ENERGY RESERVES GROUP

PROSPECT: TABLE MOUNTAIN

COUNTY/STATE: Pinal, Arizona

SAMPLE NO.	T	R	S	FNL	FEL	COLLECTOR	DATE	Au	Ag	As	Sb	DESCRIPTION
1817	7S	18E	15	5080	800	SS	8-18-81	[redacted]	[redacted]	120	186	Sample of silica and jasperoids in limestone on romp to smelter, hematite staining, brecciated.
1818	"	"	22	400	500	SS	"	.01	0.4	<10	<10	Heavily argillized material white to orange outcropping along road cut good looking and lots of it.
1819	"	"	15	5100	950	SS	"	[redacted] (.03oz/t)	[redacted] (.8oz/t)	420	792	Possible ore feed to mill. Some jasper much argillite with CuOx, FeOx, MnO.
1820	"	"	"	5100	800	SS	"	.05	2.0	10	71	Slag sample from below mill. Mill reportedly did not work well. May give indication of ore grade of later copper and gold recovery operations.
2811	"	"	"	3300	600	RR	8-23-81	.03	1.6	<10	<10	Recrystallized limestone, buff w/red hematite rings, more sandy than surrounding limestone.
2812	"	"	"			RR	"	<.01	.1	<10	<10	Limestone w/slight alteration (argillic) w/Tertiary volcanics in small saddle believed to be indication of thrust fault.
4454	"	"	"	3800	3700	SD	8-22-81	.04	.4	20	<10	Jasperoid, gray limestone breccia in void ematite drusy.
4455	"	"	"	3300	1800	MKP	8-23-81	.05	3.4	180	30	Large jasperoid & siliceous breccia area white/pink/dk.red/tan & orange, some argillically altered to black & dk.red dirt, abund. Cu stains (blue) also abund. hematite stains in places As & MnOx too drusy, fizzes in places.
4456	"	"	"	3050	1700	"	"	.03	.9	30	5	Red&white jasperoid, not as altered or mineralized as #4455, mod. hematite stain drusy, more solidly silicified.

PROSPECT TABLE MOUNTAINS

ENERGY RESERVES GROUP

COUNTY/STATE Pinal, Arizona

SAMPLE NO.	T	R	S	FNL	FEL	COLLECTOR	DATE	Au (ppm)	Ag (ppm)	As (ppm)	Sb (ppm)	DESCRIPTION
4457	7S	18E	15	2700	1750	MKP	8-23-81	.05	.1	30	<10	Hematite banded andesite, andesite is med.gray, has bands ¼"-1" thick of hem.
4458	"	"	"	2450	1800	"	"	.03 (<.01oz/t)	2.1 (.3oz/t)	60	<10	Jasperoid on top of hill, grayish-red drusy in places, mod-abund. limonite & hematite, mod. MnOx. Argillized slightly on tops of outcrop
4459	"	"	"	2550	2000	"	"	.05	<.1	<10	<10	"Baked" limestone or volcanics(?)fizzes in places, buggy, clacite veins,abun hematite & limonite argillized slightly
4460	"	"	"	3900	3100	"	8-24-81	.08	.5	<10	31	Huge jasperoid,dk.red&gray,drusy, mod. limonite & hematite minor to mod. MnO no visible copper mineralization or pyrite.
4461	"	"	"	3600	3250	"	"	.04	.3	<10	<10	NE side of large jasperoid,its a silicified limestone & chert breccia, dk.red & med.gray pieces of limestone & chert in white to red matrix,doesn't fizz,mod hematite,minor limonite,minor MnO
4462	"	"	"	1900	3600	"	"	.06	.6	<10	<10	N part of jasperoid ridge,red&gray silicified limestone breccia, mod-abund limonite & hematite,small quartz crystals argillized in places.
4463	"	"	"	1900	2600	"	"	.05	1.1	<10	<10	Jasperoid above spring,collected dk.red gray&white limestone,silicified breccia mod-abund. lim. & hem. mod.MnO. a few pieces of very argillized buck red material.
4464	"	"	"	3000	3200	"	"	.08	.5	20	<10	Middle of big jasperoid,red&gray,mod-heavy hematite,mod. limonite,drusy in places.
4465	"	"	"	4850	4850	"	"	.05	<.1	<10	<10	White jasperoid lt.-mod. limonite stain,smells like flint,breccia,gray & white inclusions, massive not drusy located by stream.
4469	"	"	29	800	5000	WSD	"	.02	.4	20	<10	Jasperoid developed at contact of KV & P6 limestone.
4470	"	"	"	300	3800	"	"	.01	.5	30	<10	Argillized Martin Fmn.
4471	"	"	"	400	1850	"	"	.02	<.1	<10	<10	Jasperoid developed in Pz limestone,gray brecciated,Fe&Mn staining,breccia pipe?
4472	"	"	"	250	500	"	"	<.01	<.1	<10	<10	Argillically altered thick bedded limestone,Pz.

ENERGY RESERVES GROUP

PROSPECT TABLE MOUNTAINS

COUNTY/STATE Pinal, Az

SAMPLE NO.	LOCATION T	R	S	FNL	FEL	COLLECTOR	DATE	RESULTS Au (ppm)	Ag (ppm)	As (ppm)	Sb (ppm)					DESCRIPTION
4473	7S	18E	28	100	4200	WSD	8-81	<.01	<.1	< 10	<10					Thin-bedded greenish-gray fissile shale efvor. on partings surfaces, minor bleaching.
4474	"	"	"	200	2900	"	"	<.01	<.1	<10	<10					Kv-highly bleached & punky.
4475	"	"	"	5150	1500	"	"	<.01	<.1	<10	<10					Kv-intrusive, limonite after pyrite, 10%
4476	"	"	"	600	1250	"	"	<.01	<.1	<10	<10					As #4475, but more hematite stained.
4477	"	"	"	1700	1950	"	"	<.01	< .1	< 10	< 10					Kv-silicified but otherwise only slight alteration (feldspar fresh)
4478	"	"	"	1800	1000	"	"	<.01	.2	20	< 10					Hematite stained, breccia-pipe in Kv, silicification, cobbles slightly round minor Pz component.
4479	"	"	"	1850	900	"	"	<.01	<.1	<10	<10					As #4478, more hematite stained.
4480	"	"	"	3100	600	"	"	<.01	<.1	<10	<10					Kv-vertically sheared, hematite stained intrusive? silicified brecciated.
4481	"	"	"	3800	1100	"	"	<.01	<.1	10	<10					Breccia pipe material-limonite, jarosite staining, some hematite, No Pz cobbles.
4482	"	"	"	3800	1800	"	"	<.01	<.1	10	<10					Kv-intrusive porphyry w/limonite after pyrite & jarosite staining.
4483	"	"	"	4100	1400	"	"	<.01	<.1	10	<10					Near #4481, but more intensely altered to "pure" gouge-like hematitic material
4484	"	"	"	600	1100	"	"	<.01	<.1	10	<10					Jasperoid-white silicic limestone frags in red silicic matrix, may be assoc. w/ mine fault.
4485	"	"	22	500	900	"	"	<.01	1.7	180	81					Jasperoid developed along fault contact between Pz and Kv. southernmost mine jasperoized.

DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA
FIELD ENGINEERS REPORT

ne Table Mountain Mine

Date July 13, 1960 & July 27, 1960

District Saddle Mountain District, Pinal Co.

Engineer Axel L. Johnson

Subject: Field Engineers Report. Information from Mrs. Mattie E. Young & Ben G. Messer

Location On Table Mountain, about 12 miles N. of Mammoth by airline & 30 miles by road

Number of Calims 10 unpatented claims.

Owners Mrs. Mattie E. Young, Box 75, Mammoth, and daughter Mrs. Molly Morgan, Mammoth

Lessee Henry W. Nichols, Oracle

Option to Purchase Duval Sulphur & Potash Co., Box 11277, Tucson 2, Ariz.

Principal Minerals Copper ores, with some wulfenite and vanadinite

Present Mining Activity Exploration work, consisting of geological field work and mapping, sampling the old tunnels, etc. Also some road building. 2 men working.

Past History and Production

The past history is very vague. The property is reported as having been located in 1875. It was purchased by George G. Young, late husband of Mattie E. Young in 1923. Worked last in 1930.

No records available on past production.

Old Mine Workings

Principal old workings are 1 adit about 450 ft. long, called the upper tunnel, and one adit also about 450 ft. long, called the lower tunnel.

Proposed Plans

Ben G. Messer of Duval Sulphur and Potash Co. states that they plan on doing additional exploration work on the property with some diamond drilling.

Mrs. E. Atwood, Mgr.

Mrs. Mattie E. Young dec'd May 21, 1969 (Pay Dirt 6/23/69)

THE TABLE MOUNTAIN GROUP OF MINES

The above group is comprised of nine claims in all, "Table Mountain" Nos. 1 to 9 inclusive, and may be described as follows:

Location notices of numbers one and two are recorded in Book 39 in Record of Mines, at pages 519 to 520 respectively, in the County Recorder's office, County of Pinal, Arizona.

Numbers three to nine inclusive, adjoin numbers one and two and comprise with them a consolidated block of about 180 acres.

The Table Mountain mine is located at a considerable elevation on the East shoulder of Table Mountain, a prominent land-mark distant 15 miles east from Mammoth on the San Pedro River, and some twenty miles in a direct line from the copper smelter of Hayden at Winkelman on the S. P. R. R.

No adequate means exist of transport at the present. A feasible route has been reconnoitered to Winkelman, of which the four miles nearest the mine present considerable constructional difficulty. An early road was constructed from Wilcox to some 90 miles to the Southwest and is greatly out of repair. Railway connection can be made with the S. P. R'y near Safford entailing a haul of 30 miles, of which the ten to twelve miles nearest the mine would be over the early road. To rebuild this portion of the road would entail an expenditure of around $13,000.00.

The mine in common with many other mines of Arizona has a somewhat long and romantic history. Its practical and more recent record began some fifty years ago, when it was operated as a gold mine, some very rich ore being extracted. Inexperienced mining and poor timbering closed the rich stopes and little, if any, attempt was made to reopen them. Some records were made of gold obtained, and such are still available.

Some twenty years later the mine was worked on a larger scale, the ore being open cut over a large area; the road being built at this stage from Wilcox; heavy machinery, including two hundred horse power boilers, engines, copper blast furnace, crushers, blowers, etc., being installed; also adequate water supplies, tanks, office and assay office, and living quarters. Some one hundred and fifty thousand tons of ore and waste were mined and some 2000 feet of development done, almost entirely in the form of tunnels into the ore body. A considerable amount of copper ore was smelted for black copper, (Metallic) using the local ironstone as flux.

As the ore contained no sulphur, no concentration of the gold, silver and copper could be made in a matte, and no attempt was made to secure pyritic ore as flux. The attempt to smelt the oxidized ore to metallic copper was inevitably a failure, owing to the continual freezing of the furnace. No method was known at the time of treating oxidized ore in limestone, and operations were suspended. From time to time small parcels of ore, amounting to a few hundred tons, were hand picked and shipped out by packing. The road having been allowed to get into disrepair. The ore still in the bins is of good quality, assaying 8% copper, $4.00 in gold and 3 ounces of silver per ton. The amount of ore smelted did not exceed a few thousand tons of 7 to 9 percent copper ore.

The surrounding country is high and deeply scored with deep gorges and canons. The high peaks, flat topped, form spectacular land-marks visible upwards of one hundred miles. These cappings are remnants from the denudation of acid lava flows of a comparatively recent age. These lavas associated with tuffs and limestone are the prominent local geological features. The ore deposits occur in almost horizontally bedded limestone of probably Ordivician age, capped immediately by the andesite, and to the South in fault contact with a more basic intrusive.

The closely bedded limestone shows the usual silicification consequent upon metasomatic deposition of ore, and to a minor extent the development of a jasperoid gold-bearing quartz. No marmorization is in evidence even in the contact with the overlying lavas. The mineral bearing solutions were probably due to a dyke or dykes cutting the limestone in a general North and South direction parallel to the strike. No evidence is known of mineralization West of this intrusion, and little alteration is observable at the immediate contact, any crushed or brecciated limestone having been dissolved and removed or redeposited as calcite. The line of mineralization is very sharp. A tunnel less than 100 feet below the ore deposit shows little alteration beyond silicification. The ore body is probably only a remnant of what it was before being denuded, but still gives evidence of enormous reserves of ore. The vertical thickness is apparently more than 200 feet, and may be much more, giving a cross-section of this height by a breadth of from 400 to 600 feet, and for a length on the strike of about 4000 feet, exclusive of its Northerly extension over two claims.

The ore body is immediately overlain by characteristic hornstone (silicified limestone). Much of the ore body consists of residual and more insoluble ore together with a brecciated cherty material, with the usual residual material consequent upon the weathering and leaching of the ore body and accompanying limestone. The foregoing is more characteristic of the Northern part of the ore body, which is strongly slumped; further South the ore, better protected by the over-burden, shows less evidence of leaching, but is very cavernous. One cave, at least, reached by a tunnel driven 300 feet into the ore body is as far as explored some 50 to 60 feet wide and 300 feet in length. This will be referred to later.

The ore as originally deposited was of metasomatic origin, and due to ascending solutions which selected the soft and nearly parallel bedded limestone as a means of egress and replacement, the more massive limestone below being but slightly acted upon. Weathering and the free access of surface waters at a later stage brought about complete oxidation, concentrating the small amount of lead derived from the limestone in the resulting residual sandy clays. This lead collected and retained vanadium derived from the volcanics. Associated with this residual mass is much unaltered silicified limestone ore, impregnated with copper silicate and carbonate. In the immediate vicinity of the contact with the intrusive is a certain amount of barytes, and closely adjacent to the contact is a vertical vein of gold-bearing jasperoid quartz of considerable width. In places this is associated with a clear quartz, which is extremely rich. In the immediate vicinity of the contact associated with the calcite, introduced apparently by surface waters, is a most unusual deposit of partially crystalline masses of vanadinite intergrown with a clear glassy quartz. This vanadinite of varying shades of orange, lemon and red, is a very beautiful mineral, at times approaching eosite in composition, at other times corresponding to pure vanadinite. Its general tenor is from 5 to 8% vanadic acid, the balance mainly quartz and lead.

Reference has been made to caves. It is recorded that the walls of these caves exhibited remarkable color effects of yellow and red. It is probable that this is due to a deposit of this vanadinite.

The massive and to some extent residual limestone of the ore body carry a certain amount of silicate and carbonate of copper, and lends itself to selective mining, a proportion being of shipping grade, a larger proportion being of lower tenor. The ore body for a small and varying depth requires stripping of the more leached material, which contains some high grade copper carbonate. The jasperoid quartz associated with gold is an ore of entirely different character, being red, hard and brittle, carrying, when not associated with high values, from $5.00 to $18.00 in gold, 2 to 3 ounces in silver, three to four percent lead, one to two percent vanadic acid. This gold ore, and ore in its vicinity, will require special treatment. Coarse gold can be shown by dishwashing along the strike, and even on the roadway into the mine.

The brecciated and residual ores, already referred to, are of a different class, and exist on a very large scale. Little, if any, values exist in the cherty material; copper occurring in masses and boulders from time to time in silicified limestone. The essential values are in the residual somewhat sandy clay material. This includes the fines and even the surface soil. Whilst values vary, an average is one half of one percent vanadic acid, three percent lead and a little silver and gold. The cherty material, 60 to 70 percent by weight can be removed by screening after some attrition at a fine mesh, the balance carrying practically all the values other than those recoverable by hand picking on belts or other appliances. This lead vanadinite lends itself, though finely crystalline, to ordinary concentration. The ore is therefore, of several distinct classes, high and low grade copper carbonates, low grade vanadium bearing residual ores associated with copper bearing ore in boulders and in isolated masses, gold, and lead-vanadium quartz ore, and finally the massive vanadinite locally called "candy ore" on account of its attractive appearance. A further feature is the presence of vanadium associated with the copper throughout the whole ore body to the extent of from one half percent to three percent vanadic acid. The recovery of this is a metallurgical problem to be solved. (Refer to subsequently constructed flow-sheet)

The probable ore amounts to millions of tons. The ore actually in sight may be regarded as approximately one million tons of ore, which in some form or another lends itself to payable treatment. The ore actually mined and on ore and spoil banks amounts to one hundred and fifty to one hundred and sixty thousand tons, of which one third may be regarded as waste, the balance being an ore of milling grade, and yielding around one fifth of ore of shipping grade, if hand picked, after washing, on tests, the balance treatable as copper and concentrating ore. The latter with reference to the gold-lead-vanadium content.

As may be already gathered, the ore does not lend itself to copper concentration, nor to smelting on the spot. The copper ore can be efficiently and cheaply treated by the ammonia process, associated minerals being recoverable in part by subsequent concentration. As stated, the residual sandy clay ores present no difficulty. Finally the massive vanadinite can be recovered by selective mining and hand-picking in the main, the balance by simple concentration. This hand-picked ore can be easily separated from its associated quartz by crushing and tabling, yielding a very high grade lead vanadium concentrate.

The blast furnace, including boilers, engines, blowers, crusher, running gear, tanks, cars, as well as many unroofed buildings and sundries, constitute a valuable asset and would be of great use in case of establishing a crushing, ammonia leaching, and concentration plant.

Development has been incidentally described in the foregoing, consisting mainly in open cutting and some 2000 feet of tunneling. A shaft was originally sunk 125 feet on the gold ore, and 40 feet wide. The shaft was sunk from the 700 foot tunnel driven some 35 feet below the upper Nos. 1, 2, and 3 tunnels, and 100 feet above the level of the lower tunnel No. 5, which has been driven in limestone at right angles to the strike of the ore body, some 500 feet, and should cut the dyke within 200 feet. Tunnels Nos. 1, 2, and 3 are driven at divergent angles at the same level from different points, 135 feet above No. 5 or lowest; No. 1 being driven Southwest 300 feet to the large cave; No. 2 at a more obtuse angle 530 feet to contact. No. 3 driven to, and extends past the shaft. No. 4 tunnel at an intermediate level and at a slight angle to the strike has been driven some 700 feet through copper ore and brecciated vanadium bearing material associated with some high grade copper bearing boulders of unleached ore. In each case these tunnels have cut the high grade band of vanadinite at varying distances from the portals. These portals are at present closed with one exception, No. 1, owing to slides of ore and waste, otherwise the tunnels are believed to be in good order.

As stated, the ore is of several classes, all of which are payable in varying degrees, including even the weathered surface soil. The bulk consisting, as already described, of a loosely coherent material carrying low values of vanadium, lead, and precious metals, is amenable to washing, discarding all but the fine material below 20 mesh, after belt picking of the coarser copper-bearing ore. This fine material can be efficiently and cheaply tabled to a high grade concentrate. The highest grade copper ore is suitable for shipping, the intermediate and low grade lend themselves ideally to ammonia leaching. One of the most important features of the ore is undoubtedly the high grade massive "candy ore". A considerable deposit of this material is indicated in a band up to 10 feet in width parallel to the strike and fault contact. This has been cut in every case by the tunnels at the expected point. The cave deposits of this ore may be of the utmost importance.

It is advised to make a survey of, and effect the repairs of the road required to be made to Klondyke to the east, an intermediate point between the mine and the S. P. R'y. A further reconnaisance might be made of an alternate route towards Winkelman.

Certain mine equipment is required, including compressor and machine drills, before commencing operations, and repairs are required to the various unroofed buildings. Repairs are also required to the engines. The boilers are apparently in good condition. It would be advisable whilst carrying out a policy of general development, largely exploratory, to extend the lower tunnel and put up raises at, and before, reaching the contact. It is a point to be decided whether the ore be won from below by gloryholing from a series of raises to the horizontal ore body, or by simple open cutting. In any case, it will probably be advisable to selectively mine the gold and high grade vanadium ore.

The large amount of ore of varying grades already mined warrant the installation of a mill on a moderate scale. Such a milling plant might take the form of belt picking of the ore and spoil banks, the high grade ore shipped, the lower grade crushed and leached, the waste discarded, the fine material concentrated on tables. This procedure while profitable would afford information as to treatment on a large scale. Development would simultaneously be carried on and the mine opened for larger production.

- -- -

The grade of copper ore ranges up to 18 percent and carries gold and silver from $3.00 to $8.00. This in part may be recovered by concentration, but preferably by smelting where grade of copper permits. The large ore and spoil banks, from a number of average samples, evidence contents of more or less recoverable values of around $12.00 per ton. Some 400 to 600 tons of selected ore from this source have been shipped from time to time, of a grade exceeding 14% copper.

The average value of the ore and waste in ore and spoil banks, coupled with the value of the ore already shipped and smelted, may be taken as it were, as a cross section of the assay value of the ore body, a value difficult to arrive at by sampling in situ.

Whilst mining will be in the cheapest possible class, open cutting or gloryholing, consideration must be taken of the cost of stripping and the disposal of this overburden. Mining costs alone should be under $1.00 (one dollar) per ton. One-sixth of the whole will probably be overburden waste to be stripped.

Cost of treatment, including ammonia leaching, and special treatment of gold and vanadium ores, should not exceed $2.50 (two and one half dollars) and maybe less. Extraction percentage cannot be closely estimated in advance. Copper recovery would almost certainly exceed 80% - a high recovery would be made of the "candy ore" vanadium contents.

Whilst the impressive size of the ore body would appear to necessitate large capital it will be noted that the ore is oxidized and lends itself to simple crushing and leaching and subsequent concentration for values other than copper. This higher grade ore lending itself eminently to selective mining, a moderate initial capital not exceeding $60,000.00 might be employed with advantage, larger capital being introduced when the ore deposits are more thoroughly opened by development. The ore contained in the spoil banks alone amply warrants the above suggested expenditure.

R. A. Black, M.E.

Tombstone, Arizona.

December 14th, 1928.

Edwin A. Stone 6-8-38

CONCLUSIONS CONCERNING MINING PROPERTIES EXAMINED IN SOUTHERN ARIZONA

Table Mountain Group, north of Copper Creek, Arizona

The mineralization consists of barren-looking jaspery silica, stained with iron from pyrite, and with irregular narrow seams of copper stains that occur sporadically. The jasperoid makes on nearly vertical fractures primarily, but the flat dipping contact of Paleozoic limestone and overlying volcanics is silicified between adjoining steep fractures. The last mentioned type of silicification is very prominent in places. Unless this silicified contact and the silicified limestone along the steep fractures carries gold and silver in economic amount, there is no value to the property. Three representative samples were taken with the following results:

Sample #1 — Au: Tr ; Ag: 0.3 ; Cu: .08%
Sample #2 — Au: Tr ; Ag: 0.3 ; Cu: .12 %
Sample #3 — Au: 0.14 ; Ag: 0.5 ; Cu: 1.60%

The early work on this property consisted of sorting the narrow sporadic copper stained streaks from a large amount of waste. This was obtained mainly from open hillside cuts just above the smelter. Apparently the smelter operated only a few days for only 60-75 tons of slag on dump. Fusion appeared to be good. Expect the sorted ore was too low grade and caused shutdown. Still some sorted ore on dump-10 or 20 tons. 50 cords of wood still piled at smelter.

The property was connected to Arivaipa creek by a wagon road. Country rough and transportation is an important problem. Estimate road to be 10 miles long.

Don't consider this property to have any value unless the barren-looking silica carries values, in gold and/or silver. Reymert much better.

TABLE MOUNTAIN

PINAL COUNTY, ARIZONA.

During a recent visit to Los Angeles, the writer had occasion to go over a report by Harley A. Sill, Consulting Engineer, 1011 So. Figueroa St. Los Angeles, May 31st, 1939, on the Table Mountain vanadium deposit. This report was in the possession of Mr. B. H. Dyson who has been in communication with us concerning our interest in the property. Although we plan on visiting the ground, the writer believes it advisable to put the following information from Mr. Sill's report into our records inasmuch as Mr. Sill had access to the underground workings which are probably now caved.

The property is located on the east slope of Table Mountain which is a prominent mountain in the range east of the San Pedro River, approximately ten miles air-line from the town of Mammoth, Arizona. The ground is owned by Mrs. Mattie Young of Mammoth, Arizona. The following notes in quotation were made from Mr. Sill's report;

> "There are several (9?) claims in the group known as the Table Mountain, Nos. 1, 2 and 3, etc. and there are two other claims in the same group known as Louisville and Grand Duke. The property has about 2000 feet of underground workings and aided in the search for copper ore in about 1900. The main workings consist of four tunnels, three of them located in the south face of an open pit about 100 feet long, 50 feet wide and the 4th in the form of a crosscut, 170 feet vertically below this open pit driven for the purpose of intersecting the ore body at depth."

> "Of the three drifts in the south face of the open pit, the one to the west is driven an unknown distance but was caved at 177 feet from the portal. At 128-7/10 feet a crosscut was driven 11-6/10 feet to the west and 8-8/10 feet to the east. In all of this tunnel there was opened only one narrow inconsequential ore exposure about one foot wide and six feet long which is not commercial. The middle tunnel at the pit was driven in a meandering south - 20-degree - west direction for 370 feet and it is reported commercial ore of vanadium, lead, gold and copper was found. At 370 feet a natural cave was encountered 20 feet high, 30 feet wide and 50 feet long. The walls were coated with calcite with a few copper stains. Three short steep drifts were driven radiating from this cave, apparently for the purpose of prospecting the copper stained showings in the cave. One of these short drifts is 69 feet long and at the point where it leaves the cave, a 40 foot winze now caved, was sunk and a 25 foot raise put up directly over it. It is not known what kind of ore was found in the winze but the raise was in it.

"There are some twelve dumps containing 25 to 200 tons each and aggregating a total of 1000 tons. The average of many samples taken over these dumps indicates that they contain 0.86% lead, 3.06% copper and 0.21% V_2O_5. On the Louisville and Grand Duke claims six picked surface samples, which represent high grade samples chipped from the boulders, averaged 3.26% V_2O_5, 17.70% lead and 1.14% copper. The boulder from which these samples were chipped covered an area 50 feet by 250 feet. There are two tunnels driven to explore this showing, one 25 feet long and the other 147 feet long. Four samples from 100 tons of sorted ore on these dumps contain 1.19% lead, 4.28% copper and 0.24% V_2O_5."

In his report Mr. Sill did not mention the third tunnel in the open pit which presumably was driven toward the east. The crosscut mentioned as being 170 feet below the upper workings is 450 feet long and it is reported to be directly under the open pit. Mr. Sill reports that there was no mineralization.

The writer has also had access to two other reports on the Table Mountain property one by Chas. A. Dobbel, 1129 Cowper St., Palo Alto, Calif. Feb. 20th, 1941 and the other by Herbert C. Enos, 1216 Pacific Mutual Bldg., Los Angeles, Calif. who reported on the property first in 1927 at which time Mr. Sill accompanied him and who reported again in 1939. Both Mr. Dobbles' and Mr. Enos' reports are substantially the same as Mr. Sill's but they do not include the detailed sampling information made by Mr. Sill. At the time of his examination Mr. Sill was apparently interested in the vanadium as well as the copper because of the hundred or more samples wich he took, all were assayed for vanadium.

After reading the above three reports the writer sees no occasion for anyone showing any interest in this property; however, because of its wide spread publication the Lead-Vanadate Agency will check the ground in person.

Submitted by:

/s/G. Donald Emigh
August, 1942.
Tucson, Arizona.

1st. → 164.70

CORE LABORATORIES, INC.
3428 Stanford Dr., N.E.
Albuquerque, New Mexico 87107
Phone: 505/884-1411

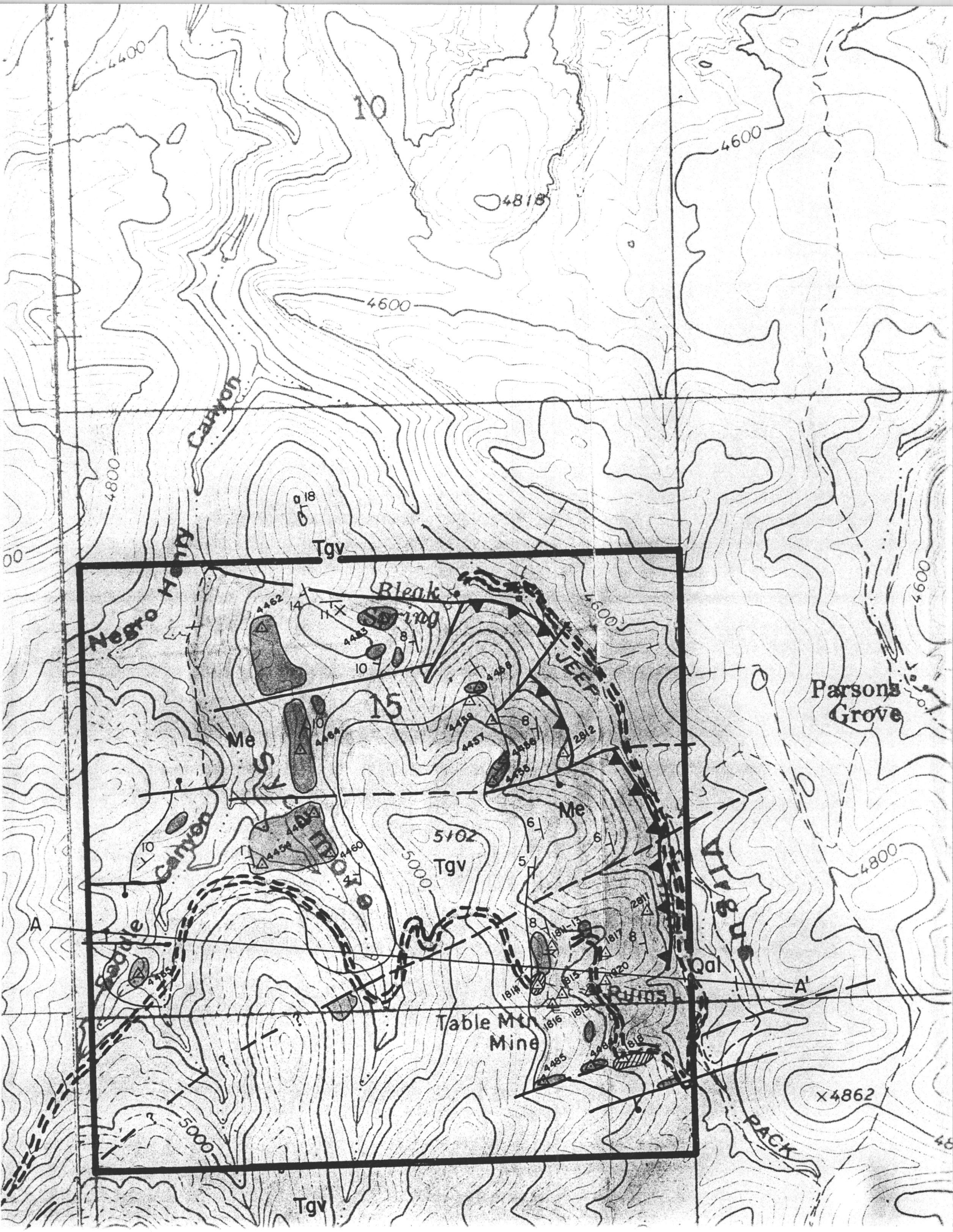
ANALYTICAL REPORT

Client:	Dekalb Mining, Inc.	Date Received:	April 7, 1982
Address:	2659-G Pan American Freeway, NE Albuquerque, N. M. 87110	Analyzed By:	JFA
		Date:	April 19, 1982
Authorized By:		Job Number:	M82061

	Sample Identification	ERG	Au (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	As (ppm)	Sb (ppm)
Ore piles open cut	F-83	(18)	2.5 0.073	6.6 .19	16500 %	5700	2610	7400	58
sp. Ls chip - 60-120 T-M Tunnel	84	(0.05)	0.10	<0.5	540	2970	7700	210	2.9
Rep dump T.M. Tunnel	85	(NA)	0.47	<0.5	5.5600 %	4790	6930	5300	32
dk brown Jasp outcrop	86	(NA)	<0.02	<0.5	770	340	190	160	1.2
white Jasp outcrop	F-87	(0.05)	<0.02	<0.5	22	39	18	11	0.02

1) high Au & As correlate roughly, but are not linear
2) high Cu shows higher Au, but not regular relationship
3) Jasp Ls. from above Cu bearing Jasp. exposed in Table Mtn. tunnel adit

Check Sampling by in large shows better values than ERG.
This one deserves a closer look, particularly below jasp. outcrops



4400
10
4818
4600
4600
Canyon
4800
Tgv
Negro Henry
Bleak Spring
4462
15
Me
JEEP
Parsons Grove
4600
Me
5102
Tgv
5000
Canyon
Saddle
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A'
Qal
Ruins
Table Mtn Mine
4800
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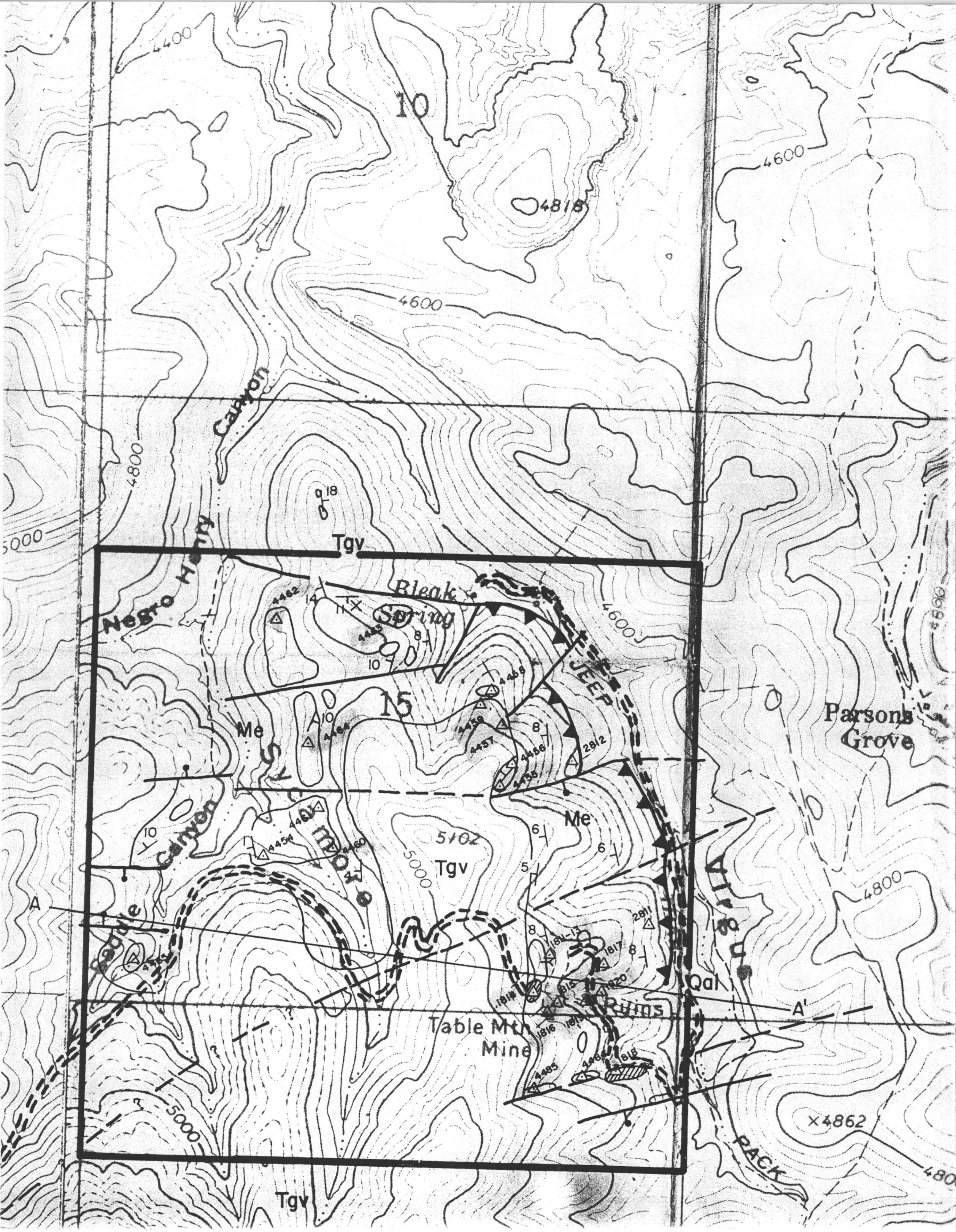
RACK
5000
Tgv



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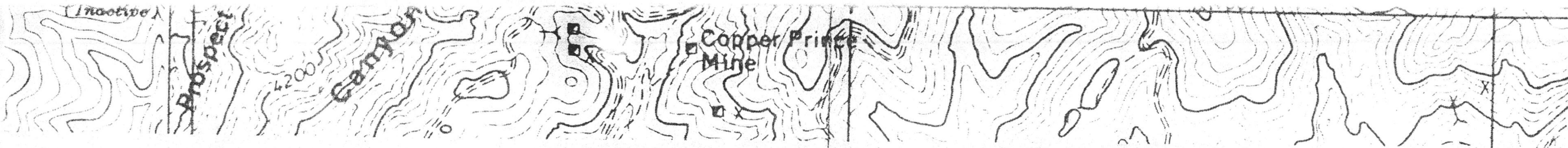

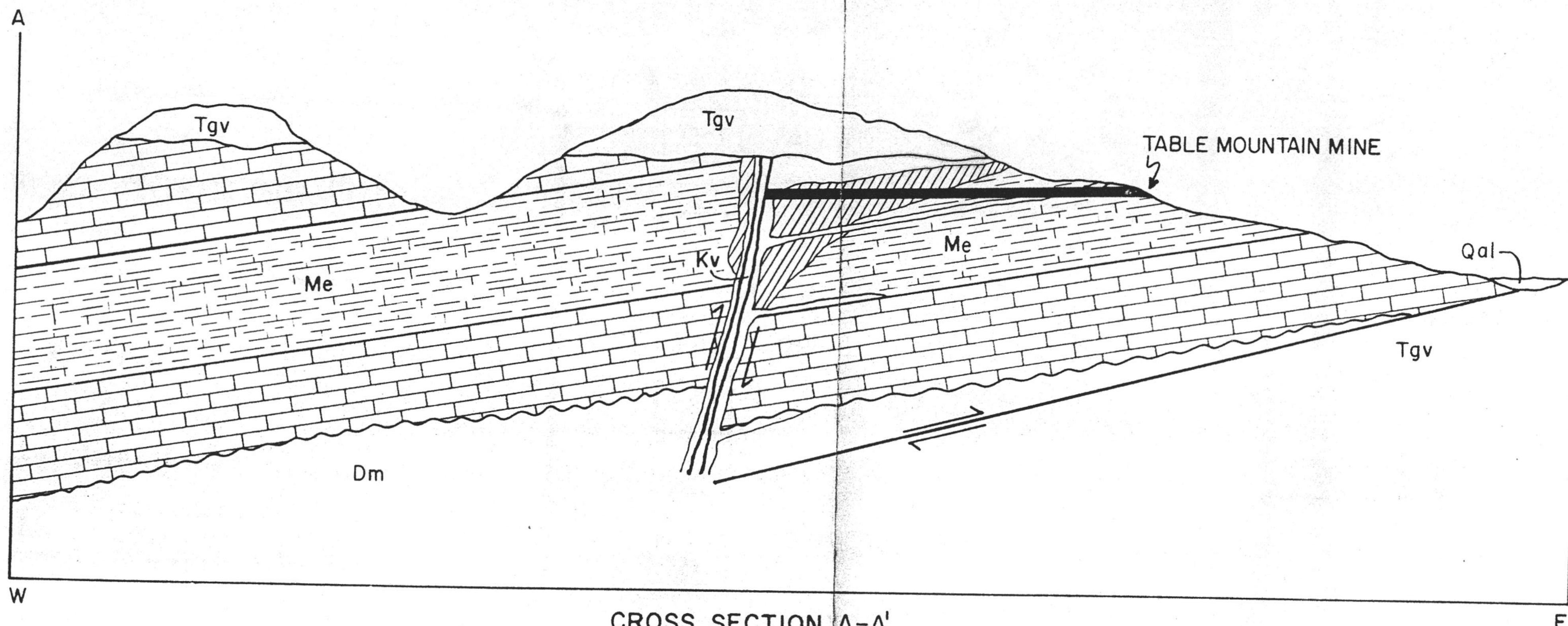

CROSS SECTION A-A'
SCALE: 1" = 500'

CORE LABORATORIES, INC.
3428 Stanford Dr., N.E.
Albuquerque, New Mexico 87107
Phone: 505/884-1411

ANALYTICAL REPORT

Client: Dekalb Mining, Inc.
Address: 2659-G Pan American Freeway, NE
Albuquerque, N. M. 87110
Authorized By:

Date Received: April 7, 1982
Analyzed By: JFA
Date: April 19, 1982
Job Number: M82061

Sample Identification	Au (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	As (ppm)	Sb (ppm)
F-83	2.5	6.6	16500	5700	2610	7400	58
84	0.10	<0.5	540	2970	7700	210	2.9
85	0.47	<0.5	55600	4790	6930	5300	32
86	<0.02	<0.5	770	340	190	160	1.2
F-87	<0.02	<0.5	22	39	18	11	0.02

Geology of the Klondyke Quadrangle Graham and Pinal Counties Arizona

By FRANK S. SIMONS

GEOLOGICAL SURVEY PROFESSIONAL PAPER 461

Includes a part of the Basin and Range province and several small base-metal mining areas

UNITED STATES GOVERNMENT PRINTING OFFICE, WASHINGTON : 1964

TABLE MOUNTAIN-FOURMILE CREEK GROUP

Several small copper prospects and one old copper mine lie along a broad belt that extends southeast from the Table Mountain mine and Little Table Mountain to the Left Prong of Fourmile Creek and is underlain principally by the lower andesite unit of the Galiuro Volcanics. The division between this group of mines and prospects and those of the Copper Creek area is taken arbitrarily to be the southwestern limit of the andesite unit. Claim notices were found at a few prospects, but most are nameless. Mines and prospects will be described in geographical order from northwest to southeast.

TABLE MOUNTAIN MINE

The Table Mountain mine is on the west side of Virgus Canyon in the SE¼ sec. 15 and the NE¼ sec. 22, T. 7 S., R. 18 E., about 1¼ miles north-northeast of Little Table Mountain. The mine may be reached over a fair truck or jeep road from the valley of the San Pedro River near the mouth of Aravaipa Creek, or by way of a very rough jeep road that branches off the Turkey Creek road in sec. 32, T. 6 S., R. 19 E. The mine area is covered by 12 patented claims, 11 of which are shown on figure 42. The Table Mountain No. 1–10 claims are owned by Mollie Morgan, Evelyn Sandstrom, and Mattie Young, of Mammoth, and the Grand Duke and Louisville claims by Marion Gillis, address unknown.

No description of the mine has been published, and the following historical data, as well as the claim map, are taken from several private reports kindly made available to me by Mrs. Young.

The Table Mountain ore deposits were first prospected in the late 1870's for gold. During 1898–1900, a road was built from Klondyke, a small crushing and smelting works constructed, and a little copper-gold ore smelted; the size of the slag pile suggests that only a few hundred tons could have been smelted, and the very high silica content of the ore together with the nearly total lack of sulfide minerals must have posed serious smelting problems. According to one report, development work of the period totaled 2,000 feet of adits and drifts from which about 100,000 tons of ore containing 7–9 percent copper and $4 per ton in gold was mined. Production prior to 1928 is estimated at 400–600 tons of crude ore assaying more than 14 percent copper. Ore on the dump at present assays 2–3 percent copper, 0.5–0.6 ounce of silver per ton, and 0.14–0.15 ounce of gold per ton. Sorted chrysocolla ore averages 20–25 percent copper. The slag assays 2.4 percent copper and 0.02 ounce of gold per ton.

At present the former main adit (No. 6, fig. 42) is caved at 200 feet from the portal but is reported to have been 700 feet long and to have had a winze 40 feet deep. At a distance of 450 feet from the portal, the adit is rumored to have cut a vein of vanadinite-wulfenite-quartz ore 10 feet wide; the vein assayed 3–4 percent lead, 1–2 percent vanadic oxide, 2–3 ounces of silver per ton, and $5–$18 in gold per ton. Caves found in this adit also are said to have been lined with wulfenite and vanadinite; one cave is reported to be 300 feet long and 50–60 feet wide.

Rocks of the Table Mountain mine area are cherty and dolomitic Escabrosa Limestone overlain unconformably by the lower andesite unit of the Galiuro Volcanics; the relations were described in the sections on Escabrosa Limestone (p. 26) and Galiuro Volcanics (p. 70). The north end of the eastern contact between limestone and volcanics is a fault, but the remaining contacts are depositional.

The principal ore-bearing rock at the mine is a layer of gray or mottled red, brown, and white massive jasperoid or jasperoid breccia that on the west side of the mine ridge may be as much as 100 feet thick. In the mine area the jasperoid layer seems to be 20–25 feet thick and is overlain directly by volcanic rocks. Over an area at least 1,000 feet long and 500 feet wide, the jasperoid and, to a lesser degree, the limestone contain sporadic and irregular concentrations of supergene copper minerals in pods, along fault and joint surfaces, and coating weathered surfaces. The jasperoid has been thoroughly prospected for about 500 feet north of the main opencuts, and at intervals for several hundred feet more.

Several copper minerals have been identified from the mine area; chrysocolla is by far the most abundant, but malachite and azurite are common; dioptase in vugs was formerly fairly abundant but has been so assiduously sought by mineral collectors that little remains, and conichalcite and planchéite are reported by Bideaux and others (1960). Other minerals reported are wulfenite, vanadinite, mimetite, austinite, and willemite. During the present study, only dioptase, wulfenite, and vanadinite among the rarer species were recognized. Vanadinite was seen only in dump material, where it forms small yellow to orange crystals in a matrix of rudely crustified granular quartz that fills open spaces in brecciated jasperoid. Other than jasperoid and quartz, the only common gangue mineral is barite, which forms large plates that evidently grew in open spaces and now have supergene copper minerals in their interstices.

No satisfactory evidence was found bearing on the age of the volcanic rocks relative to that of the cop-

Figure 42.—Claim map of Table Mountain mine area. (Slightly modified after U.S. Mineral Survey No. 3313, April 1937.)

per mineralization. The fact that no sulfide minerals were seen or have been reported suggests however that oxidation has been thorough and may have occurred prior to the deposition of the volcanic rocks.

Inasmuch as the principal workings of the mine are inaccessible, no coherent account of the ore occurrences is possible. Instead, the various workings shown by number on figure 42 will be described briefly.

1. A shaft 25 feet deep explores a vertical fault zone in limestone. The fault strikes about N. 55° E. Limestone along the fault contains a little malachite, azurite, chrysocolla, and manganese oxide.
2. Pieces of barite-chrysocolla ore are on the dump of a caved opencut in jasperoid. No ore is exposed in the cut itself.
3. An adit 145 feet long trends N. 85° W. At the portal the adit is in jasperoid having sparse copper stains along joints, but at 100 feet from the portal it passes through a faulted wedge of limestone 15 feet wide. At 135 feet from the portal, the adit enters limestone below the jasperoid along a contact that dips 25° E. and is marked by several inches of gouge.
4. An adit 475 feet long having its portal about 50 feet below the slag pile and old smelter. The adit is entirely in light-gray fine-grained thick-bedded barren limestone striking N. 25° E. and dipping 15° NW. Underlying the limestone is 50 feet or more of interbedded pinkish-gray fine-grained cherty dolomitic limestone and dark-gray limestone.
5. An adit about 175 feet long trends S. 50°–55° W. in limestone just below the base of the jasperoid layer. In the southwesternmost 140–150 feet, the roof of the adit is rubbly jasperoid.
6. Former main adit, now caved at 200 feet from the portal. The accessible part of the adit is entirely in cherty limestone.
7. Adit in limestone that strikes east and dips 15°–20° N.; the portal is in rubble. This adit trends S. 70° E. for 15 feet, then turns abruptly S. 45° W. and continues 95 feet to a raise 20–25 feet high. No ore was seen.

MISCELLANEOUS PROSPECTS

A small copper prospect is just south of the divide between Turkey Creek and the Right Prong of Fourmile Creek in the NW¼SE¼ sec. 28, T. 7 S., R. 19 E. A narrow fracture in coarse porphyritic "turkey-track" andesite strikes N. 45° W. and dips 75° SW. The fracture surfaces are filmed by chrysocolla and a little malachite.

Another small prospect is on the south side of the Right Prong of Fourmile Creek, on a ridge just north of the number 32, sec. 32, T. 7 S., R. 19 E. Dark-gray to dark-red porphyritic olivine andesite is cut by a vertical fracture zone striking N. 70° W. Fracture surfaces are coated by a little blue-green and green chrysocolla. The fracture zone is explored for 30 feet along an opencut. A second opencut 100 feet to the northwest and 25 feet long explores a vertical fault that strikes N. 60° W. Fault surfaces are polished and are filmed with a little chrysocolla and sparse malachite. A third prospect is 1,600 feet north and on the north side of the Right Prong in the NW¼ sec. 32. Purplish-gray pepper-and-salt textured olivine andesite is cut by a fracture zone that strikes N. 70° W. and dips 80°–90° SW. Fracture surfaces are coated by as much as a millimeter of blue-green chrysocolla and a little malachite. The fracture is explored by a vertical shaft about 60 feet deep and by an incline off the shaft at a depth of about 50 feet.

A prospect on the north side of the Right Prong of Fourmile Creek, in the center of the NW¼ sec. 33, T. 7 S., R. 19 E., is along a poorly defined fracture zone in the fine-grained basal part of a wedge of coarsely porphyritic "turkey-track" andesite just above the latite subunit of the Galiuro Volcanics. The fracture zone strikes N. 80° W. and dips 65° N. Fractures are filled with thin seams of malachite and chrysocolla. The prospect consists of two short inclines. Very little copper stain is apparent at a short distance below the surface.

Several small prospects are on or near the crest of the Galiuro Mountains in the SW. cor. sec. 32, T. 7 S., the NW. cor. sec. 5, and the NE. cor. sec. 6, T. 8 S., all R. 19 E. On the crest of the range in sec. 5, a partly timbered shaft 50–60 feet deep explores an east-striking vertical fracture in "turkey-track" andesite. Dump material includes andesite cut by irregular veinlets 2–3 mm thick of blue-green chrysocolla, a little malachite, and white chalcedony. One vug was lined with bright-green dioptase.

About 200 feet farther west and slightly below is an open stope 20 feet long and 25 feet deep along a fracture zone some 2 feet wide. Fracture surfaces are filmed by chalcedony, chrysocolla, and malachite.

The prospect in sec. 32 consists of two shafts 10–12 feet deep on a fracture zone less than a foot wide in coarse "turkey-track" pillow lava and flow breccia. The zone strikes east and dips 80° S. Fracture surfaces are coated with chrysocolla. Part of the wallrock at this prospect is a peculiar pale-red (10*R* 6/2) breccia consisting of fragments 1–10 mm across of

Memo: to file

from: KME

Subject: Table Mtn Prospect Area
(ERG Joint Venture Submittal)
- Pinal Co, AZ -

Introduction - The Table Mtn prospect was evaluated ~~investigated~~ during two visits; the first by myself on April 4, 1982 & again with G.A. Parkison on April 27, 1982. Field investigations consisted of surface and underground geologic examinations in the vicinity of the Old Table Mtn Mine and detailed check sampling of a number of jasperoid bodies within the prospect area.

Discussion & Recommendations - The area is characterized by a number of thick jasperoidal horizons ~~various positions~~ within the Escarbosa limestone (Miss.), and at least one related feeder structure that trends roughly E-NE. The bedding-replacement type of jasperoid bodies are typically 10 to 20+' thick, white to dark redish brown in color, ~~with~~

and show abundant multistage brecciation cemented by dark redish jasper in the vicinity of feeder fault structures. Iron oxides are locally abundant on outcrops with secondary copper minerals also being common, although much more restricted in occurrence & abundance. Minor amounts of bladed barite, calcite and resinous vanadinite were also noted in dump materials. The sampling done to date generally parallels that done by ERG, ~~and~~ suggests that the best area of intrest is in the area near the old workings. Two samples (F84, F89) of slightly altered limestone from the Table Mtn Tunnel & its dump suggest that some anomalous gold values can be expected ~~from~~ disseminated within the limestones ~~air~~ below the jasperoids. This particular ediface, however, is driven on a CuOx bearing jasperoid & quickly passess into the hangingwall lithologies. (sample F84); as is, the footwall zone limestones are an untested target.

This property appears to have some potential for a bulk tonnage, low grade Au deposit of medium size. Logistically, however, the property is less attractive, ~~due to the long~~

as a 15+ mile drive over extremely primative road is ~~[illegible]~~ required to reach the property. Half of ~~which~~ this road would require major widening & regrading to get a drill rig on the property. (ERG's initial mapping & sampling program was done using helicopter access). Further investigations or actions on ~~DEKALB's~~ Nicor's part do not seem warrented at this Time, ~~[illegible]~~, as exploration would be expensive and the potential for payoff only moderately good.

KNE [redacted]
4-2-82

Table Mtn. Prospect (ERG)

[redacted] Thick jasperoidal units outcrop sporadically & at various elevations over 1/2 mi of Miss. Escarbosa LS. strike length —
↓
Jasperoid is 20+' thick w/ white to dark reddish brown color (generally orange to brownish red) w/ abundant multistage brecciation & dk reddish jasp. cement, locally contains abund. vugs & fracture related CuOx's, but some CuOx occurs in banded form as jasperoid; Some yellow resinous vanadinite(?) noted, as well as locally intergrown pink to brown bladed barite & pink calcite —

F83 → Rep ore dump sample of CuOx & FeOx bearing jasperoid & jasp. breccia; clasts vary from banded white to greenish & reddish. CuOxs – 0.5→1.0%

— Table Mnt Mine adit → most of dump & portal of adit in brecciated jasperoid & somewhat argillized jasperoidal ls. Some CuOx's on dump's (≤0.5%)

Same local as ERG (1815)

Au 25 Ag 6.6 Cu 1.65% Pb 5700

Zn 2610 As 7400 Sb 58

* Adit → 120+ ft long ~~—~~ breakdown at back end precludes further entrance outer 60' in brecciated jasp w/ locally abund CuOx's – inner 60' in gray rextallized to locally jasperoidal &/or argillized punky ls.

Au 0.10   Ag <0.5   Cu 540   Pb 2970 ←

Zn 7700   As 210   Sb 2.9

Au 0.47   Ag <0.5   Cu 5.6% ←

Pb 4790   Zn 6930   As 5300   Sb 32

KME [redacted]
4-2-81

Table Mtn. Prospect (ERG)

F (Same as ERG 1811 → 13)

F 84 – Random chip along back & ribs in Table Mtn. adit from 60 → 120' from portal. – rextallized gray to pinkish ls. w/ local reddish jasperoidal patches, minor local barite & calcite; spotty argillization & local FeOx's in vugs ⇒ unit is porous to cavernous, & contains CuOx's near contact w/ jasp at 60' from portal; some brecciation noted; a few vugs lined by clear quartz xtalls; a few very f.g. pyrites noted in jasp. zones; jarosite-like greenish yellow stain noted locally

F (same local as ERG 1811 → 13)

F85 – Select grab – high grade ore dump from outside Table Mtn. adit primarily dk brown or greyish green brecciated jasperoid w/ 0.5 → 2.5% CuOx's as films & in matrix; some of dump is CuOx stained argillized ls. & ls. breccia (slightly jasperoidal)

KME [redacted]
4-2-81

Table Mtn Prospect ERG

F86 - C.O.S. same local as 1820?

ERG - Red to brownish orange multiple stage jasperoid breccia; abund reddish brown cryptocrystalline matrix w/ local abundant Qtz pyramids in small vugs & lining fractures; CuOx's occur sporadically throughout outcrop

Au <0.02 Ag <0.5 Cu 770 Pb 340

Zn 190 As 160 Sb 1.2

F87 COS same local as ERG

4455 - white locally banded jasperoid w/ minor FeOx's on surfaces & in vugs & Qtz lined cavities; very little brecciation noted; zone is 1 → 3 m thick & is concordant w/ bedding

Au <0.02 Ag <0.5 Cu 22 Pb 39

Zn 18 As 11 Sb 0.02

KME & G.A.P.

4-27-82 Table Mtn Prospect ERG.

— Sampled rextallized & locally FeOx stained ls on head of Table Mtn Tunnel. —

F89 – Slightly select ls. from Table Mtn Mine dump
dark to light gray, fossiliferous & locally rextallized ls w/ minor FeOxs & "hematite" stains & rare barite

Au 0.08 Ag 0.2 Cu 15 Pb 45
Zn 385

F90 – C.O.S. – Jasperoid outcrop (same as ERG 4454 – white to reddish, slightly brecciated jasp ls ; a few secondary QTZ lined vugs ; FeOxs occur dispersed in silica & as coatings on surfaces

Au <.02 Ag 0.8 Cu 5 Pb 90

Zn 30

Table Mountain Exploration Area

Pinal County

8D?

LOCATION DATA

COUNTRY:

STATE:

COUNTY etc.: PINAL

DISTRICT: TABLE MOUNTAIN

LATITUDE:

LONGITUDE:

METALLOGENIC DATA

Years of Production: 1875-1900, 1974

PRODUCTION DATA (in kilograms)

Copper:	16,000,822	Fluorine:	
Lead:	—	Manganese:	
Zinc	—	Iron:	
Gold:	19,357	Barium:	barite is a common gangue
Silver:	28	Sulfur:	
Tin:		Mercury:	
Tungsten:		Uranium	
Molybdenum:		Vanadium	
Cu/Pb+Zn:		Cu/Au:	
Au/Ag:		Pb+Zn:	
Pb/Zn:		Zn/Au	
Cu+Zn/Sn+Mo+W:			

AGE DATA

MINERALIZATION: ~35-30 m.y. tuff in Whitetail Cg. at Aravaipa canyon is 33 m.y. by K-Ar

TIME-RELATED IGNEOUS ROCKS: none apparent

CHEMICAL DATA FOR TIME RELATED IGNEOUS ROCKS:

$K_{57.5}$ index:

K_{65} index:

Nb @ D.I. =

Nb @ D.I. =

Evaluation: exotic Cu-Au mineralization in Whitetail conglomerate. Probably an erosional product of breccia pipe mineralization in Copper Creek porphyry copper system 3 mi. to SW.

REFERENCES:

1. BGMT COMPUTER FILE
2.
3.
5.
6.
7.
8.
10.
11.
12.
13.

Mining District Data Base

LOCATION DATA

COUNTRY:

STATE:

COUNTY etc.: PINAL

DISTRICT: TABLE MOUNTAIN

LATITUDE:

LONGITUDE:

METALLOGENIC DATA

Years of Production:

PRODUCTION DATA (in kilograms)

Copper:	7,257,851	Fluorine:	
Lead:	—	Manganese:	
Zinc	—	Iron:	
Gold:	602	Barium:	
Silver:	.87	Sulfur:	
Tin:		Mercury:	
Tungsten:		Uranium:	
Molybdenum:		Vanadium:	
Cu/Pb+Zn:		Cu/Au:	
Au/Ag:	692 (0.0014)	Pb+Zn:	
Pb/Zn:		Zn/Au	
Cu+Zn/Sn+Mo+W:			

metric tons:

AGE DATA

MINERALIZATION:

TIME-RELATED IGNEOUS ROCKS:

CHEMICAL DATA FOR TIME RELATED IGNEOUS ROCKS:

$K_{57.5}$ index:

K_{65} index:

Nb @ D.I. =

Nb @ D.I. =

REFERENCES:

1.
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September 27, 1982

FILE - U.S.A. Minerals Exploration

E.R.G. Submittals in Southeastern Arizona
(Table Mtn., Carr Canyon, Scheelite Ridge

During the month of April, 1982, several bulk gold prospects submitted to Amoco Minerals by the Energy Reserves Group of Golden, Colorado were briefly examined. These include Table Mtn., located in Pinal County and Scheelite Ridge located in Cochise County. Table Mtn. is a potential Carlin-type deposit with gold values of up to 0.2 oz/ton in dump rocks from past mining activity on the property. The prospect geology consists of a series of steeply dipping faults cutting Escabrosa limestone with the development of jasperoids along faults and at fault intersections. A possible carbonaceous shaley host of the Martin Formation is projected at depth. Fault zones are strongly argillized and anomalous gold values are present in the jasperoids along the faults and in the adjacent argillized limestone. A potential for significant tonnage exists along these fault zones and in the underlying Martin Formation rocks.

The Scheelite Ridge prospect consists of erratic exposures of white, porcelaneous quartz masses, tabular in form, and 2-8' thick, overlying medium grained quartz monzonite. These siliceous bodies are interpreted as ancient siliceous sinters by E.R.G. and apparently represent the top of a hot springs gold system. There has been little work done on this property concerning sampling for characteristic elements associated with hot spring systems which makes it difficult to evaluate the proposed model. Several samples taken from the property by Amoco were anomalous in gold and one sample taken from the siliceous sinter contained 1.2 oz/ton Au and 11.2 oz/ton Ag. This sample was of Fe stained, crusty siliceous sinter with visible galena, taken near the contact with the underlying quartz monzonite. The Scheelite Ridge propsect is geologically interesting but more work needs to be done including detailed geochemical sampling and geologic mapping to evaluate the property. Unless a favorable host for gold mineralization can be identified, it will be difficult to develop significant tonnage for a viable gold deposit.

Recommendations

Table Mtn. displays the greatest potential for a large bulk gold deposit of the Carlin-type. Additional geochemical sampling, geologic mapping and approximately 2,000 feet of rotary drilling should be a good preliminary test.

The Scheelite Ridge propsect is interesting enough geologically to warrant additional work. Detailed geologic mapping and geochemical sampling is definitely needed to gain some feel for mineralization potential.

R. O. White

Table Mtn (cont)

Mineralization

All min seen is confined to silic lst. Silic control - largest bodies seem to lie in lst bedding, possibly as mantos - several vert silic vns noted in lst

Min occurs in bxed, silic lst and fractures - ore is vuggy - drusy. Adits expose small (± 20' across) caverns - some are exposed at surface in Louisville outcrop. Caverns probably formed before or during silicification - oddly ore is not closely related to cavernous areas.

Accessibility

The Table Mountain prospect may be reached from Mammoth as follows: North from Mammoth over 10 mi of paved highway (Ariz 77) to the Aravaipa Creek road junction; east from this junction over 9 mi of graded dirt road to the mouth of Brandenburg wash, and southeast over 17 mi of rough jeep trail to the prospect.

Table Mountain Prospect

Location

About 12 mi northeast of Mammoth in Pinal Co, Arizona. In the SE 1/4 Sec 15; T7S, R18E. Klondyke, Arizona quadrangle.

Size

Three claim groups totaling 16 unpatented and 2 patented mining claims.

Owners

Table Mountain group of 10 unpatented claims.
Mrs Mattie E. Young, Mammoth, Arizona
Mrs Molly Morgan
Mrs Evelyn Sandstrom

Louisville and Grand Duke patented claims.
Mrs Hector Gillis
9326 W. Olympic Blvd
Beverly Hills, California

Codicil group of 6 unpatented claims.
Henry W. Nichols and James Douglas
Box 98, Oracle, Arizona

Development

See Geologic Sketch Map for location of the workings.

Five main adits were noted.

4. 453 ft long, accessible
1 ~~2~~. Reportedly about 200 ft long, inaccessible. According to Enos[1] a 40 ft winze was sunk from this adit

[1] Enos, Herbert C.; Private report to International Metal Marketing Corp., August 16, 1927

at some point more than 70 ft from the portal
2 ~~3~~. Reportedly about 175 ft long, inaccessible.
3 ~~4~~. About 125 ft long, accessible.
5. About 100 ft long, accessible.

Five or six shorter adits were noted, most of which are accessible but are too short to yield any significant subsurface information.

One inaccessible vertical shaft about 30 ft deep was noted.

Ruins of a small smelter and a 1000ton to 1500ton slag dump remain on the property.

Enos (1927) credits the property with the produduction of "approximately 800 tons of ore".

History

According to Enos (1927) the Table Mountain prospect was discovered shortly after 1890. The property was operated during 1897-98 by the Table Mountain Copper Company. Apparently little work has been done on the prospect since it was abandoned about 1900.

Geology

Introduction

Complex "epithermal" mineralization of probable middle to late Tertiary age occurs in manto-like (?) zones of silicification in Escabrosa limestone. Minerals of copper, lead, molybdenum, and zinc, and native gold were identified. Vanadium and tungsten minerals are reported[2] to occur in

[2] Nichols, Henry W.; "The Table Mountain Mine, Unpublished Report, Nov., 1958.

the deposits.

Rocks

Rocks noted on the prospect include Martin formation and Escabrosa limestone exposed as a window in an area extensive volcanic cover represented by basalt flows in the prospect vicinity. The sedimentary rocks constitute the bulk of a long ridge in which the mineral deposits occur. The limestone ridge is capped by a remnant basalt layer of variable thickness.

Martin formation. A soft red shale exposed in several small areas near the base of the limestone ridge is assumed to represent the uppermost part of the Martin formation.

Escabrosa limestone. The strongly fossiliferous Escabrosa limestone overlies the Martin formation and is the dominant rock of the prospect area. All mineralization seen occurs in the Escabrosa limestone.

Late Tertiary(?) basalt. Amygdaloidal basalt and basalt agglomerate surround and overlie the older rock exposures of the Table Mountain prospect. The basalt seemingly is post ore in age as unmineralized basalt immediately overlies several of the better mineralized bodies in the silicified limestone. Very probably the mineral deposits were eroded and oxidized almost to their present state before the basalt eruptions.

Less than a mile north of the prospect the basalt is underlain by thick beds of rhyolitic tuff and agglomerate. This relation is similar to that described by Ross[1] in the Saddle Mountain district 15 mi. northwest. Here Tertiary tuff and agglomerate

[1] Ross, C.P.; "Ore Deposits of the Saddle Mountain and Banner Mining Districts, Arizona", USGS Bull 771, 1925.

are capped by younger basalt and rhyolite.

Mineralization

The mineral deposits at the Table Mountain prospect consist of a complex assemblage of oxide minerals of copper, lead, molybdenum, and zinc. All mineralization seen occurs in completely silicified portions of the Escabrosa limestone. Minerals noted are as follows:

Gangue minerals	Ore minerals
quartz	chrysocolla
barite	conichalcite
calcite	dioptase
"limonite"	shattuckite
	malachite
	azurite
	copper pitch
	wulfenite
	gold
	vanadinite[1]
	mimetite[2]
	scheelite[1]

The mineralization is mainly of the breccia-filling type characterized by crystal-lined vugs and drusy, crystalline mineral coating on breccia fragments. All ore minerals with the possible exception of wulfenite are supergene. Reportedly no sulfide or arsenide minerals have ever been found on the prospect.

Of the copper minerals, conichalcite, an uncommon

Enos, Herbert C; op cit

2 Galbraith, F. W.; "Minerals of Arizona", Ariz Bur Mines Bull 153, 1947.

copper arsenate, is second only to chrysocolla in abundance at the prospect. This unusual amount of arsenic in the oxide ore minerals indicates that an arsenide or sulfosalt arsenide of copper was an important hypogene copper mineral in the deposit. Tennantite, a copper-arsenic-sulfide, is an ore mineral in the Blue Bird and Childs-Aldwinkle mines about 3½ mi south of the Table Mountain prospect.

Wulfenite, a lead molybdate, generally considered to be a supergene mineral, is possibly the only hypogene ore mineral exposed on the prospect. Here the wulfenite is intimately intergrown with clear, crystalline quartz. Small perfectly formed bipyramidal quartz crystals coat the crystal faces of much of the wulfenite.

Dioptase, a rare copper silicate, occurs in relative abundance at the prospect. Shattuckite, another rare copper silicate, occurs in small amounts.

Calcite in the deposits is of the lamellar, "epithermal" type. It is not an abundant mineral at the prospect. Quartz is mainly of the massive, crystalline type; however, the chalcedonic type is present in variable amounts.

Structure

The limestone beds in which the mineral deposits occur are gently tilted about 5° to 10° west. Deformation in the limestone seemingly is not intense; a few, minor normal faults cut the beds here and there.

An accident of faulting and erosion has caused the pre-ore rocks of the prospect area to be exposed through a window in an extensive area of post-ore volcanic cover. As may be seen in the vertical cross section across the prospect, the ridge in which the deposits occur is either a horst or the upthrown end of a monoclinal fault block.

No well-defined structures which might have controlled ore deposition could be recognized. The silicified bodies in the limestone are irregular in shape and size; however, they generally are rather clearly defined as they have sharp contacts with the enclosing, unaltered limestone.

The relationship between the outcrop patterns of the silicified bodies and the attitude of the enclosing limestone beds suggest that a favorable bed or zone has been replaced. Silicification is not continuous throughout the favorable bed although all the silicified bodies seem to occur in about the same stratigraphic interval. The silicified bodies seemingly are flat, tabular mantos localized within a favorable bed.

All valuable mineralization seen occurs entirely within silicified limestone; however, only a small portion of the silicified outcrops show any significant valuable mineralization. No structural control of mineralization within the silica mantos was recognized. Most of the mineralization seen, including that considered as being probably hypogene (quartz, barite, wulfenite(?)) occurs as breccia filling and drusy coatings of breccia fragments.

Although no singular, well-defined mineralized structure was noted, the mineralization probably is localized by the intersection of the favorable bed with breccia type faults.

Several post-ore faults were noted and are shown on the accompanying geologic map.

Alteration

Hydrothermal alteration associated (?) with the mineral deposits consists of intense, pervasive silicification of part of a bed or zone in the Escabrosa limestone in which the deposits occur. In vertical cross section the silica mantos range in heigth from 10 ft to 50 ft and in width from about 50 ft to 200 ft. Nothing is known of their third dimension except that adits No 1 and No 2 reportedly were in mineralized rock for their entire lengths of about 200 ft. As the only exposures are along a steep canyon wall, only subsurface work will yield information on