CONTACT INFORMATION
Mining Records Curator
Arizona Geological Survey
416 W. Congress St., Suite 100
Tucson, Arizona 85701
520-770-3500
http://www.azgs.az.gov
inquiries@azgs.az.gov

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James Doyle Sell Mining Collection

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Crossman Mts

7/11/83

Mike Ferdik
764-3653
Lake Havasu

JDS Copy

Tanenet Mining Corporation
Administrative Office
18 Price Street
West Chester, Pa. 19380

Tanenet Mining Corporation
Field Office
P.O. Box 5667
Lake Havasu City, Az. 86403
602-764-3653

On at the Havasu motel
ph 855-2311

or ph-764-3857

called 6/9 to say he was
out in Lake Havasu for
June.
Call before you go up

April 13, 1983

ASARCO Inc.
Exploration Dept.
Southwestern U.S. Div.
1150 N. 7th Ave.
P.O. Box 5747
Tucson, Az. 85703

Mr. James Sell

Dear Sir,

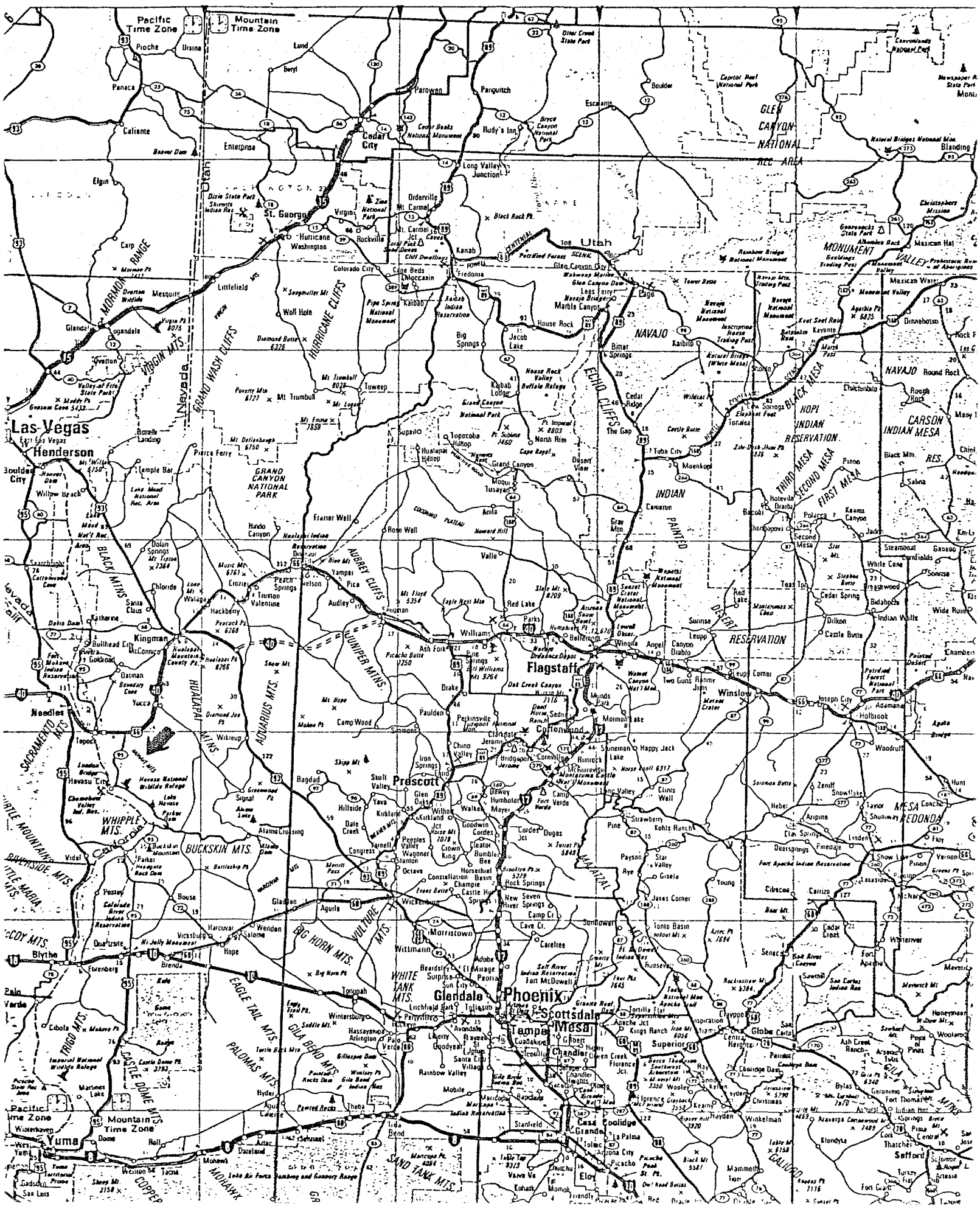
Per our phone conversation, April 12, 1983, the material enclosed, pertains to 28 Lode and Placer claims, being developed by Tanenet Mining Corporation. Although production has not yet begun, we are presently seeking financing for, heap leach mining.

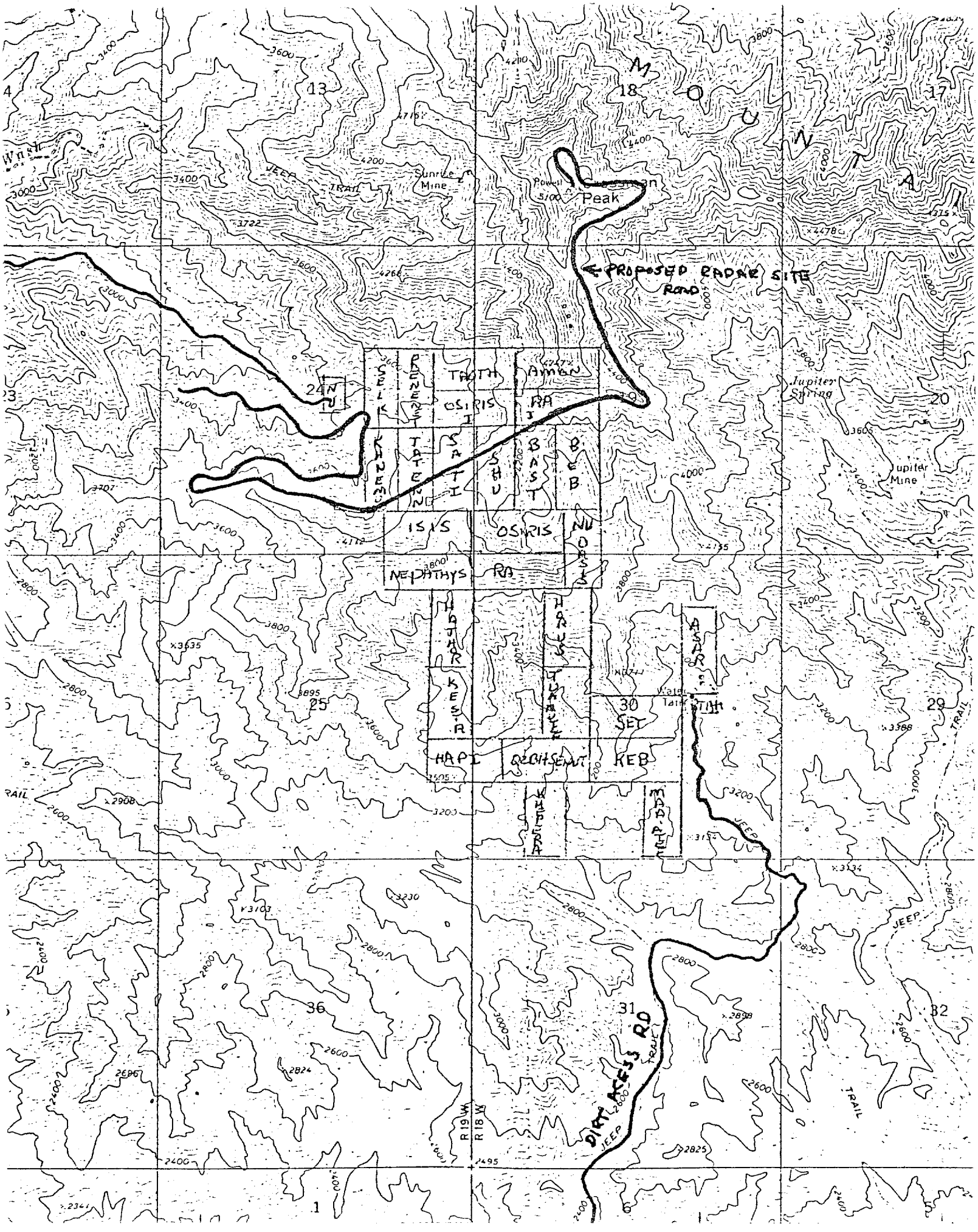
You can reach me at the field office, after May. Thank you for your call.

Cordially Yours,
Michael H. Ferdik
Tanenet Mining Corporation
Michael H. Ferdik
President

RECEIVED
APR 13 1983
S. W. U. S. EXPL. DIV.

LOCATION MAP


Pacific Time Zone
Mountain Time Zone
Las Vegas
Henderson
Boulder City
Kingman
Needles
Havasu City
Lake Havasu
Yuma
Blythe
Parker
Cedar City
St. George
Hurricane
Rockville
Zion National Park
Kanab
Page
Glen Canyon City
Flagstaff
Prescott
Cottonwood
Winslow
Holbrook
Phoenix
Glendale
Scottsdale
Tempe
Mesa
Chandler
Casa Grande
Coolidge
Superior
Globe
Eloy
Safford
Sedona
Williams
Tuba City
Kaibab
Fredonia
Page
Grand Canyon
Tusayan
Moqui
Tuba City
Moenkopi
Cameron
Bitter Springs
Kaibito
Navajo
Hopi Indian Reservation
Navajo Indian Reservation
Gila River Indian Reservation
Fort Apache Indian Reservation
Colorado City
Littlefield
Mesquite
Overton
Glendale
Logandale
Virgin
Rockville
Springdale
Tuweep
Supai
Hualapai Hilltop
Topocoba Hilltop
Peach Springs
Valentine
Hackberry
Chloride
Dolan Springs
Bullhead City
Oatman
Yucca
Topock
Parker
Bouse
Quartzsite
Ehrenberg
Brenda
Vicksburg
Wenden
Salome
Hope
Harcuvar
Aguila
Wickenburg
Morristown
Wittmann
Tonopah
Wickenburg
Congress
Yarnell
Prescott
Chino Valley
Paulden
Camp Wood
Sedona
Clarkdale
Jerome
Cottonwood
Cornville
Rimrock
Camp Verde
Cordes Jct
Dugas
Payson
Star Valley
Rye
Strawberry
Pine
Kohls Ranch
Heber
Snowflake
Taylor
Show Low
Pinetop
Lakeside
Springerville
Eagar
Alpine
Greenlee
Clifton
Morenci
Duncan
Safford
Thatcher
Pima
Central
Bylas
Geronimo
Fort Thomas
Ashurst
Indian Hot Springs
Bryce
Klondyke
Winkelman
Hayden
Kearny
Mammoth
Tiger
Oracle
Catalina
Tucson
Marana
Picacho
Arizona City
Casa Grande
Coolidge
Stanfield
Maricopa
Gila Bend
Tacna
Dateland
Wellton
Yuma
Dome
Roll
Mohawk
Tacna
Wickenburg
Congress
Yarnell
Peoples Valley
Wagoner
Stanton
Octave
Constellation
Champie
Castle Hot Springs
Wickenburg
Morristown
Wittmann
Beardsley
Surprise
Sun City
Peoria
Glendale
Phoenix
Scottsdale
Tempe
Mesa
Chandler
Gilbert
Queen Creek
Florence Jct
Superior
Kearny
Hayden
Winkelman
Globe
Miami
Inspiration
Apache Jct
Kings Ranch
Tortilla Flat
Roosevelt
Rockinstow Mt
Tonto Basin
Sunflower
Cave Cr.
Carefree
Cave Creek
Fort McDowell Indian Res
Salt River Indian Reservation
Fort McDowell
Rio Verde
Fountain Hills


PROPOSED RADNR SITE
RAD
Sunrise Mine
Powell Peak
Jupiter Spring
Jupiter Mine
JEEP TRAIL
DIRT ROAD
THOTH
AMON
OSIRIS
RA
ISIS
NEPHTHYS
SET
KEB
R19W
R18W
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18
17
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6
5

United States Department of the Interior
GEOLOGICAL SURVEY
BOX 25046 M.S. 973
DENVER FEDERAL CENTER
DENVER, COLORADO 80225
Branch of Exploration Research

IN REPLY REFER TO

October 4, 1982

Mr. Michael Ferdik
P.O. Box 5667
Lake Havasu City, Arizona 86403

Dear Mr. Ferdik:

Enclosed I am sending you a copy of the abstract for the talk I gave last April at the Cordillerean Section meeting of the Geological Society of America. The talk was titled "Mineralization in the Crossman Peak area, Mohave Mountains, Arizona." A complete version of this paper has not yet been published, but I have included copies of the illustrations used to show the distribution of elements throughout the Mohave Mountains.

I am also enclosing a copy of an article written by Keith Howard and others, USGS, Menlo Park, California. This article illustrates the structural relationships which we employed in defining our geochemical model for mineralization in the Mohave Mountains.

I have passed your request for information in the vicinity of your mining claims to John McDonnell at the U.S. Bureau of Mines. He will initiate the procedures for pre-publication release of data from their files. Please let me know if there are any difficulties encountered in obtaining this information.

Please feel free to contact me, if I can be of any further assistance with respect to the mineral occurrences in the Mohave Mountains.

Sincerely,

T. D. Light

Thomas D. Light
Branch of Exploration Research

Enclosures

THOMAS D. LIGHT

ABSTRACTS with PROGRAMS 1982

THE GEOLOGICAL SOCIETY OF AMERICA ·1888·

78th Annual Meeting

CORDILLERAN SECTION

The Geological Society of America

April 19–21, 1982
Anaheim Convention Center
Anaheim, California

Host: Earth Science Department
California State University, Fullerton
Fullerton, California

Volume 14 • Number 4 • March 1982 • Boulder, Colorado
GAAPBC 14(4) 145-252 (1982)

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Telephone: (303) 447-8850
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*CORDILLERAN SECTIC
Submit original and five cop

1982 SECTION ABSTRACT FORM

Exact format shown on instruction sheet must be followed. Blue margins below are absolute limits.

Title, Author(s), Affiliation

MINERALIZATION IN THE CROSSMAN PEAK AREA, MOHAVE MOUNTAINS, ARIZONA

LIGHT, Thomas D., MARSH, Sherman P., and RAINES, Gary L., U.S. Geological Survey, P.O. Box 25046, Denver Federal Center, Denver, CO 80225

Body of Abstract

The Crossman Peak area, northeast of Lake Havasu City, Arizona, consists of Precambrian(?) gneisses intruded by dioritic to dacitic dikes. These rocks are overlain by Tertiary volcanic rocks. The area contains gold, silver, tungsten, copper, lead, zinc, barium, and molybdenum occurrences which have been prospected and mined intermittently during the past 100 years.

More than 1000 rock samples from mines and prospects throughout the Crossman Peak area were analyzed for the base- and precious-metal concentrations. The metal assays suggest a zonation from a core of high tungsten and copper values outward through a zone of high gold values, to high silver and lead values, and an outer ring of high manganese values.

The interpretation of computer-processed Landsat images indicated the presence of limonitic materials at a number of localities within the study area. Field examination of these localities, where they were coincident with mining activities, revealed several zones of alteration. A central zone of argillic alteration associated with high tungsten and copper values is bounded by a zone of propylitic alteration which includes areas of high gold and high silver-lead values.

The coincident occurrence of limonitic areas and alteration zones together with the apparent zonation of base and precious metals is similar to the pattern associated with porphyry-type mineralization. We hypothesize the presence of buried porphyry-type mineral deposit southeast of Crossman Peak.

CLASSIFICATION

You must specify one. If mor than one category is appropri indicate your order of prefere by numbers. Be specific.

- ☐ archaeological geology
- ☐ coal geology
- ☒ economic geology
- ☐ engineering geology
- ☐ environmental geology
- ☐ extraterrestrial geolog
- ☐ general geology
- ☐ geochemistry
- ☐ geology education
- ☐ geomorphology
- ☐ geophysics
- ☐ geoscience information
- ☐ history of geology
- ☐ hydrogeology
- ☐ marine geology
- ☐ mathematical geology
- ☐ micropaleontology
- ☐ mineralogy/crystallography
- ☐ paleontology/paleobotany
- ☐ petrology, experimental
- ☐ petrology, igneous
- ☐ petrology, metamorphic
- ☐ petrology, sedimentary
- ☐ Precambrian geology
- ☐ Quaternary geology
- ☐ sedimentology
- ☐ stratigraphy
- ☐ structural geology
- ☐ tectonics
- ☐ volcanology
- ☐ other—describe below

☒ Oral ☐ Poster ☐ Either

☐ Symposium _____
(title of symposium for which abstract was invited)

PLEASE NOTE: All invited symposium abstracts (original plus two copies) must be sent to the organizers of the respective symposia according to deadlines established by symposium organizers.

Speaker's name Thomas D. Light
Address U.S. Geological Survey
5946 McIntyre Street
City Golden State CO Zip 80403
Office Telephone (303) 234-6170
Home Telephone (303) 443-4623

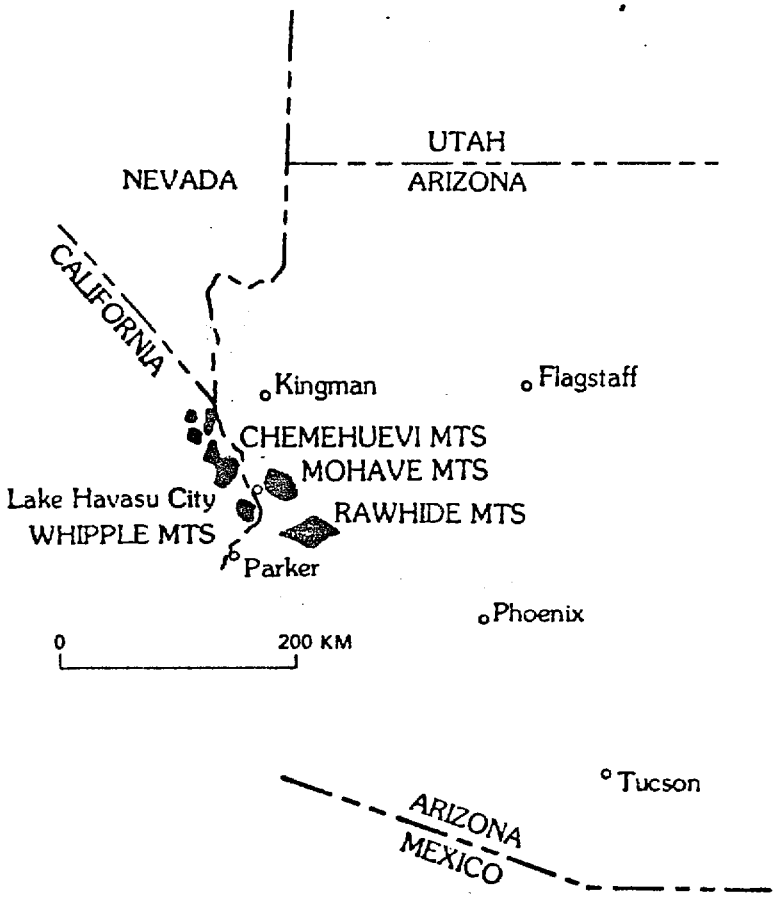
GSA MEMBERS
☒ Fellow/member
☐ Student Associate

NON-GSA MEMBERS
☐ Professional
☐ Student
☐ Member of Society Associated with GSA which _____

Dates I can be reached _____

I will be available to serve as a cochairman for a technical session on or concerning: _____

Percentage of this paper previously presented none Where and when presented


UTAH
NEVADA
ARIZONA
CALIFORNIA
Kingman
Flagstaff
CHEMEHUEVI MTS
MOHAVE MTS
Lake Havasu City
RAWHIDE MTS
WHIPPLE MTS
Parker
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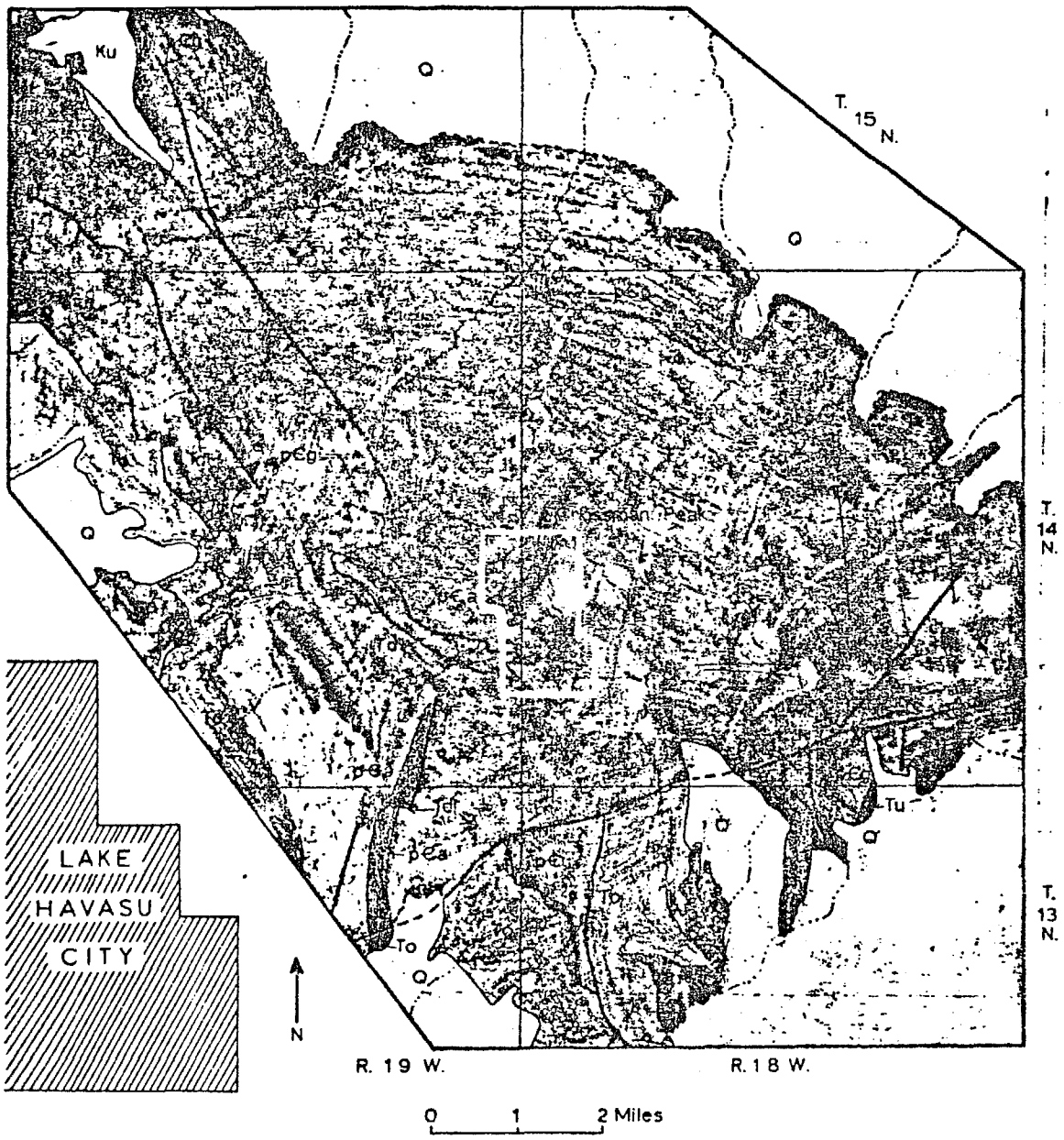
200 KM
Tucson
ARIZONA
MEXICO



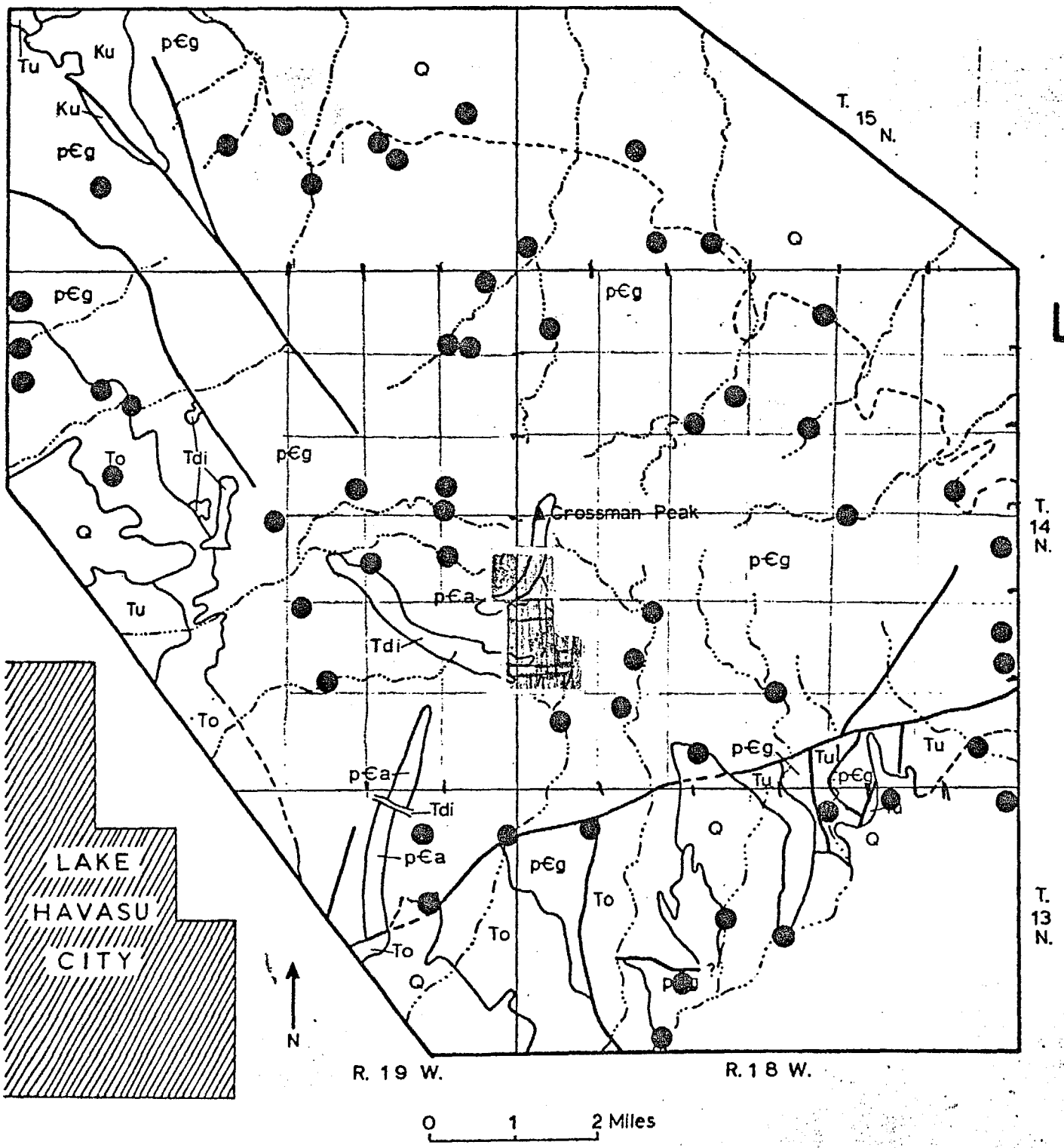
EXPLANATION

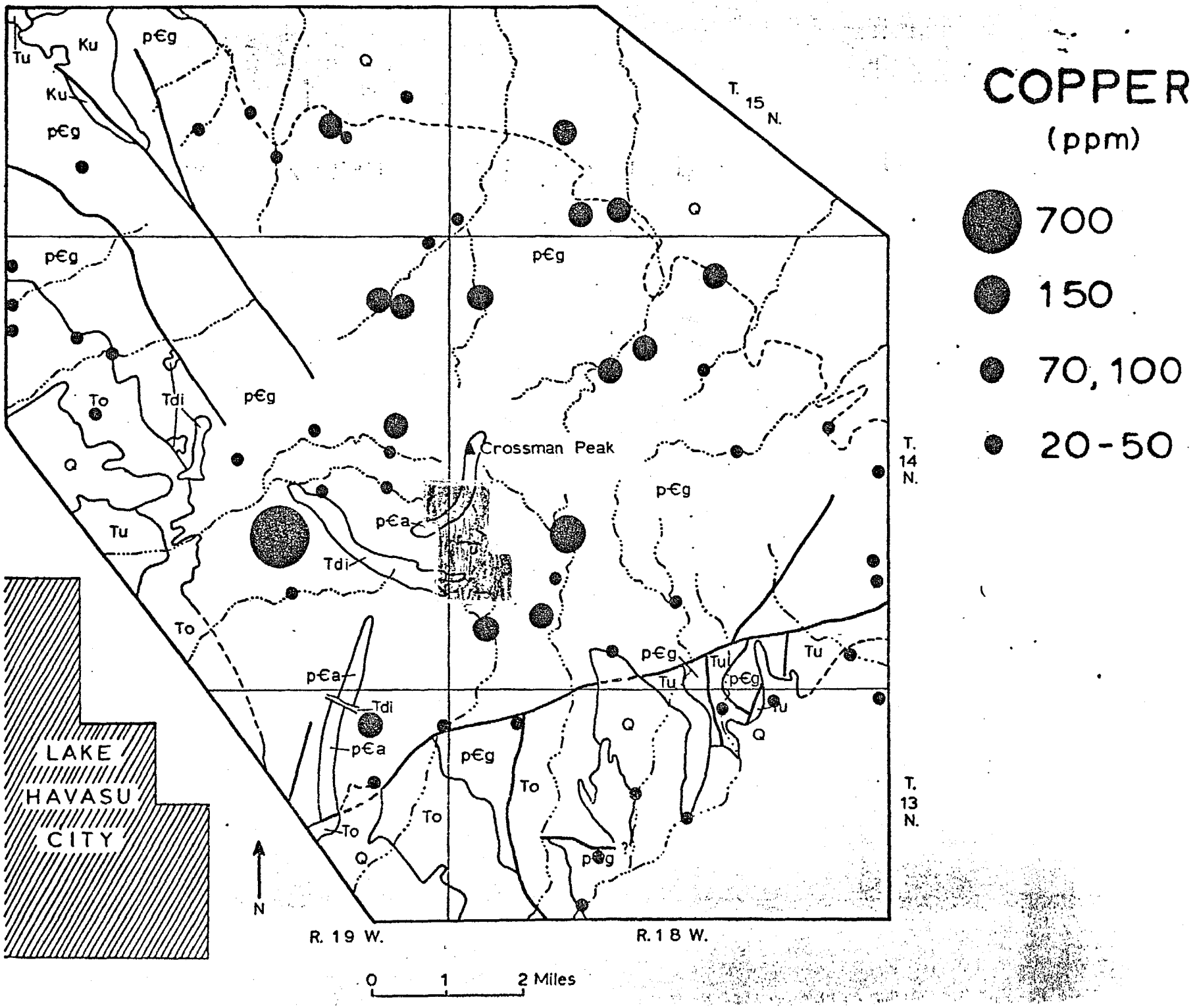
- Q — Quaternary Alluvium
- Undifferentiated Tertiary rocks
- Older Tertiary rocks
- Tertiary dacite dikes
- Cretaceous(?) rocks
- Precambrian gneiss
- Precambrian amphibolite

—— CONTACT - Dashed where approximately located

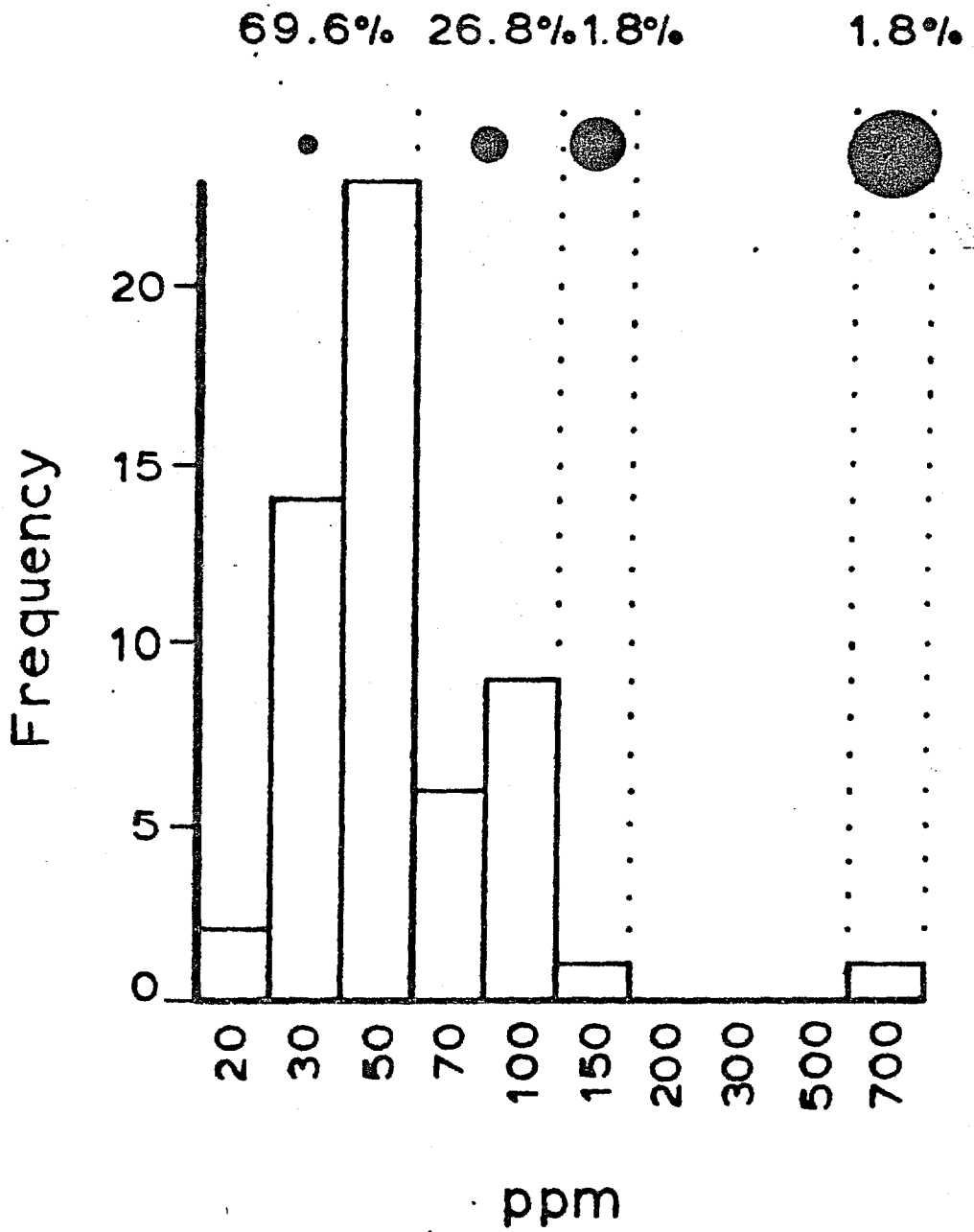
—— FAULT - Dashed where approximately located

STREAM SEDIMENT SAMPLE LOCALITIES




COPPER
(ppm)
700
150
70, 100
20-50
T. 15 N.
T. 14 N.
T. 13 N.
R. 19 W.
R. 18 W.
Crossman Peak
LAKE HAVASU CITY
N
0 1 2 Miles
Tu
Ku
p€g
Q
To
Tdi
p€a
Tul

COPPER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26.8%
1.8%
1.8%
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10
15
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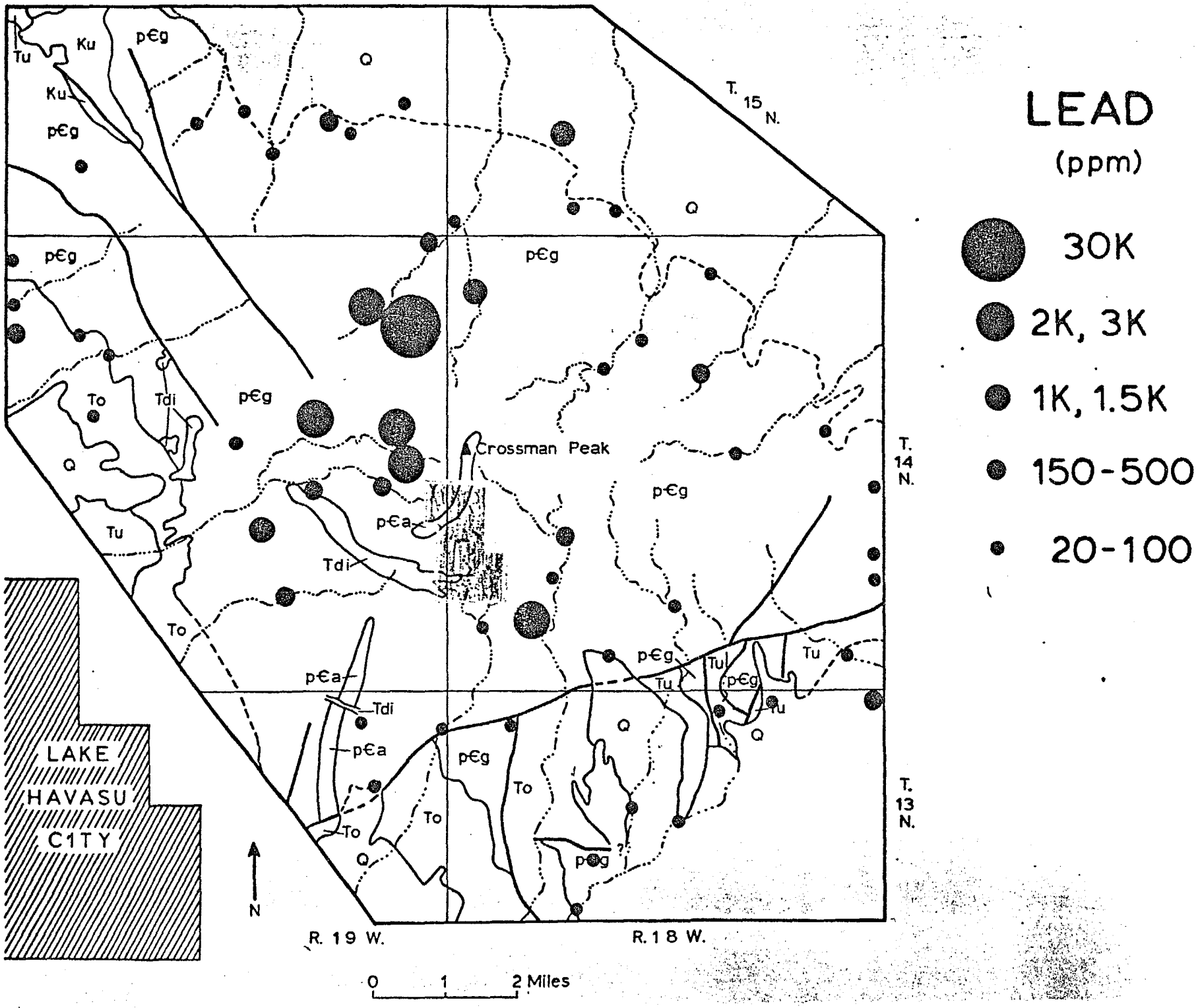
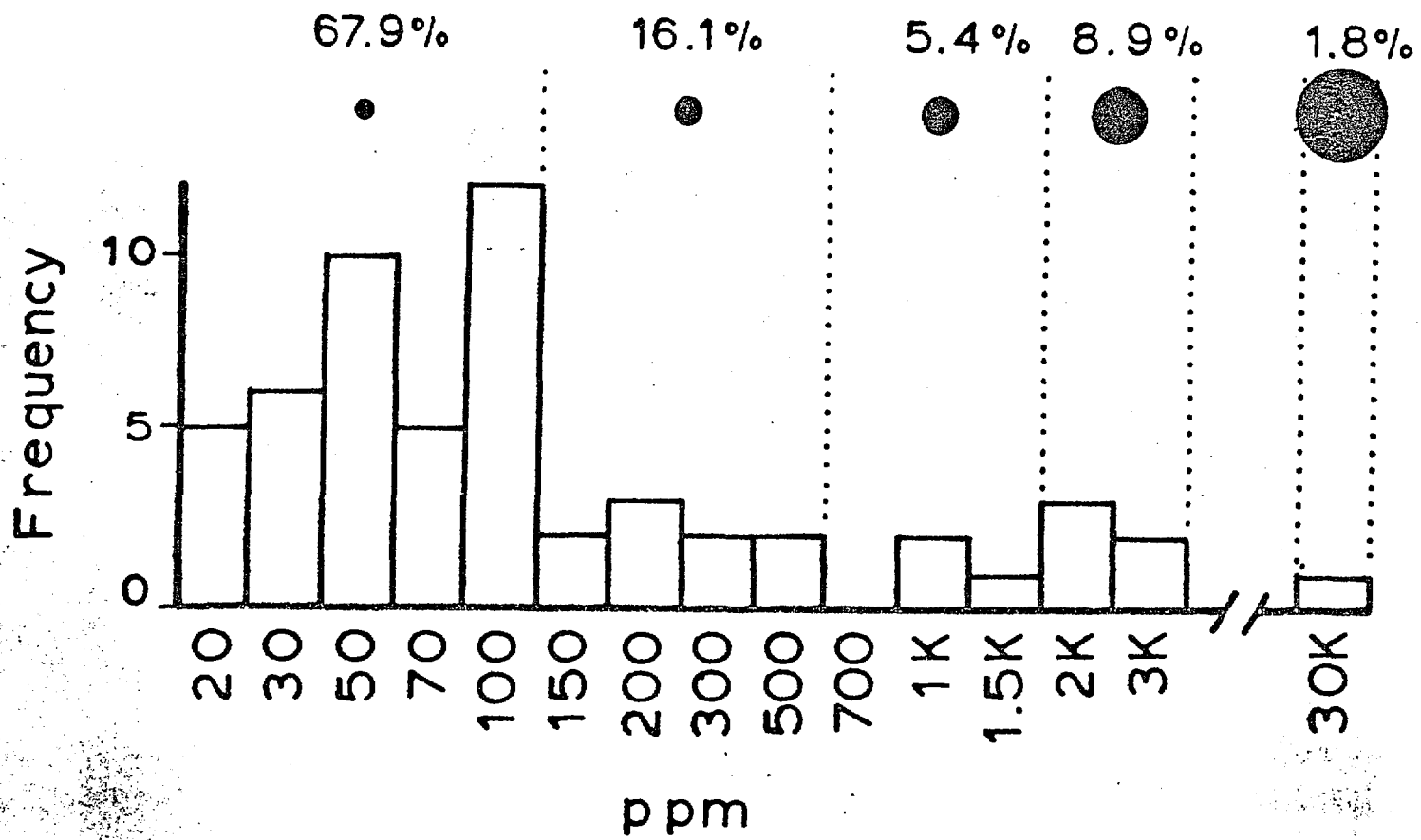
ppm


LEAD
(ppm)
30K
2K, 3K
1K, 1.5K
150-500
20-100
T. 15 N.
T. 14 N.
T. 13 N.
R. 19 W.
R. 18 W.
Crossman Peak
LAKE HAVASU CITY
N
0 1 2 Miles
Tu
Ku
p€g
Q
To
Tdi
p€a
Tul

LEAD


67.9%
16.1%
5.4%
8.9%
1.8%
Frequency
10
5
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150
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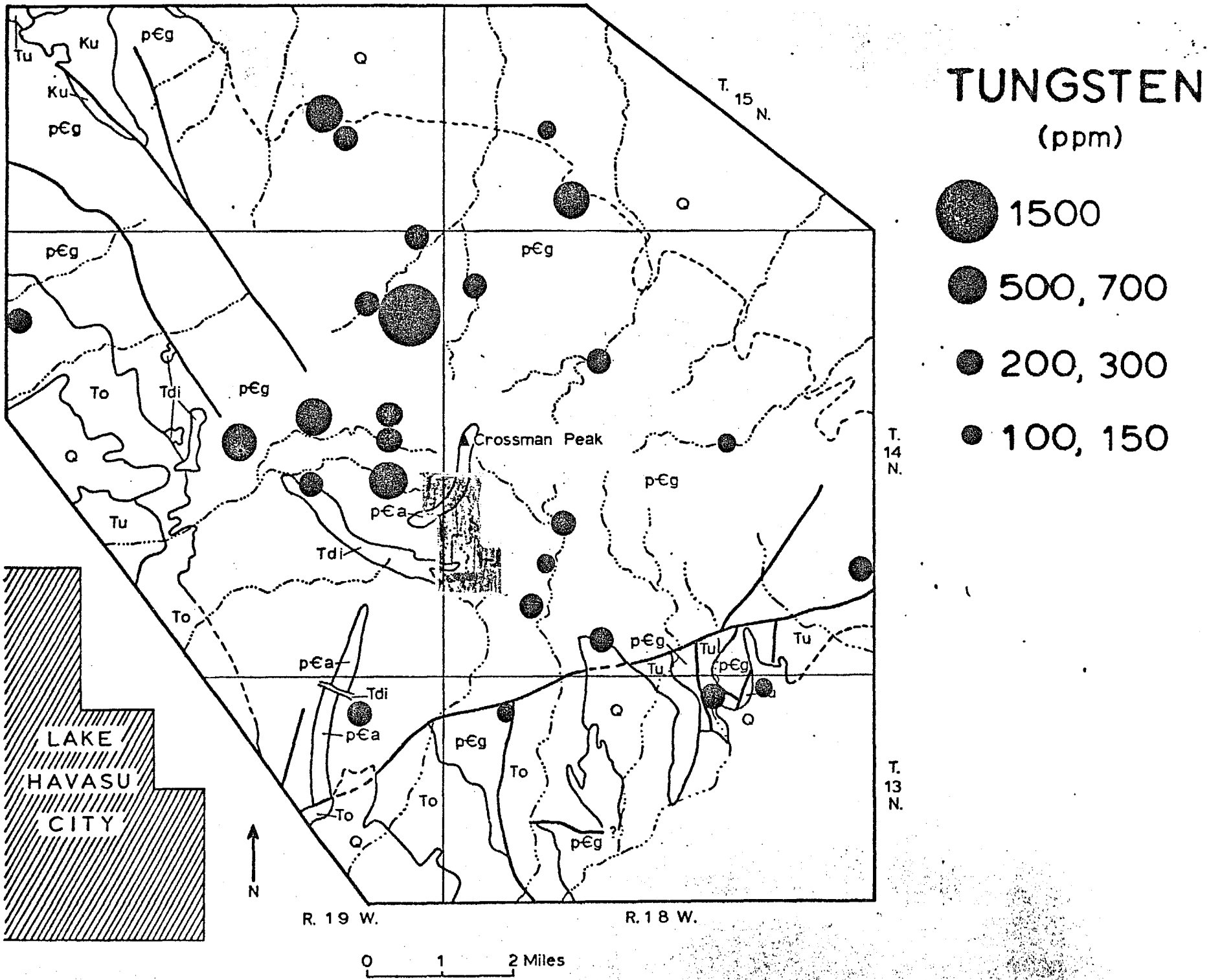
300
500
700
1K
1.5K
2K
3K
30K
ppm


TUNGSTEN
(ppm)
1500
500, 700
200, 300
100, 150
T. 15 N.
T. 14 N.
T. 13 N.
R. 19 W.
R. 18 W.
Crossman Peak
LAKE HAVASU CITY
N
0 1 2 Miles
Tu
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To
Tdi
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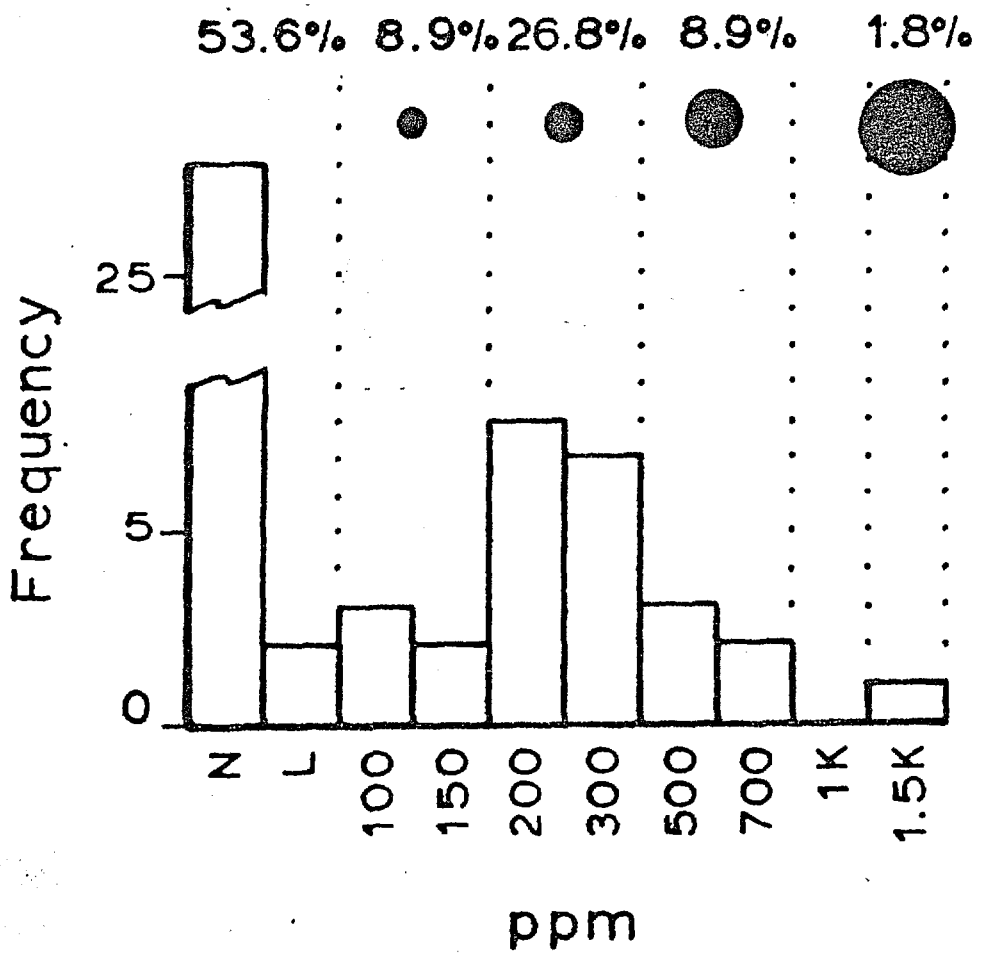
Tul

TUNGSTEN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8.9%
26.8%
8.9%
1.8%
Frequency
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5
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L
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1K
1.5K
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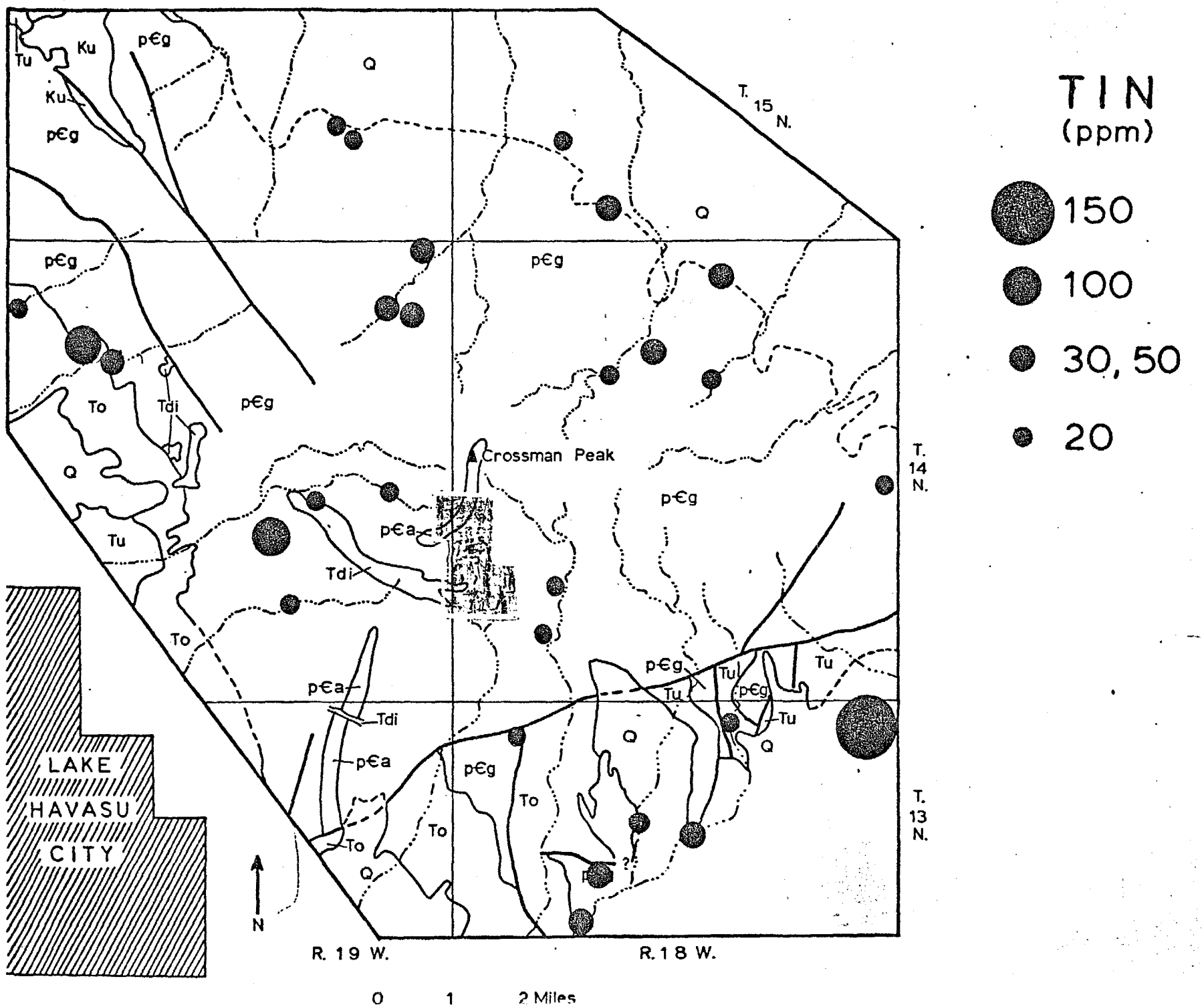
TIN
(ppm)
150
100
30, 50
20
T. 15 N.
T. 14 N.
T. 13 N.
R. 19 W.
R. 18 W.
Crossman Peak
LAKE
HAVASU
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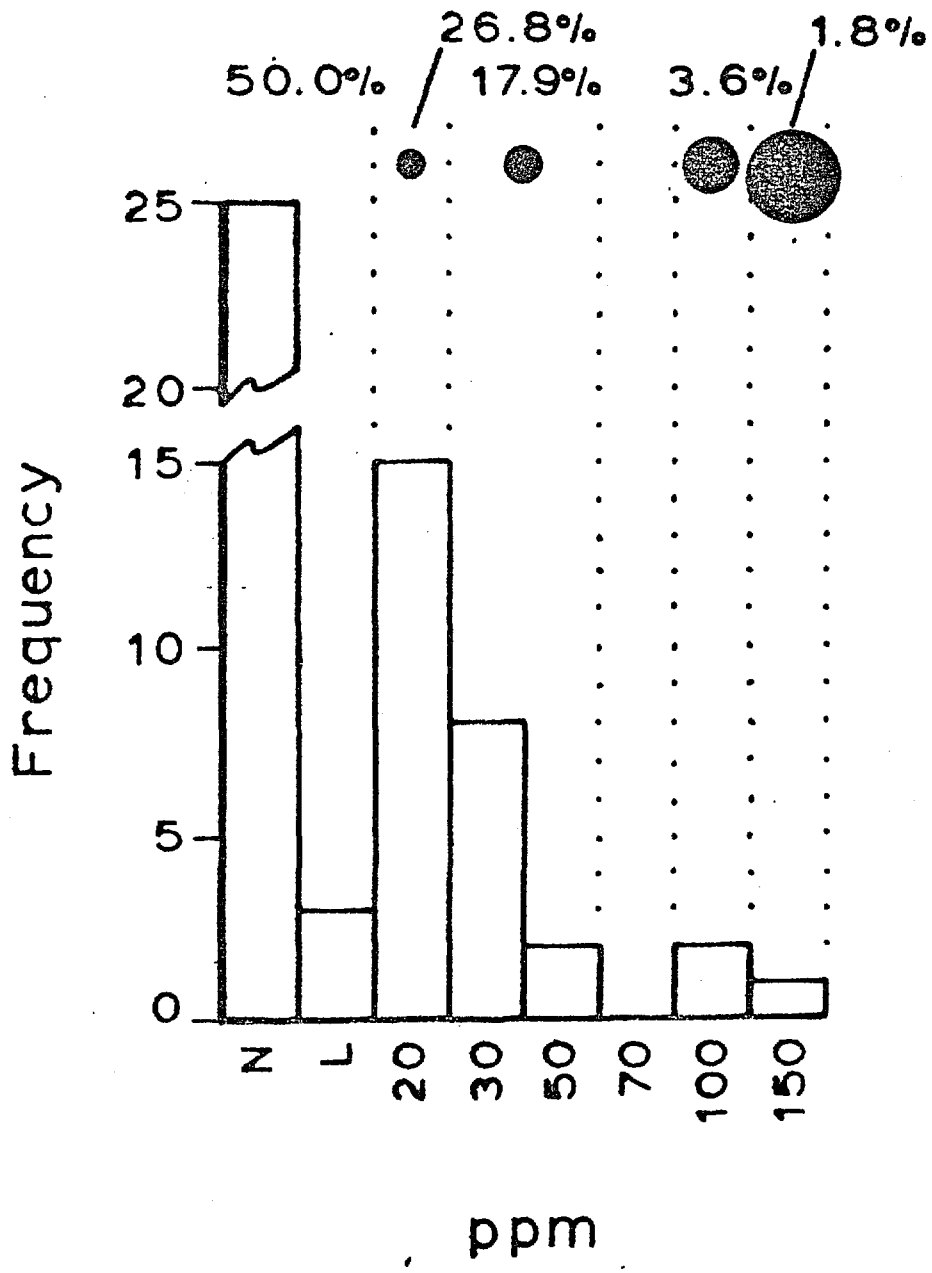
TIN


50.0%
26.8%
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3.6%
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25
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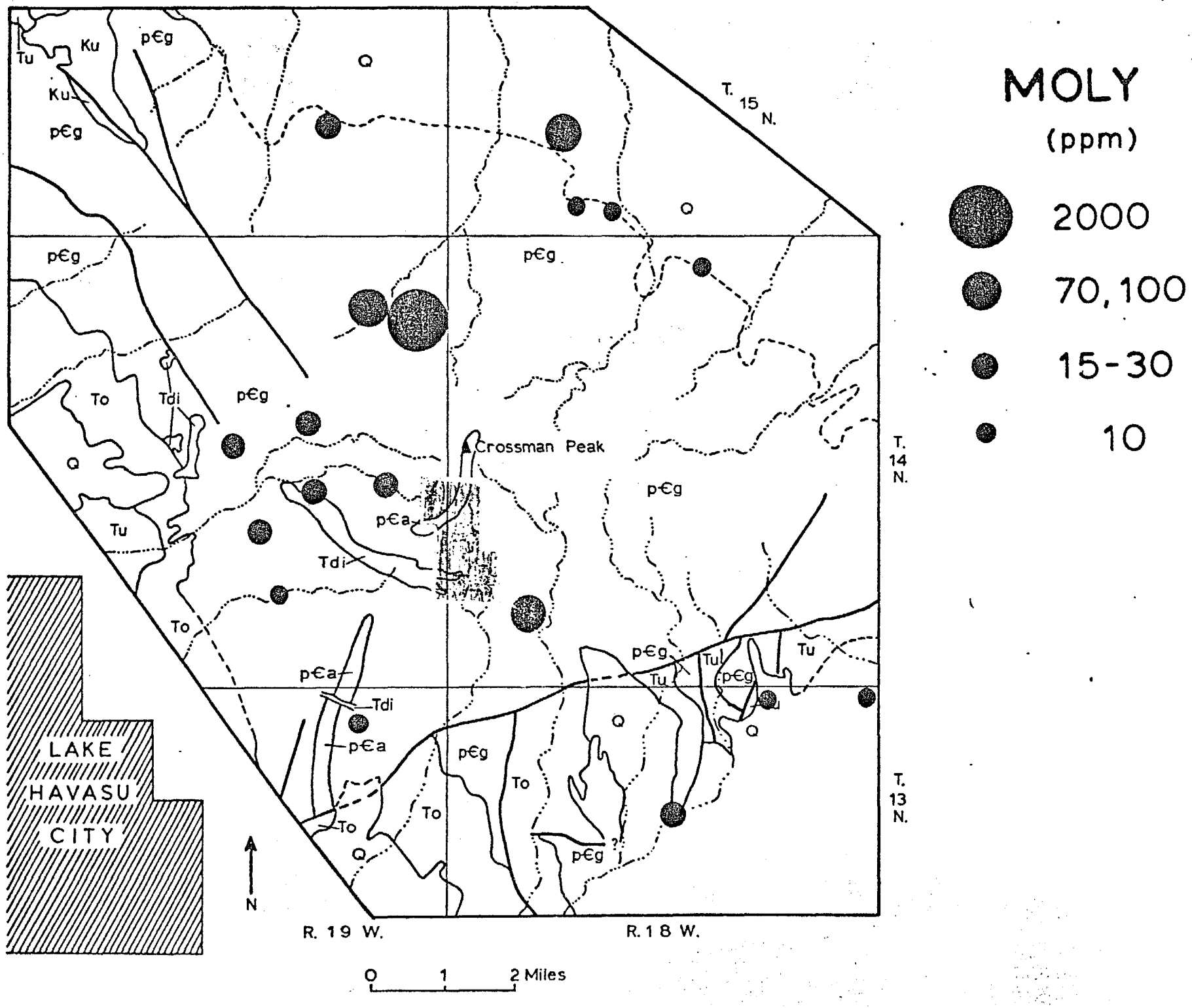
MOLY
(ppm)
2000
70,100
15-30
10
T. 15 N.
T. 14 N.
T. 13 N.
R. 19 W.
R. 18 W.
Crossman Peak
LAKE HAVASU CITY
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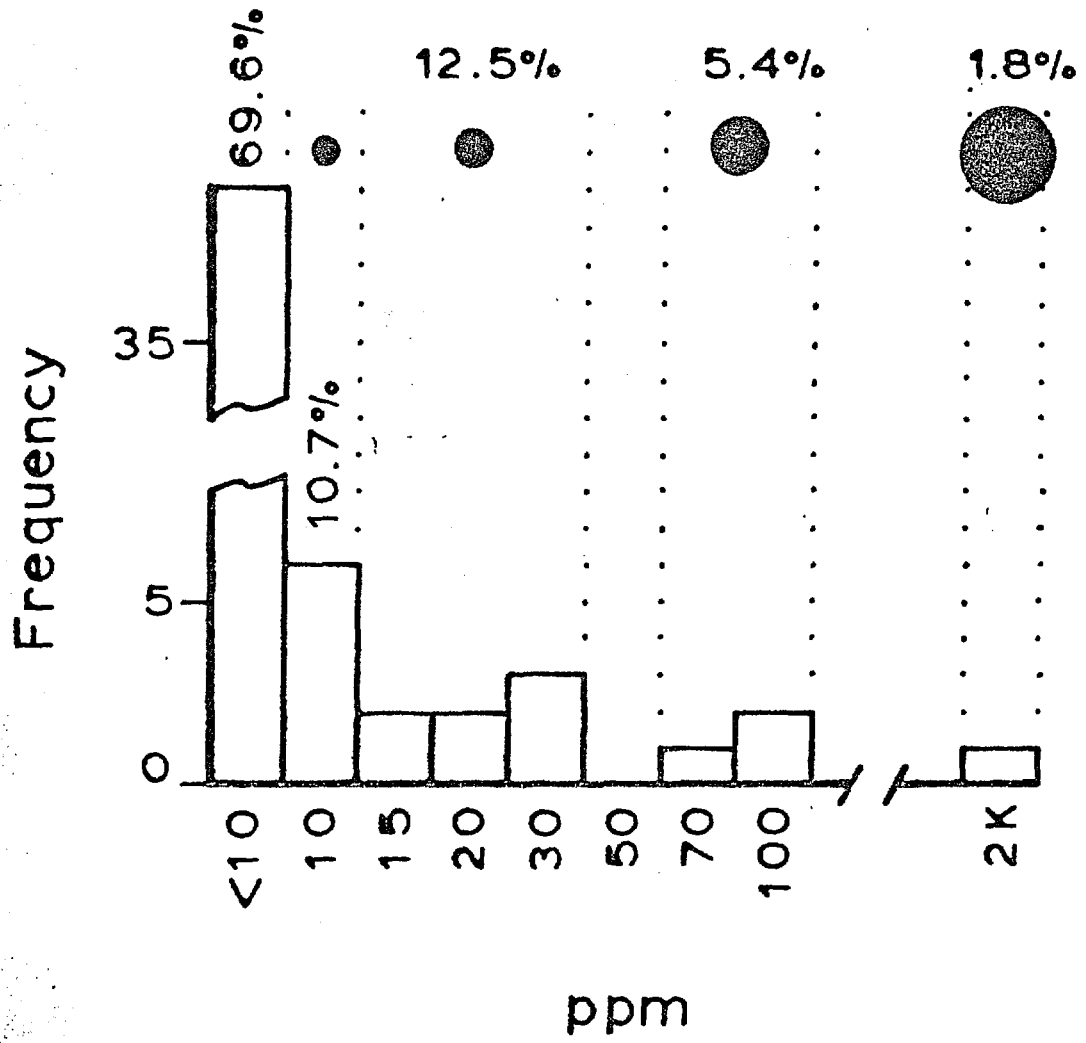
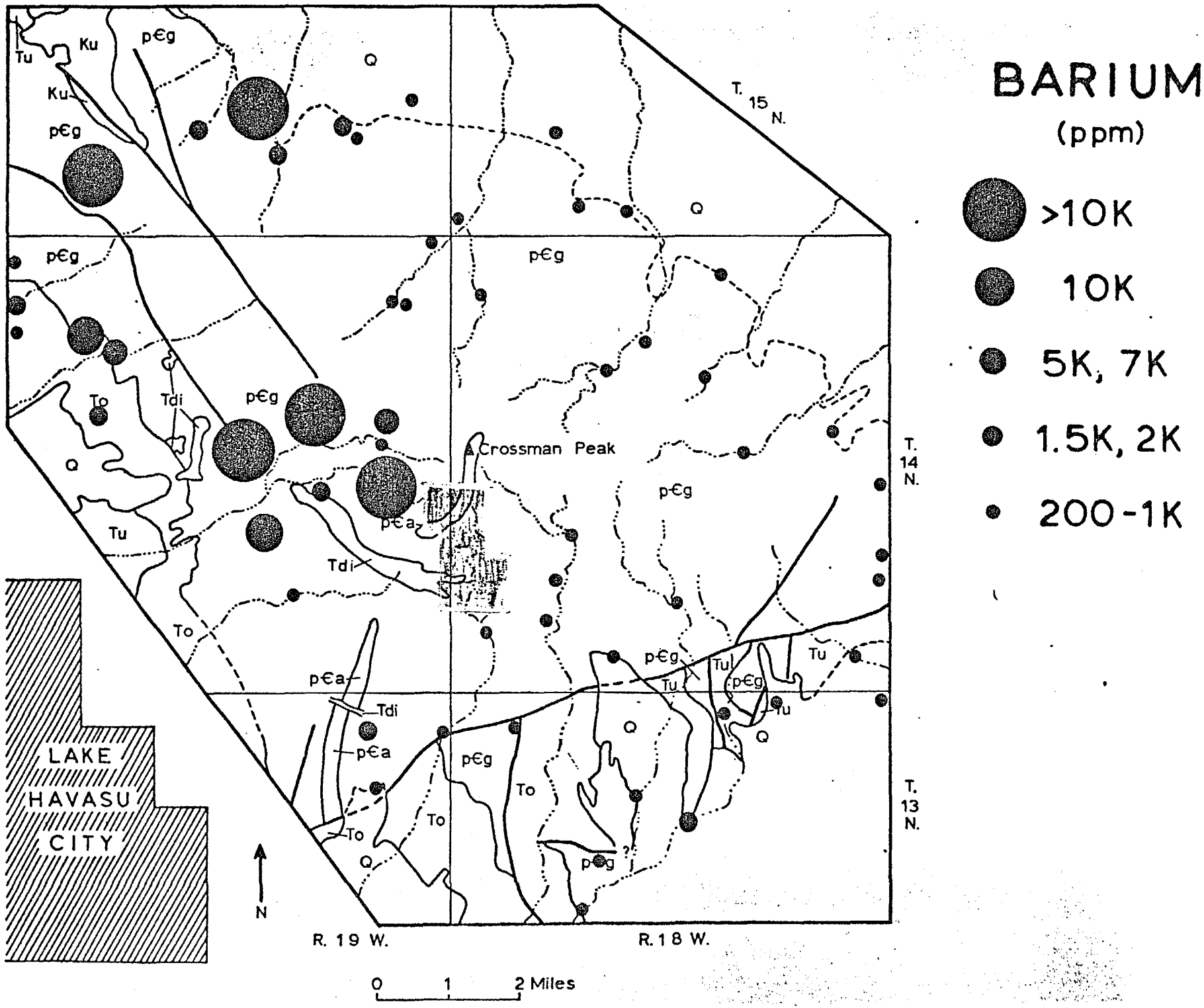
MOLY




BARIUM
(ppm)
>10K
10K
5K, 7K
1.5K, 2K
200-1K
T. 15 N.
T. 14 N.
T. 13 N.
R. 19 W.
R. 18 W.
Crossman Peak
LAKE HAVASU CITY
N
0 1 2 Miles
Tu
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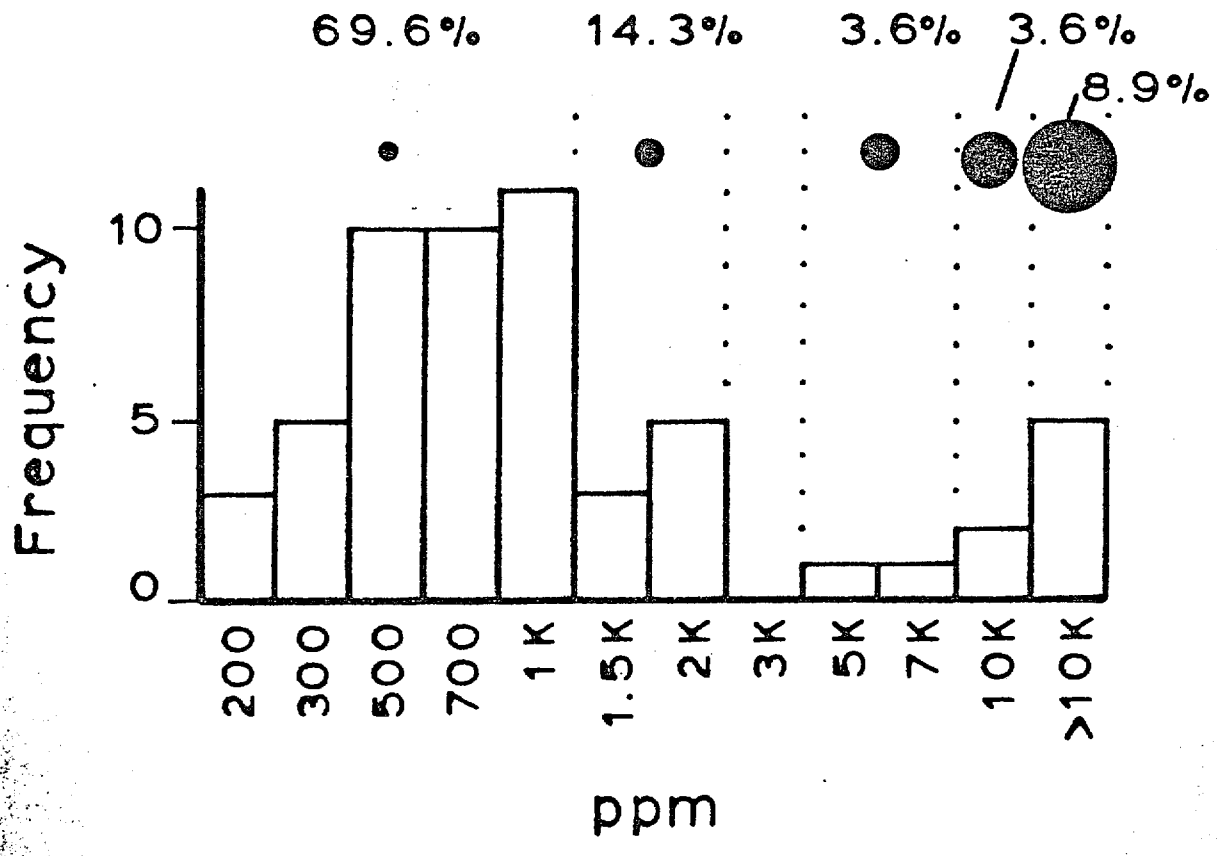
Q
To
Tdi
p€a
Tul

BARIUM


69.6%
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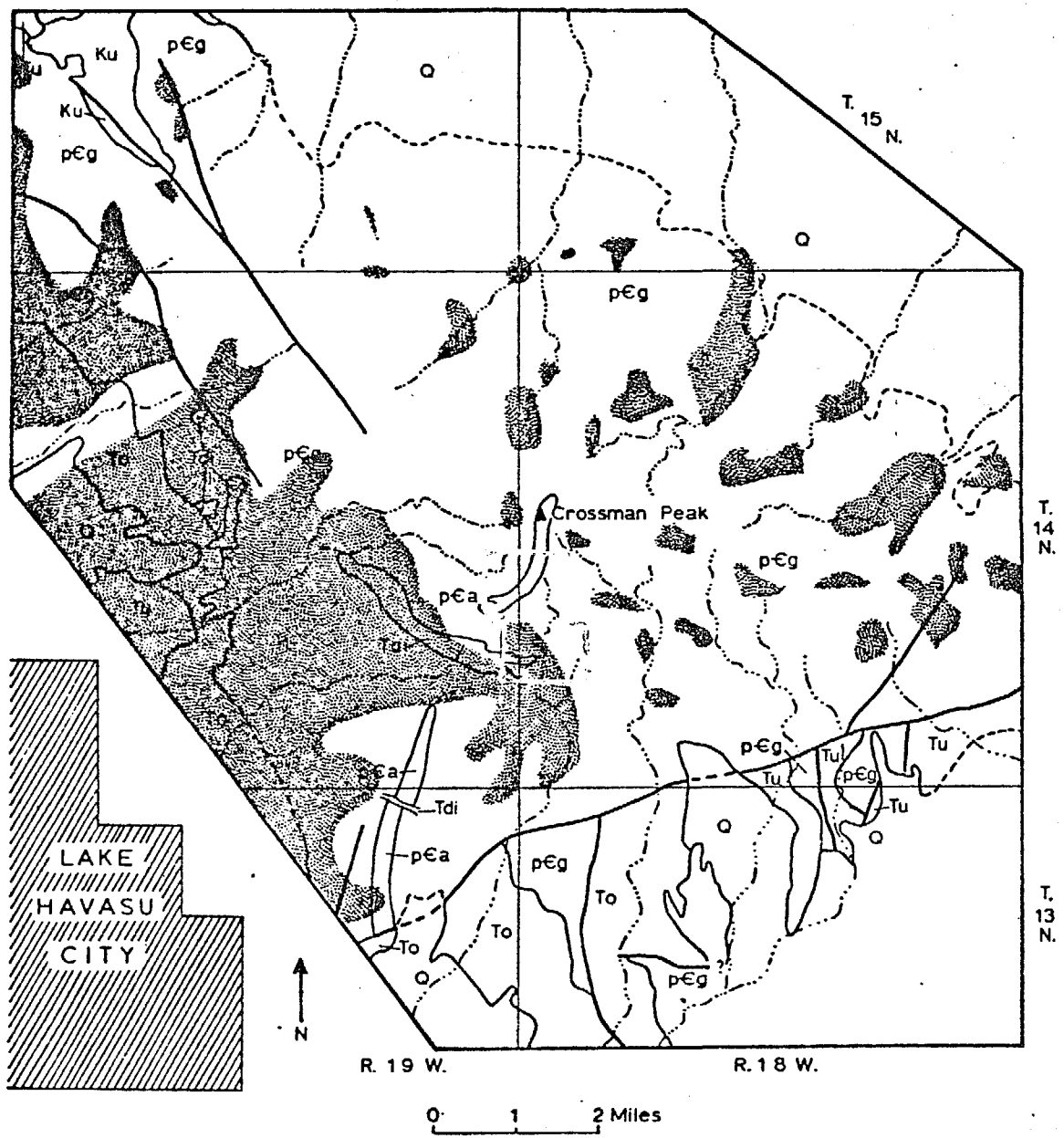
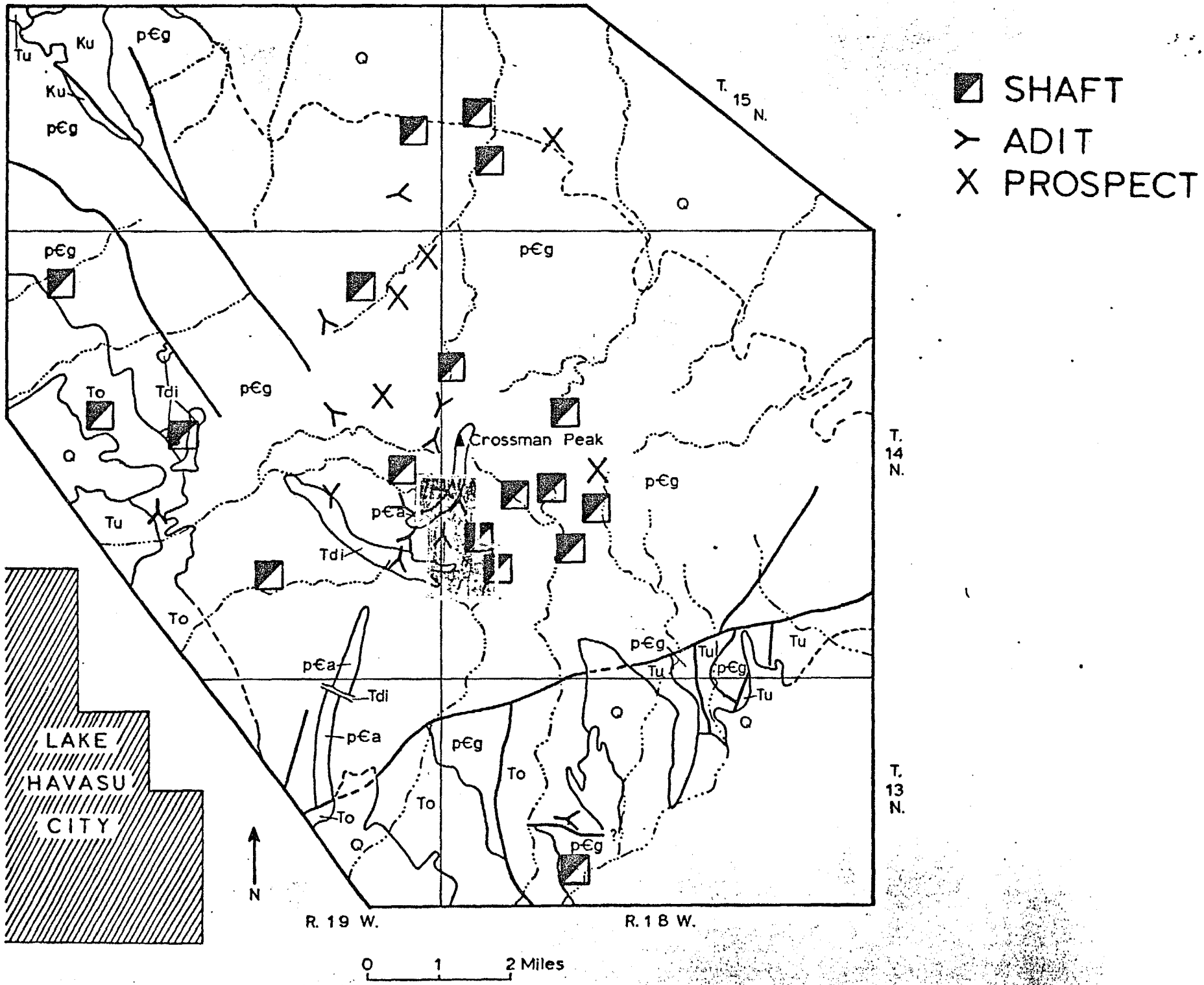


"LIMONITIC" PATTERN FROM LANDSAT IMAGERY


SHAFT
ADIT
PROSPECT
T. 15 N.
T. 14 N.
T. 13 N.
R. 19 W.
R. 18 W.
Crossman Peak
LAKE HAVASU CITY
N
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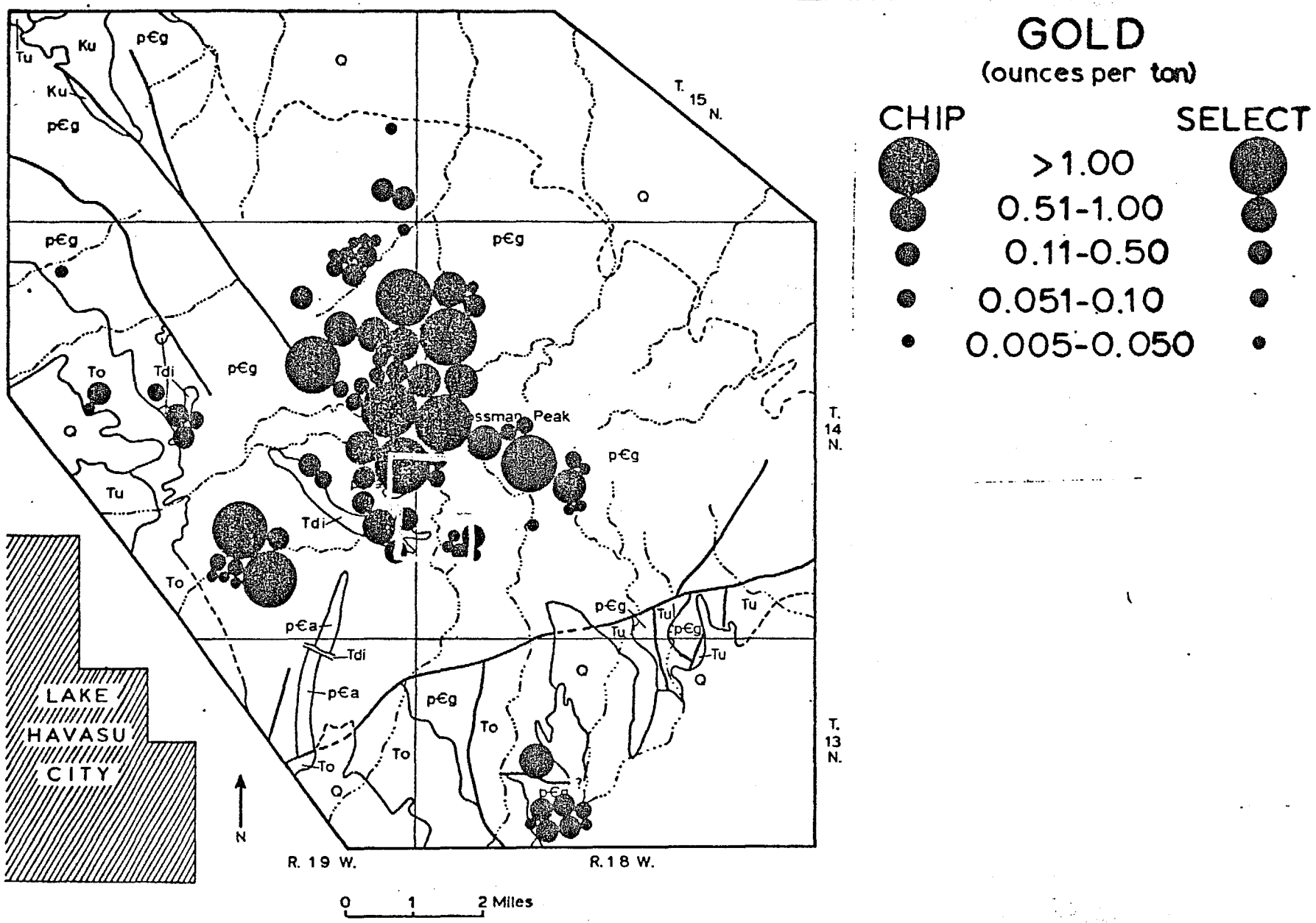
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(ounces per ton)
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0.51-1.00
0.11-0.50
0.051-0.10
0.005-0.050
T. 15 N.
T. 14 N.
T. 13 N.
R. 19 W.
R. 18 W.
LAKE HAVASU CITY
N
0 1 2 Miles
Tu
Ku
p€g
Q
To
Tdi
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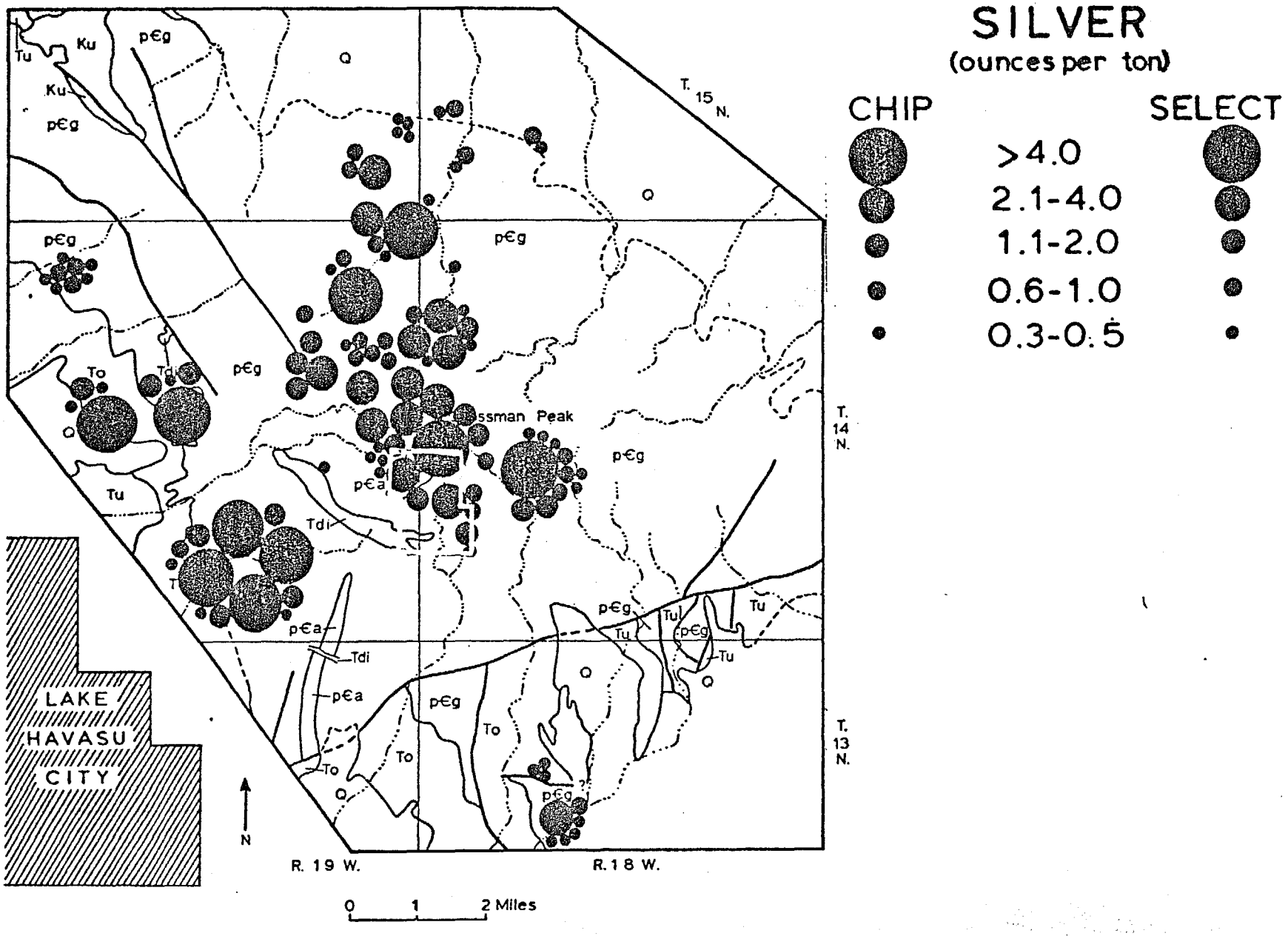
Tul
ssman Peak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(ounces per ton)
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2.1-4.0
1.1-2.0
0.6-1.0
0.3-0.5
T. 15 N.
T. 14 N.
T. 13 N.
R. 19 W.
R. 18 W.
LAKE HAVASU CITY
N
0 1 2 Miles
Tu
Ku
p€g
Q
To
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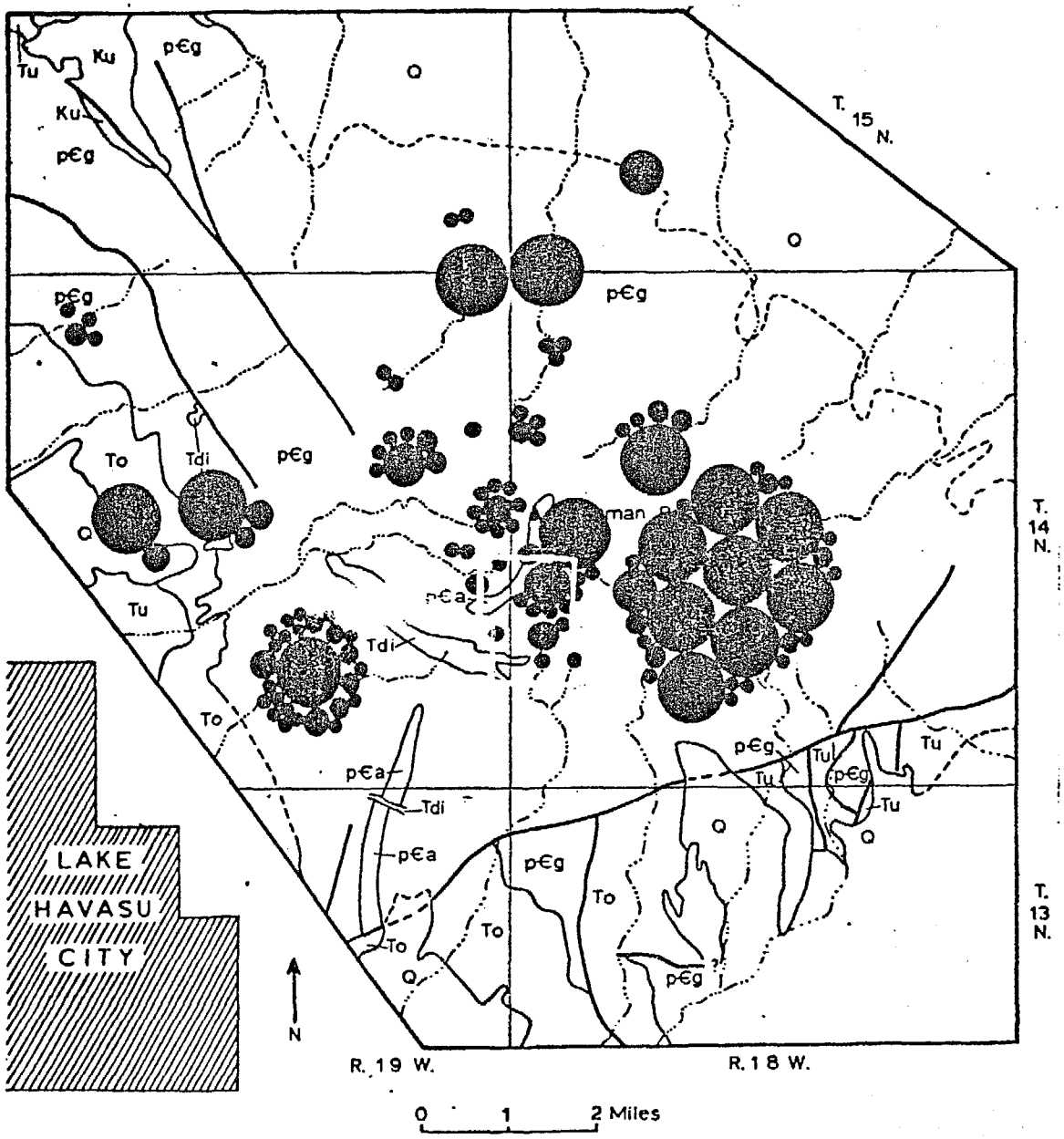
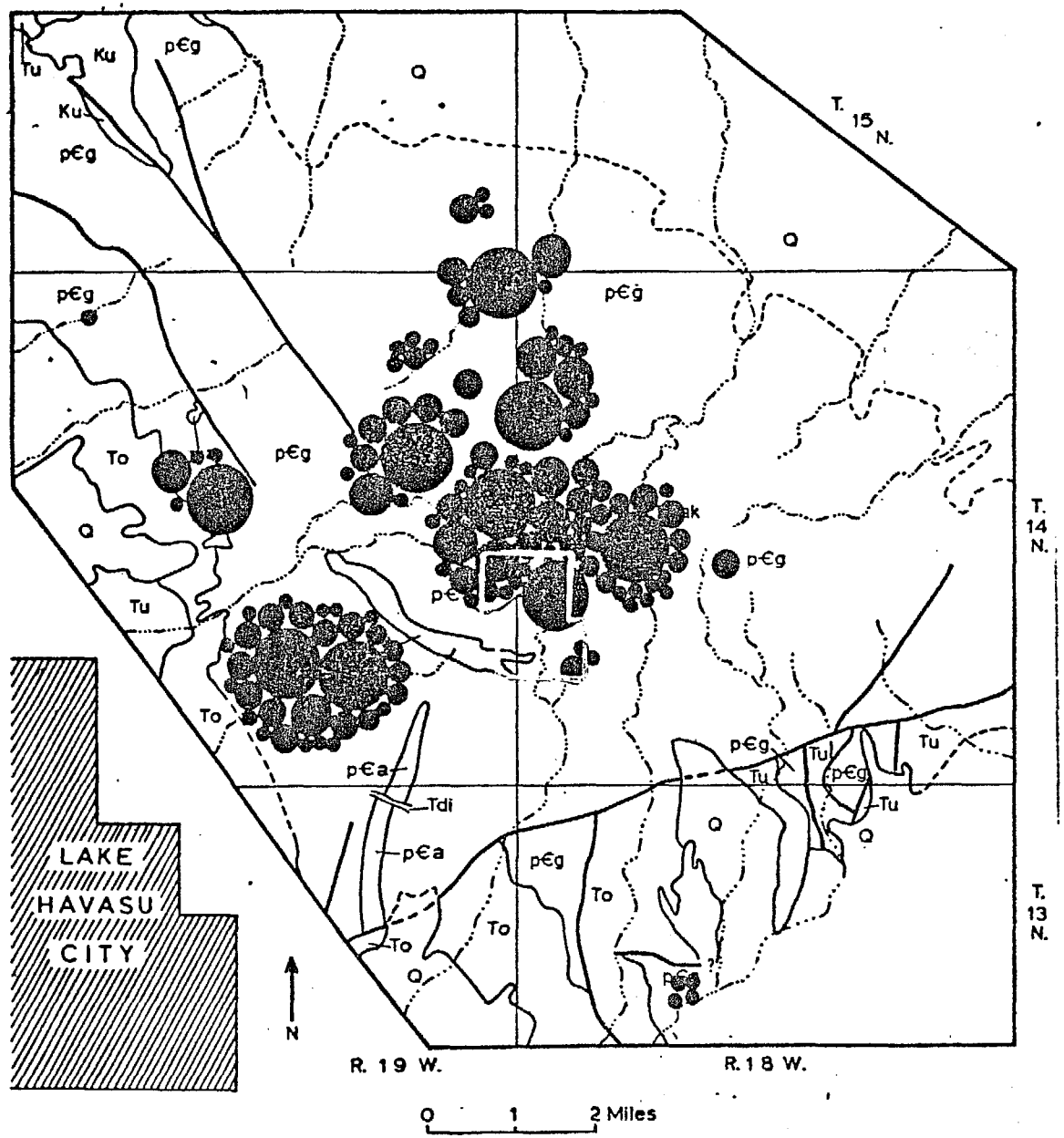
ssman Peak



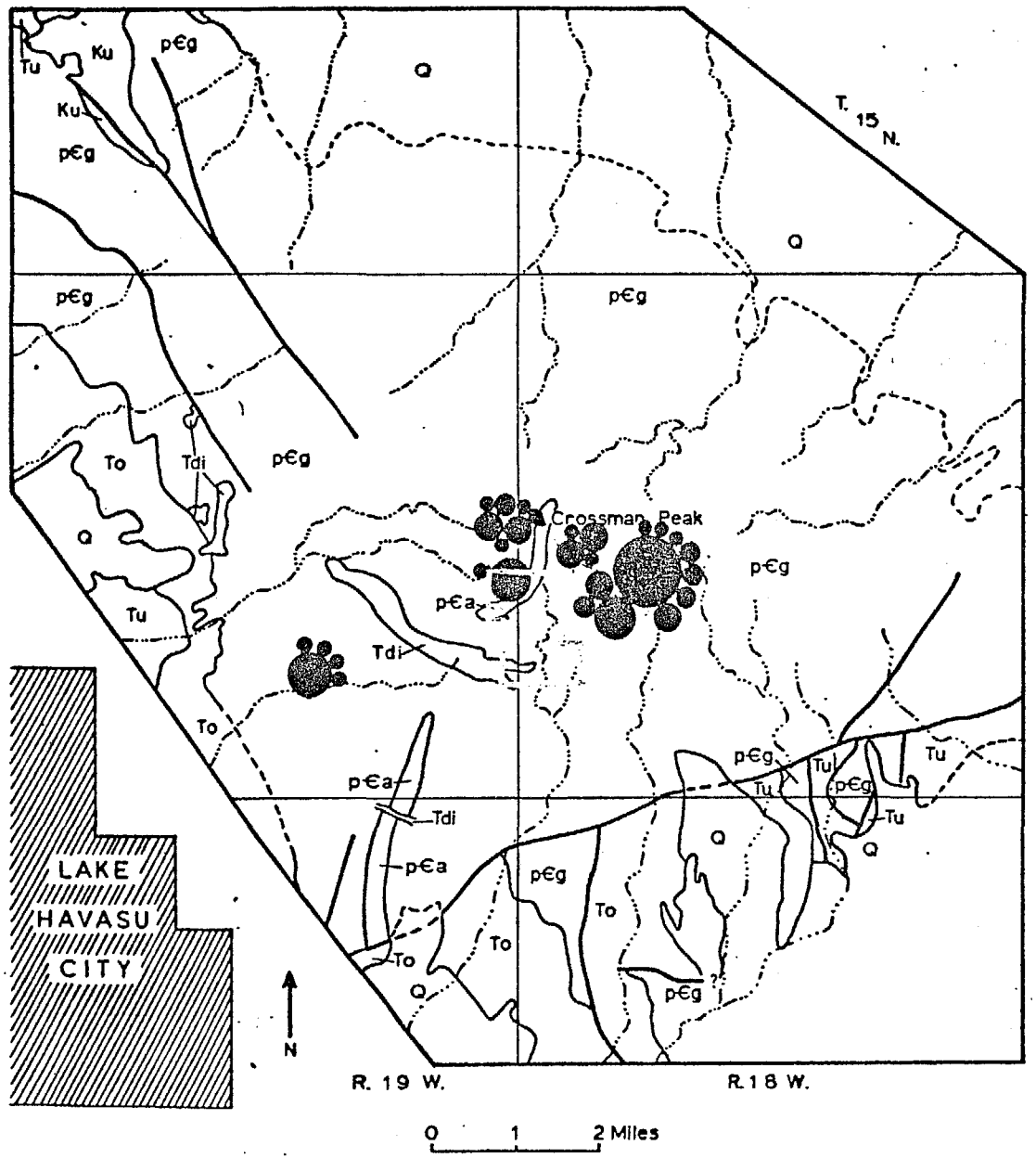
COPPER
(percent)

CHIP		SELECT
	>1.00	
	0.76-1.00	
	0.51-0.75	
	0.26-0.50	
	0.05-0.25	



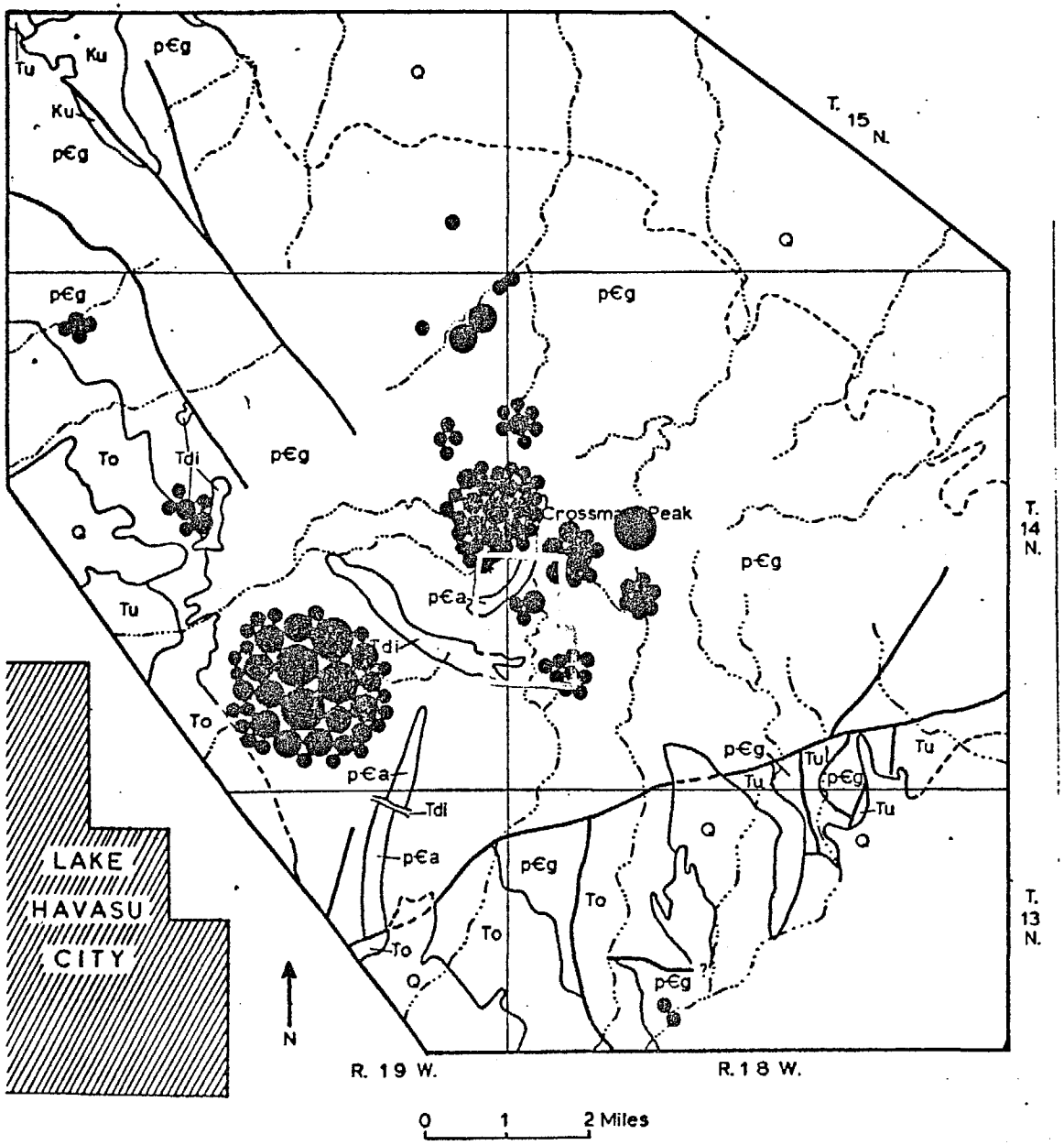
LEAD
(percent)

CHIP		SELECT
	>5.0	
	2.6-5.0	
	1.1-2.5	
	0.51-1.0	
	0.10-0.50	



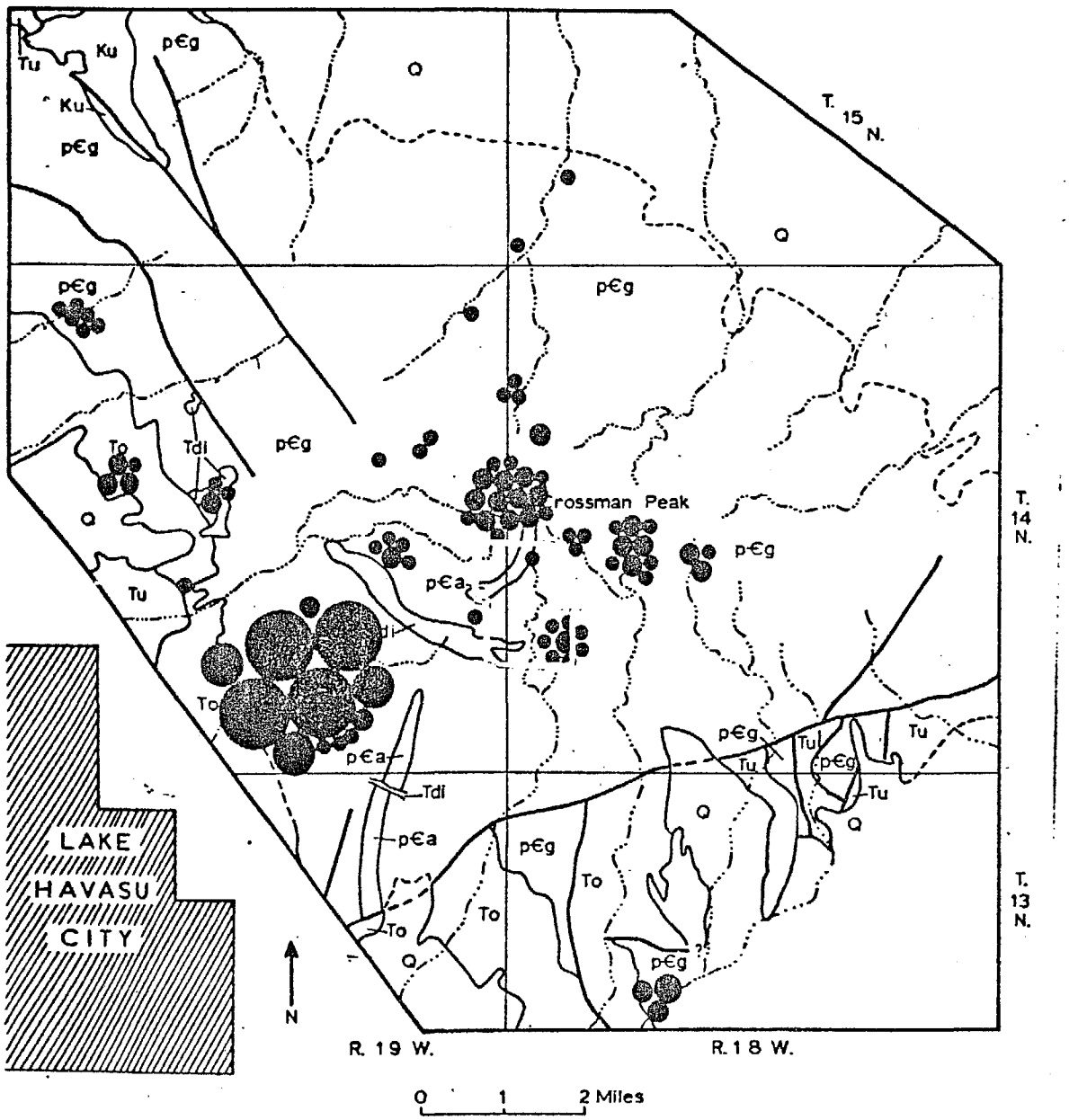
TUNGSTEN
(percent)

CHIP		SELECT
●	>0.50	●
●	0.26-0.50	●
●	0.11-0.25	●
●	0.06-0.10	●
•	0.02-0.05	•



ZINC
(percent)

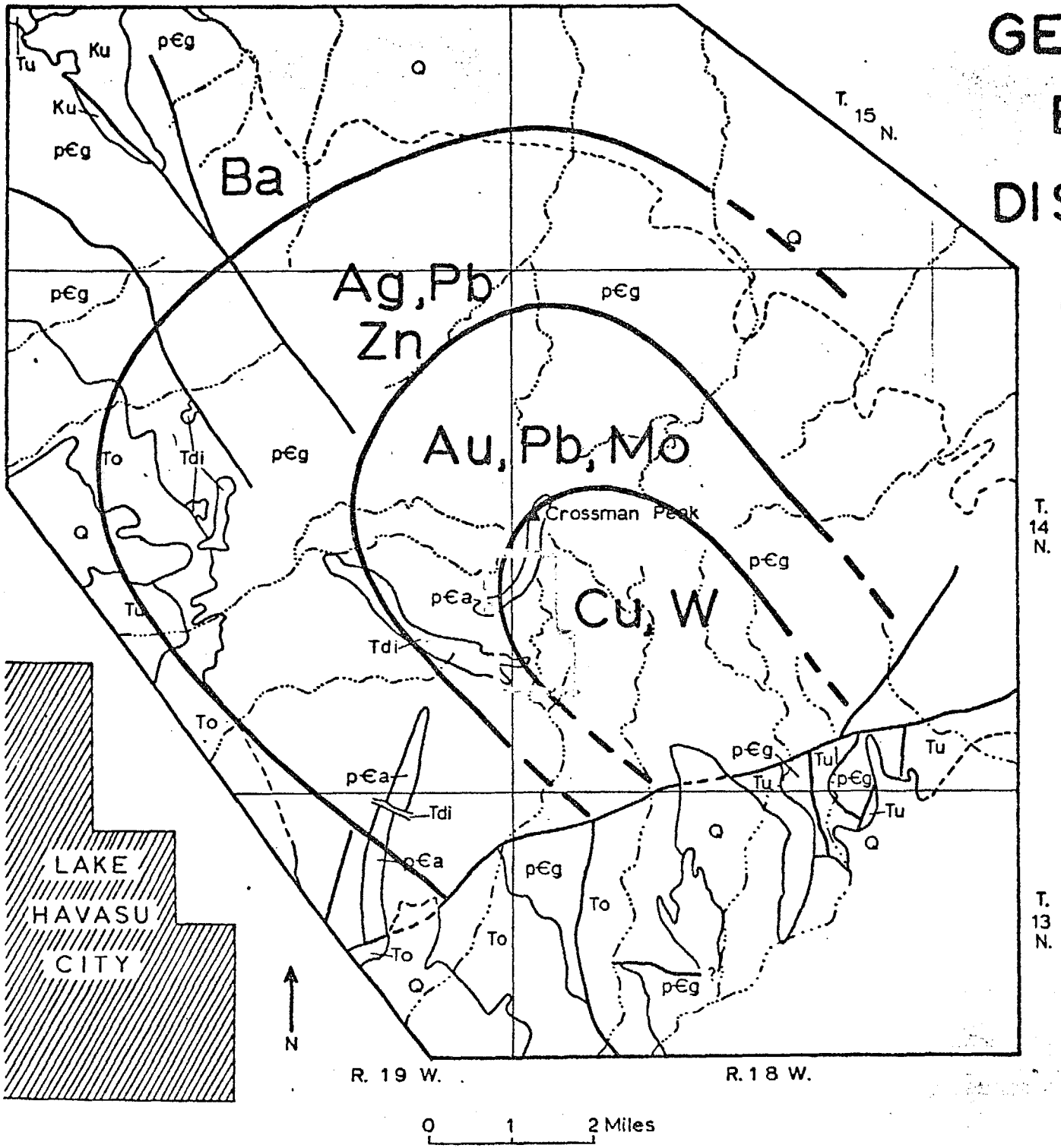
CHIP		SELECT
●	>5.0	●
●	2.6-5.0	●
●	1.1-2.5	●
●	0.51-1.0	●
●	0.10-0.50	●



BARIUM
(percent)

CHIP		SELECT
	>1.0	
	0.51-1.0	
	0.26-0.50	
	0.11-0.25	
	0.05-0.10	

GENERALIZED ELEMENT DISTRIBUTION PATTERN



ANDERSON-HAMILTON VOLUME

MESOZOIC-CENOZOIC TECTONIC EVOLUTION OF THE COLORADO RIVER REGION, CALIFORNIA, ARIZONA, AND NEVADA

Edited By
Eric G. Frost and Donna L. Martin

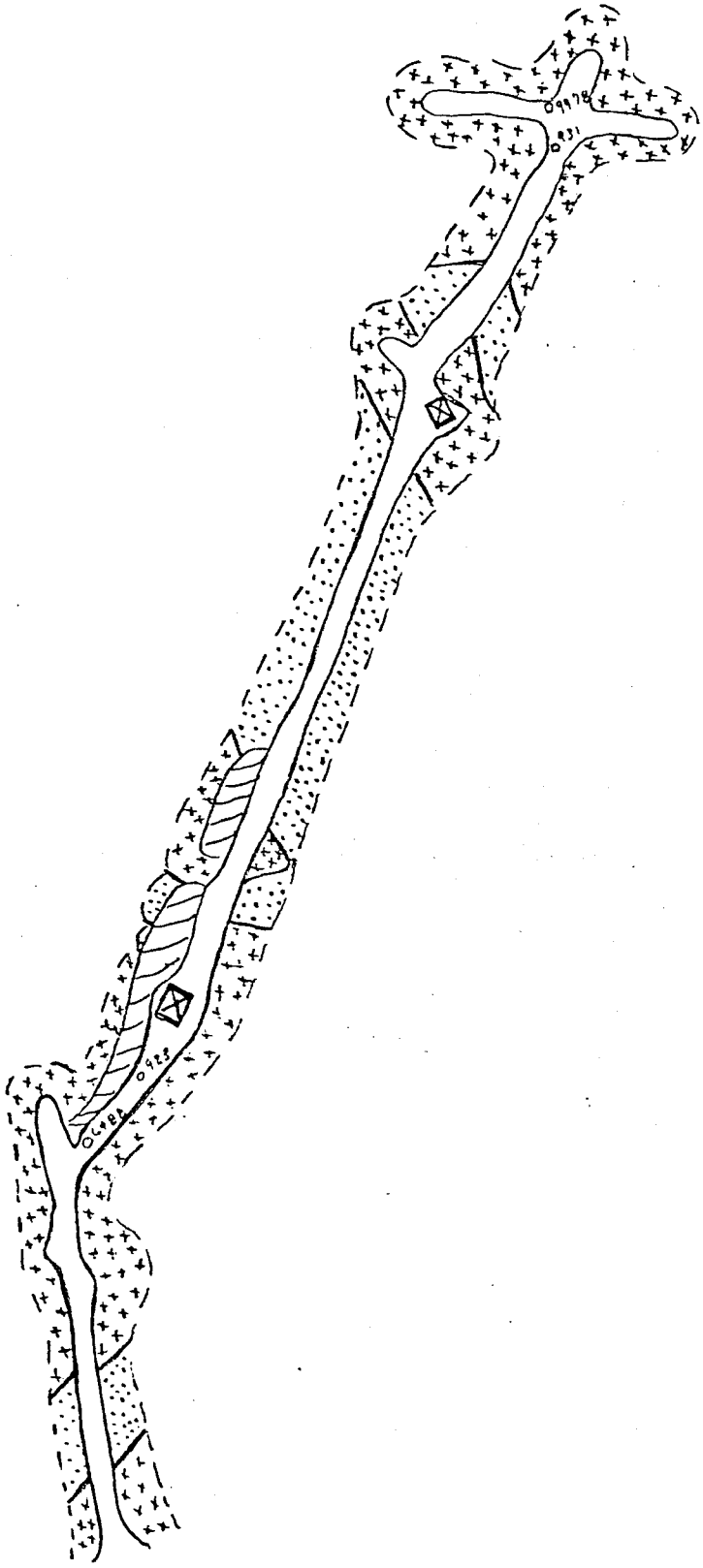
IN CONJUNCTION WITH A SYMPOSIUM AND FIELD TRIP FOR THE GEOLOGICAL SOCIETY OF AMERICA.

April, 1982

DETACHED CRYSTALLINE ROCKS OF THE MOHAVE, BUCK, AND BILL WILLIAMS MOUNTAINS, WESTERN ARIZONA

Keith A. Howard
John W. Goodge
Barbara E. John

U. S. Geological Survey
345 Middlefield Road
Menlo Park, California 94025

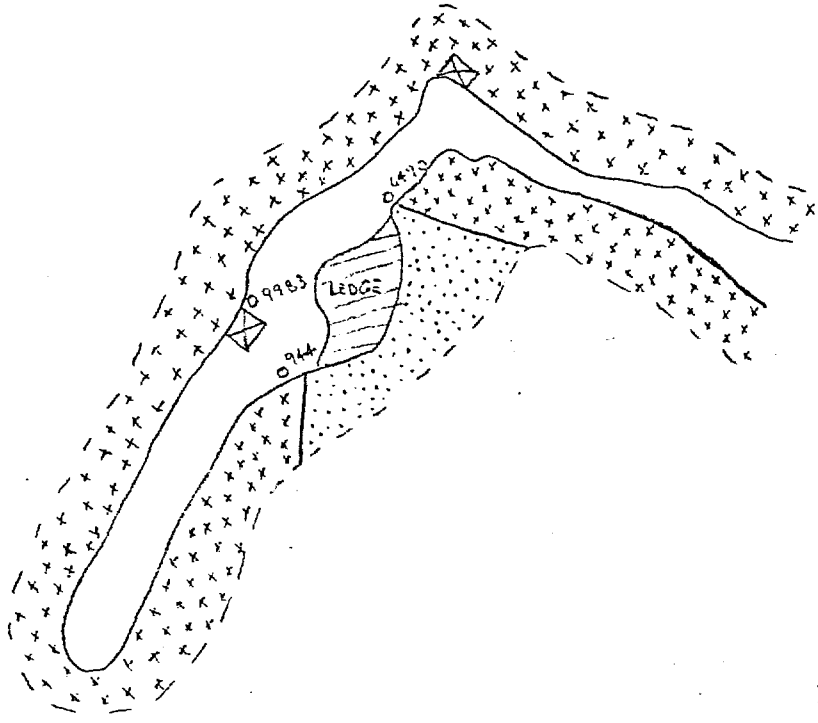


- PORPHYRITIC INTRUSIVE DACI
- QUARTZ BIOTITE GNEISS
- HAULAGE MAUWAY
- STOPE
- ASSAYS - GOLD - SILVER oz/t.

923 -	.168	.200
931 -	.012	.400
6488 -	.030	.060
9978 -	.248	.080

ASAR- MINE -

0 50 100 FEET

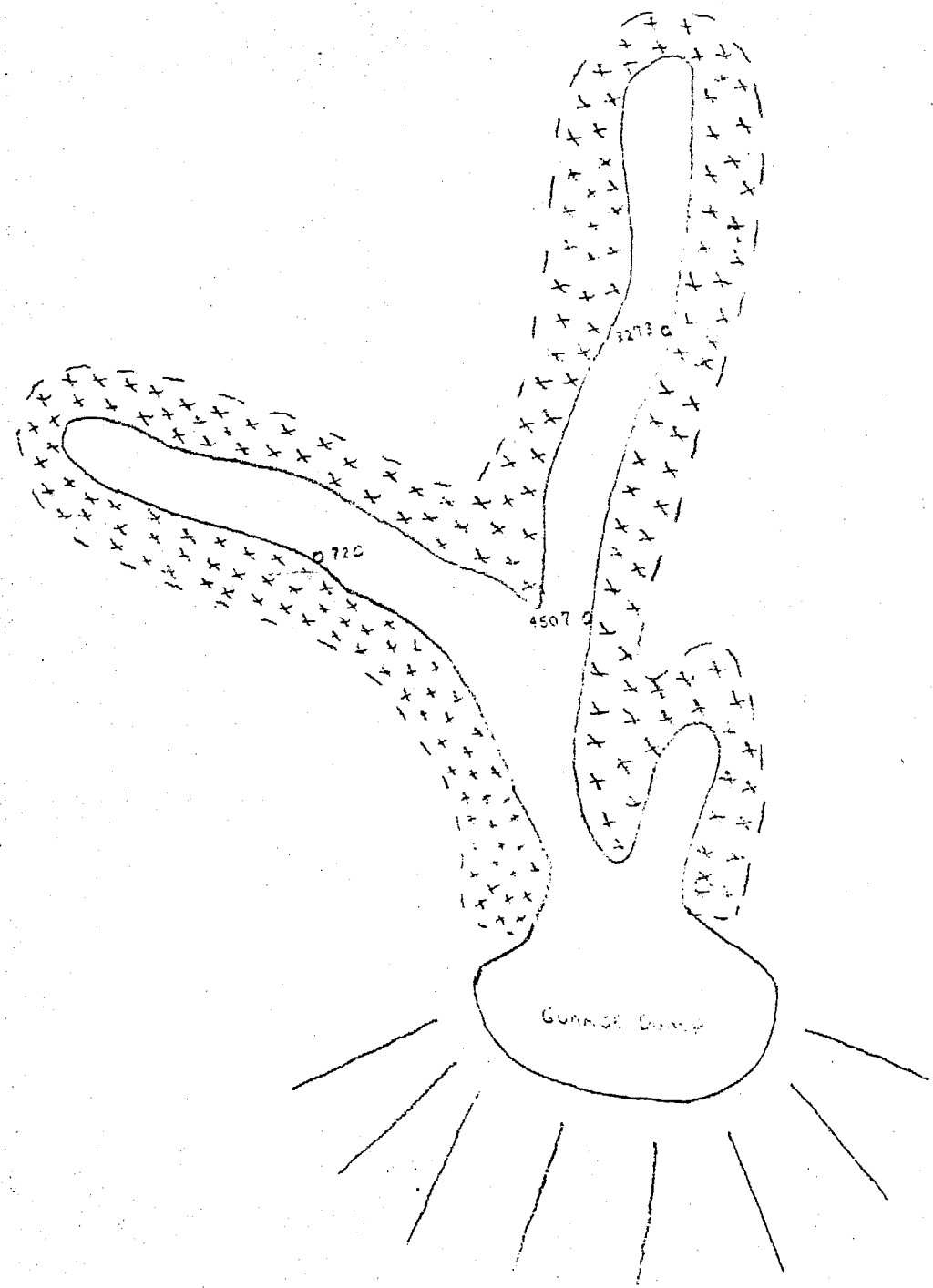


- PORPHYRITIC INTRUSIVE DAC
- QUARTZ BIOTITE GNEISE
- HAULAGE MANWAY
- STOPE
- ASSAYS - GOLD SILVER - oz/t

944 -	.014	.200
6490 -	.200	.180
9983 -	1.040	.210

KEB-SET-MINE

0 30 FEET



▭ - Quartz Biotite Gneiss

o - Assays - Gold Silver oz/t

720 - .058 3.200

3273 - .015 2.700

4507 - .086 8.020

RA-MINE - 0 30 FEET

TABLE II - FIRE ASSAY & CHEMICAL ANALYSIS

SAMPLE NO.	FIRE-AG OZ/TON	FIRE-AU OZ/TON	CHEM- %		CHEM- %		CHEM- %		CHEM- %	
724	0.2	TRACE	BA	<0.01	CU	0.01	MO	<0.01	PB	<0.01
725	< 0.2	< 0.005	BA	<0.01	CU	<0.01	MO	<0.01	PB	<0.01
726	0.2	TRACE	BA	<0.01	CU	0.09	MO	<0.01	PB	0.03
727	< 0.2	TRACE	BA	<0.01	CU	0.01	MO	<0.01	PB	0.24
728	< 0.2	< 0.005	BA	0.02	CU	0.02	MO	<0.01	PB	<0.01
729	< 0.2	< 0.005	BA	0.10	CU	<0.01	MO	<0.01	PB	<0.01
730	< 0.2	0.007	BA	<0.01	CU	0.09	MO	<0.01	PB	1.00
731	0.4	TRACE	BA	<0.01	CU	0.10	MO	<0.01	PB	0.97
911	2.0	TRACE	BA	0.08	CU	<0.01	MO	<0.01	PB	0.01
912	< 0.2	TRACE	BA	0.06	CU	<0.01	MO	<0.01	PB	<0.01
913	0.2	0.006	BA	<0.01	CU	<0.01	MO	<0.01	PB	<0.01
914	< 0.2	TRACE	BA	0.01	CU	<0.01	MO	<0.01	PB	0.16
915	< 0.2	0.009	BA	<0.01	CU	<0.01	MO	<0.01	PB	<0.01
916	0.2	0.024	BA	0.05	CU	<0.01	MO	<0.01	PB	<0.01
917	< 0.2	0.010	BA	<0.01	CU	<0.01	MO	<0.01	PB	0.05
918	< 0.2	0.097	BA	0.02	CU	0.01	MO	<0.01	PB	0.06
919	< 0.2	< 0.005	BA	0.12	CU	<0.01	MO	<0.01	PB	<0.01
920	< 0.2	< 0.005	BA	0.10	CU	<0.01	MO	<0.01	PB	<0.01
921	< 0.2	< 0.005	BA	0.06	CU	<0.01	MO	<0.01	PB	<0.01
922	< 0.2	TRACE	BA	0.06	CU	<0.01	MO	<0.01	PB	<0.01
* 923	< 0.2	0.168	BA	0.04	CU	0.02	MO	<0.01	PB	0.03
924	< 0.2	< 0.005	BA	0.02	CU	0.01	MO	<0.01	PB	0.02
925	0.2	TRACE	BA	0.05	CU	0.02	MO	<0.01	PB	0.03
926	< 0.2	< 0.005	BA	0.01	CU	<0.01	MO	<0.01	PB	<0.01
927	< 0.2	TRACE	BA	0.03	CU	<0.01	MO	<0.01	PB	<0.01
928	< 0.2	< 0.005	BA	<0.01	CU	<0.01	MO	<0.01	PB	<0.01
929	< 0.2	< 0.005	BA	0.05	CU	<0.01	MO	<0.01	PB	<0.01
930	< 0.2	TRACE	BA	0.05	CU	<0.01	MO	<0.01	PB	<0.01
* 931	0.4	0.012	BA	0.01	CU	0.01	MO	<0.01	PB	0.02
932	< 0.2	0.043	BA	0.05	CU	0.02	MO	<0.01	PB	0.04
933	< 0.2	< 0.005	BA	0.08	CU	0.01	MO	<0.01	PB	0.01
934	< 0.2	TRACE	BA	0.08	CU	0.05	MO	<0.01	PB	0.05
935	< 0.2	< 0.005	BA	0.03	CU	<0.01	MO	<0.01	PB	<0.01
936	< 0.2	< 0.005	BA	0.09	CU	<0.01	MO	<0.01	PB	<0.01
937	< 0.2	< 0.005	BA	0.06	CU	<0.01	MO	<0.01	PB	<0.01
938	< 0.2	0.065	BA	0.03	CU	0.04	MO	<0.01	PB	0.30
939	< 0.2	< 0.005	BA	0.05	CU	<0.01	MO	<0.01	PB	<0.01
940	< 0.2	< 0.005	BA	<0.01	CU	0.01	MO	<0.01	PB	<0.01
941	< 0.2	0.030	BA	<0.01	CU	0.01	MO	<0.01	PB	1.35
942	0.2	TRACE	BA	<0.01	CU	0.01	MO	<0.01	PB	0.05
943	< 0.2	< 0.005	BA	0.05	CU	0.01	MO	<0.01	PB	0.02
* 944	< 0.2	0.014	BA	<0.01	CU	0.01	MO	<0.01	PB	<0.01
945	< 0.2	< 0.005	BA	0.10	CU	0.01	MO	<0.01	PB	<0.01
946	< 0.2	< 0.005	BA	0.05	CU	0.01	MO	<0.01	PB	<0.01
947	< 0.2	< 0.005	BA	0.02	CU	0.02	MO	<0.01	PB	<0.01
948	< 0.2	< 0.005	BA	0.01	CU	0.01	MO	<0.01	PB	0.01
949	< 0.2	TRACE	BA	<0.01	CU	0.01	MO	<0.01	PB	<0.01
950	< 0.2	TRACE	BA	<0.01	CU	0.05	MO	<0.01	PB	0.02
951	< 0.2	0.007	BA	<0.01	CU	0.02	MO	<0.01	PB	0.21
952	< 0.2	< 0.005	BA	<0.01	CU	0.13	MO	<0.01	PB	0.35

ASAR

KEB-SET

HUNTER MINING LABORATORY, INC.
994 GLENDALE AVENUE • SPARKS, NEVADA 89431 • TELEPHONE: (702) 358-6227

REPORT OF ANALYSIS

mied by:

FEB 22 1982

HOMESTAKE MINING COMPANY
R.Blakestad/R.Histed/W.Stanley
P. O. Box 10628
Reno, Nevada 89510

HOMESTAKE MINING CO.
SAMPLE ANALYSIS DATA
PROJECT Bingham J Pit
REMARKS
FILE

Date: February 18, 1982

Laboratory Number: 13079

Analytical Method: Fire A.T.

Your Order Number: 000412

: on: 100 samples

Mark:	Gold oz/ton	Silver oz/ton
1 I	0.004	0.21
2	0.001	-0.01
3	-0.001	-0.01
4	0.001	-0.01
5	0.024	1.84
6	0.051	4.52
7	0.086	8.02
8	0.001	-0.01
9	1.018	6.50

RA-1

Sample Mark:	Gold oz/ton	Silver oz/ton
9975 E	0.014	-0.01
76	0.090	0.01
77	0.018	-0.01
* 78	0.248	0.08
79	0.034	-0.01
80	0.004	0.01
81	0.610	0.19
82	0.298	0.06
* 83	1.040	0.21
84	0.006	-0.01

ASAR

KEO-SET

SKYLINE LABS, INC.
P.O. Box 50160 • 1700 West Grant Road
Tucson, Arizona 85703
(602) 622-4836

Charles L. Thompson
Arizona Registered Assayer No. [illegible]

William L. Lehmbeck
Arizona Registered Assayer No. 9125

James A. Martin
Arizona Registered Assayer No. [illegible]

CERTIFICATE OF ANALYSIS

ITEM NO.	SAMPLE IDENTIFICATION		Au ppm	Ag ppm		
1	6481		0.02	0.2		
2	6482		0.02	0.2		
3	6483		0.02	0.2		
4	6484		0.02	0.2		
5	6485		0.02	0.2		
6	6486		0.02	0.2		
7	6487		0.02	0.2		
8	* 6488	.03 oz	1.1	0.2	[illegible] oz	✓
9	6489	.002 oz	0.06	0.2		
10	* 6490	.8 oz	30.	6.2	.18 oz	
11	6491	[illegible] oz	0.05	0.2		
12	6492	[illegible]	0.13	0.2		
13	6493		0.02	0.2		
14	6494	.004 oz	0.14	0.2		
15	6495		0.02	0.2		
16	6496		0.02	0.2		
17	6497	[illegible] oz	0.13	0.2		
18	6498		0.02	0.2		
19	6499		0.02	0.2		
20	6500		0.02	0.2		
21	6501	.216 oz	7.4	2.2	.064 oz	

ASAR

ICED-SET

REMARKS: Trace analysis

CERTIFIED BY:

REGISTERED ASSAYER
INDIANA NO. 9125
WILLIAM L. LEHMBECK

DATE RECD	DATE COMPL	JOB NUMBER
10/23/78	10/26/78	TEA 064

Inspiration Development Company
P.O. BOX 1320
CLAYPOOL, ARIZONA 85532

26 June 1980

Mr. Michael H. Ferdik
P. O. Box 5643
Lake Havasu City, Arizona 86403

Dear Mr. Ferdik:

Sorry for the delay in answering your letter of May 30 concerning our examination of your mining claims in the Mohave Mountains. As I indicated on my visit of April 15, 1980, the size of the mineralized deposits is not sufficient for Inspiration's needs.

I finally received the assays on the four samples I collected. The results are listed below:

Sample No.	% Cu	% Pb	% Zn	Oz./T Au	Oz./T Ag	Description
3273	0.66			0.015	2.70	1.5 ft. chip of hanging wall portion of quartz vein. Contains more sulphides (pyrite, galena) than remainder of vein
3274	0.02	0.25	0.05	0.005	0.60	5 ft. chip of lower portion of quartz vein. Minor pyrite and galena
3275	Trace	Trace	0.02	Trace	0.05	3 ft. sample across very fine grained basic rock containing pyrite in matrix and along joints. East rib of adit, near end
3276	Trace			Trace	Trace	Chipped 9 inch across fault gouge in basic rock. West side of drift near Sample 3275

RA-I

The samples are located on the enclosed copy of the topo map. The blue lines are faults and the red line is the quartz vein on the RA-I claim. I believe the adit on the west side of the ridge was constructed to intercept the quartz vein along the northwest-trending fault. The rhyolite? bed above the quartz vein on the RA-I claim was present in the adit but I did not see the quartz vein. This indicates to me that the quartz vein has pinched out to the south.

It was a pleasure being in the field with you and your son. If you have any questions, don't hesitate to contact me.

Sincerely,

Gary E. Schrock
Sr. Exploration Geologist

GES:jab
Enclosure

ASARCO

Southwestern Ore Purchasing Department
Arizona
Manager
J. N. Lambe
Assistant Manager

April 10, 1979

Mr. Mike H. Ferdik
P. O. Box 5543
Lake Havasu City, AZ 86403

Dear Mr. Ferdik:

Our Hayden, Arizona, plant has assayed your two samples and reported the following results:

	Oz. per Ton		Percent				
	Gold	Silver	Lead	Copper	Silica	Iron	Alumina
ASAR GANGE Bag of crushed ore	.003	.01	.02	.03	62.0	4.4	11.2
AA-I - ORE Two small specimens	.118	11.13	27.2	.17	24.8	14.4	0.5

The metal content of the crushed material, which I assume you term gangue, is too low to be of any value; therefore, we are not interested in this product.

If the two small specimens represent any tonnage, we would be interested in discussing terms for smelting.

Yours very truly,

J. N. Lambe

File
Mohave Co Gen?

Tanenet Mining Corporation
Administrative Office
18 Price Street
West Chester, Pa. 19380
215-696-7224

Gentlemen,

Tanenet Mining Corporation is endevoring to contact other Corporations who may be interested in, Developmental Leasing, Contract Mining, or Optional Sale.

Our claimholdings consist of 28 Lode and Placer claims located in the Mohave Mountains, Mohave County, Arizona. These claims are within the Crossman Peak Geological Survey Area. A brief of this survey is enclosed.

If your Corporation is interested and considering expansion, we feel that Tanenet Mining Corporation shows excellent potential as a Mining Acquisition.

For further information please feel free to call or write.

Cordially Yours,
Michael H. Ferdik
Tanenet Mining Corporation
Michael H. Ferdik
President

RECEIVED
APR 11 1983
S. W. U. S. EXPL. DIV.

PLEASE USE THIS FORM FOR GSA SECTION MEETINGS ONLY AND NOT FOR ANNUAL MEETINGS

PLEASE SUBMIT ONE ORIGINAL AND FOUR* COPIES TO YOUR GSA SECTION OFFICE

The Geological Society of America
Telephone: (303) 447-8850
See instruction sheet for deadlines and addresses

*CORDILLERAN SECTIC
Submit original and five co

1982 SECTION ABSTRACT FORM

Exact format shown on instruction sheet must be followed. Blue margins below are absolute limits.

Title, Author(s), Affiliation

MINERALIZATION IN THE CROSSMAN PEAK AREA, MOHAVE MOUNTAINS, ARIZONA

LIGHT, Thomas D., MARSH, Sherman P., and RAINES, Gary L., U.S. Geological Survey, P.O. Box 25046, Denver Federal Center, Denver, CO 80225

Body of Abstract

The Crossman Peak area, northeast of Lake Havasu City, Arizona, consists of Precambrian(?) gneisses intruded by dioritic to dacitic dikes. These rocks are overlain by Tertiary volcanic rocks. The area contains gold, silver, tungsten, copper, lead, zinc, barium, and molybdenum occurrences which have been prospected and mined intermittently during the past 100 years.

More than 1000 rock samples from mines and prospects throughout the Crossman Peak area were analyzed for the base- and precious-metal concentrations. The metal assays suggest a zonation from a core of high tungsten and copper values outward through a zone of high gold values, to high silver and lead values, and an outer ring of high manganese values.

The interpretation of computer-processed Landsat images indicated the presence of limonitic materials at a number of localities within the study area. Field examination of these localities, where they were coincident with mining activities, revealed several zones of alteration. A central zone of argillic alteration associated with high tungsten and copper values is bounded by a zone of propylitic alteration which includes areas of high gold and high silver-lead values.

The coincident occurrence of limonitic areas and alteration zones together with the apparent zonation of base and precious metals is similar to the pattern associated with porphyry-type mineralization. We hypothesize the presence of buried porphyry-type mineral deposit southeast of Crossman Peak.

CLASSIFICATION

You must specify one. If mor than one category is appropri indicate your order of prefere by numbers. Be specific.

- ☐ archaeological geology
- ☐ coal geology
- ☒ economic geology
- ☐ engineering geology
- ☐ environmental geology
- ☐ extraterrestrial geology
- ☐ general geology
- ☐ geochemistry
- ☐ geology education
- ☐ geomorphology
- ☐ geophysics
- ☐ geoscience information
- ☐ history of geology
- ☐ hydrogeology
- ☐ marine geology
- ☐ mathematical geology
- ☐ micropaleontology
- ☐ mineralogy/crystallography
- ☐ paleontology/paleobotany
- ☐ petrology, experimental
- ☐ petrology, igneous
- ☐ petrology, metamorphic
- ☐ petrology, sedimentary
- ☐ Precambrian geology
- ☐ Quaternary geology
- ☐ sedimentology
- ☐ stratigraphy
- ☐ structural geology
- ☐ tectonics
- ☐ volcanology
- ☐ other—describe below

☒ Oral ☐ Poster ☐ Either

☐ Symposium _____
(title of symposium for which abstract was invited)

PLEASE NOTE: All invited symposium abstracts (original plus two copies) must be sent to the organizers of the respective symposia according to deadlines established by symposium organizers.

Speaker's name Thomas D. Light
Address U.S. Geological Survey
5946 McIntyre Street
City Golden State CO Zip 80403
Office Telephone (303) 234-6170
Home Telephone (303) 443-4623

GSA MEMBERS
☒ Fellow/member
☐ Student Associate

NON-GSA MEMBERS
☐ Professional
☐ Student
☐ Member of Society Associated with GSA which _____

Dates I can be reached _____

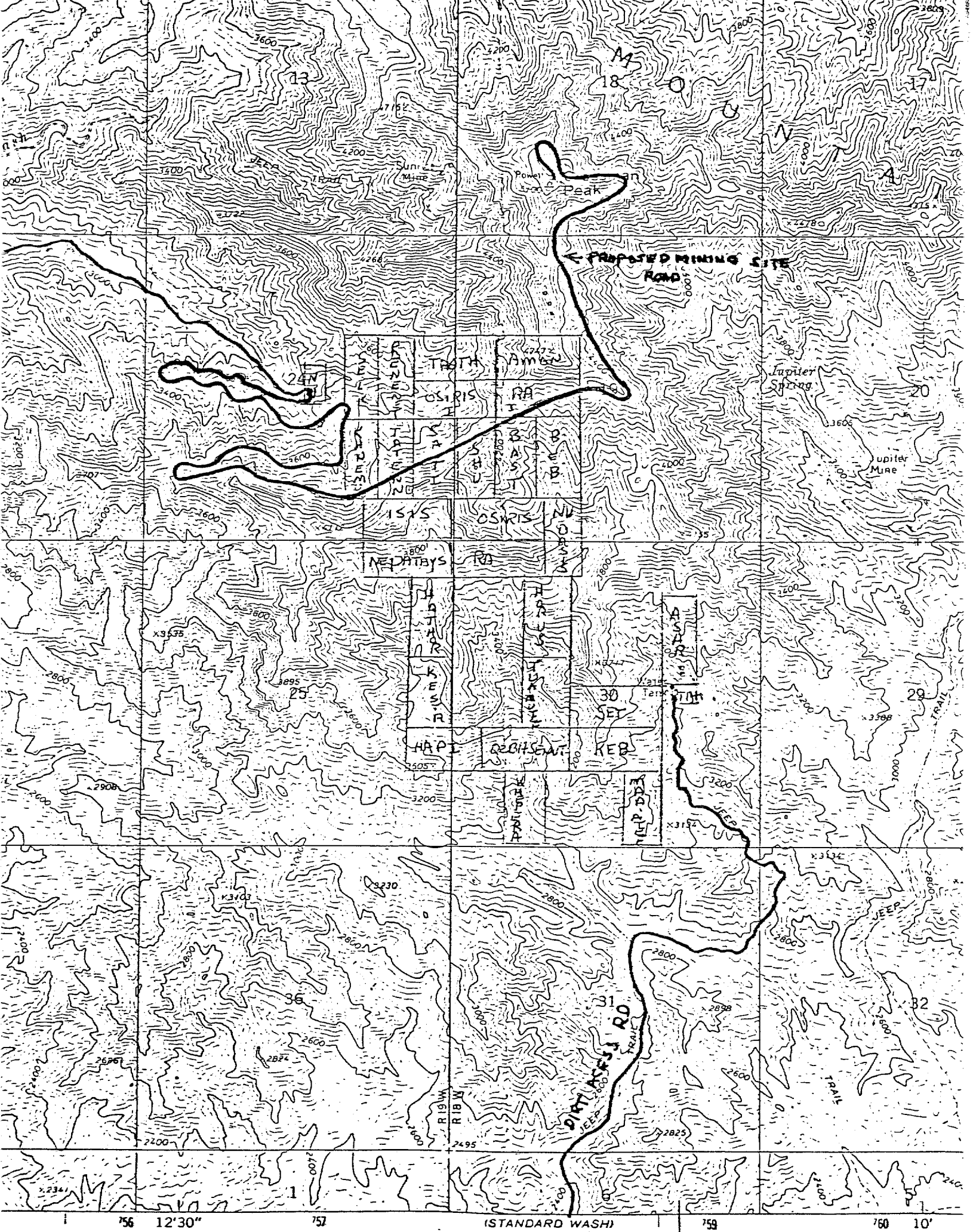
I will be available to serve as a cochairman for a technical session on or concerning: _____

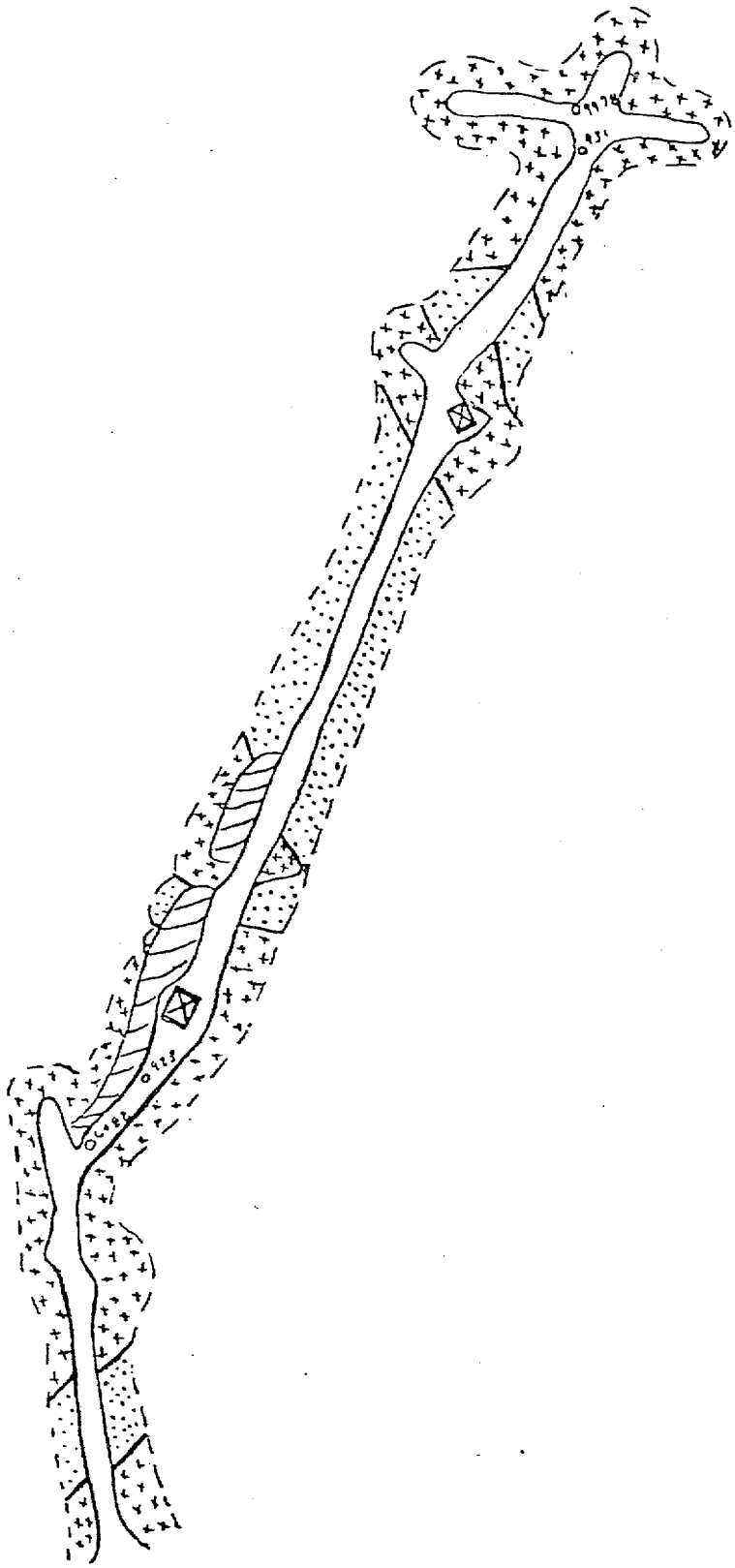
Percentage of this paper previously presented none Where and when presented _____

In office 8/10/83

900-Series USGS
6400 – Newmont
9900 – Homestone.

LOCATION MAP

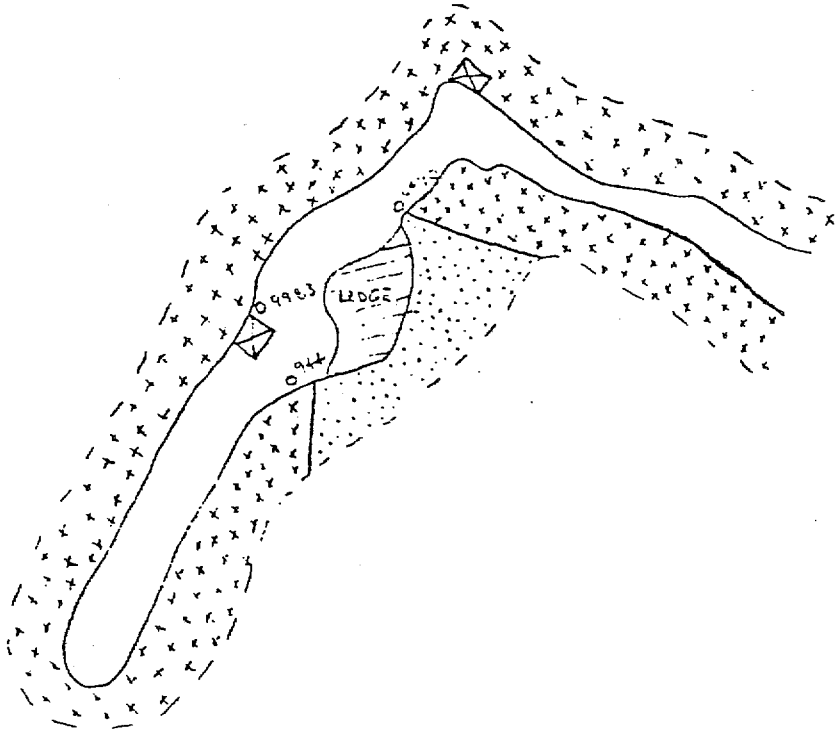

PROPOSED MINING SITE
ROAD
Sunset Mine
Power Line
Peak
Jupiter Spring
Jupiter Mine
JEEP TRAIL
DIRT ACFS RD
OSIRIS
AMON
RA
ISIS
NEPHTHYS
RD
HATHOR
KESR
HAPI
QEBHSENUF
KEB
SET
ASAR
TUM
13
18
17
24N
20
25
30
29
36
31
32
1
6
5
R19W
R18W
(STANDARD WASH)
12'30"
10'



- PORPHYRITIC INTRUSIVE DIKE
- QUARTZ BIOTITE GNEISS
- HAULAGE MAUWAY
- STOPE
- ASSAYS - GOLD - SILVER oz/ton
  - 923 - .168 .200
  - 931 - .012 .400
  - 6488 - .030 .060
  - 9975 - .248 .080

ASAR- MINE -

0 50 100 FEET

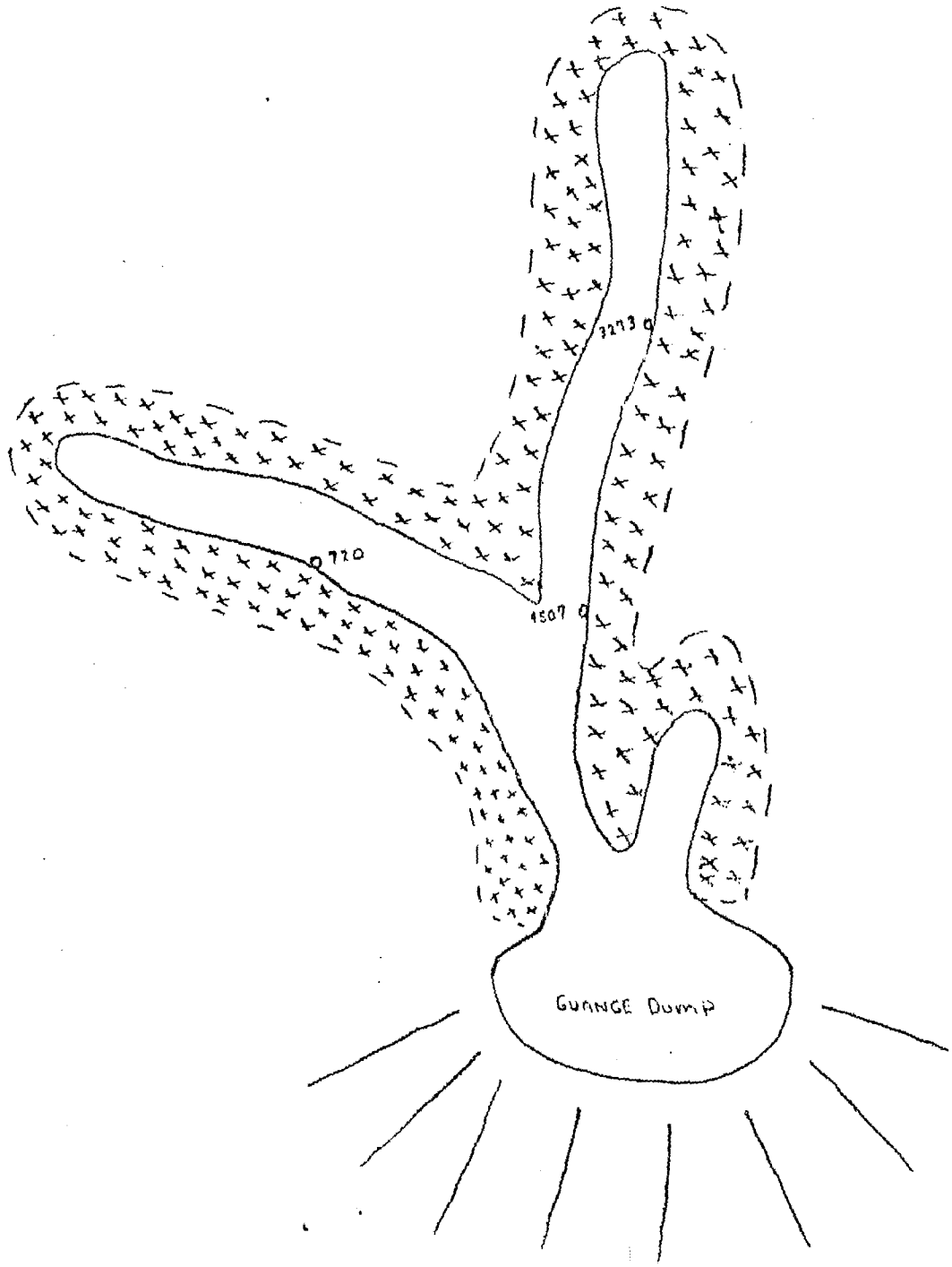


- PORPHYRITIC INTRUSIVE DACI
- QUARTZ BIOTITE GNEISS
- HAULAGE IRONWAY
- STOPE

	GOLD	SILVER - g/t
944 -	.04	.200
6496 -	.020	.180
9983 -	.040	.210

KEB-SET-MINE

0 — 30 FEET



[illegible] - QUARTZ BIOTITE GNEISE

o - ASSAYS - Gold Silver g/t
720 - .058 3.200
3273 - .015 2.700
4507 - .084 8.020

RA-MINE -

TABLE II - [illegible]

SAMPLE NO.	FIRE-AU OZ/TON	FIRE-AU OZ/TON	CHEM- %		CHEM- %		CHEM- %		CHEM- %	
724	0.2	TRACE	BA	<0.01	CU	0.01	MO	<0.01	PB	<0.01
725	< 0.2	< 0.005	BA	<0.01	CU	<0.01	MO	<0.01	PB	<0.01
726	0.2	TRACE	BA	<0.01	CU	0.09	MO	<0.01	PB	0.03
727	< 0.2	TRACE	BA	<0.01	CU	0.01	MO	<0.01	PB	0.24
728	< 0.2	< 0.005	BA	0.02	CU	0.02	MO	<0.01	PB	<0.01
729	< 0.2	< 0.005	BA	0.10	CU	<0.01	MO	<0.01	PB	<0.01
730	< 0.2	0.007	BA	<0.01	CU	0.09	MO	<0.01	PB	1.00
731	0.4	TRACE	BA	<0.01	CU	0.10	MO	<0.01	PB	0.97
911	0.0	TRACE	BA	0.08	CU	<0.01	MO	<0.01	PB	0.01
912	< 0.2	TRACE	BA	0.06	CU	<0.01	MO	<0.01	PB	<0.01
913	0.2	0.006	BA	<0.01	CU	<0.01	MO	<0.01	PB	<0.01
914	< 0.2	TRACE	BA	0.01	CU	<0.01	MO	<0.01	PB	0.16
915	< 0.2	0.008	BA	<0.01	CU	<0.01	MO	<0.01	PB	<0.01
916	0.2	0.024	BA	0.05	CU	<0.01	MO	<0.01	PB	<0.01
917	< 0.2	0.010	BA	<0.01	CU	<0.01	MO	<0.01	PB	0.05
918	< 0.2	0.007	BA	0.02	CU	0.01	MO	<0.01	PB	0.06
919	< 0.2	< 0.005	BA	0.12	CU	<0.01	MO	<0.01	PB	<0.01
920	< 0.2	< 0.005	BA	0.10	CU	<0.01	MO	<0.01	PB	<0.01
921	< 0.2	< 0.005	BA	0.06	CU	<0.01	MO	<0.01	PB	<0.01
922	< 0.2	TRACE	BA	0.06	CU	<0.01	MO	<0.01	PB	<0.01
* 923	< 0.2	0.168	BA	0.04	CU	0.02	MO	<0.01	PB	0.03
924	< 0.2	< 0.005	BA	0.02	CU	0.01	MO	<0.01	PB	0.02
925	0.2	TRACE	BA	0.05	CU	0.02	MO	<0.01	PB	0.03
926	< 0.2	< 0.005	BA	0.01	CU	<0.01	MO	<0.01	PB	<0.01
927	< 0.2	TRACE	BA	0.03	CU	<0.01	MO	<0.01	PB	<0.01
928	< 0.2	< 0.005	BA	<0.01	CU	<0.01	MO	<0.01	PB	<0.01
929	< 0.2	< 0.005	BA	0.05	CU	<0.01	MO	<0.01	PB	<0.01
930	< 0.2	TRACE	BA	0.05	CU	<0.01	MO	<0.01	PB	<0.01
* 931	0.4	0.012	BA	0.01	CU	0.01	MO	<0.01	PB	0.02
932	< 0.2	0.042	BA	0.05	CU	0.02	MO	<0.01	PB	0.04
933	< 0.2	< 0.005	BA	0.06	CU	0.01	MO	<0.01	PB	0.01
934	< 0.2	TRACE	BA	0.08	CU	0.01	MO	<0.01	PB	0.05
935	< 0.2	< 0.005	BA	0.03	CU	<0.01	MO	<0.01	PB	<0.01
936	< 0.2	< 0.005	BA	0.04	CU	<0.01	MO	<0.01	PB	<0.01
937	< 0.2	< 0.005	BA	0.04	CU	<0.01	MO	<0.01	PB	<0.01
938	< 0.2	0.005	BA	0.08	CU	0.04	MO	<0.01	PB	0.30
939	< 0.2	< 0.005	BA	0.05	CU	<0.01	MO	<0.01	PB	<0.01
940	< 0.2	< 0.005	BA	<0.01	CU	0.01	MO	<0.01	PB	<0.01
941	< 0.2	0.007	BA	<0.01	CU	0.01	MO	<0.01	PB	1.35
942	0.2	TRACE	BA	<0.01	CU	0.01	MO	<0.01	PB	0.05
943	< 0.2	< 0.005	BA	0.05	CU	0.01	MO	<0.01	PB	0.02
* 944	< 0.2	0.014	BA	<0.01	CU	0.01	MO	<0.01	PB	<0.01
945	< 0.2	< 0.005	BA	0.10	CU	0.01	MO	<0.01	PB	<0.01
946	< 0.2	< 0.005	BA	0.05	CU	0.01	MO	<0.01	PB	<0.01
947	< 0.2	< 0.005	BA	0.02	CU	0.02	MO	<0.01	PB	<0.01
948	< 0.2	< 0.005	BA	0.01	CU	0.01	MO	<0.01	PB	0.01
949	< 0.2	TRACE	BA	<0.01	CU	0.01	MO	<0.01	PB	<0.01
950	< 0.2	TRACE	BA	<0.01	CU	0.05	MO	<0.01	PB	0.02
951	< 0.2	0.007	BA	<0.01	CU	0.02	MO	<0.01	PB	0.21
952	< 0.2	< 0.005	BA	<0.01	CU	0.13	MO	<0.01	PB	0.35

ASAR

KEO-SET

900-series

USGS Series

* INDICATES SAMPLE LOCATION ON MINE MAPS

HUNTER MINING LABORATORY, INC.

994 GLENDALE AVENUE • SPARKS, NEVADA 89431 • TELEPHONE: (702) 358-6227

REPORT OF ANALYSIS

ited by:

FEB 22 1982

HOMESTAKE MINING COMPANY
R.Blakestad/R.Histed/W.Stanley
P. O. Box 10628
Reno, Nevada 89510

HOMESTAKE MINING CO.
SAMPLE ANALYSIS DATA
PROJECT Bryant J Pit
REMARKS
FILE

Date: February 18, 1982

Laboratory Number: 13079

Analytical Method: Fire A.T.

Your Order Number: 000412

on: 100 samples

Mark:	Gold oz/ton	Silver oz/ton		Sample Mark:	Gold oz/ton	Silver oz/ton
1 I	0.004	0.21		9975 E	0.014	-0.01
2	0.001	-0.01	ASAR	76	0.090	0.01
3	-0.001	-0.01		77	0.018	-0.01
4	0.001	-0.01		* 78	0.248	0.08
5	0.024	1.84		79	0.034	-0.01
6	0.051	4.52		80	0.004	0.01
7	* 0.086	8.02	KEO-SET	81	0.610	0.19
8	0.001	-0.01		82	0.298	0.06
9	1.018	6.50		* 83	1.040	0.21
				84	0.006	-0.01

RA-1

* INDICATES SAMPLE LOCATION ON MINE MAPS

3200-Series

Inspiration Development Company
P.O. BOX 1320
CLAYPOOL, ARIZONA 85532

26 June 1980

Mr. Michael H. Ferdik
P. O. Box 5643
Lake Havasu City, Arizona 86403

Dear Mr. Ferdik:

Sorry for the delay in answering your letter of May 30 concerning our examination of your mining claims in the Mohave Mountains. As I indicated on my visit of April 15, 1980, the size of the mineralized deposits is not sufficient for Inspiration's needs.

I finally received the assays on the four samples I collected. The results are listed below:

Sample No.	% Cu	% Pb	% Zn	Oz./T Au	Oz./T Ag	Description
*3273	0.66			0.015	2.70	1.5 ft. chip of hanging wall portion of quartz vein. Contains more sulphides (pyrite, galena) than remainder of ve
3274	0.02	0.25	0.05	0.005	0.60	5 ft. chip of lower portion of quartz vein. Minor pyrite and galena
3275	Trace	Trace	0.02	Trace	0.05	3 ft. sample across very fine grained basic rock containing pyrite in matrix and along joints. East rib of adit, near end
3276	Trace			Trace	Trace	Chipped 9 inch across fault gouge in basic rock. West side of drift near Sample 3275

RA-I

The samples are located on the enclosed copy of the topo map. The blue lines are faults and the red line is the quartz vein on the RA-I claim. I believe the adit on the west side of the ridge was constructed to intercept the quartz vein along the northwest-trending fault. The rhyolite? bed above the quartz vein on the RA-I claim was present in the adit but I did not see the quartz vein. This indicates to me that the quartz vein has pinched out to the south.

It was a pleasure being in the field with you and your son. If you have any questions, don't hesitate to contact me.

Sincerely,

Gary E. Schrock
Sr. Exploration Geologist

GES:jab
Enclosure

* INDICATES SAMPLE LOCATION ON MINE MAPS

SKYLINE LABS, INC.
P.O. Box 5010 • 1700 West Grant Road
Tucson, Arizona 85703
(602) 622-4836

Charles L. [illegible]
Arizona Registered Assayer No. [illegible]

William J. Lehmbeck
Arizona Registered Assayer No. [illegible]

James A. Martin
Arizona Registered Assayer No. [illegible]

CERTIFICATE OF ANALYSIS

ITEM NO.	SAMPLE IDENTIFICATION		Au ppm	Ag ppm		
1	6481		0.02	0.2		
2	6482		0.02	0.2		
3	6483		<0.02	<0.2		
4	6484		<0.02	<0.2		
5	6485		<0.02	0.2		
6	6486		<0.02	0.2		
7	6487		<0.02	<0.2		
8	*6488	.03 oz	1.1	0.2	[illegible] oz	✓
9	6489	.002 oz	0.06	<0.2		
10	*6490	.8 oz	30.	6.2	.18 oz	
11	6491	[illegible] oz	0.05	<0.2		
12	6492	[illegible]	0.13	<0.2		
13	6493		<0.02	<0.2		
14	6494	.004 oz	0.14	<0.2		
15	6495		<0.02	<0.2		
16	6496		<0.02	<0.2		
17	6497	[illegible] oz	0.13	<0.2		
18	6498		<0.02	<0.2		
19	6499		<0.02	<0.2		
20	6500		<0.02	<0.2		
21	6501	.216 oz	7.4	2.2	.064 oz	

ASMR

ICED-SET

6000 - Series, Newmont

REMARKS: Trace analysis

CERTIFIED BY:

REGISTERED ASSAYER CERTIFICATE NO. 9125 WILLIAM J. LEHMBECK ARIZONA U.S.A.

DATE RECD	DATE COMP	JOB NUMBER
10/23/78	10/26/78	TEA 064

* INDICATES SAMPLE LOCATION ON MINE MAPS

ASARCO

Southwestern Ore Purchasing Department
A. J. Krone
Manager
J. N. Lambe
Assistant Manager

April 10, 1979

Mr. Mike H. Ferdik
P. O. Box 5543
Lake Havasu City, AZ 86403

Dear Mr. Ferdik:

Our Hayden, Arizona, plant has assayed your two samples and reported the following results:

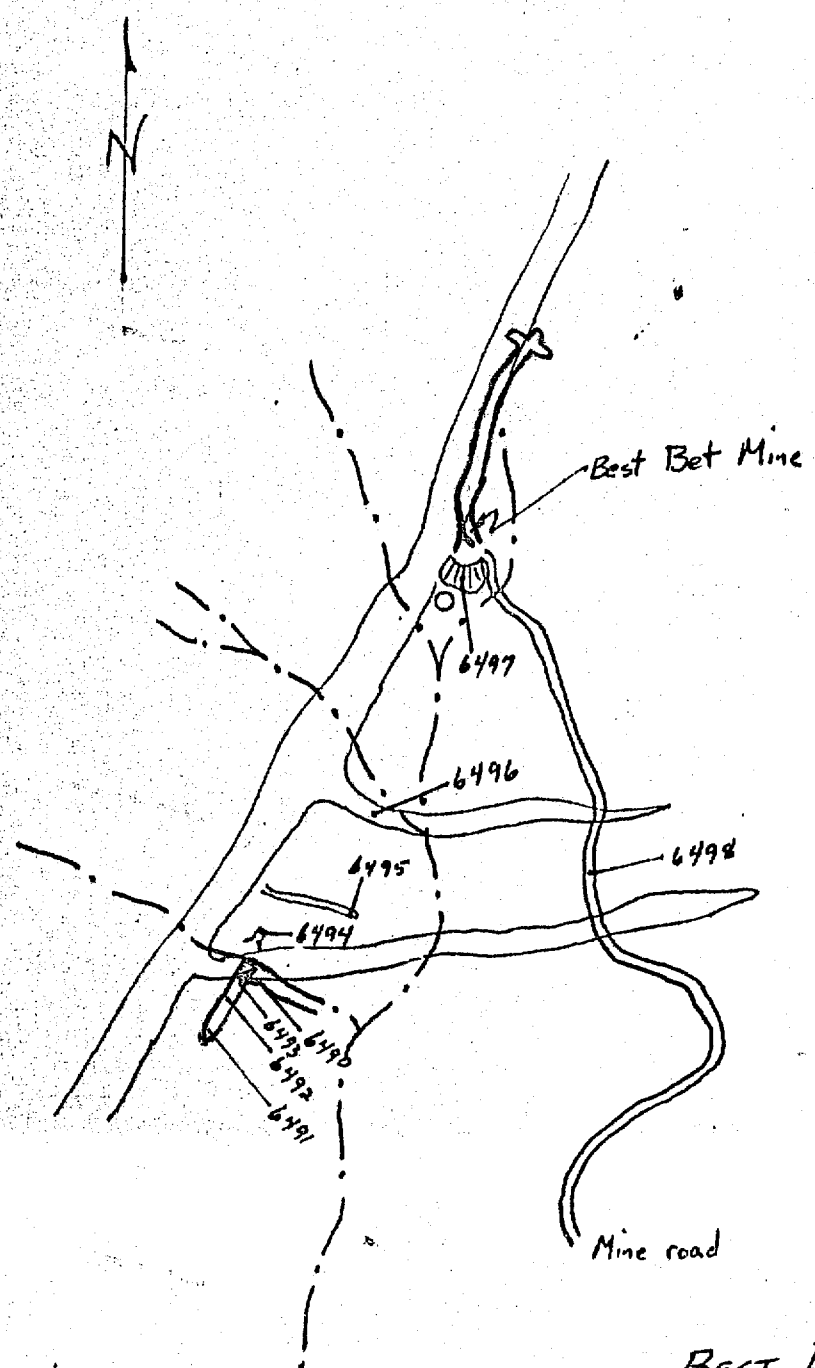
	Oz. per Ton		Percent				
	Gold	Silver	Lead	Copper	Silica	Iron	Alumina
ASAR GANGE Bag of crushed ore	.003	.01	.02	.03	62.0	4.4	11.2
RA-I - ORE Two small specimens	.118	11.13	27.2	.17	24.8	14.4	0.5

The metal content of the crushed material, which I assume you term gangue, is too low to be of any value; therefore, we are not interested in this product.

If the two small specimens represent any tonnage, we would be interested in discussing terms for smelting.

Yours very truly,

J. N. Lambe



- ☐ Tertiary andesite
- ☐ Tertiary latite porphyry
- ☐ Precambrian schist and gneiss

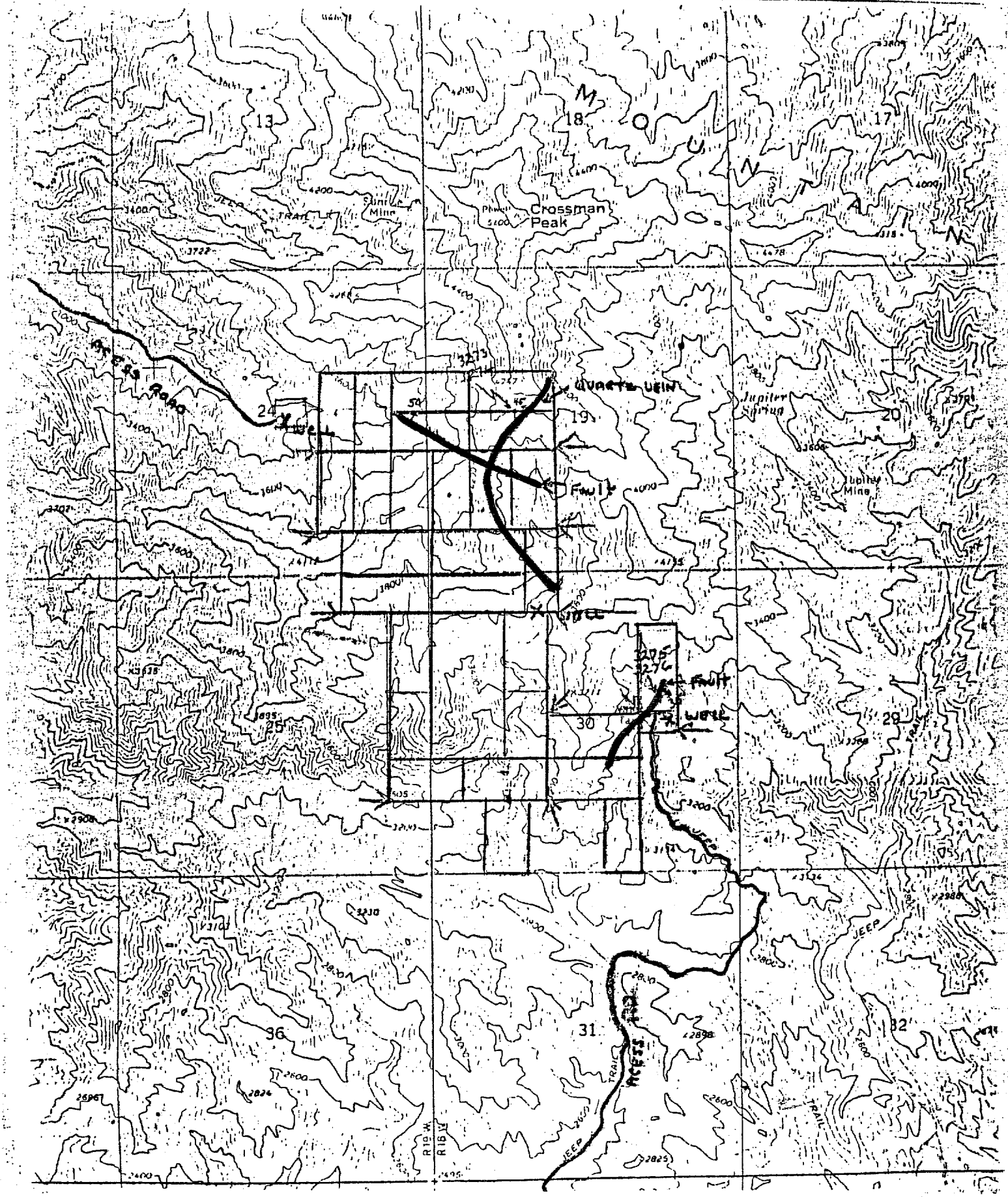
BEST BET MINE AREA

KEB-SET AND ISIS Claims

Section 30, T 14 N, R 18 W

Mohave County, Arizona

T. J. Glover – October 197


Crossman Peak
Sunrise Mine
Jupiter Spring
Jupiter Mine
Quartz Vein
Fault
Well
Fault
Well
Fault
Well
Rio Grande
JEEP TRAIL
13
18
17
24
19
20
25
30
29
36
31
32
R19W
R18W

File
Mohave Co Gen

Tanenet Mining Corporation
Administrative Office
18 Price Street
West Chester, Pa. 19380
215-696-7224

Gentlemen,

Tanenet Mining Corporation is endevoring to contact other Corporations who may be interested in, Developmental Leasing, Contract Mining, or Optional Sale.

Our claimholdings consist of 28 Lode and Placer claims located in the Mohave Mountains, Mohave County, Arizona. These claims are within the Crossman Peak Geological Survey Area. A brief of this survey is enclosed.

If your Corporation is interested and considering expansion, we feel that Tanenet Mining Corporation shows excellent potential as a Mining Acquisition.

For further information please feel free to call or write.

Sec. 30, 29
T 14N,
R 18-19W

Cordially Yours,
Michael H. Ferdik
Tanenet Mining Corporation
Michael H. Ferdik
President

(Gepite Mins Area?)

RECEIVED
APR 11 1983
S. W. U. S. EXPL. DIV.

PLEASE USE THIS FORM FOR GSA SECTION MEETINGS ONLY AND NOT FOR ANNUAL MEETINGS

PLEASE SUBMIT ONE ORIGINAL AND FOUR* COPIES TO YOUR GSA SECTION OFFICE

Geological Society of America
phone: (303) 447-8850
instruction sheet for deadlines and addresses

*CORDILLERAN SECT
Submit original and five c

1982 SECTION ABSTRACT FORM

Exact format shown on instruction sheet must be followed. Blue margins below are absolute limits.

CLASSIFICATION

You must specify one. If m than one category is approp indicate your order of prefe by numbers. Be specific.

- ☐ archaeological geology
- ☐ coal geology
- ☒ economic geology
- ☐ engineering geology
- ☐ environmental geology
- ☐ extraterrestrial geolog
- ☐ general geology
- ☐ geochemistry
- ☐ geology education
- ☐ geomorphology
- ☐ geophysics
- ☐ geoscience information
- ☐ history of geology
- ☐ hydrogeology
- ☐ marine geology
- ☐ mathematical geology
- ☐ micropaleontology
- ☐ mineralogy/crystallography
- ☐ paleontology/paleobotany
- ☐ petrology, experimental
- ☐ petrology, igneous
- ☐ petrology, metamorphic
- ☐ petrology, sedimentary
- ☐ Precambrian geology
- ☐ Quaternary geology
- ☐ sedimentology
- ☐ stratigraphy
- ☐ structural geology
- ☐ tectonics
- ☐ volcanology
- ☐ other—describe below

Body of Abstract

MINERALIZATION IN THE CROSSMAN PEAK AREA, MOHAVE MOUNTAINS, ARIZONA

LIGHT, Thomas D., MARSH, Sherman P., and RAINES, Gary L., U.S. Geological Survey, P.O. Box 25046, Denver Federal Center, Denver, CO 80225

The Crossman Peak area, northeast of Lake Havasu City, Arizona, consists of Precambrian(?) gneisses intruded by dioritic to dacitic dikes. These rocks are overlain by Tertiary volcanic rocks. The area contains gold, silver, tungsten, copper, lead, zinc, barium, and molybdenum occurrences which have been prospected and mined intermittently during the past 100 years.

More than 1000 rock samples from mines and prospects throughout the Crossman Peak area were analyzed for the base- and precious-metal concentrations. The metal assays suggest a zonation from a core of high tungsten and copper values outward through a zone of high gold values, to high silver and lead values, and an outer ring of high manganese values.

The interpretation of computer-processed Landsat images indicated the presence of limonitic materials at a number of localities within the study area. Field examination of these localities, which they were coincident with mining activities, revealed several zones of alteration. A central zone of argillic alteration associated with high tungsten and copper values is bounded by a zone of propylitic alteration which includes areas of high gold and high silver-lead values.

The coincident occurrence of limonitic areas and alteration zones together with the apparent zonation of base and precious metals is similar to the pattern associated with porphyry-type mineralization. We hypothesize the presence of buried porphyry-type mineral deposit southeast of Crossman Peak.

☒ Oral ☐ Poster ☐ Either

☐ Symposium _____
(title of symposium for which abstract was invited)

PLEASE NOTE: All invited symposium abstracts (original plus two copies) must be sent to the organizers of the respective symposia according to deadlines established by symposium organizers.

Speaker's name Thomas D. Light
Address U.S. Geological Survey
5946 McIntyre Street
City Golden State CO Zip 80403
Office Telephone (303) 234-6170
Home Telephone (303) 443-4623

GSA MEMBERS
- ☒ Fellow/member
- ☐ Student Associate

NON-GSA MEMBERS
- ☐ Professional
- ☐ Student
- ☐ Member of Society Associated with GSA which _____

Dates I can be reached _____

I will be available to serve as a cochairman for a technical session on or concerning: _____

Fourty-Niner Prospect.
Mohave County. Az Report of Oct 1, 1981
Arizona Minerals
970 Linda Vista
Globe, Az. 85501
Knowlie C. DeLise, Senior Chief Exploration.

17 miles SW of Yucca, Az in low foothills on north flank of Mohave Mtns.
See 7½' Crossman Peak quad. (& Buck Mtn)
in R 18 W, T 15 N, Sec. 28 & 29.

Travel 10 miles So on highway 66 from Yucca to Franconia Overpass. A 4 wheel drive vehicle is recommended on jeep trail for next 7 miles southwest.

970 Linda Vista
Globe AZ

disconnected as ~~425-9302~~
425-1396
Noanswer 3/3

PRELIMINARY RECONNAISSANCE REPORT

FORTY-NINER PROSPECT

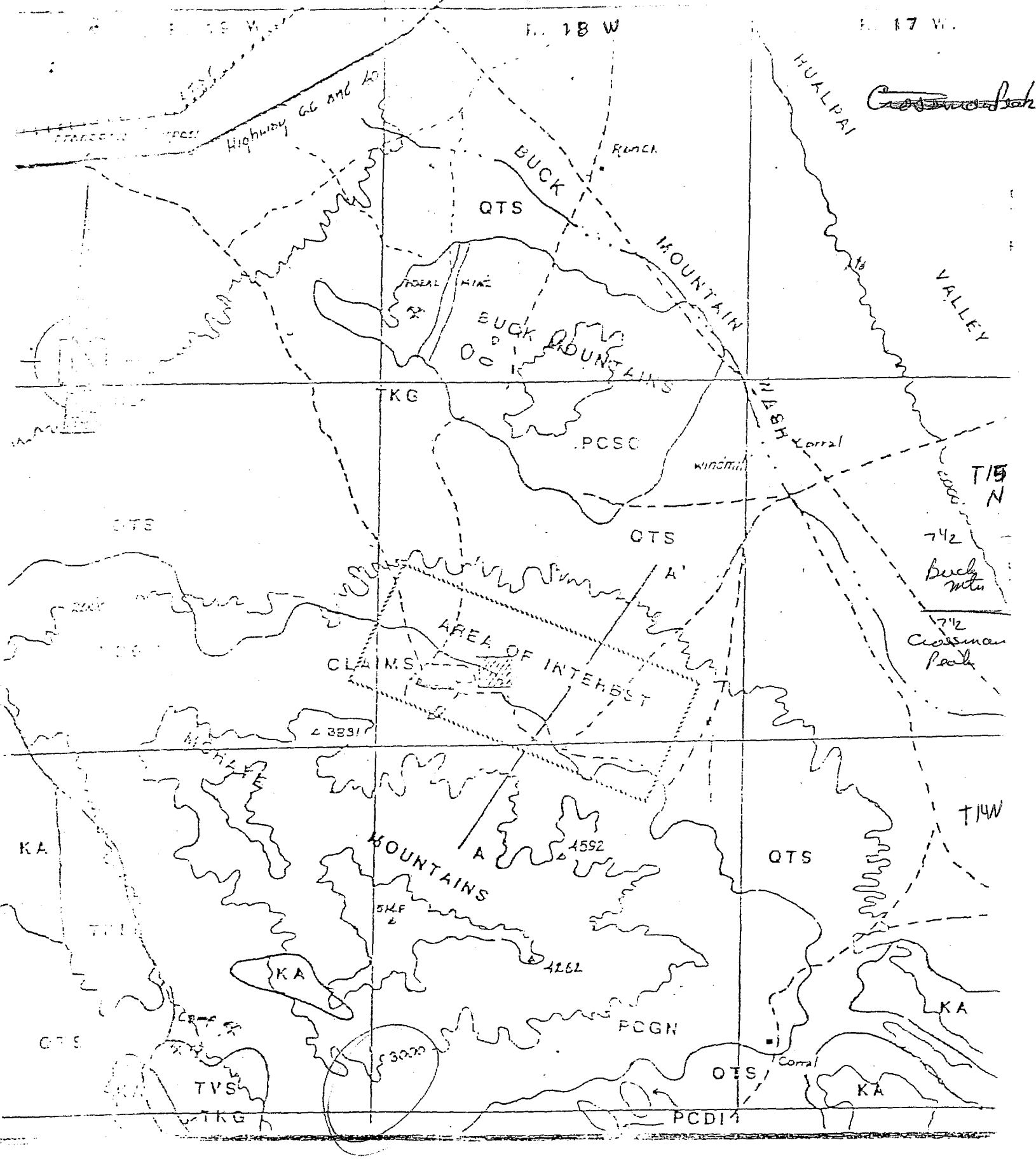
MOHAVE COUNTY, ARIZONA

October 1, 1981

Knoxie C. DeLise

Sunchief Exploration

Globe, Arizona 85501



SUNCHIEF MINES COMPANY

FORTY-NINER MINE PROSPECT

FIGURE 2

1/2 MILE

MOHAVE COUNTY, ARIZONA

PRELIMINARY GEOLOGIC MAP

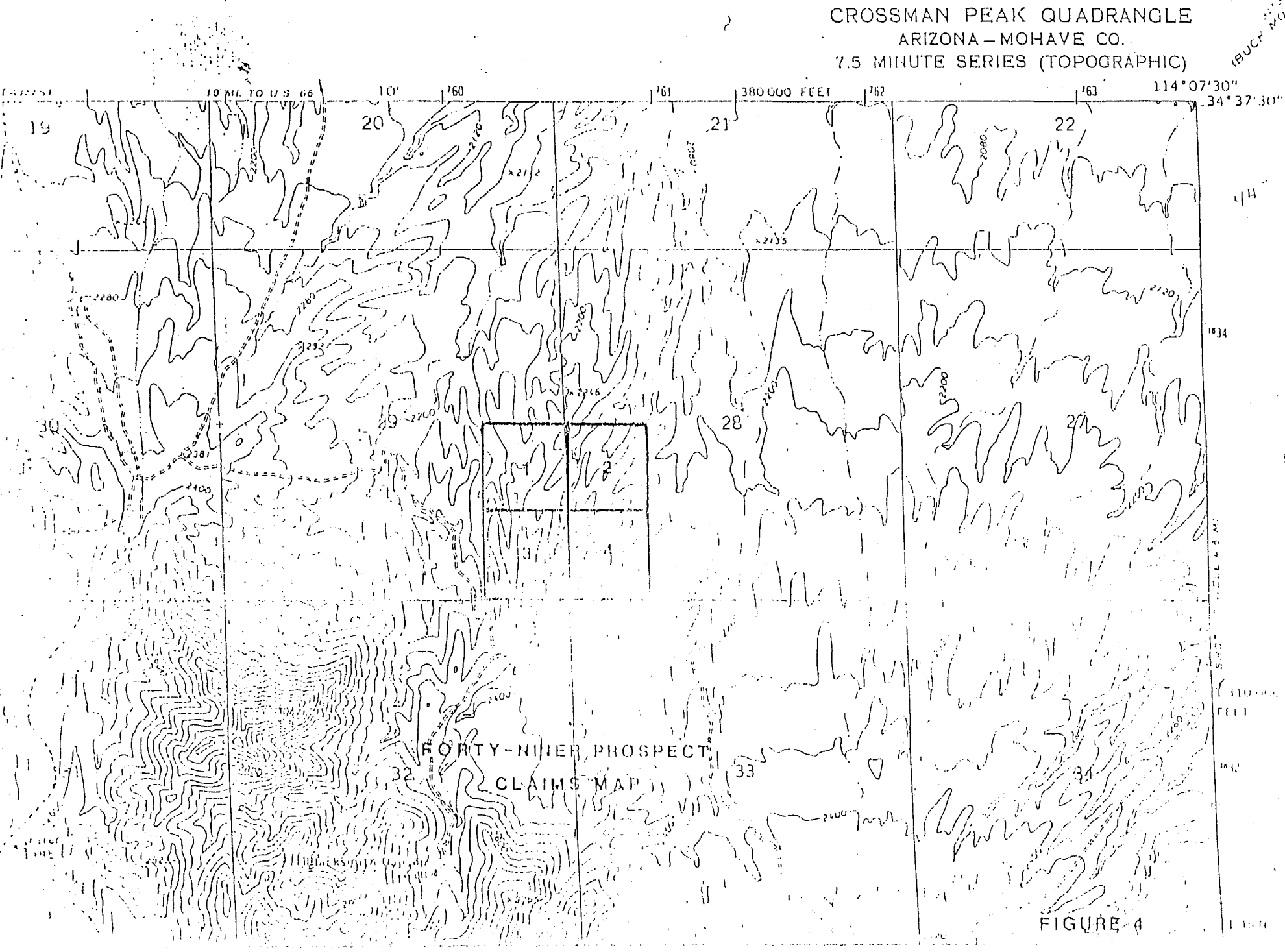
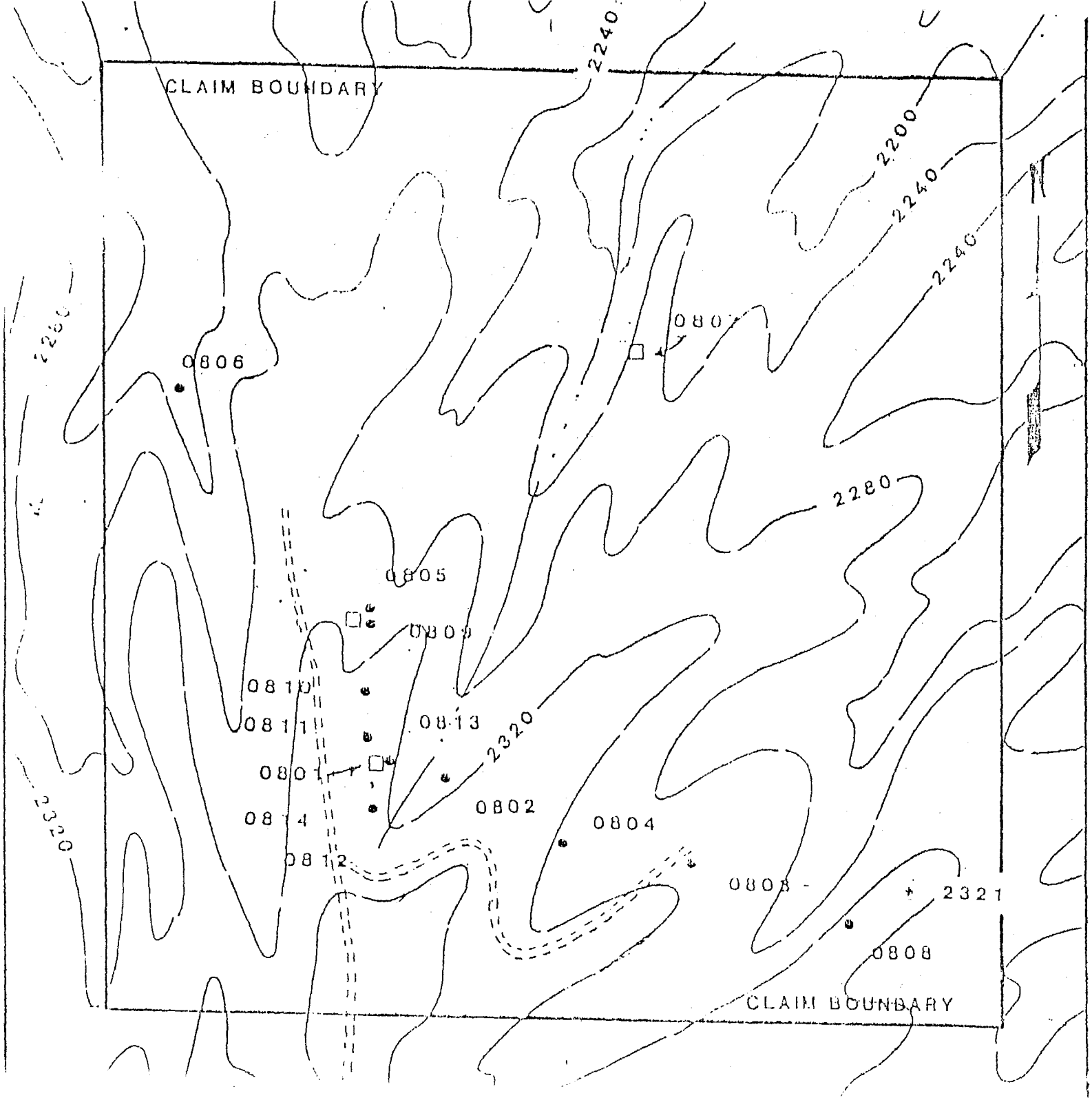

CROSSMAN PEAK QUADRANGLE
ARIZONA – MOHAVE CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)
114°07'30"
34°37'30"
380 000 FEET
10 MI. TO U.S. 66
19
20
21
22
30
29
28
27
32
33
34
FORTY-NINER PROSPECT
CLAIMS MAP

FIGURE 4



SUNCHIEF MINES CO.
EXPLORATION DEPT.

FORTY-NINERS PROSPECT
MOHAVE COUNTY
ARIZONA

SAMPLE LOCATION MAP

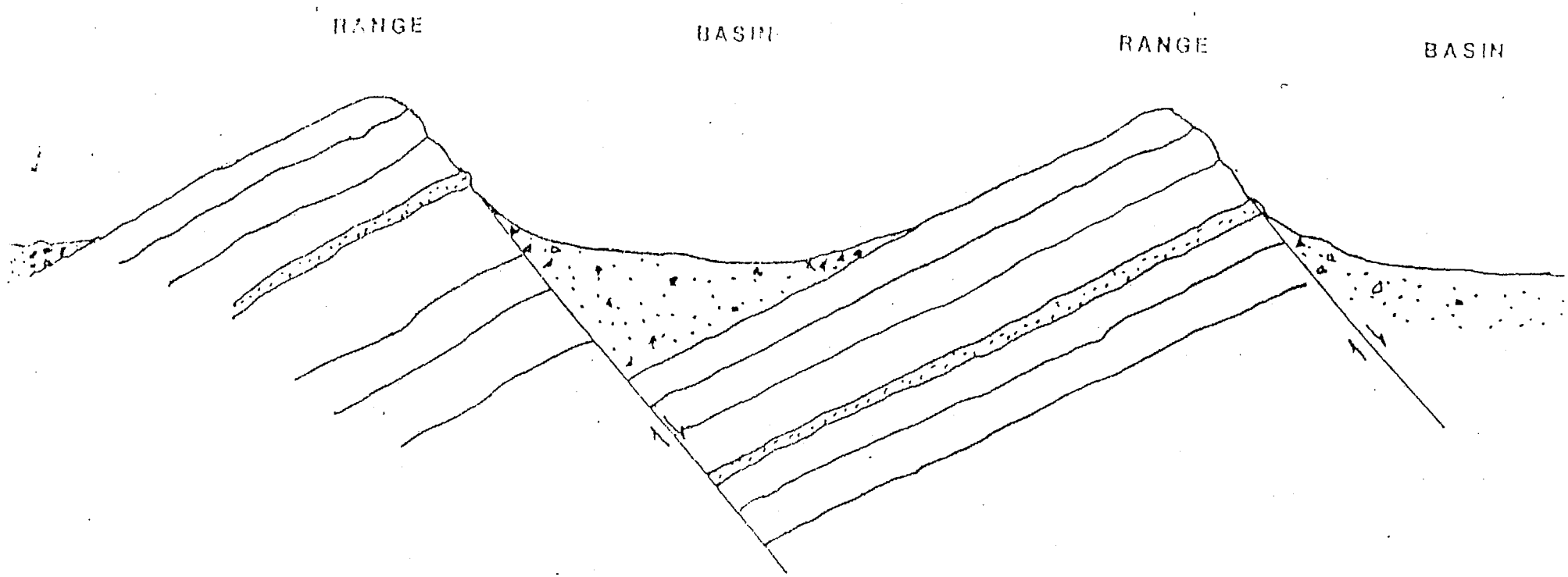
● GRAB SAMPLE

□ DRY WASH SAMPLE

SCALE 1" =384'

FIGURE 5

Typical Basin and Range Configuration



SUNCHIEF MINES CO.

EXPLORATION DEPARTMENT

FIGURE 6

FROM: W. L. KURTZ Feb 9, 1983

TO: JDSell 49er Prospect

The attached was obtained several months ago by RBCuist.

Placer gold in "fanglomerate breccia" (their term).

I don't know anything about the bedrock in their area but it might be worth some scrutiny — maybe there is another Padre Madre

No answer from the various telephone numbers — one having been disconnected as of 3/3/83

JDS

Ariz Minerals
970 Linda Vista
Globe AZ
348, 1150,
disconnected as ~~425-9302~~
425-1396
Noanswer 3/3

File
Mohave
General
(for now!).

PRELIMINARY RECONNAISSANCE REPORT

FORTY-NINER PROSPECT

MOHAVE COUNTY, ARIZONA

October 1, 1981

Knoxie C. DeLise

Sunchief Exploration

Globe, Arizona 85501

Page

Introduction 1

Climate 1

Area 1

Purpose of Investigation 2

Method of Investigation 2

Geography 2

Stratigraphy & Petrology 3

Geologic Structure 4

Precious Metal Occurence 4

Gold Analysis 5,6

Reserves 7

Recommendation

Geology and Geophysics 8

Administrative 9

Mining and Engineering 9

Costs 10

Figures 1-13 ..... Appendix

The Forty-Niner Claims are situated 17 miles [illegible] of Yucca, Arizona, in low foothills on the north flank of the [illegible] Mountains (fig. 1,2). The location can be seen on the U.S.G.S. 7.5 minute [illegible] Peak Quadrangle in R18W, T15N, Sections 28 and 29 (figure 4). The property is reached by travelling approximately 10 miles south on highway [illegible] from Yucca, Arizona to the Franconia Overpass. A 4/wheel drive vehicle is recommended from this point as the jeep trail becomes rough and pitted for the next 7 miles southwest to the project.

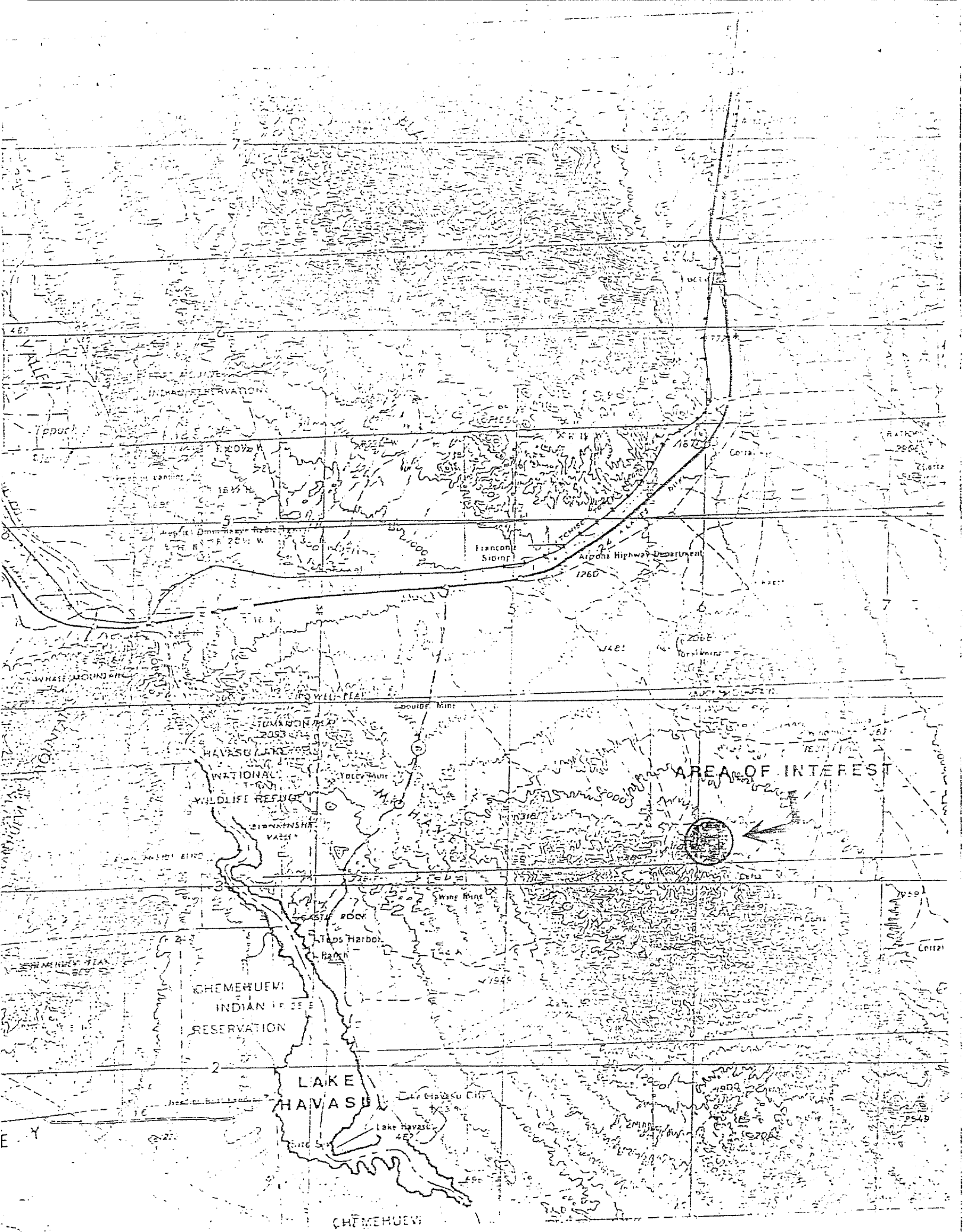
A. CLIMATE

The climate of the area is low to high desert with cold winters and very hot summers.

Summer temperatures will exceed 120°F. Water is not available in the immediate area, but a tank and windmill was noted three miles north of the project. A well and windmill was also noted one mile south- southwest of the locality in Blacksmith Canyon and is said to have good water at a depth of 30 feet. We did not visit this site in the time alloted.

B. AREA

The prospect is composed of four claims totalling 160 acres (fig. 4). All of the claims are on B.L.M. land and have valid mining documents in the name of Kenneth and Richard Blevins.


AREA OF INTEREST
Arizona Highway Department
Franconia Siding
HAVASU LAKE
NATIONAL
WILDLIFE REFUGE
CHEMEHUEVI
INDIAN
RESERVATION
LAKE
HAVASU
Lake Havasu City
Lake Havasu
CASTLE ROCK
Tods Harbor
Wine Mine
Double Mine
Delta
Cottonwood
Parker
Bill Williams River
Colorado River
Bill Williams Mountain
Powell Peak
Chemehuevi Mountains
Chemehuevi Valley
Chemehuevi Wash
Chemehuevi Peak
Chemehuevi Indian Reservation
Chemehuevi Wash
Chemehuevi Peak
Chemehuevi Mountains
Chemehuevi Valley

C. [illegible] INVESTIGATION

The purpose of the investigation was to observe the actual Forty-Niner property production and begin a study to evaluate the gold potential therein. On September 23, 1981, Sunchief personnel, Knoxie DeLise, John and Robert Murphy briefly visited the property. Representing the Forty-Niner Prospect were owners Kenneth Blevins of Kingman, Arizona and Leon Blevins of Globe, Arizona.

D. METHOD OF INVESTIGATION

A general field reconnaissance was done for several hours and field samples were taken. A Brunton compass was used, but due to the short time available, no specific surveys were made.

Our primary objective was to observe the extraction or gold from the prospect. The equipment used was a Clark, Bob-cat ¾ yard loader and a 16" X 24" multi-tray, handmade drywasher of approximately one ton-per-hour capacity. The drywasher was powered by a ½ horsepower electric motor driven by a gasoline electric generator.

In actual practice, the Bob-cat loader scooped loose material at a certain location and slowly fed this material through a 3/4" screen into the drywasher. Concentrates were removed from the drywasher after 1-2 hours of operation and these were subsequently panned for gold content.

E. GEOGRAPHY

The Forty-Niner Area is of a typical basin and range configuration (fig. 6). The Mohave Rnage to the South of the property trends NW-WE and

[illegible] at elevation of [illegible] feet. The [illegible] area at about 1000 feet with the prospect area at about 2200 feet to 134[illegible] feet (fig. 5).

Topographically, the property consists of low hills and cuts formed by the erosion of the Mohave alluvial fan. Drainage is to the northeast at 140 degrees, ultimately flowing into the Hualpai Valley (fig. 2). Vegetation is sparse with typical desert cactus, cats-claw, greasewood, and Joshua Tree to mention a few.

In-situ rock exposures are noted only in the higher regions of the Mohave Mountains to the south and the Buck Mountains to the north (fig.2). Locally all deposition is detrital material forming a breccia alluvial fanglomerate.

F. STRATIGRAPHY AND PETROLOGY

The Mohave Mountains are a series of southeast trending (130 degrees) Pre-Cambrian gneiss forming highly resistant hogbacks and ridges. Regionally, phyllitic schist, mica schist, chlorite schist; amphibolite altered from interbedded shales and sandstones are common. Rhyolitic to basaltic flows and tuffs are accompanied by intrusive rhyolite, diorite, gabbro and pyroxenite.

The prospect area is an alluvial fanglomerate or wedge alont the northern Mohave Mountain flank. The low hills, ridges and cuts are the result of drainage erosion cuttting into this alluvial wedge at about 040 degrees. Erosion has not exposed bedrock in the claims area. However, the alluvium itself is so close to its source, the Mohave Mountains, that all detrital material is angular and fractured forming a breccia which is not lithified. Rock fragments range from sand size to 3 or 4 feet across. White caliche, a porous calcium carbonate ($CaCo_3$) is abundant in the area and frequently cements certain of the rock fragments. The caliche is formed by near surfacecrystalli-

[illegible] of [illegible] [illegible] [illegible]able minerals by upward moving solutions. Significant, [illegible] [illegible] [illegible] beds of caliche are common here and gold nuggets have been seen to be encapsulated by the caliche in several samples.

G. GEOLOGIC STRUCTURE

Regional structure is a basin and range type (fig. 6). Local structure is deduced from [illegible] [illegible]ance only and is interpreted as shown in figure 3. Stratigraphic [illegible] of the prospect area has been dependent, at least partly, upon erosional pressure on the Mohave Range. This phenomenon provided the angular rocks which were deposited along the alluvial wedge. The transport distance was extremely short so no rounded conglomerates are found there.

H. PRECIOUS METAL OCCURENCE

Historically, the occurence of gold in the region has been known for many years. Numerous prospect holes are to be seen and all of these, no doubt, were small drywash and panning operations. Depression days of the 1930's saw numerous prospectors in the area, reportedly panning about $1.00 per day. These smaller operations might have been more extensive if it had not been for the extreme climatic conditions and paucity of water. Information is now being sought after older local mining operations, the Arizona Yucca Mine, 3 miles north and several others in the area.

The present owners are part-time operators and their total rock tonage processed has probably not exceeded 100 tons. Most of the gold recovered by the Blevin operation has been very coarse, some weighing up to several grams. The majority of the nuggets observed appear to be in the order of 0.5 grams. Several of the gold nuggets recovered were examined optically

[illegible] the drywasher-panning process as now [illegible] operated will lose an estimated 90% of the fine gold into the tailings and through the inadequacies of conventional panning.

The gold occurence is a placer type deposit in an alluvial fanglomerate breccia rather than the more commonplace auriferous gravels. Little is known of the breccia depth to bedrock since there are no outcrops in the area. The highest ridges are 120 feet or more above the lowest creek bottom so there appears to be at least 140 feet of overburden on bedrock. In any event, it is felt that a seismic survey would outline this parameter. This is important because such bedrock could act as a natural gravity sluce with highly concentrated gold occuring there.

I. GOLD ANALYSIS

Forty-Niner gold was analyzed for purity and was found to contain 95.5% gold and 4.5% silver (See fig.11). Four of the field samples were taken in the caliche beds because there are indications that at least some of the gold is encapsulated in these zones. Caliche sample assays ranged from 0.0 to 0.03 ounces gold per rock ton. Pending further examination, the inclusion of gold in these caliche beds appear to be fortuitous and not a predicatable certainty, although there is no doubt rising soulutions did, in fact, capture free gold.

Fire assay of 8 field samples are noted in figure 14. Of these, one was caliche (0804), two were drywasher fine tails (0805,0813), one was drywasher coarse tails (0809), three were miscellaneous rock speciment (0810,0811,0812) and one was head feed to the drywasher (0807). These samples are now being re-checked by spectrographic analysis.

An important field sample was number 0807 from the drywasher head feed (fig. 5,13). This drywasher sample from station 0807 was established in an area

Present [illegible]

claims and was not particularly initiated for a quantitative determination. About 200 lbs. of feed was run at location 0807 and the panned concentrate produced numerous colors. Laboratory tests of this sample resulted in a value of 0.08 ounces gold per rock ton.

? sample on concentrate

Another sample, 0806, was taken from the creek bottom black sands (fig. 5-12). Spectrographic analysis of these sands demonstrated a value of 0.27 ounces gold per ton. Such black sands are occuring naturally in the creek bottom and lend supportive evidence of proximal gold accummulations.

Most significant of the September 23rd sampling and testing was drywasher location 0801 (fig. 5). In this instance, 2000 lbs. of feed was administered the drywasher, which subsequently produced 30 lbs. of concentrate. Conventional panning of the drywasher product produced four gold nuggets and a fine gold-iron concentrate. The nuggets were tested for silver content (4.5%) and weighed. The pure gold was 0.1682 grams (0.0037 ounces/troy). The remaining concentrate was weighed at 48.5 grams and then fired. Calculations indicated a gold concentration in this sample of 5.91 ounces gold per-ton-concentrate (see fig. 9). The ratio of nuggets to fine gold was:

93% fine gold

7% coarse gold or nuggets

Obviously, a great deal of the fine gold was lost in the panning process and in the inherent drywasher inefficiencies. These losses are probably higher than 25%, perhaps as much as 90%. Only additional testing will confirm the actual percentage of loss. Proper beneficiation equipment and processes will illiminate most of such loses in practice.

Visible coarse gold at drywash station number 0801 weighed 0.2664 oz/Au/ton/cons. Together, the fine and coarse gold had a value of 6.1764 oz./

[illegible] feed [illegible] approximately $40.00 per ton or $58.00 per [illegible] very attractive open-pit economic figure.

J. RESERVES

The present claim area encompasses 160 acres or 6,969,600 square feet. Conservatively estimating a 3 foot depth, a reserve block of approximately 775,000 cubic yards is established. We have demonstrated, however, that the breccia zone is more than a 100 feet thick under most ridges (by observation in field). There are no data as yet as to the actual depth of bedrock under stream and run off channels, so the auriferous breccia overburden is probably thicker than 100 feet.

K. [illegible]

Our testing of location 0801 established a value of $58.00 per cubic yard-rock. Other areas such as 0807, indicated $36.00 per cubic yard (0.082 oz/Au/ton/rock @ $445.00/ounce/troy). A small particle of gold could have driven up the value of this sample. However, panning of the sample did show good color.

Sample 0806 was a high $119.00 per/rock/ton (0.27 oz/ton/Au @ $445.00/oz/troy). These high values encountered in sampling this area need to be supplemented by additional supportive data, but they do indicate a very desirable target. Further, if we assume a conservative $10.00 per cubic yard rock value, then reserves would be over 7.5 million dollars gross. Estimated reserves with values, as initially tested, would indicate reserves to be worth approximately 45 million dollars.

GEOLOGY AND GEOPHYSICS

1. Survey the claim boundaries and grid the property as shown in fig. 7 with an interval of 300 feet. Place permanent stakes and identifying metal tags at each location.

2. Auger sample each location [illegible] for fire assay and spectrographic analysis. More [illegible] NAA or XRF testing may be required.

3. Study color air photos for structural and stratigraphic trends. This to be coordinated with surface mapping to produce a detailed geologic and value map.

4. Use a refraction seismograph survey to provide information as to depth to bedrock and its structural configuration (fig. 8).

5. Conduct an electro-magnetic survey as in figure 8 to establish the possible presence of massive metallics covered by overburden.

6. OPTIONAL

   A. Geochemical sampling survey for trace minerals up each creek or erosion channel. Traverse up-creek carefully marking each location. Use plasma-torch analysis for trace elements: Zn, Pb, Au, Ag, Hg, and Cu.

[illegible]

[illegible] and [illegible], both of [illegible] mold traps.

C. Helicopter usage for certain operations [illegible] costs by 25%.

ADMINISTRATIVE

1. Secure legal title to property.
2. Secure additional contiguous claims if possible.
3. Well drilling permits (State of Arizona, Dept. of Water Resources).
4. Plan of Mine operation (U.S.F.S. or B.L.M.
5. Plan of road improvement (U.S.F.S. or B.L.M.

MINING AND ENGINEERING

1. Equipment and Procedures (General Requirements)
   a. Drill water well
   b. Improve 7 miles road
   c. Move on location:
      D-8 catapillar 46A
      8 yard loader
      14 X 36" crusher
      Stackers and feeder belts
      4, Denver, 4 deck jigs
      Electric generator
      Water and fuel tanks
      Temporary Camp Trailers, etc.
      Vehicles

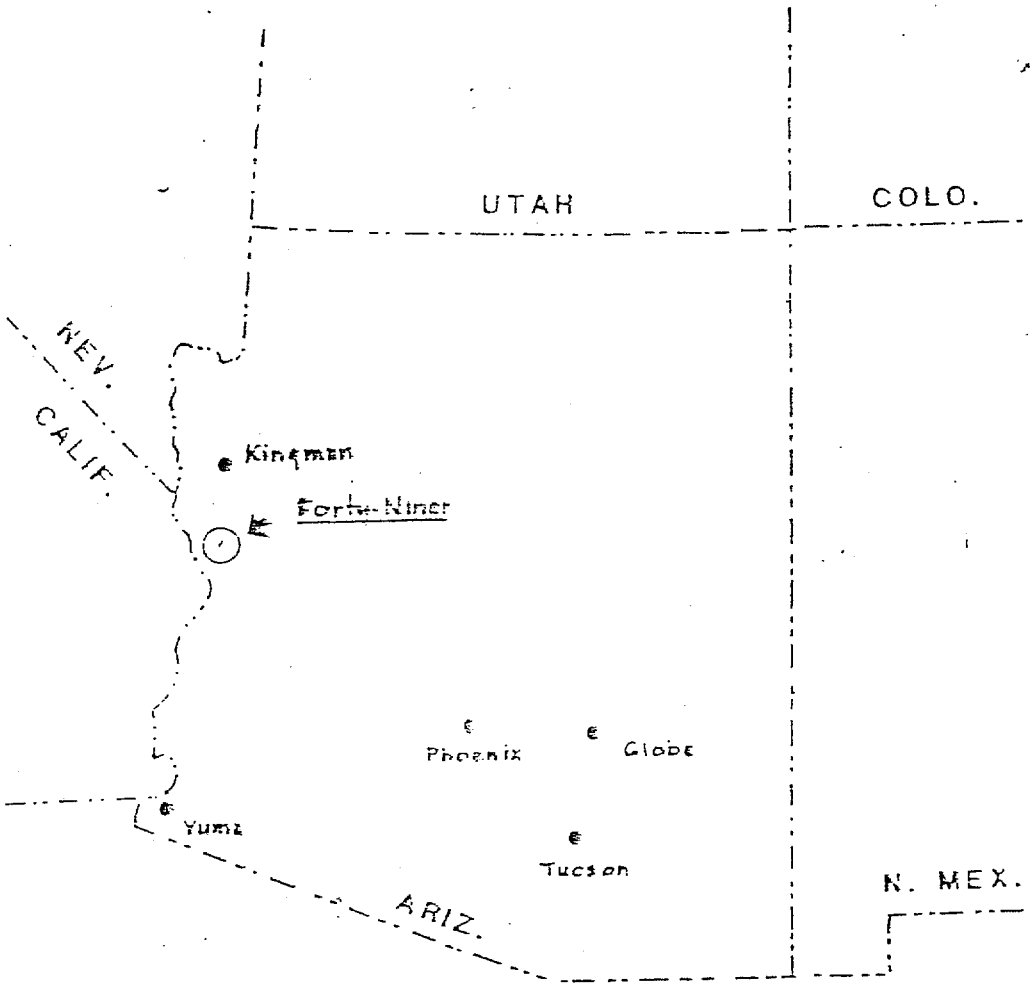
Geology and geophysics will cost about $50,000.00 plus $5,000.00 contingincies, excluding external metallurgy & pilot testing. The exploratory phase of the project will require about 6-8 weeks. Requisites in the field will be 1-2 geologist and 2-3 helpers.

Plant and equipment for the production phase will approach $500,000.00 for the equipment and operations listed.

Respectfully Submitted

Knoxie C. DeLise

Reg. Geol. 2118



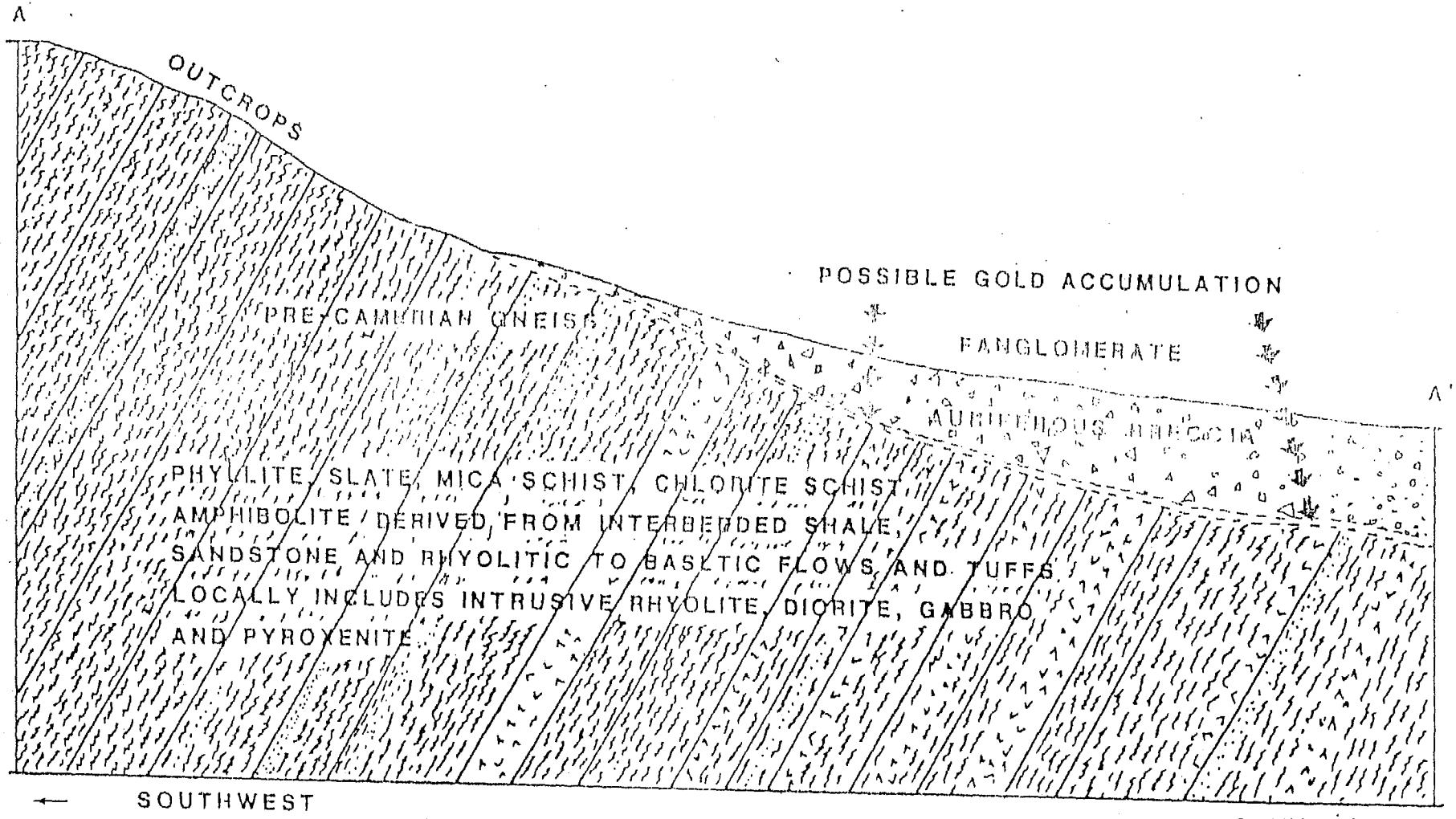
LOCATION MAP ARIZONA

FIG. 1

NOTE:

VERTICAL SECTION

THIS SECTION IS INTERPRETIVE AND MUST BE FIELD CHECKED



HORIZONTAL SCALE 1" = 1/2 MILE

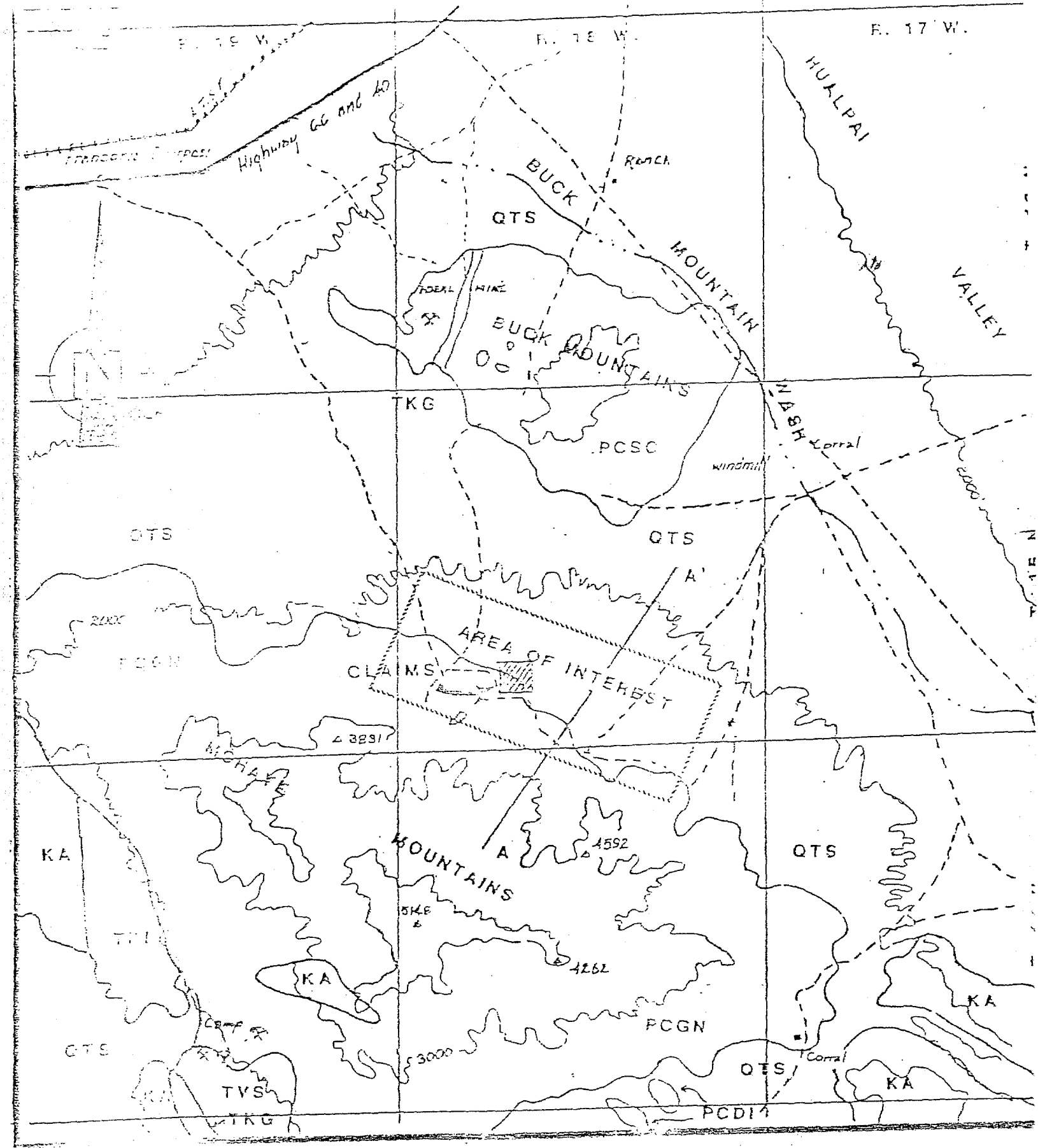
VERTICAL SCALE EXAGGERATED

SUNCHIEF MINES COMPANY

EXPLORATION DEPARTMENT

FIGURE 3

FORTY-NINER PROSPECT MOHAVE COUNTY ARIZONA



SUNCHIEF MINES COMPANY

FORTY-NINER MINE PROSPECT

MOHAVE COUNTY, ARIZONA

PRELIMINARY GEOLOGIC MAP

FIGURE 2

1/2 MILE

KCD 9-81

CROSSMAN PEAK QUADRANGLE
ARIZONA—MOHAVE CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)

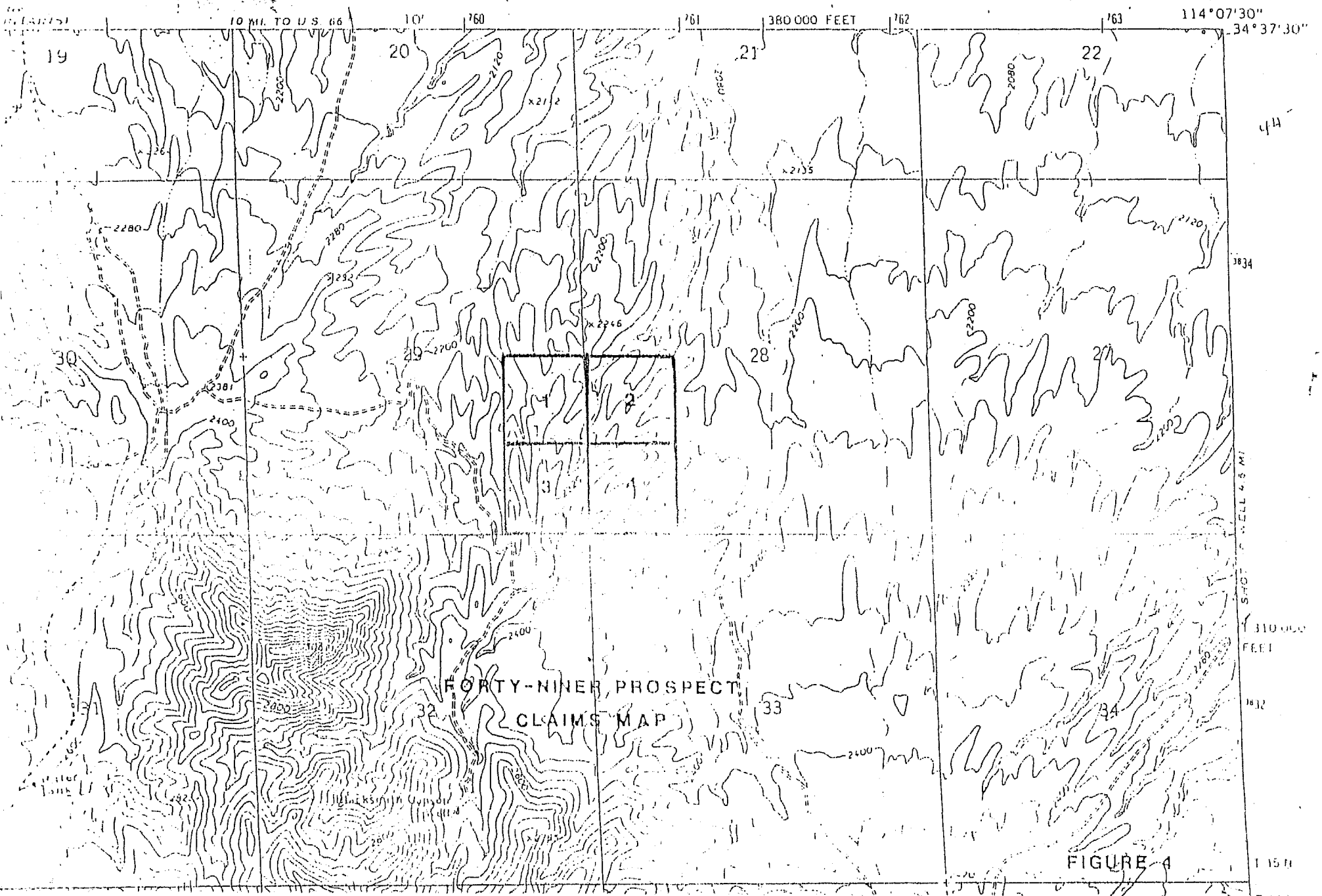
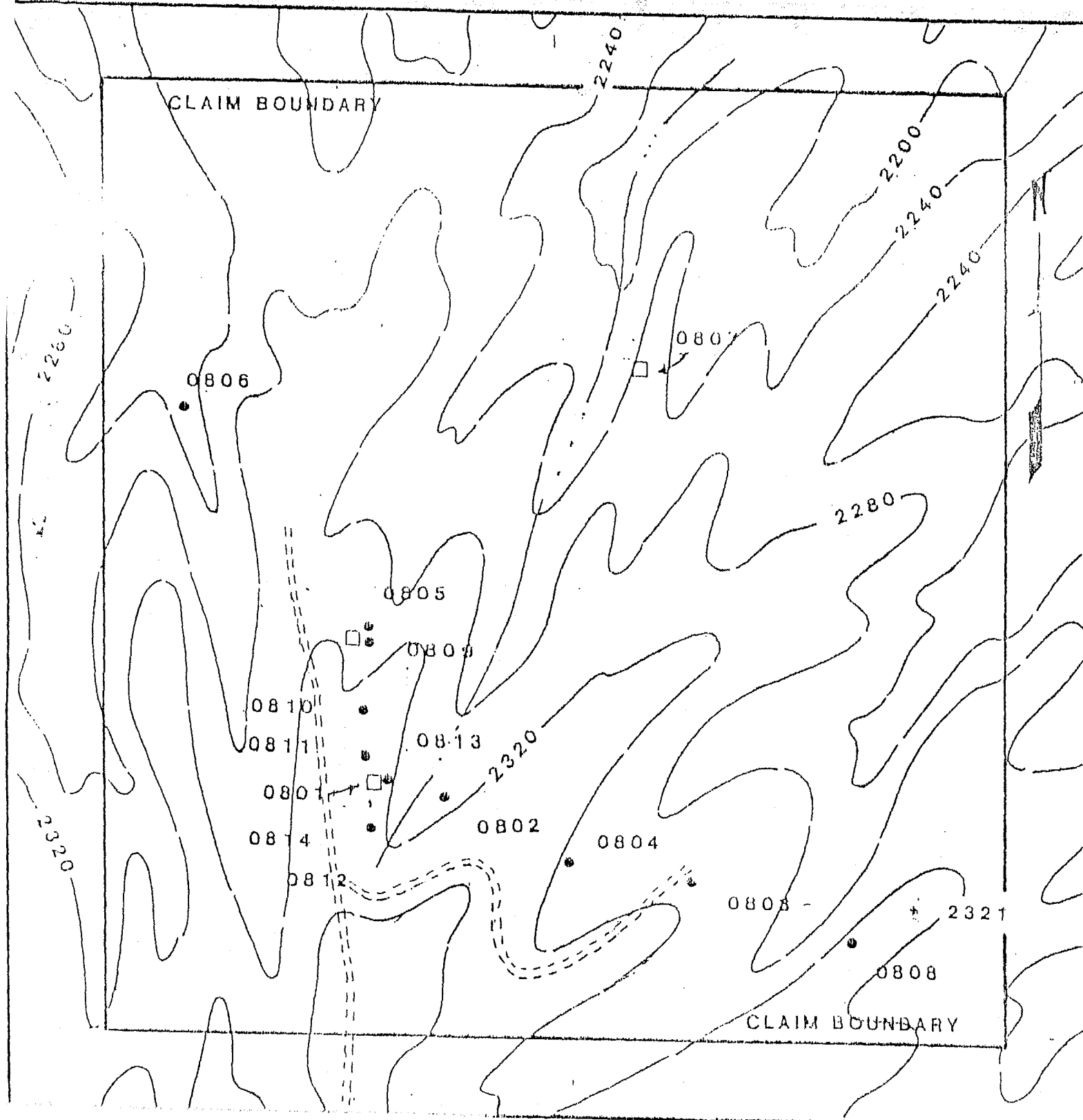


FIGURE 4



SUNCHIEF MINES CO.
EXPLORATION DEPT.

FORTY-NINERS PROSPECT
MOHAVE COUNTY
ARIZONA

SAMPLE LOCATION MAP

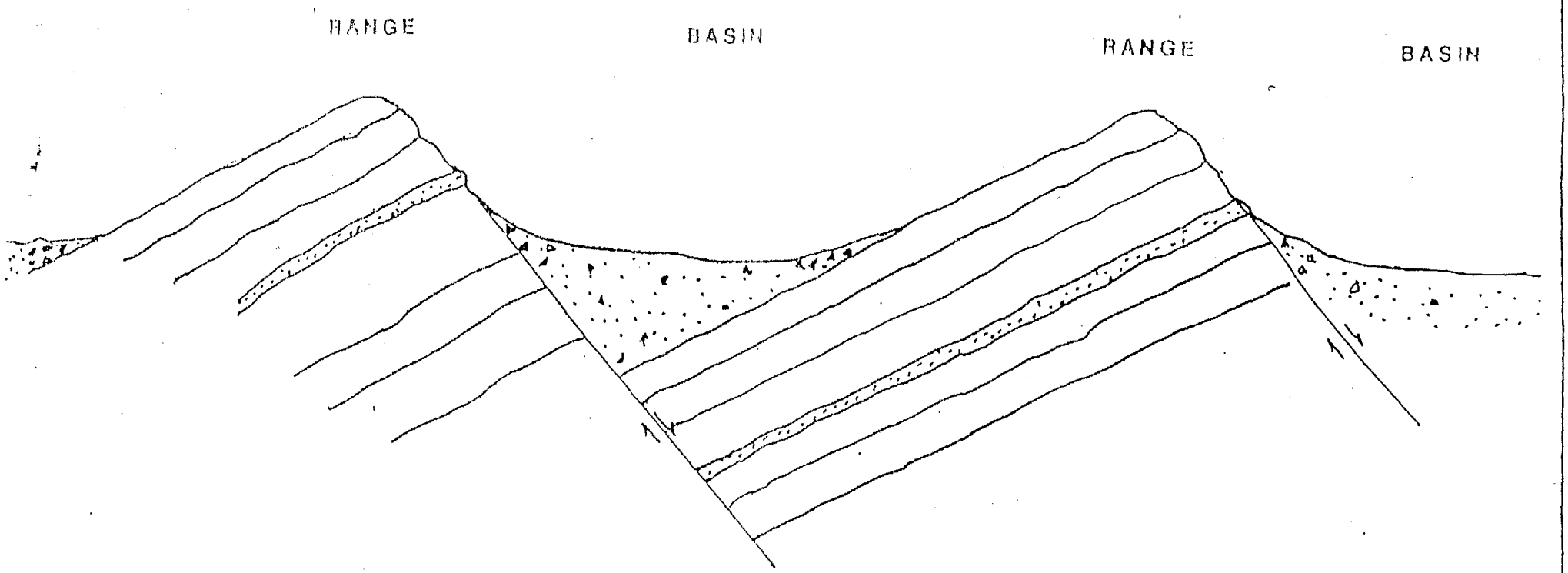
● GRAB SAMPLE

□ DRY WASH SAMPLE

SCALE 1" =384'

FIGURE 5

Typical Basin and Range Configuration

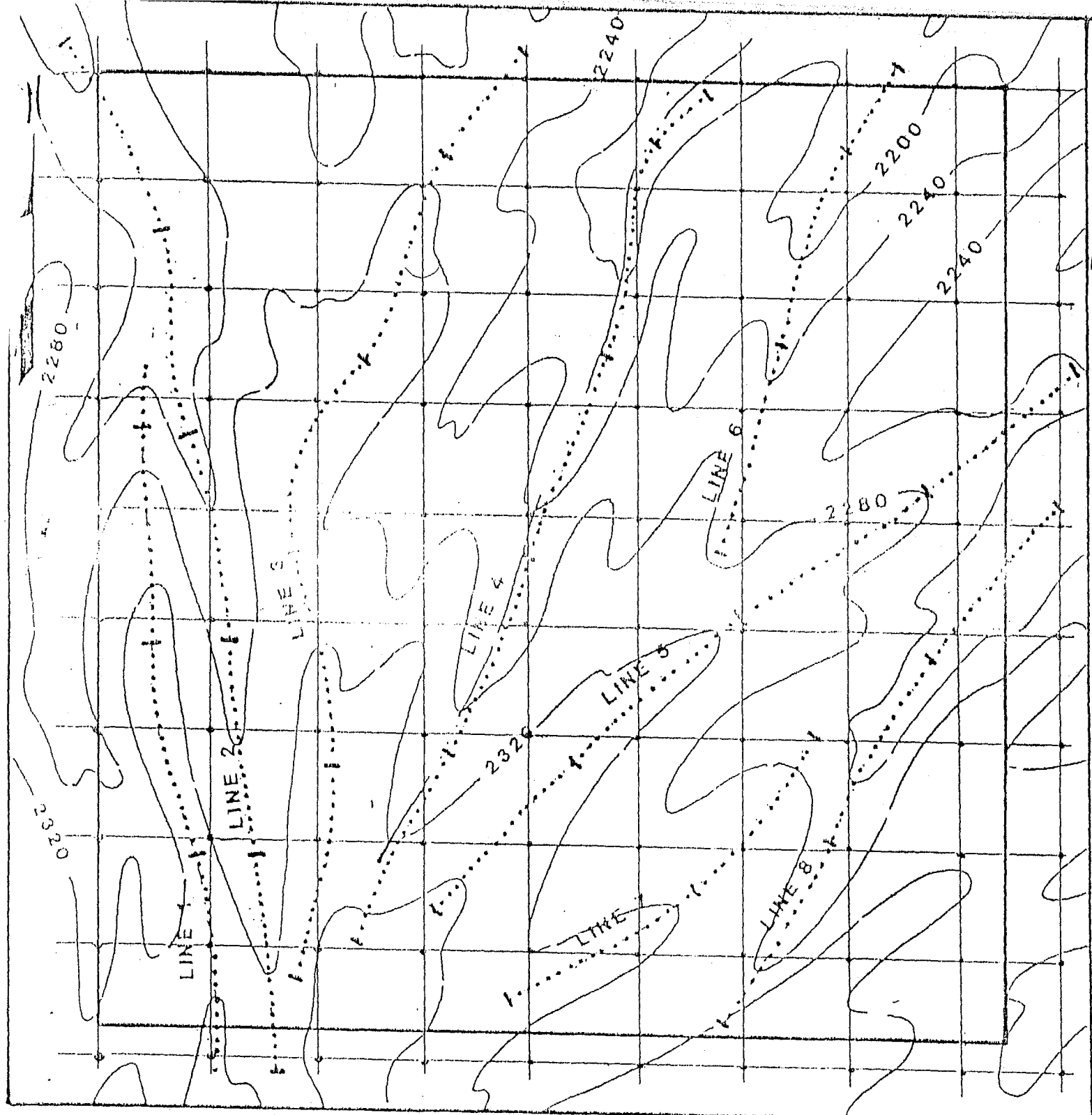


SUNCHIEF MINES CO.

EXPLORATION DEPARTMENT

FIGURE 6

KSO 10-81



SUNCHIEF MINES CO.
EXPLORATION DEPT.

FORTY-NINERS PROSPECT
MOHAVE COUNTY
ARIZONA

SURVEY GRID

Refraction Seismic Lines

600 FOOT SPREADS

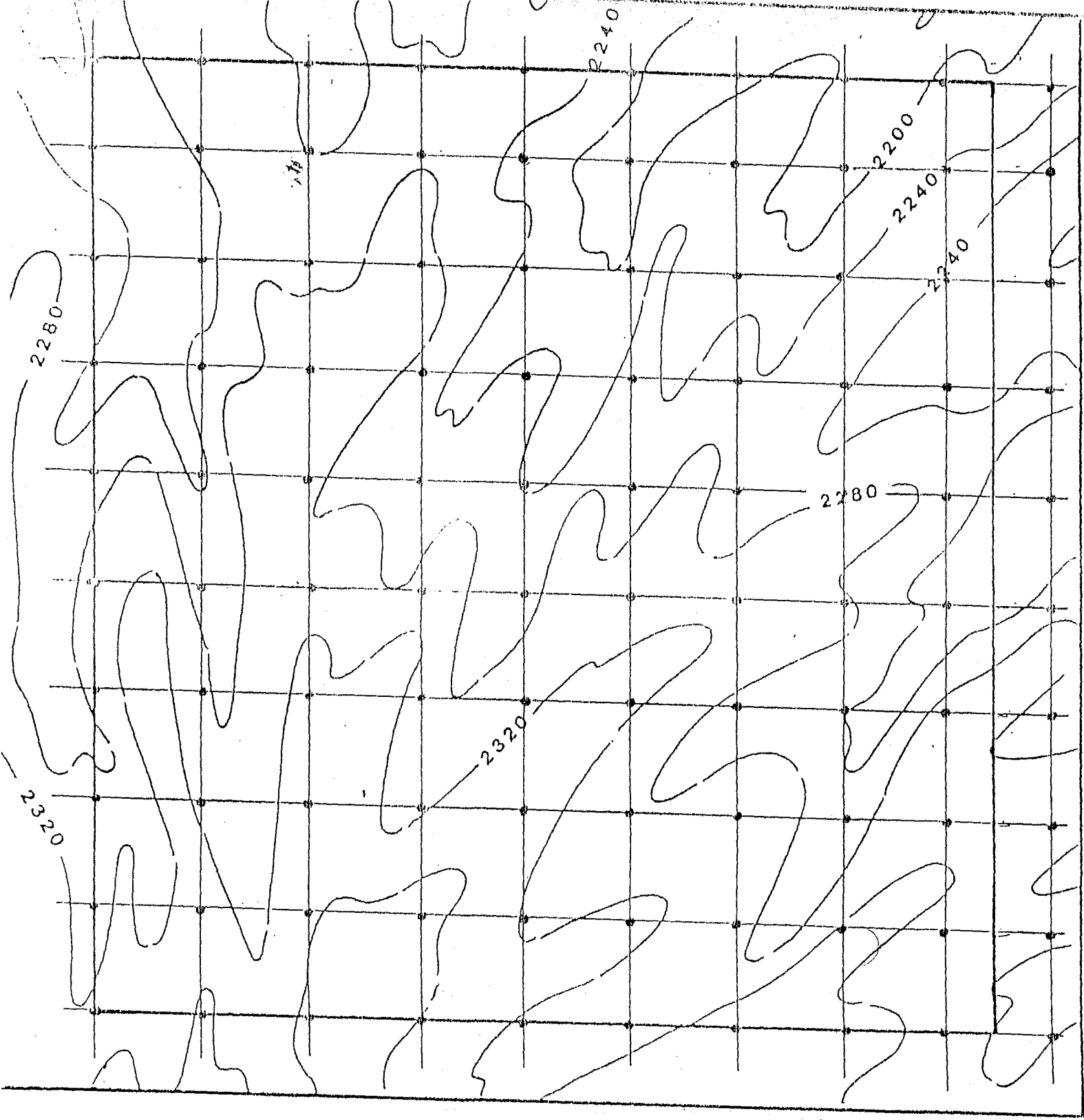
GRID IS 300 FEET

NOTE:
LINES MUST BE TIED

SCALE 1" = 384'

FIGURE 8

RCD 9-81



SUNCHIEF MINES CO.
EXPLORATION DEPT.

FORTY-NINER PROSPECT
MOHAVE COUNTY
ARIZONA

SURVEY GRID

300 FEET SPACING

SCALE 1" = 384'

FIGURE 7

FORM 681

SUNCHIEF MINES
EXPLORATION

P. O. BOX 2819 • GLOBE, AZ. 85501
(602) 425-3156

CERTIFICATE OF ASSAY

SEPT 25 19 81

BREAKER NOS.	MARKS, ETC.	SAMPLE GMS.	Au g					
0801	WEIGHT OF NUGGETS		0.1207					
	FORTY-NINER PROSPECT							

FIGURE 10

E. VANN ASSAYER

FORM 681

SUNCHIEF MINES
EXPLORATION
P. O. Box 2819 • GLOBE, AZ. 85501
(602) 425-3156

CERTIFICATE OF ASSAY

SEPT 25 1981

BREAKER NOS.	MARKS, ETC.	SAMPLE GMS.	TOTAL Au + Ag mg	Au				
0801	FINE CONS	48.5	9.9					
	FORTY-NINER PROSPECT							
	LESS 4.5% Ag			9.4545				
	48.5 g = 1.6 A.T.							
	1.6 A.T OF 9.4545 =			5.91	OZ/TON			

E. VANN ASSAYER

FIGURE 9

FORM 681

CERTIFICATE OF ASSAY

SUNCHIEF MINES
EXPLORATION
P. O. Box 2819 • Globe, AZ. 85501
(602) 425-3156

SEPT 24 1981

BREAKER NOS.	MARKS, ETC.	SAMPLE GMS.	Ag g	Au g				
0801	WEIGHT OF SINGLE NUGGET	0.0554	0.0025	0.0529				
	FORTY-NINER PROSPECT							
	RATIO OF Ag to Au = 4.5%							

FIGURE 11

E. L. VAUN
ASSAYER

EL	NM	INTENSITY	CONC
AU	267.60	263	52
AU	267.60	321	60
AU	267.60	216	45
AU	267.60	265	52
AU	267.60	262	51
AU	267.60	273	53
AU	[illegible]	312	59
AU	[illegible]	246	49
AU	[illegible]	342	63
AU	[illegible]	275	53

0806

PL [illegible] 85245-02 25 SEP 81

SAMPLE	OPERATOR	TIME	NAME
	0001	23:12:27	CU AU

EL	NM	MEAN	SD	RSD	EL	NM	MEAN	SD	RSD
AU	[illegible]	53	5.4	10.18					

$a_u = 0.2688 \, oz/ton$

PLASMA [illegible] 85245-02 25 SEP 81

SAMPLE	OPERATOR	TIME	NAME
17	0001	23:12:30	CU AU

EL	NM	MEAN	SD	RSD	EL	NM	MEAN	SD	RSD
AU	[illegible]	56	4.9	8.79					

EL	NM	INTENSITY	CONC
AU	[illegible]	-59	6
AU	[illegible]	-97	0
AU	267.60	-91	1
AU	[illegible]	-111	-1
AU	267.60	-124	-3
AU	[illegible]	-93	1
AU	[illegible]	-151	-7
AU	[illegible]	-93	1
AU	267.60	-30	10
AU	[illegible]	-126	-3

PLASMA [illegible] 85245-02 25 SEP 81

		TIME	NAME
	0001	23:1[illegible]:30	CU AU

FIG 12

AU 267.60	[illegible]	16
AU 267.60	[illegible]	17
AU 267.60	[illegible]	12
AU 267.60	[illegible]	8
AU 267.60	20	17
AU 267.60	36	19
AU 267.60	34	19
AU 267.60	21	17
AU 267.60	41	20

0807

PLASMA 100 85245-02 [illegible] SEP 81

SAMPLE	OPERATOR	TIME	NAME
19	0001	[illegible]	CU AU

EL	NM	MEAN	SD	RSD	EL	NM	MEAN	SD	RSD
AU 267.60	15	[illegible]	[illegible]	24.66					

Au = 0.0816 oz/ton

PLASMA 100 85245-02 25 SEP 81

SAMPLE	OPERATOR	TIME	NAME
19	0001	[illegible]	CU AU

EL	NM	[illegible]	[illegible]	RSD	EL	NM	MEAN	SD	RSD
AU 267.60	[illegible]	[illegible]	[illegible]	[illegible]					

EL	NM	INTENS	CONC
AU 267.60		[illegible]	1
AU 267.60		[illegible]	5
AU 267.60		.81	2
AU 267.60		.80	9
AU 267.60		.49	7
AU 267.60		[illegible]	5
AU 267.60		[illegible]	11
AU 267.60		[illegible]	8
AU 267.60		.94	1
AU 267.60		[illegible]	16

PLASMA 100 85245-02 [illegible] SEP 81

SAMPLE	OPERATOR	TIME	NAME
20	0001	[illegible]	CU AU

EL	NM	MEAN	SD	RSD	EL	MEAN	SD	RSD
AU 267.60	6	[illegible]	[illegible]	80.00				

FIG. 13

EL	NM	MEAN	CONC

NUGGETS FOUND IN DRYWASHER TEST

1. Gold — 0.0529g

   0.0529g (0.03215) = 0.0017 oz/troy

2. Gold & Silver — 0.1207g

   0.1207 Minus 4.5% Ag = 0.1153g/Au

   0.1153g/Au (0.03215) = 0.0037 oz/Au

3. 0.0017 + 0.0037 oz = 0.004 oz/30 lbs. cons.

   0.004oz/Au/30 lbs. (66.6) = 0.2664 oz/Au/T/cons.

4. Fines — Au + Ag = 9.9 mg

   9.9 mg Minus 4.5% Ag

   9.9 mg - 0.4455 Ag = 9.4545 mg Au

5. Cons Weight 48.5 gms. — 48.5 ÷ 29.166 (1 A.T.) + 1.6 A.T.

   9.4545 ÷ 1.6 A.T. = 5.91 oz/ton/Au/cons

6. $\frac{2000 \text{ lbs (1 ton)}}{30 \text{ lbs (cons)}}$ = 66.6 = Concentration Ratio

7. 5.91 oz + 0.2664 oz/ton = 6.1764 oz/ton/Au

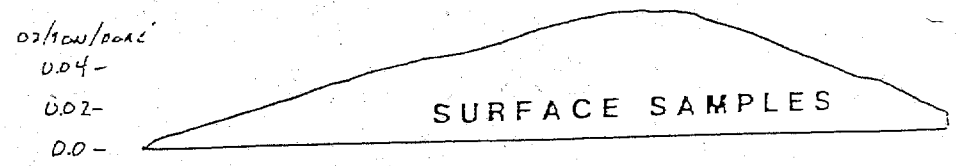
8. 6.1764 oz @ $440.00 = $440.00 = $2,718.00

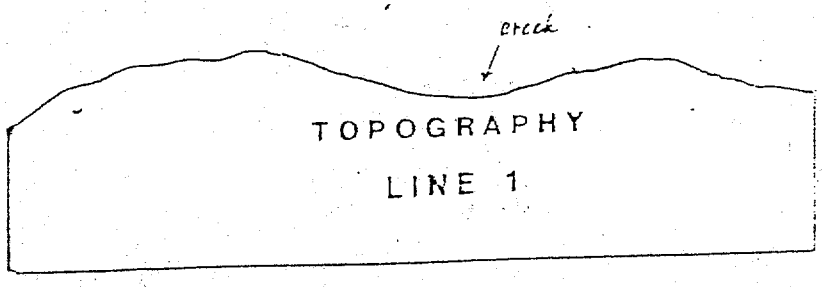
9. $\frac{2718.00}{66.6}$ = $40.81 per ton heads

10. $40.81 X 1.4 = $57.76 per cubic yard heads

(FIGURE 14)

LINE 1



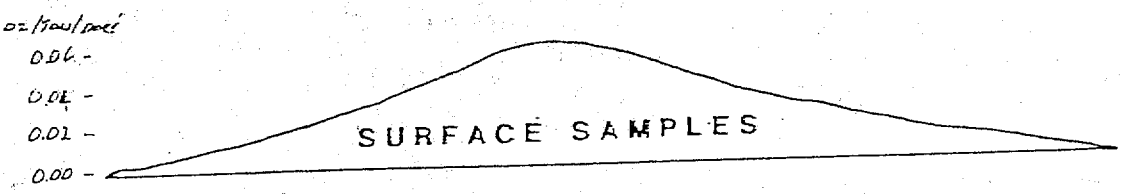


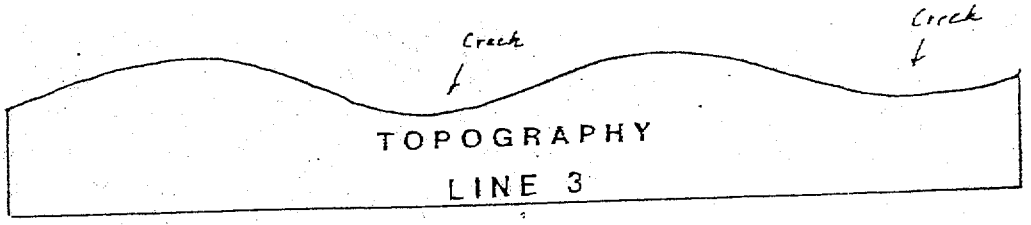
Note: Higher values respond to low topography

SUBSURFACE SAMPLES

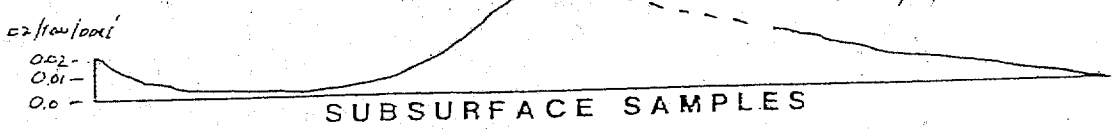
2 ft below surface

LINE 3





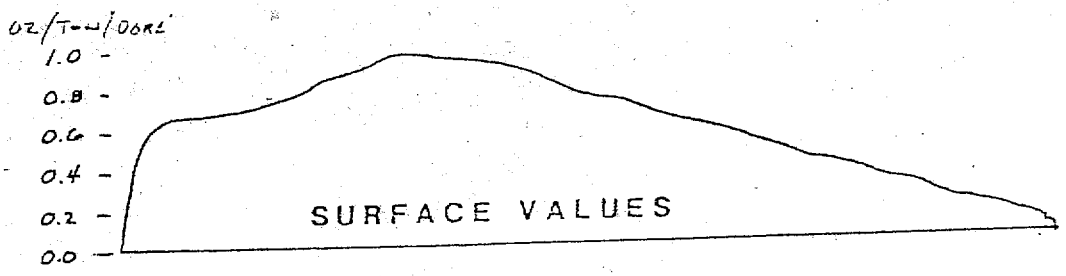
Note: Higher values respond to low topography

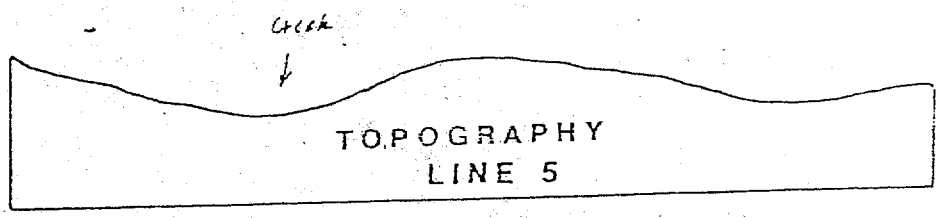


SUBSURFACE SAMPLES

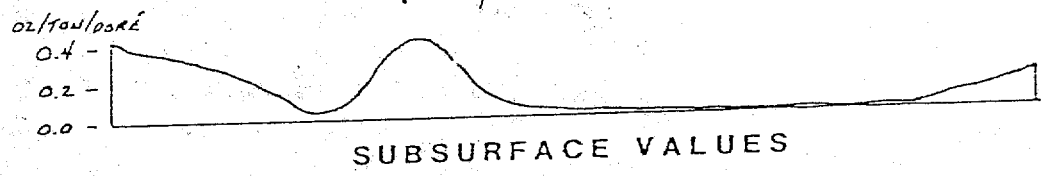
2 ft below surface

LINE 5

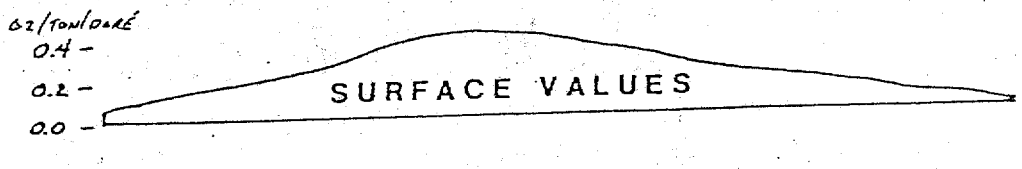


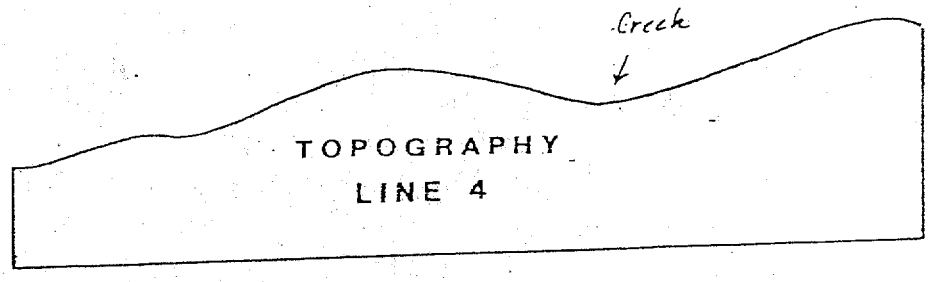
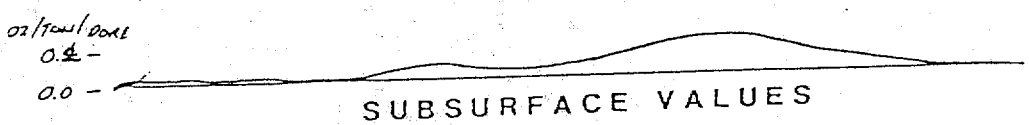


Higher values on creek bottom



LINE 4





Creek shows higher values