TINTINA SILVER MINES LIMITED

Yukon Territory

REPORT
OF
UNDERGROUND WORK
CARRIED ON
FEB. 1st to JULY 30th, 1962.

BY

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Whitehorse, Yukon August 4, 1962.

I N D E X

APPENDICES

MAPS IN ENVELOPE

INTRODUCTION

With the finding of high grade silver-lead-zinc zones on the present Tintina property in June 1961 some 302 claims were staked in the following two months. The discovery area was mapped and sampled before snow conditions ended further operations. A decision was reached that fall to go underground with an adit.

A winter road from Teslin was cut through to the property over which all the heavy machinery was trucked. On January 31st, 1962 the portal was collared. On July 25th, 1962 the mining crews were called off and a week later the diamond drill crews were removed.

SUMMARY AND CONCLUSIONS

With three ore zones as its objective - #5, #6 and #8 - an adit was driven in on the 5390 ft. level of the property. The main drive, #101 crosscut, bore directly for the #8 ore zone. The 102 crosscut was diverted off the main drive towards the #5 and #6. None of the objectives were achieved in underground mining. A possible ore section 125 feet in length and 4 ft. - 5 ft. in width was delineated by mining and drilling methods. This is the 5A structure. In all a total of 1831.6 feet of underground excavation was carried out.

Underground diamond drilling showed the surface ore section to be apparently flat and not carrying down to any great depth. The #8 zone was weakly picked up some 100 feet below its surface outcropping. The #5 zone carried down to at least 30 feet below its exposure but not to the adit level. The #6 zone was not encountered in the drilling.

In surface drilling the area around the 1, 2 and 3 zones showed up in the limited drilling as pockets of ore within close proximity to the capping slates. Values were mostly in the zinc mineral.

Drilling at the uppermost end of the cirque in the vicinity of the #7 zone and the quartz veins gave opposing results. The #7 vein was not picked up at depth. Several of the quartz veins gave encouraging assays.

In retrospect it would appear that insufficient information had been obtained concerning the mine area before underground operations were ordered. What was

considered as a relatively straight forward geology has developed into a complex structural problem. The formations are known to lie flatter than originally presumed. Folding appears to play a greater role than was originally thought. The ore structures are in a lens form not a vein style.

The structural control of the ore zones has not been satisfactorily demonstrated. The opportunity to drift out, raise, stope or in any manner pursue the ore zones and thus more closely examine their geological nature did not present itself.

The writer cannot visualize so much mineralization being confined to within 20 or 30 feet of the property's surface. If the ore structures are lenses, as they presently appear, then it would appear proper that other lenses at other horizons should be present.

As ore zones have only been observed within the limestone beds, other than for the #8, this favourable formation should in future work be given more intensive examination. The argillites and black slates, showing an apparent absence of mineralization on surface or underground, can be eliminated. If underground work at a later date is considered, the writer would recommend drifting out any limestone contacts followed by an intensive underground drill program at regularly spaced intervals.

The 5A zone should be drifted out with a raise or two put through to surface.

The east-west trending quartz veins in the argillite at the south end of the cirque are worthy of further surface investigation, possibly by diamond drilling. If these results are encouraging, the 102 crosscut can be extended south into this area.

The contact sulphides of the 1, 2 and 3 ore zone areas should be further investigated by vertical drill holes through the saltes to the limestone.

The #9 zone lying in the limey phyllites is in a good position for surface drilling. The results here might yield further clues for the deciphering of the #8.

In all, although the initial investigation of the property had discouraging results, there is reason to suppose that further work might lead to clarification and thence to mine production.

LOCATION AND ACCESS

The Tintina ground is located in the St. Cyr mountain range on the headwaters of the Liard River. It is reached only by air transportation, being 110 miles north-west of Watson Lake and 130 miles north-east of Whitehorse. There is a 3500 foot length air strip six miles south of the camp for wheel and ski aircraft while float planes use Mud Lake 4½ miles west of the property.

The property consists of the following claims:

Eagle Group	1 to 130 inclusive
Ram Group	1 to 104 inclusive
It Group	1 to 36 inclusive
El Group	1 to 32 inclusive

This made up a total of 302 claims all acquired by Tintina Silver Mines Limited. These claims are located on Canada Department of Northern Affairs and National Resources Claim Map 105-G-3.

REGIONAL GEOLOGY

The geology of the area is distinctively divided by a strong linear, the Tintina Fault. This structure appears to be the extension of the Rocky Mountain trough extending northwards into the Yukon Plateau area. In the area under consideration a marked difference in rock strata appears on opposing sides of the fault.

To the north of this north-west trending linear the formations are well metamorphosed but appear to be relatively undisturbed by earth movements. South of the fault the formations become more complex with warping and thrusting a more common feature.

Granitic plugs and minor batholiths lay within close proximity to the fault while their more basic counterparts appear only occassionally on the north side.

The formations consist of Paleozic sediments and extrusives with the granitic intrusives being classified as of Mesozoic age.

The only known geological literature of the area is obtained from Geological Survey of Canada Map 8-1960, Finlayson Lake, Yukon Territory.

LOCAL GEOLOGY

The mine area lies within a cirque at an elevation of 5300-5500 feet. The formations enclosed within this area are sediments of Middle and Lower Cambrian age. In the latter group may be classified the graphitic slates, limestones and argillites. The calcareous slate, or phyllite, is recorded by government geologists as of the Middle Cambrian era. Intrusives within the area consist of lamprophyre and diorite dykes. A granodiorite plug is some 6000 feet to the northwest of the adit.

The general trend of the local formations is northwest in compliance with the regional trend. On surface the formations appear to lie conformably upon one another and to some extent this was born out underground. The surface contacts show a normal continuity broken by a few faults. In sub surface work, this continuity was, in some cases, irregular as proven by some of the underground borings.

Bedding, of great importance at Tintina, is obscured in many cases by the schistosity. Where observed, it has shown the beds to be relatively flat.

Folding and doming are other structural features of the mine area. The latter effect is quite noticeable in the 1, 2 and 3 ore zones. Here a relatively flat limestone dome dips away gently under the slates and argillites.

Faulting is arrived at from the stratigraphical offsetting observed on surface. In underground operations several mud seams and strongly altered faults were encountered. In one particular instant an ore zone (5A) was completely cut off by a strong break. Faulting of some magnitude was encountered in the workings at the limestone-graphitic slate contact.

The underground workings appear to lie within the central and right limb of an anticline overturned to the north.

A description of the formations as seen on surface and underground follows.

Limestone: In the adit this formation was of a light grey colour, cut throughout by calcite-quarts stringers, soft, carried little or no scattered sulphides, and in places showed a rough banding effect. This banding occurred through a carbonatization of the schistocity planes.

On the surface two types of limestone are mapped. The adit limestone weathers an orange colour whereas the other, not encountered underground, has no distinctive weathering colour. In drilling this latter formation, the only outstanding differences are that the colour is more of a grayish-green and the formation is slightly more siliceous than the adit limestone. Other than for these minor variations, the possibility of the two being the same formation can be entertained.

No bedding was recognized underground and few instances were noted on surface. Where seen the weathered bedding planes were quite flat.

A most distinctive feature of the limestone underground is the profuseness of the calcite veins and stringers. These array themselves in every direction and at all angles across the headings. Only a few are weakly mineralized with pyrite.

The competent limestone tends to fracture readily and many of these slips are calcite filled. Mapping shows the greater percentage of these fractures to run on a bearing roughly parallel to the strike of the formation. A few weak shear zones were intersected in drifting through the limestone but these were of a short length.

The limestone serves as the host rock for most of the sulphide zones.

Argillite: This formation is slightly harder than the limestones and normally a shade darker in colour. It is of a fine grained texture showing a rough salt-and-pepper pyrite effect. Thin seams of pyrite are not uncommon. It is more siliceous having no reaction to hydrochloric acid other than in the vicinity of the limestone contact.

Generally the argillite is fairly massive with only occassional quartz-carbonate veins aligning along the fracture planes. Locally, however, the veins appear in clusters of four and five contained within a narrow width of 10 - 15 feet. These structures are normally mineralized with pyrite and pyrrhotite in varying amounts. In the underground operation no sulphides other than those noted were observed but surface drilling in the argillite to the south of the workings revealed quartz veins with sphalerite, tetrahedrite and lesser amounts of galena. Gold and silver values are also associated with these narrow veins. In this vicinity the veins are more evenly spaced.

Bedding is poorly visible as a rule. However, in certain locations highly contorted laminations were noticed.

Graphitic Slates: These are black, carbonaceous slates that on surface show a well-developed schistosity. Bedding is again poorly discernible and often highly contorted. Underground this structural feature was never identified. However, the formations when drifted against the strike broke in a blocky or jagged style, often necessitating in more schistose areas, a timbering operation. There appears to be two well developed cleavage planes almost at right angles to one another.

The only mineralization associated with these black slates is pyrite. The iron sulphide appears as round blebs scattered through the formation, as a coating on many cleavage planes and as irregular narrow seams.

Carbonate veining is not too prevalent but tends to increase near the phyllite contact.

Calcareous Slates: Often called limey phyllites, these formations are similar in identity to the graphitic variety. They are dark grey to black, highly schistose and often associated with quartz-carbonate veining.

Unlike the graphitic slates, they are devoid of diagenetic sulphides.

Surface bedding has been identified but unfortunately in the mining operation this formation was only entered for a short length over which distance no bedding planes were noticed.

Lamprophyre Dykes: These intrusives are fairly numerous and range in all sizes. They are a dark brown, fine grained, highly micaceous type. Their contacts are sharp with few fingers into the host rock. They are post-mineral.

UNDERGROUND OPERATIONS

As originally laid out the adit had three primary targets - #5 zone, #6 and #8 zones.

The 8 zone was to be reached by a straight drive, the 101 crosscut. The 5 zone would be handled by another crosscut, the 102, angled off from the adit drive. The

6 zone would be intersected by the extension of the 102 crosscut. Later events introduced some drifts. In all some 1831.6 feet of lateral work was accomplished.

101 Crosscut: The main drive was collared at an elevation of 5390 feet. It was driven on a bearing of S 20° W for a total distance of 1088.5 feet. Its objective was the #8 zone. At the present face the elevation of the back is 5395.4 feet. The elevation of the #8 at a point directly overlying the drive is roughly 5680 feet.

The drive was collared in argillite, which gave way to limestone at the 66 foot mark. The limestone showed a horizontal thickness of 352 feet before dipping gently under another band of argillite. The portal contact between the argillite and limestone was of the fracture type with the slip dipping north at 65°. The deeper contact was a gradational type with a horizontal to 10° - 30° south dip. These two contacts left the impression of an anticline gently folded over the crosscut. Several beds of argillite were encountered in the limestone near the contact.

At the 291 foot mark, within the limestone, an ore section striking almost east-west and dipping 55° south was cut through. The zone consisted of a highly oxidized and sheared carbonate vein which carried galena, pyrite and some sphalerite. The zone widened at track level to four feet on the west wall and 1½ feet on the east wall. At back elevation it was only inches thick. A select grab ran 53 oz. Ag and 33.7% Pb. A chip sample on the better portion of the west wall yielded 10.9 oz. Ag and 2.9% Pb. This zone was to be later extended eastward by drilling and mining.

The argillite band, overlying the previous limestone, was encountered for a horizontal distance of 240 feet. At this point a 60° south dipping slip brought another limestone bed in over the argillite. This contact was striking N 20° W which is in general agreement with most of the surface contacts. The limestone band is similar in character to the previously encountered limestone, but it does not visibly outcrop on surface due to a talus slope. Its horizontal thickness is 120 feet.

Marking the contact between this band and the overlying graphitic slates is a highly schistose and graphitic fault varying in width from 2 to 4½ feet. The structure rolls from a 20° south dip near the track level to 65° south then flattens again to 20° south to pass over the drift back. Drilling has shown this flat contact to

be passing only a few feet above the limestone in the 101 crosscut. The fault, however, had given way to a sharp demarcation contact. Some minor lead and zinc in calcite lenses were associated with the fault in the crosscut.

The blocky, schistose graphitic slates continued for a length of 200 feet before merging gradually with the limey phyllites. This contact is marked by a stockwork of carbonate stringers. Upon approaching this contact the carbonate-filled fractures in the slates tend to flatten to an average 40° south dip.

The phyllites, showing extensive carbonate veining, were drifted for some 35 to 40 feet.

102 Crosscut: This crosscut was turned off from the 101 crosscut at a point 185 feet from the portal. Its objective was the #5 and #6 zones. Elevation of the back at its final face, a distance of 525.8 feet, was 5394.4 feet. At this point the #6 zone lies above it at an elevation of 5463 feet.

The only rock formation encountered throughout was limestone, except for a few dykes. The crosscut trended across this band at a small angle. Some 50 feet from the turnoff, the heading ran through a 35 foot section of thin carbonated tension fractures, roughly comparable with a fault structure mapped on surface. This zone terminated against an 8" open fissure that besides containing ice and mud had some calcite and traces of galena. Its attitude corresponded with that of the fracture area, which was NE-SW and a dip of 80° NW.

Two narrow micaceous lamprophyre dykes were intersected from 130' - 150' up the crosscut.

A few feet beyond these dykes the heading cut through a fairly well mineralized zone called the 5A. Assays proved rich enough to call for drifting. As the left wall was slashed out in preparation for the turn, a strong fault was uncovered which completely cut the zone off. Trend of this fault was north-south and dipping 55° to the west.

Continuing on with the initial bearing of the 102 crosscut, the fault was crossed and disclosed a thick lamprophyre dyke lying along the structure. Limestone on the other side of the dyke was similar in appearance to that on the hanging wall of the fault only with the absence of sulphides. Some 40 feet beyond the dyke a mineralized shear zone cut across the heading which was diverted on to its S 68° E bearing. Although weakly mineralized (6.6 oz Ag,

1.4% Pb, 4% Zn/4.0' and 2.5 oz. Ag, Nil, 1.5% Zn/4.0' on the right wall and 2.2 oz. Ag, Nil, 1.4% Zn/1.0' on the face) it was drifted out for a distance of 50 feet before the original bearing was resumed. This shear led to further similar type structures and mud seams in the 102 drift. No further strong breaks were cut until two heavy mud seams, some thirty feet apart, crossed the heading some hundred feet north of the 6 zone area. These breaks are likely associated with a topographic fault zone on surface that carried well mineralized float. Minor trenching here also revealed lead-zinc stringers. Of the two mud seams the southern most one was the more encouraging, showing mineralization that ran 12.5 oz. Ag and 1.1% Pb over one foot.

The crosscut was pushed on towards the #6 area. In the vicinity of the 6, two thick lamprophyres were encountered. On surface this intrusive lies in the footwall of the zone. The crosscut was carried some 40 feet south from a point directly under the 6 before being stopped for diamond drilling. The present face is in the lamprophyre dyke.

102 Drift: This was the continuation of the 102 crosscut along the strike of the shear-mud fault area. Its total length is 151.3 feet.

Although the mud seams are strong with heavy alteration they are weakly mineralized. Only at a point two rounds back from where the drift turned north for the 5 zone was the silver content of ore quality. Here a 3 foot section in the hanging wall of the mud seam ran 23.3 oz. Ag, 2% Pb, 1.7% Zn across the face. In the subsequent round these values dropped to 8.0 oz. Ag, Nil, 0.9% Zn across 3 feet of the footwall side of the face. The hanging wall had little encouragement.

The drift was now turned north to undercut the 5 zone. Limestone with only one strong structure was encountered to the final face, a point 30 feet beyond the vertical projection of the #5. The only interesting feature intersected by this portion of the drift was a well altered possible fault zone striking north-south and dipping 65° east - away from the #5 area.

103 Drift: This drift, taking off from the 101 crosscut, was driven some 66.0 feet along the twisting limestone-graphitic slate contact. The drift required timbering over its short length due to the spalling nature of the graphite fault.

When the contact was originally encountered some weak mineralization of lead and zinc was observed in the

limestone within a few feet of the fault. In the hope of better results, the drift was turned off along the contact. As proven later the best results were those first encountered.

ORE ZONES

#5A: This was the only ore structure uncovered underground. It is not readily identified on surface although mineralization in several pits is thought to be the surface expression of this zone.

It was first intersected in the 101 crosscut as a highly oxidized and sheared carbonate vein which pinched from a maximum width of 4 feet at track level to a 2" carbonated slip in the back. Galena, sphalerite and pyrite were readily visible. The break ran almost east-west and dipped 55° south. Assays from here yielded-

10.9 oz. Ag, 2.9% Pb/4.0' on west wall
2.4 oz. Ag, 0.7% Pb/1.5' on east wall
53.0 oz. Ag, 33.7% Pb/random chips of PbS on west wall
57.5 oz. Ag, 41.3% Pb/ select grab from massive PbS

A more easterly section of this zone was met in the 102 crosscut. This zone had an entirely different mineralogical and structural assemblage. It was a replacement type of zone with the predominating mineral being argentiferous tetrahedrite. The disseminated mineralization covered a width of 4.6 feet and a length of 18 feet before being cut off on the east by the fault and stopped on the west side by the lamprophyre dyke. Galena, sphalerite, pyrite, pyrrhotite, chalcopyrite and tetrahedrite are the main sulphides. Strike of the structure is almost east-west with a 75° south dip.

The zone was thoroughly sampled along the back and walls with some 37 samples being cut. The overall assay of the zone is 39.1 oz. Ag, 2% Pb, 2% Zn, Tr. Au.

Diamond drilling later definitely tied this section in to that in the 101 crosscut. The offset portion has not been located. The possibility exists that it might be north of the 102 crosscut and continuing its blocked passage on the east side of the dyke.

#5: This was one of the main targets of the underground work. Surface trenching and sampling in the late summer of 1961 had revealed a zone extending over a length of 75 feet, 4.8 feet in width and assaying 36.9 oz. Ag, 15.1% Pb and 16.0% Zn.

The 102 drift carried directly under this zone and some 30 feet beyond. No mineralization, other than for sparse pyrite at several points, was uncovered.

In a drill campaign which saw a horizontal ring of holes fanned out from this drift only two holes picked up anything of consequence. A flat hole showed a 2 foot section running 10 oz. Ag, 12% Pb and 9% Zn. This intersection was 22 feet east of the drift. An inclined hole put out almost parallel with the bearing of the drift intersected heavy sulphides some 25 feet above the drift back.

#6: Surface information on this zone revealed a structure assaying 88.8 oz. Ag, 24.8% Pb and 4.5% Zn over a width of 4.3 feet for an exposed length of 70 feet. The lens on surface lay along the argillite-limestone contact. The steepness of t is contact dip was never determined so that the drive approached under the zone without encountering the contact.

In later diamond drilling this contact was shown to dip at an angle of 30° west with the dip flattening out considerably near adit level. This is in agreement with the condition found on this contact in the 101 crosscut.

No mineralization lay along the contact where intersected.

#8: This was the main target of the underground operation. On surface the previous year a section some 194 feet long and 5.0 feet wide had averaged close to 34 oz. Ag, 16% Pb and 8% Zn. During 1962, this zone was extended an additional 215 feet to the northwest. Although narrower in width (1.3') and showing more of a broken lens nature, the extension carried equally good assays.

The zone lay on the northeast facing slope of a steep ridge. The difference in elevation between the terminals of the #8 is 154 feet. Dip of the structure was poorly defined but in a few places showed a relatively flat dip (25° - 35°) to the south. Limey phyllites are the host rock but the position of the #8 as regards the contact is unknown due to a lengthy talus slope almost immediately below the zone outcropping.

The 101 crosscut heading carried some 260 feet beyond the vertical projection of the #8 before being halted. It had at this point just entered the limey phyllites.

A flat drill hole out from the face for 317 feet did not reveal any stratographical changes or sulphides.

UNDERGROUND DIAMOND DRILLING

Diamond drilling underground was not instituted until June 1962 when it became apparent that the #8 zone had eluded the main drive. From June 17th to July 30th, 1962 a total of 3201 feet in 22 holes was drilled in the underground campaign.

The first 5 holes (Ul-1 to Ul-5) were directed towards locating the #8. The first three and the last picked up weak values.

Ul-1	0.20 oz Ag	Nil Pb	5.7% Zn	/ 1.5'
Ul-2	1.16 oz	-	1.2%	/ 7.5'
Ul-3	0.68 oz	0.1%	7.3%	/ 3.0'
Ul-4	No intersection			
Ul-5	0.40 oz	-	-	/ 1.0'

As apparent, the zinc is the strongest mineral. On surface the #8 had relatively weak zinc values. Whether this could indicate a zonal arrangement as the lenses taper out, further work would be required.

The first three intersections are all roughly at the same horizon - 120 feet above the back. The last intersection is some 40 feet higher. If they form the downward extension of the #8, the dip is around 30° - 50°.

The drill, after completing these five holes, was removed to the #5 area as drifting there had resulted in negative results. A fan of flat holes (Ul-6 to Ul-9) was spread out under the 5 structure. Only one (Ul-6) picked up any values. It contained 2.0 feet of 10 oz Ag, 12% Pb and 9% Zn, in a highly oxidized section. To check on an easterly rake possibility a plus 25° hole (Ul-10) and a minus 25° (Ul-11) were put down, the former on the west side of the drift and the latter on the east side. Hole Ul-12, a plus 25°, was just collared in 5 feet before the machine was moved from this site to another section of the mine.

The 5A area was next given attention. All holes here were flat. Holes Ul-13 and Ul-14 trisected the open ground between the two crosscut intersections. Both holes showed interesting mineralization of the stringer type. Ul-13 had weak silver assays, 5.0 oz Ag / 1.0' but 6 feet of 7% zinc. Hole Ul-14 was slightly better yielding 3 feet of 6.7 oz Ag, 4.8% Pb and 18.6% Zn.

These two holes extended the 5A across a length of 125 feet. No inclined holes were put out.

In order to extend the zone to the west, holes U1-15 and U1-16 were drilled with negative results.

Hole U1-17 was collared in the 102 drift some 65 feet back from the face. It ran at a very slight angle out from the drift wall on a dip of plus 35°. The hole intersected promising sulphides from 49 - 64 feet, resulting in 9 feet of 21.0 oz Ag, 3.3% Pb and 10.9% Zn.

Holes U1-18 to U1-20 form a ring drilled from under the #6 sector to the west to intersect the contact. The holes were successful in this regard but did not result in any mineralization.

From the same set-up holes U1-21 and U1-22 were flat borings put out to intersect the downward projection of mineralized surface features. These were not picked up.

SURFACE DIAMOND DRILLING

Surface drilling began on July 21st, 1962 and was continued until July 30th, 1962. Some six holes totalling 625 feet were put down.

The area given first attention was around the 1, 2 and 3 zones. Four holes were drilled here, all verticals and of a short length. The intention was to check the width and continuity of the sulphides underlying the slate contact. The first three holes (S-1 to S-3) were spaced on a north-south line 25 feet apart. Mineralization was erratic in footage and heavy in zinc. The fourth hole,(S-4) a hundred feet to the east showed light mineral near the contact.

The quartz vein area in the southern portion of the cirque was given attention next. Two 45° holes, at random locations, were put down under the strong quartz veins. Values here, within the quartz structures, are encouraging but the downward extension of the #7 Ag-Pb vein was not located.

It should be stated here that all drilling - underground and surface - was with AX rods. Recovery in both cases

was excellent with an overall total of 95% core recovery. Sludges were taken underground and used when required.

Respectfully submitted,

W. G. HAINSWORTH, B. Sc.

WHITEHORSE, YUKON
August 4, 1962.

Property TINTINA SILVER MINES LTD.

DIAMOND DRILL RECORD

Hole No. U1 - 1 Sheet No. Lat. N 49 209 Total Depth 228'
Section Dep. E 79 759 Elev. Collar
Date begun June 18, 1962 Bearing Due South Elev. Bottom
Date finished June 22, 1962 Angle Plus 46°

DEPTH FEET	FORMATION	Sludge SAMPLE No.	WIDTH OF SAMPLE	GOLD oz.	SLUDGE GOLD. $	Lost Core
0 - 122	Slate, graphitic, occ pyrite in thin seams and as nodules, faint schistocity at 70° to core	37-49	.04	Nil		
		49-59	Nil	Nil		
		59-68	.04	Nil		35.0-36.0
	from 37 - 44.0 - broken and button core	68-78	.04	Nil		36.5-37.0
	at 57.0 - 3/4" pyrite-cart-tr chalco vein @ 60°	78-88	.06	Tr		39.0-41.0
	from 75.5-78.0 - heavy qtz-calcite veining	88-98	.04	Nil		44.0-46.0
	from 80.0-83.0 - as above	98-108	.12	Nil		47.0-49.0
	at 102.0 - 3" pyrrhotite-pyrite strg @ 55°	108-118	.20	Nil		125.0-126.0
	from 106.0-111.0 - heavy qtz-carb-chorite veining at 45° to core	118-128	.10	Nil		136.0-137.0
		128-138	.08	Nil		141.0-143.0
		138-148	.12	Nil		183.1-183.6
122 - 228	Slate, calcareous, schistosity variable from 60-80° to core, near contact heavy concentration of calcite-qtz strgs and veins particularly from 124.0-136.0 & 152.0-154.3	148-158	.12	Tr		
		158-168	.14	Nil		
		168-178	Nil	Nil		
		178-188	Nil	Nil		
	at 136.0 - yellow mud and lost core	188-198	.04	Nil		
	at 141.0 - grey mud and lost core	198-208	Nil	Nil		
	at 164.0 - 3" mud seam	208-218	.10	Nil		
	at 173.0 - zone of zinc and white carbonate veinlets with slight bemwork leaching	218-228			Ag Pb Zn	
		1976	172.0-173½'		.28 Nil 5.7	
228	End of Hole					
	152½-159 - Brecciated 50% qtz-carbonate, sl. yellow-brownish leaching					
	172-173½ - Sample	1976				

Harry Hammond

Property TINTINA SILVER MINES LTD.

DIAMOND DRILL RECORD

Hole No. U1 - 2 Sheet No. Lat. N 49 267 Total Depth 257'
Section Dep. E 79 735 Elev. Collar
Date begun June 23, 1962 Bearing Due West Elev. Bottom
Date finished June 26, 1962 Angle Plus 47°

DEPTH FEET	FORMATION	SAMPLE No.	WIDTH OF SAMPLE	GOLD $	SLUDGE GOLD. $		
0 - 92	Slate, graphitic, occ. thin strgs of pyrite-pyrrhotite						Lost Core
	increasing carbonate sections from 86' on						56.0-57.0
92 - 120	Contact zone, heavy quartz-carbonate up to 60%, minor						79.0-79.5
	local brecciation						83.0-84.0
120 - 257	Slate, calcareous, occ. narrow veinlets of pyrite-qtz						158.0-160.0
	at 70° to core, lineations predominately at 70°						160.8-161.4
	from 135.2-136.5 - weak brecciation zone						171.0-172.0
	at 173.5- 3' mud seam with lost core			Ag	Pb	Zn	173.5-176.5
	from 176.5-178.0 - Heavy qtz-carb with thin	1977	172.0-173.5	.04	Nil	-	178.0-180.5
	veinlets of sphalerite		173.5-176.5	lost core			
	from 182.5-184.0 - Ore Sections with thin	78	176.5-178.0	.14	Nil	2.9	
	strgs of zinc-carbonate and tr. galena in		178.0-180.5	lost core			
	minor brecciation zone.	79	180.5-182.5	.20	Nil	0.2	.16 - 1.2%
	at 198.4 - few narrow veinlets of zinc-carb	80	182.5-184.0	.40	Nil	3.0	7½'
	at 215.0 - 6" brecciation zone	81	184.0-186.0	.04	Nil	-	
	from 227.0-257.0 - fairly massive, little						
	carbonate	82	198.0-198.5	.10	Nil	0.1	
257	End of Hole						

Sludges - Hole U1 - 2

No.	From	Ag	Pb	Zn
1701	117-127	Nil	Nil	Nil
1702	127-137	.08	Nil	Tr
1703	137-147	Nil	Nil	Nil
1704	147-157	.14	Nil	Tr
1705	157-167	.20	Nil	.2
1706	167-177	.52	Nil	1.4
1707	177-187	.38	Nil	2.4
1708	187-197	.20	Nil	.3
1709	197-207	.14	Nil	.4

Property TINTINA SILVER MINES LTD.

DIAMOND DRILL RECORD

Hole No. U1 - 3 Sheet No. Lat. N 49 298 Total Depth 229'
Section Dep. E 79 747 Elev. Collar
Date begun June 26, 1962 Bearing S 24° W Elev. Bottom
Date finished June 29, 1962 Angle Plus 37°

DEPTH FEET	FORMATION	SAMPLE No.	WIDTH OF SAMPLE	GOLD $		SLUDGE GOLD. $		
				Ag	Pb	Zn		
0 - 15	Limestone, grey, heavy calcite veining							Lost Core
15 - 133	Slate, graphitic, pyritic							15 - 16
	from 15-16 - Fault zone, no core							17 - 18½
	at 121 - 4" carbonate vein with arsenopyrite at 55° to core							19 - 19½
								25 - 26
133 - 147	Contact Zone							42 - 43½
	at 135½ - sl. sphalerite in carbonate vein							51 - 52
		1983	156½-158	Nil		Nil		104½-105
147 - 229	Slate, calcareous	84	158- 160	Nil		Nil		143- 144
	at 157 - tr. sphalerite in calcite vein	85	160- 161	Nil		Nil		178- 180
	at 159 - light brown material with some leaching							
	from 162-166 - Badly chopped core with mud	86	168½-169	Nil		0.2		
	at 168½ - minor sphalerite in calcite strg							
	from 173-181 - calcareous strgs containing	87	173- 175	Nil	Nil	.01		
	minor amounts of sphalerite	88	175- 178	Nil	Nil	Nil		
	from 181-184 - Ore Section - zinc strgs with		178- 180	Lost Core				
	calcite running at fairly flat angles to core	89	180- 181	.02	Nil	0.9		
		90	181- 182	1.40	Nil	6.5	)	181-184
	from 184-229 - Massive, little calcite	91	182- 183	.60	0.3	7.2	)	.68 .01 7.3
		92	183- 184	.04	Nil	8.3	)	
		93	184- 186	Nil	Nil	Nil		
229	End of Hole							

W. R. Hammond

Sludge Samples

No.	Footage	Ag	Pb	Zn
1710	10 - 20	Nil		
1711	20 - 30	Nil		
1712	30 - 40	Nil		
1713	130-140	Nil	Nil	Nil
1714	140-150	0.22		Nil
1715	150-160	Nil		0.2
1716	160-170	0.20	Nil	0.3
1717	170-180	0.10	Nil	0.2
1718	180-190	0.10	Nil	1.3
1719	190-200	0.44		
1720	200-210	Nil		
1721	210-220	0.08		

Property TINTINA SILVER MINES LTD.

Note: Hole cased to 12 ft.
Lost water at 29 ft.

DIAMOND DRILL RECORD

Hole No. U1 - 4 Sheet No. Lat. N 49 036 Total Depth 317
Section Dep. E 79 684 Elev. Collar
Date begun June 29, 1962 Bearing S 53 W Elev. Bottom
Date finished July 8, 1962 Angle Flat

DEPTH FEET	FORMATION	SAMPLE NO.	WIDTH OF SAMPLE	GOLD $	SLUDGE GOLD. $	Lost core
0 - 317	Slate, calcareous, numerous qtz-calcite strgs, locally banded at 60° to core 0-5: 30-40% qtz-calcite material 10-10½: thin lamprophyre dyke at 15 - fracture with limonite-hematite at 20½ - 2" lamprophyre from 45 on: fairly massive formations at 119.7 - tr zinc in veinlet at 167 - banding at 50° from 183-195: 20% carbonate at 204 - banding at 60° at 279 - 2" mud					12½-13½ 16 - 18 23½-24½ 26-27 127-128 139-140 141-142 194½-195 197-198½ 242-243 248-250 262-263 293½-295
317	End of Hole					
		Sludge assays				
		1723	9-20			
		22	20-29			
		Further sludges lost				

Property TINTINA SILVER MINES LTD.

DIAMOND DRILL RECORD

Hole No. U1 - 5 Sheet No. Lat. N 49 368 Total Depth 380
Section Dep. E 79 774 Elev. Collar
Date begun July 9, 1962 Bearing S 05 W Elev. Bottom
Date finished July 12, 1962 Angle Plus 45

DEPTH FEET	FORMATION	SAMPLE No.	WIDTH OF SAMPLE	GOLD $	SLUDGE GOLD. $	Lost Core
0 - 31½	Limestone, light grey					48-49
31½- 141	Slate, graphitic, sharp contact at 50° to core,					216½-217
	from 47-48 - quartz vein					
141-380	Slate, calcareous, heavy qtz-carbonate veining (30%)					
	on contact and proceeding contact for 8-10 ft.					
	at 143 - short section of graphitic slates					
	at 144.7 - 1" yellow mud seam					
	from 153-169 - local narrow patches of reddish-brown alteration					
	from 193-201: massive qtz-carb vein					
	from 201-204: graphitic slate			Ag	Pb	Zn
	at 214 - 10" pyrite-calcite section					
	from 232-233.8: Ore Section strgs of zinc	1994	232-232½	4.46	2.9	4.6
	with calcite, at 232.6 1½" strg zinc lead and calcite	95	232½-233.8	1.50	1.1	1.5
	at 240, narrow zinc strgs	96	239½-240½	.18	-	1.9
	from 249-250: 80% carbonate					
	at 256.5- narrow calcite-sphalerite strg with trace galena	97	256-257	.40		
		98	260-261	.02	nil	1.7
	at 260.8- sphalerite in thin calcite strgs	99	264-265	.24	nil	2.2
	at 264 - 8" zone calcite with tr zinc					
	from 272-312: fairly massive appearing slate					
	from 329-380: as above	2000	312-313	Nil	Nil	0.8
	at 280- thin calcite strgs with zinc					
	at 312½- some zinc with calcite					
380	End of Hole					

Andy Dawson

SLUDGES - HOLE U1-5

No.	Footage	Ag.	Pb	Zn
1724	131-141	.08		
25	141-151	N11		
26	151-161	N11		
27	161-171	.06		
28	171-181	.04		
29	181-191	N11		
30	191-201	Tr		
31	201-212	.06		
32	212-222	.06		
33	222-232	.20		
34	232-242	.16		

Property TINTINA SILVER MINES LTD.

DIAMOND DRILL RECORD

Hole No. U1 - 6 Sheet No. Lat. N 49 608 Total Depth 122'
Section Dep. E 80 159 Elev. Collar
Date begun July 13, 1962 Bearing N 50 E Elev. Bottom
Date finished July 14, 1962 Angle Flat

DEPTH FEET	FORMATION	SAMPLE No.	WIDTH OF SAMPLE	GOLD $	SLUDGE GOLD. $	
0 - 122	Limestone, light grey, locally mottled, locally brownish alteration patches and strgs. local minor brecciated zones					
	at 5 - thin mud seam			Ag	Pb	Zn
	at 29.5 - 8" altered zone					
	from 58 - 62.6 - Ore Section - oxidized	1901	57-58	.12	Nil	0.5
	and leached zone with minor galena,	02	58-59	.04	Nil	0.6
	sharp contacts at 60° to core	03	59-60	1.50	0.5	1.3
	from 97 - 99: conglomeritic looking	04	60-61	2.94	2.8	9.0
	limestone	05	61-62	17.4	21.9	9.6
		06	62-62.6	2.20	1.7	1.2
122	End of Hole	07	62.6-63.6	.50		Nil

Sludges		Ag
1735 -	52-62	1.60
36 -	62-72	.90
37 -	72-82	.50

Property TINTINA SILVER MINES LTD.

DIAMOND DRILL RECORD

Hole No. U1 - 7 Sheet No. Lat. N 49 608 Total Depth 110
Section Dep. E 80 159 Elev. Collar
Date begun July 15, 1962 Bearing N 70 E Elev. Bottom
Date finished July 16, 1962 Angle Flat

DEPTH FEET	FORMATION	SAMPLE No.	WIDTH OF SAMPLE	GOLD $	SLUDGE GOLD. $
0 - 110	Limestone, light grey, locally mottled				
	from 26-41: area of light brown streaky alteration				
	from 59.5-71: conglomeritic appearing dolomitic section, occ tr. pyrite				
	from 72-74: as above				
	at 100 - intersected water, weak pressure				
110	End of Hole				

A. G. Hawkins

Property TINTINA SILVER MINES LTD

DIAMOND DRILL RECORD

Hole No. U1-8 Sheet No. Lat. N 49 60S Total Depth 126'
Section Dep. E 80 160 Elev. Collar
Date begun July 16, 1962 Bearing Due East Elev. Bottom
Date finished July 17, 1962 Angle Flat

DEPTH FEET	FORMATION	SAMPLE No.	WIDTH OF SAMPLE	GOLD $	SLUDGE GOLD. $	
0 - 126	Limestone, dark grey					Lost Core
	from 0 - 21 - altered, oxidized with					24 - 25
	sl. leaching, nil mineral					
	at 23 - sl. brecciation					
	at 57 - sl. alteration over 6"					
	around 117 - light local alteration, not heavy					
126	End of Hole					

Arnold Hanson

Property TINTINA SILVER MINES LTD

DIAMOND DRILL RECORD

Hole No. T1 - 9 Sheet No. Lat. N 49 615 Total Depth 101'
Section Dep. E 80 155 Elev. Collar
Date begun July 17, 1962 Bearing N 02 W Elev. Bottom
Date finished July 17, 1962 Angle Flat

DEPTH FEET	FORMATION	SAMPLE NO.	WIDTH OF SAMPLE	GOLD $	SLUDGE GOLD. $
0 - 101	Limestone, light grey, mottled				
	at 15 - light brown carbonate strgs. of alteration				
101	End of Hole				

Greig Sansom

Property TINTINA SILVER MINES LTD.

DIAMOND DRILL RECORD

Hole No. U 1 - 10 Sheet No. Lat. N 49 615 Total Depth 120'
Section Dep. E 80 155 Elev. Collar
Date begun July 18, 1962 Bearing N 02 W Elev. Bottom
Date finished July 19, 1962 Angle Plus 25°

DEPTH FEET	FORMATION	SAMPLE No.	WIDTH OF SAMPLE	GOLD $	SLUDGE GOLD. $
0 - 120	Limestone, light grey, local heavy brown carbonate patches				
	at 43 - 15" brown carbonate veining with light leaching				
	from 118 - 120 - core badly broken, possibly near surface				
120	End of Hole				

W. H. Hancock

Property TINTINA SILVER MINES LTD.

DIAMOND DRILL RECORD

Hole No. U1 - 11 Sheet No. Lat. N 49 60S Total Depth 120'
Section Dep. E 80 159 Elev. Collar
Date begun July 19, 1962 Bearing N 70 E Elev. Bottom
Date finished July 20, 1962 Angle Minus 25°

DEPTH FEET	FORMATION	SAMPLE No.	WIDTH OF SAMPLE	GOLD $	SLUDGE GOLD. $	Lost Core
0 - 120	Limestone, light grey					39 - 40
	at 4 - 14" carbonate vein					78 - 79
	from 9-12 - 80% qtz-carbonate					
	from 35-38 - Highly brecciated					
	at 75 - 2 feet mud					
	from 77-81 - Highly calcareous			As	Pb	Zn
	from 84-85 - silicified zone, carrying	1908	83-84	.3[illegible]		
	Pb stringers and blebs, some reddish	09	84-85	5.0[illegible]		
	carbonate, slight oxidation	10	85-86	.02		
		Sludge				
120	End of Hole	1738	80-90			

J. M. Hammond

Property TINTINA SILVER MINES LTD.

DIAMOND DRILL RECORD

Hole No. U1 - 12 Sheet No. Lat. N 49 608 Total Depth 5'

Section Dep. E 80 159 Elev. Collar

Date begun July 20, 1962 Bearing N 70 E Elev. Bottom

Date finished Angle Plus 25°

DEPTH FEET	FORMATION	SAMPLE No.	WIDTH OF SAMPLE	GOLD $	SLUDGE GOLD. $
0 - 5	Limestone				
	Hole halted for move				

Jerry Hawson

Property TINTINA SILVER MINES LTD.

DIAMOND DRILL RECORD

Hole No. M1 - 13 Sheet No. Lat. N 49 632 Total Depth 146½
Section Dep. E 79 872 Elev. Collar
Date begun July 20, 1962 Bearing N 48 E Elev. Bottom
Date finished July 21, 1962 Angle Flat

DEPTH FEET	FORMATION	SAMPLE No.	WIDTH OF SAMPLE	GOLD $	SLUDGE GOLD. $	
0 - 146½	Limestone, light grey, mottled, occ. narrow argillite band					
	from 38-39½ - massive carbonate vein with					
	smaller veins following for 5 ft.					
	at 80 - 12" carbonate vein			Ag	Pb	Zn
	around 105 - sl. tr. Pb & Zn, some leaching	1918	110-111	.14	.3	Nil
	from 111-116½ - Ore Section - At 111'	11	111-112	5.66	1.9	14.2
	2½" massive Pb-Zn, numerous thin strgs	12	112-113	.06	.2	6.8
	of lead and zinc, patches of zinc,	13	113-114	.10	.1	4.1
	somewhat silicified, some fine tetrahedrite,	14	114-115	.28	Nil	3.9
	some non-mineralized sections	15	115-116	1.66	Nil	3.4
	at 119½ - 3" carbonate strgs with some mineralization	16	116-117	.64	Nil	9.2
	at 124 - 3" rusty carbonate	17	117-118	.40	.1	.5
	at 134 - 6" vug , possible fault zone	19	118-119			
146½	End of Hole					

Wm G Hunson

Property TINTINA SILVER MINES LTD.

DIAMOND DRILL RECORD

Hole No. U1 - 14 Sheet No. Lat. N 49 702 Total Depth 70'
Section Dep. E 79 099 Elev. Collar
Date begun July 21, 1962 Bearing N 63 E Elev. Bottom
Date finished July 22, 1962 Angle Flat

DEPTH FEET	FORMATION	SAMPLE No.	WIDTH OF SAMPLE	GOLD $	SLUDGE GOLD. $	
0 - 70	Limestone, light grey, mottled	1920	38-40			
	from 40-45 - Ore Section: heavy sulphides	21	40-41			
	(60%) oxidized from 40-42	22	41-42			
	from 49-53 - increasing carbonate & qtz content	23	42-43			13.5
		24	43-44			
		25	44-45			
70	End of Hole	26	45-47			

John V. Hamilton

Property TINTINA SILVER MINES LTD.

DIAMOND DRILL RECORD

Hole No. U1 - 15 Sheet No. Lat. N 49 700 Total Depth 120'
Section Dep. E 79 889 Elev. Collar
Date begun July 22, 1962 Bearing N 35 E Elev. Bottom
Date finished July 23, 1962 Angle Flat

DEPTH FEET	FORMATION	SAMPLE No.	WIDTH OF SAMPLE	GOLD $	SLUDGE GOLD. $	Lost Core
0 - 120	Limestone, light grey, locally banded @ 50° to core					30½ - 31
	at 118 - 15" oxidized zone, some alteration					
	no mineral					
120	End of Hole					

Property TINTINA SILVER MINES LTD.

DIAMOND DRILL RECORD

Hole No. U1 - 16 Sheet No. Lat. N 49 637 Total Depth 126'
Section Dep. E 79 860 Elev. Collar
Date begun July 23, 1962 Bearing N 25 W Elev. Bottom
Date finished July 24, 1962 Angle Flat

DEPTH FEET	FORMATION	SAMPLE No.	WIDTH OF SAMPLE	GOLD $	SLUDGE GOLD. $
0 - 126	Limestone, light grey, local banding @ 50° to core,				
	some argillaceous sections				
	at 15 - 8" calcite vein				
	at 39 - 12" calcite vein				
	around 69 - scattered pyrite				
	at 91 - 5" zone of sl. rust & leaching, tr. zinc				
	from 107-118 - more calcareous				
126	End of Hole				

W. G. Hamilton

Property TINTINA SILVER MINES LTD,

DIAMOND DRILL RECORD

Hole No. U1 - 17 Sheet No. Lat. N 49 630 Total Depth 84'
Section Dep. E 80 169 Elev. Collar
Date begun Bearing N 30° E Elev. Bottom
Date finished Angle Plus 36°

DEPTH FEET	FORMATION	SAMPLE NO.	WIDTH OF SAMPLE	GOLD $	SLUDGE GOLD. $	
0 - 84	Limestone					
	at 5 - 1" mud					
	from 10-21 - 40% calcite					
	at 23½ - 8" heavy oxidation & some leaching, sl. zinc					
	at 44 - sl. zinc, c alco & pyrite					
	from 49-50½ - lead-zinc stringers	1951	49-50½			
	from 52-64 - Ore Section - stringers of zinc	52	50½-52			
	with lead, siliceous, sulphides varying	53	52-55			
	in amount	54	55-58			
	from 65-67 - dark, altered, shattered core,	55	58-61			
	possible fault	56	61-64			
	from 83-84 - boulder material, hold broken					
	out into talus					
84	End of Hole					

W. Hamilton

Property TINTINA SILVER MINES LTD.

DIAMOND DRILL RECORD

Hole No. U1 - 18 Sheet No. Lat. N 49 408 Total Depth 130'
Section Dep. E 80 185 Elev. Collar
Date begun July 25, 1962 Bearing S 83½ W Elev. Bottom
Date finished July 27, 1962 Angle Flat

DEPTH FEET	FORMATION	SAMPLE No.	WIDTH OF SAMPLE	GOLD $	SLUDGE GOLD. $	Lost Core
0 - 130	Limestone, light grey					
	at 11 - 15" altered zone					129-130
	at 39 - 1" mud					
	from 39-42 - numerous calcite veins					
	from 43-45½ - fine grained calcareous, light green, argillate-limestone contact?					
	from 61-74 - contact rolling in and out of core, limey					
	from 94-99 - sl. argillaceous					
	from 109 - 112 - argillaceous bands					
	from 122 - 123 - lamprophyre dyke					
130	End of Hole					

Property TINTINA SILVER MINES LTD.

DIAMOND DRILL RECORD

Hole No. W1 - 19 Sheet No. Lat. N 49 40E Total Depth 89'
Section Dep. E 80 18S Elev. Collar
Date begun July 27, 1962 Bearing S 83½ W Elev. Bottom
Date finished July 28, 1962 Angle Plus 30°

DEPTH FEET	FORMATION	SAMPLE No.	WIDTH OF SAMPLE	GOLD $	SLUDGE GOLD. $
0 - 58	Limestone, light grey				
	from 39-41 - argillite				
58 - 89	Argillite, greyish-green, bleached zone to 61'				
	at 84' - 8" qtz-carbonate vein				
89	End of Hole				

Property TINTINA SILVER MINES LTD.

DIAMOND DRILL RECORD

Hole No. U1 - 20 Sheet No. Lat. N 49 40S Total Depth 64'
Section Dep. E 80 185 Elev. Collar
Date begun July 28, 1962 Bearing S 83½ W Elev. Bottom
Date finished July 29, 1962 Angle Plus 52°

DEPTH FEET	FORMATION	SAMPLE No.	WIDTH OF SAMPLE	GOLD $	SLUDGE GOLD. $
0 - 49	Limestone, light grey				
	from 20-25 - 80% carbonate with some alteration				
	from 25-27				
	at 30 - 1" mud seam				
	at 41 - thin mud slip with sl. brown carbonate				
	and minor leaching				
	at 45 - carbonate stringer with tr. zinc at				
	70° to core				
49 - 64	Argillite, dark grey, gradational contact				
64	End of Hole				

W B Hanson

Property TINTINA SILVER MINES LTD.

Note: Lost Water at 80'

DIAMOND DRILL RECORD

Hole No. U1 - 21 Sheet No. Lat. N 49 412 E 80 191 Total Depth 122'

Section Dep. Elev. Collar

Date begun July 29, 1962 Bearing N 33 E Elev. Bottom

Date finished July 30, 1962 Angle Flat

DEPTH FEET	FORMATION	SAMPLE No.	WIDTH OF SAMPLE	GOLD $	SLUDGE GOLD. $	Lost Core
0 - 122	Limestone, light grey					
	at 21 - some brecciation and carbonate					111-112
	at 59½ - 3" brown and white carbonate, nil mineral, some sand, possible fault					113-115
	at 84 - 3" brecciation					
	from 104-106 - lamprophyre dyke					
	at 110 - sl. oxidation over 2"					
	from 111-115 - possible fault zone, lost core					
122	End of Hole					

W. E. Hamilton

Property TINTINA SILVER MINES LTD.

Note: Lost Water at 30'

DIAMOND DRILL RECORD

Hole No. U1-22 Sheet No. Lat. N 49 40½ Total Depth 135'

Section Dep. E 80 188 Elev. Collar

Date begun July 29, 1962 Bearing Due South Elev. Bottom

Date finished July 30, 1962 Angle Flat

DEPTH FEET	FORMATION	SAMPLE NO.	WIDTH OF SAMPLE	GOLD $	SLUDGE GOLD. $	Lost Core
0 - 14	Limestone, light grey, sl. pyrite					47½ - 49
14 - 20	Argillite, limey					56½ - 58
	from 16-17 - altered, with some oxidation					
20 - 43	Limestone, with argillite interbeds, occ. evidence					
	of zinc					
43 - 48	Lamprophyre dyke					
48 - 52	Limestone, in close proximity to dyke					
	at 51½ - heavy carbonate & oxidation					
52 - 53	Lamprophyre dyke					
53 - 58	Limestone, altered by dyke action					
58 - 58½	Lamprophyre					
58½ - 64	Argillite, bleached appearance, pyritic					
64 - 74	Limestone with argillite					
74 - 127	Lamprophyre					
127 - 135	Limestone					
135	End of Hole					

Property TINTINA SILVER MINES LTD.

DIAMOND DRILL RECORD

Hole No. S - 1 Sheet No. Lat. N 50 865 Total Depth 76'
Section Dep. E 79 950 Elev. Collar
Date begun July 21, 1962 Bearing Elev. Bottom
Date finished July 22, 1962 Angle Minus 90°

DEPTH FEET	FORMATION	SAMPLE No.	WIDTH OF SAMPLE	GOLD $	SLUDGE GOLD $	
0 - 2	Casing	1927	2-5			
2 - 31	Limestone, greenish-grey, siliceous	28	5-8			
	0-8 - Sulphides 5%-10%, as thin veinlets	29	8-9			
	8-9 - Massive zinc with quartz, 80%	30	9-11			
	9-11 - Sulphides 5%-10% with some pyrite-pyrrhotite & tr. Cu	31	11-12			
		32	12-15			
	11-12 - Strong zinc patches, 40%	33	15-19			
	12-15 - Sulfides, 10%	34	19-22			
	15-19 - Weak zinc-lead with fine pyrite-pyrrhotite	35	22-24			
	19-24 - Increasing Pb content, sulfides 30%	36	24-26½			
	24-25 - Weak, sulphides 5%	37	26½-30			
	25-26½ - Zinc blebs					
31 - 34	Slate, graphitic, pyritic					
34 - 72	Limestone, light grey					
72 - 73	Heavy carbonate					
75- 76	Slate, graphitic, last 6" carbonate					
76	End of Hole					

A. J. Swanson

Property TINTINA SILVER MINES LTD.

DIAMOND DRILL RECORD

Hole No. S-2 Sheet No. Lat. N 50 650 Total Depth 53'
Section Dep. E 79 945 Elev. Collar
Date begun July 22, 1962 Bearing Elev. Bottom
Date finished July 23, 1962 Angle Minus 90°

DEPTH FEET	FORMATION	SAMPLE No.	WIDTH OF SAMPLE	GOLD $	SLUDGE GOLD. $	
				Ag	Pb	Zn
0 - 14	Slate, graphitic					
14 - 25	Limestone, greyish-green					
	from 14-20 - Ore Section -	1957	14-17	15.9	5.2	13.2
	Heavy zinc with minor lead, some pyrite	58	17-20	10.1	3.4	19.6
	from 22-23 - Stringers of lead	59	20-23	.8	N.1	2.1
25 - 39	Slate, graphitic					
39 - 53	Limestone, light grey, nil mineralization					
53	End of Hole					

W. D. Hamilton

Property TINTINA SILVER MINES LTD.

DIAMOND DRILL RECORD

Hole No. S - 3 Sheet No. Lat. N 50 840 Total Depth 50'
Section Dep. E 79 955 Elev. Collar
Date begun July 23, 1962 Bearing Elev. Bottom
Date finished July 24, 1962 Angle Minus 90°

DEPTH FEET	FORMATION	SAMPLE No.	WIDTH OF SAMPLE	GOLD $	SLUDGE GOLD. $	
0 - 2	Casing					
2 - 40	Limestone, greyish-green, occ. mineralized strgs					
	from 16-18 - Ore Section - Heavy zinc (30%)			Ag	Pb	Zn
	light lead	1960	16-18	.60	N.1	19.7
	from 38-40 - Stringers & disseminated blebs					
	of zinc and lead	61	38-40	.06	N.1	5.7
40 - 42	Slate					
42 - 50	Limestone, light grey, nil mineralization					
50	End of Hole					

Property TINTINA SILVER MINES LTD.

DIAMOND DRILL RECORD

Hole No. S-4 Sheet No. Lat. N 50 320 Total Depth 50'
Section Dep. E 79 360 Elev. Collar
Date begun July 24, 1962 Bearing Elev. Bottom
Date finished July 25, 1962 Angle Minus 90°

DEPTH FEET	FORMATION	SAMPLE No.	WIDTH OF SAMPLE	GOLD $	SLUDGE GOLD. $
0 - 8	Casing				
8 - 38	Limestone, fractured & oxidized along fractures, chloritic, local pyrite from 17-19 - Pb and Zn mineralization from 35-38 - Bleached appearance				
38 - 50	Argillite, dark grey, nil mineral	1938	17-19		
50	End of Hole				

W. H. Lawson

Property TINTINA SILVER MINES LTD.

DIAMOND DRILL RECORD

Hole No. S - 5 Sheet No. Lat. N 49 075 E 80 430 Total Depth 251'

Section Dep. Elev. Collar

Date begun July 26, 1962 Bearing N 03° E Elev. Bottom

Date finished July 28, 1962 Angle Minus 45°

DEPTH FEET	FORMATION	SAMPLE No.	WIDTH OF SAMPLE	GOLD $	SLUDGE GOLD. $
0 - 2	Casing				
2 - 44	Argillite, dark grey, sl. pyrite				
	at 13 - 4" quartz vein with zinc-pyrite, tr. lead				
	from 22 on - argillite becoming sl. calcareous				
44 - 189	Limestone,				
	at 44 - 2' quartz vein containing sphalerite, pyrite and light galena	1962	45-47		
	at 50 - thin veinlet of galena with blebs of sphalerite in vicinity				
	from 50-58 - occasional speck of sphalerite				
	at 62 - 3" massive pyrite-qtz vein				
	at 73 - ½" solid zinc stringer				
	at 127 - tr. zinc in carbonate vein				
	from 189-200 - light greenish, not carbonated				
	at 195 - 1" qtz-carbonate veinlet, leached				
189- 241	Argillite, sl. limey, scattered pyrite, thin qtz strgs				
	from 189-224 - some limestone beds				
241 - 245	Limestone				
	at 244 - 10" fractured qtz vein with pyrite				
245 - 251	Argillite				
251	End of Hole				

Property TINTINA SILVER MINES LTD

DIAMOND DRILL RECORD

Hole No. S - 6 Sheet No. Lat. N 48 930 Total Depth 167'

Section Dep. E 80 330 Elev. Collar

Date begun July 28, 1962 Bearing North Elev. Bottom

Date finished July 30, 1962 Angle Minus 45°

DEPTH FEET	FORMATION	SAMPLE No.	WIDTH OF SAMPLE	GOLD $	SLUDGE GOLD. $
0 - 22	Casing				
22 - 117	Argillite, dark grey, occ. narrow qtz-carbonate vein				
	at 38 - ¼" qtz-carbonate-pyrite vein				
	at 53 - 3" qtz-carbonate vein				
	at 54 - 4" qtz-carbonate vein	1939	80-82		
	from 77-88 - series of qtz veins with	40	82-84		
	pyrite, zinc & fine tetrahedrite	41	84-86		
	at 97 - 10" qtz-pyrite vein	42	86-88		
117 - 167	Limestone				
	from 117-140 - scattered argillite bands	43	162½-165		
	from 161½-165 - Quartz vein with very fine				
	mineralisation, possibly tetrahedrite				
167	End of Hole				

W G Hawkins

DIAMOND DRILL HOLE LOCATIONS

Hole No.	Location	Northing	Easting	Dip	Bearing
U1 - 1	103 Dr	49209	79759	+ 46°	South
2	101 XC	49267	79735	+ 47°	West
3	101 XC	49298	79747	+ 37°	S 24 W
4	101 XC	49036	79684	0°	S 53 W
5	101 XC	49368	79774	+ 45°	S 05 W
6	102 DR	49608	80159	0°	N 50 E
7	102 Dr	49608	80159	0°	N 70 E
8	"	"	"	"	East
9	"	49615	80155	"	N 02 W
10	"	"	"	+ 25°	"
11	"	49608	80159	- 25°	N 70 E
12	"	49608	80159	+ 25°	N 70 E
13	101 XC	49632	79872	0°	N 48 E
14	"	49702	79899	0°	N 63 E
15	101 XC	49700	79889	0°	N 35 E
16	"	49637	79860	0°	N 25 W
17	102 Dr	49630	80169	+ 36°	N 30 E
18	102 XC	49408	80185	0°	S 83½ W
19	102 XC		"	+ 30°	"
20	"	"	"	+ 52°	"
21	"	49412	80191	0°	N 33 E
22	"	49404	80188	0°	South
S - 1	1, 2 & 3 zone	50865	79950	- 90°	
2	"	50890	79945	- 90°	
3	"	50840	79955	- 90°	
4	1, 2 & 3 zone	50820	79860	- 90°	
5	South end of cirque	49075	80430	- 45°	N 03 E
6	"	48930	80330	- 45°	North

TINTINA SILVER MINES LTD.

YUKON TERRITORY

GEOLOGICAL PLAN

(NORTH)

Scale – 1" = 20'

- Limestone
- Argillite
- Silt Stone (Altered Argillite)
- Slate, graphitic
- Slate, calcareous
- Lamprophyre
- Carbonate Material
- Sulphides
- Oz Ag. % Pb. % Zn. / Feet

49,600N

49,800N

50,000N

80,400E

80,200E

80,000E

79,800E

79,890

E 80,600

N 49,400

E 80,400

N 49,200

N 49,400

N 49,000

E 80,200

E 80,600

N 49,200

N 49,000

E 80,200

E 80,400

TINTINA SILVER MINES LTD.

YUKON TERRITORY

GEOLOGICAL PLAN
(EAST)

Scale - 1" = 20'

- Limestone
- Argillite
- Silt Stone (Altered Argillite)
- Slate, graphitic
- Slate, calcareous
- Lamprophyre
- Carbonate Material
- Sulphides

TINTINA SILVER MINES LTD.

YUKON TERRITORY

GEOLOGICAL PLAN

(SOUTH)

Scale - 1" = 20'

- Limestone
- Argillite
- Silt Stone (Altered Argillite)
- Slate, graphitic
- Slate, calcareous
- Lamprophyre
- Carbonate Material
- Sulphides

Cu. Ag. % Pb. % Zn. %
Feet