

Deschutes Black Sand & Pumice

Gold

NAME			OLD NAMES	PRINCIPAL ORE	MINOR MINERALS
<u>13 S</u>	<u>12 E</u>	<u>N¹ 33</u>			
T	R	S			

PUBLISHED REFERENCES

DESCHUTES

..... ~~Washington~~ COUNTY

..... AREA

..... 2345 ELEVATION

..... ROAD OR HIGHWAY

..... DISTANCE TO SHIPPING POINT

MISCELLANEOUS RECORDS

PRESENT LEGAL OWNER (S)

.....

.....

.....

Address

.....

.....

.....

.....

OPERATOR

Name of claims	Area	Pat.	Unpat.

Name of claims	Area	Pat.	Unpat.

EQUIPMENT ON PROPERTY

Deschutes BLACK SAND

Mrs Harrington's report
(Holland Hotel)

Jefferson County
south of lower
bridge on
Deschutes R.

-- 1 --

The following constitutes a report on mining property known as the Terrebone group of claims situated in Jefferson County, State of Oregon, and owned by the W. D. & H. Syndicate.

SUMMARY OF REPORT AND CONCLUSION

This promising property has an immense ore reserve averaging \$3.50 per ton. These beds or strata of volcanic sand as exposed on this property are over 800 feet in length and over 200 feet in width and can be traced for a distance of two miles. They lie in a horizontal position and are cut and exposed by the Deschutes River.

A deposit of eroded material lying at the base of these strata contains over 50,000 tons and averages \$2.50 per ton.

In order to recover these values it is necessary to install a mill using the amalgamation process.

The cost of mining and milling will be very low owing to the size and extent of the ore body and the simple metallurgical treatment needed.

(The following ^{eight} pages of this report give a more detailed account of the geology, tonnage available for treatment, assays, topography mining and milling costs, costs of initial plants and etc.)

This property has never been worked or exploited in any way and is strictly virgin field. It can be made into a great gold producer at a low cost and as such commends itself to the careful investor.

LOCATION

This property consists of 4 placer claims comprising 80 acres and is situated on the Deschutes River about 8 miles from Terrebonne, Oregon, a station on the O.W.R. & N.R.R.

loc.

These claims are described more particularly as comprising the West half of the South east quarter of Sect. 33, Twp. 13S; R.12 E. W. Meridan.

TITLE

The title to these claims is vested in the W. D. & H. Syndicate operating under the laws of the State of Oregon.

GEOLOGY

The Deschutes Basin lies to the immediate East of the Cascade Range in Central Oregon. It has been the scene of intense volcanic activity as the entire basin has been covered at different times during the past ages with volcanic flows. These flows have varied from a straight basalt down thru the rhyolite and andesite series to a pumaceous scoria, volcanic sands and volcanic ash.

These different beds or sheets are usually accurately stratified and as a general rule are horizontal unless tilted up by later igneous intrusions.

The upper strata is composed generally of either basalt or rhyolite sometimes columnar, and varies a great deal in thickness. Below this strata are found volcanic marls, tuffs, sands and conglomerates locally intercalated at places with thin seams of trap rock.

These different strata are cut by the Deschutes River and its tributaries to the depth of more than a thousand feet without exposing the base forming the impressive and rugged canyon of the Deschutes.

On the above property this river has eroded and cut its way thru these thick beds of volcanics and has made a fine exposure of them especially of the volcanic sands and conglomerates.

Underlying the capping are enormous deposits both in width and length of a sand and conglomerate which will be referred to as the DESCHUTES SAND. This sand consists largely of black basic and frequently scoriaceous grains of volcanic rock forming a coarse sand mingled with which are lesser amounts of quartz grains and pyrite.

The deposits are frequently cross bedded, that is they contain evidence of being deposited by strong currents.

The two upper beds of this Deschutes Sand as exposed on this property are about 800 feet in length and average over 200 feet in thickness. They are laid down in almost a geometrical manner and are remarkably clean and homogenous. Not over 5% of this deposit can be classed as waste, They stand almost vertical and are in such a position in regard to the capping that they can be easily and cheaply mined. Undoubtedly these beds of sand extend to the river which lies 300 feet below. These same beds occur across the river and they can be traced West to Squaw Creek a distance of two miles.

There is an enormous amount of eroded material lying on the slope between these beds and the river's edge. At least 90% of this material will pass a 10 mesh screen.

! Horizontal

A cubic yard of this Deschutes Sand weighs, in the neighborhood of 4,000 lbs. or over 2 tons to the yard. The individual grains making up this sand are very small and the material as examined pulverizes very easily especially where it has been weathered.

ESTIMATIONS OF TONNAGE AVAILABLE

The amount of eroded material lying on the slope on the West side of the River all of which carries good values is estimated at 25,000 yards or 50,000 tons.

The beds of sand proper as exposed on this property will contain approximately 45,000 tons per acre basing the average depth of the deposit at 150 feet. These deposits as before stated extend to Squaw Creek a distance of two miles. On the East side of the river no calculations as to tonnages have been made although the amount of sand available for treatment is enormous.

SAMPLING AND RESULTS OF ASSAYS MADE

Sometime ago samples of this sand and conglomerates were sent to Bogardus, and Falkenburg & Laucks for assay.

The following is a report from Bogardus & Co. on these samples.

Sample	No.	Gold per ton.
Conglomerates, upper strata	1.	\$3.00
" " "	2	2.60
" lower strata	3	6.00
Deschutes Sand	1	2.40
" "	2	2.40
" "	3	2.40

Location?

The following is a report from Falkenburg & Laucks.

Conglomerates, upper strata	1	5.60
" lower strata	2	6.40
Black Sands		2.60
" "		2.70
" "		2.60

These assaying firms are widely and favorably known in the Northwest and their assay values check very closely on the same samples.

The following is a description of the samples taken and assayed by the undersigned.

#1. From extreme South end of deposit and 150 feet ~~above~~ above the river.

#2. Taken 75 feet above No. 1.

#3. From upper strata composed of a brownish colored conglomerate 75 feet thick.

#4. From main deposit of Deschutes Sand. Sample taken over a distance of 400 feet. Estimated width of deposit 150 feet.

#5. Eroded material lying on slope from the base of the Deschutes Sands to the river a distance of 300 feet.

#6. Taken from a 3 foot streak of a false bedding plane underlying the Deschutes Sands and composed of a rhyolite tuft.

#7. Taken from a 4 foot seam over a distance of 50 feet.

#8. From a 20 foot strata South of No. 7.

#9. From a deposit of volcanic sand on Crooked River close to power station.

#10. Taken from seam 20 feet wide.

Samples from #7 to #10 were taken on the East side of river.

ASSAY REPORT

Sample No.	Oz. Gold per ton	Value per ton
1	.14	\$ 2.80
2	.09	1.80
3	.16	3.20
4	.40	8.00
5	.12	2.40
6 (waste)	.01	.20
7	.26	5.20
8	.08	1.60
9	.01	.20
10	.21	4.20

The average of the above samples omitting No. 6 a thin seam of waste rock and No. 9 sample from Crooked River is \$3.65 per ton.

It

is very likely that this value will be exceeded as the deposit is opened up as certain existing conditions point very much that way.

The above average assay value represents the average values over a distance of 600 feet in length and 560 feet in height.

Basing our calculations on these assays we find that the eroded material has a value of \$100,000.00 and is available for immediate treatment while the Deschutes Sand and conglomerate will have a value close to \$1,400,000.00 per acre.

TOPOGRAPHY

The topography of the Deschutes Basin varies largely. The plateau is generally very level and only when a descent into the canyon is made are there any difficulties encountered. The property examined is situated very fortunately in this respect as the canyon is wide at this point and the road to the property which is already in has a low grade and can be easily traveled by automobiles and trucks.

Climatic conditions are favorable for all the year operation while the river a rapid running stream of considerable width which bisects the property assures a large surplus of water at all times. Electric power can be developed close to this property at several favorable locations. A large hydro-electric power plant is situated on the Crooked River a distance of 8 or 9 miles while the city of Bend is about 20 miles to the South. The railroad is 7 miles to the East and a spur can be easily and quickly built to the property.

An ideal mill site is found on the property very close to the deposits and all conditions are favorable in that respect.

METHODS OF RECOVERY AND EXTRACTION

The metallurgical treatment of these sands and conglomerates should be comparatively simple. Altho no laboratory tests have been made in regard to the commercial treatment of this ore there is no doubt but that a high recovery can be made by using the straight amalgamation process. Fine grinding is essential and a mill of either the March or Hardinge type should be installed for this reduction.

INITIAL AND OPERATING COSTS

It would be desirable at first to install a small plant or pilot mill in order to first get the results of a complete and thorough

sampling of the property on a large scale and secondly to work out the most efficient flow sheet that the grade of ore will stand. This mill using the amalgamation process and standard equipment ~~throughout~~ ^{throughout} and having a capacity of 50 tons per day can be erected at a cost not exceeding \$15,000.00. A smaller plant using similar equipment and used for proving the values can be erected and installed for one half this amount.

A 50 ton capacity mill with an estimated recovery of 80% will recover approximately \$4,000.00 of gold bullion per month. There is sufficient sand and gravel at the base of these beds of Deschutes sands to run a mill of this capacity for three years or more. When the property is properly opened up and developed and the most efficient and economical method of treatment perfected the ~~the~~ first unit of a plant capable of treating 2,000 to 3,000 tons per day should be erected at the logical location. A plant of this capacity can be operated indefinitely before the ore reserves are appreciably diminished.

MINING COSTS

The cost of mining will compare very favorably with that of other low grade deposits being successfully mined and milled at various places throughout the world. Cost of mining the sands which are in place and using the best practice will not amount to more than 30 cents per yd. or 5 cents per ton. This is based on mining on a fairly large scale and is an average for over a year or two of operation.

MILLING COSTS

Total milling costs including all general expense items and the marketing of bullion will of course vary with the capacity of the milling plant. Using the amalgamation process for the treatment of these sands the milling cost will lie between .50 cents and \$1.00 per ton depending on the amount of ore treated per day. Even at the higher figure a large profit can be realized. In ore averaging \$3.50 per ton and with a recovery of 80% a small 50 ton plant will show net monthly profits of \$2,500.00 per month. A 500 ton plant will net a profit of approximately ~~\$20,000.00~~ ^{30,000.00} per mo.

There is enough ore in sight to warrant the erection of a 2,000 ton plant but I believe it best to start production on a small scale later increasing the size of the plant.

There is no doubt ^{but} that in my mind this property can be made into

a large producer and only needs to be properly financed, developed and intelligently directed.

The Witwatersrand in South Africa the richest gold fields in the world is found in a conglomerate formation in many respects similar to the Deschutes deposit. The Alaska Treadwell working in ore that at times assayed but a trifle over \$1.00 per ton has paid millions of dollars in dividends and so has the Homestake in South Dakota another low grade proposition. Mines such as these have been developed from prospects and I can see no reason why with the immense ore reserves that you possess on your claims, the apparent simple metallurgical treatment needed and the close proximity to power and transportation, three vital factors to make it a paying proposition that this property in a short time will not be on a producing and paying basis.

Portland, Oregon

This is copy of original preliminary report by H. B. Kimelen, M. C.

(Signed) F. W. Peck

Peat

NW 1/4 of NW 1/4 Sec. 16.

T18 S-RIDE

Tumalo Lake. 11 m. W. of Bend.

Food Burrows

Clarence Burrows

} deeded land

Possibly 40 full acres. Whole Lake 80.

leased to — Walter Osborne

1.85 N

.85 K

50.00	organic matter	(Lazell)
20.00	mineral	
27.00	moisture	

About 20' ~~feet~~ - 50' thick.
decayed fine stuff
Moss: 6-14' thick. ~~less~~ friable.

20,000 bales = 400 tons
~~400~~ tons ~~sold~~ verbal contract for.
300 tons out. Will take out 1000
tons soon
Hammer Mill.
Better than foreign.

Deschutes Black Sand and Pumice

Deschutes County

Owner: At the request of Mr. H.H. Abbott, Rt. 1, Box 74, Remond, a visit was made to the localities below. Mr. Abbott was not at home and therefor the information as to owners, area, etc. were not available.

given

Location: Two localities on the banks of the Deschutes river were visited. The first lies at an elevation of 2625 feet ~~on the river~~ in the center of ~~section~~ the N $\frac{1}{2}$ of sec. 23, T. 14 S., R. 12 E.; the second ~~xxxxxxxxxxxxxxxxxx2345xxxx~~ about 10 miles north of the first (8 miles air line) at an elevation of 2345 feet in the center of the N $\frac{1}{2}$ of sec. 33, T. 13 S., R. 12 E.

this is Jefferson Co

in Deschutes Co

History: For a number of years there have been attempts by various people and agencies to exploit reported values in the ~~the~~ "black sands" occurring in lenses in the cliffs cut by the Deschutes and Metolius rivers north and west of Redmond and Terrebonne. Numerous assays running from \$2.00 to \$8.00 have been reported from the sands and interbedded conglomerates. Mr. F.W. Peck has been interested in the property for many years, and Henry Smith is said to have a process for ~~getting~~ the values from the sand by cyanidation and electrolysis. A plant was built during 1940 ~~xxxxxxxxxxxxxx~~ to operate on this principle, but from evidence seen on the ground no ore passed completely through it. The tanks were filled, and the electrolytic plant operated, but the tanks were never emptied. Operations ceased November 3, 1940.

concerns

recovering

Equipment: At the north locality the plant on the west bank of the river consists of a building 40 by 200 feet, with

the following means of processing the sand from the cliffs above:

150 foot tram with dump bucket (all jerry built) to bring sand from cliff above.

Loading into 2 20 foot cyanide tanks by wheelbarrow. Water tank.

Leached solution goes to 6 by 12 foot electrolytic tank, equipped with 20 copper plates, connected with automobile generator (?) run by auto motor.

Solution goes to final tank ~~xxxxxxxxxxxxxxxxxxxx~~. The complete process could not be deduced from the equipment left in the plant.

from another

At the south locality the equipment consisted of a small building with shaker screen, 2 cyanide tanks, engine and car generator. Zinc shavings also in evidence.

Geology: The cliffs consist in both localities of the Deschutes formation, amply described by Stearns (30) and Moore (37). The material to be mined consists of a "black sand" made up of basaltic fragment, sometimes scoriaceous, with minor amounts of pumice. No sulphides were seen. The sand occurred in lenses up to 20 feet thick, with overburden of tuff, gravel and lava ranging from 50 feet up. Underground mining would be necessary after the removal of a few thousand tons of outcrop and talus.

horizontal

Economics: No remarks required.

April 14, 1941
John Eliot Allen