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PRINTED: 12/11/2002

ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES AZMILS DATA

PRIMARY NAME: BOGGS PATENTED 908

ALTERNATE NAMES:

YAVAPAI COUNTY MILS NUMBER: 1031B

LOCATION: TOWNSHIP 12 N RANGE 1 E SECTION 4 QUARTER SE
LATITUDE: N 34DEG 26MIN 55SEC LONGITUDE: W 112DEG 15MIN 20SEC
TOPO MAP NAME: POLAND JUNCTION - 7.5 MIN

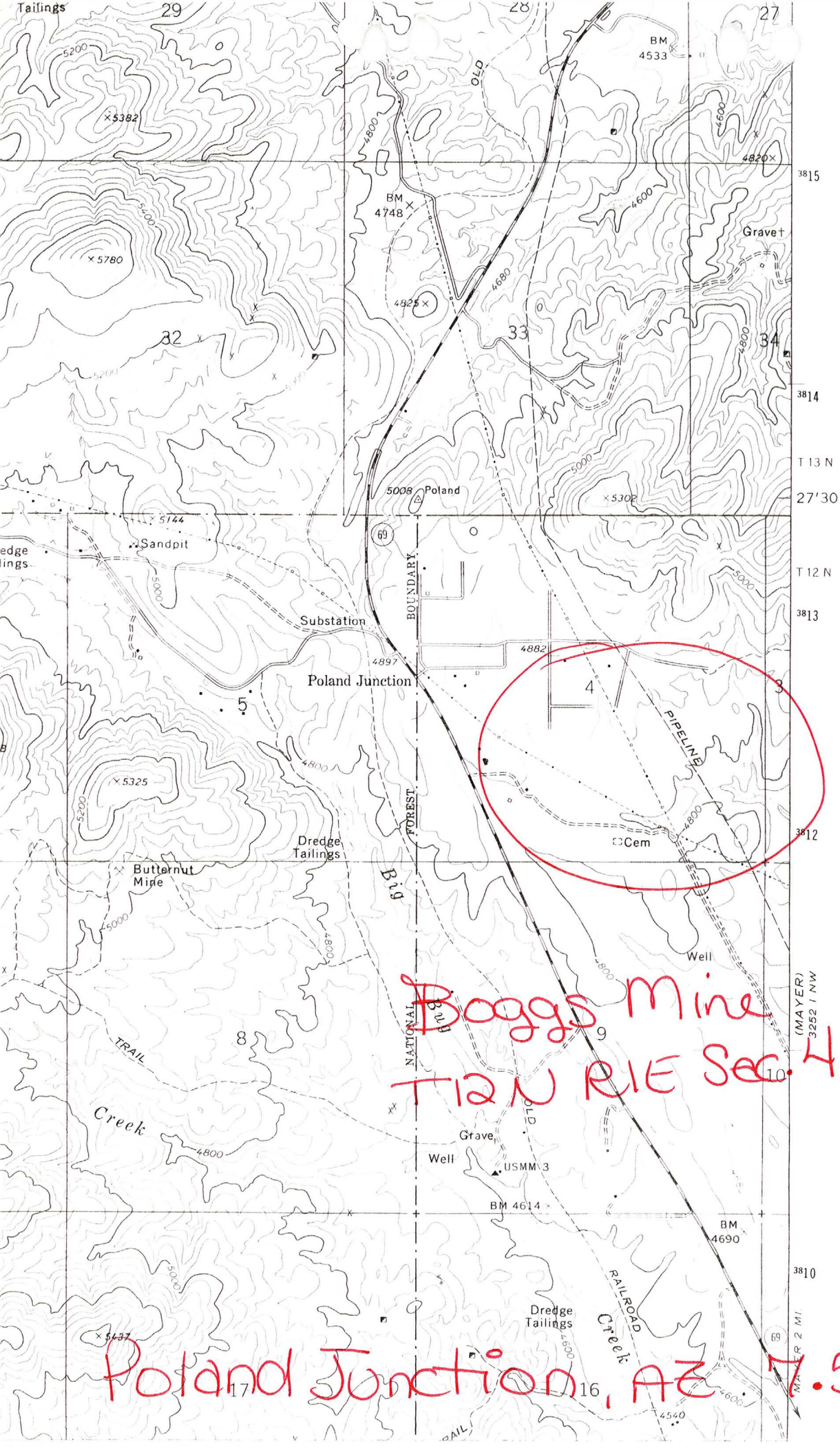
CURRENT STATUS: PAST PRODUCER

COMMODITY:

COPPER SULFIDE
GOLD
SILVER
ZINC
LEAD

BIBLIOGRAPHY:

BLM MINING DISTRICT SHEET 14
YAVAPAI MAGAZINE MARCH 1918 P 4-6 SHARLOT
HALL MUSEUM PRESCOTT, AZ
ADMMR IRON KING NORTH PROSPECT FILE
ADMMR BOGGS MINE FILE
LINDGREN, W. ORE DEPTS OF THE JEROME AND
BRADSHAW MTNS QUADS USGS BULL 782 P 139-140
ADMMR LITTLE MAY GROUP FILE
ADMMR PRODUCTION POSS. OF THE MARGINAL COPPER
MINES IN AZ 1941 P 53
ANDERSON, C.A. AND P.M. BLACET PRECAMBRIAN
GEOL. NRTHERN BRADSHWA MTNS USGS BULL 1336
1972 P 73
ABM BULL 137, P. 35
ADMMR HACKBERRY MINE FILE
USGS BULL. 1345, P. 34
WEBB, W. (MASTER THESIS) "PRECAMBRIAN GEOLOGY
& ORE DEPOSITS NEAR POLAND JUNCTION", P. 72
ADMMR BOGGS COLVO FILE



Boggs Mine
T12N R1E Sec. 4

Poland Junction, AZ 7.5'

ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES

INFORMATION FROM MINE CARDS IN MUSEUM

ARIZONA

MM 1159 Bournonite

YAVAPAI COUNTY

Boggs

BRIDGES MINE

MILS #968

O-AKA's

Boggs mine (file)

Idle - Mr. Gemmill reported - Fred Gibbs, owner
356 Hassayampa Drive
Prescott, Arizona

5-1-57

Jack Pierce (Iron King) said an English company (Selection Trust) were at the Boggs mine.
FTJ WR 3/9/73

Visited with Jack Pierce who said American Selco Company, a subsidiary of Selection Trust Ltd., London, was conducting a drilling program at the old Boggs mine SE of Poland Junction. A drill rig with mast up was noted but no one was around. GW WR 3/21/73

American Selco Ltd. has staked a large number of claims north of Mayer and are now drilling.
GW Annual Report 6/29/73

KAP WR 5/1/87: In the company of Nyal Niemuth a visit was made to the Boggs Mine (file) where a sample of pyrophyllite was collected from an alteration zone for evaluation by Tim Whitney of Murco Wall Products as a filler. Nyal Niemuth explained that the pyrophyllite from the alteration zone at the Iron Queen Mine (file) Yavapai County is nearly the same as that at the Boggs Mine (file) Yavapai County and might be usable as a mineral filler.

PROPERTY & VICINITY PHOTOGRAPHS

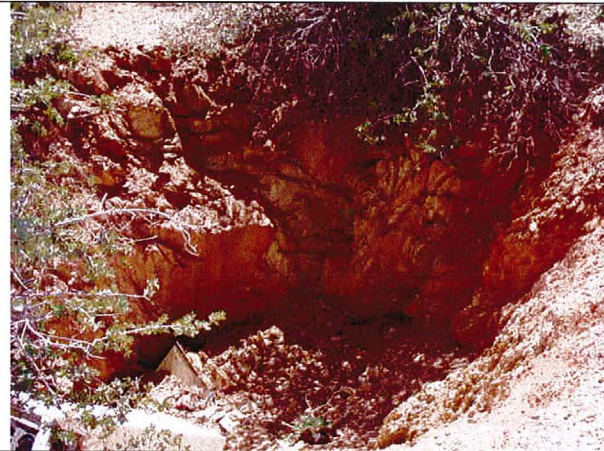
1. View of the Boggs Mine property (center of photograph) from the hill north of the site.



2. Telephoto view of the Boggs tailings.



3. View of the central mine shaft (blocked).



4. View of the northern pit and haul road.



5. Remains of the former mine workings.



6. View of the southern extent of the mine tailings.



7. Chimney foundation located on the east side of the main mining pit.



8. Mill foundations located on the west side of the main mining pit.



9. Excavation of the former Boggs mine and mill.



10. Excavation of the former Boggs mine and mill.



11. Small drainage located on the south side of the site.



12. New gas pipeline being installed across the southwestern corner of the site.



Prescott, Arizona
November 3rd, 1953.

Mr. William H. Callahan, Manager of Exploration, New York

PROGRESS REPORT, OCTOBER 1953

BOGGS VENTURE

Yavapai County, Arizona

During Mr. Callahan's visit of October 5th, 1953, to the Prescott office, the remaining exploration possibilities in the Boggs area were discussed. In review it was noted that the targets remaining to be tested are marginal and the drilling already completed has produced only negative results. In addition the exploration failed to indicate that anything we might find would be any larger or of better grade than the mineralization which has already been explored by the numerous small mines in the area. Such mineralization below the zone of oxidation and secondary enrichment would be uneconomic under the present price of zinc. We acquainted Mr. Mills with our thinking on the matter and he agreed to terminate the joint venture.

Mr. McDaniel, our attorney, was notified of the decision and instructed to return all optioned property within the Boggs Venture to the respective owners prior to the next due option payment, or in some cases before the final date after which we would be liable for property taxes.

D. C. Bulmer/dvl
cc: Messrs. W. H. Callahan (2)
P. J. Maloit
H. F. Mills (3) ✓
File

D. C. Bulmer

COPY

Prescott, Arizona

October 5th, 1953
NEW JERSEY ZINC EXPLORATIONS LIMITED

Mr. William H. Callahan, Manager of Exploration, New York

PROGRESS REPORT, SEPTEMBER 1953

BOGGS VENTURE

Yavapai County, Arizona

No geological field work was done in the Boggs area during September. Office time charged to this project was used in compiling information and preparing a summary report of work completed, together with recommendations to further explore the possibilities for ore in the area.

Following is a distribution of staff time on this project for September:

	<u>Office Days</u>	<u>Field Days</u>
I. C. Prary	1	
R. V. Wyman	3	
D. C. Bulmer	3	
	<u>7</u>	

Boggs Geochemistry

The Boggs geochemical grid did not extend quite far enough west to include a covered area west of the Boggs Mine. There are no outcrops in this area and its shallow cover is an ideal situation for geochemistry. Geologically the area is favorable, it being at the projected intersection of a synclinal fold axis and the recent granodiorite which the magnetic survey indicated probably occurs under a large part of the covered area.

This area was sampled and the specimens ground in preparation for analysis.

Following is a summary of this work:

	<u>Number of Samples</u>	<u>Man Days</u>
Collected	261	2
Crushed	261	2
Analyzed		<u>4</u>

D. C. Bulmer/dvl

cc: Messrs. W. H. Callahan (2)

F. J. Maloit

H. F. Mills (3) ✓

File

D. C. Bulmer

COPY
Prescott, Arizona
September 2nd, 1953

Mr. William H. Callahan, Manager of Exploration, New York

PROGRESS REPORT, AUGUST, 1953

BOGGS VENTURE

Yavapai County, Arizona

Mr. Frary completed the mapping in the vicinity of the Huron Swindler area. The geological mapping, geophysics, and geochemistry in this area has disclosed no targets worthy of drilling. Mr. Dameron, owner of the Huron and Montezuma claims (optioned to Shattuck Denn) in the area just mentioned, approached Mr. Mills this month to inquire as to whether or not we intended to meet the forthcoming option payment. He said that he now had an opportunity to sell these two patented claims for summer home sites and would like to be released from the option agreement with Shattuck Denn if we did not intend making the next payment. Mr. Mills consulted with us on the matter and we decided that in view of the fact we intended recommending that the option agreement on these two claims be cancelled in October, prior to the date of the next payment, we could see no reason for not terminating the agreement immediately. Accordingly, Mr. McDaniel was instructed to remove the deed from escrow and return the property to Mr. Dameron.

During August Messrs. Wyman and Frary re-ran all the electromagnetic anomalies in the Boggs area with the Levanto tripod mounted magnetometer. The results are being calculated and an interpretation of the results will be included with the summary report on the Boggs area.

D. C. Bulmer/dvl
cc: Messrs. W. H. Callahan (2)
F. J. Maloit
H. F. Mills (3) ✓
File

D. C. Bulmer

COPY
Prescott, Arizona
August 5th, 1953

Mr. William H. Callahan, Manager of Exploration, New York

PROGRESS REPORT, JULY, 1953

BOGGS VENTURE

Yavapai County, Arizona

During the month Mr. Wyman completed the mapping in the Butternut sector of the Boggs Venture. In addition he mapped a small mineralized zone southwest of the Butternut which proved to be too small to be of interest.

In the Pentland-Hackberry area a number of the Hornet claims which were not filed on for assessment work were relocated as the Wasp claims.

At the Butternut, D.D.Hole BN No. 2 was completed. No further drilling is underway on this venture.

D.D.H. BN No. 2 (Complete) Collared June 25, 1953
Completed July 17, 1953
Location: Goodluck No. 3 Claim Elevation: 4,998'
Bearing: N. 55° W. Inclination: -75°

Following is a summary of the drill log for the remainder of the hole:

- | | |
|----------|--|
| 184-266' | Rhyolite tuffs - locally well bedded with some coarser fragmental phases. Contains some epidote. |
| 266-287' | Hornblende granodiorite dike. |
| 287-544' | Andesite tuff - massive to well banded with small stringers of epidote and quartz. Locally minor disseminated pyrite. Occasionally foliation is crumpled. |
| 544-595' | Mineralized zone - highly sheared sericitic zone becoming locally chloritic. Very minor disseminated pyrite and some arsenopyrite throughout zone with chalcopyrite, sphalerite and galena occurring in narrow stringers not exceeding a foot in width. Sphalerite and chalcopyrite was noted at the following intervals: 560-560.6, 573 ($\frac{1}{8}$ "), 576 ($\frac{1}{8}$ "), 581 (2"), 590-595. The sphalerite is limited to |

COPY

Page 2
Progress Report, July, 1953

August 5, 1953

the stringers noted above, the chalcopyrite mineralization is somewhat more widespread, minor disseminated chalcopyrite occurring in between the more heavily mineralized zone in the sheared chloritic phases of the altered schist.

- 595-599: Andesite tuff - contains minor disseminated pyrite.
- 599-629: Rhyolite tuff - well banded. Minor epidote.
- 629-644: Andesite tuff - brecciated zone from 632-634 with epidote, quartz, calcite and chlorite.
- 644-664: Rhyolite tuff - uniform well banded.
- 664-865: Andesite tuff - massive to well banded, contains -5% epidote. 755-756 fractured with -1% chalcopyrite.
- 865: End of hole.

Assay Data

	<u>Au</u>	<u>Ag</u>	<u>Pb</u>	<u>M Zn</u>	<u>Cu</u>
560-560.5:	0.03	0.77	0.10	8.2	0.74
592-592.8:	0.03	0.67	Tr.	5.8	0.99

Note: The mineralized zone intersected in D.D.Hole BN No. 2 between 544 and 595 is undoubtedly the northward extension of the Butternut zone. Although the mineralization in this zone is weaker than in D.D.H. BN No. 1, this hole did penetrate a much wider zone of alteration and shearing in which the mineralization occurs than did the first hole.

We feel that the results obtained in the first two holes are sufficiently encouraging to warrant at least one more hole in this zone prior to the forthcoming anniversary date of the option agreement.

A report summarizing the work completed to date on the Boggs Venture together with recommendations for additional work needed to complete the exploration of this area is being prepared and will be submitted in the near future.

A magnetic survey using the Levanto tripod mounted magnetometer was conducted over the flat covered area in the neighborhood of the Boggs and Iron Queen Mines.

COPY

Page 3
Progress Report, July, 1953

August 5, 1953

The granodiorite exposed in Big Bug Creek near Poland Junction disappears southeastward under the more recent gravels and alluvium. In the vicinity of the Boggs and Iron Queen mines is a low area with very few outcrops. Normally the more recent granodiorites occupy topographic lows and it has always seemed quite probable that a tongue of the Big Bug granodiorite extends out under the low area between the Boggs and Iron Queen Mines. Surrounding the Big Bug type granodiorite quite extensive skarn zones containing magnetite are usually developed. A trial run over an exposed section of the granodiorite and schist in Big Bug Creek was made. The readings over the granodiorite were considerably lower than those taken on the contact pyrometasomatic zone in the schist surrounding the granodiorite, there being enough difference to be detectable under moderate cover of gravels.

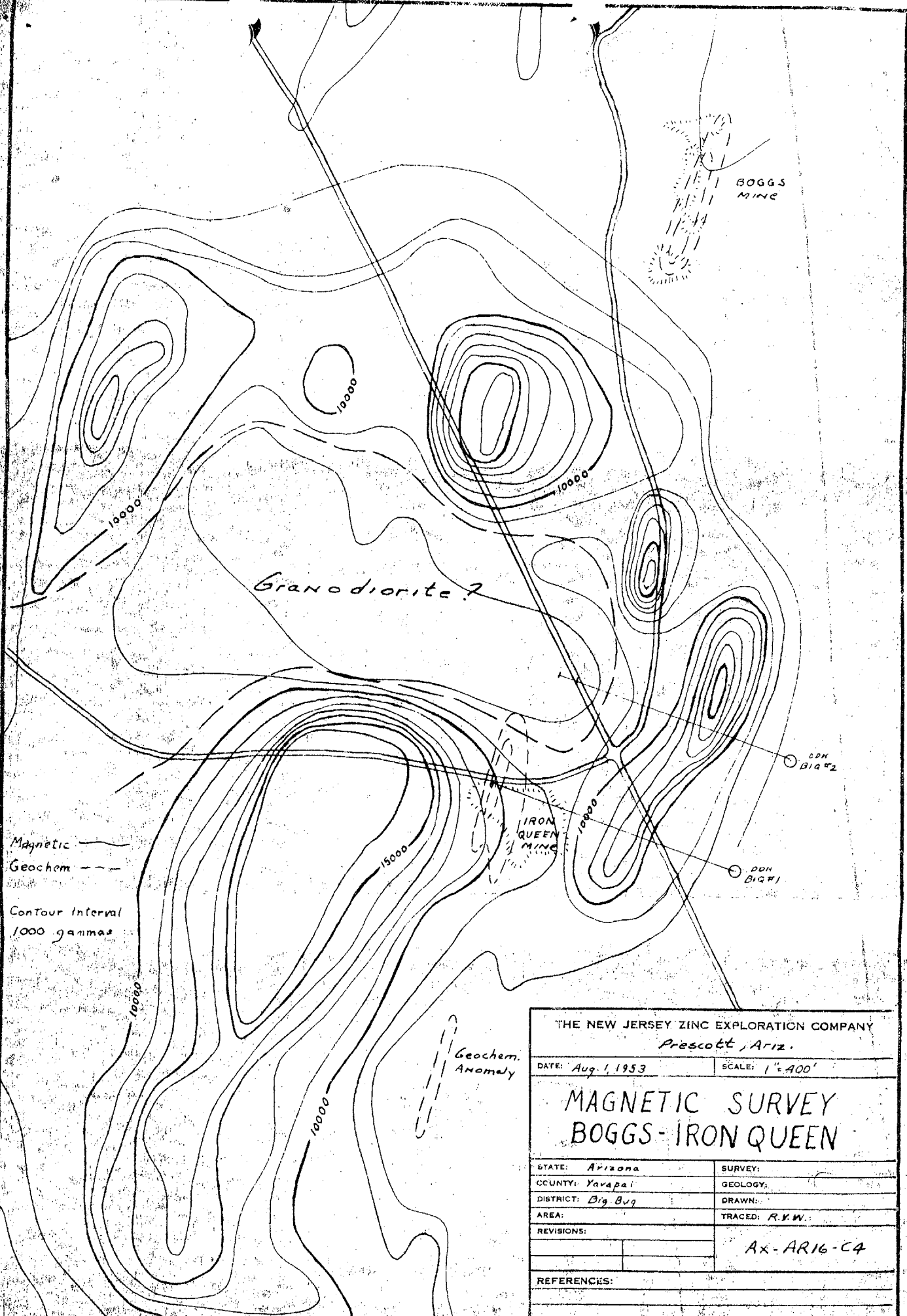
The accompanying sketch shows the results of the arvey and the most probable location of granodiorite in the magnetic low which in this case is also a topographic low. Substantiating this, D.D.Hole BIQ No. 2 was bottomed in granodiorite.

If granodiorite does occupy the magnetic low area then the Boggs and Iron Queen mines occur in shears on opposite sides of the granodiorite. The most favorable spots for further exploration would then appear to be the zone between the Boggs mine south to the granodiorite and the area from the Iron Queen mine south to include the small geochemical anomaly noted on the map. This last area and in particular the area of the weak geochemical anomaly seem to offer the best possibilities. In the drilling at the Iron Queen and the Butternut we have noted that the mineralization occurs in sericitic-chloritic zones within areas showing considerable contact pyrometasomatic effects, the mineralization favoring the fissile sericitic-chloritic zone to the more compact silicate bearing rocks. The magnetic map shows the Iron Queen as occurring in a magnetic low between two highs, the highs over the skarn zones.

West of the area shown on the accompanying map the magnetic values increase in a very gentle way over a topographic ridge, which we interpret as being an indication of deeper gravels, possibly an old channel.

D. C. Bulmer/dvl
cc: Messrs. W. H. Callahan (2)
F. J. Maloit
H. F. Mills (3) ✓
File

D. C. Bulmer



COPY

Prescott, Arizona
July 3rd, 1953.

Mr. William H. Callahan, Manager of Exploration, New York

PROGRESS REPORT, JUNE, 1953

BOGGS VENTURE

Yavapai County, Arizona

Only a small portion of the Prescott staff's time was devoted to this project during the month of June. Mr. Prary continued the mapping in the Huron-Swindler area and Mr. Wyman spent some time mapping Grapevine Gulch in the Butternut area.

A bulldozer was engaged to do the assessment work on the Jane, Marjorie Faye, and Faye No. 1 claims. The diamond drilling in the Iron Queen and Butternut areas and the geophysical lines and bulldozer trenches are considered sufficient to take care of the assessment work on the remaining unpatented claims of the Boggs Venture group. The affidavits of labor performed for the assessment work have been prepared and are being readied for filing by Mr. McDaniel, our attorney.

Upon completion of D.D.H. BIQ No. 2 at the Iron Queen, the drill was moved to the Butternut area. The drilling of the Iron Queen-Boggs mineralized zone was suspended, not with the idea that the area has been disproved, but because the need of work for annual assessment requirements and forthcoming payments on the Butternut and Blackhawk options made drilling of the Butternut zone more imperative. It is hoped that after obtaining an answer as to whether or not the Butternut zone has mineralization of economic importance, additional work will be done on the Boggs-Iron Queen zone.

D.D.H. BN No. 1 (Complete) Collared June 5, 1953

Completed June 23, 1953

Location: Goodluck No. 3 Claim.

Coordinates: 18,195 S., 3,640 W. Elevation: 4,998'

Bearing: N. 55° W. Inclination: -75°

Purpose of D.D.H. BN No. 1: An old longitudinal section through the Butternut workings indicates two distinct mineralized shoots from which some ore has been mined. Most of the mining was in the oxidized and enriched portions of the shoots. On the dump there are small pieces of almost pure sphalerite with some chalcopyrite, indicating the lower levels extended into the primary zone.

D.D.H. BN No. 1 was collared to test the most southerly known shoot, approximately 150' below the old workings. Appar-

COPY

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Boggs Venture

July 3rd, 1953

ently most of the production from the mine was obtained from this shoot.

A summary of the drill log for the hole follows:

- 0-128' Andesite tuff - well bedded with some coarser pyroclastics. Small stringers of epidote cut the core.
- 128-240' Rhyolite tuff - contains acidic and andesitic fragments. Locally small stringers and patches of epidote.
- 240-258' Hornblende granodiorite dike.
- 258-272' Contact pyrometamorphic zone.
- 272-447' Andesite tuff - locally very well bedded, relatively unshattered and unaltered.
- 447-501' Rhyolite tuff with minor disseminated pyrite.
- 501-526' Andesite tuff.
- 526-555' Rhyolite tuff - interbedded chloritic and siliceous tuffs - very minor chalcopyrite and pyrite along several small fractures.
- 555-567' Sulphides - siliceous zone with pyrite, sphalerite chalcopyrite and very fine galena. Unmineralized silicified zone from 557.5 - 562.5. Following are the assay results:

<u>Footage</u>	<u>Width</u>	<u>Au.</u>	<u>Ag.</u>	<u>Pb.</u>	<u>Zn.</u>	<u>Cu.</u>
555-557.5	2.5	0.02	2.4	0.3	4.7	2.4
562.5-567	4.5	Tr.	0.8	3.0	1.0	2.1

567-759' Andesite tuff - well bedded - relatively unaltered.

759' End of Hole.

Note: The mineralized zone intersected in D.D.H. BH No. 1 is undoubtedly the downward extension of the zone mined to the 300 level of the old workings. Although the widths and grade

M.B. [unclear]

COPY

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Boggs Venture

July 3rd, 1953

of the zone is not as good as might be hoped for, the drilling has indicated the zone does persist to moderate depths and the possibility exists of there being economic widths of ore grade mineralization along strike or at greater depths. Both possibilities should be tested.

On completion of this hole the drill was moved 210' north-east and a second hole, BN No. 2 collared to further test the Butternut zone.

D.D.H. BN No. 2 (Incomplete) Collared: June 25, 1953
Location: Goodluck No. 3 Claim.
Coordinates: 17,995 S., 3,500 W. Elevation: 4,998'
Bearing: N. 55° W. Inclination: -75°

Purpose of D.D.H. BN No. 2: This hole is intended to test the second sulphide shoot approximately one hundred and fifty feet below the lowest level (425' level) of the old workings, from which some ore has been mined.

Following is Messrs. Frary's and Wyman's summary of the drill log for this hole:

- | | |
|----------|--|
| " 0- 81' | Andesite tuff - bedded tuffa and pyroclastics. |
| 81- 87' | Andesite flow? - massive, poorly foliated chloritic andesite. |
| 87-112' | Andesite tuff - sparse pyrite and chlorite occur in veinlets. |
| 112-114' | Contact pyrometamorphic zone - mostly epidote and some amphibole. |
| 114-170' | Andesite tuff - from 114-160 contains abundant quartz epidote and hornblende. Quartz veins at 160-162.5 and 168-170. |
| 170-184' | Rhyolite tuff - has minor disseminated magnetite. |
| 184' | Depth of hole at the end of the month." |

Boggs - Geochemistry

Mr. Richardson's report on the Boggs Venture geochemical work is as follows:

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Boggs Venture

July 3rd, 1953

"Field work consisted of collecting 690 samples from the Huron-Swindler area using the geophysical grid as control. These samples were ground and analyzed by the colorimetric dithizone method and samples suspected of being high in copper analyzed by the titration method.

"No large anomalies were found although moderate anomalies showed along the quartz porphyry - andesite contacts.

"This work completes the geochemical survey of the Boggs grid."

D. C. Bulmer/dvl

cc: Messrs. W. H. Callahan (2)

F. J. Maloit

H. F. Mills (3) ✓

File

D. C. Bulmer

1 10644 SON 8-52

COPY

Prescott, Arizona
June 8th, 1953.

Mr. William H. Callahan, Manager of Exploration, New York

PROGRESS REPORT, MAY 1953

BOGGS VENTURE

Yavapai County, Arizona

The work both geological and geochemical on this property is nearing completion. Some geological mapping remains to be done at the Butternut and in the Huron-Swindler area.

Mr. Frary has completed the mapping in the Farraday area. This work indicates strong shearing in the rhyolites, quartz porphyries and andesites and in the area. The Farraday geophysical anomalies are located to the east side of the shear in more massive andesites. The anomalies are more or less parallel to, and to one side of, a series of quartz lenses which also occur close to the east margin of the shear. The location of the anomalies seems a logical one. In evaluating the importance of these anomalies one must consider the presence and possible bearing on the anomalies, of two parallel hornblende latite dikes which although do not outcrop in the area of the anomalies, are well exposed on strike about 1,000 feet south. These dikes, where exposed, are bordered for a width of from one to five feet with weak gossany siliceous material which elsewhere might contain sufficient sulphides to cause a geophysical anomaly. In addition, such dikes are usually more permeable than the surrounding rock and form water courses, which with sufficient salts contained would form excellent conductors.

Mr. Wyman continued the work in the Butternut area during the month. His summary of this phase of the work is as follows:

"During May, 400 scale mapping was continued north of the Butternut Mine to the granodiorite contact northwest of Poland Junction, west to the top of the large hill west of the Butternut, along Big Bug Creek and in the vicinity of the Mary Copper Mine.

"A 100 scale contoured geological map was prepared of the area in the immediate vicinity of the Butternut Mine to obtain sufficient control for the location of a number of drill holes."

Mr. Frary's summary of the May drilling in the Boggs-Iron Queen sector is as follows:

COPY

Page 2
Boggs Venture

June 8, 1953

"D.D.H. Blk No. 2 (Complete) Collared April 21, 1953
Location: Dalley Claim
Coordinates: 22,645 N, 14,860 E. Elevation: 4,831'
Bearing: N. 70° W. Inclination: -75°

- 385-446' Andesite tuff - well bedded with minor disseminated pyrite.
- 446-493' Rhyolite tuff - locally well bedded minor fractures with quartz stringers and disseminated pyrite (-1%).
- 493-517' Silicified zone - fractures with minor disseminated pyrite.
- 517-585' Andesite tuffs - uniform, poorly banded contains small angular chloritic fragments.
- 585-797' Rhyolite tuff - well banded (probably bedding,) interbedded siliceous and sericitic bands, contains minor disseminated magnetite and pyrite.
- 797-816' Silicified zone - banding still visible, probably altered tuff, 805-807' zone containing 3% pyrite.
- 816-986' Rhyolite tuff - with some interbedded andesitic material, locally contains epidote and quartz. Silicified zone from 910-920' with minor pyrite along hairline fractures.
- 986-989' quartz - gray with some unreplaced schist.
- 989-1054' Andesite tuffs - very well bedded, contains some epidote and (-1%) disseminated pyrite, granodiorite dike from 1041-1042'.
- 1054-1107' Rhyolite tuff - banded, with several small granodiorite dikes.
- 1107-1112' Granodiorite dike.

COPY

Page 3
Boggs Venture

June 8, 1953

- 1112-1198: Rhyolite tuff - contains up to 5% epidote and minor disseminated pyrite (locally up to 5% over narrow widths.) Granodiorite dikes at 1124-1127, and 1161-1171.
- 1198-1236: Granodiorite.
- 1236-1251: Contact pyrometasomatic zone, contains epidote, amphibole and quartz.
- 1251-1263: Granodiorite.
- 1263-1266: Contact pyrometasomatic zone, rock largely altered to epidote and amphibole.
- 1266-1281: Andesite tuff - well banded, more or less 2% disseminated pyrite and 10% epidote, minor garnet.
- 1281-1284: Granodiorite.
- 1284-1295: Contact pyrometasomatic zone with a number of small granodiorite dikes.
- 1295-1395: Silicified zone - intensely silicified with from 2-10% disseminated pyrite and minor chalcocopyrite. Some of the quartz has a greenish color similar to the quartz in the Iron King vein zone.
- 1395-1455: Granodiorite.
- 1455: End of hole. Completed May 30, 1953.

NOTE: D.D.H. B1Q No. 2 did not encounter any significant mineralization at its intersection with the projection of the main Iron Queen zone. In this area (910-920) a silicified zone with minor pyrite was encountered which is probably the extension northward of the Iron Queen zone. From 920-1295 is siliceous sericitic tuffs which are in part well bedded and have minor amounts of disseminated pyrite along fractures. This zone has considerable amounts of granodiorite in dikes from a

COPY

Page 4
Boggs Venture

June 8, 1953

few inches to forty feet in width. Beyond the limit of the granodiorite a silicified zone with from 2-10% pyrite was encountered. This zone extended from 1295-1395. It is intensely silicified, the original character of the rock cannot be readily determined. The pyrite occurs in small fractures in the rock with an occasional speck of chalcopyrite. This zone ended in granodiorite which extended to the end of the hole at 1455 feet. The casing has been left in the hole so that it will be accessible if we should wish to wedge, deepen, or do geophysical work in the hole.

Boggs - Geochemistry

Mr. Johnson's report on the Boggs geochemical work is as follows:

"The sampling and analysis of the Boggs grid was completed with the exception of the Huron-Swindler area and the extension of a few lines at the Butternut.

"The results of the work to date, besides showing anomalous zones surrounding each of the old mines indicates two unexplored areas of higher than normal values. One area lies between the old Hackberry and Pentland Mines and the other northwest of the Boggs Mine, centering on the Mattie Claim (not controlled by us).

"The Butternut zone showed anomalous base metal content in a zone 200 feet wide and 2,000 feet long, centering over a vein outcrop."

D. C. Bulmer/dvl
cc: Messrs. Wm. H. Callahan (2)
F. J. Maloit
H. F. Mills (3) ✓
File

D. C. Bulmer

COPY

Prescott, Arizona

May 5th, 1953

THE NEW JERSEY ZINC COMPANY

Mr. William H. Callahan, Manager of Exploration, New York

PROGRESS REPORT FOR APRIL, 1953

BOGGS VENTUREYavapai County, Arizona

The geological mapping of the Boggs Venture area is progressing favourably. Mr. Frary's report on his phase of the work is as follows:

"Mapping of the Lone Pine sector of the Boggs Venture was completed during the month of April.

"The major geologic units of the area consist of large masses of andesitic and rhyolitic pyroclastics which have been intruded by diorite, quartz porphyry and younger Big Bug type granodiorite. The principal mineralization in the area is confined to the zone explored by the old Lone Pine Mine."

Mr. Wyman's report on the mapping of the Butternut area is quoted below:

"During April mapping was continued along the Butternut mineralized zone and along shear zones east of the Butternut. Some mapping was done in Grapevine Creek, in the vicinity of two small granodiorite stocks north of the Mary Copper Mine and along the periphery of the Big Bug stock."

D.D.N. BIQ No. 1 (Completed) Collared February 26, 1953

Location: Dailey Claim

Coordinates: 22,290 N; 14,680 E. Elevation: 4,810'

Bearing: N. 70° W; Inclination: -75°

Mr. Frary's summary of the April drilling is as follows:

1043-1148:	Interbedded andesitic and rhyolitic tuffs with some coarser fragmental beds. Minor disseminated pyrite.
1148-1152:	Big Bug type granodiorite.
1152-1206:	Interbedded andesitic and rhyolitic tuffs.

THE NEW JERSEY ZINC ~~MINING~~ COMPANY

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May 5, 1953

1206-1208'	Siliceous zone containing approximately 5% disseminated pyrite.
1208-1279'	Andesitic tuffs, well bedded with minor disseminated magnetite and pyrite.
1279'	End of hole."

NOTE: D.D.H. BIQ No. 1 encountered sulphide mineralization between 859' and 868'. It was impossible to determine the exact limits and strength of mineralization because approximately 5 feet of core was missing from this zone. Upon completion of the hole a wedge was inserted at 835 feet in an attempt to obtain another section of the mineralized zone. As reported in a letter earlier in the month, this operation was unsuccessful and we were forced to abandon the hole.

D.D.H. BIQ No. 2 was collared April 21, 1953. The results obtained in this hole will help determine whether it will be desirable to again attempt to wedge D.D.H. BIQ no. 1, or if another hole in this zone is warranted.

D.D.H. BIQ No. 2 (Incomplete) Collared April 21, 1953
 Location: Dalley Claim.
 Coordinates: 32,645 N; 11,860 E. Elevation: 4,831'
 Bearing: N. 70° W; Inclination: 75°

Purpose: D.D.H. BIQ No. 2 was collared approximately 400' north, northeast of D.D.H. BIQ No. 1. The purpose of this drill hole is to continue the exploration of the Iron Queen mineralized zone. Although individual sulphide lenses in the Iron Queen zone apparently plunge steeply north, the lenses may be arranged in an enechelon pattern resulting in a more gentle plunge to the mineralized zone than indicated by the individual lenses. D.D.H. BIQ No. 2 is located to test this possibility.

Mr. Feary's summary of the April drilling, D.D.H. BIQ No. 2, is as follows:

V. O-102'	Andesite-massive, fine to medium grain with minor quartz carbonate veinlets.
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102-196'

Andesite tuff? - well banded (probably bedding), locally contains minor pyrite.

196-347'

Andesite - Fairly uniform with occasionally poor banding. Minor disseminated pyrite.

347-384'

Andesite tuff - banded sericitic and chloritic, locally some disseminated pyrite.

384'

Depth at end of month."

Boggs - Geochemistry

Mr. Johnson's report on the Boggs Venture geochemical work is as follows:

"During the month of April the geochemical sampling of the main Boggs area was completed. The area sampled included the Farraday claims where an E.M. geophysical anomaly exists. Some areas were resampled and intermediate lines run to confirm and further outline anomalous areas. All these samples were analyzed.

"The results of the analyses confirm the anomaly at G baseline and at 13726 NE baseline. The anomalous zone beginning at 13,726 NE extends over the Lone Pine Mine and northward across the Farraday claims to include the geophysical anomaly.

"The highest (2500 parts per million) base metal content found, excluding the Lone Pine Mine, was at 13,726 NE. Here the anomaly is approximately 300 feet wide. The values decrease both northward and southward to approximately 500 parts per million combined Pb, Zn, and Cu. The copper content of the zone appears to be higher than the lead or zinc.

"The soil samples in the vicinity of the geophysical anomalies have a higher metal content than rock samples collected at the same station. We suspect that the tertiary lava which occurs in the area and at a greater elevation than the Precambrian is high in copper. The

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weathered material from the lava travels down hill
causing the abnormal high soil values over the
Precambrian."

D. C. Bulmer/dvl
cc: Messrs. Wm. H. Callahan (2)
F. J. Maloit
H. E. Mills (3) ✓
File

D. C. Bulmer

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Prescott, Arizona
April 7th, 1953THE NEW JERSEY ZINC ~~EXPLORATION~~ COMPANY

Mr. William H. Callahan, Manager of Exploration, New York

PROGRESS REPORT FOR MARCH, 1953

BOGGS VENTUREYavapai County, Arizona

Geological mapping in the Lone Pine sector of the Boggs Venture was continued during the month by Mr. Frary. On March 16th Mr. R. V. Wyman began mapping in the Bitternut area.

The area between the Boggs and Iron Queen mines is largely covered. During February all outcrops in the flat area between and adjacent to the two mines were mapped. A small number of outcrops were found in some steep side washes which cut through the area. Usually the gulches are from three to six feet deep. This would indicate a probable depth of from two feet to possibly ten feet to the Precambrian in at least some area.

In view of the scarcity of outcrop in the area and the ineffectiveness of the EM geophysical survey, it was decided it would be desirable to attempt to bulldoze to bedrock a number of lines across the Iron Queen-Boggs mineralized zone.

Line No. 1 was bulldozed across the favourable zone approximately 500 feet north of the Iron Queen shaft. The bulldozed trench is approximately 400 feet long and the depth to Precambrian is from two to eight feet. We were unable to reach bedrock on the western part of the line, some 100 feet being still covered. This area lies immediately west of a black dense rock containing some epidote and garnet. These minerals are typical of the contact pyrometamorphic zone surrounding the "Big Bug Type" of granodiorite which usually is found in topographic lows. Quite probably this area is underlain by granodiorite. The weathered and transported material in this part of the trench is unlike that found elsewhere in that it is quite kaolinitic. It contains small rounded and angular Precambrian fragments. An attempt was made to reach the Precambrian bedrock from the bottom of the pit with a four foot soil auger but was unsuccessful. The material brought up by the auger was the same as that in the trench. The section of the trench which exposed Precambrian rock showed alternating sericitic and chloritic bands, both highly sheared. Some siliceous zones were found and a number of iron stained zones with small gossany streaks were observed in the chloritic bands. Although no strong gossans were observed, evidence of weak mineralization was noticed over a width of one hundred feet.

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Progress Report - Boggs Venture

Line No. 2 was bulldozed across the favourable zone approximately 400 feet north of the Iron Queen shaft. This trench is approximately 300 feet long and exposes the Precambrian all the way. A number of iron stained zones with gossany streaks similar to those found in Line No. 1 were exposed. A mass of the "Big Bug Type" granodiorite fifty-five feet wide and another mass 15 feet wide were exposed. Some of the strongest iron staining occurs close to the granodiorite in sheared chloritic rocks.

Line No. 3 was bulldozed across the favourable zone approximately 500 feet south of the Iron Queen shaft. This line was cut across a geochemical anomaly which extended from Precambrian outcrop laterally to a covered area. This trench is approximately 250 feet long. The western part of the trench exposes fissile quartz sericite rock. The eastern part of the trench is in a less foliated andesitic rock. A number of small (12") iron stained zones occur at the contact of the quartz sericite schist and the andesitic rock and extend out into the andesitic rock becoming weaker further from the contact. These iron stained zones do not coincide with the geochemical anomaly.

Line No. 4 was cut some 500 feet north of, and across the Fentland zone. This line has not been mapped in detail but a casual inspection did not reveal any significant mineralization or alteration.

D.D.H. BIA #1 (continued) Collared February 26, 1953
Location: Dailey Claim
Coordinates: 22,290 N; 14,680 E. Elevation - 4,810'
Bearing: N. 70° W; Inclination -75°

Mr. Frary's summary of the March drilling is as follows:

"112-358"	Zone of andesitic rocks, some undoubtedly tuffaceous and possibly some flow material. Contains disseminated magnetite and pyrite.
358-404"	Acid intrusive, closely related to the quartz porphyry types.

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404-548'

Rhyolite tuffs, well banded chloritic and sericitic. Possibly some narrow zones of acid intrusive.

548-848'

Alternating andesitic and rhyolitic rocks - some undoubtedly tuffaceous, possibly some associated flows. Less than 1% disseminated pyrite occurs locally.

848-859'

Silicified zone, probably altered rhyolite.

859-868'

Sulphide zone, contains disseminated pyrite, more or less 5% throughout in asiliceous rock. Two zones contain visible sphalerite and chalcopyrite. The width of the first zone is not known. In the run, 855-865', in which the first zone occurs, 5' of core is missing, grinding is evident on the last piece of core which contains the best sulphide. It is not possible to say exactly where the core is missing, but I think it is safe to say that some and possibly most of the grinding took place at the end of the run. The last 4" of the core in the run fro. 855-865' assayed 3.0% Zn, 0.22% Cu, 0.16% Pb, .02 oz. Au and 0.38 oz. Ag. The second zone occurs from 866-867', it assayed 1.5% Zn, 0.17% Cu, 0.30% Pb, 0.02 oz. Au and 0.38 oz. Ag.

868-873'

Silicified zone containing disseminated pyrite.

873-1043'

Interbedded rhyolite and andesite tuffs with less than 1% pyrite locally.

1043' Depth at end of month.

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Note: The drill crew had had trouble with caving ground and at the time they entered the mineralized zone were drilling with mud. When they noticed the return mud and water turn black, (approximately 863') they pumped out the hole and continued drilling with water. Sludge was then collected from 863' on. The sludges were assayed but no values were found except from 865 - 870' which covered the second zone containing sphalerite and chalcopyrite. The sludges from this zone assayed 0.3% Zn with traces recorded for Au, Ag, Cu, and Pb.

The core beyond 865' still shows considerable alteration, silicification and chloritization with disseminated pyrite. Present plans are to continue the hole to 1200 or 1300 feet.

Upon completion of the hole arrangements have been made to cement in a non-directional wedge at 835' in order to obtain another section of the mineralized zone. It is hoped that this time we will be able to obtain complete core recovery.

Boggs-Geochemistry

Collecting and analyzing of samples in the Boggs was continued during the month.

Mr. W. L. Johnson's report on the work is as follows:

"During the month of March, 70% of the Boggs samples collected were analyzed.

"An anomaly was noted at 13,426' NE (Boggs geophysical grid) northward to the Lone Pine mine. Other anomalies occur at 0 baseline to 707 NE and in the vicinity of all the small mine workings with the exception of the Pentland. The anomaly at 0 baseline to 708 NE is approximately 1000 feet wide. This area corresponds to the large EM geophysical anomaly that was finally attributed to a buried pipeline.

"All anomalous zones have been resampled at a closer spacing but have not been analyzed as yet."

Geochemical samples were collected from the Boggs-Iron Queen bulldozer lines. Samples were taken at ten foot intervals. The results showed no clear cut anomalous zones. The variation of combined Pb, Zn, Cu was roughly from 75 to 150 parts per million or equivalent to the values obtained from soil samples collected in the same area.

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Progress Report - Boggs Venture

April 7th, 1953

The geochemical results obtained from sampling Line 3 south of the Iron Queen shaft did not support the position of the anomaly inferred from the information obtained in the preliminary survey. More detail work is needed in this area.

D. C. Bulmer/dvl
cc: Messrs. Wm. H. Callahan (2)
F. J. Maloit
H. F. Mills (3) ✓
File

D. C. Bulmer

COPY

Prescott, Arizona
March 4th, 1953

Mr. William H. Callahan, Manager of Exploration, New York

PROGRESS REPORT FOR FEBRUARY, 1953

BOGGS VENTURE

Yavapai County, Arizona

Mapping of the area was continued during February by Messrs. Carithers and Frary.

In preparation for diamond drilling in the Boggs-Iron Queen sector, G. S. Thatcher of Humboldt, Arizona, and R. S. McClintock Company were invited to bid on the job, the contract to be for a minimum of 2500 feet. The R. S. McClintock Company was the only one to submit a bid, it being the same as the one submitted for the El Capitan job. In view of the excellent work the R. S. McClintock Company did on the El Capitan drilling, they were given the contract for the Boggs-Iron Queen drilling. The contract has been signed and forwarded to New York for completion. Drilling started on February 26, 1953.

Mr. Frary's report for the month is as follows:

"Field mapping of the Huron-Lone Pine sectors of the Boggs Venture was continued during the first half of February. The latter part of the month was devoted to mapping the Boggs-Iron Queen area so as to complete it before locating the first drill hole.

"D.D.H. BIQ #1 (incomplete) Collared February 26, 1953
Location: Dailey claim
Coordinates: 22,290E; 14,680E. Elevation: 4,810
Bearing: N 70° W; Inclination: -75°

"Purpose: The Boggs-Iron Queen mines lie in a highly sheared zone. This zone trends northerly across Boggs flats, an area of sparse outcrops. An attempt was made to survey this area with the 900 cycle E.M. geophysical equipment. However, the large number of power lines in the area interfered to such an extent that the survey was inconclusive. The Boggs and Iron Queen mines are inaccessible and very little is known of the underground workings. A study of available maps and sections indicate stoped areas extending to the 400 level in the case of the Boggs and to the 300

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BOGGS VENTURE

March 4th, 1953

Queen shows an incline extending some 250' below the 300 level. Small production is recorded from each mine.

"It was decided to commence drilling in this area before the completion of the geochemical survey because it was felt that drill holes under the old Iron Queen and Boggs mine would be necessary regardless of the geochemical results.

"The purpose of drill hole BIQ #1 is to prospect the projected downward extension of the stoped areas in the Iron Queen mine, assuming a steep northerly plunge as may be inferred by the position of the stopes. The hole is expected to intersect the mineralized zone approximately 350 feet below the 300 level of the old mine workings. The hole will be approximately 1000' when completed.

"Results:

0-112

Interbedded andesites and andesite tuffs. Locally banded and well foliated.

112 Feet - Depth of hole at end of month."

Geochemical sampling of the Boggs Venture area was continued during the month. The sampling, using the geophysical lines for control, has progressed northward beyond the Boggs and Iron Queen mines. The samples collected in the Boggs-Iron Queen sector have been analyzed and a few intermediate lines run.

Mr. W. L. Johnson's report on the work is as follows:

"The geochemical work showed anomalies at the Iron Queen and Boggs mine corresponding to the ore zone. The Boggs anomaly was weak and small compared to the Iron Queen anomaly with no possible extensions shown. A small anomalous zone southeast of the Iron Queen was noted and with the calculated north plunge of the ore bodies it may be penetrated by drill hole BIQ #1.

"An anomalous zone was found north west of the Boggs mine on 13,436 NE baseline at 28 to 48 and extending

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BOGGS VENTURE

March 4th, 1953

to 14,840 NE baseline at 2S to 4S. The anomalous zone corresponds to a rhyolite tuff-andesite tuff contact. Further study will be done to outline and confirm this anomaly."

D. C. Bulmer/dvl
cc: Messrs. Wm. H. Callahan (2)
F. J. Maloit
H. F. Mills (3) ✓
File

D.C. Bulmer

COPY

Prescott, Arizona
February 9, 1953.

Mr. William H. Callahan, Manager of Exploration, New York

PROGRESS REPORT FOR JANUARY, 1953

BOGGS VENTURE

Field mapping was continued during January by Messrs. Carithers and Frary. One half day was spent in a general reconnaissance survey of the Butternut area with Messrs. Hoagland and Johnson. It was decided that we could not properly evaluate the properties potential prior to the coming anniversary date on March 1, 1953. Hence it will be necessary to hold the Butternut property for an additional year. One day was spent with Messrs. Hoagland, Frary and Carithers in a survey of the Boggs-Iron Queen area and the Huron Swindler group.

Mr. Carithers' report for the month is as follows:

"Field mapping of the Boggs venture property was continued during January by Messrs. Carithers and Frary. Most of the work was in the Boggs-Iron Queen sector, where the 400 scale mapping is nearly complete. Mr. Frary has started mapping in the Huron area.

"Several zones of weak contact pyrometasomatism containing some disseminated pyrite, and also a few narrow quartz veins together with a little copper mineralization have been observed in the Boggs-Iron Queen sector. None, however, appear to show promise and the best prospects for this area are considered to be in the shear zone in which the Boggs and Iron Queen mines occur."

D. C. Bulmer/dvl
cc: Messrs. Wm. H. Callahan (2)
P. J. Maloit
H. F. Mills (3) ✓
File

D. C. Bulmer

December 8, 1952

Experimental Work Carried Out:
July 15 to August 28, 1952

Original Notes:

On file at the Exploration
Department field office in
Prescott, Arizona.

Investigators:

J. R. DeVore
P. N. Pocalyko

Supervisor:

D. G. Brubaker

Chief:

M. L. Fuller

ELECTROMAGNETIC SURVEY
BRADSHAW MOUNTAINS, BOGGS VENTURE,
ARIZONA - 1952

Introduction

At the request of the Exploration Department, an electromagnetic geophysical survey was carried out over an area in Arizona during July and August, 1952. The area surveyed was a group of claims located near Humboldt, Arizona, that collectively have been designated as the "Boggs Venture". The survey was made with the assistance of the Exploration Department staff at Prescott, Arizona.

Summary and Conclusions

The electromagnetic survey over the Boggs Venture was carried out with the 900-cycle, engine-generator, inductive equipment. The survey was started July 15 and completed August 27, 1952.

On a geographical basis the area was divided into three subdivisions: Butternut Area, Boggs-Hackberry-Lone Pine Area, and Huron Area. A portion of the Boggs Area is traversed by several power lines including a 220-kilovolt transmission line that made

it impossible to obtain significant measurements in the vicinity.

In the Butternut Area one weak anomaly of the cross-over type was found. In addition, this same area exhibited divergent anomalies. At the northern end of the Butternut Area, an anomaly was observed which probably is due to a geologic conductor although the assignment is not clear-cut because of the presence of a power line.

In the Boggs Area a strong cross-over type anomaly was found which was produced by a buried pipe line. Another, less strong, anomaly of the cross-over type was also located. This appears to be produced by one or two geologic conductors. In addition to these anomalies there are two areas of divergent anomalies.

In the Huron Area, no significant anomalies were found.

Method

The mineral deposits in this area are characterized by being rather heavy sulfides in lenticular deposits which dip very steeply. This type of deposit is favorable for the use of the inductive method with a vertical source loop. The 900-cycle equipment with the 12-foot source loop was used for the survey.

The grids were laid out with the base lines parallel to the strike of the country rock (and therefore parallel to the expected strike of mineral deposits). The traverses crossed the base line at 45°. On the grid for the reconnaissance survey, the traverse lines had a perpendicular separation of 500 feet. In areas of interest, intermediate lines were added for the detailed survey.

Topographically, the area is characterized by moderate relief (600 to 700 feet) involving several rather steep slopes. Aside from a small amount of clear pasture land, the area is covered with scrub oak. The laying out of the grid was facilitated by clearing the lines with a bulldozer where the topography permitted. This procedure not only assisted in laying out the grid but also reduced the time required for the geophysical survey since the lines could be traversed more quickly and easily.

A portion of the area is traversed by several power lines including a 220 KV transmission line. The noise from the lines made it impossible to make measurements in their vicinity so this portion had to be omitted in the survey.

In addition to the regular, in-line mode of operating the 900-cycle equipment, a simulated broadside mode of operation was used over a restricted area. In this procedure one traverse line (line 4478 NE on the Boggs Area) was selected as the source line. The source was set up at 6S on this line. One receiver then made measurements at 6S on lines 4242 NE, 4006 NE, 3771 NE, 3535 NE, and 2828 NE. At the same time, the other receiver made measurements at 6S stakes on lines to the north of the source. Then the source and receivers moved over to 4S and the process was repeated. After covering the area of interest in this way, the results were plotted using the same conventions as are used in plotting data obtained by the broadside operation of the P.E.M. apparatus. This study was made in an area that showed moderately strong divergent anomalies in order to try to gain additional information about them.

Results

The data obtained in the Butternut Area are shown on Maps Nos. RG-EM-155B and RG-EM-157B. There are weak anomalies to indicate a sheet conductor crossing line 707 SW at 2 N and the base line at 942 SW. In addition to these cross-over type anomalies this area also showed the divergent type anomalies. The divergent anomalies start at the southwestern end of the grid and build up in intensity as we move northward until line 707 SW is reached. North of this line the divergent anomalies largely disappear except for the base line survey. Dr. Slichter studied these results and suggested that the divergent anomalies might be produced by a layered structure in the rock with considerably better conductivity along the layers than across them. The posulated conducting layers occur in a band extending, perhaps, from the base line to 8 N, and either (1) the top edge of the conducting layers is closest to the surface at 707 SW and pitches to the south or (2) the layers have highest conductivity at 707 SW, have gradually decreasing conductivity to the south and have very poor conductivity north of 707 SW. The sheet conductor mentioned first may be one edge of this band of conducting layers.

The interpretation of the anomalies at the northern end of the grid cannot be definite because of the presence of the power lines. However, on line 4242 NE it appears possible that there is a conductor crossing at about 10 S. On line 3535 NE, the power line noise was great enough to mask an anomaly in this area. On line 2828 NE there is a weak indication of a conductor at 10 S which may be the same conductor as the one on line 4242 NE but at greater depth.

Map No. RG-EM-158B shows the location of probable conductors.

The data obtained in the Hackberry area are shown in Maps No. RG-EM-153A and No. RG-EM-154A. The outstanding anomalies in this area are the ones on the lines between 0 and 1178 SW. These anomalies are believed to be due to a pipe line. When the bulldozer cleared line 1178 SW, it plowed up and broke a pipe line at 1 S. When the survey was made along this line, no anomaly was observed until the broken ends of the pipe were connected together with a piece of wire whereupon the anomaly shown on the map resulted. The anomalies on the lines north of 1178 SW are of the type produced by a pipe line and are in line with the observed direction of the pipe where it disappears underground on line 1178 SW. The anomaly on line 0 would indicate a change in direction of the pipe line.

North of this section there is an area, extending roughly from line 2121 NE to 5656 NE, which exhibits divergent type anomalies to a marked extent. A portion of this area was surveyed on intermediate lines to determine the effect of a power line and a pipe line. It was found that the power line and pipe line did not affect the results in this area. It was concluded that this area contained a broad band of layered formation having moderate conductivity along the layers. The layers may be composed of formations of disseminated conducting material. Layers having the strike and dip of the known rock formations in this area would produce anomalies of this character.

This same area was surveyed with a simulated broadside array. For this work, line 4478 NE was selected as the source

line. The source was set up at 6 S on this line and one receiver made measurements at 6 S on lines 4242, 4006, 3771, 3535, and 2828. The other receiver made measurements at 6 S on lines 4714, 5302, 5656, and 6009. At the completion of these measurements, the source was moved to 4 S on 4478 and the receivers made measurements at 4 S on the respective lines. The measurements were continued through 16 N. These results were plotted using the same conventions as used in plotting P.E.M. broadside measurements. The results are shown on Map No. RG-EM-154A. These results indicate a conductor passing through 5N on lines 4006, 3771, 3535, and 2828. This may be the location of the layer or layers having the highest conductivity or it may be the location of the northwest edge of the band of conducting layers.

Thus, the two surveys together indicated a layered formation, having moderate conductivity along the layers, extending roughly from 2121 NE to 5656 NE, and having an indeterminate width but having either an edge or a layer of maximum conductivity about 5 N between 2828 NE and 4047 NE.

In the area from 5656 NE to 7778 NE the railroad tracks, telephone lines, and power lines make it impossible to obtain a clear-cut interpretation but there is a general indication that the layered formation may extend into this area.

Map No. RG-EM-152A shows the location of probable conductors.

The data obtained in the Lone Pine area are shown in Map No. RG-EM-156B. The anomalies in this area were obtained at the northern end of the grid. They indicate a conductor passing through 12.2 S on line 24,735 and line 24,385 and 12.3 S on line 24,028.

Another conductor passing through 8.4 S on line 24,735, 9.1 S on line 24,385, and 9.5 S on line 24,028 is also indicated. In addition to these two sheet conductors, the divergent anomalies indicate moderately conducting layers over an area extending from line 22,971 or a little south to line 24,385 and extending perhaps two or three hundred feet on each side of the base line. The strike of these layers appears to be somewhat more than 20° east of north. The layers dip westward.

Map No. RG-EM-159B shows the location of probable conductors in the Lone Pine Area.

J. R. DeVore,

P. N. Pocalyko,

Palmerton, Pa.,

Typed January 21, 1953-AMG

Boggs file

Files-2 THE NEW JERSEY ZINC COMPANY (O. P.A.)
Miss K.C. Ashman, N.Y. Library RESEARCH DEPARTMENT REPORT
Minerals Research-2
Messrs.
W.H. Callahan-3
F.J. Maloit
L.B. Slichter
A.W. Pinger
A.D. Hoagland

No. 1873

P-852

December 8, 1952

Experimental Work Carried Out:
July 15 to August 28, 1952

Original Notes:
On file at the Exploration
Department field office in
Prescott, Arizona.

Investigators:
J. R. DeVore
P. N. Pocalyko

Supervisor:
D. G. Brubaker

Chief:
M. L. Fuller

ELECTROMAGNETIC SURVEY
BRADSHAW MOUNTAINS, BOGGS VENTURE,
ARIZONA - 1952

ABSTRACT

In the summer of 1952 an electromagnetic geophysical survey was conducted on the "Boggs Venture" in the Bradshaw Mountains near Humboldt, Arizona.

Evidence of geologic conductors was found in the Butter-nut Area and the Boggs Area but not in the Huron Area. The 900-cycle, engine generator, inductive equipment was used in this survey. Some interference from power transmission lines was experienced.

Abstr. by M.L.F.

Prescott, Arizona
December 8, 1952

Mr. William H. Callahan, Manager of Exploration, New York

PROGRESS REPORT FOR NOVEMBER 1952

BOGGS VENTURE

YAVAPAI COUNTY, ARIZONA.

Geologic mapping of the southern part of the Boggs Venture area was continued during November by Meade, Carlithers and Tracy. Snow conditions in the dense brush cover south of the Big Hog Creek hampered this study somewhat during the latter part of the month and as a result efforts were directed to the more open and accessible Iron Queen sector, north of Big Hog Creek.

Except for the resolving of some relatively small areas, the Hackberry, Ushot and Penland sectors have been mapped. Four shear zones of possible economic interest are recognized. The Hackberry, Ushot and Penland are developments along three of these zones. The fourth zone lies to the east of the Hackberry and Ushot zones, and has not been developed. These shear zones are in an andesitic volcanic section and are cut by acid (rhyolitic and quartz porphyry) and diorite intrusives. The intensity and complexity of the shearing obscures the detailed stratigraphic and structural relationships.

The Hackberry and Ushot zones strike N 30° E and join with or terminate against the Penland zone which strikes about N 20° E. The eastern edge in general parallels the N 20° to 30° E strike. All dips are very steep to vertical.

No strong magnetic anomalies are evident in this area and no electro-magnetic anomalies of significance were found, and since there is plenty of outcrop in this area, it is probable that there is no large massive sulfide body within close range (say 200 feet) of the surface. The main hope for the area lies in the possibility of subjacent ore of relatively poor conductivity or possible buried fingers of the upper portion of a sizeable mass. Occurrence of the geologically interesting zones may present one or more targets to test these possibilities. Collecting of the samples will begin in December.

There were no developments in regard to the acquisition of the Mary Copper property.

A. D. Hongland/gwl
cc: Messrs. Wm. H. Callahan (2)
F. J. Mable
H. F. Hills (3) —
Hills.

COPY

Prescott, Arizona
January 5, 1953

Mr. William H. Callahan, Manager of Exploration, New York
PROGRESS REPORT, DECEMBER 1952

BOGGS VENTURE

Yavapai County, Arizona

Field mapping and geologic interpretation was continued during December by Messrs. Carithers and Frary. Mr. Carithers's report is quoted below:

"Some work was done in the Pentland area; but most of the effort was in the Iron Queen Mine-Boggs Mine sector. A transit survey was made between the old shafts of those old mines and a tie was made with the Iron King's triangulation and grid system.

"The same wide zone of shearing and alteration that was mapped in the Hackberry-Uppshot area is expressed in the Iron Queen - Boggs sector. However, a heavy mantle of gravels, occurring as an irregular belt along Big Dog Creek, interrupts the two areas. Also, a veneer of mantle rock and alluvium obscures some critically situated ground near the Iron Queen and Boggs mines. These coverings, particularly the gravels, will interfere with proposed geochemical work at some places, but this prospecting is expected to be highly practical over most of the area."

Geochemical sampling was begun and 130 samples were collected.

A. B. Hoagland/dvl
cc: Messrs. Wm. H. Callahan (2)
F. J. Saleit
H. F. Mills (3) ✓
File

A. B. Hoagland

COPY
 Prescott, Arizona
 October 21, 1952

Mr. W.H. Callahan, Manager of Exploration, New York

PRECEDENCE REPORT FOR SEPTEMBER 1952

BOGGS VENTURE

YAVAPAI COUNTY ARIZONA

With the completion of the E M survey on the Boggs Venture area, the total staff effort on this project diminished. Messrs. Ward Carithers and Irving Peary began a field study of the geology of the Hackberry-Ventland sector based on aerial photos of a scale of 1" equals 400'. The geological problems which appear on such a scale are extremely complex in this area and yet the resolution of the problems is necessary to establish the next steps in the exploration process. In the sector mapped during September, no E.M. anomalies had been found. The geologic mapping has served to define zones of shear and alteration (the Hackberry and Ventland shears) which are believed to justify detailed geochemical study. The geochemistry may focus and intensify our interest in restricted parts of this sector.

Dr. L.B. Slichter spent the afternoon of September 10 and the morning of the 11th in the Prescott office reviewing the EM work which had been accomplished during the summer, chiefly on the Boggs Venture area. The areas of particular interest, as evidenced by the EM work, are: (1) at the north end of the Boggs centering in claims Northern #6 and #7 and Farraday (sic) #3 and #4, and (2) in and adjacent to the foreign claim Mary Copper Extension #4. Of the two, the Northern-Farraday area is electrically much the more interesting. Mr. Fred Gibbs is improving the locations of the Farraday Group.

A.D. England/adh

CC: Messrs:

W.H. Callahan (2)
 F.J. Maloit
 H.F. Mills (3)
 file



Prescott, Arizona
November 19, 1952

Mr. W. H. Callahan, Manager of Exploration, New York

PROGRESS REPORT FOR OCTOBER 1952

BOGGS VENTURES

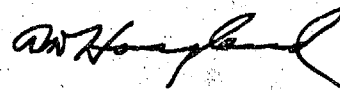
YAVAPAI COUNTY, ARIZONA

Messrs. Carithers and Frery continued their geologic mapping in the area south of Big Bug Creek (Hackberry-Pentland Sector). The mapping of this sector, except for the Butternut Claims, has nearly reached completion. It may be noted that because of the very dense brush cover, this area is a particularly difficult one in which to work. The bulldozed lines which were established for the geophysical work have proved to be exceedingly helpful in the geologic mapping.

No progress has been made in securing an option on the Mary Copper group of claims, although Messrs. Gibbs and McDaniel are both working on this matter. Until Mr. Ferrell obtains a quitclaim deed from the Upshot people, there is little that can be done. We are watching this situation closely and are prepared to act when it is proper to do so.

ADHoagland/db

cc-Messrs. W. H. Callahan (2)
F. J. Maloit
H. P. Mills (3) —
file



Prescott, Arizona
Aug. 5, 1952

Mr. W. H. Callahan, Manager of Exploration, New York

PROGRESS REPORT FOR JULY 1952
BOSCO VENTURE
YAVAPAI COUNTY, ARIZONA

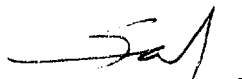
Messrs. Carithers and Johnson began copying and compiling plans, sections, and assay data which have been loaned to us by Messrs. Gibbs and Mills.

Line cutting continued through the month and will probably continue through August. Several factors are involved among which are: the diversion of the bulldozer to other work, the failure of the bulldozer to perform under certain terrain conditions, and an emergency appendectomy which hospitalized Mr. H. H. Hallett and required the diversion in alternate weeks of Messrs. Johnson and Carithers. The pressure on August is caused by the addition of about 40,000 feet of intermediate line to the lines of the original grid which are still unstaked.


On July 15 Messrs. Pinger, DeVore, and Pooalyko arrived to begin the electromagnetic survey. Several interesting anomalies have been found.

There was no change in our property control, but we did learn from Mr. McDaniel that we may have the opportunity in the near future to negotiate for the Mary Copper, and perhaps the Upshot. Our thinking on this matter will be influenced by geophysics now in progress.

The New Jersey Zinc Company



S. S. Jerome



A. D. Hoagland

SEJ-ADH/db

CC: Messrs. W. H. Callahan (2)
F. J. Maloit
H. P. Mills (3) ✓
Prescott file

COPY
 Prescott, Arizona
 July 3, 1952

Mr. W. H. Callahan, Manager of Exploration, New York

PROGRESS REPORT FOR JUNE 1952
BOGGS VENTURE
YAVAPAI COUNTY, ARIZONA

Mr. Gibbs has not submitted a progress report for June. The location of four new claims near the Hackberry mine was completed, and I do not believe any other matters required his attention.

Several conferences were had with Messrs. Mills and McDaniel on Boggs property matters. Mr. McDaniel distributed summaries of the Boggs agreements prepared by him and Mr. Kramer. He reported that all owners are receptive to the changes in the agreements as suggested by Mr. Kramer and that he will take the necessary steps to have these changes made.

A bull dozer was placed on the brushing job early in the month and made real progress. We are now certain that the staking job can be completed sometime in July. It is easy however to over-emphasize the effectiveness of the bulldozer; the fact that good progress has been made here is largely due to Mr. Hallett's willing and efficient manner of handling the job.

Geophysical work will begin on this venture the middle of July.

The New Jersey Zinc Company



 S. E. Jerome

SEJ/
 CC: Messrs. W. H. Callahan (2)
 F. J. Maloit
 H. F. Mills (3) ✓
 Prescott file

COPY
 Prescott, Arizona
 June 5, 1952

Mr. W. H. Callahan, Manager of Exploration, New York

PROGRESS REPORT FOR MAY 1952
BOGGS VENTURE
YAVAPAI COUNTY, ARIZONA

The distribution of Mr. Gibbs' time and his accounting for the months of April and May have already been distributed. It will be noted from his report that four more claims have been located near the Hackberry mine to allow extension of our geophysical lines. Mr. Gibbs obtained written permission from Mr. Terrill to cut lines across his property. Normally I would not advocate doing geophysical work across ground we do not control; however, the status of Terrill's Mary Copper claims and of the Upshot ground is likely to be confused for so long that we may as well learn now as much as we can about the potential of these.

I neglected to mention last month that the triangulation work on this venture was begun by Mr. Garrett and completed by Shattuck Denn's staff after Mr. Garrett was transferred.

Mr. Walleit completed staking the Butternut area and began work on the main project. He is in the Hackberry area where the brush is dense, so progress has been slow. Five days of his time were spent in this office on calculations and in preparation of a map showing triangulation stations, positions of property as we now understand them, and the geophysical grid. Copies of this map are attached; for simplicity I have elected to omit property names and have labeled only general areas.

All of the Boggs property agreements were reviewed by Messrs. Kramer and McDaniel. Mr. Kramer suggested a number of revisions in these agreements, and it was understood that Mr. McDaniel would arrange for these revisions with the property owners.

The New Jersey Zinc Company


 S. H. Verone

SEJ/

Enc. (1)

CC: Messrs. W. H. Callahan (2)

F. J. Walleit

H. F. Mills (3) ✓

Prescott file

COPY

Boggs file

CC: Messrs W. H. Callahan (2)
 F. J. Mahoit
 H. F. Mills (3) ✓
 Prescott file

Box 1629
 Prescott, Arizona
 May 5, 1952

Mr. W. H. Callahan
 Manager of Exploration
 The New Jersey Zinc Company
 160 Front Street
 New York 38, New York

PROGRESS REPORT FOR APRIL 1952
BOGGS VENTURE
YAVAPAI COUNTY, ARIZONA

Continuing with the procedure suggested by Mr. Bardon for our Kay Copper venture with Shattuck Denn, I submit the first progress report on the Boggs venture which will be distributed to interested parties within our company and to Mr. Mills for distribution within his organization:

Mr. Gibbs was away for most of the month and has submitted no progress reports. He spent one day familiarizing Mr. Hallett, Shattuck Denn's engineer, with the disposition of patented property within the Boggs venture area. He reports that Mrs. Hull has optioned her property to no one - probably electing to wait us out. The Upshot property owners have given Mr. Gibbs written permission to cross their ground with geophysical surveys; I think we should take advantage of this opportunity to screen the area.

Mr. Harold Hallett was hired by Mr. Mills for the engineering work on this venture. He helped with the last station of a triangulation net begun by Messrs. Mills, Bombardieri, and Beauchamp. From this station, which was on the Butternut dump, he surveyed a base line and laid out the diagonals for eventual geophysical surveys. Work on the Butternut had not been completed at the end of the month. In planning for expansion of control from the Butternut, he found contradictory patented property location on old maps so found it necessary to tie patented claims to the triangulation net. The writer spent about three days in the office and field assisting Mr. Hallett in the solution of his problems.

Next month we will present a map showing progress on the triangulation net, property location, and geophysical control.

The New Jersey Zinc Company

SEJ/


 S. E. Jerome

Shift down 60'

2 ppd

New Work Planned

Continue sinking

Misc. Notes

Shipped Car
for Ore

encountered in old
drift or 50'

All handwork

Simon

Handed in handwork

down 20 feet
to open old 95'
level

New Work Planned

Expect to
encounter shiping
ore

Misc. Notes

Shipped Car
for Ore

encountered in old
drift or 50'

All handwork

Simon

Handed in handwork

DEPARTMENT OF MINERAL RESOURCES

News Items

Date July 6, 39

Mine Boggs

Location Poland Jc.

Owner Gibbs & Heslop

Address

Operating Co. R. Sturms & Al Adams

Address

Pres.

Genl. Mgr.

Mine Supt.

Mill Supt.

Principal Metals Gold, Silver, Lead

Men Employed

Production Rate

Mill, Type & Capacity

Power, Amt. & Type

Signed Carl G. Barth
(Over)

DEPARTMENT OF MINERAL RESOURCES

News Items

Date July 31, 39

Mine Boggs

Location Poland Jc.

Owner

Address

Operating Co. Sturms & Adams

Address

Pres. Encountered water

Genl. Mgr. at 60' - quit today

Mine Supt. will install

Mill Supt. pump as soon

Principal Metals as can be

Men Employed acquired

Production Rate

Mill, Type & Capacity

Power, Amt. & Type

Signed Barth
(Over)

DEPARTMENT OF MINERAL RESOURCES

News Items

Date June 28

Mine Boggs

Location Poland Junction

Owner Gibbs & Heslop

Address Prescott

Operating Co. R. Sturms & Al Adams

Address Humboldt

Pres.

Genl. Mgr.

Mine Supt.

Mill Supt.

Principal Metals Gold, Silver

Men Employed Selres

Production Rate

Mill, Type & Capacity

Power, Amt. & Type

Signed Carl G. Barth
(Over)

Arizona Department of Mineral Resources, Capitol Building, Phoenix, Arizona

QUESTIONNAIRE

Relating to survey of potential copper production from Arizona small and marginal mines for national defense purposes;

Name of mining property..... Boggs

Location..... Big Bug Mining District, Yavapai County, Arizona

Ownership..... L.E. Hesla 50%; Fred Gibbs 25%; Estate of Hugh McKay 25%

Name of Manager..... L.E. Hesla

Post Office address..... Prescott, Arizona

Copper production (pounds) during each of the past five years:

1936..... none 1937..... none 1938..... none

1939..... none 1940..... 5,000

1941 rate of copper production based upon first four months..... none

How much copper could this property produce annually

on a 14 cent price? 750,000

on a 16 cent price? 1,000,000

on an 18 cent price? "

on a 20 cent price? "

What price copper is necessary for this property? 14¢ cents per pound?

What plant facilities would be required and how much is the estimated cost in the event a 14 cent price could be assured? 50 ton mine and mill plant, - estimated cost \$35,000

a 16 cent price could be assured? 75 ton plant, - Cost \$50,000

18 cent price? Same

20 cent price? Same

For what length of time would assurance of price and sale of full production be necessary? Three years

ARIZONA DEPARTMENT OF MINES AND GEOLOGY
Phoenix, Arizona, Capitol Building

Ore occurrence.

Massive sulphides of iron, copper, lead and zinc.
Shoots elliptical in shape laterally, - none have
yet been bottomed down the dip. Location and accessibility

Ore reserve (quantities and values).

15,000 tons, - 0.15 Au. 3.5 Ag; 2.5% Cu. 2.0% Pb.
5.0% Zn.

Accessory metals of value.

Development work done.

Two shafts to depth of 400 feet about 700 feet
apart. 4,000 feet of connecting drifts to 400
level.

Plants (with capacity) already on property.

None.

ARIZONA DEPARTMENT OF MINERAL RESOURCES
Capitol Building, Phoenix, Arizona

Page 2

Name of property Boggs Mine.

Location and accessibility of property.

3 miles from the town of Mayer, Arizona. Half mile from state highway and from branch of Santa Fe R.R. with which good road connects.

History of ownership.

Originally belonged to Commercial Mining Company which was forerunner of present Phelps-Dodge Corp. Purchased by present owners from Phelps-Dodge Corp. in 1937.

Production history.

Under original ownership production was estimated to be in neighborhood of \$800,000.00 Production ceased in 1907 and from then until present time only small amounts have been mined by leasers.

General geology (brief)

Schist replacement deposits in Yavapai schist. Old amygdaloidal beds were replaced by mineralizing solutions coming from more recent intrusions of granite and diorite.

Geology & Mineralization

DEPARTMENT OF MINERAL RESOURCES
FIELD ENGINEERS REPORT
Dip steep E
Schist - replacement of pyrite and chalcopyrite strike N 20° E

Date October 6, 1950

Ore: Positive & Probable; Ore Dumps; Tailings

None

Location: 1/2 mile east of Potosi, Pinal Co., Arizona

District: Pinal

Mine, Mill Equipment & Flow Sheet

None

Road Conditions, Route

Good

Water Supply

Mine

Brief History

Commercial Mng. Co. (Phelps Dodge) 1905-09. Geo. A. Treadwell Co. (250 ton smelter - Boggs smelter). Idle except by leasers.

Special Problems, Reports Filed

Remarks

F. W. Giroux for information - Mayer.

If property for sale: Price, terms and address to negotiate.

Fred Gibbs, L. E. Hesla, Prescott, Ariz.

Signed Carl G. Barth, Jr.

Use additional sheets if necessary. Separate sheets on each problem.

DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA
FIELD ENGINEERS REPORT

Geology & Mineralization

Date October 6, 1939

Mine BOGGS

Engineer Carl G. Barth, Jr.

District Big Bug

Location 2 mi. east of Poland Jct. on
Black Canyon Hwy.

Former name

Owner Fred Gibbs, L. E. Hesla, & associates

Address Prescott

Operator Al Adams, Rudy Sturms

Address Humboldt

President

Gen. Mgr.

Mine Supt.

Mill Supt.

Principal Metals Gold, copper

Men Employed 3 (themselves & another)

Production Rate

Mill: Type & Cap.

Power: Amt. & Type Gasoline engine - portable compressor.

Operations: Present Sinking new prospect shaft and unwatering.

Operations Planned Mine and open for investigation for sale.

Number Claims, Title, etc. Patented.

Description: Topog. & Geog. Flat area - known as Boggs Flat.

Mine Workings: Amt. & Condition Shaft reported 600' with usual levels. Now inaccessible.

Carl G. Barth, Jr.

Geology & Mineralization

DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA

Schist - replaced
pyrite & chalcopryite Strike N 20° E - Dip Steep E

Ore: Positive & Probable, Ore Dumps, Tailings

Mine, Mill Equipment & Flow Sheet

None

Road Conditions, Route

Good.

Water Supply

Mine

Brief History

Commercial Mng Co (Phelps Dodge) 1905-09
Geo. A. Treadwell Co. (250 ton Smelter - Boggs Smelter)
Idle except by leasers.

Special Problems, Reports Filed

Remarks

F.M. Giroux for information
Mayer.

If property for sale: Price, terms and address to negotiate.

Fred. Gibbs - L.E. Heslo.
Prescott, Ariz.

Signed

Kare G. Burt

DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA
FIELD ENGINEERS REPORT

notwithstanding to explore

Mine *Boggs*
District *Big Bug*
Former name
Owner *Fred Gibbs & L.E. Hosler Associates*
Operator *Al. Adams - Rudy Storms*
President
Mine Supt.
Principal Metals *Gold & Copper*
Production Rate

Date *Oct. 6, 1939*
Engineer *Carl G. Bailey*
Location *2 mi east of Poland Jc. on Black Canon Hwy. Prescott*
Address *Humboldt*
Gen. Mgr.
Mill Supt.
Men Employed *3 (themselves & another)*
Mill: Type & Cap.

Power: Amt. & Type *Gasoline engine - Portable compressor*
Operations: Present *Sinking new prospect shaft & unwatering*

Operations Planned *Mine to open for investigation for sale.*

Number Claims, Title, etc.

Patented

Description: Topog. & Geog.

Flat area known as Boggs Flat.

Mine Workings: Amt. & Condition

Shaft reported 600' with usual levels. now inaccessible

NAME OF MINE: BOGGS

COUNTY: YAVAPAI G
DISTRICT: BIG BUG
METALS: CU, AU, AG

OPERATOR AND ADDRESS:

MINE STATUS

DATE:

5/1/44

✓
RPM Davis
2356 Hollyridge Drive
Hollywood, California
✓
Al Adams

DATE:

5/1/44

closed

BOGGS MINE

L. L. F.

4.5 miles north of Mayer, Arizona.


Owner; Fred Gibbs and Associates; Prescott, Arizona.

Approximate Production; 1943; - 21,300 lbs Zinc; 7680 lbs Copper
121 Ozs Gold; 1042 Ozs Silver.

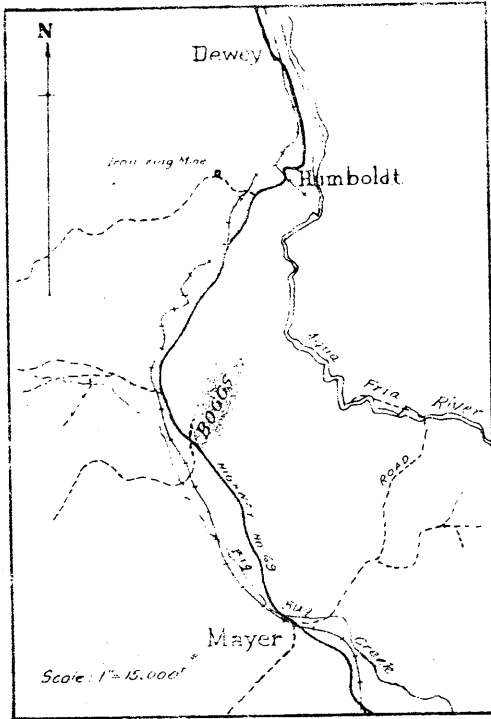
This property was unwatered in 1943. The former ore bodies were found to have been both exhausted and bottomed. A winze was sunk below the deepest level (400 ft) on the most promising showing but failed to find additional ore.

Future production possibilities would depend upon the success of further exploration.

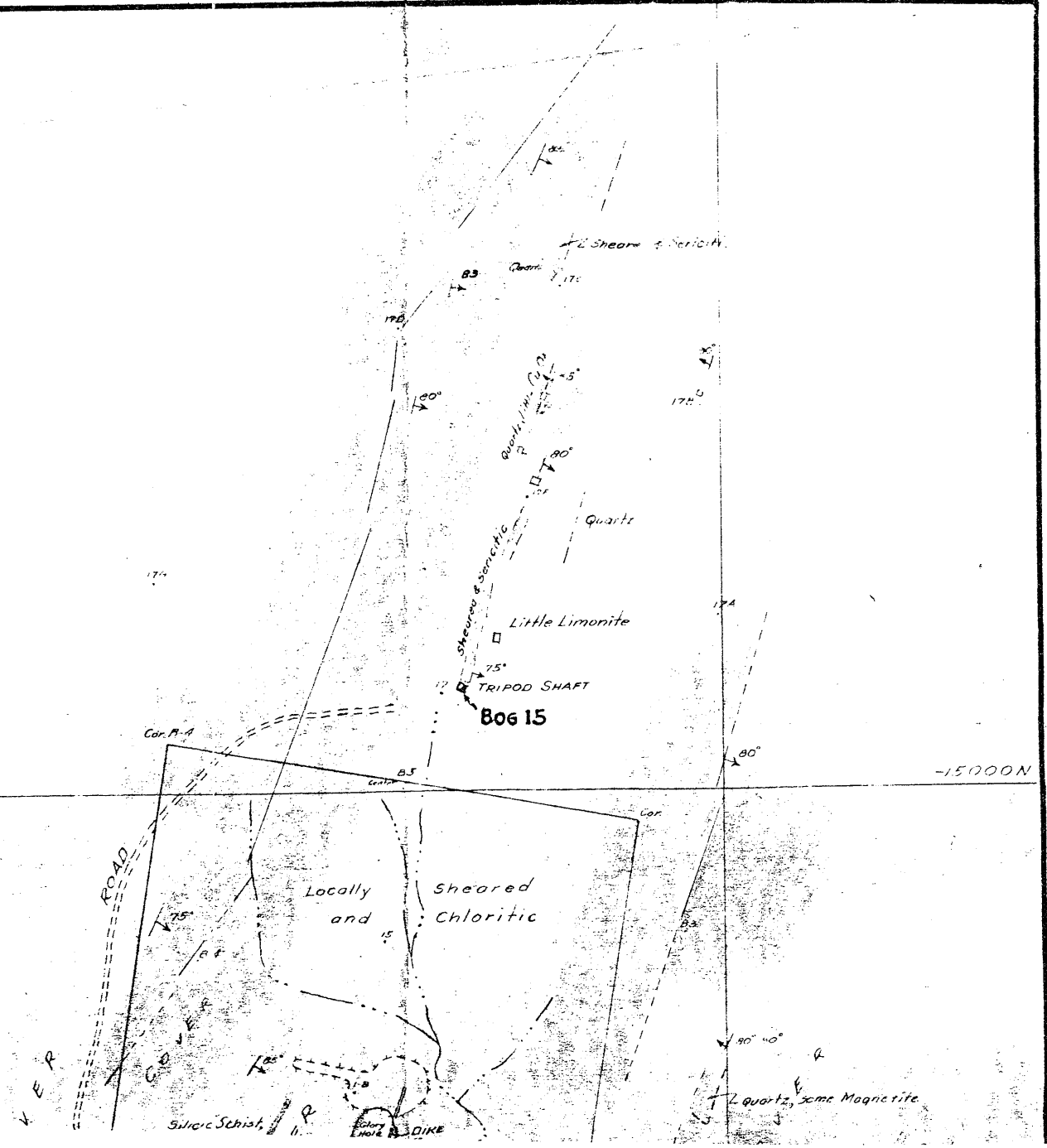
October 1950.


L. L. Farnham

Humboldt-Mayer Area Index Map.

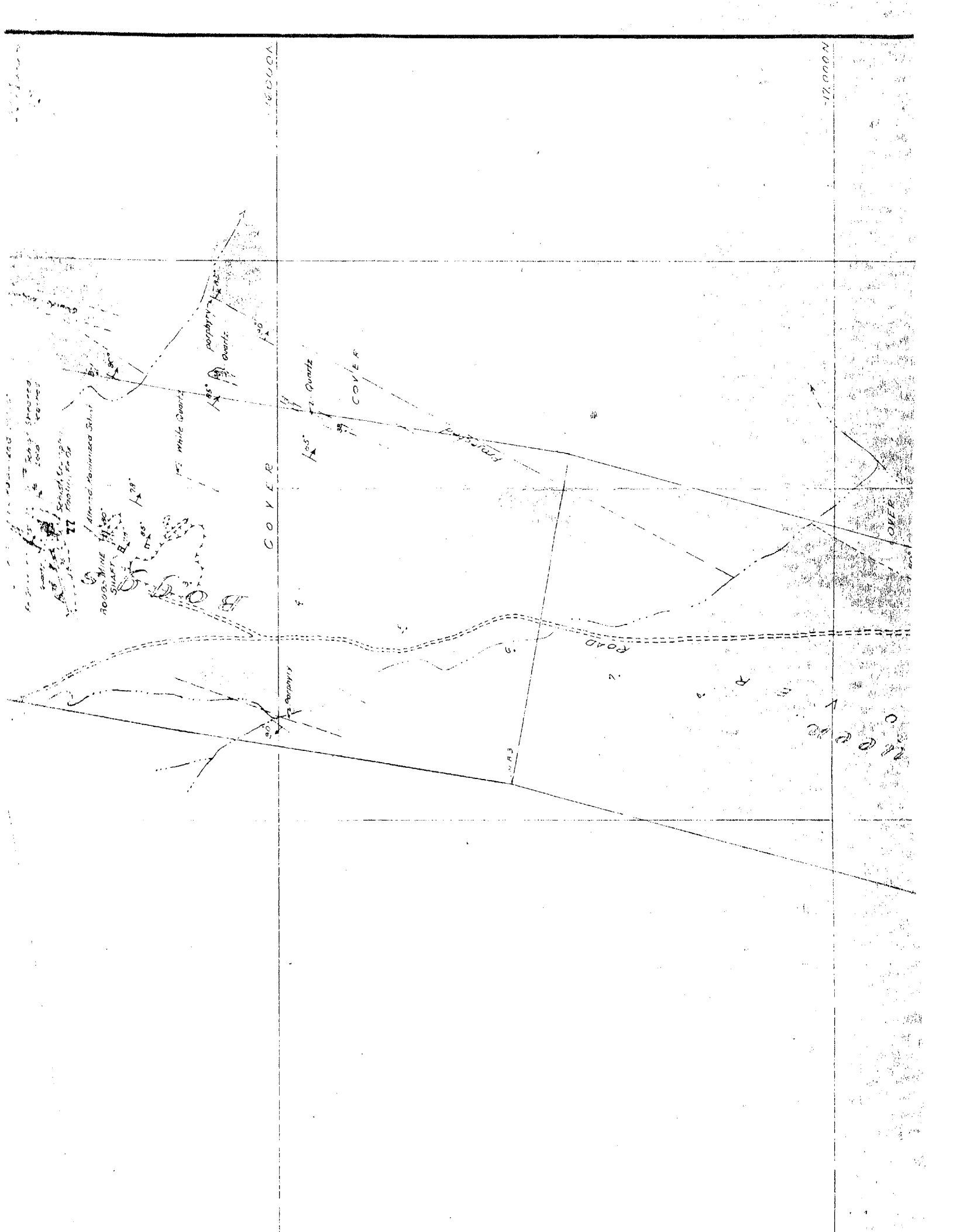


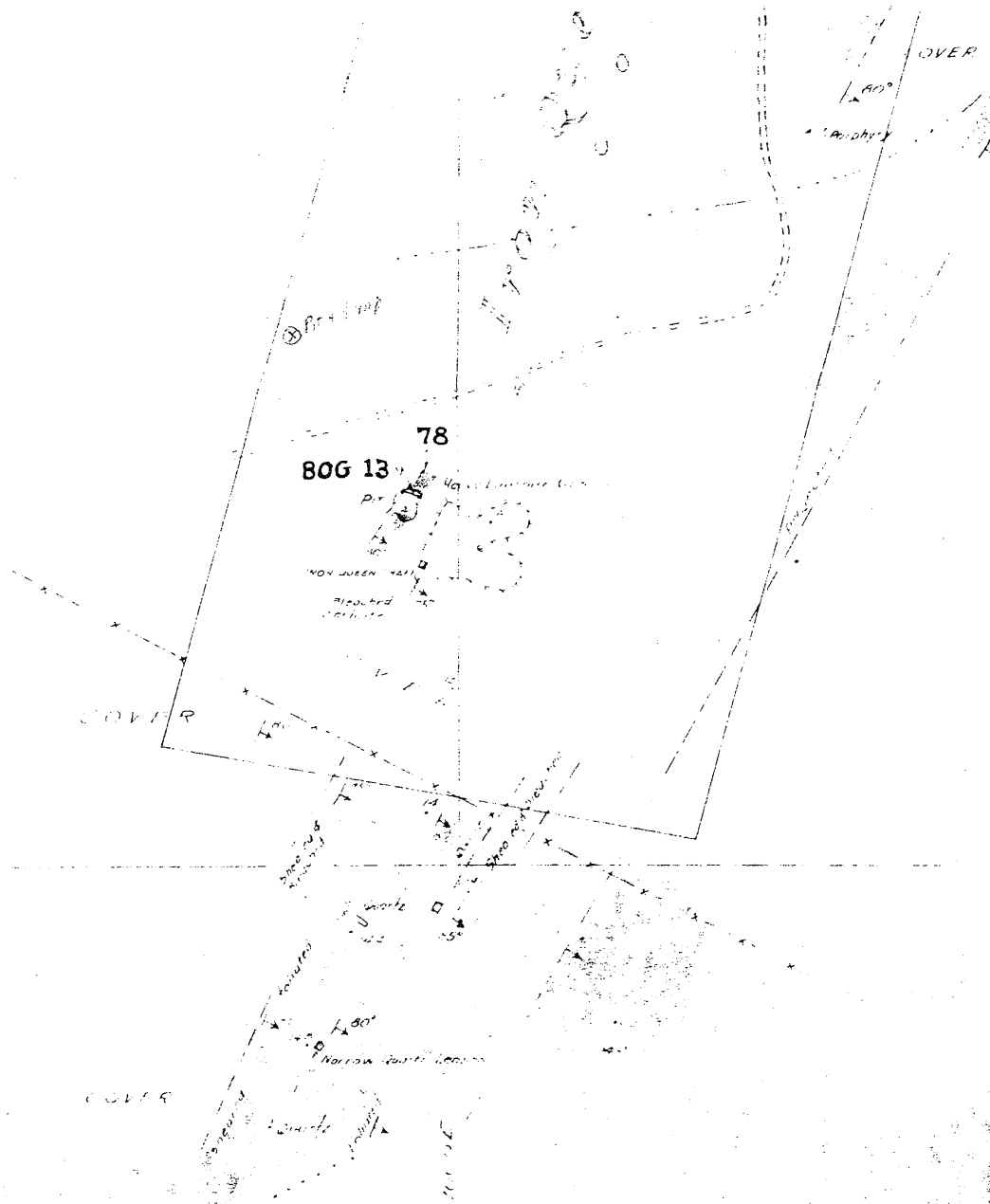
10000'



Schist, bleached and crinkled

-15000'





SURFACE GEOLOGY / BOGGS VICINITY





Approximately 3 miles N.W. of Mayer, Arizona

E. A. Stone March, 1951

Scale: 1 inch = 200 feet.

LEGEND

-18,000N.

-  Schist
-  Quartz Porphyry
-  Gossan and Mineralization
-  Early Quartz and Alteration
- 1, 2. Spectrum Samples

H. F. MILLS

Boggs

BE 195015
200007

61E
1215



PROPERTY TENURE

- MPP Perfected Lodes
- MPP Locations

UNMETAMORPHOSED ROCKS

- Tertiary hemitene porphyry sills.
- Diabase dikes.
- Dericite, coarse grained.

METAMORPHOSED ROCKS

- Quartz vein, white, massive.
- Cherty quartz, gray.
- Gabbro, coarse grained mafic.
- Andesite to basaltic rocks. Andesite buff and tan; andesite schist-dab sch; alphanitic mafic-aph maf; amygdaled basalt-amyg bas.
- Mineralized schists, sericitic schist, and quartz porphyry. Sericitic schist, quartz porphyry - wip.
- Felsic rocks. Felsic schist-felsic; mylonite-rhy; sericitic schist-ss.
- Quartz porphyry, alphanitic matrix.
- Felsic rock with prominent fragments.

OTHER SYMBOLS

- E.M. Conductor Axis.
- Claim Corner.
- Location Corner.
- Power Line.
- Gas Line.
- Fence.
- Mine Shaft
- Dirt Road
- Unimproved Road.
- Dry Wash.
- Mine Workings.
- 1/4 Section Corner
- Adit
- New Jersey Zinc DDH's
- MPP DDH's for location work.

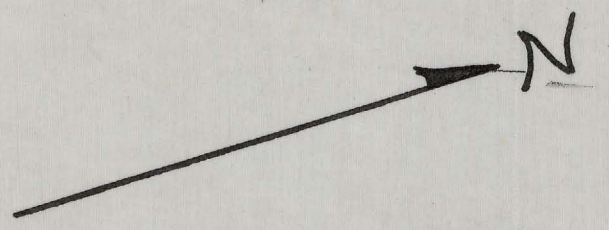
The Consolidated Mining and Smelting Company of Canada Limited

DRAWN BY: J.S.P.		TRACED BY: Clark	
REVISED BY:	DATE:	REVISED BY:	DATE:
Clark	1-23-64		

**GEOLOGIC PLAN-EMA CLAIM 3
BIGBUG DISTRICT
YAVAPAI COUNTY, ARIZONA**

SCALE: 1" = 200' DATE: 11-24-64 PLATE:

BOGGS MINE
COMPOSITE LEVEL MAP
Scale 1"=25'



28 2000 1000 500 250 125 62 5

Treadwell Shaft

Boggs Shaft Caved

100 Level

200 Level

300 Level

400 Level

DYKE 2

DYKE 2

