DMEA Form 9

UNITED STATES
DEPARTMENT OF THE INTERIOR
Defense Minerals Exploration Administration

OFFICIAL DOCKET FILE

DMEA NO. 4608

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(Withdrawn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

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

This is the official contract file containing all official records of the project. The records contained in the files are checked and are arranged in this order:

Left Side

Interim Royalty Audits
Reports of Royalty Review
Certification of Discovery
Certificate of Audit (Final)
Interim Audit(s)
Report of Review
Termination Notice or Agreement
Recision Notice
Assignment of Contract
Contract Amendments (latest on top)
Contract with all exhibits and annexes
Owner's Consent to Lien
Subordination Agreement
Leases and assignments of leases
✓ Application and attachments
(3) Envelope for maps

Right Side

Project summary
Work completed analysis
All other material is filed in chronological order with correspondence including the following reports as checked:

Final Field Team Report (Tab)
Operator's Final Report
(2R) Interim Reports
(2R) Operator's monthly reports and all attachments (latest on top)
On-site Exam Report(s) (Tab)
(4) Settlement Sheets

When the volume of records is expected to warrant additional folders, or when convenience of reference warrants separate folders for certain records, they should be set up in this order:

Left Side

Folder No. 2: (In chron. order) Interim Summary Reports by W. O. Engineers

Right Side

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

Folder No. 3: Maps (Use pocket folder or envelope. Fold maps with title block out and show reference to related document or correspondence.)

Folder No. 4: Settlement Sheets

Folder No. 5: Drill Logs

9776

HAROLD F. COLLINS
LAWRENCE M. HENRY
JOSEPH F. DOLAN

COLLINS, HENRY AND DOLAN
ATTORNEYS AT LAW
SYMES BUILDING
DENVER 2, COLORADO

KEYSTONE 4-5186

DEPARTMENT OF THE INTERIOR
DMEA
JAN 18 1957
REGION III
DENVER, COLORADO

January 18, 1957

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United States Department of the Interior
Defense Minerals Exploration Administration
Denver, Colorado.

Gentlemen: Re: Quaker Uranium Company

We submit herewith the application of the Quaker Uranium Company for a DMEA loan.

We represent the applicant here in Denver and would therefore appreciate your communicating with us as to any additional data you may wish in support of the application.

Sincerely yours,

COLLINS, HENRY AND DOLAN

BY: Joseph F. Dolan

JFD:KK

MF-103
(Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

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

DMEA
DEPARTMENT OF THE INTERIOR
JAN 18 1957
REGION III
DENVER, COLORADO

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

Not to be filled in by applicant

Docket No. DMEA 4608
Metal or Mineral Uranium
Date Received 1-22-57
Estimated Cost $42,110.00
Participation (Government %)

RECEIVED JAN 22 1957 D.M.E.A.

INSTRUCTIONS

1. *Name of applicant.*—(*a*) State here your full legal name, in the form in which you will wish to contract, and your mailing address: Quaker Uranium Co.
2155 E. 7th Street
Los Angeles 23, California
A Partnership - Organized in California

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

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

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

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

3. *Applicant's property rights.*—(*a*) State the legal description of the land upon which you wish to explore, including all land which you possess or control that may be benefited by the exploration, and excluding any land or interest in land which is not to be included in the exploration project contract See supplement page 2 - 3-a.

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

(*c*) State your interest in the land, whether owner, lessee, purchaser under contract, or otherwise See Page 2 - 3-c. of supplement.

(*d*) If you are not the owner, submit with this application a copy of the lease, contract, or other document under which you control the property.

(*e*) If you own the land, describe any liens or encumbrances on it There are no liens or encumbrances on the property.

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

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

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

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

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

(*e*) State the availability of manpower, materials, supplies, equipment, water, and power.

5. *The exploration project.*—(*a*) State the mineral or minerals for which you wish to explore
See Page 2 - 5-a. of supplement.

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

(*c*) The work will start within ..... days and be completed within ..... months from the date of an exploration project contract. See Page 3 - 5-c. of supplement.

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

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

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

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

(*c*) *Operating materials and supplies.*—Furnish an itemized list, including items of equipment costing less than $50 each, and power, water and fuel.

(*d*) *Operating equipment.*—Furnish an itemized list of any operating equipment to be rented, purchased, or which is owned and will be furnished by the Operator, with the estimated rental, purchase price, or suggested use-allowance based on present value, as the case may be.

(*e*) *Rehabilitation and repairs.*—Furnish a detailed list showing the cost of any necessary initial rehabilitation or repairs of existing buildings, installations, fixtures, and movable operating equipment, now owned by the Operator and which will be devoted to the exploration project.

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

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

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

NOTE.—No items of general overhead, corporate management, interest, taxes (other than payroll and sales taxes), or any other indirect costs, or work performed or costs incurred before the date of the contract, should be included in the estimate of costs.

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

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

[X] Money [ ] Use of equipment owned by you [ ] Other

Explain in detail on acompanying paper.

CERTIFICATION

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

Dated Dec. 10, 1956

Quaker Uranium Co.
(Applicant)

By Phillip H. McCary, Jr. for Gen Partner
Phillip H. McCary, Jr., Gen.Partner

Arthur J. Beacom Gen Partner
Arthur J. Beacom, General Partner

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

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

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

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DATE	INITIALS	CODE
January 18, 1957		

224 New Customhouse
Denver 2, Colorado

Memorandum

To: Secretary to the Operating Committee

From: DMEA Field Team, Region III

Subject: Application for DMEA Aid (Uranium) Quaker Uranium Company (Harold group) Coconino County, Arizona

Enclosed are the original and one copy of the subject application in the amount of $42,110.00. One copy of the application is being forwarded to the Grand Junction Office, DMEA, and one copy is being retained in our file.

The Applicant's representative, Joseph F. Dolan, stated that three separate drilling bids will be obtained, and four copies of each forwarded this office.

DMEA Field Team, Region III

W. M. Traver

By W. M. Traver
Executive Officer

Enclosures

Quaker Uranium Co.
HAROLD CLAIMS
2155 E. 7th ST., LOS ANGELES 23, CALIF.
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I-b.

A partnership organized in the State of California.

c.

Not applicable.

d.

General Partners:
Mr. A. J. Beacom, 2155 E. 7th St., Los Angeles, Calif.
Mr. Phillip H. McCary, Jr., 3311 W. 104th St., Inglewood, Calif.

Limited Partners:
McCary-Beacom Co., A Limited Partnership
2155 E. 7th St., Los Angeles 23, Calif.

(1) General Partners:
(a) Mr. A. J. Beacom
2155 E. 7th St., Los Angeles 23, Calif.

(b) Mr. Phillip H. McCary, Jr.
3311 W. 104th St., Inglewood, Calif.

(2) Limited Partners:
(a) Mr. A. Crance Biestman
1355 Market St., San Francisco, Calif.

(b) Mr. Henry Feinberg
4637 Noeline, Encino, Calif.

(c) Mr. John Huffman
2350 Roanoke Rd., San Marino, Calif.

Valley Investment Co., a co-partnership
3595 Market St., Riverside, Calif.

(1) Mr. Charles W. Dutton
3595 Market St., Riverside, Calif.

(2) Mr. Edgar L. McCoubery
3595 Market St., Riverside, Calif.

Donald W. Moore
724 E. 60th St., Los Angeles, Calif.

J. T. Wessen
1233 So. Western Ave., Los Angeles, Calif.

Ernest G. Bashor
3161 Los Feliz Blvd., Los Angeles, Calif.

Frank M. Siegmand
P. O. Box 162, Phoenix, Arizona

Quaker Uranium Co.
HAROLD CLAIMS
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3-a. The legal description of the property is, Marble Canyon, Coconino County, Arizona. T40N, R7E, sections 20, 21, 22, 27, 28 and 29. Gila & Salt River P.M. It is located in the Little Colorado mining district. Map #5 shows the claims with respect to the Government survey.

b. The property is known as the Harold Group.

c. Quaker Uranium Co. is the owner of the property.

d. Not applicable.

e. There are no liens or encumbrances on the property.

f. The claims are unpatented and are recorded in the County Court House, Flagstaff, Arizona.

(The claims are on following sheets)

4-a. No mining or exploration has been performed on the property.

b. Not applicable.

c. The potential ore horizon is channel type features in the Shinarump conglomerate. The ore body, if found, will be a bedded deposit. The reasoning behind our wishing to explore this property is that there are five channel type features exposed, all of which are mineralized on the outcrop. This section is supplemented with a complete geologic report, including maps. This report describes the geology and explains the method of development that will be employed.

d. The property is easily accessible by dirt road from Marble Canyon, Arizona. Access roads traverse the area from the north to the south. These access roads may be seen on map #5. The nearest uranium mill is Tuba City, Arizona, which is 84 miles to the south. The points of supply are Flagstaff, Arizona, which is 130 miles to the south and Kanab, Utah, which is 85 miles to the west. The point of residence is Marble Canyon Lodge, which is 7 miles to the south.

e. There is abundant man power available at Marble Canyon Lodge or Kanab, Utah. Materials, supplies and equipment can be obtained from Flagstaff, Arizona or Kanab, Utah. Abundant water is available from the Colorado or Paria Rivers which are about 3 miles from the property. There is no electrical power available, but the use of electricity is not anticipated during the development project.

5-a. We wish to explore for uranium. Copper is associated with uranium in this area, therefore copper would be a secondary product.

Quaker Uranium Co.
HAROLD CLAIMS
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3-f. The claims are known as the Harold group of claims, and are recorded in the following manner:

Harold Claims numbers 1 through 80 recorded in Book 84, pages 250 through 329.

A quit claim deed was signed by Mr. A. Harold Rhoades transferring all right, title and interest to McCary-Beacom Co. This deed was executed on June 14, 1956 and is recorded in the County Court House, Flagstaff, Arizona. It is recorded in Book 97, page 65. A quit claim deed was signed by McCary-Beacom Co. transferring all right, title, and interest to Quaker Uranium Co. This deed was executed on Nov. 28, 1956, and is recorded in the County Court House, Flagstaff, Arizona. It is recorded in Book 98, page 465.

Quaker Uranium Co.
HAROLD CLAIMS
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5-b. There are no present mine workings on the property. The proposed work showing the geology and method of development is explained in detail in section 4-c.

c. Work will start within 30 days of an exploration contract and will terminate within 5 months of an exploration contract.

d. McCary-Beacom Co., who will supervise all operations, has been engaged in the exploration and development of uranium properties for the last three years. Several other uranium properties have been developed by McCary-Beacom Co. in the Marble Canyon area, and one of these properties is currently in production. McCary-Beacom Co. has drilled more footage in the Marble Canyon area than any other uranium company. In addition, it's personnell has a better knowledge of the subsurface geology and knows substantially more about the occurance of ore bodies in the Marble Canyon area than any other single source.

The employees of McCary-Beacom Co. are more than qualified to organize and supervise any type of development program. Mr. Phillip H. McCary, Jr. will supervise all of the field operations and oversee all contract operations. He has been actively engaged in uranium exploration for the last five years and has worked for the U. S. Atomic Energy Commission and several private mining companies before joining McCary-Beacom Co.

6-a. The following is a detailed list of the estimated costs for the project. These estimates are for the first stage drilling, and it is assumed that this first stage will require approximately 20,000 feet of drilling. In the event that this amount of footage is not required under the first stage, the remaining footage may be applied to the second stage. If the first stage proves unsuccessful and if all of the footage is not consumed, the project will be terminated.

The cost estimates for the second and third stage drilling programs are not included in this application. The reasons for this are, if the first stage drilling proves successful, the footage requirements, drill locations, and length of project can be accurately determined for the second and third stage drilling. Therefore, the cost of the second and third stage drilling programs can be accurately quoted, and, if the first stage drilling proves unsuccessful, the second and third stages are not needed to complete the development of the property.

Drilling: All drilling is to be contracted.

6-a. (Continued)

Drilling (rotary)

(a) Dry	$1.25 per foot
(b) Wet & Slump	1.50 per foot
(c) Core	6.00 per foot
(d) Move in & Move out	(no charge)
(e) Stand By Time	20.00 per hour

Estimated footage for each type of drilling and respective estimated costs.

(a) Dry rotary - 10,000 ft. at	$12,500.00
(b) Wet & Slump - 10,000 ft. at	15,000.00
(c) Core - no coring anticipated on first stage.	
(d) Move in & Move out - no charge	
(e) Stand by - no stand by time is anticipated.	
(f) Total cost of drilling 20,000 ft. at	$27,500.00

Bulldozer work: All bulldozer work is to be contracted.

One D6 Catipillar tractor or equivalent to be contracted for the duration of the project. Rental per hour (estimated) $12.50 per hour. Estimated length of project is 4 months at 21 working days per month. Estimated total use of tractor is 3/4 of total time of project.

Total cost of tractor use:

3/4 (8x21x4) hours - 504 hours
504 x $12.50 - $6,310.00
Total estimated cost of tractor - $6,310.00

6-b. All supervision and geology will be contracted.

This supervision will consist of a geologic crew complete with all necessary equipment.

The geologic crew will be composed of one geologist, administrator and one engineering assistant.

The equipment to be used by this crew is the following: one 1954 Willys Jeep Station Wagon; one 1954 Ford 1/2 Ton Pickup; one drill hole probe (Babbel model 610); one Keuffel & Esser plane table Alidade; two P.R.I. model 106B geiger counters; and other small items such as a Brunton Compass, hand level, and other small tools.

Estimated cost per month for geologic crew which includes all equipment:

6-b. (Continued)

Salary - geologist, administrator	$850.00
Salary - engineering assistant	450.00
Use of Jeep Station Wagon	100.00
Use of Ford Pickup	100.00
Use of Drill Hole Probe	50.00
Use of Plane Table Alidade	50.00
Use of two geiger counters	50.00
Field expenses for crew	350.00
Total estimated cost per month	$2,000.00

Estimated length of project is 4 months.

Quaker Uranium Co. will let this contract to McCary-Beacom Co. at the estimated cost of $2,000.00 per month.

Total estimated cost of geology and supervision for length of project - $8,000.00.

c. This material is included in the various contract prices in Sections 6-a. and 6-b.

d. This material is listed in section 6-b.

e. There will be no rehabilitation or repairs on any buildings or equipment.

f. If a shed is necessary for the protection of drill samples, it will be necessary to construct a building for this purpose. There are no existing buildings on the property.

Estimated cost for building a shed to house drill samples - $300.00.

g. All miscellaneous expenses concerning the drilling and bulldozer work are included in the estimated contract price of the respective services. This is covered in section 6-a. Such miscellaneous expenses as accounting, workman's compensation, employers liability insurance, and payroll taxes which concern the geologic crew are included in the salaries and field expenses of this crew. These costs are explained in detail in section 6-b.

h. There are no anticipated unnamed contingencies.

7-a. Quaker Uranium Co. is prepared to furnish their prorated share of the cost of this project.

7-b. Money (x).

Total estimated cost for the first stage of this development project is $42,110.00.

Drilling	$27,500.00	
Catwork	6,310.00	
Geology	8,000.00	
Shed	300.00	
Total	$42,110.00	
Government share, 75%		$31,582.50
Quaker Uranium Co. share, 25%		10,527.50
	Total	$42,110.00

Quaker Uranium Co. will furnish their share of the cost of this project in the form of cash.

Quaker Uranium Co.
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HAROLD CLAIMS
2155 E. 7th ST., LOS ANGELES 23, CALIF.
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Supplement to Section 4-c.

THE GEOLOGY OF THE HAROLD GROUP OF CLAIMS, COCONINO COUNTY, ARIZONA

By Phillip H. McCary, Jr.

A. Summary:

The Harold group, which contains 80 lode mining claims and occupies approximately 1,600 acres, is considered a large development project. A preliminary investigation of this property can be instigated with a capital expenditure of approximately $42,000.00, and since the geology is excellent and ore bodies have been found on both sides, it represents an ideal risk for development monies.

The drilling program will be based on subsurface geology, and the favorability of this geology will be the controlling factor on the monies spent to develop the property in the most efficient manner. Since five well defined channels are exposed in the area, this definitely enhances the probability of finding a commercial ore body. It has been proven that the better ore bodies found in the Shinarump conglomerate are found in these channeling features. Therefore, it is important to drill each channel trend to its point of termination, or until it is no longer economically feasible to continue drilling on that particular trend. Until it has been drilled, one is not able to determine what portion of a channel will contain an ore body or if the channel is barren. For this reason, the property is not proved or disproved until such time that each channel has been investigated.

B. Location and Accessibility:

The Harold group of claims is located in Marble Canyon, Coconino County, Arizona; the legal description being: T40N, R7E, Sec. 20, 21, 22, 27, 28 and 29, G. & S. R. P. M.

The area is easily accessible from Flagstaff, Arizona, which is 130 miles to the south, or from Kanab, Utah, which is 85 miles to the west. U. S. Highway 89, a two-lane paved road, connects these two towns and passes through Marble Canyon at Navajo Bridge. A County road, called the Lee's Ferry Road, begins at Navajo Bridge and passes within a quarter of a mile of the claims. These claims are 3 miles to the north of the bridge.

A road built by McCary-Beacom Co. connects with the Lee's Ferry Road and traverses the property from the north to the south. The exact location of this road may be seen on map #5.

C. General Geology:

The stratigraphy in the Marble Canyon Area is very similar to other portions of the Colorado Plateau that produce uranium from the Triassic sequence of sediments. Monument Valley and Cameron in Arizona, White Canyon, Circle Cliffs, San Rafael Swell and Big Indian Wash in Utah, all have the same general sequence of sediments as the

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Supplement to Section 4-c.

Harold Group. The greatest amount of production in the Triassic sediments comes from the Shinarump Conglomerate or its equivalent, with the Chinle formation producing a secondary amount.

Structurally, these areas are also similar. The Harold Group is located on the northwestern flank of a large doubly plunging anticline.

The structures in the other areas are:

ANTICLINES	-	Big Indian Wash White Canyon (extreme flanks)
DOMES	-	San Rafael Swell Circle Cliffs
MONOCLINES	-	Monument Valley Cameron District

The Shinarump Conglomerate lies unconformably on the Moenkopi formation, which, in turn, is the base of the Triassic. In certain areas where the Moenkopi formation is absent, the Shinarump Conglomerate lies on the Permian sediments. For example, in the Big Indian Wash Area, the Shinarump or its equivalent lies unconformably on the Cutler formation which is Permian.

Most of the ore bodies, and all of the large ore bodies found in the Shinarump Conglomerate are found in what is called channeling of the Shinarump into the underlying formation. These so-called channels vary greatly in size and shape, but their dimensions can be found by constructing a structure contour map on the base of the Shinarump combined with an isopach map of the formation itself. This method of structuring the Shinarump has proved successful in the search for ore bodies and is the method used by the Atomic Energy Commission in such places as White Canyon, Monument Valley, San Rafael Swell, and Circle Cliffs. Other important guides that are used in conjunction with the structural work are: lithology (good sandstones with interfingering mudstones), carbon content, copper (sulfides and secondaries), cementing materials (calcite, gypsum, iron, silica) and alteration zones (these occur both in the Shinarump and in the underlying sediments). Some of the known ore deposits have all of the mentioned criteria and some do not, but all of the large deposits have the channeling features plus several of the other guides.

McCary-Beacom Co. is the only company using this method of development in the Marble Canyon area at the present time. A property which bounds the Harold Group to the north was developed by McCary-Beacom Co. using these subsurface methods. To date, one ore body (the gross value is being determined at the present time) and three mineralized areas have been found. Four channel type features were drilled during this program, which shows a ratio of success to failure of one chance in four. These odds would be considered quite good

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in a relatively undeveloped area such as Marble Canyon.

The Harold Group, has all of the preliminary structural work completed and is ready to be drilled. On the accompanying structure map of this group, five definite channeling features can be seen. They range in size from 20 feet deep and 100 feet wide to 60 feet deep and 1,000 feet wide. The surface exposures of these channels are typical of other channel outcrops on the Colorado Plateau. There is evidence of copper, uranium, carbon, iron, gypsum, calcite and silica, and there is evidence of good lithology such as coarse-grained, poorly-sorted sandstones and conglomerates with interfingering mudstones. The uranium mineralization is in the form of the secondary minerals, probably the sulphates such as zippeite, uranopilite, and johannite. These minerals are more easily formed by weathering of the primary minerals. The copper mineralization is also found in the form of the secondaries, such as azurite and malachite. This is probably due to the weathering of the sulphides of copper. Carbon can be found throughout the Shinarump with concentrations usually in the channels. The cementing materials are usually iron, silica, gypsum and calcite. Several good alteration zones can be seen; they are in the Moenkopi formation below the center of the channels and extend outward along the flanks. This alteration of the Moenkopi formation from red to grey could have been caused by the migration of reducing solutions through the more permeable Shinarump Conglomerate.

D. Method of Development:

Since the preliminary structural work has been completed on this group of claims, it is necessary to instigate a drilling program to complete the development of the property. This drilling will be based entirely upon the structural control of the Shinarump conglomerate.

The drilling program can be divided into three stages as described in the following: The first stage will be to define each channel to determine its length, direction of trend, and most favorable zones; the second stage will be to drill down the center and flanks of each channel on fairly close spaced centers in the search for an ore body; and the third stage will be to block out an ore body on approximately 25 foot centers if an ore body is found in the previous drilling. Of course, the success of the first stage will determine the practibility of employing the second stage, and the success of the second stage will determine the practibility of employing the third stage.

Maps numbers one and two show the structural picture as interpeted from surface information. This information will be used to determine the initial drilling on each channel. Map number three shows the approximate location of the first drill holes on each channel. This map is a copy of the structure map to be used in the drilling program. The location of these holes will be changed only if the structure does not continue as anticipated, or if the topography is too severe to build

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Supplement to Section 4-c.

a drill site. It can be noticed that each drill hole is numbered in the sequence that it will be drilled. For example, the drilling sequence of channel #1 is explained in the following:

Drill hole number one will be drilled to determine the center of the channel; drill hole number 2 will be drilled to determine the west flank of the channel; drill hole number 3 will be drilled to determine the east flank of the channel; drill hole number 4 will be drilled to determine the center of the channel; drill holes 5 and 6 will be drilled to determine the center of the channel to the north; and drill hole number 7 will be drilled to determine the west flank of the channel. If after this drilling is performed, and the structure appears to be similar to the idealized structure on map number 2, a few more holes may be drilled to get control in the more vacant areas. Channel #1 will then be ready for the second stage of drilling. The drilling under the first stage will now proceed to channel #2, and the definition of this channel will commence. After this channel has been defined in both directions, the first stage drilling will then move to channel #3. This method will continue until all five channels have been defined, and at this time the area will be ready for the second stage of drilling. The second stage, of course, will be dependent upon the success of the first stage. The first stage will be considered a success if two or more channels can be defined, if alteration zones are present, if the channel lithology is good, if carbon is present, and if traces of uranium and copper are found.

It can be noticed that only a few drill hole locations are plotted for each channel on map number three. Since this drilling will be conducted using structural methods, it is almost impossible to anticipate the drill locations prior to the drilling. It is entirely possible that the drill holes that are shown on map number three will be changed. This is especially true if any changes occur in the subsurface that can not be anticipated from the surface geology. Since the drilling will be conducted in this manner, each drill hole location will be dependent upon the results obtained from the previous drill hole.

In the first stage, each channel will be defined laterely until the channel terminates or until it is no longer feasible to continue on that particular trend. This point of cutoff is dependent upon several things. The most important factor is subsurface control. If one loses subsurface control it is no longer possible to define the channels. Other factors determining cutoff would be, poor lithology, no alteration zones, no carbon, and no traces of uranium and copper.

After the drilling in the first stage has been completed, the drilling in the second stage will commence. This drilling will begin assuming success in the first stage drilling. The procedure in the second stage will be similar to the first stage in that the drill hole locations will be determined by the subsurface information. Since the channel trends will be known from the first stage drilling, the drilling of the center and flanks of each channel under the second stage will be relatively easy. The drill centers will range from 100 to 300

Quaker Uranium Co.
HAROLD CLAIMS
2155 E. 7th ST., LOS ANGELES 23, CALIF.
RETURN UNNECESSARY

Supplement to Section 4-c.

feet depending upon the size of the channel. This second stage drilling will be performed to search for ore bodies located in the center or along the flanks of each channel. Since the first stage drilling will be performed on quite wide spaced centers, it is entirely possible to have an ore body hidden between the drill holes. For this reason, the second stage drilling is employed. In addition, the first stage drilling will restrict the favorable zones to approximately 10% of the original area. Therefore, the drilling under the second stage will not be too costly, since this fairly close spaced drilling is confined to only a fraction of the original area.

If after the second stage drilling has been completed and one or more ore holes have been found, the drilling will progress to the third stage. A hole will be considered an ore hole when it contains at least two feet of 0.20% U_3O_8 equivalent. The drilling under the third stage will probably be confined to less than 1% of the original area, and this drilling will be based on a grid of approximately 25 foot centers. The third stage will be the only time that a grid of any form will be used. The reasons for this are: In the blocking out of an ore body, the grid type of drilling program seems to retrieve better results; and it is easier to calculate the ore reserves by using this method. The reason a grid type of program will not be used in the first and second stages is that a grid type of program consumes too much footage, and structural drilling supplies the information that is necessary at a fraction of the cost of a grid type of program. Map number 4 shows the approximate drilling depths that will be encountered, and by not using structural drilling methods in the first and second stages, it would not be economically feasible to define the channels laterally more than a thousand feet. Therefore, it is imparative to employ structural drilling methods in order to define all of the channels to their point of termination.

E. Geologic Maps:

The attached maps combined with this report describe the geology and explains in detail, the method of development which will be employed on the Harold group of claims.

Also attached with the geologic maps is an assay sheet showing the percentage concentration of copper and uranium on the various out crops. Only a portion of the five channel outcrops could be sampled since most of these outcrops are inaccessible. The exact location from where these samples were taken are shown on map number 3. In addition, various radio-metric readings are shown on map number 3. This does not represent every outcrop that has count due to the inaccessibility of the center portion of most of the channels.

Quaker Uranium Co.
HAROLD CLAIMS
2155 E. 7th ST., LOS ANGELES 23, CALIF.
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LOS ANGELES TESTING LABORATORY
ENGINEERS CHEMISTS
CONSULTING, TESTING, INSPECTING
AFFILIATIONS AT ALL INDUSTRIAL CENTERS

MAIN OFFICE
1300-1308 S. Los Angeles St.
Los Angeles 15, California
Telephone Richmond 9-6407

BRANCH OFFICE
2651 North Main Street
Santa Ana, California
Telephone Kimberly 7-2293

November 28, 1956

REPORT OF ASSAY

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D M E A
RECEIVED MAR 28 1957
DATE | CODE

Laboratory Number 133087
Entered for Record November 23, 1956
Submitted by McCary Beacom Co.
2155 E. 7th Street
Los Angeles 23, Calif.

Work Authorized by Mr. Phillip McCary
Identification MARKED: Assay of Uranium on Samples #1 & #2 as submitted.

Sample Marked	#1	#2
Uranium Oxide (U_3O_8)	0.024%	0.032%

Respectfully submitted,

LOS ANGELES TESTING LABORATORY

By [signature]

Reports to:
4-McCary Beacom Co.

1

Quaker Uranium Co.
HAROLD CLAYMS
2155 E. 7th ST., LOS ANGELES 23, CALIF.
RETURN UNNECESSARY.

DMEA [redacted]

DEFENSE MINERALS EXPLORATION ADMINISTRATION
Control Slip

CONTROLLED DOCUMENT

DMEA Docket No. 4608

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Exploration

Copies sent to:

USGS, CY 700

Routing Slip

To:	700	Date	1/23/57
To:	~~Mr. Crawford~~	Date	~~1-24-57~~
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To:	225	Date	2-11-57
To:		Date	
To:		Date	
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DMEA Form 7
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2/11	Selbrede	130
"	Johnson	110
"	Mittendorf	100
		220

FEB 11 1957

Quaker Uranium Company
2155 East 7th Street
Los Angeles 23, California

Re: Docket No. DMEA-4608 (Uranium)
Harold Claims
Coconino County, Arizona

Kilsgaard
Lamb

Gentlemen:

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

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

Careful study of all our information, indicates to us 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,

C. O. Mittendorf (for)

Administrator

FMMurphy/izm 2-8-57
cc to: Code 700
Mr. Murphy
Admr.'s Reading File
Operating Committee
Messrs. THKiilsgaard, 5224
JKratchman - AEC
DMEA FT Reg. 3 (2)

8623

Docket

700

February 8, 1957

Summary of Proposed Project

Object: Denial of application for exploration aid.

Docket No.: DMEA-4608

Commodity: Uranium

Amount of Application: $42,110.00 (First Stage)

Applicant: Quaker Uranium Co.
2155 E. 7th St.
Los Angeles 23, California

Property: Owner of Harold claims nos. 1 through 80, situated in secs. 20, 21, 22, 27, 28, and 29, T. 40 N., R. 7 E., Coconino County, Arizona.

Application dated: December 10, 1956

Received memoranda, dated January 23, and 24, 1957, by the Grand Junction Office and the Field Team, respectively, recommending that the application be denied without a field examination.

Work Proposed:

Three stages of work. Stage I to consist of 10,000 feet of dry rotary drilling and 10,000 feet of wet drilling. The amount of drilling for Stage II and III to be determined after completion of Stage I.

Estimated Costs:

10,000 ft. dry drilling @ $1.25/ft.	$12,500.00
10,000 ft. wet drilling @ $1.50/ft.	15,000.00
Access roads, bulldozer, 504 hrs. @ $12.50/hr.	6,310.00
Labor, supervision, technical services	8,000.00
Storage shed	300.00
Total	$42,110.00
Government Participation @ 75%	$31,582.50

Excerpts from Grand Junction joint memorandum:

"The Harold claims are just north of, and in part are contiguous with, the Little Joe claims (Helicopter Exploration Company, DMEA docket 4445) which were examined in November, 1955. Mr. Phillip H. McCary, geologist-partner in the Quaker Uranium Company, accompanied the DMEA examining team at that time. Several channels were observed on the Harold claims and the small workings on the El Pequito claim near the northeast corner of the Harold claims were inspected. Mr. McCary informed the examining team at that time that he was preparing a DMEA application for this ground.

"We have examined the application and can find nothing that would alter the evaluation of the ground in the general area as stated in the report of examination on the Little Joe claims (DMEA 4445). The two known ore deposits in the Shinarump member of the Chinle formation of Triassic age, one near the property and the other about 10 miles distant, are in small shallow (15-20 feet deep) non-persistent scours. Production and reserves are small. The large channels are largely of uniform lithology and are generally throughgoing. One which has been extensively drilled by Mr. McCary just east and northeast of the Harold claims contained some scattered weakly mineralized rock but no ore (personal communication, P. H. McCary). It is likely that the large channels shown on the applicant's map also will be similarly weakly mineralized. However, there may be one or more small deposits (500 tons or less) present in small non-persistent scours on the Harold claims but the cost of exploration and mining probably would exceed the gross value of any ore discovered. The chance of finding a significant ore deposit here is poor and it is recommended that this application be denied without a field examination."

The Field Team concurred in this recommendation.

Commodity Member's Comments: (excerpts)

USBM, J. E. Crawford, January 30, 1957:

Mr. Crawford agrees with the Field Team's denial.

USGS, W. P. Williams, February 5, 1957:

Grand Junction personnel state that the subject property was observed at the time DMEA 4445 was examined in the field.

A large amount of exploration work hasbeen done in the Marble Canyon area without significant success. DMEA participation in the proposed work does not seem advisable, and it also seems likely that the field team already has enough information to evaluate the property. I agree with the Field Team's recommendation for denial of the application without field examination.

Rare & Miscellaneous Metals Div., F. M. Murphy, February 8, 1957:

We have had seven applications for aid in the immediate area of the Harold claims. One was withdrawn, three denied, one contract DMEA-3612, Idm-E816, and one contract recommended, DMEA-4287. The contract was terminated after 13 out of 20 authorized Stage I holes were completed with negative results. The Operator drilled an additional 13 holeson its own account with essentially the same results.

Conclusion and Recommendation:

In view of the information submitted by the field examiners relating to other applications in the subject area, and the fact that the Harold claims were previously examined by DMEA personnel, this Division

concurs in the Fiels Team's recommendation that the subject application be denied without another field examination.

Ernest Wm. Ellis

Ernest Wm. Ellis, Chief
Rare and Miscellaneous
Metals Division

IN REPLY REFER TO:

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

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DATE	INITIALS	CODE
2-8	C	220
		700
2-8	Ellis	
	Murph	

February 5, 1957

Memorandum

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

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

Subject: Review of application, DMEA 4608, Quaker Uranium Co., Harold claims, Marble Canyon area, Coconino County, Arizona, (uranium).

The applicant proposes to explore for uranium ore deposits on a large tract of about 80 continguous mining claims. The property is located in the Marble Canyon area of northeast Arizona.

The proposed work would consist of 20,000 feet of drilling. Estimated total cost of the project, including road building, drill site preparation, technical services, etc., is $42,110.

A good deal of information about the Marble Canyon area exists in Government files. In addition to general areal geological reconnaissance there have been six DMEA applications in the vicinity, (3532, 3612, 3867, 4287, 4289, 4445). Of these, three were denied, one was withdrawn, and two active contracts are not meeting with success.

Grand Junction personnel state that the applicant's property is adjacent to DMEA 4445 and that his property was observed at the time DMEA 4445 was examined in the field.

A large amount of exploration work has been done in the Marble Canyon area without significant success. The production record from the region is very poor. DMEA participation in the proposed work does not seem advisable, and it also seems likely that the Field Team already has enough information to evaluate the property. I agree with the Field Team's recommendation for denial of the application without field examination.

W. P. Williams

W. P. Williams

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1-31	aw	220
1-31	~~[illegible]~~	100
	Murphy	

January 30, 1957

4608

Uranium
Quaker Uranium Company
Harold Claims
Coconino County, Arizona
$42,110.00

Ernest William Ellis, DMEA Member
Uranium Commodity Committee
John E. Crawford, Bureau of Mines Member
Uranium Commodity Committee

Application

[illegible] 12/10/56 [illegible] 1/24/57

[illegible] [ ] [x]

[illegible] [ ] [x]

[illegible] [ ] [x]

[illegible] [ ] [x]

[illegible]

[illegible]

[illegible]

[illegible]

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

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DATE	INITIALS	CODE
1-28	CW	220
1-28	Eddie	700
1-28	Murphy	700

224 New Customhouse
Denver 2, Colorado

~~January 24, 1957~~

DMEA-4608

Memorandum

To: Chairman of the Operating Committee

From: DMEA Field Team, Region III

Subject: Application for DMEA Aid (Uranium) Quaker Uranium Company (Harold claims) Coconino County, Arizona.

Reference is made to our teletype to you, dated January 23, 1957.

Enclosed are the original and three copies of a joint review of the subject application by members of the Grand Junction Office, DMEA. They observed several channels on the Harold claims, and are well acquainted with the general area. They recommend that the application be denied without a field examination. We concur in this recommendation.

DMEA Field Team, Region III

W. M. Traver

W. M. Traver
By Executive Officer

Enclosures

Hme

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

P. O. Box 360
Grand Junction, Colorado

IN REPLY REFER TO:
MINERAL DEPOSITS

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JAN 24 1957
U. S.
GEOLOGICAL SURVEY
DENVER, COLORADO

DMEA
DEPARTMENT OF THE INTERIOR
JAN 24 1957
REGION III
DENVER, COLORADO

Memorandum

January 23, 1957

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DATE	INITIALS	CODE

To: Executive Officer, DMEA Field Team, Region III

Through: J. William Adler
E. N. Harshman

From: D. P. Elston
M. H. Salsbury

Subject: Application for DMEA assistance
Quaker Uranium Company (Uranium), Harold claims,
(Marble Canyon area) Coconino County, Arizona

The Harold claims are just north of, and in part are contiguous with, the Little Joe claims (Helicopter Exploration Company, DMEA docket 4445) which were examined in November, 1955. Mr. Phillip H. McCary, geologist-partner in the Quaker Uranium Company, accompanied the DMEA examining team at that time. Several channels were observed on the Harold claims and the small workings on the El Pequito claim near the northeast corner of the Harold claims were inspected. Mr. McCary informed the examining team at that time that he was preparing a DMEA application for this ground.

We have examined the application and can find nothing that would alter the evaluation of the ground in the general area as stated in the report of examination on the Little Joe claims (DMEA 4445). The two known ore deposits in the Shinarump member of the Chinle formation of Triassic age, one near the property and the other about 10 miles distant, are in small shallow (15-20 feet deep) non-persistent scours. Production and reserves are small. The large channels are largely of uniform lithology and are generally throughgoing. One which has been extensively drilled by Mr. McCary just east and northeast of the Harold claims contained some scattered weakly mineralized rock but no ore (personal communication, P. H. McCary). It is likely that the large channels shown on the applicant's map also will be similarly weakly mineralized. However, there may be one or more small deposits (500 tons or less) present in small non-persistent scours on the Harold claims but the cost of exploration and mining probably would exceed the gross value of any ore discovered. The chance of finding a significant ore deposit here is poor and it is recommended that this application be denied without a field examination.

In summary, the conclusions which pertain to the Little Joe claims of Helicopter Exploration Company, also pertain to the Harold claims.

D. P. Elston,
Geological Survey

M. H. Salsbury,
Bureau of Mines

DPE/mlr

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DATE	INITIALS	CODE
1-23	C	220
	Ellis	700

Mr. George Selfridge

DN 235 BUR MINES 1-23-57 9-11

CHAIRMAN, OPERATING COMMITTEE, DMEA

REOURTT TODAY. PLEASE CORRECT FIRST SENTENCE TO READ " GRAND JUNCTION OFFICE ADVISES THEY HAVE ENOUGH EVIDENCE FOR DENIAL WITHOUT FIELD EXAMINATION ON QUAKER URANIUM C9. APPLICATION CONCONINO COUNTY, ARIZ.

W M TRAVER
CORR URANIUM CO.

Denver, Colo.

Mr. G. Selfridge

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DMEA
RECEIVED JAN 23 1957

DATE	INITIALS	CODE
1-23	C	220
	Ellis	700

DN 235 BUR MINES 1-23-56 8-37

CHAIRMAN OPEA XX OPERATING COMMITTEE

GRAND JUNCTION OFFICE ADVISES THEY HAVE ENOUGH EVI
EVIDENCE FOR DENIAL WITHOUT FIELD APPLICATION ON QUAKER URANIUM COMPANY APPLICATION COCONINO COUNTY, ARIZONA. WILL TRANSMIT THEIR REVIEW TO YOU UPON RECEIPT JANUARY 25. SEE FIELD TEAM MEMORANDUM JANUARY 21, 1957 REGARDING PROCESSING COLORADO PLATEAU APPLICATIONS.

W M TRAVER

Denver, Colo.

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

January 23, 1957

Quaker Uranium Company
2155 E 7th Street
Los Angeles, California

Subject: DMEA-4608

Gentlemen:

Your application for exploration assistance, dated December 10, 1956 submitted to our office at Denver, Colorado has been assigned Docket Number DMEA-4608 and referred to the Rare & Miscellaneous 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 III
Code 700

6416

Arizona - Coconino County

Marble Canyon District

Coconino County, Arizona

DMEA Applications & contracts

3532 - Universal Allied Uranium. 40N-7E. withdrawn

3612* - Marble Canyon Uranium Inc. - Idm-816, sec. 2-3-34-39, T40N, R7E.

3867 - La Salle Mng Co. - sec. 21-22-27-28. T39N, R6E.) (Morphy)

4287 Uranium Petroleum Co. sec - 1-12 T38N, R5E., (Morphy)

4289 Consolidated Agency, Inc. sec. 2. T39N, R6E, (Morphy)

4445 Helicopter Explor. Co sec 33, T40N., R7E.) (Chinle)

4608. Quality Uranium Co. sec 20-21-22-27-28-29, T 40N, R7E.

* Contract terminated Oct. 9/56 - 26 holes drilled, 23 barren
3 - mineralization { 0.02% U3O8
0.03% "

MAP SHOWING VARIOUS CLAIMS LOCATED IN MARBLE CANYON, COCONINO COUNTY, ARIZONA.

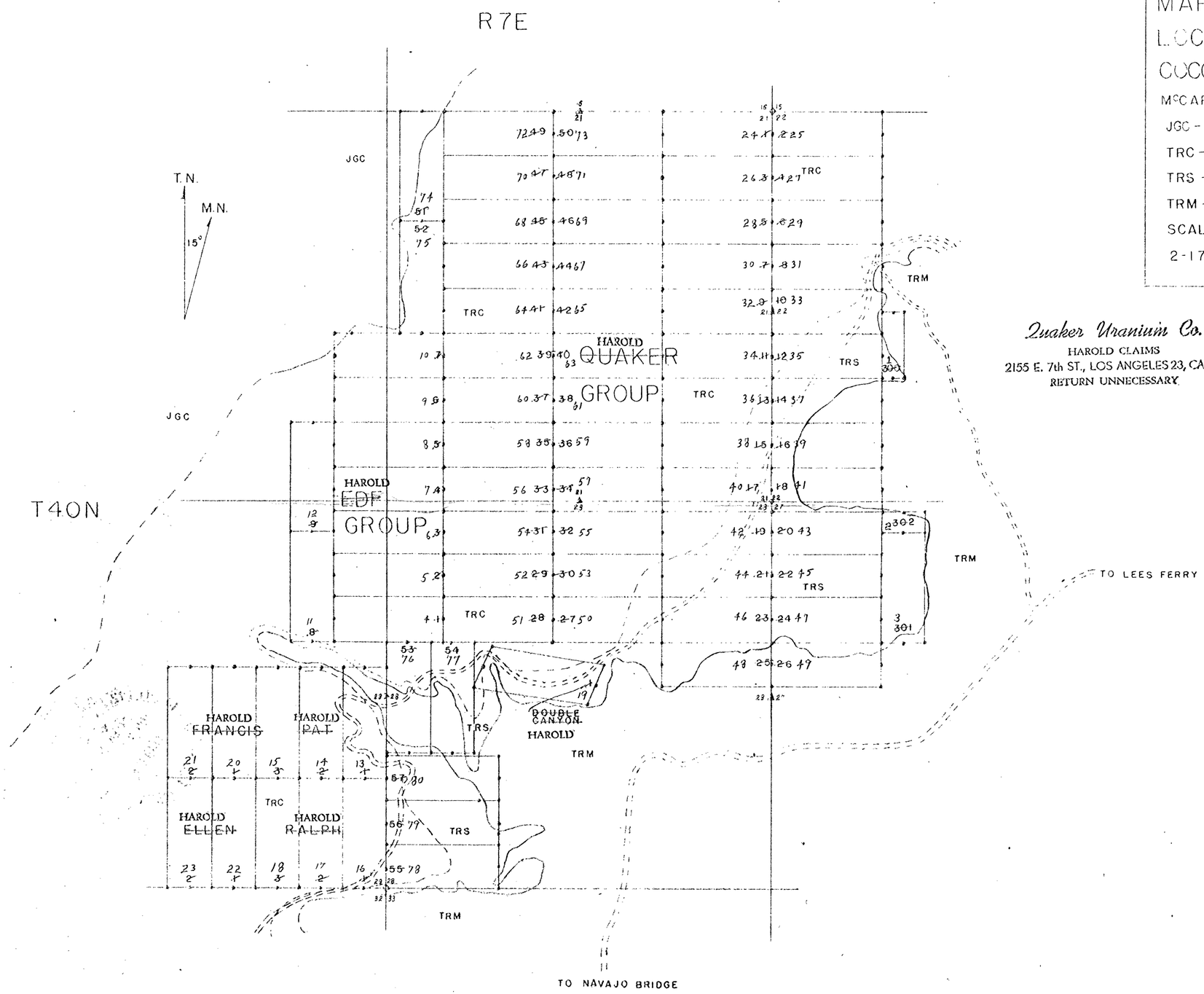
McCARY - BEACOM CO. G. & S. R. P. M.

JGC - GLEN CANYON GROUP, JURASSIC

TRC - CHINLE FM.
TRS - SHINARUMP FM.
TRM - MOENKOPI FM.
} TRIASSIC

SCALE - 1 IN. = 1,000 FT.

2-17-55 , P.H.M



Quaker Uranium Co.
HAROLD CLAIMS
2155 E. 7th ST., LOS ANGELES 23, CALIF.
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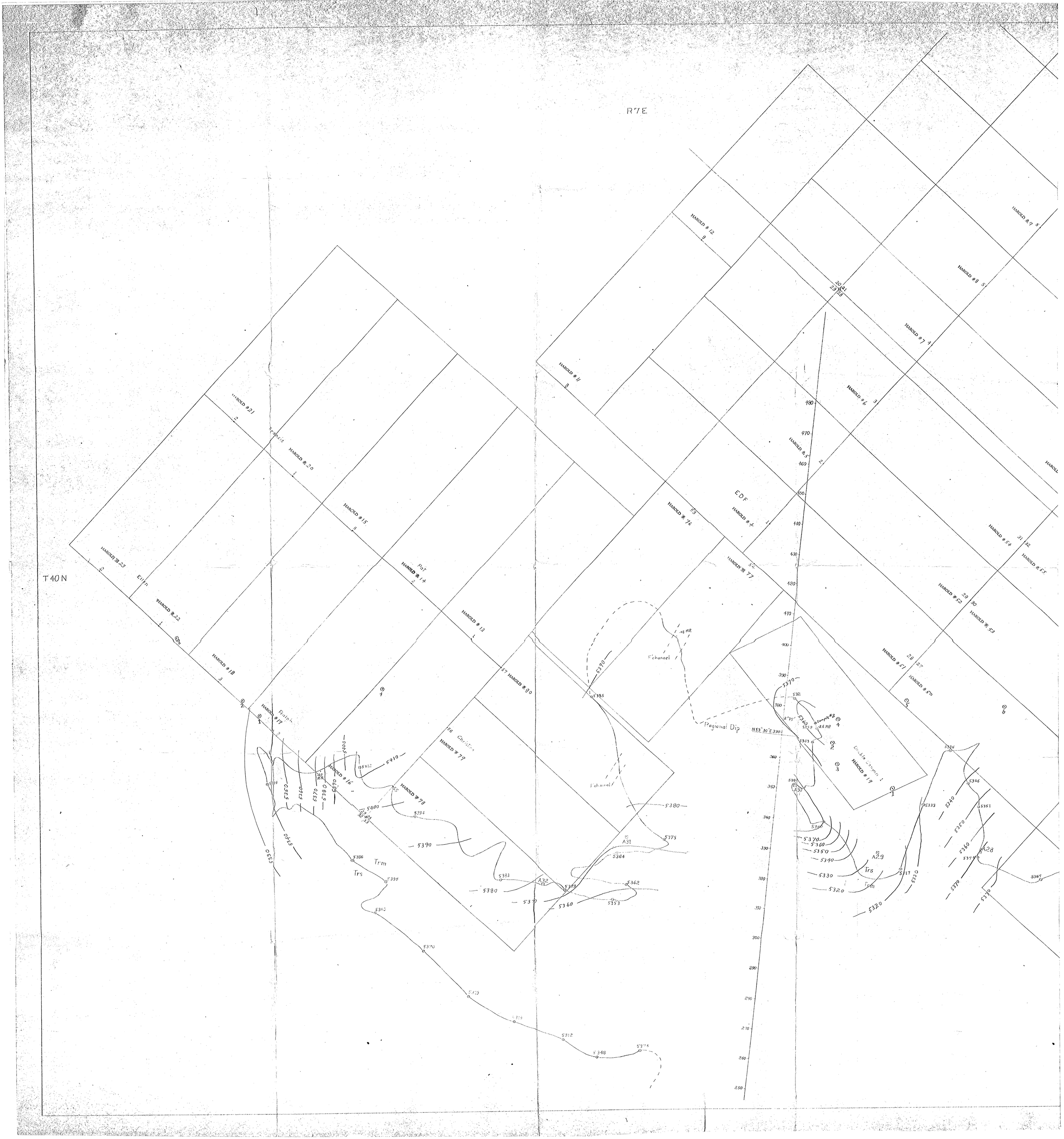
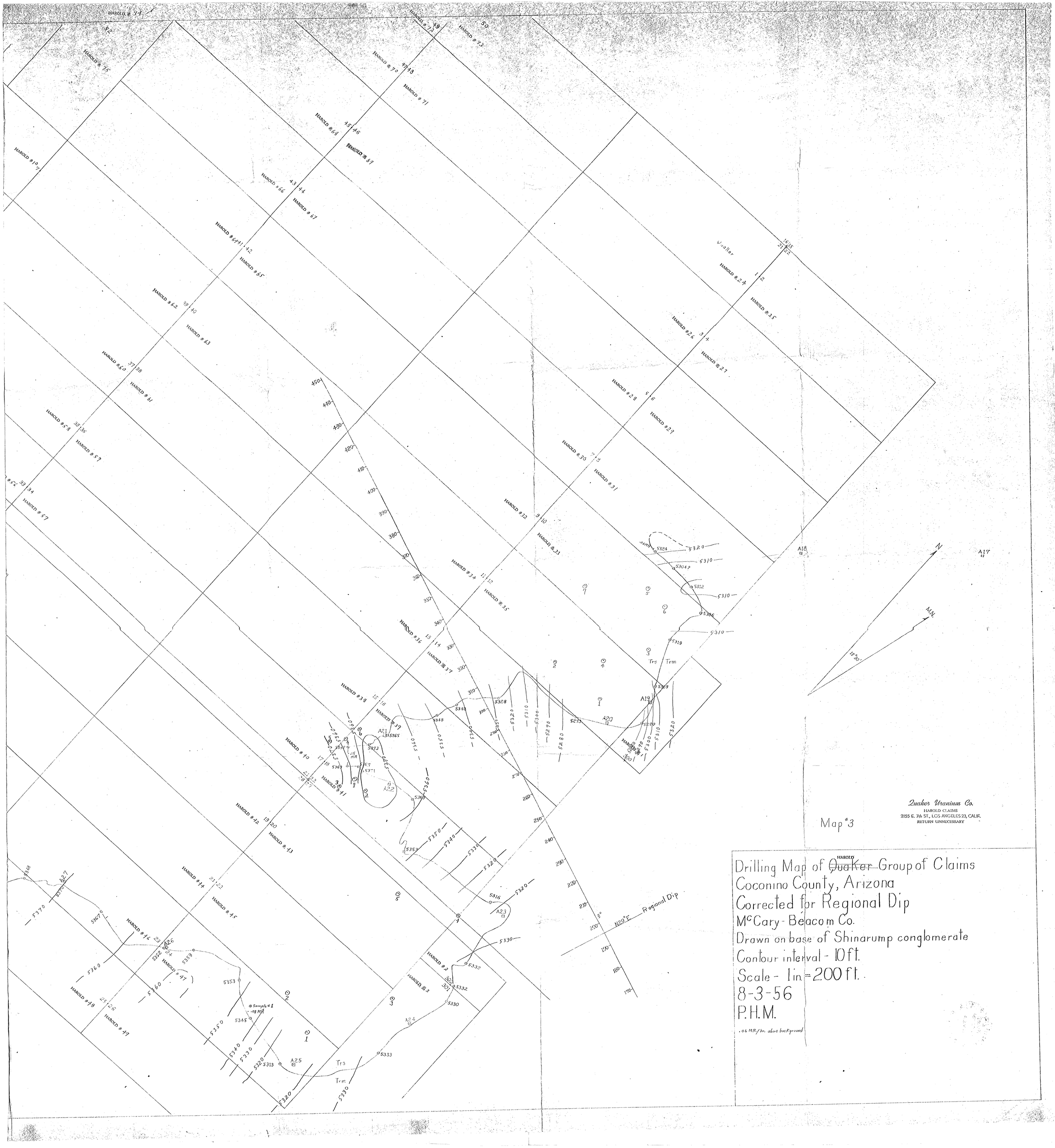
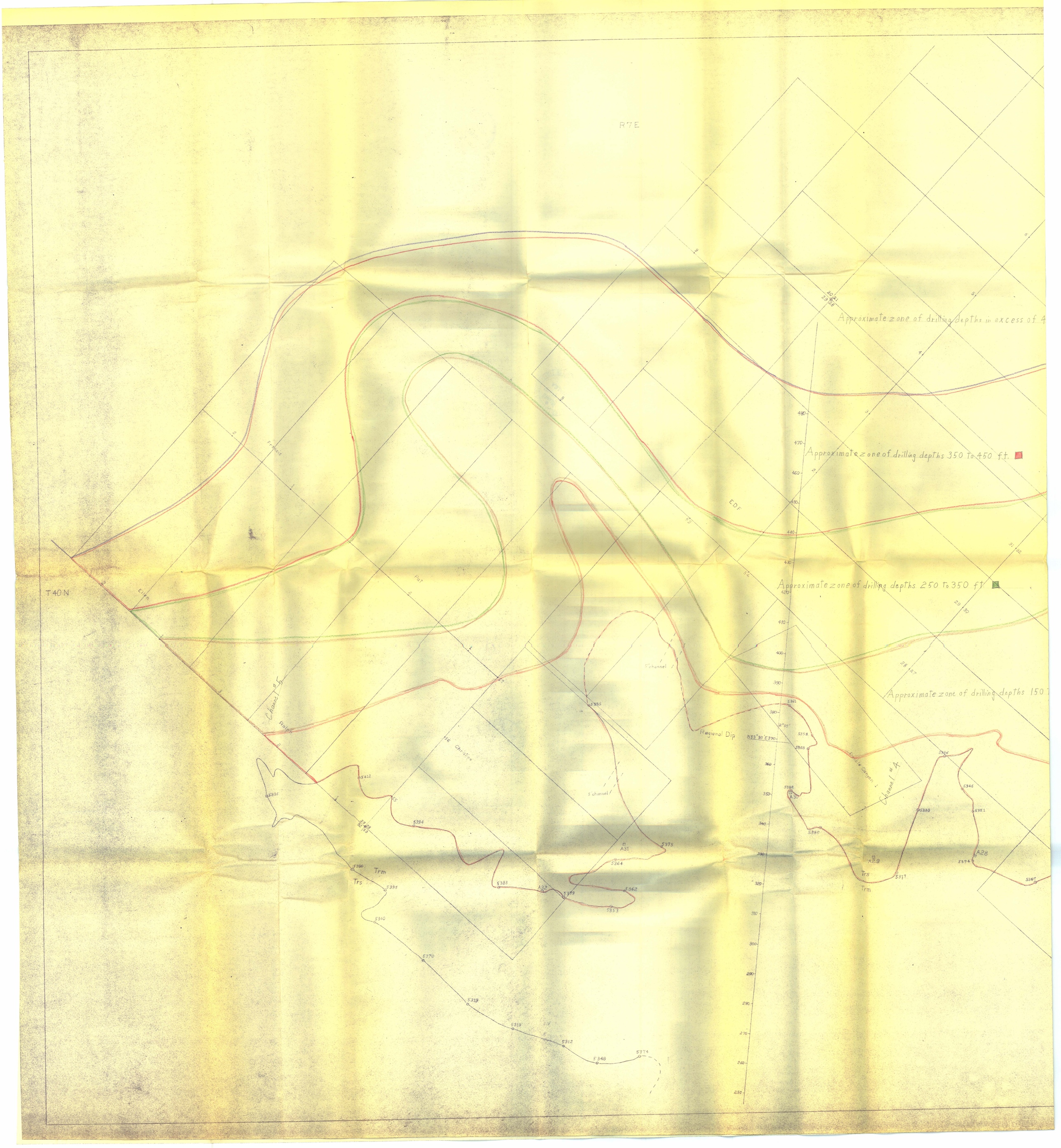
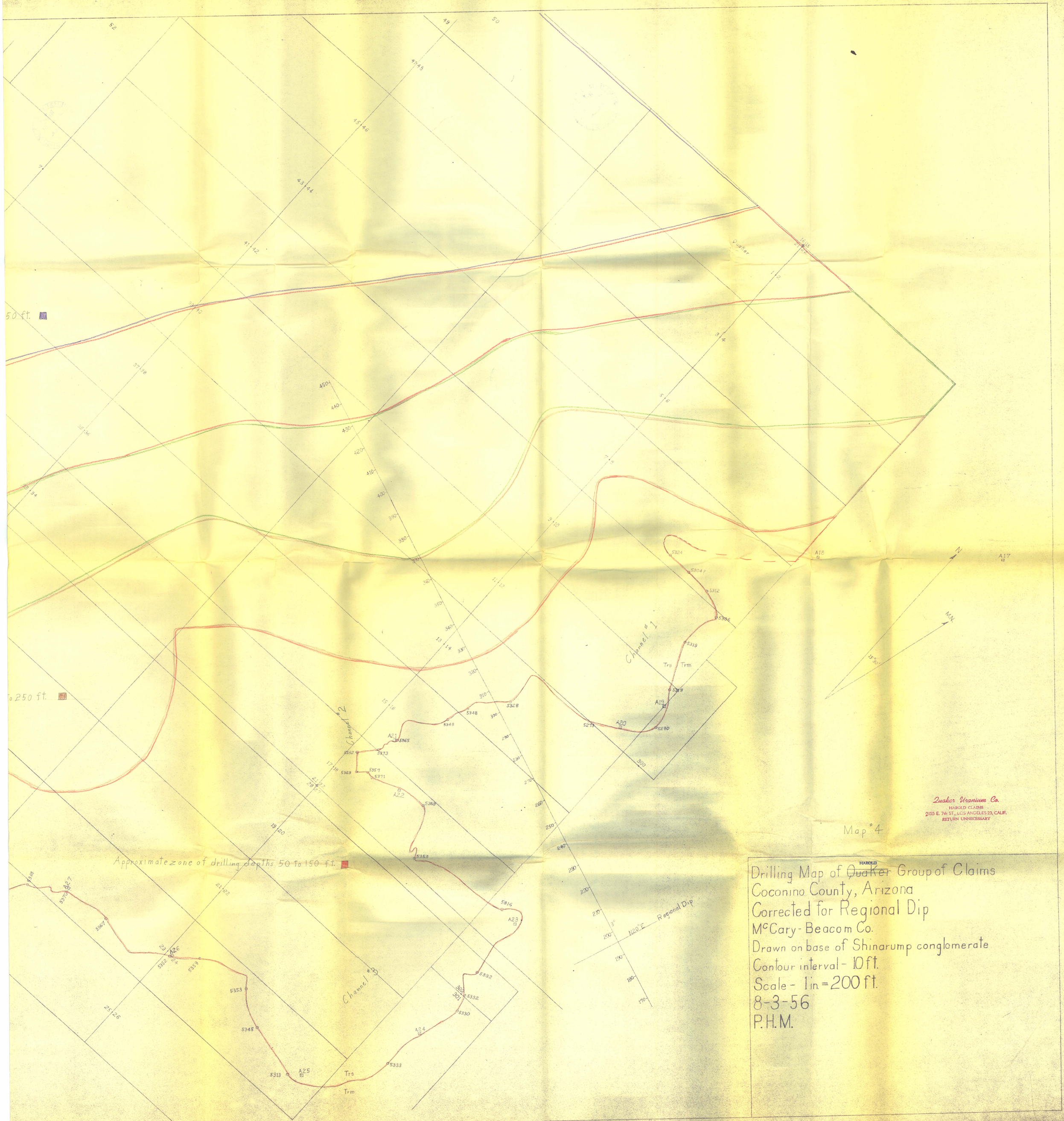
Map #5

DMEA-4608


R7E
T40N
HAROLD #12
HAROLD #11
HAROLD #21
HAROLD #20
HAROLD #15
HAROLD #14
HAROLD #13
HAROLD #23
HAROLD #22
HAROLD #18
HAROLD #17
HAROLD #16
HAROLD #19
HAROLD #80
HAROLD #77
HAROLD #78
HAROLD #76
HAROLD #77
HAROLD #4
HAROLD #5
HAROLD #6
HAROLD #7 4
HAROLD #9 5
HAROLD #7 6
HAROLD #54
HAROLD #55
HAROLD #52
HAROLD #53
HAROLD #51
HAROLD #50
EDF
Pat
Ralph
Christina
Trbis
Trm
Trs
Regional Dip
N53°30'E 370
Sample #2
Double Canyon 1
A28
A29
A30
A31
A32


Quaker Uranium Co.
HAROLD CLAIMS
2155 E. 7th ST., LOS ANGELES 23, CALIF.
RETURN UNNECESSARY
Map #3
Drilling Map of ~~Quaker~~ HAROLD Group of Claims
Coconino County, Arizona
Corrected for Regional Dip
McCary - Beacom Co.
Drawn on base of Shinarump conglomerate
Contour interval - 10 ft.
Scale - 1 in. = 200 ft.
8-3-56
P.H.M.
.06 MR/hr. above background
Regional Dip
N20°E
N
MAG.
15°30'
Sample #1
.08 MR


R7E
T40N
Approximate zone of drilling depths in excess of 4
Approximate zone of drilling depths 350 to 450 ft.
Approximate zone of drilling depths 250 to 350 ft.
Approximate zone of drilling depths 150
Francis
Ellen
Pat
Ralph
Christine
EDF
Channel #5
Channel #4
Regional Dip
N53°30'E370
Trm
Trs
A28
A29
A30
A31
A32


Quaker Uranium Co.
HAROLD CLAIMS
2155 E. 7th ST., LOS ANGELES 23, CALIF.
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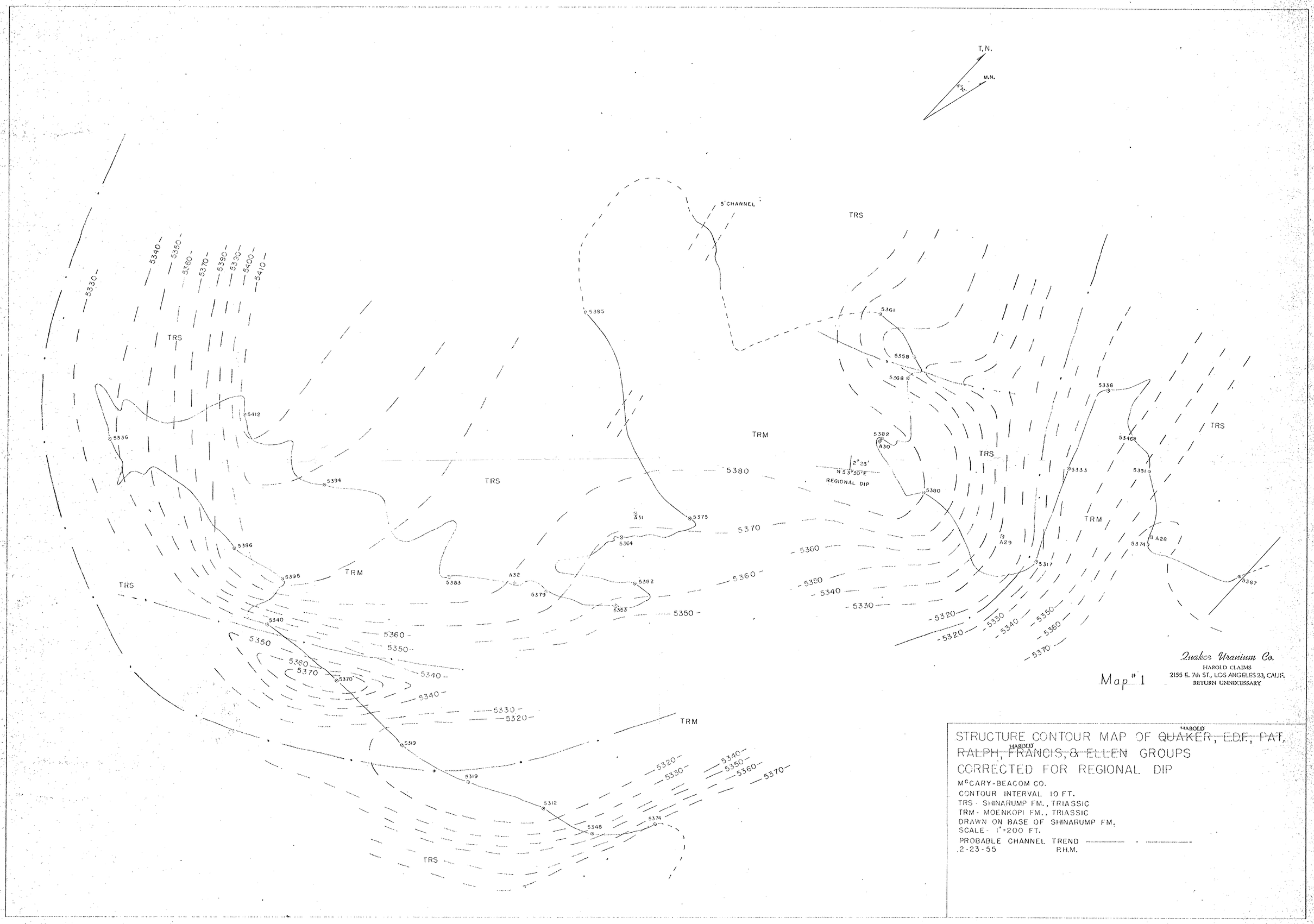
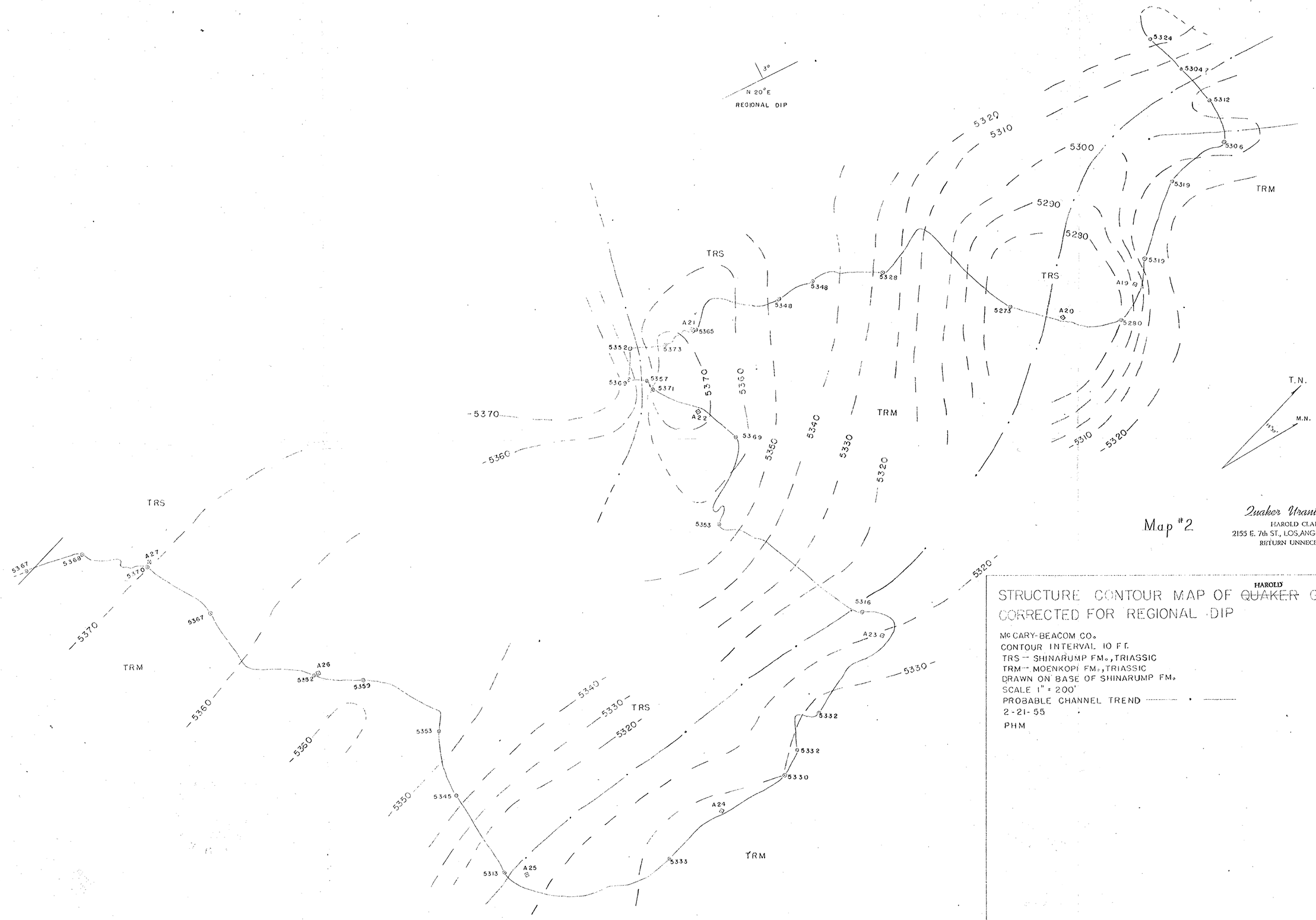
Map #4
Drilling Map of ~~Quaker~~ HAROLD Group of Claims
Coconino County, Arizona
Corrected for Regional Dip
McCary-Beacom Co.
Drawn on base of Shinarump conglomerate
Contour interval - 10 ft.
Scale - 1 in. = 200 ft.
8-3-56
P.H.M.
Approximate zone of drilling depths 50 To 150 ft.
Channel #1
Channel #2
Channel #3
Regional Dip
N20°E
N.
A17
A18
A19
A20
A21
A22
A23
A24
A25
A26
A27
Trs
Trm



STRUCTURE CONTOUR MAP OF ~~QUAKER, E.D.F., PAT,~~ HAROLD ~~RALPH, FRANCIS, & ELLEN~~ HAROLD GROUPS
CORRECTED FOR REGIONAL DIP

McCARY-BEACOM CO.
CONTOUR INTERVAL 10 FT.
TRS - SHINARUMP FM., TRIASSIC
TRM - MOENKOPI FM., TRIASSIC
DRAWN ON BASE OF SHINARUMP FM.
SCALE - 1" = 200 FT.
PROBABLE CHANNEL TREND ———— · ————
2-23-55 P.H.M.



Map #2

Quaker Uranium Co.
HAROLD CLAIMS
2155 E. 7th ST., LOS ANGELES 23, CALIF.
RETURN UNNECESSARY

STRUCTURE CONTOUR MAP OF ~~QUAKER~~ HAROLD GROUP
CORRECTED FOR REGIONAL DIP

McCARY-BEACOM CO.
CONTOUR INTERVAL 10 FT.
TRS — SHINARUMP FM., TRIASSIC
TRM — MOENKOPI FM., TRIASSIC
DRAWN ON BASE OF SHINARUMP FM.
SCALE 1" = 200'
PROBABLE CHANNEL TREND ---------- • ----------
2-21-55
PHM