RECEIVED
MAR 26 1956

COPY.

REPORT ON THE PROPERTY OF THE REVENUE MINING COMPANY, PINE GROVE MINING DISTRICT, BEAVER COUNTY, UTAH.

[redacted]

I beg to make you the following report on the property of the Revenue Mining Company, Beaver County, Utah:-

In this examination I was accompanied by Mr. Henry Schepers, formerly Superintendent of the property, and his intimate knowledge greatly facilitated my movements. Mr. L. J. Burton was also on the ground, and gave me every assistance.

Map "B" shows the group of claims with reference to Newhouse and Frisco.

Map "A" shows the group of claims and general geology and topography of the country.

The group comprises 22 patented claims, and 54 unpatented claims. By wagon road the group is eighteen miles southwest of Newhouse and Frisco, the former being the present terminus of the branch railroad from Milford, Utah.

TOPOGRAPHY. Pine Grove Canyon follows a major east and west fault line, and the mountains rise steeply on the north and south sides from 3,000 to 4,000 feet above the bed of the canyon, forming rugged peaks and pinnacles.

GEOLOGY. The Wah Wah range is essentially a tilted mass of sedimentary rocks occupying its present position through the action of block faulting, a feature common to this part of Utah. The west, or lowest exposures, show a great thickness of heavy bedded quartzites 5,000 or more feet in thickness. Lying above this is a bed of greenish shales, with thin beds of indurated calcareous sandstones, the whole being about 1,000 feet thick. Above this comes a great thickness of heavy bedded limestones 5,000 or more feet in thickness, the whole series lying conformable; the east side of the range consists of a complex of igneous rocks.

The general strike is north and south, and dip of the strata from 20 to 45 degrees to the east. The quartzite is most probably Cambrian with Silurain shales and limes overlying. No fossils were found, but certain features of the quartzite are distinctly Cambrin, and its general position would so indicate it. The underlying granite rocks were nowhere exposed in the area of this examination, but are said to exist across the valley to the west.

The only intrusive rock so far found within the boundaries of these claims is a quartz porphyry been in its weathered phase as a light yellowish or white rock.

~~Map No 3 shows a generalized cross section from east to west on line A-B.~~

~~Map No 4 is a section on line C-D north and south.~~

~~Map No 5 is a section on line E-F north and south.~~

~~Map No 6 is a section on line G-H east and west.~~

~~Map No 7 is a section on line C-H east and west.~~

The main factor in the fissuring of the country has been an east and west fault, which Pine Grove Canyon follows in its general course. The line of fault runs nearly due east and west through Revenue, Revenue No. 3, Revenue No. 2, and Tasso claims. The country south of this fault line has a horizontal throw or dislocation to the east of approximately 1,000 feet, bringing the quartzite on south side of fault line in juxtaposition to limestones on the north end of Revenue No. 3 claim. In addition and in close connection with the faulting of the country, a large mass of intrusive porphyry fills the upper part of the valley, occupying almost completely the Eye Opener, Zem Zem, El Kallah, La Viste, and Tex claims and the north ends of claims lying south of these, and from it radiate several narrow dikes cutting the quartzite on the Ben Hur, Southside, Charmion, Lafeyette, and west end of La Viste.

It is likely that porphyry intrusions will also be found in other parts of the property, especially to the west.

VEIN SYSTEM. The horizontal throw to the east or faulting, explained above, has opened a remarkable series of parallel and intersecting vertical fissures in the quartzite most largely devel-

oped in the section north of Pine Grove Canyon and west of Contact Canyon. Between the Revenue and Marie claims appear no less than 10 fissures, the ~~whole~~ quartzite dipping to the east at 35 to 40 degrees, and striking nearly north and south is cut by vertical fissures or shear zones with directions from N.60 to 72 degrees west.

To south of Pine Grove Canyon occur another set of fissures in the quartzite having a more northerly and southerly strike, cutting the quartzite vertically, the quarzite varying in dip from ten to twenty-eigth (10 to 28) degrees to the east, and striking about N.20 degrees E. Six of these fissures have been developed by workings on the Southside claim, also by pits and open cuts on adjoining claims, showing a continuity of the vein system.

The Ben Hur and Southside veins are intimately connected with porphyry intrusions or dikes from the main mass, and will have a slightly different character and content of mineral, especially gold.

The development on the ground is as follows:-

BUCKBEE. U. S. PATENT. 4195. Tunnel 4-1/2 x 7 feet, 500 feet in length driven on the vein of ore intersected by shaft 5 x 8 x 130 feet in depth at a point 350 feet from the mouth of tunnel. A winze 4 x 5 x 40 feet in depth sunk at a point about 200 feet from the mouth of tunnel shows a wide vein carrying appreciable values in lead, silver, and gold. Shaft 4 x 5 x 10 feet on the west side of claim having copper, silver, and gold. Various assays attached.

APRIL. Shaft 4 x 5 x 10 feet on vein 4 feet wide, carrying lead, silver, and gold.

MINNIE. Open cut showing 4 feet of ore, assays attached.

MAMIE. Shaft 5 x 7 x 20 feet deep on 5 foot vein.

HILLS. Shaft 5 x 7 x 50 feet with tunnel 4-1/2 x 7 x 80 feet in length from surface to the bottom of shaft, 13 foot cross cut in bottom of shaft, all openings in ore.

JUNO. Incline shaft 5 x 7 x 45 feet, sunk on vein 5 feet on a porphyry lime shale contact, carrying iron, silver, and gold. Tunnel 4-1/2 x 7 x 50 feet driven on same contact showing vein 4-1/2 feet in width.

~~in width~~, carrying silver and gold.

SOUTHSIDE. Tunnel 4-1/2 x 7 x 600 feet in length driven on vein carrying lead, silver, and gold. Upper tunnel 4-1/2 x 7 x 800 feet in length driven on same vein system, connected with the lower tunnel with winze 4 x 5 x 108 feet in depth. From the upper tunnel cross cut east 4-1/2 x 7 x 50 feet in length still in vein matter with cross cut east 4-1/2 x 7 x 90 feet driven through quartzite cutting a five foot parallel fissure showing ore containing lead, silver and gold. Cross cut west in lower tunnel 4-1/2 x 7 x 25 feet in length still in vein matter. Shaft 5 x 7 x 57 feet in depth intersecting upper tunnel at a point about 200 feet from the south. This openings is also in about the same grade of ore as was shown in the tunnel. Shaft 5 x 7 feet x 60 feet in depth at a point about 400 feet north of breast of the upper tunnel. Tunnel 4-1/2 x 7 x 88 feet in length with cross cuts east and west 25 feet each way, in surface wash.

TASSO. Shaft 5 x 7 x 125 feet in depth with about 250 feet of drifts from the bottom of the shaft, all in ore bearing matter, containing nodules of high grade copper, silver, gold ore.

PA RINGTON. Upper tunnel 4-1/2 x 7 x 80 feet on vein full size of the drift. Lower tunnel on same system 4-1/2 x 7 x 300 feet continuation of the tunnel starting on El Dorado claim. The ores contain lead, silver and gold.

BEN HUR. Shaft 5 x 7 x 40 feet in porphyry-lime contact on iron ore carrying 40 per cent iron with silver and gold values.

REVENUE U. S. PATENT 4887. Shaft 5 x 7 x 30 feet on vein cross cut at bottom of shaft showing 12 feet of ore. Tunnel 4-1/2 x 7 x 84 feet intersecting bottom of shaft at a point 50 feet from south of tunnel showing full width of ore, assays attached.

CLOA. Tunnel 4-1/2 x 7 x 40 feet driven across vein system showing small values in lead, silver and gold.

CLIFF. U. S. PATENT 4195. A vertical shaft 5 x 6 x 208 feet in depth timbered, 215 feet of drifts. All in ore.

EL DORADO. Tunnel designated on assay sheet as "Chas.S." tunnel 4-1/2 x 7 x 300 feet in length driven on the vein 3 to 5 feet in

width, extending into the Carrington claim, total length of tunnel 500 feet showing a good grade of concentrating ore in all the openings.

~~GRAND PRIZE. Incline shaft 5 x 7 x 180 feet in depth, porphyry foot quartzite hanging 8 foot vein carrying iron, lead, silver and gold.~~

These veins cutting the quartzite are essentially quartz veins; at the surface showing brecciated and cemented quartzite, and lower down having inclusions of the original quartzite. The veins vary in thickness from 4 feet up to 10 feet, the whole forming on north side of canyon a sheared zone over 2,000 feet wide. The walls of the fissures are practically vertical and smooth, the filling comes away clean from the walls, The veins are most easily stoped by reason of not being frozen, and can be mined with a minimum of labor and explosive. The walls are nearly vertical, stand well and require very little timbering. The ore of these veins is essentially a concentrating propostion, the valuable mineral being lead and silver with gold. Some of the shoots will produce chambers or seams of high grade silver lead ore that can be sorted out.

You have supplied me with the following large series of assays made from samplings under your direction. I have also taken a number of confirmatory samples which are included, but am dealing more particularly with the geological conditions and reasons for large continuous and payable ore bodes.

		Pb. %	Ag. ozs.	Au. ozs.
Cliff	#1 5 ft. from mouth of tunnel	4.	13.2	.28
"	#2 25 " " " " "	14.1	14.8	.09
"	#3 45 " " " " "	4.5	3.4	.10
"	#4 From shaft	1.7	12.6	.24
"	#5 North side shaft	21.5	54.6	.52
"	#6 Tunnel breast	7.9	19.	.08
"	#7 " "	13.5	35.4	.07
"	#8 120 ft. from mouth of tunnel	6.9	13.4	.03
"	#9 Croppings discovery	13.7	164.2	.12

		Pb.	Ag.	Au.
Cliff	#10 Sorted ore on dump	58.1	211.6	1.45
"	#11 General sample of dump	1.1	22.8	.10
Tasso	#12 Drift N.E.bot.125ft.shaft	1.2	31.6	.03
"	#13 Drift.N.E.bot.125 ft. shaft	3.	15.2	.03
"	#14 " " " " " " "	12.	13.2.	.04
"	#15 " " " " " " "	9.6	4.2	.06
"	#16 Selected shaft sample	3.	137.6	.05
"	#17 Selected bot. shaft	3.6	10.5	.04
Buckbee	#18 Shaft 10 ft. below collar	12.7	7.4	.04
Buckbee	#19 Sorted ore on dump collar	30.3	27.2	.08
Southside	#20 Upper tunnel dump collar	7.8	25.	.07
Buckbee	#21 Tunnel (3 ft.)	8.4	34.6	.04
"	#22 Tunnel (2 ft.)	8.	8.4	.03
"	#23 Tunnel (1-1/2 ft.)	8.5	8.4	.02
"	#24 Tunnel (3 ft.)	12.5	22.2	.03
"	#25 Bottom of winze	36.	18.2	.54
Cliff	#26 Shaft	26.5	92.	.54
"	#27 Tunnel	6.	20.6	.09
"	#28 Tunnel	26.6	125.	.44
"	#29 Shaft	56.	205.	.10
"	#30 Average 50 sax	33.	58.6	.24
"	#31 Shaft selected	65.6	765.	.22
Chas. S.	#32 Tunnel El Dorado Claim	5.	4.5	.07
" "	#33 Face of tunnel "		4.7	.03
Revenue	#34 Average 20 tons on dump	4.5	36.2	.26
"	#35 Discovery	68.	13.	.05
"	#36 Discovery	76.2	16.6	.02
"	#37 "	47.7	1.7	.02
Hills	#38 "	1.	1.	.04
"	#39 Shaft	18.7	4.4	.04
July	#40 "		7.4	.05
"	#40 A. open cut	17.5	2.8	.10
Minnie	#41 " " discovery Fe.	15.5	6.	.03
Juno	#42 " " " 48	1.5	6.5	.02

			Pb.	Ag.	Au.
Southside	#43	300 fto. shaft	55.8	344.	2.07
"	#44	S. side upper tunnel dumps mostly waste	5.9	10.4	.12
Southside	#45	S. side lower tunnel bin	3.	10.	.18
"	#46	Tunnel selected	43.5	196.	4.96
"	#47	Stope	15.3	41.4	.50
"	#48	Shaft	12.7	18.3	.46
Marie	#49	Shaft Fe.	5.7	2.4	.03
Ben Hur	#50	Discovery shaft iron ore 45.8	3.1	.6	.03
[illegible]	[illegible]	" shaft	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	" [illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Your concentrating test on low grade mill ore has shown what good results can be obtained on any of these ores; the completion of the main cross cut tunnel will solve the question of tonnage for a mill of large capacity.

The fissure system is one of the most remarkable I have seen and will go [illegible] the deep, and the mineralization is undoubtedly connected at depth with the mass of intrusive porphyry. I look upon the results obtained in this upper zone as merely indicative of greater values to be obtained below.

So far as seen the fissures do not extend upward through the shale bed, which was not to be expected on account of the plastic nature of this formation, but on the deep levels on following the fissures to the east cut under the shale bed, there will likely be found masses of ore at the contact of the shale and porphyry on the line of the fissures, which seem to have a general trend to that point. The fissures not extending through the shale bed so far as known no continuation of them has been found in the overlying limestones.

A second class of ore deposit has been found on the Tasso claim, where a lense or vein of iron, lead, silver, zinc sulphides has been found in the limestones near the contact with the porphyry mass. This has been opened, as described above, but at the time of my visit water in shaft prevented an inspection.

~~From the appearance of the iron pos~~

From the appearance of the iron gossan and surrounding conditions I have every reason to believe a large copper mine can be opened with depth at this point. About the middle of the porphyry mass on the Zon Zon claim float porphyry of an entirely different nature from the main mass that has been found, carrying appreciable ounces of copper. This should be carefully prospected, for, as I believe, it will lead to important results in copper.

The last class of vein of bronzite is seen at the Lucky shaft just off Revenue ground. The ore is a sulphide ore, running high in silver and shipments have been made up to 300 oz. to the ton.

This occurrence lies at or near the contact of the limestones with the porphyry, and a continuation of the lead will be found on the Revenue ground.

With all the work so far done the Revenue property is scarcely prospected.

FACILITIES FOR WORK. Pine Grove Canyon is the antithesis of the usual Utah or Nevada mining camp. There is an abundant perennial stream of most excellent water; the whole canyon is heavily timbered with pine or large dimensions, long leaf yellow pine up to four feet in diameter, and other trees. The company has its own saw mill and lumber for bunkhouses, mill, etc. has cost about $10.00 per thousand feet.

STATE OF IMPROVEMENTS.

~~Consist of a 10 stamp concentration mill, but being completed it cost of about $2,000. Well is not in operation in a few months. The ore bin and crusher of this mill are situated [illegible] and in [illegible] below the mill tunnel, so that all ores from this prospect can be handled very conveniently.~~ A fine Corliss engine and compressor of the [illegible] type costing $2,000, having a capacity of 10 large ore lines, ~~is now being~~ has been installed to the south of and about 200 feet from the mouth of the tunnel, where a large flow of clear, cold water passes for cooling the air. ~~[illegible]~~

Mill

Mill bunkhouse, neat cottage of eight spacious rooms, two cottages built for families are situated about 400 feet to the ~~[illegible] of the mill. The [illegible]~~

southeast of the mill. The stable, with loft, sufficient for six horses, blacksmith shop situated conveniently on the same grade or level as the mill tunnel. About a quarter of a mile to the east of the mill building is situated the mine boarding house, three cottages, and large bunk house all built of lumber, but well protected from the storms, having a good water supply piped from the reservoir above. About 30 ft. to the north of the mine boarding house is the assay office, built of stone. This is a three-room building well equipped for making all assays and tests for a large mine. About 200 ft. to the south of the mine boarding house is a good workshop, where blacksmithing and all repair works may be done. 100 feet to the east of the mine boarding house is another stable built of logs.

R E S O U R C E S.

A very fine growth of long-leaf yellow pine covers the surface of the company's claims. The timber available for lumber in the near vicinity amounts to over 3,000,000 feet. The company has its own saw mill, and has recently cut 300,000 feet of lumber at a total cost of $10.00 per 1,000. In addition to the above timber, there is a fine forest of pine on the hills to the south of this property for some 10 miles. A thick growth of piñon pine cedar, and mountain mahogany cover the hills in the near vicinity of the mine, and a contract has just been let for 1,000 cords of piñon pine for $2.50 per cord delivered at the mine.

~~The company has [illegible] the water of Pine Creek, and has [illegible] with their water rights, and, [illegible] to [illegible] the west as water will [illegible] to see [illegible], there is [illegible] to [illegible]. [illegible] and all kinds of [illegible], thus [illegible] the [illegible]. About [illegible] of the [illegible].~~

An easy grade for railroad or tramhouse to the mine may be secured, and railroad built very cheaply, while on the mining pro-

perty there is abundance of lime and iron, very important items in furnishing a smelting plant on the ground.

DEVELOPMENT OF THE PROPERTY.

Just north of the ~~concentrator~~ Compressor building on the Revenue claim a tunnel has been started, and is now in 150 feet, with the intention of driving it north until it cuts all the veins lying north of Pine Grove Canyon, and east of Contact Canyon. This will give ~~banks of stoping~~ ore in 11 veins, (and undoubtedly other veins that do not appear on the surface), varying from 50 to 1,000 feet. As to the work prospects the most favorable and largest figures will be cut on ~~the~~ which to project deep working. The general directions of the veins show the largest ones to be converging toward the porphyry.

C O N C L U S I O N.

I have no hesitancy in thoroughly recommending this property, provided sufficient capital is secured to carry the work to a successful and producing stage. The territory covered in the mining claims is ample: there are in addition timber claims containing 3,000,000 feet; the ore is of a character to be cheaply mined and concentrated; water is plentiful; climatic conditions are of the best; and above all the veins, strong, persistent, and mineralized, should extend to the greatest workable depths and with increased mineral contents at and below the permanent water level.

Respectfully submitted,

(Signed) Charles Colcock Jones.

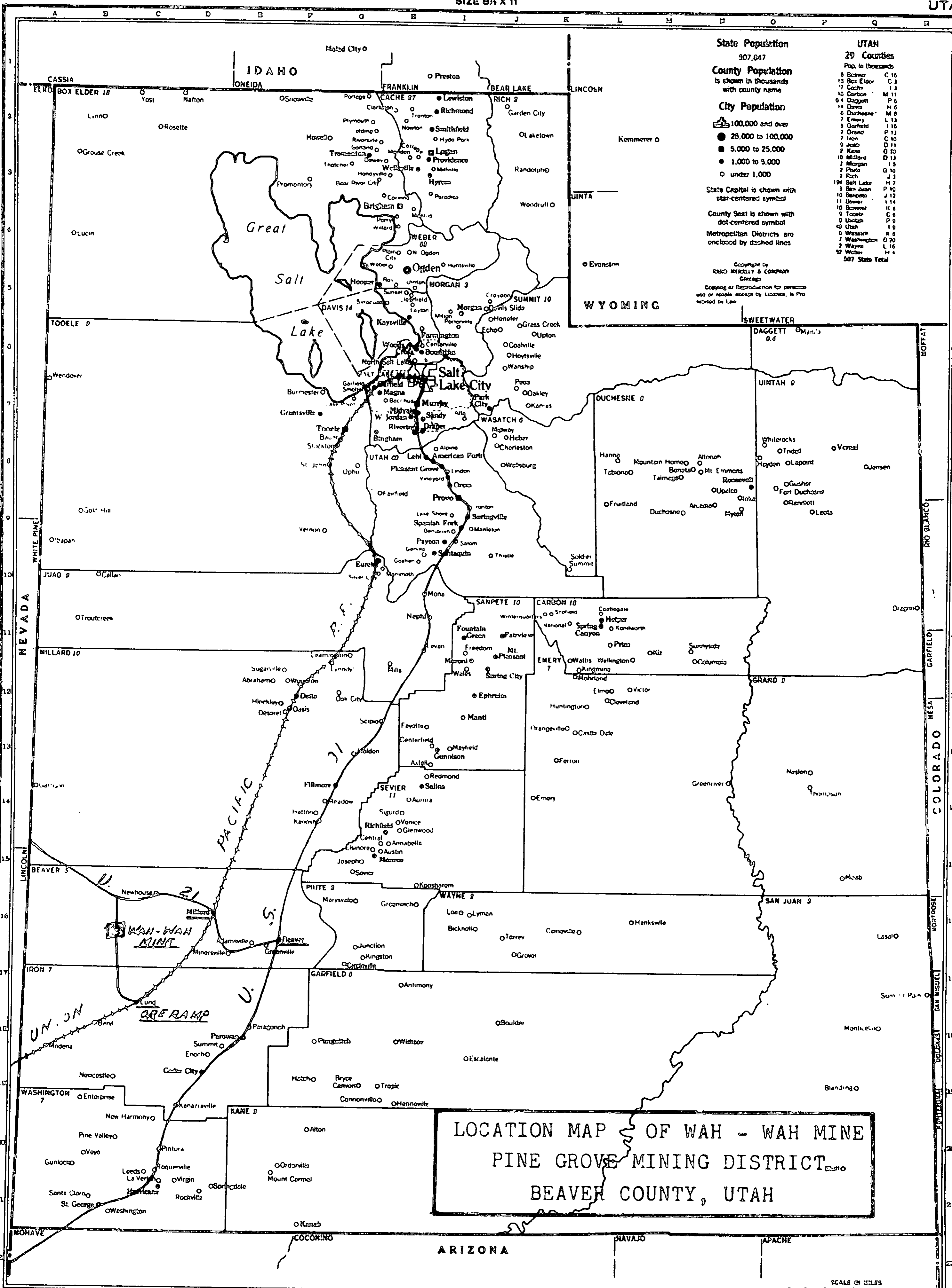
Los Angeles, Cal, Dec 27th, 1906.

267 Pacific Electric Bldg.

DMEA-4228

Oth-Northwest Mines

MAR 3 0 1965
CLASSIFIED


IDAHO
WYOMING
NEVADA
ARIZONA
COLORADO
State Population
907,847
County Population
is shown in thousands with county name
City Population
100,000 and over
25,000 to 100,000
5,000 to 25,000
1,000 to 5,000
under 1,000
State Capital is shown with star-centered symbol
County Seat is shown with dot-centered symbol
Metropolitan Districts are enclosed by dashed lines
UTAH
29 Counties
Pop. in thousands
Great Salt Lake
Salt Lake City
Ogden
Provo
BOX ELDER 18
CACHE 27
RICH 2
WEBER 83
MORGAN 3
DAVIS 14
SUMMIT 10
TOOELE 9
DAGGETT 0.4
UINTAH 9
DUCHESNE 8
WASATCH 6
UTAH 60
JUAB 9
SANPETE 10
CARBON 18
EMERY 7
GRAND 2
MILLARD 10
SEVIER 11
BEAVER 5
PIUTE 2
WAYNE 2
SAN JUAN 3
IRON 7
GARFIELD 5
WASHINGTON 7
KANE 2
Newhouse
Milford
WAH-WAH MINE
Beaver
Lund
ORE RAMP
Beryl
Modena
Cedar City
St. George
UNION PACIFIC
U.S. 91
U. 21
LOCATION MAP OF WAH - WAH MINE
PINE GROVE MINING DISTRICT
BEAVER COUNTY, UTAH

DMEA-4228 Diamond Drill Data.

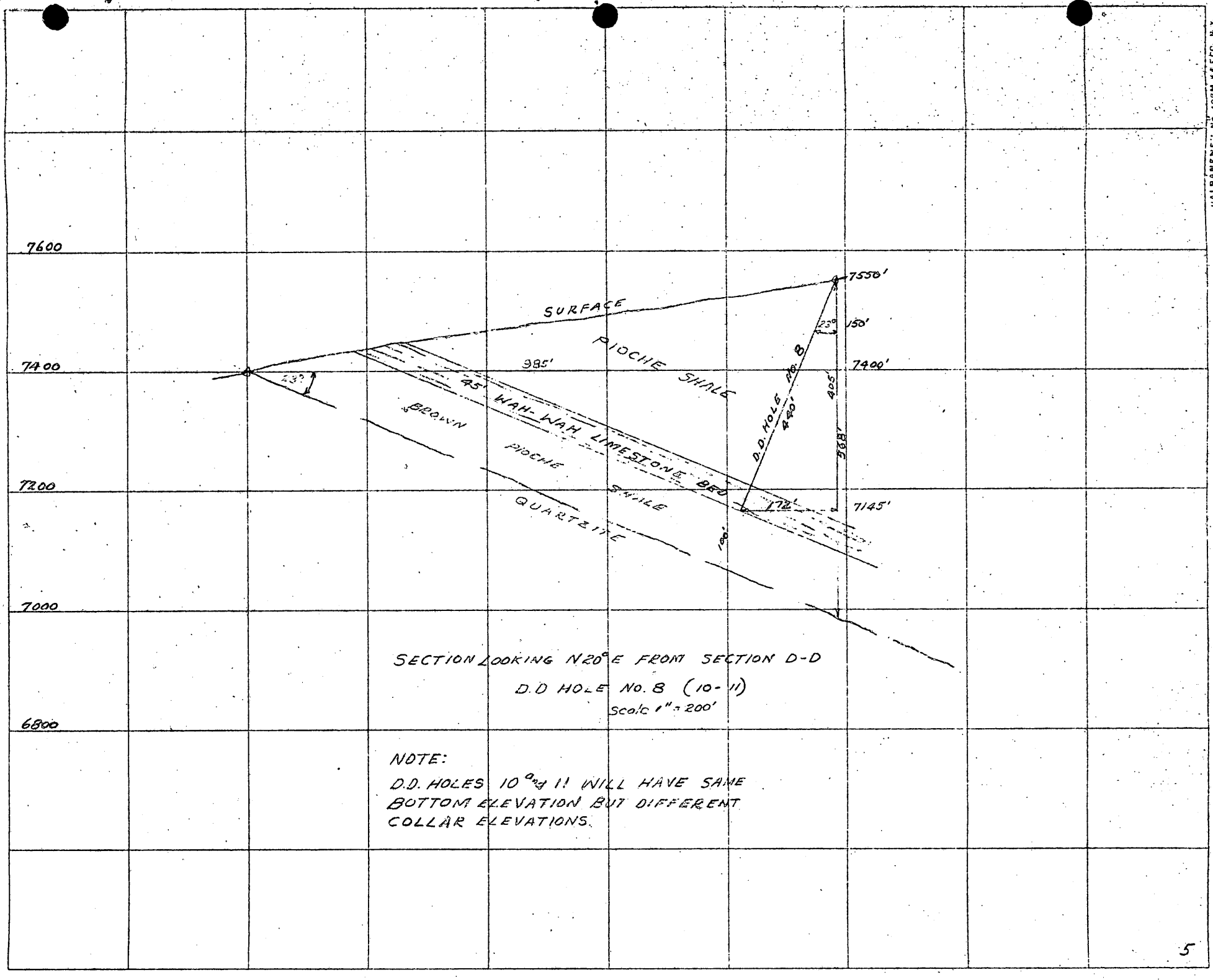
#15

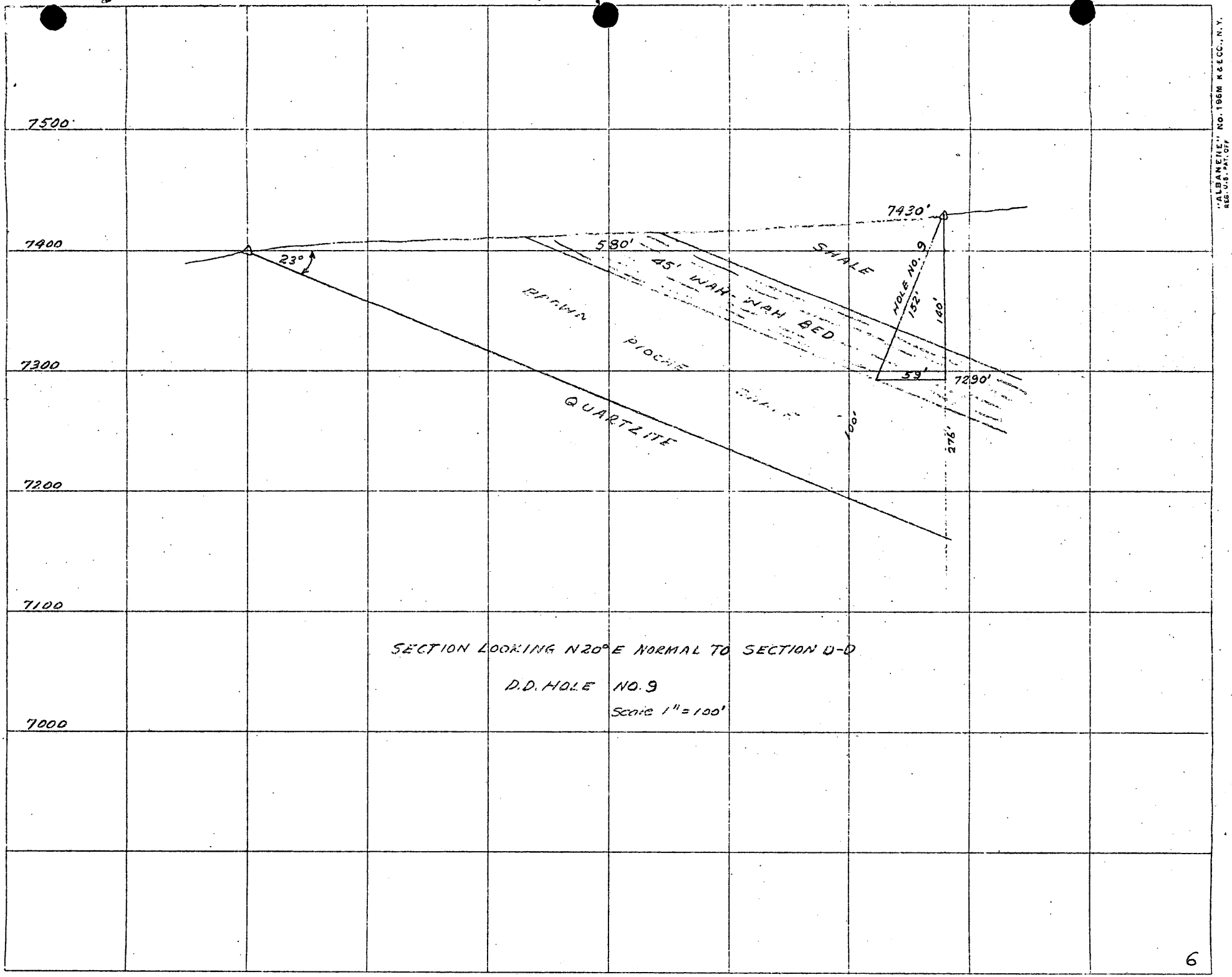
SUMMARY

ENGINEERING DATA
FOR
PROPOSED DIAMOND DRILL HOLES

		HOLE NO.	COORDINATES NORTH	COORDINATES EAST	ELEVATIONS COLLAR	ELEVATIONS BOTTOM	DIRECTIONS BEARING	DIRECTIONS DIP	SLOPE LENGTH OF HOLE	HORIZONTAL DRIFT	VERTICAL DEPTH
PHASE ONE	STAGE 1	1	10,250	13,690	7,650	7,250	VERTICAL	VERTICAL	400	0	400
		2	10,060	13,775	7,600	7,186	"	"	414	0	414
		3	10,430	13,605	7,700	7,315	"	"	385	0	385
		4	10,605	13,515	7,730	7,375	"	"	355	0	355
		5	10,780	13,420	7,735	7,440	"	"	295	0	295
		6	10,960	13,335	7,715	7,500	"	"	215	0	215
		7	11,140	13,245	7,690	7,568	"	"	122	0	122
									2,186		
	STAGE 11	8	9,900	13,700	7,550	7,145	N 70°W	-67°	440	172	405
		9	9,630	13,175	7,430	7,290	"	"	152	59	140
		10	9,625	13,605	7,480	7,145	"	"	364	142	335
		11	9,260	13,470	7,420	7,145	"	"	299	117	275
		12	10,340	12,880	7,465	6,995	"	"	513	200	470
									1,768		
PHASE TWO	STAGE 111	13	9,965	14,235	7,600	6,565	N 70°W	-67°	1,125	439	1,035
	STAGE IV	14	10,310	14,030	7,720	7,200	"	"	565	220	520
		15	10,645	13,840	7,840	7,335	"	"	549	214	505
		16	10,995	13,630	7,850	7,450	"	"	435	170	400
		17	9,670	14,410	7,560	6,910	"	"	706	275	650
									3,380		
		18	9,710	14,730	7,565	6,879	N 70°W	-67	746	291	686
		19	9,965	14,735	7,600	6,913	"	"	747	291	687
		20	9,965	15,240	7,620	6,743	"	"	953	372	877
		21	9,965	15,740	7,660	6,578	"	"	1,176	458	1,082
									3,622		
									10,956		

"ALBANENE" NO. 195M A.&E.CO., N.Y. REG. U.S. PAT. OFF.


7600
7400
7200
7000
6800
SURFACE
PIOCHE SHALE
985'
45'
WAH-WAH LIMESTONE BED
BROWN
PIOCHE
SHALE
QUARTZITE
23°
7550'
150'
23°
7400'
405'
368'
D.D. HOLE No. 8
440'
172'
7145'
100'
SECTION LOOKING N20°E FROM SECTION D-D
D.D HOLE No. 8 (10-11)
Scale 1" = 200'
NOTE:
D.D. HOLES 10 and 11 WILL HAVE SAME
BOTTOM ELEVATION BUT DIFFERENT
COLLAR ELEVATIONS.



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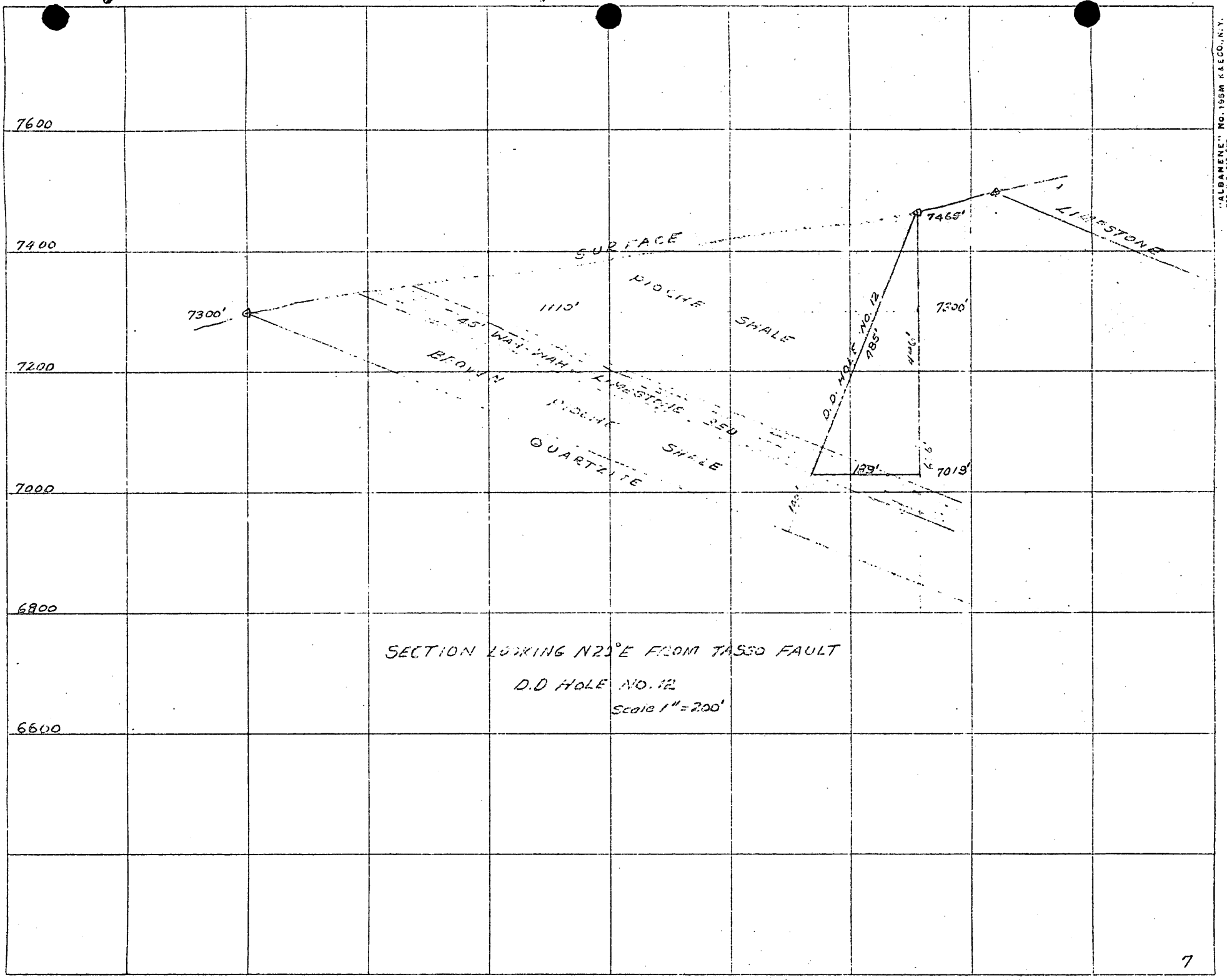
REG. U.S. PAT. OFF.



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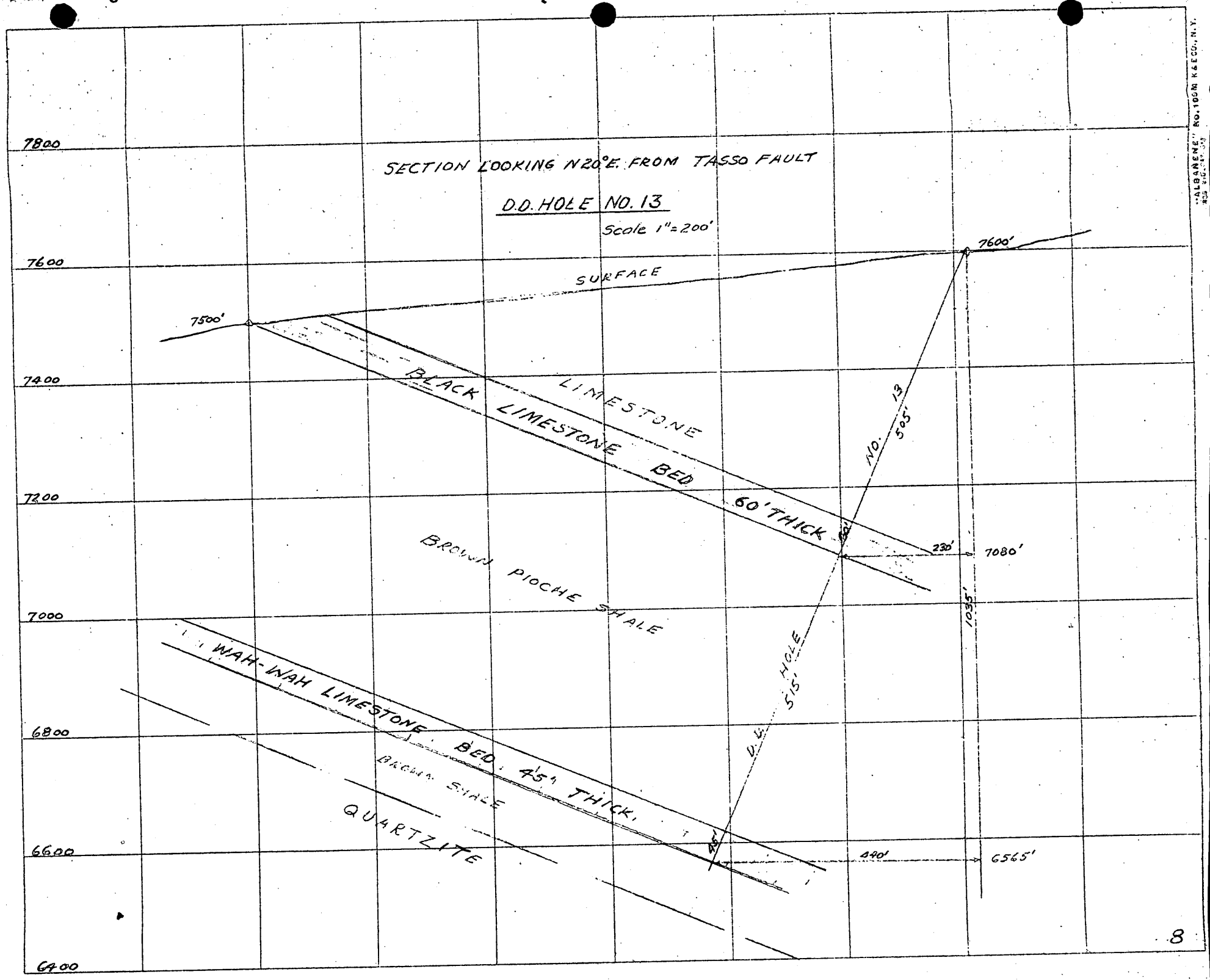
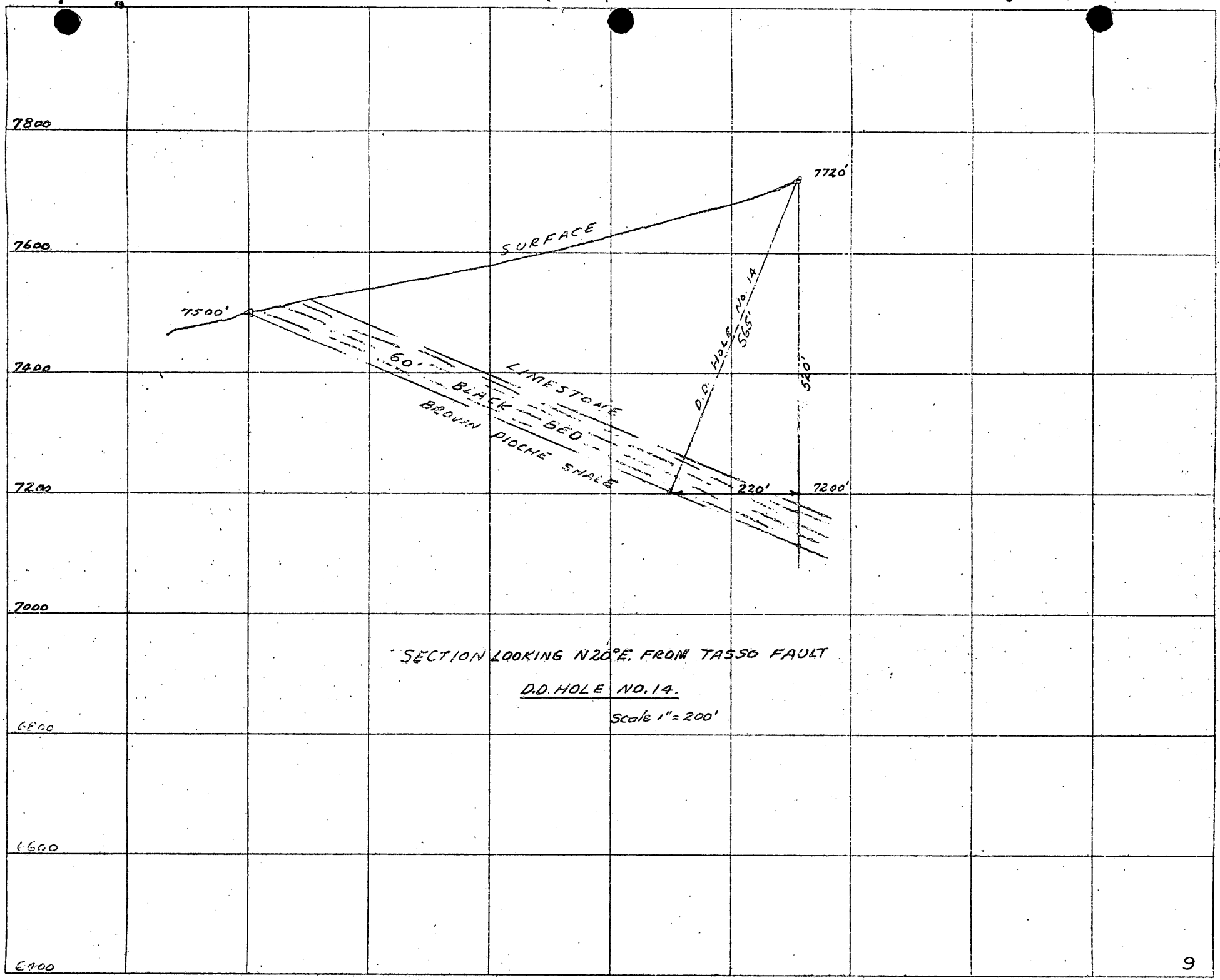
REG. U.S. PAT. OFF.


SECTION LOOKING N20°E. FROM TASSO FAULT
D.D. HOLE NO. 13
Scale 1" = 200'
7800
7600
7400
7200
7000
6800
6600
6400
SURFACE
7500'
7600'
BLACK LIMESTONE BED 60' THICK
LIMESTONE
BROWN PIOCHE SHALE
WAH-WAH LIMESTONE BED 45' THICK
BROWN SHALE
QUARTZITE
D.D. HOLE NO. 13
505'
515'
230'
7080'
1035'
440'
6565'
60'
45'
8

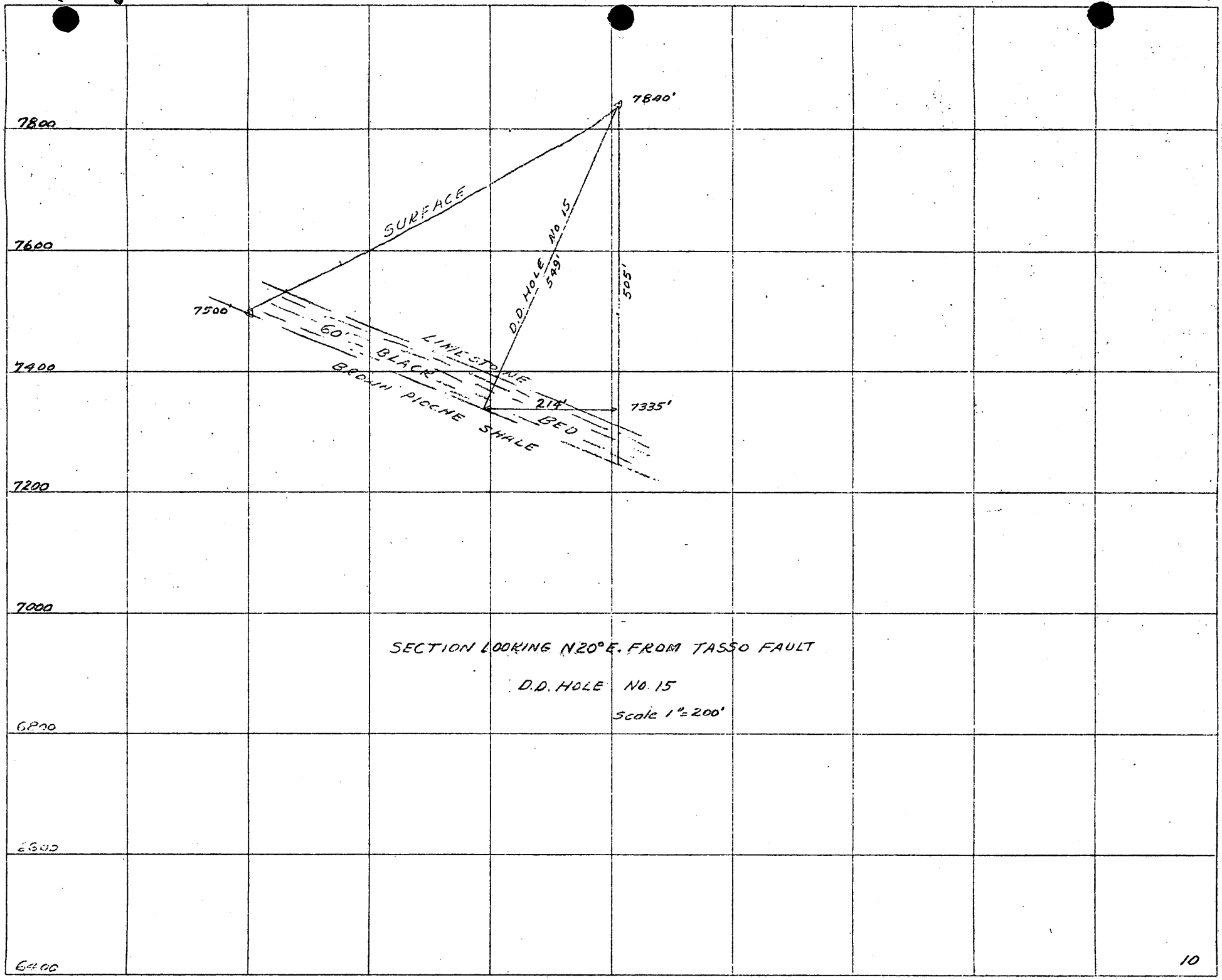


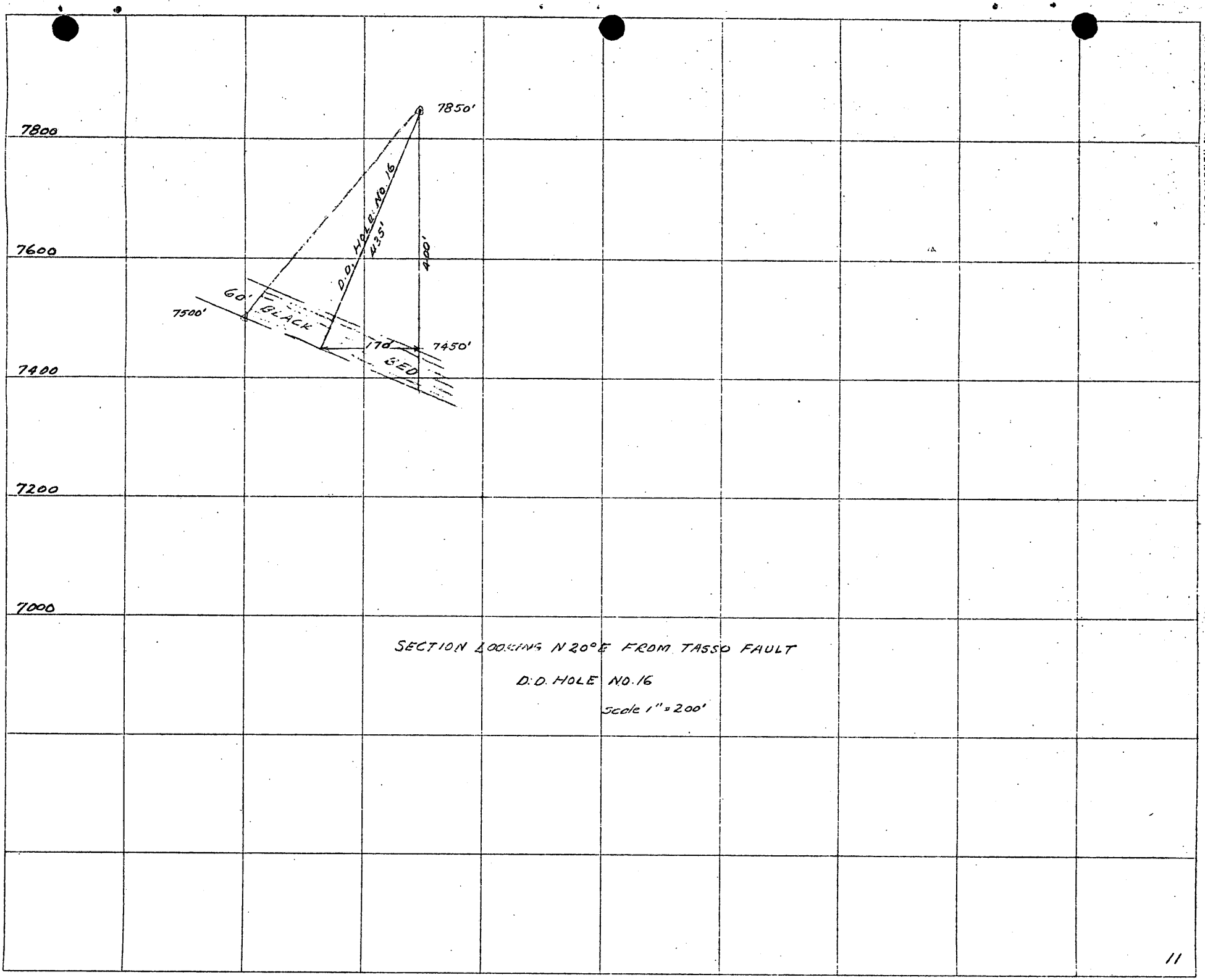
SECTION LOOKING N20°E. FROM TASSO FAULT

D.D. HOLE NO. 14.

Scale 1" = 200'

"ALBANENE" NO. 186M K&E CO., N.Y. REG. U.S. PAT. OFF.


7800
7600
7400
7200
7000
6800
6600
6400
7840'
SURFACE
No. 15
D.D. HOLE
549'
505'
7500
60'
LIMESTONE
BLACK
BROWN PIECHE SHALE
214'
7335'
BED
SECTION LOOKING N.20°E. FROM TASSO FAULT
D.D. HOLE No. 15
Scale 1" = 200'
"ALBANENE" NO. 195M K&E CO., N.Y.
REG. U.S. PAT. OFF.

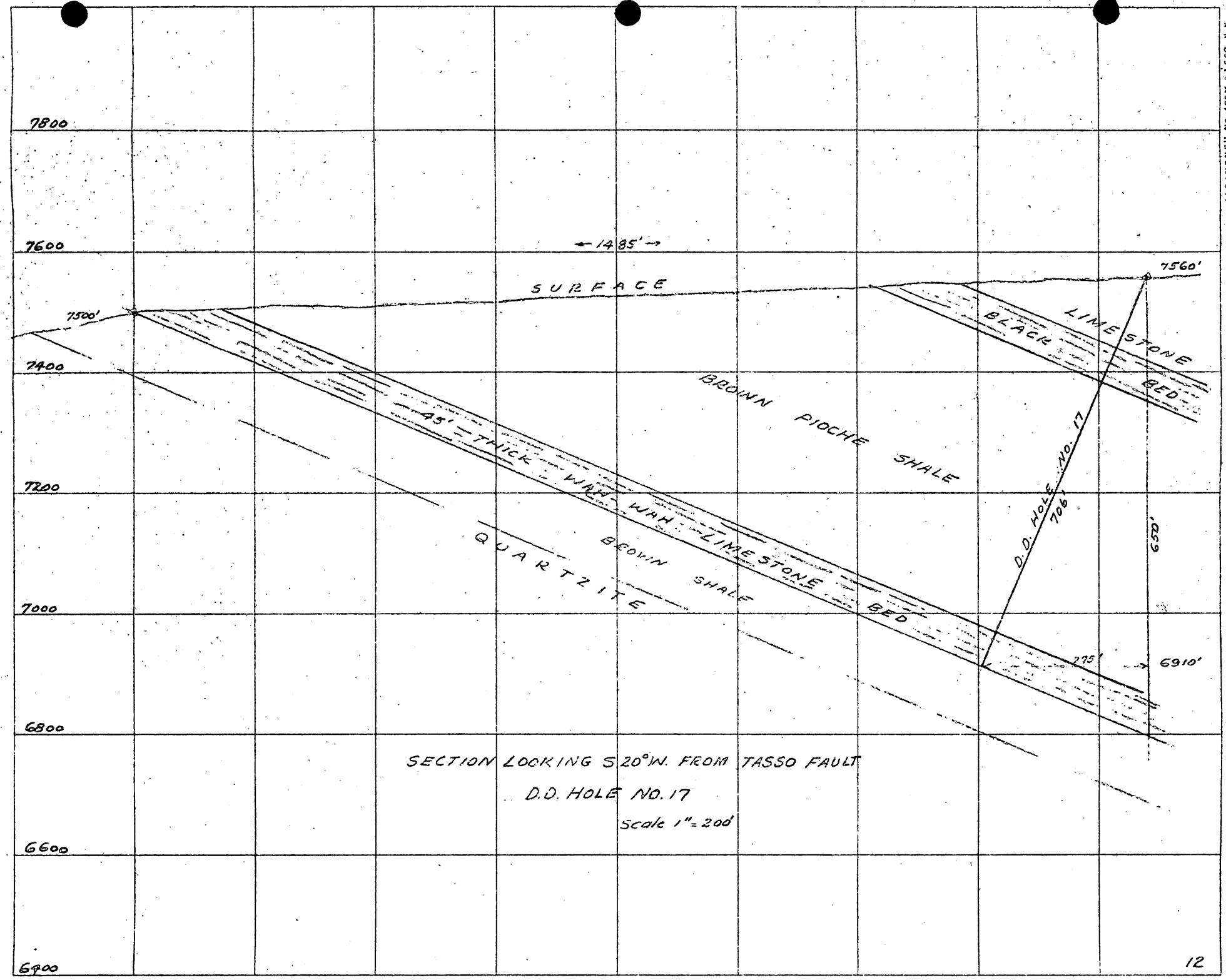


SECTION LOOKING N 20° E FROM TASSO FAULT

D.D. HOLE NO. 16

Scale 1" = 200'

"ALBANENE" NO. 195M K&E CO., N.Y.
REG. U.S. PAT. OFF.

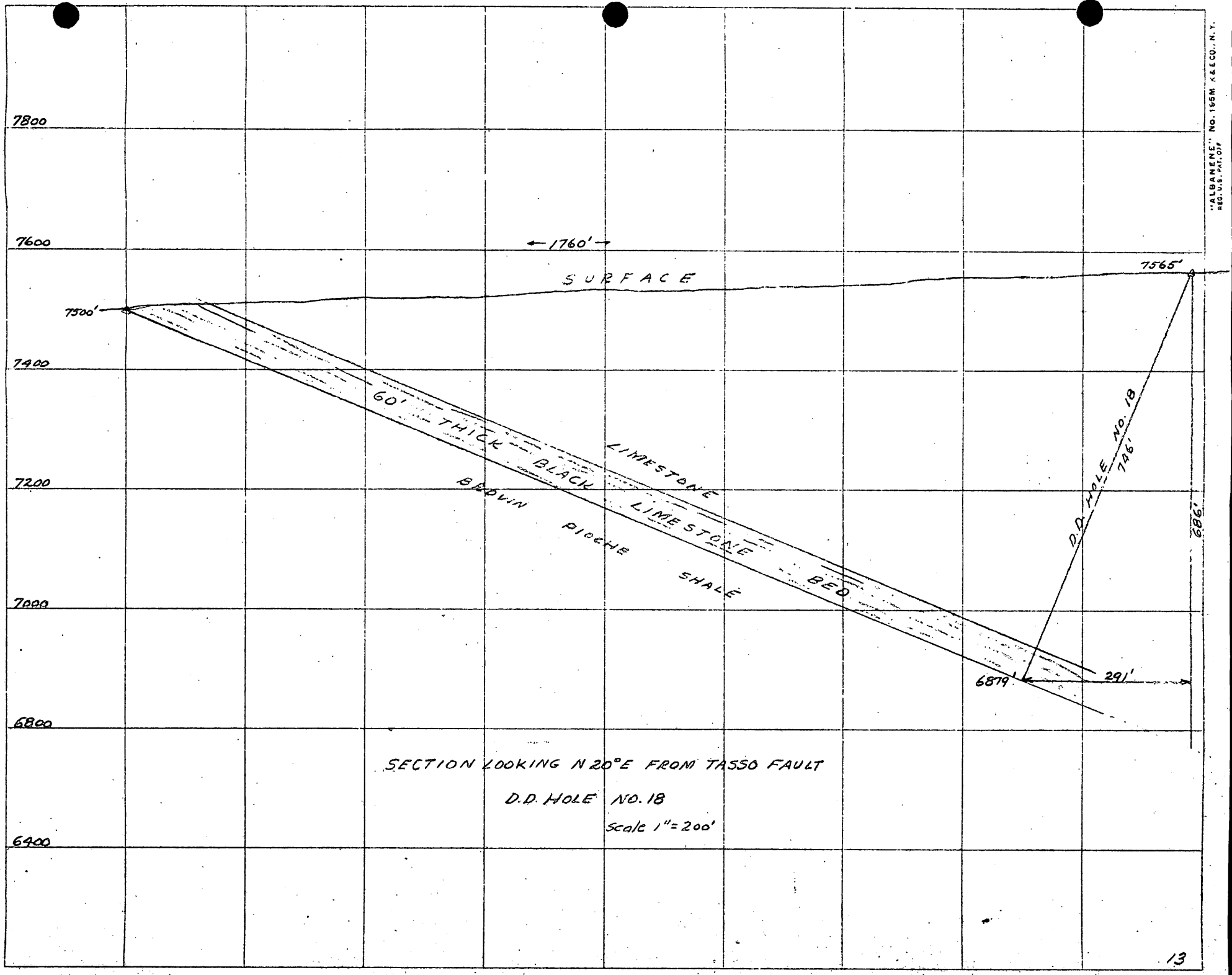


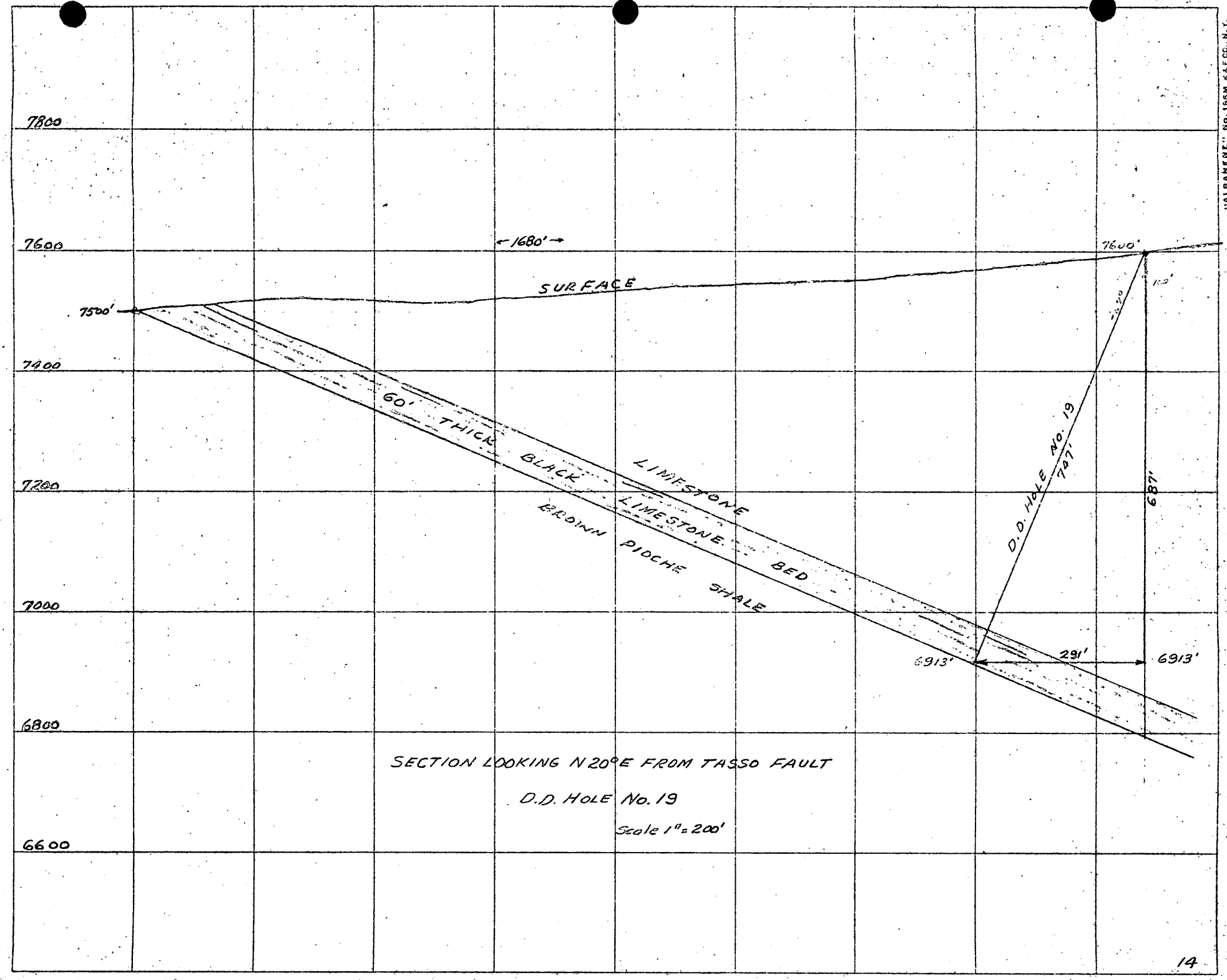
SECTION LOOKING S 20°W. FROM TASSO FAULT

D.D. HOLE NO. 17

Scale 1" = 200'

"ALBANENE" NO. 198M K&E CO., N.Y. REG. U.S. PAT. OFF.


7800
7600
7400
7200
7000
6800
6400
1760'
SURFACE
7565'
7500'
60' THICK BLACK LIMESTONE BED
BROWN PICCHE SHALE
D.D. HOLE NO. 18
746'
686'
6879'
291'
SECTION LOOKING N 20°E FROM TASSO FAULT
D.D. HOLE NO. 18
Scale 1" = 200'
"ALBANENE" REG. U.S. PAT. OFF
No. 165M K&E CO., N.Y.

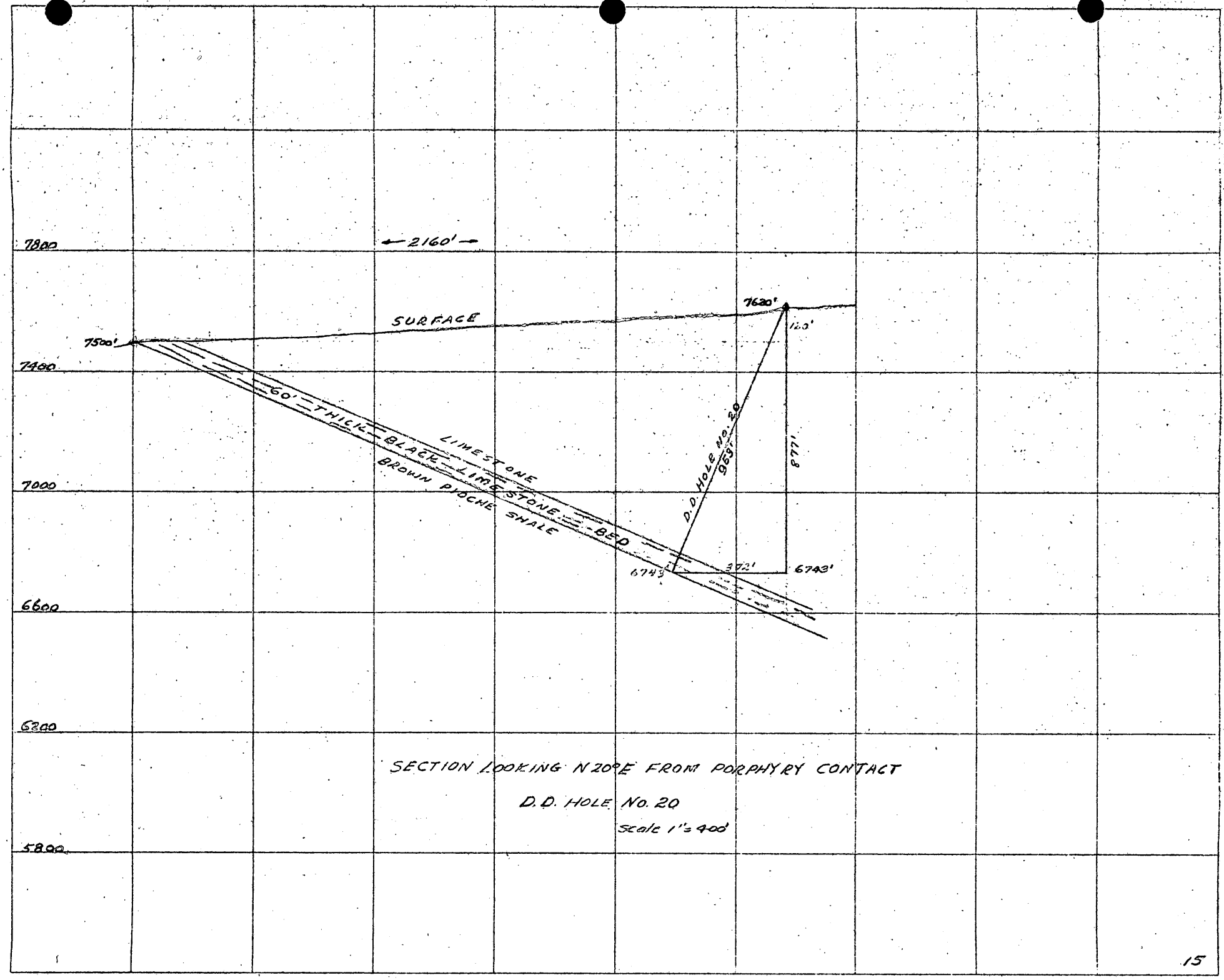


SECTION LOOKING N 20° E FROM TASSO FAULT

D.D. HOLE No. 19

Scale 1" = 200'

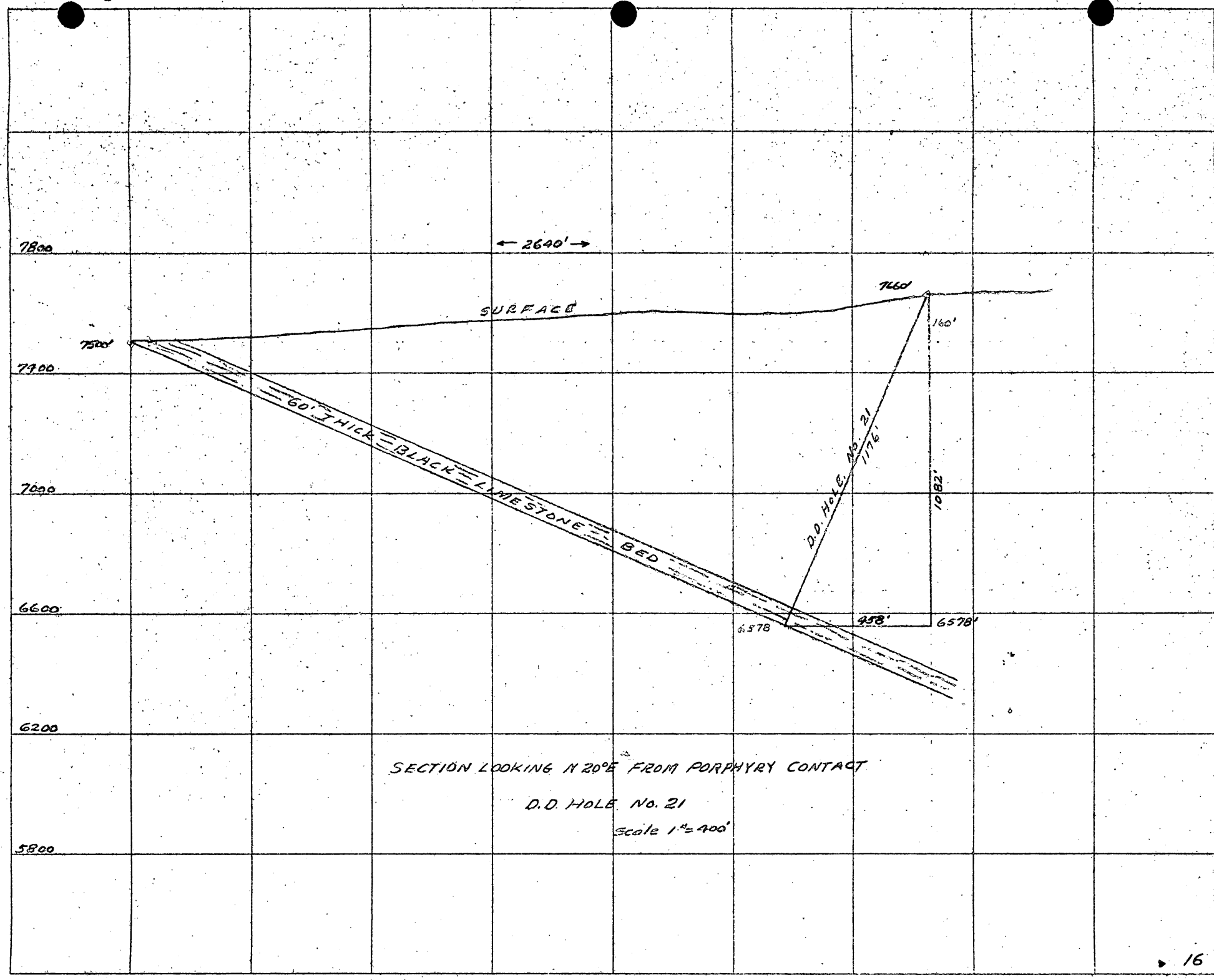
"ALBANENE" REG. U.S. PAT. OFF. No. 195M K&E CO., N.Y.



SECTION LOOKING N 20°E FROM PORPHYRY CONTACT

D.D. HOLE No. 20

Scale 1" = 400'



"ALBANENE" NO. 105M K&E CO., N.Y.
REG. U.S. PAT. OFF.

A

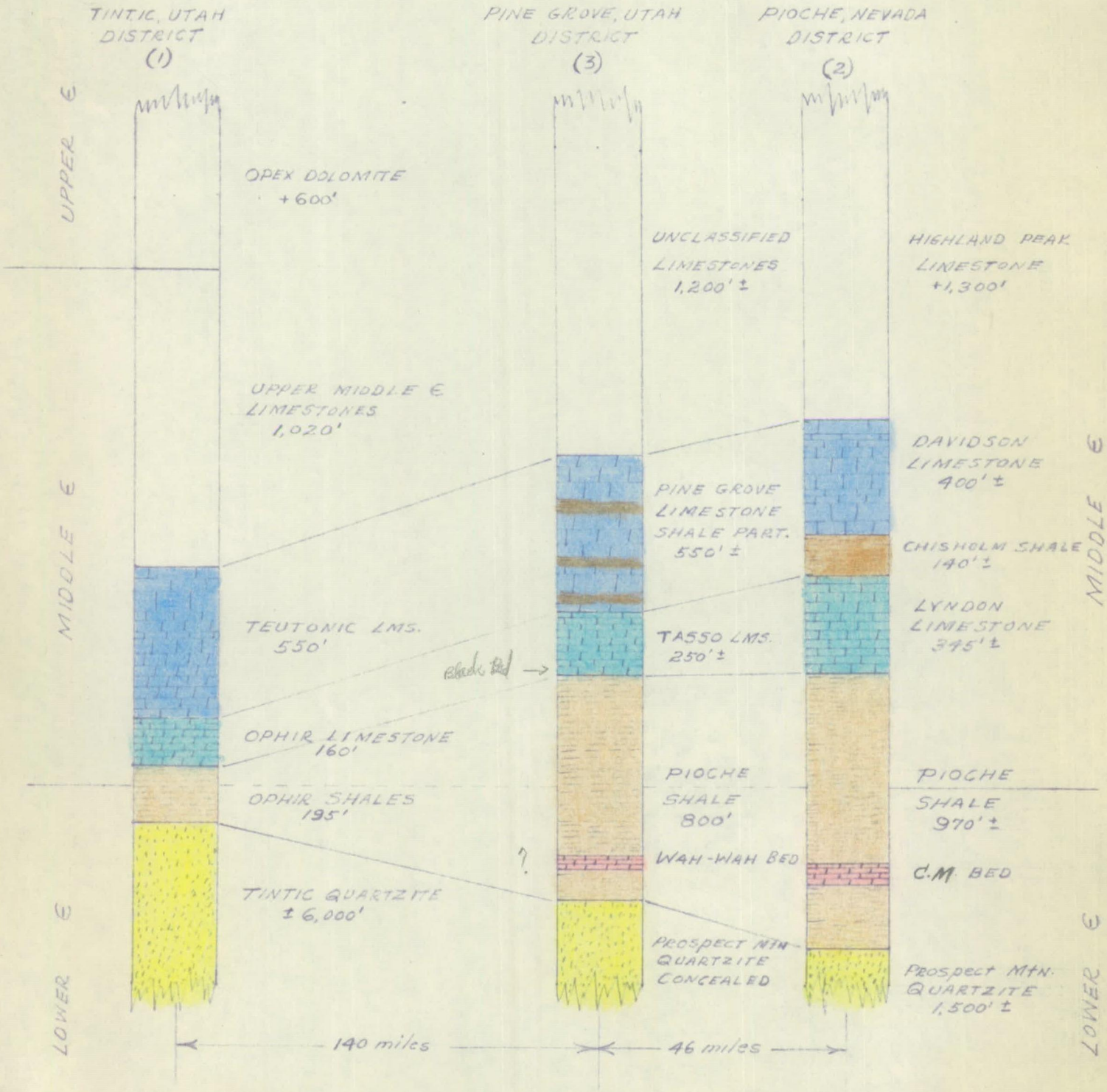
REFERENCES EBY. - LWC.
U.S.B.M R.I 3853
USGS Profess.
Paper 173

DMEA 4228

CORRELATION OF LOWER TO MIDDLE CAMBRIAN FORMATIONS OF PINE GROVE WITH TINTIC, UTAH, AND PIOCHE, NEVADA.

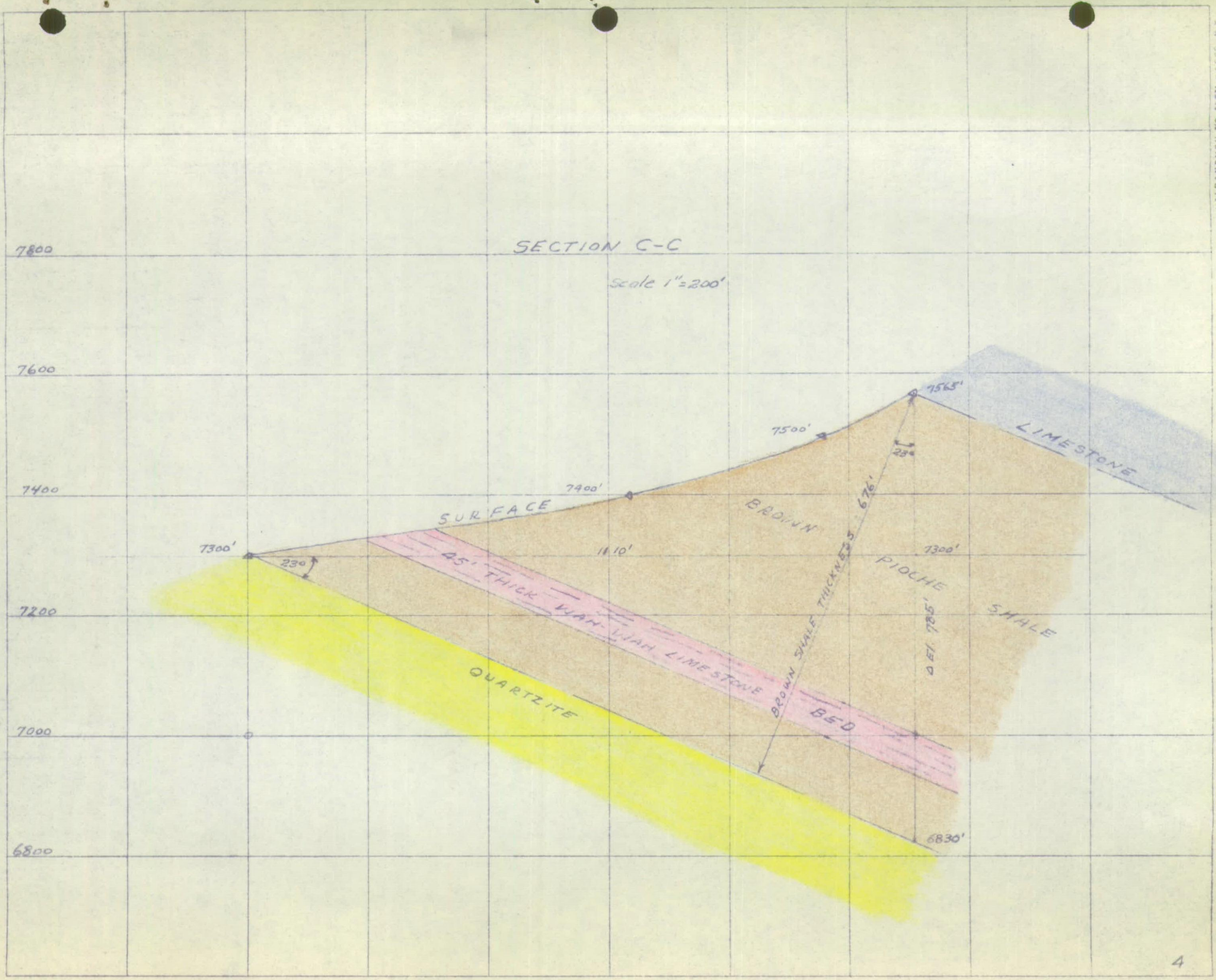
December 28, 1955

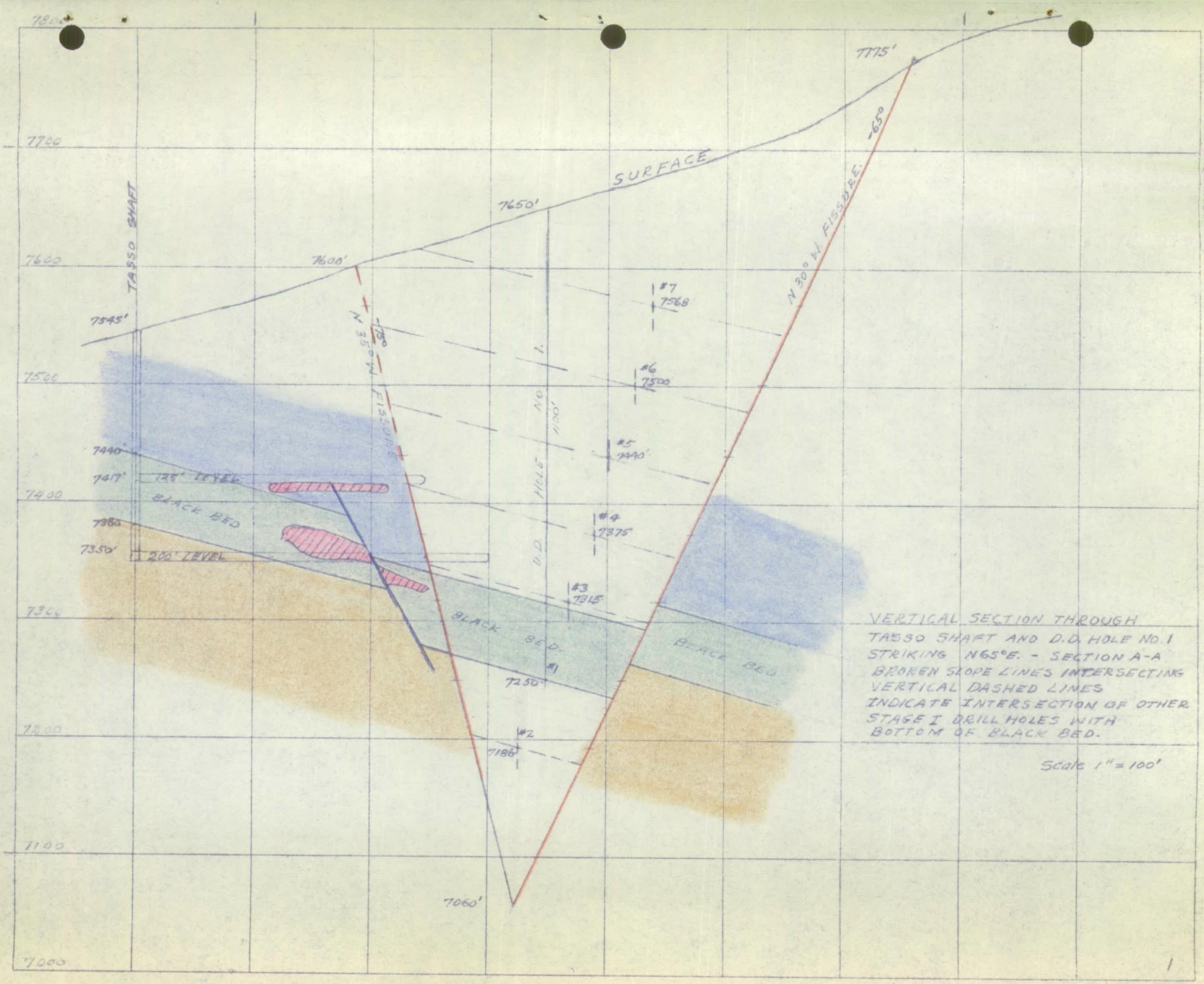
MADE BY
TRACED BY J.D. Williams
CHECKED BY
SCALE 1" = 500'



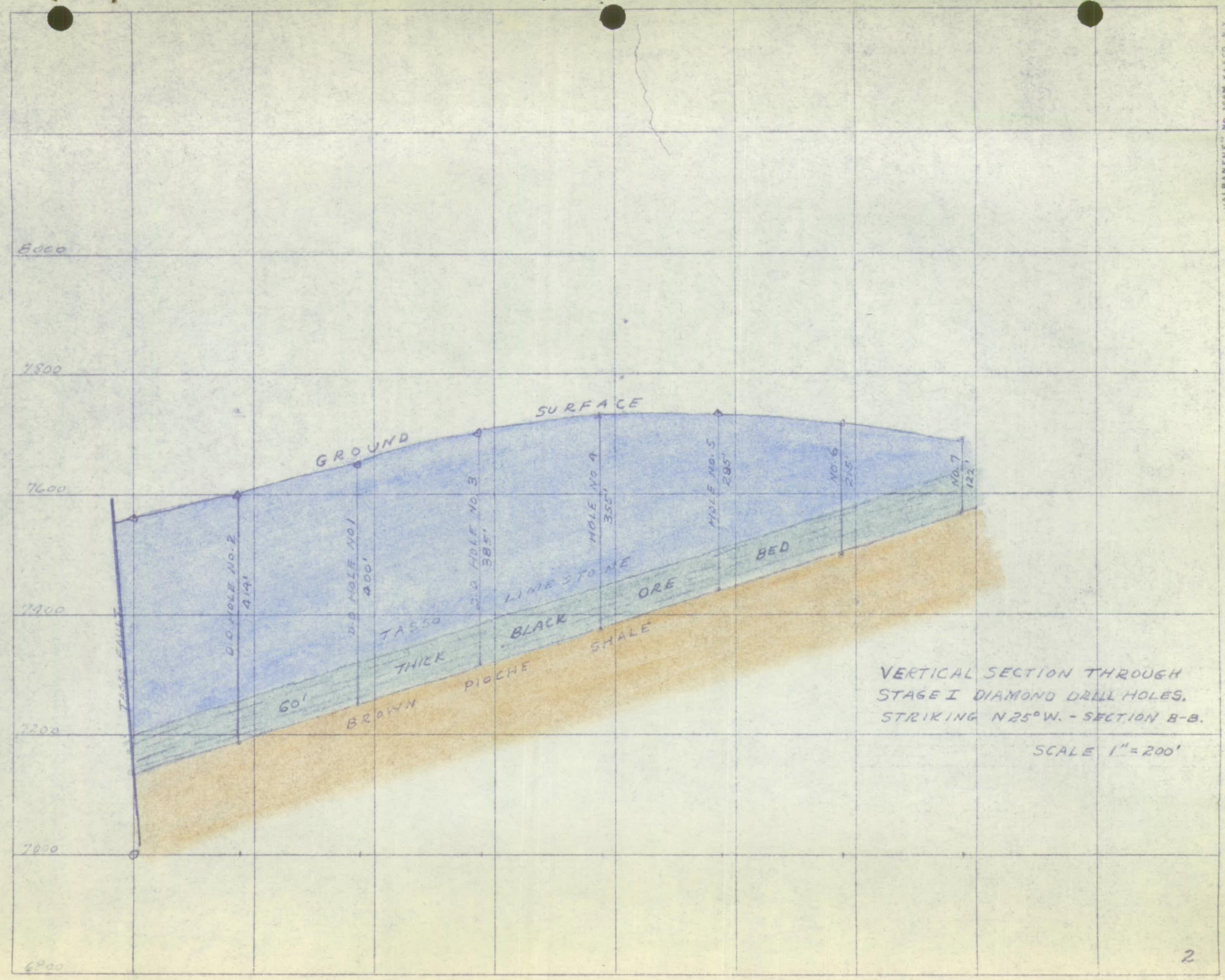
REFERENCE:

(1) AS PUBLISHED IN GEOLOGICAL SURVEY PROF. PAPER 173, JAMES GILLULY
(2) UNIVERSITY OF NEVADA BUL. GEO. and MIN. SERIES NO. 31, WHEELER, LEMMON
(3) BUREAU OF MINES R.I NO. 3853, JONES, DUNHAM - THIS REPORT


SECTION C-C
Scale 1" = 200'
7800
7600
7400
7200
7000
6800
7300'
23°
SURFACE
7400'
1110'
7500'
7565'
28°
676'
BROWN
PIOCHE
SHALE
7300'
LIMESTONE
45' THICK NYAH-NYAH LIMESTONE BED
BROWN SHALE THICKNESS
QUARTZITE
Δ El 785'
6830'



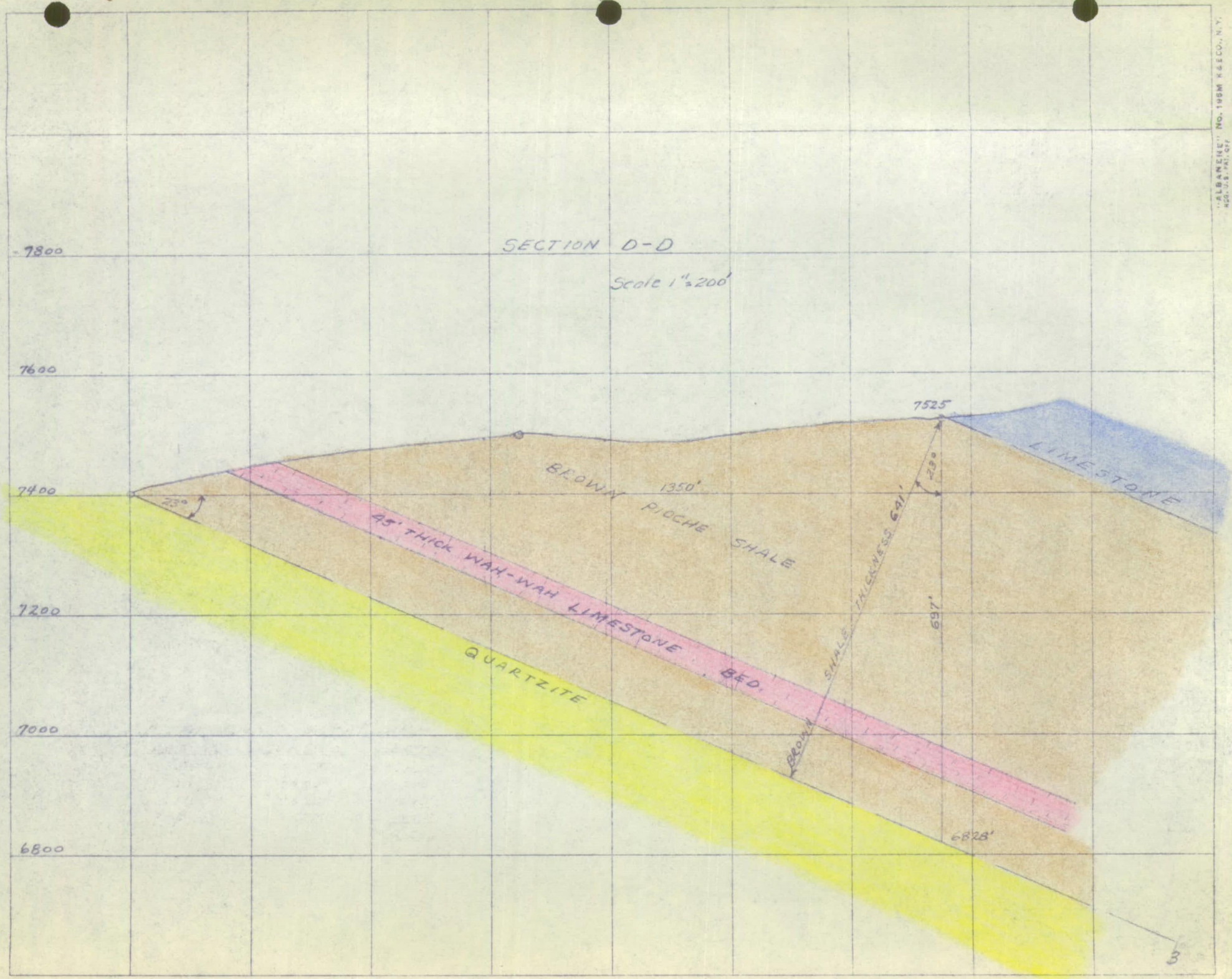
"ALBANENE" NO. 195M K&E CO., N.Y.
SEG. 18 BY 27 CM



VERTICAL SECTION THROUGH
STAGE I DIAMOND DRILL HOLES.
STRIKING N25°W. - SECTION B-B.

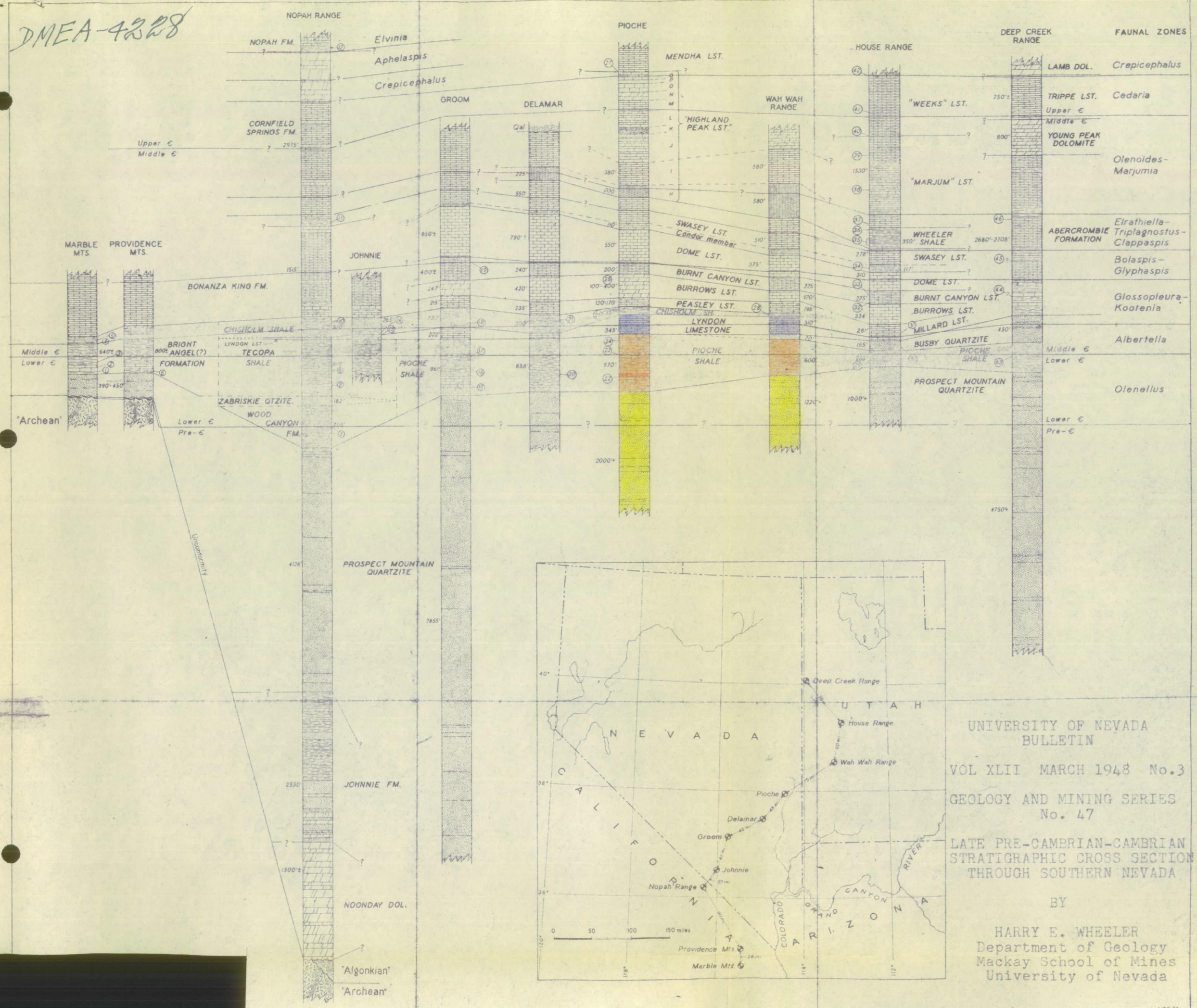
SCALE 1" = 200'

"ALBANENE" REG. U.S. PAT. OFF. No. 166M K&E CO., N.Y.



"ALBANENE" No. 195M K&E CO., N.Y.

DMEA-4228



stratigraphic and time-stratigraphic correlations of late Cryptozoic and Cambrian strata from southeastern California, through southern Nevada, to western Utah.

UNIVERSITY OF NEVADA BULLETIN

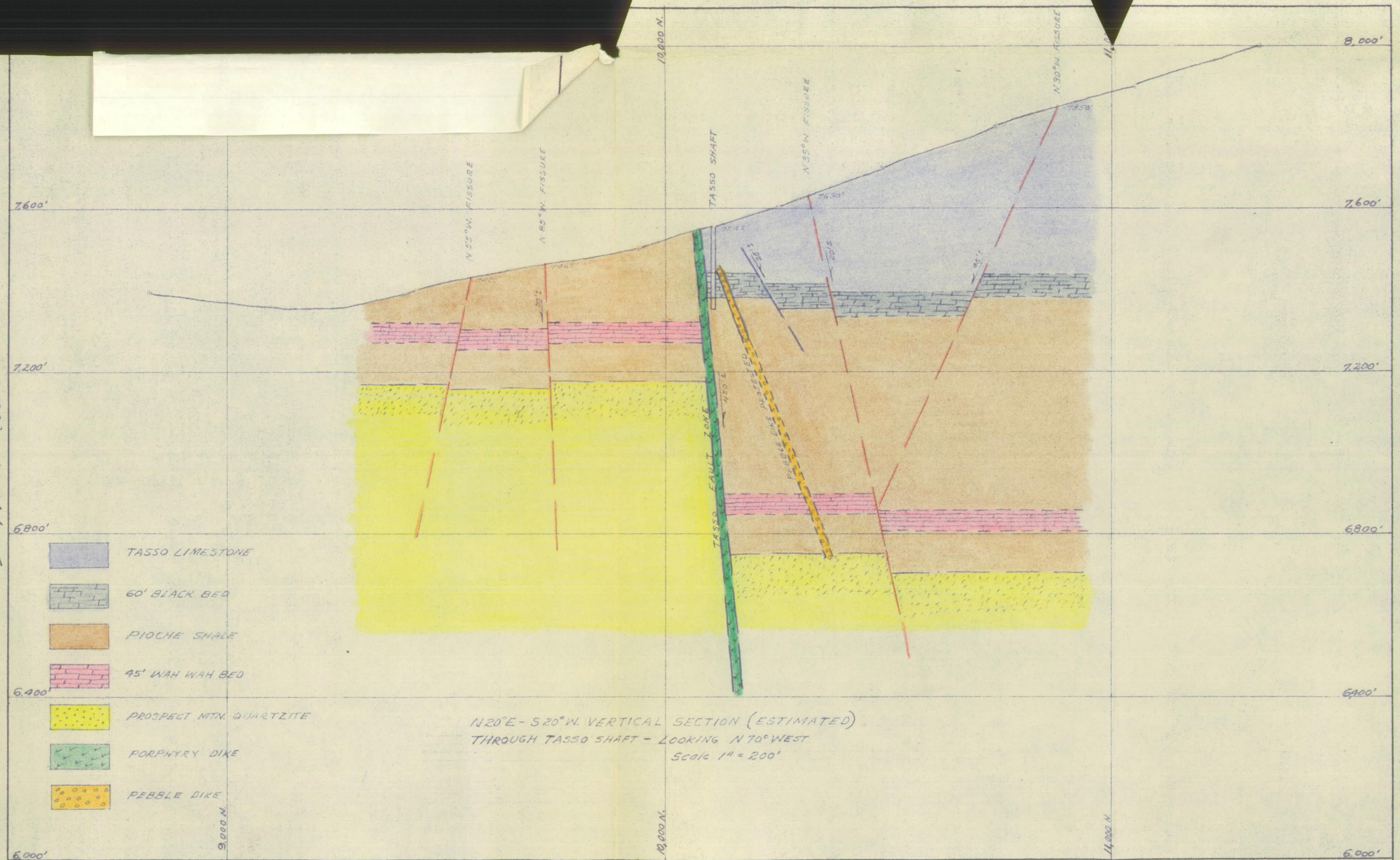
VOL XLII MARCH 1948 No.3

GEOLOGY AND MINING SERIES No. 47

LATE PRE-CAMBRIAN-CAMBRIAN STRATIGRAPHIC CROSS SECTION THROUGH SOUTHERN NEVADA

BY

HARRY E. WHEELER
Department of Geology
Mackay School of Mines
University of Nevada



DMEA-4528

REFERENCES	REVISIONS	WORK		
U.S.B.M. R.I. No. 3853 A.S.&R.Co. Sections and D.D. Hole Logs. U.S.G.S. Geological Map.		DRAWN JDW	3/5/56	
		TRACED		
		CHECKED		
		APPROVED		

PINE GROVE MINES
409 FELT BUILDING
SALT LAKE CITY 11, UTAH

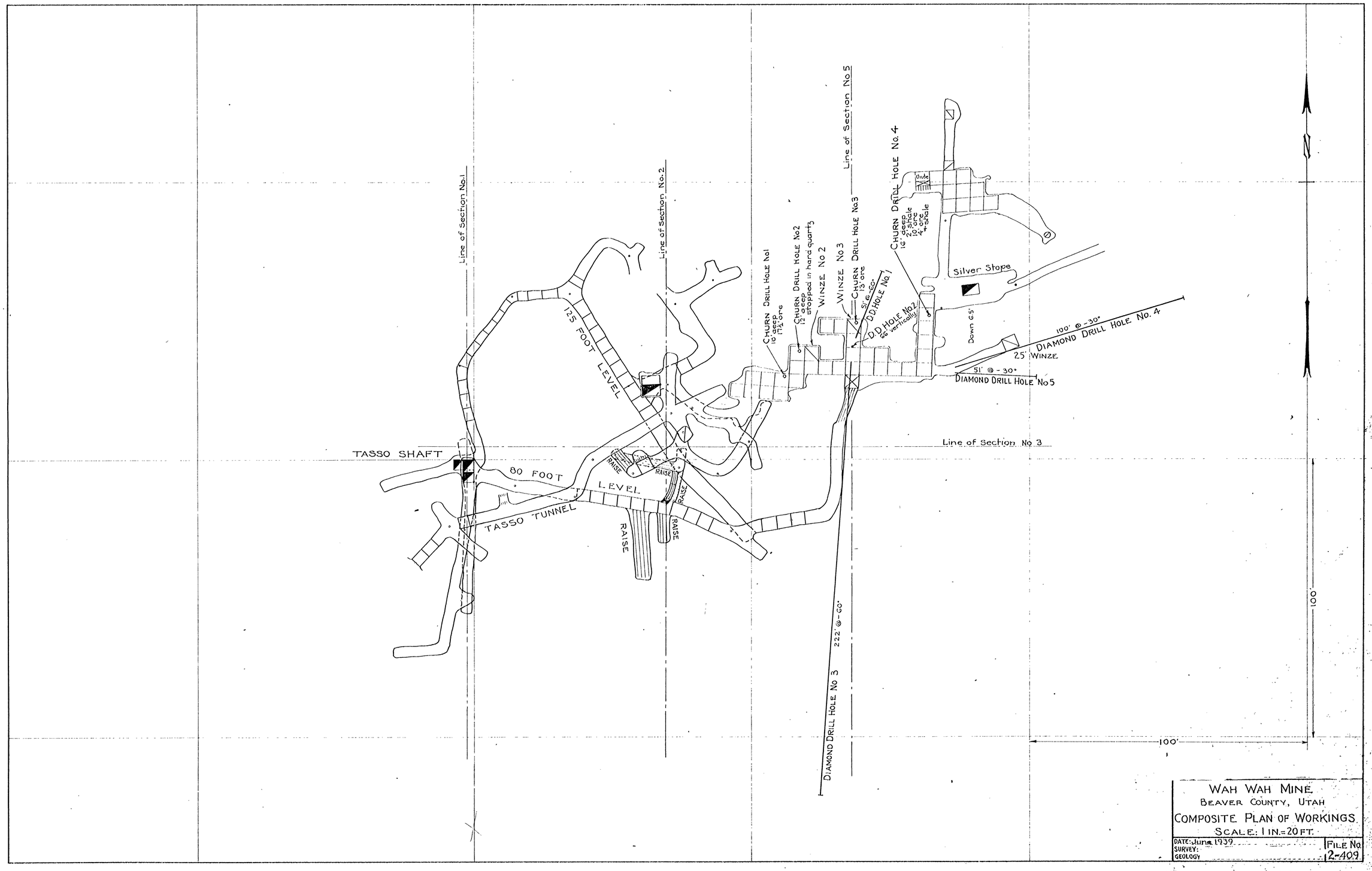
SCALE 1" = 200'

B- 100

SALT LAKE BLUE 1000H

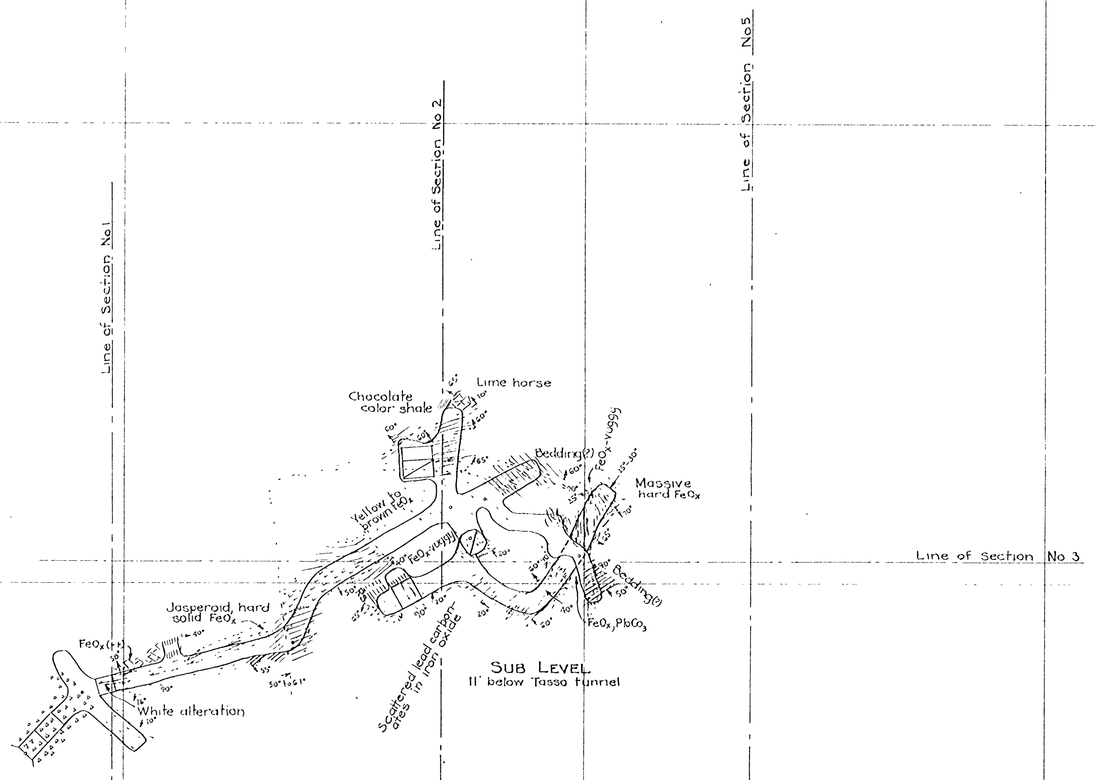
Geologic Section - Pine Grove Mines.

RECEIVED
MAR 26 1956



WAH WAH MINE
BEAVER COUNTY, UTAH
COMPOSITE PLAN OF WORKINGS
SCALE: 1 IN.=20 FT.

DATE: June 1939	FILE No.
SURVEY:	12-409
GEOLOGY	



LEGEND

- Limestone
- Shale (upper)
- Quartzite
- Pebble dikes
- Porphyry dikes (basic)
- Faults and unmineralized fissures
- Mineralization
- Alteration

WAH WAH MINE

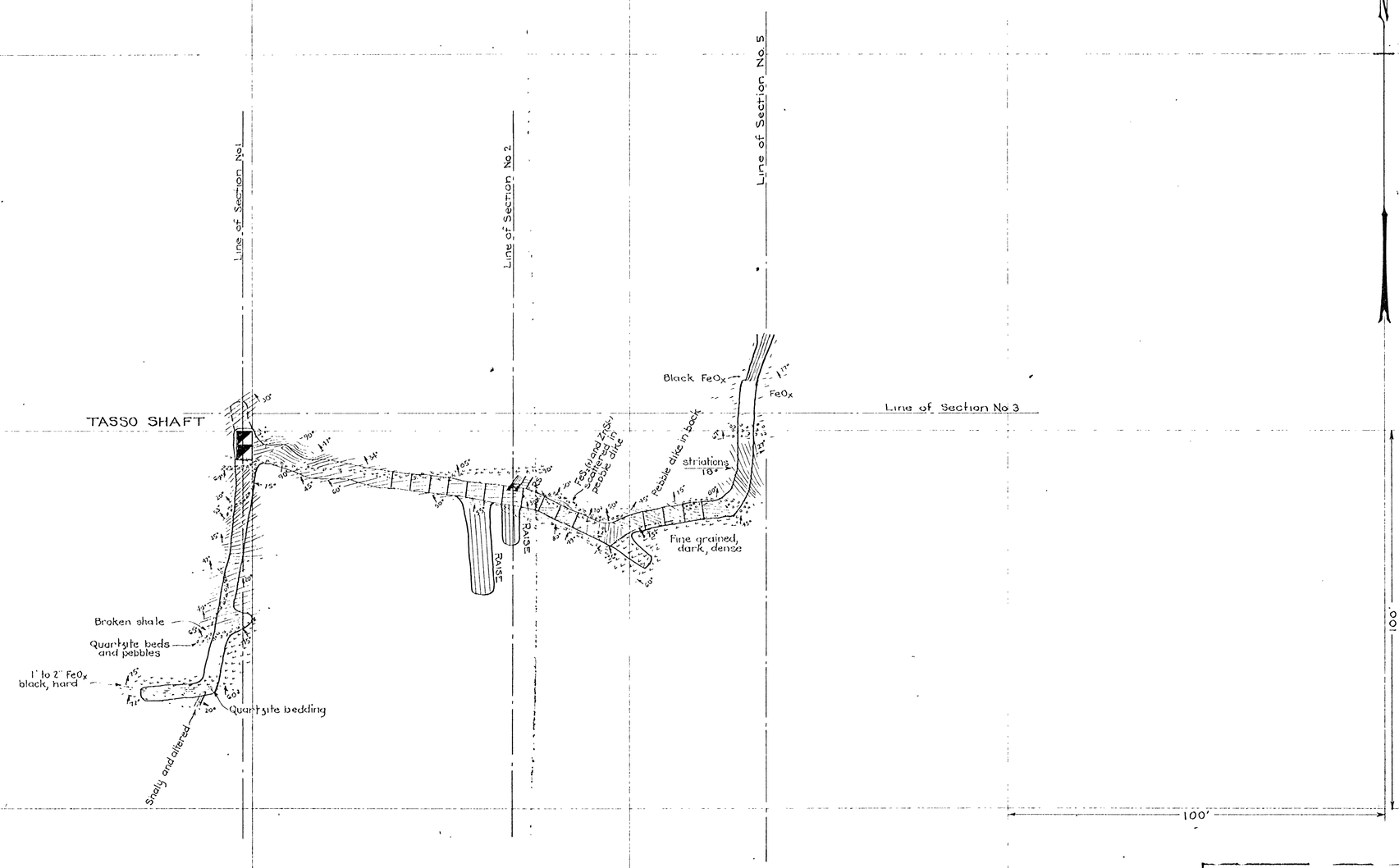
BEAVER COUNTY, UTAH

GEOLOGIC PLAN OF TASSO TUNNEL

SCALE 1 IN. = 20 FT.

DATE June 1929
SURVEY
GEOLOGY

FILE No. 2-410



LEGEND

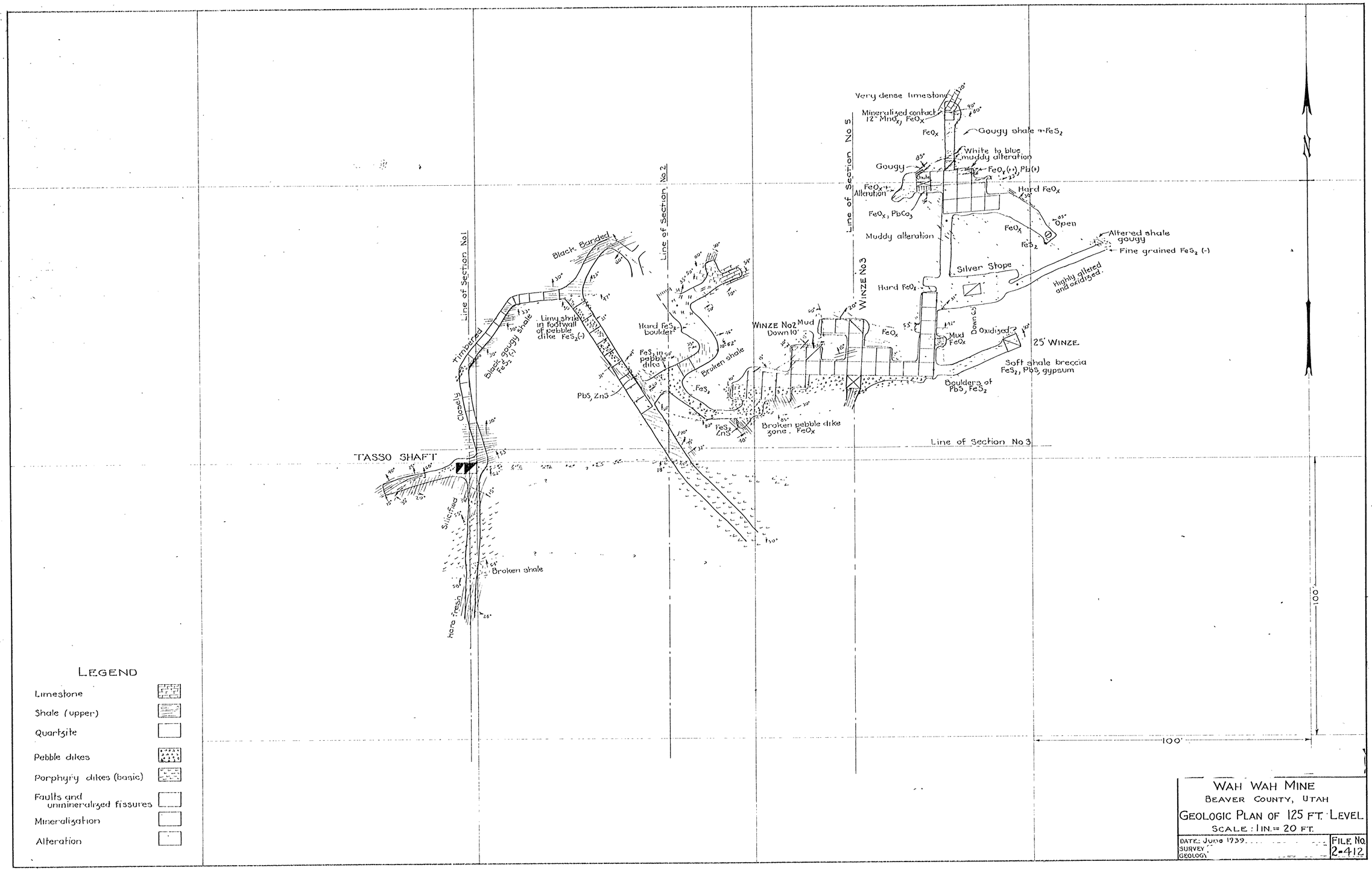
- Limestone
- Shale (upper)
- Quartzite
- Pebble dikes
- Porphyry dikes (basic)
- Faults and unmineralized fissures
- Mineralization
- Alteration

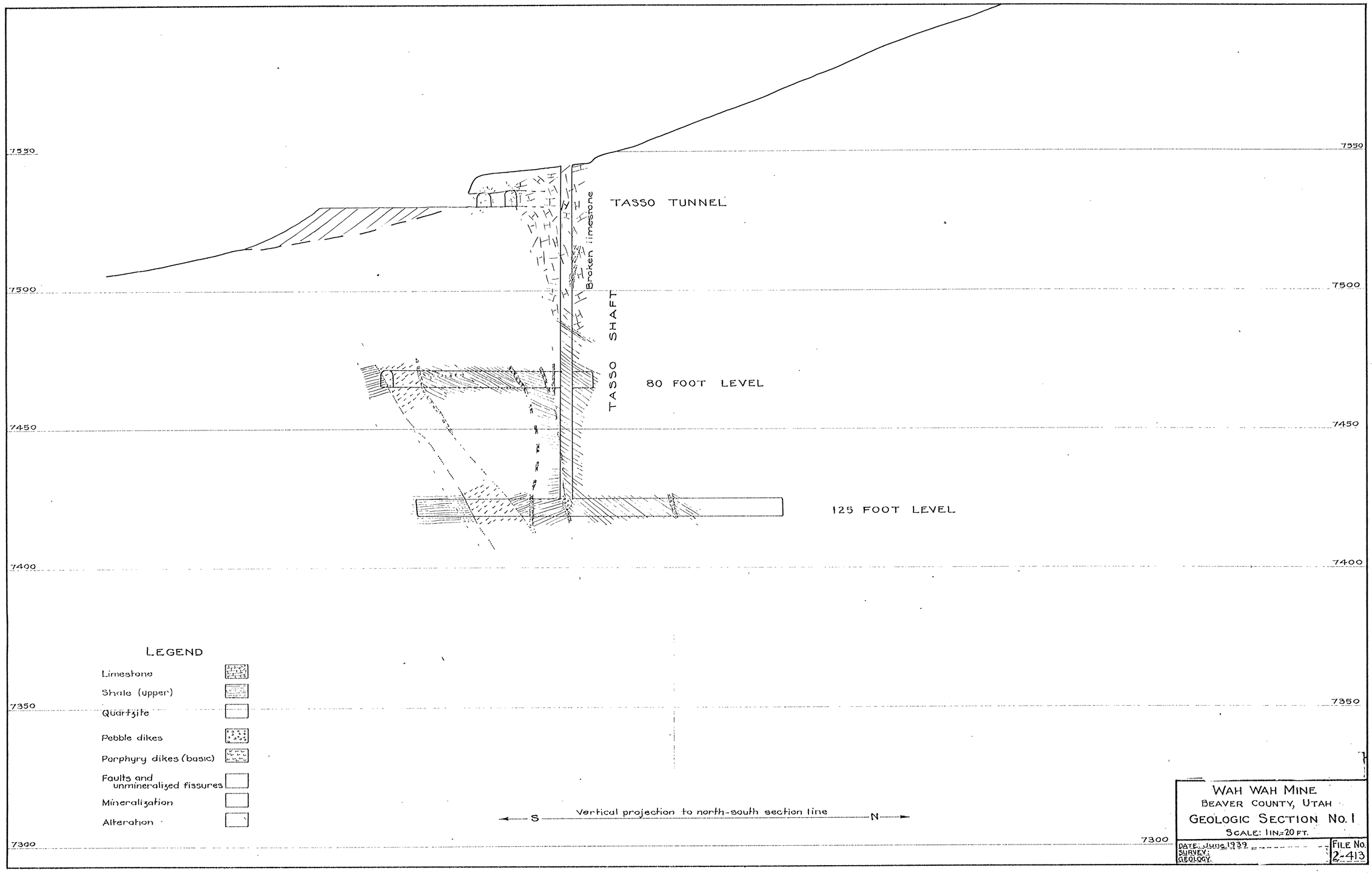
WAH WAH MINE
BEAVER COUNTY, UTAH

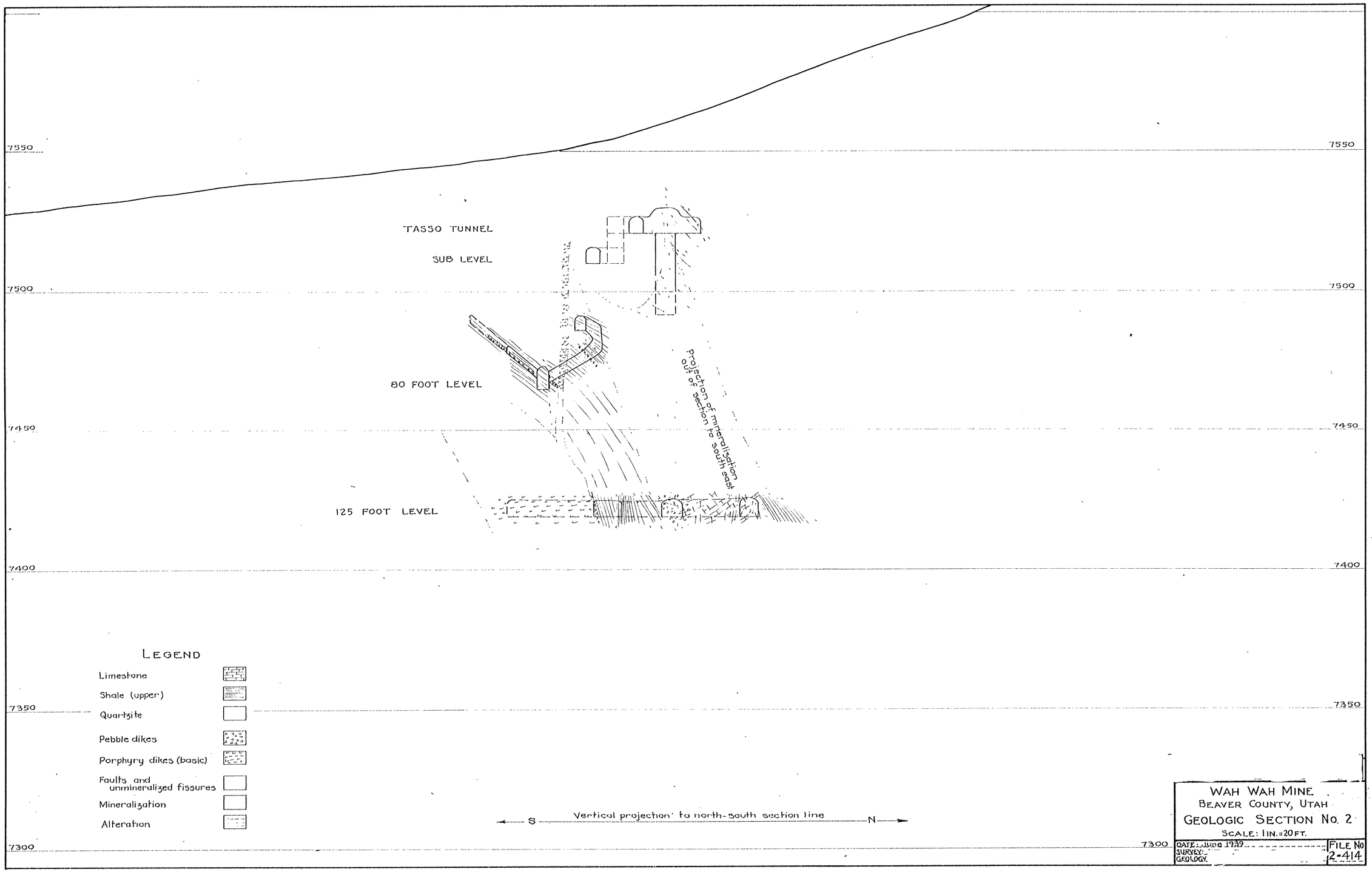
GEOLOGIC PLAN OF 80 FT. LEVEL
SCALE 1 IN. = 20 FT.

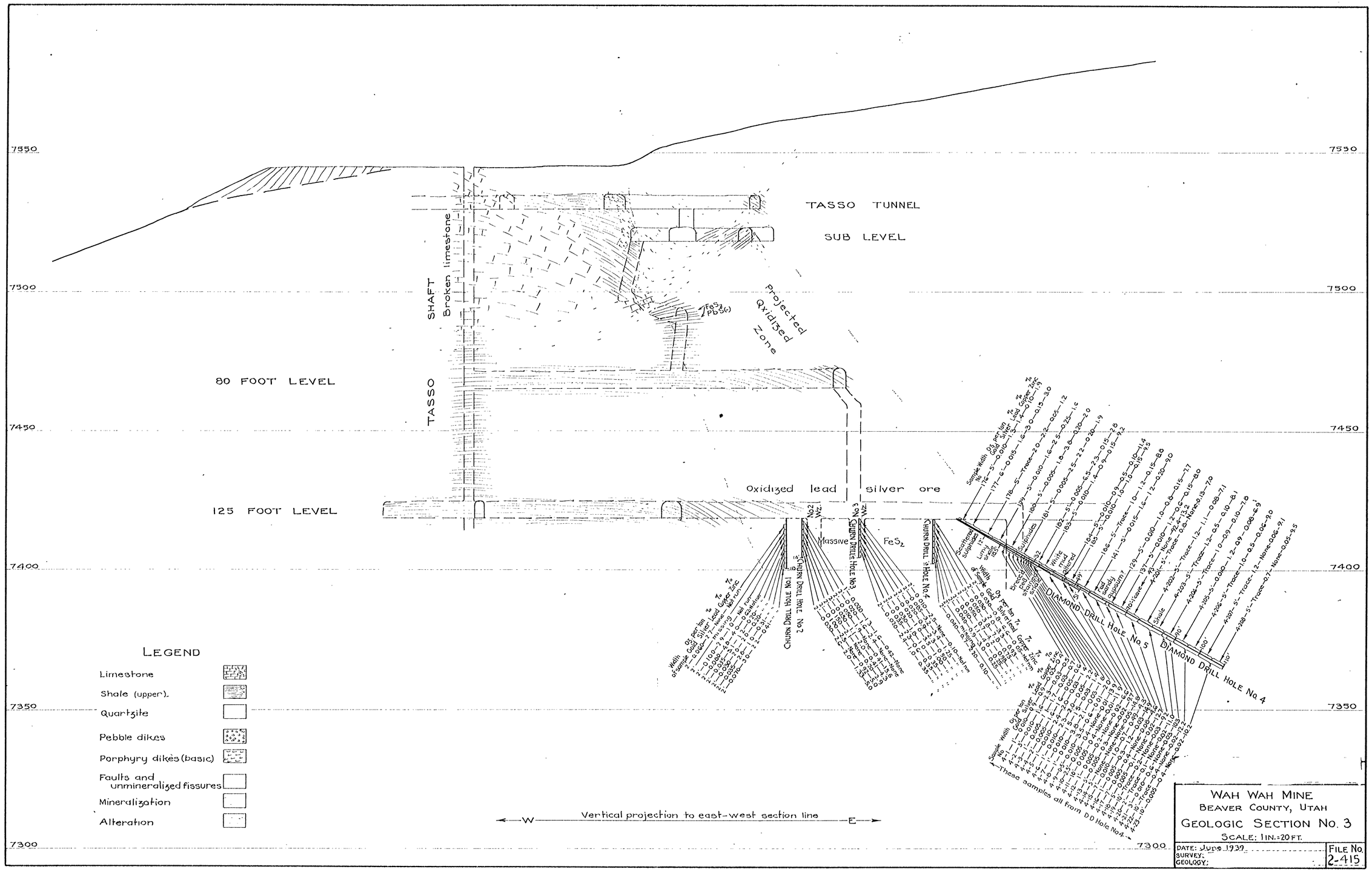
DATE: June 1939
SURVEY:
GEOLOGY:

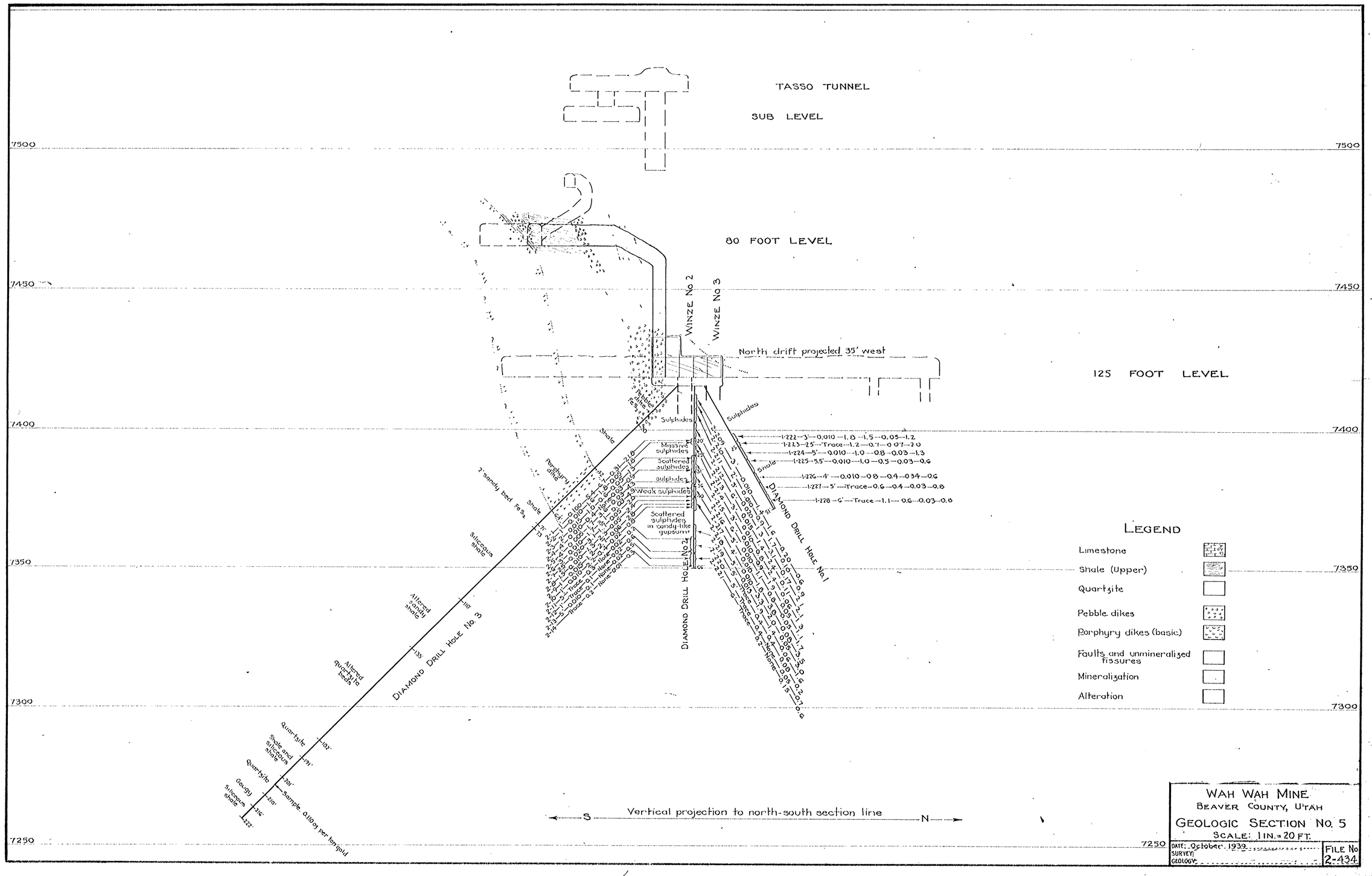
FILE No. 2-411

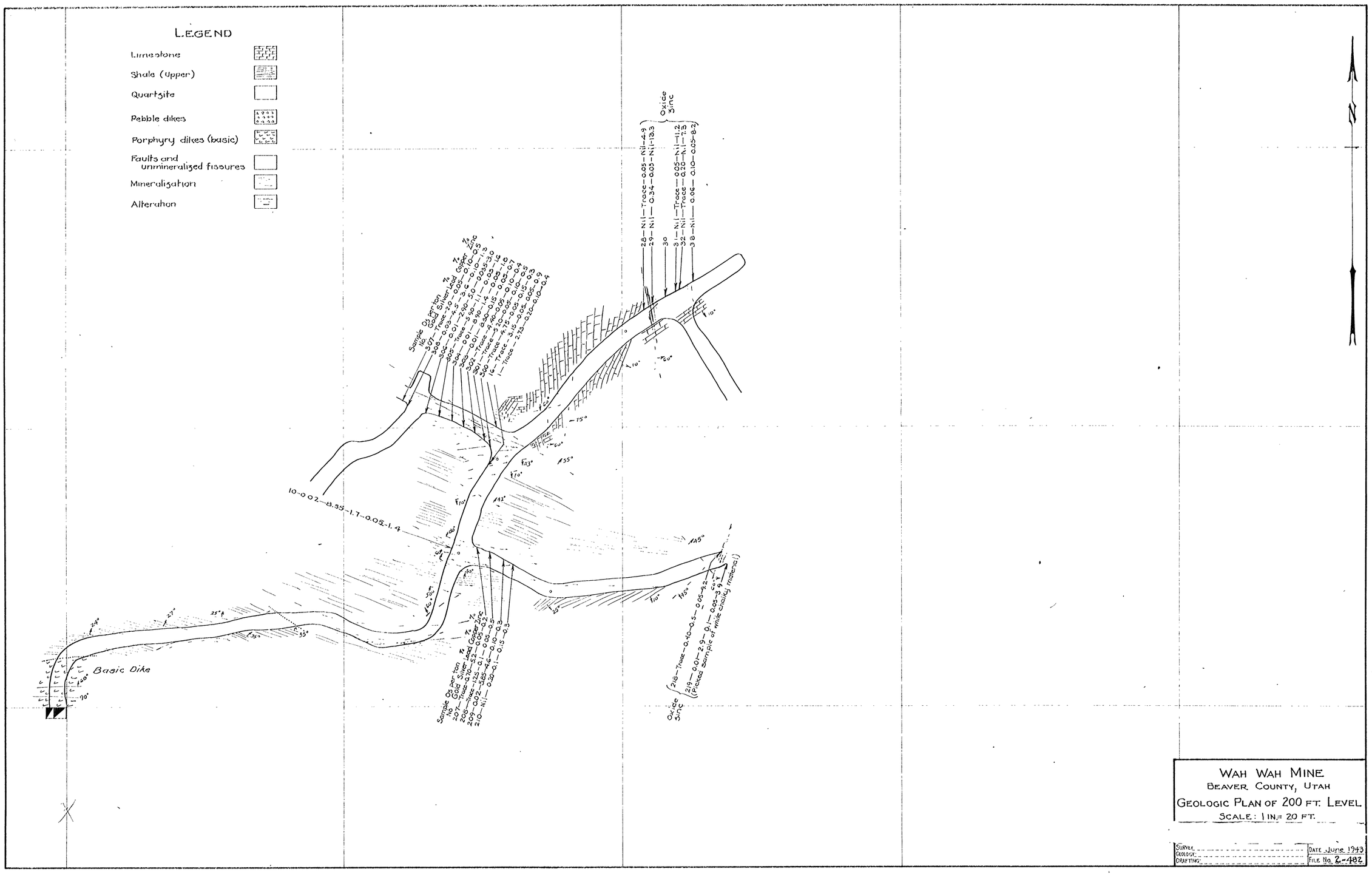

Line of Section No 1
Line of Section No 2
Line of Section No 3
Line of Section No 5
TASSO SHAFT
Timbered
Closely
Black-Banded
Black gougy shale FeS2 (-)
Limy shale in footwall of pebble dike FeS2 (-)
PbS, ZnS
Silicified
Broken shale
hard fresh
Hard FeS2 boulder
FeS2 in pebble dike
Broken shale
FeS2
FeS2 ZnS
Broken pebble dike zone. FeOx
WINZE No2 Down 10'
Mud
FeOx
WINZE No3
Very dense limestone
Mineralized contact 12" MnOx, FeOx
FeOx
Gougy shale FeS2
White to blue muddy alteration
Gougy
FeOx (+), Pb (+)
FeOx Alteration
Hard FeOx
FeOx, PbCO3
Open
Muddy alteration
FeOx
FeS2
Altered shale gougy
Fine grained FeS2 (-)
Silver Stope
Highly altered and oxidized.
Hard FeOx
Down 5'
Mud FeOx
Oxidized
25' WINZE
Soft shale breccia FeS2, PbS, gypsum
Boulders of PbS, FeS2
100'
100'
LEGEND
Limestone
Shale (upper)
Quartzite
Pebble dikes
Porphyry dikes (basic)
Faults and unmineralized fissures
Mineralization
Alteration
WAH WAH MINE
BEAVER COUNTY, UTAH
GEOLOGIC PLAN OF 125 FT. LEVEL
SCALE: 1 IN. = 20 FT.
DATE: June 1939
SURVEY
GEOLOGY
FILE No. 2-412


7550
7500
7450
7400
7350
7300
TASSO TUNNEL
Broken limestone
TASSO SHAFT
80 FOOT LEVEL
125 FOOT LEVEL
LEGEND
Limestone
Shale (upper)
Quartzite
Pebble dikes
Porphyry dikes (basic)
Faults and unmineralized fissures
Mineralization
Alteration
S
Vertical projection to north-south section line
N
WAH WAH MINE
BEAVER COUNTY, UTAH
GEOLOGIC SECTION No. 1
SCALE: 1 IN.=20 FT.
DATE: June 1939
SURVEY:
GEOLOGY.
FILE No.
2-413

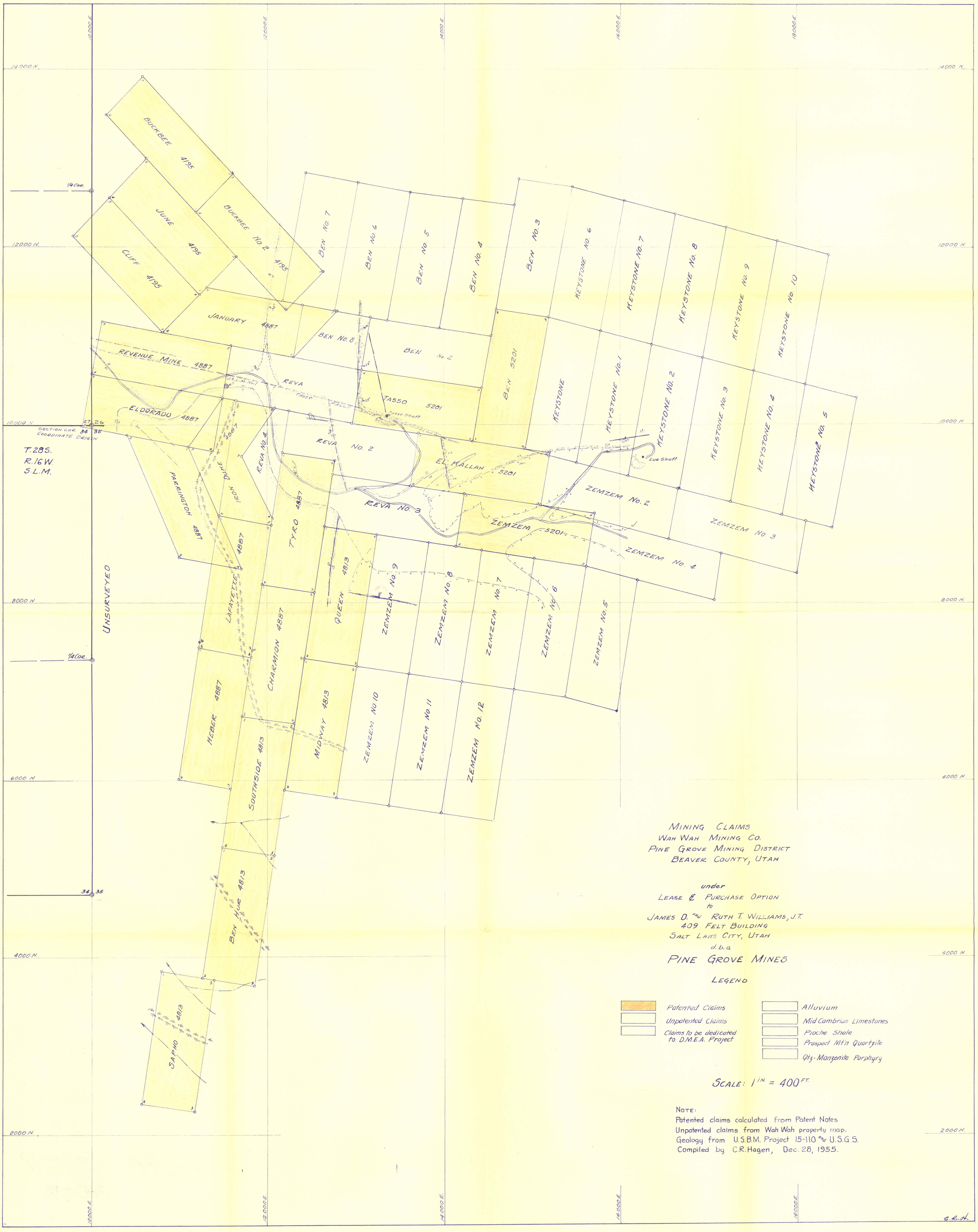

7550
7550
TASSO TUNNEL
SUB LEVEL
7500
7500
80 FOOT LEVEL
Projection of mineralization out of section to south east
7450
7450
125 FOOT LEVEL
7400
7400
LEGEND
Limestone
Shale (upper)
Quartzite
Pebble dikes
Porphyry dikes (basic)
Faults and unmineralized fissures
Mineralization
Alteration
7350
7350
S
Vertical projection to north-south section line
N
7300
7300
WAH WAH MINE
BEAVER COUNTY, UTAH
GEOLOGIC SECTION No. 2
SCALE: 1 IN. = 20 FT.
DATE: June 1939
SURVEY:
GEOLOGY.
FILE No
2-414

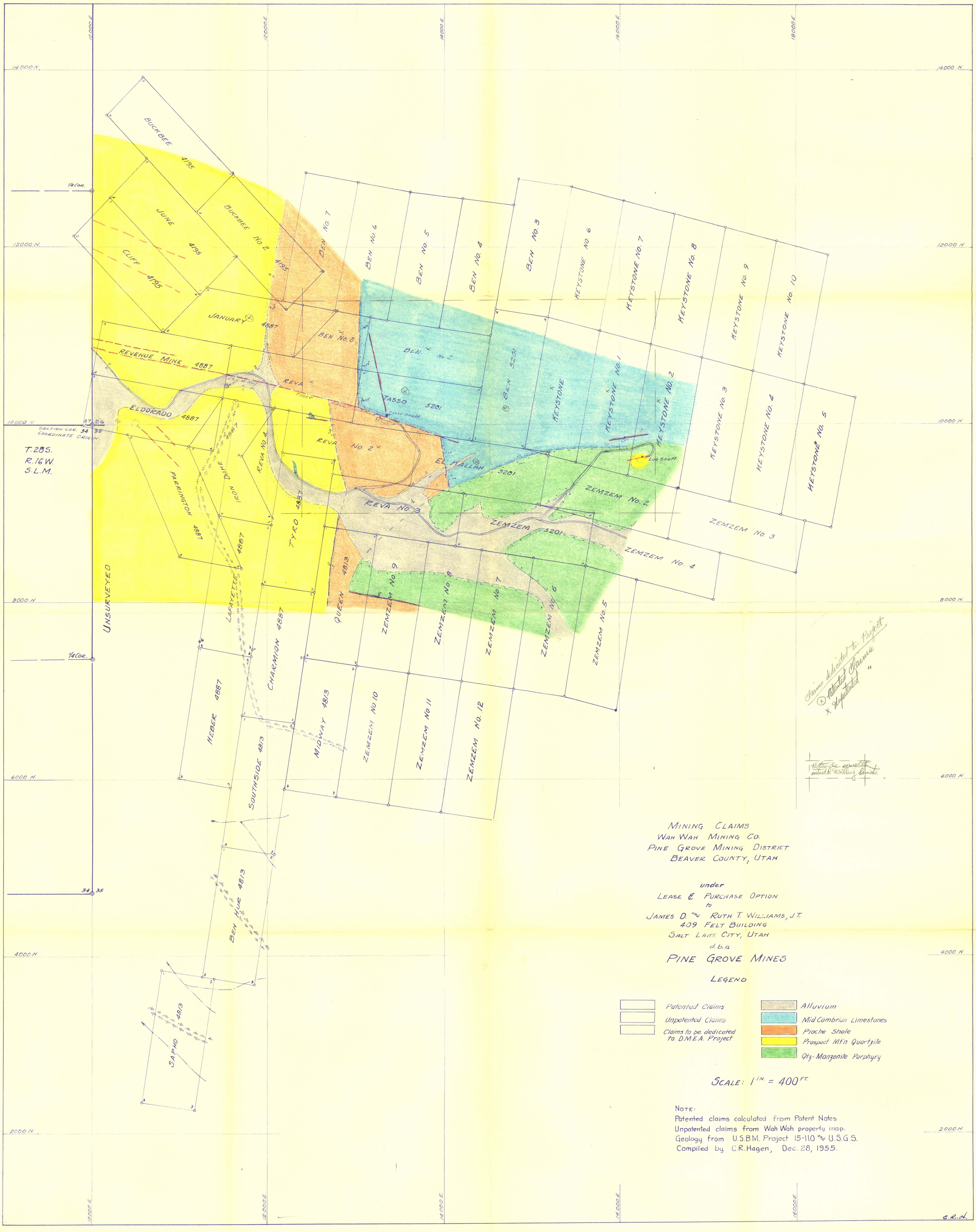

7550
7500
7450
7400
7350
7300
TASSO TUNNEL
SUB LEVEL
TASSO SHAFT
Broken limestone
80 FOOT LEVEL
125 FOOT LEVEL
Projected Oxidized Zone
FeS2 PbS(?)
Oxidized lead silver ore
Massive FeS2
CHURN DRILL HOLE No. 1
CHURN DRILL HOLE No. 2
CHURN DRILL HOLE No. 3
CHURN DRILL HOLE No. 4
DIAMOND DRILL HOLE No. 5
DIAMOND DRILL HOLE No. 4
Sample Width Oz per ton % Gold Silver Lead Copper Zinc
Sample Width Oz per ton % Gold Silver (lead) Copper Zinc
Sample Width Oz per ton % Gold Silver Lead Copper Zinc
Sample Width Oz per ton % Gold Silver Lead Copper Zinc
Sulphides
Shattered Sulphides
Limy Shale
White mud altered
Sandy gypsum
Shale
These samples all from DD Hole No. 4
LEGEND
Limestone
Shale (upper)
Quartzite
Pebble dikes
Porphyry dikes (basic)
Faults and unmineralized fissures
Mineralization
Alteration
W
Vertical projection to east-west section line
E
WAH WAH MINE
BEAVER COUNTY, UTAH
GEOLOGIC SECTION No. 3
SCALE: 1 IN. = 20 FT.
DATE: June 1939
SURVEY:
GEOLOGY:
FILE No. 2-415


TASSO TUNNEL
SUB LEVEL
80 FOOT LEVEL
125 FOOT LEVEL
7500
7450
7400
7350
7300
7250
WINZE No 2
WINZE No 3
North drift projected 35' west
Sulphides
Massive sulphides
Scattered sulphides
Weak sulphides
Scattered sulphides in sandy-like gypsum
Shale
Porphyry dike
Pebble dike
2' sandy bed Fe S2
Siliceous shale
Altered sandy shale
Altered quartzite beds
Quartzite
Shale and siliceous shale
Gouge
Sample 0.100 oz per ton gold
DIAMOND DRILL HOLE No. 3
DIAMOND DRILL HOLE No 2
DIAMOND DRILL HOLE No. 1
1-222—3'—0.010—1.8—1.5—0.03—1.2
1-223—2.5'—Trace—1.2—0.7—0.07—2.0
1-224—5'—0.010—1.0—0.8—0.03—1.3
1-225—3.5'—0.010—1.0—0.5—0.03—0.6
1-226—4'—0.010—0.8—0.4—0.34—0.6
1-227—5'—Trace—0.6—0.4—0.03—0.8
1-228—6'—Trace—1.1—0.6—0.03—0.8
LEGEND
Limestone
Shale (Upper)
Quartzite
Pebble dikes
Porphyry dikes (basic)
Faults and unmineralized fissures
Mineralization
Alteration
S
Vertical projection to north-south section line
N
WAH WAH MINE
BEAVER COUNTY, UTAH
GEOLOGIC SECTION No. 5
SCALE: 1 IN. = 20 FT.
DATE: October 1939
SURVEY:
GEOLOGY:
FILE No 2-434


LEGEND
Limestone
Shale (Upper)
Quartzite
Pebble dikes
Porphyry dikes (basic)
Faults and unmineralized fissures
Mineralization
Alteration
Basic Dike
N
WAH WAH MINE
BEAVER COUNTY, UTAH
GEOLOGIC PLAN OF 200 FT. LEVEL
SCALE: 1 IN.= 20 FT.
SURVEY
GEOLOGY
DRAFTING
DATE June 1943
FILE No. 2-482

12000 E
14000 E
16000 E
18000 E
14000 N
12000 N
10000 N
8000 N
6000 N
4000 N
2000 N
1/4 Cor.
SECTION COR. 34 35
COORDINATE ORIGIN
T. 28 S.
R. 16 W.
S.L.M.
UNSURVEYED
BUCKBEE 4195
JUNE 4195
CLIFF 4195
BUCKBEE No. 2 4195
BEN No. 7
BEN No. 6
BEN No. 5
BEN No. 4
BEN No. 3
HEYSTONE No. 6
HEYSTONE No. 7
HEYSTONE No. 8
HEYSTONE No. 9
HEYSTONE No. 10
JANUARY 4887
BEN No. 8
BEN No. 2
BEN 5201
HEYSTONE
HEYSTONE No. 1
HEYSTONE No. 2
HEYSTONE No. 3
HEYSTONE No. 4
HEYSTONE No. 5
REVENUE MINE 4887
U.S.L.M. No. 1
REVA
TASSO FAULT
TASSO 5201
Tasso Shaft
ELDORADO 4887
REVA No. 2
EL KALLAH 5201
Lua Shaft
ZEMZEM No. 2
ZEMZEM No. 3
ZEMZEM No. 4
Not Included in any Patent
REVA No. 3
ZEMZEM 5201
PARRINGTON 4887
DIKE 4887
REVA No. 4
TYRO 4887
LAFAYETTE 4887
QUEEN 4813
ZEMZEM No. 9
ZEMZEM No. 8
ZEMZEM No. 7
ZEMZEM No. 6
ZEMZEM No. 5
CHARMION 4887
HEBER 4887
SOUTHSIDE 4813
MIDWAY 4813
ZEMZEM No. 10
ZEMZEM No. 11
ZEMZEM No. 12
BEN HUR 4813
SAPHO 4813
MINING CLAIMS
WAH WAH MINING CO.
PINE GROVE MINING DISTRICT
BEAVER COUNTY, UTAH
under
LEASE & PURCHASE OPTION
to
JAMES D. and RUTH T. WILLIAMS, J.T.
409 FELT BUILDING
SALT LAKE CITY, UTAH
d.b.a
PINE GROVE MINES
LEGEND
Patented Claims
Unpatented Claims
Claims to be dedicated to D.M.E.A. Project
Alluvium
Mid Cambrian Limestones
Pioche Shale
Prospect Mtn Quartzite
Qtz-Monzonite Porphyry
SCALE: 1 IN. = 400 FT.
NOTE:
Patented claims calculated from Patent Notes
Unpatented claims from Wah Wah property map.
Geology from U.S.B.M. Project 15-110 and U.S.G.S.
Compiled by C.R. Hagen, Dec. 28, 1955.
Map #1
C.R.H.


10000 E
12000 E
14000 E
16000 E
18000 E
14000 N
12000 N
10000 N
8000 N
6000 N
4000 N
2000 N
1/4 Cor.
SECTION COR. 34 35 27 26
COORDINATE ORIGIN
T.28S.
R.16W.
S.L.M.
UNSURVEYED
BUCKBEE 4195
JUNE 4195
CLIFF 4195
BUCKBEE No. 2 4195
JANUARY 4887
REVENUE MINE 4887
ELDORADO 4887
U.S.L.M. No.1
REVA
TASSO FAULT
TASSO 5201
Tasso Shaft
BEN No. 8
BEN No. 2
BEN No. 7
BEN No. 6
BEN No. 5
BEN No. 4
BEN No. 3
BEN 5201
KEYSTONE No. 6
KEYSTONE No. 7
KEYSTONE No. 8
KEYSTONE No. 9
KEYSTONE No. 10
KEYSTONE
KEYSTONE No. 1
KEYSTONE No. 2
KEYSTONE No. 3
KEYSTONE No. 4
KEYSTONE No. 5
Lug Shaft
REVA No. 4
REVA No. 2
EL KALLAH 5201
REVA No. 3
ZEMZEM No. 2
ZEMZEM No. 3
ZEMZEM 5201
ZEMZEM No. 4
PARRINGTON 4887
DUKE 4887
TYRO 4887
LAFAYETTE 4887
QUEEN 4813
ZEMZEM No. 9
ZEMZEM No. 8
ZEMZEM No. 7
ZEMZEM No. 6
ZEMZEM No. 5
HEBER 4887
CHARMION 4887
MIDWAY 4813
ZEMZEM No. 10
ZEMZEM No. 11
ZEMZEM No. 12
SOUTHSIDE 4813
BEN HUR 4813
SAPHO 4813
MINING CLAIMS
WAH WAH MINING CO.
PINE GROVE MINING DISTRICT
BEAVER COUNTY, UTAH
under
LEASE & PURCHASE OPTION
to
JAMES D. and RUTH T. WILLIAMS, J.T.
409 FELT BUILDING
SALT LAKE CITY, UTAH
d.b.a
PINE GROVE MINES
LEGEND
Patented Claims
Unpatented Claims
Claims to be dedicated to D.M.E.A. Project
Alluvium
Mid Cambrian Limestones
Pioche Shale
Prospect Mt'n Quartzite
Qtz-Monzonite Porphyry
SCALE: 1 IN. = 400 FT.
NOTE:
Patented claims calculated from Patent Notes
Unpatented claims from Wah Wah property map.
Geology from U.S.B.M. Project 15-110 and U.S.G.S.
Compiled by C.R.Hagen, Dec. 28, 1955.
C.R.H.


10000 E
12000 E
14000 E
16000 E
18000 E
14000 N.
12000 N.
10000 N
8000 N
6000 N
4000 N
2000 N.
1/4 Cor.
Section Cor. 34 35 26 27
Coordinate Origin
T.28S.
R.16W.
S.L.M.
BUCKBEE 4195
JUNE 4195
BUCKBEE No. 2 4195
CLIFF 4195
JANUARY 4887
REVENUE MINE 4887
ELDORADO 4887
PARRINGTON 4887
DUKE 4887
REVA No. 4
REVA No. 2
REVA No. 3
TYRO 4887
QUEEN 4813
UNSURVEYED
LAFAYETTE 4887
CHARMION 4887
HEBER 4887
SOUTHSIDE 4813
MIDWAY 4813
BEN No. 7
BEN No. 6
BEN No. 5
BEN No. 4
BEN No. 3
BEN No. 8
BEN No. 2
TASSO 5201
Tasso Shaft
BEN 5201
EL KALLAH 5201
ZEMZEM 5201
ZEMZEM No. 2
ZEMZEM No. 3
ZEMZEM No. 4
ZEMZEM No. 5
ZEMZEM No. 6
ZEMZEM No. 7
ZEMZEM No. 8
ZEMZEM No. 9
ZEMZEM No. 10
ZEMZEM No. 11
ZEMZEM No. 12
KEYSTONE No. 1
KEYSTONE No. 2
KEYSTONE No. 3
KEYSTONE No. 4
KEYSTONE No. 5
KEYSTONE No. 6
KEYSTONE No. 7
KEYSTONE No. 8
KEYSTONE No. 9
KEYSTONE No. 10
Lua Shaft
BEN HUR 4813
SAPHO 4813
Claims dedicated to Project
⊕ Patented Claims
x Unpatented "
Rectangle represents outcrop & drilling limits
MINING CLAIMS
WAH WAH MINING CO.
PINE GROVE MINING DISTRICT
BEAVER COUNTY, UTAH
under
LEASE & PURCHASE OPTION
to
JAMES D. and RUTH T. WILLIAMS, J.T.
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Unpatented Claims
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Geology from U.S.B.M. Project 15-110 and U.S.G.S.
Compiled by C.R. Hagen, Dec. 28, 1955.
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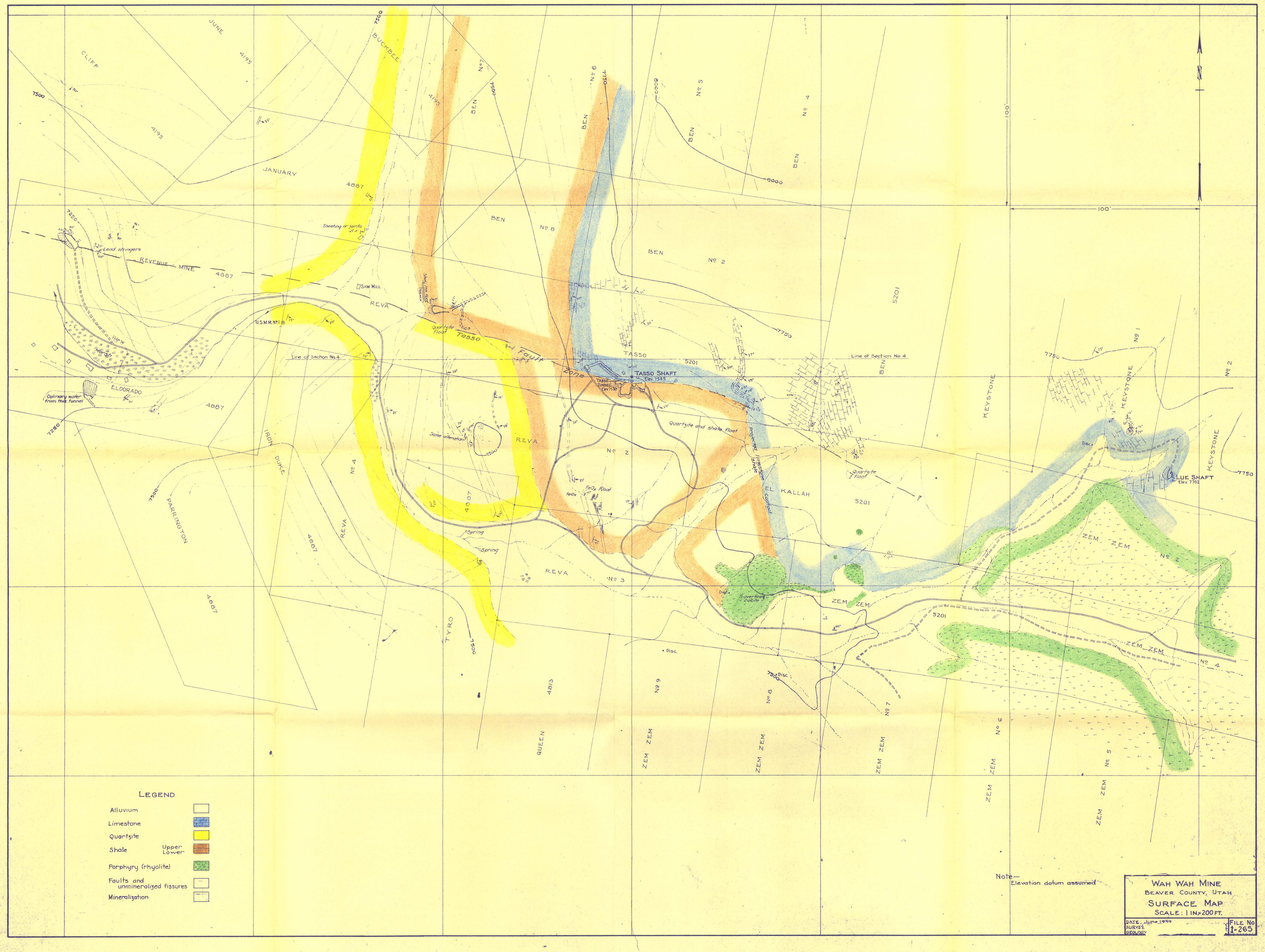
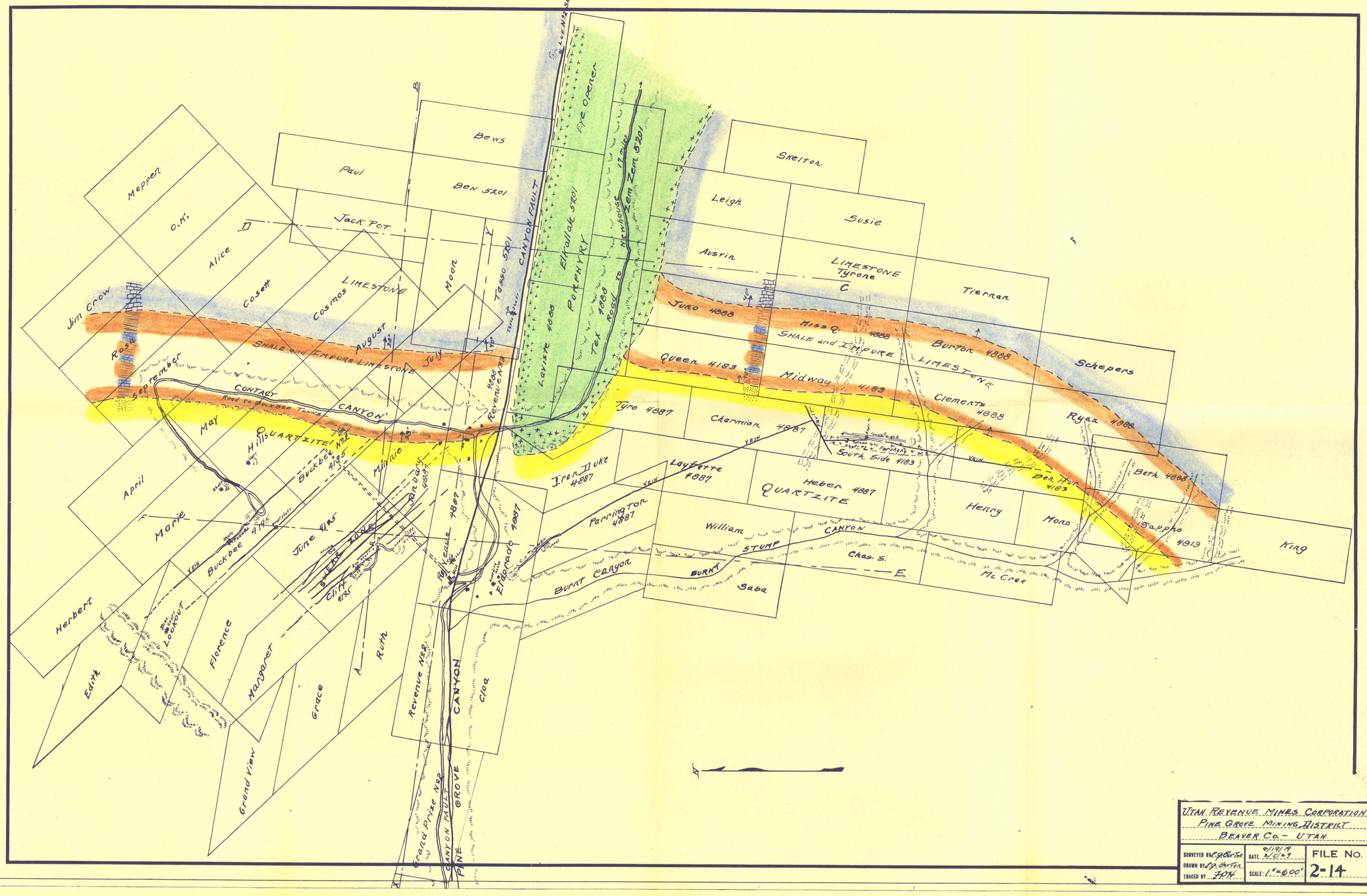
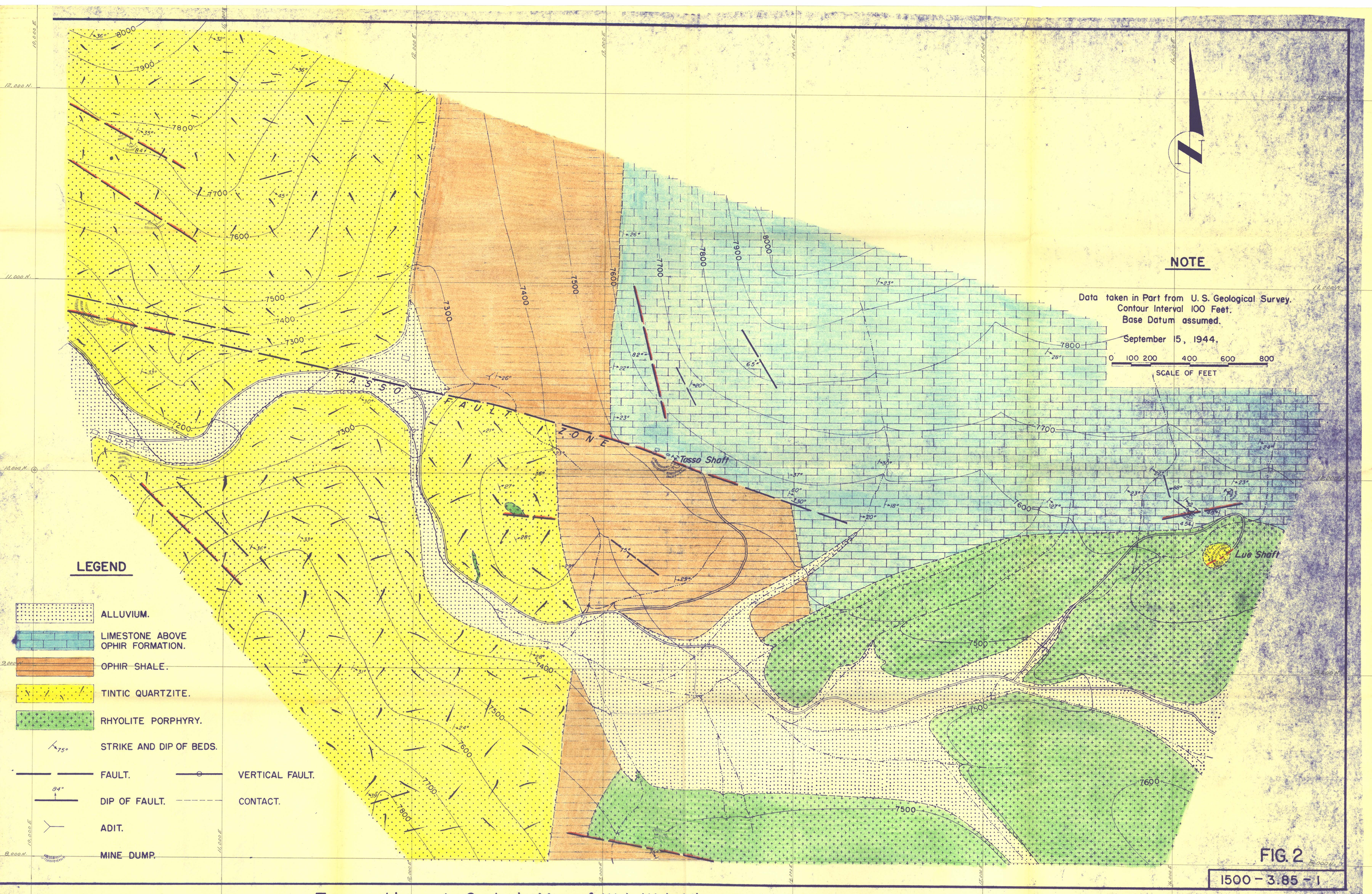

JUNE
CLIFF
4195
JANUARY
4887
BUCKBEE
BEN
Nº 8
Nº 6
Nº 5
Nº 4
Nº 2
5201
REVENUE MINE
Lead stringers
Sheeting or joints
SAW MILL
REVA
U.S.M.M. Nº 1
Quartzite float
TASSO
Fault Zone
Line of Section No. 4
TASSO SHAFT
Elev. 7545
TASSO TUNNEL Elev. 7550
Quartzite and shale float
Limestone Shale Contact
EL KALLAH
Quartzite float
KEYSTONE
Nº 1
Nº 2
BLUE SHAFT
Elev. 7702
ZEM ZEM
Nº 4
Nº 3
Culinary water from this tunnel
ELDORADO
Nº 3
IRON DUKE
PARKINGTON
Some alteration
Spring
Traverties cuts
TYRO
QUEEN
4813
Nº 9
Nº 8
Nº 7
Nº 6
Nº 5
Disc.
100'
7500
7250
7000
7750
8000
LEGEND
Alluvium
Limestone
Quartzite
Shale Upper Lower
Porphyry (rhyolite)
Faults and unmineralized fissures
Mineralization
Note—
Elevation datum assumed
WAH WAH MINE
BEAVER COUNTY, UTAH
SURFACE MAP
SCALE: 1 IN=200 FT.
DATE: June 1930
SURVEY
GEOLOGY
FILE No
11-265

Vertical Section Showing Veins and Proposed Tunnel.

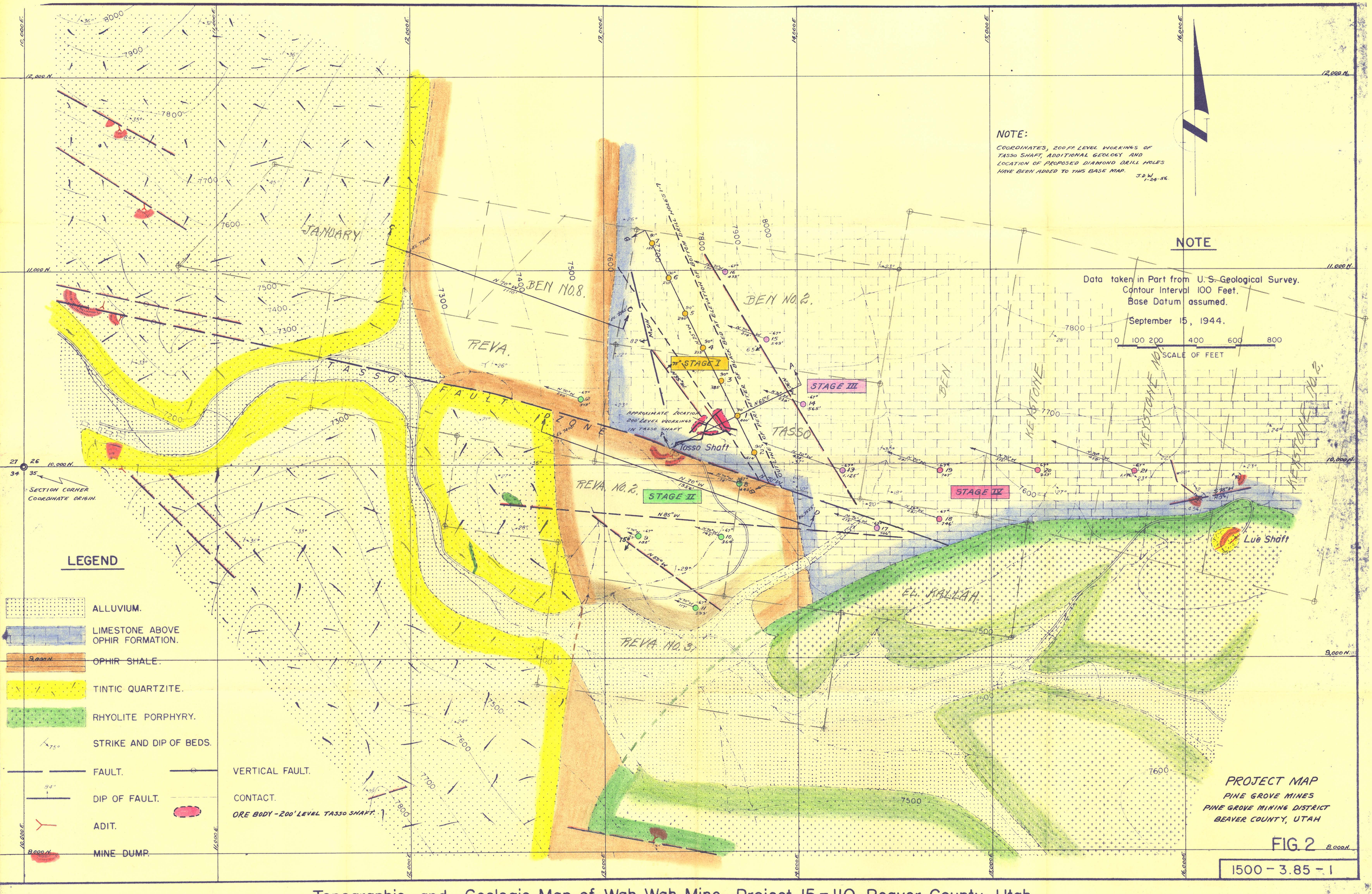


UTAH REVENUE MINES CORPORATION
PINE GROVE MINING DISTRICT
BEAVER CO. - UTAH

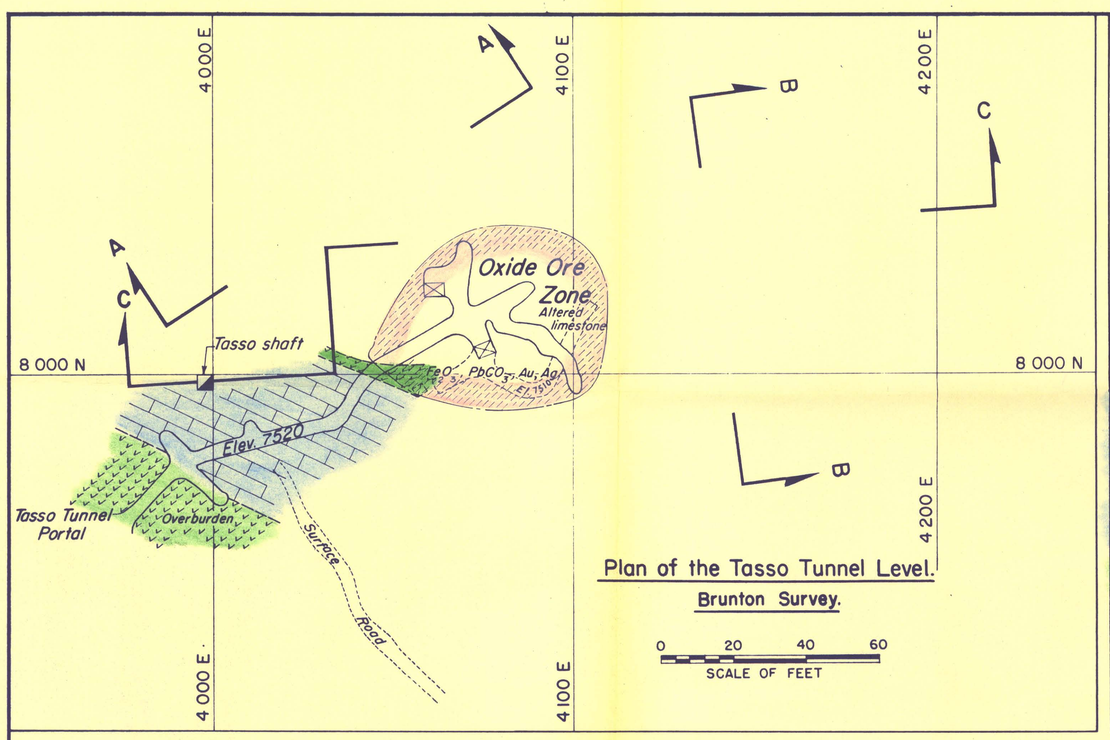
SURVEYED BY W. G. Carter	DATE 9/19/19	FILE No.
DRAWN BY F. G. Carter	DATE 9/20/19	2-14
TRACED BY JDN	SCALE: 1" = 600'	



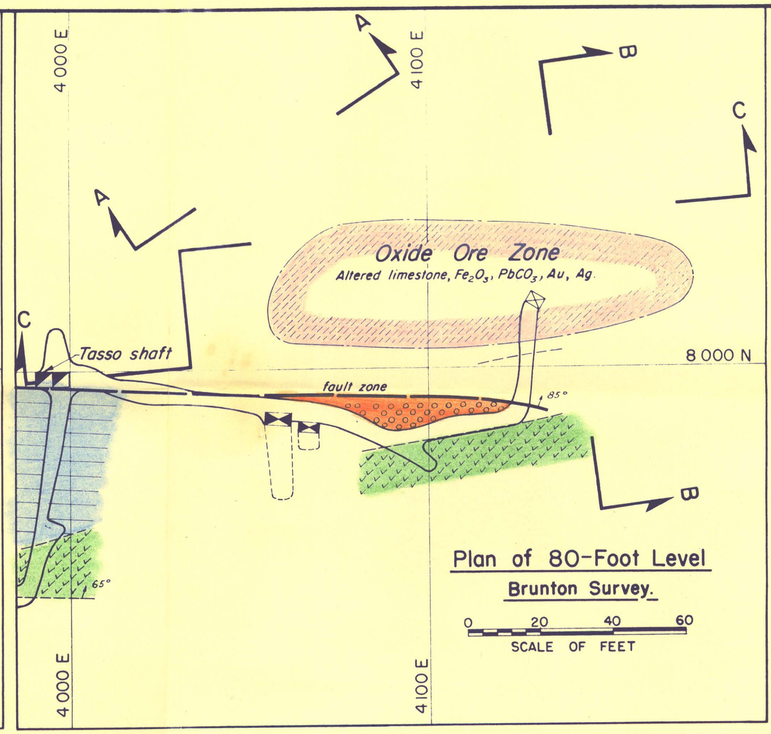
Topographic and Geologic Map of Wah Wah Mine, Project 15-110, Beaver County, Utah.



Topographic and Geologic Map of Wah Wah Mine, Project 15-110, Beaver County, Utah.



Plan of the Tasso Tunnel Level.
Brunton Survey.
0 20 40 60
SCALE OF FEET



Plan of 80-Foot Level
Brunton Survey.
0 20 40 60
SCALE OF FEET

LEGEND

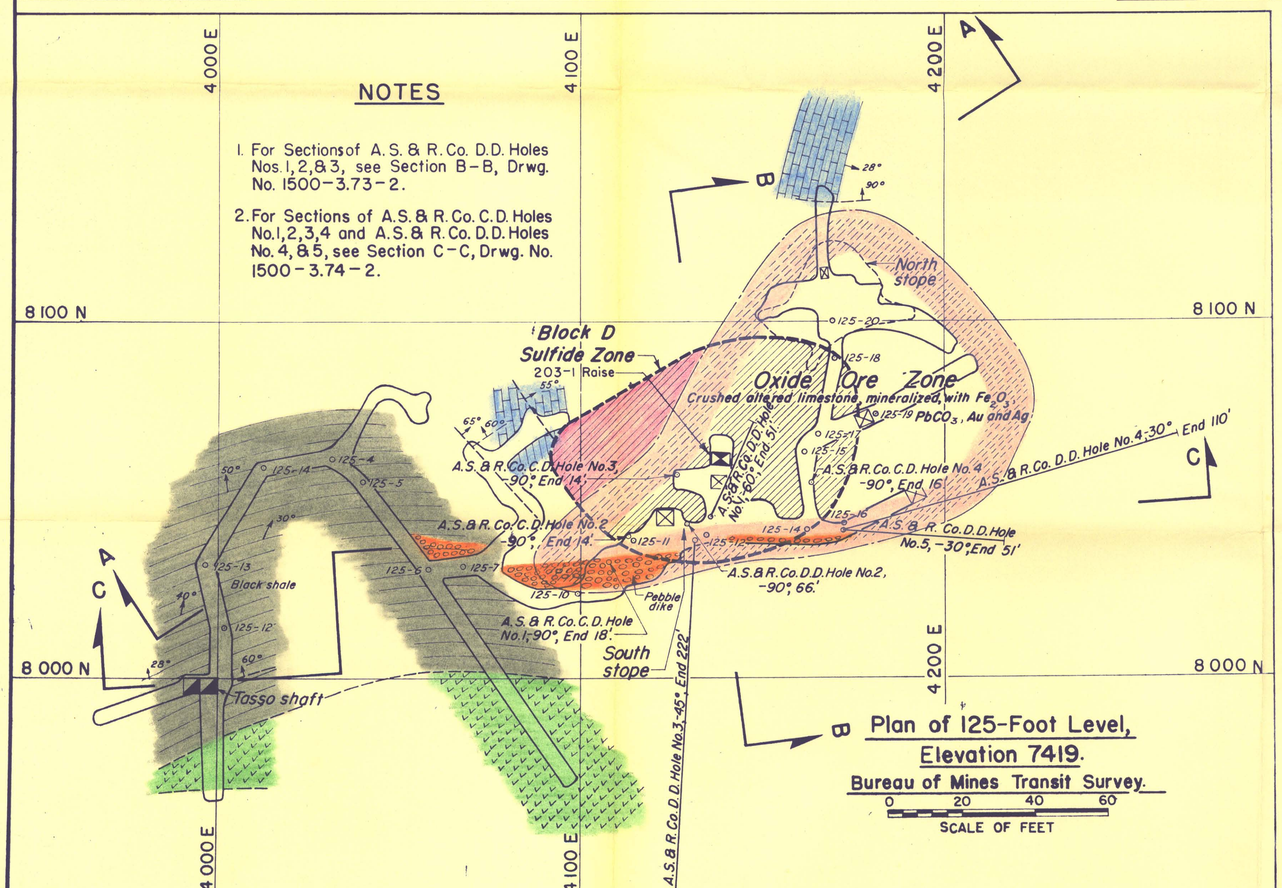
- ORE BLOCKS.
- OXIDE ORE ZONE.
- OPHIR LIMESTONE.
- SHALES.
- BASIC DIKE.
- PEBBLE DIKE.
- FAULT.
- CONTACTS.

N

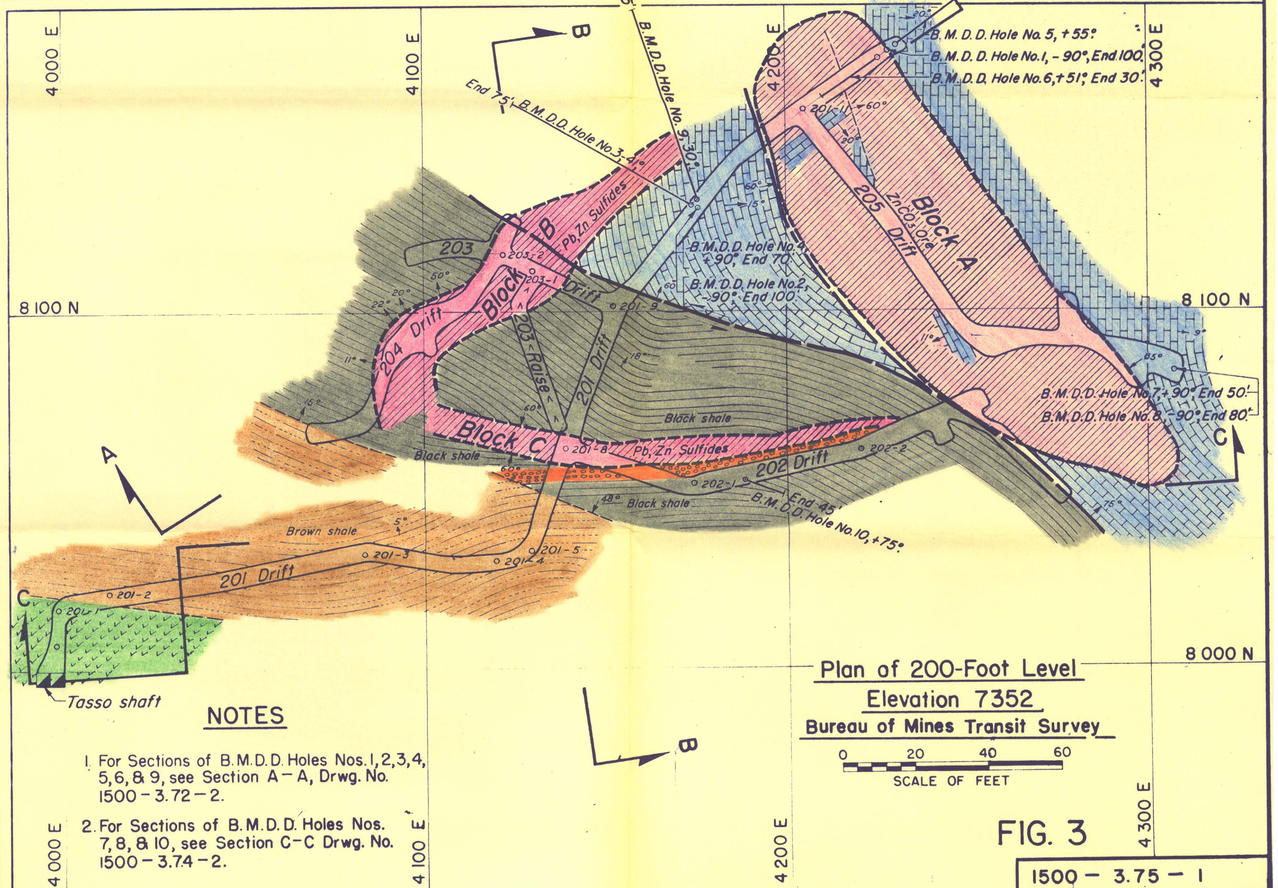
September 15, 1944.

NOTES

1. For Sections of A.S. & R. Co. D.D. Holes Nos. 1, 2, & 3, see Section B–B, Drwg. No. 1500–3.73–2.
2. For Sections of A.S. & R. Co. C.D. Holes No. 1, 2, 3, 4 and A.S. & R. Co. D.D. Holes No. 4, & 5, see Section C–C, Drwg. No. 1500–3.74–2.



Plan of 125-Foot Level,
Elevation 7419.
Bureau of Mines Transit Survey.
0 20 40 60
SCALE OF FEET



Plan of 200-Foot Level
Elevation 7352
Bureau of Mines Transit Survey
0 20 40 60
SCALE OF FEET

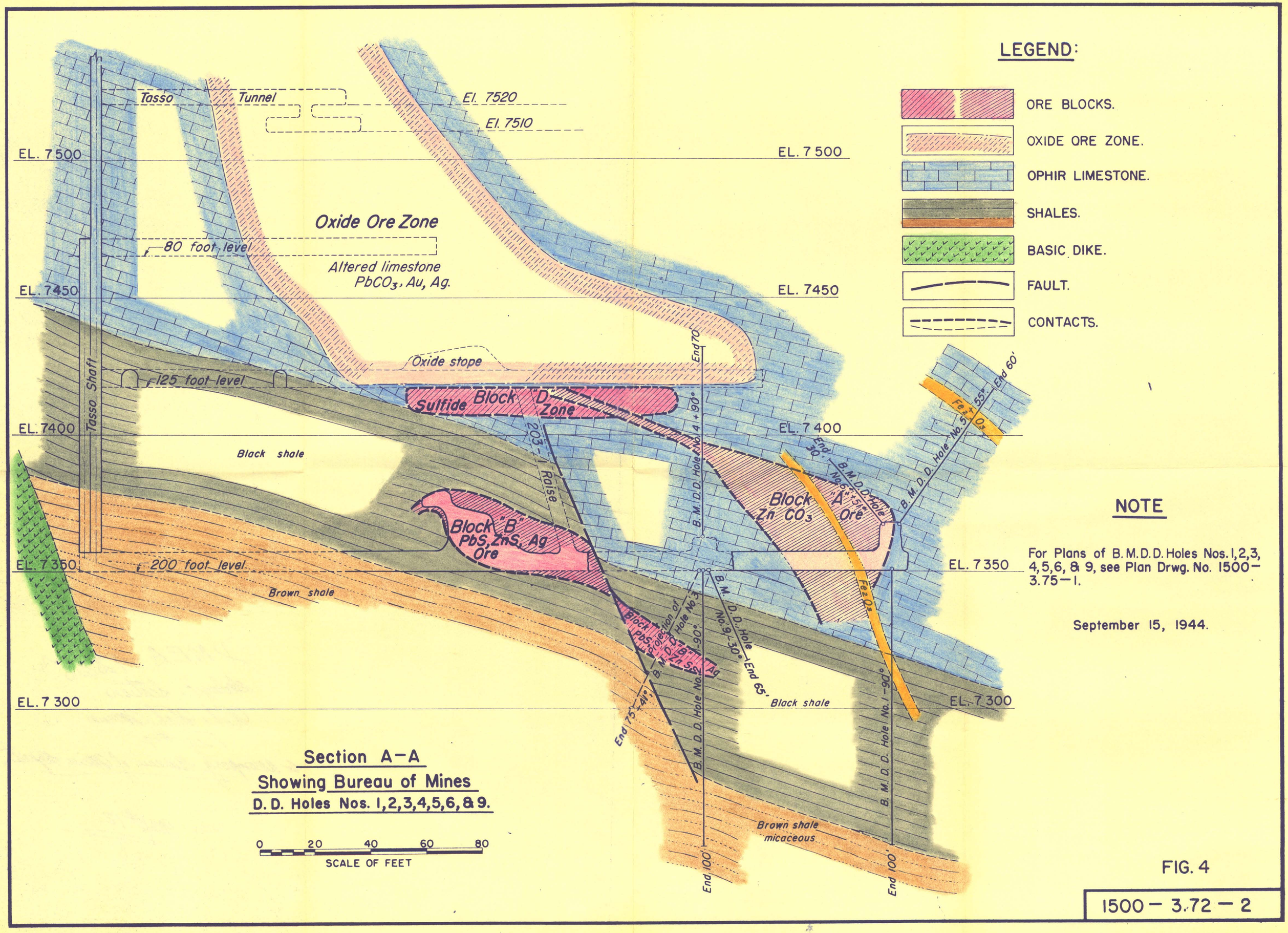
NOTES

1. For Sections of B.M.D.D. Holes Nos. 1, 2, 3, 4, 5, 6, & 9, see Section A–A, Drwg. No. 1500–3.72–2.
2. For Sections of B.M.D.D. Holes Nos. 7, 8, & 10, see Section C–C Drwg. No. 1500–3.74–2.

FIG. 3

1500 – 3.75 – 1

Plans of Wah Wah Mine, Project 15-110, Beaver County, Utah.



NOTE

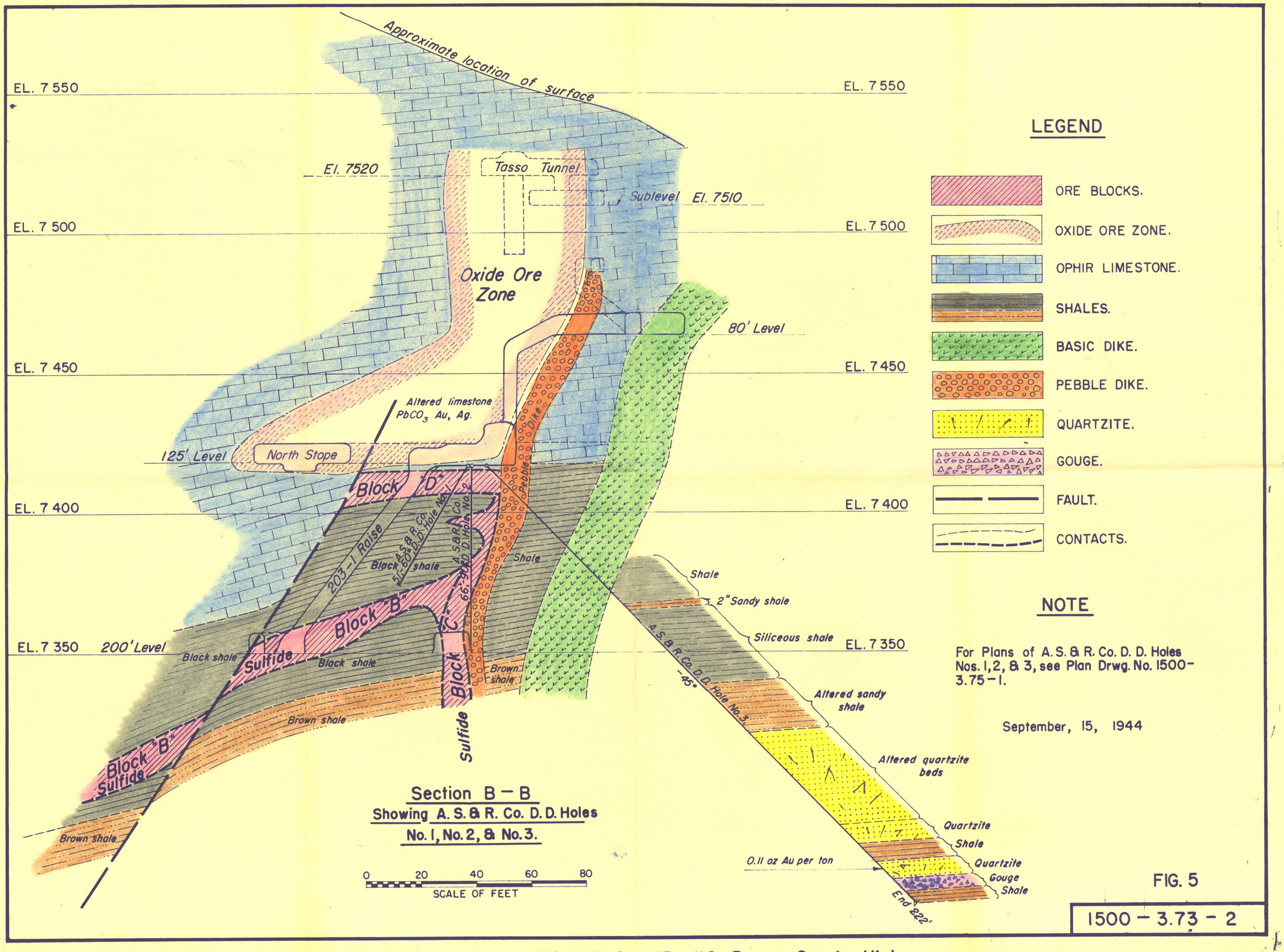
For Plans of B.M.D.D. Holes Nos. 1,2,3, 4,5,6, & 9, see Plan Drwg. No. 1500-3.75-1.

September 15, 1944.

FIG. 4

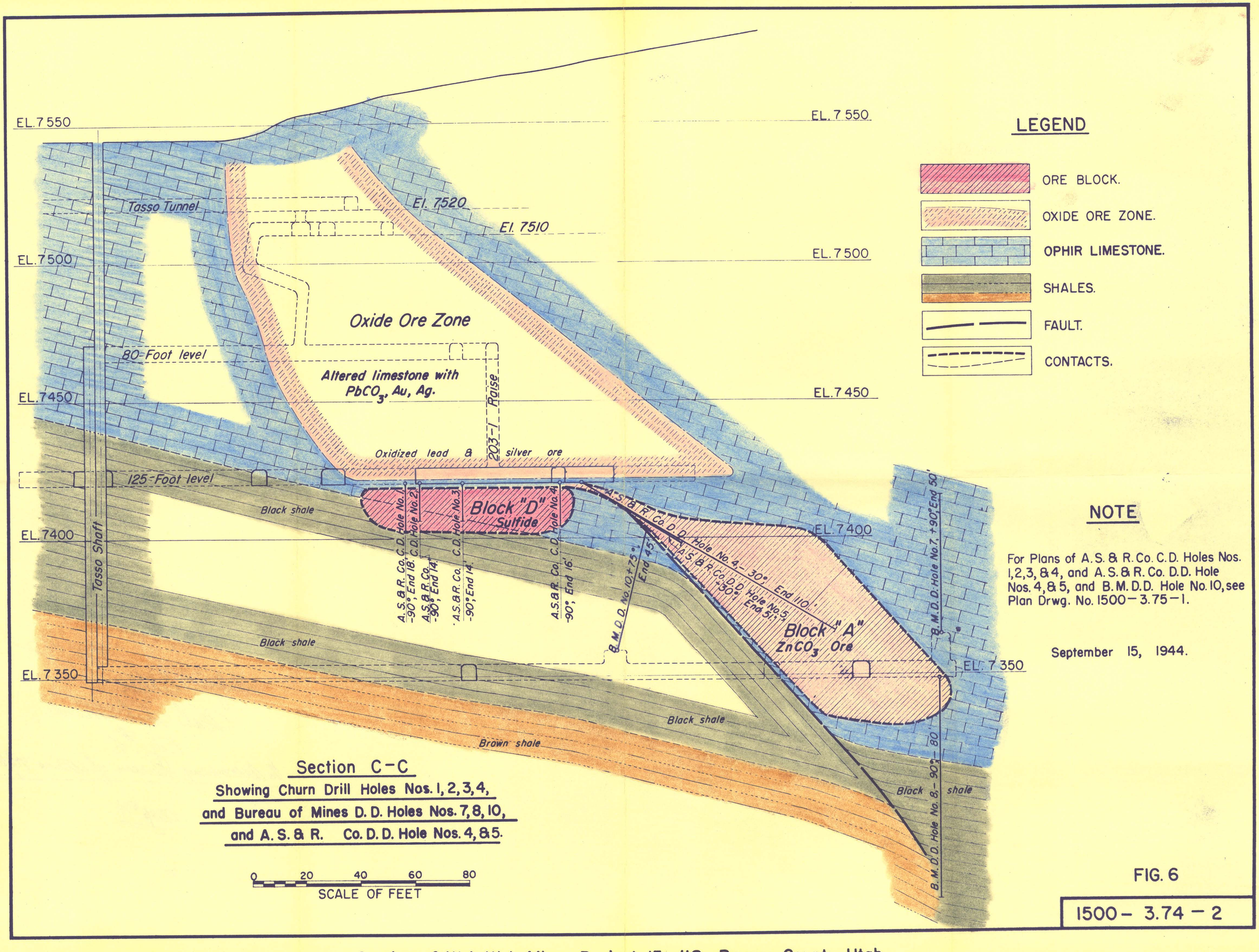
1500 - 3.72 - 2

Section of Wah Wah Mine, Project 15-110, Beaver County, Utah.



Section B – B
Showing A. S. & R. Co. D. D. Holes
No. 1, No. 2, & No. 3.

Section of Wah Wah Mine, Project 15 – 110, Beaver County, Utah.



Section of Wah Wah Mine, Project 15-110, Beaver County, Utah.