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TANACANA MINES LIMITED

SUMMARY REPORT

on the
PLACER AND LODGE GOLD POTENTIALITIES
of the
TANACANA PLACER LEASES
and the
WINGDAM MINERAL CLAIMS

LIGHTNING CREEK — BARKERVILLE AREA
CARIBOO MINING DIVISION
BRITISH COLUMBIA

20 APRIL 1983

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TANACANA MINES LTD.

This writing is intended to summarize the work and reports done to date on the property.

SUMMARY

The company has both placer and hard rock gold leases in the area of Barkerville, British Columbia where the Barkerville gold rush took place. Considerable work has been done on both types of deposits and related engineering reports are available.

From 1971 to 1980, work was done by Meyers, mostly on the placer claims. One (No. 7) of his report deals with mineral claims. He reports various interesting channels and limited test pit results show gold content up to \$1.92 per cubic yard. The high level bench or channel above Lightning Creek must still be tested.

Mineral claims were seriously explored since 1980 and is covered by the last four reports. Electromagnetic, geophysical, geochemical and drilling was done showing some encouraging results. Further geological and geochemical work needs to be done.

The available reports briefly described herein are:

Reports 1 and 2	Meyers - Placer
"	3 Supplementary
"	4 Meyers - Placer
"	5 Meyers - Placer
"	6 Meyers - Placer
"	7 Meyers - Mineral
"	8 Meyers - Placer
"	1 Mineral - Aerodat
"	2 Mineral - Geotromics
"	3 Mineral - Strata
"	4 Mineral - Waymark

Reports 1 & 2 - Myers

Tanacana Mines Ltd. of the present time consists of 14 placer leases and 139 mineral claims in the Wingdam area of the Cariboo mining division of British Columbia.

The properties lie 26 miles east of the town of Quesnel on all-weather provincial highway No. 26. Quesnel is located on Highway No. 97, approximately 450 miles north northeast of Vancouver, British Columbia and is serviced by both rail and air transportation.

The climate is predominantly moderate but severe cold periods may be expected along with chinook winds.

Test holes were drilled on lease No. 5332 resulting in commercial values of gold. A washing plant was set up and put into operation in September, 1971. A clean-up was made in October 1971 after a run of approximately 1,000 yards of material with a recovery of approximately 15 oz. of gold.

The gold is very uniform in colour, very clean and flat showing very little wear from movement, indicating a possible local source. The fineness of gold is estimated to

be a 980 fine or better. Some fairly coarse gold was obtained from the clean-up. Black sands were also recovered containing considerable fine gold and possibly platinum. Recovery is above average for the area. The washing plant was located just below the old Wingdam mining operation on Lightning Creek. Results of the washing operation are considered favourable.

A plane table survey was done on the north part of the lease No. 5332 on June 23, 1972. Eight test pits were also dug at this time to establish gold values and confirm the results of churn drill test holes drilled in 1970. The results and values of the survey are on page 3 of the engineer's report and show an overage gold value of \$2.00 per cubic yard.

A further log and samples of test pits followed along with a shallow refraction seismic survey during June of 1972. "Logs and samples of test pits", Appendix A, Engineer's report of July, 1972.

In report No. 3 dated March, 1972 a map shows churn drill holes by Consolidated Gold Alluvial B.C. Ltd. C.W.S. Tremaine, P.Eng. 1914 to 1938. Also an evaluation of drill hole tests by Bud Henning Drilling, 1970. Shallow refraction profiles and sketch map showing churn drill holes by William Howard Myers 1971.

Report No. 4 - Myers

In May of 1977 field work was carried out on eight placer leases consisting of geological field mapping, prospecting for pebble count, heavy mineral content and shallow refraction seismic surveys. A base map was made from enlarged aerial photographs of the area together with photogeology. The results are shown on maps enclosed with the report.

The results are considered to be very significant with quartz veins and oxidized pyrite. A northerly trending channel was mapped with normal gravel velocities from 17 to 35 feet indicated.

A discovery of gold on Mary Creek in 1972 causes a re-evaluation of the old tertiary drainage pattern, which extended into the Wingdam area in the vicinity of the leases held by Tanacana Mines.

Gold was discovered in abundance on Lightning Creek near Wingdam in about 1900 and further upstream by Ted Campbell in 1861. In some of the deep churn drill test values were as high as \$95.00 per cubic yard at \$30.00 per ounce gold. Bedrock in the areas of the Cariboo series of

the precambrian age noted in the area for better lode gold mineralization. The pre-glacial or tertiary deposits may be called gut gravels and the tertiary drainage was notably different from the present drainage pattern in the Wingdam area. Deposits of Gold found in auriferous gravels undoubtedly came from lode gold mineralization in the immediate area. There is evidence in the area that Lightning Creek, at one time, flowed northerly through Beaver Pass to the Willow River.

Field mapping and seismic surveys indicate a northerly trending channel near the southeast end of lease No. 5332 with over twenty feet of fairly clean gravel on bedrock. Photogeological compilation trend is north northeast and agrees with channel or bench identification, along with linearments in the southeast portion of the map area. Also roads have since been built and additional leases acquired. Outcrops northwest of Wingdam Lake are composed of sericite schist and quartzite, some shearing with alteration with quartz veins trending east west, faulting not identified. Pebble counts in the Wingdam Creek and tributaries were made to identify changes of rock type and occurrence of black sands.

Test pits and/or drilling is recommended by Myers along with additional roads and seismic surveys. The bibliography by British Columbia Department of Mines,

- Bulletin No. 3, by Douglas Lay, 1940
- Bulletin No. 11 by Douglas Lay, 1941
- Canada Department of Mines Memoir No. 181 by G. Hanson, 1935
- Bulletin No. 149 by Johnson Uglow, 1926
- Geological Survey of Canada, Maps of provincial auriferous creeks in the Cariboo mining division, British Columbia by Amos Bowman, 1895
- Department of Mines and Resources (Canada Mines and Geology Branch)
 - Map No. 336A
 - Map No. 563A
 - Map No. 564A
 - Map No. 335A
 - Map No. 562A
- Reference - Preliminary Geological Geophysical report on the photogeological on compilation, geological field mapping, prospecting and refraction seismic surveys
- Placer mining leases Nos. 5332, 6106, 7067, 7068, 7073, 7074, 7092 and 7117 Cariboo mining division (Latitude 53°02' north and Longitude 121°58' west). Barkerville designated placer area, British Columbia
 - Map No. P93H/4W for Tanacana Mines Ltd., 1075 West Georgia Street, Vancouver, B.C. V6E 3G2 by William Howard Myers, P.Eng., May 25, 1977.

Report No. 5 - Myers

A detailed shallow refraction seismic survey was done on leases owned by Tanacana Mines Ltd. in August and September, 1978 identified three possible deep channels.

Due to thick underbrush and rough terrain the survey was conducted mainly on cleared areas and roads and confluence of streams. (Additional roads have been cleared into the area as of this writing.) The timber in the area is quite heavy with little logging done (topography map enclosed). McElhanney Surveying and Engineering Ltd., Vancouver, British Columbia, aerial photograph, 1977 shows central portion of the leases and location of seismic survey lines. Cross sections prepared to show detail of the sub-surface. All cross sections in appendix of report.

The more significant results of the survey shows a possible existence of a deep channel 3,500 feet southeast of Lightning Creek and 550 feet higher than the present creek bed. Another at the confluence of Lightning and Wingdam Creeks, and a third 1,200 feet southeast of Lightning Creek. The location of the regional cross section is shown on the enclosed topographic map. The cross section from Lightning Creek to Wingdam Lake approximately 6,300 feet was prepared

from results of the seismic survey together with data on churn drill holes on Lightning Creek.

The difference in elevation of the possible channels is very significant in that the old drainage of Lightning Creek was to the north into Beaver Pass area to the Willow River in sharp contrast to the present drainage to the south. This old drainage pattern may correspond to the northerly drainage of the Fraser River tertiary drainage history, by Douglas Lay, Bulletin No. 11, British Columbia Department of Mines, 1941. Apparently all indicated deep channels may be associated with early northerly tending stream flows, and may also be associated with present surface changes and faulting. There may be an old deep channel that could be a tributary to the Lightning Creek channel and have a northerly trend.

Further road building was recommended by Myers to test pit and and drill the area to determine the trend and depth to possible auriferous gravels. (This has been done.) Bibliography the same as aforementioned.

In many tertiary or gut gravels the deposits in the Cariboo the cementation is so strong that the rocks or gravel will break before the cementing material breaks.

These deposits are usually reddish-brown in colour due to the oxidation of pyrite and other minerals. Rich concentrations of placer gold are usually found near or in close proximity to the lode gold mineralization. The gradient of the streams during the tertiary era was greater than present stream gradient.

A Theory of Shallow Refraction Seismic Exploration concludes this report along with the type of instrument uses and the methods of interpretation. Submitted December 29, 1978 by William Howard Myers, P.Eng..

Report No. 6 - Myers

The 1979 report deals with the geophysical work on a shallow refraction seismic survey on placer mining lease No. 7073, Ramos Creek-Cariboo mining division, Map No. 93H/4W.

Tanacana Mines Ltd. no longer holds this lease. Whatever is in this report may or may not be of interest.

Bedrock in the area is composed of limestone, sericite schist, argillite and quartzite of the Cariboo series, bedrock in the area is highly faulted and there may be a source of placer gold, William Howard Myers, British Columbia, P.Eng. (Alberta), October, 1979.

Report No. 7 - Myers

Geological-Geophysical Report on Reconnaissance Geological mapping and electronic (VLF-EM16) survey of Mineral Claims - Wingdam area on various favourable days, from March through July, 1979. The 80 claims are in the same vicinity as the placer leases. A great deal of work was carried out in geophysical and geological exploration using VLF-EM16 and shallow refraction seismic for bedrock depth determination. Also included a photo-mosaic map and overlay maps showing location of electromag profiles.

The faulting trends to northerly and is worth mapping under the glacial drift cover. The work done was exploratory in nature and additional work is recommended in both detail grid patterns and individual profiles. The work is detailed in the report. A photo mosaic map was prepared by McElhanney Surveying & Engineering Ltd. from the aerial photographs flown in 1977 showing roads and longer streams, at a scale of 1:5,000 and was prepared as a base map for plotting VLF-EM16 profiles and rock outcrops (maps in report).

The shallow refraction seismic equipment was used in places along the VLF profiles to determine the bedrock

depths. Bedrock though concealed over a large portion of the claims blocks, by rock, debris and vegetation, outcrops on the ridges on steeper slopes and stream beds. The overburden in the Lightning Creek Valley is very thick.

It was expected that exploration drilling in the deep channel of Lightning Creek would indicate that the gold source was in the nearby quartz veins. Contact between the two formations, one to the northeast part of the claim area and the other to the southwest are not readily defined.

To the extreme southwest portion of the area (southwest of Wingdam Lake) numerous outcroppings of quartz veins exist on the ridge with a width of one inch to over three feet, but without gold or pyrite association. Bedding planes are often distorted by shearing, in addition to the strike faults and the northwest strike of the bedding. There is a distinct northerly trend of faulting and topographic relief. Similar trending of faults were mapped in the Barkerville area by G. Hanson in Memoir 181, Canada Department of Mines in 1935. Mineralization occurs in fractures at or near the inner section of major structural trends in the area.

The reconnaissance geological mapping was concerned primarily with the contacts of different types of rocks and structures rather than actual mapping of the outline of the outcrop. It is recommended by Myers that further VLF-EM16 surveys be carried out, both in a detail grid and as individual profiles.

The references given in a bibliography geological survey of Canada, Department of Mines

- Memoir 181, 1935 by G. Hanson
- Bulletin 149, 1926 by Johnson and Unglow
- Map 335A (west half) 1933 G. Hanson
- Paper 72-35, 1973 by J.R. Campbell and E.H. Mountjoy, B.C. Department of Mines
- Bulletin No. 126, 1948 by Stuart S. Holland
- Shallow refraction seismic exploration theory by the engineer plus maps by William Howard Myers, P.Eng. (B.C.), November, 1979.

Report No. 8 - Myers

Results of the 1980 field exploration work on placer leases 5332, 6106, 7121, 7254 and 852, Wingdam area Cariboo mining division, B.C. Map 93H/4W for Tanacana Mines Ltd. are reported.

As a result of the shallow refraction work carried out on these leases in 1978, the following brief resume is of a field test work in 1980. Sixteen test pits and nine trenches were put down on the topographic bench or flat some 600 feet above Lightning Creek below Wingdam Lake. Using a backhoe, samples were taken and processed over a sluice box, the concentrate panned and assayed. Thick gravel deposits were found but in some instances bedrock could not be reached in the deep channel where more favourable deposits lie. Test pit No. 6 showed very potential results. A detailed description of the lithology of each test pit and trench is tabulated in the appendix of the report under designated number as shown on the enclosed topographic map.

The test pits and trenches indicated substantial relief on the bedrock surface. In some of the trenches bedrock dropped straight down with vertical or near vertical canyon walls. Bedrock is composed mostly of sericite schist

with areas of quartzite and large boulders of basic intrusive rocks, however no intrusive bedrock was observed.

Results of test pits and trenches are in detail. Further testing of the high level bench or channel above Lightning Creek is highly recommended along with drilling to determine depths to bedrock in deeper areas.

Certificate of analysis of samples taken by Chemix Labs Ltd. of 212 Brooksbank Avenue, North Vancouver, ran from a low of 12 cents per cubic yard to a high of \$1.92 per cubic yard.

Topographic map by McElhanney Surveying and Engineering Ltd., Vancouver, B.C., William Howard Myers, P.Eng., December, 1980.

Report No. 1 - Aerodat

MINERAL - Claims Resume

Helicopter Electromagnetic and magnetic surveys, Wingdam area, British Columbia for Tanacana Mines Ltd., April, 1980 done by Aerodat Ltd., W.P. Boyko, P.Eng., Mississauga, Ontario.

List of maps - scale 1:10,000

- Map 1 Airborne Electromagnetic Survey interpretation
- Map 2 Airborne Electromagnetic Survey profiles - 900 HZ
- Map 3 Airborne Electromagnetic Survey profiles - 4,200 HZ
- Map 4 Total Field Magnetics

Most of the responses are of bedrock origin indicated by relatively high apparent conductance, pyrite or other conductive sulphides and may occur adjacent to graphitic sedimentary rocks. In the northeast half of the area where conductors are of local extent and strike north to northeast.

Interpreted axes of conductors are, one to the northwest and one to the northeast. Two conductive environments are indicated by the survey, with ground geological examination is recommended on the eleven indicated conductive zones. Instrumentation included a dual frequency inphase-quadrature instrument manufactured by Aerodat Ltd., Toronto, a magnetometer-proton precession model AM-104 manufactured by Barringer Research Ltd., Toronto, and a Geocam, 35mm. flight path camera.

Report No. 2 - Geotronics

Mineral Claims

Geophysical report in 1981 on a Maxxim II E.M.-16 Survey on the Wingdam claims, Cariboo Mining Division, British Columbia by Reinhold R. Fassler, Geophysicist, Geotronics Surveys Ltd.

Since the aerial survey by Aerodat in 1980, Tanacana has staked fifty-nine claims in addition to the original claim block, bringing the total number to One Hundred Thirty-Nine, namely - 5, 6, 7 and 8. Claim map in engineers report, 1:50,000 and location map 1:8,600,000, also survey line maps in pocket, maxmin profiles. This survey was carried out over Wingdam No. 4, 6 and 7 claims in 1981. The purpose of this survey was to detail anomalous areas found in an airborne H.E.M. Survey done in 1980 by Aerodat. The maxmin survey was carried out with a two-man portable unit.

Located on Wingdam No. 7 are two good conductors and on Wingdam No. 4 a broad conductive zone.

In this survey a maxmin II portable two-man electromagnetometer manufactured by Apex Parametics Ltd. of Toronto, Ontario was used for this survey. It allows far better discrimination between low conductive and more conductive bodies like massive sulphide mineralization.

In August of 1981 on lines 4N and 2N on Wingdam #4 (wing group) and on lines 0+00 and line 1N on Wingdam #7 (dam group) maps in pocket of report, a backhoe was used to dig pits. Resulting assays on 150 pit samples by Barringer Magenta are included with engineer's report, but are not considered to be conclusive.

Discussion of the results of the survey of Wingdam No. 4, 6 and 7 are found on pages 8, 9 and 10 of the engineers report by Reinhold R. Fassler, Geophysical Geotronics Surveys Ltd., 403 - 750 West Pender Street, Vancouver, British Columbia, V6C 2Z7, done September 9, 1981.

Report No. 3 - Strato Geological

Geophysical report in 1982 on the C.E.M. Shootback E.M. Survey on the Wingdam Claims - Cariboo Mining Division, Map 93H/4W by Strato Geological Engineering Ltd.

The survey was carried out over selected areas of Wingdam claims 3 and 4 during June, 1982. The intent of the geophysical work was to provide detailed information on conductive zones previously located by airborne H.E.M. Survey, completed in April of 1981. Four line kilometers of geophysical work are presented in this report. Access by logging trails and recently cut cat trails from Highway No. 26 and the Swift River Road.

The regional geology in the northeastern portion of the claims is mapped as the Cariboo series consisting of quartzites, argillite slate and limestone, while in the southwestern areas the rocks are shown to be of the Quesnel River group of shales, argillites and greenstones. The faulting in the area is northerly, and topographic relief is easily observed in the field within the claims area.

Gold mineralization in the area has been found to occur with medium and coarse grained pyrite in both quartz veins.

and as replacement lenses in the limestone. The Shootback system was developed to provide an E.M. System that is accurate and effective results under conditions where elevation, coil separation and direction between coils are variable in rugged and heavily timbered terrain.

E.M. Surveys were conducted over two airborne target areas; anomalies 5 and 7 on Wingdam No. 3 and anomalies 9 and 10 on Wingdam No. 4. The present survey repeated a maxmin II results on a selected test line and has outlined several conductive zones on the Wingdam No. 3 and 4 claims which warrant further investigation. Since cat trails have been cut in the area, a conductive zone can easily be checked geochemically and if tests warrant, the zones should be tested by diamond drilling.

Enclosed maps and references:

- British Columbia Ministry of Energy, Mines and Petroleum Resources, 1980 - 1
 - Mosquito Creek Map 93H/4E, pp. 120 by G.H. Klein
1. Location Map 2
 2. Claim Map 4
 3. Topography Map 5
 4. Line Location Map 11

5. C.E.M. Profiles - line 0+00 Wingdam No. 4 leaflet
6. C.E.M. Profiles - line A+00 Wingdam No. 3 leaflet
7. C.E.M. Profiles - line A-9 Wingdam No. 4 leaflet
8. C.E.M. Profiles - line A4-7 and A9-10 Wingdam No. 4
leaflet

by Strata Geological Engineering Ltd., 103-709 Dunsmuir
Street, Vancouver, B.C., July 15, 1982

Report No. 4 - Weymark

Drilling Assessment Report, 1982, Tanacana Mines Ltd., Wingdam Mineral Claims by Weymark Engineering Ltd.

Wingdam mineral claims consists of two groups. The wing with 69 units, Wingdam claims Nos. 1, 2, 3 and 8 and the Dam group with 70 units, Wingdam claims Nos. 3, 5, 6 and 7 totalling 139 units situated in the Cariboo area of British Columbia (reference claim map in report).

The Wingdam claims are in the same general area as the Wingdam placer leases, 48 kilometers east of Quesnel on Highway No. 26 being centered about settlement of Wingdam, with a geographic reference of 53°2' north Latitude and 121°58' west Longitude.

In August of 1982 Tanacana Mines Ltd. initiated a diamond drilling program (exploratory in nature and not on a grid) on units No. 7 and 8 to test the indicated geophysical anomalies.

Drilling was done by Herb Allen Diamond Drilling Ltd. of Merritt, B.C.

On the basis of the information obtained from the drilling program, and the results of the geophysical surveys, it is considered that further geological and geochemical investigations should be carried out on the Wingdam claim groups.

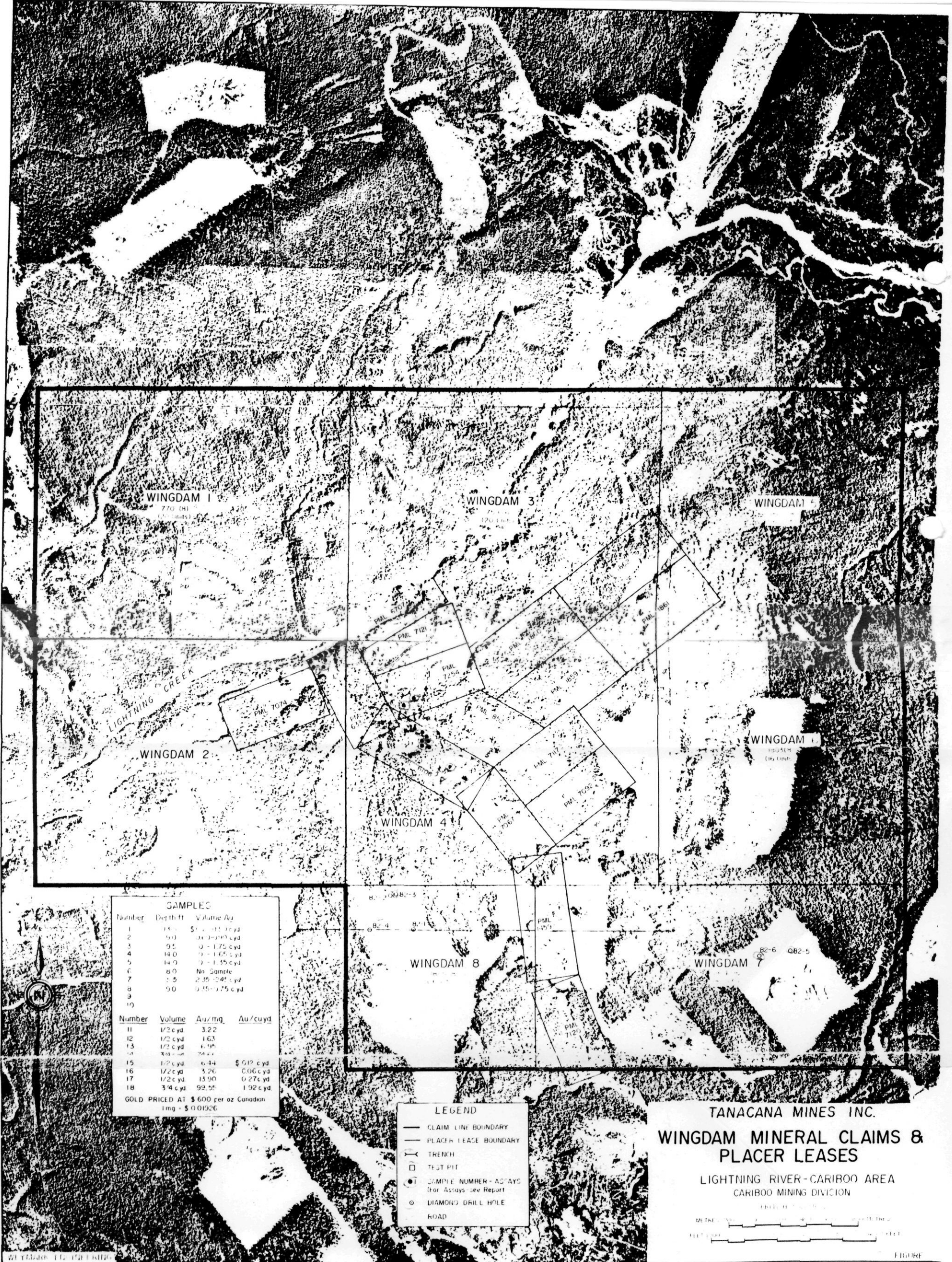
The following is a Certificate of Analysis on core drill samples by Barringer Magenta.

SAMPLE ID	AU OZ/TON	AG OZ/TON	CU PPM	PB PPM	ZN PPM
1	N.D.	N.D.	20	10	119
2+3	N.D.	N.D.	93	28	252
4	N.D.	.009	28	136	213
5A	N.D.	N.D.	20	1	16
5B	N.D.	N.D.	4	1	39
6A	N.D.	N.D.	34	12	406
6B	N.D.	N.D.	36	11	310
25	N.D.	N.D.	18	10	81

Considering the results of the above core drill assays namely #1 and #4 tested chemically, as compared to the following results of samples East and West (taken with a backhoe) in the same immediate vicinity area, tested chemically and by a fire assay, it is doubtful if any definite conclusions can be drawn.

SAMPLE ID	AU OZ/TON	AG OZ/TON	CU %	PB %	ZN %
<u>Chemical</u>					
WEST	N.D.	.045	.010	.008	.025
EAST	N.D.	.045	.010	.002	.016
<u>Fire</u>					
EAST	.004	.14			
WEST	.006	.40			

Claims location maps along with maps indicating location of diamond drill holes together with drill hole records and assay reports by Barringer Magenta, Calgary, Alberta are included in the engineers report. By Weymark Engineering Ltd., Consulting Engineers, 3310 Westmount Road, West Vancouver, B.C., December 12, 1982.



SAMPLES			
Number	Depth ft	Volume Au	
1	15.0	5.1 - 11.0 yd	
2	5.0	3.0 - 7.0 yd	
3	9.5	0 - 1.75 yd	
4	14.0	0 - 1.65 yd	
5	14.0	0 - 1.35 yd	
6	8.0	No Sample	
7	2.5	2.35 - 2.45 yd	
8	9.0	0.35 - 0.75 yd	
9			
10			

Number	Volume	Au/mg	Au/cuyd
11	1/2 c yd	3.22	
12	1/2 c yd	1.63	
13	1/2 c yd	4.95	
14	3/4 c yd	74.44	
15	1/2 c yd	6.44	\$ 612 c yd
16	1/2 c yd	3.26	606 c yd
17	1/2 c yd	13.90	0.27 c yd
18	3/4 c yd	99.55	1.92 c yd

GOLD PRICED AT \$ 600 per oz Canadian
1mg = \$ 0.01926

- LEGEND**
- CLAIM LINE BOUNDARY
 - PLACER LEASE BOUNDARY
 - TRENCH
 - TEST PIT
 - SAMPLE NUMBER - ASSAYS (for Assays see Report)
 - ◊ DIAMOND DRILL HOLE
 - ROAD

TANACANA MINES INC.
WINGDAM MINERAL CLAIMS & PLACER LEASES
 LIGHTNING RIVER-CARIBOO AREA
 CARIBOO MINING DIVISION

SCALE: 1" = 100 FEET