## QUEENSTAKE RESOURCES LTD.

## MOYIE RIVER PROJECT - CRANBROOK, B.C.

Fort Steele Mining District

N.T.S. 82F/\$# 8E

49°23.7' 116°0.6'

Placer Leases #1902, 1080, 1775, 1773 Queenstake Resources Ltd.

> Placer Leases #1080 and 1081 Hamilton Option

> > by

FILMED

\$6-382-15622

MICHAEL P. HENRICK, Ph.B.

Covering work carried out during the period: January 27 through March 6, 1986

GEOLOGICAL BRANCH ASSESSMENT REPORT

15,622

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No. of Concession, Name

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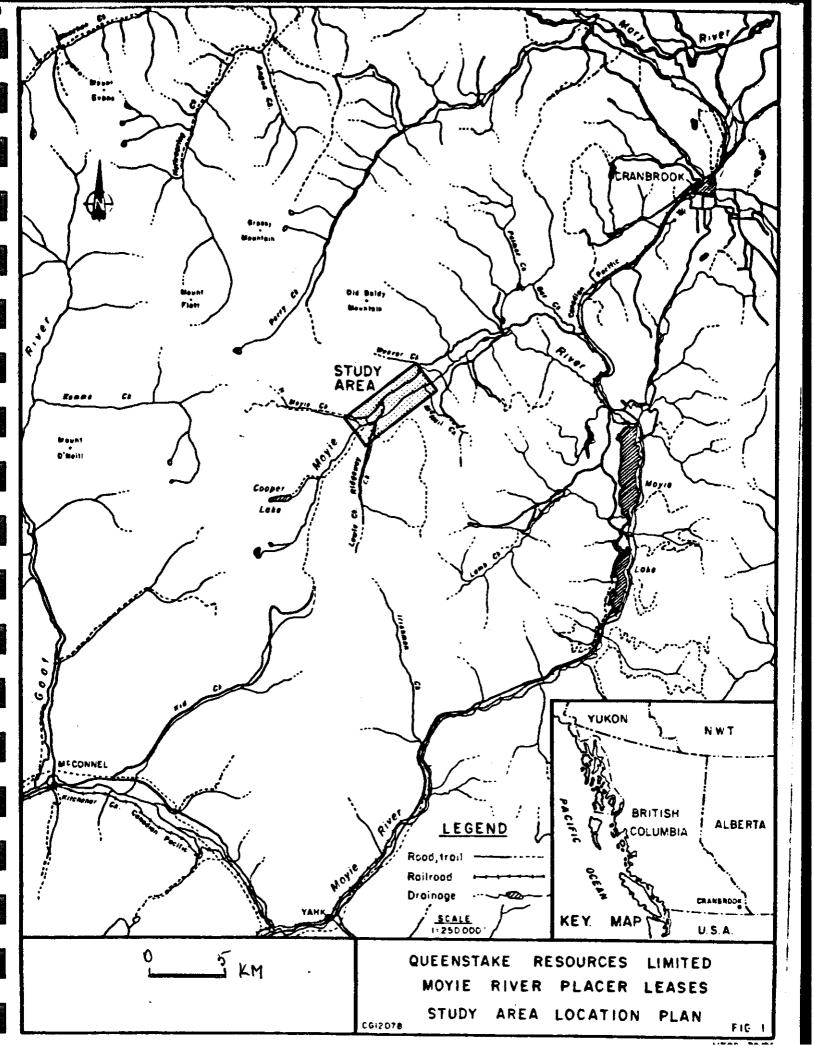
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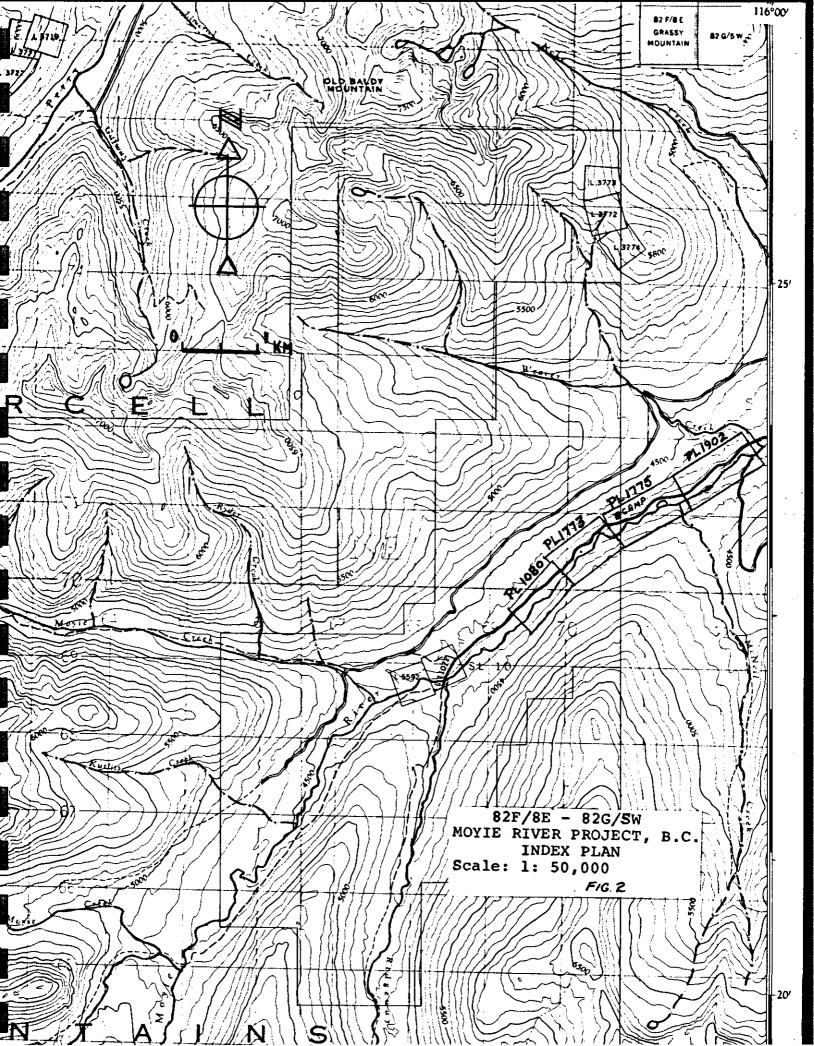
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- Drill section line 32+005 / Longitudinal gradient survey February 24, 1986 / Longitudinal gradient survey March 6, 1986
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#### SUMMARY

Twenty holes totalling 906 feet of overburden drilling was completed on three lines on placer lease #1902. The drilling was laid out to outline the tertiary channel on lines 24+005, 28+005 and 32+005.

The drilling was done by Owen's Drilling Ltd. of Cranbrook B.C. using a Barber dual 1224 air rotary drill with a downhole hammer and rotating casing. The drill proved effective in completing the primary objective of outlining the channel, but fell short on the secondary objective of collecting viable samples for assessment.

## Introduction

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The primary objective of the 1986 drill programme was to definitively outline the tertiary channel to initiate a mining operation this coming season. This objective was accomplished. The secondary objective was to collect and evaluate samples within the pay streak to assist in evaluating the property. This objective was only partially accomplished. Due to boulders and tough drilling conditions a large portion of the drilling was done with the hammer running ahead of the casing. This gave poor and insufficient samples and resulted in poor and irratic results. Where the material drilled allowed the casing to advance ahead of the bit, good samples and consequently good results were achieved, unfortunately this was the exception rather than the rule.

## Location and Access

The property is located in the Fort Steele Mining district of south central British Columbia. N.T.S. 82F/SE, Map Sheet, Moyie Lake. Moyie River flows to the north east and empties into Moyie Lake. Access to the property is via vehicle from Cranbrook - a distance of 16.6 miles. (26.6 Lm)

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## **Previous Work**

This property has been prospected and mined sporadically since before the turn of the century. Mining consisted of sniping on shallow bedrock areas. Evidence of four old shafts were noted. Careful scrutiny of the washed tailings around the shafts indicates that bedrock was never reached in any of the shafts presently on this property.

During 1939 and 1940 Cominco carried out an extensive drilling programme under the supervision of Mr. Frank Marleau. Marleau is reported to have later returned and sunk a shaft and drifted in the vicinity of the Moyie Mining Company 1981 pit area. It is reported he recovered 70 ounces of gold. No other work of any consequence was carried out until the Moyie Mining Company mined for four seasons between 1980 and 1983. A total of 1.25 million dollars (or 4,000 ounces) is reported to have been recovered during this period giving an average grade of .06 ounces per cubic yard for all of the material washed.

## Work Completed

## **Drill Site Preparation**

A Fiorentino Contracting D9H Cat was used to clear and level all the drill sites on lines 24+00S, 28+00S and 32+00S.

## Drilling

Twenty holes totalling 906 feet of overburden drilling was completed on three lines on placer lease #1902. The drilling was laid out to outline the tertiary channel on lines 24+00S, 28+00S and 32+00S by Owen's Drilling Ltd. of Cranbrook B.C. using a Barber dual 1224 air rotary drill with a downhole hammer and rotating casing. All holes except hole #10 were run from 2 to 3 feet into bedrock to make sure that we were not drilling in a boulder and to accurately determine bedrock type. All holes ended in a gritty, acid argillite of the Aldridge formations. Hole #10 was abandoned just above bedrock when the bit disintegrated.

- 4 -

## Sample Preparations

All holes within the channel, where samples were sufficient to wash, were processed starting at the forty foot section and progressing at two foot intervals to the bottom of the hole. Samples were collected in pre-washed five gallon plastic pails every two feet of casing advance. These samples were then weighed, volumes measured and recorded and washed through a 4 foot by 14 inch long tom set at a 2 inch to the foot gradient. The washed material was allowed to run over an astro turf matting held in place by K'' elevated, expanded metal. The discharge from the first box continuted onto another long tom of the same size, equipped and elevated in the same fashion as the first long tom. This check box was checked after each hole initially and then only periodically. No significant colour was ever found in the second check box. The concentrate and matting from the first box was removed and washed after every sample interval. The concentrate thus collected was sieved through a 5/32' inch sieve. The coarse and fine concentrate was then panned and checked for heavies and values. When required, samples were amalgamated, digested, retorted, annealed and weighed for grade calculations.

## Levels & Gradient

Hole collars along each line were checked for elevation using a hand held Aristo level and staff. Distances between holes were chained and tied into the existing grid.

Longitudinal elevations between the lines were run using a Keuffel and Esser transit, chain and staff. Diagrams and calculations accompany the report plans 5 & 6.

## Lining of Drill Holes

All drill holes on the river side not in the vicinity of the pit were lined with slotted 4 inch black P.V.C. plastic pipe. These cased holes can be used in the future for dewatering purposes. A ten foot length of weighted 3/4" white plastic pipe was placed in every hole within the confines of the tertiary channel and allowed to sink to the bottom of the hole before the casing was pulled. These pieces of pipe will be used at a later date for elevation and stripping control within the pit.

## CONCLUSION

The rotary drill programme did complete the primary objective of this programme. The tertiary channel was established and outlined definitively on lines 24+00S, 28+00S and 32+00S. Due to the boulder content of the gravel drilled many of the samples obtained were poor and inadequate. The casing shoes were not capable of drilling through the boulders and thus the downhole hammer had to run outside of the casing ahead of the casing shoe. Thus much of the sample and in particular the gold was lost. In many instances as noted in the drill logs and sample sheet, a lot of the return air and sample was coming up aroung the outside of the casing.

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Within the pay dirt, where adequate samples, were produced good values were achieved in some of the holes. These values ranged from .036 on hole #7 over 4 feet to .101 on hole #17 over 4 feet with an overall average of 0.67 for all five samples processed. These values and intervals are indicated on drill sections lines, plans 2 through 3 inclusive at the back of the report. The gold thus acquired accompanies the report. It is interesting to note that these five samples are the only samples to contain adequate gold to weigh. Fine to very fine colours occurred throughout. The better samples occurred within the pay dirt on all three lines where adequate samples were achieved.

The seismic data on line 24+00S is totally irrelevant and misleading. Holes #1 through #3 inclusive were drilled to locate the channel as outlined by Hardy & Associates, and were virtually wasted. On line 32+00S the drill data is somewhat coincident with the Hardy seismic data. This does not justify the data on line 24+00S and makes the whole Hardy & Associates survey in its present state meaningless. Bill Scott of Hardy & Associates has been contacted and has reassessed the data having been given the drill sections. He advises that the data was misplotted originally and is now coincident with the drill data. He advises that no payment of their account should be made until they have come back at their cost to re-do selected lines to justify that the survey was viable. He will be forwarding re-worked sections to us immediately and will contact us in the near future to establish a convenient data to re-do the selected lines.

## RECOMMENDATIONS

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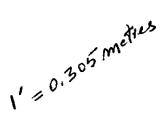
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If a viable agreement can be reached with the contract miner, taking into consideration the additional nine feet of material that will have to be stripped and based on the now known tertiary valley width and gradient, coupled with the values achieved from the present drill programme, I would recommend test mining in the coming season utilizing a cut of 125 feet wide by 500' long by 54 feet deep.

Michael P. Henrick April 7, 1986 Muhaul T. Hemuth



## DRILL LOG

## APPENDIX (1)

## <u>Hole #1</u>

- 0 6' Sandy clay small boulders 6' - 12' - Damp sandy gravel 12' - 12' - Sandy light gravel & clay
- 18' 22' Wet clay & gravel
- 22' 27' Bedrock

## <u>Hole #2</u>

0 - 6'	-	Sandy gravel & boulders
6' - 9'	-	Damp sand & gravel
<b>9' -</b> 15'	-	Tight clay & gravel
151 - 231	_	Clay & gravel

- 15' 23' Clay & gravel
- 23' 28' Bedrock 28' liner slotted

## <u> Hole #3</u>

0 - 3' - Sandy gravels - clay & boulders 3' - 7' - Wet sandy gravels

- 7' 19' Clay & gravel
- 19' 21' Wet clay
- 21' 27' Tight sandy gravel & clay
- 27' 29' Hardpan gravel & clay
- 29' 34' Sandy gravel, clay & boulders
- 34' 36' Bedrock 36' liner slotted

### <u>Hole #4</u>

- 0 9' Sandy gravel & boulders
- 9' 14' Tight clay & gravel
- 14' 31' Clay, little gravel hard
- 31' 32' Sandy gravel & clay
- 32' 35' Clay
- 35' 38' Damp, sandy gravel boulders & clay
- 38' 44' Boulders & gravel
- 44' 46' Bedrock lined to 44' 3" slotted to bottom 40'

## <u>Hole #5</u>

- 0' 7' Sandy gravels & boulders
- 7' 20' Hard gravel and clay
- 20' 22' Hard sandy gravel & clay (wet)
- 22' 24' Hard, sandy gravel, clay & boulders (damp)
- 24' 25' Green clay & sandy gravel (soft)
- 25' 33' Sandy gravel, clay boulders (wet)
- 33' 48' Hard boulders (12" x 18") sandy, gravel, little clay
- 48' 50' Bedrock 10' 3/4" Plastic

<u>Hole #6</u>	
0' - 4' -	
4' - 7' -	
7' - 13' -	
13' - 20' -	Clay & little gravel
20' - 27' -	Gravel & boulders (wet)
- 27' - 32' -	Gravel, clay, sand & boulders (dry)
32' - 46' -	Boulders, clay
46' - <i>5</i> 2' -	Gravel, clay, boulders (damp)
52' - 54'6'' -	Water, gravel, boulders, clay
54'6" - 56'6" -	
*	10' piece 3/4" pipe dropped to bottom of hole
**-1- <i>4</i> 7	
<u>Hole #7</u> 0' - 7' -	Sandy annual hauldons water 2 C D M
	Sandy, gravel, boulders, water 2 G.P.M.
7' - 17' -	
17' - 38' -	
38' - 49' -	
49' - 50'6" -	, , ,
50'6" - 52'6" -	
•	10' 3/4 Plastic dropped in hole
Hole #8	
0 - 7' -	Sandy gravel boulders, little clay (damp)
	as above - (wet)
	as above - (wet)
28' - 53' -	
53' - 55' -	Bedrock - 10' piece 3/4" Plastic
Hole #9	
0 - 3' -	Clay
3' - 5' -	Sandy gravel – little clay & boulders
5' <b>-</b> 7' -	
<b>7' - 9' -</b>	Sandy gravel - little clay - boulders - dry hard
9' - 13' -	
13' - 18' -	Boulders, loose sandy gravel - (damp)
18' - 23' -	Loose sandy gravel - little clay
23' - 29'6'' -	Loose sandy gravel - boulders (damp)
29'6" - 32'6" -	Bedrock
$\frac{\text{Hole } \#10}{0-3'} -$	Sandy mayol along lagon
- 3' - 3' - 3' - 8' -	Sandy gravel, clay - loose Sandy gravel, clay, boulders (loose, wet)
	Sandy gravel, clay, boulders (loose, wet)
$8^{i} - 11^{i} - 11^{i}$	Sandy gravel, clay, no boulders (loose, damp)
11' - 16' -	Sandy gravel (wet)
16' - 24' -	Sandy gravel - clay - dry tight
24' - 50' - (s	Sandy & gravel - clay - boulders - (wet)
(3	shoe shattered - had to pull out)

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<u>Hole #11</u> 0 - 3' 3' - 7' 7' - 25' 25' - 31'	-	Soil and frost Sandy, wet gravel, clay, boulders (wet) Tight, sandy - no boulders (dry) Bedrock - open hole 4'
<u>Hole #12</u> 0 - 2' 2' - 8' 8' - 13' 13' - 26' 26' - 51' 51' - 55'	-	Clay Sandy, wet gravel, clay & boulders Sandy gravel - (wet) Sandy gravel hard & clay, dry Sandy, clay, boulders - (damp) Bedrock
Hole #13 0 - 6' 6' - 23' 23' - 26' 26' - 35' 35' - 39' 39' - 42'		Sandy gravel, damp clay, loose boulders Sandy gravel, clay tight Boulders, sandy gravel & clay (water 2 G.P.M.) Sandy gravel and clay tight Sandy gravel - boulders (wet) Bedrock 10' Plastic 3/4"
Hole #14 0 - 7' 7' - 12' 12' - 16' 16' - 23' 23' - 27' 27' - 36' 36' - 51'6" 51'6" - 54'4'	- - -	Sandy, gravel, clay - loose boulders Sandy gravel, clay - hard Loose gravel, water, boulders (approx 1 G.P.M.) as above - tight as above - loose - water as above - tight and damp Sandy gravel - no clay - boulders (3 G.P.M.) Bedrock - Cased to 53' 10' Plastic (3/4")
<u>Hole # 15</u> 0 - 8' 8' - 30' 30' - 53' 53' - 57'	- - - Case	Sandy, gravel, clay, boulders - damp, loose Sandy, gravel, clay, boulders, - hard as above, (boulders) 39' - 41' 1 G.P.M. loose Bedrock ed to 54' - 10' Plastic (3/4")
<u>Hole #16</u> 0 - 4' 4' - 11' 11' - 25' 25' - 32' 32' - 36' 36' - 47' 47' - 51' 51' - 54' 54' - 57'		Soupy - water (approx 2 G.P.M.) Sandy, gravel, clay, boulders, water (2 G.P.M.) Sandy, gravel, clay - dry, hard Sandy, gravel, clay, boulders - dry, hard Sandy, gravel, clay, boulders - dry tight Boulder, sand, loose, damp Boulders, sand, loose, damp Boulders, sand, water - (approx 1 G.P.M.) Bedrock - 10' Plastic (3/4")

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<u>Hole #17</u>	Course Later mater boulders (I.C.D.M.)
0 - 17'	- Gravel, clay, water, boulders (1 G.P.M.)
17' - 20'	- Sandy, gravel, clay - tight
20' - 23'	- Sandy, gravel, clay - dry
23' - 30' 201 - 221	- Sandy, gravel, clay - some boulders - tight
30' - 32' 321 - 371	- Sandy, gravel, clay - some boulders - loose - dry
32' - 37' 37' 52'	- Sandy, gravel, clay - some boulders - tight
37' - 52'	<ul> <li>Sandy, gravel, clay - some boulders - loose</li> </ul>
52' - 54'	= Deducati
54' - 57'	- Bedrock
· .	Cased to 55'
Unio #19	
<u>Hole #18</u> 0 - 16'	Sandy gravel clay boulders water
16' - 33'	<ul> <li>Sandy, gravel, clay, boulders, water</li> <li>Sandy, gravel, clay, tight, hard</li> </ul>
10' - 35' 33' - 39'	<ul> <li>Sandy, gravel, clay, tight, hard</li> <li>Sandy, gravel, clay, loose</li> </ul>
39' - 45'	- Sandy, gravel, clay, boulders, damp
45' - 48'	- Sandy, gravel, clay, boulders, water
48' - 53'	- Sandy, gravel, clay, boulders, wet
	- Bedrock
53' - 55'6"	Cased to 53'
	Cased to 33
Hole #19	
<u>1101e #12</u> 0 - 10'	- Clay, gravel - wet
10' - 12'	- Sandy, gravel & clay - wet
12' - 18'	- Sandy, gravel, clay, boulders - water
18' - 21'	- Sandy, gravel, clay, boulders - dry - hard
21' - 23'	- Sandy, gravel, clay, boulders - wet
23' - 32'	- Sandy, gravel, clay, boulders - dry
32' - 35'	- Bedrock
/= //	Cased to 33'6"
Hole #20	
0 - 5'	- Sandy, gravel, clay, boulders - dry
5' - 10'	- Sandy, gravel, clay, boulders - water
10' - 20'	- Sandy, gravel, clay, boulders - dry, hard
20' - 24'	- clay, little gravel - dry
24' - 26'	- Sandy, gravel, clay - wet
26' - 30'	- Clay, little gravel - dry
30' - 39'	- Sandy gravel, clay, loose boulders
39' - 46'6"	- Sandy gravel, clay, loose water
46'6" - 50'	- Bedrock
	Cased to 47'

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## APPENDIX (2)

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## Owen's Drilling Ltd. Personnel

Rick France - Driller 3601 42 Avenue S. Box 116 Cranbrook, B.C. V1C 4H4

Terry McAllister - Helper R. R. 1, S. 17, C48 Cranbrook, B.C. V1C 4H4

## BARBER INDUSTRIES BROCHURE

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## APPENDIX (3)

har her I Series I Rous Bulletin 50000

The answer to drilling, casing and reliable sampling through difficult formations without the use of casing hammers.

# **DUAL ROTARY DRILL RIGS**

The Dual Rotary Series (DR) Drill utilizes a lower rotary table to rotate and drive casing through unconsolidated overburden such as gravel, sand and boulders. The top rotary head simultaneously handles a drill string equipped with a down hole hammer, drag bit or rolling cone rock bit to drill inside or ahead through the casing.

A patented carbide studded shoe welded on the bottom casing joint enables the rotating casing to cut its way through suspended boulders and into bed rock with no requirement for under reaming. (Fig.5)

Using this technique operators of Barber DR Drills regularly drill and case through several hundred feet of gravel and glacial tills where casing hammer users have been unsuccessful.

> The up, down and rotational forces provided by the lower table are effectively transmitted to the casing through power operated jaws.

> > Casing can be simply rotated and pulled back out of the hole to set screens, full length plastic liners or salvage casing from abandonments.

## Top Head and Lower Rotary (Fg.1)

Each rotary is raised and lowered by direct connected hydraulic cylinders thus eliminating the need for chains and sprockets.

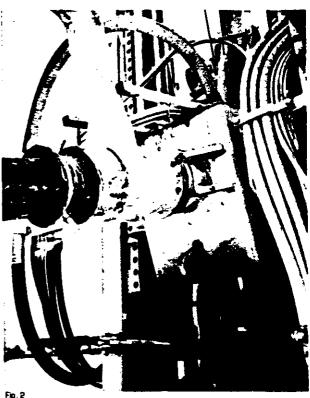
The upper and lower drives may be power pin locked together for simultaneous drilling feed.

The lower table, in addition to rotating and forcing the casing through the formation, can be used to break and spin out the drill string joints.

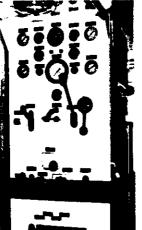
The top head can be hydraulically tilted from a verticle to a horizontal position facilitating picking up or laying down drill pipe and casing on a horizontal rack or truck bed. (Fig.2)

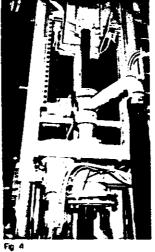
## Cuttings Discharge Swivel [Fig.4]

To help you keep your rig clean and catch all samples the cuttings and air or mud leave the annulus, between the drill pipe and the casing, through a discharge swivel attached to the casing. Rubber seals between the casing, swivel and drill pipe prevent leakage at these points. An integral bearing, protected by patented hard metal seals, provides support between the rotating casing and stationary discharge elbow and its attached hose.









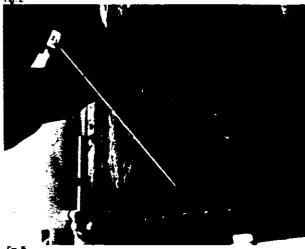


## Control Console (Fig.3)

The controls and instruments required to operate and monitor the machine are grouped according to function simplifying operator training. A durable steel roof provides protection for the operator and controls.

## Air Compressors (Fg.6)

A wide selection of proven piston and oil flooded screw compressors are available to suit your drilling conditions and preferences.





# SPECIFICATIONS

## DR SERIES: DUAL ROTARY

### LOWER TABLE

21.0" (\*17.5" × 25") Opening: Hoist: 72,000 lbs. 36.000 lbs. Pull Down: 12ft. Stroke: VARIABLE TWO SPEED RANGES Rotation: High Speed Low Speed 0 - 27 r.p.m. 0-9 r.p.m. 6000 lb.-ft. 25,000 lb.-ft. Torque: \*12000 lb.-ft. \*50,000 lb.-ft.

#### **TOP ROTARY DRIVE**

Stroke:	- 26.0 ft. (*29 ft.)
Hoist:	36,000 lb. (*59,000 & 80,000 lb.)
Puil Down:	18,000 lb. (*27,000 & 36,000 lb.)
Rotation:	VARIABLE 0 - 120 r.p.m.
Torque:	4,000 bft. [*5,000 & 7,000 bft.]
Hoist Speed:	O to 100 f.p.m. up & down

#### **DRILLING FEED**

Rate:	VARIABLE O TO MAX HOIST
Force:	VARIABLE O TO MAX PULL DOWN

#### CARRIERS

Tandem rear drive axle trucks of suitable capacity with levaling jacks

#### **COMPRESSOR OPTIONS**

 Piston
 500 c.f.m. @ 250 p.s.i.

 Screw
 500 c.f.m. @ 350 p.s.i.

 750 c.f.m. @ 250 p.s.i.
 900 c.f.m. @ 350 p.s.i.

#### MUD PUMP OPTIONS

Centrifugel Air Opersted Piston Duplex: - 4" - 3" - 400 g.p.m. @ 250 p.s.i. - 6" × 5" × 6"

· مو

: -5"×6" or 5½ "×8"

(\*OPTIONS)

## SR SERIES: SINGLE ROTARY TOP DRIVE

When a lower rotary table is not required the SR Series drills retain all the advantages of directly connected hydraulic hoist and pull down cylinders plus offering a wider range of optional configurations for mining, petroleum and blast hole drilling etc.

#### **HOISTING CAPACITIES**

A range of 36,000 to 150,000 lbs. can be provided by single or dual cylinder arrangements to match your drilling depth and hoisting requirements. Strokes to 44 feet to handle API Range III casing are available.

#### TOP ROTARY DRIVES

Torques to 8000 lb.-ft. at 80 r.p.m. continuous ratings:

- Speeds ranges to 200 r.p.m.
- API bearing ratings to 90 tons pull back and 35 tons pull down.
- Wash pipes and packing to 600 p.s.i. air and 3000 p.s.i. mud.

#### **AIR COMPRESSORS**

Oil flooded screws to 1500 c.f.m. and 600 p.s.i. with diesel engine drives mounted on rig carrier.

#### MUD PUMPS

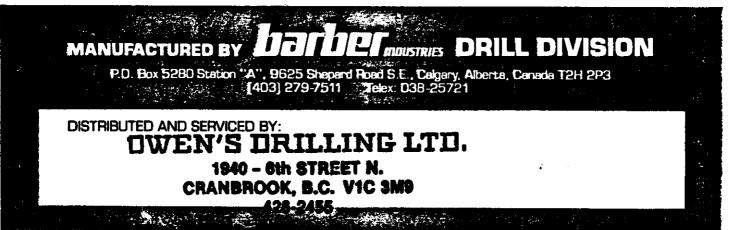
To suit purchaser's requirements.

#### **PIPE HANDLING**

Rotary carousel or hydraulic loading arms.

### ANGLE DRILLING

Barber DR and SR Rigs can be fitted for angle drilling down to  $40\,^\circ$  from the horizontal.



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Mote:

## $1ft_{-} = 0.305 \text{ m}$ 11b = 0.453 kg1grain = 64.8 mg

## APPENDIX (4)

## SAMPLE PROCESS SHEETS

}	<u>Hole#</u>	Footage	Voume Weight	Volume	Colours	Weight	.999 Grade	Remarks
		67	Pouvos	Cobic Ft.		GRAINS		
	#1	27						not sampled
	#2	28						not sampled
_	#3	21 - 23	33	.325	0			Mainly clay & small
		23 - 25	15	.075	-			chunks - broken
		25 - 27	43	.45	0			boulders - hardwashing
		27 - 29	31	.325	-			
		29 - 31	27	.25	0			
		31 - 34	59	.70	-			
	#4	24 - 26	<b>6</b> 6	.85	2 v.fine 1 medium			Heavy clay Poor Wash
		26 - 28	72	.95	I medium			Poor Wash
		28 - 28	67	.9				Balled Clay
		28 - 30 30 - 32	71					Balled Clay & Diorite
		30 - 32 32 - 34	52	.95 .55	5 v. fine	not saved		Boulders
•		32 - 34 34 - 36	69	.93	) v. Ine	not saved		Fine sand & boulders
		36 - 38	55	.55	1.v fine	abundant		The said & boulders
		J0 - J0	))	• • • •	1.4 1116	steel		Broken boulders
J		38 - 40	94	.80		36661		& easily washed clay
		40 - 42	50	.45	2 v. fine			a cashiy washed casy
		<b>TU - 72</b>	50		1 fine			Diorite boulders &
		42 - 44	75	.65	1 2000			Argillite bedrock
		44 - 46	30	.15				chunks - washed easily
	#5	34 - 36	83	.95				
	#)	36 - 38	71	.775				
		38 - 38 38 - 40	92	1.0		dev		
		40 - 42	66	.475		dry		
		40 - 42 42 - 44	96	.95				
		76 - 77	44	.2				
1		44 - 46	94	.875				
:		46 - 48	100	.95	4 v. fine			
ı		48 - 50	95	.975	4 v. fine			
	#6	34 - 36	84	.95				damp clay
,	<i>w</i> 0	36 - 38	91	.95				Gamp cray
•		38 - 40	<b>8</b> 6	.625	1 medium	saved		wet clay
		40 - 42	81	.875	1 medium	Sercu		dry
I		42 - 44	65	.675	2 moutum			dry
		44 - 46	63	.675				dry
		46 - 48	65	.7	1 v. fine			dry
I		48 - 50	86	.95	1 v. fine			dry
		50 - 52	91	.925	2 v. fine			dry
1		52 - 54	91	.775	1 fine			
ļ		•	<b>-</b>		2 v. fine			wet – half clay
		54 - 56	72	.725	1 v. fine			dry
					•			•

***	Hole#	Footage	Weight	Volume	Colours	Weight	.999 <u>Grade</u>	Remarks
			POUNOS	CUBIC Ft.		GRAINS		
	#7	38 - 40	38	.15	6 v. fine			
		40 - 42	63	.60				
Q	-	42 - 44	73	.75	4 v. fine			
		44 - 46	54	.55	•	05		
内		46 - 48	82	.85	2 coarse 1 medium	.95 gr.	.03562765	
-		48 <i>- 5</i> 0	90	.95	<b>5 v. fine</b>	sample kep	t	
101		50 - 52	<b>9</b> 0	.75				
e i	#8	40 - 42	93	.60	5 v. fine			This hole was drilled
		42 - 44	100	.70	5 v. fine			mainly with bit ahead
		44 - 46	96	.75	6 v. fine			of casing - air coming
		46 - 48	96	.75	6 v. fine			up outside casing
		48 - 50	95	.75	1 fine			caused a cavern
ł		<b> -</b>	<u>~</u> -	<i>~</i>	5 v. fine			around casing.
		52 - 53.5	85	.675				
	<b>#</b> 9	32.5						not sampled
2		70	52		•	h 5	0400/220	
1	#10	50	53	.6	1 coarse	.45gr.	.04886338	ran sample to check steel
	#11	31						not sampled
	~	21						
-	#12	40 - 42	98	.87				wet
		42 - 44	55	.525				dry
		44 - 46	84	.925				dry
		46 - 48	78	.875				dry
€*:   		48 - 50	92	.95	l v. fine			dry
č.		50 - 52	84	1.0	1 v. fine			dry
		52 - 53.5	96	1.0	4 v. fine			dry - Bedrock broken
100 C	#13	42						not sampled
	#14	40 - 42	101	.90				Boulder chips altered
4		42 - 46	96	.775				Kaolin & Limonite stain
ž		44 - 46	93	.70	1 medium			Wet - no clay
		46 - 48	120	1.0				abundant steel
		48 - 50	115	.9	1 nugget	1.75 gr.	.06563	black sand
		50 - 52	110	.9	1 medium			specular hematite
		52 -	93	1.0	1 v. fine			Bedrock dry
		~			1 fine			· · · · · · · · ·
	#15	40 - 42	60	.65				dry
7		42 - 46	92	1.0				dry
Press .		46 - 48	86	.80				dry
		48 - 50	73	.75				dry
		50 - 52	96	.80				Wet
9		52 - 54	75	.80	1 medium	.70 gr.	saved	dry
			• -		1 large		.586196	/

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<u>Hole#</u> #16	<u>Footage</u> 57	VOLUME <u>Weight</u> Bunds	<u>Volume</u> Croic Fr	<u>Colours</u>	Weight GRAWS	.999 <u>Grade</u>	Remarks not sampled - poor hole. Most of the sample blew up outside of casing. Insufficient sample to process.
#17	40 - 42	82	.90	1 fine			dry Blacksand
	42 - 44	87	.90	1 fine			
	44 - 46	70	.875				Abundant steel
	46 - 48	84	.90				minor Blacksand
	48 - 50	84	.875	1 fine			
	50 - 52	82	.850	1 fine			11
	52 - 54	63	.65	1 medium			
				1 large	.45 gr.	.10115157	
	54 - 57	Insuf	ficient sar	nple			
#18	40 - 42	70	.875				dry
	42 - 44	40	.375				dry
	44 - 46	78	.90	fine			dry
	46 - 48	22	.10	fine			drý
	48 - 50	38	.325	1 fine			•
	50 - 52	87	.850	1 v. fine			wet
	52 - 54	72	.525	1 fine			wet
#19	35						not sampled
<b>∦</b> 20	50						not sampled insufficient sample to process

APPENDIX (5)

**1**0 x 15 m<sup>2</sup>

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## STATEMENT OF QUALIFICATIONS

I, Michael P. Henrick of R. R. 1, Site 39, Comp. 11, Okanagan Falls, B.C.; do hereby certify that:

- I am a graduate from the University of North Dakota (1970) with a Bachelor of Philosophy degree in Geology.
- From 1970 to 1982, I worked as a geologist in mineral exploration in British Columbia, the Yukon Territory, Saskatchewan, Manitoba, Ontario and Quebec as well as in Oregon, Arizona and California.
- 3) From January, 1983 to the present, I have worked as a geological consultant, concentrating mainly on placer evaluation and production.
- 4) I supervised the field work on the Moyie River Project during the 1986 program and have interpreted all data resulting from this work.
- 5) I am a fellow of the Geological Association of Canada.

Michael P. Henrick.