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E. J. SCHRADER
ENGINEER OF MINES

ADDRESS MAIL TO:
P. O. BOX 244
RENO, NEVADA

rec. 5
Mineral Co.
ITEM 24
Lenard Tungsten
Leonard Tungsten
Rawhide

July 7, 1934.

Mr. Norman Biltz,
Brockway, California.

Dear Sir;-

I have just received the analyses of the six samples taken at the Leonard Tungsten prospect and am attaching the certificate from A.A.Hanks to this brief report.

The property is located about 5 miles from Rawhide in Mineral County, Nevada. The nearest railroad point is Schurz, a station on the Mina branch of the Southern Pacific Ry., and 28 miles west of Rawhide. Fallon is about 70 miles north of the mine. The distance to the Lincoln highway is about 25 miles and with some improvement of this road, it may prove to be the best route because the most ordinary supplies can all be bought in Fallon. There is virtually nothing at Schurz.

There are ten claims in the group but I judge that all the valuable mineral deposits will be confined to three or four claims. There is no timber on the property or in the vicinity. The road from Rawhide is poor but passable. Water would have to be pumped from the flat about 4 miles to the south or the ore would have to be hauled to a mill at the water. Power must be generated by diesel engines on the ground. The road to the flat passes by the property and is much better than the road to Rawhide. It will not present any haulage problems.

The general formation is limestome into which dykes and irregular masses of grano-diorite have been intruded. Along the contacts between the granitic rocks and the lime there has been considerable contact metamorphism with the usual development of garnet, epidote and similar minerals which are common in the Nevada tungsten deposits elsewhere. The valuable tungsten mineral is scheelite of which crystals one-eighth inch in size are not uncommon. There appear to be a number of these contact zones which have a general strike to the southwest and on the surface dip from sixty to eighty degrees easterly. As almost no work has been done on the various mineral exposures, I will confine my description to the two large exposures near an old shaft sunk many years ago in the expectation of finding gold ore of commercial value under the prominent oxidized gossan at the contact of granite and lime. The presence of scheelite was not suspected and was not recognized until 1929 when this group of claims was located.

CERTIFICATE OF ASSAY

ABBOT A. HANKS, INC.

ASSAYERS. CHEMISTS. ENGINEERS

624 SACRAMENTO STREET

SAN FRANCISCO, July 2, 1934

SAMPLE OF ORE

DEPOSITED BY E. J. Schrader

Labty. No.	Mark	GOLD, per ton of 2,000 lbs.		SILVER, per ton of 2,000 lbs.		Percentages
		Troy Ounces	Value @ $35.00 oz.	Troy Ounces	Value @ 64.5 c oz.	
			$		$	
25933	1					Tungstic Oxide 0.94
34	2					" 0.81
35	3					" 0.33
36	4					" 1.25
37	5					" 0.01
38	6					" 1.37

Leonard Tungsten.

ABBOT A. HANKS, INC.

P. T. Bee.

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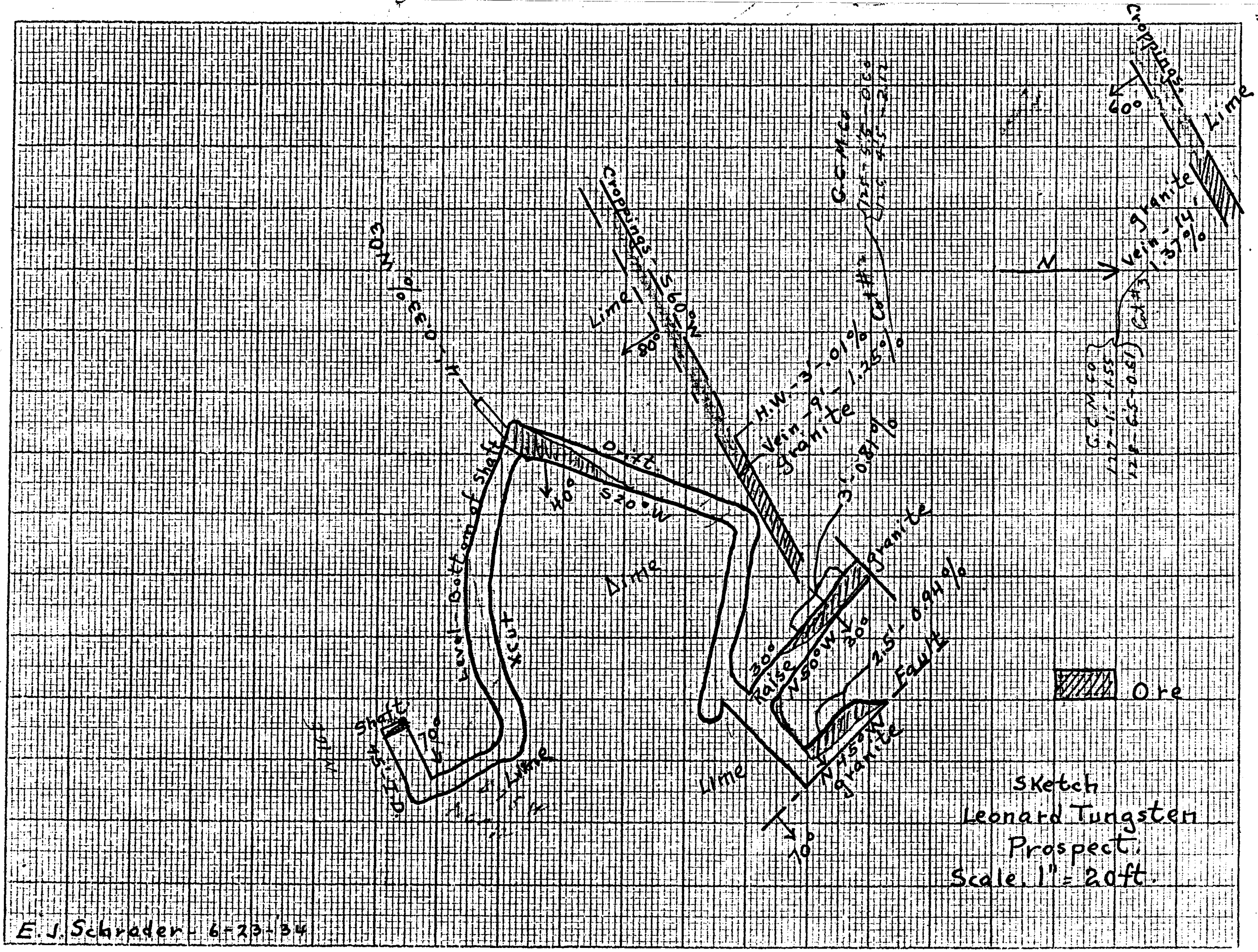

A short distance above the road to Rawhide Flat, there is a wide grano-diorite dyke in the limestone and on both walls gossan of brown tungsten ores crop out. To the south of the smaller one of these croppings there is an old inclined shaft 45 ft. deep. The largest cropping has a granite hanging wall and a limefootwall. The outcrop has a strike of S 60°W and dips 60° easterly. All the work done consists of an open cut accross the ore. A large sample cut accross 14 ft. ran 1.37% WO_3. The cropping extends for some distance to the SW but the length of the ore-body is not proven as yet. To the SE the next ore exposure is seen as indicated on the sketch map attached. This has a granitic footwall and a lime hanging wall. Just below the ore on the granite side there is a band of green rock which appears to be largely epidote stained granite. It carried very low values as expected (0.01% WO_3). Next to this I sampled 9 ft. of brown croppings which ran 1.25% WO_3. Above this is five or six feet of spongy iron stained gossan in the lime which is said to carry small gold values but does not show any scheelite in the pan. The shaft mentioned was sunk on this material. On the level driven from the bottom of the shaft some small showings of tungsten have been opened up which have been thought to be the downward extension of the large cropping sampled on the surface. At the face of the drift there is a strong fault as shown, to the north of which is granite. In the short drift along the fault and in the flat raise, some tungsten ore is exposed but the hanging wall of this ore is uncertain. Samples from a number of cuts accross such widths as could be sampled ran from 0.81% to 0.94% WO_3 as shown on the sketch. The raise starts in the footwall under the ore and the ore is cut off at the head of the raise by the granite. Another small exposure of ore is in the main drift near the shaft but this was quite low grade. The surface shows irregular bunches and seams of ore in the lime. I am therefore uncertain that the ore exposed on the level is connected with the main deposit both because the widths are so small and because the strike is so radically different, and probably these are fingers of ore projecting from the main contact into the limestone. The matter canbe easily proven by short crosscuts.

Conclusion:-

This is a better than average tungsten deposit and warrants further work. I would suggest that this be done first by trenching along the strike of the contact deposits to determine possible length of the ore-bodies and then by sinking on the ore itself. It looks possible to me that a considerable tonnage of tungsten ore of commercial grade can be developed on this property.

Very truly yours,

E.J.Schrader

E.J.Schrader.

MEMORANDUM

THE GOLDFIELD CONSOLIDATED MINES EXPLORATION COMPANY

SAN FRANCISCO, CALIFORNIA

SUBJECT LEONARD TUNGSTEN PROSPECT, NEAR RAWHIDE, Dist. MINERAL COUNTY, NEVADA DATE Aug. 22, 1934

TO E. A. JULIAN, ESQ.

FROM H. N. WITT

This property was visited on August 13th in company with Harry Scheeline who presumably holds an option from the present owner, Mr. Leonard. Mr. Leonard lives at Rawhide, and also accompanied us to the property. A copy of report by Mr. E. J. Schrader of Reno is attached.

The property is developed by only a few shallow cuts and some old shallow shaft workings, run in search of gold values.

The property covers a granite-limestone contact area which shows several typical contact metamorphic bodies of isolated ore cropping at the surface. The hills to the east of the property are apparently composed exclusively of granite, but the extent of this granite body was not determined. From this body dikes have penetrated the adjoining limestone, with the resultant metamorphism of the limestone and deposition of scheelite ore in a matrix of garnet and epidote and quartz.

The ore where exposed in surface cuts has apparent widths up to 12 feet, but the lineal extent of such ore bodies is not clear. If these ore bodies are replacements of limestone beds and coincident with such beds, then the volume of ore may be great, and its exploitation relatively simple. If however the bodies are merely tongues extending a limited distance out into the limestone from the contact zone, and not coincident with the limestone beds, then the occurrence of ore may be very erratic and difficult of production.

The general conditions of a granite intruding a favorable limestone are encouraging, and the values found in the ore bodies thus far exposed are attractive. It remains to be seen whether or not any system of ore deposition can be worked out.

For such purpose I recommend that the geology of the area be mapped in some detail, and that some surface trenching and sampling be done in connection therewith.

During this examination four samples were taken to check the samples of the most prominent ore showings mentioned in the Schrader report. Location of these samples is shown on the pencil sketch accompanying Schrader's report.

MEMORANDUM

THE GOLDFIELD CONSOLIDATED MINES EXPLORATION COMPANY

SAN FRANCISCO, CALIFORNIA

SUBJECT LEONARD TUNGSTEN PROSPECT - Page 2 DATE Aug. 22, 1934

TO E. A. JULIAN, ESQ.

FROM H. N. WITT

At Cut No. 2 Schrader indicates a vein 9 feet wide, assaying 1.25% WO_3. This was checked by two samples, one over a width of 5-1/2 feet which assayed .60% WO_3, and the other over a width of 4-1/2 feet assaying 2.12%. At Cut No. 3 Schrader reported a vein 14 feet wide, assaying 1.37%. This width of ore may be questionable, and the high assay may be due to some highgrade streaks in the width sampled. One sample taken across a foot of the best looking material assayed 1.55%. A sample taken over 6½ feet of the best looking portion of the remainder of the ore showing assayed .61%.

These assays are sufficient to indicate that commercial grades of ore undoubtedly exist in the contact metamorphic zones. The true widths and lateral extent is still undetermined.

This examination was made upon instruction from Mr. Julian.

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MEMORANDUM

THE GOLDFIELD CONSOLIDATED MINES COMPANY

SAN FRANCISCO, CALIFORNIA

SUBJECT LEONARD TUNGSTEN PROPERTY, RAWHIDE, NEVADA

DATE December 14, 1937

TO E. A. Julian

FROM H. N. Witt

This property was examined about two years ago and is the subject of a report now in the files.

While in Reno recently, Mr. Thatcher asked me to call on him and informed me that some of his clients had been developing this property and had, he believed, found sufficient encouragement to warrant its examination. He informed me that he had allowed them to read the file on this property which was in the Reno office and had given them copies of the maps which are in that file.

I informed Mr. Thatcher that he should forward to this office complete information as to the work performed by his clients and the results of their sampling.

This will probably be forwarded shortly.

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Report On
Leonard Tungsten Prospect
Near Rawhide, Mineral County, Nevada.

Preliminary examination of this property was made August 13, 1934 and was discussed in a memorandum of August 22nd. The property was subsequently visited by Mr. Julian who directed that certain surface trenching be done. On completion of this work I again visited the property, mapped the surface geology, and took additional samples on Sept. 9th and 10th, 1934.

Herewith are two surface maps, one on a scale of 100 feet to the inch showing the general surface geology and sampling, and the other on a scale of 20 feet to the inch showing detail in the vicinity of the 40 foot shaft.

The principal ore zone is a scheelite bearing garnet ledge on or close to a granite contact with limestone. This ledge extends over a considerable portion of the contact distance on the property. Other garnet ledges away from the contact apparently are not persistent and are of little economic importance.

The contact garnet zone widens abruptly in two places sending tongues of ore bearing garnet into the limestone for as much as 45 feet from the contact. These widenings are probably along pre-mineral fissures in the limestone. In general, however, the main garnet zone is roughly tabular in form with an average width of 7 feet, as indicated on the attached map. Such a ledge and such mineralization might easily exist to considerable depth, but a major hazard is the possible existence of an embayment of granite beneath

the limestone which would bottom the ore.

Additional sampling in the new trenches was disappointing. Only one sample exceeded 1% WO_3. All samples are indicated on the attached ~~200~~ 100 scale map.

The hazards of tungsten are more than those of mining. Marketing channels are extremely narrow, and published quotations have little meaning. The history of most tungsten mines, even the largest, is one of long periods of shut-down followed by feverish activity to take advantage of a rising tungsten market. The well known Atolia Mine, near Randsburg, California, was shut down from 1919 to 1924. Activities were resumed with the rising prices of 1924, only to shut down again in 1929. The property has lain dormant since then, although an attempt is now being made to operate it, but with indifferent success. Following is a tabulation of the prices received for tungsten at the Atolia Mine for the period 1924-32:

Year	Price Per Unit
1924	$8.28
1925	9.45
1926	12.60
1927	10.80
1928	10.53
1929	11.66
1930	11.87
1931	12.10
1932	7.75

The material shipped during shut-down periods was from tailings recoveries and lessee operation. Present shipments are bringing about $15.00 per unit, although published prices are $17.00 to $18.00 per unit.

An additional present hazard in the tungsten market is that tungsten may be placed upon the free list in certain reciprocal tariff negotiations now pending. It is my under-

standing that this would reduce the domestic price by about $4.00 or $5.00 per unit. Present interest in tungsten is doubtless due to the likelihood of war in Europe or Asia.

In view of the erratic nature of the contact metamorphic deposits, and the additional hazard of marketing the product, a property such as the Leonard property should have ore well in excess of 1% WO_3 to be attractive. Even then it would be of dubious interest for present operation, but might be developed and held pending a rise in the market price of tungsten.

In view of the low values and the nature of the ore deposit, the Leonard property is not attractive. I do not recommend its purchase.

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Sept. 24, 1934