

OSCEOLA GOLD PLACER

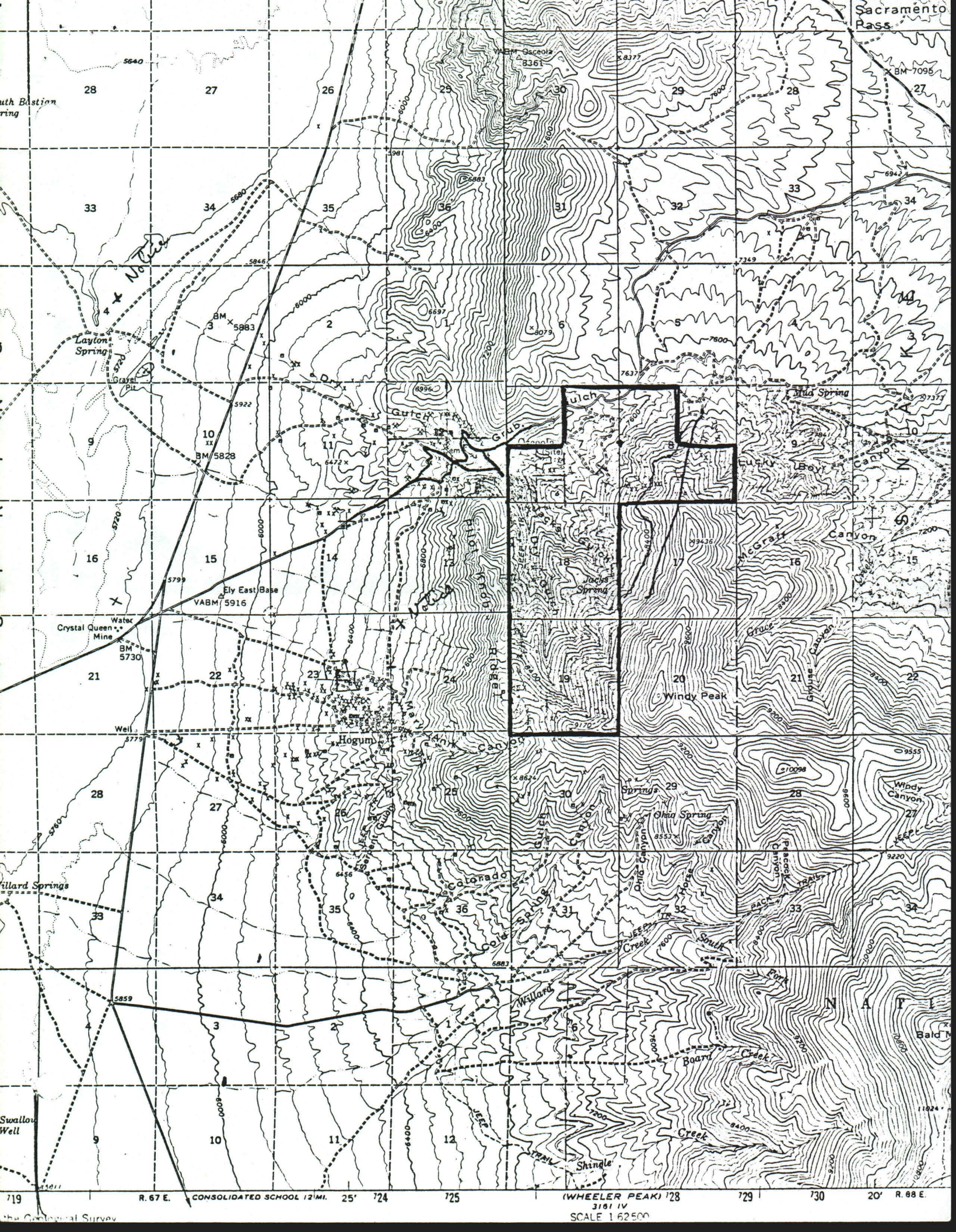
The purpose of this report is to provide a background for, and to outline an exploitation program for the Osceola Placer gravels in the Snake Range, White Pine County, Nevada.

The report is not intended as a formal scientific treatment of the subject matter; therefore theoretical and controversial items have been avoided whenever possible.

Owner: Last Chance Mining Co. Inc. - Gregory J. Chachas
P. O. Box 1170 President
Ely, Nevada 89301
1-702-2894447

- Synopsis:
1. Gross value about \$66, 000, 000
Net value about \$30, 000, 000
 2. Gross tonnage about 28, 000, 000 cubic yards
 3. Start-up costs , \$250, 000 - \$350, 000
Pay out period for start-up costs, four months
 4. Terms--negotiable- -- Joint venture
Option to Lease & Purchase
Carried Interest
etc. etc. etc.

Osceola



1. HISTORY

The first lode discovery in the Osceola District was made in 1872 and considerable quartz vein mining was done for five years. In 1877 placer deposits were discovered and over 300 placer claims were located. The Osceola gravels have been worked intermittently since that time.

Estimated placer gold production prior to 1900 is between 2 and 3.5 million dollars.

The main deposits are in Dry Gulch, Grub Gulch, and Jacks Gulch. These gulches are dry for most of the year. The placers were worked by hand methods until the early eighties (1885) when the important claims were consolidated and the Osceola Placer Mining Company was organized to work the ground by hydraulicking and sluicing. This company invested \$200,000. in a ditch and flumes to bring water from the headwaters of Baker and Lehman Creeks on the east slope of Bald Mountain and another branch on the west slope to drain Willard, Pine, Shingle, and Williams Creeks. About 2,000 miners inches of water (3,000 Cu. Ft./min) was made available by these ditches and flume lines. Hydraulicking was carried out in Dry Gulch until about 1900, when water theft, leaky flumes, and legal battles over water rights, forced work to stop. A record grade of 23.7¢ per cubic yard was reported in a White Pine News item in 1886. At the present price of gold (1975) \$170/oz. this amounts to \$2.01/cu. yd.

In 1935 the Hampton placer, 417 acres in Dry Gulch was sampled and worked by the Wagner Gold Placer Company using two dragline scrapers and a washing plant. This operation lasted only a short time and was shut down because of water shortage. About 3,000 cubic yards was treated with a recovery of 69.5¢ per yd. (Present value, \$3.37 @ \$170/oz.) This treated gravel was mainly tailings from older operations.

"In the year 1878, on one of John Versan's claims in Dry Gulch, a miner found a nugget weighing 24 pounds and valued at \$3,600. This nugget

was stolen and carried to the nearby camp of Ward, where it was melted into bars. The thief eventually repented of his deed and returned the bullion to its rightful owner. This nugget is perhaps the largest found in the State."

* "Placer Mining in Nevada"
William O. Vanderburg.

2. PHYSICAL DESCRIPTION

The Osceola Placer Deposits are located in a dendritic series of Westerly and Northwesterly trending V shaped gulches on the north flank of Bald Mountain, and 5 miles Southwest from Sacramento Pass, along the east side of Spring Valley, White Pine County, Nevada. The gulches have a common entry onto the alluvial plain which forms the east flank of Spring Valley. It is at this convergence of the gulches where most of the placer mining was done in the 1870's.

The ridges dividing the gulches are steep sided with very little soil cover and a moderate amount of vegetation which is mostly jack pine.

Small springs exist in two of the gulches, but they produce less than ten gallons per minute each in the late summer.

The placer gravels are primarily the result of rapid, periodic erosion produced by the heavy rains of short duration which are typical of mountain-desert areas of the Southwest. The V-shaped gulches were formed during a period of heavier precipitation and at a later period filled with gravel when precipitation became more periodic.

The average elevation of the major portion of the gravels is 7,600 ft. above sea level.

3. GEOLOGY

The geology of the Osceola District has been described in semi-detail in various studies and reports. The earliest complete report was published by Mr. F.B. Weeks in 1907. The most valuable source of information on Osceola is from the University of Nevada Bulletin Vol. XXX No. 4, May 15, 1936 by William O. Vanderburg, Mining Engineer, U.S. Bureau of Mines.

The Osceola gravels are derived from the Cambrian limestones, shales and quartzites which are host rocks in varying degree to the gold mineralization which occurs in the form of fracture filling by mineralized quartz.

Quartz vein mineralization is predominant with secondary fracture filling as a further source. Lode mining of the quartz veins surrounding and transversing the Osceola gravels has produced a significant but unknown quantity of gold.

A detailed geological mapping and prospecting program is planned for 1976 by Osceola Exploration Co. Inc. This program will thoroughly explore lode mining possibilities in the Osceola District, and will include detailed surface mapping and sampling, detailed color photo-geology, fracture pattern analysis, exploration and mapping of old underground workings, and research of old records of lode mining.

It is anticipated that this program will result in discovery of worthwhile lode mining targets.

4. EVALUATION AND ECONOMICS

The Osceola Gravels have been worked in various ways, for many years. The last serious work was done in the 1930's and very little has been done since that time because of the low fixed price of gold in relation to the constantly rising costs of mining and taxation. Now that the price of gold has been freed from control, placer deposits of this type and extent are again attractive investments.

SAMPLING

A sampling program for the upper Dry Gulch old workings was performed in 1934 by Wagner Gold Placer Co. Inc. Results were not completely satisfactory because of the non-homogenous nature of the gravels, but a fairly even horizontal distribution of the gold values was established.

"The old workings in the upper portion of Dry Gulch was sampled by taking 174 cubic yards of gravel in 1 cubic foot lots from several of the old shafts on the property. These samples ranged from 17 cents to \$8.77 per cubic yard from surface to bedrock and averaged \$1.32 per cubic yard. The shafts sampled ranged from 7 to 54 feet deep. The average depth of 124 holes was 26½ ft. to bedrock. Sampling by drilling at Osceola is impracticable, as the quartzite boulders in the alluvium carry values in free gold up to \$1.20 per ton and this gold would vitiate drill samples." *

* Page 169, "Placer Mining in Nevada"
by William O. Vanderburg.
Mining Engineer, U.S. Bureau of Mines
University of Nevada Bulletin
Vol. XXX No. 4 May 15, 1936.

It is assumed that the above quotation refers to a sampling program by Wagner Gold Placer Company Inc. as conducted in 1934 when the price of gold was \$35.00 per oz. At the present price of Gold, \$170.00 per ounce, the average value of the above samples becomes \$6.40 per cubic yard.

Drilling for samples is not a practical method because the cobbles and boulders are themselves gold bearing and would contaminate the drill holes when encountered. The only realistic method for sampling these gravels is by cross trenching the gulches to bedrock, sorting boulders and cobbles, screening and washing through sluices and in effect placer mining the gravels. It is therefore obvious that a sampling program as described above, could be scaled up with very little additional investment in equipment, to a point where the operation becomes profitable.

GOLD CONTENT

Accurate production figures are seldom if ever available for small placer gold deposits, for a multitude of reasons. Chief among the reasons being the desire of the operator to either keep secret the extent of a profitable operation or to inflate the apparent value of an unprofitable working for possible sale.

Available production figures for the Osceola Placers have been studied, and as far as possible given weighted values as to reliability. This study indicates that an average grade per cubic yard will be about .02 Troy ounces of gold. At a gold price of \$170. per ounce this gives a gross value of \$3.40 per cubic yard.

Old production figures state that the Osceola placer gold averages 850 fine.—

RESERVES

Calculations of reserves were done in the following way:

1. The shaded area enclosed by dotted lines on the enclosed map C-1 shows the limits of the placer gravels. This shaded area was measured by scale and found to be 2.8 million sq. yds. This area was multiplied by 10 yds. as a conservative average depth of gravel in the gulches, to arrive at a reserve figure of 28 million cubic yards.

2. Reserve value @ \$170. per oz. Gold.

$(28,000,000 \text{ yd}^3) (.02 \text{ oz.}) = 560,000 \text{ ounces}$

$(560,000) (.70 \text{ recovery}) = 392,000 \text{ ounces}$

$(392,000) (\$170. \text{ gold price}) = \$66,640,000. - \text{gross}$

ECONOMICS.

Gross Gold Value	\$66,640,000.	
Mining and Washing Cost	<u>30,408,000.</u>	@ \$1.086/yd ³
Net Gold Value	\$36,232,000.	

Exploitation plans involve the building of a 1000 cubic yard per day pilot washing plant and the required digging and transportation equipment to handle this volume.

Estimated investment over a six month period to startup is:

Capital expense	\$156,000
Expendibles	60,000
Labor & Supervision	<u>80,000</u>
	\$296,000

Total write-off = 60.9% = \$180,264.00

After startup costs and income will be:

	<u>Monthly</u>	<u>Yearly</u>
Operating income	\$102,000.	\$1,224,000.
Operating costs	<u>31,950.</u>	<u>383,400.</u>
	\$ 70,050	\$ 840,600.

Payout time = 4.2 months.

Attached to this report are:

1. Estimated Monthly Cash Flow before startup.
2. Operating Analysis.
3. Estimated Cash Flow after startup.

EXPANSION

When the Pilot Plant has been operating for a period of time sufficient to determine an accurate grade for the gravels, and to overcome any minor operating problems, expansion plans will be formulated. These plans will be based upon the economic limits of the property.

5. EXPLOITATION PROCEDURE

The Osceola Placer gold deposits offer some operational problems; the first, of course being water requirements, and the second is the choice of the most efficient method of digging and sorting the gravels before washing.

Water

Water will be obtained by developing the existing year round springs and by drilling one or two water wells in the middle portion of Jacks Gulch where an impervious igneous dike may effectively dam the gravels in the gulch and may have produced an aquifer. If, for some unforeseen reason, the Jack's Gulch water wells are unproductive, another location will be chosen and drilled in Spring Valley where sufficient water is certain to be obtained. If this Spring Valley well is necessary, haulage costs will be increased slightly because the washing plant will be erected on a location in proximity to the water well. In other words, the location of the water supply determines the site of the washing plant.

Digging and Sorting

The Osceola Gravels are fine to coarse, poorly sorted, with numerous cobbles and boulders. The medium to small size particles are sharp and only slightly water worn. The larger cobbles and boulders are fairly well rounded. Clay content is slight in the gravels. Partial cementation of the gravels has occurred in layers of Caliche with a thickness of up to 3 feet, however these Caliche beds are not extensive.

Digging of these gravels may be best accomplished by use of a power shovel with 3 yd³ bucket. The shovel will be advanced into a face with the bench surface on bedrock wherever possible. As the shovel digs, large boulders will be sorted to one side and the remainder of the material stacked for loading by a 3 to 4 yd³ front end loader. As bedrock areas of sufficient size are opened, periodic high pressure water washing of

the bedrock surface will be done in order to obtain the higher value sand and gravel which is expected at the bedrock surface. Boulders and loading stacks will then be placed on the washed bedrock. If in certain portions of the gravel, digging becomes too difficult for the shovel, lines of vertical blast holes will be drilled behind the face and the gravel loosened by explosives.

When a high percentage of cobbles and boulders is encountered, it may be necessary to sort with a long tooth rake pulled by tracked vehicle. However, this type of sorting is not anticipated.

Washing Plant

The basic design of the washing plant is as follows:

1. Conveyor in tunnel beneath ground level grizzly. Gravel is dumped along grizzly and fed by loader thru grizzly to conveyor.
2. Gravel is sized in traumel - oversize to tails.
3. Undersize from traumel to jig - washover to sluice concentrate to sizer & table.
4. Sluice - concentrate to amalgam
- tails to stack
5. Table - concentrate to amalgam plates
- tails to stack
6. Amalgam - to retort
7. Retort + 357°C -- Hg + Au -- TO FURNACE
TO SALE


B. CONCLUSIONS

1. The Osceola gravels may be worked profitably in approximate accordance with Section 5 (Exploitation Procedure) of this report.

2. Water supply is the important limiting factor of the project, and must be developed before proceeding with further investment. A year round minimum of 250 gallons per minute must be made available or the project is not viable. Such a water development is possible at approximate cost as outlined in Section 5.

3. The Pilot Plant operation as planned at 1000 cu. yds. per day is proper procedure for the following reasons.

- a) Gold values may be concentrated in smaller areas so that expansion is not economically justified.
- b) Upper gulch water may be reasonably expected in sufficient quantity for a plant of this size.
- c) Maximum recovery methods may be worked out and standardized before larger plant design is begun. The gold in the upper portions of the gulches may be of such coarse size that large plant design will be drastically altered.
- d) Digging operations will be made more efficient by experience gained during the smaller scale Pilot Project.


Robert W. Copeland
P. Geological Engineer,
Alberta Reg. No. 26920.