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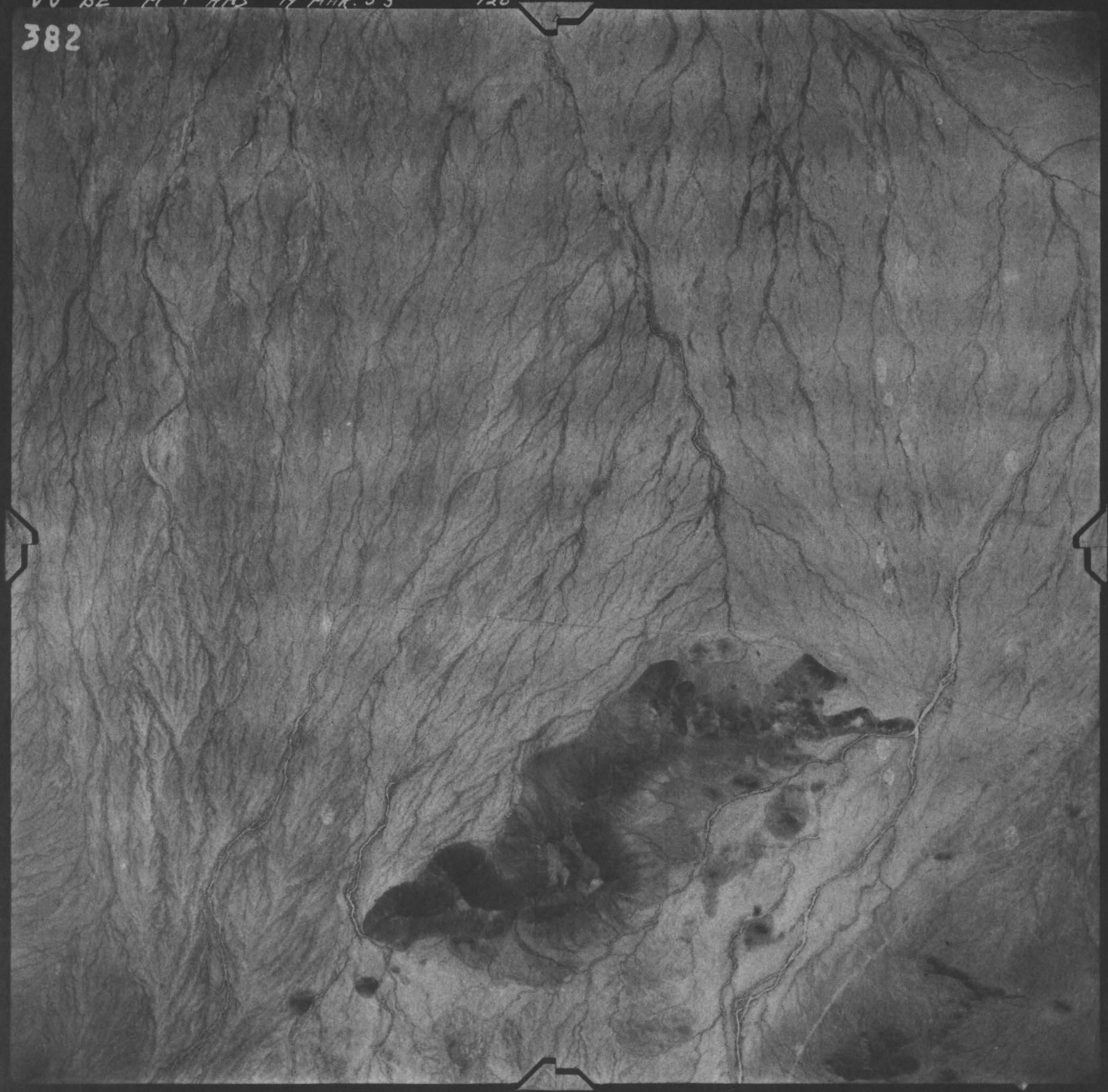
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382
VV BE M 4 AMS 19 MAR. 53 120

March 1, 1976

Mr. J. David Lowell
5115 N. Oracle Road
Tucson, Arizona

Subject: Gunsight Project,
Pima County, Arizona.
Job No. 0115.

Dear Sir:

The following is based on observations made 7/18 and 8/20, 1974, coupled with a review of previous work done at your request by W. C. Jones and T. L. Heidrick. I have also drawn on unpublished reconnaissance maps by L. A. Heindl, made during his U. S. G. S. Papago study. Bill Jones' thesis (M.S., U. A. 1974) is now available for the Big Ajo Range south of the Gunsight area. A verbal report and sketch map of my findings were given to L. C. Arnold in September, 1974.

Two maps are attached, one showing synthesized geology and the other geochemical samples and results.

CONCLUSIONS AND RECOMMENDATIONS

The area around the old Gunsight workings (Surprise Mine) is composed of a granitic stock of probable, but not certain, Laramide or Mesozoic age, flanked on the south by older pre-Cambrian (?) granite and gneiss. These rocks are overlain in all directions by post-mineral Tertiary volcanics ar alluvium.

The numerous prospect holes of the district were sunk on narrow quartz stringers--mostly of pegmatitic or deuteric origin--presumably in search of another Gunsight-type quartz-silver vein. Geochemical results are "flat" over this general area, and no exploration targets are apparent.

On the western edge of pre-mineral outcrop, however, a narrow zone of generally weak, spotty pyritic mineralization was found, and traced to its disappearance beneath a long volcanic ridge on the west edge of outcrop. The altered and mineralized outcrops are both of small quartz monzonite porphyry bodies, and of Laramide (?) granitic rocks, and appear to represent the SW edge of a possibly more extensive mineralized zone to the west beneath cover rocks. The mineralized zone is not geochemically

anomalous--which is a somewhat detracting feature; however, Mo is anomalous in nearby post-mineral hematite-rhyolite breccia, and is interpreted to result from adsorption of Mo by hematite, from groundwater draining a mineralized area which is not now exposed.

Depth to the base of volcanics will be less than 1,000 feet. The projection of this mineralized zone--which is of a porphyry copper character--appears worthy of about three initial drill holes, to determine the lateral extent and character of alteration/mineralization.

The land is open to federal mining location. During my field check in 1974 I found no indication of recent activity on the small group of "LC" claims in parts of sections 12 and 13 north of proposed drill hole "A".

I would suggest that two gravity lines be run west of the outcrop area, into the adjoining alluvial slope, to more precisely locate an inferred fault which might drop bedrock to greater a depth on its west side. The gravity work could be done when claims are staked on the prospective area.

PRE-MINERAL ROCKS

Descriptions of the composition and textural varieties of the granitic rocks have been given by Jones and Heidrick. Ages may be established by inference, since the Gunsight granitic rocks may be compared (although poorly) megascopically to those at Ajo, and Growler Pass 12 miles south of Ajo, at which localities age relationships are inferred (by Gilluly and my own work) with reasonable certainty. The Cornelia quartz monzonite (granitic facies) at Ajo gives a Laramide K-A date.

Krueger Enterprises has furnished a date of 26 m.y. on a diorite body (stippled on the attached geologic map), which Heidrick believes to be a "re-set" date reflecting mid-Tertiary volcanics. Jones, in his M.S. thesis, reports a date of 39 m.y. on the granite beneath the Childs Latite, near Kuakach Pass; my reconnaissance suggests a probable pre-Cambrian correlation for the granite in that area, and I agree with Heidrick that these ages must reflect loss of argon, and are therefore in error.

The pre-Cambrian (?) granites and gneissic granites are texturally similar, but not identical, to the Oracle granite type. They appear to be related to, or gradational with, a chlorite gneiss which resembles the Cardigan Gneiss at Ajo. These rocks are most probably pre-Cambrian, although they might be early or

middle Mesozoic.

The Laramide (?) stock, which intrudes the pre-Cambrian (?) terrain, is medium-to fine-grained, with aplitic facies, and does not really have the diagnostic textures of biotite and of equigranular quartz-feldspar exhibited by more "typical" Laramide granitic stocks--such as those at Ajo, Sierrita, Sacaton, and many other places. Although this intrusive could be Mesozoic, no evidence for this is present, and a Laramide age is here provisionally given.

The small bodies of quartz monzonite porphyry display the textural features of typical "porphyry copper porphyries," and I consider them to be Laramide.

Poor exposures of a deeply weathered andesite--possibly a flow--crop out east of the Gunsight mine. They locally show weak mineralization, and may correlate with the Concentrator volcanics at Ajo, which are of probable late Cretaceous or early Tertiary age.

POST-MINERAL ROCKS

A post-mineral volcanic sequence, correlative to part of the section at Ajo, is present in the Gunsight area and Big Ajo range to the south.

Flat-lying basalts form the cap of the elongate ridge on the west edge of outcrop, and basalt talus mantles most of the slope of this ridge. The basalt lies on an erosional surface which apparently slopes somewhat northerly, and has here removed most of a section of acid tuffs and ignimbrites which, farther south, are more than 1,500 feet thick. Beneath a few remnants of these tuffs, and generally lying directly beneath the basalts, are a series of thin andesitic--or basaltic--appearing flows with conspicuous large plagioclase phenocrysts. This very unique unit is correlative with Gilluly's Childs Latite at Ajo. Petrographic and chemical studies (Jones) indicate an unusually high content of K_2O (contained in orthoclase), similar to the latite at Ajo, and similar also to Cooper's "Turkey Track Porphyry" in eastern Pima County.

Jones, in his M.S. thesis, has suggested a very great thickness for the Childs Latite. Based on my brief reconnaissance and on work near Copper Mountain to the south, I believe the maximum true thickness to be 1,200-1,500 feet, and that the measurements by Jones are inflated due to fault repetition. In the prospective area west of the Gunsight mine, erosion prior to

the acid tuffs had reduced this thickness, and pre-basalt erosion has thinned it still more. I would estimate that only a few hundred feet of Childs Latite are present in the proposed drilling area; the thickness there must certainly be less than 1,000 feet.

A few small outcrops of rhyolite breccia, locally flooded with hematite, are present in the northern part of the Gunsight area. The apparent freshness of the rhyolite suggests a post-mineral age. The hematite, of uncertain origin, is not derived from sulfides.

GUNSIGHT MINE AND OTHER PROSPECTS

The old Gunsight mine (shown as the Surprise mine on the U. S. G. S. topographic quadrangle) is on the north slope of a hill of Laramide (?) granite, shown in the central part of the attached geologic map. It is reported (Jones) to contain copper, lead, silver, gold, and tungsten (as scheelite). The main workings are on a narrow quartz vein, which strikes northeast, and dips steeply. No copper staining was noted, and the vein evidently contains principally silver in the quartz, with perhaps minor gold, lead, and tungsten. Elsing (1936) records production of $100,000 in Ag, prior to 1900--presumably as bullion from the old mill. This production came from a 3-ft. stope open to the surface, about 100 feet long, above the abandoned mill site. I estimate that possibly as much as 1,000 tons were extracted.

Rather abundant transported limonite along joints, largely the result of decomposition of mafic minerals in the granite, is present along the roads leading to the mill site.

In the hills near the old workings numerous prospect pits were dug on narrow quartz veinlets, but none which I saw were as large as the Gunsight vein, and none were productive. Elsewhere in the district, many prospect pits have been sunk on small quartz stringers, most of which appear to be the result of deuteric and metamorphic processes, rather than of hydrothermal activity. Many of these veins and stringers are associated with hematite and specularite films, but there is little or no evidence of leached sulfides. Chrysocolla is sparsely present in only a few of these prospect holes.

GEOCHEMISTRY

Jones collected an extensive group of rock samples throughout the district. I collected a more restricted series of samples in the northwest portion of the area, in the vicinity of the weakly altered zone outlined on the geologic map. The attached geochemical map shows the results of all samples in the district. Jones' samples were analyzed by the Rocky Mountain Geochemical Corp.; those of mine by Skyline Laboratories, with a cross check on 11 samples by Rocky Mountain. All samples from both collections were run for copper, by A.A., and for molybdenum by colorimetric methods.

The correlation between Skyline and Rocky Mountain copper analyses is reasonably good for the low range of values encountered. However, differences in the lower detection limits of Mo, as determined by the respective laboratories, causes difficulty in establishing a threshold value for an anomalous Mo concentration. If analytical techniques were always precise, any measurable Mo, determined by colorimetry, would be anomalous. When Skyline adheres to the standards of tolerance established by its former management in Tucson (Hawley and Hawley until 1973), the Mo detection limit is precise at 2 ppm--and a value of 2 or more definitely signals an anomalous Mo concentration. Rocky Mountain reports the low ranges by increments of 1 ppm, beginning with a detection limit of 1 ppm. Although theoretically more sensitive than the 2 ppm detection limit at Skyline, I have found that unmineralized samples which will repeatedly be reported as (-)2 ppm by Skyline (or Hawley and Hawley), may be returned at any value from (-)1 to 4 ppm by Rocky Mountain.

By comparing results of Gunsight samples from both laboratories with the presumably, or apparently, unmineralized and unaltered rocks from which the analyses resulted, I have concluded that 3 ppm Mo should be used as a threshold minimum, in order to utilize the Rocky Mountain data. A 60 ppm Cu threshold has been utilized for this study, based on my previous experience in similar granitic and volcanic rocks in Arizona. The Gunsight samples, by themselves, seem to fit naturally into this regional threshold. Jones, in his 1971 report, chose 4 ppm Mo and 80 ppm Cu as threshold minimums, based on histogram plots of his data. No material change in interpretation results by using the slightly lower cut-off points which I have selected.

The Gunsight area is monotonously non-anomalous in either Cu or Mo. Surprisingly, the weakly altered zone in section 18 is totally within a low background range. I have interpreted the anomalous Mo near the Indian Reservation line in section 12 to be a "transported" anomaly, as will be later discussed.

PORPHYRY COPPER TARGET

The minor mineralization in the larger areas of exposed granitic rocks does not offer an exploration target. However, a poorly exposed area on the west margin of pre-mineral outcrop displays weak alteration with limonite derived from disseminated pyrite, associated with small bodies of quartz monzonite porphyry. The limits of this zone are poorly defined, but appear to be about one-half mile wide, and possibly three-fourths of a mile long. This zone, which is depicted to trend W-NW on the attached maps, passes beneath alluvium and post-mineral volcanics on its westerly end.

The weak clay, sericite, and chloritic alteration may be characterized as "spotty," but of pervasive aspect. Sulfides occur principally as small disseminated grains, and are wholly pyrite, as interpreted from the limonite exposed at the surface. Thin seams of transported limonite locally are present, apparently derived from pyrite films on fractures. I estimate sulfide content to be 1 to 2 per cent. The alteration should be classed as propylitic. The most northwestern exposure (Note No. 1: geologic map) is more strongly altered, with limonite indicative of 2-4 per cent former pyrite.

None of the geochemical samples from the altered rock was anomalous in Cu or Mo--a disquieting feature. I do not believe, however, that this fact negates the prospect as a legitimate porphyry copper.

The post-mineral (?) rhyolite breccia, near the east line of section 12, which contains up to 10 per cent hematite (of uncertain origin), is strongly anomalous in Mo. I suggest the following interpretation, which enhances the prospective merit of the proposed target. The rhyolite-hematite breccia is not everywhere high in Mo, as established by samples from the same type of breccia in section 8, west of Schuchuli village. According to investigations by Titley and by one of his graduate students, Mel See, surface or groundwater systems which drain an oxidizing sulfide system that includes both pyrite and molybdenite, will produce a gradually decaying Mo anomally by complex, slow precipitation from moderately acid waters. The Mo intensity decays downslope along the drainage gradient. Precipitation of Mo, however, is sharply enhanced by adsorption on the ferric ion in hematite. The hematite-rhyolite breccia at Gunsight, which may be post-or inter-mineral in age, may have acquired its anomalous Mo content from surface runoff or shallow groundwater, draining a porphyry copper system prior to extrusion of the Childs Latite. By this reasoning we have, in effect, measured a "fossil" groundwater anomaly.

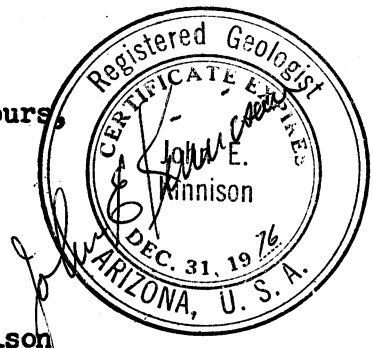
The trend of this zone--which may represent the east margin of a more extensive zone of porphyry copper type mineralization--might in fact extend more northwesterly than shown, or even southeasterly. Should the zone trend southeasterly, it would enter the Organ Pipe Cactus National Monument where, for practical purposes, exploration is prohibited. If the trend is westerly or northwesterly, as seems more probable, it will enter open (unclaimed) federal land.

At some point to the west of the elongate basalt ridge, a NW-striking fault is inferred, and may be expected to drop the pre-mineral rocks 300 to 500 feet on its west side. The projection of this fault, however, is not precise; it could pass farther to the west of the basalt ridge than I have shown.

This fault, and subsequent erosion prior to deposition of the valley fill which overlies it, will no doubt increase the depth to the mineralized zone should it extend across the fault. Therefore, gravity reconnaissance lines are suggested to aid definition of bedrock depth in that area.

I have plotted three preliminary drill hole locations (geologic map), to evaluate lateral alteration changes, and the extent of the zone of alteration, beneath cover rocks and alluvium. Drilling depth required to reach pre-mineral bedrock may be quite shallow--say, less than 300 feet. Even allowing for unknown fault complications, this depth should not exceed 1,000 feet. In the event that pre-mineral rock at site A is very poorly altered, or fresh, the site designated "B alt." should be drilled next, to determine if the trend of alteration swings more northerly than predicted.

Very Truly Yours,



John E. Kinnison
5450 N. Bowes Road
Tucson, Arizona 85715

CAP AREA 8-47

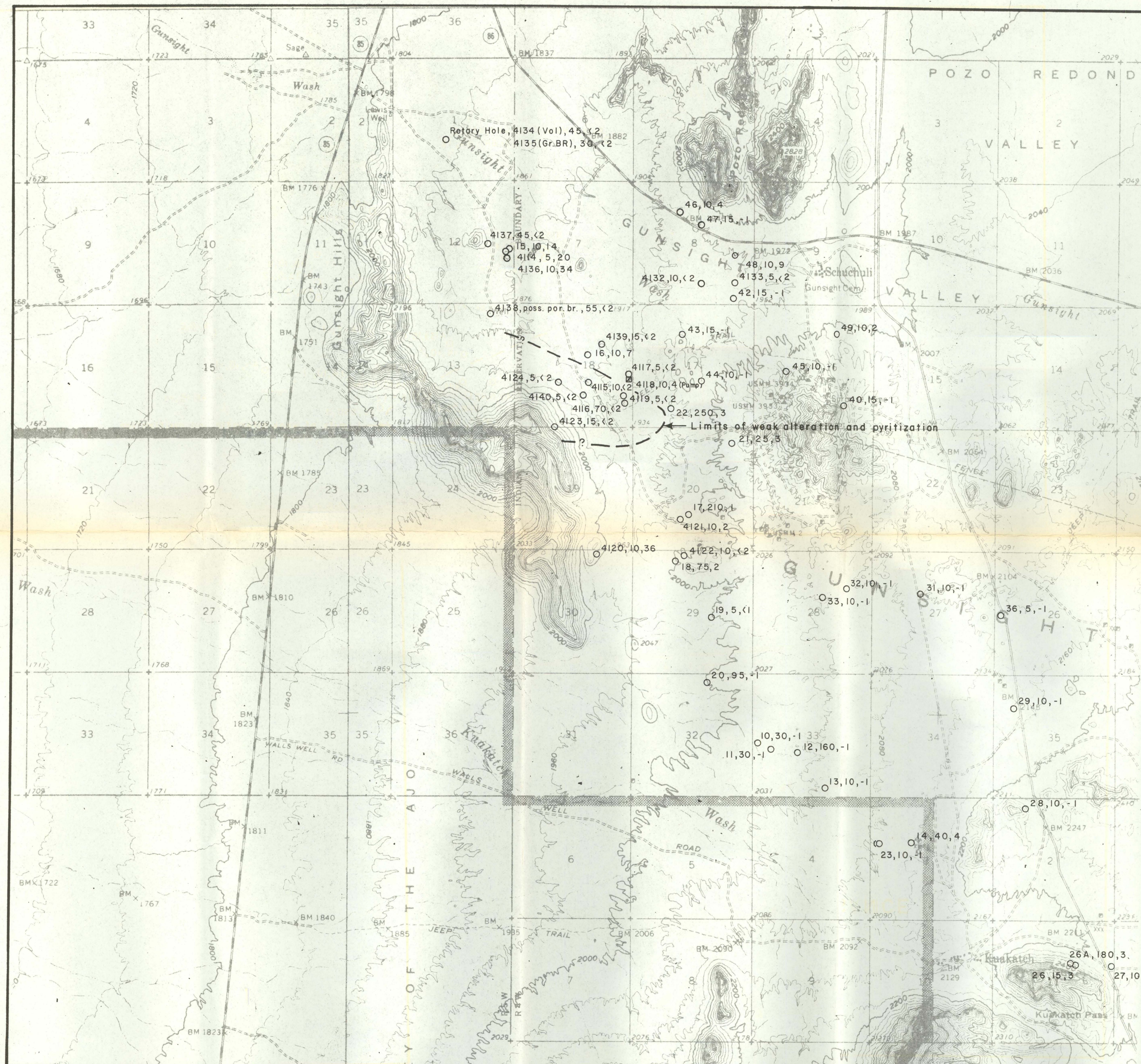
Gunsight, Pima County, AZ

GEOCHEMICAL RECONNAISSANCE

Sources: W. C. Jones Samples (J.D.L. files)
J. E. K. Samples, Aug. 1974

Note: All Mo by Colorimetric analysis
Cu by A.A.

Compiled by: John E. Kinnison
Consulting Geologist
Jan. 1976



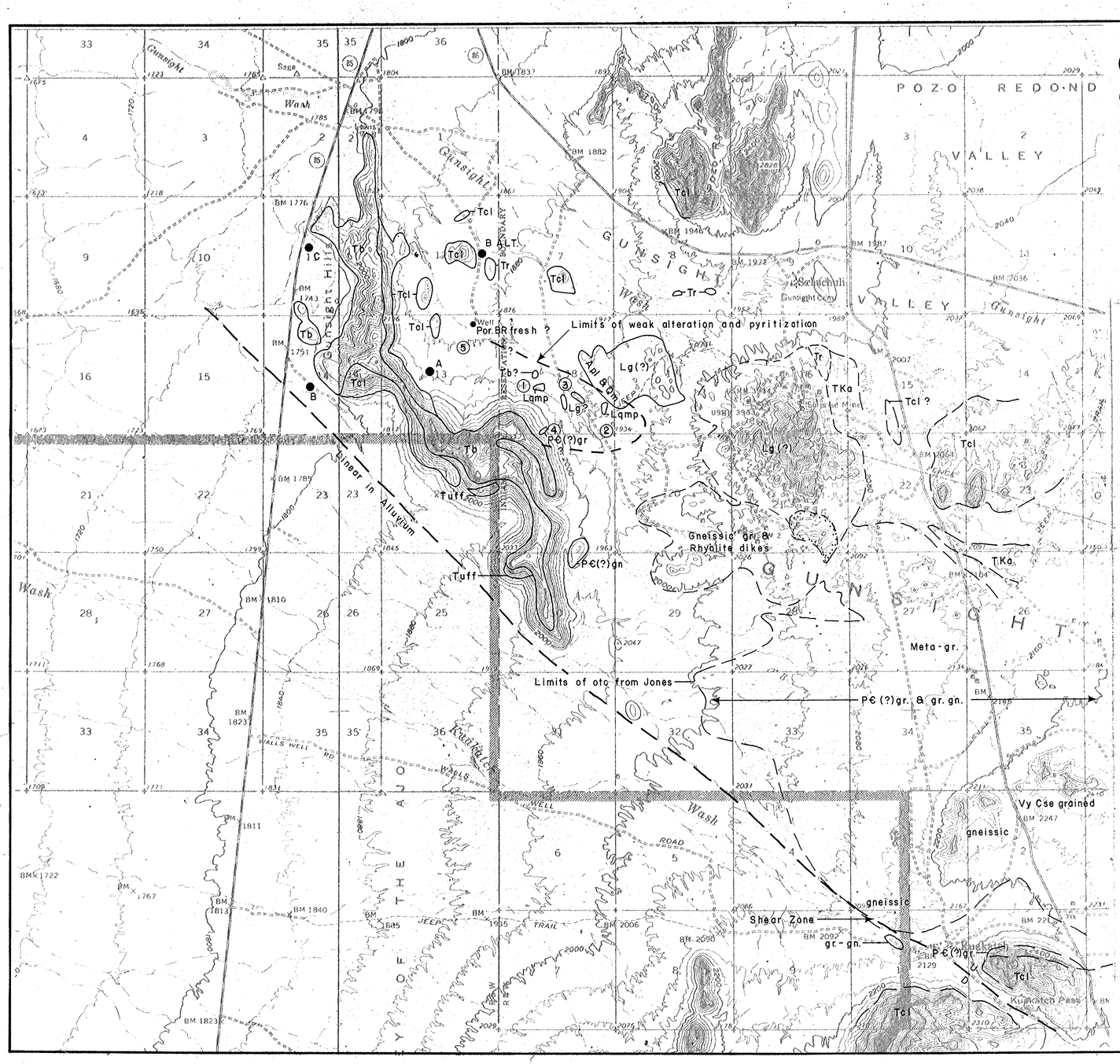
EXPLANATION

- $^{4137, 45, <2}$ Sample No., Cu ppm, Mo ppm
- > 100 ppm Cu and/or > 6 ppm Mo
- 60-100 ppm Cu and/or 4-6 ppm Mo
- < 60 ppm Cu and < 3 ppm Mo

4000 Series samples, J.E.K.
1-200 " " , W.C.J.

0 1 2
Miles
2" = 1 Mile

N



CAP AREA 8-47

Gunsight, Pima County, AZ

RECONNAISSANCE GEOLOGY

Sources: JEK Reconn., Aug. 1974
L.A. Heindl, unpub. field reconn. maps (JEK files)
W.C. Jones, " " " " (JDL files)

Compiled by: John E. Kinnison
Consulting Geologist
Jan. 1976

EXPLANATION

- Alluvium.
- **Middle Tertiary**
  - Tb — Upper Basalt: flat-lying, black basalt and andesite flows.
  - Erosional unconformity.
  - Tuff — Tuffs and agglomerates: erosional remnants of thicker tuffs and dacitic ashflows to the south.
  - Erosional unconformity.
  - Tcl — Childs latite: red brown porphyritic andesite/latite flows with large plag. phenocrysts. Equivalent to Gilluly's Tcl at Ajo.
- **Tertiary(?)**
  - Tr — Intrusive rhyolite dikes and rhyolite breccia. Age questionable.
- Post-Ore — Major unconformity.
- **"Laramide"**
  - Pre-Ore
  - Lqmp — Quartz monzonite porphyry.
  - Lg(?) — Granitic-textured stock near Gunsight (Surprise) Mine. Med. to fine-grained with aplite and fine-grained quartz monz. noted. Might be older than Laramide. Diorite body stippled.
  - TKa — Andesitic rocks: possibly flows.
- **Pre-Cambrian(?)**
  - P€(?)gr — Coarse-grained granites with generally a weak foliation, grading into gneissic textures, as noted. (Might be Mesozoic.)
  - P€(?)gn — Chloritic gneiss: resembles Cardigan gneiss at Ajo.
- ● A — Proposed Drill Hole

(1) NOTE:
(1) Strong clay and some sericite, limonite after pyrite, 2-4% former sulfide.
(2) Fresh to propylitic alteration in quartz-monzonite-porphyry with local shears of clay and 2% limonite after sulfide, probably pyrite but some "live" limonite.
(3) Aplite and microgranite and coarse quartz-monzonite, propylitic, and 1-2% limonite after pyrite.
(4) Gneiss and schist, spotty alteration and 1% limonite after pyrite, and limonite after mafics.
(5) Possible bedrock under volcanics, fresh-looking porphyry.

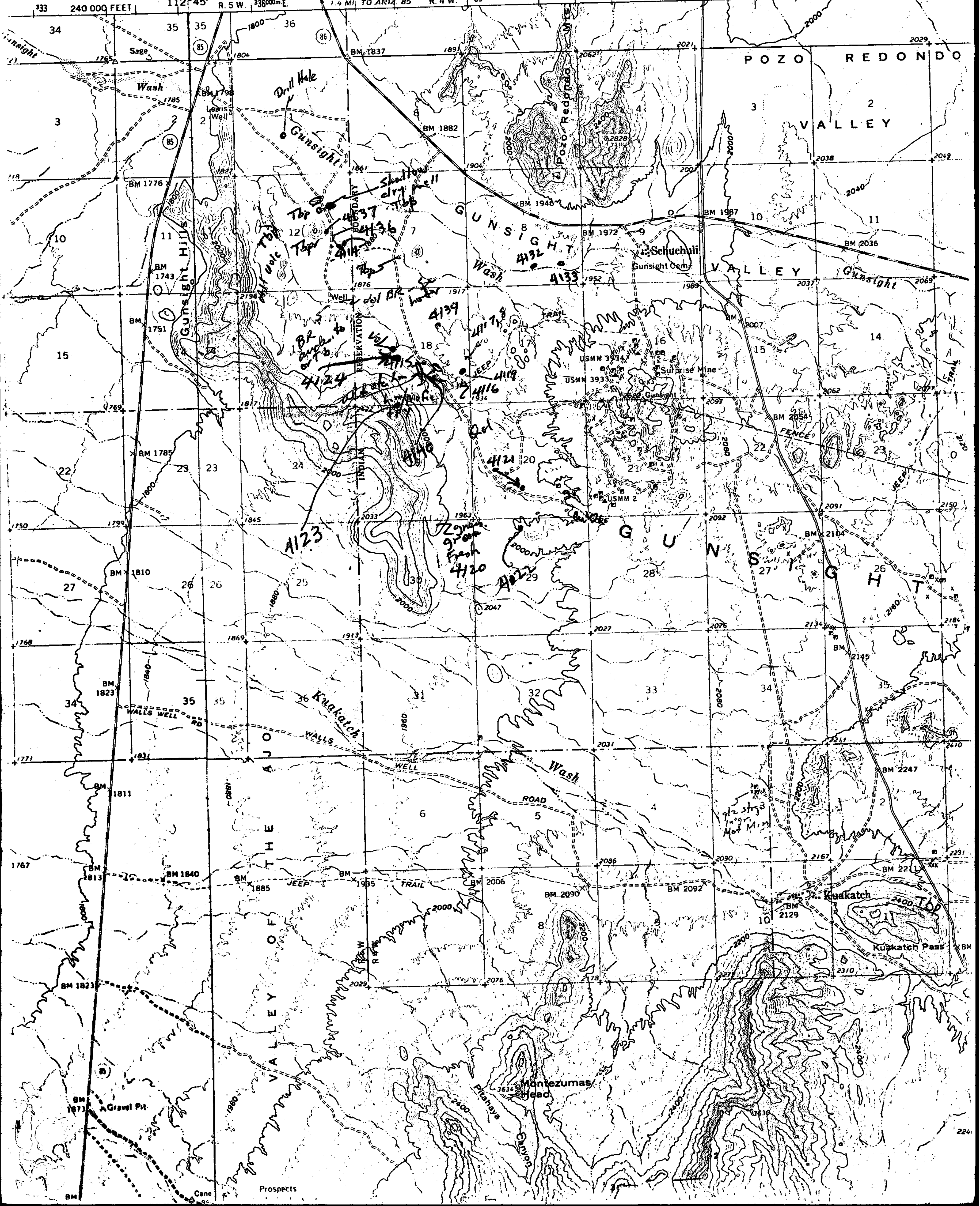
N

0 1 2
Miles
2" = 1 Mile

PEAK QUADRANGLE
ARIZONA–PIMA CO.
TE SERIES (TOPOGRAPHIC)

DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

11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R. 5 W.
336000m.E.
AJO 12 MI.
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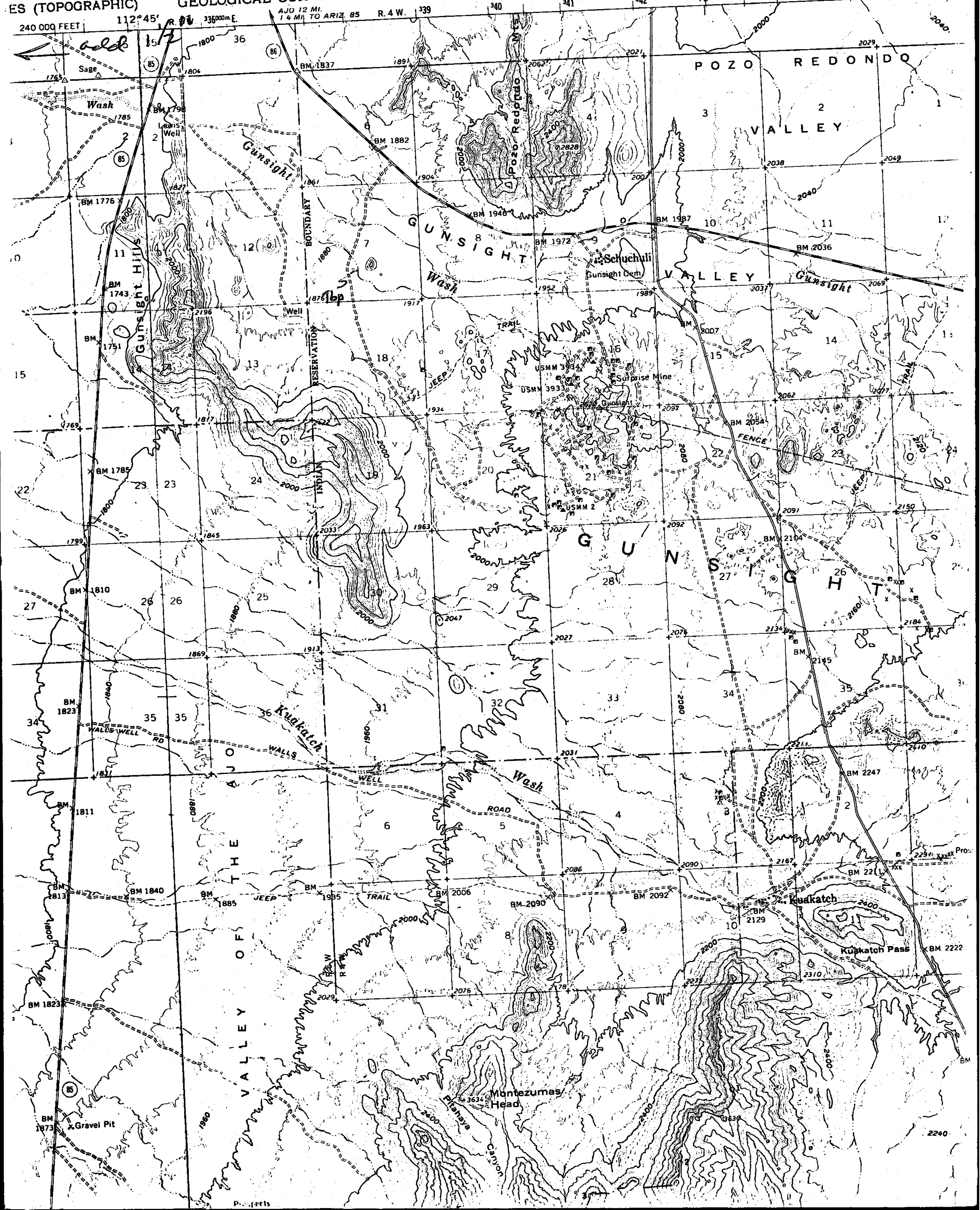
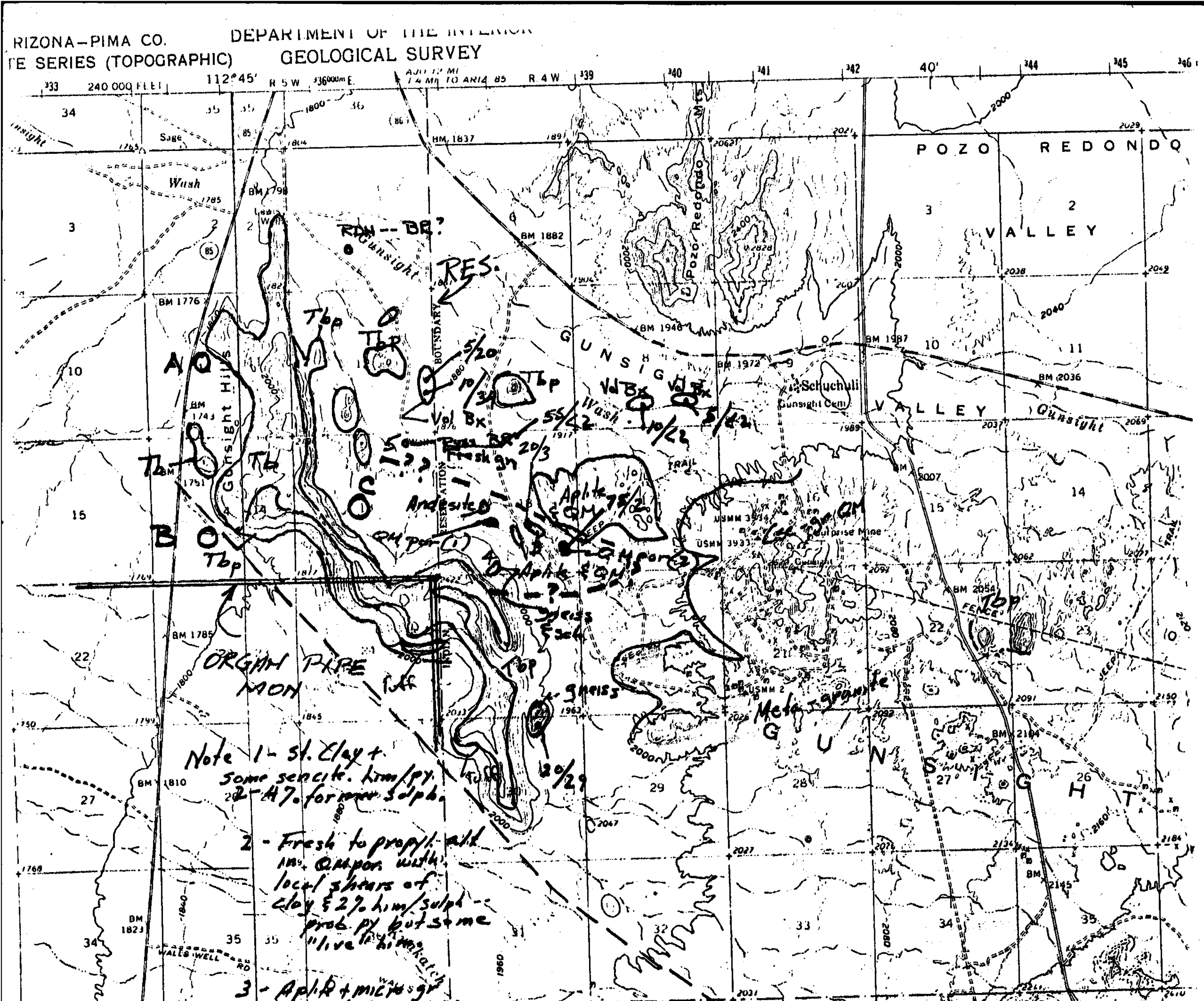
R. 4 W.
40'
POZO REDONDO
VALLEY
Pozo Redondo Mts
Gunsight Wash
Sage
Lewis Well
Drill Hole
Shallow dry well
BM 1837
BM 1882
BM 1948
BM 1972
BM 1987
BM 2036
GUNSIGHT
Schuchuli
Gunsight Cem.
VALLEY
Gunsight
Gunsight Hills
INDIAN RESERVATION BOUNDARY
Well
TRAIL
JEEP
USMM 3934
USMM 3933
Surprise Mine
Gunsight
USMM 2
FENCE
G U N S I G H T
4123
4124
4139
4120
4121
4132
4133
4116
4119
Kuakatch
Wash
WALLS WELL RD
WALLS WELL ROAD
VALLEY OF THE AJO
JEEP TRAIL
BM 2006
BM 2090
BM 2092
BM 2129
Kuakatch
Kuakatch Pass
Montezumas Head
Pitahaya Canyon
Gravel Pit
Prospects
Cane

QUADRANGLE *KINO PK* UNITED STATES *Mt Ajo*
–PIMA CO. DEPARTMENT OF THE INTERIOR
ES (TOPOGRAPHIC) GEOLOGICAL SURVEY





RIZONA–PIMA CO.
TE SERIES (TOPOGRAPHIC)
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
Gunsight Hills
POZO REDONDO
VALLEY
Pozo Redondo Mts
GUNSIGHT
VALLEY
Gunsight Wash
INDIAN RESERVATION BOUNDARY
Schuchuli
Gunsight Cem.
Gunsight Mine
Kuakatch
Kuakatch Pass
Montezumas Head
Pitahaya Canyon
VALLEY
Gravel Pit
Prospects
WALLS WELL
ROAD
JEEP
TRAIL
RES.
ORGAN PIPE MON
Tbp
Vol Bx
Andesite
Aplite
Meta-granite
gneiss
tuff
Tbp Not Examined
Note 1- St. Clay + Some sericit. lim/py. 2-4% former sulph.
2 - Fresh to propyl. alt. ins. Qm por. with local shears of clay & 2% lim/sulph - prob. py but some "live" hematite
3 - Aplite + micro gr and Gneiss. propyl. 1-2% lim/py
4 - Gness & sch. Spotty alt and 1% lim/py + lim/mafics.
5 - Possible BR under Vol. Fresh-looking porph.

GRAVITY SURVEY
GUNSIGHT HILLS PROJECT
PIMA COUNTY, ARIZONA

FOR

PILLAR, LOWELL & ASSOCIATES

mining
geophysical surveys

GRAVITY SURVEY

GUNSIGHT HILLS PROJECT

PIMA COUNTY, ARIZONA

FOR

PILLAR, LOWELL & ASSOCIATES

PROJECT 0713

mining
geophysical surveys

TABLE OF CONTENTS

ACCOMPANYING THIS REPORT:

1 SET PROFILES

1 PLAN MAP

1 COMPUTER LISTING OF GRAVITY DATA

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GRAVITY SURVEY
GUNSIGHT HILLS PROJECT
PIMA COUNTY, ARIZONA
FOR
PILLAR, LOWELL & ASSOCIATES

SUMMARY:

Gravity data in the Valley of the Ajo between Gunsight Hills and the Growler Mountains suggests a basin structure with the basin depth in the order of 4500' (σ = 0.3). A N30W striking gravity contact reflects the pediment edge west of Gunsight Hills. Depth to bedrock in the pediment east of this contact is probably not more than a few hundred feet. On Line 3 alluvial cover of the pediment may increase in thickness and/or the edge of the pediment shifts easterly north of the Gunsight Hills. The edge of the pediment east of the Growler Mountains is identified along Line 1 and lies within a mile of outcrop.

INTRODUCTION:

A gravity survey was conducted in the titled area during the period March 14-22, 1977 under the direction of Scott P. Rogers, geologist; the interpretation and report are by W. Gordon Wieduwilt, geophysicist, for Mining Geophysical Surveys. Four lines were surveyed and approximately 110 gravity stations were observed.

Bedrock exposed in the area includes Laramide intrusives and Tertiary volcanics (andesites and basalts) in the Gunsight Hills. Precambrian gneiss, Paleozoic sediments, Quaternary basalts make up the southeastern side of the Growler Mountains.

The purpose of the survey was to determine the edge of the pediment west of the Gunsight Hills.

INTERPRETATION:

Line 1 extends across the valley from outcrop to outcrop and indicates a regional gravity of -7 milligals in 12 miles west to east. The Bouguer anomalies decrease rapidly in the center of the valley and produce a residual anomaly of approximately -17 mg. Assuming an average density contrast of 0.3 gm/cm^3, an estimated basin depth of 4500' is calculated. The rapidly decreasing Bouguer anomalies adjacent to outcrop suggest the basin is steep-sided; that is, no step faulting or flat dipping pediment characteristics are observed on either side of the valley.

SURVEY PROCEDURE:

A LaCoste and Romberg, Inc. model G geodetic gravity meter #325) was used for the survey. This meter has a reading accuracy of 0.01 mgal and a drift rate of less than 1 mgal/month.

The gravity survey was tied to the Ajo, Arizona base station of the Arizona Gravity Base Station Network, with an

observed gravity of 979 382.206 $\pm$.016 mgal.

Latitude, longitude, and elevation were obtained for each station from 15' U.S. Geological Survey topographic maps (Kino Peak and Mt. Ajo quadrangles). Contour intervals for the maps are 40'. Scatter in the Bouguer anomalies is minimal, suggesting that maximum elevation errors are less than 1/2 the contour interval.

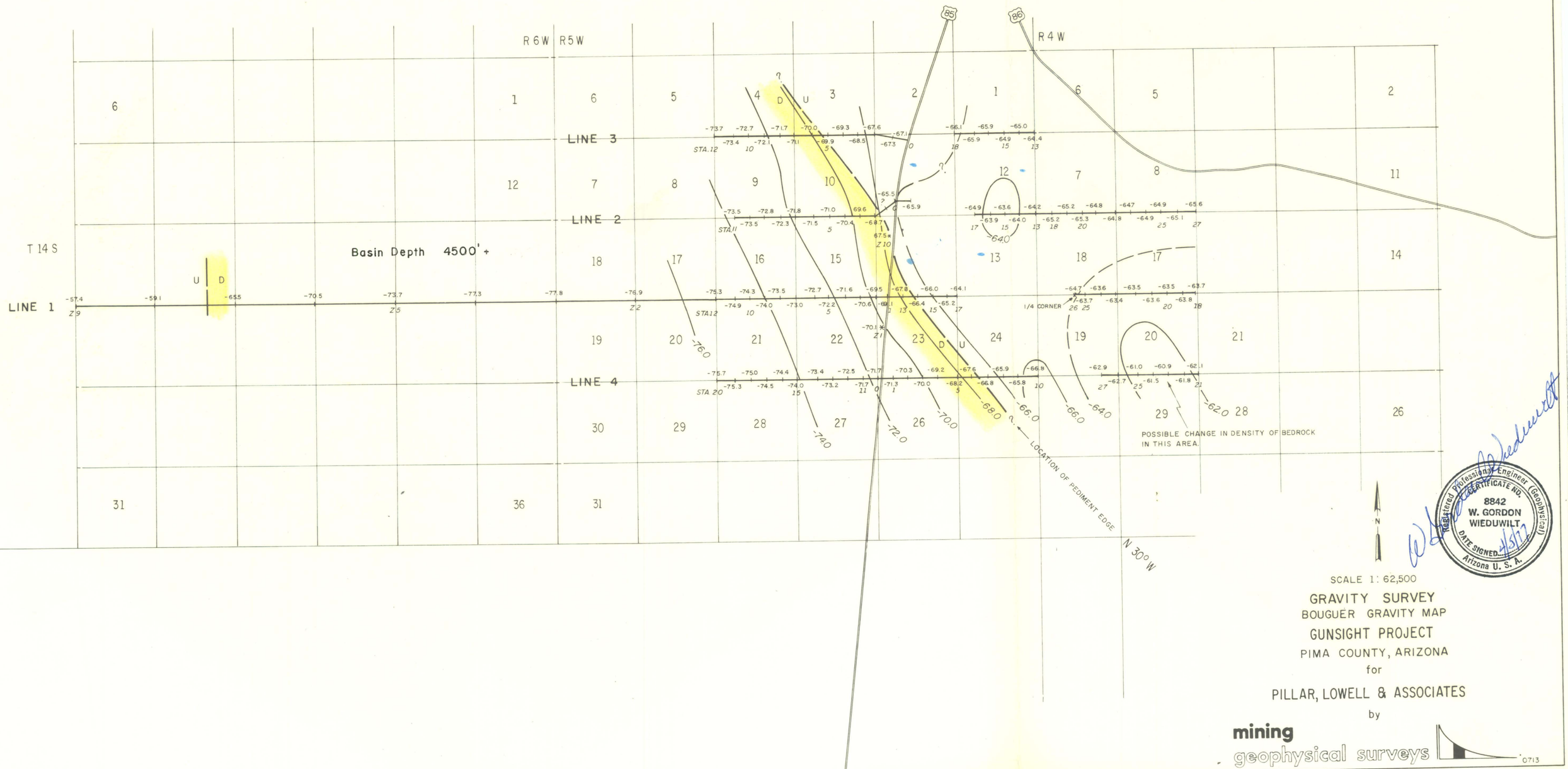
The gravity data was reduced by computer using standard gravity corrections. Linear drift corrections were applied to the field data after tide corrections had been applied. Latitude, free-air, and Bouguer corrections were made on the observed gravities. Terrain corrections were not applied to the data. A density of 2.67 gm/cm^3 was used for the Bouguer correction.

Respectfully submitted,

W. Gordon Wieduwilt
Geophysicist

Registered Professional Engineer (Geophysical)
CERTIFICATE NO.
8842
W. GORDON
WIEDUWILT
DATE SIGNED 4/5/77
Arizona U. S. A.

March 31, 1977
Tucson, Arizona



Registered Professional Engineer (Geophysicist)
CERTIFICATE NO.
8842
W. GORDON
WIEDUWILT
DATE SIGNED 4/5/77
Arizona U. S. A.

SCALE 1: 62,500

GRAVITY SURVEY
BOUGUER GRAVITY MAP
GUNSIGHT PROJECT
PIMA COUNTY, ARIZONA
for
PILLAR, LOWELL & ASSOCIATES
by

mining geophysical surveys

0713

-50.0
-52.0
-54.0
-56.0
-58.0
-60.0
-62.0
-64.0
-66.0
-68.0
-70.0
-72.0
-74.0
-76.0
-78.0
-80.0
-82.0

Milligals

Assumed Regional

$\Delta g = -17$ mg

Basin depth 4500± for $\sigma = 0.3$

L-1
L-2
L-3
L-4

R7W | R6W | R5W | R4W

1" = 1 mile →

GRAVITY SURVEY

GUNSIGHT PROJECT

PROFILE PRESENTATION

0713

47 0780

K&E 10 X 10 TO THE INCH • 10 X 15 INCHES
KEUFFEL & ESSER CO. MADE IN U.S.A.

GRAVITY SURVEY DATA

MINING GEOPHYSICAL SURVEYS - 2400 EAST GRANT ROAD - TUCSON, ARIZONA 85719

GUNSIGHT PROJECT FOR PILLAR, LOWELL, AND ASSOCIATES - MGS 0713

STATION NUMBER	NORTH LATITUDE (DEG)	(MIN)	WEST LONGITUDE (DEG)	(MIN)	ELEV. (FT)	TIDE CORR (MGAL)	OBSERVED GRAVITY (MGAL)	FREE AIR ANOMALY (MGAL)	SIMPLE BOUGUER ANOMALY RHO 2.670 (MGAL)
------- DRIFT RATE= .000604 MGAL/HR -------									
AJO BASE STN Z1	32.	11.69	112.	45.58	1787.0	-.049	979335.251	-9.267	-70.148
LINE 1 STN 1	32.	12.02	112.	45.55	1777.0	-.048	979337.324	-8.581	-69.122
LINE 1 STN 2	32.	12.02	112.	45.68	1769.0	-.045	979337.423	-9.234	-69.503
LINE 1 STN 3	32.	12.02	112.	45.87	1760.0	-.041	979336.871	-10.633	-70.594
LINE 1 STN 4	32.	12.02	112.	46.05	1751.0	-.038	979336.398	-11.952	-71.607
LINE 1 STN 5	32.	12.02	112.	46.27	1742.0	-.035	979336.314	-12.883	-72.232
LINE 1 STN 6	32.	12.02	112.	46.45	1733.0	-.034	979336.356	-13.686	-72.728
LINE 1 STN 7	32.	12.02	112.	46.70	1723.0	-.029	979336.688	-14.296	-72.997
LINE 1 STN 8	32.	12.02	112.	46.90	1713.0	-.027	979336.770	-15.155	-73.515
LINE 1 STN 9	32.	12.02	112.	47.08	1703.0	-.024	979336.905	-15.960	-73.980
LINE 1 STN 10	32.	12.02	112.	47.29	1693.0	-.021	979337.178	-16.628	-74.307
LINE 1 STN 11	32.	12.02	112.	47.47	1683.0	-.019	979337.159	-17.587	-74.926
------- DRIFT RATE= .010835 MGAL/HR -------									
MARINE MOTEL BASE	32.	23.90	112.	52.28	1530.0	-.013	979367.510	-17.743	-69.869
MARINE MOTEL BASE	32.	23.90	112.	52.28	1530.0	-.012	979367.518	-17.735	-69.861
------- DRIFT RATE= .004898 MGAL/HR -------									
MARINE MOTEL BASE	32.	23.90	112.	52.28	1530.0	.008	979367.518	-17.735	-69.861
MARINE MOTEL BASE	32.	23.90	112.	52.28	1530.0	.009	979367.518	-17.735	-69.861
LINE 1 STA 11	32.	12.02	112.	47.48	1683.0	.028	979337.156	-17.591	-74.929
LINE 1 STA 12	32.	12.02	112.	47.72	1673.0	.030	979337.407	-18.280	-75.277
LINE 1 STA Z2	32.	12.02	112.	48.75	1628.0	.032	979338.519	-21.401	-76.866
LINE 1 STA Z3	32.	12.02	112.	49.78	1589.0	.033	979339.968	-23.620	-77.756
LINE 1 STA Z4	32.	12.02	112.	50.79	1551.0	.035	979342.726	-24.436	-77.278
LINE 1 STA Z5	32.	12.02	112.	51.81	1511.0	.036	979348.661	-22.263	-73.742
LINE 1 STA Z6	32.	12.02	112.	52.84	1485.0	.036	979353.427	-19.943	-70.536
LINE 1 STA Z7	32.	12.02	112.	53.85	1479.0	.037	979358.870	-15.064	-65.453
LINE 1 STA Z8	32.	12.02	112.	54.88	1542.0	.037	979361.494	-6.515	-59.050
LINE 1 STA Z9	32.	12.02	112.	55.89	1637.0	.033	979357.406	-1.667	-57.439
LINE 1 STN 1	32.	12.02	112.	45.51	1778.0	.005	979337.369	-8.442	-69.017
LINE 1 STN 13	32.	12.02	112.	45.31	1786.0	-.002	979338.064	-6.994	-67.841
LINE 1 STN 14	32.	12.02	112.	45.13	1792.0	-.008	979339.135	-5.359	-66.411
LINE 1 STN 15	32.	12.02	112.	44.92	1800.0	-.013	979339.104	-4.637	-65.962
LINE 1 STN 16	32.	12.02	112.	44.71	1800.0	-.018	979339.897	-3.844	-65.169
LINE 1 STN 17	32.	12.02	112.	44.61	1817.0	-.022	979339.934	-2.209	-64.113
LINE 2 STN 0	32.	13.07	112.	45.39	1743.0	-.057	979344.390	-6.135	-65.517
LINE 2 STN 1	32.	13.07	112.	45.20	1755.0	-.052	979343.243	-6.154	-65.945
MARINE MOTEL BASE	32.	23.90	112.	52.28	1530.0	.057	979367.513	-17.740	-69.866
MARINE MOTEL BASE	32.	23.90	112.	52.28	1530.0	.058	979367.518	-17.735	-69.861
------- DRIFT RATE= .002309 MGAL/HR -------									
LINE 2 STA 2	32.	12.80	112.	45.75	1732.0	-.029	979341.503	-9.691	-68.699
LINE 2 STA 3	32.	12.80	112.	43.85	1726.0	.000	979340.997	-10.761	-69.565
LINE 2 STA 4	32.	12.80	112.	46.04	1721.0	.006	979340.439	-11.789	-70.422
LINE 2 STA 5	32.	12.80	112.	46.23	1712.0	.012	979340.377	-12.698	-71.025

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STATION NUMBER	NORTH LATITUDE (DEG)(MIN)	WEST LONGITUDE (DEG)(MIN)	ELEV. (FT)	TIDE CORR (MGAL)	OBSERVED GRAVITY (MGAL)	FREE AIR ANOMALY (MGAL)	SIMPLE BOUGUER ANOMALY RHO 2.670 (MGAL)
LINE 2 STA 6	32. 12.80	112. 46.43	1704.0	.022	979340.427	-13.401	-71.455
LINE 2 STA 7	32. 12.80	112. 46.70	1696.0	.032	979340.533	-14.047	-71.828
LINE 2 STA 8	32. 12.80	112. 46.89	1692.0	.044	979340.347	-14.609	-72.254
LINE 2 STA 9	32. 12.80	112. 47.07	1688.0	.047	979339.996	-15.336	-72.845
LINE 2 STA 10	32. 12.80	112. 47.27	1684.0	.050	979339.885	-15.824	-73.196
LINE 2 STA 11	32. 12.80	112. 47.45	1680.0	.057	979339.828	-16.257	-73.493
LINE 3 STA 0	32. 13.72	112. 45.22	1776.0	.046	979341.670	-6.632	-67.138
LINE 3 STA 1	32. 13.74	112. 45.41	1768.0	.036	979342.027	-7.054	-67.289
LINE 3 STA 2	32. 13.77	112. 45.67	1755.0	.027	979342.508	-7.836	-67.628
LINE 3 STA 3	32. 13.77	112. 45.87	1747.0	.017	979342.086	-9.011	-68.530
LINE 3 STA 4	32. 13.77	112. 46.09	1740.0	.012	979341.765	-9.990	-69.271
LINE 3 STA 5	32. 13.77	112. 46.25	1733.0	.006	979341.556	-10.858	-69.900
LINE 3 STA 6	32. 13.77	112. 46.45	1726.0	-.001	979341.830	-11.243	-70.046
LINE 3 STA 7	32. 13.77	112. 46.70	1718.0	-.006	979341.264	-12.561	-71.092
LINE 3 STA 8	32. 13.77	112. 46.88	1709.0	-.016	979341.183	-13.488	-71.712
LINE 3 STA 9	32. 13.77	112. 47.07	1700.0	-.021	979341.301	-14.217	-72.135
LINE 3 STA 10	32. 13.77	112. 47.26	1691.0	-.028	979341.310	-15.055	-72.666
LINE 3 STA 11	32. 13.77	112. 47.46	1682.0	-.034	979341.150	-16.061	-73.365
LINE 3 STA 12	32. 13.77	112. 47.72	1673.0	-.041	979341.403	-16.654	-73.652
B.M. Z10	32. 12.68	112. 45.45	1751.0	-.076	979341.398	-7.846	-67.501
LINE 4 STA 0	32. 11.16	112. 45.65	1799.0	-.078	979332.236	-10.435	-71.725
------- DRIFT RATE= .002575 MGAL/HR -------							
LINE 4 STN 1	32. 11.16	112. 45.45	1808.0	-.049	979332.152	-9.673	-71.270
LINE 4 STN 2	32. 11.16	112. 45.26	1817.0	-.038	979332.574	-8.404	-70.307
LINE 4 STN 3	32. 11.16	112. 45.07	1826.0	-.032	979332.365	-7.766	-69.976
LINE 4 STN 4	32. 11.16	112. 44.90	1835.0	-.026	979332.597	-6.687	-69.204
LINE 4 STN 5	32. 11.16	112. 44.61	1845.0	-.019	979332.988	-5.356	-68.214
LINE 4 STN 6	32. 11.16	112. 44.42	1853.0	-.007	979333.145	-4.447	-67.577
LINE 4 STN 7	32. 11.16	112. 44.23	1862.0	.000	979333.414	-3.331	-66.768
LINE 4 STN 8	32. 11.16	112. 44.02	1871.0	.007	979333.791	-2.108	-65.851
LINE 4 STN 9	32. 11.16	112. 43.86	1880.0	.014	979333.321	-1.731	-65.782
LINE 4 STN 10	32. 11.16	112. 43.59	2033.0	.042	979323.147	2.486	-66.776
LINE 4 STN 0	32. 11.16	112. 45.66	1799.0	.079	979332.217	-10.454	-71.744
LINE 4 STN 11	32. 11.16	112. 45.83	1790.0	.082	979332.343	-11.174	-72.158
LINE 4 STN 12	32. 11.16	112. 46.03	1781.0	.081	979332.572	-11.792	-72.470
LINE 4 STN 13	32. 11.16	112. 46.23	1772.0	.080	979332.406	-12.804	-73.175
LINE 4 STN 14	32. 11.16	112. 46.43	1763.0	.078	979332.744	-13.313	-73.377
LINE 4 STN 15	32. 11.16	112. 46.70	1750.0	.074	979332.932	-14.348	-73.969
LINE 4 STN 16	32. 11.16	112. 46.89	1740.0	.068	979333.112	-15.109	-74.389
LINE 4 STN 17	32. 11.16	112. 47.08	1730.0	.065	979333.556	-15.605	-74.545
LINE 4 STN 18	32. 11.16	112. 47.28	1720.0	.061	979333.705	-16.397	-74.996
LINE 4 STN 19	32. 11.16	112. 47.49	1711.0	.052	979333.966	-16.982	-75.274
LINE 4 STN 20	32. 11.16	112. 47.73	1701.0	.043	979334.166	-17.723	-75.674
------- DRIFT RATE= .000425 MGAL/HR -------							
LINE 4 STA 21	32. 11.15	112. 41.55	2026.0	-.050	979328.227	6.921	-62.103
LINE 4 STA 22	32. 11.15	112. 41.73	2000.0	-.032	979330.114	6.362	-61.776

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	STATION NUMBER	NORTH LATITUDE (DEG)	(MIN)	WEST LONGITUDE (DEG)	(MIN)	ELEV. (FT)	TIDE CORR (MGAL)	OBSERVED GRAVITY (MGAL)	FREE AIR ANOMALY (MGAL)	SIMPLE BOUGUER ANOMALY RHO 2.670 (MGAL)
LINE 4	STA 23	32.	11.19	112.	41.92	2020.0	-.024	979329.787	7.917	-60.903
LINE 4	STA 24	32.	11.15	112.	42.12	1995.0	-.013	979330.704	6.483	-61.485
LINE 4	STA 25	32.	11.15	112.	42.32	1985.0	-.007	979331.787	6.624	-61.003
LINE 4	STA 26	32.	11.15	112.	42.58	1963.6	.002	979331.414	4.182	-62.696
LINE 4	STA 27	32.	11.15	112.	42.77	1990.0	.013	979329.571	4.881	-62.917
LINE 1	STA 18	32.	12.02	112.	41.56	2050.0	.060	979326.367	6.141	-63.701
LINE 1	STA 19	32.	12.02	112.	41.73	2025.0	.072	979327.783	5.205	-63.765
LINE 1	STA 20	32.	12.02	112.	41.93	1995.0	.082	979329.861	4.461	-63.507
LINE 1	STA 21	32.	12.02	112.	42.11	1975.0	.086	979330.987	3.706	-63.581
LINE 1	STA 22	32.	12.02	112.	42.31	1955.0	.090	979332.276	3.114	-63.491
LINE 1	STA 23	32.	12.02	112.	42.56	1934.0	.092	979333.624	2.487	-63.403
LINE 1	STA 24	32.	12.02	112.	42.77	1920.0	.096	979334.233	1.779	-63.634
LINE 1	STA 25	32.	12.02	112.	42.97	1940.0	.098	979332.924	2.351	-63.742
LINE 1	STA 26	32.	12.02	112.	43.08	2010.0	.099	979327.776	3.787	-64.692
-------	DRIFT RATE=	.036292	MGAL/HR	-------						
LINE 3	STN 13	32.	13.77	112.	43.48	1861.0	.013	979339.335	-1.039	-64.442
LINE 3	STN 14	32.	13.77	112.	43.78	1852.0	.024	979339.349	-1.872	-64.968
LINE 3	STN 15	32.	13.77	112.	43.98	1844.0	.030	979339.889	-2.084	-64.908
LINE 3	STN 16	32.	13.77	112.	44.16	1837.0	.038	979339.343	-3.288	-65.874
LINE 3	STN 17	32.	13.77	112.	44.36	1830.0	.046	979339.765	-3.525	-65.872
LINE 3	STN 18	32.	13.77	112.	44.60	1827.0	.057	979339.724	-3.848	-66.092
LINE 2	STN 13	32.	12.89	112.	43.59	1876.0	.083	979337.502	-.270	-64.183
LINE 2	STN 14	32.	12.89	112.	43.79	1873.0	.091	979337.836	-.218	-64.029
LINE 2	STN 15	32.	12.89	112.	43.98	1870.0	.097	979338.469	.133	-63.576
LINE 2	STN 16	32.	12.89	112.	44.17	1876.0	.102	979337.819	.048	-63.866
LINE 2	STN 17	32.	12.89	112.	44.37	1880.0	.108	979336.508	-.887	-64.937
LINE 2	STN 18	32.	12.89	112.	43.38	1884.0	.121	979336.049	-.970	-65.156
LINE 2	STN 19	32.	12.89	112.	43.19	1892.0	.122	979335.514	-.753	-65.211
LINE 2	STN 20	32.	12.89	112.	43.00	1900.0	.123	979334.948	-.565	-65.297
LINE 2	STN 21	32.	12.89	112.	42.81	1908.0	.123	979334.919	.157	-64.847
LINE 2	STN 22	32.	12.89	112.	42.58	1917.0	.122	979334.437	.522	-64.788
LINE 2	STN 23	32.	12.89	112.	42.38	1920.0	.121	979334.317	.684	-64.728
LINE 2	STN 24	32.	12.89	112.	42.19	1928.0	.119	979333.622	.742	-64.943
LINE 2	STN 25	32.	12.89	112.	41.98	1936.0	.117	979333.180	1.052	-64.906
LINE 2	STN 26	32.	12.89	112.	41.89	1944.0	.115	979332.498	1.123	-65.107
LINE 2	STN 27	32.	12.89	112.	41.55	1952.0	.106	979331.542	.920	-65.583