

800136

MINERAL PROPERTY EVALUATION REPORT

PRODUCTION PROPOSAL 1985 SEASON
DAN-DRAIN PLACER LEASE GROUP

LOWER OTTER CREEK
SURPRISE LAKE AREA
ATLIN GOLD PLACER CAMP
NORTHWESTERN BRITISH COLUMBIA
(ATLIN MINING DIVISION)

GENIE RESOURCES LTD.
112C-255 WEST FIRST STREET
NORTH VANCOUVER, B.C.
V7M 3G7

BY

M.D. KIERANS P. Eng

059 37' North Latitude
133 23' West Longitude

February 10, 1985

Feb/10/85

Dan-Drain:

Genie:

MDK

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PRODUCTION PROPOSAL 1985 FIELD SEASON
DAN-DRAIN PLACER LEASE GROUP
LOWER OTTER CREEK, SURPRISE LAKE AREA, ATLIN M.D.

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i
SUMMARY

The Dan-Drain Placer Lease Group of 22 Claims and fractions is located on Lower and Middle Otter Creek and on Surprise Lake, about 20 km east of Atlin in Northwestern British Columbia. Genie Resources has 100% interest in the mineral rights to these placer leases. Sebrew Holdings has rights to two of the claims of the Dan-Drain Group.

Atlin Gold placer camp, in a glaciated area, has, in general, rich and relatively narrow ancient gravel placers, under unfrozen glacial deposits of varying thickness. The Lease is one of such placer deposits in an old stream channel to the east of the present creek valley.

The writer supervised a two Phase drilling program of 6092 feet of Becker hammer drilling (in 84 holes) on the subject claims between May 25, and October 18, 1983. As a result of that program reserves of placer ore were assigned along the located and presumed sections of the old channel. About 2,000,000 cubic yards of channel pay with about 200,000 ounces of fine gold were assigned in reserves of various categories on the Dan-Drain Claims.

The major emphasis of Genie Resources Ltd.'s 1984 project was to consolidate the overall mine plan, re-evaluate the previous operations on the Drain lease and redesign and upgrade pit operations, strip and prepare ground for the season's mining operations. In particular, the state of development at the Drain lease pit resulted in a major time and cash commitment to drain the pit and redesign access, berms and sideslopes to provide greater efficiency of operation. Production from the Drain lease recommenced, under Genie Resources Ltd. management, about July 15th and ended for the season on October 16th, 1984.

A total of about 150,000 cubic yards of pay gravels was mined and sluiced during the season. The average recovery grade was 0.022 oz./C.Y., but taking into account recovery system losses and dilution factors the actual average grade of the material mined could be about 0.056 oz/C.Y. The material mined in 1984 was taken from areas which have previously been subjected to underground hand mining, and also from the margins of the ancient stream channel. Therefore it was to be expected that the production grade would be lower than the average expected for the overall Otter Creek project. It was only in the later part of the season that higher grade areas of the reserve were mined.

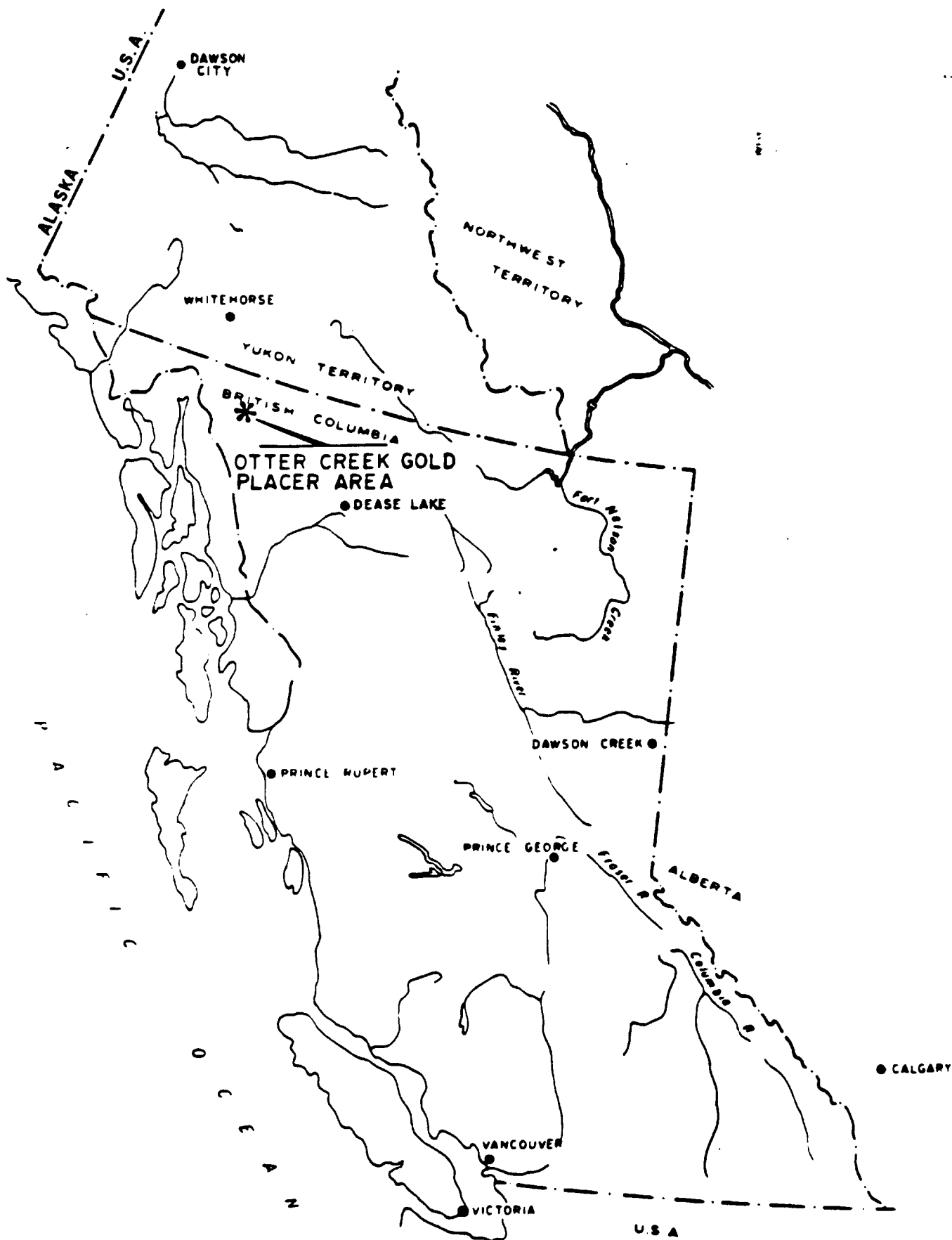
Following analyses of the 1984 program, Genie Resources Ltd. developed proposals for its 1985 mining project. The mine plan is described in this report and estimates of capital and operating costs are included. Proposals for improving the efficiency of the washing plant are outlined and it is believed that an average recovery grade of 0.09 oz./C.Y. may be achieved from the materials to be processed. A total recovery of some 20,680 ozs. of gold is projected for 1985 and this, at an average gold price of, say, \$315.00 (U.S.) per oz., may yield a pre-tax profit of about \$4,300,000.

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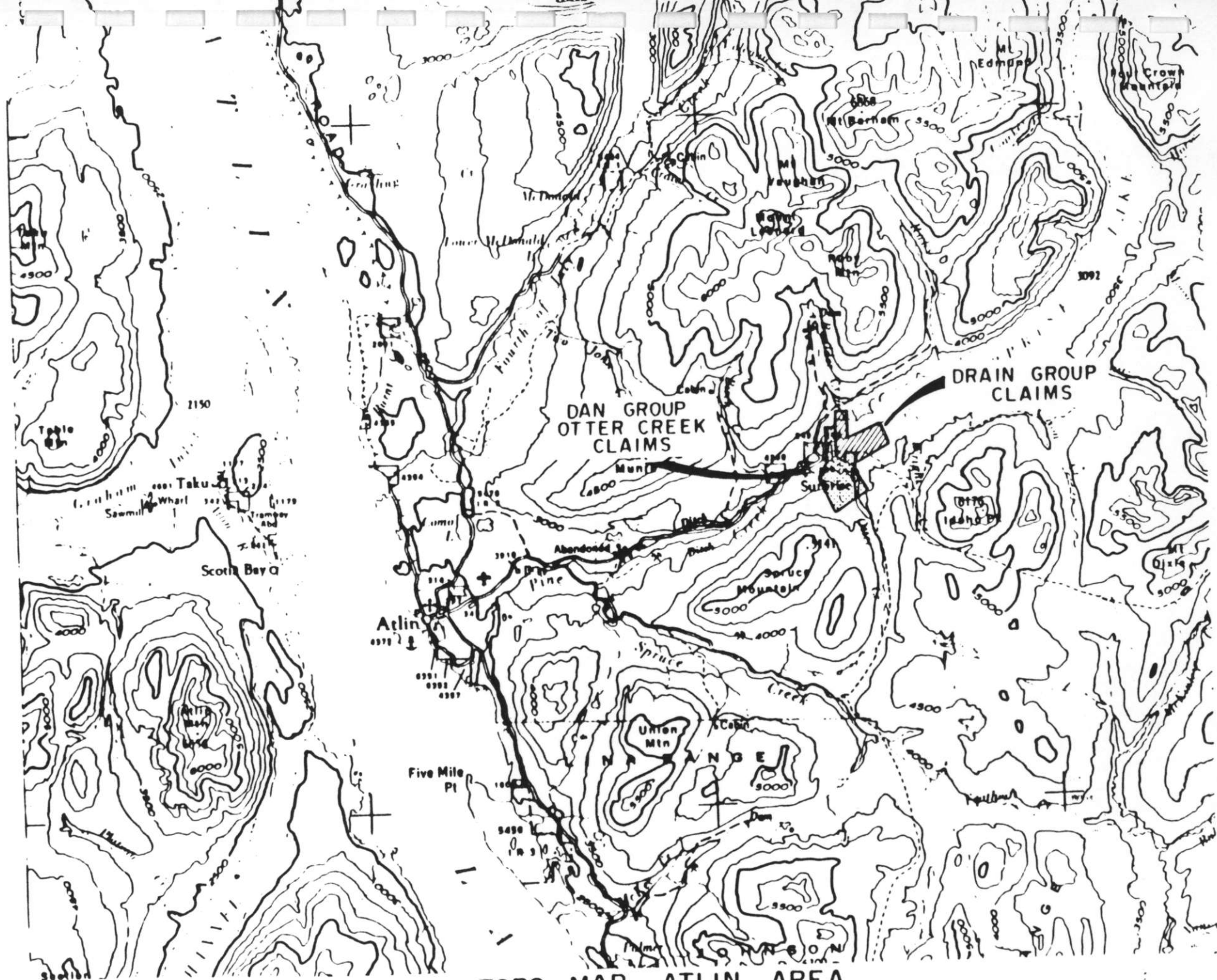


LOCATION MAP

SCALE: 1" = 140 MILES APPROX



FIGURE 1



TOPO MAP, ATLIN AREA
SCALE 1:250,000

FIGURE 2



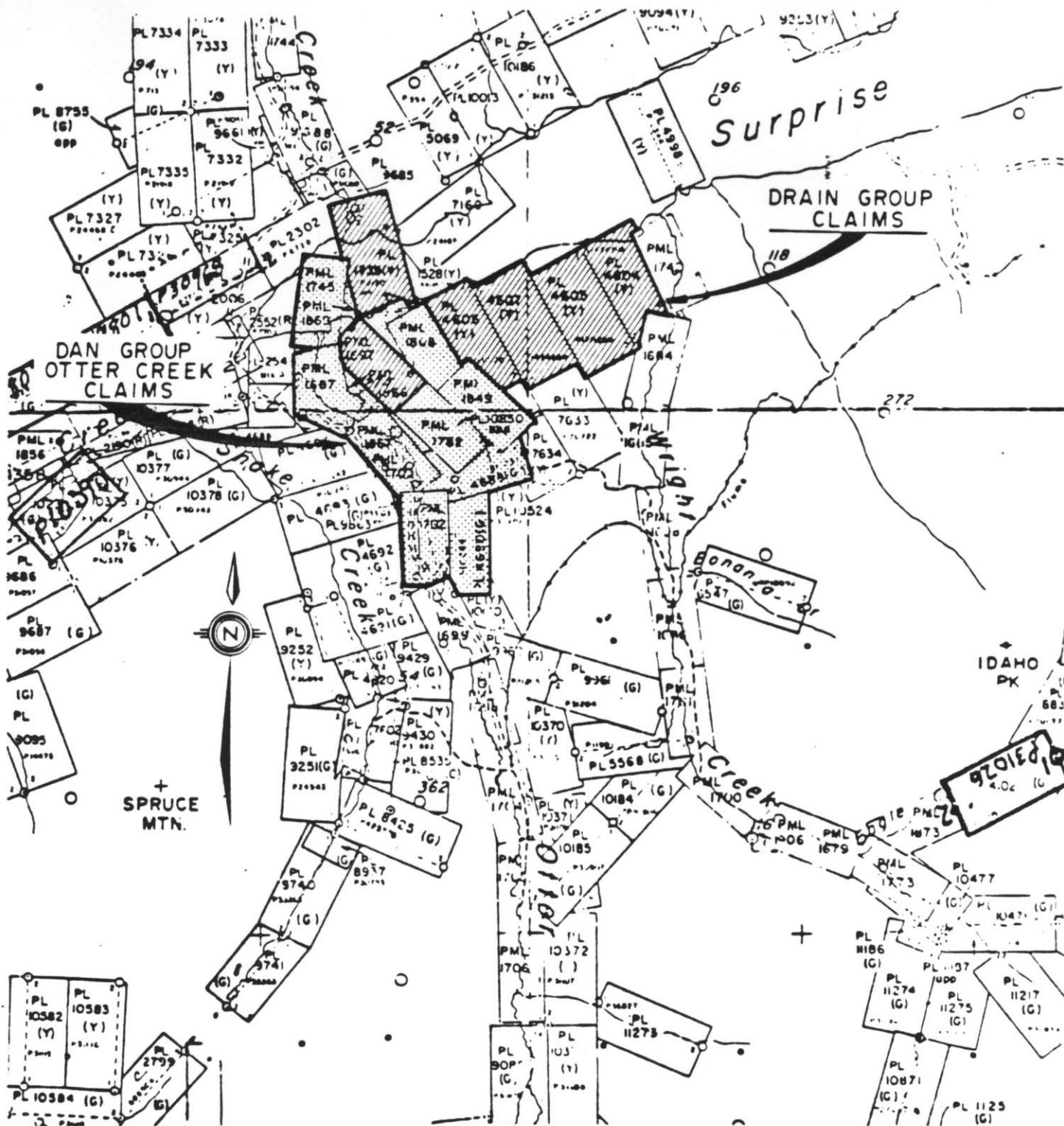


FIGURE 3

GENIE RESOURCES LTD.
 DAN-DRAIN GROUP
 CLAIM MAP

JANUARY 1985

MINERAL PROPERTY EVALUATION REPORT

PRODUCTION PROPOSAL 1985 FIELD SEASON DAN-DRAIN PLACER LEASE GROUP LOWER OTTER CREEK, SURPRISE LAKE AREA, ATLIN M.D.

M.D. Kierans P. Eng.

February 10, 1985

INTRODUCTION

The writer has prepared a number of reports on drilling results on Otter Creek. The most recent is dated May 15, 1984. That report should be consulted by the reader of this report because it presents details of gold placer reserves on Otter Creek not covered here. These reserves were developed during an extensive Becker Hammer drilling project carried out under the supervision of the writer in the field season of 1983. Based on the drilling reserves established by drilling and geological study, production began at the northern or downstream end of the old Otter Creek channel in July of 1984. The main purpose of this report is to study 1984 production records and to use these results to develop and propose a 1985 mining plan.

LOCATION, ACCESS, PHYSIOGRAPHY AND CLIMATE

The Dan-Drain placer claim group is located about 20 km east of the town of Atlin in northwestern British Columbia. Please see Figures 1, 2 and 3.

Access to most of the claims is possible using existing rough tractor and 4X4 roads along both sides of Otter Creek. In general, foot travel is not difficult through most of the open and parklike vegetation between steep creek valleys.

The uplands of the Atlin area are the southern part (Teslin Plateau) of the Yukon Plateau which is an extensive area eroded during Tertiary time to near base level. Most of the peaks of the region remained as high as 2500' above the general erosion level. Today over most of the area local relief is about 2500'. This is exceeded at Atlin Lake where maximum relief is about 4000'. Higher mountains east of the town are rounded and bare of timber growth.

The section of the creek covered by the Dan-Drain Group is about 2 km long from south to north and is at the downstream or northern end of the 15 km long Otter Creek, which runs south to north and enters Surprise Lake at an elevation of about 3000 feet.

The imperfectly understood complex history of uplift and denudation of Atlin Camp is further obscured and complicated by, possibly, multiple advances and retreats of alpine and continental glaciers. The gravels of Atlin Camp are free of permafrost.

LOCATION LINE SURVEY OF PLACER LEASES
ON OTTER CREEK, ATLIN MINING DISTRICT.

100 0 200 400
METRES

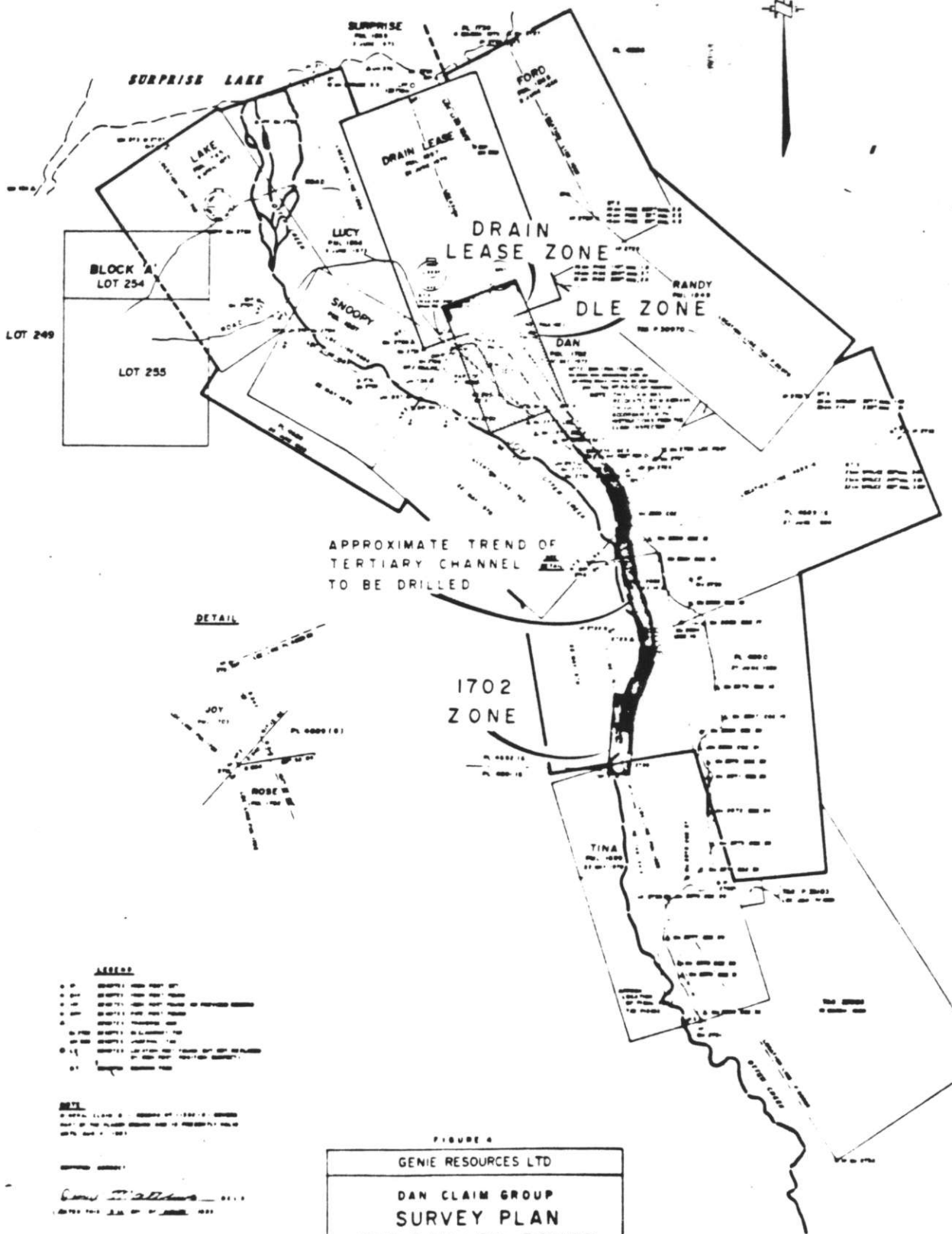


FIGURE A
GENIE RESOURCES LTD
 DAN CLAIM GROUP
**SURVEY PLAN
 AND DRILLED ZONES**
 OTTER CREEK, ATLIN PLACER CAMP
 ATLIN M.D.
 JANUARY, 1985 M.D.R.

LEGEND

- • • • • DRAIN LEASE
- — — — — DLE ZONE
- — — — — 1702 ZONE
- — — — — TERTIARY CHANNEL TO BE DRILLED
- — — — — SURPRISE LAKE
- — — — — LAKE
- — — — — ROAD
- — — — — BOUNDARY
- — — — — CLAIM
- — — — — LOT

NOTE:
 1. ALL CLAIMS ARE SUBJECT TO THE ATLIN MINING DISTRICT ACT.
 2. THE PLACER LEASES ARE SUBJECT TO THE ATLIN MINING DISTRICT ACT.
 3. THE DLE ZONE IS SUBJECT TO THE ATLIN MINING DISTRICT ACT.
 4. THE 1702 ZONE IS SUBJECT TO THE ATLIN MINING DISTRICT ACT.
 5. THE TERTIARY CHANNEL TO BE DRILLED IS SUBJECT TO THE ATLIN MINING DISTRICT ACT.

Genie Resources Ltd
 1985 JAN 15 10 30 AM

SCALE: 1:50,000
 DRAWN BY: M.D.R.
 CHECKED BY: M.D.R.
 DATE: 1985 JAN 15

Sluicing at Otter Creek can be carried out from about May 20 to October 1. However, these dates vary considerably from one year to the next. On the average, there are about 200 frost free days per annum.

OWNERSHIP AND PROPERTY

The Placer Mining Leases (PML's) and Placer Leases (PL's) of the Dan and Drain Group are listed in Appendix C. The Holder of Record (Registered Owner) of the placer mineral rights of Drain Group is Genie Resources Ltd. These claims were acquired by purchase from the previous owners, controlled by the Rutherford Day interests. The former Holder of Record of the Dan Group of claims was Connolly Holdings. The present holder of 100% interest in the mineral rights of Dan Group is Genie Resources Ltd.

Figure 3 shows a plan of the PML's and PL's of the Dan and Drain Groups. This map is from the government Placer mining claim map of the area. Figure 5 is a plan of the Dan Claim Group prepared by McElhanney Associates of Vancouver.

ATLIN PLACER GEOLOGY

Between 1898 to 1950, total recorded production from Atlin Camp creeks was about 605,000 ounces. About 98% of that production came from creeks crossing areas of bedrock of greenstone of the Cache Creek Group of Late Paleozoic age. These rocks were intruded by ultrabasics which have been altered and metamorphosed in varying degrees. The greater the length of stream crossing the above rocks then, in general, the greater is the recorded production from that stream. The relationship of bedrock to production is not unlike the relationship of Klondike Schist bedrock of the Klondike to the better streams of that camp.

The favorable bedrock has been called locally the "Gold Series". The areas underlain by "Gold Series" have been shown in Aitken's May 1082A of the G.S.C. This map accompanies his Memoir on Atlin Geology (1). The "Gold Series" does include argillite, quartzite and marble interbeds. For a complete description of the bedrock geology of the camp the reader is referred to (1) and to Black (2) pages 14-23. The Dan Group is within the "Gold Series".

Within the open pit of Drain Lease highly contorted and fractured beds of argillite and phyllite intruded by lenses and masses of serpentinized peridotite and basalt may be seen. Some of the beds were intruded by quartz veins and considerable gossanization of the beds was noted.

It is suspected that the primary auriferous mineralization at Atlin Camp may have been much higher grade than the Klondike. The physiographic history of the camp must have been different also. This is reflected in the fact that the gold concentrations of mining in Atlin Camp have a large proportion of nugget quality gold. In general, the gold nuggets are coarse and hackly with high quartz content. Some of the largest nuggets from B.C. and the Yukon have been found at Atlin Camp. They continue to be discovered to this day.

In the past most of the placer operation at Atlin were either hydraulic or underground operations. Dredging was never successful at Atlin. Now there is almost exclusive use of mechanical methods of earthmoving, including bulldozers, scrapers and large dump trucks. There was evidence of one former dragline operation. Recently there has been an increase in the use of trommels.

Otter Creek, including its upper west-flowing part, is about nine miles long. In this distance, it drops about 1600 feet--an average gradient of about 180 feet per mile. The present Otter Creek drainage area or basin is about 16 square miles. Of this about 40% is drained by the west-flowing part of the creek. Upper Otter Creek is in quite flat terrain and gradient is much less than Lower Otter Creek.

GOLD BEARING GRAVELS OF OTTER CREEK

Sharp (16) has described the glacial material along the valley of present Otter Creek. "The drift cover is predominantly unsorted cobble, cobble-boulder, boulder, boulder-clay till with varying proportion of silts and/or sandy fines. The typically near-vertical slope of the creek banks of this material, with faces locally over 100 feet in height, indicate the firm coherent character of the material. Some sections of it are well-stratified, while others are massive. In places the vertical section contains generally conformable, gently dipping lensy layers of thin bedded sediments; at other places it includes layers or lenses of silty to sandy cross-bedded outwash (delta-foreset) material." Recently, as a result of drilling last field season at McKee Creek, it is suspected that unsorted gravels and even clay horizons above and near old incised bedrock channels should be checked for low values. Processing some of this overlying gravel material, provided an efficient washing plant is used, may pay for cost of waste gravel stripping. If this approach is used then careful geological and surveying, as well as sampling, control will be needed.

Pay gravels within the Drain Lease pit (see Figure 15) are composed of three and, in places, four layers of cobble-pebble till, very crudely stratified, separated by coarse sand layers and lenses of variable thickness. These layers are below a heavy clay layer which is of lacustrine and fluvioglacial origin. This heavy clay layer of over 50% clay content is about 40 feet thick. Above this clay horizon

thickness?

is a layer, forty feet thick, of cobble-pebble till, unsorted and unstratified. It is this layer, which in my opinion, should be carefully checked, during stripping, for indications of possible gold content of low grade.

Large boulders have been encountered in the Drain lease pit. One boulder, blasted in the 1984 operation, was about 12' in its largest dimension. Others up to 5' in size are more common. These are concentrated at the bedrock layer and form about 10% of the deposit of the lowest level. Large boulders are not common in the upper pay gravel horizons. Most of the material in the pay gravel horizons consists of cobbles. Rounded to sub-angular cobbles, that is, clasts from 2" to 10" size, form about 50% of the indurated pay horizons. Pebbles, that is, clasts under 2" in size, form about 35% of the pay and the remainder is fine clay and fine or coarse sand as matrix to the clasts. Boulders were not common in the overlying glacial till material. A few were hit in the drilling program but were not a serious drilling problem.

All pay grevle and the interbeds of sand stand up very well. They also drain very well. Not so for the heavy clay horizon immediately above the pay gravel layers. When wet this material is slippery and makes stripping during wet weather difficult and occasionally dangerous. Some of the indurated pay layers may need undercutting and ripping with backhoes. Normally, this is not required. The pay gravels, in general, sluice and wash well.

Bedrock rims have been exposed within the pit on both Left and Right Limit. We also cut bedrock with the drill in and around the pit. Rock type was usually a fine-grained, grey, silicified and fractured argillite with varying degrees of alteration due mostly to weathering. According to the former operators and the Daily report (7) bedrock often carried spectacularly high values in gold. Three to 6 feet were ripped in the 1984 operation and fed to the sluice box. In the writer's opinion, the bedrock may be so rich, in places, that careful consideration should be given to using a rock crusher to liberate the fine gold in the fractures, before washing.

Further upstream in the Dan Group, within the present stream valley of Otter Creek, potential pay gravels were drilled in the 1983 program. Pay material was found to be quite different from that in the Drain Lease pit area. Two distinct pay horizons were found. Both were not indurated and clasts were much finer in size. One layer occurred about 30-40 feet below the present creek valley and was about 20-30 feet thick. The other occurred just above and within the weathered regolith on bedrock. This horizon varied widely in thickness but averaged about 12' in thickness. Both horizons varied widely in gold content. Some intersections were very rich, others very poor in grade. Between the horizons occurred what was called "water-sand" layers. These are heavily water-charged sand (usually very coarse sand) horizons. They were barren. For more detail on drilling at Otter Creek please see the May 1984 report.

thickness?

In general, it is the writer's impression that the pay horizons resulted from 'catastrophic melting' of upstream glaciers. That is, there may have been gross climactic warming changes, which took place over a few tens of years, or even a few years. This resulted in very large water flows in summer. Such high water flows could carry large boulders considerable distances.

Prior to, or contemporaneous with, the possible 'catastrophic melting' episodes was a 150' uplift of local or regional extent. This uplift was responsible for downcutting of streams through gravels and also bedrock. Reconcentration of gold resulted in rich pay gravels at the base of the new deeply incised channels. The pay gravels drilled to date at Otter Creek, both within the pit area and upstream, in the present creek valley are all within the sharply incised U-shaped bedrock valley. Ancient stream valleys often followed tectonic lineaments. In fact, there does appear to be a still active N-S fault offsetting gravel layers within the Drain Lease pit. It is believed by the writer that the old channel to the east of the lower reaches of present Otter Creek, within which is found the Drain Lease pit, did follow such a lineament in pre-glacial times. Glacial deposition diverted the lower parts of Otter Creek to the west of its former course and channel.

PRODUCTION HISTORY LOWER OTTER CREEK

Recorded production to 1950 at Otter Creek has been about 22,000 ounces of fine gold. The year of greatest production was in 1938, when underground production was at its maximum. Average fineness of gold for the creek, according to government records is about 800. Production fineness for 1984 production is reported to be about 766.

Placer mining commenced on the upper part of Otter Creek about 1899, and until 1903 was carried out using small scale underground and surface mining methods. One pay channel mined just after the turn of the century averaged about \$15 (\$300 US gold) and was about 80X40 feet in cross-section. Sharp (12) estimated that, in the period, 1906-1911, about 1560 ounces were mined from about 210,000 C.Y. of overburden and gravel. Of this amount about 54,000 C.Y. was pay gravel. This would be worth about ten dollars/C.Y. (\$300 US gold) today. Glacial till and overburden had negligible values.) .029

Near what is now known as the Rose pit on PML 1702 about 200,000 C.Y. were monitored from glacial banks. The average grade of this hydraulic mining was very low. The grade is reported by Sharp as under one dollar per cubic yard at today's gold price. Some of this production may have been higher grade because bedrock of part of the old channel was reached.

French interests financed the hydraulicking of the present course of Otter Creek to a point about 500 m south of the south end of Dan-Draia Group. About 1926 the Compagnie Francaise des Mines D'Or du Canada, of Paris, was formed. J. Maluin, a French engineer supervised the field work for this company at Otter Creek. After a number of years of monitoring of present Otter Creek with poor commercial results, this enginsar decided that the ancient channel, which he had been looking for in the present creek area, was actually located about 1/2 mile (about 800 m) east of the present creek mouth. Hydraulic operations here removed about 600,000 C.Y. without reaching bedrock. The average value recovered was about \$1.20/C.Y. (\$300 US gold).

In 1932 the "Strand" vertical shaft was sunk from the bottom of the hydraulic cut at a point about 700 m from the lake. Solid bedrock was hit just above lake level. Values were about \$15/C.Y. (\$300 US gold). Drifting ground was discovered at the bottom of the shaft and the strand level was developed. The bottom of the Strand shaft turned out to be on the east rim and the Strand level was found to be below a higher level, called the Moran level. Above the Moran was the Suoboda level of somewhat irregular persistence. The bottom level, below the Strand was the Bedrock level. Timber and open workings for all the above levels can still be seen in the present open pit walls.

In 1934 the "Incline" shaft was sunk from the bottom of the hydraulic cut at the upstream face. This shaft found the real trough and values for 500 C.Y. from shaft bottom averaged about 0.50 oz./C.Y. Values in the bedrock were especially good. Drifting downstream from the bottom of the "Incline" shaft had to be discontinued in pay because of excessive water.

Extensive drifting operations were carried out from 1936 to 1938 on the three main levels. Production grade as reported by Dailly (7) averaged 0.34 oz./C.Y. for about 16,000 C.Y. for these years. Some very high grade pockets of over 1 oz. grade were found. Production and grade decreased steadily in the years 1939-1943. In the winter of 1942-43 rails were pulled and the drifts abandoned. During the recent drilling and subsequent open cut mining it was found that the openings stood remarkably well. This is an indication of the induration of the pay gravel layers in the old channel. Dailly's examination took place in 1946, well after abandonment of the underground workings.

The property was dormant from about 1946 to 1975 when a hydraulic operation was attempted in the old hydraulic cut near the underground workings. No results of this work are available.

In 1974 W. Sharp P.Eng. made a study of the hydraulic pit area for Rutherford Day and Associates of Miami, Fla. who had acquired the Drain Lease. Sharp carried out some geophysical investigations which were ineffective in outlining the pay channel. Starting about 1978, Day and Associates began a mechanical mining operation in the area of the old hydraulic pit, the present Drain Lease Mine area. This

operation was commercially successful and was continued to the end of the 1983 field season. About that time Genie Resources Ltd. bought the Drain Lease claim and six other protection claims from the Day interests. This purchase was made after the drilling of 14 Becker hammer drill holes, under the writer's supervision, within and bordering the Drain Lease open pit. Production records for the 1978 - 1983 period are not available. It was production practice to sluice all gravel below the heavy clay marker horizon in the pit. This was a thickness of about 27 m (80 feet). The overlying 80 feet of till and clay was stripped before mining.

Various shaft sinking and drilling operations at Otter Creek were carried out during the active and dormant years of the property's history. Except for a few of the drilling projects near and within the old pit these need not be discussed here. Please see the May 1984 report for details of these exploratory efforts.

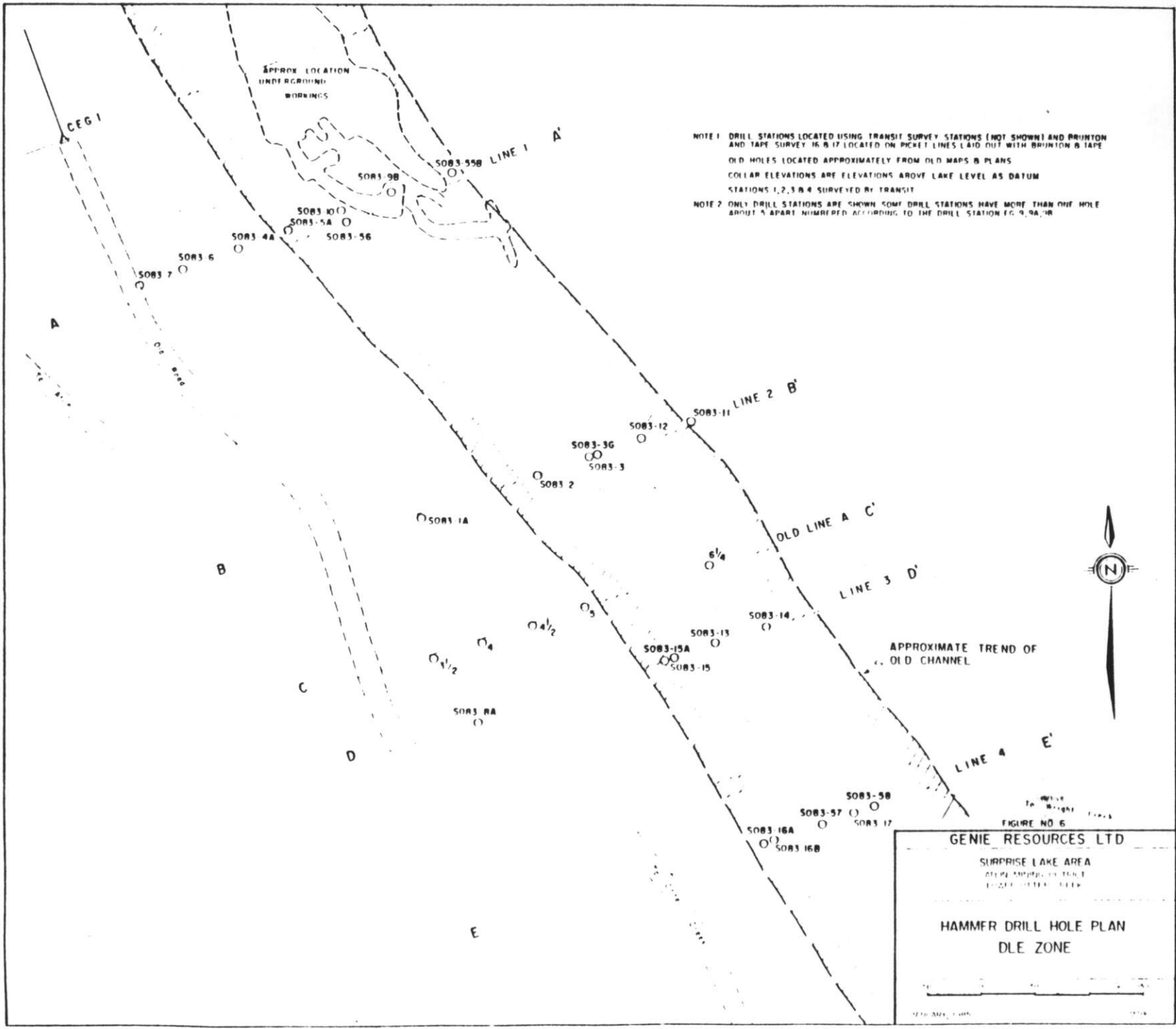
1984 FIELD OPERATIONS, DAN-DRAIN GROUP

At the commencement of the 1984 season, the writer undertook the tasks of pit survey, setting out new haul and access roads and the pit perimeter, and the estimation of stripping and mining volumes. Sampling of tailings from the Drain lease pit were carried out and the pit itself was drained of accumulated runoff and seepage.

Overburden stripping began about July 15, 1984 and was carried out on a contract basis by Miann Construction, a Prince George, B.C., based contractor. Mr. G. McIntyre, former manager of the Drain lease operations for the Rutherford Day group, was engaged as general manager by Genie Resources. Advice on certain geological aspects of the mining activities was provided by the writer.

The writer also concentrated on volume measurements and assisted in processing concentrates from the sluice box using a mechanical panning wheel. Sampling of materials from the tailing pile was carried out using a centrifugal concentrator. Also, the Snake Creek channel discovery, (see below) was trenched and bulk sampled.

In early October estimates of total volume of stripped and mined materials were measured at the pit and comparisons made with estimates provided by the contractor on the basis of vehicle load counts. Due to time constraints some minor aspects of the survey were not completed, but it is believed that such volumetric measurements provide a good basis for the interpretation of production grades and so on.



NOTE 1 DRILL STATIONS LOCATED USING TRANSIT SURVEY STATIONS (NOT SHOWN) AND BRUNTON AND TAPE SURVEY 16 & 17 LOCATED ON PICKET LINES LAID OUT WITH BRUNTON & TAPE
 OLD HOLES LOCATED APPROXIMATELY FROM OLD MAPS & PLANS
 COLLAR ELEVATIONS ARE ELEVATIONS ABOVE LAKE LEVEL AS DATUM
 STATIONS 1, 2, 3 & 4 SURVEYED BY TRANSIT

NOTE 2 ONLY DRILL STATIONS ARE SHOWN SOME DRILL STATIONS HAVE MORE THAN ONE HOLE ABOUT 5' APART NUMBERED ACCORDING TO THE DRILL STATION EG 9, 9A, 9B

GENIE RESOURCES LTD
 SURPRISE LAKE AREA
 FIGURE NO 6

HAMMER DRILL HOLE PLAN
 DLE ZONE

Scale bar: 0 10 20 30 40 50 60 70 80 90 100

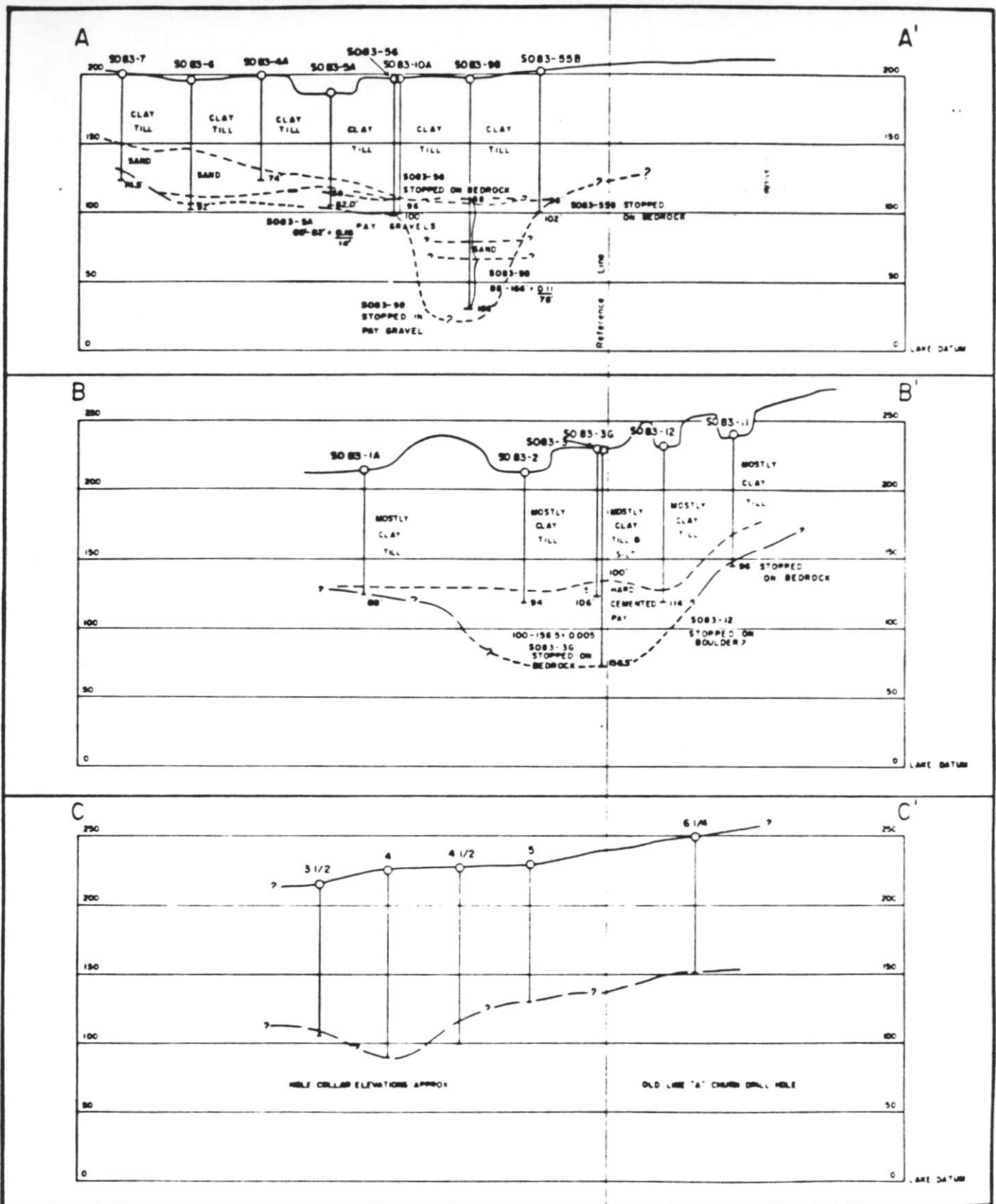


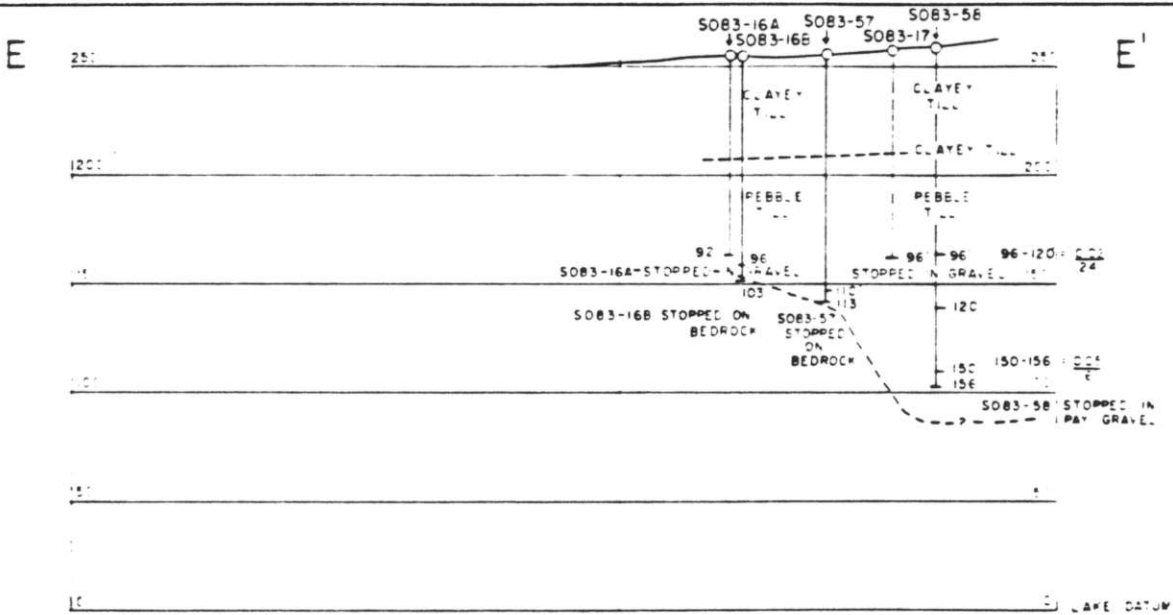
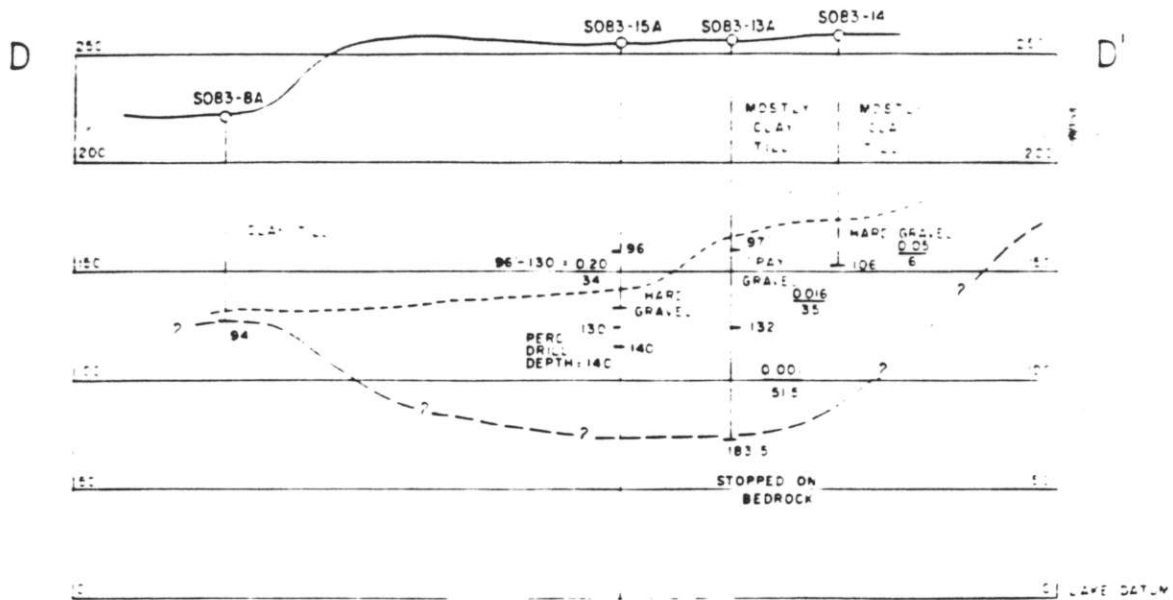
FIGURE 7

GENIE RESOURCES LTD

DLE ZONE
DAN GROUP
DRILL HOLE CROSS-SECTIONS
LOWER OTTER CREEK
SPRUCE LAKE, ATLIN MD, BC

0 50 100 150 200
FEET

M.C.R. JAN. 1998



REFERENCE LINE

SEE NOTES FIGURE 4

FIGURE B

GENIE RESOURCES LTD

DLE ZONE
DAN GROUP
DRILL HOLE CROSS-SECTIONS
LOWER OTTER CREEK
SPRUCE LAKE, ATLIN M.D., BC
LOOKING NORTH

M.S.P. JANUARY 1987

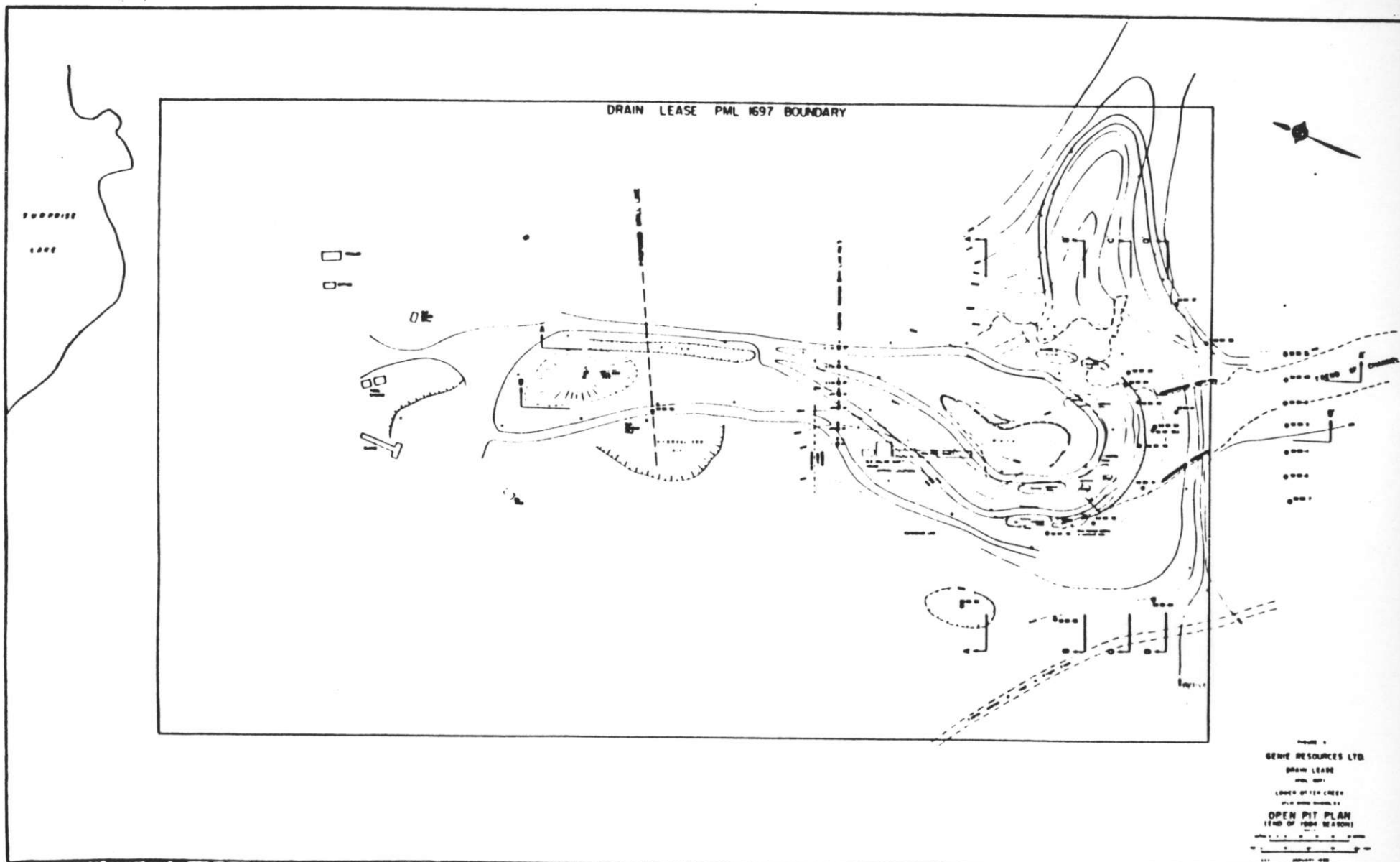
The method used for calculating mining and stripping volumes was that of average end values. While this method does tend to slightly overestimate volumes because of its simplicity, it has the advantage of swiftness and such errors are relatively minor. Figures 9 through 12 and 13A to 13G were prepared in Vancouver from field notes and they show the status of the developed pit as of October 8. Subsequent mining was mainly from above the upper Moran level of gravels, though no additional stripping was carried out prior to the end of the mining season on October 16, 1984.

The total estimated volume for stripping during the 1984 field season, up to October 8, was about 456,000 C.Y. This compares with a volume estimated by the contractor of 400,000 C.Y. It is assumed that the discrepancy in estimates could be caused an incorrect bulking factor used by the contractor in his estimates, systematic errors in vehicle count and even minor random surveying errors.

Please see Figures 13A to 13G for stripping and mining profiles as determined from contour maps prepared in the field by the writer.

Volume of production for 1984 field season is given as 148,646 cubic yards by load count. Please see Table I. These figures were supplied to me by Genie Management. The estimate from average end areas is only 103,846 cubic yards. Of course, the production from the last production period of October 8 to October 16 of 15,846 C.Y. must be added to the surveyed volume. In addition about 15,000 C.Y. was mined from an old stockpile near the sluice box. This old pile was totally mined during the season on an intermittent basis. This would bring the difference between surveyed and counted volumes closer together. There still remains about 20,000 cubic yards discrepancy. Considering the normal consistency of mined volumes by load count and by survey this is an important difference. In my opinion, there is a good chance that about 20,000 C.Y. of material indicated on the cross-sections as being thrown for pay were actually from waste areas. In other words, control of mining and stripping failed to some degree. Material that should have been dumped on the waste pile found its way into the sluice box. This conclusion is strengthened by the fact that the surveyed stripping volume was higher than the counted stripping volume. In other words, there was dilution, most likely at zero grade, to the extent of about 20,000 C.Y. in the reported 148,000 C.Y. of sluiced material. This conclusion is further indicated by examination of the mined cross-sections as shown in figures 13A-13G. Please see this series of Figures.

On the cross-sections the trend of the channel, as deduced from old and new drill holes, is indicated by a rectangular block. This trend is also shown on plan maps accompanying this report. It is clear from an examination of the cross-sections that many cubic yards, reported as the channel, came from areas outside of the deduced trend of the channel, thus causing dilution of the one grade. Admittedly, the rectangular or square shape of the deduced channel trend is idealized.

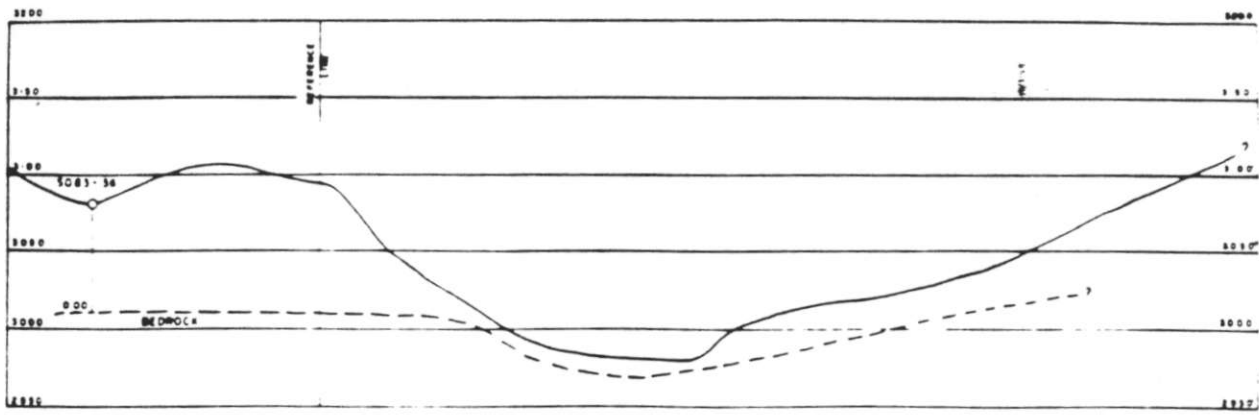


DRAIN LEASE PML 1697 BOUNDARY

SUNNYSIDE
LAKE

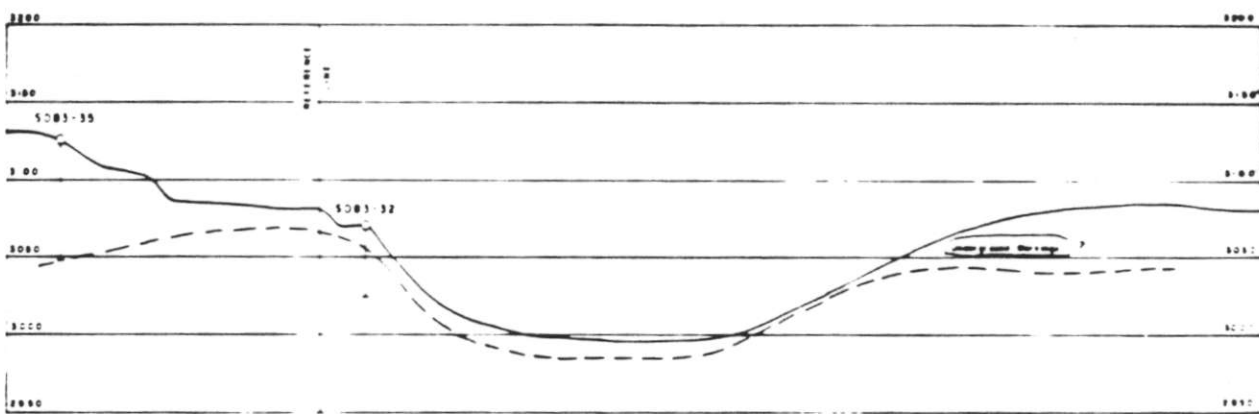
FIGURE 1
GENE RESOURCES LTD.
DRAIN LEASE
APRIL 1981
LOOKED BY TEN LINES
P.L.C. 10000 10000 10000
OPEN PIT PLAN
(END OF 1984 SEASON)
0 100 200
FEET

A



A'

B



B'

FIGURE NO. 24

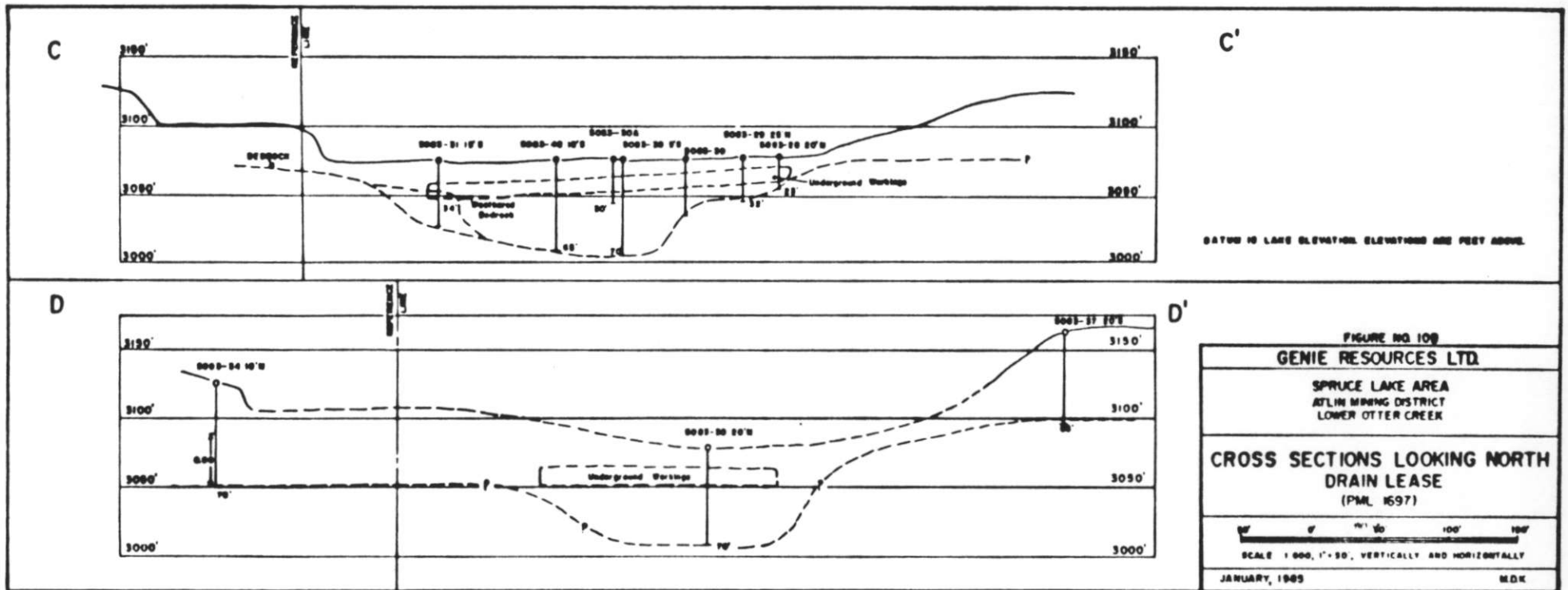
GENIE RESOURCES LTD.

SPRUCE LAKE AREA
AT: IN BRASSIAC DISTRICT
COUNTY OF TERA CREER

CROSS SECTIONS LOOKING NORTH
DRAIN LEASE
PLAN 1-5-71

SCALE: 1" = 100' HORIZONTAL
1" = 20' VERTICAL

DRAWN: 90' M.S.P.



T A B L E 1

GOLD PRODUCTION RECORD DRAIN LEASE 1984

CLEANUP NUMBER	DATE OF CLEANUP	OPERATING DAYS (ESTIMATED)	CUBIC YARDS PROCESSED	C.Y. PER DAY	RAW GOLD RECOVERED TROY OZ	PRODUCTION GRADE OZ/C.Y.	LOST IN BOX @ 0.02 OZ/C.Y. (ESTIMATED) TROY OZ.	ADJUSTED GRADE (OZ/C.Y.)
1	JULY 29/84	12	19,382	1,615	227.17	0.011	387.64	0.032
2	AUG 5/84	6	13,246	2,207	179.34	0.013	264.92	0.035
3	AUG 5/84	6	12,621	2,103	382.91	0.030	252.42	0.050
4	AUG 19/84	6	13,567	2,261	485.87	0.033	271.34	0.053
5	AUG 24/84	5	9,910	1,982	249.78	0.025	198.20	0.045
6	SEPT 16/84	16	25,614	1,600	351.88	0.013	512.28	0.034
7	SEPT 23/84	6	13,146	2,191	562.27	0.042	262.92	0.063
8	OCT 7/84	12	25,314	2,109	620.43	0.024	506.28	0.044
9	OCT 17/84	9	15,846	1,760	257.13	0.016	316.92	0.036
T O T A L S		78	148,646		3,289.78		2,972.92	

NOTE 1: PRODUCTION GRADE= 0.022 OZ/C.Y. (AVERAGE)

NOTE 2: ADJUSTED PRODUCTION GRADE= 0.421 OZ/C.Y. (AVERAGE) .0419

NOTE 3: ASSUMED DILUTION AT 25% OF VOLUME PROCESSED @ 0.00 OZ/C.Y. INCREASES ACTUAL GRADE TO 0.056 OZ/C.Y. ✓

NOTE 4: IF 0.03 OZ/C.Y. LOST IN SLUICE BOX THEN GRADE AFTER DILUTION ADJUSTMENT (@ ZERO GRADE) IS ADJUSTED TO 0.069 OZ/C.Y.

\$ 1,443,885

T A B L E II

CLEANUP NUMBER	LOCATION IN CHANNEL	CUBIC YARDS MINED
1	BOTTOM AND SIDES OF OLD PIT.	19,382
2	BOTTOM AND SIDES OF OLD PIT.	13,246
3	APPROXIMATELY 5500 C.Y. OF LOW PAY FROM WEST SIDE OF CHANNEL. BALANCE FROM LOWER 25' OF CHANNEL.	12,621
4	EAST SIDE OF CHANNEL AND CLEANING EAST AND WEST AND BOTTOM OF CHANNEL TO BEDROCK.	13,567
5	STARTING NEW CUT ABOVE MORAN LEVEL FROM EAST SIDE.	9,910
6	WEST SIDE OF CHANNEL AND START OF MORAN CUT.	25,614
7	MORAN ABOVE CHANNEL AND EAST RIM.	13,146
8	WEST SIDE AND BALANCE OF CHANNEL.	25,314
9	STARTED NEW CUT ABOVE MORAN WEST TO EAST AND POSSIBLY SOME MORAN.	15,846
TOTAL NUMBER OF CUBIC YARDS OF PAY MINED AND SLUICED		===== 148,646

Finally, of the reported total 148,646 cubic yards of pay mined in 1984, only a small percentage came from the Dan Group. In fact, Figure 12 indicates that only about 5% or less could be considered as coming from the Dan Group but this conclusion is weakened because the writer was not at the property for the final week of production.

PRODUCTION GRADE DAN-DRAIN GROUP 1984 MINING SEASON

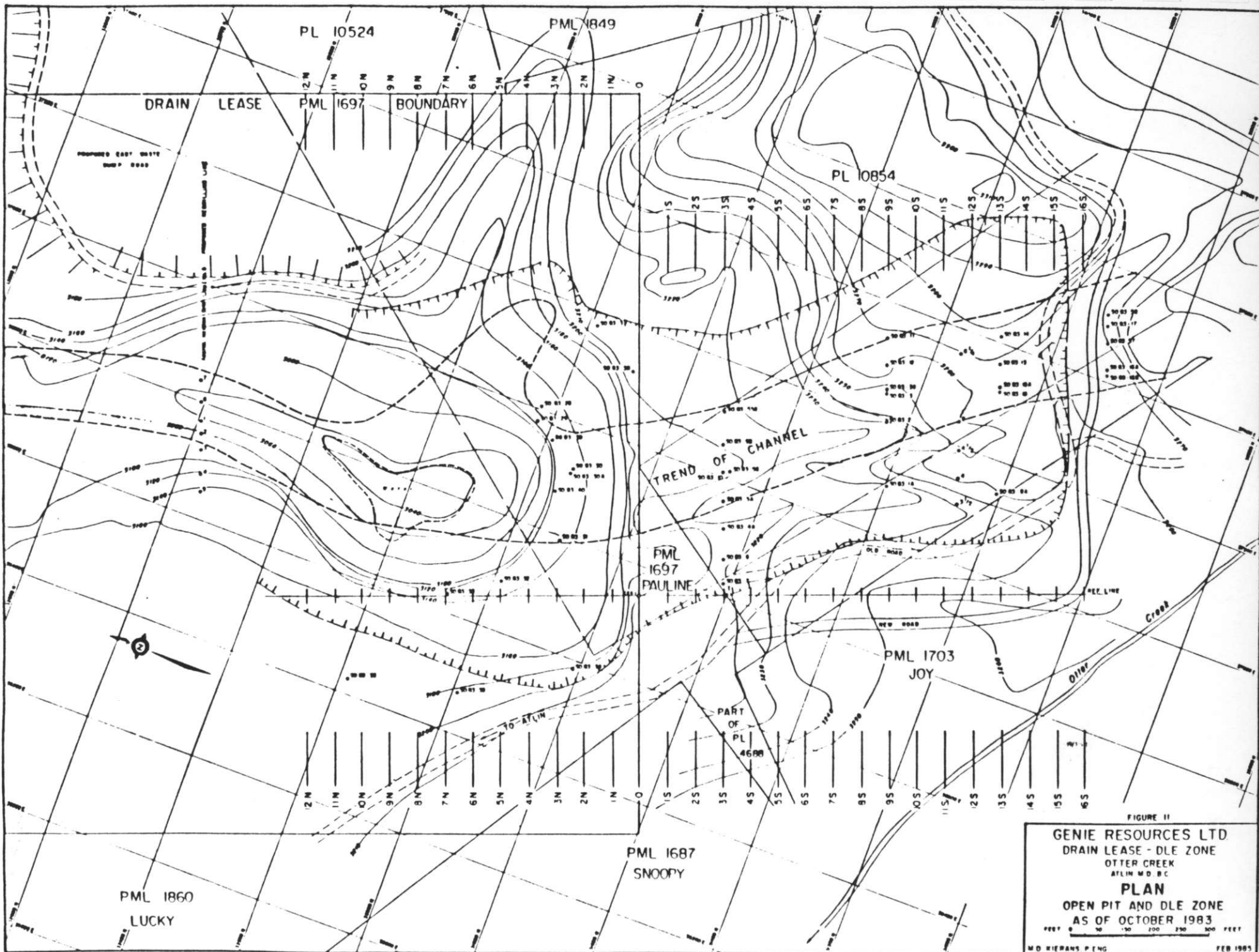
In the May 15, 1984 report, on page 29, it was stated that the Drain Boundary Block should contain 125,000 C.Y. of pay at grade 0.10 oz./C.Y.fine. In fact, actual recovered production from this block gave a grade of 0.022 oz./C.Y. of raw gold. This is quite a difference and an appreciation of the 1984 production operation and, in particular, the recovery system used must be presented. The following observation include comments upon the pay gravels sluiced and experience gained as a result of the season's project.

The reserve grade assignment was based upon the results of drilling programs where samples were meticulously and accurately processed. On the basis of scale alone, one could not expect operational recovery levels to duplicate such grades as sluicing losses will always be present. A properly designed and operated plant will aim to minimize these losses.

Much of the pay gravels sluiced during 1984 came from parts of the pit which had been "high-graded" by the previous operators at the end of their 1983 operation. This means that the richer gravels were selectively mined at that time, directly causing Genie Resources Ltd. to excavate and process lower grade materials as a necessary part of the reorganization of the mine pit. Therefore, as may be seen from clean-up results, production grades were lower during the earlier part of the 1984 season.

Also, production losses in the sluicing system were directly responsible for lowering production grades during 1984. As the recovery or sluicing plant on-site was "inherited" from the previous operators as part of the Drain Lease Pit acquisition, many of the limitations of the plant became apparent only during the production operation. On the basis of the 1984 operation, the Company has proposed a redesign of the entire recovery plant, and this is described in the following section.

Some of the problems identified during operations included the lack of an effective primary separation or classification facility. The equipment available directed material over 6 inches in size to the coarse tailings pile. Material under this size went to the sluice runs in the normal manner. The Company's experience has shown the need for more efficient initial washing and screening of pay gravels so that only materials of about 2 inches or less in size are directed



to the sluice runs. The writer is informed that the Company is presently acquiring a "Derocker" to overcome such problems and permit greater efficiency of primary treatment.

Basically the Derocker utilized high pressure water jets for efficient washing of all pay gravels. A controlled undulating motion transports the material under spray bars and permits particles of 2 inches or less to pass through the moving bed to the sluice runs. Larger particles will pass through the equipment, over nugget traps, to the coarse tailings pile. The previous system utilized a 3-inch diameter monitor for washing material on a grizzly, with rails set about 6 inches apart. Below this, movable monitors washed minus - 6 inch material through the goose-neck into the sluice runs.

This previous system had the limitations of poorer washing and separation of gravels, and oversize materials being processed in the sluice runs. Additional labour was required each shift to clear oversize materials which caught in the riffles of the sluice runs. Also, oversize particles had the effect of damaging the riffles which suffered from the impact from such cobbles, and small boulders. The necessity of eliminating such larger material at the primary stage is reinforced by the established principle that some 95% of contained gold in placer gravels is usually contained in the fraction under one inch in dimension.

The recovery plant proposed by the company should also eliminate some other problems apparent in the 1984 operation. Probably the greatest loss in the recovery system came from "scouring". The water flow came from a 10-inch line and a 3-inch monitor fed by a 6-inch line. This water flow exceeded 6000 gals. per min. The sluice box comprised a 70 ft. long single-run box, 4 ft. wide, set on a rather steep gradient. Scouring took place when large flat bedrock fragments went through the rails of the grizzly and got caught in the riffles. Often a small dam would form at such obstructions before the rockpuller could clear the problem. Water backed up and when released scoured gold-containing concentrates already deposited at the riffles, causing much of these to be lost to tailings. Because much bedrock was necessarily mined during 1984, it may be assumed that a significant proportion of gold flowed to the fine tailings pond. It was noted on occasion that up to 50% of riffles, regardless of position in the sluice run, were virtually empty while others were packed. This clearly illustrated the results of scouring action.

Another significant problem identified during the sluicing process was that of surging. Because of the limitations of primary separation of gravels and also problems of controlling water pressure and flow from the monitors, the feed to the sluice box was often uneven and surging was often noted. Such surging inevitably decreases the efficiency of the sluice runs and leads to losses in the gold recovery. Fortunately, the use of the Derocker as proposed by the company should prevent recurrence of such problems.

The qualitative effects of the above mentioned factors were clearly demonstrated when samples of fine materials going to the tailings pond were analysed. The writer personally sampled tailings from the sluice run and each of some 45 or so 100-pound samples, taken over a 10-day period, yielded gold when panned. One sample contained 160 mg. of gold and it was not unusual to find coarse gold in such samples, one small nugget was also found. It is not possible, of course, to assign either yardage or grade to the tailings pile from such preliminary testing. However assumptions, albeit speculative, may be made about possible losses.

Finally, some comments about the clean-up intervals are appropriate. The time period between clean-ups should be re-examined as, if such periods are too long, packing of the riffles may occur leading to reduced efficiency and production losses. It is also felt that the Company is correct in investigating less time consuming methods of clean-ups and concentrate processing. Modifications of the sluicing process, including the use of live-bottom sluice runs, and additional gold room equipment should assist in these respects. Attention should be focused upon determining, by testing, the optimum period between clean-up.

This will be influenced by factors such as the types of materials sluiced, the water supply and pressure, the characteristics of the sluice run, including the gradient of the run, and the riffle design.

As stated earlier it is not possible to determine a quantitative measure of the amount of gold lost in the tailings. Still some attempt should be made to do so. As an estimate it is assumed that 0.02 oz./C.Y. gold was lost to the box and the tailings. This estimate is used in Table I. In addition, there is the effect on grade from dilution. I have estimated dilution, at zero grade, at 25%. This would increase the mined grade to 0.056 oz./C.Y. gold. Because some grade loss to previous underground mining must be assumed, then the 1984 grade could be in the order of 0.07 oz./C.Y. This cannot be regarded as the definite grade of the 1984 channel material, but it is a better measure of the true grade of the channel gravels than the 0.022 oz./C.Y. gold determined from recovered raw gold.

PROPOSED WASHING PLANT

A major consideration for the 1985 season has been to revise and redesign the gold recovery plant. The 1984 plant was deemed to be incapable of achieving the level of gold recovery which one should expect from the mine bearing in mind the quantity and coarseness of the projected gold reserves, and the type of pay gravels being sluiced.

It is proposed to process about 300,000 C.Y. of pay gravels during 1985 and the Company plans substantial changes to its recovery plant, including the acquisition of additional equipment and the redesign of the sluicing system.

The processing system proposed should eliminate the problems encountered during 1984 and lead to improved recovery grades. The system basically comprises a Derocker for primary washing, classification or screening, and feed to the sluice runs. The particles of approx. 2 inches and under are directed to a single-deck shaker screen for further classification while larger particles go to coarse tailings.

After this screening, particles over 1/4 inch pass through a nugget-trap while smaller particles go to a dual-run, live-bottom sluice box. This type of box leads to greater recovery efficiency, while the dual runs permit greater flexibility for clean-ups.

The system has been designed to process up to 300 C.Y. per hour. The company intends to average some 150 C.Y. per hour with dual 10-hour shifts processing 3000 C.Y. per day. Total annual production is projected at 300,000 C.Y.

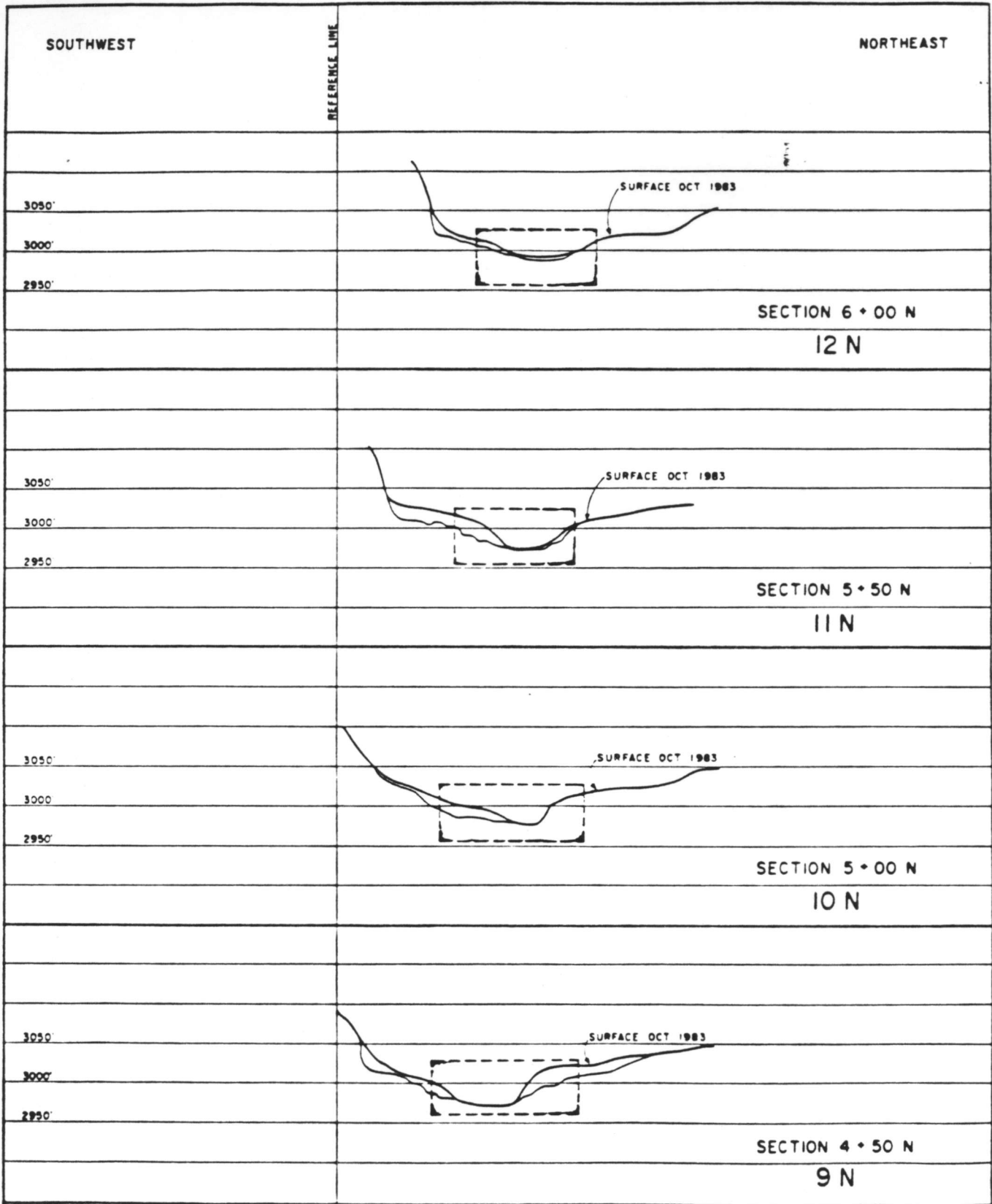
Use of the Derocker will provide better and more controlled washing, more uniform feed to the plant and better break-up of the clay particles contained in the gravels. This will prevent problems associated with surging and oversize particles damaging riffles. The Derocker has a capacity in excess of planned operational projections. The live-bottom sluice runs incorporate pulsating riffles specifically designed to produce maximum turbulence, between riffles thus reducing packing and increasing fine gold recovery.

In summary, the experience gained by Genie Resources Ltd. during the 1984 season has benefited the company by identifying limitations of the existing processing plant and led to the better suited and more efficient plant proposed for the 1985 mining season.

PROPOSED 1985 MINING PLAN

As a result of the 1984 operations, a total of some 400,000 C.Y. has been stripped from areas to be mined during 1985. It is planned to strip a further 400,000 C.Y. of overburden to facilitate the 1985 mine plan and it is proposed that this be undertaken using a Contractor, as was the case during 1984. The economic and organizational benefits of a stripping contract were evident during the 1984 season.

Arrangements are in hand for the construction of a new processing plant as outlined earlier in this report. This plant will be located in the vicinity of the 1984 plant so as to maintain a good balance



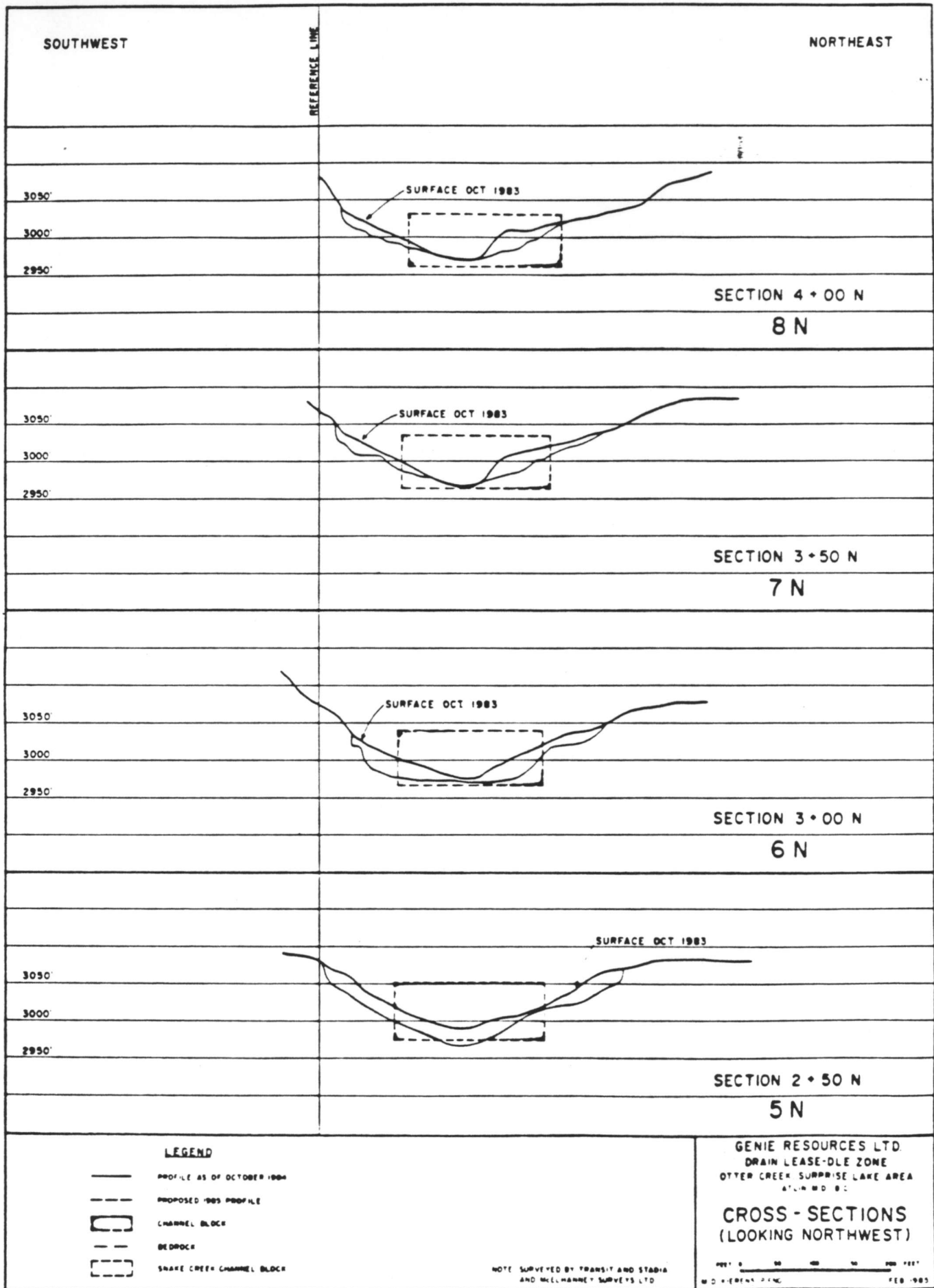
- LEGEND**
- PROFILE AS OF OCTOBER 1984
 - - - PROPOSED 1985 PROFILE
 - ▭ CHANNEL BLOCK
 - BEDROCK
 - - - SHAKE CREEK CHANNEL BLOCK

NOTE SURVEYED BY TRANSIT AND STADIA
AND McILHANNET SURVEYS LTD

GENIE RESOURCES LTD
DRAIN LEASE-DLE ZONE
OTTER CREEK SURPRISE LAKE AREA
ATLH NO 80

**CROSS - SECTIONS
(LOOKING NORTHWEST)**

FEET 0 50 100 150 200 FEET
M.C. FERNS P.L.C. FEB. 1985



SOUTHWEST

NORTHEAST

REFERENCE LINE

3050'

3000'

2950'

SURFACE OCT 1983

SECTION 4 + 00 N

8 N

3050'

3000'

2950'

SURFACE OCT 1983

SECTION 3 + 50 N

7 N

3050

3000

2950'

SURFACE OCT 1983

SECTION 3 + 00 N

6 N

3050'

3000'

2950'

SURFACE OCT 1983

SECTION 2 + 50 N

5 N

LEGEND

- PROFILE AS OF OCTOBER 1984
- - - PROPOSED 1985 PROFILE
- ▭ CHANNEL BLOCK
- - - BEDROCK
- ▭ SNAKE CREEK CHANNEL BLOCK

GENIE RESOURCES LTD
DRAIN LEASE-DLE ZONE
OTTER CREEK SURPRISE LAKE AREA
A.L.R. M.D. B.C.

**CROSS - SECTIONS
(LOOKING NORTHWEST)**

0 50 100 150 200 FEET
M.D. & BENT P.I.N.C. FEB 1985

NOTE SURVEYED BY TRANSIT AND STADIA
AND McILHANNY SURVEYS LTD

SOUTHWEST

NORTHEAST

REFERENCE LINE

3050'

3000'

2950'

SURFACE OCT 1983

SECTION 2 + 00 N

4 N

3050'

3000'

2950'

SURFACE OCT 1983

SECTION 1 + 50 N

3 N

3050'

3000'

2950'

SURFACE OCT 1983

SECTION 1 + 00 N

2 N

3200'

3150'

3100'

3050'

3000'

SURFACE OCT 1983

SECTION 0 + 50 N

1 N

LEGEND

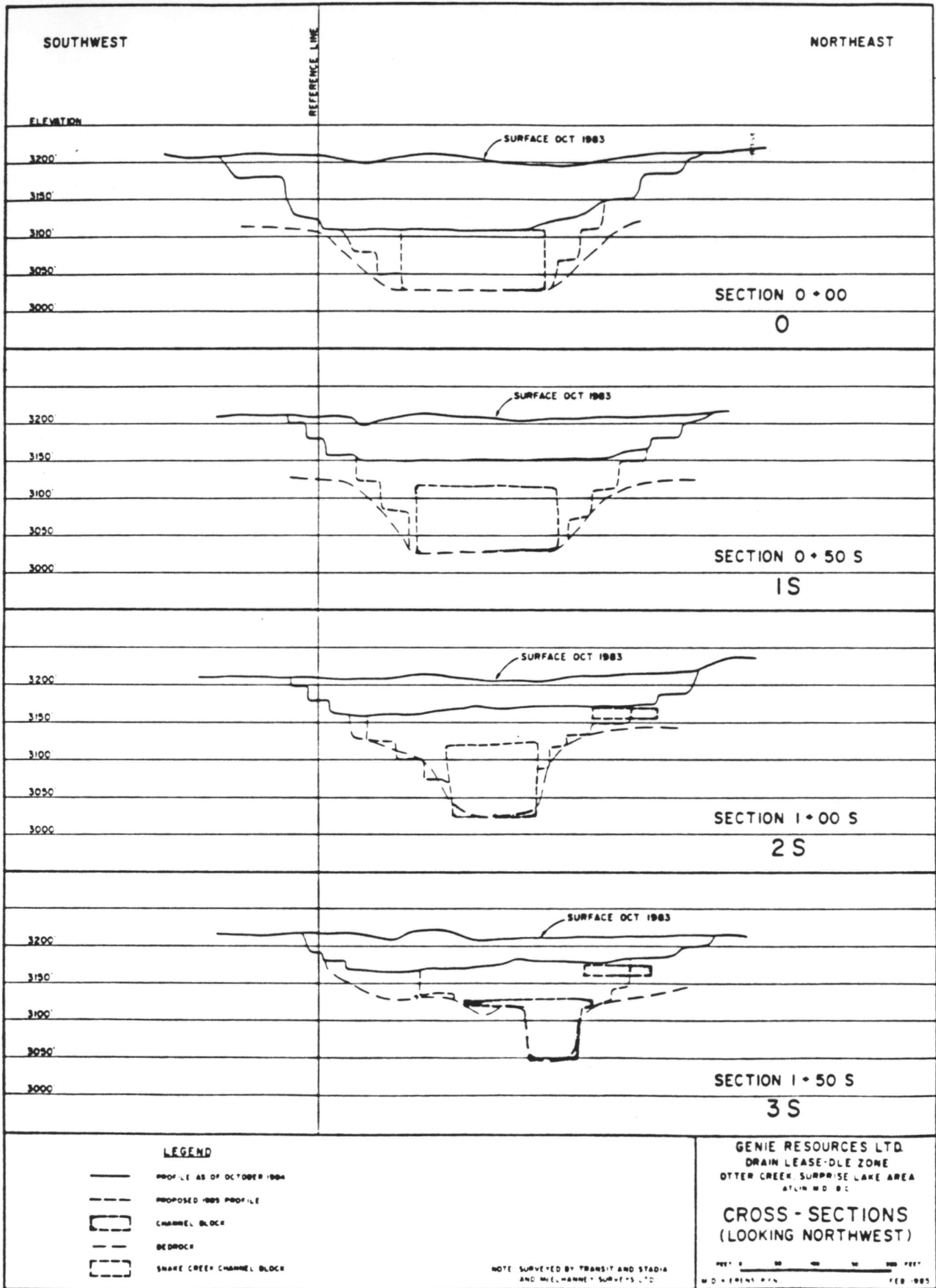
-  PROFILE AS OF OCTOBER 1984
-  PROPOSED 1985 PROFILE
-  CHANNEL BLOCK
-  BEDROCK
-  SNAKE CREEK CHANNEL BLOCK

NOTE SURVEYED BY TRANSIT AND STADIA AND MELHARNEY SURVEYS LTD

GENIE RESOURCES LTD
DRAIN LEASE-DLE ZONE
OTTER CREEK SURPRISE LAKE AREA
AT LINDSAY B.C.

CROSS - SECTIONS
(LOOKING NORTHWEST)

0 100 200 300 FEET
M.D. HERGENS P.E. FEB 1985



SOUTHWEST

NORTHEAST

ELEVATION

REFERENCE LINE

SURFACE OCT 1983

3200'

3150'

3100'

3050'

3000'

SECTION 0 + 00

0

SURFACE OCT 1983

3200'

3150'

3100'

3050'

3000'

SECTION 0 + 50 S

1 S

SURFACE OCT 1983

3200'

3150'

3100'

3050'

3000'

SECTION 1 + 00 S

2 S

SURFACE OCT 1983

3200'

3150'

3100'

3050'

3000'

SECTION 1 + 50 S

3 S

LEGEND

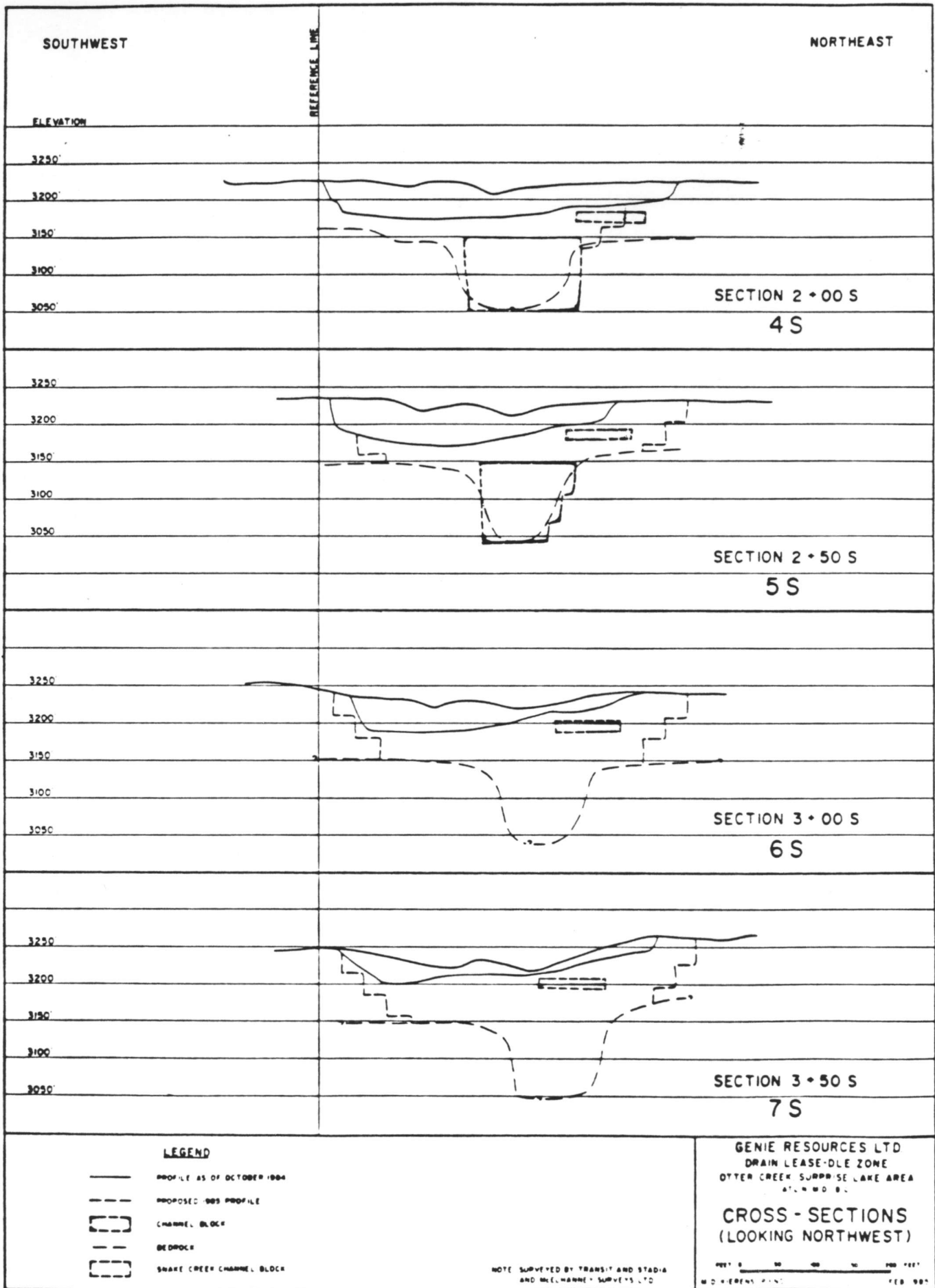
-  PROFILE AS OF OCTOBER 1984
-  PROPOSED 1985 PROFILE
-  CHANNEL BLOCK
-  BEDROCK
-  SHAKE CREEK CHANNEL BLOCK

GENIE RESOURCES LTD.
DRAIN LEASE-DLE ZONE
OTTER CREEK SURPRISE LAKE AREA
ATLIN B.C.

**CROSS - SECTIONS
(LOOKING NORTHWEST)**

FEET 0 50 100 150 200 FEET
HORIZONTAL SCALE

NOTE SURVEYED BY TRANSIT AND STADIA
AND McLENNAN SURVEYS LTD.



SOUTHWEST

NORTHEAST

REFERENCE LINE

ELEVATION

3250'

3200'

3150'

3100'

3050'

SECTION 2 + 00 S
4 S

3250

3200

3150

3100

3050

SECTION 2 + 50 S
5 S

3250

3200

3150

3100

3050

SECTION 3 + 00 S
6 S

3250

3200

3150

3100

3050

SECTION 3 + 50 S
7 S

LEGEND

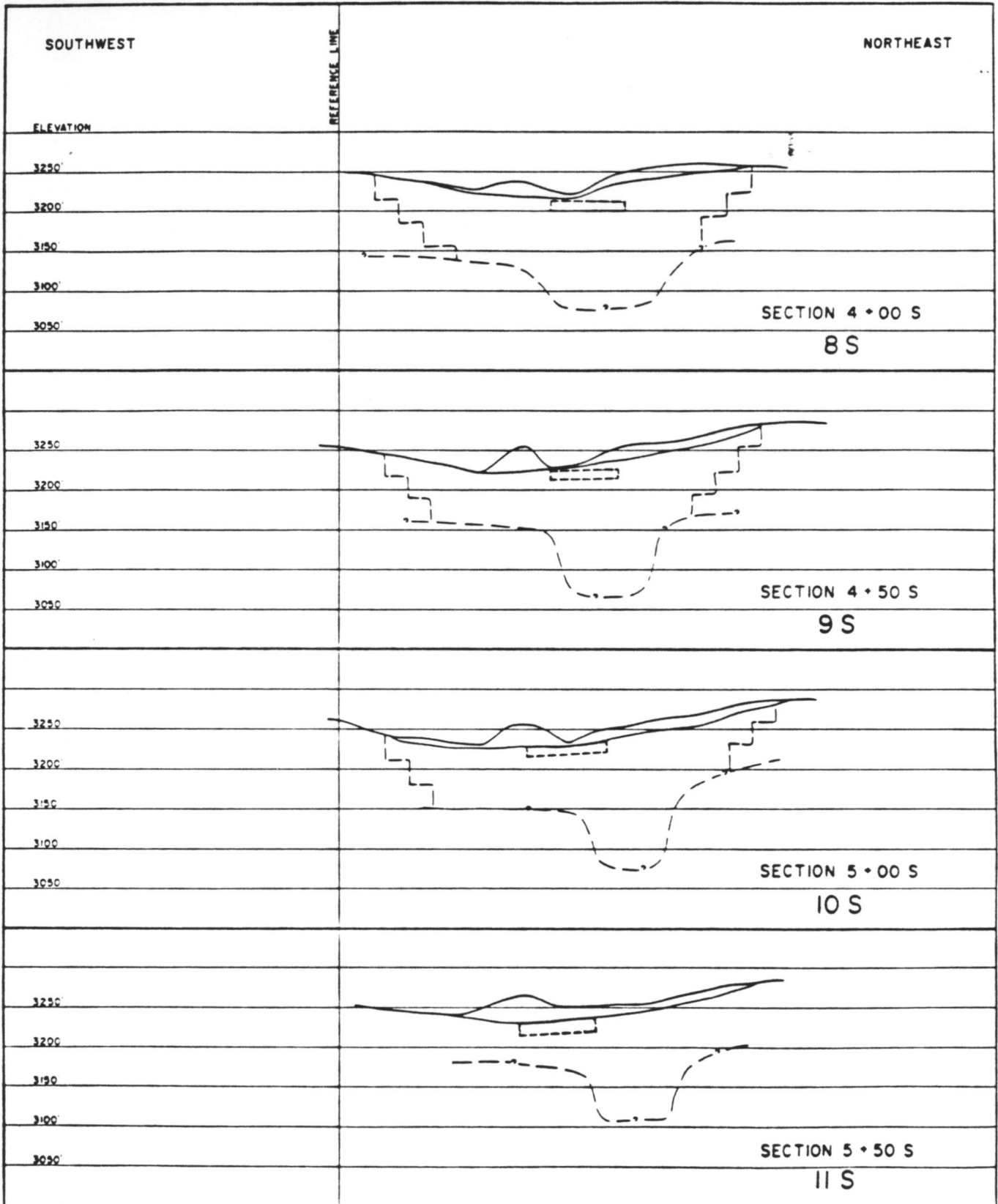
- PROFILE AS OF OCTOBER 1984
- - - PROPOSED 1985 PROFILE
- [] CHANNEL BLOCK
- BEDROCK
- [] SHAKE CREEK CHANNEL BLOCK

GENIE RESOURCES LTD
DRAIN LEASE-DLE ZONE
OTTER CREEK SURPRISE LAKE AREA
A.T. & M.D. S.

**CROSS - SECTIONS
(LOOKING NORTHWEST)**

NOTE SURVEYED BY TRANSIT AND STADIA
AND McELHANNON SURVEYS LTD

0 50 100 150 200 FEET
M.D. & M.D. S. FEB 88



SOUTHWEST

NORTHEAST

ELEVATION

REFERENCE LINE

3250

3200

3150

3100

3050

SECTION 4 + 00 S
8 S

3250

3200

3150

3100

3050

SECTION 4 + 50 S
9 S

3250

3200

3150

3100

3050

SECTION 5 + 00 S
10 S

3250

3200






3150

3100

3050

SECTION 5 + 50 S
11 S

LEGEND

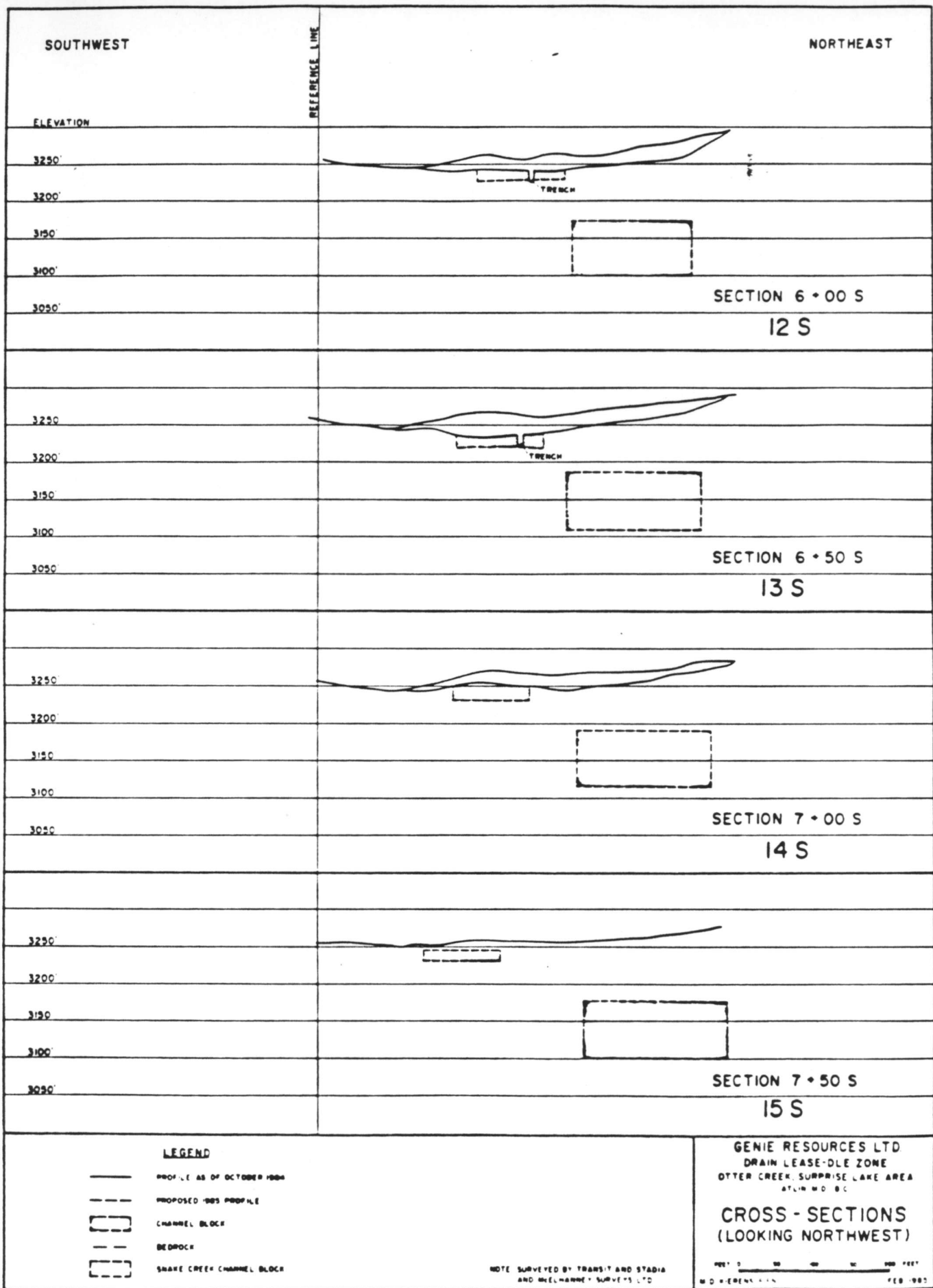
-  PROFILE AS OF OCTOBER 1984
-  PROPOSED 1988 PROFILE
-  CHANNEL BLOCK
-  BEDROCK
-  SHARPE CREEK CHANNEL BLOCK

GENIE RESOURCES LTD
DRAIN LEASE-DLE ZONE
OTTER CREEK SURPRISE LAKE AREA
A.T.N.W.D.B.

**CROSS - SECTIONS
(LOOKING NORTHWEST)**

NOTE SURVEYED BY TRANSIT AND STADIA
AND MELHARNEY SURVEYS LTD

FEET 0 50 100 200 300
M.C. HERGEN RING FEB 1985



between haul distances, water supply and tailings disposal considerations. The plant will have a capacity of some 300 C.Y. per hour, with average production levels planned at some 150 C.Y. per hour. Hence the Company has the ability to increase production levels if required.

During 1985, the Company proposes to mine and process 300,000 C.Y. of pay gravels and projects a total recovery of 20,680 oz. of fine gold. On the basis of drill-indicated grades, such recovery is not unreasonable depending upon the efficiency of the proposed recovery plant. It is proposed that these reserves be taken from the remaining pay gravels in the Drain lease, and the Drain lease extension (DLE) block while working southwards into the Dan group of leases, and the Company has the benefit of some 20,000 C.Y. of readily available and pre-stripped pay gravel near the boundary between the Drain and Dan leases. Mining of this material will begin as soon as the recovery plant has been constructed.

Stripping rates shall be about 6000 C.Y. per day and full mining production rates are projected at 3000 C.Y. per day. A production season of 100 days is proposed.

Obviously, attention must be paid to careful mapping and surveying of the stripping and mining operations, if grade is to be maintained at optimum levels and dilution of pay gravels controlled. Mine plans and sections must be continually updated for location and orientation and frequent examination made of gravel and rock exposures in the open pit. Maintenance of a gravel-type and bedrock map is recommended. Analyses of daily production levels and grades and concentrate types should be made and maps updated on a recovery grade basis. Locations of old workings should be accurately plotted and taken into account in developing the ongoing mine plan. Figure 12 shows an old caved-in area. Stripping over this area must be done with great caution.

Another reason for careful mapping of the old working is that the mining plan is based on the concept of mining towards and south of the very good drill hole S083-9B. This ran about 0.10 oz./C.Y. for about 75 feet. No indication of old workings was noted in this hole and it is believed that this grade reflects the average grade of the unmined channel. That is, as soon as parts of the channel beyond previous underground mining are reached, grade and nugget factor should improve considerably.

As far as mining equipment is concerned the Company proposes to operate equipment on a rental-basis. Equipment owned by the Company and presently on-site will be available in a back-up role for any project needs and in particular for bulk-testing purposes. Equipment to be rented includes two Caterpillars D8K tractors, one Cat 980C loader and a Cat 245 backhoe. Three rented 20 to 25 C.Y. trucks will be used for transporting pay gravels from the pit to the washing

plant. Adequate replacement equipment has been allocated by the rental company to cover equipment which may offer downtime due to mechanical failure. The Company intends to hire its own operators for this equipment.

"SNAKE CREEK" CHANNEL BLOCK

During a routine visit to the mine pit during August, a Cat operator informed the writer that he believed that he was stripping pay material in an area which was believed to be overburden. A 14-foot deep trench was excavated and three samples taken at different depths. All samples indicated the presence of gold. Two more trenches were excavated, one to a depth of 16 ft. and all six samples taken revealed significant gold presence. It was not possible to assign a reliable grade from such trenching as the samples were taken from a non-uniform cross-section, and there was also the danger of sloughing in the steep walls of the trench to consider. It is suggested that drilling be used to assign statistically valid grade to this deposit.

The appearance of the rock is very similar to the cemented pay of the channel horizons. The gravel is dark grey, completely indurated and contains orange to red rounded pebbles. Later in October, during the mapping I noted similar material in a cut near section 1+50S. This location is noted in Figure 12 which shows the expected trend of the "Snake Creek" channel. It is called the "Snake Creek" channel because by extrapolating the trend of the channel to the south it extends to a very steep sided cut on the west side of present Otter Creek. We sampled this steep walled hydraulic cut. It was the same material as found in the pit. It also carried significant but lower gold according to our samples. It may be the lost Snake Creek channel to the south.

Clay content of this pay is about 50%. It should not be processed in a standard sluice box. It should be processed in a trommel. This material must be stripped to reach pay in the old Otter Creek Channel below. It sits right on surface now at the south end of the pit. It dips shallowly to the north and is below about ten feet of overburden where seen in the cut mentioned above. I expect that the channel is lense shaped. It is probably about 15' deep in the centre of the lense and the lense is about 100' wide. I have idealized this to a sectional block 10'x90'. Dimensions of the block of this channel are assumed to be about 850' long x 90'x10'. There are about 30,000 C.Y. in this block. Forty, 100 lb. samples, taken at random throughout the block and processed to gold, depending on statistical results, could give a fair idea of the value of the mass. If the value of the "Snake Creek" channel block, from the above forty trench samples, is greater than \$8.00/C.Y. then consideration should be given to processing such material during 1985. The samples could be taken with the 1/2 C.Y. Case back hoe at the property. The above volume estimate is

conservative. It could well be 50,000 C.Y. and the value of the pay could well be \$20/C.Y. In that case the production from this unit could yield a total gross value of \$1,000,000. If this is so then net operating profit could be about \$500,000. The trenching should be supervised by an engineer and done as early in the field season as possible.

TAILINGS PILE

During sampling of the surface of the tailings pile it was estimated that the volume, very roughly, was about 350,000 C.Y. The writer was informed by the centrifugal concentrator operators that the result of their testing gave a value of \$4.00/C.Y. at \$350 US gold. Their sampling may not be representative of grade of the tailings. Sampling of the identical sites with the available equipment, which is not designed for fine gold recovery, gave higher values than that. Again, only a set of drill holes and statistical treatment of the results can give reliable results. In my opinion, the tailings should be sampled with the 9" Becker hammer drill. The samples should be regarded as hardrock samples and fire assayed. Depending on results a 50 TPD mill should be considered for the site and the tailings processed using crushing, grinding and flotation techniques. During drilling, samples should be also treated by conventional sluicing devices. Both methods of treatment should be compared and the more profitable one used. As reported to Genie management in a July memo, value of the tailings material could be between \$5/C.Y. and \$25/C.Y. The drill tests should be carried out in winter.

Alternatively, the tailings could be sold to another company for a lump sum. It would be unwise to do so until a measure of value is obtained.

RESERVES OF MIDDLE OTTER CREEK ON DAN PLACER LEASES

Figure 14 shows the interpreted channel trend through the Dan placer leases group. It is clear that within the property there is a long length of channel to explore, develop and mine. In the May 15, 1984 report the total of proven, probable and possible reserves at Dan-Drain Group was put at about 2 million cubic yards and about 200,000 ounces. This reserves was only slightly affected by the 1984 mining production. It should be reduced by about 150,000 cubic yards. Included in the reserve are possible blocks within Drain Lease at the north end of the lease near the present sluice site and camp. These targets should be drilled with the Becker Drill and about 1500 feet of drill hole, at total cost of about \$120,000, should be put down in three drill lines.

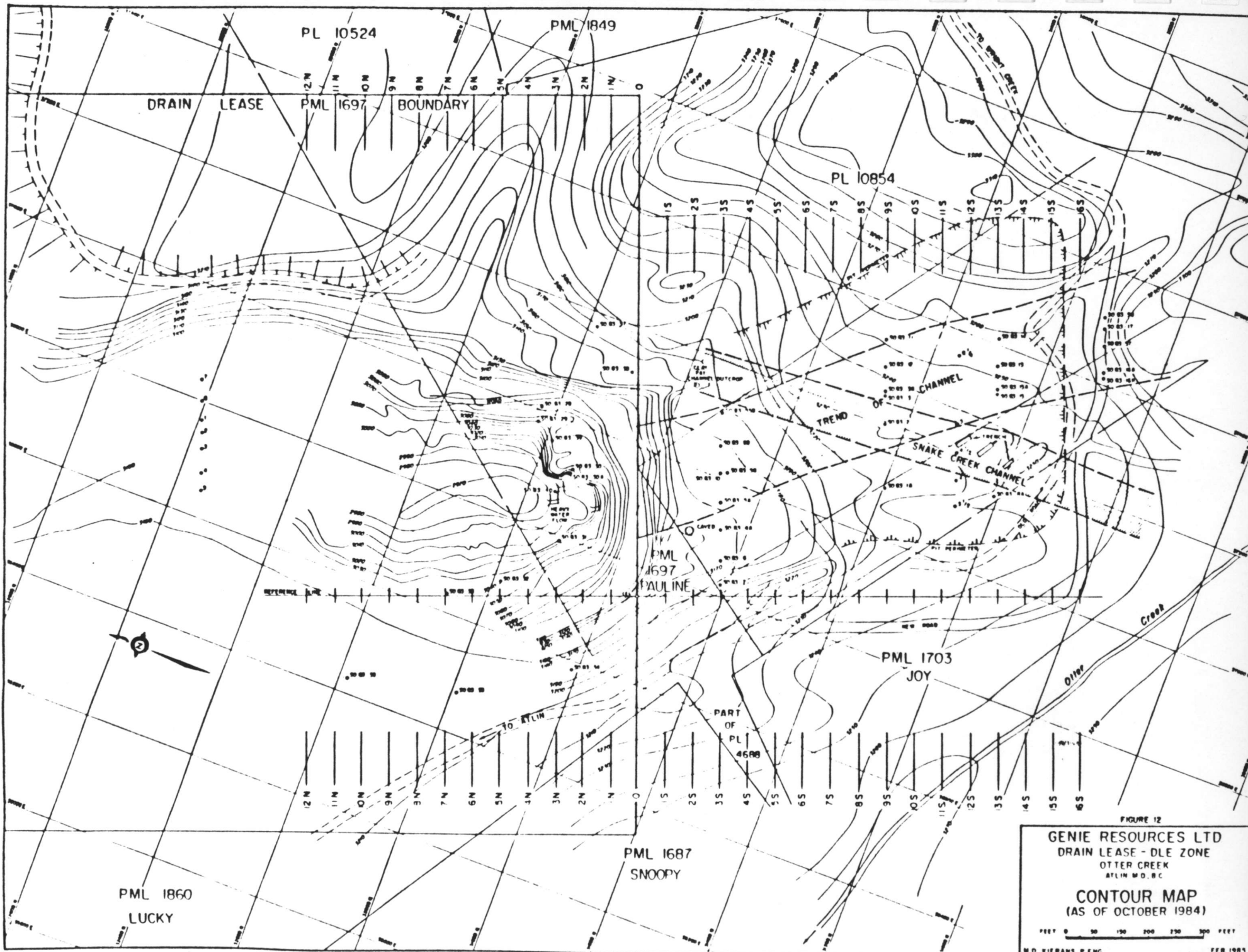


FIGURE 12

GENIE RESOURCES LTD
 DRAIN LEASE - DLE ZONE
 OTTER CREEK
 ATLIN B.C.

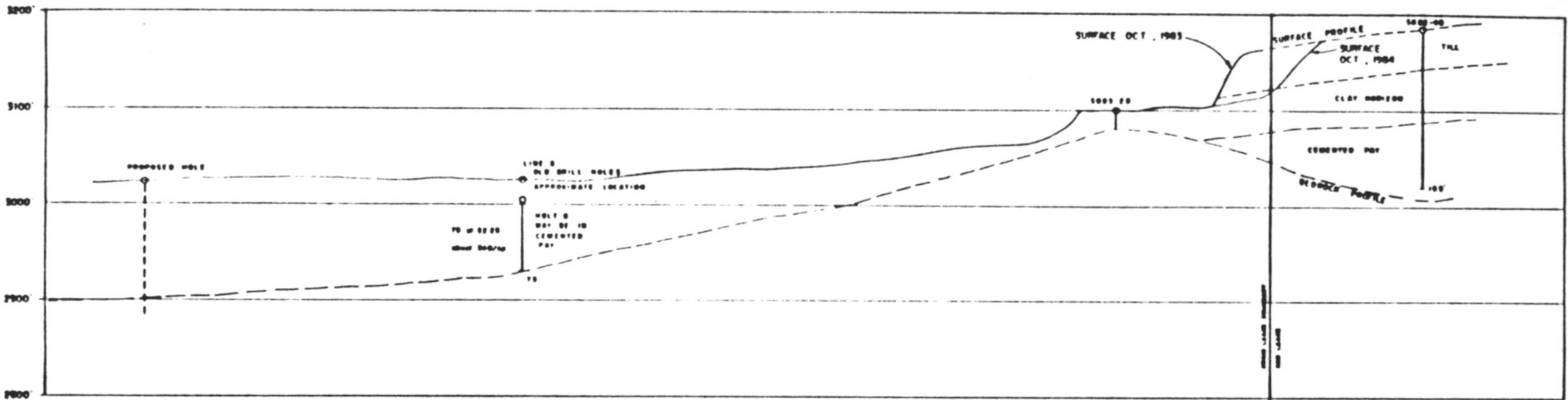
CONTOUR MAP
 (AS OF OCTOBER 1984)

FEET 0 50 100 150 200 250 300 FEET

M.D. KIERANS P. ENG. FEB 1985

NORTH

A

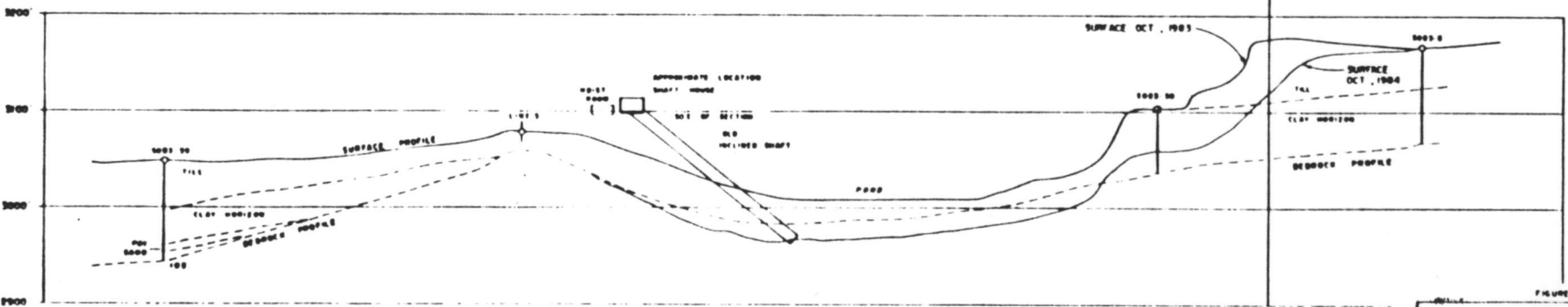


SOUTH

A'

NORTH

B



SOUTH

B'

FIGURE 15

GENIE RESOURCES LTD.
 DRAIN LEASE
 (PML 1007)
 LOWER OTTER CREEK
 AT THE MOUTH OF THE CREEK, BC
 LONGITUDINAL SECTIONS
 (SEE FIGURE 15)
 LOOKING EAST

As stated above the details of the above reserves are set out in the May 15, 1984 report. It is important that, working and equipment capital be internally generated by mining readily accessible blocks. The 1985 mining proposal is a step in this direction. In my opinion, to exploit the above reserves for optimum profit, attention should be given to alternative stripping and mining equipment available. This is because upstream stripping ratios will be high. Therefore unit cost of mining, and especially stripping, must be reduced to as low a cost per cubic yard as possible. Critical investigation of the use of bucket wheel excavators and modular conveyor belt and stacking systems should also be carried out.

SUMMARY OF 1985 MINING PROPOSAL

The following budget projections were proposed by the Company for the 1985 mining season. Stripping shall be carried out under contract at an estimated cost of \$2.25 per C.Y. Total stripping costs are estimated at \$900,000. Direct mining costs have been estimated to average about \$6.66 per C.Y. or some \$2,000,000 for the proposed production. Processing, camp, administrative and other operational costs would be about \$700,000 giving a total 1985 budget of about \$3,600,000.

At a recovered grade of .09 oz./C.Y. and fineness of about 766, a total of some 20,680 ozs. of fine gold is projected. For an average gold price of \$315 U.S. per oz., and an exchange rate of \$1.35, total revenues are projected at some \$8,800,000. Net revenues to the Company, after royalties of 10%, refining charges would be \$7.7 million.

If the Company's projections are correct, this would result in a pre-tax profit of about \$4.250 million for the 1985 season.

The pre-production costs, including start-up and the first 30 days of production have been estimated at approx. \$3,000,000.

COST ESTIMATES

1. 1985 pre-production, including start-up and first 30 days production costs.

- Accumulated 1984 Pre-production accounts, due for stripping, drainage, pit clean-out, sampling and corporate expenses		1,359,910
- New recovery unit set up on site		350,000
- Stripping 150,000 C.Y. @ \$2.25	337,500	
- Mobilize and extras to stripping contractor	<u>93,500</u>	431,000
- Rental on lease equipment, Two D8K cats, 245 Cat hoe, 980C loader, & Three 20 to 25 C.Y. Rock trucks c/w fuel, lubes		169,875
- Mobilization for the above equipment & including fuel tanks & other equipment		95,000
- Repairs and maintenance		69,000
- Fuel, lubes, filters, etc.		78,230
- Clean out and extend settling ponds		50,000
- Salaries and wages for supervisors, labours & operators		192,350
- Engineer/geologist		10,000
- Office & overhead		39,300
- Legal & Government		20,000
- Camp start up costs		17,500
- Audit & Accounting		5,000
- Interest		54,500
		<hr/>
		\$2,941,665
		=====
	Rounded to	\$3,000,000
		=====

SCHEDULE 1

GENIE RESOURCES LTD.

DIRECT MINING COSTS:

		<u>JUNE</u>	<u>JULY</u>	<u>AUGUST</u>	<u>SEPT.</u>	<u>TOTAL</u>
<u>STRIPPING</u> (contract) average 6,000 cu.yds @ \$2.25 cu.yds per day		\$337,500	337,500	225,000	-	\$900,000
<u>LABOUR: (10 HOUR SHIFT)</u>	<u>No. of Hrs.</u>					
2-One D8K x 2 shifts	20					
1-One D8K x 1 shift	10					
2-One 980C Loader x 2 shifts	20					
2-One 245 Hoe x 2 shifts	20					
6-Three Trucks x 2 shifts	60					
4-Gold recovery-2 men x 2 shifts	40					
2-Cooks -2 men x 2 shifts	20					
2-Mechanics -2 men x 2 shifts	20					
1-Night Foreman-1 man x 1 shift	10					
2-Helpers -1 man x 2 shifts	20					
	<u>240 hrs. @ \$22.00 hr. = \$5,280 per day</u>					
1-Mine Manager	460 per day					
<u>ADD Fringe Benefits @ 16%</u>	920 per day					
Board @ \$50. x 10 men	<u>500 per day</u>					
	25 days x \$7,160 per day	179,000	179,000	179,000	179,000	716,000
<u>EQUIPMENT RENTALS</u>						
D8K Tractor - 2 @ \$750	\$1,500 per day					
980C Loader - 1 @ \$735	735 per day					
245 Hoe - 1 @ \$1,610	1,610 per day					
20-25 cu.yd trucks - 3 @ \$950	2,850 per day					
Lease Pickups - 2 @ \$50	<u>100 per day</u>					
	25 days x \$6,795 per day	169,875	169,875	169,875	169,875	679,500
FUEL AND LUBE		78,230	78,230	78,230	78,230	312,920
REPAIRS AND MAINTENANCE		34,500	34,500	34,500	34,500	138,000
ENGINEERING AND GEOLOGY		10,000	20,000	15,000	15,000	20,000
DRILLING			50,000	50,000	50,000	150,000
CAMP SUPPLIES (misc.)		1,000	500	1,500	1,000	5,000
		<u>\$ 810,105</u>	<u>870,605</u>	<u>753,105</u>	<u>527,605</u>	<u>\$2,959,420</u>
		-----	-----	-----	-----	-----

SCHEDULE 2 GENIE RESOURCES LTD.

PREPARATION AND CLEAN-UP COSTS:

	<u>MAY</u>	<u>OCTOBER</u>	<u>TOTAL</u>
Mobilization of equipment to mine-site			
1. STRIPPING CONTRACT EQUIPMENT	93,500		93,500
2. GENIE-OWNED AND LEASED EQUIPMENT	95,000		95,000
Clean cut and construct settling ponds	50,000		50,000
Camp start-up costs	15,000		15,000
Mine-Manager salary	13,350	13,350	26,700
Demobilization from mine-site			
1. STRIPPING CONTRACT EQUIPMENT		50,000	50,000
2. GENIE-OWNED AND LEASED EQUIPMENT		63,000	63,000
3. CAMP SHUT-DOWN AND WINTER WATCHMAN		5,000	5,000
	<u>266,850</u> -----	<u>131,350</u> -----	<u>398,200</u> -----

2. Summary of estimated total revenues and costs for 1985 season.

REVENUE

Production 300,000 C.Y. @ 0.09 oz./C.Y.
 Raw gold @ 766.4 fine.
 Gold @ \$315 U.S. and exchange @ 1.35
 (Less Royalty Payments) = \$7,874,500

COSTS

- <u>STRIPPING - Contract out</u>	
400,000 C.Y. @ 2.25	900,000
- Camp start up and supplies	20,000
- Clean out and additions to settling ponds by using stripped material	50,000
- Equipment lease or rental 2-D8K Cats, 1-245 Cat Hoe, 1-98C Loader and 3-20 to 25 C.Y. rock trucks, 2-pickups	679,500
- Fuel and lubes for all the operation except the stripping where contractor supplies can	312,920
- Salaries and wages including benefits and board loas	732,700
- Repairs and maintenance	138,000
- Mob & demob, including winter watchman	306,500
- Engineering/geologist-production	60,000
- Drilling and Sampling	150,000
- Office and Overhead	71,350
- Legal and Government	30,000
- Insurance	5,200
- Audit and Accounting	15,500
- Travel, Promotion & Shareholder relations	24,800
- Interest; W. & P. Bank, Q.I.D. & Unit Holders, and in term at Bank	121,250

TOTAL SEASON COST	\$3,617,720
	=====

Estimated pre tax operating profits

Revenue	\$7,874,500
Costs	<u>\$3,617,720</u>
Surplus	\$4,256,780

Approx. production cost per fine oz. = \$230, without allowance for depreciation.

An increase of \$50 Cdn. in gold price would represent an additional net increase in revenue of \$931,000.

CONCLUSION

1. The Company achieved its prime objectives in 1984, and by limited production was able to partially offset expenses. The program was successful, as it enabled the Company to fundamentally redesign the existing pit operations, extensively strip ahead for 1985 in accordance with the results of the earlier drill program, and develop an organized mine plan.
2. The short-comings of the inherited washing plant have been well documented by the writer and appreciated by the management, and this has led to the inclusion of a more sophisticated and efficient plant in subsequent operations.
3. The Company is now well placed to develop Otter Creek, with 1984 being regarded as the start-up or pre-production. In 1985, the initial production year, some 27,000 oz. could be produced, with 1986 being the target for optimum production of 40,000 oz. per annum. Careful supervision, mapping, recording and testing by qualified personnel is essential.
4. The 1985 program can be commenced with start-up and pre-production expenses of approx. \$3 million and should generate approx. \$7.7 million gross revenues, after royalties and refining charges, to create a pre-tax profit of some \$4.25 million (at an assumed gold price of \$315 U.S.). Fluctuations in the price of gold will affect profitability to the extent of approx. \$250,000 for each \$10 U.S. movement. Should there be a significant increase in the price of gold the Company has the capacity to increase production in 1985 beyond the levels projected.
5. The discovery of the "Snake Creek" Channel and sampling of the "Tailings Pile" has increased the potential reserves of this property.

RECOMMENDATIONS

1. The 1985 mine plan should be adopted and appropriate funding arrangements for \$3,000,000 should be arranged by the Company. Further operations can be financed from revenues generated in 1985.
2. The proposed wash plant should be installed at an early stage during 1985 and be carefully monitored, with regular testing of the tailings.
3. The Company should pursue an ongoing exploration program to develop sufficient reserves to permit a longer-term (say 3 years minimum) mining plan to be conceived. Suitably qualified personnel should be engaged for such a program.

*Respectfully submitted,
M.D.K. Klerin*

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APPENDIX A

Placer Mining Leases and Placer of the Dan-Drain Group, Atlin Mining Division, B.C.

DAN-DRAIN LEASES

<u>Name</u>	<u>Record No.</u>	<u>Registered Owner</u>	<u>Expiry Date</u>
Drain Lease	1697	Genie Resources	Oct. 12/86
P.L.	4607	Genie Resources	Oct. 28/86
P.L.	4606	Genie Resources	Oct. 28/86
P.L.	4605	Genie Resources	Oct. 28/86
P.L.	4604	Genie Resources	Oct. 28/86
P.L.	1739	Genie Resources	Oct. 12/86
P.L.	1528	Genie Resources	Oct. 12/86
P.L.	2302	Genie Resources	Oct. 12/86
Snoopy	1687	Genie Resources	Oct. 12/85
Rose	1702	Genie Resources	Oct. 12/85
Joy	1703	Genie Resources	Oct. 12/85
Lake	1745	Genie Resources	Oct. 12/85
Dan	1782	Genie Resources	Oct. 12/85
Randy	1849	Genie Resources	Oct. 12/85
Lucy	1866	Genie Resources	Oct. 12/85
Pauline	1867	Genie Resources	Oct. 12/85
Ford	1868	Genie Resources	Oct. 12/85
Surprise	1896	Genie Resources	Oct. 12/85
P.L.	4688	O'Connor-Watson	Oct. 17/85
P.L.	4689	O'Connor-Watson	Oct. 17/85
P.L.	10524	Sebrew Holdings	Dec. 13/85
P.L.	10850	Sebrew Holdings	Mar. 21/85