

January 24, 2005

Terry Wetz
International Uranium Corporation
1050 17th St., Suite 950
Denver, CO 80265

Dear Mr. Wetz,

This letter is in response to your inquiry on the Tony M. mine. We quickly compiled unedited information from undocumented file data so we can not guarantee the accuracy or usefulness of any of the data (see full disclaimer at the end of this letter). This information includes several sections, (1) a summary, selected bibliography, and location map compiled by Taylor Boden of our staff, (2) notes from a field investigation in 1985 by a former UGS geologist, Hasan Mohammed, (3) a bundle of photocopies of CRIB mineral resource database entry forms for the Mt. Hillers quadrangle and an accompanying page-sized map and mine index, (4) five CDs containing scanned images of Tony M. maps from our files (in TIFF format). These maps are potentially the most useful part of the packet but they may be out-of-date and incomplete. They are also hard to work with. Because they were color coded, the only way we could reproduce them was to scan them at high resolution but that created huge files that can not be e-mailed and are very slow to open and manipulate in graphics software.

The CRIB forms, index, and annotated topo. map actually predate the main development of the Tony M. mine so it is not shown on this map. The map is only included to show some of the surrounding workings.

The scanned maps on CD show extensive drilling and drifting and some production data is included below, as well as some data on what reserves may remain.

T. BODEN - SUMMARY

Uranium Inquiry of School Trust Lands Associated with the Tony M. Mine Section 16, T. 35 S., R. 11 E., Garfield County, Utah

Summary

There are approximately 21 known uranium-vanadium mines and prospects within T. 35 S., R. 11 E., Garfield County, Utah. The State of Utah, School and Institution Trust Land Administration (SITLA) section 16 tract contains several sites, as well as several others that are just outside the tract's boundary (see map). The Tony M. uranium-vanadium mine specifically inquired about lies mostly within section 16, even though it is not shown on the Mt. Hillers Quadrangle. Mines and prospects show in section 16 on the map were most likely developed into the Tony M. mine.

The Tony M. mine is located in the Shootaring (Shitamaring) Canyon area (see map) 175 mi southwest from Grand Junction, Colorado on the south flank of the Henry Mountains. The area is 2 mi west of Utah State Highway 276; approximately 50 mi south of Hanksville, Utah, and 15 mi north of Bullfrog

Marina, located on Lake Powell. The mine is situated in canyonlands terrain at an elevation of 4550 ft. The climate is arid with an average precipitation of 7 in.

The Tony M. mine is located in a structural basin containing sedimentary rocks ranging from Mesozoic to Cenozoic in age with some Tertiary intrusives present. Ore grade mineralization at the Tony M. mine occurs in the lower sequence of the Salt Wash Member of the Jurassic Morrison Formation. The Salt Wash Member in the area is composed of fluvial sandstone and interbedded mudstone, and is approximately 510 ft thick at the Tony M. mine. Ore mineralization is associated with organic matter and occurs as intragranular disseminations within the sandstones and mudstones. Coffinite is reported as the most abundant ore mineral followed by uraninite and carnotite. Doelling, 1967 reported a vanadium-uranium ratio for three samples collected in the Shootaring Canyon area as 1.05:1.

Utah Division of Oil, Gas and Mining records indicate active mining occurred between 1979 and 1984, yearly production is as follows; 1979-20,569 tons ore, 1980-34,159 tons ore, 1981-none (records indicate 67,703 tons ore moved, stock-piling activity most likely), 1982-88,914 tons ore, 1883-none, and 1984-none. The mine site has since been completely reclaimed. The Tony M. mine five year plan report (1982 through 1986) gives an estimation of ore reserves as 5.2 million tons containing 13.7 million lb of U_3O_8 at an average grade of 0.13% U_3O_8 .

Utah Geological Survey CRIB forms for sites associated with section 16, T. 35 S., R. 11 E., are attached. Tiff file maps on CD depicting sections 16 and 9 exploration drilling, mine longhole exploration drilling, mine development, and ore body delineation and evaluation are also attached.

T. BODEN - SELECTED BIBLIOGRAPHY

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H. MOHAMMAD - FIELD INVESTIGATION

ORE MINERALS: CARNOTITE URANINITE COFFINITE CARNOTITE MONTROSEITE VANADIUM CHLORITE

AVERAGE ORE GRADE: 0.035 - 2.5% EU3O8

OPERATOR CIRCA 1985: PLATEAU RESOURCES LIMITED, 772 HORIZON DRIVE, GRAND JUNCTION, COLORADO

DEVELOPMENT: EXPLORATION DRILLING WAS INITIATED IN THE VICINITY OF OUTCROP MINERALIZATION DURING 1976. BY THE YEAR 1983 APPROXIMATELY 2000 ROTARY DRILL HOLES TOTALING NEARLY 1,000,000 FEET HAVE BEEN COMPLETED ON THE PROPERTY. DRILLING CONTINUED IN ORDER TO BETTER DEFINE THE DETAILS OF THE ORE BODIES. WITHIN A RADIUS OF 2 SQUARE MILES AROUND THE PROPERTY SEVERAL EXPLORATORY PITS, CHANNELS, AND DOZER CUTS HAVE BEEN MADE TO STUDY THE HOST ROCKS.

WORKINGS: SEVERAL ADITS. TOTAL LENGTHS OF THE WORKINGS MORE THAN 5000 FT. EXACT FIGURES OF THE LENGTHS OF WORKINGS NOT KNOWN. MINE DEVELOPED BY A DOUBLE ENTRY SYSTEM OF TWO PARALLEL DECLINES SPACED FIFTY FEET APART. THE TWO HAULAGEWAYS ARE 8 FEET HIGH AND 12 FEET WIDE. THE DECLINES DRIVEN DOWN A MINUS THREE PERCENT GRADE ALONG A TREND OF NORTH 22 WEST WHICH COINCIDES WITH THE LONG AXIS OF THE ORE TREND. ACCESS TO THE INDIVIDUAL ORE BODIES IS THROUGH LATERALS DEVELOPED AT RIGHT ANGLES TO THE MAIN HAULAGE WAYS. ORE MINED BY A MODIFIED ROOM AND PILLAR SYSTEM. MINED ORE PROCESSED IN A FACILITY SITUATED ABOUT 3 MILES FROM THE MINE.

PETROLOGY: THE HOST SANDSTONE IS LIGHT GRAY TO GRAY, MASSIVE BEDDING, MOSTLY INDISTINCT. HAS SMALL GRAY PELLETS IN LAYER 1/2 TO 1 INCH THICK. MEDIUM-GRAINED TO CONGLOMERATIC, SOFT, WEAKLY CEMENTED BY CALCITE AND CLAY. SUGARY, BLEACHED, AND SOMETIMES CROSS-BEDDED. MUDSTONE AND SHALE INTERBEDS ARE RED GRAY TO BROWN AND LENTICULAR. FEW DISCONTINUOUS THIN BANDS OF GRAY TO BROWN SILTSTONES ARE ALSO FOUND. THE INTERBEDS OF CONGLOMERATES ARE YELLOW BROWN AND BUFF WITH CHERT PEBBLES UP TO 1/2 INCH IN DIAMETER WHICH MAKE UP FROM 10 TO 90 PERCENT OF THE TOTAL VOLUME OF THE ROCK. THE HOST ROCKS CONTAIN ABUNDANT WOOD FRAGMENTS AND CARBONACEOUS MATTER. LIMONITIC AND HEMATITIC STAINS AND VEINS OF CALCITE AND QUARTZ ARE OCCASIONALLY FOUND. FRACTURING, ALTERATION, AND BLEACHING OF THE HOST ROCKS ARE THE CHARACTERISTIC FEATURES. THE ORE BODIES CONSIST OF A CONCENTRATION OF VARIOUS URANIUM AND VANADIUM MINERALS IN SAND LENSES. MOST OF THE ORE MINERALS OCCUPY PORE SPACES IN THE SANDSTONE AND CONGLOMERATES. THE LARGEST AND RICHEST ORE BODIES ARE ELONGATE AND CRUDELY SEMI-CYLINDRICAL.

DISCLAIMER

Although this work represents the work of professional scientists, the Utah Department of Natural Resources, Utah Geological Survey, makes no warranty, expressed or implied, regarding its suitability for a particular use. The Utah Department of Natural Resources, Utah Geological Survey, shall not be liable under any circumstances for any direct, indirect, special, incidental, or consequential damages with respect to claims by users of this product.

I hope this information is useful. If you have any questions about the data, please feel free to contact us.

Sincerely,

Bryce T. Tripp
Geologist

Encl.

Tony M. Mine
Ore Body 1

L116JS40617445350

CD-R

52x80

RECORDABLE

MIN

Tony M. Mine
Ore Body 2

L116JSA06174445F05

CD-R

5270080
MB MIN

RECORDABLE

Tony M. Mine
Ore Body 3

L116J54061744A2B05

CD-R

5270089

RECORDABLE

Tony M. Mine
Section 16 Drilling
Section 9 Drilling

L116JSA06774150005

Longhole Plan

Tony M. Mine
Mine Development

L116J5A06174454B05

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RECORDABLE

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

U.G.M.S.
DEC 03 1984

MINERAL INVESTIGATION OF THE LITTLE ROCKIES WILDERNESS STUDY AREA,
GARFIELD COUNTY, UTAH

By
Terry J. Kreidler

MLA 19-84
1984

This open file report summarizes the results of a Bureau of Mines wilderness study and will be incorporated in a joint report with the Geological Survey. The report is preliminary and has not been edited or reviewed for conformity with the Bureau of Mines editorial standards. Work on this study was conducted by personnel from Intermountain Field Operations Center, Building 20, Denver Federal Center, Denver, CO 80225.

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A ubiquitous UPS truck is one of the rare visitors to Plateau Resources' Ticaboo mill. The accompanying mine, known as the Tony M, has been sold and the mill and accompanying town and resort site are on the market. The mill is 1 of only 3 remaining in the nation that are permitted for operation. (PAY DIRT photos by Gary Dillard.)

Come on, high-rollers, here's a chance to make a bundle

By Bill Epler
Staff Reporter

Ticaboo is for sale.

What did you say? What the hell is it and where is it? Are you pulling my leg, man?

Well, pull up your chair and I'll tell you a story about a \$129 million uranium venture, including a mine and mill that never went into commercial production, and a chunk of land with great development possibilities. If you are an entrepreneur with the soul of a gambler and the wherewithal to back it up, here's a chance to make not 1, but 2 fortunes — if the chips fall right.

Open up your atlas to the map of Utah. If you look down in the far southeastern corner, just up from Bullfrog Marina on Lake Powell, you'll find — if your map goes into great detail — a tiny dot labeled Ticaboo.

That's where Consumers Power Company of Jackson, Michigan has a deal for you, offering its long-held property close by State Highway 276. The price has not been revealed, but a spokesman for the owner says an

acceptable figure is far below the investment cost.

As is so often the case, the best way to tell this story is to start at the beginning — way back in the late 1930s. There isn't enough space in this issue to tell all the details, so we will boil it down to the most essential parts.

The setting is the Ticaboo Plateau, a name bestowed a long time ago by the Ute Indians. In their language, Ticaboo means "friend" or "friendly place."

It's in a high-desert area on the western slopes of the Henry Mountains that include a north-south string of 5 peaks ranging from 7,930-foot Mt. Holmes to 11,506-foot Mt. Ellen. Rearing up behind Ticaboo is the southernmost peak, 8,150-foot Mt. Ellsworth. Off to the west a few miles is the Waterpocket Fold, a tortured, high north-south escarpment nearly 100 miles long.

In between the 2 are plateaus cut by deep, steep-walled canyons that have eroded through thick layers of sandstone. It's a rugged, arid land with few roads and even fewer inhabitants. The only way to get around is by

horseback or on foot, and then mainly either in the bottom of the canyons or on top of the mesas as there are only a few places where you can get up or down between the 2.

Discovered way back in 1937

Into this particular section of the rugged Colorado Plateau in the 1930s came the late G.J. "Tony" Mastrovich of Grand Junction who for many years was employed by Climax Molybdenum. As we understand it, however, he was prospecting on his own, looking for vanadium deposits.

In addition to his knowledge of geology, Mastrovich's prospecting equipment consisted of an unusual combination — a horse, binoculars and a high-powered rifle. As he slowly rode along the bottoms of the canyon, the steep vertical rock walls towering above him exposed millions of years of geological formations, including the one he was looking for — the Salt Wash member of the Morrison.

Since there was no practical way on a scouting trip to get up to and follow along the

Ticaboo . . .

formations' exposures, Mastrovich used his binoculars to visually follow the outcrops, looking for the telltale colors of vanadium deposits. Whenever he spotted something that looked promising, he would shoot it with the rifle to break out pieces he picked up at the bottom of the walls for closeup examination and assaying.

It was in 1937 that he found what he was looking for in Shitamaring (another Indian name?) Canyon. As we understand it, he found a pretty good deposit of vanadium and located a number of claims. But the location was so remote and difficult to access no one was interested in developing it, especially when ample supplies of vanadium, used to harden steel, were readily available elsewhere.

But Mastrovich hung on to his claims, hoping that some day the situation would change. That it did, years later, and, as frequently happens in the mining industry, in a completely unexpected way.

As miners know, often found associated with vanadium deposits on the Colorado Plateau is uranium. Mastrovich knew it was present in his vanadium deposit, but in those days it was little more than a curiosity. French scientists Marie and Pierre Curie had long ago secured the small quantities of uranium and radium needed for their experiments from Colorado Plateau vanadium mines. Except for occasional orders of small amounts for medical and experimental purposes there was no further demand.

Finally began coming together

Development of the atomic bomb near the end of World War II, of course, changed all that, touching off the first of several uranium stampedes as the Atomic Energy Commission offered high prices for uranium for the nation's nuclear weapons program.

With that Mastrovich figured he had it made, but success proved elusive — again because of the difficult location and low grade, only 0.14 percent U3O8. Although there were various deals that came and went, it was not until the second uranium boom sparked by the demand created by the budding nuclear power industry that things began to come together for him.

Then Consumers Power (CP) appeared on the scene. For details on that, we turn to Roger Berg, vice president of Plateau Resources, a wholly owned subsidiary of the Michigan utility, headquartered in Jackson.

CP, Berg told *PAY DIRT* in a telephone interview, built and operated the first nuclear power plant in the United States, the 75,000 KW Big Rock Point plant that came on line in 1962. At that small size, it was a pilot plant to gain experience and determine economics.

In 1970 it brought on line its 812,000 KW Palisades nuclear plant and began construc-

tion of its proposed 1.4 million KW Midland nuclear power plant.

At about this time demand for uranium for nuclear plant fuel became greater than supply, sending prices skyrocketing and making it impossible for utilities to secure long-term supply contracts. As a result, nuclear plant operators had to secure and develop their own supplies.

So, to nail down fuel for its existing and planned plants, CP formed Plateau Resources Ltd. in 1976 and went looking. The

search led it to Ticaboo and the Tony M mine in Shitamaring Canyon. The deal to acquire the mine was completed in May 1977 and in September underground mine development got under way with driving of portals on structure in the canyon wall.

Four miles south of the mine, Plateau bought a 265-acre tract of land as the site for a state-of-the-art uranium mill it built at a cost of about \$54 million. Although the mill is rated at 750 tpd, the contractor, Mountain States Engineering of Tucson, figured it

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Color	As Desired	None	None	None	Various

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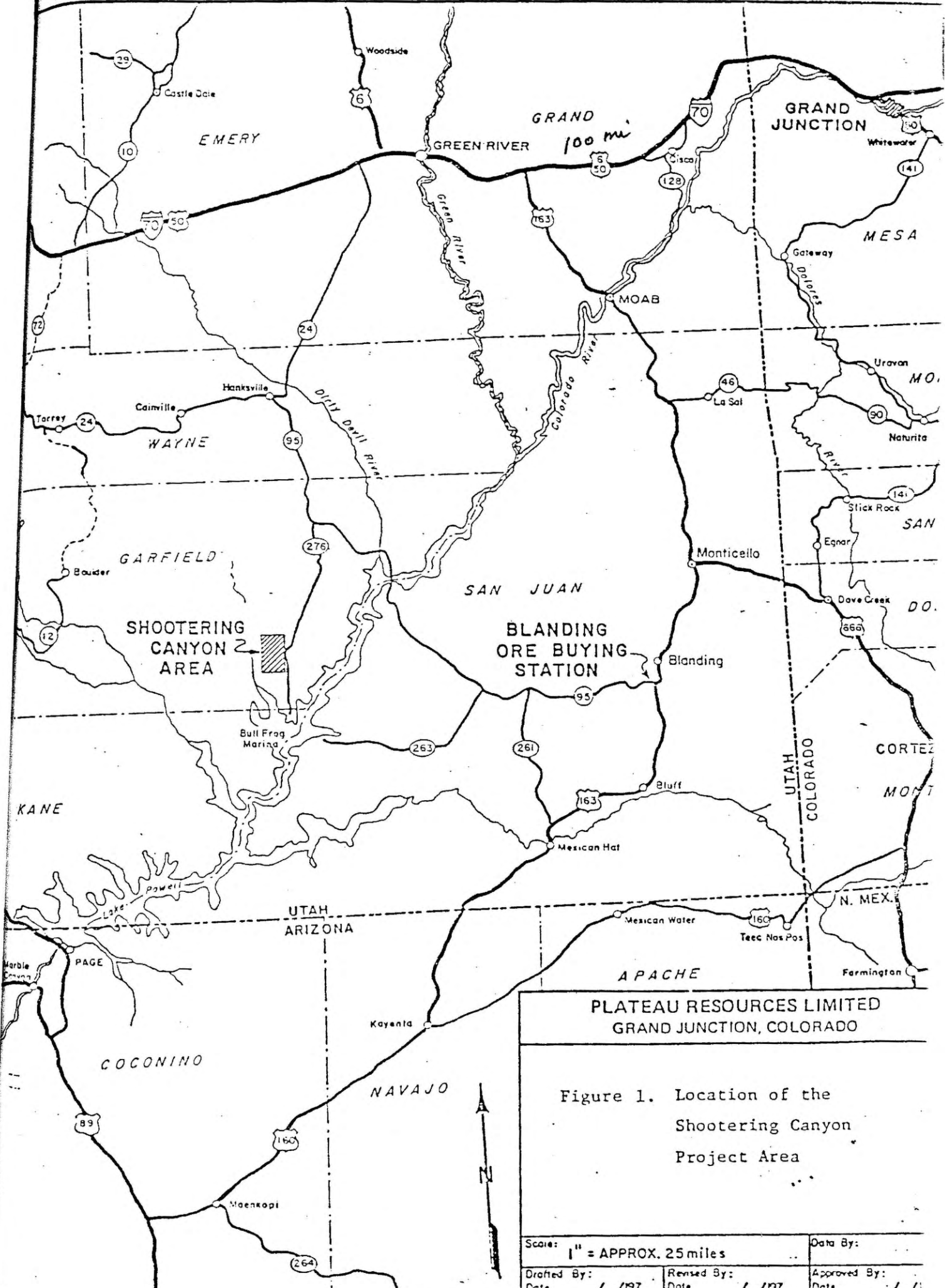
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**PLATEAU RESOURCES LIMITED
GRAND JUNCTION, COLORADO**

Figure 1. Location of the Shooting Canyon Project Area

Scale:	1" = APPROX. 25 miles		Data By:
Drafted By:	Revised By:	Approved By:	
Date / / 197	Date / / 197	Date / / 197	

WRL → HD

for your information - Aug. 21 1979

Final

790614029

NUREG-0233

RECEIVED A-95
AUG 14 1979

environmental statement

related to operation of
**SHOOTERING CANYON
URANIUM PROJECT**
PLATEAU RESOURCES, LTD.

July 1979

Docket No. 40-6033

U. S. Nuclear Regulatory Commission

Office of Nuclear Material
Safety and Safeguards

F-1

SUMMARY AND CONCLUSIONS

This Final Environmental Statement was prepared by the staff of the U.S. Nuclear Regulatory Commission and issued by the Commission's Office of Nuclear Material Safety and Safeguards.

1. This action is administrative.
2. The proposed action is the issuance of a Source Material License to Plateau Resources, Ltd., for the construction and operation of the proposed Shootering Canyon Uranium Project with a product (U_3O_8) production limited to 2.2×10^5 kg (4.9×10^5 lb) per year.
3. The following is a summary of environmental impacts and adverse effects.
 - a. Impacts to the area from the operation of the Shootering Canyon Uranium Project will include the following:
 - Alterations of up to 140 ha (350 acres) that will be occupied by the mill, mill facilities, borrow areas, tailings areas, and roads.
 - An increase in the existing background radiation levels of the mill area as a result of continuous but small releases of uranium, radium, radon, and other radioactive materials during construction and operation.
 - Socioeconomic effects on the local area, particularly the proposed community of Ticaboo, where the majority of workers will be housed during project construction and operation.
 - Production of solid waste material (tailings) from the mill at a rate of about 680 MT (750 tons) per day and deposition as a slurry in an onsite impoundment area.
 - b. Surface water will not be affected by normal milling operations. Mill process water will be taken from the Navajo aquifer, and process water will be discharged to the tailings impoundment at about 0.68 m^3 (150 gal) per minute. Some $6.9 \times 10^5 \text{ m}^3$ (538 acre-ft) of water per year may be utilized by the project.
 - c. There will be no planned discharge of liquid or solid effluents from the mill and tailings site. The discharge of pollutants to the air will be small and the effects negligible. The estimated total annual whole-body and organ dose commitments to the population near the mill site are presented below. Natural background doses are also presented for comparison. The dose commitments from normal operations of the proposed Shootering Canyon mill will represent only very small increases in doses from current background radiation sources.
 - d. Construction and operation of the Shootering Canyon mill will require the commitment of small amounts of chemicals and fossil fuels, relative to their abundance.
 - e. Construction and operation of the Shootering Canyon mill will provide employment and induced economic benefits for the region but may also result in some socioeconomic stress.
 - f. The tailings disposal impoundment, occupying up to 28 ha (70 acres) when filled with tailings solids, may be unavailable for further productive use. However, when reclamation is completed and testing shows that radiation levels have been reduced to acceptable levels, it may be possible to return the tailings area to its former use as potential grazing land. After reclamation, the area topography will be similar to its present state.

- b. The applicant shall control release of airborne particulates from tailings by use of a water sprinkler system, chemical stabilization, covering with soil, or other equivalent means until reclamation of the tailings is completed.
 - c. The applicant shall implement the environmental monitoring program described in Table 6.2 of this document. The applicant shall establish a control program that shall include written procedures and instructions to control all environmental monitoring prescribed herein and shall provide for periodic management audits to determine the adequacy of implementation of these environmental controls. The applicant shall maintain sufficient records to furnish evidence of compliance with these environmental controls. In addition, the applicant shall conduct and document an annual survey of land use in the area surrounding the proposed project.
 - d. Before engaging in any activity not assessed by the NRC, the applicant shall prepare and record an environmental evaluation of such activity. When the evaluation indicates that such activity may result in a significant adverse environmental impact that was not assessed or that is greater than that assessed in this Environmental Statement, the applicant shall provide a written evaluation of such activities and obtain prior approval of the NRC for the activity.
 - e. The applicant shall immediately notify the NRC and the Office of the State Historic Preservation Officer if artifacts are discovered during construction of the mill or tailings disposal areas and shall have an archaeological survey performed prior to disturbing any previously unsurveyed areas.
 - f. If unexpected harmful effects or evidence of irreversible damage not otherwise identified in this Environmental Statement are detected during construction and operation, the applicant shall provide to the NRC an acceptable analysis of the problem and a plan of action to eliminate or reduce the harmful effects or damage.
 - g. The applicant shall provide for stabilization and reclamation of the mill site and tailings disposal areas and mill decommissioning as described in Sects. 3.3 and 10.3 of this document.
 - h. The applicant shall provide surety arrangements to ensure completion of the mill site and tailings area stabilization, reclamation, and decommissioning plans.
8. The position of the NRC is that, after weighing the environmental, economic, technical, and other benefits of the operation of Shooter Canyon Uranium Project against environmental and other costs and after considering available alternatives, the action called for under the National Environmental Policy Act of 1969 and 10 CFR Part 51 is the issuance of a Source Material License subject to conditions 7a through 7h, above.

As announced in a *Federal Register* notice dated 3 June 1976 (41 FR 22430), the NRC is preparing a generic environmental statement on uranium milling. Although it is the NRC's position that the tailings impoundment method discussed in this Statement represents the most environmentally sound and reasonable alternative now available at this site, any NRC licensing action may be subject to revision in accordance with the conclusions of the final generic environmental impact statement and any related rule making.

Annual population dose commitments^a
within an 80-km (50-mile) radius
of the mill site

Receptor organ	Dose (man-rems/per year)	
	Plant effluents	Natural background ^b
Total body	1.50	329
Lung	10.5	329
Bone	6.13	329
Bronchial epithelium	66.0	1631

^aBased on a projected year-2000 population of 3264.

^bThe estimated natural background dose rate to the whole body is 101 millirems/year. The bronchial epithelium dose from naturally occurring radon-222 is assumed to be 500 millirems/year (Sect. 2.10).

4. Principal alternatives considered are as follows:
 - a. alternative sites for the mill,
 - b. alternative mill processes,
 - c. alternative of using an existing mill,
 - d. alternative methods of tailings management,
 - e. alternative energy sources, and
 - f. alternative of no licensing action on the mill.
5. The following Federal, State, and local agencies have been asked to comment on this Draft Environmental Statement:
 - Department of Commerce
 - Department of the Interior
 - Department of Health, Education, and Welfare
 - Federal Energy Regulatory Commission
 - Department of Energy
 - Department of Transportation
 - Environmental Protection Agency
 - Department of Agriculture
 - Advisory Council on Historic Preservation
 - Department of Housing and Urban Development
 - Utah State Planning Coordinator
6. This Final Environmental Statement was made available to the public, to the Environmental Protection Agency, and to other specified agencies in July 1979.
7. On the basis of the analysis and evaluation set forth in this Environmental Statement, it is proposed that any license issued for the Shooter Canyon mill should be subject to the following conditions for the protection of the environment:
 - a. The applicant shall construct a tailings disposal facility that will incorporate the features described in Alternative 1 of Sect. 10.3 and in Sect. 3.2.4.7 and that will meet the safety criteria specified in NRC Regulatory Guide 3.11.

F-1

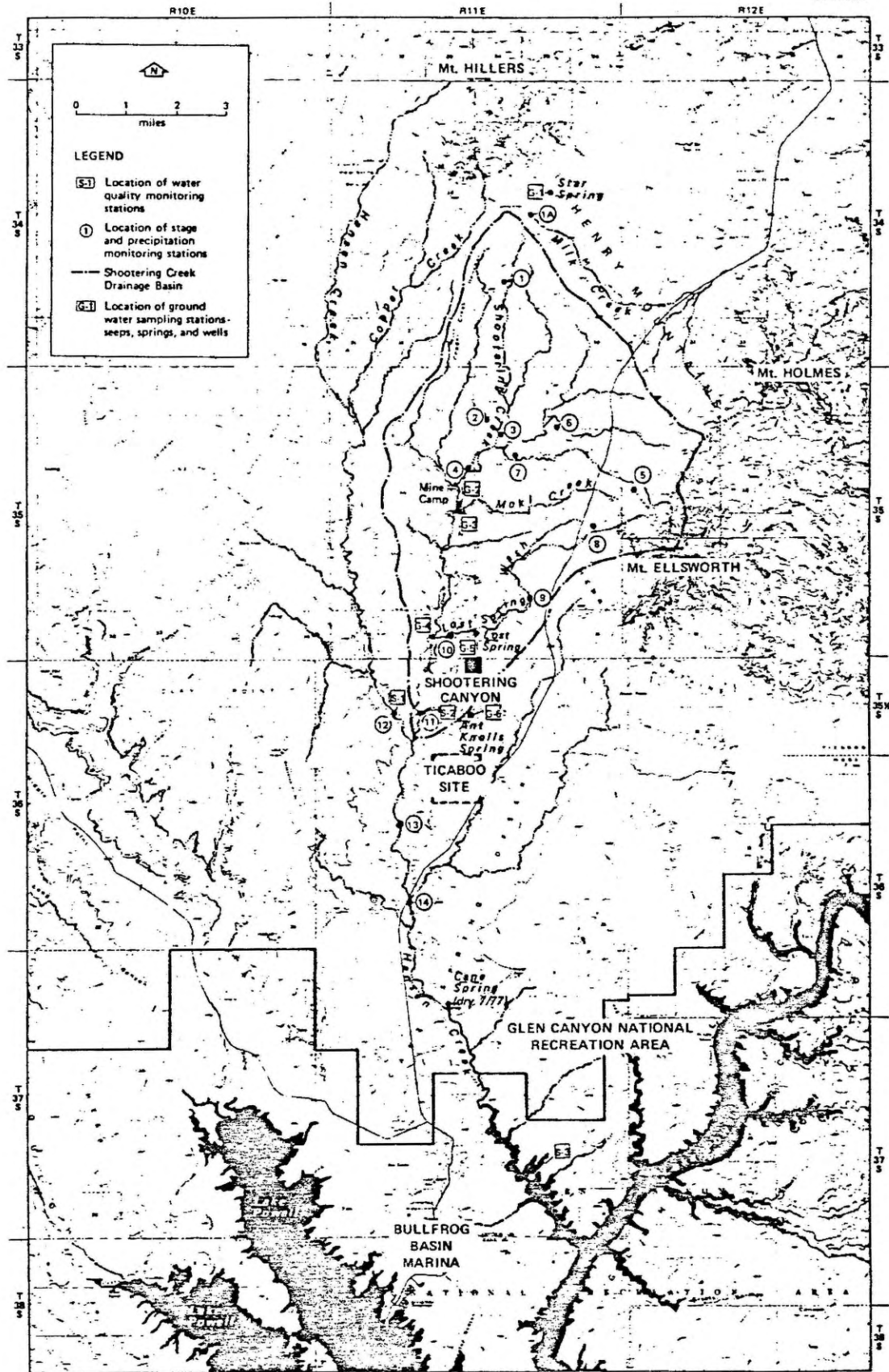
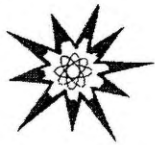


Fig. 1.1. Location of the site of the Shooting Canyon Uranium Project.
Source: ER, Fig. 2.6-2.

F-1



U.S. Energy Corporation Locations

The Shootaring Mill

home

locations

**president's
message**

**investor
news**

extras

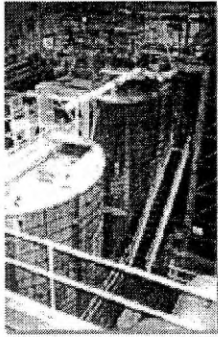
Plateau Resources Limited was organized in 1976 as a wholly owned subsidiary of Consumers Power Company of Michigan to provide uranium concentrates for processing into fuel for Consumers' nuclear power plants. Plateau Resources initiated an aggressive exploration program almost immediately following its formation. Consumers invested about \$140 million in the Plateau facilities near Ticaboo, Utah.

In 1993 **U.S. Energy Corp.** acquired all outstanding stock of Plateau Resources Limited from Consumers. As part of the deal, **U.S. Energy Corp.** acquired the essentially new Shootaring Canyon uranium mill, and a townsite infrastructure. The mill was built in 1981 at a cost of \$54 million and was designed to process 750 tons of uranium ore per day, but operated only on a trial basis for two months in 1982. Operating this mill at this level, depending on ore grade, would yield between 1 and 2 million pounds U3O8 per year. Results of testing performed at the mill in 1982 indicate that the circuit could be operated at a capacity of 1 thousand tons per day without any modifications.

Through its acquisition of Plateau, **U.S. Energy Corp.** has gained access to substantial uranium resources in southeastern Utah. Contiguous to the Tony M mine are the Southwest, Copper Bench, and Indian Bench deposits, which compose the Bullfrog properties. These deposits are reported to contain up to 17 million pounds of uranium. Where they are owned by Energy Fuels, their proximity to the Tony M Mine and short haul (three to five miles) to the Shootaring Canyon mill make them prospective sources of ore for the mill.



[BACK TO THE TOP](#)



The Shootaring Canyon mill will treat uranium ores utilizing a conventional process circuit that includes grinding, acid-leach, solvent extraction and precipitation of yellowcake. The facility occupies 114 acres of Plateau's 270-acre plant site, which is only three miles south of the Tony M mine portals.

[BACK TO THE TOP](#)

Comments, suggestions to [Webmaster](#).
Site by [The Wired Rose](#).

deseretnews.com

Deseret Morning News, Saturday, February 24, 2007

SXR Uranium One to buy mothballed plant in Utah

TORONTO (Dow Jones/AP) — Canadian miner SXR Uranium One Inc. said it will buy a uranium processing plant and uranium fields from U.S. Energy Corp. and its Crested Corp. affiliate for stock and cash worth about \$101 million.

Uranium One said it will purchase the mothballed Shootaring Canyon Uranium Mill in Utah and uranium exploration properties in Utah, Wyoming, Arizona and Colorado.

It is paying 6.6 million shares, plus \$750,000 in cash.

Uranium One also has agreed to pay U.S. Energy, based in Riverton, Wyo., \$20 million when the mill starts commercial production and \$7.5 million on the first delivery of uranium to the mill from any of the purchased properties.

U.S. Energy also will receive a royalty of 5 percent on the sale of uranium produced at the mill, to a maximum of \$12.5 million.

The Shootaring Canyon Mill is about 48 miles south of Hanksville, Wayne County. The mill was commissioned and operated for four months in 1982 and has been maintained in "excellent condition" since then.

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REPORTING FORM FOR CRIB MINERAL RESOURCES COMPUTER FILE

RECORD IDENTIFICATION:

Record No. B10 < _____ >

Deposit No. B40 < ~~17-MT. ELLSWORTH~~ 5 >

File Link ID B50 < BLM >

(Enter G1, G2 if new form; G3, G4 if update)

U (circle U if form used for update and fill in labels G3 and G4)

017-Last Spring-001
USGS

REPORTER:

G1 < 78 10 7 > G2 < DOELLING HELMUT H >
Yr Mo Last name first initial

UPDATE: G3 < _____ > By: G4 < _____ >
Yr Mo Last name first initial

NAME:

Deposit Name A10 < Shootering >

Synonym Name(s) A11 < _____ >

LOCATION:

Mining District/Area/Subdist. A30 < HENRY MTNS/SOUTH/SHOOTARING >

Country A40 < U.S. U.S. > (enter code TWICE from list C)

State A50 < 49 49 > (enter code twice from list D if in US)

County A60 < GARFIELD >

Position from nearest prominent locality A82 < West side Shitamaring Creek, 2 miles NORTH OF LOST SPRING >

GIVE 1 OR MORE OF THE 4 LOCATIONS PRESENTED BELOW:

UTM Northing A120 < 411778901 >

Latitude A70 < DD - MM - SS N/S >

UTM Easting A130 < 5257001 >

Longitude A80 < DDD - MM - SS E/W >

UTM Zone No. A110 < + 1 2 >

State X Coord. A71 < _____ >

Township(s) A77 < 035S >

State Y Coord. A72 < _____ >

Range(s) A78 < 011E >

State Zone No. A73 < _____ >

Section(s) A79 < 21 >

Altitude A107 < 4720 FT >

Meridian(s) A81 < Salt Lake Base Meridian >

Quad Scale A100 < 0062500 >

Land Classification A64 < 49 > (LIST P)

Quad No. or Name A90 < MT. ELLSWORTH Last Spring (1987) >

Drainage Area (list J) A62 < 14 BELOW GREEN ABOVE LEE'S FERRY >

Physiographic Province (list K) A63 < 11 HENRY MTNS BASIN >

Location Comments A83 < NW 1/4 SW 1/4 SECTION 21 T 35 S. R 11 E >

COMMODITY INFORMATION

	1	2	3	4	5	6	7
Commodities Present	C10 < U V >						
Commodity Specialist Information	C20 < >						
Significance	MAJOR < U V >						
	MINOR < >						
	COPROD < >			POTEN < >			
	BYPROD < >			OCCUR < >			
Ore Minerals, rocks, etc.	C30 < Carnotite, Tyuyamunite >						
Commodity Subtypes or Use Categories	C41 < >						
Commodity Comments	C50 < >						

ANALYTICAL DATA

Reference	C44 < >						
BTU's	BTU < >	Volatiles	C45 < % >				
Sulfur	SUL < % >	Moisture	C46 < % >				
Ash	ASH < % >	Thickness of Coal	C47 < >				
Fixed Carbon	CARB < % >		(FT or M)				
Analytical Data (General)	C43 < >						

MINERAL ECONOMICS FACTORS

Exploration M\$	C42A < >	Mill	M\$ C42D < >
Development M\$	C42B < >	Total Investments	M\$ C42E < >
Expansion M\$	C42C < >	Mill Capacity Per Yr	C42F < >
Economic Comments	C42 < >		thous units yr appl

EXPLORATION AND DEVELOPMENT

Status of Exploration or Development	A20 < A >	(code from list B)
Year of Discovery	L10 < >	By Whom L20 < >
Nature of Discovery	L30 < B >	(List L) Present or Last Owner A12 < A.K. Wilson, Jr. >
Year of First Production	L40 < >	Present or Last Operator A13 < U-NEVA Uranium Corp. >
Work Done by USGS (earliest to present)		
Year	Type of work (List M)	Geologist and Results
1) L41 < >		
2) L42 < >		
3) L43 < >		
Work Done by Other Organizations (earliest to present)		
Year	Type of work (List M)	Organization and Results
1) L50 < 1973 >	RECON	UGMS FOR USBM-MAS
2) L60 < >		
3) L70 < >		

Reports Available L100<_____>

Comments L110<_____>

DESCRIPTION OF DEPOSIT

Deposit Type(s) (List F) C40< REPLACEMENT >

Deposit Form/Shape (List N) M10< LENSES, BUTTONS, PODS >

Max Thickness M60< 2 > M61< (units) FC. > Size M15< Small >

Depth to Top M20< 0 > M21< FC > Strike M70< NORTH >

Depth to Bottom M30< 150 > M31< FC. > Dip M80< 3deg W >

Max Length M40< _____ > M41< _____ > Plunge M90< _____ >

Max Width M50< _____ > M51< _____ > Plunge dir. M100< _____ >

Property is: (Active) A21 (Inactive) A22 (Circle One)

Comments M110<_____>

DESCRIPTION OF WORKINGS

Workings are: (Surface) M120 (Underground) M130 (Both) M140 (Circle Appropriate Labels)

For Underground Workings: (units)

Depth Below Surface M160< _____ > M161< _____ >

Length of Workings M170< _____ > M171< _____ >

For Open Workings (surface and underground): (units)

Overall Length of Mined Area M190< _____ > M191< _____ >

Overall Width of Mined Area M200< _____ > M201< _____ >

Overall Area M210< _____ > M211< _____ >

Comments M220<_____>

GENERAL REFERENCES

- 1) F1< Hunt C. B. 1953, Geology & Geography of the Henry Mountains, Utah
U.S.G.S. Prof. paper # 228
- 2) F2< Doelling, Helmut H. 1967, Uranium Deposits of Garfield Co. Utah
Utah Geological & Mineral Survey Special Studies # 22
- 3) F3< Doelling, Helmut H. 1975, Geology & Mineral Resources of Garfield Co. Utah
Utah Geological & Mineral Survey, Bulletin # 107
- 4) F4< _____

Lost Spring 7.5' Quadrangle
Garfield County, Utah

<u>Index Number</u>	<u>Deposit Name</u>	<u>Commodity</u>
1	Shooting	Uranium, Vanadium
2	Tony M. Mine	Uranium, Vanadium
3	Deep Canyon	Uranium, Vanadium
4	Lucky Strike South	Uranium, Vanadium
5	Yellow Paint	Uranium, Vanadium
6	Hansen Creek Adit No. 2	Uranium, Vanadium, Copper
7	Hansen Creek Adit No. 1	Uranium, Vanadium, Copper
8	Hansen Creek Claim	Uranium, Copper
9	Sand and Gravel Pit	Sand and Gravel
10	East Cove	Uranium, Vanadium
11	Utah Department of Highways Pit # 09061	Sand and Gravel

Key to Map Symbols

● Uranium Deposit

○ Sand and Gravel Deposit



Salt Wash Member of the Morrison Formation

DESCRIPTION OF WORKINGS

Workings are: SURFACE M120 UNDERGROUND M130 BOTH M140 (circle one)

DEPTH BELOW SURFACE M160 < 390 > UNITS M161 < FT. >

LENGTH OF WORKINGS M170 < > UNITS M171 < >

OVERALL LENGTH M190 < > UNITS M191 < >

OVERALL WIDTH M200 < > UNITS M201 < >

OVERALL AREA M210 < > UNITS M211 < >

DESC. OF WORK COM. M220 < Several Adits; Total Lengths of the workings more than 5,000 FT.; Exact Figure of the lengths of workings not known; Mine developed by a double entry system of two parallel declines spaced fifty feet apart; The two haulageways are 8 feet high and 12 feet wide; The declines driven down a minus three percent grade along a trend of North 22 West, which coincides with the long axis of the ore tract. Access to the individual ore bodies is through laterals developed at right angles to the main haulage ways. Ore mined by a modified room and pillar system; Mined ore processed in a facility situated about 3 miles from the mine. >

- * AGE OF HOST ROCK(S) K1 < J.U.R. >
- * HOST ROCK TYPE(S) K1A < Sandstones Mudstones Shales conglomerate siltstone >
- * AGE OF IGNEOUS ROCK(S) K2 < >
- * IGNEOUS ROCK TYPE(S) K2A < >
- * AGE OF MINERALIZATION K3 < >
- * PRIME MINERALS (NOT ORE) K4 < Limonite, Hematite, Gypsum, Calcite, Quartz, Dolomite, Baryte, Sericite, Chlorite, kaolinite >
- * ORE CONTROL/LOCUS K5 < Lithology; Channels >
- * MET. REG. TRENDS/STRUCT N5 < Paradox Basin >
- * TECTONIC SETTING N15 < HENRY MOUNTAINS BASIN >
- * SIGNIFICANT LOCAL STRUCT N70 < >
- * SIGNIFICANT ALTERATION N75 < Argillization >
- * PROCESS OF CONC./ENRICH N80 < Ground Water Circulation >
- * FORMATION AGE N30 < J.U.R. >
- * FORMATION NAME N30A < Morrison (Salt Wash Member) >
- * SECOND FM AGE N35 < >
- * SECOND FM NAME N35A < >
- * IGNEOUS UNIT AGE N50 < >
- * IGNEOUS UNIT NAME N50A < >
- * SECOND IG. UNIT AGE N55 < >
- * SECOND IG. UNIT NAME N55A < >

GEOLOGY COMMENTS N85 < The host sandstone is light gray to gray, massive, bedding mostly indistinct, has small gray pellets in layer 1/2 to 1 inch thick, medium-grained to conglomeratic, soft, weakly cemented by calcite and clay, sugary, bleached, and sometimes cross-bedded. Mudstone and shale interbeds are red, gray to brown and lenticular. Few discontinuous, thin and discontinuous bands of gray to brown siltstones are also found. The interbeds of conglomerates are yellow, brown and buff, with chert pebbles up to 1/2 inch in diameter which make up from 10 to 90 percent of the total volume of the rock. The host rocks contain abundant wood fragments and carbonaceous matter. Limonitic and hematitic stains, and veins of calcite and quartz are occasionally found. Fracturing, alteration, and bleaching of the host rocks are the characteristic features. >

* GENERAL REFERENCES

- REFERENCE 1 F1 < Peterson, Fred, and others, 1982, National Uranium resource evaluation, Escalante Quadrangle, Utah: U.S. Geological Survey, PGJ/F-049 (82), Appendix A.
- REFERENCE 2 F2 < Smedley, J. B., Pera, E. M., and Lutz, G. A., 1976, Leasable Mineral and Waterpower land Classification Map of the Escalante Quadrangle, Utah and Arizona: U.S. Geological Survey, OFR 76-827.
- REFERENCE 3 F3 < Hackman, B. J., and Wyant, D. G., 1973, Geology, structure, and uranium deposits of the Escalante Quadrangle, Utah and Arizona: U.S. Geological Survey Map I-744.
- REFERENCE 4 F4 < Ritzma, H. R., and Doelling, H. H., 1969, Mineral resources, San Juan Co., Utah and adjacent areas: UGMS Special Studies No. 24, 125 p.

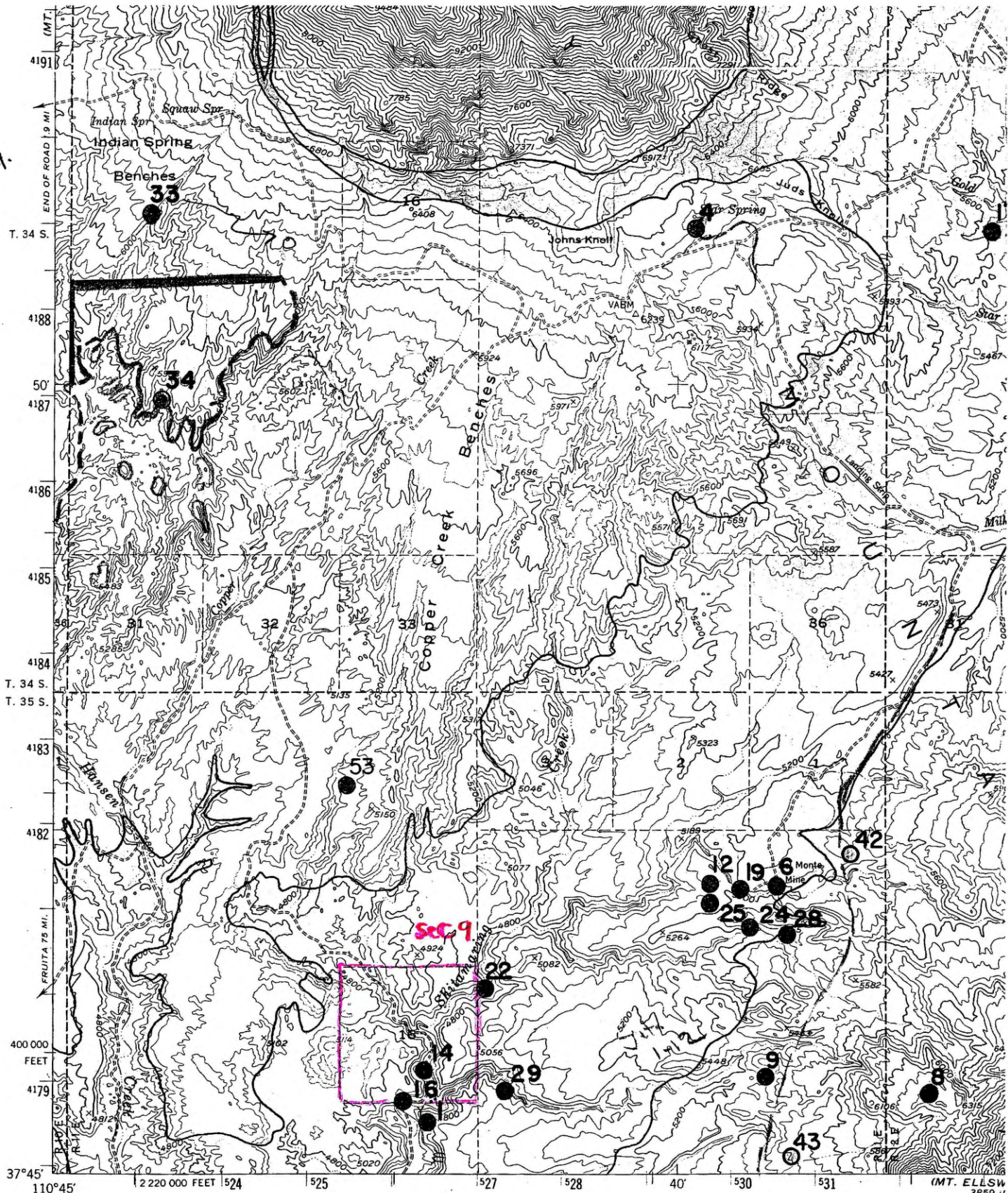
F5 < Doelling, H. H., 1969, Uranium deposits of Garfield County, Utah: UGMS Special Studies No. 22.

GENERAL COMMENTS

General Comment: GENC The ore bodies consist of a concentration of various uranium and vanadium minerals in sand lenses. Most of the ore minerals occupy pore spaces in the sandstone and conglomerates. The largest and richest ore bodies are elongate and crudely semi-cylindrical "rolls" that occur in groups in the sand lenses. However, mineralization in general follows the bedding planes. The ore is always accompanied by organic material of some kind, by limonite and hematite staining in associated host rocks, by argillization and bleaching of sandstones and conglomerates, and by blue-green color alterations in the mudstones below the deposits. Mudstone is barren except where it occurs as thin partings or lenses within sandstones, or lies at contacts of mineralized sandstones or in the form of rounded pellets in the host rocks. The rich ore bodies are found along the edges of thicker sand channels, especially along meander curves, which are favorable sites for plant accumulation, and hence for the formation of uranium-vanadium deposits. } "Semi-cylindrical"

F6 < Sommer, Steve, and Mohammad, Hasan, 1985, Utah Geological and Mineral Survey: On-site investigation

3 misplotted
value at



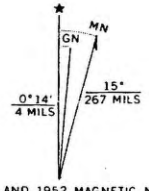
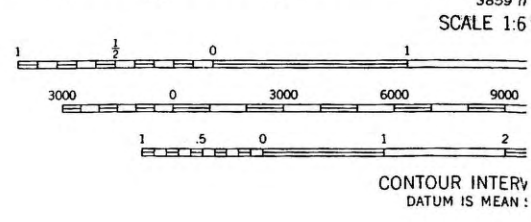
Mapped, edited, and published by the Geological Survey with cooperation by the Atomic Energy Commission

Control by USGS

Topography from aerial photographs by multiplex methods
Aerial photographs taken 1951-1952. Advance field check 1952

Polyconic projection. 1927 North American datum
10,000-foot grid based on Utah coordinate system, south zone
1000-meter Universal Transverse Mercator grid ticks, zone 12, shown in blue

Unchecked elevations are shown in brown



UTM GRID AND 1952 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

THIS MAP COMPLIES WITH NATIONAL
FOR SALE BY U. S. GEOLOGICAL SURVEY, DENVER,
A FOLDER DESCRIBING TOPOGRAPHIC MAPS

MT. Hillers Quadrangle

Scale 1:62500

(HALL MESA)
3859 III

Mt. Hillers Quadrangle
Garfield County, Utah

<u>Index Number</u>	<u>Deposit Name</u>	<u>Commodity</u>
1	Agate-Lucky Strike	Uranium, Vanadium
2	Black Mountain	Uranium, Vanadium
3	Blitz	Uranium, Vanadium
4	Brown Top	Uranium
5	Congress	Uranium, Vanadium
6	Del Monte Mines	Uranium, Vanadium
7	Eagle	Vanadium, Uranium
8	Ellsworth #1	Uranium, Vanadium
9	Dons	Uranium, Vanadium
10	Jim Dandy	Vanadium, Uranium
11	June Bell	Vanadium, Uranium
12	La Mar	Uranium, Vanadium
13	Minnie Pearl	Uranium, Vanadium Copper
14	Eagle #2	Uranium, Vanadium
15	Modock	Vanadium, Uranium
16	Lucky Strike 8-9	Uranium, Vanadium
17	Nancy #2	Uranium
18	Navajo #1	Vanadium, Uranium
19	Rats Nest	Uranium, Vanadium
20	Trachyte	Vanadium, Uranium
21	Va Lear	Vanadium, Uranium
22	Carbon	Uranium, Vanadium
23	Rose Ann	Uranium, Vanadium
24	Sylvia	Uranium, Vanadium
25	Tru Ann Group	Uranium, Vanadium
26	Woodruff Spring	Uranium, Vanadium
27	Woodruff Group	Uranium, Vanadium
28	Donald Duck #2	Uranium, Vanadium
29	Oil Seep #8	Uranium, Vanadium
30	Trachyte 30	Vanadium, Uranium
31	Yellow Cat	Vanadium, Uranium
32	Star Mine	Copper, Molybdenum Silver
33	Indian Spring Bench	Titanium, Zirconium, Thorium
34	Ferron Bench	Coal
35	Viola V.	Gold
36	Utah Dept. Highways Pit # 09054	Sand and Gravel
37	Utah Dept. Highways Pit # 09055	Sand and Gravel
38	Utah Dept. Highways Pit # 09056	Sand and Gravel
39	Maidenwater Gravel Deposit	Sand and Gravel
40	Utah Dept. Highways Pit # 09057	Sand and Gravel
41	Utah Dept. Highways Pit # 09058	Sand and Gravel
42	Utah Dept. Highways Pit # 09059	Sand and Gravel
43	Utah Dept. Highways Pit # 09060	Sand and Gravel
44	Yellow Nat Claims	Uranium, Copper

REPORTING FORM FOR CRIB MINERAL RESOURCES COMPUTER FILE

RECORD IDENTIFICATION:

Record No. B10 < _____ >
 Deposit No. B40 < 17-Mt. Hillers - 1 >
 File Link ID B50 < BLM >

U (circle U if form used for update and fill in labels G3 and G4)

(Enter G1, G2 if new form; G3, G4 if update)

USGS

REPORTER:

G1 < 7 8 0 6 > G2 < DOELLING > HELLMUT H. >
 Yr Mo Last name first initial

UPDATE: G3 < _____ > By: G4 < _____ >
 Yr Mo Last name first initial

NAME:

Deposit Name A10 < AGATE - LUCKY STRIKE >
 Synonym Name(s) A11 < AGATE GROUP >

LOCATION:

Mining District/Area/Subdist. A30 < Henry Mtns / South / Shootaring >
 Country A40 < U.S. > (U.S.) (enter code TWICE from list C)
 State A50 < 49 > (4,9) (enter code twice from list D if in US)
 County A60 < GARFIELD >
 Position from nearest prominent locality A82 < 5 miles west of Mt. ELLSWORTH >

GIVE 1 OR MORE OF THE 4 LOCATIONS PRESENTED BELOW:

UTM Northing A120 < 4 1 7 8 4 8 0 1 0 >	Latitude A70 < _____ > D D M M S S N/S
UTM Easting A130 < 5 2 6 4 0 0 1 0 >	Longitude A80 < _____ > D D D M M S S E/W
UTM Zone No. A110 < + 1 2 >	
State X Coord. A71 < _____ >	Township(s) A77 < 0 3 5 S >
State Y Coord. A72 < _____ >	Range(s) A78 < 0 1 1 E >
State Zone No. A73 < _____ >	Section(s) A79 < 1 1 >
Altitude A107 < 4550 Ft >	Meridian(s) A81 < SLB M >
Quad Scale A100 < 0 0 6 2 5 0 0 >	Land Classification A64 < 49 > (LIST P)
Quad No. or Name A91 < Mt. Hillers >	
Drainage Area (list A62 < 1 4 >	Colorado River Basin below the Green and San Juan Rivers and above "Lee Ferry" >
Physiographic Province (list K) A63 < 1 1 >	Henry Mountains Basin >
Location Comments A83 < UNSURVEYED >	

Reports Available L100< _____ >

Comments L110< _____ >

DESCRIPTION OF DEPOSIT

Deposit Type(s) (List F) C40< Replacement >

Deposit Form/Shape (List N) M10< Pod-like to Tabular >

Max Thickness M60< _____ > M61< (units) _____ > Size M15< Medium >

Depth to Top M20< 0 > M21< FE > Strike M70< N7deg E >

Depth to Bottom M30< 200+ > M31< FE > Dip M80< 2deg NW >

Max Length M40< 25 > M41< FE > Plunge M90< _____ >

Max Width M50< 10 > M51< H > Plunge dir. M100< _____ >

Property is: (Active) A21 (Inactive) A22 (Circle One)

Comments M110< Several pods on property >

DESCRIPTION OF WORKINGS

Workings are: (Surface) M120 (Underground) M130 (Both) M140 (Circle Appropriate Labels)

For Underground Workings: (units)

Depth Below Surface M160< _____ > M161< _____ >

Length of Workings M170< 2600+ > M171< FE >

For Open Workings (surface and underground): (units)

Overall Length of Mined Area M190< 1500 > M191< FE >

Overall Width of Mined Area M200< 500 > M201< FE >

Overall Area M210< _____ > M211< _____ >

Comments M220< _____ >

GENERAL REFERENCES

- 1) F1< Hunt, C.B. and others, 1953 Geology and Geography of the Henry Mountains region Utah: U.S. Geol Survey P. 228. >
- 2) F2< Doelling 1967 Uranium deposits of Garfield Co, Utah: Utah Geol & Min. Survey Sp. St. 22. >
- 3) F3< Doelling 1975 Geology and Mineral resources of Garfield Co Utah: Utah Geol & Min Survey Bull 107. >
- 4) F4< Brooke, G.L. and others 1951, Geological investigations of the Trachyte district, Henry Mountains, Utah: Usaec. BMO. 912, 7P. >

RESERVES AND POTENTIAL RESOURCES

(Record No. _____)

(Items 1-6 are for reporting combined ore, mixed commodity ore, and individual commodities.
If figures not available, indicate potential by placing SML, MED, or LGE in accuracy column.)

EH	(item)	(accuracy)	(amount)	(thousand units)	(yr. of est.)	(grade or use)
1)	E1< ORE U >	MED	E1A< >	E1B< >	E1C< 1965 >	E1D< >
2)	E2< ORE V >	MED	E2A< >	E2B< >	E2C< 1965 >	E2D< >
3)	E3< >	>	E3A< >	E3B< >	E3C< >	E3D< >
4)	E4< >	>	E4A< >	E4B< >	E4C< >	E4D< >
5)	E5< >	>	E5A< >	E5B< >	E5C< >	E5D< >
6)	E6< >	>	E6A< >	E6B< >	E6C< >	E6D< >
Source of Information		E7< UGMS files >				
Comments		E8< Small tonnages on mine walls, remainder in potential resources >				

RESERVES ONLY

HH	(item reported)	(accuracy)	(amount)	(thousand units)	(yr. of est.)	(grade or use)
1)	H1< >	>	H1A< >	H1B< >	H1C< >	H1D< >
2)	H2< >	>	H2A< >	H2B< >	H2C< >	H2D< >
3)	H3< >	>	H3A< >	H3B< >	H3C< >	H3D< >
4)	H4< >	>	H4A< >	H4B< >	H4C< >	H4D< >
5)	H5< >	>	H5A< >	H5B< >	H5C< >	H5D< >
6)	H6< >	>	H6A< >	H6B< >	H6C< >	H6D< >
Comments		H7< >				
Source of Information		H8< >				

POTENTIAL RESOURCES (exclusive of reserves)

JH	(item reported)	(accuracy)	(amount)	(thousand units)	(yr. of est.)	(grade or use)
1)	J1< >	>	J1A< >	J1B< >	J1C< >	J1D< >
2)	J2< >	>	J2A< >	J2B< >	J2C< >	J2D< >
3)	J3< >	>	J3A< >	J3B< >	J3C< >	J3D< >
4)	J4< >	>	J4A< >	J4B< >	J4C< >	J4D< >
5)	J5< >	>	J5A< >	J5B< >	J5C< >	J5D< >
6)	J6< >	>	J6A< >	J6B< >	J6C< >	J6D< >
Comments		J7< >				
Source of Information		J8< >				

No. _____

Quadrangle Mt. Hillers

Name Agate and Lucky Strike (Agate Group)

NE 21-35S-11E 4178480 m N. 526650 m E.
Section, Township & Range UTM

District Henry Mountains County Garfield

Commodity uranium, vanadium

Map Reference adit Precision 300' to 1000'

Elevation 4550' Type land holding Federal BLM

Type of deposit _____

Host Rock: Salt Wash Member, Morrison Formation Name _____

Lithology sandstone, mudstone Age Jurassic

Description of workings: adits 10-800' some stripping

Extent 5000' 1973 Status open 1973

Production U 63,241 lbs. V 56,614 lb. '73 Reserves U .25% 500 tons measured
25000 tons better inferred

Surface area disturbed _____

Strike & Dip of host _____

Strike & Dip of ore body N5-10°E 2-3°W

Strike & Dip of faults, joint systems, etc. _____

Exploration, type and dates _____

Remarks USBM #126 maps from Special Studies 22

Utah Geological and Mineral Survey visits, by whom and date.

AGATE (Cont)

DIMENSIONS AND DESCRIPTIONS OF ORE BODY

Type - Replacement, replacing of the country rock or other minerals by valuable minerals from a solution.

Mode of origin - Other

Shape - Podlike to tabular-flat, table-like or stratified ore body, relatively long in two dimensions and short in one dimension.

Controls - Lithology

Wall alteration and degree of wallrock alteration - Undetermined

Depth to ore zones - 5-200'+

Average length - 25'

Average width - 10'

Average thickness - 3'

STRUCTURE

Simple folding or tilting

MINERALOGY

Uranium-vanadium minerals are aphanitic to fine grain crystals

Carnotite

Roscoelite

MINING

Method - Gophering (Coyoting), room and pillar

Rock hardness and water conditions - soft non-plastic rocks, sandstones, limestones, little or no water

Class of rock masses - the rock mass shows a series of parallel planes of weakness such as the planes of stratification in a sedimentary rock or sheeting planes of an igneous rock. Such a rock mass is strongest in a direction parallel with such planes. Sandstones, limestones, shales, slate and sheeted igneous rocks are examples.

Support characteristics - the rock mass is self-supporting, needing timber only for chutes, raises, etc. Strip mining.

PRODUCTION

Shootering Creek

1957 - 250 tons ore, 7,380 lbs. uranium, 11,388 lbs. vanadium

1956 - 5,990 lbs. uranium, 9,681 lbs. vanadium

1955 - 382 tons ore, 12,291 lbs. uranium, 22,981 lbs. vanadium

1954 - 192 tons ore, 5,993 lbs. uranium, 12,564 lbs. vanadium

Klippel and Mangus (Lucky Strike 10)

1964 - 201 tons ore, 4,078 lbs. uranium, 1,602 lbs. vanadium

1965 - 106 tons ore, 939 lbs. uranium, 6,007 lbs. vanadium

AGATE (Cont 2)

MISCELLANEOUS

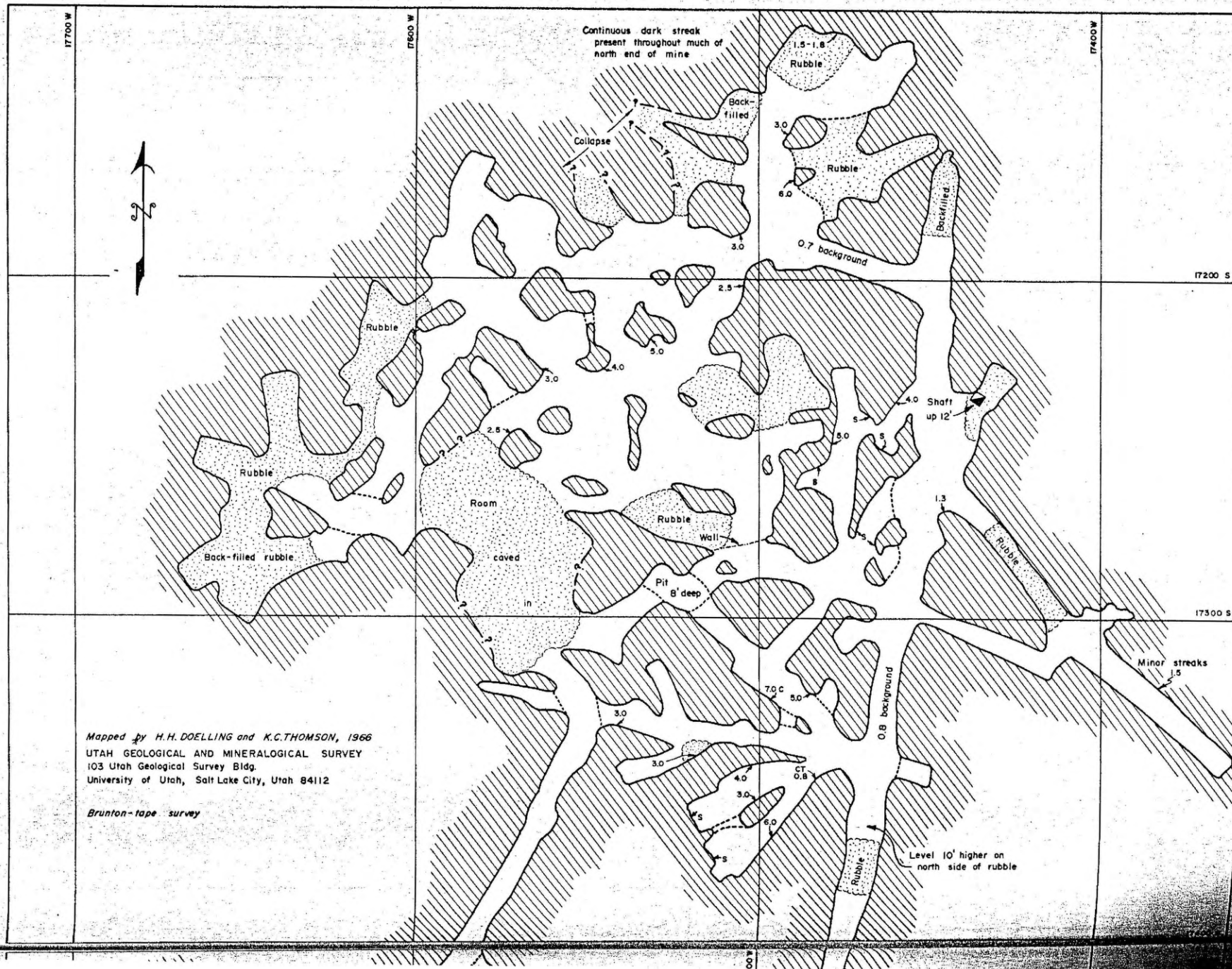
Book 55, p. 386 - 399

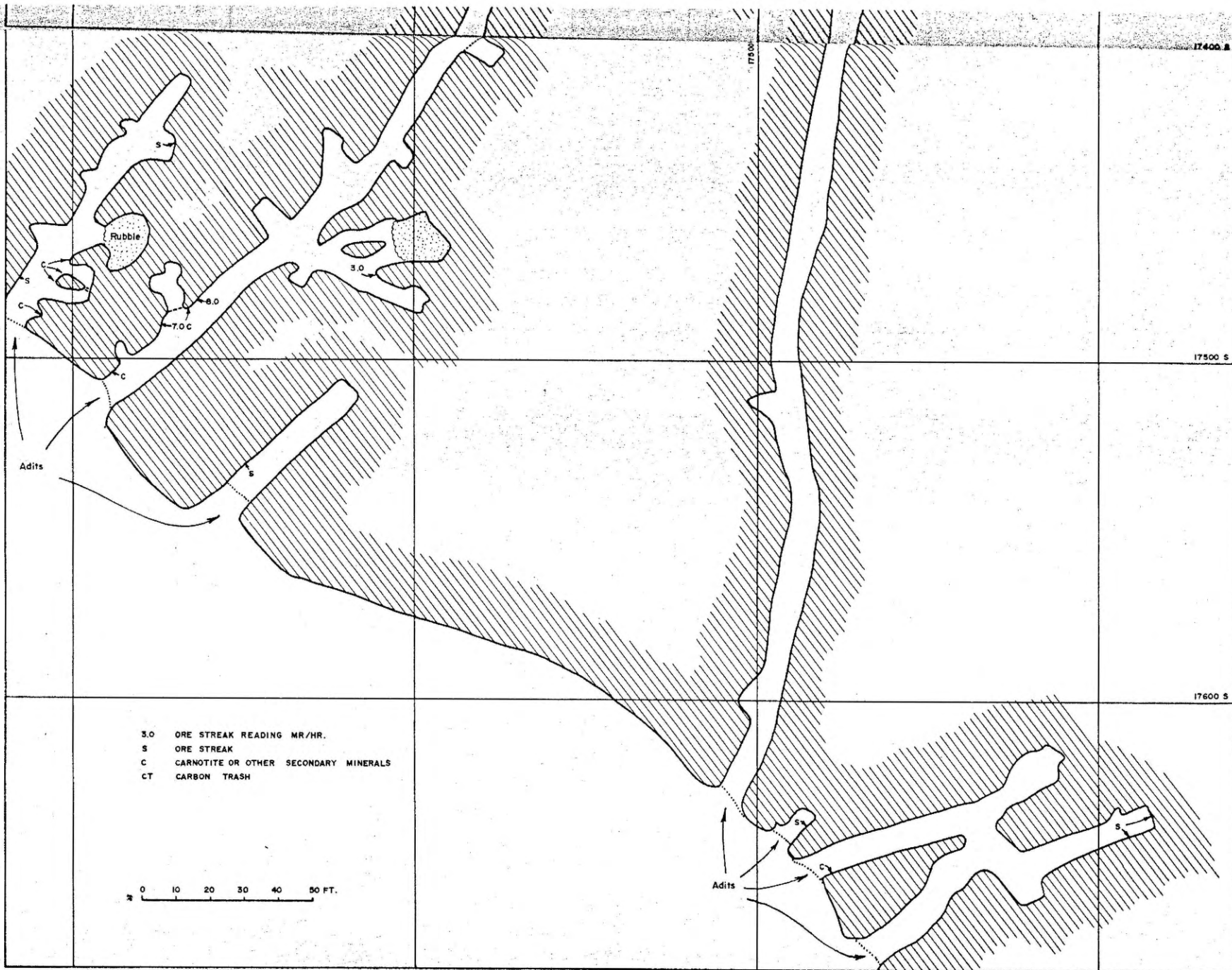
Productive Claims: Unsurveyed

Lucky Strike 1, & 10	20 acres
Agate #9, 2	20 acres
Deep Canyon #1	20 acres
Lone Eagle 2, 5	20 acres

Adjoining claims: Unsurveyed

Agate 1-11	20 acres
Carbon 1-4	20 acres
Deep Canyon 1-5	20 acres
Lone Eagle 3-6	20 acres
Moqui 1-10	20 acres
Lucky Strike 2-8	20 acres
Wild Bill 1-9	20 acres
Hidden D's 1-21	20 acres
Nellie Bleighs 1-15	20 acres
Oil Seeps 1-22	20 acres



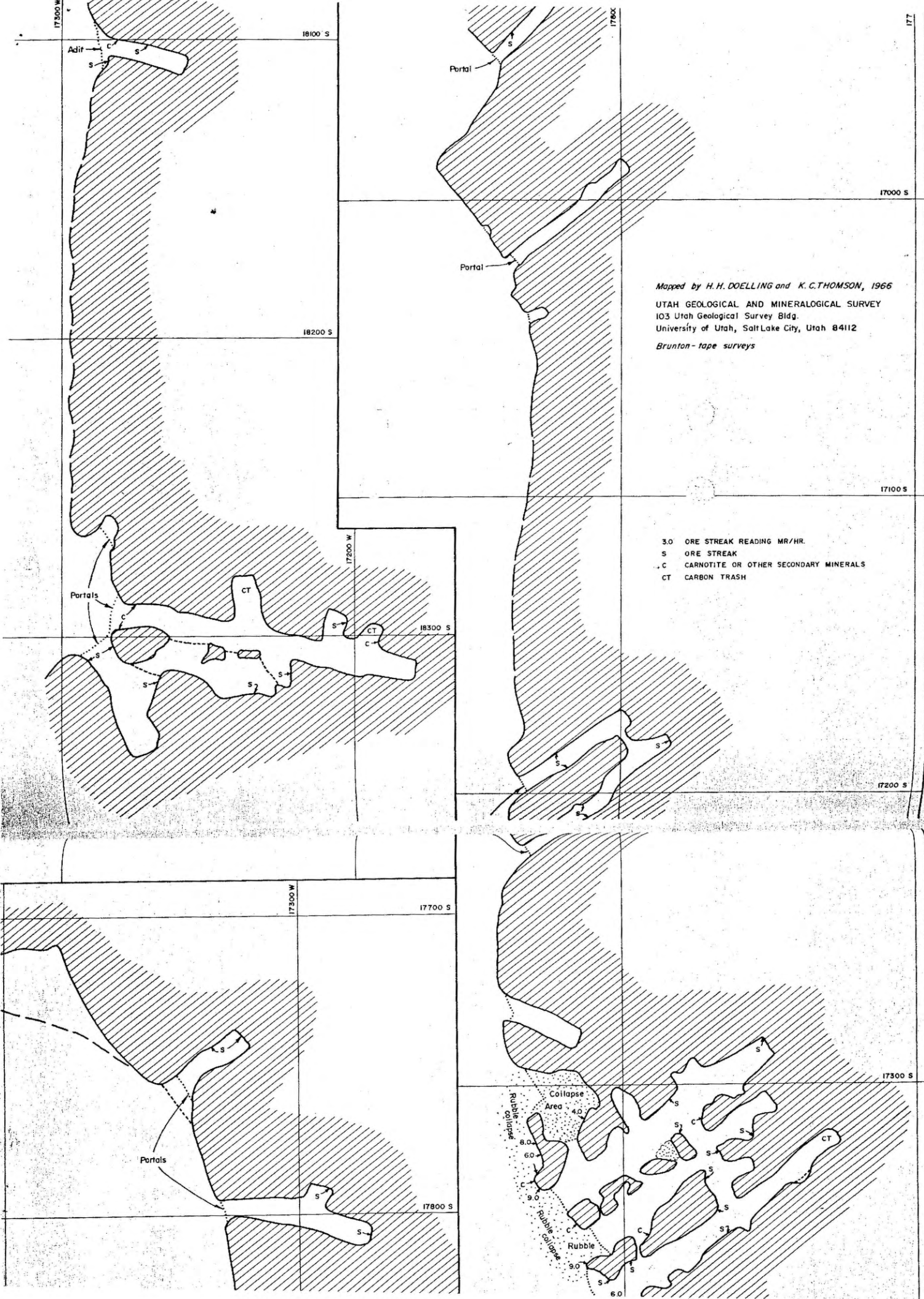


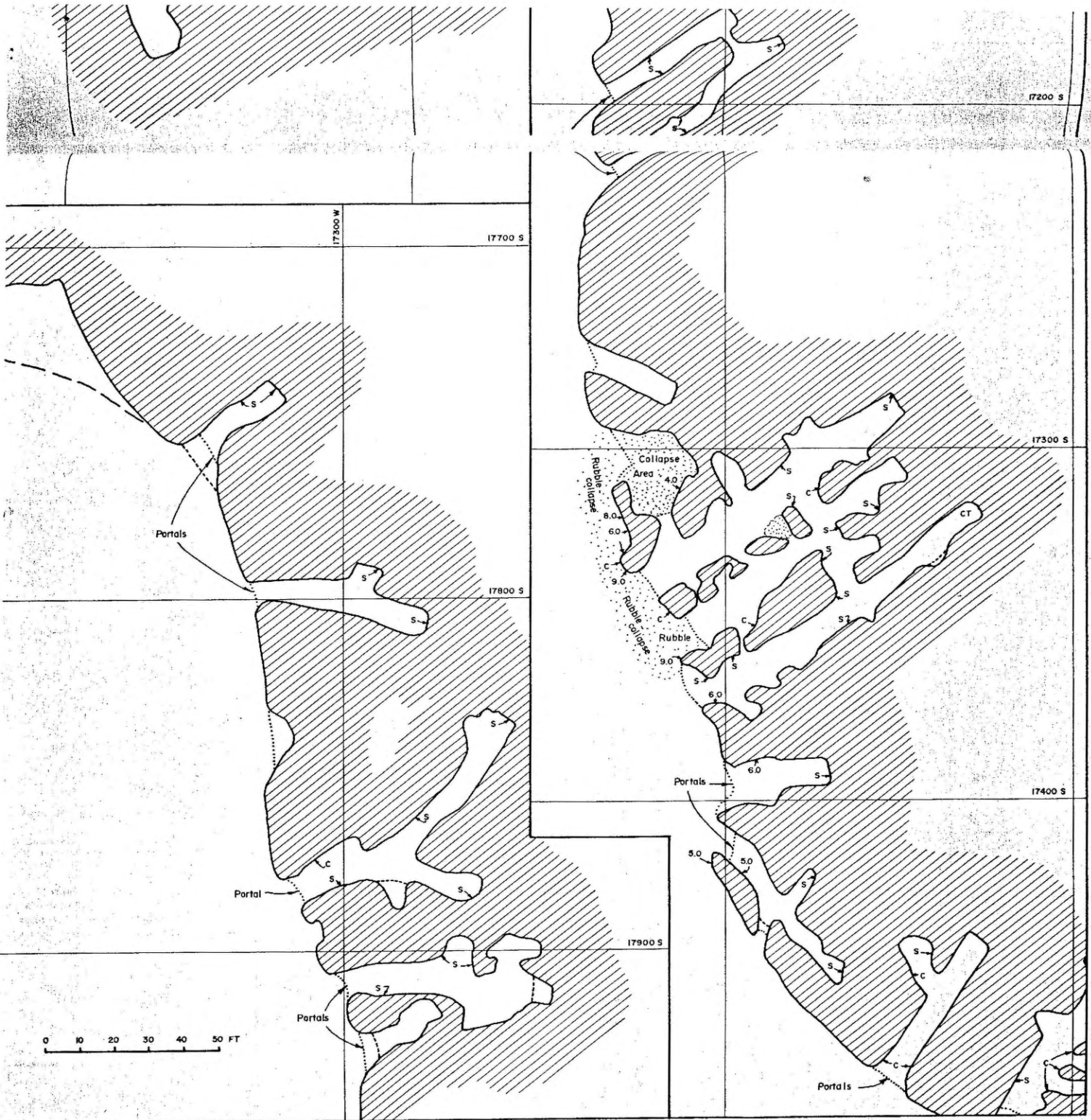
3.0 ORE STREAK READING MR/HR.
S ORE STREAK
C CARNOTITE OR OTHER SECONDARY MINERALS
CT CARBON TRASH

0 10 20 30 40 50 FT.

DRAFTED BY H. H. DOELLING

Mine Map X

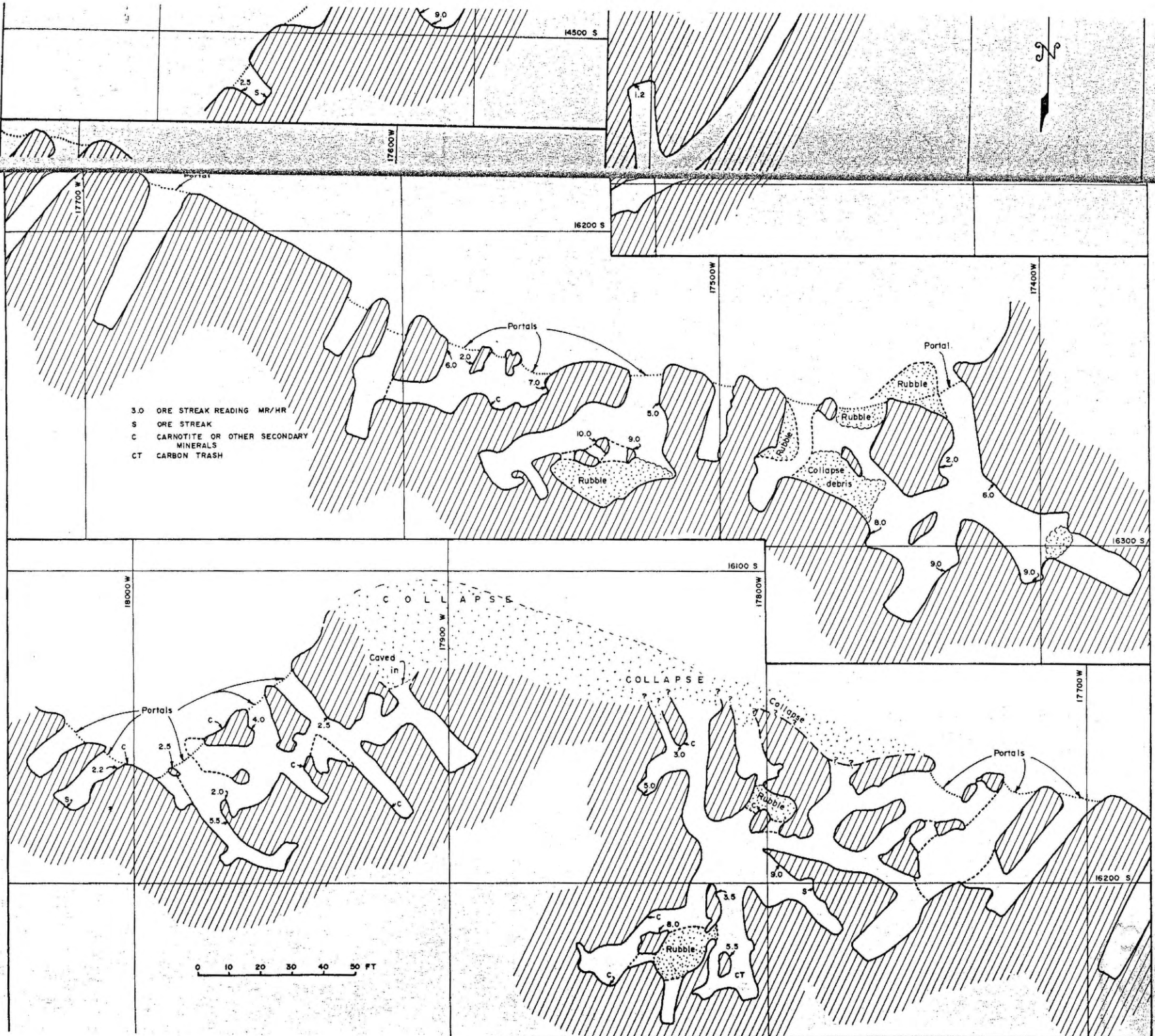
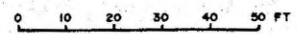




DRAFTED BY H. H. DOELLING



- 3.0 ORE STREAK READING MR/HR
- S ORE STREAK
- C CARNOTITE OR OTHER SECONDARY MINERALS
- CT CARBON TRASH



REPORTING FORM FOR CRIB MINERAL RESOURCES COMPUTER FILE

RECORD IDENTIFICATION:

Record No. B10 < [] >
 Deposit No. B40 < 17-Mt. Hillers - 14 >
 File Link ID B50 < BLM >

U (circle U if form used for update and fill in labels G3 and G4)

(Enter G1, G2 if new form; G3, G4 if update)

USGS

REPORTER:

G1 < 7, 8 | 0, 6 > G2 < Doelling, Hellmut H >
Yr Mo Last name first initial

UPDATE: G3 < [] | [] > By: G4 < [] | [] | [] >
Yr Mo Last name first initial

NAME:

Deposit Name A10 < Eagle #2 >
 Synonym Name(s) A11 < Lone Eagle >

LOCATION:

Mining District/Area/Subdist. A30 < Henry Mtns / South / Shooting >
 Country A40 < U.S. | U.S. > (enter code TWICE from list C)
 State A50 < 49 > | 4, 9 (enter code twice from list D if in US)
 County A60 < Garfield >
 Position from nearest prominent locality A82 < 5 Miles West of Mt. Ellsworth >

GIVE 1 OR MORE OF THE 4 LOCATIONS PRESENTED BELOW:

UTM Northing A120 < 4, 1, 7, 9, 1, 8, 0, ., 0 > UTM Easting A130 < 5, 2, 6, 2, 1, 0, ., 0 > UTM Zone No. A110 < 4, 1, 2 >	Latitude A70 < [] - [] - [] > <small>D D M M S S N/S</small> Longitude A80 < [] - [] - [] > <small>D D D M M S S E/W</small>
State X Coord. A71 < [] > State Y Coord. A72 < [] > State Zone No. A73 < [] >	Township(s) A77 < 0, 3, 5, S > Range(s) A78 < 0, 1, 1, E > Section(s) A79 < 1, 6 > Meridian(s) A81 < SLBM >
Altitude A107 < 4800 74 > Quad Scale A100 < 0, 0, 6, 2, 5, 0, 0 >	Land Classification A64 < 4, 9 > (LIST P)
Quad No. or Name A90 < Mt. Hillers > Drainage Area (list J) A62 < 1, 4 > Colorado River Basin below the Green and San Juan Rivers and above "Lee Ferry" >	
Physiographic Province (list K) A63 < 1, 1 > Henry Mountains Basin >	
Location Comments A83 < Section Subdivision: NW 1/4 SW 1/4 SE 1/4 of section 16. >	

Reports Available L100 < _____ >

Comments L110 < _____ >

DESCRIPTION OF DEPOSIT

Deposit Type(s) (List F) C40 < REPLACEMENT >

Deposit Form/Shape (List N) M10 < Pods >

Max Thickness M60 < 3 > M61 < (units) FT > Size M15 < Medium >

Depth to Top M20 < 0 > M21 < FT > Strike M70 < N5 deg W >

Depth to Bottom M30 < 300+ > M31 < FT > Dip M80 < 3 deg W >

Max Length M40 < _____ > M41 < _____ > Plunge M90 < _____ >

Max Width M50 < _____ > M51 < _____ > Plunge dir. M100 < _____ >

Property is: (Active) A21 (Inactive) A22 (Circle One)

Comments M110 < Average pod 25 SF FT. and 3-8 inches thick
contains very rich ore. >

DESCRIPTION OF WORKINGS

Workings are: (Surface) M120 (Underground) M130 (Both) M140 (Circle Appropriate Labels)

For Underground Workings: (units)

Depth Below Surface M160 < _____ > M161 < _____ >

Length of Workings M170 < 1200 > M171 < FT >

For Open Workings (surface and underground): (units)

Overall Length of Mined Area M190 < _____ > M191 < _____ >

Overall Width of Mined Area M200 < _____ > M201 < _____ >

Overall Area M210 < _____ > M211 < _____ >

Comments M220 < SEVERAL INTERCONNECTING WORKINGS
and many short adits >

GENERAL REFERENCES

- 1) F1 < Hunt, C.B. and others, 1953 Geology and Geography of the Henry Mountains region Utah: U.S. Geol. Survey P. 228. >
- 2) F2 < Doelling 1967 Uranium deposits of Garfield Co, Utah: Utah Geol. & Min. Survey Sp. St. 22 >
- 3) F3 < Doelling 1975 Geology and Mineral resources of Garfield Co Utah: Utah Geol. & Min. Survey Bull 107. >
- 4) F4 < Brooke, G.L. and others 1951, Geological investigations of the Trachyte district, Henry Mountains, Utah: Usaec. BMO-912, 7P. >

PRODUCTION (past or present)

(Record No. _____)

PROD YES NO SML MET LGE (circle appropriate labels)

ANNUAL PRODUCTION (ore and commodities)

DH	(item)	(accuracy)	(amount)	(thousand units)	(year)	(grade or use)	
1)	D1	< _ _ _ >	< _ _ _ >	D1A< _ _ _ >	D1B< _ _ _ >	D1C< _ _ _ >	D1D< _ _ _ >
2)	D2	< _ _ _ >	< _ _ _ >	D2A< _ _ _ >	D2B< _ _ _ >	D2C< _ _ _ >	D2D< _ _ _ >
3)	D3	< _ _ _ >	< _ _ _ >	D3A< _ _ _ >	D3B< _ _ _ >	D3C< _ _ _ >	D3D< _ _ _ >
4)	D4	< _ _ _ >	< _ _ _ >	D4A< _ _ _ >	D4B< _ _ _ >	D4C< _ _ _ >	D4D< _ _ _ >
5)	D5	< _ _ _ >	< _ _ _ >	D5A< _ _ _ >	D5B< _ _ _ >	D5C< _ _ _ >	D5D< _ _ _ >
6)	D6	< _ _ _ >	< _ _ _ >	D6A< _ _ _ >	D6B< _ _ _ >	D6C< _ _ _ >	D6D< _ _ _ >
7)	D7	< _ _ _ >	< _ _ _ >	D7A< _ _ _ >	D7B< _ _ _ >	D7C< _ _ _ >	D7D< _ _ _ >

CUMULATIVE PRODUCTION (Ore, Commodities, Concentrates, Overburden)

DH2	(item)	(accuracy)	(amount)	(thousand units)	(years)	(grade or use)	
8)	G7	< _ _ _ >	< _ _ _ >	G7A< _ _ _ >	G7B< _ _ _ >	G7C< _ _ _ >	G7D< _ _ _ >
9)	G8	< _ _ _ >	< _ _ _ >	G8A< _ _ _ >	G8B< _ _ _ >	G8C< _ _ _ >	G8D< _ _ _ >
10)	G9	< _ _ _ >	< _ _ _ >	G9A< _ _ _ >	G9B< _ _ _ >	G9C< _ _ _ >	G9D< _ _ _ >
11)	G10	< _ _ _ >	< _ _ _ >	G10A< _ _ _ >	G10B< _ _ _ >	G10C< _ _ _ >	G10D< _ _ _ >
12)	G11	< _ _ _ >	< _ _ _ >	G11A< _ _ _ >	G11B< _ _ _ >	G11C< _ _ _ >	G11D< _ _ _ >
13)	G12	< _ _ _ >	< _ _ _ >	G12A< _ _ _ >	G12B< _ _ _ >	G12C< _ _ _ >	G12D< _ _ _ >
14)	G13	< _ _ _ >	< _ _ _ >	G13A< _ _ _ >	G13B< _ _ _ >	G13C< _ _ _ >	G13D< _ _ _ >
15)	G14	< _ _ _ >	< _ _ _ >	G14A< _ _ _ >	G14B< _ _ _ >	G14C< _ _ _ >	G14D< _ _ _ >
16)	G15	< _ _ _ >	< _ _ _ >	G15A< _ _ _ >	G15B< _ _ _ >	G15C< _ _ _ >	G15D< _ _ _ >

ANNUAL PRODUCTION (overburden and concentrates)

DH4	(item)	(accuracy)	(amount)	(thousand units)	(year)	(grade or remarks)	
17)	P1	< _ _ _ >	< _ _ _ >	P1A< _ _ _ >	P1B< _ _ _ >	P1C< _ _ _ >	P1D< _ _ _ >
18)	P2	< _ _ _ >	< _ _ _ >	P2A< _ _ _ >	P2B< _ _ _ >	P2C< _ _ _ >	P2D< _ _ _ >
19)	P3	< _ _ _ >	< _ _ _ >	P3A< _ _ _ >	P3B< _ _ _ >	P3C< _ _ _ >	P3D< _ _ _ >
20)	P4	< _ _ _ >	< _ _ _ >	P4A< _ _ _ >	P4B< _ _ _ >	P4C< _ _ _ >	P4D< _ _ _ >
21)	P5	< _ _ _ >	< _ _ _ >	P5A< _ _ _ >	P5B< _ _ _ >	P5C< _ _ _ >	P5D< _ _ _ >
22)	P6	< _ _ _ >	< _ _ _ >	P6A< _ _ _ >	P6B< _ _ _ >	P6C< _ _ _ >	P6D< _ _ _ >
23)	P7	< _ _ _ >	< _ _ _ >	P7A< _ _ _ >	P7B< _ _ _ >	P7C< _ _ _ >	P7D< _ _ _ >

Source of Information

D9< USBM-MAS 132

Production Comments

D10<

No. _____ Quadrangle Mt. Hillers

Name Eagle Lone Eagle

SE 16-35S-11E 4179180 m N. 526590 m E.
Section, Township & Range UTM

District Henry Mountains County Garfield

Commodity uranium, vanadium'

Map Reference adit Precision 300' to 1000'

Elevation 4800' Type land holding Federal BLM

Type of deposit _____

Host Rock: Salt Wash Member, Morrison Formation Name _____

Lithology sandstone, mudstone Age Jurassic

Description of workings: adit 50-500' N50°E

Extent 1200' 1973 Status mostly open 1973

Production U 10,303lb. V 2845 lb. 1973 Reserves U .25% 200 tons measured
2000 tons indicated

Surface area disturbed _____

Strike & Dip of host _____

Strike & Dip of ore body N5°W 2-4°W

Strike & Dip of faults, joint systems, etc. _____

Exploration, type and dates _____

Remarks USBM #132 mine maps available

Utah Geological and Mineral Survey visits, by whom and date.

EAGLE (Cont)

DIMENSIONS AND DESCRIPTIONS OF ORE BODY

Type - Replacement, replacing of the country rock or other minerals by valuable minerals from a solution

Mode of origin - Other

Shape - Tabular-flat, Table-like, or stratified ore body, relatively long in two dimensions and short in one dimension, podlike

Controls - Lithology

Wall alteration and degree of wallrock alteration - Undetermined

Depth to ore zone - 100-300'

Average thickness - 3'

STRUCTURE

Simple folding or tilting

MINERALOGY

Uranium-vanadium minerals are aphanitic to fine grain crystals

Carnotite

Roscoelite

Hewettite

Bedded, shallow scours, discontinuous thin pods. Ore deposits are called "buttons", 3-8" thick, 25' square

MINING

Method - Gophering (Coyoting) room and pillar

Rock hardness and water conditions - soft non-plastic rocks, sandstones, limestones, little or no water

Class of rock masses - the rock mass shows a series of parallel planes of weakness such as the planes of stratification in a sedimentary rock or sheeting planes in an igneous rock. Such a rock mass is strongest in a direction parallel with such planes.

Sandstones, lime stones, shales, slate and sheeted igneous rocks are examples.

Support characteristics - the rock mass is self-supporting, needing timber only for chutes, raises, etc.

Exploratory drifting, room and pillar stopes

PRODUCTION

Shipper: Union Carbide Nuclear Company (Doellings IBM sheet)

Lone Eagle 2:

1965 - 95 tons ore, 272 lbs. uranium, 822 lbs. vanadium

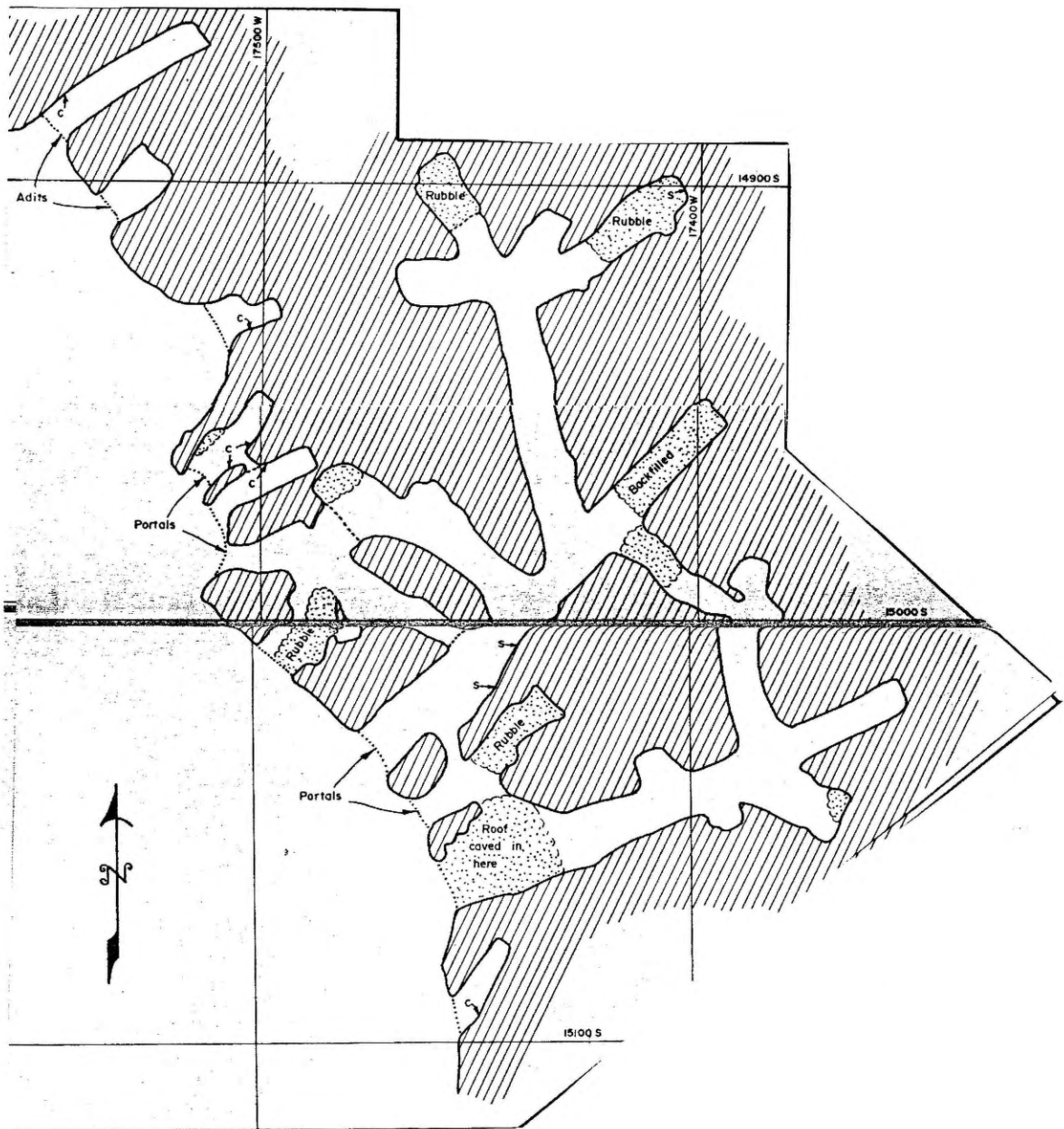
1964 - 4 tons ore, 142 lbs. uranium, 164 lbs. vanadium

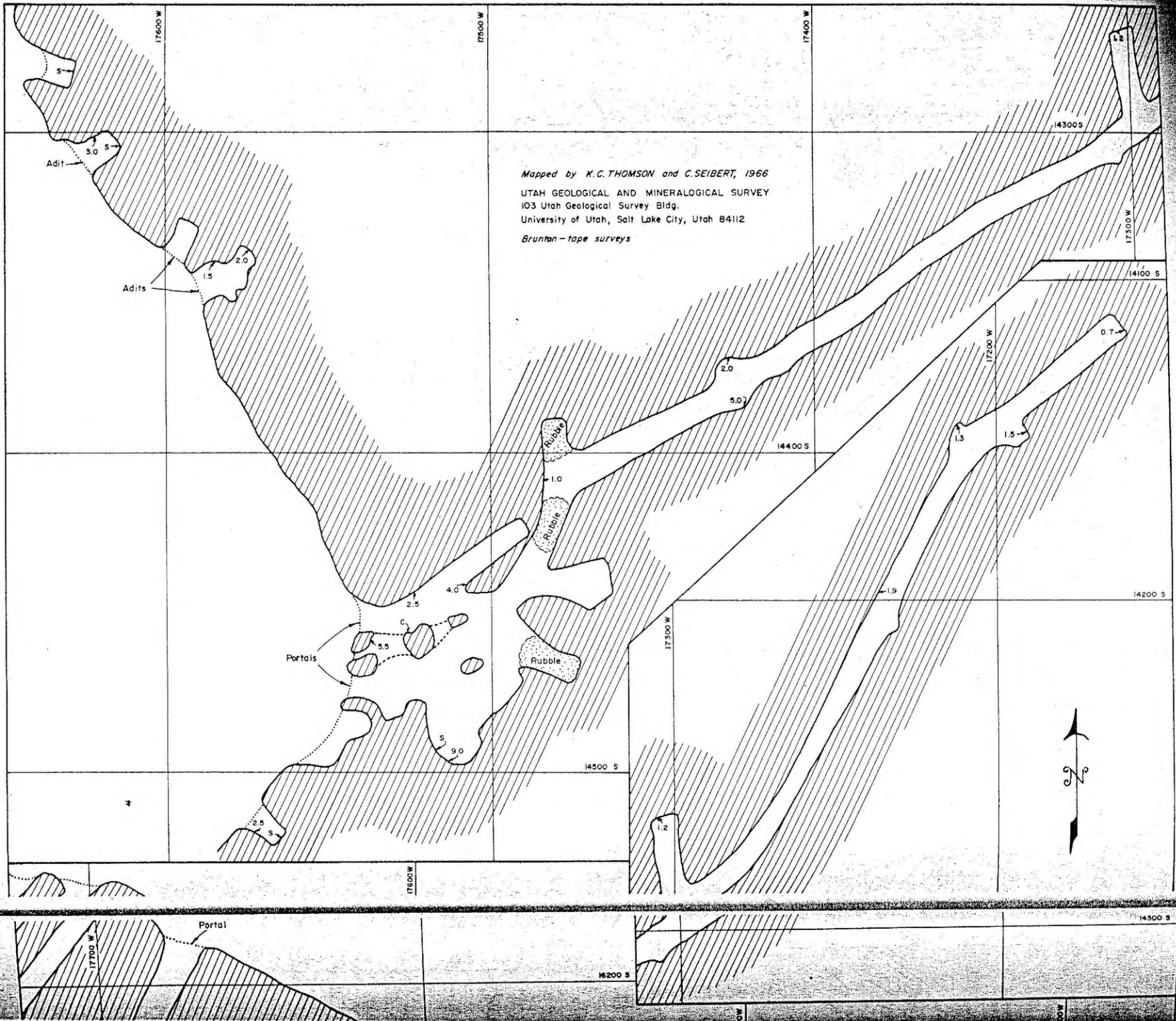
MISCELLANEOUS

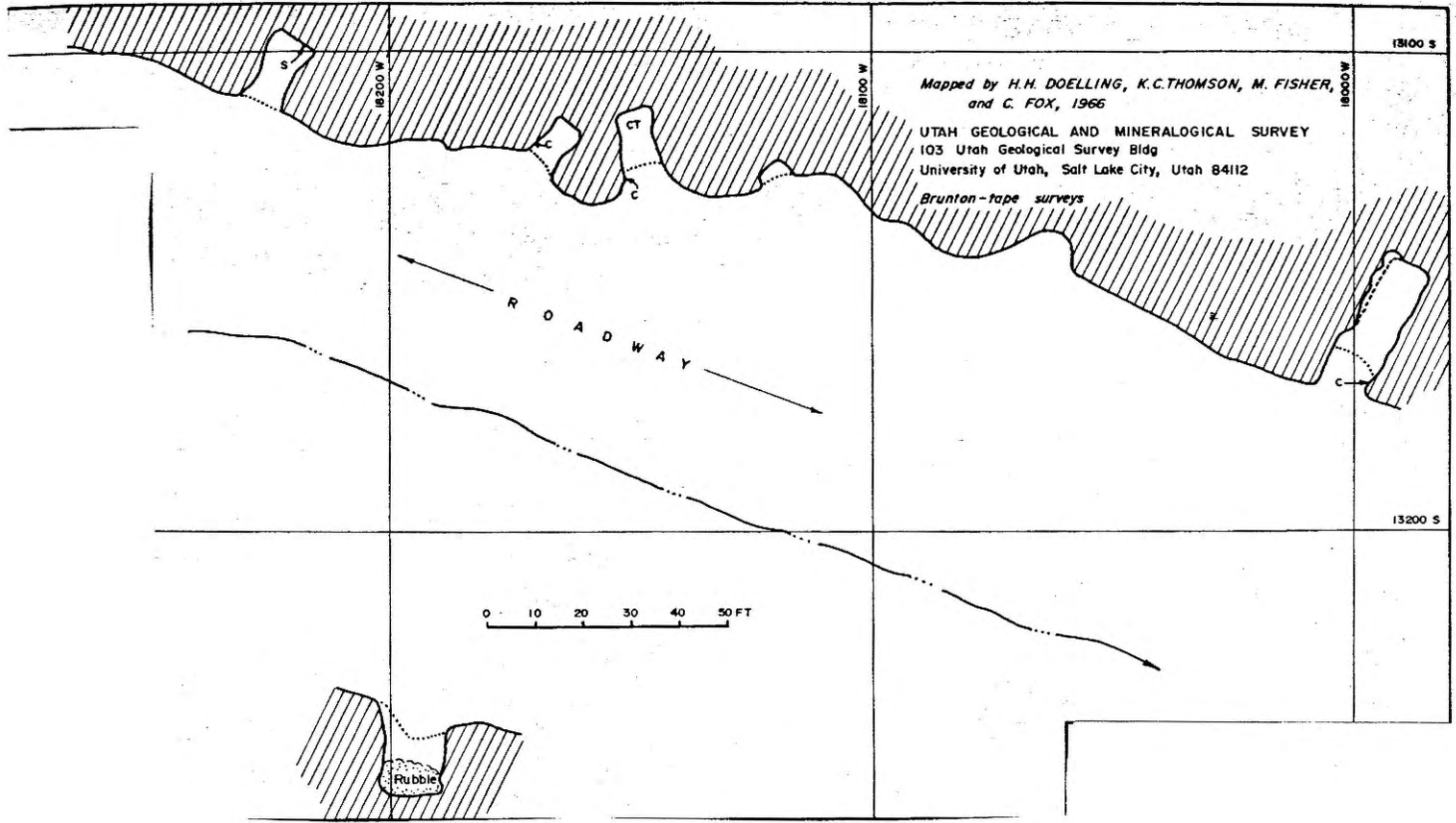
Lone Eagle 1, 3, 9 same as Eagle Mine (Discovered 1952) Last work August 1973 by Dal Peterson, Geological Investigation, design of leaching operation, heavy equipment work

REFERENCE

U. S. A. E. C. Report RME-77, 18 p, 1955
R. C. Gerhard (Little Rockies District)







REPORTING FORM FOR CRIB MINERAL RESOURCES COMPUTER FILE

RECORD IDENTIFICATION:

Record No. B10 < _____ >
 Deposit No. B40 < 17-Mt. Hillers - 16 >
 File Link ID B50 < BLM >

U (circle U if form used for update and fill in labels G3 and G4)

(Enter G1, G2 if new form; G3, G4 if update)

USGS

REPORTER:

G1 < 7, 8 > | < 10, 6 > | G2 < Doelling > | < Hellmut > | < H. >
 Yr Mo Last name first initial

UPDATE: G3 < _____ > | < _____ > | By: G4 < _____ > | < _____ > | < _____ >
 Yr Mo Last name first initial

NAME:

Deposit Name A10 < Lucky Strike 8-9 >
 Synonym Name(s) A11 < SHITAMARING MINE >

LOCATION:

Mining District/Area/Subdist. A30 < Henry Mtns / South / Shootaring >
 Country A40 < U, S > | < U, S > (enter code TWICE from list C)
 State A50 < 49 > | < 4, 9 > (enter code twice from list D if in US)
 County A60 < Garfield >
 Position from nearest prominent locality A82 < 5 Miles West of Mt. Ellsworth >

GIVE 1 OR MORE OF THE 4 LOCATIONS PRESENTED BELOW:

UTM Northing A120 < 4, 1, 7, 8, 7, 9, 0, ., 0 >
 UTM Easting A130 < 5, 2, 6, 1, 1, 0, ., 0 >
 UTM Zone No. A110 < 1, 1, 2 >

Latitude A70 < _____ - _____ - _____ >
 Longitude A80 < _____ - _____ - _____ >
D D M M S S N/S
D D D M M S S E/W

State X Coord. A71 < _____ >
 State Y Coord. A72 < _____ >
 State Zone No. A73 < _____ >

Township(s) A77 < 0, 3, 5, S > | < 0, 3, 5, S >
 Range(s) A78 < 0, 1, 1, E > | < 0, 1, 1, E >
 Section(s) A79 < 1, 6 > | < _____ > | < _____ >
 Meridian(s) A81 < SLRM >

Altitude A107 < 4540 ft >
 Quad Scale A100 < 10, 0, 6, 2, 5, 0, 0 >

Land Classification A64 < 4, 9 > (LIST P)

Quad No. or Name A90 < Mt. Hillers >

Drainage Area (list Colorado River Basin below the Green and A62 < 1, 4 > | San Juan Rivers and above "Lee Ferry" >

Physiographic Province (list K) A63 < 1, 1 > | Henry Mtns. Basin >

Location Comments A83 < Section Subdivision: SE 1/4 SE 1/4 SW 1/4 of sec. 16 >

COMMODITY INFORMATION

Commodities Present C10 < U | | | | | V | | | | | >
Commodity Specialist Information C20 < | | | | | | | | | | | | | | | | | >
Significance MAJOR < U | | | | | V | | | | | > MINOR < | | | | | | | | | | | | | | | >
COPROD < | | | | | | | | | | | | | | | > POTEN < | | | | | | | | | | | | | | | >
BYPROD < | | | | | | | | | | | | | | | > OCCUR < | | | | | | | | | | | | | | | >
Ore Minerals, rocks, etc. C30 < Carnotite, Roscoelite, CORVUSITE >
Commodity Subtypes or Use Categories C41 < | | | | | | | | | | | | | | | >
Commodity Comments C50 < | | | | | | | | | | | | | | | >

ANALYTICAL DATA

Reference C44 < | | | | | | | | | | | | | | | >
BTU's BTU < | | | | | | | | | | | | | | | > Volatiles C45 < | | | | | | | | | | | | | % >
Sulfur SUL < | | | | | | | | | | | | | | | % > Moisture C46 < | | | | | | | | | | | | | % >
Ash ASH < | | | | | | | | | | | | | | | % > Thickness of Coal C47 < | | | | | | | | | | | | | | > (FT or M)
Fixed Carbon CARB < | | | | | | | | | | | | | | | % >
Analytical Data (General) C43 < | | | | | | | | | | | | | | | >

MINERAL ECONOMICS FACTORS

Exploration M\$ C42A < | | | | | | | | | | | | | | | > Mill M\$ C42D < | | | | | | | | | | | | | | >
Development M\$ C42B < | | | | | | | | | | | | | | | > Total Investments M\$ C42E < | | | | | | | | | | | | | | >
Expansion M\$ C42C < | | | | | | | | | | | | | | | > Mill Capacity Per Yr C42F < | | | | | | | | | | | | | | > thous units C42G < | | | | | | | | | | | | | | > yr appl
Economic Comments C42 < | | | | | | | | | | | | | | | >

EXPLORATION AND DEVELOPMENT

Status of Exploration or Development A20 < 4 > (code from list B)
Year of Discovery L10 < | | | | | | | | | | | | | | | > By Whom L20 < | | | | | | | | | | | | | | | >
Nature of Discovery L30 < B > (List) Present or Last Owner A12 < PLATEAU RESOURCES >
Year of First Production L40 < | | | | | | | | | | | | | | | > Present or Last Operator A13 < PLATEAU RESOURCES >
Work Done by USGS (earliest to present)
Year Type of work (List M) Geologist and Results
1) L41 < 1, 9, 5, 9 > , REICION , Johnson, Bull. 1087-C >
2) L42 < | | | | | | | | | | | | | | | >
3) L43 < | | | | | | | | | | | | | | | >
Work Done by Other Organizations (earliest to present)
Year Type of work (List M) Organization and Results
1) L50 < 1, 9, 6, 7 > , MINEMAP , UGMIS - Sp. St. 22 >
2) L60 < | | | | | | | | | | | | | | | >
3) L70 < | | | | | | | | | | | | | | | >

Reports Available L100 < _____ >

Comments L110 < _____ >

DESCRIPTION OF DEPOSIT

Deposit Type(s) (List F) C40 < REPLACEMENT >

Deposit Form/Shape (List N) M10 < Podlike to LENTICULAR >

Max Thickness M60 < 6 > M61 < (units) FE. > Size M15 < MEDIUM >

Depth to Top M20 < 0 > M21 < FE. > Strike M70 < N5 deg E >

Depth to Bottom M30 < 300+ > M31 < FE. > Dip M80 < 3 deg W >

Max Length M40 < _____ > M41 < _____ > Plunge M90 < _____ >

Max Width M50 < _____ > M51 < _____ > Plunge dir. M100 < _____ >

Property is: (Active) A21 (Inactive) A22 (Circle One)

Comments M110 < _____ >

DESCRIPTION OF WORKINGS

Workings are: (Surface) M120 (Underground) M130 (Both) M140 (Circle Appropriate Labels)

For Underground Workings: (units)

Depth Below Surface M160 < _____ > M161 < _____ >

Length of Workings M170 < 1800 > M171 < FE. >

For Open Workings (surface and underground): (units)

Overall Length of Mined Area M190 < _____ > M191 < _____ >

Overall Width of Mined Area M200 < _____ > M201 < _____ >

Overall Area M210 < _____ > M211 < _____ >

Comments M220 < short adits and interconnected workings >

GENERAL REFERENCES

- 1) F1 < Hunt, C.B. and others, 1953 Geology and Geography of the Henry Mountains region Utah: U.S. Geol. Survey, P. 228. >
- 2) F2 < Doelling 1967 Uranium deposits of Garfield Co, Utah: Utah Geol. & Min. Survey Sp. St. 22. >
- 3) F3 < Doelling 1975 Geology and Mineral resources of Garfield Co Utah: Utah Geol. & Min. Survey Bull 107. >
- 4) F4 < Brooke, G.L. and others 1951, Geological investigations of the Trachyte district, Henry Mountains, Utah: Isaac. BMO. 912, 7P. >

PRODUCTION (past or present)

(Record No.)

PROD YES NO SML MED LGE (circle appropriate labels)

ANNUAL PRODUCTION (ore and commodities)

DH	(item)	(accuracy)	(amount)	(thousand units)	(year)	(grade or use)				
1)	D1	< >	D1A	< >	D1B	< >	D1C	< >	D1D	< >
2)	D2	< >	D2A	< >	D2B	< >	D2C	< >	D2D	< >
3)	D3	< >	D3A	< >	D3B	< >	D3C	< >	D3D	< >
4)	D4	< >	D4A	< >	D4B	< >	D4C	< >	D4D	< >
5)	D5	< >	D5A	< >	D5B	< >	D5C	< >	D5D	< >
6)	D6	< >	D6A	< >	D6B	< >	D6C	< >	D6D	< >
7)	D7	< >	D7A	< >	D7B	< >	D7C	< >	D7D	< >

CUMULATIVE PRODUCTION (Ore, Commodities, Concentrates, Overburden)

DH2	(item)	(accuracy)	(amount)	(thousand units)	(years)	(grade or use)				
8)	G7	<u>U</u> <u>K.S.T</u>	G7A	<u>18.6</u>	G7B	<u>LB</u>	G7C	<u>Through 1973</u>	G7D	<u>H₂O₈ record incomplete</u>
9)	G8	<u>V</u> <u>K.S.T</u>	G8A	<u>8.7</u>	G8B	<u>LB</u>	G8C	<u>Through 1973</u>	G8D	<u>V₂O₅ record incomplete</u>
10)	G9	< >	G9A	< >	G9B	< >	G9C	< >	G9D	< >
11)	G10	< >	G10A	< >	G10B	< >	G10C	< >	G10D	< >
12)	G11	< >	G11A	< >	G11B	< >	G11C	< >	G11D	< >
13)	G12	< >	G12A	< >	G12B	< >	G12C	< >	G12D	< >
14)	G13	< >	G13A	< >	G13B	< >	G13C	< >	G13D	< >
15)	G14	< >	G14A	< >	G14B	< >	G14C	< >	G14D	< >
16)	G15	< >	G15A	< >	G15B	< >	G15C	< >	G15D	< >

ANNUAL PRODUCTION (overburden and concentrates)

DH4	(item)	(accuracy)	(amount)	(thousand units)	(year)	(grade or remarks)				
17)	P1	< >	P1A	< >	P1B	< >	P1C	< >	P1D	< >
18)	P2	< >	P2A	< >	P2B	< >	P2C	< >	P2D	< >
19)	P3	< >	P3A	< >	P3B	< >	P3C	< >	P3D	< >
20)	P4	< >	P4A	< >	P4B	< >	P4C	< >	P4D	< >
21)	P5	< >	P5A	< >	P5B	< >	P5C	< >	P5D	< >
22)	P6	< >	P6A	< >	P6B	< >	P6C	< >	P6D	< >
23)	P7	< >	P7A	< >	P7B	< >	P7C	< >	P7D	< >

Source of Information

D9 < USBM-MAS 133 >

Production Comments

D10 < _____ >

RESERVES AND POTENTIAL RESOURCES

(Record No. _____)

(Items 1-6 are for reporting combined ore, mixed commodity ore, and individual commodities.
If figures not available, indicate potential by placing SML, MED, or LGE in accuracy column.)

EH	(item)	(accuracy)	(amount)	(thousand units)	(yr. of est.)	(grade or use)
1)	E1< _____ >	< >	E1A< _____ >	E1B< _____ >	E1C< _____ >	E1D< _____ >
2)	E2< _____ >	< >	E2A< _____ >	E2B< _____ >	E2C< _____ >	E2D< _____ >
3)	E3< _____ >	< >	E3A< _____ >	E3B< _____ >	E3C< _____ >	E3D< _____ >
4)	E4< _____ >	< >	E4A< _____ >	E4B< _____ >	E4C< _____ >	E4D< _____ >
5)	E5< _____ >	< >	E5A< _____ >	E5B< _____ >	E5C< _____ >	E5D< _____ >
6)	E6< _____ >	< >	E6A< _____ >	E6B< _____ >	E6C< _____ >	E6D< _____ >
Source of Information		ET< _____ >				
Comments		ER< _____ >				

RESERVES ONLY

HI	(item reported)	(accuracy)	(amount)	(thousand units)	(yr. of est.)	(grade or use)
1)	HI1 < ORE H _____ >	< EST >	H1A < 0.5 _____ >	H1B < ST _____ >	H1C < 1973 _____ >	H1D < 0.25 percent U ₃ O ₈ measured _____ >
2)	HI2 < ORE H _____ >	< EST >	H2A < 5 _____ >	H2B < ST _____ >	H2C < 1973 _____ >	H2D < 0.25 percent U ₃ O ₈ indicated _____ >
3)	HI3 < _____ >	< >	H3A < _____ >	H3B < _____ >	H3C < _____ >	H3D < _____ >
4)	HI4 < _____ >	< >	H4A < _____ >	H4B < _____ >	H4C < _____ >	H4D < _____ >
5)	HI5 < _____ >	< >	H5A < _____ >	H5B < _____ >	H5C < _____ >	H5D < _____ >
6)	HI6 < _____ >	< >	H6A < _____ >	H6B < _____ >	H6C < _____ >	H6D < _____ >
Comments		HI < ORE contains vanadium as well _____ >				
Source of Information		IH8 < USBM-MAS 133 _____ >				

POTENTIAL RESOURCES (exclusive of reserves)

JH	(item reported)	(accuracy)	(amount)	(thousand units)	(yr. of est.)	(grade or use)
1)	J1< _____ >	< >	J1A< _____ >	J1B< _____ >	J1C< _____ >	J1D< _____ >
2)	J2< _____ >	< >	J2A< _____ >	J2B< _____ >	J2C< _____ >	J2D< _____ >
3)	J3< _____ >	< >	J3A< _____ >	J3B< _____ >	J3C< _____ >	J3D< _____ >
4)	J4< _____ >	< >	J4A< _____ >	J4B< _____ >	J4C< _____ >	J4D< _____ >
5)	J5< _____ >	< >	J5A< _____ >	J5B< _____ >	J5C< _____ >	J5D< _____ >
6)	J6< _____ >	< >	J6A< _____ >	J6B< _____ >	J6C< _____ >	J6D< _____ >
Comments		JT < Good potential for additional ore _____ >				
Source of Information		JH8 < This review _____ >				

No. _____ Quadrangle Mt. Hillers

Name Lucky Strike 8-9

SWSE 16-35S-11E, NW 21-35S-11E 4178790 m N. 526110 m E.
Section, Township & Range UTM

District Henry Mountains County Garfield

Commodity uranium, vanadium

Map Reference _____ adit _____ Precision 300' to 1000'

Elevation 4540' Type land holding State lease and Federal BLM

Type of deposit _____

Host Rock: Salt Wash Member, Morrison Formation Name _____

Lithology sandstone, mudstone Age Jurassic

Description of workings: adits 50-200'

Extent 1800' 1973 Status mostly open 1973

Production U 18,647 lbs. 1973 Reserves U .25% 500 tons measured
5000 tons indicated

Surface area disturbed _____

Strike & Dip of host _____

Strike & Dip of ore body N5°E 2-4°W

Strike & Dip of faults, joint systems, etc. _____

Exploration, type and dates _____

Remarks USBM #133 maps available

Utah Geological and Mineral Survey visits, by whom and date.

LUCKY STRIKE 8-9 (Cont)

DIMENSIONS AND DESCRIPTIONS OF ORE BODY

Type - Replacement, replacing of the country rock or other minerals by valuable minerals from a solution.

Mode of origin - Other

Shape - Tabular-flat, table-like, or stratified ore body, relatively long in two dimensions and short in one dimension, podlike

Controls - Lithology

Wall alteration and degree of wallrock alteration - Undetermined

Depth to ore zone - 50'-300'

Average thickness - 3'

STRUCTURE

Simple folding or tilting

MINERALOGY

Uranium-vanadium minerals are aphanitic to fine grain crystals

Carnotite

Roscoelite

High vanadium

Low lime

Bedded carnotite in shallow scours

MINING

Method - Gophering (Coyoting) room and pillar

Rock hardness and water conditions - Soft non-plastic rocks, sandstones, limestones, little or no water

Class of rock masses - the rock mass shows a series of parallel planes of weakness such as the planes of stratification in a sedimentary rock or sheeting planes in an igneous rock. Such a rock mass is strongest in a direction parallel with such planes. Sandstones, lime stones, shales, slate and sheeted igneous rocks are examples.

Support characteristics - the rock mass is self-supporting, needing timber only for chutes, raises, etc.

Leaching in ponds being set up 2-2-74.

PRODUCTION

Agate #1 Shipped by Harold Ekker

1965 - 12 tons ore, 202 lbs. uranium, 242 lbs. vanadium

1964 - 13 tons ore, 135 lbs. uranium, 404 lbs. vanadium

Union Carbide shipper: Agate #2

1965 - 132 tons ore, 1,975 lbs. uranium, 4,308 lbs. vanadium

1964 - 29 tons ore, 470 lbs. uranium, 1,162 lbs. vanadium

LUCKY STRIKE 8-9 (Cont 2)

PRODUCTION

Agate #9

1965 - 85 tons ore

1964 - 7 tons ore

Agate #4

1965 20 tons ore, 107 lbs. uranium, 311 lbs. vanadium

Agate #8

1965 - 8 tons ore, 46 lbs. uranium, 205 lbs. vanadium

Shipper : Jesse Ekker

Lucky Strike #9

1965 - 35 tons ore, 368 lbs. uranium, 697 lbs. vanadium

1964 - 76 tons ore, 1,024 lbs. uranium, 1,408 lbs. vanadium

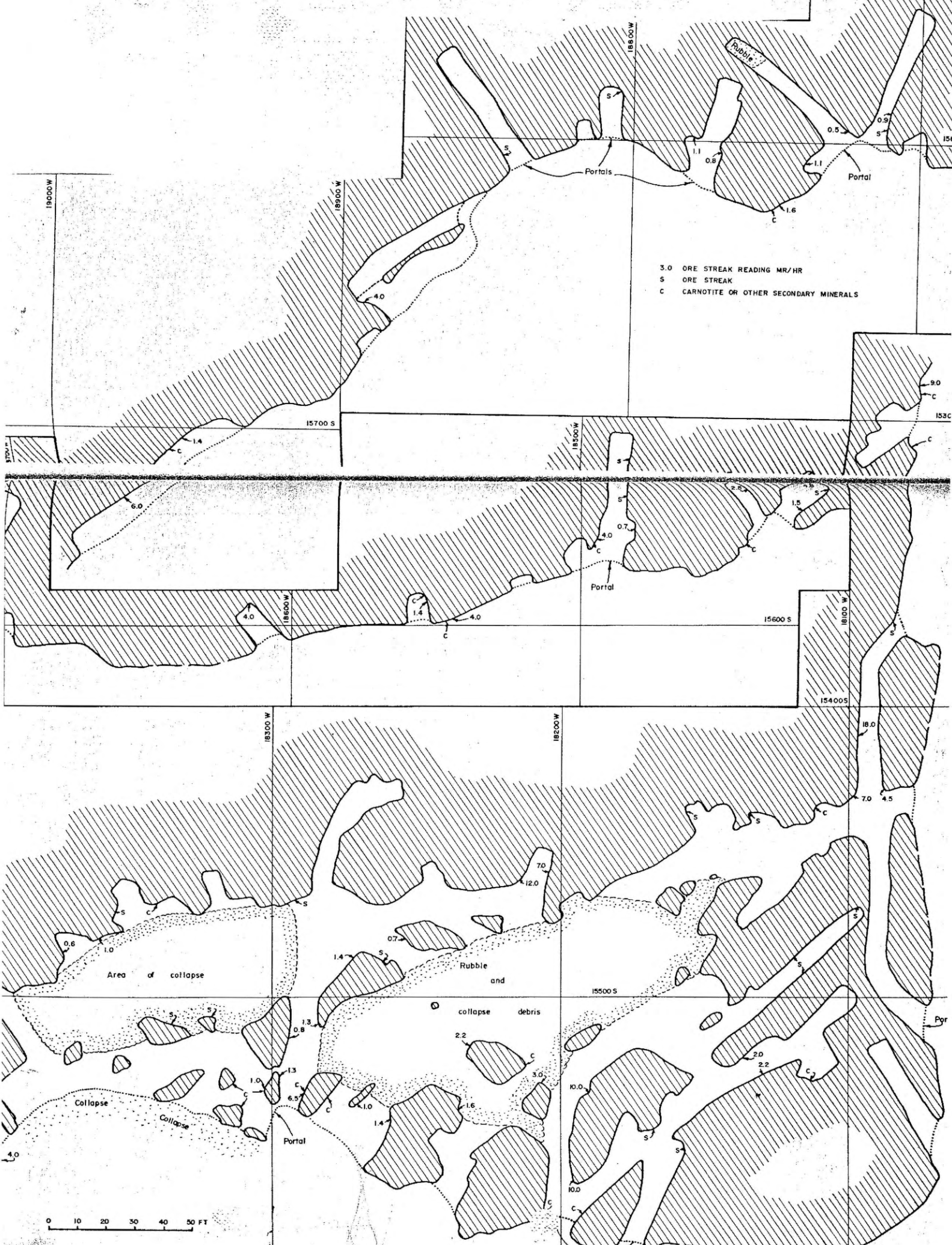
MISCELLANEOUS

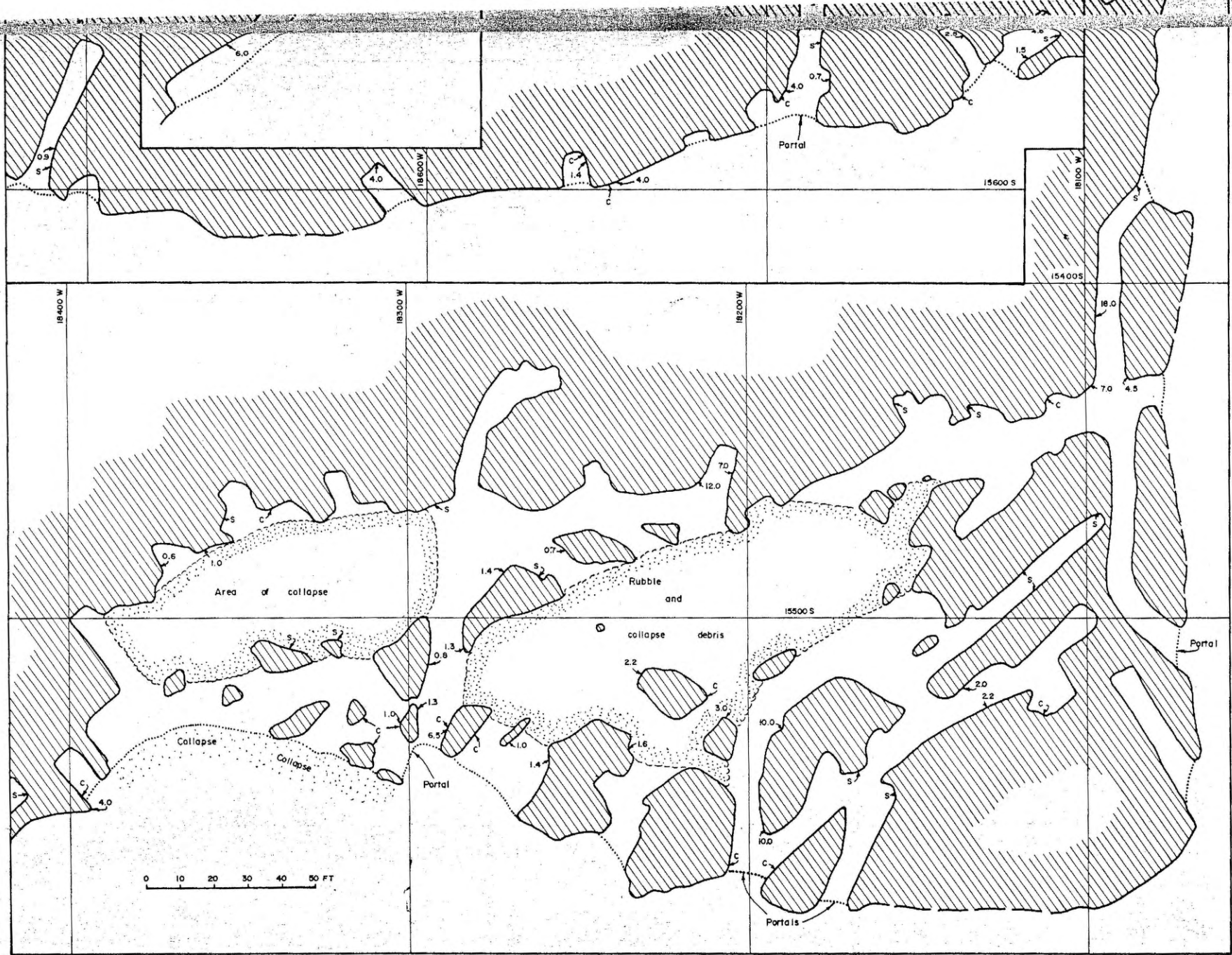
Lucky Strike - Agate Claims

Agate claims #1-6 In Hansen Creek

Book 91, p. 380

Misc. #14, p. 328-342





DRAFTED BY H. H. DOELLING

Mine Map U

REPORTING FOR CRIB MINERAL RESOURCES COMPLETION FILE

RECORD IDENTIFICATION:

Record No. B10 < >
Deposit No. B40 < 17-Mt. Hillers-22 >
File Link ID B50 < BLM >

U (circle U if form used for update and fill in labels G3 and G4)

(Enter G1, G2 if new form; G3, G4 if update)

REPORTER:

G1 < 7, 6 | 10, 6 > G2 < Doelling > Hellmrt H. >
Yr Mo Last name first initial

USGS

UPDATE: G3 < > By: G4 < >
Yr Mo Last name first initial

NAME:

Deposit Name A10 < Carbon >
Synonym Name(s) A11 < >

LOCATION:

Mining District/Area/Subdist. A30 < Henry Mtns/South/Shooting >
Country A40 < U.S. | U.S. > (enter code TWICE from list C)
State A50 < 49 > | 4, 9 | (enter code twice from list D if in US)
County A60 < Garfield >
Position from nearest prominent locality A82 < 5 miles west of Mt. Ellsworth >

GIVE 1 OR MORE OF THE 4 LOCATIONS PRESENTED BELOW:

UTM Northing A120 < 4, 1, 8, 0, 1, 0, 0, ., 0 > Latitude A70 < >
UTM Easting A130 < 5, 2, 7, 1, 2, 0, ., 0 > Longitude A80 < >
UTM Zone No. A110 < 1, 1, 2 >
State X Coord. A71 < > Township(s) A77 < 0, 3, 5, 5 >
State Y Coord. A72 < > Range(s) A78 < 0, 1, 1, E >
State Zone No. A73 < > Section(s) A79 < 1, 5 >
Altitude A107 < 4700 ft. > Meridian(s) A81 < SLBM >
Quad Scale A100 < 0, 1, 0, 6, 2, 5, 0, 0 > Land Classification A64 < 4, 9 > (LIST P)
Quad No. or Name A90 < Mt. Hillers >
Drainage Area (list J) A62 < 1, 4 > Colorado River Basin below the Green and San Juan Rivers and above "Lee Ferry"
Physiographic Province (list K) < 1, 1, Henry Mountains Basin >
Location Comments A83 < Unsurveyed sections. >

COMMODITY INFORMATION

		1	2	3	4	5	6	7
Commodities Present	C10	U V						
Commodity Specialist Information	C20							
Significance	MAJOR	U						
	MINOR							
		(code from list E)						
COPROD								
POTEN		V						
BYPROD								
OCCUR								
Ore Minerals, rocks, etc.	C30							
Commodity Subtypes or Use Categories	C41							
Commodity Comments	C50							

ANALYTICAL DATA

Reference	C44							
BTU's	BTU			Volatiles	C45	%		
Sulfur	SUL	%		Moisture	C46	%		
Ash	ASH	%		Thickness of Coal	C47	(FT or M)		
Fixed Carbon	CARB	%						
Analytical Data (General)	C43							

MINERAL ECONOMICS FACTORS

Exploration M\$	C42A		Mill	M\$	C42D	
Development M\$	C42B		Total Investments	M\$	C42E	
Expansion M\$	C42C		Mill Capacity Per Yr	C42F	thous units	C42G
Economic Comments	C42					

EXPLORATION AND DEVELOPMENT

Status of Exploration or Development	A20	4	(code from list B)
Year of Discovery	L10		By Whom L20
Nature of Discovery	L30	B	(List L) Present or Last Owner A12
Year of First Production	L40		Present or Last Operator A13
Work Done by USGS (earliest to present)			
Year	Type of work (List M)	Geologist and Results	
1) L41	1959	RECON	Johnson, Bull. 1087-C
2) L42			
3) L43			
Work Done by Other Organizations (earliest to present)			
Year	Type of work (List M)	Organization and Results	
1) L50	1973	RECON	UGMS for USBM-MAS
2) L60			
3) L70			

Reports Available L100 < _____ >

Comments L110 < _____ >

DESCRIPTION OF DEPOSIT

Deposit Type(s) (List F) C40 < REPLACEMENT >

Deposit Form/Shape (List N) M10 < Pods >

Max Thickness M60 < _____ > M61 < _____ (units) > Size M15 < Small >

Depth to Top M20 < 0 > M21 < FT. > Strike M70 < NE >

Depth to Bottom M30 < _____ > M31 < _____ > Dip M80 < 6deg NW >

Max Length M40 < _____ > M41 < _____ > Plunge M90 < _____ >

Max Width M50 < _____ > M51 < _____ > Plunge dir. M100 < _____ >

Property is: (Active) A21 (Inactive) A22 (Circle One)

Comments M110 < _____ >

DESCRIPTION OF WORKINGS

Workings are: (Surface) M120 (Underground) M130 (Both) M140 (Circle Appropriate Labels)

For Underground Workings: (units)

Depth Below Surface M160 < _____ > M161 < _____ >

Length of Workings M170 < _____ > M171 < _____ >

For Open Workings (surface and underground): (units)

Overall Length of Mined Area M190 < _____ > M191 < _____ >

Overall Width of Mined Area M200 < _____ > M201 < _____ >

Overall Area M210 < _____ > M211 < _____ >

Comments M220 < _____ >

GENERAL REFERENCES

- 1) F1 < Hunt, C.B. and others, 1953 Geology and Geography of the Henry Mountains region Utah: U.S. Geol. Survey P. 228. >
- 2) F2 < Doelling 1967 Uranium deposits of Garfield Co, Utah: Utah Geol. & Min. Survey Sp. St. 22. >
- 3) F3 < Doelling 1975 Geology and Mineral resources of Garfield Co Utah: Utah Geol. & Min. Survey Bull 107. >
- 4) F4 < Brooke, G.L. and others 1951, Geological investigations of the Trachyte district, Henry Mountains, Utah: Usaec. RMO-912, 7P. >

PRODUCTION (past or present)

(Record No. _____)

PROD YES NO SML MED LGE (circle appropriate labels)

ANNUAL PRODUCTION (ore and commodities)

DH	(item)	(accuracy)	(amount)	(thousand units)	(year)	(grade or use)	
1)	D1	< _ _ _ >	< _ _ _ >	D1A< _ _ _ >	D1B< _ _ _ >	D1C< _ _ _ >	D1D< _ _ _ >
2)	D2	< _ _ _ >	< _ _ _ >	D2A< _ _ _ >	D2B< _ _ _ >	D2C< _ _ _ >	D2D< _ _ _ >
3)	D3	< _ _ _ >	< _ _ _ >	D3A< _ _ _ >	D3B< _ _ _ >	D3C< _ _ _ >	D3D< _ _ _ >
4)	D4	< _ _ _ >	< _ _ _ >	D4A< _ _ _ >	D4B< _ _ _ >	D4C< _ _ _ >	D4D< _ _ _ >
5)	D5	< _ _ _ >	< _ _ _ >	D5A< _ _ _ >	D5B< _ _ _ >	D5C< _ _ _ >	D5D< _ _ _ >
6)	D6	< _ _ _ >	< _ _ _ >	D6A< _ _ _ >	D6B< _ _ _ >	D6C< _ _ _ >	D6D< _ _ _ >
7)	D7	< _ _ _ >	< _ _ _ >	D7A< _ _ _ >	D7B< _ _ _ >	D7C< _ _ _ >	D7D< _ _ _ >

CUMULATIVE PRODUCTION (Ore, Commodities, Concentrates, Overburden)

DH2	(item)	(accuracy)	(amount)	(thousand units)	(years)	(grade or use)	
8)	G7	< _ _ _ >	< _ _ _ >	G7A< _ _ _ >	G7B< _ _ _ >	G7C< _ _ _ >	G7D< _ _ _ >
9)	G8	< _ _ _ >	< _ _ _ >	G8A< _ _ _ >	G8B< _ _ _ >	G8C< _ _ _ >	G8D< _ _ _ >
10)	G9	< _ _ _ >	< _ _ _ >	G9A< _ _ _ >	G9B< _ _ _ >	G9C< _ _ _ >	G9D< _ _ _ >
11)	G10	< _ _ _ >	< _ _ _ >	G10A< _ _ _ >	G10B< _ _ _ >	G10C< _ _ _ >	G10D< _ _ _ >
12)	G11	< _ _ _ >	< _ _ _ >	G11A< _ _ _ >	G11B< _ _ _ >	G11C< _ _ _ >	G11D< _ _ _ >
13)	G12	< _ _ _ >	< _ _ _ >	G12A< _ _ _ >	G12B< _ _ _ >	G12C< _ _ _ >	G12D< _ _ _ >
14)	G13	< _ _ _ >	< _ _ _ >	G13A< _ _ _ >	G13B< _ _ _ >	G13C< _ _ _ >	G13D< _ _ _ >
15)	G14	< _ _ _ >	< _ _ _ >	G14A< _ _ _ >	G14B< _ _ _ >	G14C< _ _ _ >	G14D< _ _ _ >
16)	G15	< _ _ _ >	< _ _ _ >	G15A< _ _ _ >	G15B< _ _ _ >	G15C< _ _ _ >	G15D< _ _ _ >

ANNUAL PRODUCTION (overburden and concentrates)

DH4	(item)	(accuracy)	(amount)	(thousand units)	(year)	(grade or remarks)	
17)	P1	< _ _ _ >	< _ _ _ >	P1A< _ _ _ >	P1B< _ _ _ >	P1C< _ _ _ >	P1D< _ _ _ >
18)	P2	< _ _ _ >	< _ _ _ >	P2A< _ _ _ >	P2B< _ _ _ >	P2C< _ _ _ >	P2D< _ _ _ >
19)	P3	< _ _ _ >	< _ _ _ >	P3A< _ _ _ >	P3B< _ _ _ >	P3C< _ _ _ >	P3D< _ _ _ >
20)	P4	< _ _ _ >	< _ _ _ >	P4A< _ _ _ >	P4B< _ _ _ >	P4C< _ _ _ >	P4D< _ _ _ >
21)	P5	< _ _ _ >	< _ _ _ >	P5A< _ _ _ >	P5B< _ _ _ >	P5C< _ _ _ >	P5D< _ _ _ >
22)	P6	< _ _ _ >	< _ _ _ >	P6A< _ _ _ >	P6B< _ _ _ >	P6C< _ _ _ >	P6D< _ _ _ >
23)	P7	< _ _ _ >	< _ _ _ >	P7A< _ _ _ >	P7B< _ _ _ >	P7C< _ _ _ >	P7D< _ _ _ >

Source of Information

D9< USBM-MAS 128

Production Comments

D10< about 100 lbs U₃O₈ reported, vanadium may also have been produced

Reports Available

L100<

Comments

L110<

DESCRIPTION OF DEPOSIT

Deposit Type(s) (List F) C40< REPLACEMENT >

Deposit Form/Shape (List N) M10< PODS AND LENSES >

Max Thickness M60< _____ > M61< _____ > (units) Size M15< Small >

Depth to Top M20< 0 > M21< FE. > Strike M70< NE >

Depth to Bottom M30< _____ > M31< _____ > Dip M80< NW >

Max Length M40< _____ > M41< _____ > Plunge M90< _____ >

Max Width M50< _____ > M51< _____ > Plunge dir. M100< _____ >

Property is: (Active) A21 (Inactive) A22 (Circle One)

Comments

M110<

DESCRIPTION OF WORKINGS

Workings are: (Surface) M120 (Underground) M130 (Both) M140 (Circle Appropriate Labels)

For Underground Workings: (units)

Depth Below Surface M160< _____ > M161< _____ >

Length of Workings M170< _____ > M171< _____ >

For Open Workings (surface and underground): (units)

Overall Length of Mined Area M190< _____ > M191< _____ >

Overall Width of Mined Area M200< _____ > M201< _____ >

Overall Area M210< _____ > M211< _____ >

Comments M220<

GENERAL REFERENCES

- 1) F1< Hunt, C.B. and others, 1953 Geology and Geography of the Henry Mountains region Utah: U.S. Geol. Survey P. 228. >
- 2) F2< Doelling 1967 Uranium deposits of Garfield Co, Utah: Utah Geol. & Min. Survey Sp. St. 22. >
- 3) F3< Doelling 1975 Geology and Mineral resources of Garfield Co Utah: Utah Geol. & Min. Survey Bull 107. >
- 4) F4< Brooke, G.L. and others 1951, Geological investigations of the Trachyte district, Henry Mountains, Utah: Usaec. BMO-912, 7P. >

GEOLOGY AND MINERALOGY

Age (List 0)

Host Rocks and Age

K1 < J.U.R. | 1/1 sandstone >

Assoc. Igneous Rocks and age

K2 < | 1/1 >

Age of Mineralization

K3 < | >

Pertinent Mineralogy Other than Ore Minerals

K4 < | >

Important Ore Control or Locus

K5 < CARBON TRASH IN FLUVIAL CHANNELS >

Major Regional Structures or Trends

N5 < Henry Mtns. Basin >

Tectonic Setting

N15 < Stable Platform >

Significant Local Structures

N70 < South flank Little Rockie Syncline >

Significant Alteration

N75 < | >

Process of Concentration or Enrichment

N80 < GROUND WATER SOLUTIONS >

	Age (List 0)	Age, Names of Formations or Rock Types
N30 <	J.U.R. 1/1	SALT Wash Mbr / MORRISON Fm >
N35 <	1/1	>
N40 <	1/1	>
N45 <	1/1	>

	Age (List 0)	Age, Names of Igneous Units or Rock Types
N50 <	1/1	>
N55 <	1/1	>
N60 <	1/1	>
N65 <	1/1	>

Comments (Geology and Mineralogy) N85 < | >

GENERAL COMMENTS GEN < | >

PRODUCTION (past or present)

(Record No.)

PROD **YES** NO **SML** MED LGE (circle appropriate labels)

ANNUAL PRODUCTION (ore and commodities)

DH	(item)	(accuracy)	(amount)	(thousand units)	(year)	(grade or use)	
1)	D1			D1A	D1B	D1C	D1D
2)	D2			D2A	D2B	D2C	D2D
3)	D3			D3A	D3B	D3C	D3D
4)	D4			D4A	D4B	D4C	D4D
5)	D5			D5A	D5B	D5C	D5D
6)	D6			D6A	D6B	D6C	D6D
7)	D7			D7A	D7B	D7C	D7D

CUMULATIVE PRODUCTION (Ore, Commodities, Concentrates, Overburden)

DH2	(item)	(accuracy)	(amount)	(thousand units)	(years)	(grade or use)
8)	G7	EST	0.8	LB	Through 1973	U ₃ O ₈ Records incomplete
9)	G8	SML			Through 1973	V ₂ O ₅
10)	G9					
11)	G10					
12)	G11					
13)	G12					
14)	G13					
15)	G14					
16)	G15					

ANNUAL PRODUCTION (overburden and concentrates)

DH4	(item)	(accuracy)	(amount)	(thousand units)	(year)	(grade or remarks)	
17)	P1			P1A	P1B	P1C	P1D
18)	P2			P2A	P2B	P2C	P2D
19)	P3			P3A	P3B	P3C	P3D
20)	P4			P4A	P4B	P4C	P4D
21)	P5			P5A	P5B	P5C	P5D
22)	P6			P6A	P6B	P6C	P6D
23)	P7			P7A	P7B	P7C	P7D

Source of Information

D9< USBM-MAS 143

Production Comments

D10<

No. _____ Quadrangle Mt. Hillers

Name Oil Seep #8 (1-22)

NWSE 15-35s, 11E. 4178980 m N. 527330 m E.
Section, Township & Range UTM

District Henry Mountains County Garfield

Commodity Uranium

Map Reference center of circle on map Precision 300' - 1000'

Elevation 4700 +/- 100' Type land holding Federal claim (BLM)

Type of deposit: _____

Host Rock: _____ Name _____

Lithology sandstone Age _____

Description of workings: _____

Extent _____ Status _____

Production 831 lbs. U308 1973 Reserves unk

Surface area disturbed _____

Strike & Dip of host _____

Strike & Dip of ore body _____

Strike & Dip of faults, joint systems, etc. _____

Exploration, type and dates _____

Remarks USBM # 143

Utah Geological and Mineral Survey visits, by whom and date.

OIL SEEP #8 (Cont)

MISCELLANEOUS

Book 55, p. 386-399

Book 89, p. 355A-369

Book 18, p. 510-531

Map available

To DHUnderhill

Carl Aplund
Ted Torin

FROM JKThamm

plateau
resources
limited

DATE October 17, 1978

SUBJECT TONY M ORE RESERVE CALCULATIONS BY THE U.S.D.O.E.

INTERNAL CORRESPONDENCE

CC

dkr

Please find attached a summary of ore reserve calculations by the U.S. Department of Energy for the Tony M mine. The D.O.E. ore reserve totals compared to my 6-1-78 ore reserve totals are as follows:

D.O.E. (10-15-78) -- 3.4 MM tons of 0.116% U₃O₈
Thamm (6-1-78) -- 2.7 MM tons of 0.115% U₃O₈

The two ore reserve figures can be compared against each other in that the same number of holes and the same basic data were used in both calculations. Although there is good agreement on the average grade (both are diluted mining grades), there is a significant difference in total tons. The area method of ore reserve calculation, used by the D.O.E., is an accepted method used by many mining companies. In most cases, ore reserves calculated by this method will be larger than those calculated by the more conservative polygon method which was used in my reserve calculations of 6-1-78. I would conclude that the two calculations adequately bracket the most probable range of the Tony M ore body, based on the presently available information. The average of the two results, ± 3.0 MM tons of 0.115% U₃O₈, should provide a good basis for mine planning.

The D.O.E. maps identifying individual ore reserve areas and the accompanying cross sections and drill hole data are on file in D. H. Underhill's office.

J. K. Thamm

SUMMARY OF D.O.E. ORE RESERVE CALCULATIONS

TONY M. MINE

Cutoff: 4.0' - 0.04% U₃O₈

<u>Block #</u>	<u>Diluted Avg. Thk.</u>	<u>Average Grade % U₃O₈</u>	<u>Mining Tons</u>	<u>#s U₃O₈</u>
1	7.6	0.166	209,900	697,000
2	5.3	0.134	67,400	181,000
3	8.5	0.074	48,000	71,000
4	7.0	0.114	167,600	382,000
5	9.8	0.093	101,300	188,000
6	7.1	0.082	58,700	96,000
7	5.9	0.112	65,800	147,000
8	9.3	0.123	112,000	275,000
9	7.8	0.133	278,000	740,000
10	11.7	0.108	2,003,400	4,327,000
11	7.2	0.161	31,300	101,000
12	8.3	0.236	63,800	301,000
13	5.7	0.124	83,800	208,000
14		Part of Frank M Orebody		--
15		Part of Frank M Orebody		--
16	9.0	0.079	60,600	96,000
17	8.9	0.100	67,899	135,798
18	4.0	0.187	11,755	43,964
19	4.0	0.067	10,558	14,147
Total D.O.E. 10-15-78		0.116	3,441,812	8,003,909
Thamm 6-1-78		0.115	2,735,000	6,290,500

To RLHeiks, JG

FROM EFJacobson, GJ *EFJ*

DATE December 15, 1980

SUBJECT Monthly Report, November, 1980

plateau
resources
limited

INTERNAL CORRESPONDENCE

CC

tcw

GENERAL

Completed shop and warehouse by-pass road to mine entry area. Base gravel and top gravel must be spread for final road completion. Surface mine dewatering pumping system was finished. Mine water is pumped to the old evaporation pond and from the old pond pumped through new pipe line to construction area for the new evaporation holding pond.

TECHNICAL SUPPORT

Final design on stairway from mine dry to the mine portal was finalized and transferred to construction. Surface location for three ventilation bore holes were established and a survey traverse completed for underground holding out position. The engineering aspect of the technical support group received the most attention in November. Projects have been outlined, defined, prioritized, and assigned to individual supervisors. The rough outline of the Tony M ventilation plans has been calculated in two different ways, and a third assessed for its applicability to the problem. These figures will be checked by computer in Denver Technical Support Center, but the spread in results is sufficient to assure that refinement will not change the solution indicated. This alternate is very attractive from a power and cost standpoint. Beginning in 1981 with present staff coupled with a sizable increase in development, the Geology Department will need added personnel to maintain adequate geologic control.

Monthly Report, November, 1981
EFJacobson, GJ
December 15, 1980

MAINTENANCE

Shop - warehouse bypass road is near completion. The clean up behind the shop in the creek bed was finished,

Equipment availability for mine muck removal was an on-going problem in the month of November.

A mine mechanic service crew will perform pre-shift service starting in December.

Continued work on change building heating system.

Removed remaining overhead power lines over new by-pass road from the camp to the shop area.

TONY M SECTION

Development footage for November was not up to expectation. Factors for development shortage was equipment break downs and ventilation maintenance of the haulage ways improved. A road drag unit was fabricated and placed into use along with the Bladmore grader. The length of the laterals have reached a point that in some areas it is as far to the main haulage as it is from lateral entry to the portal exit.

A new training group of five employees was started in November. The training crew was used in the pipe installation on dewatering pond #2. It was a good project for the class as it gave the new employees excellent experience in correct handling and installation of vectaulic piping.

GRAND JUNCTION ADMINISTRATION

Time was spent on the 1981 budget to obtain a more realistic budget. Cost engineering studies were completed and these results incorporated.

1980 mine project results were reviewed and short falls returned for and engineering study.

A visit through the Rio Algom's Lisbon Mine was made.

FUTURE PLANS

Prepare and plan 1981 projects.

Complete three ventilation bore holes.

Pump out and start up haulage level development.

PLATEAU RESOURCES LIMITED
MINING DIVISION
SHOOTERING CANYON OPERATIONS

MONTHLY REPORT
November, 1980

<u>PRODUCTION STATISTICS</u>	<u>LAST MONTH</u>	<u>THIS MONTH</u>	<u>YEAR TO DATE</u>
<u>NUMBER OF PERSONNEL</u>			
SALARIED	23	22	
HOURLY	101	104	
DAYS WORKED	18	15	188
<u>HOURS WORKED BY HOURLY EMPLOYEES</u>			
<u>TONY M SECTION</u>			
CONTRACT	5,769.5	5,009	53,145
NON-CONTRACT	487	884.5	15,423
MINE SUPPORT	2,354	2,091	16,274.5
<u>SUB TOTAL TONY M SECTION</u>	8,520.5	7,984.5	84,842.5
TRAINING CREWS	305	393	3,580
TECHNICIANS	1,154	1,085	12,050
LONGHOLE MACHINE OPERATORS	-0-	-0-	769
MECHANICAL MAINTENANCE	2,723.5	2,863	33,329
ELECTRICIANS	364.5	365	6,406
HEAVY EQUIPMENT OPERATORS	517.5	520	5,592.5
SURFACE CONSTRUCTION & MAINTENANCE	528	606.5	8,053.5
CAMP	-0-	-0-	7,366
ADMINISTRATION	350	384	3,577
WAREHOUSE	1,522	995.5	11,664.5
PERSONNEL	170.5	200	1,795
MSHA TRAINING	295	302	2,399.5
Vacation-Holidays-Sick Leave	698	1,907.5	11,344.5
Sick Leave paid upon termination	286	72	558
TOTALS	17,434.5	17,678	193,327
<u>TONY M SECTION DEVELOPMENT</u>			
FEET OF ADVANCE	1,784	1,595	16,396.5
TOTAL TONS - ORE AND WASTE	10,302	8,260	100,073
TOTAL TONS - ORE	4,623	5,107	28,491
AVERAGE ORE GRADE - PROBE READINGS	.126	.139	.096
TONS PER MAN HOUR - ORE AND WASTE	1.21	1.03	1.18
TONS PER MAN HOUR - ORE	.54	.64	.34

NOVEMBER 1980 MONTHLY FOOTAGE REPORT

SHEET 1 of 2

VISIT: E. J. JOHNSON C. WOMACK G. NEIGHBORS
D. DICKERSON C. TAPP

Contracts By Headings	Measure Point	Haulage Development	Lateral Development	Slope Development	Special Development	Total Contract
# 201						
164W/985S/168W	PI 969S + 141'		98			98
168W/WH	PI 961S + 85'		6			6
961S/168W	PI 168W + 107		45			45
959NW/168W	PI 168W / 2 P 27 + 92				84	84
192W/WH	PI 977N + 21		127			127
981N/192W	PI 192W + 27		5			5
977N/192W	PI 192W + 21 (-5)		16			16
TOTALS #201			297		84	381
# 202						
244E/EH	PI 1027N + 148		122			122
1031N/244E	PI 244E + 9 (-5)		4			4
1031S/244E	PI 244E + 9 (-5)		4			4
1027N/244E	PI 244E + 69			34		34
256E/EH	PI 1023N + 152		143			143
1027N/256E	PI 256E + 12 (-5)		7			7
1023N/256E	PI 256E + 28 (-5)		23			23
260E/EH	PI 1027S + 91		247			247
1023N/260E	PI 260E + 29 (-5)		24			24
1023S/260E	PI 260E + 38 (-5)		33			33
1027S/260E	PI 260E + 36 (-5)		31			31
1027N/260E	PI 260E + 41 (-5)		36			36
TOTAL #202			674	34		708
TOTALS SHEET 1			971	34	84	1089
Total By Categories						

NOVEMBER 1980 MONTHLY FOOTAGE REPORT

SHEET 2 of 2

Contracts By Headings	Measure Point	Haulage Development	Lateral Development	Stope Development	Special Development	Total Contract
# 203						
212W/997N/208W	PI 989N + 16'			70		70
989N/212W	PI 212W + 20'(-5)			15		15
216W/997N/208W	PI 993S + 36'			41		41
993S/216W	PI 216W + 29'(-5)			24		24
228W/WH	PI 989N + 33'		33			33
993N/228W	PI 228W + 38			7		7
989N/228W	PI 228W 24'(-5)		19			19
232W/WH	PI 989S + 49		19			19
989S/232W	PI 232W + 35		15			15
989N/232W	PI 232W + 28		13			13
993S/232W	PI 232W + 35			5		5
993N/232W	PI 232W + 40		13			13
TOTAL #203						
			112	162		274
# 205						
275E/EH	PI 1003N + 100		7			7
272W/WH	PI 993N + 62		48			48
993N/272W	PI 272W + 47		36			36
993S/272W	PI 272W + 84		69			69
276W/WH	PI 997S + 141		14			14
252W/WH	PI 997N + 152		58			58
TOTAL #205						
			232			232
TOTAL SHEET 2						
			344	162		506
Total By SHEET 1/2 Categories						
			1,315	196	84	1,595

MONTHLY PRODUCTION REPORT

15

DAY OF 15

WORK DAYS

MONTHLY CALL NO. 13,2147@.117

DATE 11-25-80

COMPILED BY Amy Ravenig

HEADING	ROYALTY S E M			ROYALTY H			ROYALTY S			ROYALTY H E C			ROYALTY			MONTH TO DATE			
	TONS WASTE	TONS ORE	GRADE	TONS WASTE	TONS ORE	GRADE	TONS WASTE	TONS ORE	GRADE	TONS WASTE	TONS ORE	GRADE	TONS WASTE	TONS ORE	GRADE	TONS WASTE	TONS ORE	GRADE	
	LD SD																		
164w/985s	5	5	.04													225	357	.079	
168w/wHD	35	10	.06													570	640	.098	
192w/wHD	30	-	-													470	230	.066	
212w/997w																120	151	.083	
216w/997w	55	10	.04													380	98	.070	
228w/wHD																41	185	.059	
232w/wHD																141	30	.08	
244E/EHD																	622	.205	
252w/wHD	-	43	.07													14	347	.075	
256E/EHD				-	15	.05										245	453	.097	
260E/EHD										10	-	-				385	1100	.090	
272w/wHD					9	.07										-	574	.295	
275E/EHD										12						39	9	.05	
276w/wHD																	99	.103	
961w/168w																25	5	.06	
965/168w																143	72	.059	
969w/164w																70	-	-	
969s/164w																	10	.05	
977w/192w	50	-	-													50	-	-	
981w/192w																85	5	.06	
989w/228w																	20	.10	
989s/232w																15	-	-	
993s/216w																60	-	-	
993s/232w																5	15	.05	
993w/272w																	99	.46	
993s/272w					27	.38											162	.33	
1019w/260E																	25	.12	
1019s/260E																10	50	.110	
1023w/256E																	80	.075	
1023w/260E																	40	.13	
1027w/244E																	65	.13	
1027s/244E																	10	.21	
1027w/260E																	90	.070	
1027s/260E																5	35	.07	
Special Haulage Clear-up	55	5	.04													55	5	.04	
DAILY TOTALS	230	73	.060		51	.228	-	-	-	22	-	-				252	124	.12	
MONTH TO DATE	2455	1362	.084	419	2208	.178	-	763	.181	279	774	.083				3153	5107	.13	
YEAR TO DATE	37524	12720	.089	26799	9635	.110	5915	5342	.092	1344	794	.081				7582	28491	.09	
ITEM	DAILY			MONTH TO DATE			YEAR TO DATE			REMARKS:									
PROJECTED TONS ORE:	894			13214			69,157												
ACTUAL TONS ORE:	124			5064			28,491												
DIFFERENCE:	-770			-8150			-40,666												

Carmella Clark
TO RLHeiks, GJ
BOFisher, GJ
FROM CClark, GJ
DATE December 21, 1981
SUBJECT PROJECT NUMBERS LIST

plateau
resources
limited


INTERNAL CORRESPONDENCE

CC See Below List

CC

Please find attached the updated Project Listings for PRL. The changes are as follows:

Page 2 Under Congress Project:
Rat Nest 1 was deleted.

 X Page 2A Under Trachyte Ranch Project:
Utah State Lease 32401, Sec16,T33s,R12E
was deleted.

Page 4 Under Other Region Properties:
Silver Peak Project was deleted.

Page 4 Under Producing Mines:
Sand and Gravel Lease was deleted.

Page 6 Under General Projects:
P001107 Millsite Land***,
Claims deleted:
Kay 3-11, 22-26, 28
Jean 5-16, 24-28, 52
Pam 9-29, 31, 48-56, 67-76, 200, 203-212
Claim added:
Nancy 1-169

(con't)

DJAllen, SCM
SMAnkrum, SCM
SBBall, GJ
EJBartley, TI
BJBhatt, SC
GWBennett, GJ
RTBerg, GJ
BMBerglund, GJ
PJDickerson, GJ

ARDump, GJ
WLDyer, GJ
SJEngraff, GJ
CDFlugard, TI
FWGerdeman, GJ
UKGupta, GJ
JCHamm, GJ
REHughes, GJ
KFJacobson, GJ

KRJones, GJ
HRMcDonald, SCM
AMMastrovich, SC
KEMay, TI
VJMay, SC
BIMinion, TI
VWMorrill, SC
WWMull, GJ
LLPacheco, GJ

DNPeterson, SC
CTRandall, GJ
LMSaintJohn, GJ
PWTooker, GJ
DHUnderhill, GJ
DDWillis, GJ
CTWillis, GJ
CAWiltgen, GJ

RLHeiks, GJ
BOFisher, GJ
December 21, 1981
PROJECT NUMBERS LIST
Page 2 of 2

Page 7 Under Ticaboo Projects:
 P051150 Ticaboo Recreation Facilities was added.

 Under Tony M Projects:
 P053050 Underground Pumping Change was deleted.
 P053075 Mine Portal Stairway was deleted.
 P055030 Mine Security Fence was deleted.
 P055060 Equipment Wash Pad was deleted.
 P055085 Electrician Building was deleted.
 P055100 Borehole #1 was deleted.
 P055110 Borehole #3 was deleted.
 P055120 Borehole #5 was deleted.
 P055130 Mine Dewatering Well was deleted.

PARADOX BASIN PROPERTIES

HORSE CREEK PROPERTY - ABLN 038 = Acquisition
- EBLN 038 = Exploration
Horse Creek 1-30

HENRY MOUNTAINS PROPERTIES

CONGRESS PROJECT - AHMN 015 = Acq.
- EHMN 015 = Exp.

Badger 11F,13F,14-18,19,20-24
Congress 26A,27-30,31A-35A,53A
Daisy June 2-7
Dean 6
South Fork 1 & 2
Trail Canyon 1-11

COPPER CREEK PROJ. - AHMN 020 =Acq.
- EHMN 020 =Exp.

Copper Creek 1-9
Congress 25

DAISY JUNE PROJECT - AHMN 025 = Acq.
- EHMN 025 = Exp.

Congress 1A-6A,11,12A-13A
Dean 1-3,7-11

HANSEN CREEK SAND & GRAVEL PROJ.
- AHMN 028 = Acq.
- EHMN 028 = Exp.

Ace
Ace 1,3,4,6,7
Dee Dub 1-3

JET PROJECT - AHMN 030 = Acq.
- EHMN 030 = Exp.

Carbon 1-4
Elk 7-21,23
Gap Snapper 5
Gnu 1-31
Jet 1-5,6-15,19-54
Ken Fraction 1,3,10
Kori Lynn 11-23,40-44,52-54,89,90
Zips 54,89,90

LUCKY STRIKE PROJ. - AHMN 035 = Acq.
- EHMN 035 = EXP.

Agate 1-3,5,7,10-11-Fraction 4,9
Buckeye 1-6
Deep Canyon 1A Fraction, 2,5
Hidden D 1-23
Hie 1-8 (Millsite)
Ken Fraction 4,7-8
Lucky Strike 1-7,11-14 Fraction
Wild Bill 1-8
Wild Buck

NORTHEAST PROJECT - AHMN 045 = Acq.
- AHMN 045 = Exp.

Kori Lynn 87
Peggy 37-54
S & N 1-10,98-107
T & T 35-52
Tar 1-3
Utah State Lease 32291,S36,T34S,R11E

HENRY MOUNTAINS PROPERTIES
(con't)

OILSEEP PROJECT - AHMN 050 = Acq.
- EHMN 050 = Exp.

Lone Eagle 1-2,4A,6,8-9,
Oilseep 1-22
Eastern 1960 ft. of Utah State
Lease 31862, Sec16,T35S,R11E

PITA PROJECT - AHMN 055 Acq.
- EHMN 055 Exp.

Ace 92-125
Alice 1-10
*Amy Kae 1-18,58-61
Disco
Go 6-10,16-21,26,28,30-33
X Hansen 1-176,178,180,182,222,224,226
Kori Lynn 56,58,60,62,64,66,68,70,72
74,76,78
*Leslie K 1-7
*Nelly Bly 1
Pita 1-9,12-29,32-103,106-177,180-
206,215-259,262-341,344-379,
634-641,644-766,811-837
Red 1-114
Ruth 1-30
X Utah State Lease Century 21 #28456,
Sec32,T34S,R11E
Utah State Lease 32399-HP, Sec16,
T34S,R11E
Utah State Lease 32400-HP, Sec2,
T35S,R10E

*Clay Barrow Areas'

STAR PROJECT - AHMN 060 = Acq.
- EHMN 060 = Exp.

Utah State Lease 32402, Sec 32,
T33S,R12E

TRACHYTE RANCH PROJ - AHMN 065 Acq.
- EHMN 065 Exp.

Congress 49A-50A
Mary 1-99
Slate Creek 1A,3A,
X Utah State Lease 32934-WOLF,Sec2,
T33S,R11E

MINERAL POINT PROJ - AHMN 200 Acq.
- EHMN 200 Exp.

Utah State Lease 39470
Utah State Lease 39471
Utah State Lease 39472
Utah State Lease 39473

PRL MINES

TONY M MINE - M022000 - Development
1,377 acres
(for coding use 1060 only,
not M022000)

Agate 8
Amy Kae 71-82
Bob 1-4, Bob Fraction 5-11
Gap Nabbit 1
Gap Snapper 1-4,6,7
Go 1-5,11,14,15,22--25,,27,29
Hansen 177,179,181,183-221,223,
225,227
Hansen Copper 228-235
Ken 6,9
Kori Lynn 1-10,45-51,55,57,59,61,63
65,67,69,71,73,75,77,
79-84
Western 3320 ft. of Utah State
Lease 31862,Sec16,T35S,R11E which
includes: Leslie K 1-7
Lone Eagle 3,5,7
Lucky Strike 8,9
Nelly Bly 2-13,15
Nelly Bly 14 Fraction
Trudy Lynn

FRANK M MINE - M023000 = Development
1,429 acres
(for coding use 1070 only,
not M023000)

Del Monte 1A-8A
Elk 1-6,22A,24-32,34,36,38
Jet 16,17A,18A
Ken Fraction 2,5
Kori Lynn 24-39
Rat Nest 2
Tar 4
Tru Ann 1,2
Utah State Lease 32305 - Star Spgs
Sec2, T35S,R11E
Zip Frac 85,86,88

LUCKY STRIKE #10 MINE -
M024000 = Development
(for coding use 1050 only,
not M024000)

Lucky Strike 10A

PRL LEASED PROPERTIES

PARADOX BASIN PROPERTIES

Wolf Property - ABLN 125 = Acquisition
- EBLN 125 = Exploration

Wolf 1-24 (Leased to Dale Lyman)

OTHER REGION PROPERTIES

PRODUCING MINES

SUBMITTALS

ROYALTY INTEREST CLAIMS

STATE OF COLORADO

Carlen 1,2
 Foscue 1-10
 Hobo 1-7
 Marge 1-4,6-9
 Pinnick 1-8
 Sure Shot
 Tape 1-4
 Witt 2-8

STATE OF UTAH

Able 1-5
 Ace
 Al 1-19
 Annapolis
 April 1-18
 April Fool 1,5-7,10
 Arrow 1-7
 Aye
 B
 B 2,3
 Badger
 Baison 3
 Basin
 Basin 1,2
 Big Blow 2,8-10,12,14,16,18
 Big Chief 3,6
 Bird 1,5,6
 Birthday
 Black Bush
 Blood
 Blue Bird
 Box Canyon
 Buckhorn 1-14
 Bucky 1-15
 Bugs 1,3
 Butte 1-5
 Canyon 1-5
 Cash 1-9
 Cedar Bird
 Channel Master 1-55
 Cliff House
 Confusion
 Confusion 1,2
 Connie 1,2

Cottonwood
 Cottonwood 2-5
 Coyote
 Creature 1-102
 Crystal
 Denver 1,2,3-5
 Dingus 93-110,182-206
 Dora 1-50

Eagle 1-11
 East Bank #1
 Easter
 East Rim
 Eff
 Eff 1-3
 Erva

Flood Water
 Florida 1-3
 Found
 Found 3
 Found Fraction 2

Gee
 Grandaddy 1-7,8-14

Jackson 1-4
 Jessie 15
 Jessie 1-4,7-10,13-14,16-21
 Jessie 5,6, Fractions
 Joe Bob 1-11
 J.R.P. 1-18

Kay 1,2
 Kiev
 Kip 1-57
 King

La Chance 1-2
 Lagoon 1-4
 Last Chance
 Lost
 Little Canyon
 Little Point
 Lone Tree
 Look Out
 Lucky Boy
 Lucky Boy 1-5

*why not?
 Hansen Claims?
 ?*

ROYALTY INTEREST CLAIMS
(con't)

STATE OF UTAH -

MC 1,2	Sand
Middle	Sand Rock
Midnight	Scorpine
Midnight 1-3	Shale
Midway	Shela 1,2
Mitch 1-6,16,17,19,21,23,25,27	Shelia 3,9
Mitch Fraction 28,29,32-36	Simpatica
Monument	Simpatica 1-3, 7-9
Mussleman Fee Lease	Skunk
	Slide
New Claim 1,2,4,5,8-10,12,17-20, 22-26,29,34-42,44, 46-48,55,56,66,72,73,79-86	Slush 1-118,120-135,137
New Fraction 13,14,21,27,28,30-33, 43,45,57-65,67-71,74-78	Snake
North Star	Snowall 1-3,5
	Snowball
P 3,7,9,13,15,17,19,21	Spring Creek
Pine Nut 1-6	Springwater
Plenty #1	State Lease 33315
Point	State Lease 24190
Porkey Pine	Steam Boat 1-3
	Sterling 1-12
Rainbow	Sunshine
Radium	
Recapture	TCE 1-7
Red Rock 1-18	Three In One
Rock 1,2	Trip 1-107
RRip AA,BB,CC	Tugboat 1-17
	U R Jean 2-4
	Union Jack
	Union Jack 1-40
	Wedge
	Wedge 1
	West Lost (Pine)
	West Point
	Wooden Shoe 1,2
	Yankee Girl 1-19
	Yellow Jacket 2-8
	Yellowstone 1,2
	View

PROJECT LISTINGS

GENERAL PROJECTS:

P025000 Telephone Communication Sys.
P001107 Millsite Land***

GRAND JUNCTION PROJECTS:

P025510 General Ledger Enhancements
P025520 Payroll Enhancements
P025530 MPMS General Enhancements
P027020 Accounts Payable Maintenance
P032030 Legal Contract Filing and Tracking
P032050 Operations Reporting - Mine

ENVIRONMENTAL, SAFETY & HEALTH PROJ:

P001002 Environmental Studies
P001003 Water Supply and Analysis
P001108 Preop. Monitoring Shootaring Canyon Mill
P055090 Power for Environmental Bldg at Mill

MILL PROJECTS

P001000 Mill - Overhead
P001004 Mill - Detail Engineering
P001005 Mill - Road
P001014 Mill - Field Construction
P001015 Mill - Impoundment
P001105 Mill - Licenses and Permits
P001106 Mill - Millsite Reclamation
P001110 Mill - Start-up Cost
P001111 Mill - Acid Resistance Cover
P001112 Mill - Leveraged Lease
P055000 Mill Heap Leach Mine Waste
P055010 Mill Vanadium Extract

GENERAL EXPLORATION PROJECTS

E030010 Chinle Investigations
E030015 Colo. Geochemical Program
E030020 Henry Mtns. Investigations
E030025 Quartz Pebble-Type Investigations.
E030030 Volcanogenetic-Type Investigations.
E030035 Unconformity-Type Investigations
E030040 Vein-Type Investigations
E030050 Uravan Investigations

NON-CAPITALIZED

N030015 Mesa Engineering Amendments
N031010 Shootaring Safety Training
N031015 Training Crew
N041000 Wilderness Inventory Study
N044000 Water Drill Test Project
N045000 Blanding Environmental Monitoring
N050000 Mine Site Environmental Monitoring
N055000 Mine Rescue Team
N056000 MSME Litigation

***Kay 1-2, 12-21, 27, 29
Jean 1-4, 17-23, 29-51, 53-94
Jean 95 Fraction
Nancy 1-169
Pam 6, 8, 30, 32-40, 47, 57-66,
77-199, 201-202 213-251
Hydro-Jet Millsite 1-14

PROJECTS (con't)BLANDING

P055020 Ore Buying Station
Reclamation

FRANK M PROJECTS

P043000 Frank M Road Construction
P043020 Frank M Septic System
P043030 Frank M Culinary Water Dist.
P043040 Frank M Warehouse-Shop Bldg.
P043050 Frank M Dry Building
P043060 Frank M Ore Bins
P043080 Frank M Generator Construct.
P043090 Frank M Compressor Construct
P044000 Frank M Reclamation
P044010 Frank M Sewer Works
P045000 Frank M Development Drilling
(Do Not Use Frank M Project numbers
until mine is reactivated.)

TICABOO PROJECTS

P051010 Sewer System Phase I
P051015 Sewer System Phase II
P051020 Water System
P051100 Post Office
P051110 Service Station
P051150 Recreation Facilities

TONY M PROJECTS

P033000 Tony M Change Room/New Dry
P053010 Tony M Reclamation
P053030 Tony M Ore Conveyer
P053040 Tony M Sewer Works
P053060 Tony M Waste Conveyer
P053070 Tony M Dewatering Perc.
Pond #2
P053080 Tony M Mine Electrical Sys.
P053085 Tony M Mine Chlorination Sys
P054000 Tony M Minesite Reclamation
P055040 Tony M Catch Basin
P055050 Tony M Area Lighting
P055070 Tony M Compressor &
Generator Building
P055080 Tony M Shop Building
Relocation
P055125 Tony M - Borehole #6
P055140 Tony M New Maintenance Bldg
P056000 Tony M Development Drilling

Tony Mastrovich

PLATEAU RESOURCES LIMITED

EXPLORATION DEPARTMENT
SUMMARY OF THE 1979 PROGRAM
AND OBJECTIVES FOR 1980

INTRODUCTION

The primary objective of the Exploration Department is to discover uranium ore of sufficient grade and quantity which may be mined in order to meet the financial objectives of Plateau Resources. Through reconnaissance programs, target areas are selected for land acquisition and further exploration. Successful exploration evaluations delineate properties which are then drilled in sufficient detail to indicate that ore is present in such concentration that feasibility study is required.

Discovery of new ore bodies is a challenging task which requires a dedicated commitment of manpower and other resources. The discovery of the Shootering Canyon ores is included with a handful of significant uranium discoveries made in the U. S. within the last four years. Sufficient ores have been discovered at Shootering to justify the development of the mine and mill complex. Based on the results of 1979 drilling, an updated reserve estimate has been completed for the Shootering Canyon area.

EXPLORATION DEPARTMENT

The Exploration Department consists of 35 personnel, including Geology, Land, Drafting, and Reclamation groups. Responsibility is divided on a geographic basis with a Henry Mountain District, a Blanding District and Other Areas. The Geology Department is comprised of geologists, with survey and clerical backup. This group evaluates properties for acquisition, and explores those properties which are acquired. They are also responsible for development drilling and for making estimates of ore reserves once significant mineralization is located. The Land Department provides title evaluations, negotiates acquisitions and develops and administers property records. The Drafting Department prepares land and geologic maps and drawings. The Reclamation staff is responsible for rehabilitation of exploration sites and roads.

EXPLORATION PROGRAM

The rocks of the Chinle and Morrison Formations occur over a very large region which comprises Plateau's principal area of exploration. This includes at least 50,000 square miles. On the other hand, Uranium ore bodies occupy a very small portion of the area. The challenge of exploration is to develop techniques which most efficiently locate previously undiscovered ore bodies.

The uranium ores of the Chinle and Morrison Formations are primarily located within and along the margins of channel sands of fluvial origin. Geologic favorability is indicated by sand thickness, sandstone/mudstone

ratios, alteration related to mineralizing fluids, the presence of carbon and clays in sands, the presence of uranium mineralization, etc.

In the past, many ore bodies have been found by prospecting and locating outcropping ores and by drilling behind old workings. Modern discoveries, however, require integrated exploration techniques directed at discovering buried targets at depths varying from a few feet to 1000 feet or more.

Although exploration could be inefficiently performed based on drilling randomly located holes, Plateau's goal and major commitment is to establish an understanding of regional and local geology so as to optimize the probability of success in the most cost efficient manner.

In order to attain this goal, Plateau presently has major ongoing programs both the for systematic collection of field and published geologic data and for the compilation and interpretation of this data in order to define those target areas that have the highest potential for delineating ore bodies. The first phase of this program is nearly complete for the Uravan area. Chinle target areas have not yet been finalized. Field geology, land title work, geophysics, geochemistry, and rotary drilling supplemented with selected core drilling are utilized to test these target areas and establish the concentration and extent of uranium mineralization.

PROPERTY HOLDINGS

A major responsibility of the Land Department is to obtain control of properties on which exploration drilling is to be performed. The properties currently under control consist primarily of unpatented mining claims, but also include state leases and fee land. A summary of property holdings is given below.

	<u>Acres</u>
Henry Mountain District	92,000
Paradox Basin District	78,000
Other Areas	16,000
Joint Venture	<u>63,000</u>
Total Acreage	249,000

DRILLING ACTIVITIES

The primary exploration technique used to discover uranium is rotary drilling. Radiometric logging surveys, with associated chemical analyses, are used to determine the presence and concentration of the uranium mineralization. A summary of drilling activities is given on the following page.

		<u>Number of Holes</u>	<u>Feet Drilled</u>
Henry Mountain District		196	82,391
Blanding District	Through	368	139,850
Other Areas	August 1979	<u>70</u>	<u>71,315</u>
	1979 Total	634	293,556
	1978 Total	3,102	601,810
	1977 Total	<u>3,185</u>	<u>765,911</u>
	GRAND TOTAL	6,921	1,660,677

ORE RESERVES

Results of the exploration program in the Shootering area have defined ore reserves within 2 major mine units in the Shootering Canyon Project area (i.e., Tony M and Frank M) and also located lesser reserves within 7 areas located in the Blanding District. Ore reserve estimates for the Shootering area have been made using conservative (industry) standards. In addition, drilling results are only in the preliminary stage for the Blanding properties. Therefore, it is reasonable to expect that there will be a significant increase in reserves as development continues.

An updated reserve estimate has been prepared based on additional drilling which has been performed in the Shootering area. As a result, the following additions to reserves have been made:

SUMMARY OF CHANGES IN SHOOTERING ORE RESERVES

	<u>Increase</u>	<u>New Total</u>	<u>Percent Increase</u>
Indicated Pounds	460,000	7,210,000	7
Potential Pounds	1,620,000	4,040,000	67
Total Pounds	2,110,000	11,250,000	23

This addition to reserves could add approximately four years to the projected project life at Shootering.

OBJECTIVES OF THE 1980 EXPLORATION PROGRAM

The 1980 objectives of the department will focus on the discovery and development of additional ore reserves within the haulage distance to the Shootering processing facility.

- (1) Pre-engineering drilling will take place on 4 properties (three in Blanding and one in Shootering) which are known to host ore.
- (2) Exploration evaluation will continue on all properties presently held by Plateau in order to determine whether sufficient potential exists to warrant additional work.

- (3) Land and geologic reconnaissance will take place in order to determine the favorability of approximately thirty target areas defined by the 1979 Uravan Compilation Program. Land acquisition will be initiated in those areas which are still found to have favorable characteristics once the reconnaissance evaluation is complete.
- (4) A systematic compilation and geologic analysis will be initiated for the Henry Mountains District. This program will define areas of favorability similar to the results of the Uravan Study. This program will also provide a standardized data base on which all future regional work can be based.
- (5) Geologic model generation and regional evaluation will be performed in order to provide a basis for future exploration programs of Plateau.

D. H. Underhill
October 3, 1979

ORE RESERVE ESTIMATE FOR SHOOTERING CANYON

AREA	<u>Indicated</u>			<u>Potential</u>		
	TONS (MM)	GRADE U308	# U308 (MM)	TONS (MM)	GRADE U308	# U308 (MM)
Tony M	2.1	.12%	4.7	1.4	.12%	3.0
Northern Extension	.1	.16%	.3	.1	.16%	.3
Frank M	1.0	.10%	2.06	.3	.11%	.74
Lucky Strike 10	.08	.10%	.15	--	--	--
TOTAL	3.28	.11+%	7.21	1.8	.11+%	4.04

GRAND TOTALS -- Tons (MM) -- 5.08
 Grade U308(%) -- .11+%
 Pounds U308 (MM) -- 11.25

3.28
 1.8

 5.08

D. H. Underhill
 Revised 10/2/79

CHRONOLOGICAL HISTORY OF THE SHOOTERING CANYON PROJECT
AND PLATEAU RESOURCES LIMITED

- 190 million years before present -- Deposition of Salt Wash Member within a braided stream system. Uranium ore deposited from ground waters.
- 38 million years before present -- Intrusion of Mount Hillers and other Henry Mountain igneous rock bodies.
- 1938 -- Lucky Strike claims located in Shootering Canyon.
- 1943 -- Manhattan Project related geologic studies to locate uranium included mapping and investigations of the Henry Mountain area.
- 1913 to 1965 -- About 50,000 tons of uranium/vanadium ore produced from all of Garfield County.
- 1970 -- Rio Amex carried out drilling program in area of Tony M and Frank M Mine without sufficient success to continue program.
- June 7, 1976 -- Plateau Resources Limited incorporated as a Utah Corporation.
- February 1, 1977 -- Grand Junction office of Plateau Resources Limited established.
- February, 1977 -- Ore first discovered in what was to become the Tony M Mine.
- June 17, 1977 -- Woodward Clyde retained; site selection and environmental study initiated for planned mill.
- August, 1977 -- Ore first discovered in what was to become the Frank M Mine.
- September 27, 1977 -- Mountain States retained to design Shootering uranium processing facility.
- May 1, 1978 -- Plateau occupied new offices at 772 Horizon Drive, Grand Junction.
- May 5, 1978 -- License application submitted to Nuclear Regulatory Commission.
- September 1, ~~1978~~¹⁹⁷⁷ -- Driving the main haulageways for the Tony M Mine was started.
- September 21, 1979 -- License received from Nuclear Regulatory Commission.