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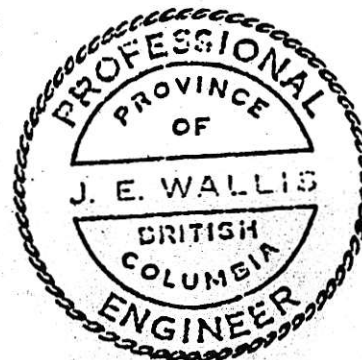
THE ATLIN RUFFNER PROPERTY  
ATLIN, B.C.  
AN UPDATED EVALUATION REPORT  
with  
DEVELOPMENT PROPOSALS

for  
TRIDENT RESOURCES INC. (N.P.I.)  
107 - 325 HOWE ST.  
VANCOUVER, B.C.

NTS 104 N/12

James E. Wallis, P. Eng.  
Atlin, B.C.  
May 1, 1979

*report taken from VSE,  
Trident Resources Inc (NPL)*



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—  
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May 1/79

Mr. R. Philips,  
Trident Resources Inc. (CFL)  
107-325 Howe St.,  
Vancouver, B.C.

Dear Mr. Philips,

Please find enclosed, as per your request, an updated evaluation report with proposals for development of the Atlin Ruffner Property near Atlin, B.C.

The report basically consists of compilation of all the data available. This data, in conjunction with personal experience on the property, has formed the basis for design of a 3 stage plan. Individually, these phases are designed to develop the mine workings for production and at the same time to take advantage of all possibilities of developing new ore reserves.

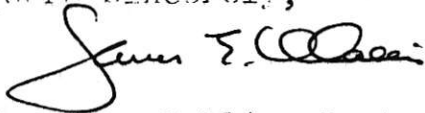
The Atlin Ruffner Property has great potential as a producing mine. However, it must be stressed that care will have to be taken to prevent over dilution during mining. In addition, the property will require a continuing program of logistical

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development mining to ensure steady mill feed  
and additional ore reserves.

It is highly recommended that a detailed feasibility study be commissioned upon completion of Stage 2 as outlined.

Yours sincerely,

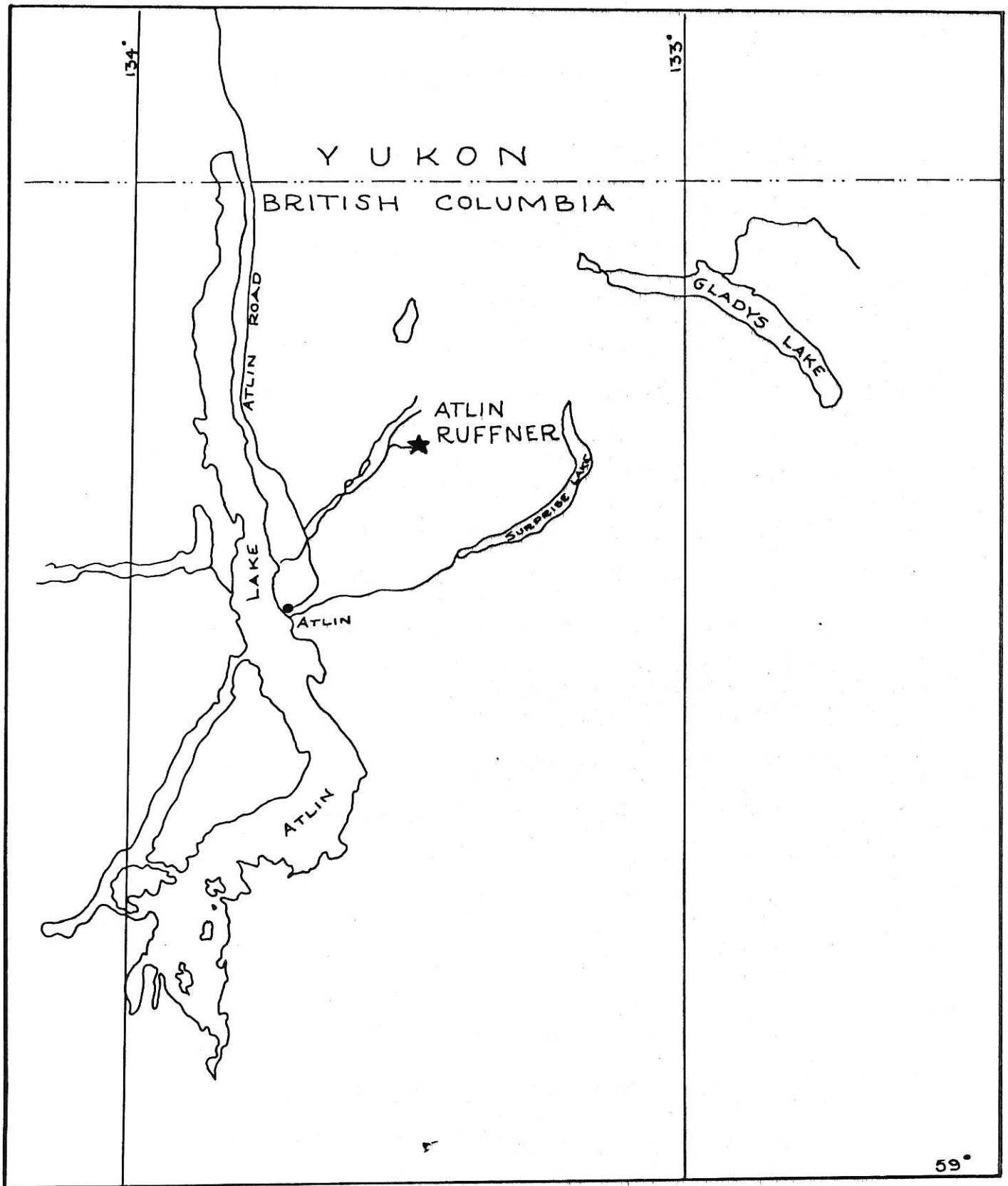


James E. Wallis, P. Eng.

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# LOCATION MAP

TRIDENT RESOURCES INC. (N.P.L.)  
ATLIN RUFFNER PROPERTY

SCALE: 1 IN. = 10 MILES

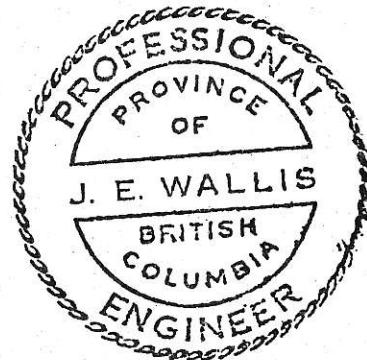
MAY 1, 1979

## INTRODUCTION

This report has been prepared as an updated evaluation of the Atlin Ruffner Property located approximately 16 miles North east of the Village of Atlin, B.C.

A preliminary feasibility report of the property was prepared by Dolmage, Campbell & Associates of Vancouver, B.C. in October of 1968 with cost estimates based on a 100 ton/day operation. Interprovincial Silver Mines Ltd. initiated a program of exploration and development on the property in 1966 and ceased operations in 1969 primarily due to financial difficulties.

The Ruffner Property was optioned to Atlin Silver Corporation in 1974 and a feasibility report prepared by James C. Snell, Mining Geologist. During 1975 a combined underground bulk sampling and mining program produced 150 tons of high grade ore which was shipped to the Asarco Smelter in East Helena, Montana and 800 tons of proposed mill feed. Average assay of high grade was - Gold 0.14 oz., Silver 70 oz., Lead 13.0%, Zinc 5.5%. Grab samples from the 800 tons of mill feed reportedly indicate an average grade of 18 ozs. Silver.



A small used 50-75 t.p.d. mill was shipped to the property in the spring of 1976. Site preparation and construction of the mill began in March 1976 with mill startup in early summer although the facility was not 100 per cent complete. A combination of poor reconditioned equipment within the mill and insufficient operating capital plagued the operation from startup. Lack of capital and consequent foreclosure by equipment suppliers forced closure of the operation in November of 1976.

Information contained in this report is taken from reports by Dolmage, Campbell & Associates, James C. Snell, Mining Geologist, Interval reports by Atlin Silver Corporation and from personal experience gained while employed by Interprovincial Silver Mines Ltd. in 1968 as Manager of the Atlin Ruffner Property.

### Summary and Recommendations

The proven and probable ore reserves of the Atlin Ruffner Property as calculated by five independent engineers between 1968 and 1975 average:

|                     |               |
|---------------------|---------------|
| 49,500 tons grading | 0.04 oz. Au.  |
|                     | 20.00 oz. Ag. |
|                     | 6.4% Pb-Zn    |

In addition, the potential for increasing these reserves is excellent.

It is estimated that the total mining and processing costs for a 50 ton per day operation would be \$77.50 per ton. At to-days metal prices the calculated return per ton of ore mined is \$ 159.00. Total production costs required to bring the property into limited production at 50 + pd. is estimated at \$ 530,200. An additional \$ 590,000 would be required as operating Capital.

It is recommended that the property be developed in three separate stages. Stage 1 would involve an expenditure of approximately \$ 154,200 to develop ore between the 4100 and 4300 levels. Stage 2 involves an expenditure of \$ 174,000 to complete changes required to permit the 3900 level to be used as a production haulage level.

Stage 3 requires an expenditure of approximately \$ 202,000 to prepare all facilities for mine production.

It is recommended that a detailed feasibility be commissioned upon completion of Stage 1 to ensure that requirements for capital commitments can easily be met.

### Location and Access

The Atlin Ruffner Property is located in the extreme north central portion of British Columbia approximately 20 miles south of the Yukon border. The property is served by an eight mile poor quality gravel road which connects with the Atlin Road approximately 8 miles north of the town of Atlin, B.C. The Atlin road provides good year round access to the Alaska Highway and Whitehorse, Yukon. The port of Skagway, Alaska is also accessible during summer months.

### History

Gold was discovered in the Atlin area in 1898 and brought thousands of prospectors to the area in the next few years. Subsequent prospecting for the source of the rich placer ground led to the discovery of lead silver mineralization on Mtn. Vaughn. The property was acquired by Mr. J.M. Ruffner in 1918 and under his direction was explored and portions partially developed and high graded. J.M. Ruffner died in 1929 and the property was held by various individuals and small mining companies over the next two decades. Armore Mines Limited of Toronto acquired control of the properties in 1965 and optioned the group of claims to Interprovincial Silver Mines Ltd. in 1967.

### History cont'd

Interprovincial Silver Mines Ltd. entered into a program of exploration and development during the period 1966 to 1969 and optioned the property to Atlin Silver Corporation in 1974. The property has recently been optioned to Trident Resources Inc. of Vancouver, B.C.

### Geology

The Atlin Kuffner property lies just east of the main mass of the Coast Range batholith and is centered in the Atlin Forest. The area is within a large stock of zoned intrusives which extend easterly for some 50 miles from northern end of Atlin Lake. An extensive zone of weakness through the area contains a belt of Permian ultra-basic intrusives termed the Atlin Intrusions. The mineral bearing stock east of Atlin Lake has been mapped as Jurassic granite and granodiorite with a central core of Cretaceous alaskite monzonite. The silver lead occurrences on the Atlin Kuffner Property occur within these Jurassic granites.

The mineralized areas are marked by widely spaced fault-shear zones spaced several hundred feet apart. These shear zones generally strike northeast and dip 65 to 75 degrees to the north west. The fault zones have been intruded by lamprophyre dikes ranging anywhere from one to fifty feet in width. Economic mineralization is always associated with the lampro-



### Geology cont'd

-phyre dikes as fissure filling or replacement and commonly forms a marked discontinuous vein system. As a result ore shoots normally vary in both length and depth from a few feet to several hundred feet.

The principal sulphide minerals present in the ore zones are:

- 1) Galena
- 2) Sphalerite
- 3) Arsenopyrite
- 4) Pyrite
- 5) Chalcopyrite
- 6) Pyrrhotite
- 7) Tetrahedrite
- 8) Enargite
- 9) Proustite (Ruby Silver)
- 10) Native wire silver.

### Ore Reserve Sources

5600-2 - J.M. Ruffner originally drove this adit some 150 feet in the early 1920's. In 1968 this adit was cleared of ice and driven an additional 300 feet at which mineralization was encountered. Ground conditions at this point necessitated drifting parallel to the structure for 100 feet, before swinging back to the zone. The drift continued on structure for approximately 75 feet and encountered insignificant mineralization. At this point a 55 degree raise was driven 125 feet to intersect J.M. Ruffners 2C shaft which reportedly was sunk on high grade values. The shaft was not intersected.



5000-2 - This level was not developed in recent years. Values taken are those reported by J.M. Ruffner and gathered by Dolmage, Campbell & Associates.

4300-2 - This level was rehabilitated in 1968. The workings were retimbered and slashed for 600 feet to permit mapping and sampling. The ore zone was mapped and sampled on the level, in the winze to 60 feet below the level and in the raise to 75 feet above the level.

A total of 20 E.Q.W. drill holes were drilled from 2 cross cuts to evaluate this zone. This structure contains the largest known ore reserves on the property.

During 1976 Atlin Silver Corp. drove a 70 foot sub-drift on structure east of the winze at an approximate elevation of 4260.0 ft. The ore reportedly consistently ran an average grade of 18.0 ozs. Ag. To facilitate the passage of ore from above the 4300 level a 40 foot raise was driven from the 4260 sub-level to the 4300 level. At a point approximately 12 feet east of the winze a 30 foot vertical raise was driven on good ore containing some ruby silver. A sub drift was driven at the top of this raise for 20 feet in both east and west directions. In total this produced

770 Tons of ore of which 420 tons was milled and 350 tons was left underground in the 4100 Elev. bins. The ore milled averaged 17.0 ozs. Ag. per ton.

4100-2 - The 4100-2 level was rehabilitated to the bottom of the winze in 1969. Heavy ground conditions near the winze bottom necessitated by-passing the winze and breaking into the drift on the other side. One raise round was driven from the by-pass drift with the intention of breaking into the winze about 24 feet above the level.

During 1976 Atlin Silver Corporation removed 480 feet of ice from the 4100-2 level. A cave-in was encountered 575 feet from the portal which required several weeks to clean up. Thirty feet of timber and blocking was installed at this location. The raise proposed in 1969 was completed to connect with the winze. The old manway was rehabilitated and 280 tons of waste in the winze was removed. Approximately 40 per cent of the old timber was replaced. The remainder will have to be replaced before further mining is attempted.

3900-2 - This cross cut was driven in the early thirty's with the intention of intersecting the No. 2 and No. 4 vein systems. A mineralized zone was intersected in the general location of the No. 2 zone and was drifted on in both directions. The potential of this zone has never been established due to unsafe ground conditions at the present time. The area between the 3900-2 Level and the 4100-2 Level has important potential as an exploration target. The 3900-2 cross cut did not reach the down dip extension of the No. 4 vein system.

5140-4 - This adit was rehabilitated by Inter-provincial in 1968 to permit mapping and sampling. The vein is very erratic in nature and contains short sections of high grade material.

5300-4 - Rehabilitated for 75 feet at which point the adit is completely caved.

5700-4 - Interprovincial Silver Mines rehabilitated this level in 1968 and extended the drift 200 feet. Approximately 85 feet of mineralization is exposed in the drift with a width of approximately 3 feet. The first 100 feet of this drift was rehabilitated in 1976 at which point the drift is completely caved. A total of 625 tons of this material was mined from surface and trucked to the mill. One hundred tons of this muck still remains in the fine ore bin.

Ore milled from this level averaged 22.0 ozs. Ag/ton.

#### Ore Reserve Grades

Since 1968 at least five different engineers have calculated the ore reserves for the Atlin Ruffner property. The results of these calculations are shown in Table 1 - Ore Reserve Calculations 1968 - 75. The similarity of total calculated silver in ounces is quite amazing. An overall average of total possible ore from these separate studies indicates that reserves are 49,500 tons of ore averaging 20.0 ozs. Ag. and 6.4 per cent combined lead-zinc.

A record of ore mined in 1976 is shown in Table 2, - Ore Mined During 1976, Atlin Silver. Average grade of all ore mined during 1976 was 17.7 oz. Ag. per ton. Allowing for poor recovery because of initial mill run in and operating with a larger than normal amount of oxidized ore, acceptance of an average grade of 20.0 ozs. Ag. would appear to be reasonable.

At a proposed milling rate of 50 tons per day this would provide for a mine life of approximately  $2\frac{1}{2}$  years.

Table 1 - Ore Reserve Calculations 1968-75

Total Proven and Probable Ore

| <u>Level</u> | <u>Wallis-1968</u>  | <u>Dolmage &amp; Campbell<br/>1968</u> | <u>Clifford - 1969</u> |
|--------------|---------------------|--|------------------------|
| 4100-2       | 33,900@ 14.7 oz.Ag. | 30,580@24.1 ozAg                       | 23,200@15.7 ozAg       |
| 5000-2       | 4,430@ 18.5 oz.Ag.  | 3,640@13.3 ozAg                        | -----                  |
| 5600-2       | 4,000@ 10.0 oz.Ag.  | 2,800@ ?                               | 1,100@12.8 ozAg.       |
| 5150-4       | 10,000@ 24 oz.Ag.   | 1,870@21.6 ozAg.                       | 5,500@28 ozAg.         |
| 5300-4       | 8,000@ 18 oz.Ag.    | 1,920@ 18 ozAg.                        | 2,100@17.2 ozAg.       |
| 5700-4       | 4,000@ 16.2 oz.Ag.  | 1,470@51.5 ozAg.                       | 2,300@18.4 ozAg.       |

---

|              |                  |                   |                 |
|--------------|------------------|-------------------|-----------------|
| TOTALS       | 64,330@16.6 ozAg | 46,980@27.2 ozAg. | 34,000@18 ozAg. |
| Total Silver | 1,069,085 oz.    | 1,277,856 oz.     | 615,600 oz.     |

|        | <u>Snell 1975</u> | <u>Larabie '75</u> | <u>Average</u>   |
|--------|-------------------|--------------------|------------------|
| 4100-2 | 47,645@22.9 ozAg. | 37,520@21.7 ozAg   | 34,569@20.3 ozAg |
| 5000-2 | -----             | -----              | ----             |
| 5600-2 | 3,150@26.2 ozAg   | 3,150@26.2 ozAg    | 2,280@19.2 ozAg  |
| 5150-4 | 5,787@27.0 ozAg   | 6,850@21.5 ozAg    | 6,000@24.6 ozAg  |
| 5300-4 | 2,612@15.6 ozAg   | 2,612@15.6 ozAg    | 3,448@17.1 ozAg  |
| 5700-4 | 4,725@23.7 ozAg   | 3,440@29.2 ozAg    | 3,187@26.3 ozAg  |

---

|              |                  |                  |                  |
|--------------|------------------|------------------|------------------|
| TOTALS       | 63,919@18.6 ozAg | 53,572@20.2 ozAg | 49,484@20.0 ozAg |
| Total Silver | 1,188,912 oz.    | 1,082,154 oz.    | 989,680 oz Ag    |

Table 2 - Ore Mined During 1976

Atlin Silver Corporation

| <u>Location</u> | <u>Tons Ore</u> | <u>Grade, OzAg</u> | <u>Tons Waste</u> |
|-----------------|-----------------|--------------------|-------------------|
| 5700-4 Level    | 625             | 22 ozs.            | 380               |
| 4900 Level      | 130             | 16 ozs.            | 80                |
| 4300-2 Level    | 700             | 14 ozs.            | -                 |
| 4100 Winze      | 770             | 18 ozs.            | 851               |
| <hr/>           |                 |                    |                   |
| Total.          | 2,225           | 17.7 oz.           | 1,311             |

Personnel Requirements

Operating at a minimum of 50 tons per day will require the following personnel.

|             |                        |
|-------------|------------------------|
| <u>Mine</u> | 2 development miners   |
|             | 4 stope miners         |
|             | 2 labour, trammers     |
|             | <hr/>                  |
|             | 8 Total                |
| <u>Mill</u> | 3 mill operators       |
|             | 1 labourer             |
|             | 1 crusher operator     |
|             | 1 mechanic-electrician |
|             | <hr/>                  |
|             | 6 Total                |
| <u>Camp</u> | 1 cook - total         |



Surface            3 surface labourers    Total

Administration

1 manager

1 book-keeper - typist

            
2    Total

Total Operation:    20 men

Mine Operation and Production Costs

The following cost projections are based on current operating costs of small mining operations in Northern B.C. and the Yukon. They have been adjusted according to the writers opinion of a required mix of exploration, development and production for the Ruffner property.

1.) Exploration and Development

|              | <u>Amount, \$</u> | <u>Cost per ton, \$</u> |
|--------------|-------------------|-------------------------|
| Labour       | 250               |                         |
| Daily Burden | 125               |                         |
| Supervision  | <u>25</u>         |                         |
|              | \$ 400            | \$ 8.00                 |

2.) Production Mining

|              |           |          |
|--------------|-----------|----------|
| Labour       | 600       |          |
| Daily Burden | 300       |          |
| Supervision  | <u>75</u> |          |
|              | \$ 975    | \$ 19.50 |

|                            | Amount, \$ | Cost per ton, \$ |
|----------------------------|------------|------------------|
| 3.) Surface Crew Costs     |            |                  |
| Labour                     | 200        |                  |
| Truck Costs                | 100        |                  |
| Mechanic-electrician       | 40         |                  |
| Supervision                | 25         |                  |
| Daily Burden               | <u>180</u> |                  |
|                            | \$ 545     | <u>\$ 10.90</u>  |
| 4.) Mill Operating Cost    |            |                  |
| Labour                     | 500        |                  |
| Mechanic-electrician       | 40         |                  |
| Supervision                | 25         |                  |
| Mill Consumables           | 65         |                  |
| Assaying                   | 100        |                  |
| Tailings Pond              | 25         |                  |
| Freight                    | 20         |                  |
| Daily Burden               | <u>250</u> |                  |
|                            | \$ 1,025   | \$ 20.50         |
| 5.) Crusher Operating Cost |            |                  |
| Labour                     | 50         |                  |
| Mechanic-electrician       | 20         |                  |
| Crusher Consumables        | <u>25</u>  |                  |
|                            | \$ 95      | \$ 1.90          |
| 6.) Power Cost             |            |                  |
| Fuel                       | 200        |                  |
| Maintenance                | <u>40</u>  |                  |
|                            | \$ 240     | \$ 4.80          |



|                           | Amount, \$ | Cost per Ton, \$ |
|---------------------------|------------|------------------|
| 7. ) Camp Maintenance     |            |                  |
| Kitchen                   | 200        | \$ 4.00          |
| 8. ) Administration       | 100        | 2.00             |
| 9. ) Royalties            | 30         | 0.60             |
| 10.) Engineering, Geology | 40         | 0.80             |
| 11.) Depreciation         | 225        | 4.50             |

Daily operating costs can be expected to run \$ 3,875 or \$ 77.50 per ton of ore milled.

#### Production of Concentrate

From Atlin Silver Corporation's experience in 1976 it appears that one can safely assume a mill feed that grades:

0.04 oz Au  
18.6 oz Ag  
4.2% Pb  
2.2% Zn

Based on previous metallurgical testing which called for grinding the mill feed to 75% minus 200 mesh, mill results similar to those shown in Table 3 can be anticipated.

Table 3 Anticipated Mill Results

| Product           | Weight Ratio<br>of |       |       | Assays |      | Distribution<br>% |     |     |     |     |
|-------------------|--------------------|-------|-------|--------|------|-------------------|-----|-----|-----|-----|
|                   | %                  | Conc. | Au    | Ag     | Pb   | Zn                | Au  | Ag  | Pb  | Zn  |
| Ag-Pb Concentrate | 8.19               | 12.21 | 0.39  | 188    | 49.0 | 4.0               | 79  | 83  | 95  | 15  |
| Zn Concentrate    | 3.55               | 28.17 | 0.08  | 32     | 1.2  | 49.0              | 7   | 6   | 1   | 79  |
| Tailing           | 88.26              | -     | 0.006 | 2.3    | 0.16 | 0.15              | 14  | 11  | 4   | 6   |
| Head (assumed)    | 100%               | -     | 0.04  | 18.6   | 4.2  | 2.2               | 100 | 100 | 100 | 100 |

Revenue from Concentrate

Calculation of net smelter returns (Appendix A)

using current metal prices and based on a standard Cominco Schedule shows that the net smelter return per ton of ore mined would be approximately \$159.00

It should be noted that the two commodity prices that effect concentrate value the most are silver and lead. The breakeven point for an operation such as projected for the Atlin Ruffner property would be if the domestic silver and lead prices fell to approximately \$5.00/oz and \$0.20/lb respectively.

Plans for Future Development

Examination of available data combined with experience gained on the Atlin Ruffner property indicates that the property could be developed into a profitable mining operation at todays metal prices. However, before a detailed feasibility of the property is undertaken, a logical development plan should be undertaken to minimize some of the investment risks and to

provide additional ore to increase projected mine life. A three stage plan to accomplish this is discussed and detailed as follows:

Stage 1

a.) The first priority must be to secure and clean up the existing camp and mill facilities to prevent loss due to weather and vandalism. Both these facilities are badly in need of maintenance and are open to the elements.

|                         |                 |
|-------------------------|-----------------|
| Materials               | \$ 2,000.00     |
| Labour, 320 hrs. @ \$10 | 3,200.00        |
| Truck Rental, 1 month   | <u>1,000.00</u> |
| Total                   | \$ 6,200.00     |

b.) Development of existing ore shoots has second priority. Examination of all the available data indicates that the greatest amount of readily available ore occurs between the 4300-2 Level and the 3900-2 Level. Development of this area has the added advantage of enabling the ore to be dropped by ore pass to the 3900-2 Level and delivered by mine car directly to the mill coarse ore bin (see map, composite section 4300-2 Level to 3900-2 Level)

Priority Development

1.) Extend 4260-2 Sublevel east  
80 feet @ 100/ft. \$ 8,000

|   |           |
|---|-----------|
| 2.) Drive 4260-2 Sublevel west<br>100 ft @ \$100/ft.          | \$ 10,000 |
| 3.) Rehabilitate 4100-2 level<br>and retimber to winze bottom | 15,000    |
| 4.) Retimber winze  | 20,000    |
|   | <hr/>     |
| Sub Total   | \$ 53,000 |

Camp Costs

|                              |               |
|------------------------------|---------------|
| 4 months @ \$15,000/month    | 60,000        |
| <u>Truck Rental, Freight</u> | 6,000         |
| Supervision, Engineering     | <u>10,000</u> |
|                              | \$120,000     |
| Contingency @ 15%            | <u>19,000</u> |
|                              | <hr/>         |
| Total                        | \$148,000     |

Stage 2

Stage 2 is designed as a final preproduction stage to complete necessary development prior to production.

Priority Development

|   |                  |
|---|------------------|
| 1.) Rehabilitate and timber portal<br>3900 Level        | \$ 10,000        |
| 2.) Slash 3900 level                                    | 15,000           |
| 3.) Install 2600 ft. new track                          | 26,000           |
| 4.) Install mine services, air,<br>power, etc.          | 20,000           |
| 5.) 200 ft. raise from 3900-2 level<br>to 100-2 level   | 35,000           |
| 6.) Timber raise and manway                             | 15,000           |
| 7.) Sublevel development approx.<br>400-2 level 300 ft. | <u>30,000</u>    |
|   | \$151,000        |
|   | <hr/>            |
| Contingency @ 15%                                       | 23,000           |
|   | <u>\$174,000</u> |

Stage 3

Stage 3 includes all capital expenditures required to initiate mine production.

|                                |               |
|--------------------------------|---------------|
| 1.) Mill renovation and repair | \$ 80,000     |
| 2.) Tailings disposal system   | 60,000        |
| 3.) Drills, steel etc.         | 10,000        |
| 4.) Miscellaneous tools        | 6,000         |
| 5.) Pipe, rail, etc.           | 10,000        |
| 6.) Powder, fuse, caps, etc.   | <u>10,000</u> |
|                                | \$ 176,000    |
| Contingency @ 15%              | <u>26,000</u> |
|                                | \$ 202,000    |

Monthly Cost of Lease Purchase Equipment

|  |              |
|--|--------------|
| 1. 2 - 250 Caterpillar Generators (used) | \$ 6,000     |
| 2. 2 - 600 CFW Compressors               | 6,000        |
| 3. D-6 dozer (recent model)              | 7,000        |
| 4. 950 Cat loader                        | 7,000        |
| 5. Dump Truck                            | 3,000        |
| 6. Pick-up trucks                        | <u>1,600</u> |
|  | \$ 30,000    |

### Mill Circuit Tune Up

In 1976, Atlin Silver Corporation's metallurgical consultants stated that the mill and equipment was generally acceptable for production of separate lead and zinc concentrates. However, modification of the reagent addition rates and improvement to the operating and reagent conditions is still necessary to develop the mill to a fully satisfactory level (Acres 1976). Based on these recommendations, sufficient time is available to run the mill operation in slowly while the raise development portion of Phase 3 is being completed. This should allow 6 weeks to 2 months to work out the major mill operating and metallurgical problems.

### Operating Capital Requirements

Sufficient operating capital to cover the first four months of operation must be provided. Based on a total production cost of \$77.50 per ton, and approximately \$30,000 per month in lease purchase equipment, this will amount to \$ 590,000.



Summary of Total Capital Requirements

|   |                |
|---|----------------|
| Stage 1 - Exploration for new ore & development | \$ 154,200     |
| Stage 2 - Exploration for new ore & development | 174,000        |
| Stage 3 - Preproduction                         | 202,000        |
| Operating Capital                               | <u>500,000</u> |
| Total   | \$ 1,120,200   |

Cash Flow

Assuming current ore reserves of 49,500 tons with mill feed averaging 0.04 oz. Au, 18.6 oz. Ag, 4.2% Pb and 2.2% Zn. Milling rate has been arbitrarily calculated at 50 tons per day.

|  |                   |
|--|-------------------|
| Net cash flow per ton of ore mined --            | \$ 81.50          |
| Net cash flow per day . --                       | 4,075.00          |
| Net cash flow at present mine life --            | 4,034,250.00      |
| Capital Cost (less operating capital) -          | <u>530,200.00</u> |
| Profit before taxes, royalties,<br>ammortization | \$ 3,504,050.00   |

CERTIFICATE

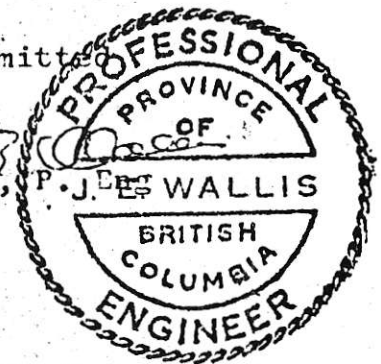
May 1, 1979

I, James E. Wallis with residence in Atlin, British Columbia, do hereby certify that:

1. I am a Mining Engineer and have practiced this profession for the past 22 years.
2. I am a member of the Professional Engineers Association of British Columbia.
3. I am a graduate of the Haeleybury School of Mines, 1958 and hold a B. Sc. from the University of Alaska and an M. Sc. (Eng) from Queen's University, 1967 in Mining Engineering.
4. Since 1958 I have held responsible positions in both large and small mining operations in Quebec, Manitoba, Saskatchewan, British Columbia and the Northwest Territories.
5. I am personally familiar with the Atlin Ruffner property.
6. I have no interest in Trident Resources Inc., nor do I expect to receive any.
7. I consent to the use of this report in or in connection with a prospectus or in a statement of material facts relating to the raising of funds for this report.

Respectfully submitted

James E. Wallis, P. Eng.  
Atlin, B.C.





Calculation of Net Smelter Return

1.) Ag-Pb Concentrates (per short dry ton)

Assuming Au @ \$244/oz Ag @ \$8.75/oz Pb @ \$10.50/lb and Zn @ \$10.35/lb

Payments:

|    |  |   |              |
|----|--|---|--------------|
| Pb | $200 \times 0.49 \times 0.92 \times (\$0.50 - 0.04)$ | = | 414.74       |
| Zn | $200 \times 0.04 \times 0.60 \times (\$0.35 - 0.15)$ | = | 9.60         |
| Ag | $188 \times 0.93 \times (\$8.75 - 0.09)$             | = | 1514.11      |
| Au | $0.39 \times 0.93 \times (\$244.00 - 5.00)$          | = | <u>86.04</u> |

Gross payment \$ 2024.49

Deductions:

Allow for basic treatment charges, arsenic, moisture, shipping, etc. \$ 100.00

Freight and Handling charges 100.00

Net Return \$1824.49

At a ratio of concentration of 12.21 net return per ton of ore is \$149.43 from sale of lead concentrate.

2.) Zn Concentrate (per short dry ton)

Payments:

|    |   |   |              |
|----|---|---|--------------|
| Zn | $2000 \times \frac{(49 - 0.1 \times 12)}{100} \times 0.85 \times (\$0.35 - 0.10)$ | = | \$ 203.15    |
| Ag | $32 \times 0.93 \times (\$8.75 - 0.09)$   | = | 257.72       |
| Au | $(0.08 - 0.03) \times (\$244.00 - 5.00)$  | = | <u>11.95</u> |

Gross Payment \$ 472.82

Deductions:

Allow for basic treatment charges, iron

|                              |               |
|------------------------------|---------------|
| moisture, etc.               | 90.00         |
| Freight and Handling charges | <u>100.00</u> |
| Net Return                   | \$ 282.82     |

At a ratio of concentration of 28.17, net returns per ton of ore is \$10.04 from sales of zinc concentrate.

Summary of Net Return per Ton of Ore Milled

|                        |              |
|------------------------|--------------|
| From Ag-Pb Concentrate | \$ 149.43    |
| From Zn Concentrate    | <u>10.04</u> |
| Total Net Return       | \$ 159.47    |

PROGRESS REPORT AND RECOMMENDATIONS

THE ATLIN RUFFNER PROPERTY

ATLIN, B .C.

TRIDENT RESOURCES INC.. (N.P.L.)

107-325 Howe St.

Vancouver, B.C.

J.E. WALLIS, P. Eng.

ATLIN, B.C.

JAN. 1, 1980



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2.) 4100-2 LEVEL

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3.) 3900 LEVEL

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STAGE 2

3

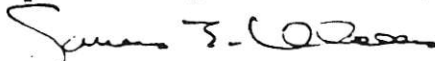
CERTIFICATE

January 1, 1980

I, James E. Wallis with residence in Atlin, British Columbia, do hereby certify that:

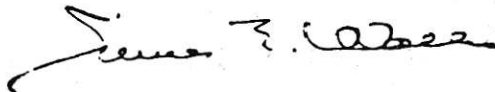
1. I am a Mining Engineer and have practiced this profession for the past 22 years.
2. I am a member of the Professional Engineers Association of British Columbia.
3. I am a graduate of the Haileybury School of Mines, 1958, and hold a B.Sc. from the University of Alaska and an M.Sc. (Eng.) from Queen's University, 1967 in Mining Engineering.
4. Since 1958 I have held responsible positions in both large and small Mining operations in Quebec, Manitoba, Saskatchewan, British Columbia and the Northwest Territories.
5. I am personally familiar with the Atlin Ruffner Property.
6. I have no interest in TriDent Resources Inc., nor do I expect to receive any.

Respectfully Submitted,



James E. Wallis, P. Eng.  
Atlin, B.C.

I hereby give my permission to use this report, or relevant abstracts therefrom, in a prospectus or statement of material facts concerning this property.

A handwritten signature in cursive script, appearing to read "James E. Wallis".

James E. Wallis, P. Eng.  
Atlin, B.C.

1, January, 1980

## SUMMARY AND RECOMMENDATIONS

Stage 1 of the proposed development of the Atlin Ruffner Property was completed during the 1979 season, with the exception of the proposed re-timbering of the winze on the 4100-2 Level. In addition the portal of the 3900 Level was re-timbered and a new plywood compressor building built at the site. 1979 expenditures were approximately \$75,000 with sufficient funds remaining to complete retimbering of the winze during the 19-80 season.

It is recommended that Stage 2 be completed during 1980 with an additional \$80,000 to be spent on mill renovation and repairs. This will in effect advance the 1981 production date by approximately 3 months.

Depending on weather conditions, it is anticipated beginning the 1980 season by April 15th.

1979 PROGRESS

Stage 1 of the proposed development of the Atlin Ruffner Property proceeded much as planned during the 1979 season. Details are as follows:

- 1.) Camp and Mill Security -- The old camp and mill buildings were cleaned up and secured to prevent further vandalism and weather damage. Repair and maintenance consisted primarily of replacing broken windows and doors, and boarding up those portions which were open to the weather. The camp trailers were leveled and secured, although it is questionable whether they are worth the expense of further repairs. In all likelihood they will be converted to temporary storage facilities.
- 2.) 4100-2 Level -- Initial work consisted of clearing the slide material from the access road to this level, and repairing the road surface. The yard has been cleared and a new 12' x 16' plywood compressor building completed. The portal timbers have also been replaced and a storm seal door installed at the mouth. Air lines to the adit have been repositioned and are functional.



Approximately 140 feet of solid ice was drilled, blasted and removed from the tunnel. At that point, the level of the ice started to decrease and some water flow was encountered. However, the weather started to deteriorate and the temperature dropped to  $-15^{\circ}$  C, effectively stopping the water flow in the tunnel. As a result it was decided to cease further ice removal in the tunnel in an effort to reduce the amount of ice build up over the winter months when the workings will be closed. The portal has been well sealed in preparation for an early start in the spring.

Since this change of plans eliminated access to the winze and subsequent retimbering of the winze, it was decided to move down to the 3900 level and prepare the portal for the next planned phase.

- 3.) 3900 Level -- A decent yard has been levelled at this site and the portal retimbered. A new 12' x 16' plywood compressor building has been constructed. Both the portal and the compressor building have been sealed in preparation for an early start in 1980.

EXPENDITURES

During the 1979 season approximately \$75,000 was spent on Stage 1 of the program. Although the planned retimbering of the winze was not completed, the major portion of the rehabilitation of the 3900 Level was completed. Sufficient funding is still available to complete the ice removal in the 4100-2 Level and retimbering of the winze in 1980.

RECOMMENDATIONS

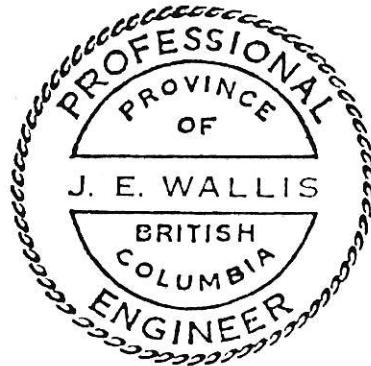
In view of the present high prices of silver, a modification of plans is in order in an effort to take early advantage of these prices. Basically this means following Stage 2 plans as outlined in the May 1, 1979 Report and to include initial mill repairs. If this additional funding can be made available for the 1980 season, it will have the advantage of pushing the anticipated production date ahead by approximately 3 months.

Priority development with these modifications are listed as follows:

STAGE 2

|   |           |
|---|-----------|
| 1. Slash 3900 Level                                 | \$ 15,000 |
| 2. Install 2600 ft. new track                       | 26,000    |
| 3. Install wire services, power, etc.               | 20,000    |
| 4. 200 ft. raise from 3900-2 level to 4100-2 Level. | 35,000    |

|  |                   |
|--|-------------------|
| 5. Timber raise and mainway  | \$ 15,000         |
| 6. Sublevel development approximately<br>180 feet. 4260-2 Sublevel East &<br>West. | 18,000            |
| 7. Sublevel development approximately<br>4000-2 Level                              | 10,000            |
| 8. Mill renovation and repair.   | 80,000            |
|  | <hr/> \$ 219,000  |
| Contingency 15%  | 32,850            |
|  | <hr/>             |
| TOTAL  | <u>\$ 251,850</u> |



PROGRESS REPORT AND RECOMMENDATIONS

THE ATLIN RUFFNER PROPERTY

ATLIN, B.C.

TRI-DENT RESOURCES INC. (N.P.L.)  
UNITED KINGDOM BUILDING  
1458-409 Granville St.  
VANCOUVER, B.C.  
V6C 2J5

J.E. WALLIS, P. ENG.

ATLIN, B.C.

DECEMBER 7, 1980

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of Material Facts.

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|                               |      |   |
|-------------------------------|------|---|
| 1) Permanent Camp             | Page | 1 |
| 2) 3900 Level                 | "    | 1 |
| 3) 4100 Level                 | "    | 1 |
| 4) 4260 Sublevel              | "    | 2 |
| 5) Power Distribution         | "    | 2 |
| 6) Mill Renovation and Repair | "    | 2 |

TRIAL MILLING OPERATIONS Page 3

LABOUR SUPPLY " 3

EXPENDITURES " 4

RECOMMENDATIONS " 4 & 5

December 6, 1980

Mr. Ron Philps  
Tri-Dent Resources Inc. (NPL)  
United Kingdom Building,  
1458-409 Granville St.,  
Vancouver, B.C.  
V6C 2J5

Dear Sir,

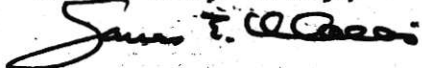
Re: Progress Report and Recommendations  
Atlin Ruffner Property

Please find enclosed three copies of the above mentioned report.

You will note that I have recommended raising additional capital to complete the camp, escalate underground development and to upgrade mill water supply and assay facilities. All of these are priority development items and must be completed as soon as possible to alleviate operational problems.

Total capital and operating capital requirements for 1981 are estimated to be \$700,000.00

Yours very truly,

  
James E. Wallis, P. Eng.

CERTIFICATE

January, 1, 1981

I, James E. Wallis, with residence in Atlin, British Columbia, do hereby certify that:

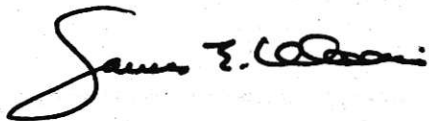
1. I am a Mining Engineer and have practiced this profession for the past 22 years.
2. I am a member of the Professional Engineers Association of British Columbia.
3. I am a graduate of the Haileybury School of Mines, 1958, and hold a B. Sc. from the University of Alaska, and an M. Sc. (Eng.) from Queen's University, 1967 in Mining Engineering.
4. Since 1958 I have held responsible positions in both large and small Mining operations in Quebec, Manitoba, Saskatchewan, British Columbia and the NorthWest Territories.
5. I am personally familiar with Atlin Ruffner Property.
6. I have not received either directly or indirectly, or expect to receive, any interest, either direct or indirectly, in the properties of Tri-Dent Resources Inc. or any affiliate, and I do not beneficially own, directly or indirectly, any securities of the Company or any affiliate.

Respectfully submitted,

James E. Wallis, P. Eng.  
Atlin, B.C.



I hereby give my permission to use this report, or relevant abstracts therefrom, in a prospectus or statement of material facts concerning this property.

A handwritten signature in dark ink, appearing to read "James E. Wallis". The signature is written in a cursive style with a large initial "J" and a distinct "E".

James E. Wallis, P. Eng.  
Atlin, B.C.

7 December, 1980

## SUMMARY AND RECOMMENDATIONS

The Atlin Ruffner property is now capable of limited production at a rate of 50 T.P.D. . Expenditures during 1980 amounted to approximately \$540,000. A shipment of approximately 13 tons of concentrate was made on December 6th, 1980/

It is recommended that the next several months efforts be concentrated on camp completion, mine development and upgrading the mill water supply and assay facilities.

Capital requirements necessary to meet the 1981 schedule are estimated to be \$700,000. This includes \$590,000 in operating capital.

## 1980 PROGRESS REPORT

Stage 2 and 3 of development of the Atlin Ruffner property was initiated in May of 1980 with work still progressing -- Details are as follows:

- 1) **Permanent Camp:-** A complete camp was purchased from ATCO and set up on a timbered hillside approximately 1½ miles South West of the mill-site. This site provides shelter from the winter winds and gives easy access to both water and drainage. The camp consists of 18 private rooms, a separate trailer for the mine manager and complete wash trailer with full shower and toilet facilities. In addition, a portable kitchen diner capable of sitting 24 was purchased and set up in the camp area. A complete power and water distribution system has been installed. The camp is approximately 90% complete.
- 2) **3900 Level:-** This level has been slashed and approximately 850 feet of track installed. Two to three weeks of additional work are required to provide good access to the vein structure.
- 3) **4100 Level:-** The ice in this level has been removed, slashing completed and heavy ground areas retimbered. Muck left in the winze during an earlier operation has been removed and the ore pass and manway retimbered. A new raise is currently being collared on vein material exposed during slashing.

- 4) 4260 Sublevel:- Previous mining operations in this area were more extensive than was originally thought. However, underground diamond drill results indicate that the potential for developing additional reserves in this area are excellent. The workings have been rehabilitated and sufficient ore material removed to provide feed for a trial run of mill.
- 5) Power Distribution:- A 250 KW diesel powered generator has been installed and power restored to the mill building and portals. During installation it was found that many of the main distribution cables in the power house and the mill had been removed by vandals. Replacing these cables and restoring systems required more time than was expected.
- 6) Mill Renovation and Repair:- Considerable time and expense has been devoted to mill renovations in an effort to expedite starting up operations. The coarse ore bin has been rebuilt and new primary crusher foundations installed. Extensive repairs and renovations to the feed systems from the coarse ore bin to the cone crusher and from the cone crusher to the fine ore bin have been completed.

### TRIAL MILLING OPERATIONS

The mill has just completed a three week trial run to test the equipment. All process equipment, with the exception of the zinc circuit, is now operational, although a number of problem areas are evident. These are:

- a) The Hardinge Mill will require new liners within a couple of months.
- b) The Marcy mill needs a new bull gear, trunion bearings and realignment. This unit is very old and should be replaced.
- c) Mill water is currently being drawn from underground storage in the 3900 Level. Even with increased storage capacity it is unlikely that sufficient water will be available from this source to sustain a winter operation.

Fifteen drums or approximately 13 tons of concentrate produced during the run-in period have been shipped. Concentrate assays are not available at this time.

### LABOUR SUPPLY

Lack of adequate skilled labour has been a real problem during the 1980 season. As a result, planned schedules for both underground development and mill renovations have fallen slightly behind schedules. It is anticipated that experience gained during this years development will aid in alleviating this problem somewhat in the 1981 season.

EXPENDITURES

During the 1980 season approximately \$540,000 was spent on the project. As of this date, the property is capable of limited production at a daily rate of 50 T.P.D.

RECOMMENDATIONS

In view of the fact that work on the Atlin Ruffner property has been escalated to take advantage of higher metal prices, additional funding will be required to complete renovations of the process equipment and speed up mine development during 1981. However, to ensure continuity of the operation the following schedule must be closely adhered to:

- a) Camp Completion:- The camp should be 100 % operational to provide all the amenities of life necessary to attract skilled labour.
- b) Mine Development:- The raise from the 3900 Level to the 4100 Level must be developed to provide additional live muck storage. During the winter months it will be extremely costly and not always possible to provide surface transportation of muck from the upper workings to the mill.

Additional headings must be developed in ore to provide continuity of mill feed. In particular this means rapid development of the 4260 and 4000 Sublevels.

- c) Mill:- The mill water supply must be improved either through additional storage capacity or well development.

In addition, basic assay facilities must be installed to enable reasonable control to be maintained over the mill functions.

- d) Operating Capital:- Provisions must be made at this time to provide operating capital to keep the operation solvent.

Proposed capital requirements to meet these conditions are as follows:

|                      |                   |
|----------------------|-------------------|
| 1. Camp Completion   | \$ 10,000.00      |
| 2. Mine Development  | 70,000.00         |
| 3. Mill              | 30,000.00         |
| 4. Operating Capital | <u>590,000.00</u> |
| TOTAL                | \$700,000.00      |

TRIDENT RESOURCES INC. (NON-PERSONAL LIABILITY)

FINANCIAL STATEMENTS

JANUARY 31, 1980

(part of VSE,  
statement of  
Material  
Facts)