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REPORT  
ON  
SPECTROMETER SURVEY  
ON  
URANIUM PROPERTY  
FOR  
M & M PORCUPINE GOLD MINES LTD.  
HAWTHORNE MINING DISTRICT, NEVADA

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M A P S

Map 1	-	Total Count	Pocket
Map 1A	-	Potassium Count	"
Map 1B	-	Uranium Count	"
Map 1C	-	Thorium Count	"

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REPORT  
ON  
SPECTROMETER SURVEY  
ON  
URANIUM PROPERTY  
FOR  
M & M PORCUPINE GOLD MINES LTD.  
HAWTHORNE MINING DISTRICT, NEVADA

INTRODUCTION

M & M Porcupine Gold Mines Ltd. has under option a uranium property in the Hawthorne Mining District of Nevada. A Gamma Ray Spectrometer survey has been completed over the entire property to extend the known uranium-bearing zones and outline other targets for exploration.

The following report and accompanying maps describe the results of the survey.

PROPERTY

The property consists of 47 contiguous lode mining claims and fractions located in Ranges 31-E and 32-E of Township 8-N in the Hawthorne Mining District, Mineral County, Nevada, U.S.A. The claims are shown on the accompanying maps and include the following:

Ule Anne Nos. 1 to 5 inclusive  
Little Nickie Fraction No. 1  
" " " No. 1 (amended)  
Black Hill Nos. 1, 2, and 3  
Popcorn Nos. 1 to 7 inclusive  
Gary Nos. 1 to 25 inclusive  
Gary No. 30  
" No. 37  
" No. 40  
" No. 41  
Gary West Extension  
Gary Fraction

The group makes up a total of approximately 938 acres.

## GEOLOGY

The geology of the property is described in a report by John E. Londry, Eng., dated March 14, 1977.

The youngest rocks on the property are volcanics which range in composition from rhyolites to basalts and these are quite widespread throughout the area. The volcanics overlie the Dunlop formation which is composed mostly of sandstone and conglomerate.

The uranium mineralization is described as carnotite streaks and stains occurring in tuffaceous sandstone that underlies basalt. A five foot wide exposure of the sandstone in a pit on Ule Anne No. 2 claim (Line 4E) assayed 0.1%  $U_3O_8$ .

Two drill holes put down prior to 1969 along an east-west strike are reported to have intersected forty-six feet each containing 0.258%  $U_3O_8$  and 0.175%  $U_3O_8$ . These holes are approximately 600 feet apart in the vicinity of the two pits shown on the maps.

The zone of mineralization which appears to have an east-west trend parallels an east-west fault structure slightly to the south. Mr. Londry states that the mineralization may be related genetically to the fault structure.

## SURVEY AND INSTRUMENT DATA

The spectrometer survey was conducted over a network of lines cut and chained at 200 foot intervals in a northeast direction, as shown on the accompanying maps.

The equipment used in the spectrometer surveys was a Model DISA-400A portable Gamma Ray Spectrometer manufactured by Geometrics Ltd. Measurements were made of energy levels of potassium, uranium, thorium and total count. Sampling time was 2 seconds and measurements were taken at regular 100 foot stations with detail measurements at 50 foot intervals over anomalous areas.

## RESULTS OF THE SPECTROMETER SURVEY

The measurements for potassium, uranium, thorium and total count are plotted on separate maps and the results contoured.

An examination of the maps shows that the pattern of anomalous radioactivity on the total count and uranium maps are almost identical. The potassium measurements show the same general pattern but the anomalous readings are more widespread. Some of this is probably due to the presence of granitic intrusions. A noticeable feature is the lack of thorium. There are virtually no anomalous areas on the thorium map with the exception of the southwest corner of the property.

The uranium map shows a distinct east-west trending zone of anomalous values extending westward from the pit on line 4E to the west boundary of the property. The background value is about 3 c.p.s. and the anomalous values go up as high as 92 c.p.s. in the vicinity of the No. 1 pit where the sandstone outcrops. The anomalous values are irregular going west but it is the writer's understanding there is no visible outcrop of the uranium-bearing sandstone. It is possible that the uranium may be found in another rock formation but it does tend to follow an east-west structure. It is quite possible this may be related to the fault structure mentioned earlier.

To the east of the pit there is no radioactivity with the exception of the extreme east end where there is some weak radioactivity. The uranium-bearing sandstone in this barren area is probably underlying the volcanics and is thus not detectable with the equipment.

There is another well defined weak anomaly extending along the road going north from the pit on line 1W. This is in all probability due to the drainage pattern and represents drainage from the uranium-bearing zone.

#### CONCLUSIONS AND RECOMMENDATIONS

The spectrometer survey has been successful in outlining an east-west uranium-bearing zone for a length of at least 5,000 feet. Uranium is present in a sandstone bed exposed in pits and where sampled in outcrops and by drilling both grade and widths are sufficient to make an economic operation.

The radioactive zone is irregular and is complicated by overburden and the fact that the sandstone is overlain in places by the volcanics. The strike of the zone conforms with the east-west fault zone that has been mapped slightly to the south and may be related to it.

- 4 -

It is recommended that the results of the present survey be correlated with geological data available on the property and a drilling program laid out to test the east-west radioactive zone. The drilling program should be confined to short holes to sample and trace the uranium-bearing sandstone and any other radioactive formations.

Respectfully submitted,  
PROSPECTING GEOPHYSICS LTD.

H.J. Bergmann, P. Eng.

Montreal, Que.,  
May 20, 1977.



PROSPECTING GEOPHYSICS LTD. GEOPHYSICAL & GEOLOGICAL SURVEYS  
3518 VENDOME AVENUE, MONTREAL, QUEBEC H4A 3M7 • TELEPHONE 481-1539

April 4, 1977.

M & M Porcupine Gold Mines Ltd.,  
P.O. Box 960,  
Postal Station Q,  
Toronto, Ont. M4T 2P1

Dear Sirs,

This will confirm that our organization will carry out a Gamma Ray spectrometer survey on your property in the Hawthorne area of Nevada.

More specifically, our obligations in regard to this work are as follows:

1. To picket and chain lines with pickets at 100 foot intervals over grids as designated by your company's geologist.
2. To carry out a Gamma Ray Spectrometer survey over the networks of lines using a Model D.I.S.A. 400 spectrometer. Measurements will be taken of total count, uranium, thorium, and potassium at 100 foot intervals along the lines. Detail measurements will be taken at 50 foot intervals over the anomalous areas.
3. Magnetometer test work will be done where designated by your company's geologist.
4. Our organization is to present you with maps and a report describing the results of the survey and giving an interpretation of the results.

Your Company agrees to the following:

1. To pay for the layout of the network of lines, including the chaining and picketing, at cost plus 30%.
2. To pay for the Spectrometer survey at \$120.00 per mile of survey.
3. To pay for the magnetometer test work at cost plus 30%.

....2

4. To pay for the transportation and travelling costs from Val d'Or, Quebec, to the property and return for our operator and supervisor.

5. All payments are to be made in U.S. funds.

A copy of this letter duly accepted and signed by an authorized representative of your company will constitute a working agreement, binding both parties as to conditions of work and payment.

Yours very truly,

PROSPECTING GEOPHYSICS LTD.

  
H.J. Bergmann, P. Eng.

HJB/mc

Agreed and accepted

  
W. Waudin,  
President

May 20, 1977.

Mr. Brian Cranston,  
Vice-President,  
M & M Porcupine Gold Mines Ltd.,  
P.O. Box 960,  
Postal Station "Q"  
Toronto, Ont. M4T 2P1

Dear Mr. Cranston,

Enclosed you will find three copies of our report and maps covering the spectrometer survey carried out on your property in Nevada. We have not plotted the test magnetometer work carried out and this will be forwarded next week. We will also forward all of the staking data as soon as possible.

Sincerely yours,

PROSPECTING GEOPHYSICS LTD.

HJB/mc  
Enclosures

H.J. Bergmann

P.S. We have a blank sepie of the network of lines if you require it for geological mapping. If additional copies of the report or maps are required, please let us know.

June 10, 1977.

Mr. Brian Cranston,  
Vice-President,  
M & M Porcupine Mines Ltd.,  
P.O. Box 960,  
Postal Station Q,  
Toronto, Ont. M4T 2P1

Dear Sir,

Under separate cover we have sent you three additional copies of our report and maps (coloured) as you requested from Peter Ferderber.

Enclosed you will find our invoice for the extra copies.

Sincerely yours,

PROSPECTING GEOPHYSICS LTD.

HJB/mc

*per m.c.*  
H.J. Bergmann

*Rolland*  
*Extra Strong*  
RABOCONTENT

May 31, 1977.

Mr. Brian Cranston,  
Vice-President,  
M & M Porcupine Gold Mines Ltd.,  
P.O. Box 960,  
Postal Station "Q",  
Toronto, Ont. M4T 2P1

Dear Sir,

Enclosed you will find maps showing the results of the magnetometer test work carried out on your Nevada property. The results are rather inconclusive due to the small amount of work completed. There are magnetic anomalies in the vicinity of the uranium anomalies but the relation to the uranium highs cannot be determined at this time. It is possible that magnetic lows are associated with the uranium highs but to fully determine the usefulness of magnetic readings, the test work should be extended over the east-west trending uranium zone. This would then show if there is any direct relationship between magnetic anomalies and the uranium-bearing zone.

Also enclosed are two copies of a map showing the staking completed by our organization on your behalf. Also included are the location certificates from the recorder's office.

Some of the claims in the field did not correspond with the map as given to us originally, namely, Gary 26 to Gary 35. We are enclosing a sketch showing how these are in the field and have now been recorded in this manner. There would appear to be an overlap of some of these claims over the Popcorn claims.

Enclosed you will find our invoice for the entire program carried out in Nevada. If there are any questions, please contact the writer.

Yours very truly,

PROSPECTING GEOPHYSICS LTD.

HJB/mc  
Enclosures

H.J. Bergmann

April 4, 1977.

M & M Porcupine Gold Mines Ltd.,  
P.O. Box 960,  
Postal Station Q,  
Toronto, Ont. M4T 2P1

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5. All payments are to be made in U.S. funds.

A copy of this letter duly accepted and signed by an authorized representative of your company will constitute a working agreement, binding both parties as to conditions of work and payment.

Yours very truly,

PROSPECTING GEOPHYSICS LTD.

HJB/mc

H.J. Bergmann, P. Eng.

ENCLOSURE

April 4, 1977.

Mr. Brian Cranston,  
Vice-President,  
M & M Porcupine Gold Mines Ltd.,  
P.O. Box 960,  
Postal Station Q,  
Toronto, Ont. M4T 2P1

Dear Sir,

Enclosed you will find two copies of an agreement covering the work we are presently conducting for your company in Nevada.

If the terms are as you understood them in the verbal discussion with Peter Ferderber, you could return one signed copy to this office. If there are any special instructions for the drafting and compilation of the data, we would appreciate receiving this at your earliest convenience.

We thank you for the opportunity of carrying out this work.

Sincerely yours,

PROSPECTING GEOPHYSICS LTD.

HJB/mc  
Encl.

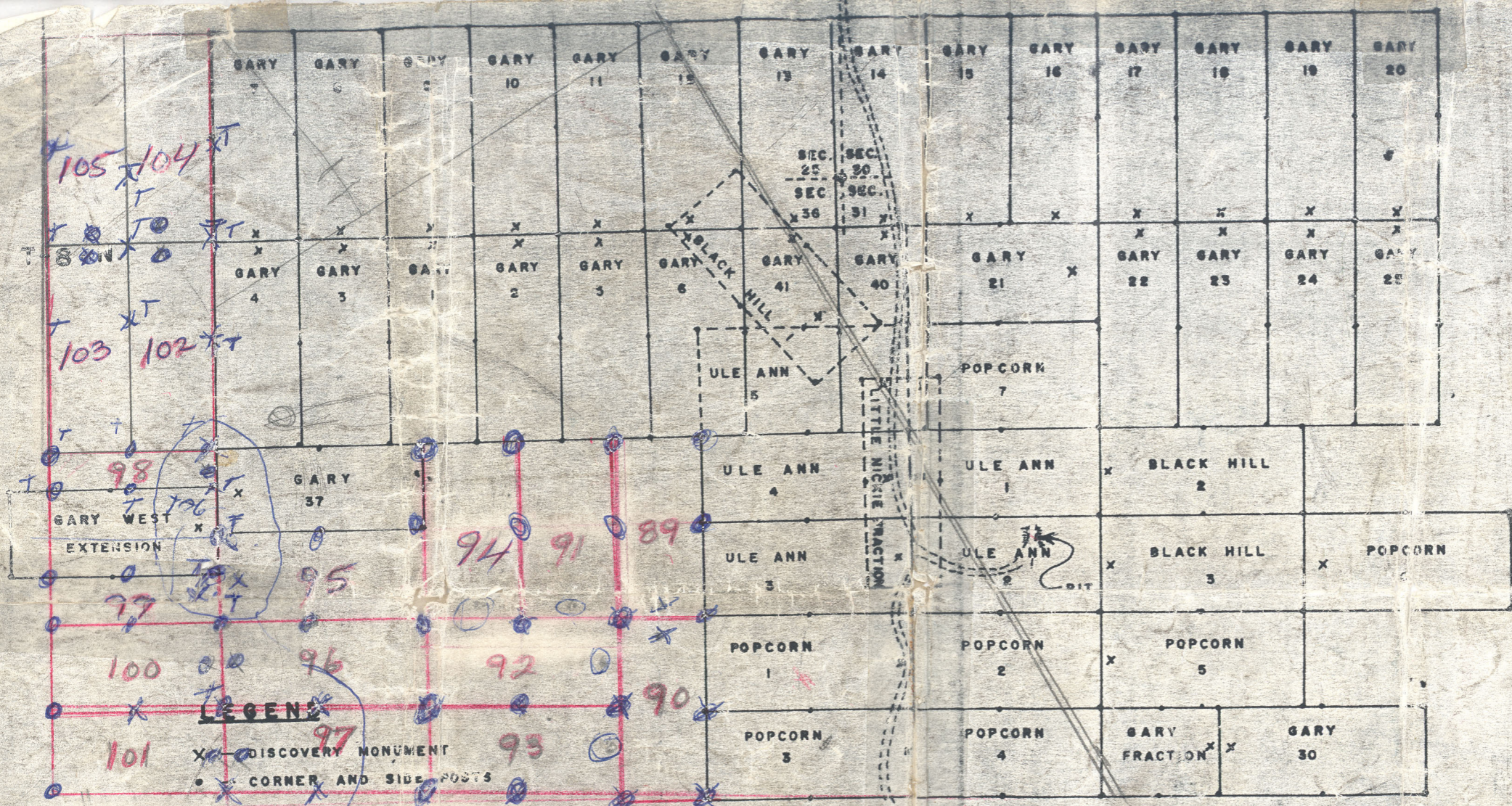
H.J. Bergmann, P. Eng.

cc to P. Ferderber

#204

Air photo (9" x 9" or 18" x 18")  
for Pamlico District

AMS project 145 # 3492



PLAN SHOWING MINING CLAIMS

M & M PORCUPINE GOLD MINES LTD

HAWTHORNE MINING DISTRICT

MINERAL COUNTY, NEVADA, U.S.A.

SCALE: 1" = 1000'

MARCH 1911



REPORT  
ON  
SPECTROMETER SURVEY  
ON  
URANIUM PROPERTY  
FOR  
M & M PORCUPINE GOLD MINES LTD.  
HAWTHORNE MINING DISTRICT, NEVADA

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M A P S

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Map 1A	-	Potassium Count	"
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REPORT  
ON  
SPECTROMETER SURVEY  
ON  
URANIUM PROPERTY  
FOR  
M & M PORCUPINE GOLD MINES LTD.  
HAWTHORNE MINING DISTRICT, NEVADA

INTRODUCTION

M & M Porcupine Gold Mines Ltd. has under option a uranium property in the Hawthorne Mining District of Nevada. A Gamma Ray Spectrometer survey has been completed over the entire property to extend the known uranium-bearing zones and outline other targets for exploration.

The following report and accompanying maps describe the results of the survey.

PROPERTY

The property consists of 47 contiguous lode mining claims and fractions located in Ranges 31-E and 32-E of Township 8-N in the Hawthorne Mining District, Mineral County, Nevada, U.S.A. The claims are shown on the accompanying maps and include the following:

Ule Anne Nos. 1 to 5 inclusive  
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Black Hill Nos. 1, 2, and 3  
Popcorn Nos. 1 to 7 inclusive  
Gary Nos. 1 to 25 inclusive  
Gary No. 30  
" No. 37  
" No. 40  
" No. 41  
Gary West Extension  
Gary Fraction

The group makes up a total of approximately 938 acres.

## GEOLOGY

The geology of the property is described in a report by John E. Londry, Eng., dated March 14, 1977.

The youngest rocks on the property are volcanics which range in composition from rhyolites to basalts and these are quite widespread throughout the area. The volcanics overlie the Dunlop formation which is composed mostly of sandstone and conglomerate.

The uranium mineralization is described as carnotite streaks and stains occurring in tuffaceous sandstone that underlies basalt. A five foot wide exposure of the sandstone in a pit on Ule Anne No. 2 claim (Line 4E) assayed 0.1%  $U_3O_8$ .

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The zone of mineralization which appears to have an east-west trend parallels an east-west fault structure slightly to the south. Mr. Londry states that the mineralization may be related genetically to the fault structure.

## SURVEY AND INSTRUMENT DATA

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The equipment used in the spectrometer surveys was a Model DISA-400A portable Gamma Ray Spectrometer manufactured by Geometrics Ltd. Measurements were made of energy levels of potassium, uranium, thorium and total count. Sampling time was 2 seconds and measurements were taken at regular 100 foot stations with detail measurements at 50 foot intervals over anomalous areas.

## RESULTS OF THE SPECTROMETER SURVEY

The measurements for potassium, uranium, thorium and total count are plotted on separate maps and the results contoured.

- 3 -

An examination of the maps shows that the pattern of anomalous radioactivity on the total count and uranium maps are almost identical. The potassium measurements show the same general pattern but the anomalous readings are more widespread. Some of this is probably due to the presence of granitic intrusions. A noticeable feature is the lack of thorium. There are virtually no anomalous areas on the thorium map with the exception of the southwest corner of the property.

The uranium map shows a distinct east-west trending zone of anomalous values extending westward from the pit on line 4E to the west boundary of the property. The background value is about 3 c.p.s. and the anomalous values go up as high as 92 c.p.s. in the vicinity of the No. 1 pit where the sandstone outcrops. The anomalous values are irregular going west but it is the writer's understanding there is no visible outcrop of the uranium-bearing sandstone. It is possible that the uranium may be found in another rock formation but it does tend to follow an east-west structure. It is quite possible this may be related to the fault structure mentioned earlier.

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#### CONCLUSIONS AND RECOMMENDATIONS

The spectrometer survey has been successful in outlining an east-west uranium-bearing zone for a length of at least 5,000 feet. Uranium is present in a sandstone bed exposed in pits and where sampled in outcrops and by drilling both grade and widths are sufficient to make an economic operation.

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It is recommended that the results of the present survey be correlated with geological data available on the property and a drilling program laid out to test the east-west radioactive zone. The drilling program should be confined to short holes to sample and trace the uranium-bearing sandstone and any other radioactive formations.

Respectfully submitted,

PROSPECTING GEOPHYSICS LTD.

H.J. Bergmann, P. Eng.

Montreal, Que.,  
May 20, 1977.

1 copy

**REPORT  
ON  
SPECTROMETER SURVEY  
ON  
URANIUM PROPERTY  
FOR  
R & R PORCUPINE GOLD MINES LTD.  
NORTHURML. DISTRICT, NEVADA**

May 20, 1977.



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REPORT  
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The radioactive zone is irregular and is complicated by overburden and the fact that the sandstone is overlain in places by the volcanics. The strike of the zone conforms with the east-west fault zone that has been mapped slightly to the south and may be related to it.

It is recommended that the results of the present survey be correlated with geological data available on the property and a drilling program laid out to test the east-west radioactive zone. The drilling program should be confined to short holes to sample and trace the uranium-bearing sandstone and any other radioactive formations.

Respectfully submitted,

PROSPECTING GEOPHYSICS LTD.

H.J. Bergmann, P. Eng.

Montreal, Que.,  
May 20, 1977.



REPORT ON

ULE ANN - LITTLE NICKIE -  
BLACK HILL - POPCORN - GARY  
URANIUM PROPERTY  
MINERAL COUNTY, NEVADA, U.S.A.

FOR

M & M PORCUPINE GOLD MINES  
LIMITED

TORONTO, ONTARIO.

MARCH 14, 1977

JOHN E. LONDREY, ENG.

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## SUMMARY

The subject of this report is a mining property comprising a group of forty-seven contiguous lode mining claims and fractions covering approximately 938 acres and located about twelve miles south east of the Town of Hawthorne, Mineral County, Nevada, U.S.A.

Uranium mineralization in the form of the mineral carnotite occurs in tuffaceous sandstone beds on the property, and has been noted in a pit as well as being reported in two drill holes located about 600 feet apart. These holes were reported as follows:

Hole No. 1 from 80 feet to 126 feet: 0.258 % U308

Hole No. 2 from 80 feet to 126 feet: 0.175 % U308

A third hole, about 700 feet east of Hole No. 1, is believed to have intersected an even better grade. However, this hole caved, and was lost before it could be logged.

A channel sample taken across about five feet of the sandstone on the wall of the pit assayed 0.1 % U308.

This property has been optioned by M & M Porcupine Gold Mines Limited; an exploration programme consisting of a radiometric survey and drilling to verify the results obtained in previous holes and to test new anomalies is recommended. The estimated cost of this programme is \$80,000.

## INTRODUCTION

This report has been written at the request of M & M Porcupine Gold Mines Limited, which has optioned forty-seven contiguous lode mining claims and fractions in the Hawthorne Mining District, Mineral County, Nevada, U.S.A. These claims were staked originally to cover uranium mineralization located within their boundaries.

## DESCRIPTION OF PROPERTY

The Ule Ann - Little Nickie - Black Hill - Popcorn - Gary group consists of forty-seven contiguous lode mining claims and fractions located in Ranges 31 - E and 32 - E of Township 8 - N in the Hawthorne Mining District, Mineral County, Nevada, U.S.A.

The claims are recorded in the books of the local recording office at Hawthorne, and are described as follows:

<u>CLAIM</u>	<u>BOOK</u>	<u>PAGE</u>
Ule Ann No. 1	3	446
Ule Ann No. 2	3	445
Ule Ann No. 3	4	731
Ule Ann No. 4	4	732
Ule Ann No. 5	4	733
Little Nickie Fraction No. 1	29	264
Little Nickie Fraction No. 1 (amended)	33	991
Black Hill No. 1	9	41
Black Hill No. 2	9	42
Black Hill No. 3	9	43
Popcorn No. 1	11	164
Popcorn No. 2	11	165
Popcorn No. 3	11	166
Popcorn No. 4	11	167
Popcorn No. 5	11	168
Popcorn No. 6	11	169
Popcorn No. 7	11	170
Gary Nos. 1 to 5, inclusive	46	16 to 20
Gary No. 6	45	308
Gary Nos. 7 to 11, inclusive	46	21 to 25
Gary No. 12	45	309
Gary Nos. 13 to 19, inclusive	45	310 to 316
Gary No. 20	46	26
Gary Nos. 21 to 24, inclusive	45	317 to 320
Gary No. 25	46	27
Gary No. 30	45	321
Gary No. 37	46	28
Gary No. 40	45	322
Gary No. 41	45	323

<u>CLAIM</u>	<u>BOOK</u>	<u>PAGE</u>
Gary West Extension	46	29
Gary Fraction	45	324

The group comprises a total area of approximately 938 acres.

#### HISTORY

The uranium mineralization on these claims was first reported in Bulletin 58 of the Nevada Bureau of Mines in 1961. This Bulletin by Donald C. Ross is entitled Geology and Mineral Deposits of Mineral County, Nevada. Table 6.3 appended thereto makes reference to the Amalgamated Uranium Company in Range 32 - E, Township 8 - N. The work carried out at that time comprised the excavation of pits and other bulldozer workings.

The mineralization is described as carnotite streaks and stains in tuffaceous sandstone underlying basalt; a grab sample assayed 0.4 % U308.

Mr. Kenneth Palosky staked the Ule Ann Nos. 1 and 2 claims in November, 1965; during 1966 and 1967, he staked the remainder of the Ule Ann claims and also the Little Nickie, Black Hill and Popcorn claims. Two drill holes were drilled prior to August, 1969. Both holes indicated a forty-six foot thickness of uranium, and are reported as follows in a report dated August 1, 1969 by a Ralph Campbell of Los Angeles, California:

Hole No. 1 from 80 feet to 126 feet: 0.258 % U308

Hole No. 2 from 80 feet to 126 feet: 0.175 % U308

These holes were drilled about 600 feet apart in approximately an east-west direction. Mr. Campbell further states in his report that a third hole was drilled about 700 feet east of Hole No. 1 which appeared to have a richer intersection of mineralization than the other two holes. However, this hole caved, and was lost before it could be logged. Mr. Campbell recommended more work in his report in order to delineate the mineralization for the purpose of preparing for production. However, no further work appears to have been carried out except for assessment

purposes. Mr. Palosky added the Gary claims to the group in July, 1975.

The Writer visited the Land Recording Office in Hawthorne, Nevada, during the last week of February, 1977, and confirmed that the claims are properly registered in the name of Mr. Palosky, and that they are in good standing.

#### ACCESS

A good gravel road known as the Garfield Flats Road traverses the property and, three miles to the north, joins Highway No. 95 about twelve miles east of the Town of Hawthorne.

#### TOPOGRAPHY AND CLIMATE

The property is located in the Garfield Hills at the north end of the Excelsior Mountains at an elevation of about 6,000 feet above sea level. The local relief is up to a few hundred feet, but access roads can easily be constructed to any part of the property.

The terrain is typically desert, and the climate is arid. While there may be some snow during the winter at this elevation, the only other precipitation occurs as local thunderstorms during the summer and autumn.

#### GEOLOGY

The oldest rocks in the area are volcanics of probably Permian (late Paleozoic) age, and are known as the Excelsior formation. They are overlain by the Luning formation of Triassic age, which is composed of limestone and dolomite, accompanied by subordinate shale, argillite and conglomerate. The Dunlap formation of Jurassic age unconformably overlies the two previous formations, and is composed mostly of sandstone and conglomerate.

The youngest rocks, which in turn overlie the Dunlap formation, are volcanics which have been classed as the Esmeralda formation. They range in composition from rhyolites to basalts, and are widespread throughout the area.

## STRUCTURE

The first structural events were the uplift, folding and erosion of the Excelsior formation before the deposition of the Luning formation, as the Luning overlies the Excelsior with angular unconformity

Further folding and uplift, after the deposition of the Luning formation, is evidenced by the unconformable contact of the Dunlap on the Luning and Excelsior formations.

The intrusion of granitic rocks, probably in the Cretaceous age, is believed to be one of the later events in the Mesozoic orogeny. Faulting in the Tertiary and Quaternary ages was of minor importance in the Garfield Hills.

## MINERALIZATION

Carnotite occurs as canary yellow patches and streaks in a tuffaceous sandstone on the property. An examination of the biggest pit on the Ule Ann No. 2 claim revealed a five foot wide exposure of the sandstone above the bottom of the pit. A channel sample was taken across the five foot exposure which assayed 0.1 % U308.

As stated previously in this report, two drill holes were drilled prior to August, 1969, both of which intersected about forty-six feet of mineralization. These holes were reported to have assayed 0.258 % U308 and 0.175 % U308 respectively over the indicated intersection. Another hole, drilled about 700 feet east of the more easterly hole, was reported to have encountered richer mineralization, giving a total mineralized length of approximately 1,300 feet.

This zone of mineralization obtained in the drill holes parallels an east-west fault structure shown on a geological map of the property. There may thus be a possible relationship between the source of the mineralization and the fault structure.

### CONCLUSIONS

This property is a favourable exploration prospect. The grade of uranium mineralization encountered is sufficiently high to create a viable mining project if adequate reserves can be delineated. The property is well located, easily accessible and with relatively mild climate. Furthermore, there are no political problems of foreign ownership such as are encountered in Canada.

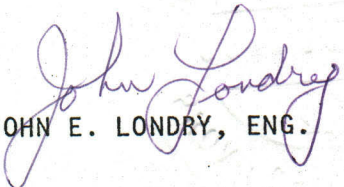
### RECOMMENDATIONS

A radiometric survey should be conducted over the claims immediately surrounding the known areas of mineralization. Following this survey, a drilling programme should be carried out in order to verify the results obtained in previous holes and to test new anomalies outlined by the radiometric survey. If this programme is successful, detailed drilling will be necessary to delineate the mineralized zones.

### ESTIMATED COST OF WORK

1. Radiometric survey	8,000
2. 3,000 feet of drilling at \$18 per foot	54,000
3. Supervision	6,000
4. Mobilization	5,000
5. Contingencies	<u>7,000</u>
TOTAL	<u>\$80,000</u>

Respectfully submitted,

  
JOHN E. LONDREY, ENG.

TORONTO, ONTARIO.

MARCH 14, 1977.

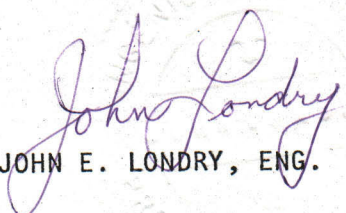
CERTIFICATE

I, John E. Londry, do hereby certify that:

1. I am a Geological Engineer residing at PH 3, 77 Howard Street, Toronto, Ontario;
2. I am a member of the Corporation of Engineers of Quebec;
3. I graduated from Queen's University with a Bachelor of Science degree in Geology and Mineralogy in 1949;
4. I have been practising my profession continuously for the past 28 years;
5. I have no interest, direct or indirect, in the mining claims which are the subject of this report, nor do I have any interest, direct or indirect, in the securities of M & M Porcupine Gold Mines Limited;
6. The accompanying report is based on the knowledge gained from a visit to the property during the last week of February, 1977, and a perusal of pertinent publications and maps published by the Bureau of Mines of the State of Nevada.

TORONTO, ONTARIO.

MARCH 14, 1977.

  
JOHN E. LONDY, ENG.

#### REFERENCES

1. Report on Ule Ann - Popcorn - Blackhill Uranium Property, Mineral County, Nevada, by Ralph Campbell dated August 1, 1969.
2. Bulletin 58 of the Nevada Bureau of Mines entitled "Geology and Mineral Deposits of Mineral County, Nevada" by Donald C. Ross.

O R E G O N

C A L I F O R N I A

N E V A D A

PYRAMID  
LAKE

INTERSTATE 80

ORENO

FALLON

LAKE TAHOE

CARSON CITY

INTERSTATE 80

SACRAMENTO

M & M PORCUPINE PROPERTY

U.S. 95

WALKER  
LAKE

HAWTHORNE

U.S. 95

TONOPAH

SAN  
FRANCISCO

PACIFIC  
OCEAN

LOCATION MAP

SCALE: 1" = 45 MILES (APPROX.)

APPROX. 12 MI.  
TO HAWTHORNE

BASALT

VOLCANICS

APPROX. BOUNDARY

ULE ANN 1  
ULE ANN 2

SANDSTONE  
DRILL HOLE  
NO. 2  
3.5 LBS. U308  
REPORTED FROM 80' TO 126'

DRILL HOLE NO. 1  
5.16 LBS. U308 REPORTED  
FROM 80' TO 126'

CONGLOMERATE

WATER LAID TUFF

SANDSTONE

2.0 LBS. U308 ACROSS 4' SANDSTONE  
ON EAST WALL OF PIT

BASALT

FAULT

FAULT

ALLUVIUM

VOLCANIC

VOLCANICS

NOTE: U308 VALUES ARE GIVEN IN LBS./TON

PLAN SHOWING GEOLOGY  
AND VALUES FROM SAMPLING & PREVIOUS DRILLING

M & M PORCUPINE GOLD MINES LTD.

HAWTHORNE MINING DISTRICT  
MINERAL COUNTY, NEVADA, U.S.A.

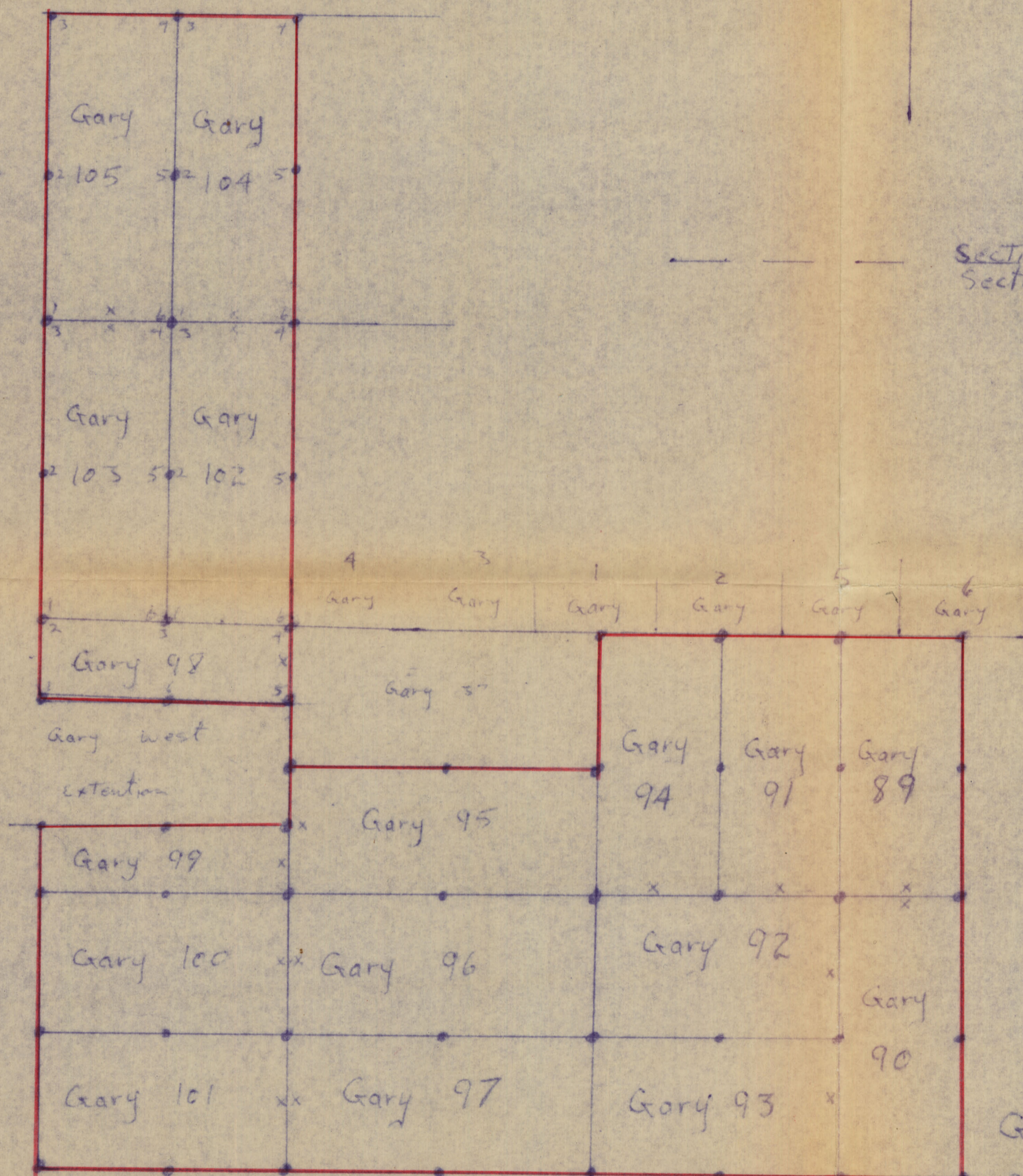
SCALE: 1" = 200'

MARCH, 1977

J. LONDREY

T 8 N R 31 E

N



Section 25 Section 30  
Section 36 Section 31

OFFICIAL RECORDS  
MINERAL CO. NEV.  
RECORD REQUESTED BY  
GARY L. BARTOLI  
COUNTY RECORDER  
FEE DEP.

177 MAY 12 PM 4:37

# 89 to #105

Gary Claim Group Addition #2  
Garfield Hills - Mineral County Nevada  
Ken Palosky

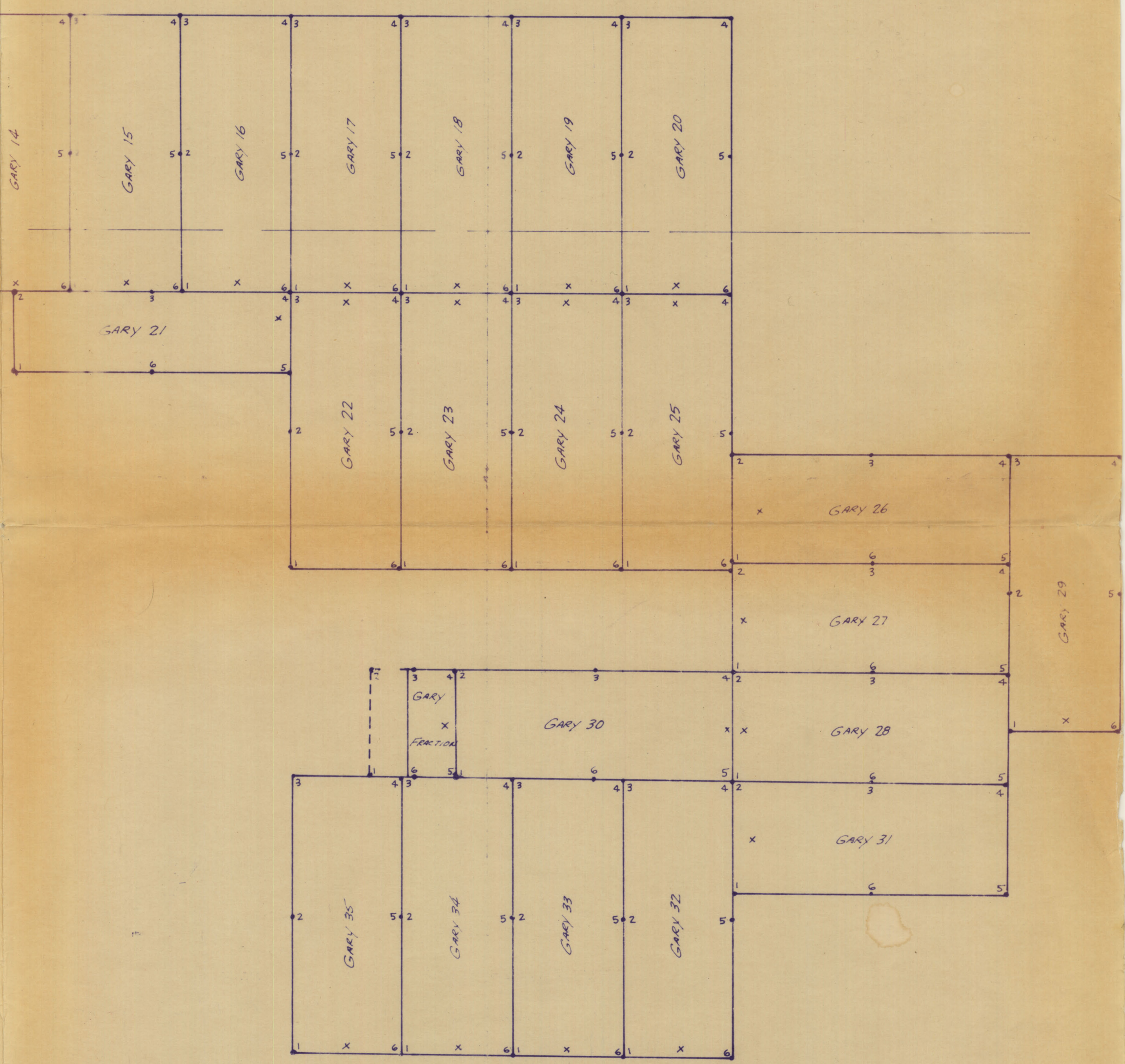
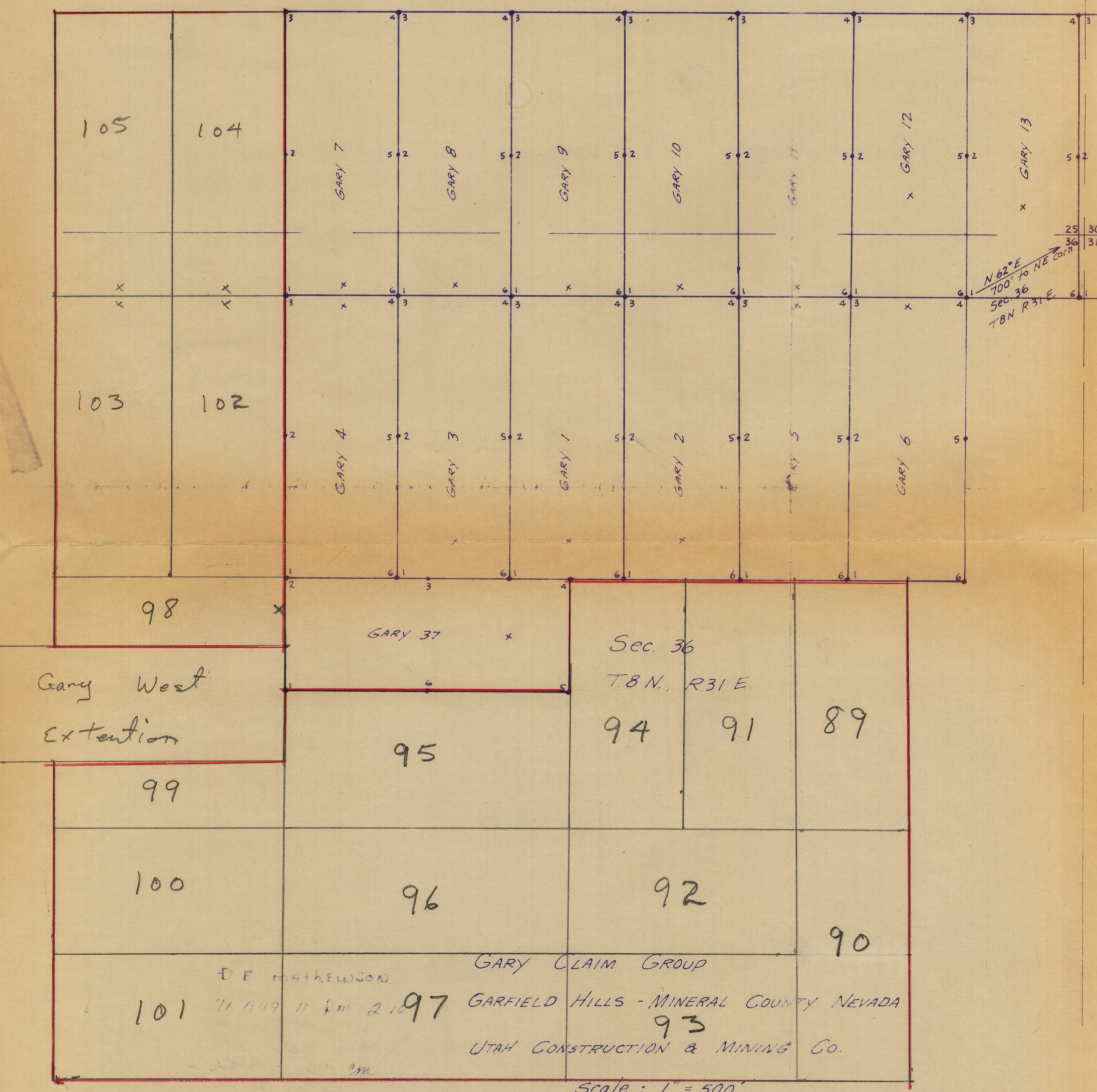
— P. G. L. STAKING

Scale = 1 in = 500 ft.

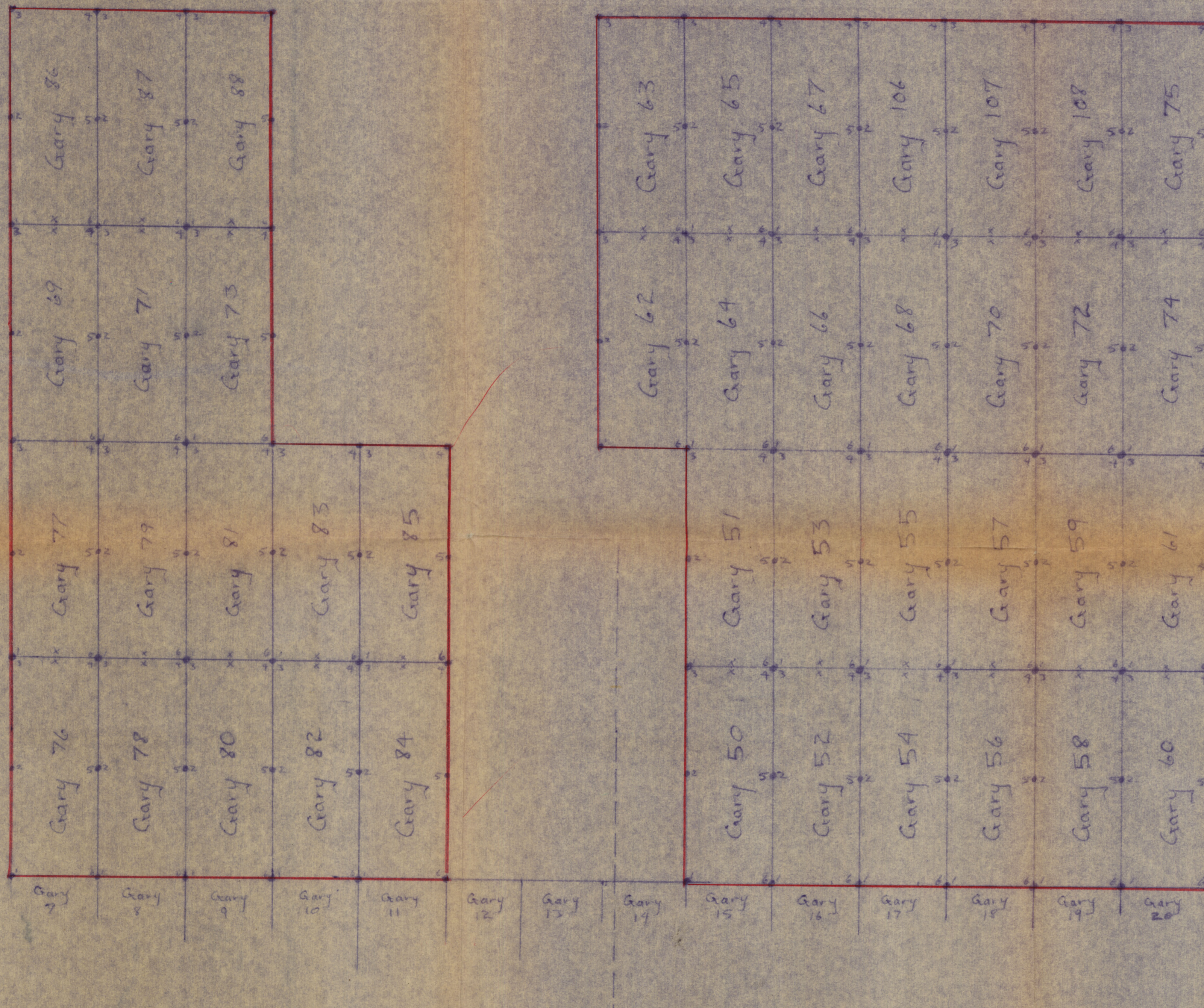
x Discovery Post Location

• Boundary Claim Post 3490 0018

2100 0942



- STAKING BY P.G.L.



Gary Claim Group addition #1  
 Garfield Hills - Mineral County Nevada  
 Ken Palosky

Scale = 1 in. = 500 ft.  
 x Discovery Post Location  
 • Boundary Claim Post  
 - STAGING BY P.G.L.

T8N R31E

T8N R32E

OFFICIAL RECORDS  
 MINERAL CO. NEV.  
 RECORD REQUESTED BY  
 77 MAY 12 PM 4:37  
 GARY L. HARRIS  
 COUNTY RECORDER  
 FEE DEP.

8100 0612