

BIG FOUR PLACER

Grants Pass area

Owner: J. E. Bartlett, Route 2, Box 488, Grants Pass, Oregon.

Location: W $\frac{1}{2}$ sec. 26, T. 35 S., R. 7 W., one half mile from the mouth of Pickett Creek, 14 miles from Grants Pass, on a terrace at an elevation about 300 feet above the Rogue River.

Area: 137 acres of patented land.

History: The property has been mined off and on for 40 years.

Development: Mr. Bartlett estimates that about 20 acres have been placered and that there are some 60 acres of placer ground left to mine with 4 million yards of mineable gravel left on the property. Mining season is from Nov. 15 to June 1, of a normal mining year. There are 3 open pits showing a 300' face with 45-60' of back.

Equipment: Two No. 1 giants; 1600 feet of 8 - 16 inch pipe. The ditch is about 8 miles long. Flume is 4000 feet long, all new within the last three years. Gas donkey with a 100 h.p. Mack engine; pair of Willamette 30 inch drums and 1000 feet of 5/8 inch cable; two Delco lighting plants, 850 watt, and two 500-watt flood lights; 2000 feet of No. 8 insulated, waterproofed wire; two tons of railroad iron riffles; sluice boxes are 2 x 100 feet; blacksmith shop; 300 -400 ft. of 2-inch fire hose; two 10 inch gate valves; bunk house 12 x 24 feet; modern log house living quarters, 28 x 32 feet.

Mining Facilities: Water right calls for 38 second feet of water from Pickett Creek and tributaries; delivered under a 276 foot head.

Geology: "The gravel ranges from 30 to 70 feet in thickness, and is in part clearly stratified. The 14 feet of red earthy sand and clay overburden is said to contain fine gold that can be saved, but the larger pieces are in the bottom gravel. The lower 12 feet of gravel contains well-rounded cobblestones, the largest being six inches in diameter. At the bottom a few boulders, generally slate, rest on bedrock, and from 2-4 feet of the bottom gravel is partly cemented. The rim rock rises abruptly and slates are much crushed and faulted, forming a terrace on the northwest toward Pickett Creek. The old channel is 250 feet in width and 30 feet in depth below the slate-rim terrace, from which the gravel capping has been in part mined away. The water is supplied from Pickett Creek at a head of 276 feet, two giants being run for a large portion of the year. The mine has been operated, during the season when water is obtainable, for many years."

Some \$2 pieces have been recovered from the red overburden as opposed to the statement that only fine gold occurs in the overburden. The gold is well worn. The bottom gravel is fairly soft so that a 3 inch nozzle cuts it readily. Bedrock is slate, probably Galice formation, soft enough to clean readily.

Reference: Parks & Swartley, p. 36, 1916 (quoted)
Diller, 14:111-112

Informants: Morrison 1938
J. E. Bartlett, 4/13/40

Report by: Ray C. Treasher

RECEIVED
NOV 28 1938

STATE DEPT OF GEOLOGY
& MINERAL INDS.

G. P. Dist.

Josephine County

Name: Big Four Placer

Owner: J. E. Bartlett, Route 2, Box 228, Grants Pass, Ore.

Location: One-half mile from the mouth of Pickett Creek.
Fourteen miles from Grants Pass.

Area: 137 acres of patented land in the west one-half of
Sec. 26, T. 35 S., R. 7 W.

History: Mined off and on for 40 years. Present owner ac-
quired the property in 1931 and knows very little
about the history of the property. About 20 acres
has been placered. Mr. Bartlett estimates about
60 acres of placer ground left.

General Information: Water right 38 second feet out of
Pickett Creek and tributaries delivered under 200 ft.
head. Gold about 9x40 to 9x80 in fineness. It is
pocket gold. Season being from November 15th to
June 1st. ~~For the description of the geology see~~
~~Page 37, Vol. 2, Oregon Mineral Resources.~~ Informant
did not visit property.

Informant: J. E. Morrison. 5/19/38.

*Handbook
Jep 36*

Preliminary Report

BIG FOUR GOLD MINE

Pickett Creek Mining District

Josephine County, Oregon

Wm. F. Hayden
Consulting Mining Engineer
Grants Pass, Oregon

Preliminary Report
BIG FOUR GOLD MINE
Pickett Creek Mining District
Josephine County - Oregon

<u>INDEX</u>	<u>Page</u>
Letter of Transmittal	
Acknowledgments	
Property	1
Location - Accessibility	1-2
Titles	2
Buildings and Equipment	2
Water	3
Roads and Transportation	3
Power	4
Climate.	4
Economic Resources	4
Topography	4-5
Geology	5-6
Equipment	6-7
Development	7-11
Recommendations and Remarks	11-13
Opinion	14
ADDENDUM - History, Pictures, Map.	

Preliminary Report
BIG FOUR GOLD MINE
Pickett Creek Mining District
Josephine County - Oregon

A C K N O W L E D G E M E N T S

The writer is indebted to both Mr. and Mrs. J. E. Bartlett, the present owners of the Big Four Mine, for many courtesies extended during his examination and for much information pertaining to the different phases of the entire project. The maps, as well as the history of the mine, were furnished by the owners. I regard the information furnished as being significant and reliable, particularly as to the values and the history of the deposits. Mr. Bartlett also furnished practically all of the information in connection with the adjudicated water right. Maps of ditch by McKinstry and water right map by T. R. Pierce, Watermaster.

It is specifically requested that no page of the Report be defaced by marginal notations and the writer further directs that no excerpts or copies of this Report be made unless same are written or checked in his office and he further certifies he has no financial interest of any kind in this property.

Preliminary Report

BIG FOUR GOLD MINE

Pickett Creek Mining District

Josephine County, Oregon

PROPERTY:

The Big Four Gold Mining property consists of 137 acres of patented lands and three 20-acre placer mining claims known as:

Big Four Extension No. 1
Big Four Extension No. 2
Big Four Extension No. 3

more particularly described as located in Section 26, Township 35 N. 7 W. W. M., Josephine County, Oregon.

LOCATION:

The property is located approximately fourteen miles in a westerly direction down the Rogue River from Grants Pass, Oregon, the County seat of Josephine County, which has a population of some 7000 inhabitants where large mercantile establishments are located which carry all of the ordinary needed mine supplies.

The southeasterly perimeters of the property extend to within approximately 500 yards of the well-known Robertson bridge over the Rogue River and above the junction or confluence of Pickett Creek with the Rogue River.

Accessibility: R. F. D. out of
Grants Pass
Daily - mail box

one-quarter mile from the property; rural telephone line at Robertson bridge; good state highway to Robertson bridge; fair state highway to Robertson bridge via Merlin; via Grants Pass and River Road, connecting via Redwood Highway; a gravelled market road from the Robertson bridge passes the Big Four mine mail-box.

TITLES:

The Big Four Mining property is primarily deeded property since the predominant acreage is patented land. Sixty acres or three 20-acre placer mining claims are held under the provision of the Mining Laws of the United States and the State of Oregon governing the location of mining claims.

Titles were not examined by the writer but are reported by the owner as good.

BUILDINGS AND EQUIPMENT:

The buildings located upon the property consist of a large log house classed as a lodge. The house has a large kitchen, fully equipped, a 14x28 foot combination living and dining room, a large bedroom and bathroom on the first floor. The second floor consists of two large bedrooms and a hall with a balcony constructed principally of lodge-pole pines. Casement windows extend along practically the entire west and north exposures of the large living room, providing an excellent view of mine and mountains. A large porch of log construction extends across the entire north side of the building.

The house is equipped with electric lights and hot and cold running water.

Other buildings consist of a woodshed; lighting plant structure and a 14x16 foot bunkhouse - also a two-room cabin with bedroom and messhall

WATER:

One of the most important factors in connection with any mining operation is the question of an adequate water supply. In the case of the Big Four Gold Mining property water is supplied from the Pickett Creek drainage located nine miles westerly from the property and a ditch of this length brings the water to the fore-bay or penstock located immediately above the hydraulic workings of the mine. The owners are favored in this connection for the reason that they own an adjudicated water right under the Regue River Decree (Proof 510 Vol. 8) 25 second feet of water for mining. Water from Pickett Creek. Priority Nov. 22, 1893. Permit No. 11697, 11 second feet for mining. Water from right hand fork Pickett Creek. Priority June 6, 1935. (See map under Addendum).

This type of water right gives the owners of the Big Four Mine complete ownership of the entire water drainage as above referred to and the amount in excess of thirty second feet is ample to warrant extensive development of the Big Four deposits - a very favorable requisite.

ROADS AND TRANSPORTATION:

As stated under "Accessibility", the Big Four mine is reached over a good State highway to within a quarter mile of the property. A good portion of this highway adjacent to the city of Grants Pass (approximately seven miles) is paved. The distance from Grants Pass to the mine is approximately fourteen miles.

- The property may also be reached by way of Merlin, located approximately four miles easterly from the Big Four mine. Merlin is a station on the main line of the Southern Pacific Railroad from Portland to San Francisco and would be the railroad shipping point for the mine.

POWER:

The C & O Power Company has an 11,000 volt single phase power line constructed to the Robertson bridge. The only additional cost to increase the present voltage at the mine would be an additional wire installed for a distance of three miles. This could be done at a nominal cost inasmuch as the wire would be strung on the Power company's present power line.

The writer views with considerable satisfaction the fact that electric power may be provided at this mine at a nominal cost since the C. & O Power Company have what we consider very favorable power rates.

CLIMATE:

The climatic conditions are such that little interference is experienced with heavy snows at the mine. The winter season is interspersed with heavy rains, which naturally provide water for mining purposes. Heavy snows on the adjacent mountain are prevalent - the melting snows producing a "water head" for late season mining.

ECONOMIC RESOURCES:

The economic resources in every phase in connection with this property, which includes water, timber, transportation, power, etc., would be considered as favorable.

May we refer particularly to timber? There is a large stand of fir and pine which would be classed as "saw timber" - also a large amount of oak for fuel.

TOPOGRAPHY:

The Big Four Mine deposits skirt the

base of Buckhorn Mountain, which is an easterly spur of Onion Mountain, extending from Onion Mountain and terminating abruptly upon the banks of the Regue River. The distance over which the mountain uplift contacts the high channel is approximately five miles. The Big Four property extends westerly less than one-half this distance.

The sections immediately adjoining the base of the mountain are comparatively level but as they extend northerly a pitch of approximately 10 to 15 degrees at places is attained. About two miles westerly from the perimeters or property lines of the Big Four Mine a large, comparatively level, area is found containing in the neighborhood of 100 acres. Between these two sections, however, the country is somewhat broken by short shallow draws, the deposits extending northerly to a wall approximately 125 to 150 feet in height, which extends over the entire distance facing Fickett Creek to the north.

The property is very accessible.

GEOLOGY:

The deposits under consideration in this Report apparently are a part of a great gold-bearing old river bed or high channel which is believed to extend through the country upon a northeast and southwest strike over a distance of 45 to 50 miles, presenting itself first at the Sterling Mine, then at the Humbug, Jacksonville, Oscar Creek, Esterly, Flanigan, Big Four and the Harry Lewis Mines and apparently terminating at the large Old Channel Placer Mine in the Calice Mining District. All of the above named mines are or have been large producers.

The formation of the Big Four Placer deposits evidently consists of different periods of enrichment. The upper or overburden carries gold somewhat finer than the lower strata which would be classed as ancient river beds. The middle strata is composed of a material resembling a gravel deposit but when examined is found to be soft and easily

crushed and mined.

While the deposit would be classed as river bed or high channel deposits much of the material containing gold we believe is the result of local erosion or glaciation and "slides" from the adjacent mountains.

Bedrock: A bold rimrock or wall rises abruptly a short distance southerly from Pickett Creek which extends along the entire deposits.

In Pit No. 1 a peculiar unconformity is observed. Immediately to the east of this formation the deposits are probably 45 to 50 feet in depth. Extending westerly across the unconformity the ground is shallow but apparently very rich in placer gold. Similar conditions are observed as our examination of these deposits extended westerly but apparently only for a short distance. As the deposits extend westerly they appear to level off toward the base of the mountain and break at a gentle pitch toward the high northerly rimrock facing Pickett Creek.

Small quartz stringers, some of which attain a considerable width, with northwest and southeast strike and which carry gold values are observed at many different sections of the bedrock, which may be a contributing agency in the enrichment of the Big Four Mine deposits.

The bedrock is principally composed of slate and in No. 1 Pit is rough and faulted.

EQUIPMENT:

The following equipment is installed at the Big Four Mine:

Pipe: 1200 feet, 8" to 18". All in A-1 shape. Ample 45s, Y's and tapers.

Valves: 2-10" gate valves.
 Giants: 3 with range of nozzles.
 Riffles: About 1½ tons RR iron riffles.
 Sluices: About 200 feet boxes and under-
 currents.
 Firehose: 450 feet 2½" for cleaning.
 Electricity: Delec-light for mine and house.
 Copee crosses bridge less than
 ½ mile from house.
 Flood
 Lights: 2 - 500 watt; 1900 feet RG wire.
 Pump: 250-gallon pressure pump for
 domestic use - with motor.
 Donkey: 100 HP Gasoline with 1000 feet
 cable.
 Concentrators: 2 - small.
 Tools: Good supply of mining and black-
 smith tools.

DEVELOPMENT:

The Big Four mine has been developed by the removal (hydraulic mining) of what the writer would total approximately eight or nine acres of gravel deposits. This development comprises three large pits known as Pit No. 1, Pit No. 2 and the China Gulch development.

Pit No. 1: Pit No. 1 is located within a few hundred feet of the easterly perimeter of the mine and the development extends toward the south. The face of the deposits vary in depth, as shown under Geology. However, the richer values apparently are found where the gravels are not so deep (we refer here to No. 1 Pit only) although all of the gravels which the writer has seen tested showed values in commercial quantities. (See Photo).

Pit No. 2: The deposition or enrichment of the deposits is evidenced more clearly in Pit No. 2, which is located about 300 feet westerly from Pit No. 1. About the same acreage or

yardage has been mined from Pit No. 2 as from the No. 1 Pit. One noticeable fact, however, is that as the deposits extend to the south and west the gold increases in size, but only slightly so. The uniformity of the size and character of the gold (see photograph) is one of the strong and favorable features noted by the writer in the examination of this mine in that we estimate less than 1% of the values recovered would be classed as nugget gold and an additional 1% fine gold, which evidently is recovered from the upper strata or what is ordinarily classed as overburden. However, gold is found from the bottom of the pit to grass roots, the richer values apparently coming in the middle or lower strata but not necessarily on bedrock - a very favorable feature.

A fact that is to be noted in both No. 1 and No. 2 Pits is the bedrock sluice or race that has been cut at an expense of \$1500 to \$2000 in each one of these pits, permitting the gravel which is small to be dumped over the wall or rim to the level of Fickett Creek, probably 160 to 170 feet below the bedrock level of the Big Four deposits where unlimited dump facilities are found. This wall, as explained under Topography, extends along the entire northerly section of the deposits in a circuitous meander line.

The depth of the deposits in the No. 2 Pit would be considered exceptional in that the material carrying the values assumes a depth of 40 to 60 feet at places and as described under Geology, apparently is the result of three different strata or periods of enrichment.

The bedrock in Pit No. 2, like in No. 1, is principally slate and is not rough or faulted to the degree found in No. 1 Pit. At places the bedrock is composed of a heavy aluminum clay-like material which makes mining exceptionally easy. This bedrock is evidenced to the south as exposed near the surface at different places.

China Gulch Pits:

Proceeding westerly along the rim a distance of approx-

imately 800 feet, the next development would be the China Gulch deposits. The depth across the face of the deposits is not as great as is found in Pits No. 1 and No. 2 and seems to be mined from the truncated ends of long shallow draws. The face of the development here is not less than 500 feet.

It will take many years of mining to reduce the enormous yardage of gold-bearing deposits here. However, the character of the material carrying the gold is comparable and resembles minutely the deposits in the two pits to the east which have just been described. A bedrock flume or race is also cut to the rim from the China Gulch deposits.

Big Four Ditch: A survey of the Big Four mine ditch (see map) was made

in March, 1935 by Edward W. McKinstry of Grants Pass, Oregon. This ditch has its headwaters in the large drainage areas of Rickett Creek watershed and the water flows north and east at a grade of $\frac{1}{2}$ inch to each rod or $16\frac{1}{2}$ feet. The length of the ditch is slightly in excess of nine miles and the adjudicated water right naturally controls the operation of all of the areas or placer deposits under the ditch, which would total probably in the neighborhood of five miles in length and which will be further described in the Report. Part of the land here referred to is privately owned but because of the water right or ownership can doubtless be bought very reasonably. Some of the ground is open government land amenable to location.

The elevation of the ditch-line at main penstock or forebay is approximately 1700 feet above sea level, providing a 275-foot head in Pit No. 1 and a 250-foot head in Pit No. 2.

Yardage: It would be a difficult matter to even estimate the yardage of this large mine in a preliminary Report since a complete survey of all of the areas has not been made by the writer but unquestionably there are several millions of yards of gold-bearing gravel or material that would be subject to hydraulic and possibly a fair acreage

subject to drag-line treatment.

South of the No. 2 Pit across the ditch we come to what is known as "Trumper Ranch ground or flats", shown on map as Claim No. 3. The Big Four ditch cuts through or parallels this extended area, which we believe carries a grade that would permit mechanical or drag-line mining and our recommendations will include the testing of this property.

This more or less level or rolling area extends to the westerly perimeter of the Big Four deposits and would be the southerly extension of the China Gulch deposits. An interval of probably a mile and a half between this point and what is known as the "Hotel Flats" to the west would be too rough to mine except by the hydraulic method although we believe practically all of this area should be tested for values. The Hotel Flats (see Photograph) consists of a large acreage cut by the Big Four ditch and our recommendations will also include that this acreage be tested for drag-line or dredging areas. Reports from reliable sources indicate shafts sunk upon this property carry values equal to those found at the Big Four Mine to the east.

Values: The question of values of a property of the magnitude and proportions of the Big Four Mine must of a necessity be estimated to some degree although records of the owner show that no average value less than 2½¢ per yard has been mined from the gravels of the Big Four Mine.

The writer made his first visit to this mine on January 27, 1939 and has made intermittent visits to this property each week and sometimes twice a week since the first examination, being present at three clean-ups and while the yardage has been estimated, the measuring has been done by Superintendent Goff as carefully as possible taking into consideration the erratic contours of the bedrock. Mr. Robert Goff, the Superintendent of the Big Four Mine, reports recoveries made so far this season as \$1150.26 and makes an estimate of 2000 yards of gravel having been mined (making an average of 57½¢ per cu. yd) with 120 hours of piping with seldom a full head of water

because of bad weather conditions this year. While the mine is still in operation and will probably continue in operation until late in the season, we are recording the work done to March 16, 1939 in order to indicate recoveries.

Naturally, one can see at a glance the value of the yardage mined, which would be in excess of 50¢ per yard and which the writer would class as an exceptional value in any placer or hydraulic development. It is my belief, however, that when the season's work has been completed that the average of 21¢ per yard as reported by the owner will be the approximate total per yard recovery of the areas mined and this value of course is outstanding in view of the fact that the mine should be a steady producer for many many years to come.

Character of Gold:

The character of gold as shown in Photograph

I regard as exceptional because of the fact that the gold recovered is consistently of uniform size. While it would be classed as "flake gold" by the average miner, when examined with a hand lens it resembles a more or less "disk" gold from the fact that instead of being flaky the small particles carry an appreciable thickness.

Mint receipts show this gold to carry a fineness of 942 to 963. This is an uncommon value and gold of this fineness is rarely found in this district.

RECOMMENDATIONS AND REMARKS:

Drag-line or Mechanical Operation:

If drag-line equipment were installed, which requires

little water in comparison to hydraulic requirements, 1000 to 3000 cubic yards per day should be readily mined at a cost not to exceed 6¢ or

7½ per cubic yard.

The idea the writer would like to convey is that there is a chance of this mine being operated as both a large hydraulic as well as by mechanical or drag-line operation and by this method increasing the daily production to 2000 and possibly as much as 3000 cubic yards per day (24 hours). With an average recovery of 2½ per cubic yard as shown by former operations, it is plainly evidenced with such an installation and operation as above recommended it should show a very profitable daily gross production of gold.

It is the recommendation of the writer that all of the more or less level areas confined within the perimeters of the Big Four Mine and any ground under the adjudicated water right and the Big Four ditch such as Hotel Flats, etc., be tested for depth and values with the idea that same may be operated by mechanical mining such as drag-line or dredging equipment.

It is our further recommendation that little or no additional testing is necessary other than that which has already been done in order to establish greater extensions of values of the Big Four Mine or to qualify it as a commercial hydraulic venture for the reason that the hydraulic, over such a large developed and extended area that he feels, as above stated, no further tests are necessary to warrant the opinion that practically the entire areas (with sufficient pitch to move gravel through sluice boxes) of the auriferous deposits of the Big Four Mine, except possibly a small section to the southeast of Pit No. 1, would be classed as commercial hydraulic deposits. The level area which we recommend for drag-line tests are of course excluded from the above.

I also recommend that an additional water supply be made possible by widening the ditch at places, repairing the flume construction, adding some 2000 feet of main pipe-line with about

500 feet of pipe supplied for laterals, constructing a larger and more commodious bunkhouse, which is necessary and purchasing two additional No. 2 Giants: This work and equipment cost should not exceed \$5500.00. If this is done, and without going into detailed mining costs, which would be estimated at 3¢ to 4¢ per cubic yard at this mine, number of men employed, etc., I firmly believe that a recovery of not less than \$100.00 per day with a small crew of men should be possible, and under more favorable mid-season heavy water conditions it is believed that this amount should be greatly augmented and the possibilities of still greater production may be the result after all the additional development and installation has been made. The increase in recovery would necessitate very little increase in overhead costs.

The above deductions are made by reason of the fact that if a one-Giant operation will produce the present recoveries of gold, two or more Giants in operation (one in each pit) should increase production to an amount equal to two or three times the present recoveries.

OPINION:

It is our opinion that because of the fact that the Big Four Mine, which is now a profitable gold producer with few unfavorable obstacles in the way of continued production, its favorable economic qualities, location not only within a 30-minute drive of Grants Pass but also in the heart of a gold-producing district, rail, electric power practically at the door of the mine, the large known un-mined auriferous-bearing deposits, the uniform character of the gold, the favorable adjudicated water rights, etc., we believe because of its past gold recoveries, its present operating and production record not only warrants the expenditures outlined under Recommendations, but with the operation conducted equal to the present management should continue to be an outstanding gold producer.

Respectfully,

Wm. F. Hayden, (signed)
Consulting Mining Engineer.

WPH:G

March 24, 1939

The photograph on the opposite page shows
Giants in action in Pit No. 1 - Big Four Mine.

Part of the areas shown in this photograph
have been mined. Some of the better ground
mined by the present owners is shown near
the surface to the left of the photo. The
deposits assume considerable depth as they
extend westerly to Pit No. 2 - see photos
Fig. 2 and Fig. 3.

Note the bedrock sluice which carries the
water and detritus material to the tailings
dump.

PHOTO OF GOLD SHIPMENT

BIG FOUR GOLD MINE

Amalgamated fine gold - \$45.00

Replica of 10.57 fine ounces of
Gold valued at \$35.00 per ounce -
total \$369.85.

Note the uniform size of the gold.

Nuggets - average approximately
\$2.00 each or a total of \$19.00.

Studying the tabulated Weather Bureau Records one notes that in general, for the past 50 years the average yearly precipitation for both Western and Eastern districts of Oregon show but little variation, and that they are surprisingly close to each other; The West or coast half receiving only about 10% more water than the Eastern half. The average State precipitation is 48.4 inches - the average Western District is 51.7 inches and that Grants Pass is only 28.8 inches. In the past ten years, seven have fallen below this average. There are no records of measurements of the flow of Fickett Creek. For actual water-flow one has to depend on the statements of residents familiar with the Creek, and upon evidence along the Creek of high water, and normal flow.

Thousands and thousands of yards of gravel have been mined with water from the present ditch in the past.

General

Mr. Wm. F. Hayden's Report dated March 4, 1939, contains several excellent photographs of the mine, ditch and flumes, also a full sized picture of the gold as it appears. The gold averages from 942 to 966 in fineness, as shown by the Mint returns in Mr. Bartlett's possession. This report also has blue prints attached, showing the location of the mine and the ditches.

There is a high tension power line at Robertson Bridge not one half mile distant from the camp and Pit No. 1.

The roads to the property are good gravel roads for half the distance to Grants Pass, the remainder is paved. It is 14 miles from the Big 4 Mine to Grants Pass. There is a daily Rural Mail Service, and no time of the year when the property is not accessible by automobile.

Opinion

In view of the fact that the 24 hour operation can be carried on during the mining season at a cost of approximately \$52 per day as follows: - one foreman \$5, 3 pipemen \$12, 3 helpers \$9, and one ditch rider \$3, taxes \$3; during which period an average of not less than 300 yards per day, and at times, as high as 600 yards per day, depending on the type of ground mined, should be moved (according to Mr. Bartlett's experience), and which program should gross from \$60 to \$100 per day, it appears that a season of 120 days only, would yield \$5,000.00 profit, if \$1000 is allowed for contingencies over and above the labor expense. If a 150 day season was experienced an additional \$1500 profit should be won. From the above figures it appears that it would be a good investment to expend \$10,000 to attain this production in as much as the present equipment and ditch do not allow for either good operation or maximum possibilities.

Respectfully,

DFMCC:fm

(signed) D. Ford McCormick

(Seal # 1633)

Precipitation at Grants Pass, Oregon
 First column shows precipitation in inches
 Second column shows difference from normal precipitation

Year	JAN.		FEB.		MARCH		APRIL		MAY		JUNE		JULY		AUGU	
	Precipitation	Difference	Precipitation	Difference	Precipitation	Difference	Precipitation	Difference	Precipitation	Difference	Precipitation	Difference	Precipitation	Difference	Precipitation	Difference
1890	4.53	-1.39	4.41	-0.14	2.09	-1.15	0.73	-1.02	1.47	-0.08	0.37		-0.49	0.00	-0.18	0.00
91	2.24	-3.25	0.90	-3.62	2.09	-0.92	2.94	+1.15	0.05	-1.36	2.53		+1.72	0.00	-0.14	0.00
92	3.38	-2.06	3.39	-1.11	0.88	-2.08	1.99	+0.19	1.25	-0.16	0.51		-0.29	0.00	-0.14	0.00
93	4.10	-1.30	1.54	-2.89	2.91	-0.05	2.17	+0.37	0.24	-1.14	2.77		+1.92	0.00	-0.14	0.00
94	3.28	-2.03	1.53	-2.83	2.79	-0.16	2.08	+0.27	2.58	+1.17	1.09		+0.24	0.00	-0.13	0.00
95	5.91	+0.54	2.65	-1.67	4.23	+1.25	0.72	-1.06	2.69	+1.26	T		0.83	0.00	-0.13	T
96	4.82	-0.54	1.47	-2.79	1.12	-1.83	1.30	-0.47	0.76	-0.66	0.43		-0.40	T	-0.13	T
97	4.96	-0.39	3.34	-0.90	2.54	-0.39	3.55	+1.74	0.02	-1.37	T		-0.80	0.55	+0.41	0.76
98	8.58	+3.36	4.22	-0.17	0.30	-2.50	2.02	+0.22	2.85	+1.64	1.07		+0.30	0.16	+0.01	0.00
99	3.34	-1.88	4.87	+0.48	3.78	+0.98	4.89	+3.09	1.52	+0.31	1.49		+0.72	0.10	-0.05	T
1900	5.28	+0.06	13.67	+9.28	8.84	+6.04	1.71	-0.09	0.38	-0.83	T		-0.77	0.10	-0.05	0.02
01	3.74	-1.48	2.89	-1.50	3.05	+0.25	0.32	-1.48	1.06	-0.15	0.71		-0.08	0.38	+0.23	0.28
02																
03																
04																
05																
06																
07																
08																
09																
10																
11																
12																
13																
14																
15																
16																
17																
18																
19																
20																
21																
22																

average yearly precipitation in Oregon for past 50 years

Year	West	East
1890	51.3	46.2
91	52.6	46.9
92	52.2	46.7
93	50.1	45.2
94	51.6	45.6
95	51.2	46.0
96	52.0	46.8
97	52.2	47.0
98	51.9	46.9
99	51.4	46.0
1900	52.7	48.4
01	51.6	48.1
02	51.3	47.5
03	51.5	47.0
04	52.4	48.6
05	51.8	47.4
06	52.6	47.8
07	52.8	47.5
08	51.1	47.6
09	50.3	46.6
10	51.2	48.0
11	49.7	45.8
12	50.6	46.2
13	50.3	45.6
14	51.4	47.0
15	52.0	47.2
16	50.4	44.2
17	51.4	46.3
18	52.6	47.9
19	50.8	46.6
20	50.9	46.7
21	51.8	46.9
22	50.6	45.8

	AUGUST		SEPT.		OCT.		NOV.		DEC.		TOTAL	
	.00	-0.24	0.17	-0.77	2.77	-0.91	3.79	-0.93	1.81	-3.16	22.14	-8.64
											30.52	-0.23
											16.92	-13.46
											22.15	-7.99
											22.34	-7.59
											35.11	+5.05
											31.23	+1.14
											29.61	-0.46
.00	-0.22	0.00	-0.94	1.23	-0.86	T	-4.47				22.04	-7.85
.00	-0.21	1.06	+0.12	0.53	-1.52	2.64	-1.79		10.06	+5.06	17.75	+11.86
.00	-0.21	0.46	-0.47	3.33	+1.25	4.47	+0.04		2.12	-2.81	29.03	-0.56
.00	-0.20	0.00	-0.91	2.11	+0.02	5.24	+0.79		7.04	+2.06	24.63	-4.60
F	-0.20	0.67	-0.23	2.02	-0.06	0.35	-4.00		3.93	-1.03	25.23	-4.12
F	-0.20	0.88	-0.02	4.23	+2.10	6.10	+1.71		5.99	-1.01	25.69	-3.62
.76	+0.55	0.36	-0.53	2.84	+0.69	1.31	-3.02		4.58	-0.39	27.02	-2.24
.00	-0.20	0.33	-0.53	T	-2.12	0.03	-4.53		6.79	+1.78	23.57	-5.23
F	-0.20	0.52	-0.34	2.81	+0.69	10.09	+5.53		4.01	-0.71	38.39	+9.59
.02	-0.18	0.26	-0.60	1.19	-0.93	3.36	-1.20		4.98	+0.26	37.30	+8.50
.28	+0.08	0.13	-0.73	1.61	-0.51	0.16	-4.40		2.49	-2.23	24.71	-4.08
									10.38	+5.66		

21	51.8	46.9	47.0	49.2	47.0	47.6	45.6	48.0	47.2	46.1	47.0	50.7	46.1	47.2	46.0	47.2
22	50.6	45.8	47.0	49.6	47.0	47.6	45.6	48.0	47.2	46.1	47.0	50.7	46.1	47.2	46.0	47.2
23	51.9	47.2	47.0	49.6	47.0	47.6	45.6	48.0	47.2	46.1	47.0	50.7	46.1	47.2	46.0	47.2
24	51.6	47.0	47.0	49.6	47.0	47.6	45.6	48.0	47.2	46.1	47.0	50.7	46.1	47.2	46.0	47.2
25	53.0	49.2	47.0	49.6	47.0	47.6	45.6	48.0	47.2	46.1	47.0	50.7	46.1	47.2	46.0	47.2
26	54.1	49.6	47.0	49.6	47.0	47.6	45.6	48.0	47.2	46.1	47.0	50.7	46.1	47.2	46.0	47.2
27	51.3	47.0	47.0	49.6	47.0	47.6	45.6	48.0	47.2	46.1	47.0	50.7	46.1	47.2	46.0	47.2
28	51.7	47.6	47.0	49.6	47.0	47.6	45.6	48.0	47.2	46.1	47.0	50.7	46.1	47.2	46.0	47.2
29	50.8	45.6	47.0	49.6	47.0	47.6	45.6	48.0	47.2	46.1	47.0	50.7	46.1	47.2	46.0	47.2
30	51.4	48.0	47.0	49.6	47.0	47.6	45.6	48.0	47.2	46.1	47.0	50.7	46.1	47.2	46.0	47.2
31	52.9	47.2	47.0	49.6	47.0	47.6	45.6	48.0	47.2	46.1	47.0	50.7	46.1	47.2	46.0	47.2
32	51.6	46.1	47.0	49.6	47.0	47.6	45.6	48.0	47.2	46.1	47.0	50.7	46.1	47.2	46.0	47.2
33	51.0	47.0	47.0	49.6	47.0	47.6	45.6	48.0	47.2	46.1	47.0	50.7	46.1	47.2	46.0	47.2
34	54.9	50.7	47.0	49.6	47.0	47.6	45.6	48.0	47.2	46.1	47.0	50.7	46.1	47.2	46.0	47.2
35	51.4	46.1	47.0	49.6	47.0	47.6	45.6	48.0	47.2	46.1	47.0	50.7	46.1	47.2	46.0	47.2
36	52.3	47.2	47.0	49.6	47.0	47.6	45.6	48.0	47.2	46.1	47.0	50.7	46.1	47.2	46.0	47.2
37	51.5	46.0	47.0	49.6	47.0	47.6	45.6	48.0	47.2	46.1	47.0	50.7	46.1	47.2	46.0	47.2
38	52.3	47.2	47.0	49.6	47.0	47.6	45.6	48.0	47.2	46.1	47.0	50.7	46.1	47.2	46.0	47.2

46.3

47.0

39 52.9

Dist. 51.7

State 48.4

BIG 4 MINE REPORT

D. Ford McCormick

Mr. J. E. Bartlett,
Big 4 Mine,
Route 2, Box 288,
Grants Pass, Oregon.

Box 1038
Medford, Oregon,
June 14, 1940.

Dear Mr. Bartlett:

As per your request I have visited the Big 4 Mine, and studied the physical and economic aspects connected with the mining operations, and more particularly the water situation.

Gravel Deposit

There was not sufficient time during so short a visit for a survey and a test of the size and values of the gold bearing gravel deposit included within the boundary lines of the Big 4 Mine comprising 137 acres of patented land and 3 mining claims, as pointed out to me; but, it is quite evident to any observer that there are ~~some~~ thousands and thousands of yards of gravel, lying in the old channel, all of which can be mined very cheaply - say at a cost of 3 cents to 6 cents per yard, when operating with a full head of water on the giants, and using 12 to 15 ~~15~~ cubic feet of water per sec. to the best advantage.

The three large pits already mined expose the gravel deposit thoroughly and since these pits are located 400 to 600 feet apart along the channel; and expose the bedrock, the rims and the old channel itself across faces from 400 to 600 feet wide and from 8 feet in depth on the rims to 50 feet in depth in the old channel proper, there is no doubt of the presence of a very considerable yardage remaining in the deposit within the mine boundaries. Other corroborating evidence is present, such as exposures along the roadside, pits made where trees have blown over, short cuts and gulches traversing the deposit and the remains of old test pits dug many years ago. From these facts it is apparent that a large volume of unmined gravel is present, sufficient to last many years for an operation of the size possible when judged by the available water flow of Pickett Creek; and too, even if this were doubled by any other type of operation.

Testing the values contained in a deposit of this type is expensive and requires time and care. No attempt was made to check the values. Past performance will suffice, especially where large volumes have been removed, and where sizeable test runs were made - such as those conducted by Mr. Bartlett to determine for his own information what is to be expected from the various sections of the gravel bank, and bedrock locations. It has been determined by extended tests and records that the gravel will average 20 cents per yard. This being the case, if other conditions are favorable, this becomes valuable placer ground. It was, therefore, the object of the writer to determine as nearly as possible what the physical conditions and economic problems presented in the way of operating difficulties, if any, for a successful mining venture.

Consequently, knowing that there is a sufficient volume of gravel for a long life, gravel that is neither cemented or clayey, and in which there is no boulders to cause difficulties or extra expense; and assuming that the values average 20 cents per cubic yard or better, other items were investigated as follows:

Tailings

There is no problem for the disposal of tailings other than that of the muddying of the Rogue River. The major part of the deposit consists of disintegrated clays and shales, soil and rotten country rock of various types with very few pebbles and very few boulders, larger than 6" to 8" in diameter, with an occasional one 10" in diameter. There is no problem in constructing the tail races to carry off the waste and spill it into Pickett Creek over a shear drop of from 175 feet to 200 feet from the high channel to Pickett Creek bottom. This high channel more or less parallels Pickett Creek. It is a distance less than one half mile from the lowest tail race down Pickett Creek to the Rogue River where it flows into the River, at a point less than one half mile below the Robertson Bridge. The giants disintegrate the gravel bank so that very little hard material is left to collect in Pickett Creek, and furthermore, any small boulders that do accumulate are washed on into the Rogue River by freshets, and will not be of any consequence.

The muddying of the Rogue River will interfere with fishing during any season when there is good fishing in the River prior to May 1st, (the limit of the mining season set by the Water Right Period, as per the adjudicated right listed on page 41 of the Decree and to be found as Proof 510, Vol. 8). So far there has been no ruling made by the Rogue River Coordination Board effecting mining in any way as early as May 1st each year. It is my understanding that the Big 4 Mine season always ends by or prior to May 1st, the date the farmers are entitled to the creek waters for irrigation, and any operation of the mine after this date would be only for the purpose of cleaning up, and would not make muddy water.

From the nature of the top soil it is quite probable that any muddying of the waters of the Rogue River by the Big 4 Mine operations after the fishing season starts in the spring will be closely watched and supervised. I doubt if it is possible to construct settling basins large enough to clarify the tailings run-off water sufficiently to be free from interference by State Police. If the mining operations happened to synchronize with other mining operations in the Galice District and on Graves Creek, both of which are in similar red colored soil, so as to cause a turbidity of over 50 parts per million at the control points down near Agness, the mine would probably be ordered to control the ~~tailings~~ tailings very closely. However this problem is not of such great importance because the nature and small area of the Pickett Creek water shed automatically limits the water supply, and ~~it~~ shuts down the operations early each season ahead of the fishing season at Gold Beach, at least as has been determined and specified up to the present time.

Due to the volume of fines in the tailings, it has been determined by Mr. Bartlett that $1\frac{1}{2}$ " per foot is the best grade to keep the riffles clear, and to save the gold. There appears to be comparatively little black sand and comparatively little fine gold to make these items special problems. Hence, with sufficient water available to move the tailings, other conditions are favorable for mining economically.

Water Supply

The water shed drained by Pickett Creek, making water ahead of the intake of the Big 4 ditch, is not extensive. Furthermore, there is no snowfall of consequence to store water in ice banks for a late run-off. This means, that the mine must depend on the normal rains for its water supply. Normal average yearly precipitation for the Grants Pass area is 28.8 inches, as reported by the Weather Bureau. Excepting the years 1937 and 1938, and 1926 and 1927, the precipitation has been below normal for the past 20 years. The average has been computed from records of the past 50 years. A glance at the accompanying tables shows two items of special interest for the local situation; first, that there is considerable variation in the month to month precipita-

tion, as well as the precipitation for the same month each year; and second, that there is comparatively dry season each year starting in May and lasting through September. If rains fall in October, there is often sufficient water to start mining operations in November, if the rains continue normally. Ordinarily the greatest precipitation occurs during the months of November through March. Normal years make these 5 months the mining period, though often providing water for mining during December and on thru April for about 150 days each season. During the dryer seasons this period is cut as low as 100 days or less, and in order to take full advantage of the available water supply it is sound planning to have the ditches oversize to catch the major amount of water consistent with other operating conditions, and to crowd the season's work into the period when water is available. It is this problem that concerns the Big 4 Mine. The present ditch will carry when full, as near as can be calculated, only between 6 and 7 cubic feet of water per second. There are periods when Pickett Creek makes two or three times this amount of water long enough to allow for considerable mining to be done at the Big 4 Mine under a head of approximately 175 feet in Pit # 1. Mr. Bartlett stated that under present conditions he found that they could move approximately 240 cubic yards of gravel per 24 hours. If the flow of water was doubled, this amount of gravel should be doubled. It would be no great problem to widen the present ditch to twice its size. The same crew of men would be required to move just twice the gravel formerly moved in 24 hours. If 240 yards of gravel yield \$48.00, then 480 yards would yield \$96.00 per day of 24 hours. Mr. Bartlett's operations yielded approximately \$1500.00 per month under the present ditch, therefore, it should yield approximately \$3000.00 per month with double the volume of water. Mr. Bartlett states that under Mr. Robert Goff the mine yielded \$1189.17 from approximately 5000 yards of gravel moved from opposite sides of Pit # 1 in 35 days of 24 hours each during the 1936-37 season. This appears to be a daily output of only 140 cubic yards per 24 hours, and an average value of 23 cents per yard, or \$32.20 per day.

The Big 4 Ditch is approximately nine miles long and contains between 1600 and 1800 feet of flumes all of which with the exception of two or three short lengths, has been reconstructed within the past five years. There is a short section of this ditch in serpentine rock, and some of the lower end is in soft shale rock. The serpentine rock would have to be blasted, but the shale rock could be picked and plowed down to enlarge the ditch. Most of the flumes now in use could carry double the volume of water they are now called upon to handle at the full capacity of the ditch. During the high water season Pickett Creek would supply double the amount of the present flow in the ditch; but to add about two weeks increased capacity for the ditch, at the present rate, both at the beginning and at the ending of the normal season, it would be necessary to complete a ditch 2200 feet long (1465 feet of which has been constructed and only needs to be cleared out) that will add the waters of the Right Fork of Pickett Creek to those not taken from the Left Fork of Pickett Creek. This Right Fork makes almost as much water as the Left Fork of Pickett Creek, therefore would double the water supply for approximately 4 weeks during each season, an item of considerable importance when it adds from 20 to 30% to the possible double time capacity, or from 10 to 15% of increased total time for mine operation each normal season. An application for 11 second feet has been made out of the Right Fork, which is in addition to the 25 second feet Water Right adjudicated out of the Left Fork of Pickett Creek. Mr. Bartlett estimates that he can complete the ditch connecting the two creeks for \$500.00. He has a bid of \$300.00 per mile to widen the main ditch one foot on each side (which would double its carrying capacity) for approximately 6 miles through surface soil. It would cost more for the rocky section of the ditch line. In addition to this work it would be necessary to purchase 2000 feet of hydraulic pipe and necessary fittings, also two new No. 3 giants to complete the improvements required to handle 12 to 15 second feet of water. \$10,000.00 carefully spent should take care of these improvements and allow a few weeks working capital to get underway - after which partial cleanups should carry the running expenses.

Studying the tabulated Weather Bureau Records one notes that in general, for the past 50 years the average yearly precipitation for both Western and Eastern districts of Oregon show but little variation, and that they are surprisingly close to each other; The West or coast half receiving only about 10% more water than the Eastern half. The average State precipitation is 48.4 inches - the average Western District is 51.7 inches and that Grants Pass is only 28.8 inches. In the past ten years, seven have fallen below this average. There are no records of measurements of the flow of Pickett Creek. For actual water-flow one has to depend on the statements of residents familiar with the Creek, and upon evidence along the Creek of high water, and normal flow.

Thousands and thousands of yards of gravel have been mined with water from the present ditch in the past.

General

Mr. Wm. F. Hayden's Reporte dated March 4, 1939, contains several excellent photographs of the mine, ditch and flumes, also a full sized picture of the gold as it appears. The gold averages from 942 to 966 in fineness, as shown by the Mint returns in Mr. Bartlett's possession. This report also has blue prints attached, showing the location of the mine and the ditches.

There is a high tension power line at Robertson Bridge not one half mile distant from the camp and Pit No. 1.

The roads to the property are good gravel roads for half the distance to Grants Pass, the remainder is paved. It is 14 miles from the Big 4 Mine to Grants Pass. There is a daily Rural Mail Service, and no time of the year when the property is not accessible by automobile.

Opinion

In view of the fact that the 24 hour operation can be carried on during the mining season at a cost of approximately \$32 per day as follows: - one foreman \$5, 3 pipemen \$12, 3 helpers \$9, and one ditch rider \$3, taxes \$3; during which period an average of not less than 300 yards per day, and at times, as high as 600 yards per day, depending on the type of ground mined, should be moved (according to Mr. Bartlett's experience), and which program should gross from \$60 to \$100 per day, it appears that a season of 120 days only, would yield \$5,000.00 profit, if \$1000 is allowed fro contingencies over and above the labor expense. If a 150 day season was experienced an additional \$1500 profit should be won. From the above figures it appears that it would be a good investment to expend \$10,000 to attain this production in as much as the present equipment and ditch do not allow for either good operation or maximum possibilities.

Respectfully,

DFMCC:fm

(signed) D. Ford McCormick

(Seal # 1633)

Josephine County

Name: Big Four Placer

Owner: J. E. Bartlett, Route 2, Box 288, Grants Pass, Ore.

Location: One-half mile from the mouth of Pickett Creek.
Fourteen miles from Grants Pass.

Area: 137 acres of patented land in the west one-half of
Sec. 26, T. 35 S., R. 7 W.

History: Mined off and on for 40 years. Present owner ac-
quired the property in 1951 and knows very little
about the history of the property. About 20 acres
has been placered. Mr. Bartlett estimates about
60 acres of placer ground left.

General Information: Water right 38 second feet out of
Pickett Creek and tributaries delivered under 200 ft.
head. Gold about 9x40 to 9x80 in fineness. It is
pocket gold. Season being from November 15th to
June 1st. For the description of the geology see
Page 37, Vol. 2, Oregon Mineral Resources. Informant
did not visit property.

Informant: J. E. Morrison. 5/19/38.

*9 miles of ditch. See 32 intake
pp 36 Vol 2*