

# Yukon Placer Database Operations Report



**Field Name: McBurney, 1994-2003**

**Last Update: 17-Feb-2005**

**Status: Active Producer**

**Stream: Indian: a tributary of Yukon**

**Map Sheet(s): 1150/13**

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## Operators

Name	From (Date)	To (Date)	Comment
Barry Graham	1997/01/01	1997/12/31	
David McBurney	1994/01/01	2003/12/31	

## Owners

Name	From (Date)	To (Date)	Comment
Barry Graham	1997/01/01	1997/12/31	
David McBurney	1994/01/01	2003/12/31	

## General Location

The property was located on the right limit of lower Indian River, downstream from Bertha Creek at the location previously mined by Eric Mayes. In 2000 and 2001, the operation moved upstream and across to the left limit. Another operation was sub-contracted under the same water license just upstream on the right limit.

## Location Details

Date:	Latitude Deg : Min : Sec	Longitude Deg : Min : Sec	Elevation (feet)	Distance from Mouth (feet)
2003/01/01	63 46 57	139 34 32		
2003/01/01	63 46 0	139 34 0		
1995/01/01	63 46 0	139 34 0		
1993/01/01	63 46 26	139 34 48	2,000	

## Water Licence(s)

Number	Comments
PM96-076	Expires: 2007/05/01
PM95-012	
PM94-011	

## Work History

David McBurney began running a one-person operation in 1994. One cut approximately 500 feet long by 180 feet wide was mined. In 1995, McBurney ran a two-person operation mining two cuts on the left bank; one on the left limit, low bench, about 10 feet above river level was approximately 150 feet wide by 700 feet long, the second, on the right limit at river level, about 150 by 700 feet. During 1996, McBurney mined two cuts on the right bank only; one was 150 feet wide by 1000 feet long and the other was 200 feet by 500 feet, adjacent to the river. In 1997, mining took place on the left and right banks. Two cuts were mined, which produced 77,000 cubic yards of pay gravel. One of these cuts was rectangular, approximately 120 feet wide by 500 feet long, the other was roughly triangular, about 360 feet on each side. In 1998-2001, McBurney's operation was run by three miners. In 1998 and 1999 on the right limit 75,000 and 85,000 cubic yards per season were processed and 300,000 and 325,000 square feet of bedrock were exposed. In 2000 and 2001 on the left limit 82,000 and 85,000 cubic yards per season were sluiced with 110,000 and 140,000 cubic yards of overburden stripped per season and 290,000 and 310,000 square feet of bedrock exposed each year. Mining cuts were excavated about 150 feet wide in consecutive strips, parallel to the river banks. In 2003, McBurney moved upstream on the right limit. When this section was completed they began on the leave strip as permitted by license.

**Production**

<b>Year</b>	<b>Stripped</b>	<b>Sluiced</b>
2001	140000 cubic yards	85000 cubic yards
2000	110000 cubic yards	82000 cubic yards
1999	325000 cubic yards	85000 cubic yards
1998	300000 cubic yards	75000 cubic yards
1997	Unknown	77000 cubic yards

**Equipment**

In 1993, one Caterpillar D9G bulldozer was used for stripping and pushing gravel. A Hitachi EX200 backhoe fed the wash plant. A trommel 5 feet in diameter and 15 feet long classified to one inch minus with oversize loaded onto a conveyor belt. Undersize fell onto two sluice runs. The first sluice was 10 feet wide by 6 feet long with hydraulic riffles. The material then passed through a boil box and onto the second sluice that was 10 feet wide by 6 feet long with hydraulic riffles in the top half and expanded metal riffles in the bottom half. Water was pumped from the Indian River and was settled in three out-of-stream ponds in old mining cuts.

In 1995, one Caterpillar D9G bulldozer, with U-blade and single ripper, was used for stripping overburden, removing and leveling tailings and for topsoil restoration work. One Hitachi EX200 excavator, with a 1 cubic yard bucket was used to dig pay gravel and feed the wash plant and to do some of the restoration work. A new Hitachi EX200/3 excavator was added in 1996. David McBirney used a skid mounted trommel, about 5 feet in diameter by 15 feet long, which classified gravels to 1/2 inch minus, with oversize removed by a conveyor belt +40 feet long. A single run with angle iron riffles, about 2 1/2 feet wide by 4 feet long, expanded onto 5 riffle tables with a total width of about 13 feet by 12 feet with hydraulic riffles. An Ajax pump, 5 inches by 4 inches, powered by a Perkins 6354T diesel engine, delivered from 850 to 900 igpm of water which was used to process about 85 to 100 loose yards per hour. Water was pumped directly from the Indian River and was settled in out-of-stream ponds within mined out cuts. Pump intakes in the Indian River were enclosed with number 4 mesh fish screens. Clean up was done using a long tom and gold wheel.

In 1998, one Caterpillar D9G bulldozer was used for ripping and stripping frozen overburden, flattening tailings and spreading topsoil for restoration. Two Hitachi EX200 excavators were used for digging pay gravel, feeding the wash plant and removing tailings. In 2000 a new conveyor belt, 3 feet wide by 100 feet long, mounted on used excavator tracks, was added to reduce stripping costs; the stripped overburden and waste gravel was loaded into the conveyor, using one of the excavators, at a rate of about 250 cubic yards per hour. The two person operation upstream on the right limit used an excavator for digging gravel and feeding the wash plant. A trommel, 5 feet diameter by 15 feet long, mounted on steel skids, classified to 1/2 inch. A single sluice run, 2 1/2 feet wide by 4 feet long with angle iron riffles, fed into 5 hydraulic riffle tables, 13 feet wide by 12 feet long. Tailings were stacked by a 40 feet long conveyor belt. An Indeng water pump, 6 inches by 6 inches, powered by a Isuzu GBGIT diesel engine, delivered about 900 igpm which was used to process 85 cubic yards per hour. Water was pumped directly from the Indian River using fish screen mesh on the pump intake and was settled in out of stream ponds in old mining cuts. In 2003, the settling pond seepage was captured by a ditch well away from Indian River.

**Environmental Work**

<b>Year</b>	<b>Reclamation Work</b>
2003	Revegetation on reclaimed area has progressed well. Some reclamation work at the Osler site was also done.
1998	Reclamation works included backfilling mining cuts, flattening tailings piles and spreading overburden for re-vegetation as well as restoring and armouring one bank of the river.
1997	Site specific permission was granted by DFO to mine a portion of the 10 metre leave strip on the right limit only of a straight section of the River. Rehabilitation work included widening the river

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### **Environmental Work**

#### **Year Reclamation Work**

channel by about 10 feet and reconstructing the right limit river bank using large boulders (up to 3 feet diameter) with regularly spaced groins, protruding 8 to 10 feet out from the bank, every 65 feet. Topsoil with vegetation, which had been previously stripped and stockpiled separately, was spread over the reconstructed river bank. Willow cuttings were planted to actively encourage revegetation.

### **Landforms**

<b>Landform</b>	<b>Comments</b>
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Alluvial Valley	
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### **Surficial Geology**

In 1993, there was 5 to 6 feet of black muck over 3 to 10 feet of mixed gravels on top of bedrock. Red, rusty colored gravels contained better pay; deeper gravels had clay and muck seams and the pay were more average. All gravels were sluiced and 1 to 2 feet of fractured bedrock.

In 1995, on both the right and left banks, frozen, sandy overburden varied from 3 to 9 feet on top of frozen pay gravels, which averaged 6 feet deep but varied from 1 to 10 feet.

In 1998, frozen sandy overburden along the right bank of the Indian River was 3 to 9 feet deep on top of frozen pay gravel which varied from 5 feet up to 10 feet deep. As mining progressed farther away from the river bank, a layer of waste gravel was encountered which increased up to ten feet deep on top of the pay gravel layer. The bottom 10 feet of pay gravel plus 1 to 3 feet of bedrock were sluiced. On the left limit of the Indian River the frozen mud, silt and sand varied from 4 to 15 feet deep on top of waste gravel up to 10 feet deep. The pay gravel layer was from 5 to 10 feet deep with 1 to 3 feet of bedrock also sluiced.

### **Bedrock Geology**

Bedrock varied from soft and decomposed to hard and blocky. The Indian River area is underlain by mainly Paleozoic metasedimentary (Klondike Schist and Nasina Assemblage) rock of Yukon-Tanana Terrane. Minor amounts of altered ultramafic rocks occur locally. Early Cretaceous gold-bearing quartz veins intrude the schist and Late Cretaceous sedimentary and volcanic rocks overlay the earlier rocks.

### **Gold Comments**

1993- The gold was smooth, flattened, and round, with fineness of 820.

1995- Gold was mostly fine and flat with a small percentage of coarse gold (3mm to 5mm) and fineness between 803 and 814.

1998- Gold was mostly fine flakes with some coarse flat flakes and fineness around 810.

### **References**

Mining Inspection Division, Yukon Region. Yukon Placer Mining Industry 1995, 1996, 1997. Department of Indian Affairs and Northern Development, Whitehorse, Yukon, 1998.: p. 73-74

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### **Pictures**

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**Title:** T.D. Oilfield Services Ltd., Indian River

**Notes:**

The Robert E. Leckie Award for Outstanding Placer Mining Reclamation Practices was presented to David McBurney of T.D. Oilfield Services Ltd. in 2002.

Reclamation works were on-going and progressive each year and included mining pits being backfilled and levelled, tailing piles being completely flattened, and overburden being spread evenly over the whole area. Additional efforts included re-contouring and re-vegetation in the mined out areas.



**Title:** David McBurney mining operation on Indian River

**Notes:**

Reclamation works included backfilling mining cuts, flattening tailings piles and spreading overburden for re-vegetation as well as restoring and armouring one bank of the river.

