A REPORT ON PLACER GOLD

AT WIENERWURST LAKE, YUKON

P.L. # 3773 - 3777: 63°N.; 141°W.

BY DR. D. K. ROBERTSON P.GEOPH.

JULY 1976

This report has been examined by the Geological Evaluation Unit and is recommended to the Commissioner to be considered as representation work in the amount of

$_____

_____
Resident Geologist or
Resident Mining Engineer

Considered as representation work under Section 53 (4) Yukon Quartz Mining Act.

_____
Commissioner of Yukon Territory

120019

CONTENTS

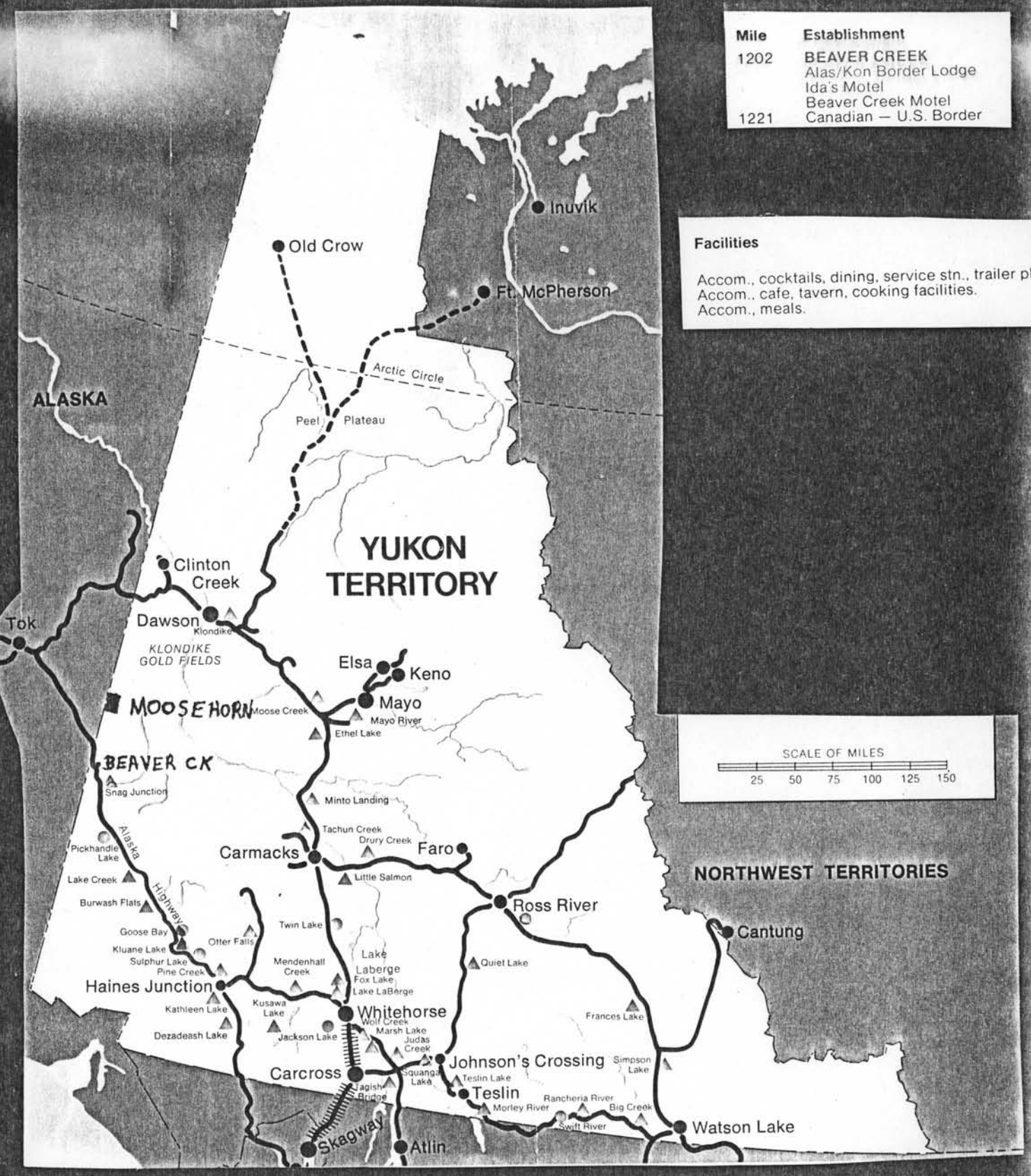
PLACER GOLD ON THE MOOSEHORN RANGE, NEAR WIENERWURST MOUNTAIN, YUKON

INTRODUCTION:

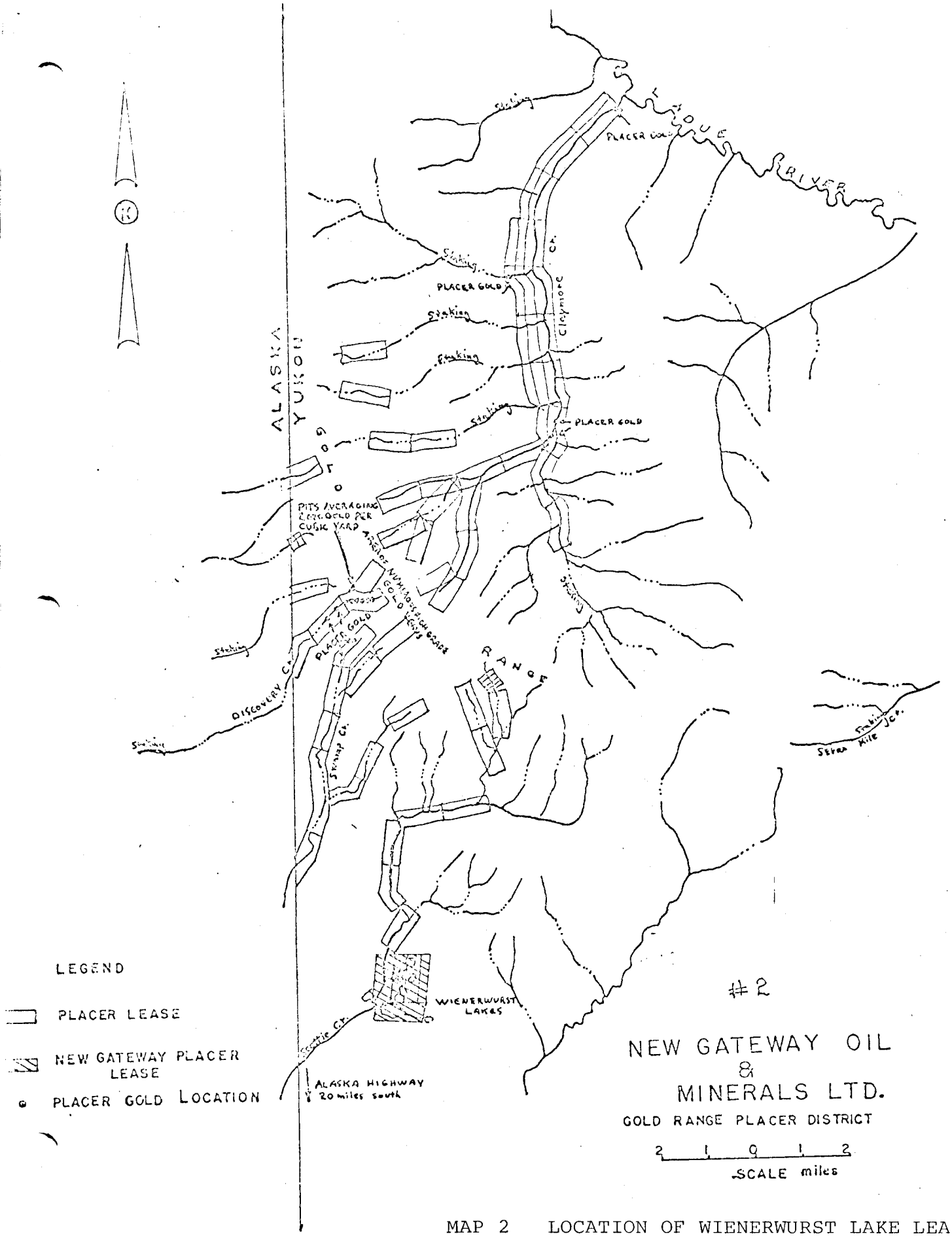
The location of five placer leases (No. 3773 - 3777) held jointly by New Gateway Oil & Minerals Ltd. (80%) and Probe Explorations (20% carried) is shown on Map 1 and Map 3 as well as the ERTS photograph on the frontpiece. These Leases are approximately 50 miles North of Beaver Creek (Mile 1212 on the Alaska Highway), two miles East of the Alaska Border, and 250 air miles from Whitehorse. Trans North Turbo Air in Whitehorse has helicopters and planes available which can service this area. Beavers and Otters with floats land on Wienerwurst Lake where they have landed before or, if not float equipped, they can land on the airstrip at Beaver Creek. A jetranger 206B is based at Dawson City and has a fuel cache at Beaver Creek. It is able to transport goods from the Alaska Highway to Wienerwurst Lake for about $150.00 per trip. A schedule of rates for these aircraft is enclosed. Heavy equipment may be dragged along a sixty mile winter road which goes directly from the Alaska Highway to Wienerwurst Lake.

HISTORY:

Since the discovery of gold on Moosehorn Mountain by Claymore Explorations in early 1975, this area has been of interest to Fosago Explorations and Probe Explorations. Subsequent to a study of many aerial photographs of the area and an exhuming of old reports on the Klondike, the principals of these two companies decided to stake in this area. They were intrigued by the remarkable similarities between this area and the Klondike. (See report by Folinsbee & Leech enclosed). Consequently, Probe and Fosago staked promising creeks north of Wienerwurst Lake on tributaries of Swamp Creek and Scottie Creek (Map #2). According to the analogy, these creeks should be loaded with gold-bearing gravels near bedrock, since gold-bearing quartz veins were found on the mountain which provided the gravel, and placer gold was panned in the creeks radiating from this mountain. It was reasoned also by Bale and Donaghy that some of this gold could have found its way to the sedimentary basin formed by Wienerwurst Lake as it was carried off the mountain by Scottie Creek. Support for a staking program on Wienerwurst Lake was provided by New Gateway Oils & Minerals Ltd. and this area was staked in late September 1975. (Map 3).



MAP 1 LOCATION OF THE MOOSEHORN IN YUKON TERRITORY



MAP 2 LOCATION OF WIENERWURST LAKE LEASES WITH RESPECT TO CLAYMORE AND FOSAGO LEASES AND KNOWN PLACER DISCOVERIES

WHITEHORSE, Y.T.

MARCH , 19 4 — 30 Sept 75 — 15 JULY 76
DECEMBER 3 [illegible] — 13 JUNE 75 — 18 MARCH 76

PUP CREEK

PUP PETE

AVE

RON

PIT

Lapse Feb 20/77

PL 3716

PL 3733

PL 3712

PL 3711 SCOT 3

SCOT 4

PL 3710 SCOT 2

PL 3709 SCOT 1

PL 3707 IMOK

Lapse Sept 18 1976

SCOTTIE CREEK

PL 3776

PL 3775

PL 3777

PL 3773

Bill

Tom

Bob

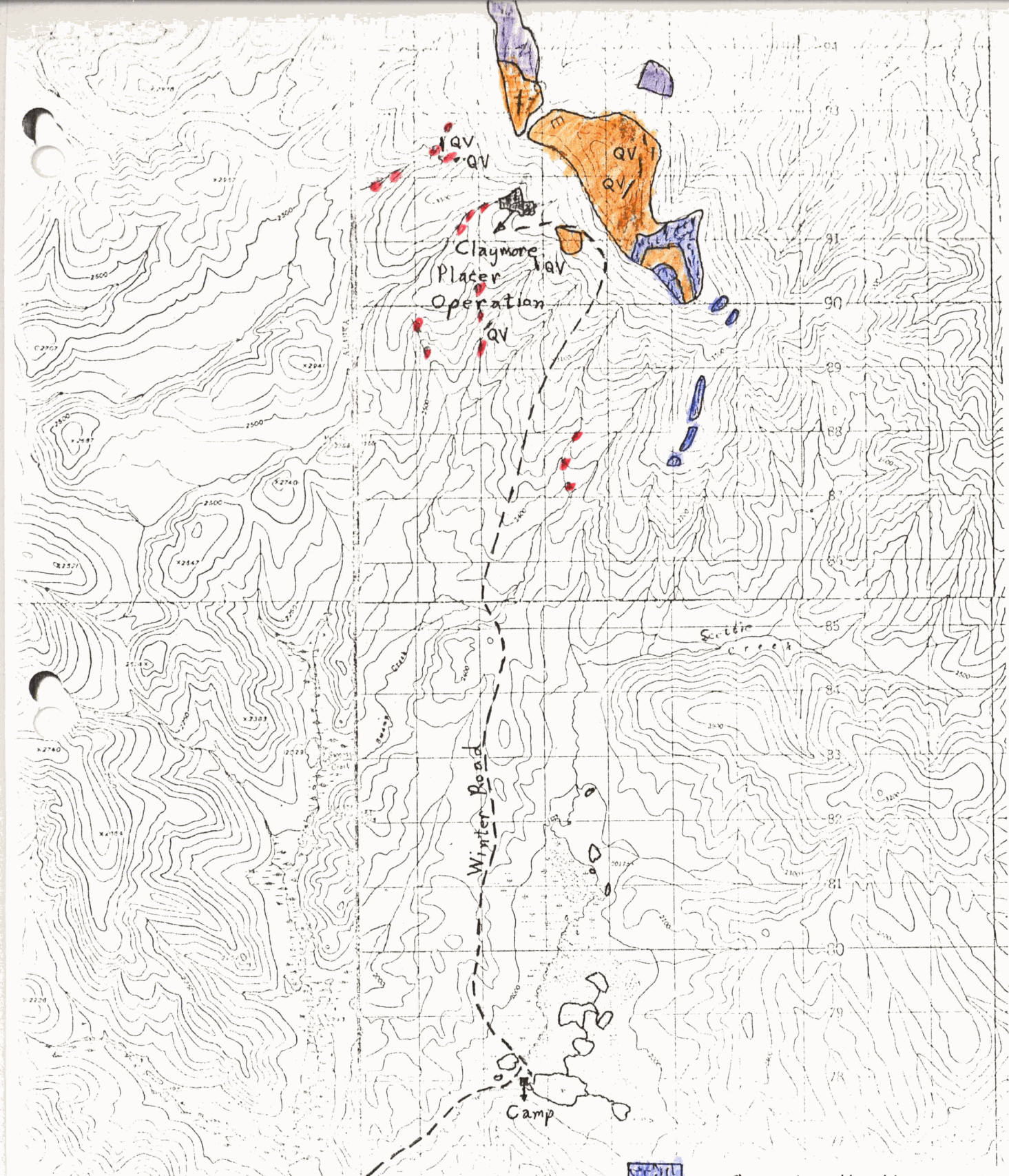
Al

Dave

WIENERWURST MTN.

3000

MAP 3 LOCATION OF PLACER LEASES #3773 - 3777 ON WIENERWURST LAKE. THE NUMBERS 1 TO 16 SHOW SAMPLE AND DRILLING LOCATIONS



MAP 4 GEOLOGY MAP OF THE MOOSEHORN SHOWING THE RELATIONSHIP OF GOLD-BEARING ROCKS TO THE CREEKS AND KNOWN PLACER LOCATIONS

After Morin

PHYSIOGRAPHY:

The Wienerwurst Lake area is an area of gently rolling hills and ridges drained by slow-moving meandering creeks which are misfits in their wide and swampy valleys. The relief is not great, with Wienerwurst Mountain rising only 1,000 feet above Wienerwurst Lake which itself is only 2,000 feet above sea level. The area has never been glaciated to the extent that the glaciers were able to move enough to cause classical glacial erosion. However, it is evident to the writer that there was once a great deal of water flowing in the creeks relatively recently. The tops of the ridges show bare outcrops of "felsenmeer", the term for large blocks of frost-heaved rock in situ. Outcrops on the hillsides are rare and in the valleys non-existent. Those outcrops which are found are very fresh and unweathered. The so-called soil of the valley sides consists of coarse sand interspaced with angular pebbles and boulders overlain by moss. It is frozen immediately under the moss. At the heads of the creeks are found similar soils occasionally impregnated with tiny angular cubes of gold. Such soils are worth about 50¢/yd. The gold-bearing gravels of the creeks consist of flat angular boulders which are fist-sized near the surface and desk-sized near bedrock. All these gravels are overlain by two or three feet of silt, organic "muck" and sand. All are frozen beneath one foot of depth.

Wienerwurst Lake consists of a basin which was once about two miles wide and three miles long. It has been completely filled by sediments from Scottie Creek as it drained off Moosehorn Mountain. (Picture 1). Map 4 shows placer locations. Scottie Creek has not yet been tested, but probably has placer gold in it for the simple reason that its source flows over the gold-bearing massive biotite grandodiorite as does Swamp Creek and Discovery Creek. The former basin is now occupied by seven shallow swampy lakes which lie about three feet below the surrounding flat land. This land is frozen below a two foot depth and is covered by 3 foot hummocks or "nigger heads" as they are called, which make walking very difficult. Occasionally walking is made even more difficult by a combination of nigger heads and tangled shoulder-high alders which are almost impenetrable.

EVALUATION:

A low-cost preliminary program was undertaken during July 1976 using simple hand methods. A soil sampling auger was used to drill 6' holes into the permafrost. It was slow (1/2" per minute) but effective. A suction dredge (illustrated in Appendix) was then used to suck all the mud out of each hole and run it through a sluice box. The concentrate was panned to see if gold was visible, then split with 1/2 of it sent for assay. The location of the holes and pits is shown on Map 3. It was found that there was a 2 foot layer of unfrozen organic material and "loonshit" underlain by a fine blue-grey silty clay which was frozen and found to contain gold. Most

PICTURE 1 AERIAL PHOTO SHOWING OLD CHANNELS OF SCOTTIE CREEK ACROSS LAKE BASIN

PICTURE 2 SCOTTIE CREEK WHERE IT PASSES WIENERWURST LAKE

PICTURE 3 SCOTTIE CREEK AS IT FLOWS OFF MOOSEHORN MTN.

PICTURE 4 WIENERWURST LAKE VIEWED FROM THE SUMMIT OF MOOSEHORN MTN.

PICTURE 5 ROBERTSON & SYRNYK USING AUGER ON HOLE #1

PICTURE 6 AERIAL PHOTO SHOWING AREA COVERED BY PICTURE 3

of this material was carried out of the sluice in suspension in muddy water and left a residue of fine black sand, gold and a few grains of quartz sand. The amount of black sand present in this mud was considerable, perhaps as high as 5% by volume.

During the first week in July, D. K. Robertson and L. Syrnyk dug pits (1-12) by hand to a depth of 3' and collected soil samples from each one. One can see on Picture 2 that this area is not easy to dig and very unlikely to present gold-bearing gravels to the digger. The mud was panned but no gold was visible. The auger (Picture 5) was used to a depth of 9' on hole #1 and 7' on hole #9. Observations were as follows:

Pit 1	3' - 4'	One colour found by sluicing 1/4 cu. ft. of blue mud.
	4' - 6'	50 colours found by sluicing 1/4 cu. ft. of blue mud.
	6' - 8'	30 colours found by sluicing 1/4 cu. ft. of blue mud
Pit 9	5' - 7'	20 colours found by sluicing 1/4 cu. ft. of blue mud.

Gold was fine but not flour with some coarser particles (10%) up to 1 mm in size. Extensive experience in panning gravels in the creeks, enables the writer to estimate the value of one of these colours as worth about 50¢ per yard. Using such an estimate then, Pit 1 has mud worth $12.00 - $25.00 per yard between 4' - 6' and worth $7.50 - $15.00 per yard between 6' - 8'. Pit 9 has mud worth $5.00 - $10.00 per yard at 5' - 7'.

During the second week of July, Mr. J. Lovegrove and G. Wormald continued drilling holes. They drilled holes 13 - 16 to a depth of 6' and collected the mud. Their observations were as follows:

Pit 1 (rechecked)		
	8'	11 colours in black mud
Pit 13	0' - 3'	2 colours in mud & quartz sand
	3' - 5'	black muck but no colours
Pit 14	0' - 3'	1 colour in muck and sand
	3' - 6'	3 colours
		Muck in side of bank on lake was sluiced and 3 colours found
Pit 15	0' - 3'	no colours found
Pit 16	0' - 3'	6 colours in mud and sand
	3' - 6'	6 colours in mud and sand.

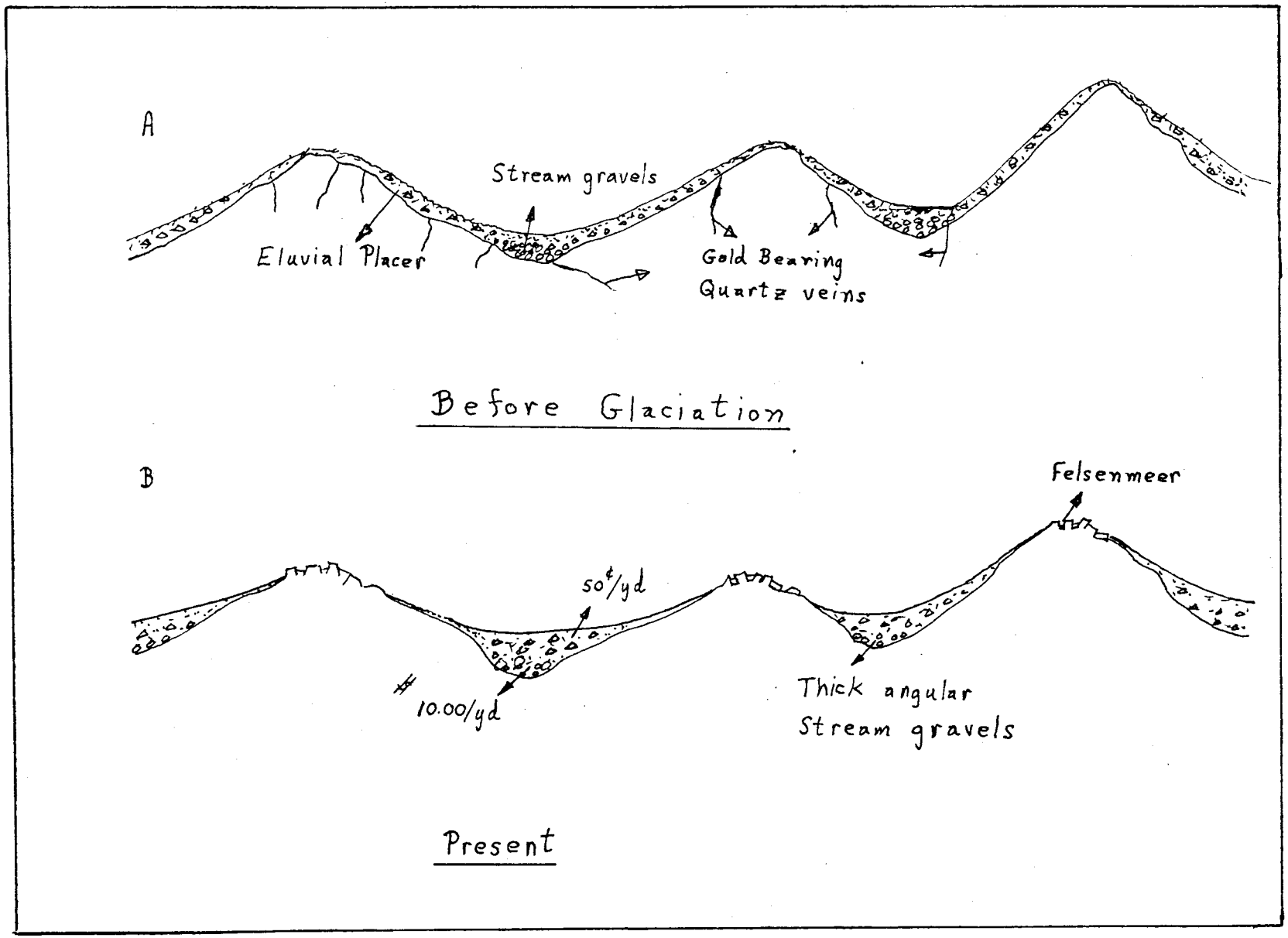


FIGURE 1 A POSSIBLE HISTORY OF THE HEADLAND OF SCOTTIE CREEK.

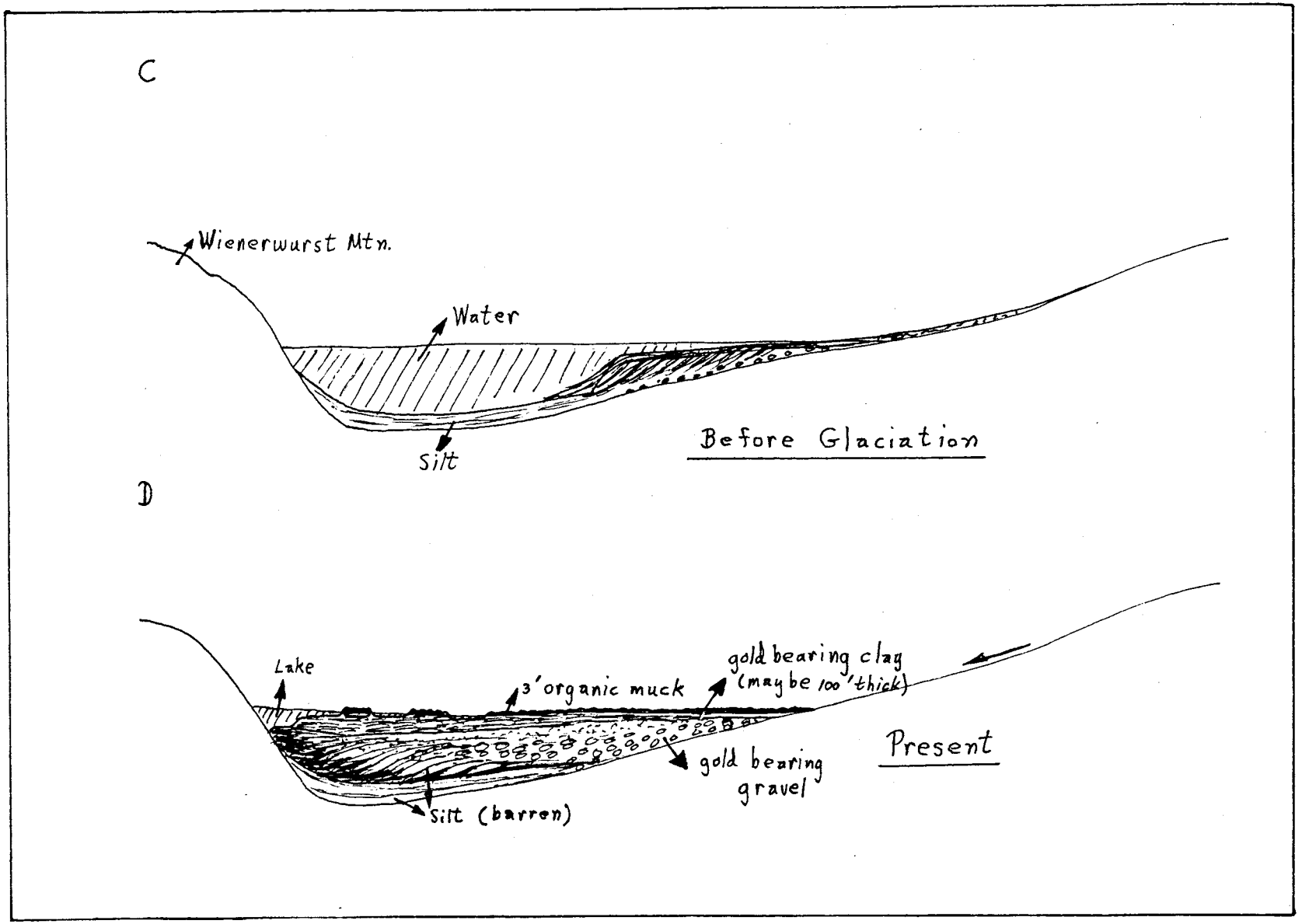


FIGURE 2 A POSSIBLE HISTORY OF THE WIENERWURST LAKE BASIN.

Mr. Lovegrove did not estimate the volume of muck sluiced, but I would estimate the volume of the holes as 1/4 cu. ft. Therefore, the mud in Pit 13 is $1.00/yd; Pit 14 is $1.50/yd; Pit 15 is nil and Pit 16 is $3.00/yd. These holes were shallower than holes #1 or #9 and the fact that the only holes which were drilled to 6' recovered gold is encouraging.

The assays on these sands and muds returned by Loring Laboratories in Calgary were not as encouraging as expected. The 50 colours observed at the 6' level according to Loring only weighted 1.88×10^{-3} gm. I would estimate that the sand which was sluiced out of 1/4 cu. ft. of mud (approx. 1/100 yd.) at this rate is only worth .67¢ per yard. (If 1/100 yd. holds 1.88×10^{-3} gm; 1 yd. holds 0.188 gm. Since 31.1 gm. = 1 troy ounce, then 1 gm. is worth $3.50 at a $110.00 per ounce gold price, or the sample is worth $3.50 x 0.188 = .67¢/yd.) Other values are shown in the assay report in the appendix. This value of .67¢/yd. contrasts sharply with my visual estimate of $12.00 - $25.00 per yard. Pit #12 gives an assay of 0.009 oz/ton which was on mud dug from the hole and not panned, sluiced or reduced in any way. Such mud is worth $ 1.00 per yard. Yet black sand panned out as a residue from this same mud (Pit #12 black sand, 3') has hardly any gold in it. I cannot explain such an assay. Some of these sands will be re-assayed to check them. I cannot believe 50 colours only weigh 0.00188 gm. especially since one of the colours was a millimeter across. Fosago weighted 50 similar-sized colours they obtained this summer and found they weighed 0.048 gm. To collect their colours about 50 pans of material was panned and the grade of the gravel was about .60¢/yd. At any rate, the fact that <u>all</u> the samples had at least a trace of gold is very encouraging.

CONCLUSIONS

This writer is of the opinion that finding one colour in this environment is amazing and, according to accepted placer theory, quite unlikely. The fact that considerable gold <u>has</u> been found makes this area one of great interest. The classic placer situation, such as that at White Channel in the Klondike, suggests that gold, being very heavy, is only found at the base of a thick sequence of gravels and in fact is unable to move very far from its sounce. One would expect, as Claymore and Fosago have proved, that the gold would remain in the headwaters of the creeks close to its sou ce and near bedrock with very little of it able to reach a sedimentary basin several miles away. The basin would be expected to hold light quartz gangue from the mountain which would be less rich in gold than the country rock of the mountain itself from which the gold originated. Our observations of Wienerwurst Lake prove such is not the case. Unlike the Klondike where only the creek gold is found to remain, we are fortunate to have not the turbulent Yukon River as a final resting place, but a placid lake which may have become a final graveyard and a trap for the gold of Moosehorn Mountain. (See Figures 1 and 2).

How could the gold have reached this Lake? It probably accumulated in the creek headwaters in alluvial, and eluvial placer deposits as the mountain was eroded. Immediately after each glacial period the quantities of ice and snow in the area melted rapidly and quickly moved gravel from the slopes into the valleys from which it was flushed into the Wienerwurst basin. At this time there was no vegetation and erosion could proceed rapidly. The basin acted as a gigantic sluice box and the blue-black silt acted as a blanket. In this case the sluice box may be four miles long, one mile wide and the blanket may be 100 feet thick. Below the blanket there may be coarser gold-bearing gravels.

The advantage of this area is the fact that even a low-grade deposit ($1.00 per yard) could be economic because of the large volume of material available and the homogeneity of the mud which is amenable to low-cost dredging. In this area one could expect to dredge about 1 1/2 million yards of mud per vertical foot worth $1,500,000. Such a basin, if 100' deep, (as seems very likely) would be worth $150,000,000. One could assume also that gold values should increase with depth. I am of the opinion that this area is worth more than $1.00 per yard and should be investigated further. In fact, in spite of the assays, I believe we could prove the mud is worth $10.00 per yard with very little more work.

RECOMMENDATIONS

The following program is suggested for this area.

Phase I

1. Assure that the leases are in good standing so they may be restaked as claims.

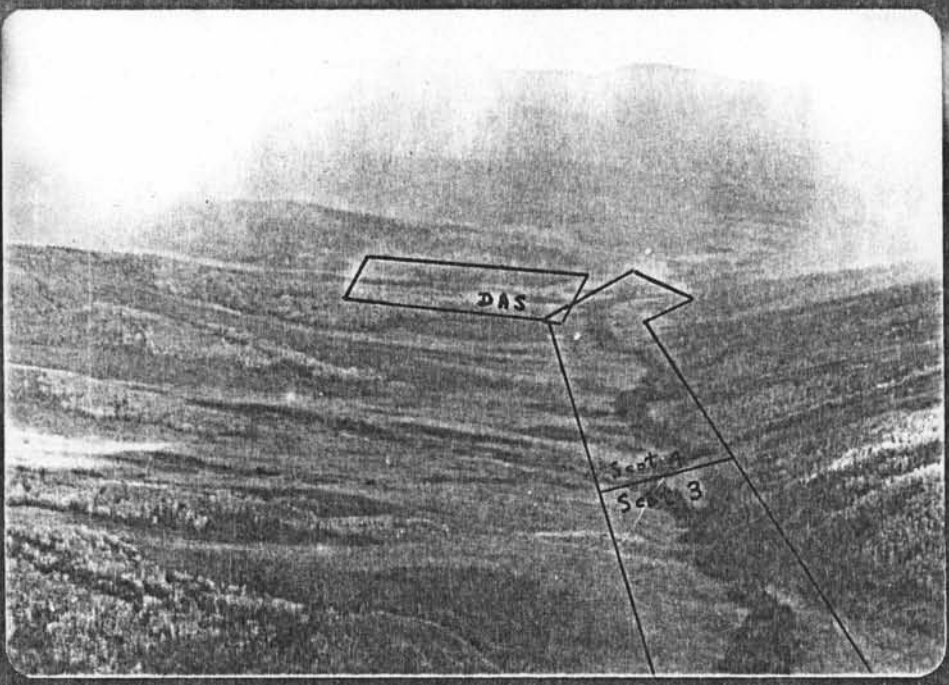
2. Send a crew in to restake the area, and also to stake new areas. Suggested areas to be staked are outlined in orange in the aerial photos.

3. While the staking is occurring three holes should be drilled to a depth of 9' and new samples collected.

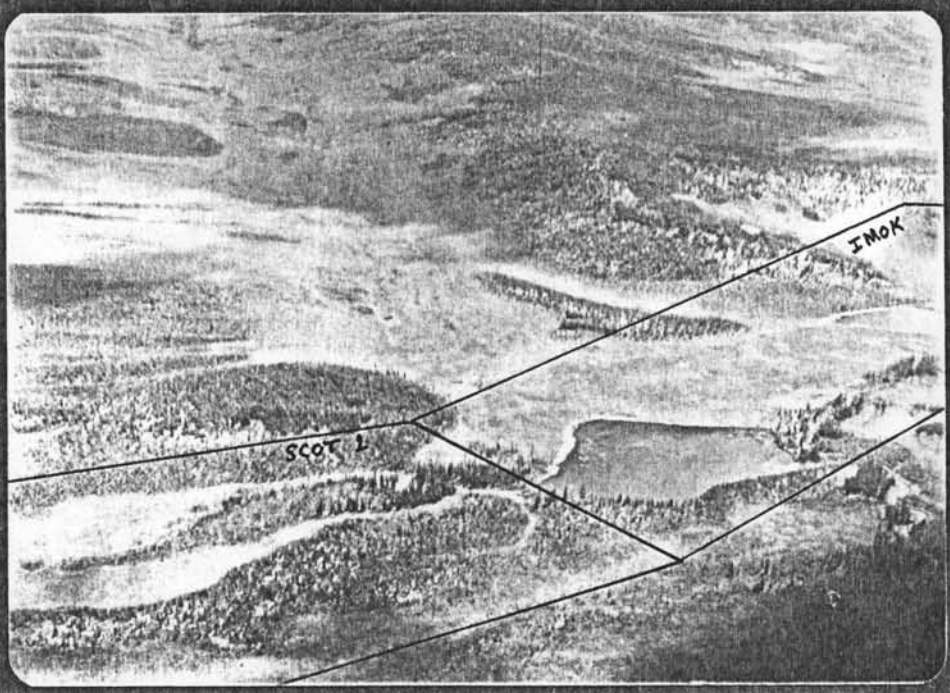
4. The cost of this program would be $5,000.00.

Phase II

5. Lift in a portable coring auger which can drill to 50'. These are available through Mobile Augers Ltd. in Edmonton at $100.00 per day plus $19.00 per hr. for each of two drillers plus expenses. The auger can be lifted by a Bell Jetranger as it weighs about half a ton. The cost of this program would be about $10,000.00 to $15,000.00.



PICTURE 7 PART OF SCOTTIE CREEK WHERE IT FLOWS OFF MOOSEHORN MTN. (ALSO SEEN IN AERIAL PHOTO PICTURE #8)



PICTURE 8 PART OF SCOTTIE CREEK JUST NORTH OF WIENERWURST LAKE

COST OF PROGRAM: (July 1976)

These costs are true and can be verified by receipts. They have been rounded off to the nearest dollar.

1.	Transportation:	
	a) 2 men (Edmonton-Whitehorse return)	$ 400.00
	b) 2 men (Whitehorse-Dawson - 1 way) Northways Airlines	126.00
	c) 2 men (Dawson-Wienerwurst, return) TNTA Jet Ranger (Charter split with Claymore) June 29	1,200.00
2.	Accommodation:	
	a) Hotel at Whitehorse (1 day) and food (going in)	100.00
	b) Hotel at Whitehorse (1 day) and food (going out)	100.00
3.	Food and Supplies (gasolene)	300.00
4.	Camping Equipment	200.00
5.	Wages (Senior $1,500/month)	800.00
	(Junior $1,000/month)	550.00
6.	Auger and Extension Bits	700.00
7.	Dredge and Attachments	300.00
8.	Pump and Hose	100.00
9.	Cost of Report (Professional Fees)	1,000.00
10.	Assays	170.00
11.	Drafting and Photos	50.00
		6,096.00
	Administration and Accounting (10%)	610.00
	TOTAL	$ 6,706.00

THIS IS TO CERTIFY that I, DAVID K. ROBERTSON, of the University of Alberta, Edmonton, Alberta, am a registered professional Geophysicist in the Province of Alberta. I have no interest in Claims # 3773 - # 3777 in the Wienerwurst Lake Area, Yukon, and was personally on the property in July 1976 to perform assessment work.

David K. Robertson

D. K. Robertson, Ph. D. P. Geoph.
Alberta.

To: FOSAGO EXPLORATION,
12903 Stoney Plain Rd.,
monton, Alberta

ATTN: D.K. Robertson

File No. 11691
Date July 22, 1976
Samples Black Sand

CORRECTED

Certificate of ASSAY

LORING LABORATORIES LTD.

SAMPLE No.	OZ./TON GOLD	Sample Wt. Grams	Value per yard	Mgs. Gold in Sample
Pit # 1 8' Sand	.669	21.15	19¢	.485
Pit # 1 3' Black Sand	.495	2.65	2¢	.045
Pit # 1 6' Level Pan Mud	5.712	9.60	75¢	1.880
Pit # 5 Black Sand	.034	4.22	1¢	.005
Pit # 12 Black Sand 3'	.021	6.77	1¢	.005
Pit # 9 Black Sand 6 ft.	.350	47.80	23¢	.574
Pit # 6	Trace	20.00		Trace
Pit # 7	Trace	25.10		Trace
Pit # 9	Trace	116.40		Trace
Pit # 10	Trace	52.90	$1.00	Trace
Pit # 12	.009	124.70		.040
Pit # 5 Soil	Trace	117.20		Trace
Pit # 11 Soil	Trace	17.70		Trace
Pit # 4	Trace	193.10		Trace

$$\text{OZ./TON} = \frac{29.166}{\text{Sample wt.}} \times \text{Mgs. Au}$$

I Hereby Certify THAT THE ABOVE RESULTS ARE THOSE ASSAYS MADE BY ME UPON THE HEREIN DESCRIBED SAMPLES . . . .

Rejects Retained one month.

Pulps Retained one month unless specific arrangements made in advance.

Licensed Assayer of British Columbia

from Spilsbury Tindall Ltd.

April 28th, 1976.

File.

SBX - 11

Rental & Purchase Price List

	Rental Rate per Month 2 - 4 Months	Rental Rate per Month 5 or more Months	Purchase
SBX-11 SSB radiotelephone with one channel installed and one non-chargeable alkaline battery pack	$110.00	$89.00	$1109.40

Additional cost of options:

		2 - 4 Months	5 or more Months	Purchase
	2 channels	23.00	11.00	70.00
	3 channels	46.00	22.00	180.00
	4 channels	69.00	33.00	210.00
AC-52A	tone oscillator	7.00	4.00	59.00
STA-133	dipole antenna ea.	19.00	9.50	57.00
STA-250	packset antenna ea.	52.00	26.00	155.00
STA-210	talking stick ea.	63.00	31.00	190.00
AC-18H	battery charger	33.00	16.00	98.00
AC-19H	alkaline rechargeable battery	4.00	2.00	12.60
AC-19K	Ni-cad rechargeable battery	-	-	120.60

Please note the following:

(1) Purchase price includes Federal Sales Tax - Provincial Sales Tax extra.

(2) Minimum rental period 2 months.

(3) Rentals payable prior to shipment from Vancouver.

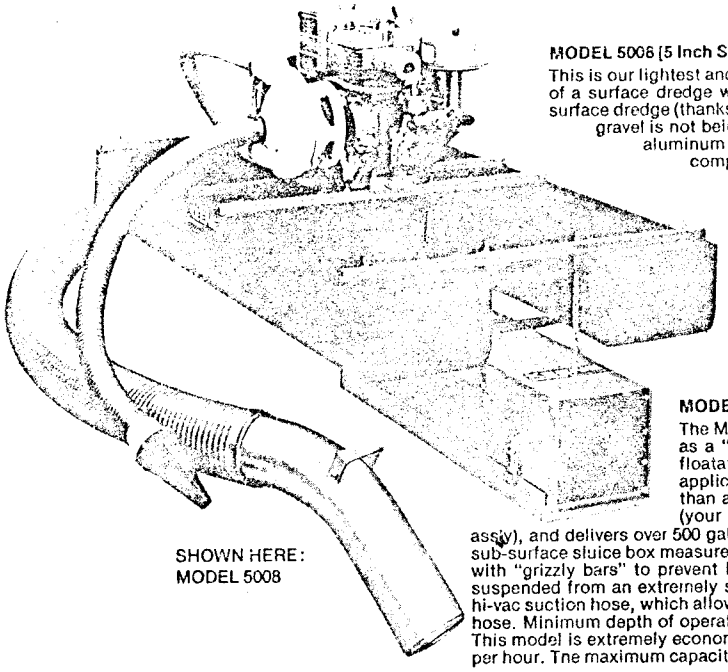
(4) Additional batteries must be purchased.

(5) Normal delivery for custom frequencies - 2 weeks.

HELICOPTER - ALL FUEL SUPPLIED BY CHARTERER EFFECTIVE MAY 12, 1976

	ZONE A	ZONE B	ZONE C	ZONE D
47G-3B-1 & 2	$180	$180	$180	$180
206 B JetRanger	300	325	385	310
Hughes 500	250	250	250	250

FIXED WING	ZONE	PER MILE	PER HOUR	MINIMUM LEG
	A-P	$1.30	$136.00	$32.50 25 miles
BEAVER	Q	1.35	142.00	33.75 25 miles
	R	1.55	163.00	38.75 25 miles
	A-P	$1.45	$175.00	$47.85 33 miles
TURBO BEAVER	Q	1.55	189.00	51.15 33 miles
	R	1.65	202.00	54.45 33 miles
	A-P	$ .95	$126.00	$23.75 25 miles
CESSNA 185	Q	.95	126.00	23.75 25 miles
	R	1.20	145.00	30.00 25 miles
	A-P	$1.65	$180.00	$41.25 25 miles
SINGLE OTTER	Q	1.75	190.00	43.75 25 miles
	R	1.95	215.00	48.75 25 miles
	A-P	$2.20	$346.00	$132.00 60 miles
TWIN OTTER	Q	2.30	366.00	138.00 60 miles
	R	2.40	380.00	144.00 60 miles
BEECH TRAVELAIRE	ALL	$ .75	$135.00	$35.00 54 miles
	A-P	$1.30	$260.00	$71.50 55 miles
CESSNA 402	Q	1.50	300.00	82.50 55 miles
	R	1.80	360.00	99.00 55 miles
	A-P	$ .85	$150.00	$35.00
SENECA	Q	.90	160.00	45.00
	R	.90	160.00	45.00



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MODEL 5008

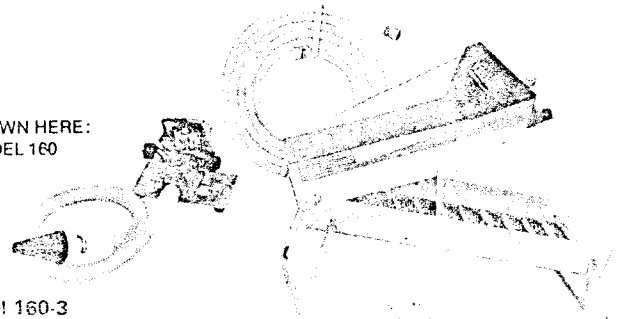
MODEL 5008 [5 Inch Sub-surface] .....

This is our lightest and most popular design in a sub-surface dredge. The Model 5008 combines the best features of a surface dredge with the desirable features of a submersible unit. It features the high recovery rate of a surface dredge (thanks to the large underwater sluice box), and offers very high capacity due to the fact that the gravel is not being raised above the water line. The Model 5008 is powered by an 8-H.P. Briggs & Stratton aluminum engine and our P-200 pump (P-208B pump & engine ass'y), and comes with a Model 875 air compressor which delivers enough air for two divers under light exertion to 50 foot depths. Our large Model #440 compressor can be ordered optionally for increased air output. The sub-surface sluice box is suspended by galvanized steel chains between the twin modules of a "Marlex" floatation assembly, and can be raised or lowered for operation in any river or creek. The sluice box measures 43" long by 8" wide, and has a recovery rate equal to that of a surface sluice. The riffle tray is removable for ease of cleaning and inspection. This unit comes with 10 feet of 5" hi-vac suction hose, which is adequate for most situations due to the fact that the sub-surface sluice box can be lowered (with the addition of extra pressure hose; see page 10) to continually deeper depths as the dredger works his way down through the overburden. Gasoline consumption allows for 2 hours dredging time on a gallon of regular gasoline; the maximum capacity of this machine is 18 cubic yards of loosepack gravel per hour. Total unit weight — 160 pounds.

MODEL 8016 [8 Inch Sub-surface] .....

The Model 8016 is our lightest and most portable 8-inch suction dredge. It can best be described as a "hybrid" dredge, as it operates on the principle of the Model 5008 (above), and uses a floatation arrangement similar to that of our Model 6516. This Model is designed for professional applications in which extreme portability is required; it can be transported in much less time than an equivalent surface-type dredge. This Model is powered by a 16-H.P. Industrial engine (your choice of Briggs & Stratton or Tecumseh) and our P-300 pump (P-316B pump & engine ass'y), and delivers over 500 gallons of water per minute to a power-jet eduction device for maximum suction power. The sub-surface sluice box measures 66" x 12", and features twin removable riffle trays with deep hungarian riffles and matting with "grizzly bars" to prevent large gravel buildup; fine gold recovery is excellent. The sluice box and power-jet are suspended from an extremely stable, twin styrofoam billet floatation system. This model comes with 10 feet of 8-inch hi-vac suction hose, which allows the unit to be operated at a depth of 20 feet with the standard ten-foot length of pressure hose. Minimum depth of operation is 18" to a maximum of 50 feet with the addition of extra pressure hose (see page 10). This model is extremely economical to operate for a dredge its size — fuel consumption is one gallon of regular gasoline per hour. The maximum capacity of this machine is 30 cubic yards of loosepack gravel per hour. Unit weight is 485 pounds.

HYDRAULIC CONCENTRATOR



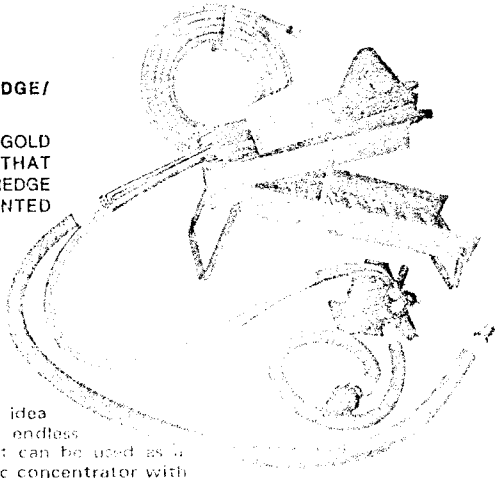
SHOWN HERE:
MODEL 160

Model 160-3
This version of our Model 160 uses the same basic concentrator unit, foot valve, etc., as described at right, but comes with a 3 H.P. P-103 pump & engine ass'y for water lifts up to 200 feet. Price listed is minus pressure hose; Unit weight is 49 lbs.
Model 160-3 Hydraulic Concentrator (less pressure hose) ....

Model 160
This new LIGHTWEIGHT GOLD PANNING MACHINE handles placer gravel away or above the river where gold is sometimes more abundant. This machine will recover platinum, gold and other precious minerals as fine as 200 mesh. Designed to fold up for backpacking and assembled or disassembled in only moments. This SUPER LIGHTWEIGHT CONCENTRATOR WEIGHS ONLY 17 lbs. The concentrator can handle up to 1 ton of bank run gravel per hour during continuous operation. The concentrator is operated by a 1 H.P. pump and engine (P-51), and 25 feet 1 inch pressure hose. It comes complete with suction hose, foot valve and strainer, ready to operate. The operation principle of this machine is simple; water is pumped to the concentrator through a metered valve and is distributed evenly over a classifier screen. As gravel is shoveled into the hopper it is instantly saturated and sized. The larger material washes over the screen and the smaller gold bearing material drops into a sluice for final separation. A ton of gravel can be reduced to only a panful of concentrates, in less than an hour. The maximum water lift of the 1 H.P. pump & engine ass'y used on this model is 30 feet; for lifts greater than this, a larger power unit is required (see Model 160-3, below). Total unit weight —30 lbs.
Model 160 Hydraulic Concentrator .....

MODEL 165 MINI-DREDGE/ CONCENTRATOR

AT LAST...HERE'S A GOLD RECOVERY DEVICE THAT CAN BE USED AS A DREDGE OR A BANK-MOUNTED CONCENTRATOR!



This sensational new idea offers the prospector endless possibilities because it can be used as a conventional hydraulic concentrator with the features of our Model 160, but can be converted over to a 1½-inch "mini-dredge" with the accompanying power-jet, suction hose, and support bracket for attaching the eductor to the concentrator unit. When operated as a dredge, the concentrator unit is set up right at water's edge, allowing the user to vacuum shallow crevices, etc., close to the bank with a length of 1½-inch Plastiflex suction hose. In addition to the normal 25 foot length of pressure hose supplied for operating the unit as a hydraulic concentrator, a shorter 5 foot length is included for supplying water to the power-jet when the concentrator unit is set up on the bank near the pump & engine assembly and used as a dredge; this is to alleviate the slight friction loss that would be gained while using the 25' pressure hose. When used as a dredge, the power-jet is held onto the concentrator unit with a sturdy support bracket, and the gravel emerges from the jet and shoots up the hopper section. It then falls back downward, and the minus 3/8 inch gravel falls through the classifier screen and into the sluice section for processing. Gravels larger than 3/8-inch are washed off the back of the hopper section. Because of the relatively gentle current through the sluice section of the concentrator, we can employ a diamond "expanded metal" screen for underlining the riffles; this allows for a fine gold recovery rate that is equal to larger, more expensive commercial concentrating devices. In fact, the Model 165 could easily be used to further concentrate the black sands, etc., taken from the riffles of a large dredge so that there wouldn't be nearly as much material to pan out. The Model 165 is offered in three versions (see descriptions below), depending upon the out-of-water dredging lift and/or the amount of suction hose you wish to use. All versions come with one standard 7 foot length of 1½-inch Plastiflex hose, foot valve and priming hose, concentrator unit, 25' of 1" pressure hose (for use as hydraulic concentrator), 5' of 1" pressure hose (for use as dredge), 1½" power-jet, 1½" intake tip, a support bracket for coupling the power-jet to the concentrator, and all necessary clamps, etc. When you consider the many possibilities of this unit for successful gold recovery, you too will see why we are so excited about it!

Model 165-1
This version features all the equipment described above, and is powered by a 1 H.P. industrial 2-cycle engine and our P-50 pump (P-51 pump & engine ass'y), for maximum dredging lift (water line to concentrator) of 13" and suction hose length of 7'. Package weight is 40 lbs.
Model 165-1 .....

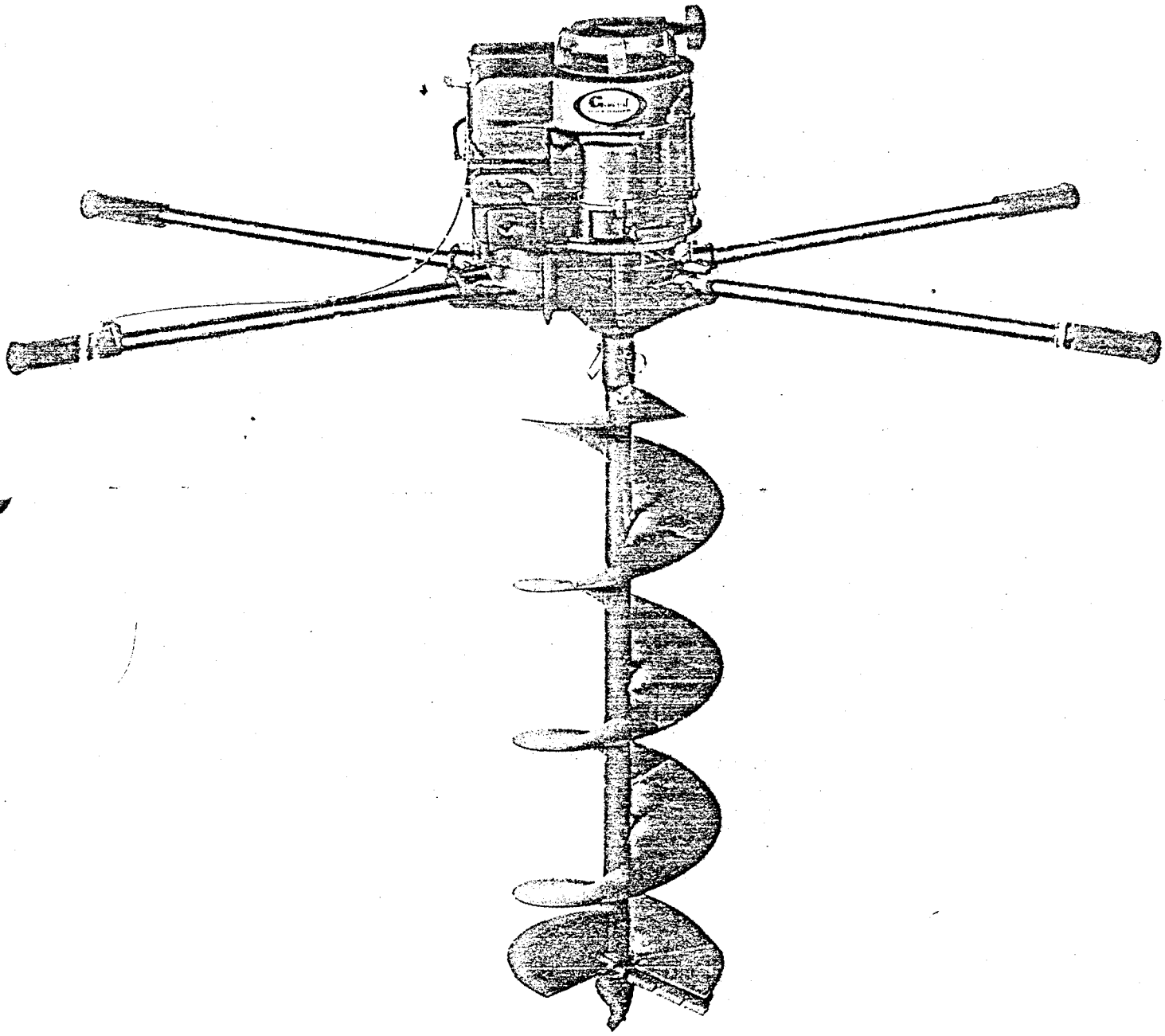
Model 165-2
This version features all standard equipment but comes with a 1½ H.P. industrial 2-cycle engine and P-50-1 pump (P-75 pump & engine ass'y), for maximum dredging lift (water line to concentrator) of 18" and 14 feet of suction hose. Package weight is 41 lbs.
Model 165-2 .....

Model 165-3
This version features all standard equipment but is powered by a 3 H.P. Briggs & Stratton aluminum engine and P-100 pump (P-103 pump & engine ass'y), for maximum dredging lift (water line to concentrator) of 30" and suction hose length of 21 feet. Package weight is 66 lbs.
Model 165-3 .....

OWNER'S GUIDE

MODEL 35 & 70

PORTABLE DIGGER



THE General EQUIPMENT COMPANY
Owatonna, Minnesota, U.S.A.

SETTING UP

Inspect carton and contents carefully for evidence of shipping damage, and file claim with delivering carrier if shipment is damaged.

Attach handles to the openings in ends of gear case and fasten with the bolts provided in the openings. The handle with throttle control belongs in the right-hand position at the sparkplug end of the Powerhead. Before attaching this handle, slip the throttle wire into the binding post of the throttle grip and start the outer conduit into the threaded fitting. Then turn the handle clockwise to thread the outer conduit into the threaded fitting as far as possible. Leave the setscrew loose on the binding post, until final adjustment is made later. Now fasten this handle into its opening with bolt provided, and clip throttle conduit to the handle. To determining correct length of the innerwire turn the throttle grip on the handle as far as it will go counterclockwise up against the stop. Slide the governor control lever on the engine to which the other end of the throttle wire is attached as far left as it will go. Now tighten setscrew on the throttle grip binding post. Check the adjustment to be sure it is giving full swing to the governor lever on the engine. Clip off excess wire.

ENGINE

Read the engine manufacturers instruction book carefully. Be SURE to fill the crankcase with oil as directed before starting. Fill fuel tank. Check all adjustments carefully as directed. DO NOT START ENGINE BEFORE READING THE ENGINE INSTRUCTIONS.

TRANSMISSION

Fill gear case to level plug located at the side near the handle attaching boss, marked OIL LEVEL. DO NOT START ENGINE UNTIL GEAR CASE IS FILLED. Use No. 30 oil in the gear case and maintain the level as directed. The centrifugal clutch runs in oil with the gear train. Correct grade oil is important to its proper function. The clutch has solid metal shoes and requires no adjustment. Throttle setting and speed regulate its engagement and disengagement. Clutch is intended to slip on overload, or when striking obstructions with the auger. It requires engine speed to engage.

OPERATION OF DIGGER

With the above instructions complied you are now ready to attach auger to the auger shaft at bottom of gear case, using the auger pin provided. This is an alloy steel pin not intended to shear on impact. Do not use a bolt or soft pin to attach the auger. It will twist off and cause damage to the auger shaft. When preparing to dig place the Powerhead with auger attached in vertical position and start the engine as directed. Advance the throttle and the auger will begin to turn as engine accelerates. Keep a firm grip on the handles and remember the throttle grip on one handle controls the entire operation. The auger will feed itself into the earth without pressure unless the blade is dull or the earth very hard. DO NOT PRESS DOWN. Extra pressure merely tires the operators. Replace the cutter blade and point when dull. A blade which is dulled so it points upward simply cannot dig downward. KEEP A SHARP BLADE on the auger. The blade does all the work yet is the most neglected part. The remainder of your investment merely puts the blade in position to work. THE BLADE DOES THE WORK. Allow the auger to turn while removing it from the hole so it will clean the hole.

SERVICE

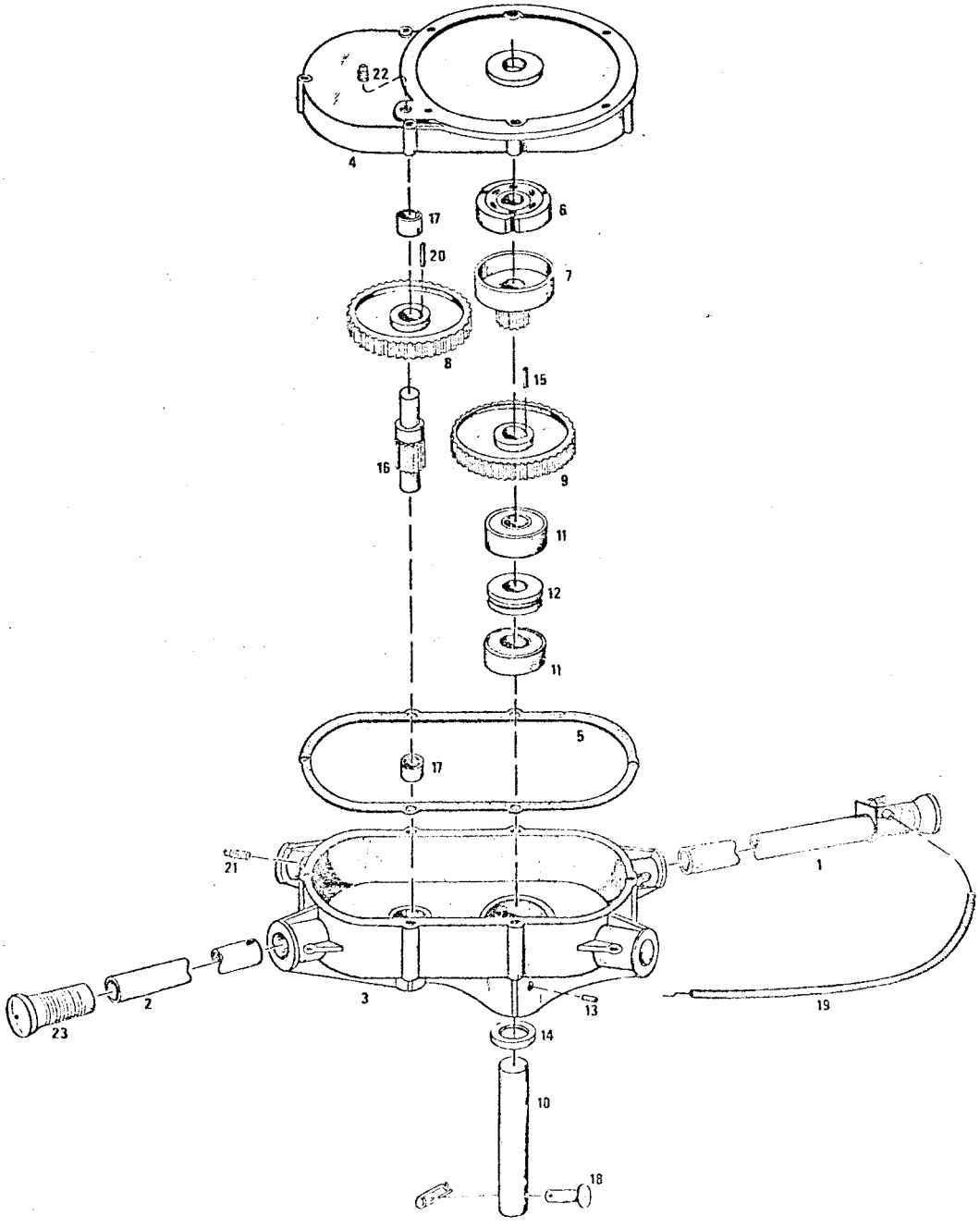
The Briggs & Stratton Engine can be serviced at any small engine shop, which has parts available. They will also be authorized to handle ENGINE warranty claims. WE DO NOT STOCK ENGINE PARTS OR SERVICE AT THE FACTORY. Parts and service for the remainder of the Digger are available from our distributors or from our factory.

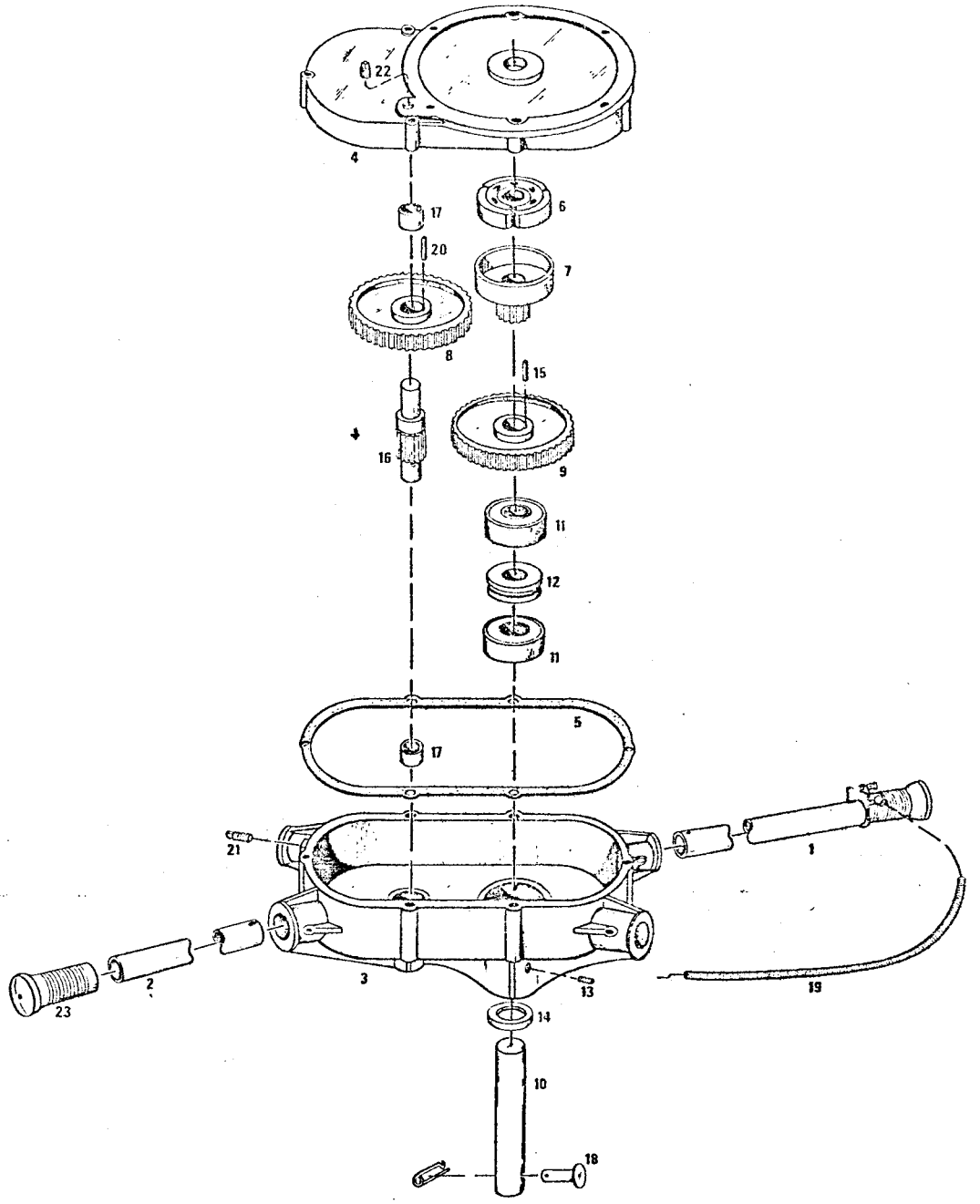
THE POWERHEAD IS DESIGNED TO OPERATE IN VERTICAL OR NEAR VERTICAL POSITION DUE TO THE LIMITATIONS OF THE LUBRICATION OF THE FOUR-CYCLE ENGINE. DO NOT PLACE THE POWERHEAD ON ITS SIDE WHEN NOT IN USE. DIG A SHALLOW HOLE TO STAND THE MACHINE IN WHEN NOT IN USE ON THE JOB.

PARTS LIST

Model 70

Fig.	Part No.	Item
1	7009-A	Handle w/Throttle
2	7009-B	Handle, each
3	7012	Gear Case
4	7013	Gear Case Cover
5	7010	Gasket
6	7017	Clutch Shoe Assembly
7	7016	Clutch Drum w/pinion
8	7034	Primary Gear
9	7035	Secondary Gear
10	7033	Driveshaft
11	206NP	Bearing, each
12	7059	Spacer
13	7058	Set Screw, each
14	228-116	Oil Seal
15	7071	Driveshaft Key
16	7031	Pinion & Shaft
17	10439	Pinion Shaft Bearing, each
18	7021	Auger Pin & Cotter
19	7008	Throttle Cable & Wire
20	7072	Pinion Shaft Key
21	7026	Oil Level Plug
22	7037	Filler Plug
23	10538	Handle Grip, each
	13070	Briggs & Stratton Engine, 5 hp.





PARTS LIST

Model 35

Fig.	Part No.	Item
1	3509-A	Handle w/Throttle
2	3509-B	Handle
3	3512	Gear Case
4	3513	Gear Case Cover
5	3510	Gasket
6	3517	Clutch Shoe Assembly
7	3516	Clutch Drum w/pinion
8	3534	Primary Gear
9	3535	Secondary Gear
0	3533	Driveshaft
1	205NP	Bearing, each
2	559	Spacer
3	558	Set Screw, each
4	204-100	Oil Seal
5	3571	Driveshaft Key
6	3531	Pinion & Shaft
7	10439	Pinion Shaft Bearing, each
8	3521	Auger Pin & Cotter
9	3508	Throttle Cable & Wire
20	3572	Pinion Shaft Key
21	3526	Oil Level Plug
22	3537	Filler Plug
23	10538	Handle Grip, each
	92935	Briggs & Stratton Engine
	B-820	Cutter Head 4" Test Bore Auger
	E-244	Cutter Blade, 4" Earth Auger
	E-246	Cutter Blade, 6" Earth Auger
	E-248	Cutter Blade, 8" Earth Auger
	E-310	Cutter Blade, 10" Earth Auger
	E-512	Cutter Blade, 12" Earth Auger
	E-516	Cutter Blade, 16" Earth Auger
	Y-246	Cutter Blade, 6" Ice Auger
	Y-248	Cutter Blade, 8" Ice Auger
	Y-310	Cutter Blade, 10" Ice Auger
	Y-512	Cutter Blade, 12" Ice Auger
	P-801	Pilot Point for Earth Augers
	P-530	Pin to retain pilot point
	2424	Pilot Point for Ice Auger

BEFORE STARTING

FILL GAS TANK with fresh, clean REGULAR grade gasoline. Do not use gasoline that has been stored for long periods, as gummy deposits and condensation will foul carburetor jets.
FILL CRANKCASE WITH OIL to top (overflow) or to full mark on engines equipped with dipstick. Pour oil slowly to avoid trapping air in crankcase, rock engine to release air.
OIL SPECIFICATIONS – Use a high detergent oil with container marked "MS", "SC", "SD", or "SE". For temperatures above 32°F. use SAE30. For temperatures below 32°F. use SAE10W. For Snow King Engines use 5W-20.

STARTING

Disengage any self-propelling devices, clutches or blade controls. Place all equipment controls in neutral.
Set throttle control at CHOKE or START.
Primer equipped engine – push primer several times.
Operate starter – see instructions for particular starter on your engine.
Reset throttle control to RUN position (FAST or SLOW).

ENGINE CARE

CHECK OIL LEVEL REGULARLY
OIL CHANGE
Change oil after using first two tanks of gasoline. Check oil before starting engine each day and after five hours of operating. Change oil regularly after each twenty-five operating hours, or more often in extremely dusty conditions.

KEEP ENGINE CLEAN – Remove dirt and oil from cooling fins, screen and flywheel for best engine performance and to prevent damage from overheating.
OFF SEASON STORAGE – Protect your equipment investment from year to year by proper storage procedures. Empty gasoline tank. Float carburetor models, push bowl drain to remove fuel. Diaphragm models, run engine to use fuel from carburetor and gas lines after draining tank. Protect inside of engine by removing spark plug and pouring one ounce SAE30 oil into cylinder. Crank engine to distribute oil.

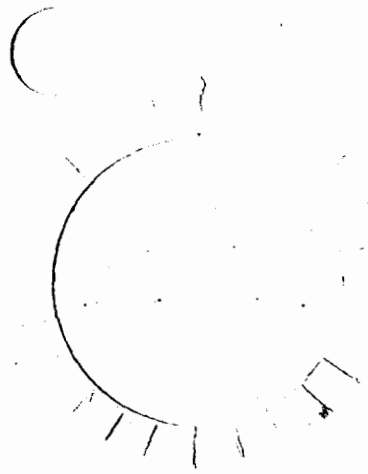
Sears

DIV. RAYON 9 S.L. L.S. 6R
NO. Nº M-35
SIZE DIMENSIONS 6" AUGER
OTHER SIZES AVALIABLE
FINISH FINI COLOUR COULEUR
PRICE - PRIX
$410.95

• CHARGE IT ON AN ALL PURPOSE ACCOUNT
• UTILISEZ VOTRE COMPTE UNIVERSEL
SIMPSONS-SEARS LIMITED
18043 REV. 7-74

GEORGE K
BILLSTEN
453-3841
14815 - 116 AVE
KENWELL
EQUIPMENT

WARNING
BEFORE USING
Put 1 Qt.
No. 30 Motor Oil
In Gear Case
M-35



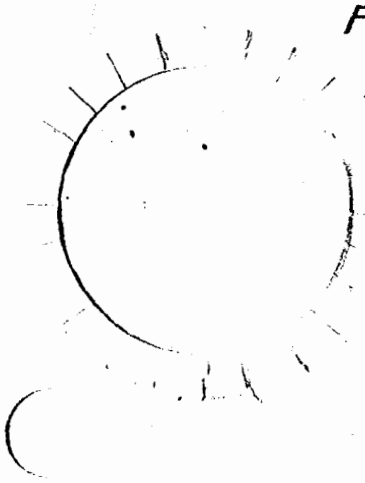
PROTECT YOUR EQUIPMENT INVESTMENT Damage to engine resulting from abuse, neglect or improper operation is not covered under Tecumseh's warranty against defects in material and/or workmanship. Owner is responsible for regular prescribed maintenance as set forth in the operator's manual.

NOTE – The instructions on this tag are only supplemental to the owner's manual for your Tecumseh engine and to the instructions on the equipment it powers. Read both manuals for complete instructions.

SERVICE AT YOUR FINGERTIPS Dial the Tecumseh authorized service dealer's number listed in the yellow pages under "Engines, Gasoline".

TECUMSEH PRODUCTS COMPANY
ENGINES & PEERLESS DIVISIONS – GRAFTON, WISCONSIN 53024
Where Imagination and Innovation Help Shape an Industry.

FOR BEST ENGINE PERFORMANCE



READ BEFORE STARTING ENGINE

PROTECT YOUR EQUIPMENT INVESTMENT

READ THE OPERATING INSTRUCTIONS FOR BOTH THE ENGINE AND EQUIPMENT IT POWERS

Litho in U.S.A. R-372 / 64-170C

Sears

PHONE 484-2281
Ext. 209

FRED BODIE
HARDWARE DEPT.

SIMPSONS - SEARS LTD.