308 PAYMENT		37.85	48.2935	$1,327.91
Haulage allowance 100 miles @ 6¢ per wet ton mile			51.0500	306.30
TOTAL GROSS PRICE				$2,134.21
Deductions				—
NET PROCEEDS				$2,134.21

Correct HMC
Checked CRC
Approved HER

Paid 4/2/57
Check No. 4374
Vo. No. 4/21

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DMEA
RECEIVED 6 1957
DATE CODE

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I certify that I am the lawful owner or authorized Representative of the Lawful Owner, of the Ore described in this Settlement Sheet and have legal right to deliver the same to the Commission.
I certify that I hold A. E. C. Source Material License numbered above.
I hereby transfer to the Commission, effective as of the date of delivery of the ore, all my right, title and interest in and to said ore.
I will accept the amount as shown above as "Total Gross Price" in full settlement for sums due to me on account of the ore deliveries described herein.

Buyers assays govern if Seller fails to submit his assays prior to acceptance of payment.

Rates paid are based on U. S. Atomic Energy Commission Published Schedules unless otherwise provided in contract applicable to ore delivery described herein.

Kern Uranium Company
Seller or Agent
By [signature]
Title President

KERN URANIUM CO
POST OFFICE BOX 163
RIO VISTA, CALIFORNIA

KERN URANIUM CO

Little Sparkler No. 4 Mine

Schedule 2 (c) - 2

*RECAPITULATION UNDERGROUND ORE PRODUCTION

To November 20, 1957

First Level

Actual Source		Approximate Gross Tons/Ore
Drifts		71.28
Stope #1 - Drift #1-1West		143.00
Stope #1 - Drift #1-1East		61.82
Total Underground Production		276.10
Less: Estimated dirty ore sorted out of stockpile (See Sample #64)	3.50	
Shipped to Metco, Inc. for Test	7.19	(10.69)
NET - UNDERGROUND PRODUCTION		265.41

*Note:

Data hereinabove taken from Weekly Mine Progress Report showing daily tally of source of ore and number of buckets dumped into ore stockpile. Ore buckets determined to contain an average of 880 pounds net per bucket. Said reports are on file and can be submitted on request.

All of the foregoing ore is in stockpile at the mine.

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KERN URANIUM CO

Little Sparkler No. 4 Mine

Schedule 2 (c) - 3

UNDERGROUND ORE PRODUCTION ASSAYS, 10-TON LOTS

First Level

Principal Source	*10-Ton Lots	Sample No.	Lab. Sample No.	**Chemical %U_3O_8
Full fracture, X-Cut at Drift	1st	56	9231-1	0.21
Drifts 1-1W & 1-1E	2nd	57	9288-1	0.78
Drifts	3rd	58	9350-1	0.61
Drifts	4th	59	9452-1	0.41
Drifts	5th	60	9468-1	0.55
Drifts	6th	61	9567-14	0.62
Drifts	7th	62	9603-1	0.45
Stope #1 (Dr. 1-1W)	8th	63	9816-1	1.01
Stope #1 (Dr. 1-1W) (Dirty Ore)	9th	64	9854-1	0.22
Stope #1 (Dr. 1-1W)	10th	66	9887-1	0.72
Stope #1 (Dr. 1-1W)	11th	67	9887-2	0.31
Stope #1 (Dr. 1-1W)	12th	68	9896-1	1.07
Stope #1 (Dr. 1-1W)	13th	70	9913-70	0.42
Stope #1 (Dr. 1-1W)	14th	71	9939-1	1.04
Stope #1 (Dr. 1-1W)	15th	72	9939-2	1.59
Stope #1 (Dr. 1-1W)	16th	73	9977-1	1.14
Stope #1 (Dr. 1-1W)	17th	74	9977-2	0.84
Stope #1 (Dr. 1-1W)	18th	75	10017-1	0.47
Stope #1 (Dr. 1-1W)	19th	76	10039-1	0.74
Stope #1 (Dr. 1-1W)	20th	77	10054-1	0.76
Stopes #'s 1 (Dr.1-1W & 1-1E)	21st	78	10075-1	0.49
Stopes #'s 1 (Dr.1-1W & 1-1E)	22nd	79	10113-1	0.64
Stopes #'s 1 (Dr.1-1W & 1-1E)	23rd	80	10113-2	0.55
Stope #1 (Dr.1-1W)	24th	81	10139-1	0.45
Stope #1 (Dr.1-1E)	25th	82	10147-1	0.58
Stope #1 (Dr.1-1E)	26th	83	10147-2	0.47
AVERAGE OF 260 TONS				0.66

*Note:
Method of sampling: Each 880 pound (net) ore bucket sampled at random and accumulated until 20,000 pounds had been so sampled. Cumulative sample then crushed and cut for assay.

**Note:
All assays by the Brown Laboratory, Grand Junction, Colorado. Certificates of analysis are on file and will be furnished on request.

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Schedule: 2(e)-1
4(a)-1
Geologic Report

KERN URANIUM CO.
POST OFFICE BOX 163
RIO VISTA, CALIFORNIA

Schedule 2 (e)-1

Progress Report, Kern Uranium Co., Inc., Little Sparkler No. 4 Mine, Kern Canyon, Kern Co., California.

INTRODUCTION

Underground mining activity of both an exploratory and development nature has been underway since March 26, 1957.

The digging of the shaft, cross-cutting, drifting, and stoping operations have continued unbroken to the present time. Surface facilities necessary to an underground operation have been installed.

One carload of commercial uranium ore has been shipped and payment has been received. Additional uranium ore is being stockpiled on the premises and is presently awaiting shipment.

CONCLUSIONS

1. Uranium ore in the form of pitchblende has been encountered on the Little Sparkler No. 4 claim. Occurrence is 14' below the surface, down to the 60' level, in a major zone of fracturing.

2. Uranium ore in the form of autunite, although limited in occurrence, has been encountered near the surface and on the 60' level in the above mentioned zone of fracturing.

3. Commercial uranium ore, in as yet unknown quantity is considered to exist in this location.

4. Profitable economic mining operations for the production of uranium ore are considered underway on the above claim.

RECOMMENDATIONS

1. It is recommended that mining operations in the form of stoping be continued in the No. 1 stopes in both the west and east drifts of the 60' level.

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2. It is further recommended that an active exploratory program be carried on simultaneously with productive stoping operations. This exploratory program initially to include the following:

a. Cross-cut for a distance of approximately 75' in a direction N 40°E from the point in the east drift, 60' level, 150' from the center bolt of the turntable located at the intersection of the east drift and the cross-cut from the shaft.

b. Sink in the present shaft another 100' to a depth of 160' below the surface.

c. Cross-cut S 45°W a distance of approximately 55' to intersect southward dipping mineralized zone of fracturing; said zone trenched at the surface, and encountered at a distance 32' from the shaft on the 60' level.

d. Double drift at the intersection of the cross-cut and mineralized zone of fracturing, following the zone of fracturing (direction to depend upon strike of zone of fracturing, thought to be approximately N 43°W and S 43°E). Drift a distance of (1) 250' S 43°E, and (2) 200' N 43°W (directions dependent upon strike of zone of fracturing).

DISCUSSION

I. STRUCTURE

A. Faulting:

Three mineralized systems of faults are to be found in this area: The first trends northwest - southeast; the second trends northeast - southwest. These two systems intersect and offset each other and are considered to be of the same age.

A major east - west trending fault lies north of the Little Sparkler No. 4 claim truncating the above mentioned northwest -

southeast, northeast - southwest systems. Movement on this fault appears to be mainly vertical and of the compressional type. There is little evidence of mineralization along this fault where it has been observed.

The northwest-southeast, northeast-southwest systems have had some vertical movement but have had a more pronounced horizontal component. These two systems are considered to be of the tensional type.

Eastward, the north - south trending Kern Canyon fault truncates the above mentioned east - west trending fault. This fault has long been recognized as one of the most highly mineralized faults in this southern area.

Time of earliest movement on these faults is considered to be of pre-Cretaceous age, associated with the origin of the present granitic mountain system. Recurrent movement has continued to recent time.

B. Intrusions

Late stages of solidification within the magma gave rise to acid intrusives of the dacite-porphyry type. One prominent dike of this type trends roughly northwest, dipping 45 - 60° N, and varies in thickness up to several hundred feet. It lies immediately south of the fault zone presently being worked on the Little Sparkler No. 4 claim. Additional dikes of this type are found to have intruded zones of fracture, in addition to having been displaced by zones of fracture.

Pegmatites of varying thickness are distributed at random throughout the area.

Intrusives have penetrated both the granitic country rock of the present system as well as the metamorphic remnants of the previous mountain systems.

II. MINERALIZATION

The country rock consists of two types of granodiorite: one a hornblende-rich type, the other a biotite-rich type. Color varies from light gray in the unweathered outcrop to rusty brown in those outcrop areas showing a high degree of weathering.

Light colored dikes of the dacite - porphyry type are commonplace. These are often stained green from the alteration of chalcopyrite, present as an accessory mineral.

Material within the fractured zones associated with faulting in the area exhibit a high degree of alteration. Color ranges from brown, through yellow and red, to green.

Pegmatites existing in both dike and sheet form are present. These exhibit abnormal growth of feldspar, biotite and tourmaline crystals. At irregular intervals small quantities of uraninite are to be found.

Certain additional minerals found within the are include quartz in both alpha and beta form, fluorite, pyrite, pitchblende, and minor quantities of vanadium.

Pitchblende occurs in several forms: as a soft black powdery material; as a sticky black mass developed within a gouge zone; as a hard botryoidal variety. It is found in and immediately adjacent to zones of fracture.

The first occurrence of pitchblende was noted at a depth of 14' in the fracture zone subsequently followed underground to a depth of 60'. Drifting along this zone of fracture has subsequently uncovered high grade ore shoots containing primarily pitchblende as the most prominent of the uranium minerals, along with minor quantities of secondary autunite and torbernite. These ore shoots have yielded samples assaying as high as 10.67% U_3O_8 (chemical analysis).

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Secondary minerals in the form of autunite and torbernite occur mainly near the surface of zones of fracture and continue in decreasing quantity with depth. Primary pitchblende occurs in one locality 14' below the surface. So far as exploration has proceeded it appears to be increasing with depth. Alteration from primary to secondary uranium minerals is suggested as being in place.

Veins containing uranium minerals vary in thickness from a few inches to approximately 4'. Uranium minerals comprising the ore shoots within these veins exist as stringers varying in thickness from a few inches to a few feet.

III. Geologic History and Age of Uranium Mineralization

Events named in order of decreasing age are considered to have taken place as follows:

a. Formation of the pre-Cretaceous plutonic complex comprising the present mountain system.

b. Faulting contemporaneous with the growth of this system continuing to present time.

c. Intrusion by acid-type dikes such as dacite-porphyry south of the zone of fracture presently being mined.

d. Intrusion of uranium minerals.

e. Intrusion of pegmatite dikes

f. Alteration in place of primary uranium minerals to secondary.

In the above events uranium mineralization is considered to have closely followed intrusion by dikes of the dacite-porphyry type. Uranium mineralization is postulated as having taken a path between the dike and the adjoining wall-rock, ponding against the dike. In addition, uranium mineralization took place within and

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KERNVILLE, CALIFORNIA

adjacent to the zones of fracture thus the formation of the black gouge zone and the fresh appearing crystalline botryoidal variety.

Radiometric and chemical analyses closely approach one another in per cent U_3O_8 suggesting a sufficient time lapse for the approach to equilibrium. Dacite porphyry dikes exhibit the presence of secondary minerals such as autunite.

All evidence to date suggests considerable age for the formation and deposition of uranium minerals in this area. Age is suggested as being post-dacite-porphyry, pre-pegmatite.

(Sgd) Allen B. Scouler
A. B. Scouler
Geologist

November 18, 1957

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Schedule: 6 & 6-A
Costs

KERN URANIUM CO

Little Sparkler No. 4 Mine

Schedule 6

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RIO VISTA, CALIFORNIA

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PROPOSED UNIT PRICES PER FOOT OF ADVANCE

	Second Level			
		X - Cuts		
	Shaft Sinking (1½ Compartment)	Main Access (Shaft to Drift)	Other	Drifts (Two Headings)
Mining Labor				
(Incl. payroll taxes & comp. insurance)	45.00	27.50	20.00	20.00
Materials & Supplies				
(Excluding Timber)				
Hardware & Nails	2.36	1.00	.05	.05
Explosives	5.50	2.50	1.15	1.15
Small Tools	1.20	.65	.40	.40
Drills, steel, Hose and Bits	4.50	1.50	.75	.75
Rail & Ties	--	.88	.88	.88
Miscellaneous	.75	.15	.15	.15
	14.31	6.68	3.38	3.38
Compressed Air	8.50	4.25	2.13	2.13
Hoisting & Dumping	20.00	10.00	5.00	5.00
Shop & Topman	9.50	4.75	3.50	3.50
Other Distributable Mine Expenses				
Assaying & Sampling	--	--	.60	.60
Electric Power and Lighting	2.50	1.25	.63	.63
Trucking Supplies	5.35	2.65	1.33	1.33
Ventilation	3.00	1.50	.75	.75
Pumping Water and Water Supply	.88	.44	.22	.22
Mine Protection (Watchman)	4.00	2.00	1.00	1.00
Miscellaneous	.50	.25	.13	.13
	16.23	8.09	4.66	4.66
Timbering	19.50	9.75	7.50	7.50
Supervision (Mine Only)	16.50	8.25	4.13	4.13
Engineering & Geological	1.00	1.00	2.15	2.15
TOTAL	150.54	80.27	52.45	52.45

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MOJAVE, CALIFORNIA

KERN URANIUM CO

Little Sparkler No. 4 Mine

Schedule 6-A

EXPLORATION PROGRAM & ESTIMATED COST

First and Second Level

	Lineal Feet	Unit Cost	Amount
Shaft, Sink to 2nd Level	100	$150.54	$15,054.00
Cross-cut/Main Access 2nd Level (Shaft to Drift)	55	80.27	4,414.85
Drift - 2nd Level	450	52.45	23,602.50
Sub-total 2nd Level			43,071.35
Cross-cut/1st Level, East Drift (Seek parallel structure)	75	52.45	3,933.75
TOTAL EXPLORATION PROGRAM			47,005.10

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Photographs

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DATE	[illegible]	CODE

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RIO VISTA, CALIFORNIA

Little Sparkler No. 4
At July 13, 1957

Little Sparkler No. 4
At July 13, 1957

Small building in right background houses 5 KW generator.
Water tank -420 gals.- mine supply piped from spring.

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Ore & Waste Dumps

Ore Stockpiles

Begin Underground production only - Drifts 1-1W & 1-1E

Little Sparkler No. 4
At July 13, 1957

KERN URANIUM CO.
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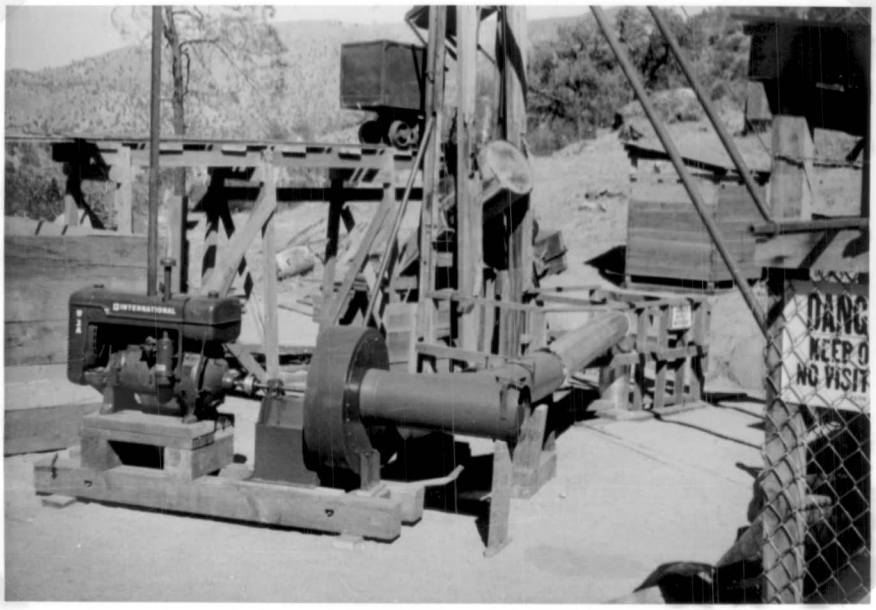
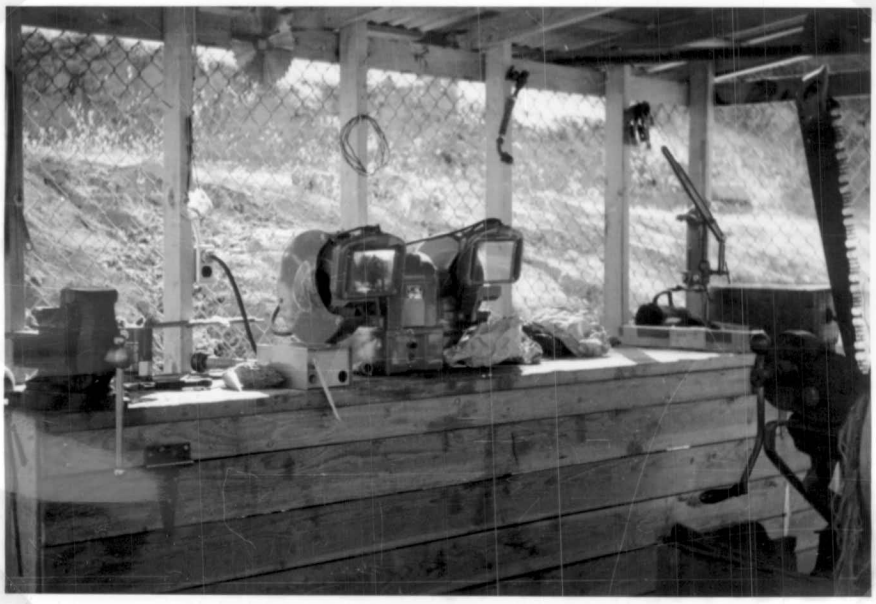
RIO VISTA, CALIFORNIA



Ventilation Equipment

Power: International U2A w/P.T.O. & Clutch - Gasoline.
Blower/Exhauster: Rees, Size 13-25 H.E. - 3,000 cfm.
12" Diam. galv. pipe to drifts, flexible thereafter.



Shop Interior

Little Sparkler No. 4
At July 13, 1957

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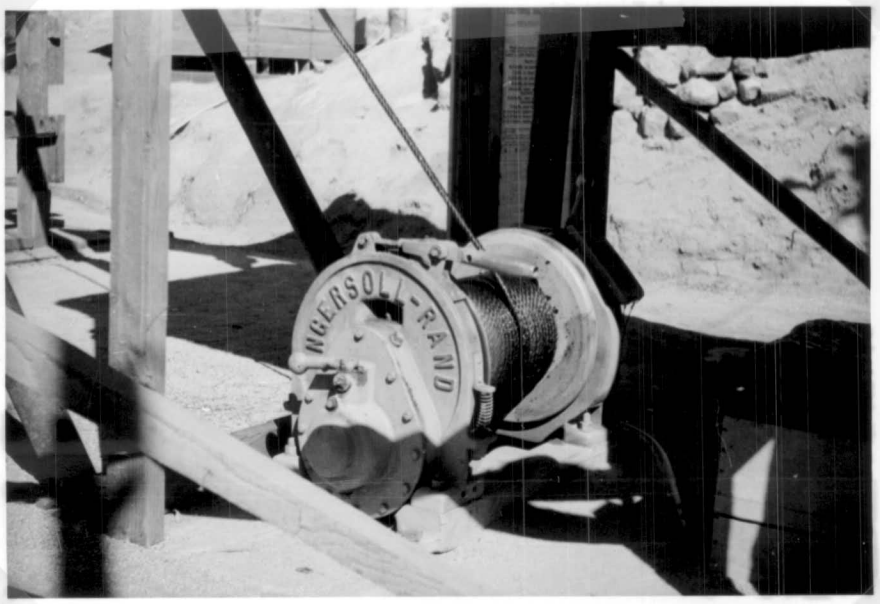
RIO VISTA, CALIFORNIA

Compressor, Ingersoll-Rand 315 cfm Gyro-Flo
Serial # BR10253 Power: GMC Diesel



1-Ton Air Hoist, Ingersoll-Rand "HUL"
Rope: ½" 6x19 IWRC Reg.

Little Sparkler No. 4
At July 13, 1957

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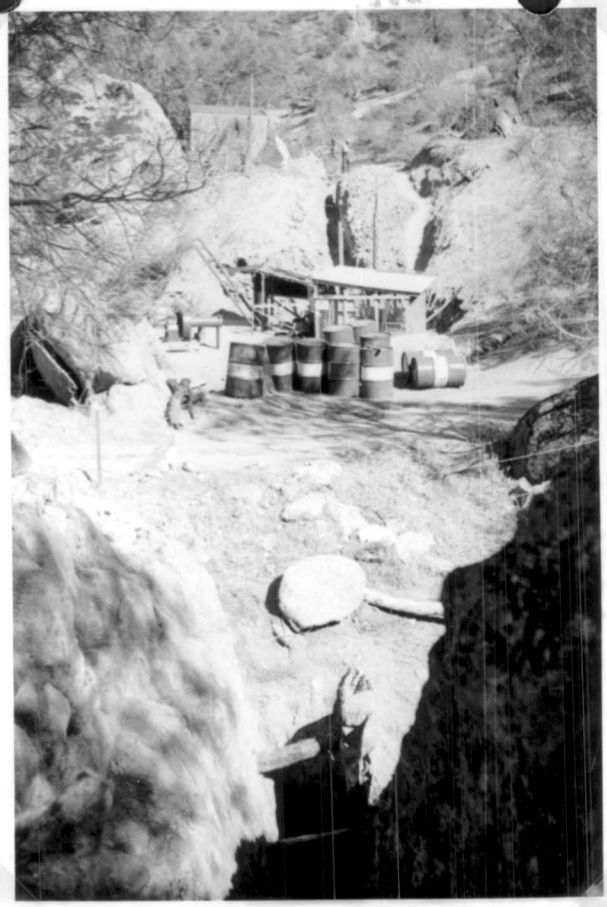
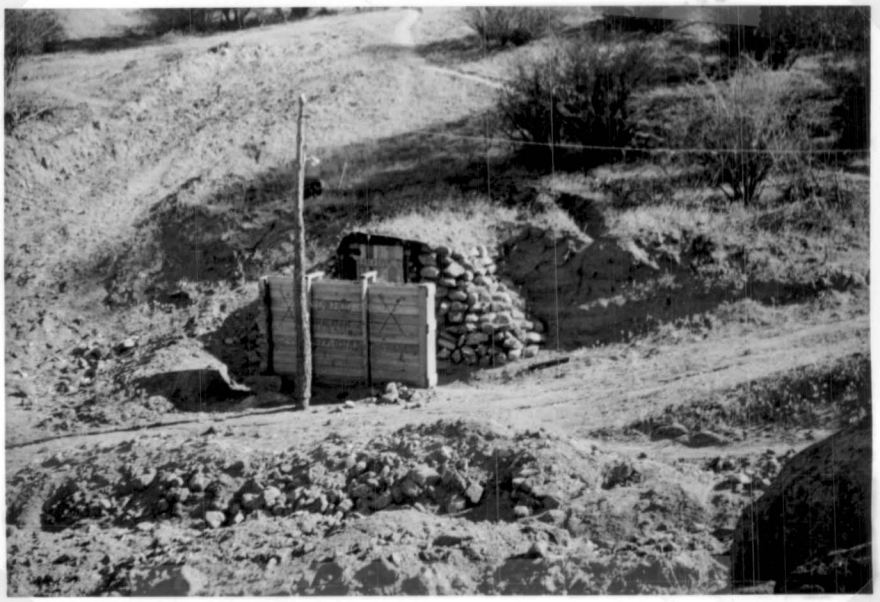


Looking S.E. along surface trenching of vein from "Uraninite Pit" to Office/Change House at top.



Explosives Magazine

Little Sparkler No. 4
At July 13, 1957

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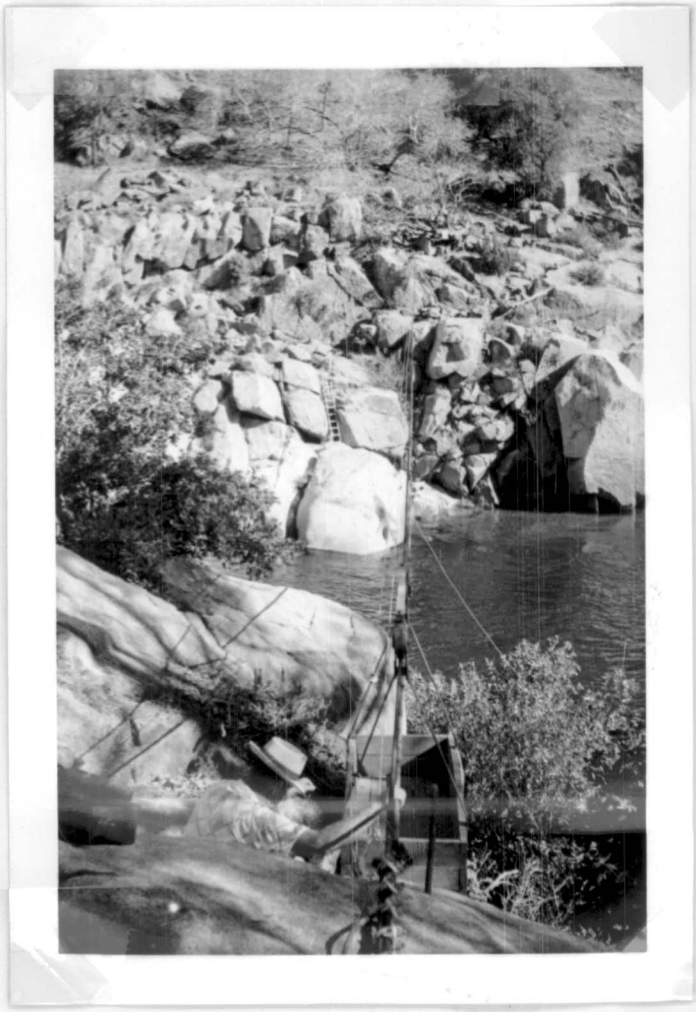

Manway - Highline Crossing
Kern River

Looking southerly. Manway access on Little Sparkler 1-4/6-7 & McTom series.

Double anchors each side, drilled into granite.
Rope: 3/4" 6x19 IWRC plow steel.
Span: 204'

Little Sparkler No. 2
At July 13, 1957

DOCKET COPY

Kugene Ellis

April 4, 1958
Summary of Proposed Project
(Supplement to Summary, dated January 29, 1957
Docket No. DMEA-4501)

Object: Denial of application for an exploration project.

Docket No. DMEA-4894

Commodity: Uranium

Applicant: Kern Uranium Company
P. O. Box 163
Rio Vista, California

Property rights: Same as for DMEA-4501

Date of application: November 26, 1957
Amount of Project: $47,005.10
Received in Division: December 6, 1957
Referred to Region II: December 13, 1957
Property Examined: January 14 and 15, 1958
Field Team report received in Division: March 28, 1958

Proposed Work: Consists of sinking existing two-compartment, 60-ft. vertical shaft an additional 100 feet, crosscut about 55 feet to intercept the ~~ore~~ uranium-bearing shear zone (exposed in surface trenches and along the 375-foot drift on the 60-foot level) and drift along the shear 450 feet. Also, crosscut 75 northeast from the 60 level to intercept a parallel shear zone exposed on the surface.

Since the application was denied February 1, 1957, the Applicant sank the 64-foot vertical shaft and has driven about 480 feet of drift and crosscut on the 60 level to explore and develop the shear zone, and has also driven two raises (one to the surface) on the two ore shoots found on the 60-foot level.

Production (Applicant's figures)

Source	Net Tons	Grade % U_3O_8
Trenches	51	0.43
Underground	276	0.66

Reserves (Field Team)

	Tons	Grade % U_3O_8
Measured	Few hundred pounds	0.46 +
Indicated	None	----
*Inferred	415	0.46

* Ore shoot below raises--60-ft. level projected 100 feet down dip.

Estimated Cost

100 ft. two-compartment shaft @ $150.54/ft.	$15,054.00
55 ft. crosscut - 2nd level shaft to vein @ $80.27/ft.	4,414.85
450 ft. drifting and crosscutting 2nd level @ $52.45/ft.	23,602.50
75 ft. crosscut 1st level @ $52.45/ft.	3,933.75
Total Estimated Cost of the Project	$47,005.10
Government Participation @ 50%	$23,502.55

Field Team report, dated March 18, 1958
by B. H. Sheahan, USBM, and J. E. Carlson, USGS

The deposit on the 60-foot level is about 400 feet long and averages less than 5 inches wide. Two ore shoots, one in each heading, are about 40 feet long and 5 inches wide. The east shoot is stoped to the surface, but the west shoot rakes about 20 degrees and does not reach the surface. The grade of the uranium-bearing material is not uniform along the strike of the shear and the thin parts of the deposit are higher grade.

The chief ore mineral in the surface open cuts is autunite with minor amounts of metazeunerite, pitchblende, and gummite. On the

60-foot level, the chief ore mineral is gray-black to black, sooty coffinite. No other uranium minerals, if present, were identified. Chemical and radiometric assays showed the uranium to be in disequilibrium, in reverse rates to that from the surface.

~~Inferred~~ ore is estimated at ~~415 tons~~ in two blocks, each ~~50 feet along~~ the strike, 0.5 feet thick ~~and extended 100 feet down~~ the dip be~~low~~ the two stopes.

Although the ore locally is of high grade, the ore shoots are only about 50 feet long, 5 inches wide, and a grade of 0.46% U_3O_8. Ore-grade material can be obtained only by costly, selective mining. Reserves of 415 tons, which contain 0.46% U_3O_8 are inferred below the working.

The deposit is too small to justify Government assistance, and we recommend that the application be denied.

Comments:

U. S. Geological Survey, N. E. Nelson, March 31, 1958

"Except that the examiners in this case infer that the shear zone will cut the gently-dipping aplite dike that underlies the mine area at a depth of about 200 feet, conditions existent at the time application DMEA 4501 was denied are unchanged.

"Assuming the shearing does cut the dike, and the uranium content per foot of the shearing does not increase the project has no economic merit. Inasmuch as the total length of the ore shoot on the 60 foot level appears to be about 1/2 or less than it was at surface, the outlook for the proposed 100-foot level is not good.

"The examiners conclude the deposit is too small to justify Government assistance and recommend that the application be denied.

"I concur with the recommendation."

U. S. Bureau of Mines, James Paone, April 1, 1958.

Agree with Field Team--deny the application.

Division of Rare and Miscellaneous Metals,
F. L. Knouse, April 2, 1958

All our information points toward a weakening of mineralization in depth. Compare estimate of ore reserves in Field Team's report, dated January 7, 1957, with above reserve figures, i.e., 50 tons measured, 1,000 tons indicated, and 1,000 tons inferred. All classifications estimated to contain 0.2% U_3O_8. Therefore, the chances of discovering a significant deposit of uranium on the property are poor, and the application should be denied.

Conclusion:

A review of all our information indicates that the decision to deny the application rendered February 1, 1957, in the Administrator's letter to the Applicant should remain in effect.

Ernest Wm. Ellis

Ernest Wm. Ellis

DMEA Form 7
(12-56)

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Date	Surname	Code
4/4/58	Knouse	700
"	Ellis	700
4/7	Selfridge	130
4/7	Johnson	110
"	Mittendorf	100
		220
		225
4/7	Lamb	130
4/7	Kilsgaard	130

Mr. Lloyd Scouler, President
Kern Uranium Co.
Post Office Box 163
Rio Vista, California

APR 7

Re: Docket No. DMEA-4894 (Uranium)
Little Sparkler and McTom Claims
Kern County, California

Dear Mr. Scouler:

A review of all our information relating to the subject application, including information submitted and obtained for previous applications (Dockets Nos. DMEA-4501 and DMEA-3980), indicates that the probability of making a significant discovery of uranium on your property is not sufficiently promising to justify Government participation in an exploration project. Therefore, we regret to advise you that, under these circumstances, there is no change in the decision rendered in our letter of February 1, 1957.

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

Sincerely yours,

(for)

Administrator

FLKnouse/gla
4-4-58
cc to: Admr.'s Reading File
Operating Committee
THKiilsgaard, 5224
FLKnouse
DMEA Field Team, Region II (2)

8623

January 29, 1957

Summary of Proposed Project

Object: Denial of application for an exploration project.

Project No.: IPUA-1508

Commodity: Uranium

Applicants: Kern Uranium Company
P. O. Box 169
Rio Vista, California

Property: Consists of 12 contiguous full and fractional unpatented lode mining claims: Little Sparkler Nos. 1, 2, 3, 4, 6, and 7; and Mafren Nos. 1 through 6, in sects. 17 and 20, T. 27 S., R. 32 E., M.D.B.&M. Kern County, California

Property rights: The Little Sparkler claims were conveyed to applicants by a Deed, dated October 16, 1955, and the Mafren claims were conveyed to applicants by a Quit Claim Deed, dated July 31, 1956.

Date of application: September 25, 1956.

Work proposed: A footage program to explore along a uranium-bearing, indicated vertical shear zone in granite by means of a Stage I - diamond drilling - three holes from each drill station to cut the shear zone at depths of [illegible], 250, and 275 feet below the surface, proposed drill holes to be at 100-foot intervals on opposite sides along the shear zone. Total drill footage estimated for Stage I is 1600 feet. Stage II - consists of 1,000 feet of diamond drilling, 100 to 200 feet of adit extension, an unspecified amount of drift, and stoping and 50 feet of raise to examine the shear zone.

Cost of Proposed Work:

Stage I

1600 feet diamond drilling @ $[illegible]	[illegible]
Assays and samples	[illegible]
Engineering and technical services	[illegible]
Pulgore water supply	[illegible]
River crossing improvement	[illegible]
Geiger counter and 300 lbs. of cable	[illegible]
Total	[illegible]

Cost of Proposed Work (continued):

Phase II

1,000 feet diamond drilling @ $[illegible]/ft. @ $[illegible]	[illegible]
Shaft @ $[illegible]/ft., drifts and crosscuts @ $35/ft.	[illegible]
50 feet raises @ $50/ft.	[illegible]
Assays and samples	[illegible]
Engineering and technical services	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
Total	[illegible]
[illegible] : [illegible]	[illegible]
[illegible] : [illegible]	[illegible]
Total Estimated Cost of the Project	[illegible]
Government Participation @ 75%	[illegible]

[illegible] January 7, 1957 [illegible] and [illegible]

The only rock in the mine area is [illegible] of the [illegible] (Cretaceous age) [illegible] by numerous [illegible] and [illegible] dikes. The [illegible] to steeply dipping, [illegible] feet [illegible], and [illegible] chiefly of quartz and [illegible] minor amounts of [illegible], [illegible], and [illegible].

[illegible]

The deposits [illegible] about [illegible] feet long [illegible] [illegible]

The grade of the manganiferous material along the strike is spotty with the high grade occurring where the zone narrows. However, there is no appreciable change in grade from the surface to the bottom of the deepest pit, although there is a change in the mineralogy from rhodonite to a black sooty mineral mixed with rhodonite and graphite.

It is believed the shear will cut at a steep, probably dipping, quite like that underlies the property at a depth of about 100 feet.

The diamond drilling proposed is not applicable for this type of deposit. A more favorable method would be to pick a shaft in one, near the shear and drift along the shear zone.

Estimated ore reserves are:

[illegible] tons measured 0.[illegible] percent Mn
[illegible],000 tons indicated 0.[illegible] percent Mn
[illegible],000 tons inferred 0.[illegible] percent Mn

The tonnage and grade of the deposit are questionable within narrow limits from available information and the reserves are too small to justify any further exploration. Overall schedule mining and working would be required to produce a shipping grade ore. Therefore, it is recommended that the exploration should be limited.

Field Team concurs with the conclusions.

Comments of Commodity Specialists:

U. S. Geological Survey, R. E. Hilsing, January [illegible], 1976:

Sampling indicates there are 4 short ore shoots approximately [illegible] feet in length and averaging [illegible] wide. The best shoot as indicated, at the north end of the deposit, is 30 feet long and wide open on both ends and it is believed the deposit will broaden within [illegible] feet below the outcrop.

Because the tonnage and value potentials are so limited compared to the cost of exploration, I concur with the recommendations of the Field Team.

U. S. Bureau of Mines, Steve Tyrell, February [illegible], 1976:

Agrees with Field Team with recommendations.

Basic and Nonferrous Metals Division, T. L. Thomas, January [illegible]

Radiometric analyses of samples taken over a distance of 100 feet along the westernmost steep cross shaft show fairly narrow fissure of ore grade material. The approximate tonnage of these ore shoots if projected to the underlying spline dike would not add significant reserves of uranium ore. Also, any ore produced would require selective mining and sorting. Therefore, the application should be denied.

Conclusions:

The review of our information relating to the [illegible] project indicates that the probability of mining a significant [illegible] tonnage on the property is not promising. Therefore, the application should be denied.

/s/ [illegible]

[illegible]

Copy: Albert Ewing File
Spending Committee
[illegible]
[illegible]

February 1, 1957

Filed in DMEA-4894 Kern Uranium Company because docket on DMEA-4501 (same company) cannot be located. (4/2/58)

Mr. Lloyd Scouler, President
Kern Uranium Co.
P. O. Box 163
Rio Vista, California

Re: Docket No. DMEA-4501 (Uranium)
Little Sparkler and McTom Claims
Kern County, California

Dear Mr. Scoular:

Y ur application for aid in an exploration project and other information available to us in Washington concerning your 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.

Careful study of all our information, although noting some uranium mineralization on your property, indicates that the probability of disclosing significant ore reserves is not sufficiently promising to justify Government participation. 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,

/s/ C. O. Mittendorf

Administrator

FLKnouse/gla
1-29-57
cc to: Admr.'s Reading File
Operating Committee
DMEA Field Team, Region II (2)
Messrs. JECrawford, 3643
THKiilsgaard, 5224
AEC - Jack Kratchman
Code 700
Mr. Knouse

c o p y

PE: 4501
X-REF.

DMEA RECEIVED APR 2 1958		
DATE	INITIALS	CODE
4/3	C	220
		700

April 1, 1958

Project No. 4894

Commodity: Uranium

Company: Kern Uranium Company

Property: Little Sparkler and McTom Claims

Location of property: Kern County, California

Estimated cost of project: $47,005.10

To: Ernest William Ellis, DMEA Member
Uranium Commodity Committee

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

Subject: Field Team Report

1. Date of initial inspection: 3/21/58 2. Date received by [illegible]: 3/24/58

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. Consult with Mr. _____ at _____ AEC office
   f. Disagree with Field Team [ ]
   g. Suggest alternate plan [ ]
   h. Request another examination [ ]
   i. Approval [ ]

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

IN REPLY REFER TO:

DME
RECEIVED APR 1 1958

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

March 31, 1958
Re: DMEA 4894
Kern Uranium Company
Little Sparkler & McTom Claims
Kern County, California
$47,005.10 - Uranium

Memorandum

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

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

Subject: Review of Field Team Report

The applicant again requested assistance in exploring a narrow uranium-bearing vein in granite. Two previous applications for assistance were made. DMEA 3980 was withdrawn and 4501 was denied.

Except that the examiners in this case infer that the shear zone will cut the gently-dipping aplite dike that underlies the mine area at a depth of about 200 feet, conditions existent at the time application DMEA 4501 was denied are unchanged.

Assuming the shearing does cut the dike, and the uranium content per foot of the shearing does not increase the project has no economic merit. Inasmuch as the total length of the ore shoots on the 60 foot level appears to be about 1/2 or less than it was at surface, the outlook for the proposed 100-foot level is not good.

The examiners conclude the deposit is too small to justify Government assistance and recommend that the application be denied.

I concur with the recommendation.

N. E. Nelson

N. E. Nelson

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

March 21, 1958

OFFICE OF THE DIR.
DMEA
RECEIVED MAR 24 1958

DATE	INITIAL	REMARKS
3/25	C	220
3/28	213	130
3/28	C	220
3/28	FLR	720

Memorandum

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

From: Executive Officer, DMEA Field Team, Region II

Subject: Docket No. DMEA-4894 (Uranium)
Kern Uranium Company
Little Sparkler and McTom Claims
Kern County, California

ON-SITE EXAM

Enclosed are three copies of a report by J. E. Carlson, Geological Survey, and B. H. Sheahan, Bureau of Mines, recommending that the application for exploration aid be denied.

Roscoe Smith and I agree with the recommendation inasmuch as the property does not meet our general practise in respect to a significant target. I believe, however, that we may be putting too much emphasis on the economic factor.

The Applicant has proven the extension of high grade uranium ore on the 60-foot level and work on the 160-foot would furnish fundamental data for appraising the potential uranium resources of the district. William A. Bowes, of the A.E.C., kept in close touch with the exploration of the property and believes it is similar geologically to the Marysvale district in Utah. Both he and Arthur Richards, A.E.C., Bakersfield, California, who accompanied our engineers during the field examination, believe this is the most attractive prospect yet found in southern California and seem much interested in learning more about the attitude of the deposit in depth. Their interest is possibly largely from a scientific point of view.

Reviewed by
DMEA OPERATING COMMITTEE
3-28-58
(date)

If this type of exploration should fit into DMEA policy, Roscoe Smith and I, as well as our engineers, would recommend a project along the lines requested by the Applicant.

S. Ricker

Attachments

OFFICIAL FILE COPY
DMEA
RECEIVED MAR 24 1958
DATE | | CODE
3/28 | JHB | 130
220

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-4894 (Uranium)
Kern Uranium Company
Little Sparkler mine
Kern County, California

by

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

J. E. Carlson
U. S. Geological Survey

March 18, 1958

Reviewed by
DMEA OPERATING COMMITTEE
3-28-58
(date)

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ILLUSTRATIONS

Fig. 1 . . . . . Index map

2 . . . . . Assay and surface sketch map, Little Sparkler mine

3 . . . . . Geologic map, Little Sparkler mine, 60-foot level

4 . . . . . Assay map, Little Sparkler mine, 60-foot level

INTRODUCTION

The Kern Uranium Company, P. O. Box 163, Rio Vista, California, represented by Mr. Lloyd Scouler, president and general manager, applied to the Defense Minerals Exploration Administration, docket DMEA-4894, for Government assistance in a $47,005.10 program to explore for uranium on the Little Sparkler No. 4 claim, Kern County, California.

A field examination was requested by the Operating Committee and was made on January 14 and 15, 1958 by B. H. Sheahan, U.S. Bureau of Mines, and R. M. Smith and J. E. Carlson, U.S. Geological Survey. The examiners were accompanied by Messrs. Scouler, Vincent Harrington, mine foreman, Kenneth Head, auditor for the company, and Arthur Richards, geologist, U. S. Atomic Energy Commission, Bakersfield, California. Allan B. Scouler, geologist, who assisted with the application, was interviewed in nearby Kernville.

Surface excavations were examined, the underground workings were mapped, and 19 samples were taken.

The property is the subject of applications DMEA-3980, which was withdrawn, and DMEA-4501, which was denied.

Acknowledgment is made to the personnel of the AEC office in Bakersfield for property maps and reports loaned to the examiners.

CONCLUSIONS AND RECOMMENDATIONS

The Little Sparkler mine contains uranium minerals in fault gouge along a shear which cuts granodiorite. Although the ore is locally of high grade, the ore shoots are only about 50 feet long, 5 inches wide, and the grade is 0.46 percent U_3O_8. If a four-foot mining width is used, the grade is reduced to 0.089 percent U_3O_8. Ore-grade material can be obtained only by costly selective mining. Reserves of 415 tons which contain 0.46 percent U_3O_8 are inferred below the workings.

The applicant is financially able to provide his share of exploration costs. Most of the equipment and supplies needed to do the work are at the mine. Mr. Scouler is qualified and considered competent to complete the project in a satisfactory manner.

The deposit is too small to justify Government assistance and we recommend that the application be denied.

LOCATION, ACCESSIBILITY, AND FACILITIES

Location--The Little Sparkler claims are in secs. 17 and 20, T. 27 S., R. 32 E., M.D.B.&M., at an altitude of about 2,500 feet in the Greenhorn Range of the Sierra Nevada, Kern County, California (fig. 1). The property is approximately 38 miles east of Bakersfield on the north side of Kern River Canyon and about 1.5 miles west of Miracle Hot Springs.

Accessibility--The property can be reached from Bodfish, California, by following State Highway 178 southwest for 6.1 miles. Then park car, cross Kern River by cableway and follow trail a quarter of a mile to mine plant. Or it can be reached from Isabella by following a paved road northwest for 1.2 miles. Turn left on the Keysville road after crossing the Kern River bridge and follow a narrow dirt road 10.8 miles to the mine plant. Several grades on this dirt road are over 25 percent and a four-wheel-drive vehicle is necessary.

Facilities-- The principal supply point is Bakersfield, 58 miles from the mine by road. Labor, minor supplies, and accommodations are available at Bodfish, Isabella, or Kernville. Most of the equipment and supplies needed are included in the existing mine plant. Water for domestic use is piped 1,000 feet to the mine from a small spring.

Power--Electric power is available in the vicinity of Kernville. The present source is from gasoline and diesel units at the mine.

Cost of Supplies--	Explosives	$23.80/cwt.
	Diesel fuel	$ 0.20/gal.
	Gasoline	$ 0.27/gal.
	Timber	$80.00/M.
	Mine rail (used)	$100.00/ton

Wage Scale--Miners $2.50 to $2.75 per hour.

Assay office--Brown Laboratories, Grand Junction, Colorado, chemicals $3.50/each

Railroad sidings--Bakersfield, California (65 miles) and
Cantil, California (78 miles)

Rates: trucking--$0.08/ton mile
rail--value $30 to $50/ton $11.28/ton

HISTORY AND PRODUCTION

The Little Sparkler and McTom claims were staked and discovery work was done in 1954. Interest in the area resulted from the discovery of uranium on the nearby Miracle property in January 1954.

An application, docket DMEA-3980 (uranium), was signed September 8, 1955, and later withdrawn by the applicant. A second application, docket DMEA-4501 (uranium), was signed September 25, 1956 and the property was examined November 28 and 29, 1956, after preliminary trenching was completed, and Government assistance was denied.

The first shipment of ore, produced from surface pits and trenches, was made in March 1957 and the settlement sheet shows 51.05 wet, or 48.3 dry, tons averaging 0.43 percent U_3O_8. The applicant then sank a shaft, drifted on the 60-foot level, and mined two ore shoots from which a small tonnage was produced. A second shipment of approximately 70 wet tons has been sent to Vitro Uranium Company in Salt Lake City, Utah, but settlement has not been received. The grade of this shipment is expected to be about 0.66 percent U_3O_8. Ore at the mine consists of a stockpile of about 120 tons containing

0.43 percent U_3O_8 and several small stockpiles which contain about 40 tons of material of less than shipping grade.

The mine was certified May 15, 1957 by the AEC as a unit eligible for bonus payment.

PROPERTY AND OWNERSHIP

The property consists of 12 unpatented mining claims in two contiguous groups recorded at Bakersfield as follows:

Claim name	Book	Page	Remarks
Little Sparkler No. 1	2655	220	Amended location recorded August 27, 1956, Little Sparkler Nos. 1 through 4.
Little Sparkler No. 2	2655	223-224	
Little Sparkler No. 3	2655	225-226	
Little Sparkler No. 4	2655	227-228	
Little Sparkler No. 6	---	---	Located June 10, 1956
Little Sparkler No. 7	---	---	Located June 10, 1956
McTon No. 1	2226 O.R.	221-222	Quit claim deed recorded April 1954, McTom Nos. 1 through 6
McTom No. 2	2226 O.R.	223-224	
McTom No. 3	2226 O.R.	225-226	
McTom No. 4	2226 O.R.	227-228	
McTom No. 5	2228 O.R.	553-554	
McTom No. 6	2228 O.R.	555-556	

The Kern Uranium Company was incorporated in California on July 13, 1955, file 306145, and capitalized at $500,000 by 5,000 shares of common stock at $100 per share par value. Mr. Scouler reports that there are about 40 stockholders in the company.

Equipment and supplies owned by the company are as follows:

Equipment

1	Air compressor, 315 c.f.m., with diesel unit
1	Air hoist, 1-ton, 1/2" cable
1	Ventilation blower, 3000 c.f.m., 12" vent tube
1	Truck, 2-ton
1	Electric generator, 5 h.p., surface and underground lighting system
4	Pneumatic rock drills, jackhammer, jackleg, air spade, stopehammer, hoses, steel, and related tools
1	2" compressed air and 1" water lines
1	Machine shop, complete welding equipment
1	Mine car, 16 cu.ft. capacity
2	Mine buckets, 8-1/2 cu.ft. capacity
1	Shed-office, 8' by 12'
1	Explosive magazine
1	Pump, electric

Msc. hand tools, track, pipe, wire, saws, electric drill and saws

Supplies

1 ton	Explosives
1000	Blasting caps, electric delays
12M	Mine timber, 8" by 8", 6" by 6", and 2" by 12"

All of the equipment and supplies are in good condition.

DEVELOPMENT

Underground development consists of a 64-foot vertical shaft, 480 feet of drifts and crosscuts on the 60-foot level, and two raises (fig. 3). The shaft is 5 by 7.5 feet in clear of timber. All workings on the 60 level are in good condition and about 25 percent timbered. Two-inch air and one-inch water lines and 18-inch, 12-pound rail are installed. Water on the 60 level flows about 1,200 gallons per day to a 4-foot sump at the shaft. Most of this water occurs along the northwest drift and the flow will probably increase with depth.

Ore was selectively mined from sections along the drift and from two stopes. About 19 tons of ore was produced by a four-man crew during an average work week, and mining costs are unusually high.

Surface development consists mainly of 300 feet of trench, ranging from 3 to 6 feet deep and about 3 feet wide, which is parallel to the strike of the underground drift (fig. 2). Smaller trenches and pits have been dug near the large trench.

GEOLOGIC SETTING

The property is in an area of moderate relief and good rock exposures on the north side of the Kern River Canyon. The Isabella granodiorite is the only rock in the mine area. This light-gray, medium-grained granitic rock is cut by pegmatite and aplite dikes and is part of the Sierra Nevada batholith of Cretaceous age. The dikes are flat- to steeply-dipping, a few inches to as much as 100 feet thick, and consist chiefly of quartz and feldspar with minor amounts of biotite, hornblende, and sphene.

Jointing is the most prominent structure in the granodiorite and is nearly vertical in both north-south and east-west sets. Faulting is rare and has not greatly disturbed the rocks in the mine area. A shear with a mappable strike length of about 500 feet cuts

the granodiorite on the Little Sparkler No. 4 claim. It strikes N. 49° W. and dips 80° SW. Movement on this shear has been lateral and at least 35 feet with the north side moved southeast. The uranium ore is localized along this shear zone.

ORE DEPOSITS

The deposit consists of concentrations of uranium minerals along a shear zone in granodiorite.

The chief ore mineral in the open cuts on the surface is autunite with minor amounts of meta-zeunerite, pitchblende, and gummite. Chemical analyses of the uranium-bearing material by the operator and by the AEC indicate that the uranium is not in equilibrium and that the U_3O_8 content is slightly higher than the equivalent U_3O_8 content shown by radiometric assays. Gangue minerals are limonite, hyalite, palygorskite, pyrite, and fragments of granodiorite wall rock.

On the 60 level, the chief ore mineral is gray-black to black, sooty coffinite, a uranium silicate of variable composition. No other uranium minerals, if present, were identified. Chemical and radiometric assays from this level also show the uranium to be in disequilibrium, but in the reverse ratio to that from the surface (see SAMPLING).

The deposit is about 400 feet long and averages less than 5 inches wide on the 60 level. Two ore shoots, one in each heading, are about 40 feet long and 5 ~~feet~~ inches wide. The east shoot is stoped to the surface, but the west shoot rakes about 20 degrees and does not reach the surface. Stringers of white- to yellow gouge are black where coffinite is present and the ore is friable and amorphous. The grade of the uranium-bearing material is not uniform along the strike of the shear, and the thin parts of the deposit are higher grade.

Disequilibrium in favor of equivalent radiometric assays on the 60 level is believed to be evidence, although inconclusive, for the primary origin of the coffinite. The lower U_3O_8 content as shown by chemical assays probably indicates that the material is not younger than that at the surface, and thus, does not result from secondary enrichment.

Wall rock alteration is of such low intensity, even in the crushed areas along the shear, that it can be said not to exist, and deposition of the coffinite by meteoric waters is suggested.

The depth of the deposit has not been determined, but it is inferred that the shear will cut a thick, gently-dipping, aplite dike that underlies the mine area at a depth of about 200 feet. The shear

2 conflict see report DMPR 450'

was not found on the north Kern River canyon wall southeast of the deposit, where the dike is exposed, but other parallel shears were observed to cut the dike.

There are no other known deposits on the property.

SAMPLING

Samples were taken from the 60-foot level and from the two stopes; these are shown on figure 4. One sample was taken from the main stockpile and is shown on figure 2. The black gouge and adjacent sheared granite along the mineralized zone were sampled separately in order to determine the exact width of the uranium-bearing material.

Analyses indicate that most of the radioactive mineral is in the black gouge. A weighted average of this material, represented by samples S-677, S-679, S-681, S-683, S-685, and S-687, on the 60 level, is 0.46 percent cU_3O_8 across an average width of 0.4 feet and along a strike length of 50 feet. Eleven samples were assayed for gold and silver, but contained only trace amounts.

Geiger counter readings, taken by Richards at five-foot intervals along 200 feet of the most radioactive part of the drift, are shown on figure 4. Channel samples cut by the operator and

assayed chemically by the Brown Laboratories, Grand Junction, Colorado, are also shown on figure 4. Surface trenches were previously sampled and described in Application Report DMEA-4501 by Stager and Gentry, and their map is attached as a contribution to this report (fig. 2).

Sample No.	Width, feet	Oz./ton Au	Oz./ton Ag	Percent eU_3O_8	Percent cU_3O_8	Remarks
S-676	---	trace	trace	0.44	0.41	main stockpile near shaft, selectively mined
S-677	0.20	trace	trace	2.81	2.84	black gouge, 60 ft. level
S-678	0.50	---	---	0.42	0.35	sheared granite with some black gouge, 60 ft. level
S-679	0.08	trace	trace	1.00	1.01	black gouge, 60 ft. level
S-680	1.30	---	---	0.07	---	granite, 60 ft. level
S-681	0.40	trace	trace	0.22	0.16	black gouge, 60 ft. level
S-682	1.20	---	---	0.10	---	granite, 60 ft. level
S-683	0.50	trace	trace	0.47	0.39	black gouge, 60 ft. level
S-684	0.60	---	---	0.07	---	granite, 60 ft. level
S-685	0.30	trace	trace	0.93	0.30	black gouge, 60 ft. level
S-686	2.00	---	---	0.03	---	granite, 60 ft. level
S-687	0.80	trace	trace	0.07	---	black gouge, 60 ft. level
S-688	1.00	---	---	0.03	---	granite, 60 ft. level
S-689	0.60	trace	trace	7.00	6.90	black gouge, east stope
S-690	1.50	---	---	0.04	---	granite, east stope
S-691	0.50	trace	trace	1.15	0.97	black gouge, 60 ft. level
S-692	0.90	---	---	0.19	0.19	sheared granite, 60 ft. level
S-693	0.50	trace	trace	0.60	0.44	black gouge, west stope, scab
S-694	2.00	trace	trace	0.06	---	granite, west stope

Combined averages, Samples S 677 - S 688 and S 691 - S 692

Length, feet	Average width, feet: black gouge	Average width, feet: granite	Average width, feet: combined	Average grade, $\%U_3O_8$: black gouge	Average grade, $\%U_3O_8$: granite	Average grade, $\%U_3O_8$: combined
40	0.38	1.10	1.48	0.458	0.077	0.175
10	0.50	0.90	1.40	0.97	0.19	0.328

RESERVES

Reserves are summarized as follows:

Class	Amount	Grade, percent U_3O_8
Measured	few hundred pounds	0.46 plus
Indicated	none	----
Inferred	415 tons	0.46

Measured reserves are estimated at a few hundred pounds of black gouge material that can be selectively mined from the stopes and drift.

There is no indicated ore.

Inferred ore is estimated at 415 tons in two blocks, each 50 feet along the strike, 0.5 feet thick, and extending 100 feet down the dip below the two stopes. The average grade of this material is inferred to be about the same as the average sample assays. The granodiorite occupies about 12 cubic feet per ton.

EXPLORATION

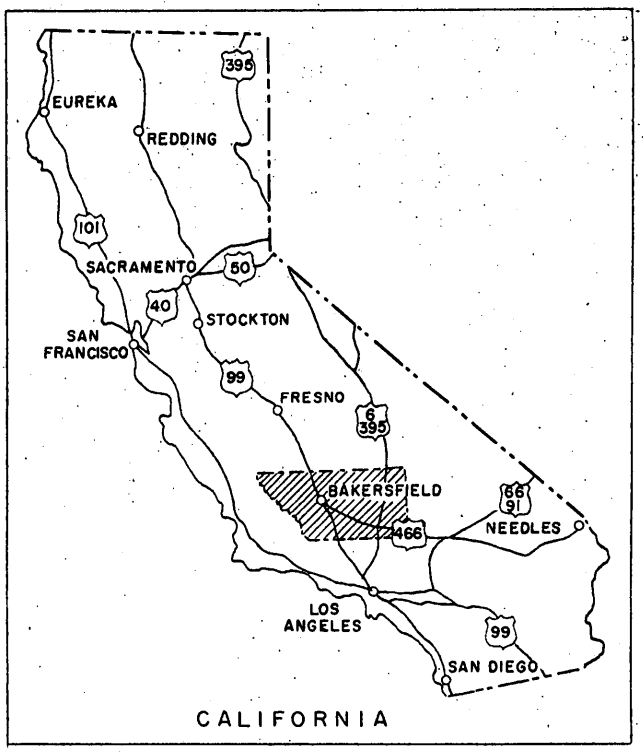
The applicant proposed to sink the existing two-compartment shaft 100 feet vertically to the 160-foot level, crosscut about 55 feet southwest to intercept the shear zone and drift 450 feet along it from two headings. He further proposed to crosscut 75 feet northeast from

the 60 level in the hope of intercepting a parallel shear zone, but the examiners could find no geologic evidence for such a structure.

Mining costs are very high, and estimated reserves could not gross more than $30,000. The deposit is too small to justify Government participation or to be a profitable venture for the operator.

The mining cost of this work on a unit-cost basis, less 75 feet of drift on the 60 level, is estimated as follows:

Shaft sinking, two-compartment timbered, 5 ft. by 7.5 ft. in clear	
100 ft. @ $125.00/ft.	$12,500.00
1 station set, 160-foot level	150.00
Drifting or crosscutting, 5 ft. by 7 ft., timber where needed	
505 ft. @ $35.00/ft.	17,675.00
200 ft. timber @ $7.50/ft.	1,500.00
Samples	
100 @ $3.50/ea.	350.00
Total cost	$32,175.00
Government's contribution at 50 percent . . .	$17,400.00



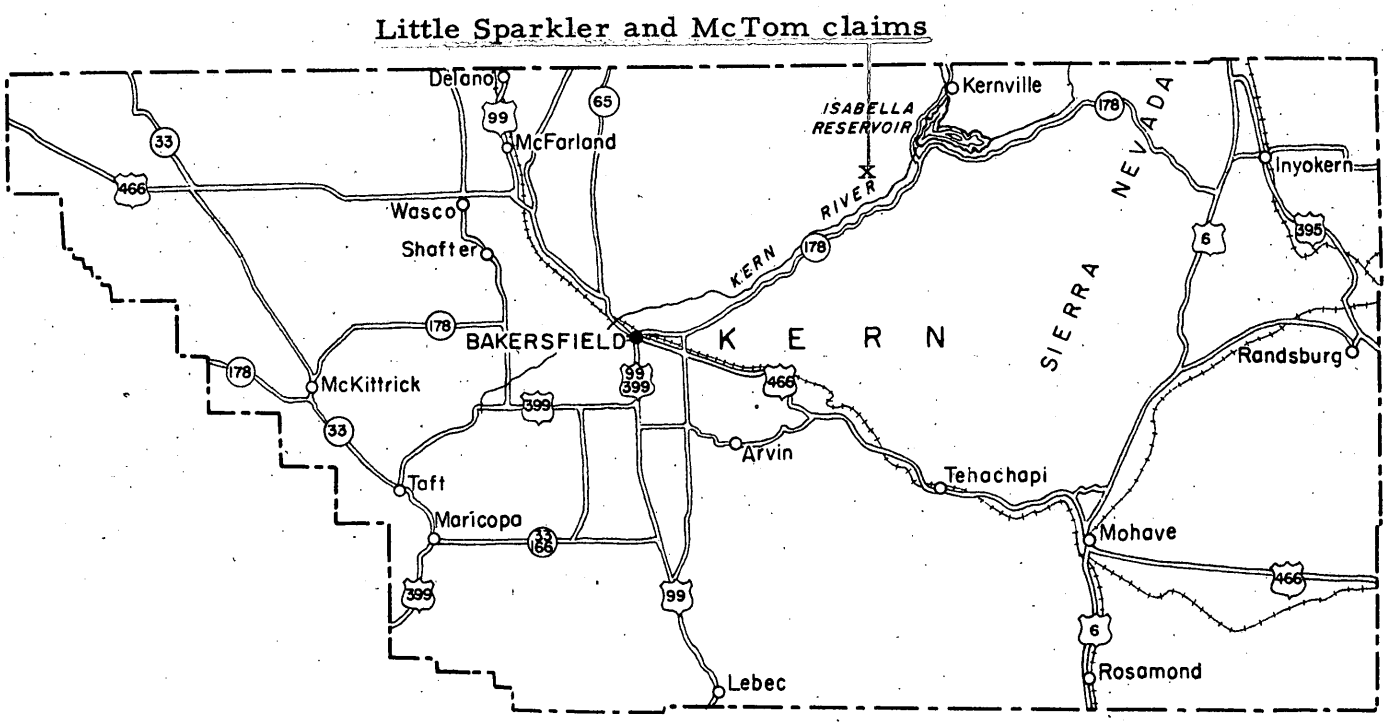
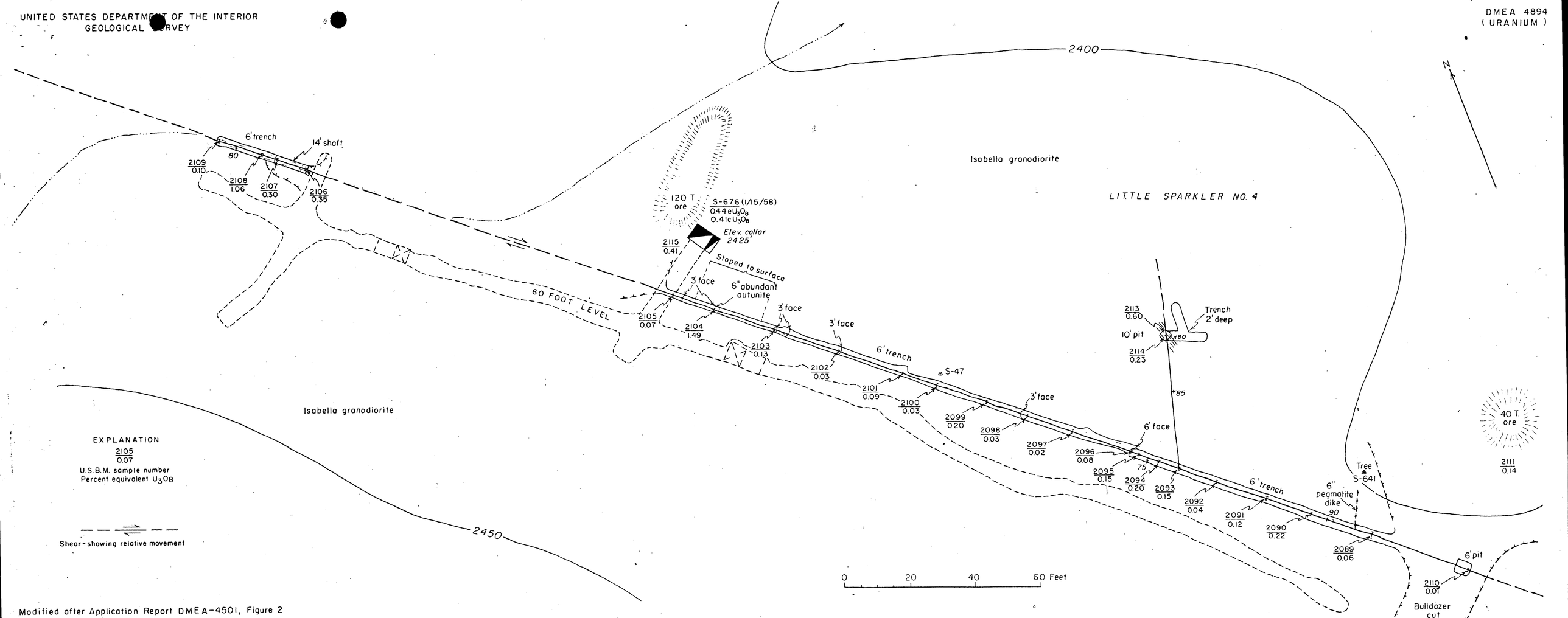


Figure I. INDEX MAP OF KERN COUNTY, CALIFORNIA

0 20 40 60 Miles

CMEA
24
Date



Modified after Application Report DMEA-4501, Figure 2

Figure 2. ASSAY AND SKETCH MAP OF SURFACE WORKINGS, LITTLE SPARKLER MINE
KERN COUNTY, CALIFORNIA

RECEIVED 24
DATE INITIAL

RECEIVED MAR 24 1958
DATE INITIAL

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

DMEA 4894
(URANIUM)

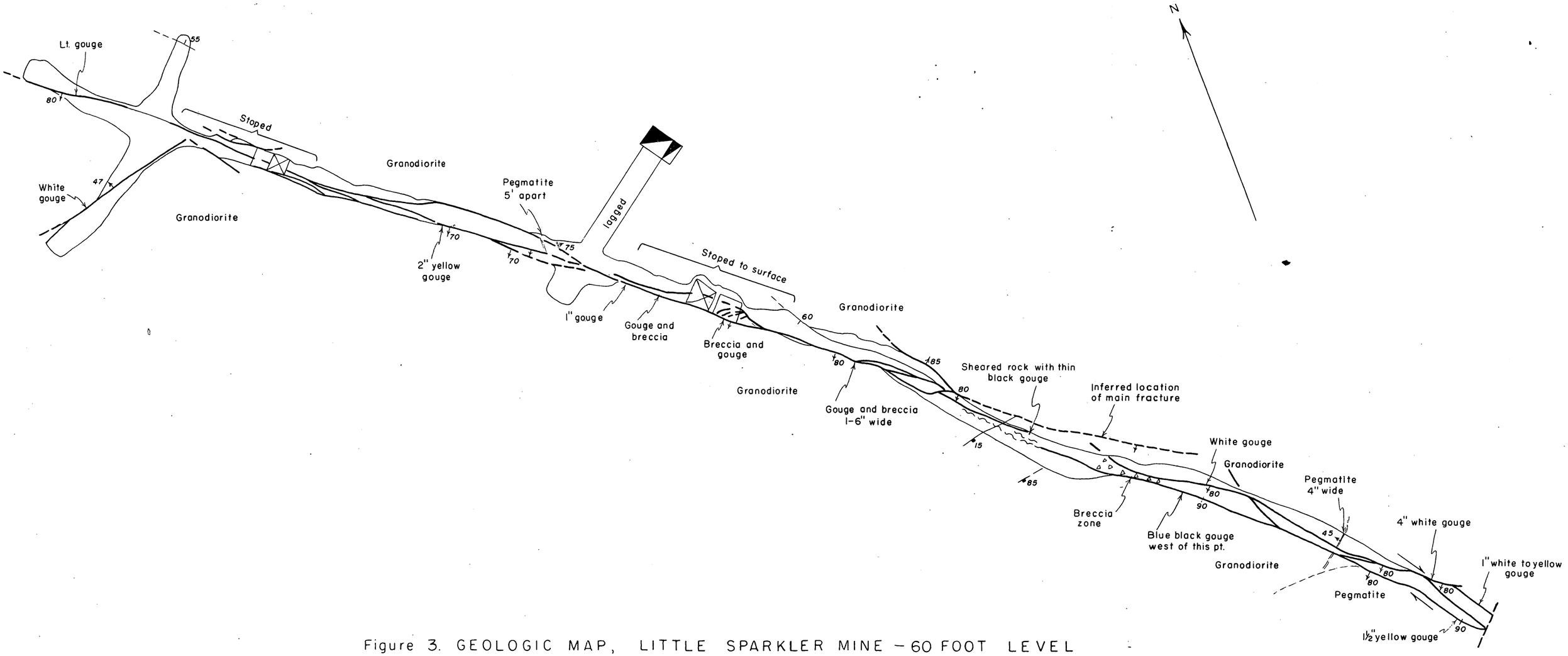
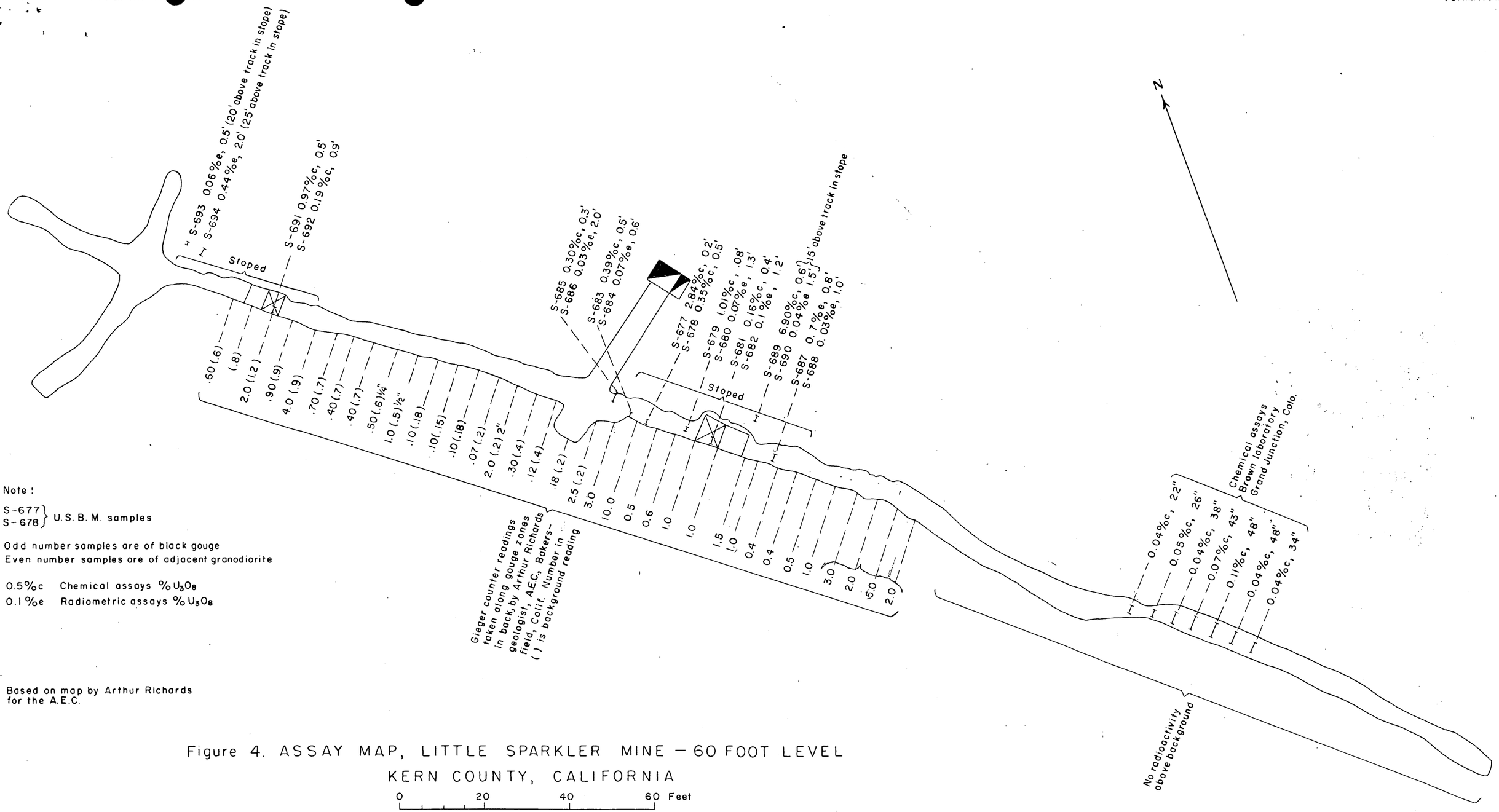


Figure 3. GEOLOGIC MAP, LITTLE SPARKLER MINE – 60 FOOT LEVEL
KERN COUNTY, CALIFORNIA

0 20 40 60 Feet



Note :

S-677 } U.S.B.M. samples
S-678 }

Odd number samples are of black gouge
Even number samples are of adjacent granodiorite

0.5%c Chemical assays % U_3O_8
0.1%e Radiometric assays % U_3O_8

Based on map by Arthur Richards for the A.E.C.

Figure 4. ASSAY MAP, LITTLE SPARKLER MINE — 60 FOOT LEVEL
KERN COUNTY, CALIFORNIA

0 20 40 60 Feet

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RECEIVED OCT 24 1958
OMEA

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

March 25, 1958

RECEIVED MAR 28 1958
DATE | INITIALS | CODE
2/28 | C | 221
3/28 | LK | 9-0

Memorandum

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

From: Executive Officer, DMEA Field Team, Region II

Subject: Docket No. DMEA-4894 (Uranium)
Kern Uranium Company
Little Sparkler and McTom Claims
Kern County, California

Enclosed are two copies each of a letter dated March 21 from the Applicant and attached letter from Vitro Uranium Company relative to marketing ores from subject property.

S. Ricker

Attachments

KERN URANIUM CO.

[illegible]

Mr. Spangler Hinkey, [illegible]
ERDA Field Team, Region [illegible]
1606 Evans Avenue
Reno, Nevada

Re: Contract No. [illegible]
Little Spanish [illegible]
Kern County, [illegible]

Dear Mr. Hinkey:

In accordance with [illegible]
we are confirming hereby [illegible]
our area.

As we believe [illegible]
Co., Salt Lake City, Ut[illegible]
the point last Fall when [illegible]
refused to accept our stockpile [illegible]
the mine on November 20, 1[illegible]
to ship 65 tons of ore, the [illegible]
ary 8, 1[illegible]. Since that time [illegible]
tons of ore on March, [illegible]
[illegible]

For your information [illegible]
R.A.Coleman, Co[illegible]
the January shipment.

On March 20, [illegible]
our office and informed us [illegible]
per-month quote for the [illegible]
exploration development work [illegible]
on the expense of development [illegible]

As you know, [illegible]
month in sight; however, [illegible]
sufficiently ahead, fro[illegible]
justify the [illegible]
[illegible]

LAH
Encl.

DMEA
RECEIVED
DATE | INITIALS | CODE
COPY

VITRO URANIUM COMPANY
600 West 33rd south street
Salt Lake City 15, Utah

February 21, 1958

Mr. Lloyd Scouler, President
Kern Uranium Company
P. O. Box 163
Rio Vista, California

Dear Mr. Scouler:

We have completed mill testing of your initial car shipment and find the results to be satisfactory with the exception of the high quantity of acid required to process the ore.

We are interested in purchasing additional tonnage of this ore, but it will be necessary to charge an excess acid penalty because of this high acid consumption. The grade of the first car was good and we would assume that additional shipments would be of good commercial grade or a minimum of 0.25% U_3O_8. Based on our tests on your initial car, it would appear that an acid penalty of $1.00 per dry ton must be assessed against your ore since approximately 120 pounds per ton excess acid was required. If this penalty is agreeable with you, this will be your authorization to ship two cars for the month of March. After mill testing of these two additional cars, we will re-examine the acid consumption and adjust any acid penalty accordingly.

I would request that you make every effort to ship these additional cars in bottom-dump side-delivery ore gondolas.

If you have any questions regarding the above procedure, we would certainly be pleased to hear from you.

Very truly yours,

VITRO URANIUM COMPANY

(Sgd) R. B. Coleman

R. B. Coleman
Ore Buyer

RBC:jmb

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
12/12	Kugane	700
12/12	Ellis	700
12/13	Selbridge	130
"	Johnson	110
"	Mittendorf	100

DEC 13 1957

Mr. Lloyd Scouler, President
Kern Uranium Company
P. O. Box 163
Rio Vista, California

Re: Docket No. DMEA 4894 (Uranium) 12/13 Nelson (130)
Little Sparkler and McTom Claims Lamb (130)
Kern County, California 12/13

Dear Mr. Scouler:

The application for assistance in exploring your property, under the captioned docket number, has been reviewed by the Division of Rare and Miscellaneous Metals of the Defense Minerals Exploration Administration. It has been referred to:

Mr. Spangler Ricker
Executive Officer
DMEA Field Team, Region II
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 (for)

Administrator

FLKnouse/izm 12-12-57
cc* Mr. Knouse
Admr.'s Reading File
DMEA FT Reg. 2 (2)

8623

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
12/12	Knouse	200
12/12	Ellis	200
12/13	[illegible]	130
"	Johnson	110
	[illegible]	100
12/16	C	220
		200

DEC 13 1957

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

Re: Docket No. DMEA-4894 (Uranium)
Kern Uranium Company
Little Sparkler and McTom Claims
Kern County, California

Dear Mr. Ricker:

The subject application is referred to Region II Field Team for investigation, a field examination if deemed advisable, and recommendations. You will note from your records that on February 1, 1957, an application (Docket No. DMEA-4501) to explore the subject property was denied.

Enclosed are copies of memoranda, dated December 10, 1957, from James Paone, USBM, and N. E. Nelson, USGS, relating to the proposed project. Also enclosed, for the use of the Field Team, is one extra copy of the application.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (GCS)

Enclosures

APPROVED:

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

N. E. Nelson (NEN)
Member, Geological Survey

P. S. We suggest, if possible, that different field men make this examination and that Mr. Miller of the AEC be contacted, as mentioned in Mr. Scouler's letter of November 26, 1957.

FLKnouse/izm 12-12-57
cc: Mr. Knouse
Admr.'s Reading File
Operating Committee
THKiilsgaard, 5224

8623

OFFICIAL FILE COPY
DMEA
RECEIVED DEC 11 1957

DATE	INITIALS	COST
12/11	gb	220
12/13	~~FLE~~	700
	FLK	
	Complete	

Memorandum

IN REPLY REFER TO:

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

December 10, 1957
Re: DMEA 4894
Kern Uranium Co.
Little Sparkler No. 4
Kern County, Calif.
$47,005.10 - Uranium

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

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

Subject: Review of application

The applicant now requests assistance in continuing the exploration, by sinking, drifting, and crosscutting, of a narrow uranium-bearing vein in granite. The property was the subject of applications, DMEA 3980 and 4501. The first application was withdrawn and No. 4501 was denied.

The examiners sampled the narrow vein and ore piles thoroughly and as a result estimated the reserves as:-

Class	Tons	Depth Feet	Grade % U_3O_8
Measured	50	5	0.2
Indicated	1,000	100	0.2
Inferred	1,000	100	0.2
Total	2,050	205	0.2

It is assumed an aplite dike will cut off the vein at a depth of about 200 feet.

The sampling indicated 4 short ore shoots aggregating 103 feet in length and having an average width of 0.9 feet in a shear zone about 400 feet long. The best shoot had an apparent length of 30 feet and was "open" for 100 feet at both ends.

The applicant, without Government assistance, sank a 60 foot shaft, crosscut to the vein and drifted on it for 240 feet

to the southeast and 120 feet to the northwest. One shoot of ore, 35 feet long, was developed near the shaft crosscut and another 10 feet long northwest of the crosscut. In addition, 4 scattered samples show ore grade material but a discontinuous vein is inferred.

The longer oreshoot was sampled about every 2-1/2 feet and shows an average width of 1.45 feet. Fifteen feet at the southeast end has an average width of 1.9 feet. A raise was driven through to the surface and a stope was opened from which 61.82 tons of ore had been produced to November 20, 1957. From a stope in the northwest drift (10-foot shoot) 143 tons had been produced to the same date and 71.28 tons of ore was produced in drifting the 360 feet. The underground production totalling 265.40 tons is estimated to contain 0.66% U_3O_8. Grab samples of ore in the hoisting bucket were taken, 'composed' and assayed.

The drifts at the 60 foot level undercut the showings in the surface trench. Whereas 4 oreshoots, with an aggregate length of 103 feet, seemed indicated in the trench, only 2 shoots and 4 scattered ore grade samples show in the drift. The aggregate length has shrunk to 45 feet plus whatever short lengths the 4 samples represent.

No statement is given showing the cost of the work done, but using the unit costs used in estimating the cost of the applied for work, it would approximate:-

Shaft	60 feet at	$150.00	$9,000
Crosscut	86 " "	80.00	6,880
Drifting	360 " "	52.50	18,800
	Total		$34,680

According to this application, unmined reserves amount to 200 tons of 0.50% U_3O_8. The total production has been 265 tons (underground) plus 100 tons (surface) that is 365 + 200 tons (unmined) or 565 tons.

The examiners estimated the measured and indicated ore to a depth of 100 feet as 1,000 tons of 0.2% U_3O_8. To 60 feet an estimate might have shown, say 600 tons, which means the mine has nearly equaled the estimate as to tonnage and bettered the estimate 2 to 2-1/2 times as to uranium content if the sampling results are accepted.

Although the mine may seem to have done somewhat better than was estimated, it remains little or no better than a breakeven

project whose probable total contribution to the uranium production will be far from commensurate with the assistance now requested. If, as is to be expected, the ground to be subordinated is bounded by the 60-foot level and the dike, the disproportion is more pronounced.

The reasons that justified the denial of application No. 4501 still pertain. Therefore, I recommend that the present application be denied without formal referral to the Field Team.

N. E. Nelson

N. E. Nelson

OFFICIAL FILE COPY DMEA RECEIVED DEC 11 1957		
DATE	INITIALS	CODE
12/11	gb	220
"	[illegible]	700
12/11	KLK	700

December 10, 1957

4894

Uranium
Kern Uranium Co.
Little Sparkler No. 4
Kern County, Calif.
Estimated cost of project $47,005.10

To: Ernest William Ellis, DMEA Member
Uranium Commodity Committee

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

Subject: Application

1. Date of original request: 12/6/57, 2. Date received by reviewer: 12/9/57

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. Open-deep [ ]
   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 [X]
   c. Denial [ ]
   d. Agree with Field Team [ ]
      i. Consult with Mr. _____ at _____ AEC office.
   e. Disagree with Field Team [ ]
   f. Suggest alternate plan [ ]
   g. Request another examination [ ]
   h. Approval [ ]

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

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

December 6, 1957

Kern Uranium Company
P. O. Box 163
Rio Vista, California

Gentlemen:

Subject: DMEA-4894

Your application for exploration assistance, dated November 26, 1957 submitted to our office at Reno, Nevada has been assigned Docket Number DMEA-4894 and referred to the Rare and 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, Director
Operations Control and
Statistics Division

Copy to:

Region II