



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

The following file is part of the
James Doyle Sell Mining Collection

ACCESS STATEMENT

These digitized collections are accessible for purposes of education and research. We have indicated what we know about copyright and rights of privacy, publicity, or trademark. Due to the nature of archival collections, we are not always able to identify this information. We are eager to hear from any rights owners, so that we may obtain accurate information. Upon request, we will remove material from public view while we address a rights issue.

CONSTRAINTS STATEMENT

The Arizona Geological Survey does not claim to control all rights for all materials in its collection. These rights include, but are not limited to: copyright, privacy rights, and cultural protection rights. The User hereby assumes all responsibility for obtaining any rights to use the material in excess of "fair use."

The Survey makes no intellectual property claims to the products created by individual authors in the manuscript collections, except when the author deeded those rights to the Survey or when those authors were employed by the State of Arizona and created intellectual products as a function of their official duties. The Survey does maintain property rights to the physical and digital representations of the works.

QUALITY STATEMENT

The Arizona Geological Survey is not responsible for the accuracy of the records, information, or opinions that may be contained in the files. The Survey collects, catalogs, and archives data on mineral properties regardless of its views of the veracity or accuracy of those data.

February 12, 1991

ASARCO Incorp

FEB 14 1991

SW Exploration

Mr. J. D. Sell
Manager, Southwestern Exploration
Asarco Inc.
Southwestern U.S. Division
1150 North 7th Avenue
Tucson, Arizona 85703

Dear Mr. Sell:

Attached for your review and appraisal is an early report written by Michael A. Price. My father, Mr. Price, left this property to me when he passed away in March, 1987.

The annual assessment work is up to date, but I wish to sell the property as soon as possible. My father worked as a mining engineer and geologist for many years, so I believe that the property has valid value.

I would appreciate a reply at your convenience. If you should wish to appraise the property, I can meet you in Kingman, Arizona.

I look forward to your reply.

Thank you.

Sincerely,

Dee DuVall

Dee DuVall
1907 Rockefeller Ln. #1
Redondo Beach, CA 90278
(213) 649-8164 Work
(213) 379-6436

2/14/

*will send data
package on*

Holy Moses Mine

W side Halapai Mtn Area

M-CLAIMS
Mohave County, Arizona

The following is an early report compiled from Michael A. Price's observations and assessment work. The 17 M-Claims are recorded M-1 to M-27, Serial Number AMC 74168-74185. These mining claims were left to Mr. Price's daughters, Dee DuVall and Laura Oswalt.

RITW.

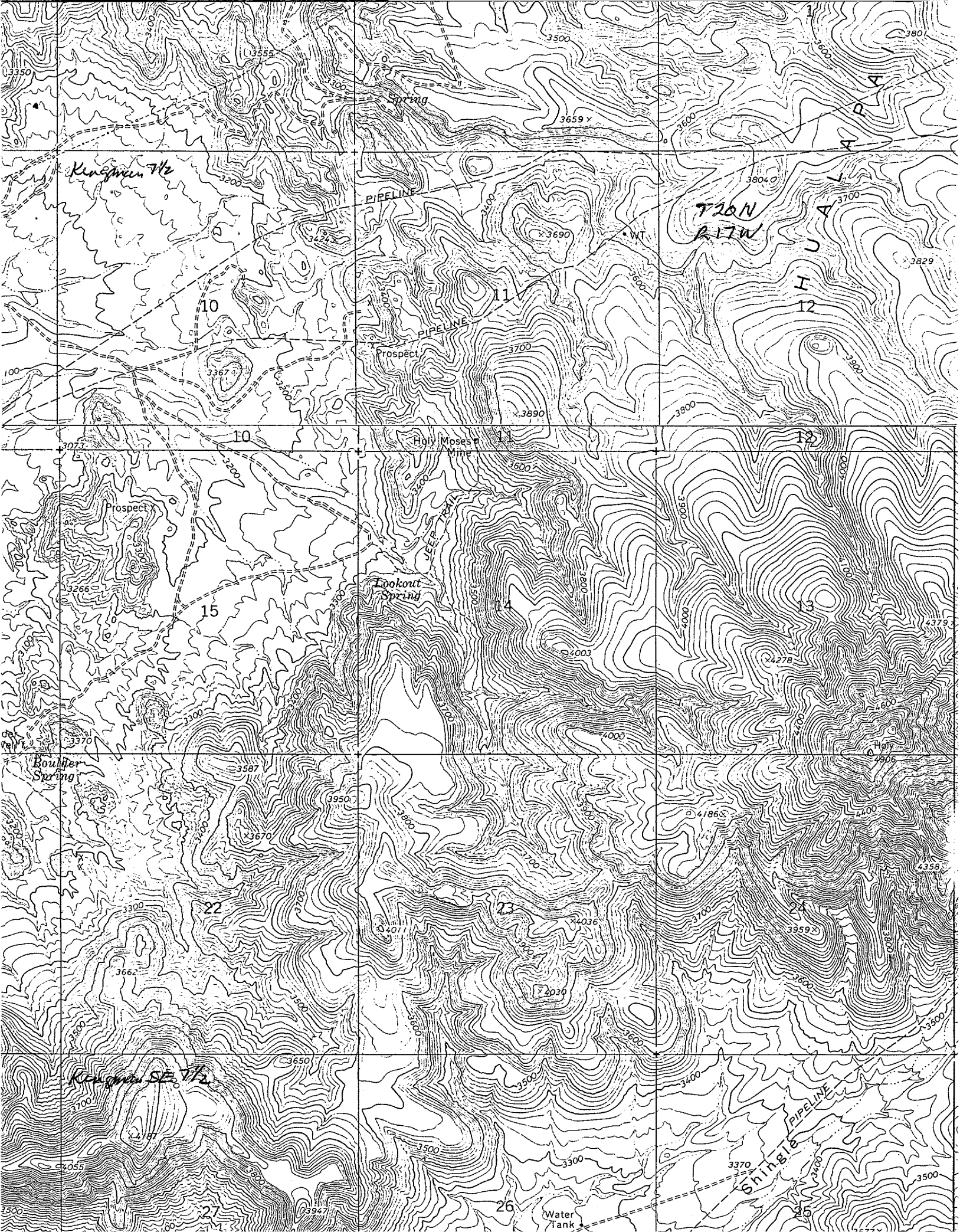
17W

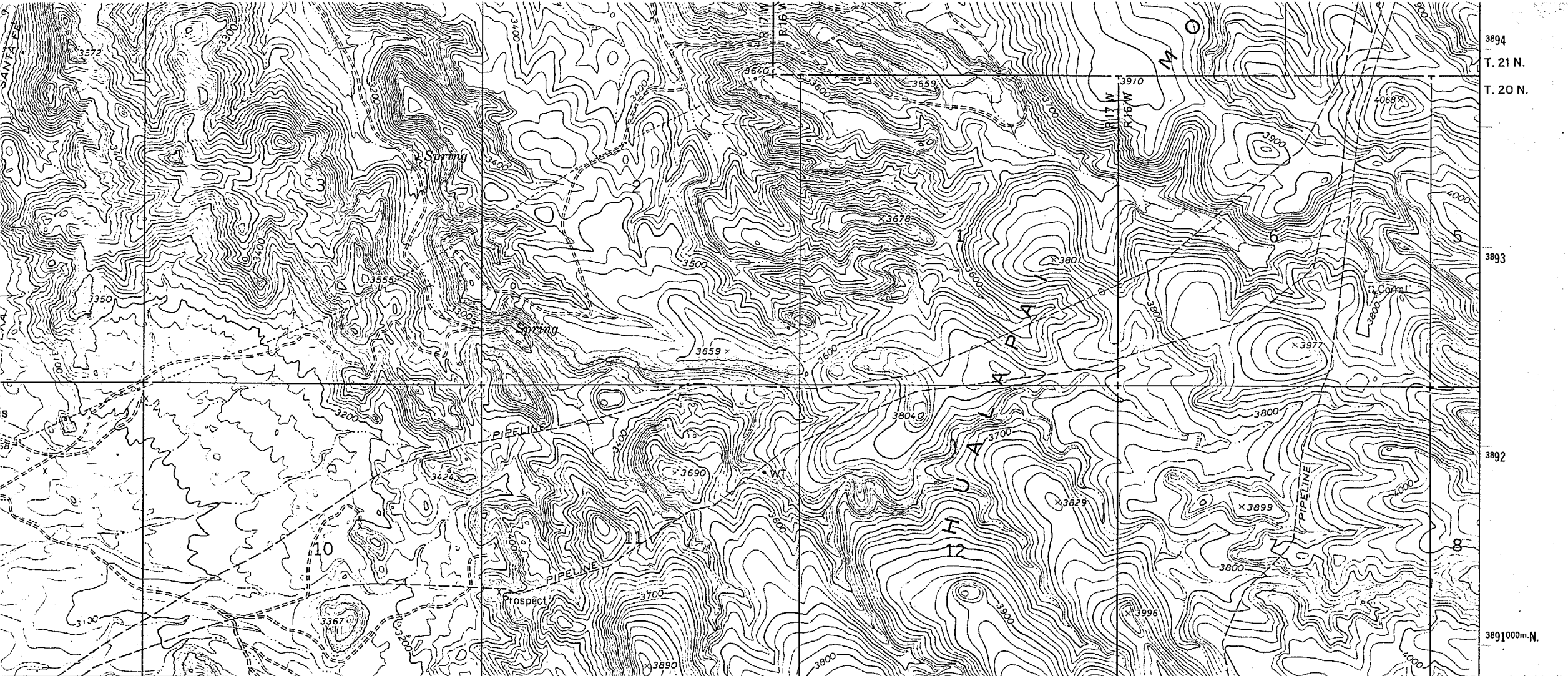
The M-Claims are a relocation of the abandoned claims that at one time were known as the Windy Point Property and are situated in Sections 14 & 23, T20N, R14W. Although some of the gold is fine, there is visible gold as specks and blobs in the quartz and/or breccia; and some of the visible occurs as specks and/or platings on limonite crystals. One of the principal veins is a remnant of a low-angle vein that occurs in a major structural feature, which is either a bedding plane fault and/or a piece of a thrust. Quartz cements the rubble of this structure and the gold bearing area may be much larger than it seems. In previous years some inclined workings were driven into the structure and some of the softer, highgrade portions were mined and screened for the gold. Visible gold can be found at the old workings for a strike length of at least 1500 feet. Near the NE corner of M-1, to date most of the free gold is found to be associated with pseudomorphs of limonite after pyrite; at the M-1, M-2, location monuments area the gold occurs with the limonite crystals and as specks, blobs, etc., in the quartz, in the shale breccia, with feldspar, in the granite and most any type rubble that was cemented with quartz. In part this is an oxidized portion of a previously existing vein that contained sulfides; later mineralization fresh pyrite, galena, sphalerite, and some chalcopyrite. These minerals occur in very minor amounts and the vein rock that can be seen can be considered as a free milling ore. The workings are not impressive in size and indications are that most of this was done by hand. There are some indications that some machine work may have been done in the late thirties. An attempt was made by someone to build a road by hand to these shallow incline workings but it was never completed. Some minor placer production by a dry-washer is reported from this locality (my estimate 8 oz.), but there are no indications that there has been any dozing done to check for any small, pediment type placer areas. An assumption is made that at least 50 tons of shipping grade rejects, and several hundred tons of float could be shipped from these claims. Most of the vein material is highly silicious and serveral thousand tons could be obtained for smelter flux.

Well

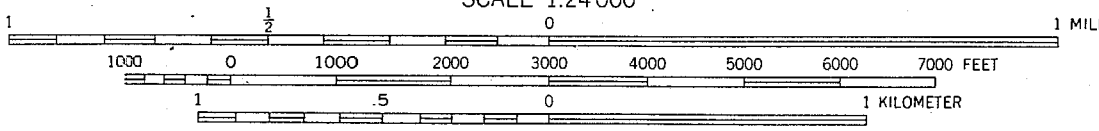
M-12 14 17
22 23 27

SW 65' E





(KINGMAN SE)
3154 II SE
SCALE 1:24 000

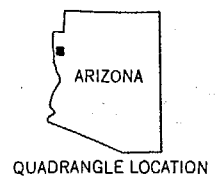


CONTOUR INTERVAL 20 FEET
DOTTED LINES REPRESENT 10-FOOT CONTOURS
DATUM IS MEAN SEA LEVEL

INTERIOR-GEOLOGICAL SURVEY, WASHINGTON, D. C. - 1968
R. 17 W. R. 16 W. 772 773000m. E. 114° 00'

ROAD CLASSIFICATION

- Heavy-duty _____
- Medium-duty _____
- Light-duty _____
- Unimproved dirt - - - - -
- U. S. Route (shield symbol)
- State Route (circle symbol)



QUADRANGLE LOCATION

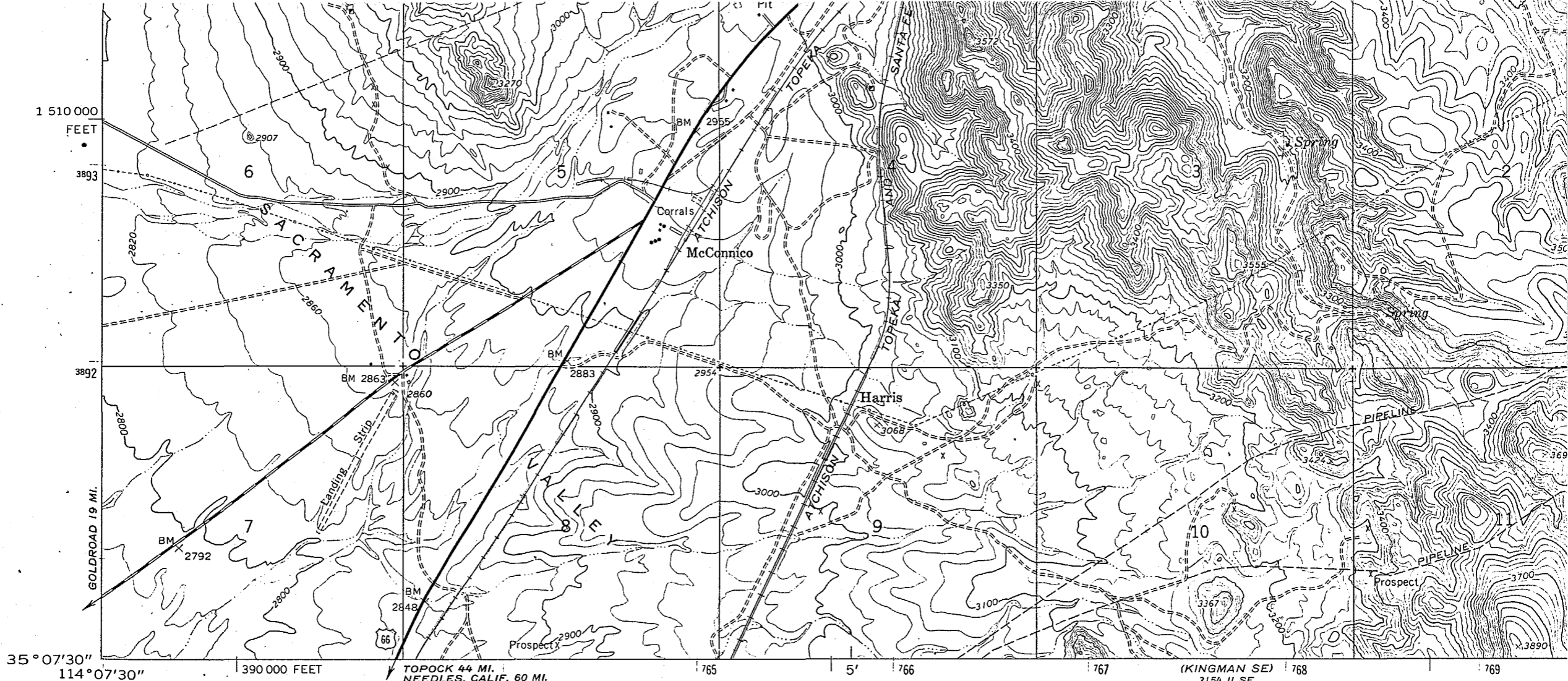
KINGMAN, ARIZ.
N3507.5—W11400/7.5

1967

AMS 3154 II NE—SERIES V898

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U.S. GEOLOGICAL SURVEY, DENVER, COLORADO 80225, OR WASHINGTON, D. C. 20242
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

E 1/2 Kingman
7 1/2



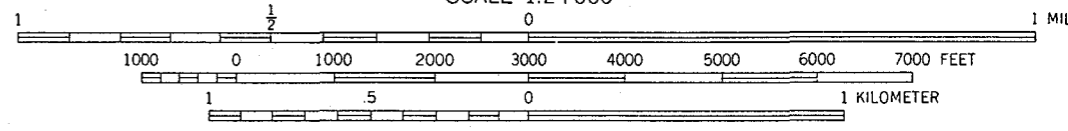
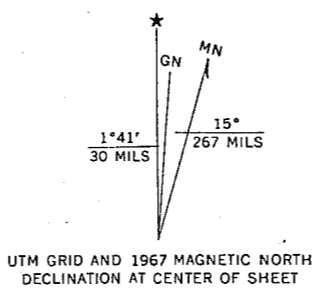
Mapped, edited, and published by the Geological Survey

Control by USGS and USC&GS

Topography by photogrammetric methods from aerial photographs taken 1965. Field checked 1967

Polyconic projection. 1927 North American datum
 10,000-foot grid based on Arizona coordinate system, west zone
 1000-meter Universal Transverse Mercator grid ticks, zone 11, shown in blue

Fine red dashed lines indicate selected fence lines



CONTOUR INTERVAL 20 FEET
 DOTTED LINES REPRESENT 10-FOOT CONTOURS
 DATUM IS MEAN SEA LEVEL

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
 FOR SALE BY U. S. GEOLOGICAL SURVEY, DENVER, COLORADO 80225, OR WASHINGTON, D. C. 2024
 A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

W 1/2 Kensington
7 1/2

3154 II NW
(KINGMAN NW)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

114°07'30"
35°07'30"

763000m.E.

KINGMAN (U.S. 93 & 466) 6 MI.

765

5'

766

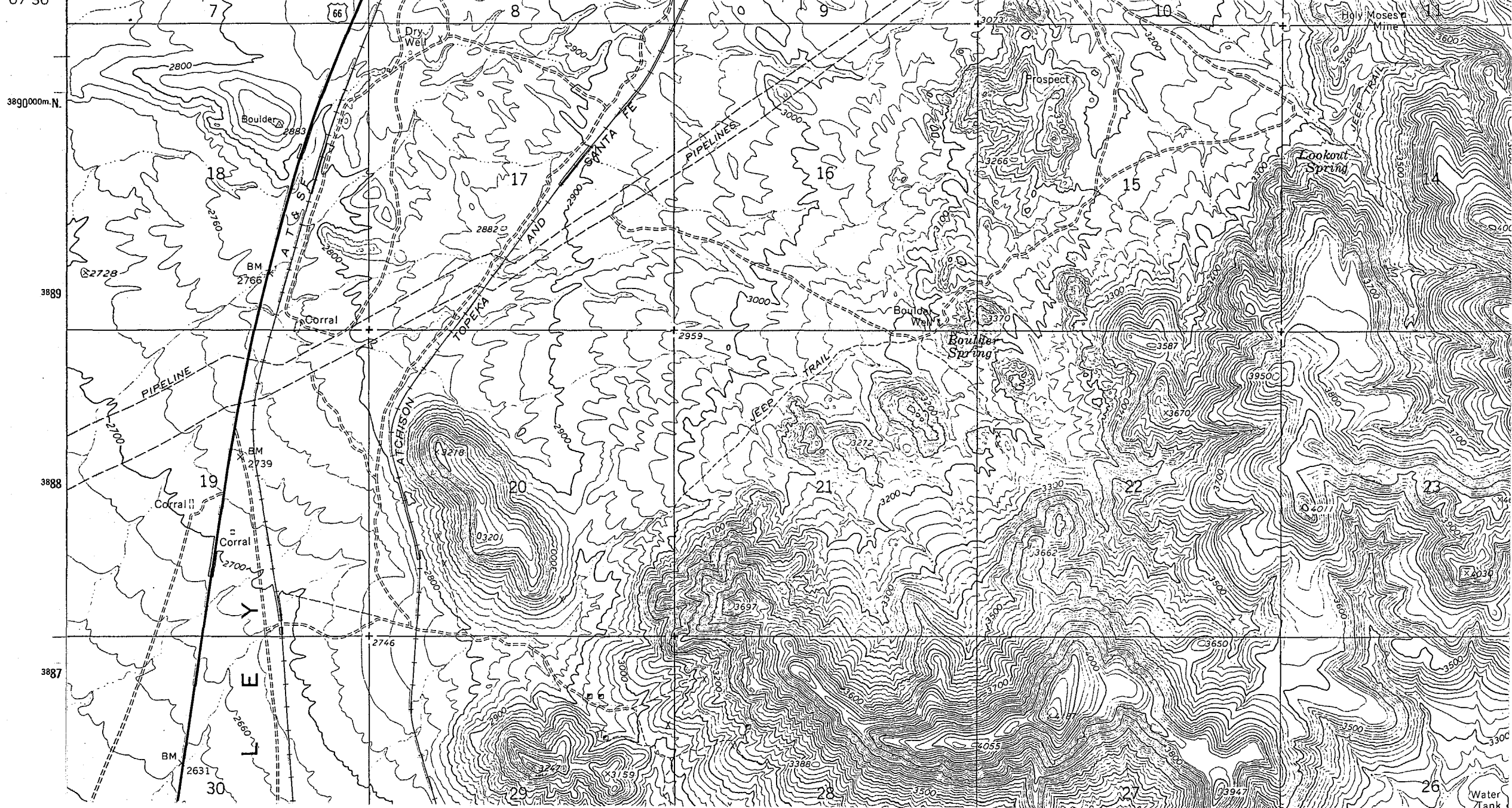
767

3154 II NE
(KINGMAN)

768

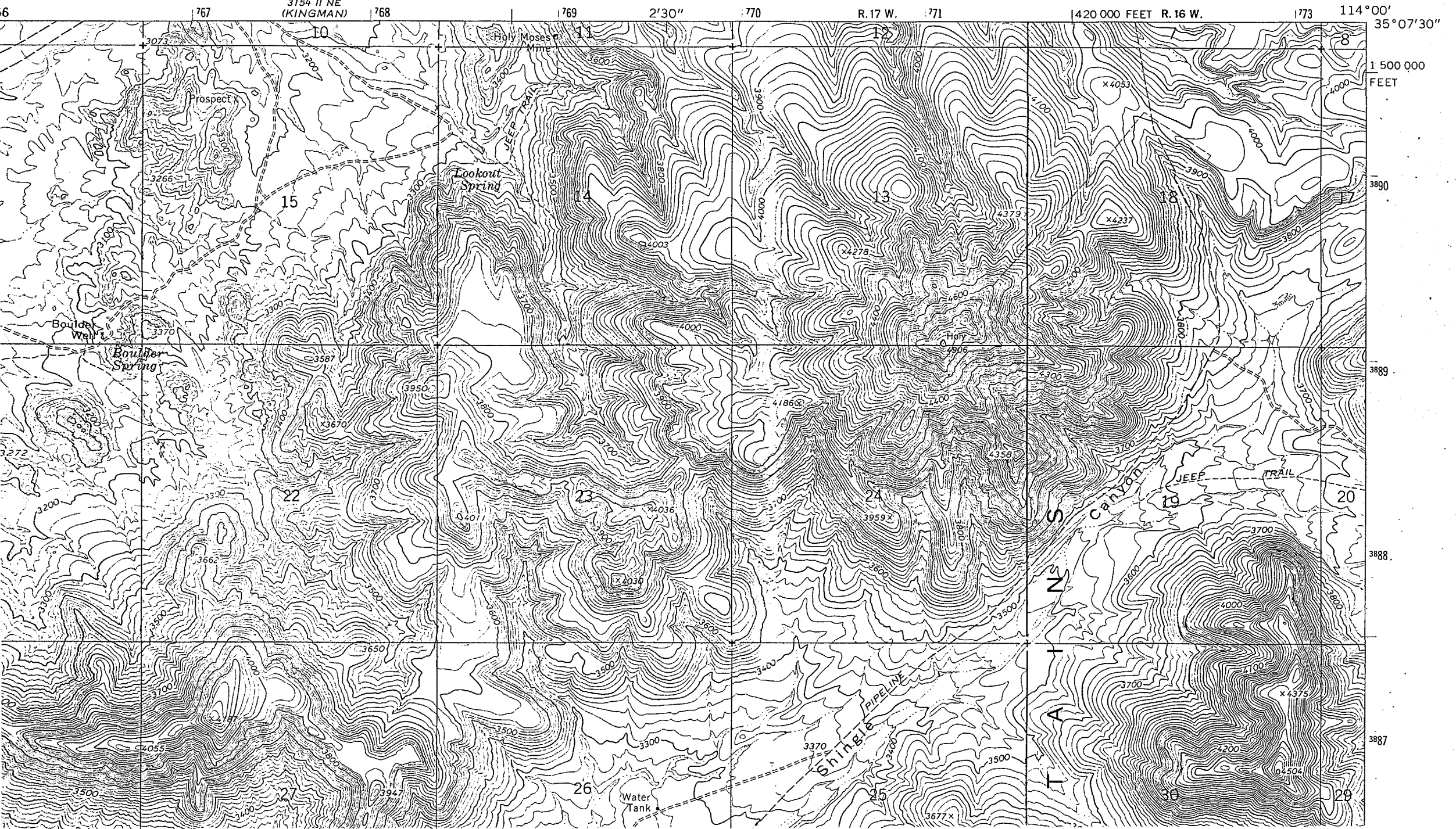
769

2'



W¹/₂. Kunguwa SE
7¹/₂

KINGMAN SE QUADRANGLE
ARIZONA—MOHAVE CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)



E $\frac{1}{2}$. Kunguian SE
7 $\frac{1}{2}$ '

February 25, 1991

Mr. James D. Sell
Manager, Southwest Exploration
ASARCO
P.O. Box 5747
Tucson, AZ 85703

Dear Mr. Sell:

Thank you for your recent phone call regarding my mining property. I have enclosed 2 old reports my father did a number of years ago, and 3 field work sheets. I tried to enlarge them so the printing would be clearer.

If you choose to conduct an examination of the property, I would ask that upon my written request that you would disclose to me factual technical data that may be generated during a preliminary geologic evaluation of the property..

I look forward to hearing from you in the near future.

Sincerely,



Dee DuVall
1907 Rockefeller Ln. #1
Redondo Beach, CA 90278

213/649-8164 Work
213/379-6436 Home

ASARCO Incorporated

MAR 4 1991

SW Exploration

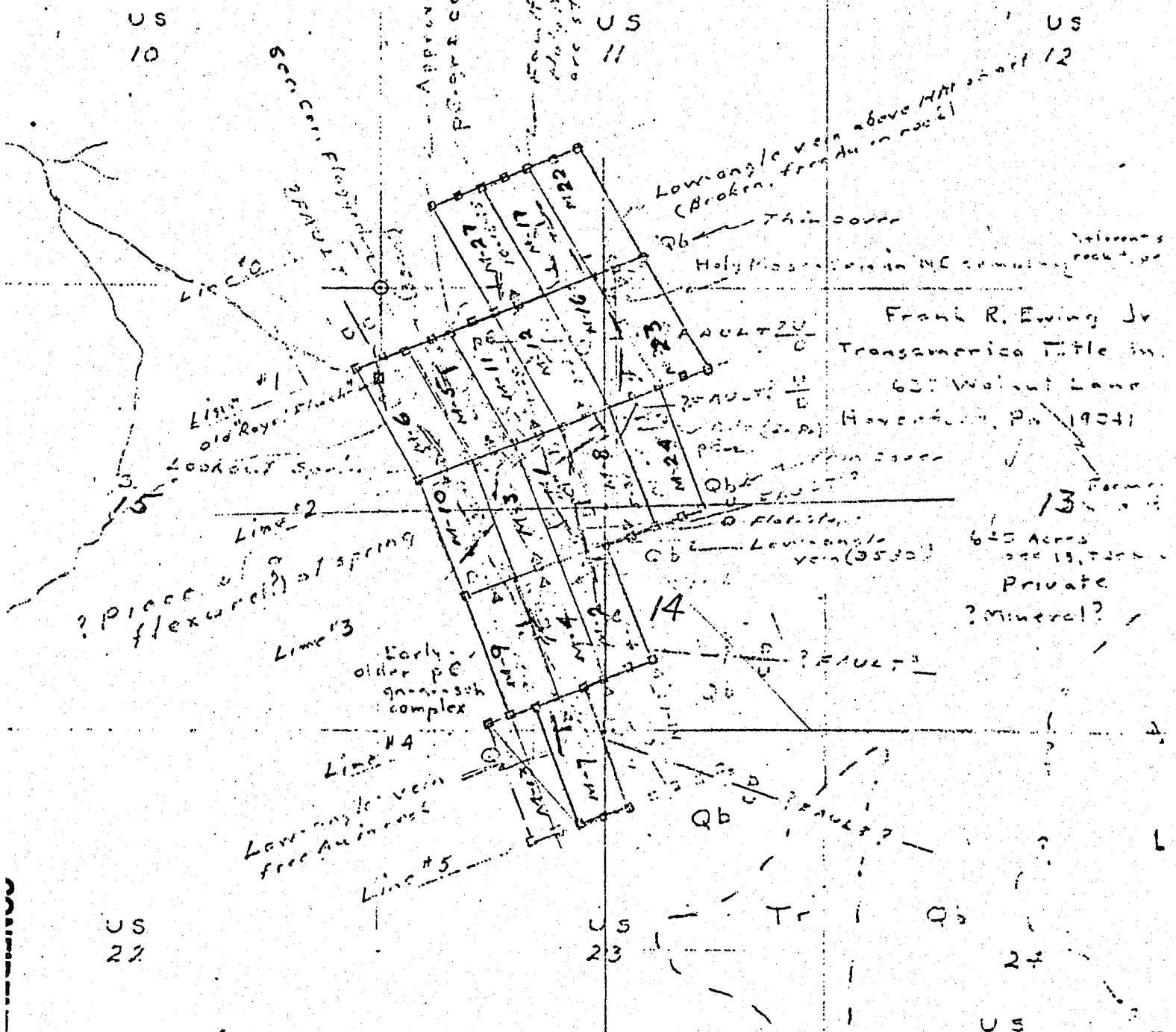
old Work Sheet

1-14-85

Structures marked with
(positioning by G. G. and
complete)

at older p @ gr

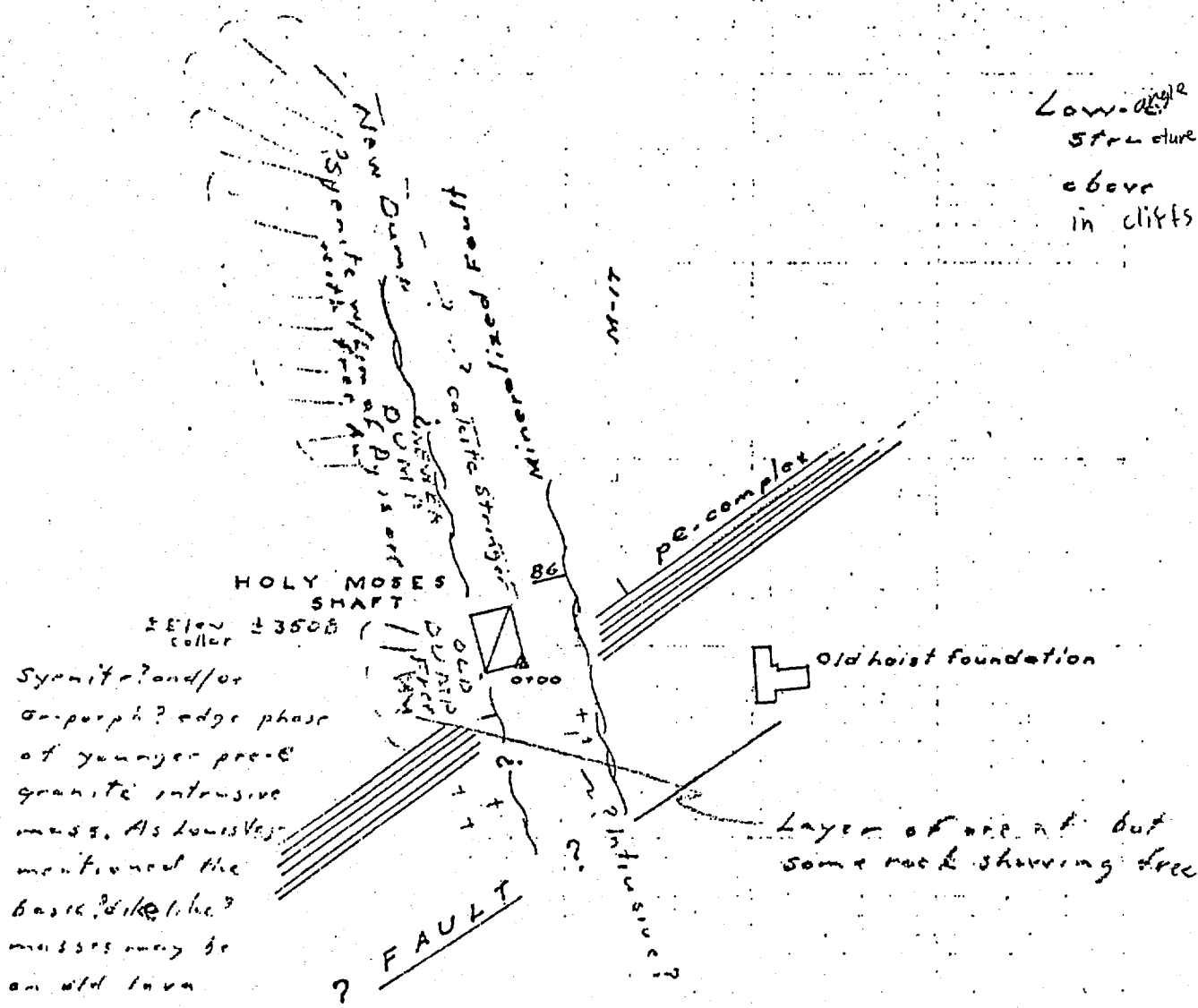
See Survey notes
from Sec. 10 & 11
The claims.



monument, post, or state
she, or monument

RECORDED
Claim No. Located
4-20-74

Generalized Map
M-C-A-M-S



M-17
 Mohave Co. Ariz.
 T20N, R17W, Sec. 11

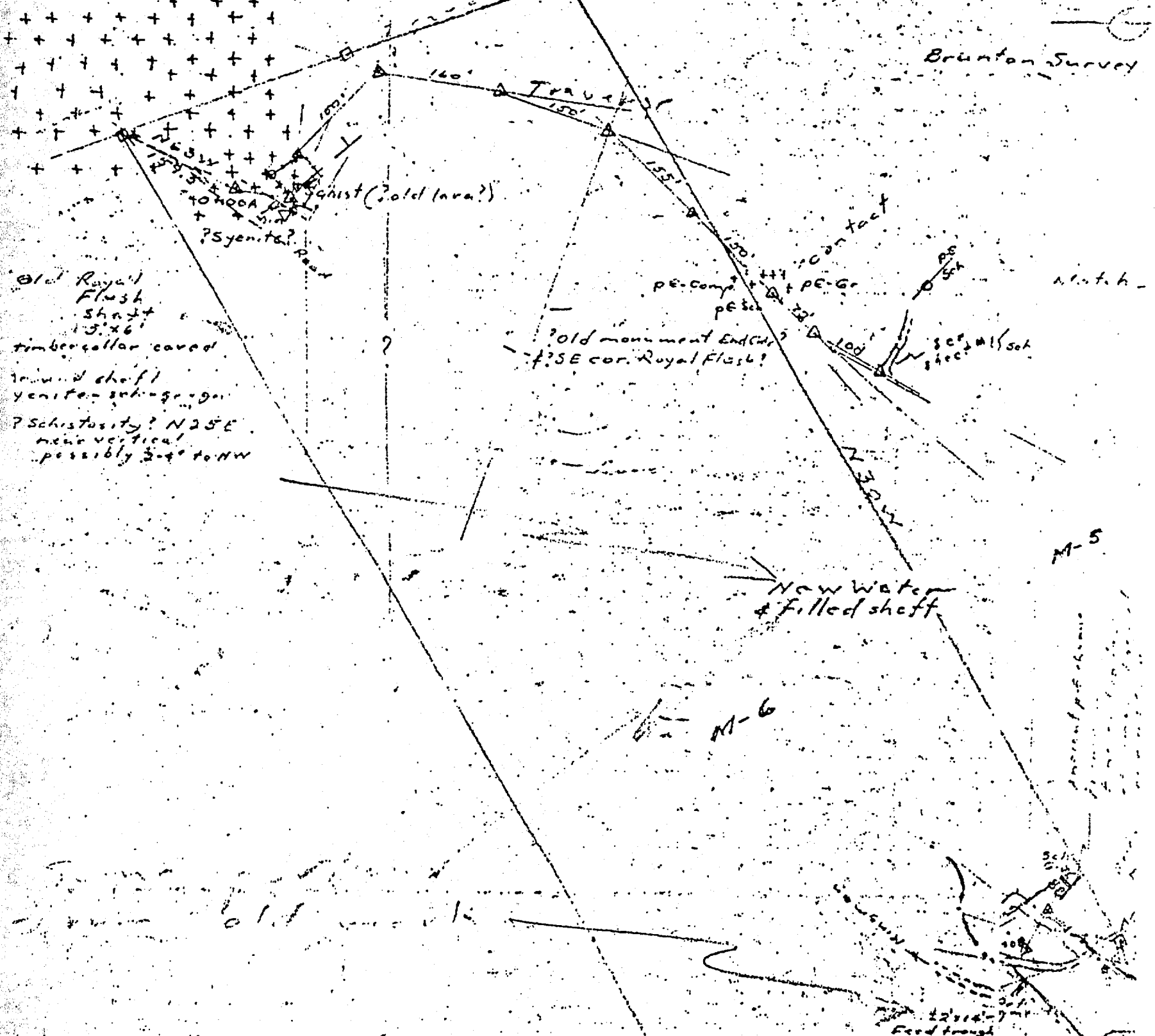
Scale 1"=20'

Approx. contact of PE-9r
& PE complex

A

Younger *Amphio*
Late ~~stage~~
PE 9r ++++ Sec 15 Sec 14

Field Sheet
Brunton Survey



**CONFIDENTIAL
DO NOT COPY**

M-Claims

Structures, etc.---

Older p-Cambrian folding (major folds) have a tendency to trend NE & SW

No doubt the zone of oxidation is limited (mine workings have not been examined as yet, this is from observation of mine dumps); however quartz with fresh sulfides (several pieces) does pan free gold

Laramide features should be NW-SE, N-S, and E-W

M-5 location hole- float in wash, frags. p-O gr., with limonite aft. Py
M-5 concentrates from the alluvium should be assayed, contain Lim. aft. Py.
M-5 location, float (vein matter) pans Au

Rock from the area should be assayed to supplement the panning results; I believe that a possibility exists that some rock will not pan; examples--thin films of gold have been noted in some of the rock; the thin films of gold resemble mono-films derived from iron(???? iron or gold films ?????)

Ragged Top District in the Black Hills, South Dakota, contains silicious ore that assays \$100-\$200/ton but fails to yield a concentrate over \$10/ton

however this is not the Ragged Top district

Isometric Minerals in the vein material---

- 1) Gold
- 2) Limonite after pyrite
- 3) Pyrite
- 4) Galena
- 5) Sphalerite

6) ? Sphalerite ?

Permo-Carboniferous,

Extensive gold deposition in pre-Cambrian time, the late Mesozoic, the early Tertiary and the late Tertiary. Intrusions of granodiorite, quartz-monzonite, and the porphyritic equivalents of these rocks took place in early Tertiary time from eastern Mexico to British Columbia. In late Mesozoic time, batholiths of quartz-monzonite or granodioritic character were intruded into the sediments of the Pacific Coast of North America from California to Alaska; these masses of igneous rocks are fringed with gold-bearing lodes.

The weathered surface material shows very little or no evidence of mineralization ~~at the M-claims area.~~ bi-metal sulfides stringers are evident in the old granite.

The M-claims locality contains conglomerates which may be of several ages. In other localities, Tertiary conglomerates, Pleistocene conglomerates, and recent conglomerates are of economic importance.

M-claims veins contain visible gold in the quartz, etc., without associated iron staining, and with no cavities left by the decomposition of pyrite. However there is visible gold associated with iron staining and/or in cavities containing earthy limonite or goethite(?)

M-1-2-5-6-7 areas near location holes--float pans good gold

?????Question??? presence of tellurides?????

??????? " ??? " " other intrusives in M-claims locality???

??????? " ??? the N40-50W trend on M-7 and M-6 is an expression of what??
from M-6 the N40W projects into the shaft area

CONFIDENTIAL

M-Claims, Misc. Notes

correction---- M-7, coarse, vuggy, feldspar-quartz-etc., mix will pan coarse, wiry gold; to date most of the pannings produced fine gold that has a darker (richer) color as compared to M-1&2-etc. Although some of the M-1&2 rock has visible gold that is coated with something, it will pan as bright, yellow specks, flakes, chunks, etc.

Note: Check first adit (Northcut) M-2 for sulfides & structure. check dike

????? Is the shale the result of movement that formed the low-angle structures????

??More than one period of gold deposition?? 1) gold as constituent in the pre-C granite etc. (Gr w/Lim, etc.) reconcentrated in the low -angle vein???? w/quartz?

???? How many contacts are there???? in this locality???? How much mineralization?? //Would an IP or gravity detect the placer concentrations???, also has this locality been checked for pyritic concentrations similar to Bi-Metal

??Two methods of working the rock??? a) screen out the fines b) crush to 1 inch mesh c) screen out the fines;--- then ship the rejects if of good enough grade. Pull the concentrates out of the fines and ship with coarse ore.

pyritic and/or spinell?

Although galena, ^{pyritic}cerrusite, vanadinite, sphalerite, chalcopyrite, specular hem. etc., are present in the vein matter, the crushed-panned rock produces a small amount of concentrates; the ratio of concentration will be high, my guess would be from 10 (20+ to 1) until the heavier sulfides are encountered. In the raw rock my estimate would be that the galena-Cpy content is less than 1%; there appears to be very little magnetite; the Lim. aft. Py content may vary from 3% to 10% of the rock, estim avg. probably under 5%. Although most of the conc. from the bedrock, to date, has shown very little free gold, I believe that the black conc. obtained should be assayed and ?? may be worth saving ???

BLM at Kingman has very good photos in their files of this part of Mohave Co. M-Claims area---- 5-22-65, 1-22, GS-VBFM; photo to the north shows the Bi-Metal area; photo to the east shows the Li east of M-7. Scale 1:32,000

350-400 pounds of rock packed out, about 35 pounds picked out showing free gold from speck size to blobs. To date, 8-27-74, no ans. from AS&R re custom ore; this silicious rock should be a very good flux type material. Rejects from packed out ore still have visible gold but as finer specks, which can be detected on very close observation

?????"Poor-Boy" stope (Rattle snake home) worked by hand as the vuggy rock could be drilled easy, the ore screened, and fines panned to recover the free gold. At M-1---M-2/reject piles the fines at the bottom of the reject piles do not contain coarse gold of the type found in the rock (i.e., pannings just have fines and/or small flakes; to date no coarse gold has been recovered by panning the fines; if the floors of the small workings were not swept down there could be some gold recovered by washing this material; check this when opening up the workings) *Later work shows this is not correct*

?????Am I looking at the structure incorrectly, re. bearing; instead of it being northeasterly, ??? is there an intrusive flank in a northwesterly direction????

To date very little calcite has been observed except near the NE cor. M-1 where it is present as medium-coarse, brown xtls, this calcite does contain free gold, compared to the vein rock this calcite produces fine specks and/or flakes; not enough calcite has been panned to determined if it contains coarser gold (see note re. M-7)

CONFIDENTIAL

Contact of Cambrian granite with the pre-Cambrian Complex--(a) if the evident dip of the complex was as it appears, (as on M-6 & M-3) to the SE and originally the dip of the complex was away from the intruding granite then the contact metamorphic zone will be relatively small. b) On the other hand if the Laramide has any bearing on some of the mineralization, and the complex, or parts of it, were dipping into the Laramide, then the contact metamorphic would have a tendency to be larger as the bedding planes would tend to open instead of closing if the complex was dipping away from the intrusive.

Faults---- A variety of faults are evident on the M-Claims (a) faults that strike across the complex and well could be old faults related to the complex; as displaced dike (to SE) on M-2 (b) some of the faulting no doubt follows the foliation and would be parallel to the quartz veins in the old complex; the similarity of these rock types would make it difficult to measure the ~~amount~~ extent of the movement (the shearing etc. is complex along these strike faults) (c) near the Cambrian granite contact locality the foliation is distorted and the complex dips to the SE at a lower angle than the complex on M-3 & M-4, if this change in the dip is due to faulting then I would expect to find evidence of reverse faulting.

(*a) cont'd---the transverse faulting as at M-1 & M-2 locations area may or may not be related to the movement evident in the low-angle, gold bearing, quartz vein. The low-angle, transverse structure rests on the steeply dipping complex, although it appears to be small in width it is evident (for the pieces) along the strike length of three claims; indications are that this structure, a structure related to it, or an eroded piece of a similar structure is on a fourth claim (M-5)

Practically no work has been done by me on the rocks and/or structures that are visible in the vicinity of the Holy Moses mine, which at one time did have a small, high-grade, gold stringer. It appears that the Holy Moses is at or near the Cambrian contact. As seen from the surface the shaft seems to flatten, at 30'-40' below the collar, and dip to the NW; if this is not just a local condition then it can be assumed that there is a sort of "trough-like" structure (or remnant) of it extending to the SW approximately through the area where the spring comes to the surface.

To me

There is a question about the mineralization 1) whether it is related to the Cambrian rocks or to the Laramide. From all appearance my assumption would be that there are at least two generations of pyrite and possibly three; the chalcopyrite and the galena may have been introduced during the same period but separately, it is undetermined as when the gold was introduced but from all appearance some of it was deposited in the quartz after the first generation of pyrite 2) Question, if there is more than one generation of quartz Chalcopyrite is accompanied by some sphalerite (brownish-black), some greenish sphalerite? or greenish vanadinite? may be occurring in some of the gold quartz vein. The chalcopyrite and the sphalerite and/or the lead do not seem to be intimately mixed; the sphalerite occurs along parts of the borders of the chalcopyrite; most of the observed galena appears to occur separately although occasional chalcopyrite and/or secondary copper staining is present with the galena. A brownish mineral occurring with the galena and/or the chalcopyrite may be one of the tungsten minerals (huebnerite?), no chemical or other tests have been made to identify the various minerals in the gold quartz vein; all observations have been visual. Occasionally, small, malleable flakes have been noted in the pannings, whether this is contamination?, some of the galena? or ????, has not been determined.

Thulite occurs in the general area, epidote, microcline, ~~spinel~~ regular hematite (over)

vanadinite, cerrusite, galena, chalcopyrite, pyrite, pseudomorphs of limonite after pyrite with specks and/or platings of gold, gold as fine specks-blobs (visible), fine gold (free) in mortared rock. Around the Mother Lode districts of Calif. (Grass Valley, Nevada City, etc) pyrite crystals plated with gold are known to occur; at Ruby, Arizona there is a pyrite-gold relationship; the low-grade, pyritic, pipe-like structure at the Bi-Metals was mined for gold and produced some minor placer, this is about 3 miles N30W from the M-Claims; therefore it is possible that this first generation of pyrite already had the gold content which in part is now visible in the limonite????

Fine crystals of ^{vein quartz} Spinel?? occur in some of the rock, it has the appearance of the Fe-Mg spinel.

Movement in quartz vein evident along dip (?up? or ?down??)

6-4-74--- Noted blobs of glass in the jasperoid-breccia-quartz from gold vein; thus indicates nearness of contact border; also the changes in the texture of the granitic rocks in the old complex could be ? facies? and/o gradational changes of the parent intrusive.

---Noted partially altered pyrite cube, mixture of pyrite-limonite thus it could be this is the pyrite that ^{originally} had the gold content, and which now is visible in the pseudomorphs

**? If this gold vein is related to the Cambrian intrusives is there a possibility that the initial erosion may have formed disconnected, small placers to the east and to the south of the granite, some of these areas are now covered by Quaternary volcanics ???

****Indications of fluorite in the concentrate is contamination; also the copper globules and/or fragments in the concentrate are from a dirty mortar that was built out of an approx. 6 1/4 inch casing? & some brazing was made at the joints or cracks

6-7-74 Check for fluorescent minerals--- Nil contact at hole near spring, nil. Float from NW Corner area M-4, nil. M-10 open-cut, some fluorescent hyalite or quartz (white bull-quartz)

***** Abundant pyrite in M-10 cut quartz stringer, some may be cupriferous

6-7-74 Realigned N70E line of M-3--M-4 to NW corner M-4

CONFIDENTIAL

M-CLAIMS Misc. OBSERVATIONS
Mohave County, Arizona

Free visible gold occurs in vein ~~found in~~ the low-angle structure. Primarily the filling is quartz, which at times cements country rock fragments to form a part-breccia vein filling. The breccia and/or the cemented fragments vary in composition, ~~no doubt their composition depended on the composition of the older Cambrian complex~~

portions of this rock were
The composition of the fragments is variable as their origin ~~is somewhat~~ depended on the composition of the variable older Cambrian complex. The hanging-wall of the quartz vein consists of rock that may have been, in part, a sandy type ^{of a formation} in the old complex that was shattered and then recemented with quartz. Some of the rock fragments in the quartz vein at times consist mostly of microcline, and in almost all instances there is some relationship between the free visible gold and pseudomorphs of limonite after pyrite; ~~and~~ occasionally the free gold is found with earthy limonite. The free gold also occurs in and/or near the silicious breccia; as specks and blebs in the quartz; and as specks and/or platings ^{on} the limonite.

see previous report re. vein filling
The quartz-feldspar-limonite vein rock on M-7 claim, after mortaring and ^{SEE} panning shows abundant ~~but very~~ fine gold. Northward from the M-1 location portions of the quartz vein will pan a strong head of what I would assume is vanadinite; ^{at some places} a thin seam of gold bearing quartz will produce very fine gold, which at times is masked by the vanadinite in the concentrate, ~~these types of pannings~~ my estimate is that this type of rock should assay 1 to 2 oz/ton, (i.e. the vein). Estimate of panned rock from M-7 are that some of these stockpiles should assay from 1 oz to 3 oz/ton.

and/or specks
The occurrence of free gold as platings ^{on} the limonite is somewhat different as frequently this film of gold rests on the polished surfaces of the limonite; also at times plates and/or specks of visible gold occur within the limonite. Frequently the polished surfaces of the limonite have very clear striations, of the type that is typical to pyrite.

~~iron stained~~
Some of the vanadinite bearing quartz may also have a thin seam of quartz attached to it and the pannings will show ^{from this quartz attached} fine gold in the vanadinite concentrate. Also portions of this iron stained seam may have a varnish-like film of an iridescent bronzy color, somewhat comparable to the commonly occurring ~~more~~ films of iron found in many rocks, which I believe is a very thin film of gold that has adapted itself to the irregularities of surface of the quartz. This would have to be verified ^{with} better instruments, and an individual who is more knowledgeable about these types of occurrences. Also ^{very fine specks of gold? as if in suspension in the clear quartz}

** See previous mention re. assay walls --- fine thin stringers of quartz cementing and/or extending into the sandy metamorphosed wall rock ^{as shown} occasionally do show free gold; see sample

CONFIDENTIAL

Rough

The original, primary interest, in locating the M-claims, was, and still is the low-angle structure extending through a length of at least 4 claims, and possibly that much more under the volcanic cover. To me, the gold veins occurring in the low-angle structure and in the structure of the pre-Cambrian complex, were secondary in importance; my work and/or the opinion seems to indicate that the sulfide mineralization (or previously existing sulfides) appears to increase southward and southeastward and may be related to the rhyolitic Laramide intrusive situated in part in sections 13 and 24. Claim M-17 and others cover the previous mine workings of the Holy Moses mine (the Mohave Miner on Aug. 21, 1909 reported that the shaft reached a depth of 200 feet). There are recorded shipments of the ore shipped to the Tom Reed mill (not complete) from the Holy Moses and from the Big Horse Shoe claims. The old Royal Flush shaft workings are now the M-6 claim.

Other geological features include several structure sheetings, contacts, alteration, etc. In 1908, the Arizona Southwestern Company operated a 3-stamp mill with the ore obtained from the Holy Moses, which occurs in the pre-Cambrian complex. The low-angle structure from which ^{some of} the specimen rock has been obtained is eastward and at a higher elevation than the Holy Moses workings. There are indications of a reddish, granitic (microcline granite) intrusive which I have not been able to find by hand digging. At least 700 feet of hand built road is not finished to the main stockpile; no dozing has been done on the property since the claims were staked in 1974, to check the placer potential in the ancient channel near the spring; one hand dug hole was started in the wash on M-7, below the old mine workings, however that was not completed because of a cloudburst.

The low-angle structure to date has produced the best specimen rock: the low-angle structure is broken by a number of faults, and the higher grade ore occurs associated with a "bull" quartz vein in ore sheets within the structure. The ore I have stockpiled was sorted out of the dumps, and this ore is different

CONFIDENTIAL

in character from the "bull" quartz fragments evident in some of the workings. At times the bull quartz does produce some showy specimens, however the better grade ore in the ore shoots is at times a "dirty"-looking rock. The free gold occurs in a variety of rock types; a common occurrence of visible gold is with rock that contains limonite after pyrite, the gold occurs as platings, specks and/or small masses. In 1914 it was reported that the Windy Point property (not the M-claims), was treating ore in a 1-stamp mill. The coarse gold present in the ore would make it more difficult to accurately sample this type of a deposit; thus only a few samples were cut from the "bull" quartz remnants evident in the workings at the main stockpile. Three samples cut from the same place in the "bull" quartz vein fragment assayed 0.37-0.01-0.09_{oz} Au/T; three samples from the main stockpile assayed a) near top of pile (which had been walked on and exposed to weathering)--0.44_{oz} Au/T & 0.10_{oz} Ag/T
b) random coarse above toe, --0.17_{oz} Au/T & Tr Ag
c) medium size rock with some fines,-- 1.11_{oz} Au/T & 13.30_{oz} Ag/T
1" screenings at stockpile 0.33_{oz} Au/T & Tr Ag

CONFIDENTIAL

"Dirty" looking rock types with occasional specks of free 3.29_{oz} Au/T & 0.54_{oz} Ag/T
Concentrates from pannings of approx. 200 lbs, rock with visible Au removed and hand mortared to 5-10 mesh-- 7.656_{oz} Au/T & 0.876_{oz} Ag/T (rejects not assayed)
Concentrates from 1st 100 lbs. mortared, 5-10 mesh, 20.00_{oz} Au/T & 2.90_{oz} Ag/T
Rejects from 100 lbs. mortared rock pannings,-- 0.35_{oz} Au/T & Tr Ag
M-16, jasperoid outcrop --0.20_{oz} Au & Tr Ag (practically no float, or vein matter at these shallow workings)

Holy Moses dump screenings, lower layer, with coarse pieces of ore sorted out of the 1" screenings and combined with screenings 0.69_{oz} Au/T & 0.10_{oz} Ag
b) hand gathered top fines 0.15_{oz} Au/T & Tr Ag. Best layer of ore is at the bottom laying on the original surface. The low-angle structure is above the cliff eastward of the Holy Moses workings; a small dump contains different vein matter with visible free gold. The Holy Moses mineralization is in the pre-Cambrian complex, and some of the free gold is associated with syenite? fragments containing limonite after pyrite, it is easy to sort out

The biggest surface outcrop is the vein on M-4, this is a different structure, trending N30W and dipping steeply to the SW; the surface outcrop, avg. 3 ft. has no work done on it as there is no present evidence of specimen rock like in the low-angle structure and the Holy Moses. Claim M-7 appears to be a piece of the low-angle structure, however the gold is very fine at this end of the vein.

There are several granite porphyry dikes, and on M-2 the dike appears "beheaded". Several thousand tons of ore can be obtained by dozing from M-1 to M-7. Float from the low-angle structure frequently contains free gold. There has not been any apparent dozing done on the claims to check for other residual material or placer.

The underlying contact of the late-older pre-Cambrian granite with the older pre-Cambrian complex has not been checked by drilling. The origin ^(place,) of the reddish gold bearing ^{granite} with limonite after pyrite has not been determined; the possibility of the M-claims to contain a sulfide type gold bearing ore body has not been checked (similar to the Bi-Metal pyritic ore body)

CONFIDENTIAL

Several thousand tons of free milling ore can be obtained from the dumps and the outcrops which are easily accessible to a dozer; during the process of extending the hand built road, or building a new grade, which has been marked several years ago in anticipation of proposed dozing, I would suggest that all vein matter exposed by the dozing be saved for mill rock. Just below the spring, an open cut into an ancient channel being dug by hand has been converted into a new access road to eliminate the present short grade which in general is subject to erosion even with mild rains. Enough annual assessment work has been done for the 1979 requirement and more work will be added. As the County makes little or no attempt to maintain the road from McConnico to the springs, since locating the claims I have kept up the County road, the road to Lookout Spring and the claim roads. The only grader work that has been done in recent years has been by Freaday Construction during their work on the pumping installation for the 4-Corners pipeline, and by the Rocky Mt. Energy Co. (Union Pacific) when they staked the numerous claims in the Boulder Spring area, and just west of the M-claims. In March 1978, the USGS drilled a thermal hole in Sec. 10, near the Lookout Spring turnoff.

Most of the shallow workings southward from the Holy Moses have been made by hand work, thus this area can be considered a raw prospect. Some of the most

productive area dumps have been screened for the gold content, but it seems that little attempt was made to sort out the specimen rock that came out of the shallow workings. Working alone I only cleaned back the caved portals for mapping and have not done any mining in the old workings. I consider the easterly side of the hill ^(the hill on the west side) where about 30 workings have been made in the low-angle structure and several in the pre-Cambrian complex) as an exploration target which except for the location holes has been hardly scratched; I consider the mine workings on the westerly side as being in a fragment of a larger regional structure; the low-angle structure is broken by several easterly-westerly faults and the ore shoots appear to be related to these structures and other conditions. Claims M-4 and M-7 appear to be situated near a "graben-like" block and the high grade stringer with visible free gold is a small veinlet. On claim M-erosion has removed most of the hangingwall waste rock and the vein matter, breccia and "bull" quartz, is now exposed at the surface. Much of the area is covered with barren country rock derived from the later volcanic flows and the rhyolitic intrusive. Exposures of alteration extend from M-6 to M-17, and to the NW vein on M-4 which has not been explored; the low-angle structure can be traced from M-17 into M-7, a distance of about 6000 feet. Several granite porphyry dikes are evident in the vicinity, and/or at some of the old workings on the westerly side of the hill.

The excess water from Lookout spring disappears abruptly into the ground about 200 feet away from the spring; a strong structure trends easterly from the spring and my opinion is that water could be developed near or on claim M-16 near the old Holy Moses workings. I consider Lookout spring wash a fault with good potential for developing water. The USGS hole encountered water during their drilling, and this would be on the hanging-wall side of the fault. The Rocky Mt. Energy drilling program encountered water in their drill holes in the granitic basement. In 1976 the land records showed that there was open BLM ground along I40, and I had thoughts of location one or two mill sites in that locality, as near the new interchange to old US 66, however I was not in a position to patent the ground.

CONFIDENTIAL

When the M-claims were staked in 1974, Lookout spring was a BLM spring and the improvements belonged to the cattlemen; claim M-3 falls over the spring; the old concrete troughs may ?? be a part of the area where the 3-stamp and 1-stamp mills operated in the early 1900s. Claim M-6, covers the ground below the spring. Several high-grade float fragments were found near the M-11 location hole; the vein matter may have been derived from veins existing in the pre-Cambrian complex as the float is different in character from the vein matter found in the low-angle structure; when mortared this rock produces flakes and fines of gold that do not resemble the gold panned from the stockpiles.

There are several small outcrops of feldspar (probably microcline) on the claim and at least two shallow workings on a quartz vein in the complex have produced large ~~mass~~^{quartz} crystals; the quartz veins are in the vicinity of the most prominent porphyry dike.

The structural conditions, vegetation, etc., indicate that shallow water could be developed on M-16 away from Lookout spring; also water can be developed below the spring. I would not want to interfere with the cattlemen's work.

The old Holy Moses shaft is ^{bullheaded} bullheaded (part of my work), and a flagged wiring is around the old Royal Flush shaft. I have before-after pictures, when the old workings were wide open (under BLM management) and after the work I did; also pictures of location holes being dug after posting. About 1 year was spent checking the ground and the records before the claims were located; everything has been posted within the required time limit and the holes dug by hand. I have until October, 1979, to register the claims with the BLM; I would recommend doing this in the allowed time limit if a change of ownership takes place. I did give the BLM a copy of the 18 M-claims, and a copy of the 18 claims I have at Wikieup which I located years ago for industrial minerals like ion exchange material, etc.

No samples have been cut in the old Holy Moses mine workings. The following

information about ore shipments to the Tom Reed mill, assays, etc., were taken from a report compiled by F.E. Buchanan in 1941; the report gives vein widths that vary from 3 ft. to 6 ft. and 2 ft. to 6 ft; the 3 ft. vein in the shaft assayed 0.60_{oz}Au & 0.00 Ag; the vein in the short drift south of the shaft assayed 1.04_{oz}Au & 0.00 Ag; a soft gouge at 135 ft. in the shaft assayed 0.04_{oz} & 0.68_{oz}Ag; vein matter at 135 ft. assayed 0.417_{oz} Au & 0.25% Pb. Several settlement sheets of ore shipped to the Tom Reed gave the following

Feb. 25, 1939 -- 4.48 T ----	1.92 _{oz} Au/T & None Ag	Big Horseshoe claim
April 6, 1939 -- 2.795 T ---	4.36 _{oz} Au/T & " "	" "
April 14, 1941 -11.59 T ---	0.252 _{oz} Au/T & None Ag	
April 21, 1941 -23.32 T ---	0.255 _{oz} Au/T & " "	Ayra No. 5 claim (Holy Moses)
May 12, 1941 -- 50.42 T ---	0.264 _{oz} Au/T " " "	Now M-17
	85.337x 0.257 _{oz} Au/T	

For 1932-1933 some minor placer production is reported for this locality. Other information has been found published in the USGS Mineral Yearbook; the Mohave Miner in 1912 (3-2-12) reported that A.L. McKesson came up from the Holy Moses claim yesterday bringing a 20 ounce bar of bullion, the result of a short run of the 3-stamp mill; the Univ. of Ariz. publications provide some information about the general area; also several USGS publications provide some information when these and the Bi-Metal properties were in operation. *But not too much published.*

In Kingman (at the rock shack) I have several hundred pounds of rejects that would make a kind of a generalized sample, as most of the rock has come from the stockpiles which are at least second generation rejects to start with; some of this material may have an occasional speck of free; part of this is also rejects from the last 200 pounds of rock that I mortared and panned, these rejects were not assayed only a random grab from the concentrates. My assays and pannings indicate that any concentrate containing limonite after pyrite should be saved; also my mortaring and panning indicates that about 90% of the free gold is released when ground to about 40 mesh, the balance of the fine gold is tied up in the concentrates; at times the coarser particles tend to be washed into the middlings (the gold at times is rough and wiry, with some flakes and fines)

I have the concentrates I saved from the last 200 pounds of mortared and panned rock; the mesh on this varies from about 40-50 to 50-10 mesh and is a fair representative of the concentrates obtained from the M-claims stockpiles; my estimate is that about 50 tons of rock will produce about one ton of concentrates.

Although your interest primarily is in gold ore, perhaps you may encounter someone who is interested in industrial minerals; as many industrial minerals cannot be used in the form in which they are removed from the ground, the cost of processing is a major factor in determining whether or not a deposit can be profitably ~~worked~~^{worked} by a small operator. The list of industrial minerals is long and tends to increase each year. The 18 claims at Wikieup contain a high-grade analcite and the clay mineral illite. Currently illite from Grundy County, Illinois is used to scavenge radioactive waste (Cs^{137}) at Oak Ridge; at one time this also was used in drilling muds, etc; in my opinion this ^{Illinois deposit} may be a limited type of a deposit, which at one time was marketed under the name of Grundite and/or Na-Cla. The deposit at Wikieup also contains interbedded splite, at least 300,000 tons of splite slabs are on or near the surface; the zeolite analcite is of exceptional quality, it ranges in purity from 90%-100%, about 250,000 tons of this material is present on the claims; also there is other zeolitized, ion-exchange material on the claims. ^{S. The Japanese use} The Japanese use zeolitized tuffs and/or zeolite in hog raising, feed pens of other animals to decrease odors and mix it with feed to improve the health of the animals, etc. My thought has been to initiate a large-volume low-cost type of an operation to supply cattle-chicken-hog-etc. growers with this material to decrease odors, etc., then the material from the cleanup could be used as a fertilizer (similar to that in Japan); the ion exchange material releases plant nutrients slowly, over a period of time.

CONFIDENTIAL

M-Claims observations (cont.)

The original, primary interest, in locating the M-Claims, was the low-angle structure extending through a length of 4 claims, and possibly that much more under the volcanic cover. To me, the gold veins, although secondary in importance, are indicators that the sulfide mineralization appears to increase in strength and may be related to the rhyolitic intrusive situated in sections 13 and 34, southeastwardly of the group. Also the underlying alteration is evident from M-6 to M-17, a width of at least 3000 feet, and from M-6 to M-17 a distance of about 4000 feet. As recent alluvium is present in the area, an estimate can be made as to the thickness of the low-angle structure; my estimate is that the low-angle structure with the included gold bearing vein matter is from 4 feet to at least 10 feet thick; the upper portion of the zone blends into the pre-Cambrian complex; the footwall portion of the zone in several places rests on partially shattered, and "beheaded" granite-porphyr dikes. Although some of the vein matter in the low-angle structure is, what commonly is called, "bull" quartz; the better gold bearing material is at times a "dirty" looking type of a breccia which contains a variety of dike rock fragments, altered fragments of the complex, a reddish granite with limonite after pyrite, and a quartz-feldspar mixture with or without limonite. Quartz is the primary cementing material of the breccia, the free gold occurs as specks, platings, irregular masses, at times as distorted isometric crystals or occasionally as a very thin films on iron stained quartz; occasionally the free gold is found in or with earthy limonite, calcite, specular hematite, vanadinite, pyrite, and occasional galens; free gold occurs with most any rock that contains limonite after pyrite. Other minerals are present in some of the vein matter, however the mortared rock produces only a small amount of concentrate; my estimate is that about a 40 mesh grind would release most of the free gold, which could be separated in a number of ways, and produce about 1 to 2 pounds of concentrates for every 100 pounds of rock.

About 4 or 5 easterly-westerly faults cut the low-angle structure, and the

ragged edges appear to be the most favorable places for the emplacement of the specimen rock material; the specimen rock may contain free gold from the size of fine specks to concentrations of gold up to 7 mm in size.

As the underlying contact of the older pre-Cambrian complex has not been checked by drilling, a possibility exists in this locality that concealed deposits may exist beneath the ragged edges in the formerly flexure-like pre-Cambrian complex. The old Holy Moses (M-17) workings are in the complex, and they indicate that the pre-Cambrian rocks are receptive to mineralization; these workings are near the late-older pre-Cambrian granite, and the vein matter is different from that found in the low-angle structure (which is to the east of the Holy Moses shaft).

The regional structure of the M-Claims locality appears to be simple. However the local structural features in the old complex and the relationship of the complex to the Laramide intrusive are a bit more complicated because of the lava cover. The granite-complex contacts were good points for mineralization, and the pyritic, gold, deposit at the Bi-Metal mine indicates that a possibility exists for other sulfide deposits. The Bi-Metal deposit, (as reported by Schrader) contained fragments of dike rock, and the pipe-like deposit dipped at about the same angle as the low-angle structure on the M-Claims; the microcline granite intrusive at the Bi-Metal property is coarser in texture than the reddish granite fragments occurring with the ore on the M-Claims; the exact location of the ^{main mass of the} reddish granite on the M-Claims has not been exposed by the hand work.

The fragments of "bull" quartz vein still evident in some of the shallow workings indicate that the gold bearing vein matter in the low-angle structure varied in thickness from about 2 inches to 20 inches; several thousand tons of gold bearing vein material can be mined with a dozer from the easily accessible outcrops. There is no road to the stockpiled ore; when a road is dozed to the workings an estimate might be made as to the amount of float that can be recovered below the outcrops.

CONFIDENTIAL