

**EXPLORATION LICENCE 32 / 2001
NE TASMANIA**

**ANNUAL REPORT ON EXPLORATION
APRIL 2002 TO APRIL 2003**

For

**Mineral Holdings Australia Pty Ltd
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1. EL322001_200303_01_report.pdf
2. EL322001_200303_02_map.tiff
3. EL322001_200303_03-map.tiff
4. EL322001_200303_04_map.tiff
5. EL322001_200303_05_section.tiff
6. EL322001_200303_06_section.tiff
7. EL322001_200303_07_sectionh.tiff

EL 32 / 2001 - NE Tasmania - Annual Report

ABSTRACT

This report details the work undertaken by Mineral Holdings Australia Pty Ltd within EL 32 / 2001 during year two of its tenure. EL 32 / 2001 is an exploration tenement encompassing an area of 42 square kilometres located in NE Tasmania.

Mineral Holdings have continued to accumulate and assess archival data and in particular old drilling data. The Scotia Lead, recognised as the major resource within the tenement has been the focus of these studies during the past twelve months. This deposit has traditionally been considered uneconomic due to its deep burial and low grades.

Mineral Holdings has undertaken a review of a portion of the central section of the lead. Drill data were recalculated from 'Imperial' into 'Metric' units and then dissected into barren overburden sections and tin bearing gravels. A cut-off grade of 100 gm / m³ was applied and comparisons of the selected section of the resource with overburden included and overburden removed was made.

This study indicates that there is considerable enhancement of the resource in terms of contained tin if barren sandy overburden layers are excluded from the calculations. A comparison between the resource outlined by BMI Mining in 1974 and inclusive of overburden and the 2003 resource recalculation by Mineral holdings indicate that while volumes are reduced considerably actual contained tin content increases by some 50 tonnes.

There are a number of major difficulties in preparing a full re-assessment of the Scotia Resource, specifically:

- ❖ Old data are for the most part reported in 'Imperial' units and considerable effort will be required to convert all those data into 'Metric' equivalents;
- ❖ Quality (reproduction) of much of the old data contained in the Departmental archives is poor, some illegible, making conversion and accuracy of assessment nearly impossible; and

- ❖ Mapping data is equally poor and required digitisation into modern digital format.

Mineral Holdings is mindful of these difficulties and intends as part of its ongoing program of work to commence modernisation of these old data. This will allow a thorough reassessment of the Scotia Resource and allow an engineering and mining feasibility to be undertaken.

EL 32 / 2001 - NE Tasmania - Annual Report

1.0 INTRODUCTION

The acquisition of the Scotia tenement, EL 32 / 2001 by Mineral Holdings was a logical extension of that Companies continued investigation of the tin potential of NE Tasmania. The Scotia Lead, the principal tin resource within the tenement, provided Mineral Holdings with the final link in a major and continuous tin resource extending from the Ringarooma River at Gladstone to some 30 kilometres offshore into Bass Strait.

Previous studies of the Scotia Lead were generally unfavourable and cited reasons for lack of development as the depth of burial and overall low grades. Mineral Holdings being mindful of modern alluvial mining and treatment techniques decided to re-assess the deposit and in particular divide the resource into its principal components, that is, the virtually barren sandy upper layers here designated as overburden and the basal tin bearing gravel and boulder horizons.

Because of the vast amount of drilling previously undertaken on the 'Lead' it was decided to concentrate the study on a central section where data were generally available. This section (See Figure 2 and 3) measured approximately 1,100 metres in length and 800 metres in width and was located just downstream of the confluence of the Scotia and Lochaber sections of the deposit.

Two resource figures were created. The first involved the recalculation of the resource, top to bottom (overburden inclusive), encompassed within a set of boundaries taken from previous studies made by BMI Mining in 1974. This resource was calculated to contain 4.03 million cubic metres at an average grade of 296.84 gm / m³ of 70% tin concentrate (1,198 tonnes).

A second resource was defined that excluded the barren or low-grade surface layers (less than 100 gm / m³). This resource was calculated to contain 721,310 cubic metres at an average grade of 1,734.33 gm / m³ of 70% tin concentrate (1,251 tonnes).

The study conducted by Mineral Holdings highlights the necessity to completely rework all the old data into a modern digital format. Maps require digitising and all old drill logs converted from 'Imperial' into 'Metric' units. Many old maps record drill hole locations that were never drilled, for the sake of simplicity these data should be removed from the database.

In addition Mineral Holdings believe that the resource can also be expanded to include valuable accessory minerals such as gold, sapphire, rutile, zircon and possibly tantalum. Further studies are planned to take into account those accessory minerals.

2.0 PREVIOUS EXPLORATION

The Scotia deposit was one of the first located in the north-east. The Scotia Tin Mining Company was formed in 1881 to develop the rich exposed and reworked section of the Scotia lead adjacent to the Ringarooma River north of Gladstone, little information is available on that groups activities.

By 1891 the Scotia Company and T.W. Brown had opened six working faces on what is now the southern end of the old workings close to the Ringarooma River. The workings were 3 to 5 metres in depth and bottomed on slate. The basement was generally flat lying with a very gentle north–west slope. During the 1890's production gradually declined.

In 1901 exploration located deeper ground on the northern section of the workings and under the management of Mr. Galloway the Scotia became a leading producer in the north-east region. As the workings developed it became apparent that the Scotia deposit was in the form of a deep lead with a narrow, high-grade gutter developed at its base. Mining continued until 1905 but during the period 1906 to 1908 production declined and eventually ceased in 1908.

Production from the Scotia Lead was not accurately recorded. The Scotia Company is reported to have produced 500 tonnes and J. Galloway 500 tonnes. No records of the Scotia Company production are available however for the period 1901 to 1908 production of 188.4 tonnes is reported with 95.5 tonnes being produced in 1904.

Following the cessation of production by the Scotia Company, C.G. Ryan of the Pioneer Tin Mining Company bored three east-west lines of holes ahead of the northern face, specifically 12 holes each in Lines 1 and 2 and 4 holes in Line 3.

During the period 1935 to 1944 the Tasmanian Department of Mines carried out an extensive drilling program using two power boring plants. In all a total of 855 holes were drilled to an average depth of 27.7 metres for a total of 28,827 metres.

In 1938 the area was declared a Special Reserve and made exempt from mining.

The Department reported that the tin is confined to narrow gutters ranging in width from 30 to 80 metres with richer concentrations being contained in a 0.3 to 10 metre thick basal section overlying slate and sandstone basement. Importantly they also reported that only a small proportion of tin occurs in the 15 to 25 metre upper section of the deposit.

The Department further reported that the basal tin bearing section consisted of gravels and coarse grits while the upper sections consisted of siliceous sands and grits interbedded with clay horizons. The average depth of the sediments in the Lead itself is quoted as being 33 metres and with the exception of some thin cemented zones near surface the sediment profile is on the whole unconsolidated.

The Department tested some 6.5 kilometres of the Lead. Six blocks were defined by 185 closely spaced holes, these blocks, generally covering narrow sections of the Lead have an aggregate length of 2.2 kilometres. The Department quoted a reserve for these blocks of 3.35 million m³ averaging 288 gm / m³ SnO₂.

Interest in the Lead was renewed in 1958 when Rio Tinto carried out further drilling. They did not proceed with further exploration.

In 1965 the Tasmanian Government cancelled the Special Reserve status and Storeys Creek Tin Mining Company took up Special Prospecting Licence No. 8 over the area. Storeys Creek immediately commenced a drilling program to check and confirm the Departmental work. In particular they concentrated on Departmental Blocks 3, 4, 5 and 6. While the results of their drilling were generally lower than that of the Department the relative distribution of values was very similar.

In 1966 J.K. Couper of Storeys Creek re-assessed the reserves within the six blocks. Couper quoted a resource of 8.26 million m³ with an average grade of 177 gm / m³ SnO₂ containing 1,463 tonnes of SnO₂. He quoted this resource assuming a 60° mine batter and an overburden ration of 5.9 : 1. It is thought that the Storeys Creek work was aimed at providing additional reserves for the Dorset Dredge.

In 1970 B.M.I Mining acquired the exploration rights to the Scotia area. During the period 1970 to 1973 B.M.I carried out a major two stage exploration program, specifically:

- ❖ Stage 1 consisted of drilling of four test lines of holes across known tin-bearing sections of the Lead within zones of intense Departmental drilling. B.M.I results confirmed the Departmental work as accurate and reliable enough to be used in resource calculations.
- ❖ Stage 2 consisted of drilling of auger holes on widely spaced lines to test areas where the channel was poorly defined. Results of this work defined a 9 kilometre long channel but unfortunately did not provide any grade information.

B.M.I's assessment of the reserves for only four of the blocks totalled 19 million m³ but did not include a calculation of grade. A mine batter of 30° was used.

In 1976 Amdex Mining acquired the exploration rights to the Scotia area when B.M.I failed to renew their Licence. In 1976 Gibson re-calculated the resource quoting reserves as.

CLASS	VOLUME M ³	Wt. Av Grade G SnO ₂ / m ³	CONTAINED (tonnes)	ORE TO O/B RATIO
Proven	7,233,221	178.4	1,291	! : 6.35
Probable	4,855,598	73.3	356	1 : 12.42
TOTAL	12,088,819	136.2	1,647	1 : 7.98

Amdex subsequently undertook a program of check drilling and concluded tht the Departmental drilling was reliable and of sufficient accuracy on which to base resource estimations.

In the early 1980's Amdex entered into a Joint Venture with Australian Anglo American Prospecting Pty Ltd in relation to this and other properties in the north-east. Anglo carried out further drilling and undertook a re-assessment of the resource. It is understood that following a mining feasibility study of this and other deposits Anglo withdrew from the venture.

Little further work has been undertaken until the acquisition of the area by Mineral Holdings in 2001.

3.0 CURRENT EXPLORATION

During the past two years Mineral Holdings has progressively acquired past exploration data pertaining to this tenement. Where necessary those data have been converted to metric units of measurement and sections of the resource re-assessed to determine if a high grade mineable basal section can be defined.

Field inspections of old working faces has been undertaken on several traverses across the line of the Scotia Lead carried out.

4.0 RESULTS

A section of the Scotia Lead commencing just above the confluence of that lead with the Lochaber tributary lead and continuous for approximately 1,100 metres downstream in the lead was selected for re-assessment. See Figure 2 and 3. Drill records appearing in the B.M.I Report 74 – 967 were tabulated and converted from 'Imperial' to 'Metric' units. Two tabulations were made, they appear as Appendix 10.1, specifically:

- ❖ A recalculation of grade at a cut-off of $100 \text{ gm} / \text{m}^3$ which generally excluded all the barren and low-grade sand and clay and some of the upper horizons in the gravels and grits. This tabulation included a weight x grade calculation; and
- ❖ A converted calculation of grades top to bottom of the holes for that section of the ore outline as defined by B.M.I.

It was also considered to calculate the grades for the sampled sections of the holes, this would have provided a resource figure exclusive of barren sandy overburden and inclusive of below $100 \text{ gm} / \text{m}^3$ cut-off low grade tin bearing gravels and grits. Using hole 88B as an example the three variations would have been:

- a Recalculation at $100 \text{ gm} / \text{m}^3$ cut-off.
29.06 m barren overburden, 7.06 m wash at $2,077.96 \text{ gm} / \text{m}^3 \text{ SnO}_2$
- b Top to Bottom Calculation.
36.12 m at $417.81 \text{ gm} / \text{m}^3 \text{ SnO}_2$.
- c Selected Wash / Overburden (Assay Section)
15.64 m barren overburden.
20.47 m wash at $737.08 \text{ gm} / \text{m}^3 \text{ SnO}_2$.

While all three methods have merit it was decided to compare the resource within the section of the lead using methods a and b.

Drill holes contained within the section of the lead selected, 70 in all, were transferred to calculation sheets appearing here as Appendix 10.2. Average grade was calculated using the 'Weighted Grade' averaging technique.

Areas were calculated by direct planimeter measurement from plans and volumes calculated by applying average thickness against area. Two reserve figures were obtained and comparisons and comments on the two calculations follow in the next section. Reserves derived as a result of this assessment are given here as:

- i RESOURCE LESS OVERBURDEN
(Bounded by red outline on Figure 3)

731,310 m³ of tin bearing gravels at an average grade of 1,734.33 gm / m³ of 70% SnO₂ or 1,251 tonnes of SnO₂.
Stripping ratio of 5.9 : 1.

- ii B.M.I RESOURCE OVERBURDEN INCLUDED
(Bounded by blue dashed line on Figure 3)

4,034,250 m³ of tin bearing gravels at an average grade of 296.84 gm / m³ of 70% SnO₂ or 1,198 tonnes of SnO₂.

No mining parameters have been applied to these calculations, that is provision for batter, dilution, etc.

5.0 INTERPRETATION

For the purposes of clarity drill sections have been numbered from the top of the area from Section 1 through to Section 16. Holes marked in black were either never drilled or the results were missing from the data package. In a number of instances it can be seen that the ore boundaries are open along section terminating either at holes in ore, at un-drilled sites or at sites for which data was missing. This would imply that there remains scope to extend the resource boundaries laterally particularly in the Lochaber tributary channel and in the Scotia lead as it turns southwards toward the old Scotia workings. There is scope for the drilling of at least 30 additional holes along the poorly defined margins of the deposit in the study area. The confluence of the Lochaber and Scotia tributary leads raises the possibility of the main Scotia Lead being fed by similar tributaries at other locations downstream of the study area.

Three cross sections were produced. In the area studied only one section, Section 7 fully crossed the Scotia Lead, in most other instances either one edge or the other was defined or neither edge was defined. Figure 4 depicts the full channel exposure approximately 400 metres downstream of the confluence of the Scotia and Lochaber branches of the lead. At this point the lead has developed a well-defined channel approximately 100 metres in width and bounded by relatively steep walls, drilling has defined the limits of the lead.

The only other sections that come close to defining the full width of the lead are Sections 11 and 12, both are just downstream of the confluence of the two tributary leads. Section 11 illustrates the complexity of the lead where it comes under the influence of the two tributary channels. In this instance the deeper and higher grade main channel depicted by Hole12B is flanked by draped lower grade ground. Hole 106B is unusual being elevated well above the main lead, this may represent the influence of a small side tributary entering from the east.

Section 12 is poorly drilled. It appears to reflect the flooding influence of the two tributaries with a broad but thinned outwash deposit. The lateral limits have not been defined and there is a strong possibility of ore extensions on both flanks of the lead.

The failure to drill Holes 95B, 97B and 107B is unfortunate as there is a possibility that these holes may have located a shallowing between the two leads and thus an area of low grade elevated gravel.

While the removal of all values less than 100 gm tin from any resource calculation greatly increases grade (in this case by 5.8 times) it does raise problems in the area of mine control. The 'Resource Less Overburden' quoted here contains, in fact, only part of what is recognised as the tin bearing basal gravel and grit horizons. The problem with making this grade controlled division is that in terms of practical mining, strict controls will have to be introduced to enable the tin bearing and low grade tin horizons to be recognised.

Further no mine batter volume allowances have been made in the calculations although provided the deposit is pre-stripped to top of economic wash I would anticipate that a vertical face of only 5 metres is both achievable and safe.

One of the major difficulties in this study was the poor quality of data reproduction. Illegible depths and grades in some holes may mean that grades are misquoted and similarly some map data was also difficult to interpret.

Prior to any mining feasibility being commenced it is important that the resource be re-calculated in full, three distinct calculations should be undertaken, specifically:

- ❖ The resource containing only +100 gm / m³ grades;
- ❖ The resource divided into sandy overburden and tin bearing wash horizons with the resource boundary set at a 100 gm / m³ cut-off; and
- ❖ A resource calculated top to bottom at a 100 gm / m₃ cut-off.

6.0 CONCLUSIONS

Prior to any economic and mining analysis being undertaken it is important that all data pertaining to the Scotia Lead and its tributary leads be accumulated, converted onto modern digital database and the deposit dissected into its geological and mineralised components.

The preliminary study indicates that the use of careful grade selection criteria will enable the resource to be divided into uneconomic or barren overburden and high-grade tin bearing basal wash. While a stripping ration of 5.9 : 1 is extremely high the application of modern mining methods including pre-stripping and selective mining will not only shorten capital return periods but result in substantial increases in recovered tin concentrates.

The inclusion of accessory minerals into the value per metre equation or at least a 'Tin Credit' equivalent to their value will also assist in increasing the economic value of the resource. Currently within the section studied the Top to Bottom grade of 296 gm / m³ SnO₂ is close to being economically dredgeable. The addition of gold, sapphire and other accessories will almost certainly bring the deposit to above break-even point.

Replotting of data will also enable accurate basement contours to be plotted and will allow analysis of the palaeo-channel to be undertaken. Experience at the Endurance and Pioneer Projects suggests that basement controls play an important part in localising high-grade tin deposition, local high tin concentrations could well affect any future mining analysis and considerations as to how best develop the resource.

7.0 FUTURE EXPLORATION

Clearly there is a need to compile all data in digital format. This should take precedence over any proposed field activity as it will enable with more accuracy the definition of the boundaries of the lead. When this task has been completed it should be possible to plan a program of exploration aimed at better defining the lateral limits of the lead. This could well involve both seismic surveying followed by a limited drilling program.

Any future drilling or sampling program should involve assaying for tin plus accessory minerals such as gold, rutile, tantalum, zircon and if possible the collection and assessment of the gem sapphire component of the gravels.

8.0 ENVIRONMENT

Field exploration undertaken to date has consisted only of minimal traversing and some hand sampling of exposed mine faces. No surface disturbance was undertaken other than minor roadwork associated with gaining access to adjoining tenements. No rehabilitation was required.

9.0 EXPENDITURE

Expenditure on exploration within EL 32 / 2001 for the twelve month period to 12th April 2003 as a result of work undertaken by Mineral Holdings Australia Pty Ltd is \$20,371.00.

10.0 REFERENCES

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11.0 APPENDICES

11.1 ALLUVIAL DRILL HOLE RESULT SUMMARY SHEETS

ALLUVIAL DRILL HOLE RESULT SUMMARY - 100 gm CUT-OFF

PROJECT: Scotia

TENEMENT: E.L. 32 / 2001

DATE: 10/03/03

RECALCULATION

SHEET 1

HOLE NUMBER	COLLAR R.L m	B/MENT R.L m	DEPTH BASEMENT	RECALCULATED DATA				OLD DATA	
				O/B m	WASH m	GRADE g/m ³	WEIGHTED W X G	DEPTH m	GRADE gm/m ³
1B			43.89	38.00	5.89	833.11	4907.02		
2B			40.69	40.23	0.46	437.20	201.11		
3B			40.08	38.00	2.08	81.02	168.52		
6B			41.91	38.00	3.91	970.80	3799.35		
7B			32.06	29.03	3.02	203.40	615.00	32.06	28.84
8B			28.65	26.82	1.83	375.62	686.93	28.65	32.88
9B			26.82	26.82				26.82	6.36
10B			27.89	27.90				27.89	29.74
11B			32.77	31.29	1.48	85.28	125.81	32.77	17.73
12B			40.79	33.53	7.26	6650.90	48308.04	40.79	1,214.61
13B			36.04	33.17	2.87	85.28	244.87	36.04	46.70
14B			25.78	25.78				25.78	8.80
15B			36.65	33.17	3.48	481.67	1676.59	36.65	68.05
16B			24.99	23.93	1.07	140.16	149.52	24.99	13.93
17B			39.62	35.05	4.57	5668.69	25917.25	39.62	666.00
18B			36.98	31.55	5.43	831.60	4519.40	36.98	125.01
19B			33.40	31.55	1.85	1697.51	3145.80	33.40	95.20
20B			37.24	31.55	5.69	1648.53	9381.15	37.24	269.24
21B			24.54	20.73	3.81	175.02	666.83	31.24	7.53
22B			32.54	28.04	4.50	581.85	2615.88	32.54	43.47
28B			22.76	22.76				22.76	7.55
29B			24.54	21.03	3.51	97.52	341.83	25.75	21.05
30B			30.00	28.04	1.96	205.79	402.70	30.00	27.54
33B			35.05	31.49	3.56	2806.73	9983.58	35.05	301.39
35B			37.08	31.29	5.79	1543.30	8937.56	37.08	257.15
36B			38.33	31.19	7.14	1923.60	13731.46	38.33	370.59
37B			36.96	31.29	5.67	1835.51	10400.43	36.96	293.01
38B			37.95	34.64	3.30	1778.30	5875.56	37.95	184.47
39B			33.05	29.06	3.99	231.41	923.29	33.05	36.77
40B			38.91	31.49	7.42	3369.89	24990.38	38.91	661.29
42B			38.48	31.49	6.99	896.34	6261.85	38.48	162.82
44B			31.39	31.30				31.39	7.95
45B			35.18	29.06	6.12	5205.33	31874.48	35.18	910.91
47B			36.63	31.29	5.34	3381.43	18046.85	36.63	574.32
48B			26.29	25.19	1.09	556.20	608.61	26.29	38.65
49B			36.22	26.82	9.40	1162.29	10922.02	36.22	301.65
51B			36.12	29.06	7.06	133.58	943.37	36.12	47.03
58B			35.51	31.29	4.22	370.83	1564.32	35.51	55.43
59B			35.61	29.06	6.55	1849.02	12117.00	35.61	345.62
60B			32.77	31.49	1.27	942.94	1198.49	32.77	46.12
61B			36.32	28.35	7.98	1933.12	15419.76	36.32	426.86
62B			2.23	0.00	2.23	1175.43	2,621.21		
63B			33.30	28.35	4.95	875.98	4,338.73	33.3	263.36
64B			13.41	11.17	2.24	637.77	1426.84		
65B			13.41	11.17	2.24	139.79	312.74		
			34.64	29.06	5.59	847.69	4,736.03		
66B			38.25	26.82	11.43	1,457.37	16,657.74		
67B			29.03	26.82	2.21	104.19	230.25		
70B			6.71	4.47	2.24	149.80	335.14		

ALLUVIAL DRILL HOLE RESULT SUMMARY - 100 gm CUT-OFF

PROJECT: Scotia

TENEMENT: E.L. 32 / 2001

DATE: 10/03/03

RECALCULATION

SHEET 2

HOLE NUMBER	COLLAR R.L m	B/MENT R.L m	DEPTH BASEMENT	RECALCULATED DATA				OLD DATA	
				O/B m	WASH m	GRADE g/m ³	WEIGHTED W X G	DEPTH m	GRADE gm/m ³
71B			33.68	25.19	8.49	210.61	1787.16		
72B			28.75	24.59	4.17	105.59	439.95		
74B			32.51	26.82	5.69	258.92	1472.63		
75B			31.70	28.35	3.35	103.92	348.42	31.70	20.97
76B			36.52	26.82	9.70	1072.71	10407.20		
78B			31.78	24.59	7.19	272.88	1962.07		
79B			29.87	28.35	1.52	1090.15	1661.38	29.87	88.33
80B			15.75					15.75	19.5
81B			37.97	33.53	4.44	5665.47	25177.26	37.97	278.46
83B			18.90	15.75	3.15	2017.14	6357.28	18.9	32.53
84B			38.10	33.53	4.57	1370.01	6263.69	38.10	955.89
86B			36.22	31.29	4.93	1028.67	5069.92	36.22	154.44
87B			22.86	15.75	7.11	166.65	1185.55	22.86	56.88
88B			36.12	29.06	7.06	2077.96	14675.00	36.12	417.81
89B			28.96	22.05	6.91	193.91	1339.88	28.96	91.23
91B			35.38	28.35	7.03	2311.14	16258.37	35.38	770.11
92B			37.19	28.35	8.84	4611.46	40761.62	37.19	1,091.13
93B			36.12	33.53	2.59	1377.00	3567.53	36.12	77.67
94B			34.21	28.35	5.87	1120.34	6573.48	34.21	192.21
96B			30.91	29.06	1.86	278.84	517.59	30.91	20.41
98B			32.54	24.59	7.95	157.82	1255.02	32.54	53.16
99B			39.01	34.64	4.37	1386.42	6059.81	39.01	163.80
101B			35.25					35.25	22.75
102B			38.58	34.64	3.94	1445.61	5692.84	38.58	149.50
103B			43.46	29.06	14.40	3448.98	49671.52	43.46	1,148.54
104B			35.13	31.49	3.64	415.85	1513.694	35.13	130.73
106B			15.75	12.60	3.15	178.72	562.73	15.75	35.74
108B			35.48	31.49	3.99	333.43	1330.33	35.48	45.59
109B			36.04	33.53	2.51	554.36	1393.99	36.61	131.82
110B			37.49	25.19	12.30	1054.54	12966.24	42.06	272.49
111B			38.61	31.29	7.32	647.78	*		
113B			42.06	33.53	8.53	1186.46	10125.72		
114B			33.22	15.75	17.48	144.24	144.24	33.22	79.21
119B			33.78	24.59	9.20	337.67	3105.15		
121B			33.48	24.59	8.89	1169.36	10396.80		
123B			32.39	29.06	3.33	499.47	1662.44		
124B			29.87	25.19	4.68	928.93	4343.33		
125B			34.62	22.35	12.27	960.28	11780.91		
127B			34.54	20.12	14.43	196.14	2829.55		
129B			31.29	15.75	15.54	236.85	3681.79		
130B			18.67	15.75	2.92	375.25	1096.86		
132B			21.28	18.67	2.62	190.96	499.40		
137B			46.00	40.23	5.77	980.54	5,654.59		
140B			33.28						
142B			29.16	22.35	6.81	1448.50	9858.76		
149B			36.22	28.35	7.87	2138.82	16,838.90		
151B			37.80	28.35	9.45	1246.37	11,776.70		
152B			35.81	28.35	7.47	429.53	3,207.56		

ALLUVIAL DRILL HOLE RESULT SUMMARY - 100 gm CUT-OFF

PROJECT: Scotia

TENEMENT: E.L. 32 / 2001

DATE: 10/03/03

RECALCULATION

SHEET 3

HOLE NUMBER	COLLAR R.L m	B/MENT R.L m	DEPTH BASEMENT	RECALCULATED DATA				OLD DATA	
				O/B m	WASH m	GRADE g/m ³	WEIGHTED W X G	DEPTH m	GRADE gm/m ³
153B			39.47	34.64	4.83	4,999.10	24,135.81		
154B			38.86	28.35	10.52	1559.02	16394.03		
155B			37.49	28.35	9.14	1548.57	14160.12		
157B			36.27	31.49	4.78	2809.48	13418.68		
158B			39.47	31.49	7.98	2206.32	17598.97		
159B			39.01	34.64	4.37	536.17	2343.51		
162B			36.88	31.49	5.39	1436.71	7737.86		
165B			32.46	28.35	4.11	336.58	1384.96		
166B			39.47	28.35	11.13	1040.43	11574.99		
167B			36.12	31.49	4.62	408.67	1889.61		
172B			32.31	25.19	7.11	483.27	3437.99824		
173B			33.38	28.35	5.03	1323.99	6658.61051		
174B			33.07	28.35	4.72	544.37	2571.82163		
175B			33.22	25.19	8.03	972.45	7807.25		
176B			31.39	28.35	3.05	1334.87	4068.69		
177B			37.49	28.35	9.14	950.21	8688.72		
178B			38.71	28.35	10.36	818.71	8484.46		
179B			37.80	28.35	9.45	1175.56	11107.63		
181B			36.88	28.35	8.53	1494.64	12755.86		
182B			35.66	28.35	7.32	672.46	4919.18		
189B			39.62	18.90	20.73	250.53	5192.58	39.62	131.07
190B			40.84	37.80	3.05	2382.38	7261.48	40.84	177.79
192B			40.23	37.80	2.44	3114.70	7594.89	40.23	188.77
201B			42.67	38.00	4.68	4195.16	19615.02		
202B			43.59	34.54	9.04	3226.66	29180.03		
204B			33.53	31.29	2.24	146.47	327.68		
214B			35.46	24.59	10.87	124.76	1356.42		
216B			34.95	29.06	5.89	2600.14	15319.46		
218B			34.44	31.29	3.15	370.54	1167.81		
221B			42.21	38.00	4.22	1706.58	7199.09		
223B			42.47	34.54	7.92	2830.89	22434.24		
230B			36.12	26.82	9.30	2644.33	24582.75		
232B			37.41	33.53	3.89	3093.04	12020.17		
234B			35.76	33.53	2.23	198.38	443.21		
235B			36.88	35.76	1.12	163.15	182.50		
237B			36.17	35.76	0.41	20497.70	8309.44		
242B			32.00	24.59	7.42	358.88	2662.47		
243B			28.04	27.63	0.41	389.34	159.02		
245B			35.48	24.59	10.90	474.73	5174.39		
247B			36.58	24.18	12.40	431.66	5350.95		
248B			33.22	24.59	8.64	128.28	1108.09		
249B			37.03	24.18	12.85	734.38	9439.29		
250B			38.43	26.82	11.61	771.64	8,956.26		
251B			37.90	24.18	13.72	624.91	8,571.27		
252B			38.28	26.82	11.45	897.69	10282.49		
253B			30.18	24.18	6.00	316.37	1,896.77		
254B			29.03						
255B			37.87	31.09	6.78	790.38	5,360.20		
256B			35.69	29.06	6.63	241.13	1,598.55		

ALLUVIAL DRILL HOLE RESULT SUMMARY - 100 gm CUT-OFF

PROJECT: Scotia

TENEMENT: E.L. 32 / 2001

DATE: 10/03/03

RECALCULATION

SHEET 4

HOLE NUMBER	COLLAR R.L m	B/MENT R.L m	DEPTH BASEMENT	RECALCULATED DATA				OLD DATA	
				O/B m	WASH m	GRADE g/m ³	WEIGHTED W X G	DEPTH m	GRADE gm/m ³
257B			34.67	29.06	5.61	265.72	1,491.86		
259B			28.96	24.18	4.78	813.29	3884.45		
260B			36.60	29.06	7.54	893.54	6740.69		
261B			29.77	22.35	7.42	197.71	1466.17		
262B			38.08	31.29	6.78	742.08	5034.90		
263B			36.45	22.35	14.10	696.90	9824.20		
264B			38.96	24.18	14.78	1026.19	15169.96		
265B			37.95	26.82	11.13	6577.68	73178.01		
266B			35.66	24.18	11.48	277.32	3184.14		
268B			32.00	29.06	2.95	227.46	670.42		
270B			17.88						
271B			33.12	27.63	5.49	369.71	2028.38		
272B			11.10	8.94	2.16	134.23	290.07		
273B			35.76	24.59	11.18	272.22	3042.61		
275B			31.22	26.82	4.40	187.09	822.30		
276B			32.61	27.63	4.98	1122.39	5589.50		
277B			34.44	24.18	10.26	373.52	3833.29		
278B			30.18	27.63	2.54	190.96	485.43		
2D			21.18	20.12	1.07	415.29	443.04		
5D			44.81	38.00	6.81	133.00	905.63		
6D			47.47	44.70	2.77	115.80	320.84		
7D			48.23	35.76	12.47	737.49	9198.28		
8D			45.72	34.64	11.08	823.09	9116.90		
9D			43.13	41.45	1.68	1409.03	2362.10		
10D			46.33	40.23	6.10	583.96	3559.82		
1			20.19	17.68	2.51	2877.39	7235.49		
2			20.06	17.88	2.19	541.36	1183.11		
4			17.88	15.65	2.23	131.26	293.26		
5			19.66	11.17	8.49	371.45	3151.99		
6			20.96	17.88	3.08	2444.71	7518.54		
7			20.42	15.65	4.78	130.88	625.11		
8			19.28	15.65	3.63	571.73	2077.22		
9			21.11	15.65	5.46	466.28	2546.83		
10			20.62	13.41	7.21	314.82	2270.35		
11			16.51	13.41	3.10	327.37	1014.79		
7298/M									
3			22.63	22.35	0.28	295.90	82.97		
6			24.59	20.12	4.47	670.71	2996.98		
7			32.16	26.82	5.33	586.92	3130.63		
8			32.49	29.06	3.43	1008.36	3,457.67		
9			26.41	24.59	1.83	110.13	201.40		
11			31.88	29.06	2.82	2593.85	7313.10		
12			32.84	31.29	1.55	5017.64	7,784.52		
13			31.44	22.35	9.09	748.80	6,808.23		
14			33.38	29.06	4.32	575.24	2,484.47		

ALLUVIAL DRILL HOLE RESULT SUMMARY - 100 gm CUT-OFF

PROJECT: Scotia

TENEMENT: E.L. 32 / 2001

DATE: 10/03/03

RECALCULATION

SHEET 5

HOLE NUMBER	COLLAR R.L m	B/MENT R.L m	DEPTH BASEMENT	RECALCULATED DATA				OLD DATA	
				O/B m	WASH m	GRADE g/m ³	WEIGHTED W X G	DEPTH m	GRADE gm/m ³
7298 / M									
15			32.00	24.59	7.42	118.60	879.87		
16			25.91	24.59	1.32	131.15	173.49		
19			30.10	26.82	3.28	2452.67	8036.42		
20			30.73	29.06	1.68	9023.74	15127.39		
21			26.06	22.35	3.71	270.29	1002.62		
22			28.96	24.59	4.37	1317.79	5759.84		
23			30.48	26.82	3.66	1652.97	6045.90		
24			26.52	20.12	6.40	421.54	2698.19		
25			24.23						
26			25.30						
27			28.96	26.82	2.13	192.44	410.60		
28			29.82	24.59	5.23	2123.74	11114.41		
29			24.46						
31			18.97	17.88	1.09	1687.98	1847.04		
33			16.76	15.65	1.12	360.71	403.50		
37			22.25	20.12	2.13	410.10	874.99		
38			23.39	20.12	3.28	129.84	425.43		
39			18.59	17.88	0.71	1556.98	1110.49		
40			16.76						
41			25.60	20.12	5.49	1501.72	8239.04		
42			23.77	22.35	1.42	217.40	309.45		
43			23.47	20.12	3.35	466.21	1563.11		
44			23.93	17.88	6.05	935.08	5654.65		
45			21.44	20.12	1.32	83.43	110.11		
46			26.75	24.59	2.16	211.35	456.74		
47			28.55	22.35	6.20	2770.48	17167.51		
48			28.19	22.35	5.84	702.51	4104.78		
49			27.74	22.35	5.39	1539.13	8289.47		
51			29.06	24.59	4.47	219.00	979.24		
54			31.83	24.59	7.24	4176.15	30243.88		
55			27.74	26.82	0.91	134.64	123.11		
60			32.46	24.59	7.88	558.54	4399.08		
62			30.38	24.59	5.79	270.44	1566.17		
66			17.45						
69			33.53	24.59	8.94	1152.12	10303.22		
70			36.04	33.53	2.51	238.61	600.00		
71			20.12						
72			17.88	13.41	4.47	469.54	2098.08		
74			11.20						
76			31.93	29.06	2.87	1401.11	4022.89		
77			35.71	26.82	8.89	1669.88	14841.84		
78			37.23	31.32	5.92	10215.6	60,437.21		
79			24.59	20.12	4.47	447.21	1,998.30		
			37.97	31.29	6.68	2338.47	15623.82		
80			38.00	35.76	2.23	978.91	2,187.06		
81			35.66	33.53	2.13	159.81	340.98		

11.2 ALLUVIAL RESOURCE CALCULATION SHEETS

ALLUVIAL RESOURCE CALCULATION SHEETS

PROJECT: Scotia TENEMENT: E.L. 32 / 2001 DATE: 10/03/03

RESOURCE CALCULATOR

SHEET 1

HOLE NUMBER	DEPTH BASEMENT	RECALCULATED DATA				OLD DATA		
		O/B m	WASH m	GRADE g/m ³	WEIGHTED W X G	DEPTH m	GRADE gm/m ³	WEIGHTED W X G
7B	32.06	29.03	3.02	203.40	615.00	32.06	28.84	924.61
8B	28.65	26.82	1.83	375.62	686.93	28.65	32.88	942.01
10B	27.89	26.82	1.07	37.82	40.35	27.89	29.74	829.45
11B	32.77	31.29	1.48	85.28	125.81	32.77	17.73	581.01
12B	40.79	33.53	7.26	6650.90	48308.04	40.79	1,214.61	49543.94
13B	36.04	33.17	2.87	85.28	244.87			
14B	25.78	25.78	0.00	0.00	0.00			
15B	36.65	33.17	3.48	481.67	1676.59	36.65	68.05	2494.03
16B	24.99	23.93	1.07	140.16	149.52			
17B	39.62	35.05	4.57	5668.69	25917.25	39.62	666.00	26386.92
18B	36.98	31.55	5.43	831.60	4519.40	36.98	125.01	4622.87
19B	33.40	31.55	1.85	1697.51	3145.80	33.40	95.20	3179.68
20B	37.24	31.55	5.69	1648.53	9381.15	37.24	269.24	10026.50
21B	24.54	20.73	3.81	175.02	666.83	31.24	7.53	235.24
22B	32.54	28.04	4.50	581.85	2615.88	32.54	43.47	1414.51
29B	24.54	21.03	3.51	97.52	341.83			
30B	30.00	28.04	1.96	205.79	402.70			
33B	35.05	31.49	3.56	2806.73	9983.58	35.05	301.39	10563.72
35B	37.08	31.29	5.79	1543.30	8937.56	37.08	257.15	9535.12
36B	38.33	31.19	7.14	1923.60	13731.46	38.33	370.59	14204.71
37B	36.96	31.29	5.67	1835.51	10400.43	36.96	293.01	10829.65
38B	37.95	34.64	3.30	1778.30	5875.56	37.95	184.47	7000.64
39B	33.05	29.06	3.99	231.41	923.29	33.05	36.77	1215.25
40B	38.91	31.49	7.42	3369.89	24990.38	38.91	661.29	25730.79
42B	38.48	31.49	6.99	896.34	6261.85	38.48	162.82	6265.31
45B	35.18	29.06	6.12	5205.33	31874.48	35.18	910.91	32045.81
47B	36.63	31.29	5.34	3381.43	18046.85	36.63	574.32	21037.34
48B	26.29	25.19	1.09	556.20	608.61			
49B	36.22	26.82	9.40	1162.29	10922.02	36.22	301.65	10925.76
51B	36.12	29.06	7.06	133.58	943.37	36.12	47.03	1698.72
58B	35.51	31.29	4.22	370.83	1564.32			
59B	35.61	29.06	6.55	1849.02	12117.00	35.61	345.62	12307.53
60B	32.77	31.49	1.27	942.94	1198.49	32.77	46.12	1511.35
61B	36.32	28.35	7.98	1933.12	15419.76	36.32	426.86	15503.56
63B	33.30	28.35	4.95	875.98	4,338.73	33.30	263.36	8769.89
75B	31.70	28.35	3.35	103.92	348.42	31.70	20.97	664.75
79B	29.87	28.35	1.52	1090.15	1661.38	29.87	88.33	2638.42
80B	15.75	15.75	0.00	0.00	0.00	15.75	19.5	307.13
81B	37.97	33.53	4.44	5665.47	25177.26	37.97	278.46	10573.13
83B	18.90	15.75	3.15	2017.14	6357.28	18.90	32.53	614.82
84B	38.10	33.53	4.57	1370.01	6263.69	38.10	955.89	36419.41
86B	36.22	31.29	4.93	1028.67	5069.92	36.22	154.44	5593.82
87B	22.86	15.75	7.11	166.65	1185.55			
88B	36.12	29.06	7.06	2077.96	14675.00	36.12	417.81	15091.30
89B	28.96	22.05	6.91	193.91	1339.88	28.96	91.23	2642.02
91B	35.38	28.35	7.03	2311.14	16258.37	35.38	770.11	27246.49
		1314.72	201.32		355312.44	1296.76		392117.21

