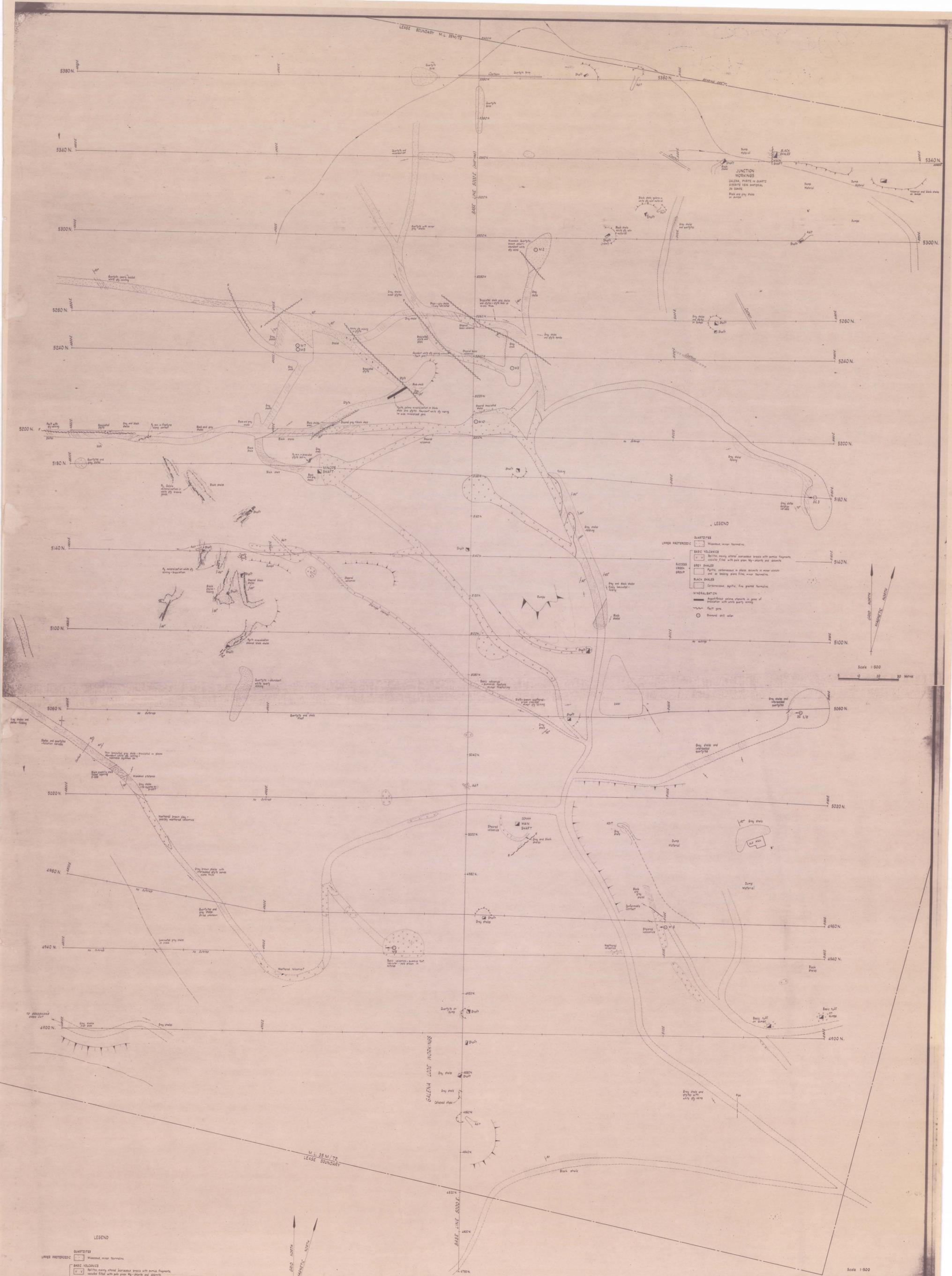


EL47/1971 - Zeehan Plans

1. Oonah Tin Prospect – Outcrop Plan
2. Summary map showing known silver-lead production
3. Queen Hill area – Interpretive summary plan
4. Queen Hill area – Surface geology
5. Queen Hill – Composite plan including extent of workings at 1910
6. Zeehan town chart



LEGEND

QUARTZITES
 [Symbol] Micaeous, minor hornfels.

UPPER PROTEROZOIC
 [Symbol] Micaeous, minor hornfels.

BASIC VOLCANICS
 [Symbol] Basaltic, mostly altered, hornfelsic breccia with minor fragments, locally filled with grey quartz, grey shales and slates.

GREY SHALES
 [Symbol] Quartziferous in places, locally in minor veins, and in bedding plane films, minor hornfelsic.

BLACK SHALES
 [Symbol] Carbonaceous, pyritic, fine grained hornfelsic.

MINERALIZATION
 [Symbol] Superficial galena, stannite in zone of alteration with quartz veining.

[Symbol] Fault zone.

[Symbol] Diamond drill collar.

LEGEND

QUARTZITES
 [Symbol] Micaeous, minor hornfels.

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MINERALIZATION
 [Symbol] Superficial galena, stannite in zone of alteration with quartz veining.

[Symbol] Fault zone.

[Symbol] Diamond drill collar.

C.R.A. EXPLORATION PTY. LIMITED

OONAH TIN PROSPECT

ZEEHAN - TASMANIA

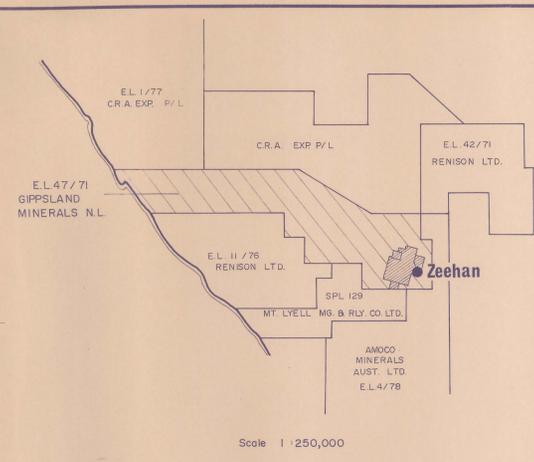
OUTCROP PLAN - SOUTH SHEET

Geologist: A. McKay Scale: 1:500 Report No. 100

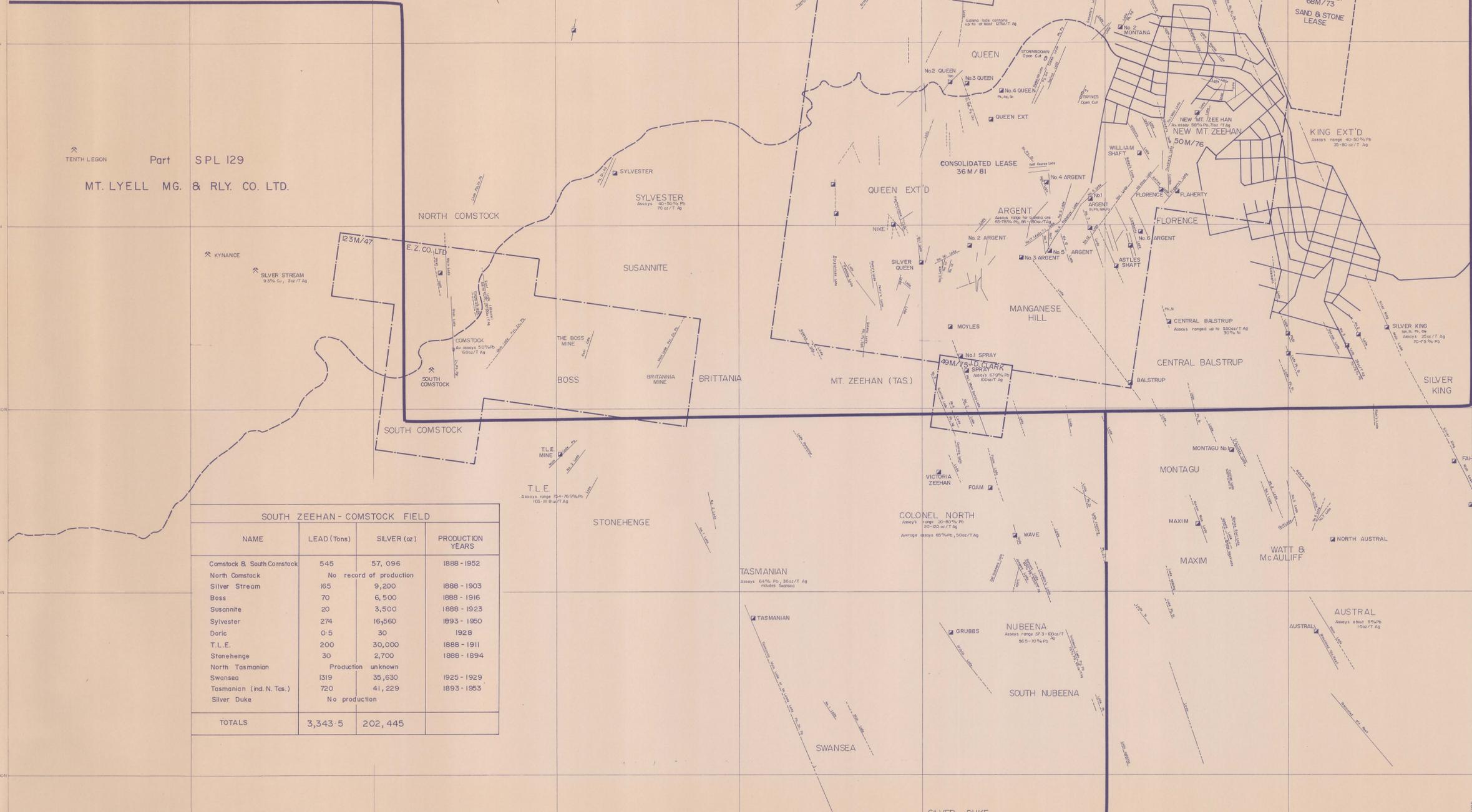
Drawn: T.G.D.S. Date: Aug 1963 Plan No. 100/100

| NAME | LEAD (Tons) | SILVER (oz) | PRODUCTION YEARS |
|----------|-------------|-------------|------------------|
| Quigleys | 32.5 | 275.4 | 1912 - 1925 |
| Barnetts | 60.4 | 723.1 | 1910 - 1949 |

E.L. 47/71



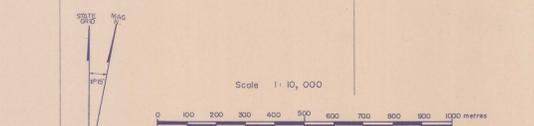
Scale 1:250,000



| PRODUCTION IN ZEEHAN FIELD | | | |
|----------------------------|------------------------|-------------|------------------|
| NAME | LEAD (Tons) | SILVER (oz) | PRODUCTION YEARS |
| Montana Silver Lead | 2304 | 279,348 | 1899 - 1958 |
| Zeehan Western | 26,300 | 4,800,000 | 1901 - 1928 |
| Junction | 15 | 8728 | 1888 - 1906 |
| Zeehan - Montana | 49,590 | 7,058,122 | 1892 - 1936 |
| Oonah | 11,724 | 2,050,135 | 1888 - 1925 |
| Queen | 16,532 | 1,973,746 | 1902 - 1929 |
| Mt. Zeehan | 1540 | 166,850 | 1883 - 1893 |
| Despatch | No recorded production | | |
| New Great Eastern | No ore produced | | |
| Tasmanian Crown | 113 | 15,737 | 1893 - 1956 |
| Florence | 10,200 | 1,400,000 | 1900 - 1910 |
| Argent No. 2 | 1,750 | 207,347 | 1899 - 1925 |
| Argent No. 5 | 1,100 | 170,000 | 1915 - 1917 |
| Argent No. 6 | 1,398 | 183,763 | 1920 - 1925 |
| Spray | } | | |
| Britannia | 41,700 | 6,456,674 | 1893 - 1923 |
| Mt. Zeehan | } | | |
| Nike | 2,149 | 225,830 | 1896 - 1954 |
| Grubbs | } | | |
| Colonel North | 1534 | 127,225 | 1890 - 1909 |
| Victoria Zeehan | 5 | 850 | |
| Nubeena | 325 | 42,000 | 1894 - 1910 |
| Montagu No. 1 | 115 | 1500 | 1887 - 1894 |
| Maxim | 60 | 10,000 | 1890 - 1910 |
| Watt & McAuliff | 250 | 50,000 | 1901 - 1905 |
| North Austral | 800 | 33,000 | 1907 - 1913 |
| Silver King | 5000 | 350,000 | 1887 - 1908 |
| Zeehan Bell | 600 | 27,500 | 1890 - 1908 |
| Sunrise | 36 | 4,760 | 1892 - 1910 |
| Oceana | 14,902 | 614,981 | 1893 - 1960 |
| TOTALS | 190,042 | 26,258,096 | |

| SOUTH ZEEHAN - COMSTOCK FIELD | | | |
|-------------------------------|-------------------------|-------------|------------------|
| NAME | LEAD (Tons) | SILVER (oz) | PRODUCTION YEARS |
| Comstock & South Comstock | 545 | 57,096 | 1888 - 1952 |
| North Comstock | No record of production | | |
| Silver Stream | 165 | 9,200 | 1888 - 1903 |
| Boss | 70 | 6,500 | 1888 - 1916 |
| Susannite | 20 | 3,500 | 1888 - 1923 |
| Sylvester | 274 | 16,560 | 1893 - 1950 |
| Doric | 0.5 | 30 | 1928 |
| T.L.E. | 200 | 30,000 | 1888 - 1911 |
| Stonehenge | 30 | 2,700 | 1888 - 1894 |
| North Tasmanian | Production unknown | | |
| Swansea | 1319 | 35,630 | 1925 - 1929 |
| Tasmanian (ind. N. Tas.) | 720 | 41,229 | 1893 - 1953 |
| Silver Duke | No production | | |
| TOTALS | 3,343.5 | 202,445 | |

Part E.L. 4/78 AMOCO MINERALS



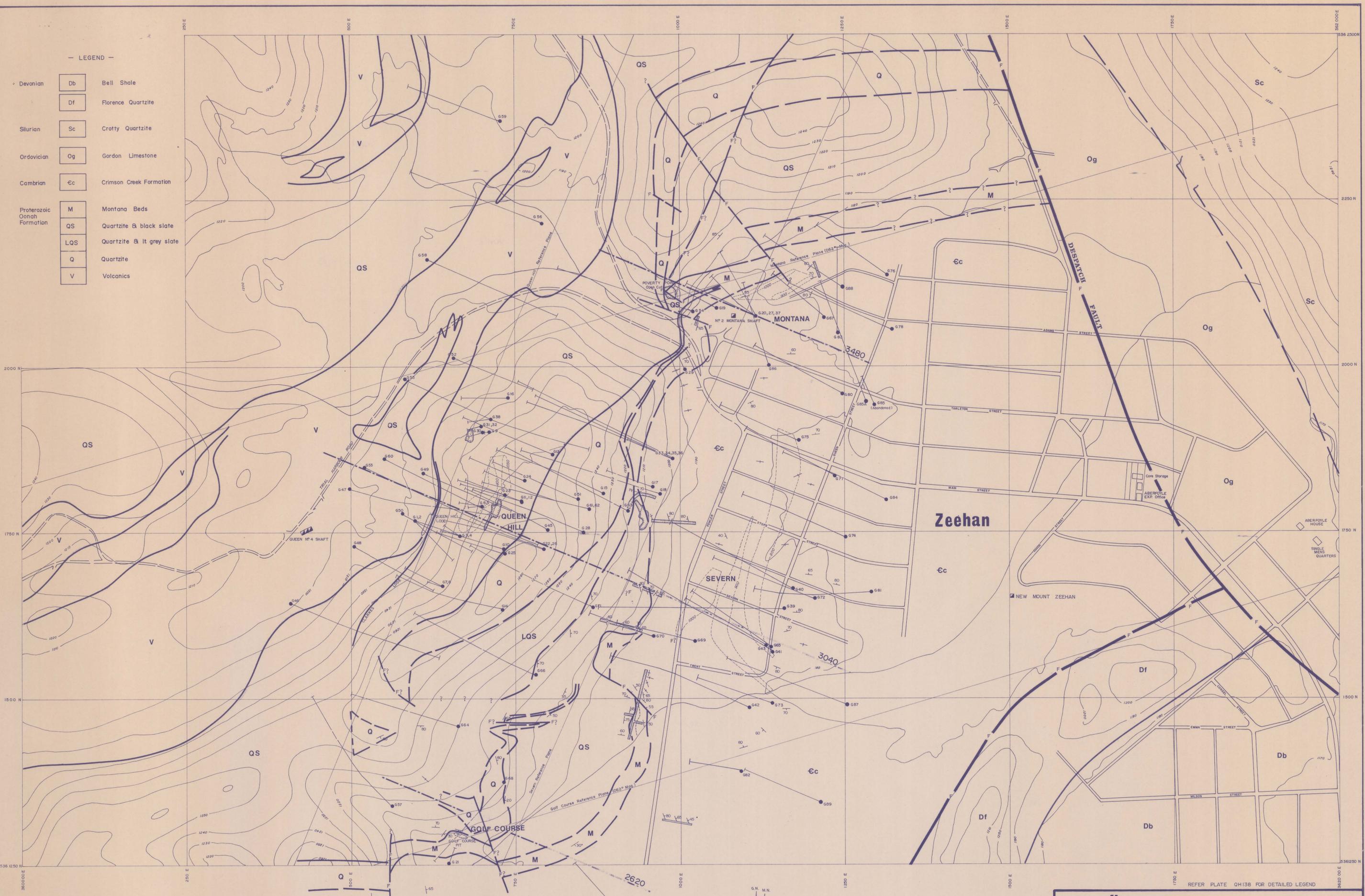
REFERENCES -
 Tas. Mines Dept. A.H. Blissett, 1962
 Tas. Mines Dept. Williams & Birch Report No. 11, 1971
 Twilvetrees & Ward, 1910
 Plan by Tas. Mines Dept. Waller, 1908

Aberfoyle Exploration Pty Ltd

| | | |
|-------------------|--|-------------------|
| Ecology: | NORTH WEST TASMANIA | Location code: |
| Drawn: R.J.E. | EXPLORATION LICENCE 47/71 | Date: March, 1980 |
| Traced: R.J.E. | Summary Map showing known | Scale: 1:10,000 |
| Checked: | Silver - Lead Production - Zeehan area | Plate No: |
| Revised by: Date: | | QH 151 |

— LEGEND —

- Devonian
 - Db Bell Shale
 - Df Florence Quartzite
- Silurian
 - Sc Crotty Quartzite
- Ordovician
 - Og Gardon Limestone
- Cambrian
 - Ec Crimson Creek Formation
- Proterozoic Oonah Formation
 - M Montana Beds
 - QS Quartzite & black slate
 - LQS Quartzite & lt grey slate
 - Q Quartzite
 - V Volcanics



Zeehan

SEVERN

QUEEN HILL

GOLF COURSE



Magnetic north correct 1978 annual change east by 04'

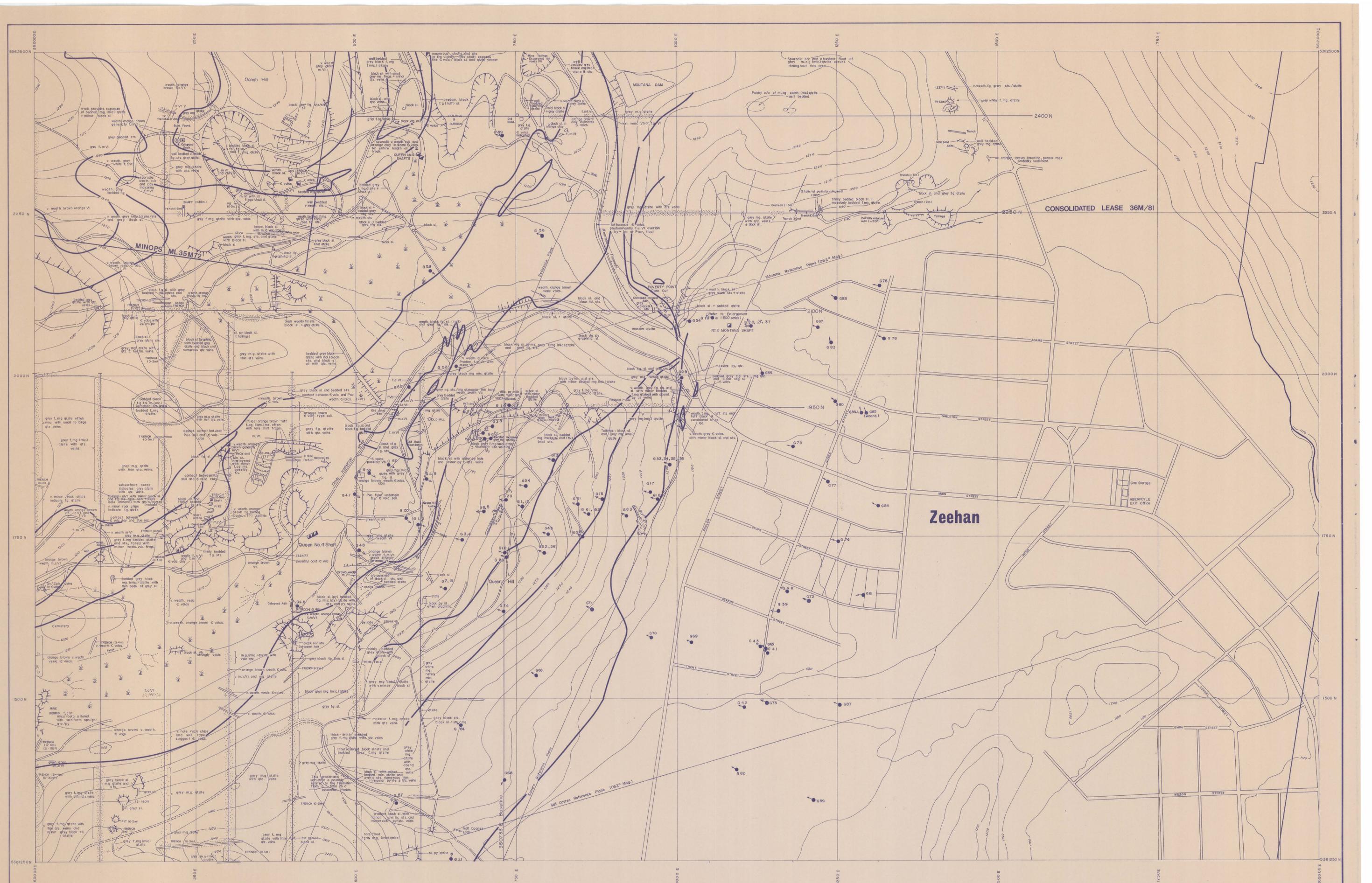


| Revised by | Date |
|------------|---------|
| S.M.R. | 25/1/83 |
| S.M.R. | 29/4/83 |
| | |
| | |
| | |

Aberfoyle Exploration Pty Ltd

| | | |
|--------------------------|---------------------------|----------------------|
| Geology: S.M. Richardson | NORTH WEST TASMANIA | Location code: |
| Drawn: R.J.E. | QUEEN HILL AREA | Date: February, 1982 |
| Traced: J.L.R. | INTERPRETIVE SUMMARY PLAN | Scale: 1:2,500 |
| Checked: | | Plate No: QH 181 |
| Revised by: SH/RO | Date: 2/8/82 | |

REFER PLATE QH138 FOR DETAILED LEGEND



Magnetic north correct 1978
annual change easterly by
0.4'



| | | |
|-------|-------|-------|
| 80/25 | 00/25 | 20/25 |
| 80/12 | 00/12 | 20/12 |
| 80/00 | 00/00 | 20/00 |

Index to adjoining sheets

| | | |
|--------------------------------------|---------------------|--------------------------|
| Aberfoyle Exploration Pty Ltd | | Location code: |
| Geology: J. R. T. | NORTH WEST TASMANIA | |
| Drawn: J. R. T. | QUEEN HILL AREA | |
| Traced: R. J. E. | SURFACE GEOLOGY | |
| Checked: | Date: | Plate No: QH161-00/12 |
| Revised by: | Date: | |

ZEEHAN WESTERN MINE (Pb Ag)
 Shaft collar 75' above elevation. Mont #1 1000' vertical shaft, but most are above 3000 level.
 1000-7000', no lodes.
 At 3000, lode 4' wide, stopped over 1000' length.
 At 1000, 3 narrow lodes.
 Workings full of water.

OONAH MINE
 Major workings: Extensive outcrop shaft to 450'.
 East collar at 720'. Lodes strike W of N, dip E.
 Deep Carbonate Lode.
 Slides strike N75W, dip 75°NE (post-mineralisation).
 Roubled (192-2) of crushed rock.
GALENA LODE - 3 of slide, sheet 1L to 5L (200' vert) - upper levels only.
WEST CARBONATE LODE - 1/5 of slide, strike N15E, mixture stannite & siderite.
STANNITE LODE (main product)
 N of S of slide.
 Argentiferous Sn-Cu sulphides (product Cu-Ag matte, Cu-Sn alloy).
 Best stops 3L to 6L (200' vert).
 At 500' - 50' lode, short (200') stops.
 Lodes: quartzite, well defined bands, stannite, pyrite, chalcocopyrite, quartz (± Bi, W, F).
 Not rare in stannite lode.
 In places, lode developed as overlapping narrow lenses at low angle to strike (p. 88).

MONTANA #1 MINE
 800' vert shaft. Est collar EL 680. IL est RL 570. 2L est RL 490.
 Complicated extensive underground workings.
 Pb-Ag lodes in slates, occasional quartzite - micaceous sandstone.
 Contemporaneous spilitic (spilitic tufts to north).
 Undisturbed strike W of N, dip E of N.
4 major faults (SLIDES)
 No. 1: Wedge-like, distorted & crushed slate, qtz, stringers of siderite 200' wide or surface. Dip to NE, about 25° (p. 80). 100' wide 500' below surface. FW well defined, HW merging. Lodes do not penetrate fault zone, but are common where dragged against slide.
 No. 2: Narrow, 1/2 to 3' wide, persisting in depth. Dip to NE. Takes lode over B levels.
 No. 3: About 30' broken ground; dip to NE.
 No. 4: Position not known; dip to SW.
 Lodes occur N of S of fault zones (slides).
 Pb-Ag ore in shoots on various levels, but mineral assemblage same, all levels, i.e. not zoned (p. 77). However PbS more frequent near slides.
 In section, lode appears at successive lenses, varying dimensions.

MONTANA #2 MINE
 500' vert shaft.
 Lodes worked for PbS.
 No. 1: Lode 6" to 1 1/2', generally poor.
 No. 2: Lode stopped over 500' on 3L; lost on 4L. Ore lenses irregular, in pyritic vein (in slates). Lode on fault line.
 In south drive, py lode (No. 2) splits - HW & FW lodes 6'-20' apart sm, 3L, pyritic, 3'-4' wide.
 Between No. 1, No. 2 lodes, massive pyrite with mixed silica, siderite from unexploded P. 1000' lateral increase of pyrite in lower workings.

COMMENTS FROM TWEETREES, 1910
HISTORY Field (Pb-Ag) discovered 1887. Began to close pre-1910.
 Valuable minerals, small in quantity in proportion to bulk of lodes.
 Old mines, believed spilitic influenced ore formation (unacceptable to Tweetrees) and that graphite a lead sign.

ZEEHAN SPILITES
 a) Massive: Commonly amygdaloidal, dense, greenish-grey rock with dull lustre. Often traversed by veins of chlorite or calcite. Markedly vesicular, with filled vesicles. Amygdaloids dark green to black, from pinhead to 1/2" size. Disseminated pyrite sometimes visible, sometimes silicified.
 b) Breccias: Considerable masses of "breccias and tufts of varying coarseness". Angular fragments. Pyroclastic origin from thin section. More quartz and feldspar than massive spilites.
 c) Dykes: Spilitic dykes cut slates near Zeehan Montana No. 1.

OTHER PYROCLASTICS (keratophytic tufts)
 Complex character, partly devitrified glass, associated angular fragments of quartz and plagioclase crystals, generally parallel along axis. Distributed in 3 directions radiating from Mangrove Hill. Small outcrop of olive basalt occurs on one of these directions.

QUEEN HILL SLATES, SANDSTONE
 On the basis of insistent traces of organisms, Tweetrees separates these rocks from all other similar rocks intercalated with spilitic/keratophytic tufts, etc.

PYRITE-CASSITERITE
 In 1910, only occurrence was small vein on Oonah property. But - (p. 68) - no analyses to establish presence of cassiterite, bismuth, tungsten or fluorine in (galena-bearing) lodes. (Fragile evidence of latter three.)

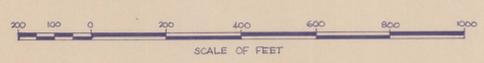
Property Margin as defined by Joint Venture Agreement
 Additional Areas under E.L. Adit commence 50/50 C.E.P.L. (SMNL) and C.E.P.L. may increase to 60%

- LEGEND**
- Volcanics, basic
 - Shales
 - Sandstone, quartzite
 - Ore grade Sn mineralisation (surface)
 - Mineralisation (early workings)
 - SP contours (limited to data shown since 1964-1966)
 - IR anomalies
 - Placer drilling
 - Proposed C.E.P.L. Drilling 1972
 - C.E.P.L. 1971 Drilling
 - Property boundary (at 1910)

RECENT ACTIVITY BY OTHERS:
 Apollo International Minerals N.L. (or Conah)
 1969 - 1970 activity: 7000 Feet bulldozing 4245 Feet diamond drilling
 Report: 1) 200' x 200' area, 1/2 of mine indicated (1967-68) STANNITE LODE. 177% Sn 9.5-12% Ag
 2) 1 hole, 3 of mine, below deepest workings; approx. 25' wide. Assays: 87% Sn 5.4% Ag
 * On information received November 28, this property may pass to SMNL - C.E.P.L.

SILVER QUEEN EXT'D.
 At junction spilites and slates. Lode 4 1/2' wide; solid ore 2' wide. Shoot 200' long; stopped for galena over 100'. Mined for galena. Lode composite galena-silver-stannite. Note: agglomerate below G3, G4 lode intersection.

Current forfeiture application on Mt. Zeehan (1970) referred by C.M.N.L. because surface sampling at 3 points within adit in pyritic or siliceous pyrite gave following averages:
 11' - 6.0% Sn
 9' - 0.5% Sn



P.L.B. Workings location estimated "accurate" within £25 Feet

COMINCO EXPLORATION PTY. LTD.

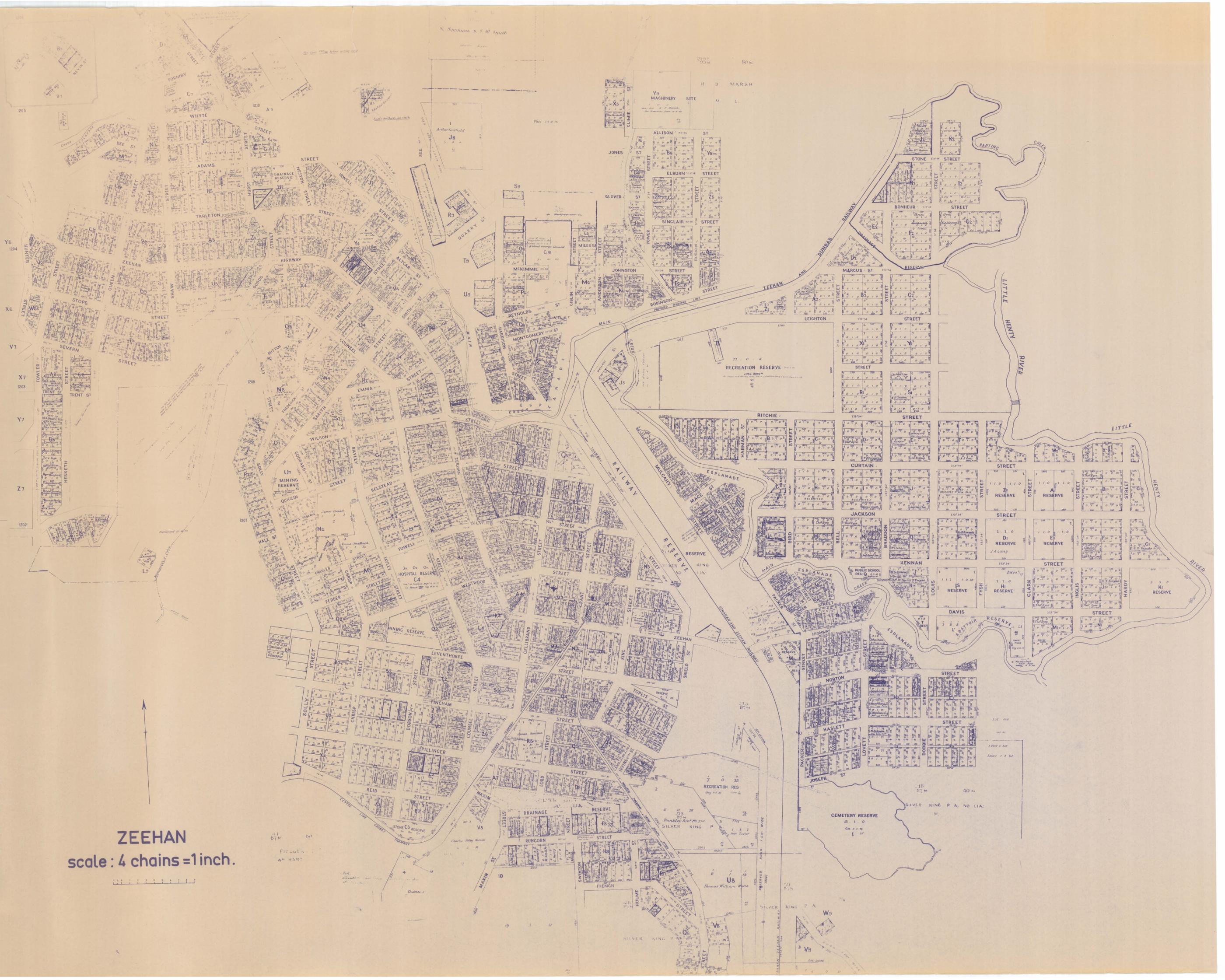
Drawn by: R.W. 149 Traced by: JS
 Checked by:
 Location code: Scale: 1" = 200 Ft. Date: Nov. 1971 Plate: QH 19

QUEEN HILL COMPOSITE PLAN, INCLUDING EXTENT OF WORKINGS AT 1910 (after Tweetrees) ZEEHAN TASMANIA

BRADSHAW'S (BRUCE'S) TRIBUTES
 Series of overlapping lenses of pyrite, up to 30' wide. Lodes adjacent to margin of Spilitic. Assay 0.8 to 0.4% Sn. Trace Cu. (Mined for H₂SO₄ manufacture). Absence of defined walls; enclosures of slate within pyrite.

vein orientations from K. A. Millarans.

Mt. Zeehan 100' to south



ZEEHAN
scale : 4 chains = 1 inch.

