University of Wisconsin-Extension

GEOLOGICAL AND NATURAL HISTORY SURVEY
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Madison, Wisconsin 53705

M.E. Ostrom, State Geologist and Director

A COLLECTION OF URANIUM INVESTIGATIONS REPORTS

by

E.H. Hare, jr.

Open-File Report 56-4

1956

56-4

Ref. to

WISCONSIN GEOLOGICAL SURVEY ~~REPORT~~

Purpose of the Report: To investigate an uranium prospect.

Date of Examination: July 2, 1956, by E.H. Hare, Jr.

Location: The prospect is located on Fred Anklam's farm in S½ of sec. 23, and the N½ of sec. 26, T25N, R12E, in Waupaca County, Wis.. The farm is less than one mile northeast of Big Falls, on Co. Hwy "G". The prospect pit is just inside of the north-south line fence which crosses Anklam's driveway, a short distance from Co. Hwy "G".

Owner of the Property: Fred Anklam.

Prospectors: George Friedrich, George Kuskowski. Their addresses have been mentioned in a previous report.

Work done thus far: A few shallow pits have been blasted in the granite. The pits are less than 2 feet deep. Nothing was exposed in the pits to warrant further work.

Geology of the Immediate Area: Granite ridges are common in the immediate area, occupying nearly 50% of the surface area. The granite appears to be segregated into alternating coarsely crystalline and medium-grained bands. The bands average 10-50 feet wide. They also pinch out in places. Some of the granite is very porphyritic.

Description of the "deposit": The pit is located in a finer-grained gray granite, close to the contact of a coarser-grained red granite. The gray granite has a very high amount of purple fluorite, up to 2%, but the amount of radioactivity is not much greater than that for the adjacent red granite.

Economic Possibilities: Nothing can be seen , and the amount of radioactivity compared to the surrounding rock is not great enough to warrant further investigation.

WISCONSIN GEOLOGICAL SURVEY REPORT

Purpose of the Report: To examine an uranium prospect.

Date of Examination: July 5, 1956, by F.H. Hare, Jr.

Location: The prospect pits at this location are on the south side of Co. Hwy "M", about 2 miles east of Tigerton. Turn south from Co. Hwy "J" onto a dirt road located about 100 yards west of the Tigerton Dells Tavern. Follow the dirt road for several hundred feet until a pit or trench blasted in solid rock can be seen on the west side of the road. The approximate location is in NE¼, sec. 15, T26N, R12E, in Shawano County. See the diagram showing Pits #1 and #2.

Geology of the Immediate Area: Coarse red granite and minor medium-grained gray granite outcrops are prevalent along the _____ River, and in the hills.

Description of the Deposit at Pit #1: Claude and James Pearson of Wisconsin Rapids have dug a 35-40 feet long trench following a thin ½ to 1 foot pegmatite (tabular) which strikes east-west. The trench is from 1 to 4 feet deep. The pegmatite almost forms a dividing line between a coarse, pink biotite granite to the north, and a much finer gray granite (1mm diameter grains) to the south. Oftentimes there is a zone of gray granite or red and gray gneissic granite which is a few inches to 4 feet wide, separating the pegmatite from the red granite. There are many small "pencil line" veinlets that have a red hematite stain 3/4 inches wide on either side of the veinlets. The veinlets strike N15-20E.

The average count of the highest zone of radioactivity is about 250-350 counts per second near the pegmatite. A high count of 1250 c.p.s. has been obtained in one very localized spot at the western extremity of the trench. The background count of the host rock is about 100 counts per second.

Economic Possibilities: Doubtful.

Description of the Deposit at Pit #2: A very coarse tabular pegmatite striking N55W and dipping to the southwest is found in a host rock of pink granite. The pegmatite is from 6 inches to 18 inches wide. It contains coarse quartz and feldspar grains up to 4 inches in diameter, and minor grains of biotite averaging 1/4 to 3/8 inches in diameter. Some yellowish (limonite) stain is also present in the pegmatite. The pink granite host rock has feldspar crystals average 3/8 inches long. Mafics constitute 30-40% of the total rock. Quartz and feldspar comprise the rest of the rock. A bleached zone with a total surface width of 25-30 feet borders the pegmatite on either side. One can see the various "waves" of alteration of the granite on the northeast wall where the rock is freshly exposed. The mafics are among the last of the coarse granitic minerals to disappear or diminish in seze. The dirty white, bleached zone is fine-grained and appears to be of a cataclastic nature. Some large feldspar crystals which still persist poikilitically enclose small quartz globules, giving the feldspar the appearance of a graphic granite.

Many parallel, close-spaced joints and fissures are present in the bleached zone, striking in the same general direction as the pegmatite. These fissures increase in dip from 64° southwest in the footwall bleached host rock of the pegmatite, to 74° southwest in the bleached host rock of the hanging wall of the pegmatite. The fissures are often stained a deep hematitic red. A large area of the bleached rock may be completely stained red due to certain zones in which the fissures are exceptionally numerous.

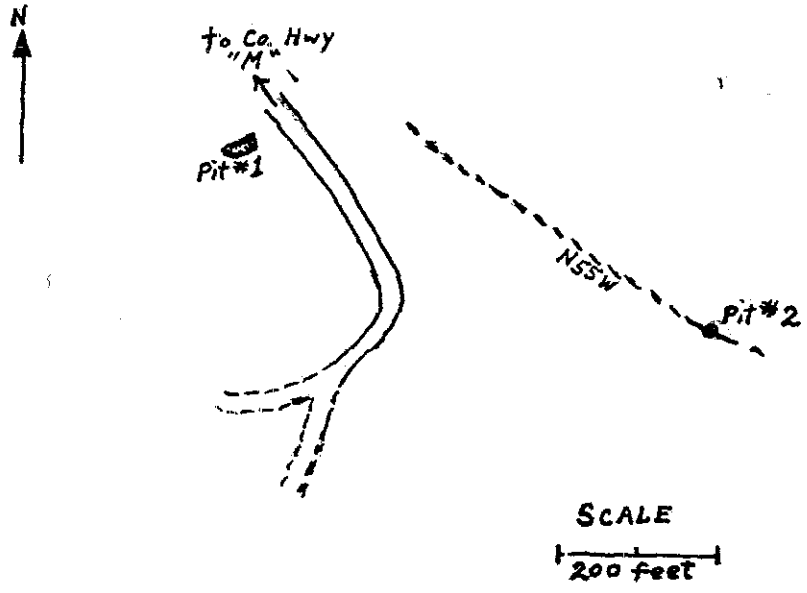
Radicactivity counts of the granite host rock average 110 counts per second. The radioactivity increases in the bleached zone, having a reading of 350 counts per second in the bleached hanging wall, just above the pegmatite body. The pegmatite itself averages 210 c.p.s.. The radioactivity is lower in those parts of the bleached rock that are badly fissured and hematite stained.

A very red soil zone can be traced fro 550 to 600 feet northwest of the outcrop containing the prospecting pit, before disappearing under a swamp. The red soil zone can also be traced several hundred feet southeast of the pit. See diagram.

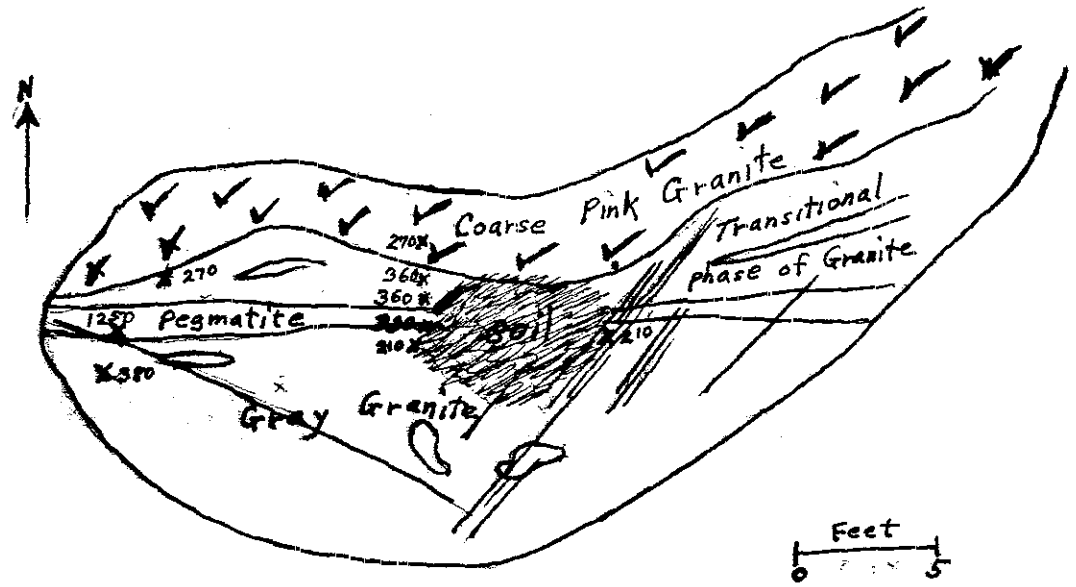
Economic Possibilities: The wide zone of bleaching present on either side of the pegmatite show that hydrothermal solutions were active. Therefore, this feature, together with the hematite stain and greater radioactivity associated with the bleached zone, and the length of the deposit suggest that further exploration should be warranted.

Samples of the deposit exposed in Pit #2: There are samples of the bleached granite, the hematite-stained bleached granite, and of the pink granite host rock. One sample shows a contact between the pink granite and the bleached phase of rock.

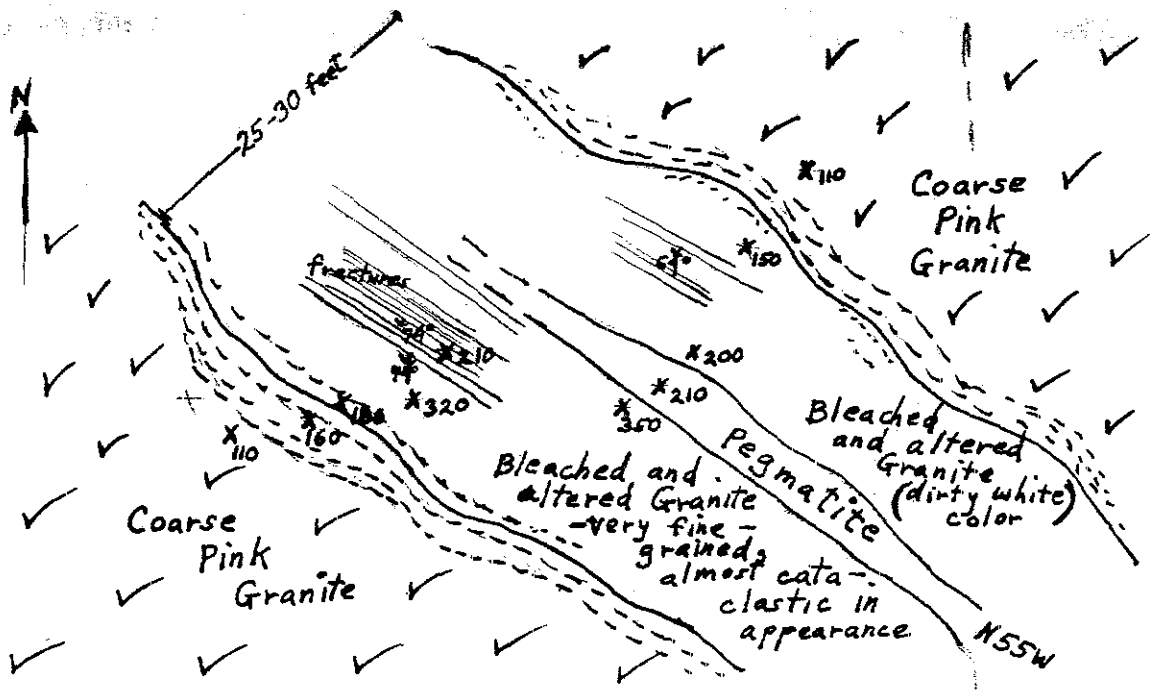
PLAN VIEW of the deposits mentioned above:



Plan view of a radioactive occurrence exposed in Pit # 1 in NE¼, sec. 15, T26N, R12E, in Shawano County, Wis.. The numbers (270, etc.) represent the amount of radioactivity detected in counts per second.



Plan view of a radioactive occurrence exposed in Pit # 2 at the same general locality as mentioned above.



WISCONSIN GEOLOGICAL SURVEY REPORT

Purpose of the Report: To examine a uranium prospect.

Date of Examination: July 5, and Sept. 1, 1956, by E.H. Hare, Jr.

Location: A shaft, 15 feet deep, has been dug in the search for uranium, a few hundred feet northeast of the Big Falls school, or near the center of sec. 26, T25N, R12E, in Waupaca County.

Owner: R.A. Radies, at Little Falls.

Prospectors: Mr. Radies, his daughter, and her husband, T.R. Steinbach, have formed the Wisconsin Uranium Corporation. They have dug a shaft at least 15 feet deep in the quest for uranium.

Geology of the Immediate Area: There are alternating bands or segregations of coarse, red porphyritic granite and medium and fine-grained red and gray granite. These "belts" or segregations of granite trend roughly east-west. Ridges of granite also trend in the same direction.

Geology of the Deposit: According to Mr. Radies, the greatest concentrations of uranium are associated with rich black (biotite) pockets within the red granite itself. There is no definite pattern of occurrence of these pockets within the granite. The size of these rich pockets are usual y less than one foot in diameter. Mr. Radies has thus far found only a few of the highly radioactive black rock samples. Mr. Radies began digging a shaft for the Wisconsin Uranium Corp. by following a small pipe-like occurrence of an almost solid, sooty, black mass of material containing much biotite. The black mass was less than one foot wide at the surface, and was traced 2-3 feet in depth. An A.E.C. chemical analysis showed a content of 0.25% U_3O_8. See the attached letter.

The 15 feet deep shaft is located in a fine-grained granite of gray color. The texture and fine, parallel lineation of the mafics in the gray granite suggest that it may have originally been a sediment. The shaft was full of water when investigated by the writer. Mr. Radies said that he ran into a "vein" of white material with a thin, black streak present in the center of the "vein". The black, central part of the vein is reportedly radioactive, and widens to two inches about 10 feet deep in the shaft. The writer revisited the area of Sept. 1, but the shaft was again filled with water. Mr. Steinbach, president of the Wisconsin Uranium Corp., said the shaft was now 15 feet deep, and that the black portion of the vein had widened up to 4 inches near the bottom of the shaft. Also, the amount of purple fluorite increased in the vein (and the country rock??) with depth.

There is a short vein present at the eastern corner of the shaft (Figure #1) which the prospectors of the shaft say is a continuation of the vein mentioned above. The vein present at the surface strikes N3-5W, and dips an estimated 80° to the west. The vein terminates about 4 feet south of the shaft where it is a thin black "pencil line" veinlet. About 3 feet from the shaft, the black veinlet varies between 1/15 and 1/20 inches in thickness. Less mafics appear near the vein, outward for a distance of 3/4 inch. The mafic-depleted zone is slightly stained red. As the shaft

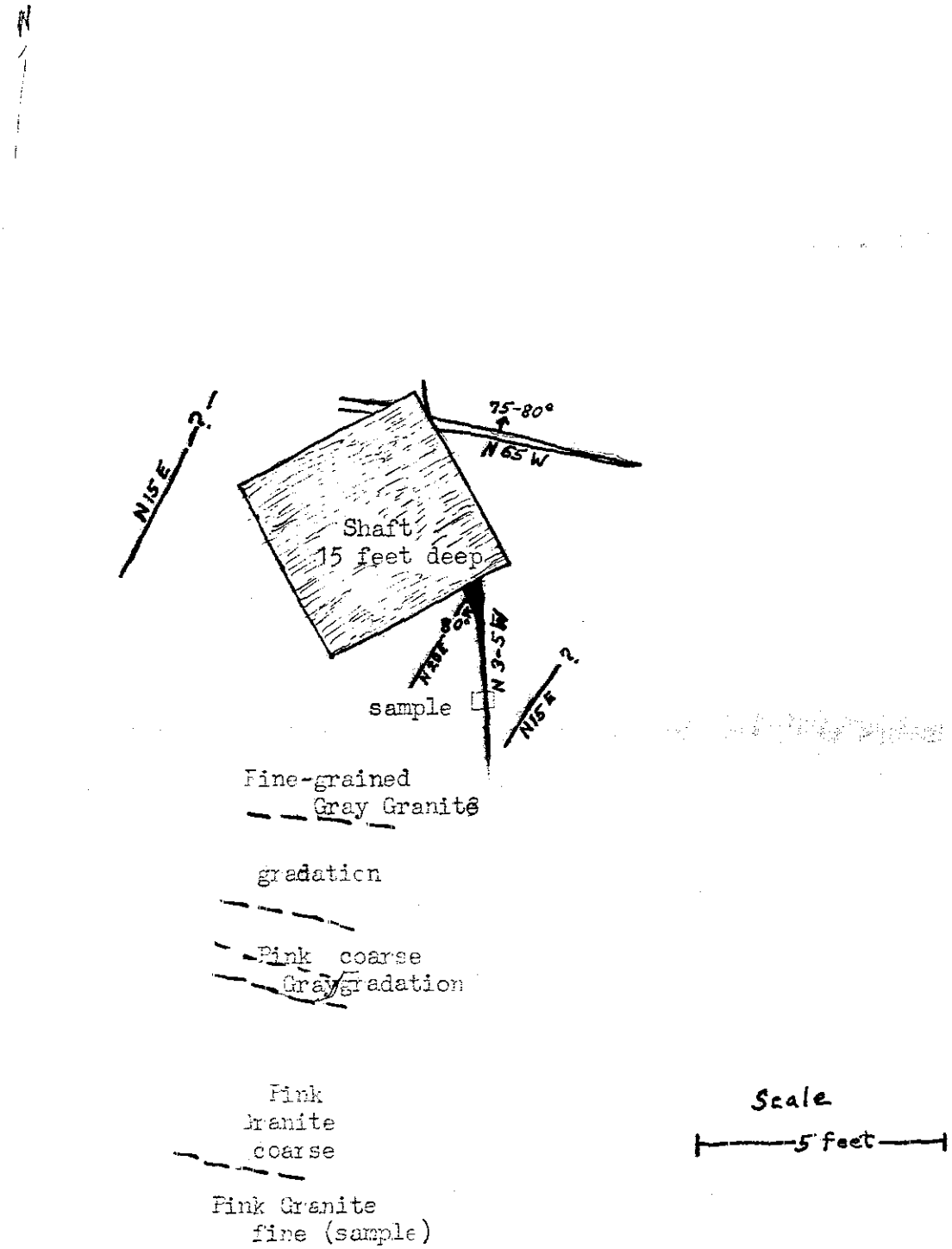
is approached, the black veinlet becomes pegmatitic as quartz and feldspar become major constituents of the vein. This pegmatite vein is 4 inches wide at the shaft opening. A thin, black, hair-like veinlet is present just east of the northern apice of the opening of the shaft. It is believed that this veinlet is a part of the vein mentioned above.

Economic Possibilities: No comment will be made until the shaft is pumped dry so the writer can personally examine the ~~mineral~~ wall rock relationships and the mineralogy of the vein.

Samples: There is one sample of coarse red granite, a sample of a finer-grained red granite, a mafic pocket of concentration found in the gray granite, and two specimens showing the thin, black veinlet cutting the fine-grained gray granite. Note the accompanying red hematite stain in the last mentioned samples. The large sample containing the black veinlet has been marked on the diagram.

FIGURE #1

Plan view of the uranium prospect shaft at Big Falls, Wisconsin.



WISCONSIN GEOLOGICAL SURVEY REPORT

Purpose of the Report: To examine an uranium prospect.

Date of Examination: Sept. 1, 1956, by E.H. Hare, Jr.

Location: A prospect pit is located in back of R.A. Radies' farm, in the south central part of sec. 26, T25N, R12E. Radies' farm is along County Highway "E", about ½ mile west of Little Falls.

Owner of the property: R.A. Radies, of Little Falls, Wis..

Prospectors: The Wisconsin Uranium Corporation (see preceding report of the shaft at Big Falls for the officers of the Corporation).

Work done thus far: A prospecting pit has been blasted in solid red granite. The pit is about 6 feet deep. Later core drilling did not disclose anything significant to warrant further exploration.

Geology of the Area: Coarse pink biotite granite with local variations and bands of medium-grained granite.

Geology of the Deposit: The rock consists of segregations of coarse and medium-grained red granite. A background count of radioactivity of the host rock is 150 counts per second. The count rises to 170 counts per secohd near the edge of the prospect pit. The red granite at the pit is very uniform in grain size. A few short, thin lenses of fine-grained gray granite trend northwest. The zone of radioactivity trends roughly northwest, and is not confined to any one type of rock. In fact, there is no physical evidence seen to explain this feature. Radioactivity counts average 400-500 counts per second. A greenish-black coating appears on the northeast vertical wall of the pit. Radioactivity is high on this wall. The radioactivity is even higher (600-650 c.p.s.) in the southeast corner of the pit. See diagram in the Field Book

Economic Possibilities: Very doubtful.

WISCONSIN GEOLOGICAL SURVEY REPORT

Purpose of the Report: To examine a radioactivity occurrence.

Date of Examination: Sept. 2, 1956, by E.H. Hare, Jr.

Location: The radioactivity occurrence is located in a granite ridge at the northwest side of the Marion Baseball Park in Marion, Waupaca County, Wisconsin.

Prospector: Wes Mattes, of Marion, Wis..

Work done thus far: None.

Geology of the Immediate Area: The bedrock is represented by red granite. Glacial drift covers most of the area, although the granite ridges are quite prevalent in the general area.

Description of the Deposit: A dike of finer-grained red rock intrudes the coarse red granite host rock. Sharp boundaries separate the dike rock from the granite although their color is essentially the same. The dike does have somewhat of a pinch and swell nature and strikes NNE. The width is from 1½ to 3 feet. The length is at least 100 feet long. Overburden prevents the total length of the deposit from being known. The coarse red granite has a background count of 70-80 counts per second. The fine-grained dike has a radioactivity count of 200-300 counts per second.

Economic Possibilities: A chemical assay should be obtained before anything further is done.

T 25 N R 13 E

WISCONSIN GEOLOGICAL SURVEY REPORT

Purpose of the Report: To examine a radioactivity-bearing prospect.

Date of Examination: Sept. 2, 1956, by E.H. Hare, Jr.

Location: The occurrence is located about 1.6 mile east of the junction of U.S. Hwy 45 and Co. Hwy "G", in the town of Marion. Turn north off of U.S. Hwy 45 onto a dirt road trail that is a couple of hundred feet east of a large gravel pit (also on the north side of the road). Follow the dirt trail northward over the large hill to a stream. The area investigated is where the stream makes a sudden right angle turn from flowing southward to flowing eastward.

Prospector: Wes Mattes, of Marion, Wis..

Geology of the Immediate Area: Outcrops are scarce except for a few ridges and some outcrops along the stream. Coarse and medium-grained phases of red granite are considered to be Pre-Cambrian in age. Pleistocene glacial drift is present.

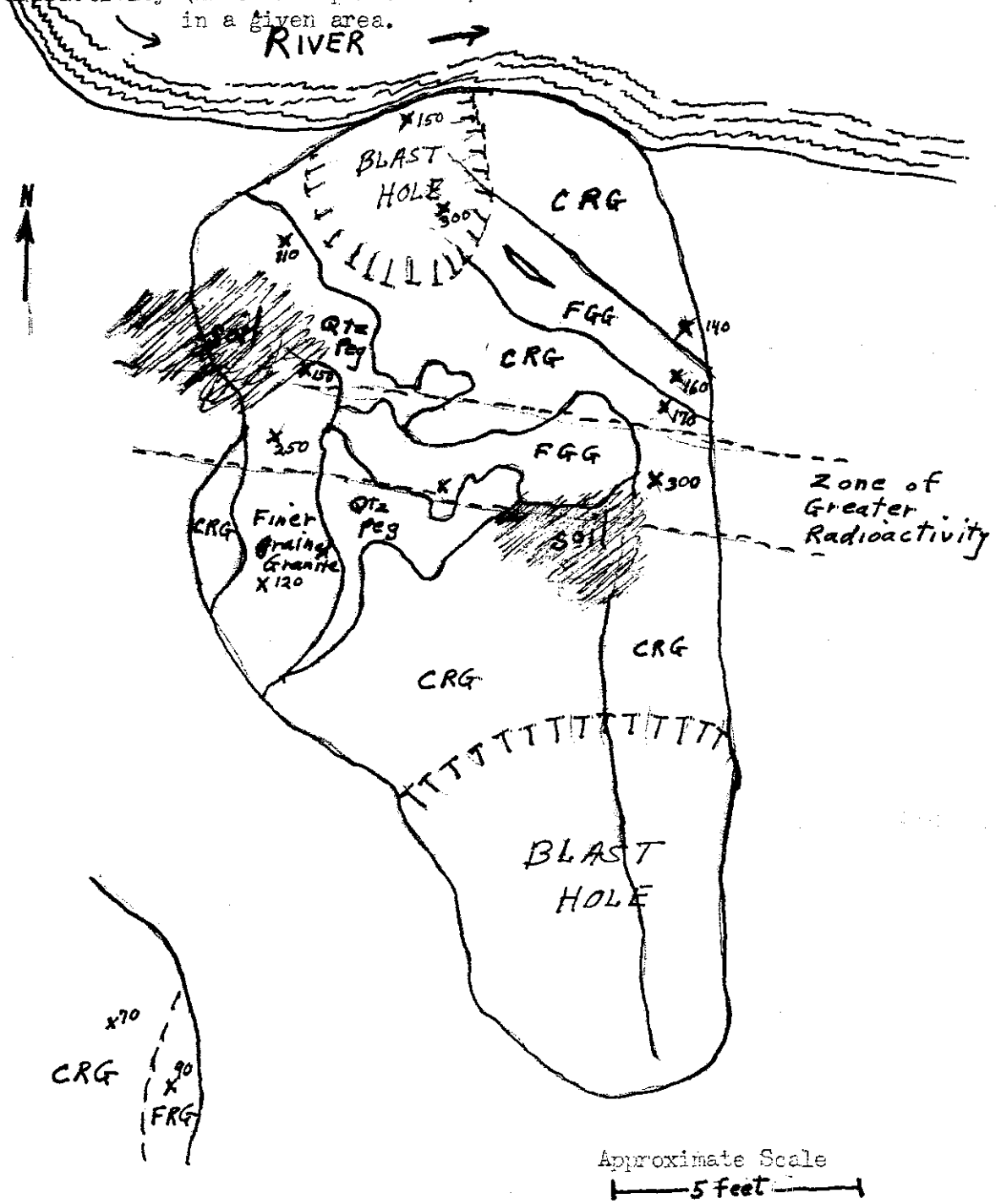
Description of the Deposit: The zone of radioactivity is about 3 feet wide and trends N75W. The length cannot be determined due to the lack of outcrops beyond the river bank. The radioactivity does not seem to be concentrated in a specific phase of the red granite (Figure 1), although a quartz pegmatite is somewhat parallel to the strike of the zone of radioactivity for a very short distance.

Economic Possibilities: It is very doubtful that this occurrence will ever prove to be of any value. Although Mr. Mattes had blasted a shallow pit about one foot deep, the writer could find nothing to warrant further exploration of this radioactivity occurrence.

NW¼ Sec 6 T25N R 14E ?

FIGURE # 1

Plan view of a radioactivity occurrence less than two mileseast of Marion, in Waupaca Co., Wisconsin. The numbers (300, etc.) represent amounts of radioactivity (in counts per second) emitted from the minerals of the rock in a given area.



WISCONSIN GEOLOGICAL SURVEY REPORT

Purpose of the Report: To examine an uranium prospect.

Date of Examination: Sept. 6, 1956, by E.F. Hare, Jr.

Location: Follow Co. Hwy "M" 0.2 mile east of the Tigerton Dells Tavern. Then walk north between two large rock ridges for 500-700 feet. A prospecting pit has been blasted into solid rock. The pit is located in NW¼, sec. 14, and/or the SW¼, sec. 11, T26N, R12E, in Shawano County.

Owner of the Property: Ed Minnecheski.

Prospectors: Claude and James Pearson, of Wisconsin Rapids, Wis.

Geology of the Immediate Area: Coarse red granite and minor medium-grained gray granite. Outcrops are excellent in the vicinity, occupying about 50% of the total surface area.

Description of the Deposit: A tabular, hematite-stained pegmatite is found in a host rock of a fine-grained gray granite. (see diagram) The pegmatite strikes N55W, and dips to the southwest. It has an apparent surface width of 3½ to 4 feet. Pink perthite crystals 3-4 inches long are the predominant mineral present. Minor quartz and biotite and an unidentified khaki-green mineral are present. The footwall portion of the pegmatite is fine-grained for at least 6 inches from the contact with the host rock. A large concentration of biotite flakes ¼ inch in diameter is present at the hanging wall portion of the pegmatite. The deep red hematite stain heavily permeates most of the pegmatite near the hanging wall. The black biotite and only a few larger feldspar phenocrysts stand out in the deep red matrix.

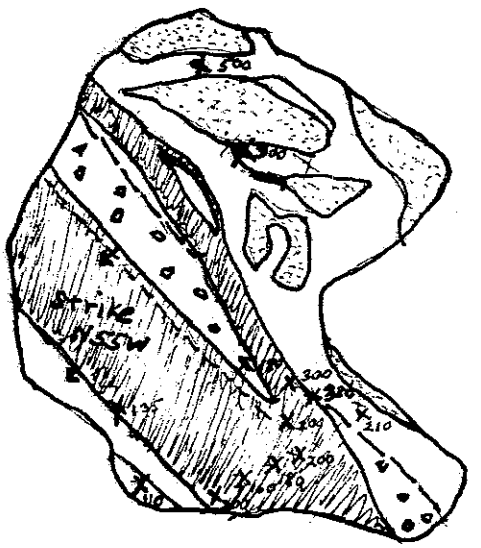
The gray granite has coarser factions in which larger pink feldspar porphyroblasts have developed. It is the writer's opinion that the gray granite represents a former sediment.

Radioactivity of the pegmatite averages 200 counts per sedond. A local radioactivity count of 380 counts per second is obtained from an apophysis of the pegmatite into the host rock at the footwall of the main pegmatite body. Radioactivity of the gray granite host rock averages 110 counts per second. Localized concentrations or pockets of mafics (especially biotite) emit radioactivity up to 500 counts per second.

Economic Possibilities: Doubtful as a uranium deposit. The heavy, dark red hematite concentration and the unidentified khaki-green mineral should be investigated further.

Samples: There is one sample of the coarse pegmatite, three samples of the heavily hematite-permeated pegmatite, one sample of the fine-grained gray granite, and one sample of a mafic concentration (mostly biotite) found in the gray granite near the pegmatite. Pink porphyroblasts can also be seen in this specimen. The three smallest samples in the bag contain the gray-green mineral from the pegmatite.

Plan view of a prospect pit blasted into solid rock in the search for a uranium deposit in $NW\frac{1}{4}$, sec. 14, and/or $SW\frac{1}{4}$, sec. 11, T26N, R12E. The numbers (180, etc.) represent the amount of radioactivity detected in counts per second.



Approximate Scale

5 feet

Pegmatite

Granitized diorite with feldspar porphyroblasts up to $\frac{1}{2}$ inch in diameter.

Granitized diorite with smaller feldspar porphyroblasts.

Diorite or fine-grained Gray Granite.

WISCONSIN GEOLOGICAL SURVEY REPORT

Purpose of the Report: To examine an uranium prospect.

Date of Examination: Sept. 9, 1956, by E.H. Hare, Jr.

Location: The uranium occurrence is located along the south bank of the Black River, in the NE corner of NW¼, sec. 32, T29N, R2W, just west of Withee in Clark County.

Prospectors: Two brothers, Edward and Bruno Pawlowicz, found the occurrence while prospecting for uranium.

Geology of the Immediate Area: The basement rock consists of rather coarsely banded gneisses and schists of Pre-Cambrian age. Some greenstones are also present. Foliation of the pre-Cambrian rock strikes N50W. A A fault striking N75E cuts the Pre-Cambrian rock. A glauconitic sandstone (of Cambrian (?) age) unconformably overlies the Pre-Cambrian gneiss. Ed Pawlowicz states that red quartzite is present on the north side of the river, further east of the immediate locality. He also says that farther east of here, there are massive blocks of sandstone as "large as a house". According to the Pawlowicz brothers, the only place that the gneiss and shist outcrops along the river in the area is at this locality and for about 400 feet along the river.

The Pawlowicz brothers also mentioned that a 600 foot deep drill hole near Owen (approximately 4 miles east of this locality) intersected a black, greasy band or vein within dolomite host rock. Basements dug in the area around Owen hit dolomite. The Pawlowicz brothers say that the dolomite is in a "dome" about 3 miles in diameter.

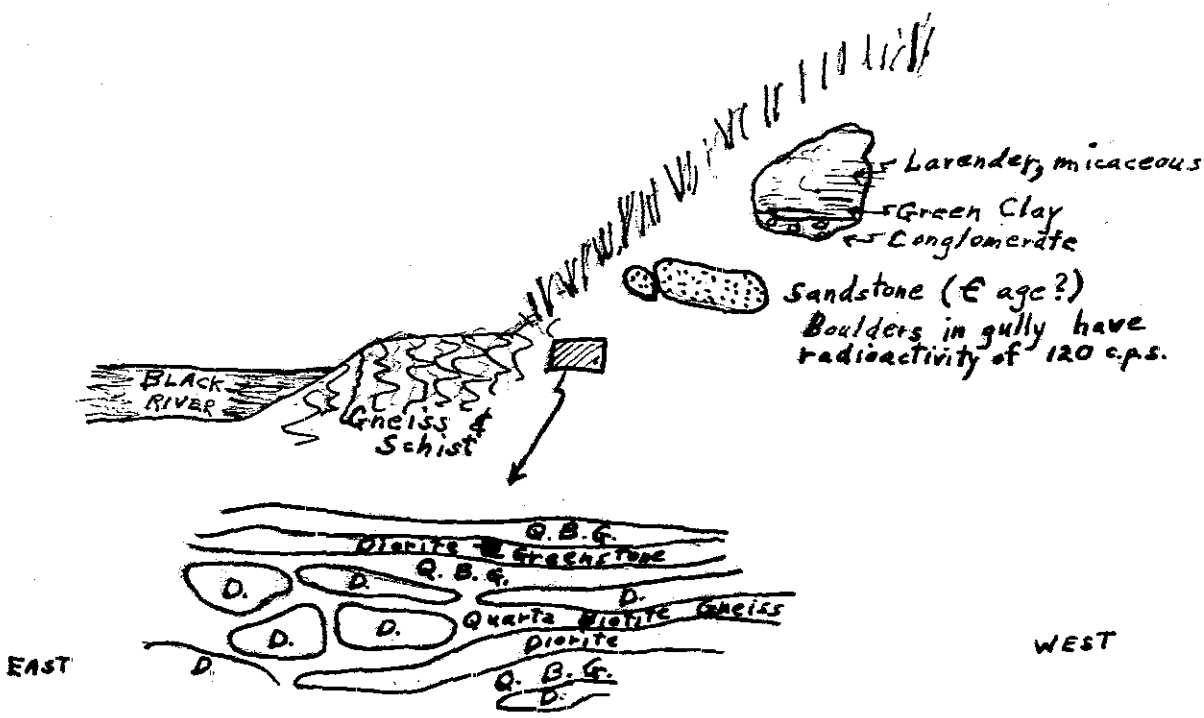
Description of the Deposit: The uranium mineral(s) is concentrated in biotite-rich, quartzo-feldspathic segregations of the gneiss. The dioritic portions have a very low amount of radioactivity. Background count averaged 50 counts per second. The highest count obtained from the urnaium-rich quartzo-feldspathic lens was only 120 counts per second, or less than 3 times background. Yet, a chemical analysis by the U.S.G.S. showed a content of 0.111% U_3O_8. The thickness of the lens was indeterminable because of its location at the base of the overlying soil. A diagram shows the areal view and geology of the deposit.

Samples: There is one sample of quartz-feldspar-biotite gneiss, a sample of an amphibolite band, and two samples of a glauconitic(?) sandstone.

This appears to be nonsense. Thin ss is present in this area underlain by x lines. Have good well records + samples - none indicate dol.

GA

Cross-section showing an uranium prospect along the Black River, in the NW¼, sec. 32, T29N, R2W, just west of Withee in Clark County, Wis..



Approximate Scale (for the enlargement)

1 foot

Background Radioactivity 50 c.p.s.

Q.B.G.	Quartz-biotite Gneiss
D.	Diorite
c.p.s.	counts per second of radioactivity

Report
for AEC

WISCONSIN GEOLOGICAL SURVEY ~~REPORT~~

Purpose of the Report: To investigate uranium prospects.

Dates of Examination: July 5, Sept. 4, 1956, & April 23, 1957, by E. Hare, Jr.

Location: A series of six exploratory pits have been blasted into an east-west ridge of granite that crosses Co. Hwy "S". Four pits are east of the road, and two pits are west of the road. The pits (F.&K. Claims)are a couple of hundred feet north of a stream crossing Co. Hwy "S". The pits are in SW¼, sec. 17, and the NE¼, sec. 20, T25N, R12E, or about half-way between the towns of Marion and Big Falls, in Waupaca County.

Owners of the Property: Walt Arndt and _____

Prospectors: The property is leased to George Friedrich of 410 Nassau St., Menasha, and Henry Kuskowski, of 725 3rd St., Menasha, Wis.. The two men are partners.

Geology of the Immediate Area: Coarse red granites in bands and segregations occur in the area. The different textured bands have an ENE trend. East of Co. Hwy "S", greenstone inclusions are present in the granite. The granite assumes somewhat of a gray color due to assimilation of the greenstone. A few small aplitic veins cut the granite. These veins have a slightly higher average count of radioactivity than the granite. The major joint pattern in the granite is N20-35E. A minor joint system is also present.

Description of the Deposits: Pit #3, which lies 150 feet west of Hwy "S", is the only prospect pit that shows any possible economic promise.to warrant further prospecting. Hence, only this pit shall be discussed. When Pit #3 was visited on July 5, it was about 4 feet deep. A count of 200 to 250 counts per second was obtained on fresh rock exposures in the pit. One small area or concentration of mafics gave a reading of 600 c.p.s.. When Pit #3 was revisited on Sept. 4, further blasting had deepened the pit to 5 or 6 feet deep. A zone of radioactivity could now be detected. It has a N30W trend, and an apparent dip of 45° to the southwest. The zone of radioactivity is defined by the presende of large black, equi-dimensional hornblende crystals. The crystals range from ½ to 1 inch in diameter. The hornblende bearing zone is 14-16 inches wide near the base of the pit. This zone extended to within 1 foot of the surface of the outcrop, before becoming indistinguishable. A 3-4 inch zone of closely fractured rock, stained a deep red-purple color, forms the upper boundary of the hornblende zone. The base of the hornblende zone is characterized by large pink phenocrysts of perthitic crystals up to 2 inches long. Some large quartz masses up to 3 inches in diameter are also present. A concentration of hornblende crystals are present at the edge of a quartz bleb, suggesting a possible growth of the quartz mass after the hornblende formed. The matrix consists of quartz, feldspar grains averaging ¼ inch in diameter.

Coarse red granite consitiutes the footwall host rock, and a finer-grained coarse red granite overlies the zone of radioactivity. A micaceous

"vein" dipping 37° to the south was exposed near the bottom of the pit. The micaceous "vein" was principally composed of very fine flakes of muscovite. The vein varies from 1 inch wide on the north side of the pit, to 3 inches wide at the bottom of the pit. It is not exposed at the surface of the outcrop.

When Pit #3 was revisited in April 23, 1957, the main pit was full of water, but further blasting by Mr. Friedrich had widened the southwest side of the pit. This exposed a non-radioactive, dirty tan-white chalcedonic vein. The vein is striking N32W, and dipping almost vertically. The chalcedonic vein is 2-2½ inches wide. There are a series of joints or fractures parallel to the strike of the vein. Often a dark red stain coats the fractures or joints. The stain becomes a Chinese red to limonitic yellow as the chalcedonic vein is approached. Wall rock alteration of the host rock adjacent to the chalcedonic vein was mainly the alteration of hornblende to epidote or actinolite for one foot on either side of the vein.

Southwest of Pit #3, an irregular NW trending contact divides the coarse red granite surrounding the pit from a porphyritic granite (brecciated?). The porphyritic granite has large feldspar phenocrysts averaging 1½ inch in diameter in a matrix of biotite and epidote averaging 1-2 mm. Radioactivity is slightly higher in the porphyritic (brecciated?) granite mass than in the coarse red granite to the east.

Economic Possibilities: The radioactivity deposit exposed in Pit #3 is one of the few prospects examined by the writer that even shows the radioactivity confined to some specific body or zone which can be seen and distinguished with the naked eye. Analyses of selected specimens were analyzed by various government agencies, and chemical analyses of up to 0.25% U_3O_8 were obtained. Core drilling and chemical assays of channel samples should be made before the deposit is abandoned.

Samples: One large sample of the radioactivity zone in Pit # 3 shows the large hornblende crystals, the fractured, red-purple band defining the top of the radioactivity zone, and also shows a large bleb of quartz with a concentration of hornblende crystals at the boundary of the quartz mass. The quartz probably formed after the hornblende had formed. Mr. Hanson, the State Geologist, also has several samples of rock from the zone of radioactivity.

2 carbons

WISCONSIN GEOLOGICAL SURVEY ~~REPORT~~

Purpose of the Report: To investigate an uranium prospect.

Date of Examination: June 23, 1957, by E.H. Hare, Jr.

Location: The deposit is located in a granite ridge just to the north of the farmyard of Fred Anklam, in the SE¼, sec. 23, T25N, R12E, in Waupaca County, Wis..

Owner of the Property: Fred Anklam.

Prospectors: George Friedrich, George Kuskowski, and ____ Kelly.

Work done thus far: A series of trenches and pits have been blasted in the solid bedrock. Also, much of the overburden has been stripped off of an ill-defined zone of radioactivity.

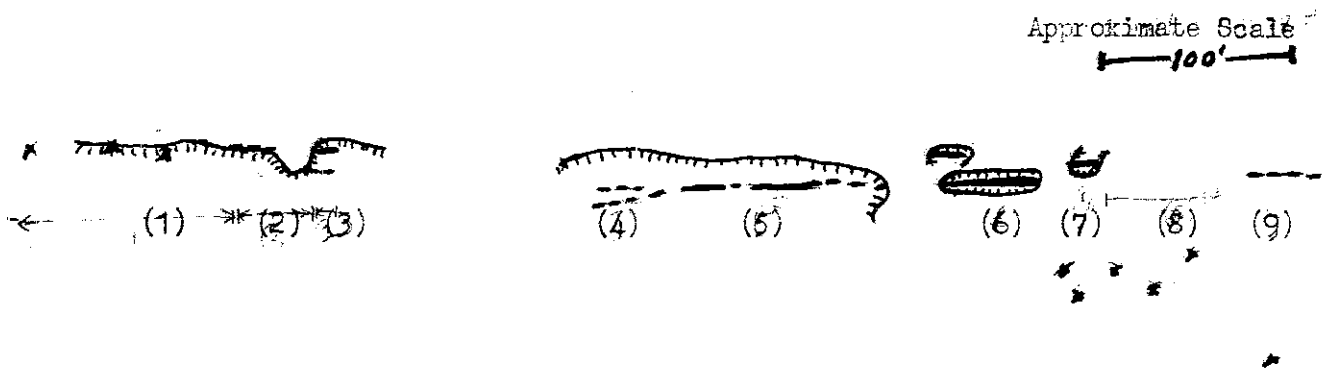
Geology of the Immediate Area: A series of long ridges of bedrock is exposed on the Fred Anklam farm. The ridges are trending roughly in an east-westerly direction. The valleys are heavily covered with overburden.

Description of the Deposit: A zone of radioactivity has been traced for at least 550 feet in an east-westerly direction. The maximum width of the zone is at least 20 feet wide. This zone seems to be comprised of two smaller zones which are roughly parallel to one another. The zones are not continuous, but the lineation of localized "hot spots" and small elongated zones of radioactivity suggest that they lie in the same planes of the zones. The "hot spots" shown on the accompanying map have a radioactivity count of at least 0.10 mR/hour. The adjacent red granite bands and segregations north of this zone average 0.05 mR/hour. Locally, counts of 0.30 to 0.35 mR/hour are obtained in the zone of radioactivity.

One large lens of gray granite lies parallel to, and within, the zone of radioactivity. A large trench has exposed 38 feet of the lens, and the width of the lens is from 1-5 feet. Radioactivity is much higher along the north side of the lens than it is on the south side. The amount of radioactivity in the medium-grained, gray granite lens (0.30 mR/hour) than it is in the adjacent coarse red granite (0.05 mR/hour)

A summary of an earlier investigation of this gray granite lens is as follows: During April 23, 1957, the writer had investigated this deposit. At the time, the overburden had not been removed from the surrounding area beyond a large trench exposing the gray granite lens. Hence, the extent of the deposit was unknown. The greatest amount of radioactivity at the time was found to be concentrated in a fine-grained gray granite segregation or lens, enclosed in a host rock of coarse red granite. The lens strikes N87E. Its estimated length is at least 35 feet, and its width is from a few inches at the western extremity to 5 feet wide near the eastern end of the exposure. The radioactivity of the fine-grained gray granite is over 5 to 6 times the background (200-225 c.p.s.) of the red granite, especially near the northern contact of the lens where counts of 1000 counts per second are common, and often the amount of radioactivity exceeds 1200 counts per second. There is a deep lavender-red zone about 2 to 3 inches wide near the north contact of the lens. Note the large flesh-colored phenocrysts of feldspar in the fine-grained granite phase.

Plan view of the zone of radioactivity found on the granite ridge just north of the Fred Anklam farm in the SE¼, sec. 23, T25N, R12E, in Waupaca County, Wisconsin.



(1) The radioactivity locally reads 0.10 mR/hour. The localized "hot spots" can be found along a minimum distance of 100 feet along the zone of radioactivity.

(2) Radioactivity counts of 0.10 mR/hour are obtained fairly consistently for 35 feet.

(3) Radioactivity counts up to 0.35 mR/hour are obtained here. Counts of 0.15 mR/hour are detected in a zone at least 2 feet wide. The rock exposed is a deep red color, and several feet wide. The exact width of the red zone of rock is unknown. Here, a pit has been blasted out of the side of a granite ledge. The count was around 0.10 mR/hour at the surface of the outcrop, but after blasting out a 6 foot piece of granite, the count then read over 0.35 mR/hour in a very narrow, vertical zone. No actual vein can be observed as of yet, but the high amount of radioactivity can be traced almost vertically on the west wall of the pit. The high amount of radioactivity continues in the same zone for at least another 4 feet deep as proved by a 6 foot drill hole sunk at an approximate angle of 60° in order to intersect the vertical zone of radioactivity at about 4 feet deep.

(4) Mr. Friedrich says that the "vein" branches into three parts(?) here.

(5) Radioactivity counts averaging about 0.10 mR/hour over a two foot wide zone can be traced for several feet along the trend of the zone.

(6) The gray granite lens, which is at least 40 feet long, has counts of over 0.30 mR/hour at the north side of the lens.

(7) Radioactivity counts of 0.10 mR/hour are obtained in a 3 foot wide fine-grained red granite phase. The mineral grains average ¼ inch in diameter. Lineation of the mafic grains are almost vertical.

(8) Radioactivity counts of 0.10 mR/hour are common though spotty.

(9) Radioactivity counts of 0.15 mR/hour can be traced fairly continuously for a distance of at least 25 feet. No veins, fractures, or segregations of any kind can be seen in the field to account for the concentration of radioactivity.

Economic Possibilities: A selected rock specimen from the gray granite lens was sent to the A.E.C. offices in Ishpeming, Michigan, and they have sent the specimen to Washington, D.C., for chemical analysis. If the analysis proves to be sufficiently high to warrant further investigation, channel samples should be taken and assayed, and at least one or two exploratory drill holes should be made to find out the extent and behavior of the body of radioactivity with depth.

Samples: There are several samples of the "gray granite" lens that have an abnormal amount of radioactivity as mentioned in the report. One sample also shows the contact of the north side of the gray granite lens with the coarse red granite.