

Uranium deposits of western Utah ranging in importance from minor prospects to major producers have been investigated by the author in the seven counties that make up the Eastern Great Basin and Transition Zone . A total of 110 prospects and mines were investigated . Major production has come from the Central Mining District near Marysvale, Piute County . The district lies in a narrow geomorphic area that is neither typical Basin & Range nor Colorado Plateau and has been classified as the Basin & Range-Colorado Plateau Transition Zone . Some of the producing mines in the district include the Freedom and Freedom # 2 , Farmer John , Prospector , West End , and Deer Trail Mines .

The Yellow Chief Mine near Spor Mountain in Juab County produced 90,000 tons of ore from a sandstone conglomerate unit . Minor Production has come from The Tetons area in Beaver County , The Honeycomb Hills of Juab County , and from the Leeds (Silver Reef) District in Washington County . Total uranium production from western Utah has been about _____ pounds of U₃O₈ . The known reserves of uranium are small totaling about _____ pounds .

Uranium ore of western Utah is usually very low grade and occurs in a variety of host environments that range from sedimentary replacement deposits in association with veins and pipes of fluor spar in the Beryllium Belt of Juab County , to hydrothermally altered vitric tuffs of Marysvale , to Sandstone type deposits in the Silver Reef District of Washington County .

Although production from the Great Basin has been limited , the potential for yet undiscovered deposits seems to be good , especially in areas which shows favorable structural and stratigraphic positioning , favorable hydrologic conditions , and elemental availability all within specific increments of geologic time . The information which we have at present is too meager to make a comprehensive evaluation of the potential that exists there ; this is especially true with respect to Basin fill sediments which may contain large amounts of yet undiscovered deposits .

HISTORY OF URANIUM MINING IN WESTERN UTAH

Commercial production of uranium began in western Utah in 1949 when P. Seegmiller , R. Smith & L. Anderson discovered secondary uranium minerals near Marysvale . Autunite was found distributed through altered zones of quartz monzonite .

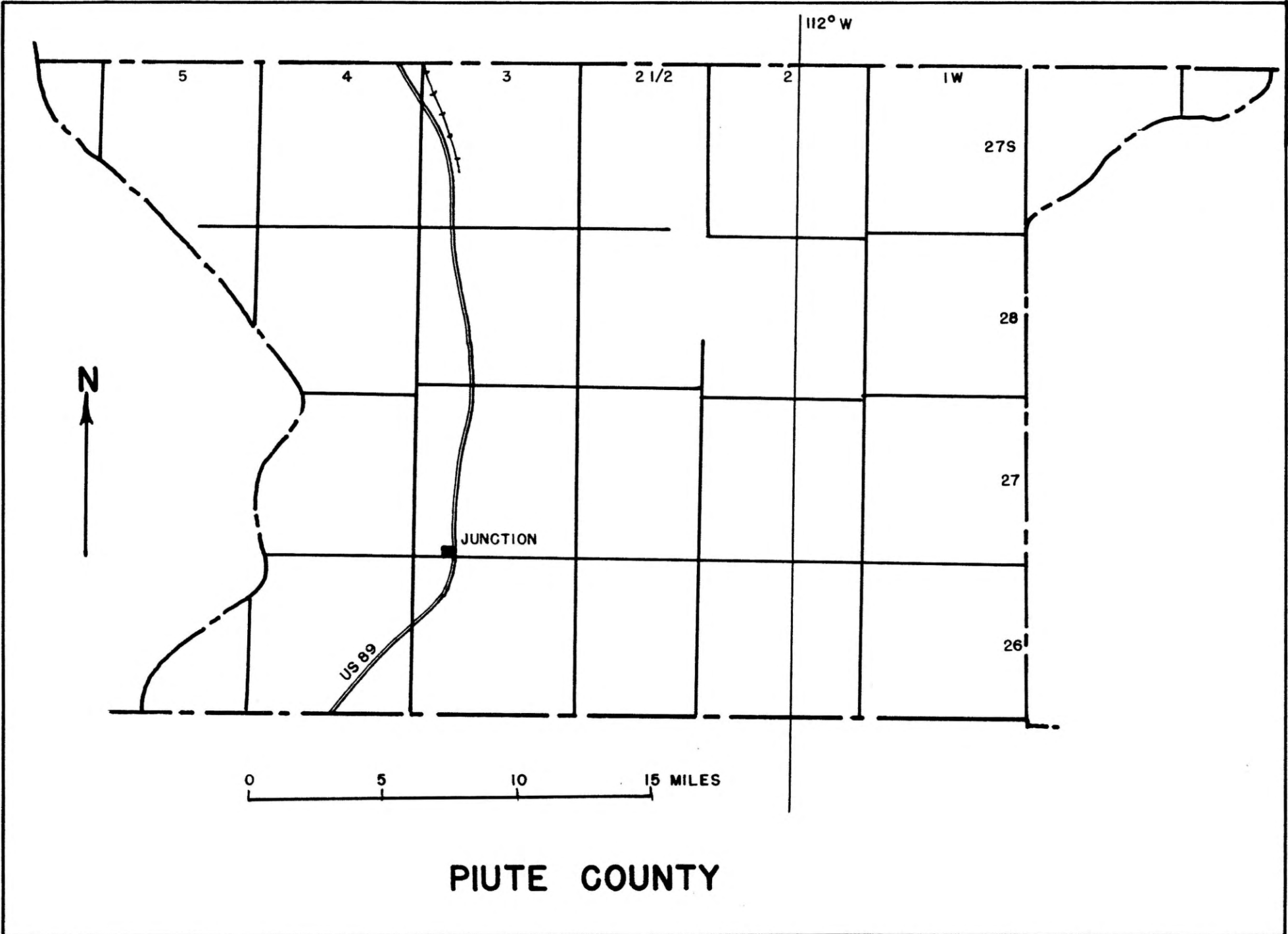
Marydvale District Notes

Deer Trail Mine discovered in 1889 produced considerable gold, silver, Pb, Zn
U first discovered in 1949 by P. Seegmiller, R. Smith & L. Anderson. Autunite
found distributed thru. altered shear zones in Qtz Mon.

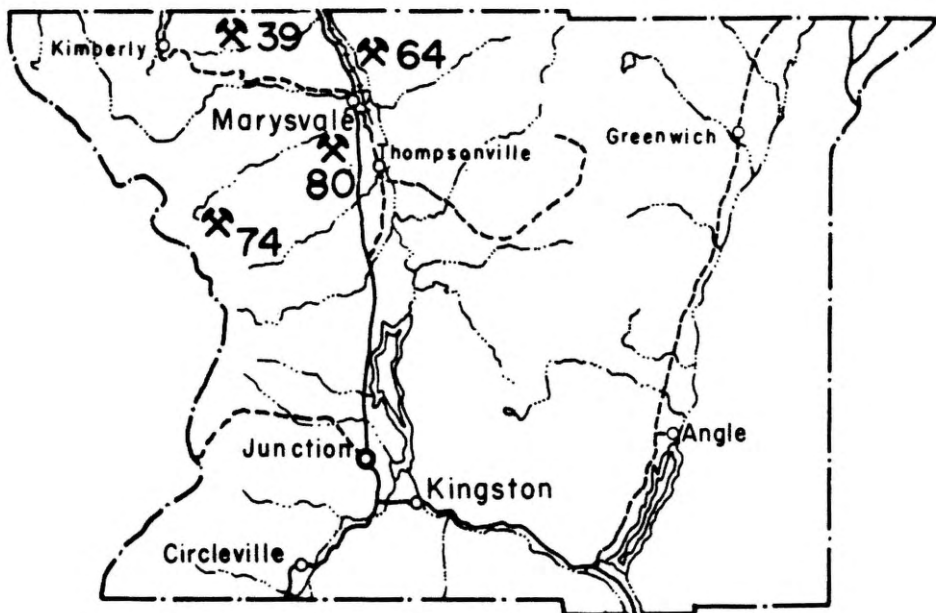
Dev. began with Bullion Monarch Mining Co. & V.C.A. 1949
AEC drilling 1950, and Ore buying station

March 15- Aug 30, 1950 AEC announced an accumulation of 11,000 tons of ore
at the station assaying .80%

1951 5 mines producing



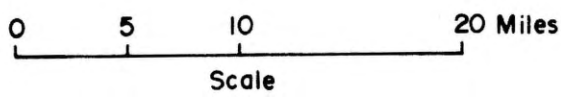
PIUTE COUNTY



MINERAL DEPOSITS of PIUTE COUNTY

Mining Districts

- 39-Gold Mountain
- 80-Ohio
- 74-Mt. Baldy
- 64-Marysville



Marysvale

U.S.G.S. PP 300, p. 5-12, 1956

by Stocking, H. E. and Page, L. R.

Tertiary age; joints, faults contain ore.

Uraninite.

Iron, copper sulfides, galena, sphalerite, molybdenite, qtz, and fluorite.

Uranium-bearing Vein Deposits in the U.S.

by Donald L. Everhart

Marysvale district, Piute County, Utah.

Host rock: Formation name, lithologic type, age: Quartz monzonite, granite, and Mt. Belknap rhyolite, Tertiary.

Uranium minerals: Pitchblende, autunite, torbernite, uranophane, other secondary minerals.

Associated metallic minerals: Pyrite, magnetite, hematite, jordisite, ilsemannite, umohoite manganese oxides.

Gangue: Silica minerals, adularia, fluorite, minor clacite.

Structural features: Steep fractures trending N. 65° E. and NW.

Hydrothermal alteration: Argillization, silicification.

Geologic age: Late Tertiary.

U.S.A.E.C., G.B., Uranium Deposits of Western U.S.

USAEC, Oct. 1959

Argillic alteration appears to have provided a host for uranium minerals.

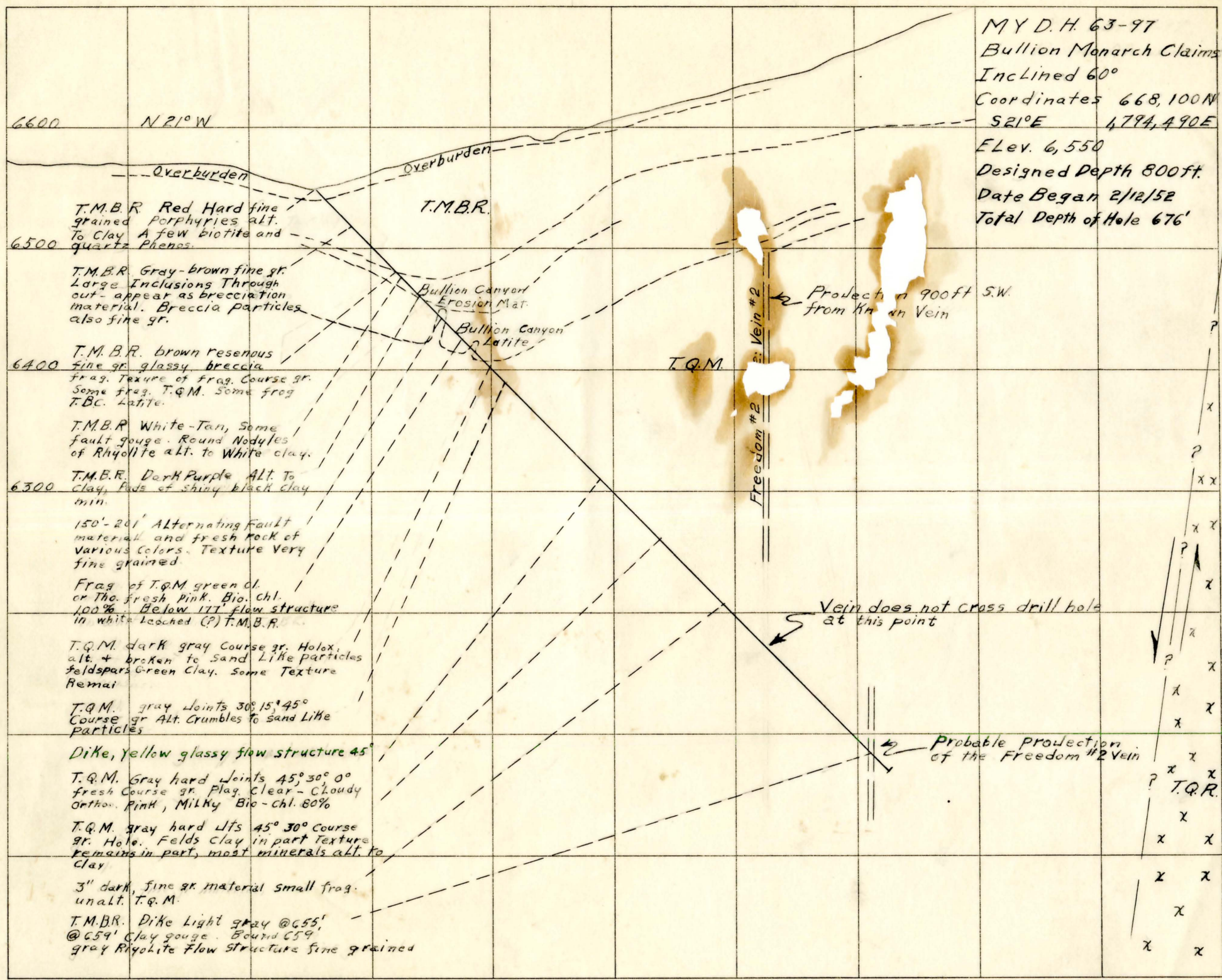
Marysvale Area

U.G.M.S. GB #21, p. 109-128, 1967

M. D. Dasch

1949-1962, 270,000 tons at .23% U_3O_8 shipped.

MY D. H. 63-97
 Bullion Monarch Claims
 Inclined 60°
 Coordinates 668,100N
 S21°E 4794,490E
 Elev. 6,550
 Designed Depth 800ft.
 Date Began 2/12/52
 Total Depth of Hole 676'



6600 N 21° W

6500 T.M.B.R. Red Hard fine grained porphyries alt. To Clay A few biotite and quartz Phenos.

6400 T.M.B.R. Gray-brown fine gr. Large Inclusions Through out - appear as brecciation material. Breccia particles also fine gr.

6300 T.M.B.R. brown resinous fine gr. glassy breccia frag. texture of frag. coarse gr. Some frag. T.Q.M. Some frag. T.B.C. Latite.

T.M.B.R. White-Tan, Some fault gouge. Round Nodules of Rhyolite alt. to White clay.

T.M.B.R. Dark Purple Alt. to clay, Peds of shiny black clay min.

150'-200' Alternating fault material and fresh rock of various colors. Texture very fine grained.

Frag. of T.Q.M. green cl. or Tho. fresh pink. Bio. chl. 100% Below 177' flow structure in white loosed (?) T.M.B.R.

T.Q.M. dark gray coarse gr. Holox. alt. + broken to sand like particles feldspars Green Clay. Some Texture Remai

T.Q.M. gray Joints 30°, 15°, 45° coarse gr alt. crumbles to sand like particles

Dike, yellow glassy flow structure 45°

T.Q.M. Gray hard Joints 45°, 30° 0° fresh coarse gr. Play. Clear - Cloudy ortho. Pink, Milky Bio - chl. 80%

T.Q.M. gray hard Jts 45° 30° coarse gr. Hole. Felds clay in part texture remains in part, most minerals alt. to clay

3" dark, fine gr. material small frag. unalt. T.Q.M.

T.M.B.R. Dike Light gray @ 655' @ 659' Clay gouge. Bound 659' gray Rhyolite Flow Structure fine grained

T.M.B.R.

Bullion Canyon Erosion Mat.

Bullion Canyon Latite

T.Q.M.

Freedom #2 Vein

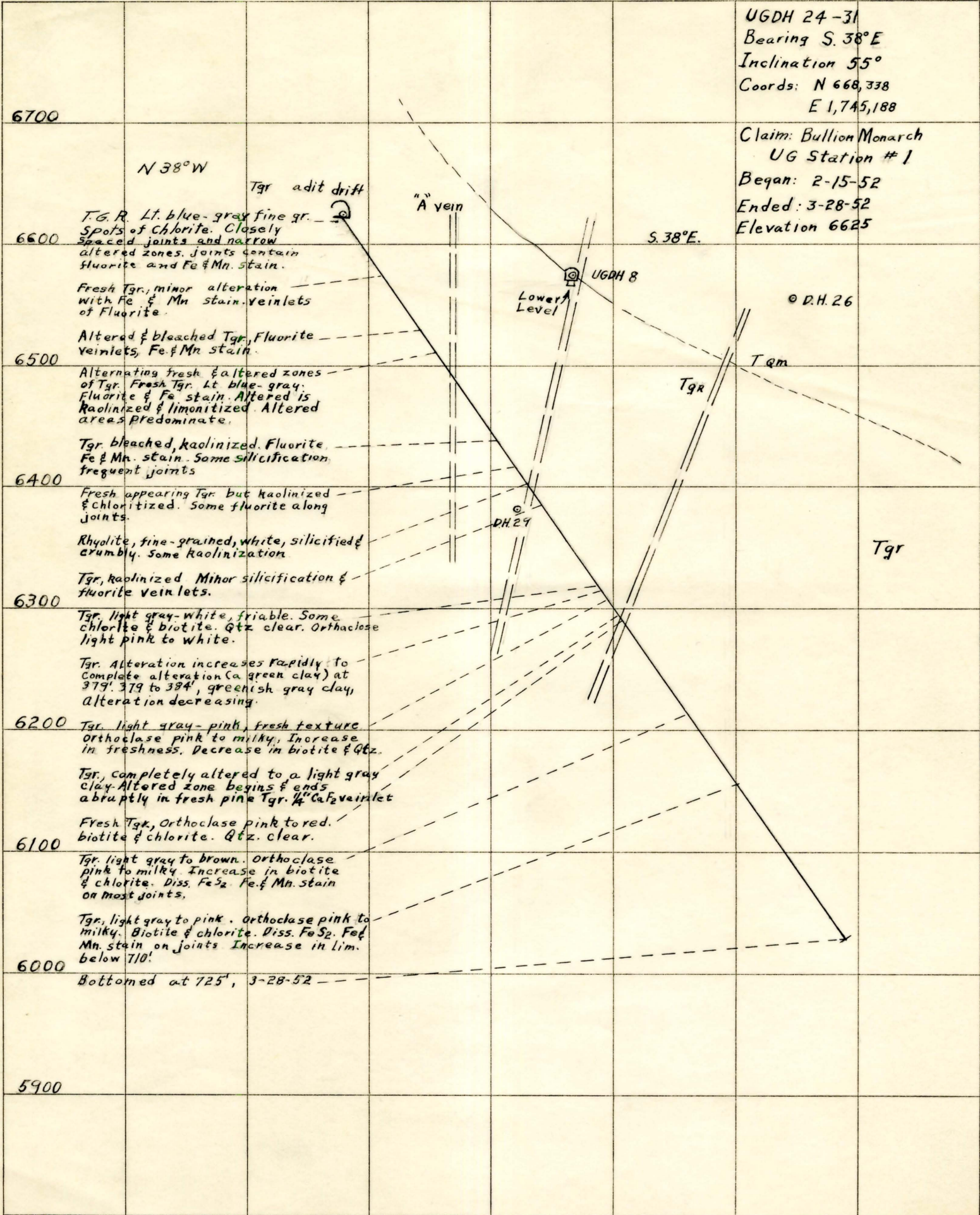
Projection 900ft S.W. from Known Vein

Vein does not cross drill hole at this point

Probable projection of the Freedom #2 Vein

T.Q.R.

x x
x x
x x
x x
x x



UGDH 24-31
 Bearing S. 38° E
 Inclination 55°
 Coords: N 668,338
 E 1,745,188

Claim: Bullion Monarch
 UG Station # 1
 Began: 2-15-52
 Ended: 3-28-52
 Elevation 6625

6700

N 38° W

Tgr adit drift

"A" vein

S. 38° E.

6600

T.G.R. Lt. blue-gray fine gr. Spots of chlorite. Closely spaced joints and narrow altered zones. Joints contain fluorite and Fe & Mn stain.

Fresh Tgr, minor alteration with Fe & Mn stain. Veinlets of fluorite.

Altered & bleached Tgr, Fluorite veinlets, Fe & Mn stain.

6500

Alternating fresh & altered zones of Tgr. Fresh Tgr. Lt. blue-gray. Fluorite & Fe stain. Altered is kaolinized & limonitized. Altered areas predominate.

Tgr. bleached, kaolinized. Fluorite Fe & Mn stain. Some silicification frequent joints

6400

Fresh appearing Tgr. but kaolinized & chloritized. Some fluorite along joints.

Rhyolite, fine-grained, white, silicified & crumbly. Some kaolinization.

6300

Tgr, kaolinized. Minor silicification & fluorite veinlets.

Tgr. light gray-white, friable. Some chlorite & biotite. Qtz. clear. Orthoclase light pink to white.

Tgr. Alteration increases rapidly to complete alteration (a green clay) at 379'. 379 to 394', greenish gray clay, alteration decreasing.

6200

Tgr. light gray-pink, fresh texture. Orthoclase pink to milky. Increase in freshness. Decrease in biotite & Qtz.

Tgr, completely altered to a light gray clay. Altered zone begins & ends abruptly in fresh pink Tgr. 1/4" CaF₂ veinlet

6100

Fresh Tgr, Orthoclase pink to red. Biotite & chlorite. Qtz. clear.

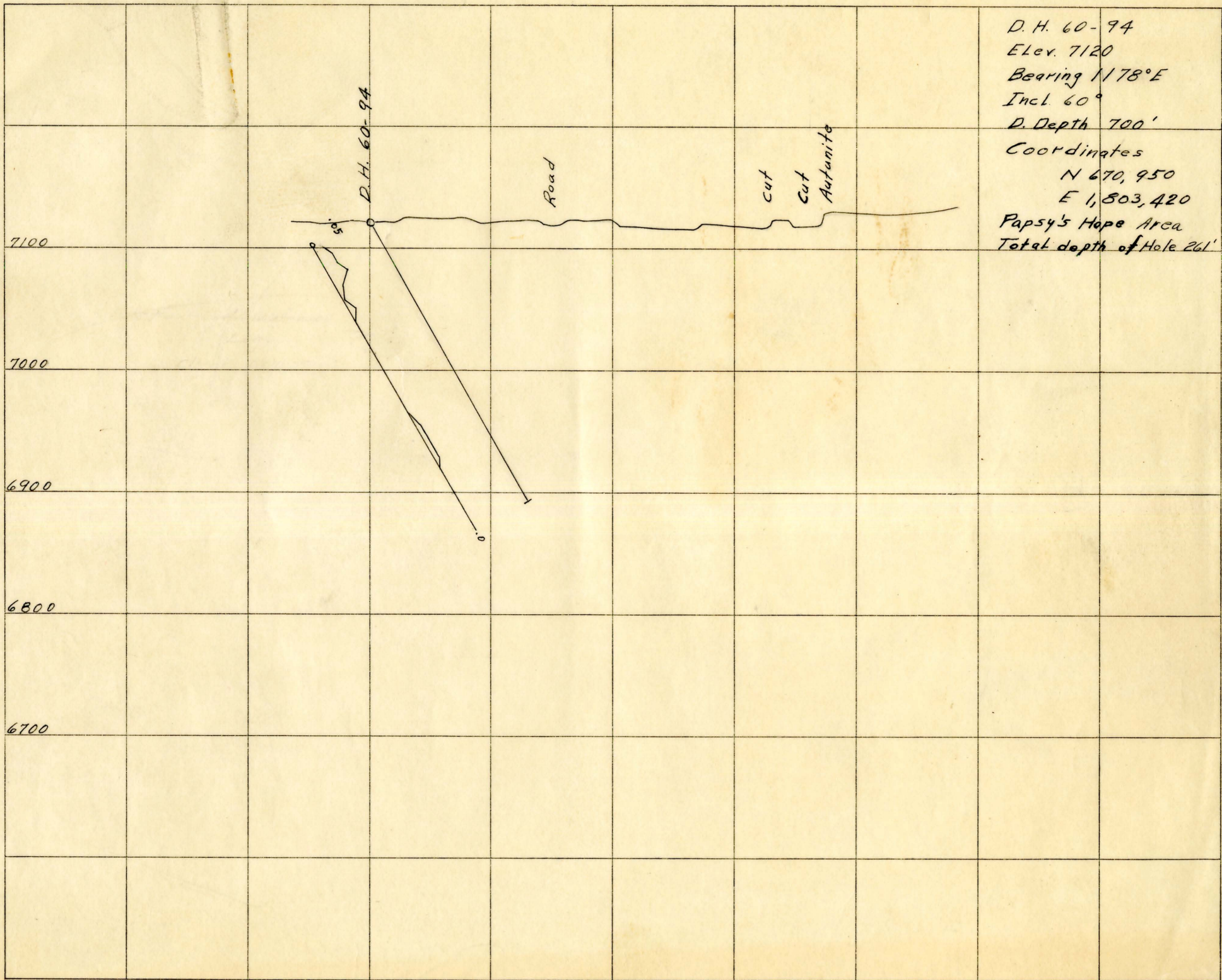
Tgr. light gray to brown. Orthoclase pink to milky. Increase in biotite & chlorite. Diss. FeS₂. Fe & Mn stain on most joints.

6000

Tgr. light gray to pink. Orthoclase pink to milky. Biotite & chlorite. Diss. FeS₂. Fe & Mn stain on joints. Increase in lim. below 710'.

Bottomed at 725', 3-28-52

5900



D. H. 60-94
 Elev. 7120
 Bearing $1178^{\circ}E$
 Incl. 60°
 D. Depth 700'
 Coordinates
 N 670,950
 E 1,803,420
 Papsy's Hope Area
 Total depth of Hole 261'

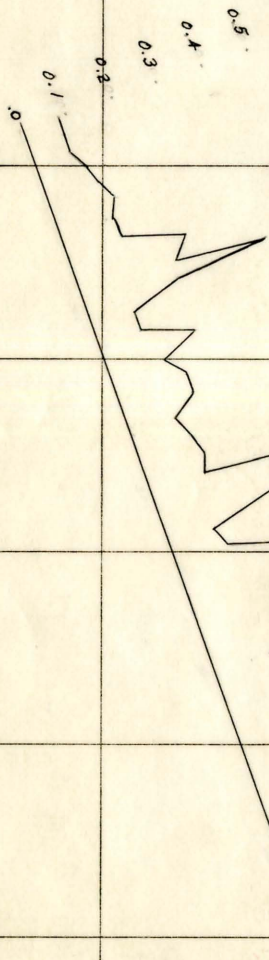
D.H. 65-99
 Elev. 6870
 Bearing N33°W
 Inc 70°
 D.D. 700'
 Scorpion Claims
 Total Depth of Hole 421'

7000

6900 S 33°E

6800

6700



T.b.C. Latite Tan brown, fine grained porphyritic Altered to a tan to green clay gouge. Fresh pieces show porphyritic text, but phenos. are altered to CaCO₃

T.b.C. Latite Tan, hard, fine gr. Phenos appear to be silicic particles, all core altered to light tan clay, with inclusions of harder material resembling fault breccia

T.b.C. Latite green to brown fine gr. Phenos altered to green clay, phenos. parallel and elongated. Core covered with film of Halloy site(?) increases in freshness toward 147'

T.b.C. Latite, dark brown, alt. to clay, broken by drill into sand like particles.

T.b.C. Tan, fine grained. No rec. minerals, for most part alt. to clay gouge.

T.b.C. Tan, partially silicified many small cavities appears that phenos. have been leached out.

Light tan, dense, no phenos. Looks like a tuff. Not vesicular

T.b.C. Reddish brown - Tan, fine gr. No rec. Min. groundmass rather fresh. phenos alt. to a tan clay.

Almost totally alt. to clay. Some text remains Pyrite and Marcasite @ 211.

T.b.C. Lt. gray hard fine gr. Phenos. appear to be qz. which alters to a green clay phenos well rounded, abundant

T.b.C. black hard dense phenos few fresh ones appear glossy. Chl green stain near phenos.

T.b.C. Lt. gray aphenitic, phenos alt. to clay some phenos leached.

T.b.C. gray - pink hard Aphenitic groundmass. Phenos (feldspar) alt. to white clay phenos. Large Chl. on Jte.

T.b.C. Completely Alt. to clay gouge Trace of pyrite + Chl.

fresh pieces appear to be fine gr. granite or sil. tuff

T.b.C. 3" rather fresh. Phenos. alt. to clay, some phenos. leached

T.b.C. Latite, gray hard, Aphenitic No phenos. Trace FeS₂ alt. increases to 385' beyond 385' alt. complete to clay gouge

T.Q.M. gray, hard, coarse gr. Holocrystalline line feldspar alt. to clay Bio. + Chl. 100% Pyrite slight Textural features remain

D.H. 64-98

Elev. 6870

Bearing N34°W

Inc 60°

D.D. 400'

Scorpion Claims

Total Depth of Hole 335'

7000 S34°E

6900

6800

6700

6600

6500

T.b.C. Latite, Tan to brown, fine grained porphyry
Pheno Crysts in fresh Latite appear to be glass. In
altered rock phenos. alter to Clay. Glass phenos. are
Obsidian black, Crystal Clear, resinous.
CaCO₃ Slight Trace Fe_{3O4}

T.b.C. Latite, fine grained altered & broken into small frag.
Limonite stains diss, Phenocrysts still present
96' - 97.5' Clay gouge.

T.b.C. Latite purple to red almost wholly altered to Clay
few phenocrysts remain which appear to have been glassy

T.b.C. Latite Tan-yellow Completely altered to clay gouge

T.b.C. Latite Completely altered to clay, highly pyritized
Some Crystals 1mm wide.

T.b.C. Latite Tan-brown fine grained, rather altered Some
fresh glass phenocrysts.

T.b.C. Latite Brown to tan, Very fine grained phenocrysts altered
to clay Rock gradually becomes fresh & hard Phenocrysts are fewer

T.b.C. Latite Tan, fine grained, altered to tan Clay Phenocrysts
lighter than groundmass.

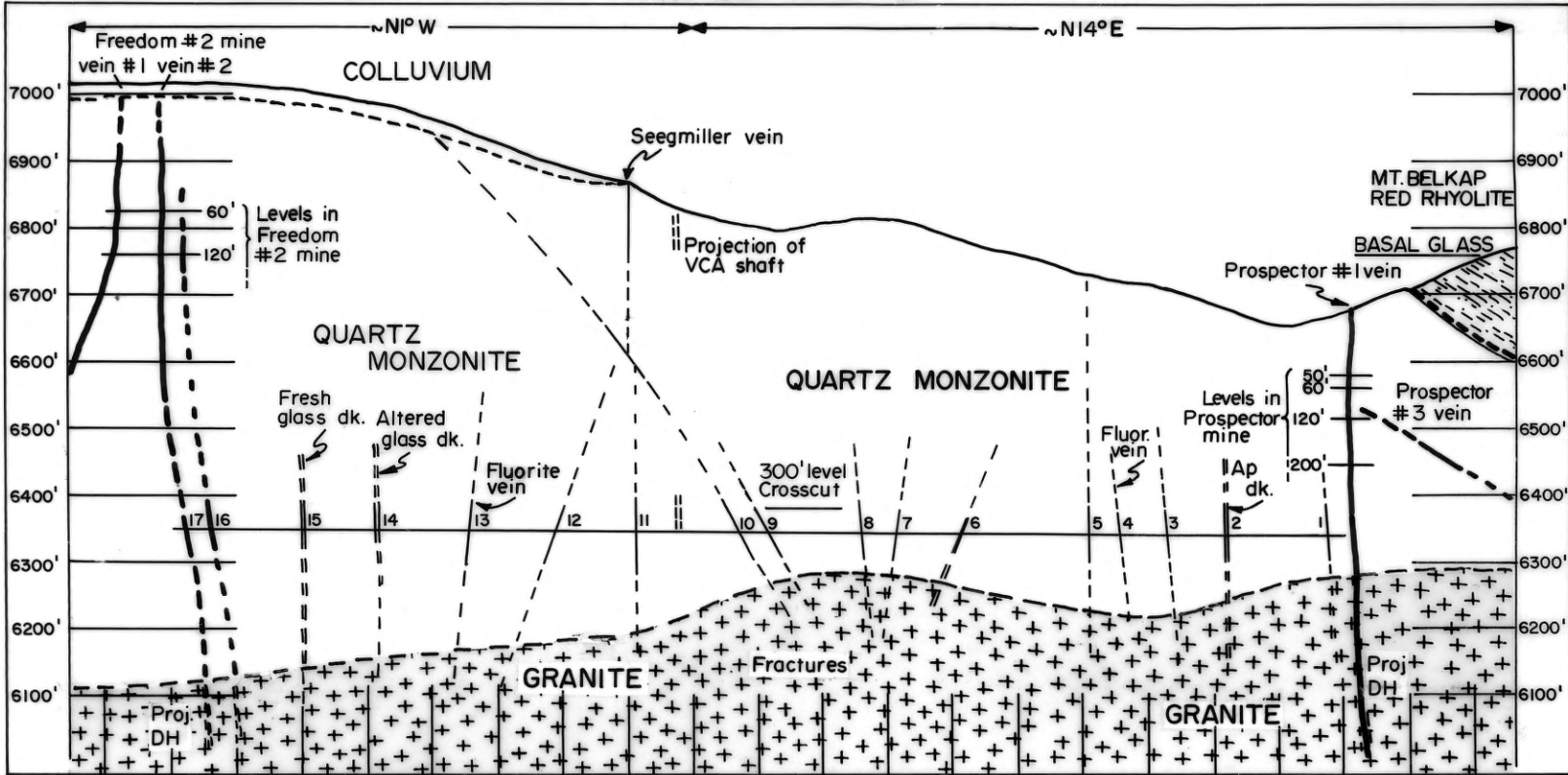
T.b.C. Latite gray fine grained, all minerals altered to Clay
diss. FeS₂.

T.b.C. Latite dark gray Phenos. altered to Lighter Colored Clay
groundmass fine grained. CaCO₃ present in small veinlets. phenos.
became fewer to 200'

T.b.c.(P) White to gray, Completely altered. No Silica present
FeS₂ present on some fresh pieces of core.

T.Q.M. Light gray - gray Hard Course grained feldspars altered
to white clay biotite black, diss. FeS₂.

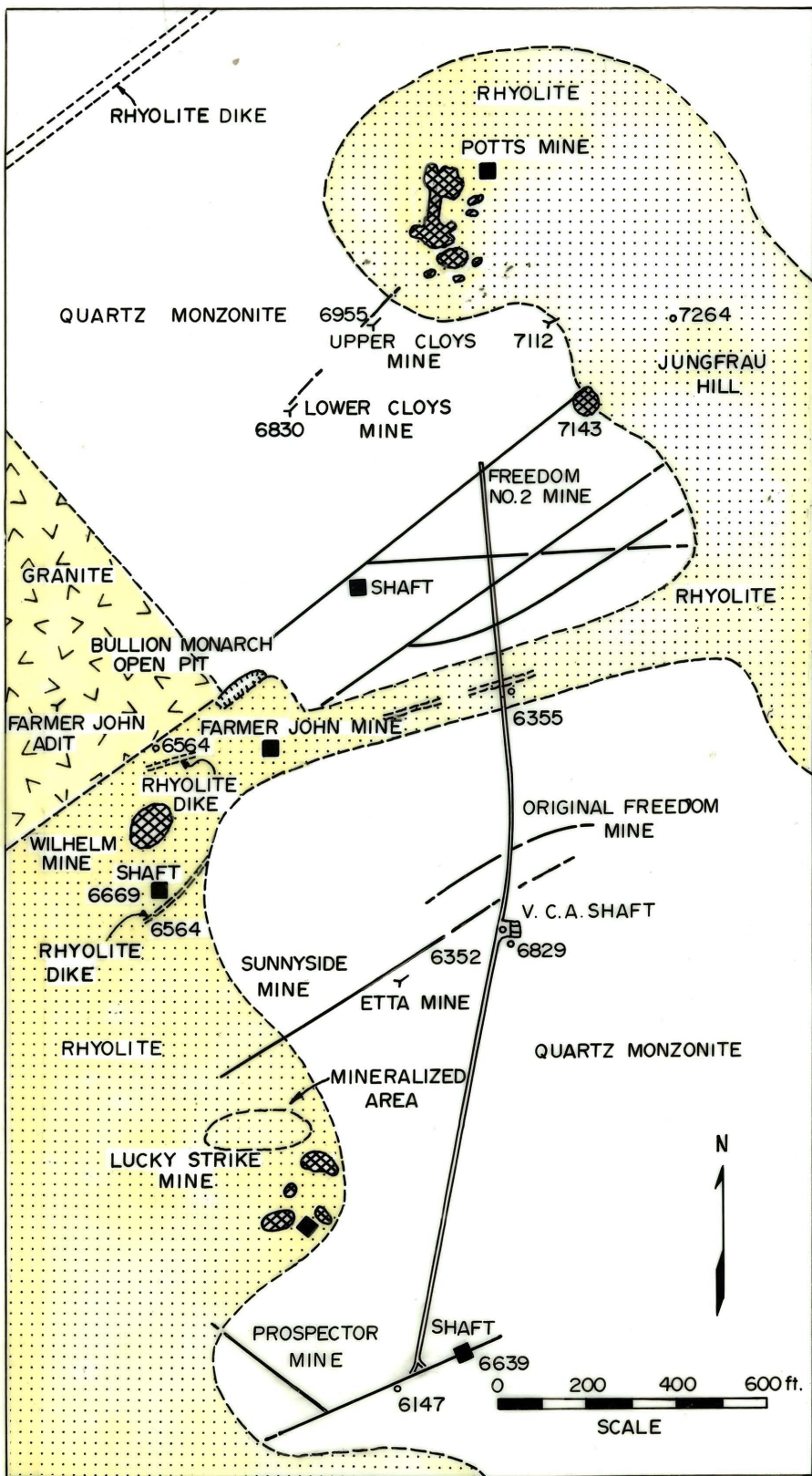
T.Q.M. gray - Fresh Course grained Holo. Feldspar Clear to Cloudy
Biotite black.



Handwritten notes on a yellowed paper strip:

$3\frac{1}{2}'' \times 4\frac{1}{2}''$
 $8\frac{1}{2}'' \times 10''$
 $6\frac{1}{2}'' \times 3\frac{1}{4}''$
 7970
 Dms of ...

Fig 33



57
 116"
 678"
 70% of wing
 $4\frac{5}{8} \times 8\frac{3}{8}$
 $3\frac{1}{4} \times 5\frac{7}{8}$
 F16 33
 39