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Q50/56

875001

Q58

(56)

71-765.

MICROFILMED

E.L. 44/70 (A.R.A. DODSON)

SUMMARY OF OPERATIONS FOR THE SIX MONTHS

TO MAY 3, 1971

AND PROPOSED WORK PROGRAMME

TO NOVEMBER 3, 1971.

May 26, 1971

R.E. Besley
Geologist,
Tenneco Australia, Inc.

SUMMARY OF OPERATIONS FOR THE SIX MONTHS TO MAY 3, 1971
AND PROPOSED WORK PROGRAMME TO NOVEMBER 3, 1971

During the period under review, considerable work was carried out in evaluating the old Spray and Oonah Mines in addition to exploration throughout the Licence. This report covers all activities with the exception of the Oonah Mine which is to be reported on separately by Minops Pty. Limited.

A. Spray Mine

An Ornel Pump with necessary facilities was installed in the No. 2 shaft early in the period. Continued difficulties were experienced with this pumping method and Flygt pumps were progressively installed and had almost completed dewatering the mine to the lowest level (6 level) by the end of the period.

A considerable amount of work was required to repair the shaft and clear and make safe all possible openings with particular attention to 3, 4 and 5 levels. These lower levels have been surveyed and geologic mapping and sampling is in progress.

A diamond drill hole from adit level was completed to 752 ft. The location of the hole is shown on the composite plan of the workings (Fig. 1.) and a cross section is given in Fig. 3. The hole was designed to intersect the No. 1 lode at approximately 130 ft. below 6 level but both the hole and lode steepened with depth to give a very low angle of intersection at 745 ft. (280 ft. below 6 level). At this depth only a small amount of pyrite bearing core was recovered and the hole was lost in attempting to cement and redrill the zone. The full logs for this hole are given in Appendix 1. The only significant intersection was 8" of Jamesonite at a hole length of 402 ft. which assayed 267 oz/ton Ag, 17% Pb, 9% Sb, 1.4% Cu. A Jamesonite lode was also intersected by Zeehan Explorations in 1949 some 60 ft. north of the above zone (refer Fig. 1.)

Examination of the mine to date suggests that considerably less ore remains in the lower levels than was previously thought. Collection of data and compilation of results is still in progress.

B. Spray Mine Area

In order to investigate the possibility of further lodes to the south of the Spray Mine, a grid measuring 2,000 ft. by 3,000 ft. was established with cleared lines 200 ft. apart. This grid has been accurately surveyed and tied to both the mine workings and the survey co-ordinates for the area.

002

Electromagnetic (E.M.) and Self Potential (S.P.) surveys were carried out over the grid, the results of which are shown on Figures 4 and 5.

The E.M. survey showed a response to the Spray No. 1 lode and several other small magnitude anomalies were detected. The largest of these at the north-west corner of the grid appears to be mainly due to highly graphitic slates. The other two anomalies of possible significance, between the Foam and Wave, and in the area of Nubeena, require further investigation of the surface and workings.

The S.P. survey failed to give any significant anomalies that could be interpreted as oxidising sulphide bodies.

C. Remainder of Exploration Licence

A comprehensive program of dump sampling has been completed. A total of 17 dumps have been surveyed and sampled containing 72,750 tons. The assay results and compilations have been completed on 13 of these for a total of 44,550 tons averaging 2.6 oz./ton Ag, 1.4% Pb and 1.0% Zn.

Geological evaluation of known mineralization throughout the Zeehan area has been partially completed with particular attention to deposits in limestone. A detailed stream sediment orientation survey has been completed over the limestones in the vicinity of Grieves Siding in preparation for a stream sediment survey throughout the limestone areas. The aim is to locate targets for possible large tonnage replacement deposits as opposed to the small high grade fracture fill deposits of the Spray and Oonah type.

D. Proposed Work Programme

- (i) Complete dewatering, mapping and sampling of the Spray Mine to determine the feasibility for a mining operation.

Should the results of investigations of the lowest levels be favourable, additional deep drilling will be required.

An immediate programme of four diamond drill holes from 5 level is planned to test the high silver jamesonite lode intersected in D.D.H. No. 2 for a possible direct shipping, small tonnage mining operation.

- (ii) Detailed geological evaluation of the E.M. anomalies obtained to the south of the Spray Mine.

003

- (iii) Complete compilation of dump sampling results. The results to date do not suggest any further sampling should be carried out.
- (iv) Complete geochemical and geological investigations of limestone horizons. Target areas defined will be followed up by detailed geochemistry, ground geophysics and drilling. In addition, an airborne E.M. survey of this horizon is planned for the later part of the six month period.
- (v) Continue regional and detailed geologic evaluation of mineralization to define possible further orebody targets.

E. Expenditure for Period - \$142,424.00



May 26, 1971

R.E. Besley
Geologist
Tenneco Australia, Inc.

Maps in envelope.

1. Composite plan of workings
2. Longitudinal section of Nol Lode
3. Cross section Spray ODH No 2
4. Spray mine electromagnetic survey
5. Spray mine self potential survey

APPENDIX I

SPRAY D.D.H. NO. 2 LOG

Contractor A.S. James Rig Mindrill 1000
 Dates: Start 5/1/71 Finish 23/2/71 Type of Drilling Diamond Drill (B.Q. Wireline)

DRILL
 L 0005

875006

| From | To | Core Recovd. | Summary Log | From | To | Assays | | | | | |
|--------|--------|--------------|--|--------------------|---------------|--------|-------|------------------------------------|-------|-------|--------------------|
| | | | | | | Pb | Zn | Ag | Cu | Sb | |
| 0' | 77' | | Mainly quartzite with a few intercalations of thinly banded grey slates. | | | | | | | | |
| 77' | 208' | | Mainly banded slates with intercalations of quartzites and muddy quartzites. | 87'11" (S.M.P.) | 88' 0030) | 11.6% | 0.04% | 37.1 ^{oz} / _{lb} | 0.08% | 4.25% | (See Detailed Log) |
| 208' | 266' | | Massive quartzites. | | | | | | | | |
| 266' | 335' | | Alternating bands of grey slate and quartzite. | | | | | | | | |
| 335' | 363' | | Massive quartzite. | | | | | | | | |
| 363' | 401'4" | | Banded slates and muddy quartzites. | | | | | | | | |
| 401'4" | 402' | | 8" vein of massive and acicular jamesonite with a little pyrite. Gangue mineral is siderite. | 401'4" (S.M.P.) | 402' 0031) | 16.8% | 0.08% | 267 ^{oz} / _{lb} | 1.42% | 8.82% | |
| 402' | 441' | | Massive quartzite with occasional bands of graphitic slate. | | | | | | | | |
| 441' | 478' | | Alternating bands of slate and quartzite. | | | | | | | | |
| 478' | 523'6" | | Massive quartzite. | | | | | | | | |
| 523'6" | 530' | | Homogenous graphitic slate. | | | | | | | | |
| 530' | 554'6" | | Massive quartzite, heavily brecciated in places. | | | | | | | | |

| | | | | | | | |
|----------|------------|---------|------------------------|-------------|--------------|----------|---|
| Property | E.L. 44/70 | | Location | Spray | | Hole No. | 2 |
| Records | R L | Bearing | N. 38° E. N. 44° E. | Inclination | 78° - 81°10' | Page No. | 1 |

Contractor: A.S. James

Rig: Mindrill 1000

DRILL LOG

Dates: Start 5/1/71

Finish 23/2/71

Type of Drilling: Diamond Drill (B.Q. Wireline)

875007
006

| From | To | Core Recovd. | Summary Log | From | To | Assays | | | | |
|--------|--------|--------------|--|--------------------|----------------|--------|--------|---------|-------|------|
| | | | | | | Pb | Zn | Ag | Cu | Sb |
| 554'6" | 629' | | Banded slates and quartzites with graphitic slate partings in the quartzites. | | | | | | | |
| 629' | 633'4" | | Massive quartzite. | | | | | | | |
| 633'4" | 633'6" | | 1 1/8" (true width) vein of siderite with a 1/4" band of galena in centre. Open fracture filling. | 633'4" (S.M.P.) | 633'6" 0032 | 21.9% | <0.01% | 13.1g/t | 0.02 | 0.11 |
| 633'6" | 711' | | Mainly quartzites with intercalations of slate throughout the length. | | | | | | | |
| 711' | 721' | | Quartzite, brecciated and replaced by vein quartz and siderite. | | | | | | | |
| 721' | 726' | | Quartzite with graphitic slate partings. Siderite veinlets contain traces of pyrite. | | | | | | | |
| 726' | 728' | | Massive quartzite and slate with dense replacement by fine-grained pyrite. Pyrite shows banding, stringers and bleb-like concentrations. | 726'3" (S.M.P.) | 727'5" 0033 | 0.10 | <0.01 | 0.50 | <0.01 | 0.08 |
| 728' | 735' | | Banded quartzite and slate. Broken in places. | | | | | | | |
| 735' | 742' | | Fractured and fragmented quartzite and slate, in places reduced to a gouge. Heavily sheared. | | | | | | | |

| | | | | | | | |
|----------|------------|---------|--------------------------|-------------|--------------|------|---|
| Property | E.L. 44/70 | | Location | Spray | | Page | 2 |
| Records | R L | Bearing | N. 38° E. - N. 44° E. | Inclination | 78° - 8p 10' | Page | 2 |

A.S. James

Mindrill 1000

Contractor

DATE

Dates: Start 5/1/71 Finish 23/2/71

Diamond Drill (B.Q. Wireline)

NO.

| From | To | Core Record | Summary Log | To | Assay | | | | | |
|------|------|-------------|--|----|-------|--|--|--|--|--|
| 742' | 752' | | Massive pale grey quartzite with some recrystallization and veins of siderite and quartz containing fine-grained pyrite. | | | | | | | |

| | | | | | | | | | | |
|----------|------------|---------|--------------------------|-------------|---------------|--|--|----------|------|---|
| Property | E.L. 44/70 | | Location | Spray | | | | | Page | 2 |
| Records | R L | Bearing | N. 38° E. - N. 44° E. | Inclination | 78° - 81° 10' | | | Page No. | 3 | |

875008
007

Contractor... A.S. James Rig... Mindrill 1000

DRILL LOG

Dates: Start.. 5/1/71 Finish.. 19/1/71 Type of Drilling... Diamond Drill (B.Q. Wireline)

008 075009

| From | To | Core Recovd. | Log | % X_{rock} Recovery | ∠ of b _b to I.a. | Assays | | | |
|-------|-------|--------------|---|--|--------------------------------|--------|---------------------|-----------|--------------|
| | | | | | | | | | |
| 3' | 7' | 4' | Hole collared at 3'. Fine micaceous quartz rich silt stone (refer to hereafter as quartzite). Fine grained and massive. A few siderite stringers. | 100% | 70° | | | | |
| 7' | 9'6" | 2'6" | Dark banded slate/shale. | 100% | | N.B. | QUARTZ ^T | CORRECTED | = QUARTZITE. |
| 9'6" | 16'6" | 7' | Quartzite with thin intercalations of slate, small siderite and quartz stringers. | 100% | | | | | |
| 16'6" | 26'6" | 10' | As above with quartz/siderite stringers. | 100% | 70° | | | | |
| 26'6" | 33' | 6' | Quartz ^T with quartz/siderite stringers. | 94% | 55° | | | | |
| 33' | 41'6" | 8'6" | Quartz ^T with intercalations of grey slate-quartz/siderite stringers. | 100% | 75° | | | | |
| 41'6" | 45'6" | 4' | Thinly banded grey mudstone (sixpence rock). | 100% | 60° | | | | |
| 45'6" | 48' | 2'6" | Thinly banded slate with wide intercalations of quartz. | 100% | 60° | | | | |

| | | | | | | | | |
|----------|------------|---------|----------|-------|-------------|-----|----------|---|
| Property | E.L. 44/70 | | Location | Spray | | | Hole No. | 2 |
| Records | R L | Bearing | N 43° E | | Inclination | 78° | Page No. | 1 |

Contractor... A.S. James

Rig... Mindrill 1000

DRILL
LOG

Dates: Start... 19/1/71... Finish... 19/1/71... Type of Drilling... Diamond Drill (B.Q. Wireline)

875010
003

| From | To | Core Recovd. | Log | % Recovery | ∠ of b/b to l.a. | Assays | | | | | |
|----------|------------|--------------|---|------------|------------------|--------|--|--|--|----------|---|
| | | | | | | | | | | | |
| 48' | 52'6" | 4'6" | Quartz ^T with a few quartz/siderite stringers. | 100% | | | | | | | |
| 52'6" | 53' | 0'6" | As above. | 100% | | | | | | | |
| 53' | 54' | 1' | 6d. rock - thinly banded grey slate with some shearing. | 100% | 45° | | | | | | |
| 54' | 56'6" | 2'6" | Quartz ^T with intercalations of grey slate and few siderite stringers. | 100% | | | | | | | |
| 56'6" | 63' | 6'6" | Quartz ^T with heavy quartz/siderite stringers. Some shearing along thin slaty intercalations. | 100% | 45° | | | | | | |
| 63' | 68' | 5' | Quartz ^T with quartz/siderite <u>hair-like</u> stringers. Some shearing in slaty intercalations. | 100% | 45° | | | | | | |
| 68' | 68'3" | 0'2" | Broken shaley ground, shear approx. 1½" wide in shaley band. | 60% | | | | | | | |
| 68'3" | 70'6" | 2'3" | Quartz ^T with slaty intercalations. Quartz siderite stringers. | 100% | | | | | | | |
| 70'6" | 74'6" | 4' | Quartz ^T with hairlike wisps of siderite stringers. | 100% | | | | | | | |
| 74'6" | 75' | 0'6" | Quartz vein with siderite inclusions. Relic inclusions of slate (replacement). | | | | | | | | |
| Property | E.L. 44/70 | | Location | Spray | | | | | | Hole No. | 2 |
| Records | R L | Bearing | N 38° E | | Inclination | 78° | | | | Page No. | 2 |

Contractor..... A.S. James

Rig..... Mindrill 1000

Dates: Start..... 19/1/71..... Finish..... 20/1/71

Type of Drilling..... Diamond Drilling (B.Q. Wireline)

010
875011

| From | To | Core Recovd. | Log | % XXXX Recovery | ∠ of b/b Xx to l.a. | Assays | | | | |
|--------|--------|--------------|--|-----------------------|---------------------------|--------|--|--|--|--|
| | | | | | | | | | | |
| At 75' | | | Shear along one wall of quartz vein. | | | | | | | |
| 75' | 76'2" | 1' | Graphitic slate and siltstone. Small scale shearing at 76'. | 90% | 70° | | | | | |
| 76'2" | 77' | 0'8" | Quartz ^T with quartz blebs and fine siderite stringers. Small shear running 10° to long axis, with movement along, but slightly oblique (approx. 15°) to long axis. | 90% | | | | | | |
| 77' | 83'2" | 6'2" | Graphitic slate banding contorted and sheared. Small siderite stringers and quartz vein 1/8" wide at 78'5". | 100% | | | | | | |
| 83'2" | 86' | 2'10" | As above - contorted banding. | 100% | | | | | | |
| 86' | 87'11" | 1'7" | As above | 90% app. | | | | | | |
| 87'11" | 88' | 0'1" | 1" vien along shear of siderite and jamesonite with possibly a little galena and silver. Vein material very fine grained. All minerals occupy centre of vein. | | | | | | | |
| 88' | 95' | 2'6" | Very broken graphitic slate with contorted banding. Main shearing probably about 93'. Shear running oblique at low to long axis of core (10°) siderite mineralisation along shear. | 35% | (10°) | | | | | |

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|----------|------------|---------|----------|-------------|--------|----------|---|
| Property | E.L. 44/70 | | Location | Spray | | Hole No. | 2 |
| Records | R L | Bearing | N 38° E | Inclination | 78°30' | Page No. | 3 |

Contractor... A.S. James Rig... Mindrill 1000

Dates: Start... 20/1/71 Finish... 21/1/71 Type of Drilling... Diamond Drill (B.Q. Wireline)

011875012

| From | To | Core Recvd. | Log | % XXXX Recovery | ∠ of b/b Xxx to l.a. | Assays | | | |
|------|------|-------------|---|-----------------------|----------------------------|--------|--|--|--|
| | | | | | | | | | |
| 95' | 96' | 1' | Grey graphitic slate banded with fracturing of banding at 10° of long axis. | 100% | | | | | |
| 96' | 97' | 1' | Quartz ^T sheared and fractured with quartz and siderite stringers. | 100% | | | | | |
| 97' | 98' | 0'10" | Fractured zone at end of core run. Maybe shear. | 80% | | | | | |
| 98' | 102' | 4' | Grey slightly banded slate shale graphitic in places and sheared along graphite plane - 10° to core axis. Small amount of siderite stringers. | 100% | | | | | |
| 102' | 110' | | 102' banding at 25°. Banded slates at 106', at 10° to long axis. | 100% | | | | | |
| 110' | 116' | 6' | Grey banded slate with contortion of banding in places, and siderite stringers | 100% | 12° | | | | |
| 116' | 126' | | Banded slates. Some minor shearing. | 100% | 35° | | | | |
| 126' | 136' | 10' | Ditto as above. | 100% | 35° | | | | |
| 136' | 139' | 2'6" | Ditto as above. | 90% | 35° | | | | |

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|----------|------------|---------|----------|-------------|---------|--|----------|----------|---|
| Property | E.L. 44/70 | | Location | Spray | | | | Hole No. | 2 |
| Records | R L | Bearing | N 39° E | Inclination | 78° 30' | | Page No. | 4 | |

Contractor... A.S. James Rig... Mindrill 1000

Dates: Start... 21/1/71 Finish... 22/1/71 Type of Drilling... Diamond Drill (B.Q. Wireline)

0128
875013

| From | To | Core Recovd. | Log | % Recovery | ∠ of b/b to l.a. | Assays | | | |
|--------|--------|--------------|---|---------------|---------------------|--------|--|--|--|
| | | | | | | | | | |
| 139' | 148' | 2' | Broken zone - poor core recovery. Fragments show fractured quartz veining in slate - probably a shear. | 22% | | | | | |
| 148' | 151' | 3' | Core fractured - fractured banded slate and quartz veining. | 100% | | | | | |
| 151' | 153' | 2' | Core shows banding parallel to long axis. Isoclinal folds present in core. Banded slates with quartz and siderite veining. | 90% | 0° | | | | |
| 153' | 156' | 3' | Fractured grey slate banded. Fractures probably synchronous with folding. Siderite fracture fillings and veinlets. A little jamesonite in the siderite. | 100% | | | | | |
| 156' | 158'6" | 2'6" | Folded and fractured grey slate with siderite fracture fillings. | | | | | | |
| 158'6" | 164' | 5'6" | Folds and shear folds and fracturing of grey slate. Siderite fracture fillings interspersations of quartz. | 100% | 30° | | | | |
| 164' | 168' | 4' | Sheared and folded. Banded grey slate and quartz. Fractures filled with siderite. | 100% | 70° | | | | |

| | | | | | | | | | |
|----------|-----------|---------|----------|-------------|---------|--|----------|----------|---|
| Property | EL. 44/70 | | Location | Spray | | | | Hole No. | 2 |
| Records | R L | Bearing | N 39° E | Inclination | 78° 30' | | Page No. | 5 | |

Contractor.....A.S. James

Mindrill 1000

DRILL LOG

Date Start... 22/1/71

22/1/71

Diamond Drill (B.Q. Wireline)

013875014

| | | L.g | | % XXXXX Recovery | ∠ of b/b Xx to l.a. |
|--------|--------|------|---|------------------------|---|
| 168' | 178' | 10' | Banded slates with intercollations of quartz. Blding and fracturing of banding. Siderite in filling of fractures. | 100% | 168/70° 172/25° 175/70° |
| 178' | 180' | 2' | Ditto as above. | 100% | 90° |
| 180' | 182' | 2' | Fractured quartz with siderite veining and fracture filling. | 100% | 90° |
| 182' | 187'6" | 5'6" | Between 182/183, fractured quartz (a little) with quartz and siderite fracture filling. Between 183'/187'6", less fractured quartz with quartz and siderite stringers and veinlets. Thin intercollations of slate. | 100% | 90° 66° |
| 187'6" | 189' | 1'6" | Sheared quartz with large blebs of quartz and siderite. Also siderite stringers. Vugs present (open fractured filling). | 100% | |
| 189' | 192'6" | | Gray banded slate with quartz rich intercollations. (Thinly banded) (6d. rock). Boudinage and minor shearing. | 100% | 80° |
| 192'6" | 198'6" | 5'6" | Ditto as above, but with more intensive fracturing in places and fracture fillings of quartz and siderite. | 95% | 193/40° 194/90° 196/0° 197/80° |

| | | | | | |
|----------|------------|----------|---------|----------|---|
| Locality | E.L. 44/70 | Location | Spray | Roll No. | 2 |
| Remarks | | Bearing | N 39° E | Page No. | 6 |
| | | | 78° | | |

Contractor A.S. James

Mindrill 1000

DRILL LOG

Start 23/1/71

Finish 25/1/71

Diamond Drill (B.Q. Wireline)

014

875015

| | | | | % Xxxx Recovery | ∠ of b/b Xx to l.a. |
|--------|--------|------|--|-----------------------|---------------------------|
| 198'6" | 208' | | Banded slate, contorted and fractured. Blebs and stringers of quartz and siderite. At 206'/207' "Pattern Rock" folded thin bands of quartz in slate. | 100% | |
| 208' | 212' | 4' | Quartz ^T with veinlets and stringers of quartz and siderite fractured in places. | 100% | |
| 212' | 217' | 5' | Ditto as above | 100% | |
| 217' | 225'6" | 8'6" | Massive quartz ^T with a few pockets and stringers of quartz and siderite. | 100% | 28° |
| 225'6" | 231' | 5'6" | Ditto as above. Banding between 70° to 40°. | 100% | 70°-40° |
| 231' | 234' | 2'8" | Quartz ^T with intercalation of black graphite slate. Folding and fracturing with quartz and siderite fracture fillings. | 90% | |
| 234' | 241' | 7' | Massive quartz ^T fractured slightly with stringers, veinlets and blebs of quartz siderite. Siderite veinlets carry traces of galena. | 100% | |
| 241' | 248' | 7' | Massive quartz ^T with patches and stringers of quartz and siderite. | 100% | |
| 248' | 250' | 2' | Wide veins along banding of quartz. | 90% | 20° |

| | | | | | |
|----------|------------|----------|---------|----------|---|
| Property | E.L. 44/70 | Location | Spray | Hole No. | 2 |
| Records | | Bearing | N 44° E | Page No. | 3 |

Contractor A.S. James Rig Mindrill 1000

DRILL
LOG

Date: Start 25/1/71 Finish 27/1/71 Type of Drilling Diamond Drill (B.Q. Wireline)

015 875016

| From | To | Core Recovd. | Log | % Recovery | ∠ of b/b to l.a. | Assays | | | | | | | |
|------|------|--------------|--|---------------|---------------------|--------|--|--|--|--|--|--|--|
| | | | | | | | | | | | | | |
| 250' | 255' | 5' | Massive quartzite with stringers and veinlets of quartz. | 100% | | | | | | | | | |
| 255' | 259' | 4' | Massive quartzite, ditto as above. | 100% | | | | | | | | | |
| 259' | 266' | 7' | Massive quartzite, as above with a little siderite. Between 261'/266' wide quartz veining. | 100% | | | | | | | | | |
| 266' | 268' | 2' | Massive grey slate. | 100% | 40° | | | | | | | | |
| 268' | 270' | 2' | Banded (thinly) 6d. slate and quartz ⁺ with blebs of quartz and siderite. | 100% | 40° | | | | | | | | |
| 270' | 275' | 5' | Shattered quartz ⁺ with intercalations of slate. Blebs and fracture fillings of quartz and siderite. | 100% | 60° app. | | | | | | | | |
| 275' | 281' | 6' | Alternating beds of banded slate and quartz ⁺ and fracture fillings and tension gash fillings of quartz and siderite. | 100% | 50° | | | | | | | | |
| 281' | 287' | 6' | Quartz ⁺ with intercalations of slate fracture, fillings and stringers of quartz with a little siderite. | 100% | 50° | | | | | | | | |
| 287' | 288' | 1' | Ditto as above. | 100% | 70° | | | | | | | | |

| | | | | | | | | | |
|----------|------------|---------|----------|-------------|-----|--|----------|----------|---|
| Property | E.L. 44/70 | | Location | Spray | | | | Hole No. | 2 |
| Records | R L | Bearing | N 44° E | Inclination | 79° | | Page No. | 8 | |

Contractor... A.S. James

Rig... Mindrill 1000

DRILL
L 0°C

Dates: Start... 27/1/71... Finish... 27/1/71... Type of Drilling... Diamond Drill (B.Q. Wireline)

016
875017

| From | To | Core Recovd. | Log | % xxxx Recovery | ∠ of b/b Xxx to l.a. | Assays | | | |
|--------|--------|--------------|---|----------------------------------|---------------------------------------|--------|--|--|--|
| | | | | | | | | | |
| 288' | 290' | 2' | Banded slate. <u>6d.</u> rock. | 100% | 60° | | | | |
| 290' | 294' | 4' | Massive quartz ^T with few blebs and stringers. | 100% | 45° | | | | |
| 294' | 297' | 3' | Quartz ^T with quartz and siderite veining and replacement by quartz in places. | 100% | 50° app. | | | | |
| 297' | 300' | 3' | Contorted and faulted grey slate with quartz and siderite stringers. | 100% | 50° | | | | |
| 300' | 306' | 6' | Quartzite with quartz and siderite stringers. | 100% | 50° | | | | |
| 306' | 307' | 1' | Ditto. | 100% | 50° | | | | |
| 307' | 312'6" | 5'6" | Banded slates and quartz ^T - very few stringers. | 100% | 40° | | | | |
| 312'6" | 318' | 5'6" | Quartz ^T with occasional slaty bands. Quartz and siderite veinlets and stringers. Traces of ore mineral (probably jamesonite). | 100% | | | | | |
| 318' | 324' | 6' | Quartz ^T and slates with quartz veinlets and siderite stringers. Large blebs of quartz occur in more fractured parts (probably replacement). | | | | | | |

| | | | | | | | |
|----------|------------|---------|----------|-------------|--------|----------|---|
| Property | E.L. 44/70 | | Location | Spray | | Hole No. | 2 |
| Records | R L | Bearing | N 43° E | Inclination | 78°50' | Page No. | 9 |

Contractor.....A.S. James.....Rig.....Mindrill 1000.....
 Dates: Start...27/1/71.....Finish...28/1/71.....Type of Drilling...Diamond Drill (B.Q. Wireline).....

DRILL LOG

017
875018

| From | To | Core Recovd. | Log | % Recovery | ∠ of b/b to l.a. | Assays | | | |
|--------|--------|--------------|---|---------------|---------------------|--------|--|--|--|
| | | | | | | | | | |
| 324' | 325'6" | 1'6" | Banded slates and quartz ^T . | 100% | 30° | | | | |
| 325'6" | 328' | 2'6" | Mainly quartzites with thin bands of slates. | 100% | 35° | | | | |
| 328' | 332'6" | 4'6" | Quartzites with occasional slate band. Siderite stringers. | 100% | 30° | | | | |
| 332'6" | 334' | 1'6" | Massive quartz ^T with siderite stringers. | 100% | | | | | |
| 334' | 335' | 1' | Contorted slate. | 100% | | | | | |
| 335' | 340' | 5' | Massive quartz ^T with quartz veinlets and a few siderite stringers. | 100% | | | | | |
| 340' | 351' | 11' | Massive quartz ^T with quartz and siderite veinlets and siderite stringers. | 100% | | | | | |
| 351' | 352'4" | 1'4" | Banded quartz ^T and slate. Bands broken by minor shearing. | 100% | 90° | | | | |
| 352'4" | 355' | 2'8" | Massive quartz ^T with siderite stringers. | | 50° app. | | | | |
| 355' | 359'6" | 4'6" | Thickly banded quartz ^T with thin bands of slate. | 100% | 90° and 60° | | | | |
| 359'6" | 363' | 3'6" | Massive quartzite ^T with quartz veinlets and siderite stringers. | 100% | | | | | |

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|----------|------------|---------|----------|-------------|------|----------|----|
| Property | E.L. 44/70 | | Location | Spray | | Hole No. | 2 |
| Records | R L | Bearing | N 44° E | Inclination | -79° | Page No. | 10 |

Contractor A.S. James

Mindrill 1000

Dates: 28/1/71

Finish: 29/1/71

Diamond Drill (B.Q. Wireline)

018

875019

| From | To | Core Recovd. | Log | % Xxxx Recovery | ∠ of b/b Xx to l.a. |
|--------|--------|--------------|---|-----------------------|---------------------------|
| 363' | 367' | 4' | Thinly banded slate and quartz ^T with a little siderite veining. | 100% | Between 65° & 30° |
| 367' | 368' | 1' | Massive quartzite with thin bands of slate. Quartz blebs in the more shattered quartz. | 100% | |
| 368' | 375'6" | 7'6" | Banded slates and quartz ^T - very little veining - banding varies between 90° and 80° | 100% | Between 90° & 80° |
| 375'6" | 382' | 6'6" | Thinly banded slate and quartz ^T - banding contorted along fractures and banding by quartz and siderite blebs and stringers. | 100% | Between 60° & 90° |
| 382' | 386' | 4' | Banded slate and quartz ^T , contorted in places with fracturing and stringers of quartz in the wider bands of quartzite. | 100% | Between 20° & 60° |
| 386' | 388' | 2' | Massive dirty quartz ^T with slight replacement along fracture with siderite. | 100% | |
| 388' | 398' | 1' | Fragments of massive quartzite. No trace of shearing. Veinlets and stringers of siderite. Bad core recovery due to dropping core and drilling through it. | 10% | |

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|----------|------------|---------|----------|-------------|---------|----------|----|
| Property | E.L. 44/70 | | Location | Spray | | Hole No. | 2 |
| Records | R L | Bearing | N 44° E | Inclination | 79° 40' | Page No. | 11 |

Contractor... A.S. James Rig... Mindrill 1000

DRI LL
L O G

019

Dates: Start... 29/1/71 Finish... 2/2/71 Type of Drilling... Diamond Drill (B.Q. Wireline)

| From | To | Core Recovd. | Log | % Recovery | ∠ of b/b to l.a. | Assays | | | | | |
|--------|--------|--------------|---|------------|---------------------------|--------|--|--|--|--|--|
| | | | | | | | | | | | |
| 398' | 400' | 2' | Massive quartz [†] with siderite stringers. Siderite barren at first, then carry needles of jamesonite in open fracture filling. | 100% | 85° | | | | | | |
| 400' | 401'4" | 1'4" | Quartz [†] for first 8", which gives way to banded slate at 400'6". Small shear in quartz at 15° to core axis carrying siderite and jamesonite. Parallel vein 0'1" away - veins are 1/4" wide. | | | | | | | | |
| 401'4" | 402' | 0'8" | Vein of massive and acicular jamesonite and also pyrites with a gangue of siderite. Vein crosses at 30°. Siderite stringers are present adjacent to the vein in the banded slate. | | | | | | | | |
| 402' | 408' | 6' | Massive quartz [†] with a few thin bands of slate, a few small veinlets and stringers of quartz and siderite. | | | | | | | | |
| 408' | 414'6" | 6'6" | Ditto as above. Massive quartzite. | 100% | 90° app. | | | | | | |
| 414'6" | 415'6" | 1' | Banded slate and quartzite. | 100% | Angles variable about 90° | | | | | | |
| 415'6" | 428' | 12'6" | Massive quartz [†] with occasional slate bands. Banding 90°-70°. A few minor stringers of siderite. | 100% | 90°-70° | | | | | | |

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|----------|------------|---------|----------|-------------|-----|--|----------|----------|---|
| Property | E.L. 44/70 | | Location | Spray | | | | Hole No. | 2 |
| Records | R L | Bearing | N 43° E | Inclination | 80° | | Page No. | 12 | |

875020

Contractor: A.S. James

PLG Mindrill 1000

Dates: Start 2/2/71 Finish 4/2/71

Type of Drilling: Diamond Drill (B.Q. Wireline)

020
875021

| From | To | Core Record | Description | % Recovery | ∠ of b/b to l.a. |
|------|------|-------------|--|------------|------------------|
| 428' | 433' | 5' | Massive quartz [†] with bands of slate - more intensive fracturing and quartz replacement. Siderite stringers. | 100% | |
| 433' | 441' | 8' | Massive quartz [†] . Ditto as above. Fracturing later than quartz veining. | 100% | 70° app. |
| 441' | 448' | 7' | Wider bands of slate and quartz [†] ; most of which have been contorted and fractured and are effectively intermingled. Siderite blebs and stringers and a little quartz vein material in the quartz. | 100% | |
| 448' | 451' | 3' | Ditto as above. | | |
| 451' | 458' | 7' | Thinly banded slate and quartz [†] . Slight fracturing and small gash vein and stringers of siderite. A double fold is present in the core, but in general the banding is 90° and 70° to the long axis. | 100% | 90° & 70° |
| 458' | 459' | 1' | More massive slate with a siderite veinlet and associated gash vein and stringers of siderite. Traces of galena in siderite. | | |
| 459' | 462' | 3' | Thinly banded quartz [†] and slate with replacement of siderite along banding and in fractures and tension gashes. | 100% | |
| 462' | 463' | 1' | Massive quartz [†] with veinlets and stringers of quartz & siderite. Evidence of open fracture | | |

| | | | | | | | |
|----------|------------|---------|----------|-------------|-----|----------|----|
| Property | E.L. 44/70 | | Location | Spray | | Hole No. | 2 |
| Records | R L | Bearing | N 44° E | Inclination | 80° | Page No. | 13 |

Contractor..... A.S. James Rig..... Mindrill 1000
 Dates: Start... 4/2/71 Finish... 8/2/71 Type of Drilling..... Diamond Drill (B.Q. Wireline)

021
875022

| From | To | Core Recovd. | Log | % XXXXX Recovery | / of b/b Xxx to l.a. | Assays | | | | |
|--------|--------|--------------|--|------------------------|----------------------------|--------|--|--|--|--|
| 463' | 468' | 5' | Thickly and thinly bedded slate and quartz with veinlets and stringers of quartz and siderite. | 100% | 50° | | | | | |
| 468' | 473'6" | 5'6" | Thick bands of quartz with thinner bands of slate. Tension fractures, filled with siderite. Some shearing and folding. | 100% | | | | | | |
| 473'6" | 478' | 4'6" | Alternating quartz and slates which have been more extensively broken up and contorted. Blebs, stringers and patches of siderite and a little vein quartz. | 100% | | | | | | |
| 478' | 479' | 1' | As above. | 100% | | | | | | |
| 479' | 488' | 9' | Mainly quartz with a few alternations of slate in places fracturing of slate and quartz has caused an almost brecciated rock with infill of quartz and siderite. | 100% | | | | | | |
| 488' | 499'6" | 11'6" | Brecciated quartz and slaty quartz with quartz infill and siderite stringers. Second fracturing later than quartz. | 100% | Varies between 30° & 50° | | | | | |

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|----------|------------|---------|----------|-------------|---------|--|----------|----------|---|
| Property | E.L. 44/70 | | Location | Spray | | | | Sole No. | 2 |
| Records | R L | Bearing | N 45° E | Inclination | 80° 40' | | Page No. | 14 | |

Contractor... A.S. James Rig... Mindrill 1000

DRILL
LOG

022

Dates: Start... 8/2/71 Finish... 9/2/71 Type of Drilling... Diamond Drill (B.Q. Wireline)

| From | To | Core Recovd. | Log | % Recovery | ∠ of b/b to l.a. | Assays | | | | | |
|--------|--------|--------------|---|------------|------------------|--------|--|--|--|--|--|
| | | | | | | | | | | | |
| 499'6" | 502' | 2'6" | Massive quartz ^r with some fracturing and quartz veining. | 100% | 50° app. | | | | | | |
| 502' | 508'9" | 6'9" | Quartzite with shaley quartz in places. Some fracturing and infill with quartz, quartz veins and siderite stringers. Broken core at 506' and 507'-508'. | 100% | | | | | | | |
| 508'9" | 516' | 7'3" | Massive quartz ^r with occasional veinlets and stringers of siderite and a little quartz. | | | | | | | | |
| 516' | 519'6" | 3'6" | Quartzites, slaty quartzites, slates, interbanded and fractured. Almost completely fragmental in places. Thin bands of quartz ^r in slate showing boudinage. | 100% | | | | | | | |
| 519'6" | 523'6" | 4' | Massive quartz ^r with stringers of quartz and siderite. | 100% | | | | | | | |
| 523'6" | 525' | 1'6" | Massive graphitic slate, slightly graphitic, folded and slightly sheared. | 100% | | | | | | | |
| 525' | 530' | 5' | Massive graphitic slate in which the thin bands of quartz have been brecciated. Infilled with quartz banding and siderite stringers in places. At 528'0" to 528'8", bands of epidote replacement along fractured quartz in slate. | 100% | | | | | | | |

875023

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|----------|------------|---------|----------|-------------|--------|----------|----|
| Property | E.L. 44/70 | | Location | Spray | | Hole No. | 2 |
| Records | R L | Bearing | N 44° E | Inclination | 80°30' | Page No. | 15 |

Contractor.....A.S. James

Rig.....Mindrill 1000

Dates: Start...9/2/71.....Finish...9/2/71.....Type of Drilling.....Diamond Drill (B.Q. Wireline)

023

| From | To | Core Recovd. | Log | % Recovery | ∠ of b/b to l.a. | Assays | | | |
|--------|--------|--------------|--|---------------|---------------------|--------|--|--|--|
| | | | | | | | | | |
| 530' | 533' | 3' | Massive quartzite with wide vein of quartz. | 100% | 70° | | | | |
| 533' | 536' | 3' | Shearing intensive along this section Mainly banded quartzite and shaley quartzite with thin bands of graphitic slate, fractured, contorted and sheared (shearing along graphitic planes.) | 100% | | | | | |
| 536' | 538' | 2' | Quartzite, with thin bands of graphitic shale, small shears (slipping) along graphitic surfaces, contorted, tension gashes and fractures in the more competent quartzite. | 100% | 30° app. | | | | |
| 538' | 543' | 5' | Massive quartzite with graphitic shale partings in places. At 541'0" and 541'6", large fractures running 15° to long axis of core bearing siderite encrustation sections. Also contains stringers of siderite. | 100% | 30° | | | | |
| 543' | 543'9" | 0'9" | Broken quartzite and black slate - finely parted. | 100% | | | | | |
| 543'9" | 545'9" | 2' | Brecciated quartzite and slate with heavy infill with quartz and siderite stringers. | 100% | | | | | |

875024

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|----------|------------|---------|----------|-------------|--------|--|----------|----|
| Property | E.L. 44/70 | | Location | | Spray | | Hole No. | 2 |
| Records | R L | Bearing | N 42°E | Inclination | 80°50' | | Page No. | 16 |

Contractor.....A. S. James.....Rig.....Mindrill 1000.....

Dates: Start..9/2/71.....Finish..10/2/71.....Type of Drilling.....Diamond Drill (B.Q. Wireline).....

024

875025

| From | To | Core Recovd. | Log | % Recovery | ∠ of b/b to l.a. | Assays | | | |
|----------|------------|--------------|---|---------------|---------------------|--------|----------|-----------|---|
| | | | | | | | | | |
| 545'9" | 549' | 3'3" | Massive quartz ^r heavily brecciated in places with heavy replacement of vein quartz with siderite stringers. | 100% | | | | | |
| 549' | 552'6" | 3'6" | Massive and thickly banded slates banding at 30° (approx., very variable) to core axis, shearing at low angle to long axis of core crossing the banding. | | | | | | |
| 552'6" | 554'6" | 2' | Massive grey quartzite with siderite stringers. | 100% | 60° app. | | | | |
| 554'6" | 556' | 1'6" | Dark grey slate, with siderite belbs and stringers following and cutting the more siliceous. | | | | | | |
| 556' | 561'6" | 5'6" | Dark grey slate with bands of slaty quartz and quartzite. A little siderite in the more competent quartzite where it occupies tension fractures. Open fracture filling along shear at 561' running at 10° to long axis. | 100% | 50° | | | | |
| 561'6" | 562' | 0'6" | Quartz vein in massive quartzite with graphitic slate partings where quartz siderite vein enters shale slate, epidote rich rock occurs. Quartz vein also carries pyrite and jamesonite/galena. | | Vein 65° | | | | |
| Property | E.L. 44/70 | | Location | Spray | | | | Scale No. | 2 |
| Records | R L | Bearing | N 42° E | Inclination | 80° 50' | | Page No. | 17 | |

Contractor.....A.S. James.....Rig.....Mindrill 1000.....
 Dates: Start...10/2/71....Finish...11/2/71....Type of Drilling.....Diamond Drill (B.Q. Wireline).....

025

| From | To | Core Recovd. | Log | % Kxx Recovery | ∠ of b/b Xr to l.a. | Assays |
|--------|--------|--------------|--|----------------------|---------------------------|--------|
| 562' | 565' | 3' | Grey quartzite with siderite veinlets and stringers. Quartzite very fine grained. One siderite vein is open fracture filling and is inclined at 20° to long axis of core at 563'. | 100% | 40° | |
| 565' | 566' | 1' | Fractured quartz band and quartz and siderite infillings. | 100% | | |
| 566' | 573'6" | 7'6" | Grey graphitic slate with bands of quartz 566'-569'. Shear running parallel to the core axis (open shear) 569'6". Siderite veining (open fracture filling) crosses core at 25°. These occur mainly in quartz bands at 567' and 570'. | 90% | 20° 5° | |
| 573'6" | 575'6" | 2' | Dark grey slate with fracture fillings of siderite, pyrite and traces of galena. | | 25° | |
| 575'6" | 578'6" | 3' | Fine grained quartz with occasional graphitic shale partings. At 575'6" quartz vein with siderite and little galena is fractured and distorted at lithological contact. At 576'6" shear in quartz 1/2" wide mineralised with siderite, quartz, pyrite and trace of galena. The zone shows fragmentation through its width. | | | |

875026

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|----------|------------|---------|----------|-------|-------------|-----------|-------------|
| Property | E.L. 44/70 | | Location | Spray | | Scale No. | 2 |
| Records | R L | Bearing | N 44° E | | Inclination | 81° | Page No. 18 |

Contractor.....A.S. James.....Rig.....Mindrill 1000.....
 Dates: Start..11/2/71.....Finish..11/2/71.....Type of Drilling.....Diamond Drill (B.Q. Wireline).....

026

810021

| From | To | Core Recovd. | Log | % Recovery | ∠ of b/b to l.a. | | | | |
|--------|--------|--------------|--|---------------|---------------------|--|--|--|--|
| 575'6" | 578'6" | 3' | Parallel shear along shale parting not mineralised. | | 20° | | | | |
| 578'6" | 582' | 3'6" | Massive pale grey quartz ^r (fine grained). ½ veins of siderite, pyrite, quartz. At 579'0", traces of galena. | | 30° 20° | | | | |
| 582' | 588' | 6' | Quartz ^r (fine grained), fractured and sheared on small scale. Occasional bands of grey graphitic slate. Shearing occurs on these boundaries. Fracture fillings and stringers of siderite. At 587' brecciation of quartz along quartz slate boundary with development of vein quartz infilling (open fracture filling) Pyrite (syngenitic?) in fractured quartz band. | | 50° | | | | |
| 588' | 592' | 4' | Quartz ^r fragmented in places with stringers in veinlets of siderite, carrying a little galena. Veinlets run 20°. | | 35° | | | | |
| 592' | 596' | 4' | Banded quartz ^r and slate bands over this length of core, banding changes direction 3 times. Banding is between 40° - 60° to long axis. Fold axes at 90° to long axis. Lower limbs slightly closer to axial plane. Fracture fillings and stringers of siderite and a little quartz | 100% | | | | | |

| | | | | | | | |
|----------|------------|---------|----------|-------------|-----|-----------|----|
| Property | E.L. 44/70 | | Location | Spray | | Scale No. | 2 |
| Records | R L | Bearing | N 44° E | Inclination | 81° | Page No. | 19 |

Contractor... A.S. James Rig... Mindrill 1000

Dates: Start..11/2/71....Finish..11/2/71....Type of Drilling....Diamond Drill.(B.Q. Wireline).....

027

875028

| From | To | Core Recovd. | Log | % Kxx Recovery | ∠ of b/b Kx to l.a. | Assays |
|--------|--------|--------------|--|----------------------|---------------------------|--------|
| 596' | 601' | 5' | Banded graphitic slate and quartz. Fractured and sheared siderite, fracture fillings, stringer and tension gashes. | | 40° | |
| 601' | 602' | 1' | Massive replacement of quartz vein with siderite and traces of galena and pyrite, 40° to long axis. | | | |
| 602' | 605' | 3' | Banded quartz and slate (graphitic) with fracturing of the quartz ^t bands and replacements by quartz vein and siderite. Irregular blebs of pyrite bearing no relation to open fracture filling. | | contorted | |
| 605' | 606' | 1' | Vein quartz replacing quartz ^t between graphite shale partings. | | | |
| 606' | 608'6" | 2'6" | Quartzite with replacement by vein quartz. Stringers of siderite. | | 40° | |
| 608'6" | 613' | 4'6" | Black graphitic slate with thin bands of quartz ^t . Tight folds with fracturing of quartz ^t bands (flow structure). Minor shearing, tension gashes and stringers filled with siderite. | | | |
| 613' | 614' | 1' | Quartz ^t with shale parting banding 50° to long axis. Fractures in the banded quartz/slate with open fracture fillings & replacement by quartz, siderite, galena | | | |

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|----------|------------|---------|----------|-------------|-----|
| Property | E.L. 44/70 | | Location | Spray | 2 |
| Records | R L | Bearing | N 40° E | Inclination | 81° |
| | | | | | 20 |

Operator..... A.S. James Rig..... Mindrill 1000

Date: Start... 11/2/71... Finish... 13/2/71... Type of Drilling..... Diamond Drill (B.Q. Wireline)

028

875029

| From | To | Core Recovd. | Log | % Kxxx Recovery | ∠ of b/b Xx to l.a. | Assays | | | | |
|--------|--------|--------------|--|-----------------------|---------------------------|--------|--|--|--|--|
| 614' | 615'6" | 1'6" | Banded slates with replacement by vein quartz along contorted banding. Fracture fillings and replacement by siderite carrying galena (very fine grain). Open fracture fillings. | | | | | | | |
| 615'6" | 618' | 2'6" | Contorted slatey/quartz [†] . Banding replacement by banding quartz, banding at low angle. | | | | | | | |
| 618' | 619' | 1' | Fractured quartzite with replacement blebs of vein quartz and stringer veinlet $\frac{1}{4}$ "- $\frac{1}{2}$ " wide running approx. 10° to core axis. Veinlet zoned (open fracture filling) siderite, specks of galena in centre. | | | | | | | |
| 619' | 623' | 4' | Dark grey quartzite with shale partings tension gashes of quartz and siderite infill banding at 30°. | | | | | | | |
| 623' | 626' | 3' | Contorted quartzite with graphitic slate partings, replacement by siderite stringers. | | | | | | | |
| 626' | 629' | 3' | Banded quartzite with graphitic slate partings banding at 0°. Movements along shale partings later than siderite. Siderite stringers and gash veins. | | | | | | | |

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|----------|------------|---------|----------|--|-------------|---------|----------|----------|----|
| Property | E.L. 44/70 | | Location | | Spray | | Hole No. | 2 | |
| Records | R L | Bearing | N 42° E | | Inclination | 81° 10' | | Page No. | 21 |

Contractor... A.S. James Rig... Mindrill 1000

Dates: Start... 13/2/71 Finish... 13/2/71 Type of Drilling... Diamond Drill (B.Q. Wireline)

020
875030

| From | To | Core Recovd. | Log | % Recovery | ∠ of b/b Xxx to l.a. | Assays | | | | |
|--------|--------|--------------|---|------------|----------------------------|--------|--|--|--|--|
| | | | | | | | | | | |
| 629' | 631' | 2' | Dark grey quartzite with quartz and siderite stringers; fracture fillings at 630' - 631'. Quartz vein 2" wide at 30° to long axis, no mineralisation | | | | | | | |
| 631 | 633'4" | 3'4" | Massive quartzite with minor slaty partings, gash veins and fracture filling with siderite. Pyrite encrustations on fracture plains. | | 30° | | | | | |
| 633'4" | 633'6" | 0'2" | Quartz, siderite vein 1½" true width. Open fracture filling with parallel order of deposition. Quartz, siderite and galena. Galena ¼" wide in centre, coarse grain. | | | | | | | |
| 633'6" | 638' | 4'6" | Medium grey quartzite with more slaty bands exhibiting flow structure. | | 20°-30° | | | | | |
| 638' | 644' | 6' | Massive pale grey quartzite and small stringers of siderite. | | 20°-10° | | | | | |
| 644' | 648' | 4' | Banded quartz ^t with wider graphitic slate parting. Banding variable 20°-0°. Fracture fillings of quartz/siderite. | | | | | | | |
| 648' | 650' | 2' | Quartzite and slate in which the wider bands of quartzite exhibit recrystallisation. | | | | | | | |

| | | | | | | |
|----------|------------|---------|----------|-------------|--------|----|
| Property | E.L. 44/70 | | Location | Spray | | 2 |
| Records | R L | Bearing | N 42° E | Inclination | 81°10' | 22 |

Contractor..... A.S. James Rig. Mindrill 1000

DRILL
LOG

Date: Start... 13/2/71 Finish... 14/2/71 Type of Drilling Diamond Drill (B.Q. Wireline)

030875031

| From | To | Core Recovery | Log | % Xxxx Recovery | ∠ of b/b Xx to l.a. |
|--------|--------|------------------|--|-----------------------|---------------------------|
| 650' | 652' | 2' | Dark grey slate, banding 0°-10° variable. Small stringers of siderite. | | |
| 652' | 657' | 5' | Pale grey quartzite with veinlets and stringers of quartz and siderite. Bandings at 40°. | | |
| 657' | 659' | 2' | Contorted and broken banded quartzite and slate, banding approximates to 0°. | | |
| 659' | 662' | 3' | Pale grey quartzite with graphitic slate broken and contorted. Broken ground 660'-661' due to shears at 25° (approx.) Dense stringers of siderite. | | |
| 662' | 665' | 3' | Pale grey quartzite with siderite stringers, banding at 60°. | | |
| 665' | 665'6" | 0'6" | Thinly banded slate quartzite contorted and broken growth of quartz blebs. | | |
| 665'6" | 669' | 3'6" | Pale grey quartzite, siderite stringers at 55°. | | |
| 669' | 676'6" | 7'6" | Banded slates and quartzite, siderite stringers with fine grained pyrite. Cleavage approximately 10°. | | 55° |
| 676'6" | 686'6" | 10' | Banded graphitic slate and quartzite contorted banding in places. Box folds and crellation cleavage. Siderite fracture fillings and stringers banding average 45°. | | |

Property E.L. 44/70 Location Spray Hole No. 2

Records P L Bearing Inclination 82°30' Page No. 23

Contractor: A.S. James Rig: Mindrill 1000

DRILL LOG 031

Dates: Start: 14/2/71 Finish: 18/2/71 Type of Drilling: Diamond Drill (B.Q. Wireline)

875032

| From | To | Core Recvd. | Log | % Recovery | ∠ of b/b to l.a. | Assays | | | | | | | |
|--------|--------|-------------|--|------------|------------------|--------|--|--|--|--|--|--|--|
| | | | | | | | | | | | | | |
| 686'6" | 690'6" | 4' | Alternating quartzite ^{with} /banded graphitic slate. Fracture filling siderite. | 100% | | | | | | | | | |
| 690'6" | 693' | 2'6" | Massive pale grey quartzite with siderite stringers 30°. | 100% | | | | | | | | | |
| 693' | 695' | 2' | Dark grey quartzite with banded quartzite and slate intercalations replacement by quartz. Stringers of siderite. | 100% | 55° | | | | | | | | |
| 695' | 697'6" | 2'6" | Thinly banded quartz ^t and graphitic slate with fracture of bands, gash veins and tension gashes filled with siderite and quartz. | 100% | 35° | | | | | | | | |
| 697'6" | 703' | 5'6" | Medium grey quartzite with graphitic or shaley particles, stringers of siderite. | 100% | 25° | | | | | | | | |
| 703' | 706' | 3' | Dark grey quartzite with graphitic slate partings. Core loss at 705'-706' where banding at 0° | 80% | 15° - 20° 0° | | | | | | | | |
| 706' | 709' | 3' | Dark grey graphitic slate with quartz ^t intercalations. Banding 20°. | | 20° | | | | | | | | |
| 709' | 711' | 2' | Banded (thinly) slates of quartzite. Banding variable 50°-20° | 70% | 50° - 20° | | | | | | | | |

| | | | | | |
|----------|----------|---------|-------------|----------|----|
| Property | Location | | | Hole No. | 2 |
| Records | R L | Bearing | Inclination | Page No. | 24 |

Contractor: A.S. James Rig: Mindrill 1000
 Dates: Start 18/2/71 Finish 22/2/71 Type of Drilling: Diamond Drill (B.Q. Wireline)

DRILL LOG

032/875033

| From | To | Core Recovd. | Log | % Recovery | ∠ of b/b to l.a. | ASSAYS | | | | | | | |
|--------|------|--------------|---|------------|------------------|--------|--|--|--|--|--|--|--|
| | | | | | | | | | | | | | |
| 711'6" | 714' | 3'6" | Core loss 710'6"-711'0" where banding parallel to core axis. 18" of fragments. Quartz of fragmented state with replacement of quartzite veins. | | | | | | | | | | |
| 714' | 716' | 2' | Banded slates of quartzite which have been fractured and selectively replaced and recrystallised in the quartzite bands by vein quartz. | 90% | 40° | | | | | | | | |
| 716' | 718' | 2' | Banded slates and quartzites, graphitic partings in the quartzite. | 100% | 30° | | | | | | | | |
| 718' | 721' | 3' | Core fractured at 719'-720'. Banded slates of quartzites. Rock exhibits fracturing and slip along graphitic partings - considerable recrystallisation of quartzite to form blebs of vein quartz. Quartz carries some pyrite and siderite. | 100% | | | | | | | | | |
| 721' | 723' | 2' | Quartzites with contorted graphite particles recrystallised in places to vein quartz. Small quantity of pyrite. | 100% | 30° | | | | | | | | |

| | | | | | |
|----------|----------|---------|-------------|----------|----|
| Property | Location | | | Hole No. | 2 |
| Records | R L | Bearing | Inclination | Page No. | 25 |

Contractor: A.S. James Rig: Mindrill 1000

DRILL
LOG

Dates: Start 22/2/71 Finish 22/2/71 Type of Drilling: Diamond Drill (B.Q. Wireline)

033

| From | To | Core Recovd. | Log | % Recovery | ∠ of b/b to l.a. | Assays | | | | | | |
|--------|--------|--------------|---|---------------|---------------------|--------|--|--|--|--|--|--|
| | | | | | | | | | | | | |
| 723' | 726' | 3' | Pale grey, fairly coarse grained quartzite thin shale particles. Siderite veinlets carry pyrite (cubes). | | 40° app. | | | | | | | |
| 726' | 726'8" | 0'8" | Massive pale grey fairly coarse grained quartzite, with dense replacement by pyrite (fine grained). Along zone trending 20°, pyrite seems to form linear masses and bleb-like concentrations. | | | | | | | | | |
| 726'8" | 728' | 1'4" | As above, but more shaley. Pyrite forms stringer type replacement bodies in much lower concentration. | 100% | | | | | | | | |
| 728' | 729'7" | 1'7" | Massive pale grey quartzite, some recrystallisation to irregular vein of bleb quartz. Scattered pyrite blebs and stringers. | 100% | | | | | | | | |
| 729'7" | 731' | 1'5" | Banded slates and quartzites lightly folded and broken. Small shear at 730'0" at 20° to core axis. | 100% | 50° | | | | | | | |
| 731' | 733' | 2' | Broken quartzite with slate partings. | | | | | | | | | |

875034

| | | | | | | | | | | | | |
|----------|---|---|---------|-------------|--|--|--|--|--|--|----------|----|
| Property | | | | Location | | | | | | | Hole No. | 2 |
| Records | R | L | Bearing | Inclination | | | | | | | Page No. | 26 |

Contractor..... A.S. James Rig..... Mindrill 1000

Start..... 22/2/71 Finish..... 23/2/71 Type of Drill..... Diamond Drill (B.Q. Wireline)

DRILL LOG

0348
75035

| From | To | Core - Recovd | Log | % XXXX Recovery | ∠ of b/b Xx to l.a. | | | | |
|--------|--------|--------------------|---|-----------------------|---------------------------|--|--|--|--|
| 733' | 735' | 2' | Banded quartz and slate, lightly folded banding in slatey parts, general dip approximately 30° broken by possible shear at 734'. | 75% | 30° | | | | |
| 735' | 738' | 3' | Highly fractured and broken quartzite with shearing along the slatey parts. Fragments of vein quartz. | 33% | | | | | |
| 738' | 740' | 2' | Completely fragmental rock, quartzite fragments in a ground mass of powdered shale - in places merely a clay. Pyrite present in bands. | | 30° | | | | |
| 740' | 742' | 2' | Fragmental rock consisting of quartzite fragments in a shattered and fragmented shale. Very crumbly. | 50% | | | | | |
| 742' | 745'6" | 2' | Massive, pale grey, medium grained quartzite. Siderite stringers and a little pyrite in places. | 60% | 10° | | | | |
| 745'6" | 752' | 14 fragments of 6" | Massive quartzite with some recrystallisation. Criss-cross fractured veins of siderite and quartz with pyrite encrustation on infill side. Evidence of some depth. zonal deposition | | | | | | |

| | | | | | |
|----------|-----|----------|-------------|----------|----|
| Property | | Location | | Hole No. | 2 |
| Records | P L | Bearing | Inclination | No. of | 27 |



- LEGEND**
- D LEVEL
 - B LEVEL
 - C LEVEL { Not shown - location unknown.
An adit level between levels A & B.
 - A LEVEL (Main adit.)
 - E LEVEL
 - No. 1 LEVEL
 - No. 2 LEVEL (incomplete data)
 - No. 3 LEVEL
 - No. 4 LEVEL
 - No. 5 LEVEL
 - No. 6 LEVEL
- MAIN LODE ADITS**
- TOP ADIT
 - MIDDLE ADIT
 - LOWER ADIT

MAG. NORTH
 NOV., 1970

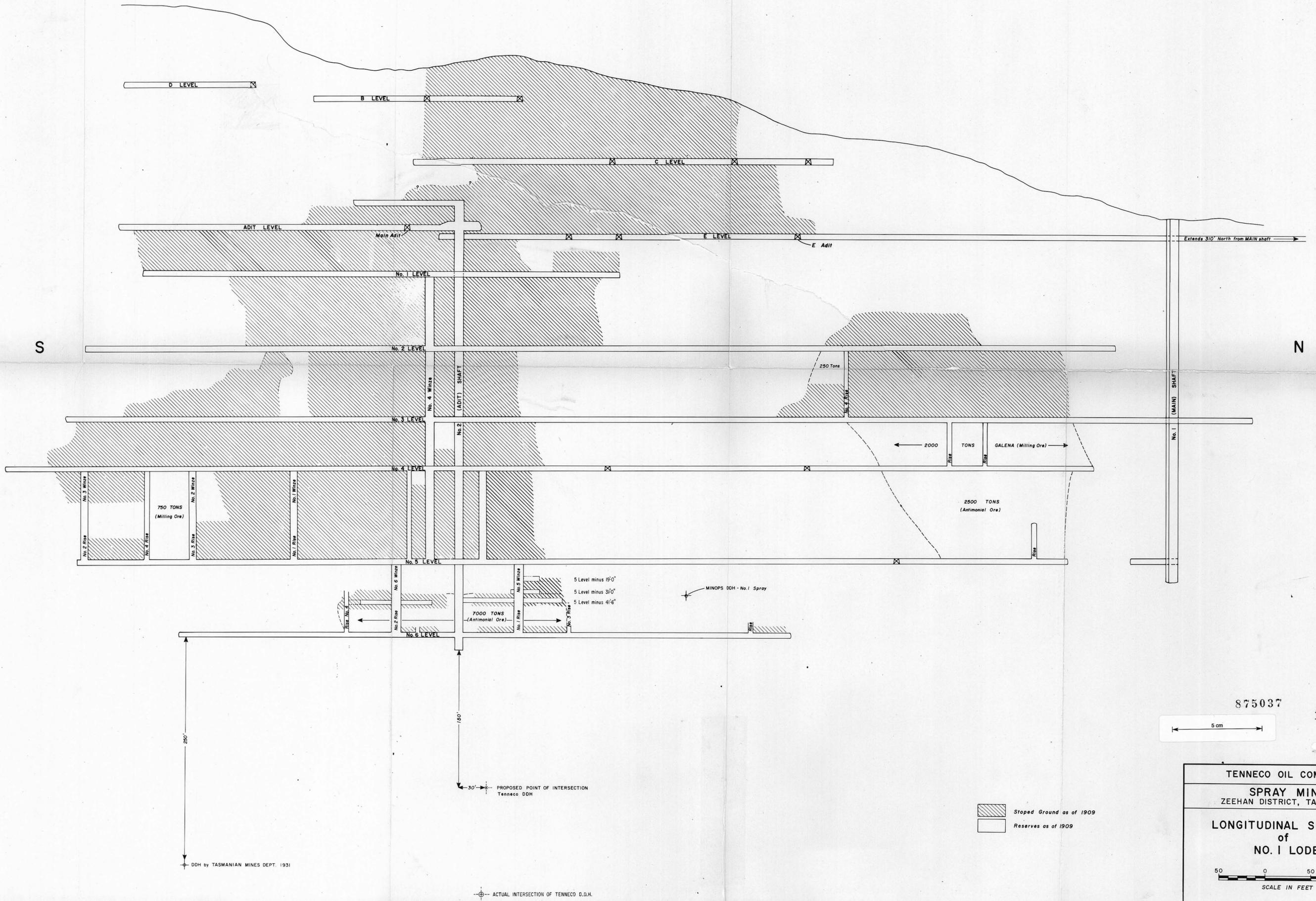
875036

1030

5 cm

FIGURE 1.

| |
|---|
| TENNECO OIL COMPANY |
| SPRAY MINE ZEEHAN DISTRICT, TASMANIA |
| COMPOSITE PLAN OF WORKINGS |
| DWG No. 199 |
| SCALE IN FEET 50 0 50 100 150 |
| J.B.B. 1970 |



875037

1031

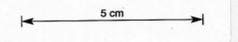


FIGURE 2

| | |
|---------------------------|--|
| TENNECO OIL COMPANY | |
| SPRAY MINE | |
| ZEEHAN DISTRICT, TASMANIA | |
| LONGITUDINAL SECTION | |
| of | |
| NO. 1 LODGE | |
| <p>SCALE IN FEET</p> | |
| NOV. 1970 | |
| DWG NO. 224 | |

ADIT LEVEL — 0

Nº 1 LEVEL — -51'

Nº 2 LEVEL — -133'

Nº 3 LEVEL — -210'

Nº 4 LEVEL — -264'

Nº 5 LEVEL — -368'

Nº 6 LEVEL — -447'

77°30'00"

Nº 1 LODE HORIZON

8" Vein of 16.8% Pb
267 O₃ Ag/ton
8.8% Sb, 1.4% Cu

Hole surveyed to 688'

Heavily sheared with
Pyrite mineralisation

T.D. 752'

875038

1032

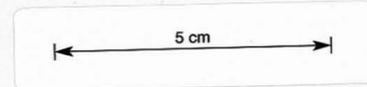


FIGURE 3

TENNECO AUSTRALIA INC.

CROSS-SECTION SPRAY D.D.H. Nº 2

SECTION LOOKING SOUTH



Date: May 1971

Dwg. no. 239

71-765 950156



1000 N
00
1000 S
2000 S
3000 S
4000 S
5000 S

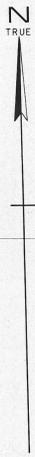
1000 E

1000 E

1000 E

2000 E

3000 E

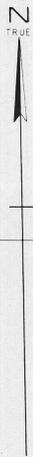
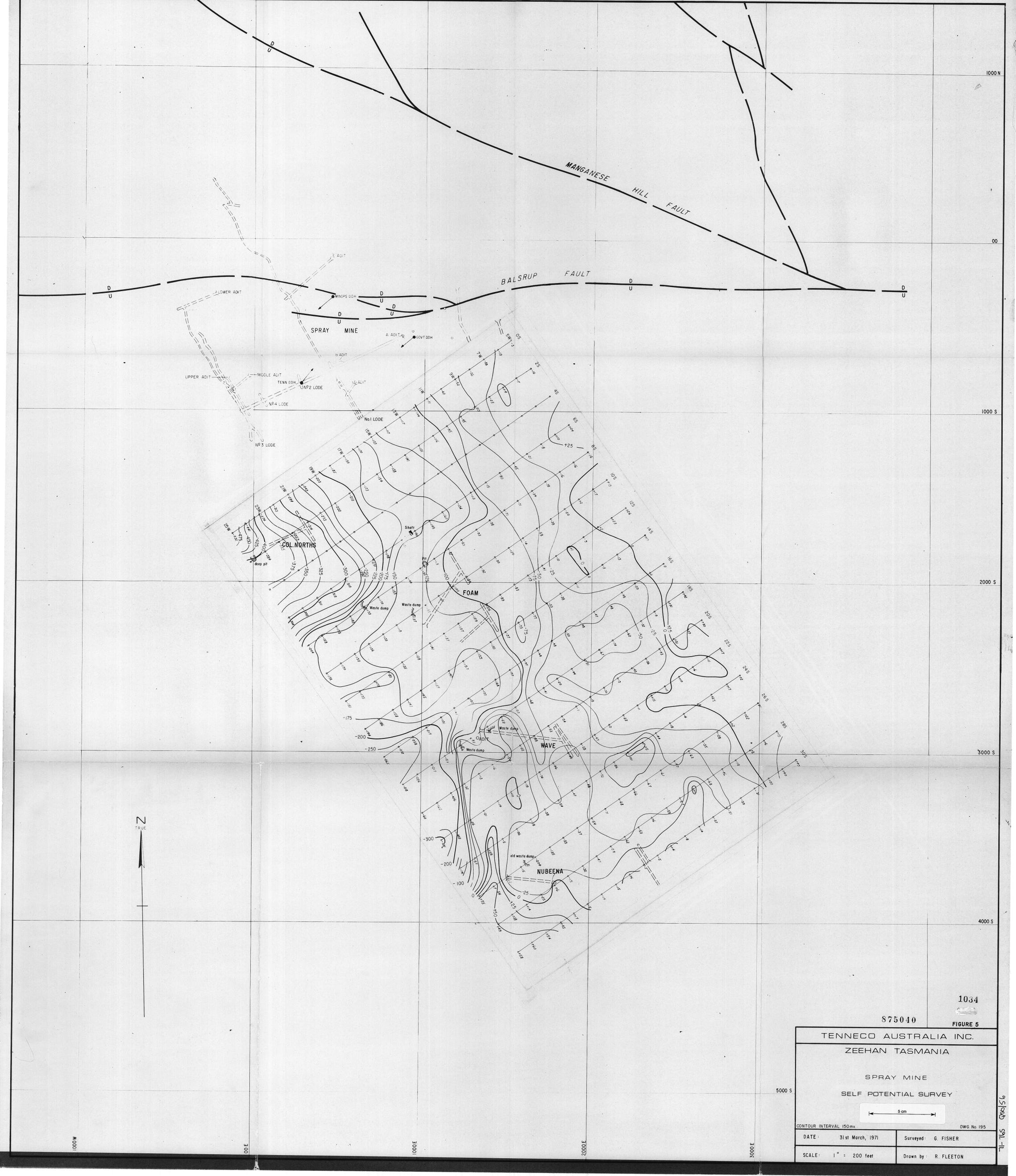


CONTOUR INTERVAL 0.5°/100feet.

1033

| | | |
|---|------------------|----------------------|
| 875039 | | FIGURE 4 |
| TENNECO AUSTRALIA INC. | | |
| ZEEHAN TASMANIA | | |
|  | | |
| SPRAY MINE | | |
| ELECTROMAGNETIC SURVEY | | |
| TURAM PHASE ANGLE | | |
| DWG. No. 194 | | |
| DATE: | 31st March, 1971 | Surveyed by: A. RUGG |
| SCALE: | 1" = 200 feet | Drawn by: R. FLEETON |

71-763 Q5056



1034

875040

FIGURE 5

| | |
|------------------------------------|----------------------|
| TENNECO AUSTRALIA INC. | |
| ZEEHAN TASMANIA | |
| SPRAY MINE | |
| SELF POTENTIAL SURVEY | |
| | |
| CONTOUR INTERVAL 150mV. DWG No 195 | |
| DATE: 31st March, 1971 | Surveyed: G. FISHER |
| SCALE: 1" = 200 feet | Drawn by: R. FLEETON |

71-76 Q25/3