

W.A. No. \_\_\_\_\_

**NAME** Sootheran's 92HNE009-02 (low)

**SUBJECT** Annual Report of the Minister of Mine's, 1926, 1937

92HNE009-02 (low)

PROPERTY FILE

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*Original Copy.*  
ANNUAL REPORT OF THE MINISTER OF MINES  
FOR 1937.

Part D--Special Report by  
M.S. Hedley.

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Sootheran: Two claims on the Tulameen river are held by Garnet Sootheran of Tulameen. The showing is 30 feet above and on the south side of the river, in the canyon, about  $\frac{1}{4}$  mile below the pack-horse bridge near the mouth of Eagle creek. The south side of the valley rises steeply to Olivine mountain and the river here has cut a canyon with so narrow a bottom that a small pole serves as a temporary foot-bridge.

The showing is a quartz vein-zone in peridotite, strike north 10 degrees west, dip steep westerly. It strikes right up the hill but is obscured by slide rock and is opened up in only one place. In this open-cut it is 6 feet wide, containing a total of about 2 feet of quartz, a 1-foot horse, and sheared oxidized material; the quartz is lightly mineralized with pyrite, galena, chalcopyrite and sphalerite, and in a 4-inch band on the east wall is a fair quantity of galena. Three samples chipped across sections of the main quartz and schistose material each returned traces in gold and a fraction of an ounce in silver, and a sample of the 4-inch galena-bearing seam returned: Gold, trace; silver, 0.6 oz. per ton. This mineralization is interesting in spite of these low values.

Date, September 3rd, 1925. Platinum concentrates weighing 5 oz. troy sent to Johnson & Son, London, England.

	£	s.	d.		£	s.	d.
Fine gold.....	0.152 oz. at	4	4	9 an ounce amounts to	0	17	11
Platinum.....	2.500 oz. at	24	0	0 an ounce amounts to	62	3	2
Iridium.....	0.686 oz. at	75	0	0 an ounce amounts to	51	9	0
Osmium.....	0.292 oz. at	22	0	0 an ounce amounts to	6	8	6
Ruthenium.....	0.310 oz. at	11	0	0 an ounce amounts to	3	8	2
Rhodium.....	0.260 oz. at	17	0	0 an ounce amounts to	4	8	5
Total.....	4.290 oz. paid				128	15	2
Less refining at 15s. an ounce.....					3	15	0
Total to producer.....					125	0	2

If all the metal, minus 0.152 oz. troy in gold, had been paid for as usual at platinum prices, and the pound sterling figured at \$5, the loss to the producer would have been roughly \$124. As long as the price of iridium remained high the miner lost a considerable amount. At the present time the price of iridium is only slightly higher than that of platinum and the difference is negligible. The combination iridio-platinum, quoted at a higher price, is a chemical one and used as a specialized article. The natural alloy found in the placer-diggings cannot be used satisfactorily in its original state, because it contains impurities which render it unsuitable for commercial purposes. The platinum and iridium are therefore separated and paid for as such and chemically combined afterwards. Quotations have been received from Johnson & Son, London, stating that the cost of smelting black sands is £19 a ton.

Garnet Sootheran owns one river and two bench leases on the Tulameen river, approximately half a mile below Eagle creek. His partner, J. Hamilton, owns the adjoining lease up-stream. The Sootheran lease (No. 153) includes what is known as the *Deadhorse* claim, worked many years ago. During May and June the two partners whilst working together a short distance below Champion Creek bridge discovered a pay-streak along the side of and under the boulder-dumps of some old placer-diggings. Practically no work was done to demonstrate the thickness of this pay-streak or its area, chiefly on account of the piles of small boulders on top of it. Between May 17th and June 22nd 35 crude troy ounces of platinum was taken out from short narrow drains and open-cuts spotted over an area of about 200 feet. According to the owner, this amount of platinum was recovered from 736 partially filled small wheelbarrows, and he estimated that fifteen full barrows represented 1 cubic yard of gravel, so that the 35 crude troy ounces of platinum represents the production from anywhere between 24 and 49 cubic yards. The pay-streak appears to be an iron-stained partially cemented gravel of unknown thickness. Bed-rock had not been tested under this gravel at the time of examination (July 3rd, 1926) except around the rim, where it showed a decided dip down under the old workings.

Two theories are offered as an explanation of this find, since it occurred in an old placer-diggings; one is that the former miners cleaned up all the values which were thought to be mostly gold, down to the cemented gravel or false bed-rock mentioned above and left everything below because the values were mostly in platinum valued then at only a few dollars an ounce; the second theory is that the platinum found is the discard from the former miners' sluice-boxes, which seems unlikely, because, as a general rule, only the coarse platinum was thrown out of the boxes and the final separation took place at the cabins.

The cost of placer-mining in the early days on the Tulameen was very high on account of lack of transportation of any kind. The width of the bench on which the old channel is located is between 300 and 350 feet at the widest part and approximately 2,500 feet long. Owing to the mountain-slides it is very difficult to estimate the width of the old channel and there may be other higher channels filled with debris under the present wagon-road. Cleaning away the piles of loose boulders offers no serious hindrance to the exploration of the bed-rock gravels, and with such high values in platinum obtainable it is difficult to understand why the lease is lying idle. Water for mining can either be obtained from Eagle creek, half a mile distant, or from the Tulameen river. Bed-rock appears to be about 6 feet above the present river, but this

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is not at all certain. A snlper permitted to work on the lease for a week or two whilst the owners were awaiting information regarding a deal cleaned up about \$10 a day.

This company was incorporated on October 14th, 1926, with offices in the Board Tulameen Placer of Trade Building, Vancouver. The authorized capital of the company is Mining Co., Ltd. 500,000 shares of \$1 each. No fiscal agent is permitted to receive more than 35 per cent. commission on sales of shares. Fifty per cent. of the value of each share is to be paid for on application and the balance upon allotment, or in four monthly instalments if agreed upon by the directors. The following are the directors: R. D. Davies, J. McD. Grosart, L. J. Cooper, A. E. Perman, and J. P. Tait.

The ten leases being acquired from J. McD. Grosart for a consideration of 150,000 fully paid-up shares of the company, are situated on the Tulameen river between Slate creek and Collins gulch and consist of six creek leases and four bench leases having a total area of 488 acres.

Although the ground acquired is favourably located down-stream from Olivine mountain, which is the acknowledged source of the placer platinum, the company will be well advised to avail itself of the experience of other operators and thoroughly test the ground before installing expensive machinery. Where thorough testing operations of the gravels of the Tulameen river have been carried on, the values have been found concentrated along certain well-defined channels and not all through the gravels.

This syndicate, mentioned in the 1925 Annual Report, continued development under the direction of Norman McCormick throughout most of the season on **Similkameen Placer Syndicate**. Slate creek. The tunnel commenced in 1925 broke through under the present channel of Slate creek above the upper falls. Owing to a bed of glacial clay about 20 feet thick lying just above bed-rock, work was greatly retarded and it was found necessary to blast a channel through the clay in order to reach that part of the channel which was the objective. Before this was done the water in the creek lowered to such an extent that operations ceased for the season. A good flow of water is necessary to carry off the debris blasted from the workings.

The same syndicate drove a tunnel into the high cut-bank below the mouth of Slate creek in an effort to locate the mouth of the old channel, which is supposed to have been blocked by glaciers. Several hundred feet of tunnel, with two branches radiating from it, have been driven and bed-rock located in all three drifts. At the time of examination (July 3rd) the rock encountered dipped in several directions and it was difficult to predict in which of the three tunnels the old channel might lie. Further work has been done and according to the management the prospects look encouraging. Owing to the impossibility of estimating the right elevation to drive a tunnel to strike bed-rock it may be necessary to sink or to raise to reach the old channel, if there is one. A camp has been built near the mouth of Slate creek.

This lease, situated about 4 miles below Coalmont, is owned by K. Ruby, of **Ruby Lease**. Coalmont. Most of the season was spent in building a dam and pipe-line to furnish water for hydraulic mining. Owing to a dry season very little could be done after July. This lease covers what is known as the old Roney high-channel lease, which produced a lot of gold in past years. The elevation of this channel is about 100 feet above the present bed of the Tulameen river. There appears to be a considerable yardage of likely-looking gravel on the east end of the claim which the owner intends working. A total of 25 oz. in gold and 9 oz. in platinum was recovered.

This syndicate, capitalized for \$25,000 and composed of Tacoma, Wash., capital, leased some placer-ground at the mouth of Granite creek and installed a **Tahoma Recovery Co.** steam-shovel of 1½-yard capacity and a portable sluice-box, including gravel-storage bin, etc., to operate on rails. As it was necessary to commence digging-in operations at the Tulameen river bank, the area supposed to contain pay-gravel was not reached before the freeze-up. Operations, consisting of unloading machinery and construction of portable sluice-boxes, etc., did not start until July 12th and it was late in August before the actual work began. About 800 feet of new channel was dug and 5,000 yards of gravel washed, with only a small recovery, as expected. No work was done during October on account of boiler-trouble.

#### GRANITE CREEK

Granite creek, discovered in 1885, produced during five years, on an average, \$5,000 for every 100 feet of ground over a distance of 3¼ miles. Most of the ground worked was confined in the

them thoroughly. A full description of the plant and intentions of the National Holdings Company appears in the Annual Report for 1925.

#### SIMILKAMEEN RIVER SECTION.

**Tulameen Gold and Platinum Recovery Co., Ltd.** Although this company bears the name of Tulameen and some of its exploration-work was done on what is thought to be an old high channel of that river, the major development took place on a bench on the Similkameen river and is therefore related under this heading. This company was incorporated on May 10th, 1926, with offices in the Dominion Bank Building, Vancouver, and an authorized capital of \$2,500,000, divided into 2,500,000 shares of \$1 each. The directors of the company are Norman McCormick, Arthur R. Jenni, Alvin Stanlake, James Saborne, and Etna M. Morgan, of Vancouver. The property, purchased by the company from Norman McCormick and Etna M. Morgan, of Vancouver, for 675,000 shares to each, consists of fifteen placer-mining leases situated between the Tulameen and Similkameen rivers, commencing at a point about  $4\frac{1}{2}$  miles up the Tulameen and cutting across to a point about 4 miles up the Similkameen river above Princeton. The leases follow a series of terraces and depressions at an elevation of approximately 500 feet above the Tulameen river and cover what is supposed to be an old high channel. The reason for this supposition is that colours of platinum and gold have been panned from shallow holes from several different localities on these leases and the gravels have the appearance of partially assorted alluvial material.

One shaft, over 100 feet deep, was sunk at the north-west end of the leases near the Tulameen river. This shaft was not examined, but the management said that only spasmodic values were found before the work had to close down on account of the cold weather freezing the camp water system. If there is an old channel cutting through the section described above, the surest and most economical way to find the entrance is by prospecting along the banks of the Tulameen river. The leases of this company did not extend far enough toward the Tulameen river to carry out this development scheme during the earlier part of 1926. In the autumn more ground was acquired which will enable them to do this work. The following excerpt from the Preliminary Report on a part of the Similkameen District by Chas. Camsell, Geological Survey of Canada, 1907, page 21, throws some light on the subject:—

"Numbers of terraces and deposits of gravel also occur at various elevations on the sides of the valleys to a height of 3,400 feet above sea-level. The higher ones of these appear to have been formed when the whole valley was filled with water up to these levels, while others nearer the river and lower are the results of the action of the present streams in cutting down their beds. As a rule the higher ones only now occur as small remnants of once more extensive terraces, formed in the period immediately following on the disappearance of the Cordilleran glacier, and which have since been reduced in size by the ordinary atmospheric agencies of erosion. These are the most apparent evidences of comparatively recent changes of level.

"Accompanying these changes of level, and either a direct result of them or of the blocking of ancient channels by recent volcanic flows, have been some striking changes of drainage. The most marked instance of this is the deep valley of Smelter lake and Wolf creek, now occupied by a stream inconsistent with the size of the valley. It seems probable that this valley of Wolf creek, with its continuation through Smelter lake, once carried a great part of the drainage of the southern portion of the Similkameen river, but that the filling-up of parts of its channel by recent volcanic flows, or the same uplift which caused the southern portion of the Similkameen river to cut its deep canyon, also forced the stream into its present roundabout course through the Tertiary basin about Princeton. All the streams entering this valley from the south, above and including the Coldwater river itself, occupy hanging valleys, so that they debouch in waterfalls or have been forced to cut deep canyons down to the level of the trunk valley."

The recent volcanic flows and intrusive rocks are plainly exposed at the west end of this area. If this is an old channel, as supposed, in which the entire Tulameen river flowed, there is a distinct probability that these rocks caused an entire or partial change of drainage. Whether or not these old high channels had a sufficiently strong flow of water through them to concentrate the metallic values can be discovered only by exploration. The shaft sunk by this company encountered a great deal of glacial material which probably filled in any depressions. Since there are no known platinum-bearing rocks within about 10 miles of this area, it appears



more than likely that the values in the gravels are of glacial origin. Roads and a camp were built close to the west end of this company's holdings to facilitate the work on hand.

The Similkameen River leases (Nos. 353-355) are located near the mouth of Bromley creek at the east end of the area. A part of these leases, on which most of the work was done, consists of a bench about three-quarters of a mile long and about 400 feet wide at the widest part and 6 feet above low water. At the north and south end there are indications of old placer-diggings, and history relates that a good deal of gold was recovered from them forty years ago, but that there was too much water for the old miners to work to bed-rock with the equipment at their disposal. In between these old workings this company put down shafts, test-pits, and drains in an attempt to reach bed-rock. Two or three of these shafts, out of a total of thirteen, reached bed-rock, and in the others the work had to be stopped on account of an excess of water, and the attempt was abandoned. Therefore no positive data were obtained regarding the total yardage or values in this area.

Colours of gold and platinum were found in most of the shafts as far as they went. The depths of the shafts, where measured, varied from 6 to 9 feet. Other shafts were sunk deeper, according to the management, but as these were full of water at the time of examination the depths could not be checked nor the gravels panned. At least 50 per cent. of the gravel at the upper or south end of the lease is small boulders, so that in figuring the possible yardage an allowance must be made for this. Where a section of a shaft where bed-rock was exposed was sampled and panned higher values were obtained; so it seems probable that the pay-gravel lies either on or close to bed-rock.

A part of this bench at the mouth of Bromley creek was inhabited by beavers and several long dams had been built. The company found it necessary to cut these dams and dig long drains to draw off the water, so that it could prospect the ground. Prospects of gold were found in these drains and in open-cuts along the river-bank. The area as a whole seems to have possibilities of producing gold and platinum at a profit to the operator providing the ground will average 50 cents a cubic yard or better.

A steam or electric shovel or drag-line scraper, or both, will probably be used, depending on the character and depth of the bench-gravels. On November 10th the management were drafting plans of an electric shovel and it was their intention to have the different parts made and assembled during the winter months ready for construction on the ground in the spring.

Bromley creek is from 6 to 10 feet in width and is a steady-flowing stream. Light porous colours of gold are found in the surface residue brought down by this creek, and because the direction of the stream is diagonally across the supposed old high channel of the Tulameen river these colours are believed to have come from the channel gravels.

In summing up the situation as it stood at the end of 1926, the following are the main facts and theories: The company believed that there is an ancient high, blocked channel of the Tulameen river situated somewhere in the depressions about 4 miles in a south-westerly direction from Princeton. The geology and topography of the country in that neighbourhood supports this theory to some extent. Colours of gold and platinum, although found only at irregular intervals, add to the possibilities of the theory. It is also believed possible that there has been a sufficient concentration at the bottom of this old channel and perhaps over a larger area to warrant its exploration. The one shaft, sunk over 100 feet in depth, has bed-rock as its objective and crosscut tunnels should be run each way across the channel or depression in an endeavour to gather information before doing more work.

On the Similkameen River bench it was considered possible to gather sufficient data for future operations by sinking a series of shafts to bed-rock and panning each foot of the work. An excessive flow of water, which the pumps were unable to handle, stopped this work, and although insufficient data were procured to warrant any large outlay of money, the results were sufficiently attractive to justify further exploration. A churn-drill is the only mechanical device that will test gravels immersed in water, but because there has been a wide variance at times in values found by churn-drills and by ultimate operations the management was inclined to be prejudiced against them. Assertions have been made by this company that it had 100 acres of gravel carrying \$2 a yard in gold and platinum (metallics). It is possible that there is this gross content in the bench-gravels on its leases on the Similkameen river, and perhaps more, but it had not been proven at the time of examination (November 10th, 1926).

Platinum Production.

It is almost impossible to obtain the correct total production of platinum from placer operations in this district because there are so many different ways of disposing of the metal. Some of it passes through the local banks, some through the local storekeepers, and other amounts are sent direct to the metal-buyers in different parts of the country. Roughly, 50 oz. of metal has been sold and paid for as platinum. Most of the larger platinum nuggets recovered from the Garnet Sootheran lease were taken to Vancouver for display and there is no record of them being sold.

Coal.

During the year the Princeton-B.C. Colliery Company, Limited, ceased operations on its property at Princeton after many years of production. No official information is to hand regarding the future plans or what is to be done with the assets of this company. It is generally believed that there is still a large tonnage of lignite coal on the properties owned at Princeton.

The Tulameen Valley Coal Company continued operations throughout the year and a considerable amount of coal was shipped to outside points as well as for local consumption.

Diamond-drilling and later some drifting was done on the Robert Schulll coal prospects lying about 2 miles south-west of Princeton by W. R. Wilson et al. under the superintendency of Ridgeway Wilson, of Victoria. Coal was struck by the diamond-drills, but information regarding other development-work is not to hand.