821001

GIPPSLAND MINERALS

QUEEN HILL - ZEEHAN

DIAMOND DRILLING - ML 54M/68

7-1-80 +

C.P.O. 000

821002 DRS 9

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Dept. of MINES
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29 MAR 1971
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Adel

Job No: 71/156 25th March, 1971.

Gippsland Minerals,
131 Queen Street,
Melbourne. 3000

GIPPSLAND MINERALS
QUEEN HILL. Beechon
Diamond Drilling

Attention: Mr. Barnes.

Dear Mr. Barnes,

Please find enclosed the mineragraphic report No. 54M/68 on your samples

Nos: 1, 2, 3 and 4

Samples from where?

Yours sincerely,

I. Hopper

I. Hopper (Mrs.),
GENERAL MANAGER.

encl.

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001

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Job No: 71/156 25th March, 1971.

Gippsland Minerals,
131 Queen Street,
Melbourne. 3000

Attention: Mr. Barnes.

Report on the investigation of 4 "tin - sulphide".

Introduction:

Four samples containing Sn, W and Ag were submitted for a mineralogical investigation. Since the purpose of the investigation was more a feasibility study, more time was spent on correctly identifying all mineral phases, and the determination of the grain sizes of all constituents. Since texture is often a very important criterium in the metallurgical processes, special emphasis has been placed on these features.

Methods of investigation:

The four samples were investigated in reflected light on large polished surfaces. The minerals were mostly identified by means of X-rays using both a Behye Scherrer Camera and a diffractometer. The grain sizes were determined microscopically. Estimates of the amount present were also done microscopically.

Results:

Sample 1

This ore consists of the following minerals in the following percentages.

Minerals	%	Grain size (mm)
Pyrite	15	10 - 0.5 mm
Chalcopyrite	<1	.2 mm
Sphalerite	2	0.4 - 0.7 mm
Tetrahedrite	5	2.0 - 0.1 mm
Wolframite	<1	1.0 mm
Cassiterite	1,5	0.5 mm
Siderite	25	4 - 0.5 mm

..../2

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..../2

The pyrite is present as large euhedral and subhedral prophyroblasts. They are often present as massive areas, and often disseminated through the rock. The pyrite is replaced, almost entirely in some places, by tetrahedrite, and only atols are left. Small worm shaped veins of chalcopyrite also replace some pyrite.

Sphalerite is present as subhedral to anhedral grains in the matrix, it has exsolved small bleps and rods of chalcopyrite. It appears to be distributed in places where no cassiterite or wolframite are present. The sphalerite is replaced by large anhedral grains of siderite.

The wolframite is present as large euhedral to subhedral grains which are distributed locally through the section. The cassiterite is also present as euhedral grains which are distributed in clusters in the specimen.

The cassiterite and wolframite are associated, whereas the sphalerite, tetrahedrite, chalcopyrite and sederite are associated together in the section.

Sample 2

This section indicates that the pyrite was formed syngenetically, and even replace some algae (?) pseudomorphously to form typical botrylidal clusters. The minerals present are:-

Minerals	%	Av. grain size
Pyrite	20	5 mm
Tetrahedrite	5	3 mm
Sphalerite	2	0.8 mm
Chalcopyrite	<1	0.1 mm
Arsenopyrite	<1	1.0 mm
Siderite	20	3.0 mm
Wolframite	<1	0.3 mm
Cassiterite	± 1	0.2 mm

Apart from the botrylidal pyrite, massive pyrite as well as small euhedral prophyrablasts are present. The tetrahedrite replaces the pyrite, and atols of pyrite can often be discerned. Small grains of chalcopyrite which replaces the pyrite are also present in places. Larger anhedral grains of aresenopyrite are associated with the pyrite, but they are never replaced.

Sphalerite is present as small subhedral to anhedral grains which are desseminated through the rock. The sphalerite has ensolved rods and blebs of chalcopyrite, and is replaced by siderite.

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The wolframite is present as small subhedral to anhedral grains in the matrix, and they are associated with the cassiterite. The latter is present as stringers, and almost form comb structures.

Sample 3

Apart from the minerals mentioned, some galena is also present in this section. The minerals are summarized below:-

Minerals	V. %	Grain Size (mm)
Pyrite	± 10	5
Sphalerite	± 4	0.7
Galena	1	0.2
Siderite	± 20	4
Tetrahedrite	± 5	4
Chalcopyrite	1	0.1
Wolframite	1	0.2
Cassiterite	± 1	0.6

The pyrite is present as euhedral porphyrablasts and as massive subhedral aggregates. It is replaced by large fields of tetrahedrite and atol textures are frequently present. An x-ray pattern of the tetrahedrite indicates that it is possibly culusite (Rhamdohr, 1950, p. 433). Small veins of chalcopyrite replaces the pyrite partly.

Sphalerite is present as large subhedral grains, and are usually replaced by siderite and or galena. The latter is fine-grained and anhedral in shape. Ensolutions of chalcopyrite could be discerned in the sphalerite.

The wolframite if finely disseminated in this sample and mainly associated with the cassiterite. The latter is also present in clusters, it is coarser grained and euhedral in shape.

Sample 4

This rock contains more cassiterite but far less sphalerite. The minerals present are:-

Minerals	Vol. %	Av. grain size
Pyrite	20	6 mm
Arsenopyrite	1	2 mm
Tetrahedrite	25	4 mm
Galena	1	0.2 mm
Sphalerite	1	0.8 mm
Siderite	20	6.0 mm
Cassiterite	7	0.6 mm

..../4

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..../4

The pyrite is extensively replaced by tetrahedrite, and are often pseudomorphously replaced. Some euhedral and also massive pyrite have resisted the replacement and they are disseminated through the rock. The small anhedral grains of arsenopyrite are associated with the pyrite.

Sphalerite is disseminated through the rock, it contains four ensolved rods of chalcopyrite, and is replaced by siderite. The galena, which is present as small anhedral grains, replaced the sphalerite.

Cassiterite is very abundant in this section, and it occurs in a large band, which shows comb textures. Only one grain of wolframite was found in this slide.

Conclusions:

1. Obviously 2 sequences of ore-genesis resulted in the present ore; viz an early pyrite, arsenopyrite, cassiterite and wolframite phase, and a second sphalerite - tetrahedrite - galena - siderite phase.

2. Silver appears to be present in the tetrahedrite. This is a normal situation and has been described by several authors (e.g. Rhamdahr, 1950, p. 432).

Colusite?

3. Tin appears to be present as cassiterite and also as culusite (type of tetrahedrite). The amount in the latter could be determined by means of the electron microprobe. This also applies for the Ag in the tetrahedrite.

4. The tin is fine-grained and would possibly be very difficult to separate by gravity, however tin floatation should be possible.

5. Unless better wolframite concentrations are present, it appears that this ore is not sufficiently enriched.

List of Maps 1-27

1. Chip sampling	10. Geological Plan	18. Untitled
2. ✓ ✓	11. ✓ ✓	19. ✓
3. ✓ ✓	12. Queen Hill	20. Section G10
4. ✓ ✓	13. ✓ ✓ No4 Shaft	21. ✓ G11+12
5. ✓ ✓	14. ✓ ✓ ✓ ✓	22. ✓ G5+6
6. ✓ ✓	15. ✓ ✓ ✓ ✓	23. ✓ G13
7. ✓ ✓	16. Untitled	24. ✓ G7+8
8. ✓ ✓	17. ✓	25. Borehole location
9. ✓ ✓		26. N.S.X Section
		27. Extent of workings

005

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SPECTROGRAPHIC AND CHEMICAL ANALYSTS

ANALYSIS REPORT FOR:
Gippsland Minerals N.L.,
131 Queen Street,
MELBOURNE VIC. 3000.

PURCHASE ORDER No. Project Zeehan
DATE 12th May, 1971.

Sample	Cu	Zn	Pb	Sb	Sn	Ag ozs/ton	Bi ppm
Z 292	.04	.03	5.60	<.01	.76	4.80	
Z293	.06	.04	5.40	<.01	1.01	3.81	
Z 294	.02	.04	4.00	<.01	.66	3.49	
Z 295	.03	.06	6.00	<.01	1.25	.84	
Z 296	.02	.08	4.60	<.01	.33	2.65	
Z 297	.01	.06	6.55	<.01	.19	1.04	
Z 298	.01	.03	2.30	<.01	.50	2.26	
Z 299	.01	.03	.70	<.01	.12	.84	
Z 300	.01	.04	.55	<.01	.06	.87	
Z 301	.01	.03	1.60	<.01	.14	.55	
Z 302	.01	.03	7.15	<.01	.39	3.47	
Z 303	.01	.03	.27	<.01	.02	.16	
Z 304	<.01	.02	.20	<.01	.37	.40	
Z 305	.01	.06	1.60	<.01	.21	.16	
Z 306	.02	.01	1.02	<.01	.03	.30	
Z 307	.02	.03	9.00	<.01	.31	5.60	
Z 308	.01	.08	1.20	<.01	.12	2.20	
Z 309	.01	.02	10.7	<.01	.67	1.33	
Z 310	.01	.04	10.6	<.01	.47	2.42	
Z 311	.01	.03	.95	<.01	.13	.63	

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ANALYSIS REPORT FOR:
Gippsland Minerals N.L.,
131 Queen Street,
MELBOURNE VIC. 3000.

PURCHASE ORDER No. Project Zeehan
DATE 12th May, 1971.

Sample	Cu	Zn	Pb	Sb	Sn	Ag ozs/ton	Bi ppm
Z 312	∠.01	.03	.69	∠.01	.02	.10	
Z 313	.01	.03	.05	∠.01	.02	.14	
Z 314	∠.01	.02	.60	∠.01	.59	.51	
Z 315	.01	.02	1.00	∠.01	.44	.28	
Z 316	∠.01	.02	.01	∠.01	.01	.06	
Z 317	.05	1.18	1.60	∠.01	.03	.25	
Z 318	.03	2.04	.98	∠.01	.03	.27	
Z 319	.05	2140	2.90	∠.01	.08	.65	
Z 320	.05	1.14	2.72	∠.01	.13	.27	
Z 321	.02	.26	2.00	∠.01	.08	.25	
Z 322	.04	1.60	3.60	∠.01	.08	3.16	
Z 323	.04	.90	2.65	∠.01	.09	.44	
Z 324	.05	1.45	3.15	∠.01	.13	.92	
Z 325	.04	.10	.92	∠.01	.13	.22	
Z 326	.03	.04	1.15	∠.01	.03	.31	
Z 327	.03	.05	.70	∠.01	.10	.11	
Z 328	.04	.28	.82	∠.01	.08	.13	
Z 329	.03	.04	.65	∠.01	.13	.14	
Z 330	.03	.40	6.65	∠.01	.40	1.85	
Z 331	.06	.33	7.00	∠.01	.41	.83	

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ANALYSIS REPORT FOR:
Gippsland Minerals N.L.,
131 Queen Street,
MELBOURNE VIC. 3000.

PURCHASE ORDER No. Project Zeehahn
DATE 12th May, 1971.

Sample	Cu	Zn	Pb	Sb	Sn	Ag ozs/ton	Bi ppm
Z 332	.01	.04	.17	<.01	.13	.15	
Z 333	<.01	.04	.55	<.01	.54	.44	
Z 334	.01	.06	1.60	<.01	1.44	.18	
Z 335	.01	.04	.90	<.01	.60	.15	
Z 336	.03	.05	1.85	<.01	.08	.34	
Z 337	.01	.03	.23	<.01	.88	.21	
Z 338	.01	.13	2.18	<.01	1.20	.18	
Z 339	.01	1.20	1.50	<.01	1.05	.25	
Z 340	.01	.06	1.28	<.01	.10	.28	
Z 341	.01	.06	.38	<.01	.27	.20	
342	<.01	.03	.87	<.01	.29	.55	
Z 343	<.01	.02	.31	<.01	.06	.16	
Z 344	.01	.01	5.81	<.01	.39	.46	200
Z 345	.01	.02	.98	<.01	.86	.20	
Z 346	.01	.02	3.10	<.01	4.60	.43	
Z 347	.01	.01	.38	<.01	.12	.30	
Z 348	.01	.01	.22	<.01	.33	.36	
Z 349	.01	.02	2.65	<.01	.47	2.35	
Z 350	.01	.02	1.70	<.01	.68	2.75	
Z 351	.015	.03	2.38	<.01	.86	4.35	250

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SPECTROGRAPHIC AND CHEMICAL ANALYSTS

ANALYSIS REPORT FOR:
Mt. Island Minerals N.L.,
171 Queen Street,
MELBOURNE VIC. 3000.

PURCHASE ORDER No. Project Zeehan
DATE 12th May, 1971.

Samples	Cu	Zn	Pb	Sb	Sn	Ag ozs/ton	Bi ppm
Z 352	.01	.02	.65	∠.01	.32	.45	
Z 353	.01	.01	.65	∠.01	.16	.24	
Z 354	.02	.01	1.50	∠.01	1.65	.12	
Z 355	.01	.03	.25	∠.01	.27	.73	
Z 356	.01	.01	3.16	∠.01	.03	.69	100
Z 357	.01	.02	1.28	∠.01	.45	.71	
Z 358	.01	.03	.08	∠.01	.46	.12	
Z 359	.01	.03	.22	∠.01	.01	.20	
Z 360	.01	.03	.18	∠.01	.03	.24	
Z 361	.01	.03	.23	∠.01	2.80	.12	
Z 362	.01	.06	10.3	∠.01	.55	6.10	100

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ANALYSIS REPORT FOR:

. Gippsland Minerals N.L.,

. 131 Queen Street,

. MELBOURNE VIC. 3000.

PURCHASE ORDER No. Project Zeehan

DATE 12th May, 1971.

Sample	Cu	Zn	Pb	Sb	Sn	Ag ozs/ton	Bi ppm
Z 292	.04	.03	6.60	<.01	.76	4.80	
Z293	.06	.04	5.40	<.01	1.01	3.81	
Z 294	.02	.04	4.00	<.01	.66	3.49	
Z 295	.03	.06	6.00	<.01	1.25	.84	
Z 296	.02	.08	4.60	<.01	.33	2.65	
Z 297	.01	.06	6.55	<.01	.19	1.04	
Z 298	.01	.03	2.30	<.01	.50	2.26	
Z 299	.01	.03	.70	<.01	.12	.84	
Z 300	.01	.04	.55	<.01	.06	.87	
Z 301	.01	.03	1.60	<.01	.14	.55	
Z 302	.01	.03	7.15	<.01	.39	3.47	
Z 303	.01	.03	.27	<.01	.02	.16	
Z 304	<.01	.02	.20	<.01	.37	.40	
Z 305	.01	.06	1.60	<.01	.21	.16	
Z 306	.02	.01	1.02	<.01	.03	.30	
Z 307	.02	.03	9.00	<.01	.31	5.60	
Z 308	.01	.03	1.20	<.01	.12	2.20	
Z 309	.01	.02	10.7	<.01	.67	1.33	
Z 310	.01	.04	10.6	<.01	.47	2.42	
Z 311	.01	.03	.95	<.01	.13	.63	

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131 Queen Street,
MELBOURNE VIC. 3000.

PURCHASE ORDER No. Project Zeehan

DATE 12th May, 1971.

Sample	Cu	Zn	Pb	Sb	Sn	Ag ozs/ton	Bi ppm
Z 312	<.01	.03	.69	<.01	.02	.10	
Z 313	.01	.03	.05	<.01	.02	.14	
Z 314	<.01	.02	.60	<.01	.59	.51	
Z 315	.01	.02	1.00	<.01	.44	.28	
Z 316	<.01	.02	.01	<.01	.01	.06	
Z 317	.05	1.18	1.60	<.01	.03	.25	
Z 318	.03	2.04	.98	<.01	.03	.27	
Z 319	.05	2.40	2.90	<.01	.08	.65	
Z 320	.05	1.14	2.72	<.01	.13	.27	
Z 321	.02	.26	2.00	<.01	.08	.25	
Z 322	.04	1.60	3.60	<.01	.08	3.16	
Z 323	.04	.90	2.65	<.01	.09	.44	
Z 324	.05	1.45	3.15	<.01	.13	.92	
Z 325	.04	.10	.92	<.01	.13	.22	
Z 326	.03	.04	1.15	<.01	.03	.31	
Z 327	.03	.05	.70	<.01	.10	.11	
Z 328	.04	.28	.82	<.01	.08	.13	
Z 329	.03	.04	.65	<.01	.13	.14	
Z 330	.03	.40	6.65	<.01	.40	1.85	
Z 331	.06	.33	7.00	<.01	.41	.23	

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ANALYSIS REPORT FOR:

. Gippsland Minerals N.L.,

• 131 Queen Street,

• MELBOURNE VIC. 3000.

PURCHASE ORDER No. Project Zeenahn

DATE 12th May, 1971.

Sample	Cu	Zn	Pb	Sb	Sn	Ag ozs/ton	Bi ppm
Z 332	.01	.04	.17	∠.01	.13	.15	
Z 333	∠.01	.04	.55	∠.01	.54	.44	
Z 334	.01	.06	1.60	∠.01	1.44	.18	
Z 335	.01	.04	.90	∠.01	.60	.15	
Z 336	.03	.05	1.85	∠.01	.08	.34	
Z 337	.01	.03	.23	∠.01	.88	.21	
Z 338	.01	.13	2.18	∠.01	1.20	.18	
Z 339	.01	1.20	1.50	∠.01	1.05	.25	
Z 340	.01	.06	1.28	∠.01	.10	.28	
Z 341	.01	.06	.38	∠.01	.27	.20	
Z 342	∠.01	.03	.87	∠.01	.29	.55	
Z 343	∠.01	.02	.31	∠.01	.06	.16	
Z 344	.01	.01	5.81	∠.01	.39	.46	200
Z 345	.01	.02	.98	∠.01	.86	.20	
Z 346	.01	.02	3.10	∠.01	4.60	.43	
Z 347	.01	.01	.38	∠.01	.12	.30	
Z 348	.01	.01	.22	∠.01	.33	.36	
Z 349	.01	.02	2.65	∠.01	.47	2.35	
Z 350	.01	.02	1.70	∠.01	.68	2.75	
Z 351	.015	.03	2.38	∠.01	.86	4.35	250

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M71-303

821014

SPECTROGRAPHIC AND CHEMICAL ANALYSTS

ANALYSIS REPORT FOR:

. Gippsland Minerals N.L.,
. 121 Queen Street,
. MELBOURNE VIC. 3000.

PURCHASE ORDER No. Project Zeehan

DATE 12th May, 1971.

Sample	Cu	Zn	Pb	Sb	Sn	Ag ozs/ton	Bi ppm
Z 352	.01	.02	.65	∠.01	.32	.45	
Z 353	.01	.01	.55	∠.01	.16	.24	
Z 354	.02	.01	1.50	∠.01	1.65	.12	
Z 355	.01	.03	.25	∠.01	.27	.73	
Z 356	.01	.01	3.15	∠.01	.03	.69	100
Z 357	.01	.02	1.28	∠.01	.45	.71	
Z 358	.01	.03	.08	∠.01	.46	.12	
Z 359	.01	.03	.22	∠.01	.01	.20	
Z 360	.01	.03	.18	∠.01	.03	.24	
Z 361	.01	.03	.23	∠.01	2.80	.12	
Z 362	.01	.06	10.3	∠.01	.55	6.10	100

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821015

SPECTROGRAPHIC AND CHEMICAL ANALYSTS

ANALYSIS REPORT FOR:
. Gippsland Minerals N.L.,
. 131 Queen Street,
. MELBOURNE VIC. 3000.

PURCHASE ORDER No. Zeehan Tas.

DATE 26th July, 1971.

Queen Hill

Sample	Cu	Zn	Pb	Sn	Ag oz/ton	Bi
Z427	<.01	.08	.90	.05	.76	.023
Z428	<.01	.06	1.50	.05	1.15	.029
Z429	<.01	.06	1.20	.05	.93	.018
Z430	<.01	.08	4.45	.60	3.69	.019
Z431	<.01	.06	2.80	.15	2.88	.011
Z432	.02	.08	7.80	1.70	7.80	.071
Z433	.01	.06	7.75	1.30	4.82	.051
Z434	<.01	.06	2.40	1.30	3.01	.061
Z435	<.01	.08	4.90	.85	5.95	.030
Z436	<.01	.06	1.90	.45	2.32	.020
Z437	<.01	.08	3.00	.60	2.82	.022
Z438	<.01	.08	3.45	.75	3.61	.028
Z439	.01	.08	6.55	.85	4.42	.022
Z440	<.01	.08	3.60	.70	4.70	.025
Z441	<.01	.02	1.40	.70	3.42	.014
Z442	<.01	.08	3.15	.20	2.18	.011
Z443	<.01	.08	3.25	.60	4.82	.030
Z444	<.01	.08	1.65	.40	2.68	.026
Z445	<.01	.06	8.00	.65	3.02	.0040
Z446	<.01	.06	.60	.55	.83	.0063
Z447	<.01	.08	.01	.05	.35	.016

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SPECTROGRAPHIC AND CHEMICAL ANALYSTS

ANALYSIS REPORT FOR:

. Gippsland Minerals N.L.,

' 131 Queen Street,

MELBOURNE VIC. 3000.

PURCHASE ORDER No Zeehan Tas.

DATE 26th July, 1971.

Sample	Cu	Zn	Pb	Sn	Ag oz/ton	Bi
Z448	∠.01	.08	.02	.20	.54	.015
Z449	∠.01	.08	3.05	.50	3.08	.016
Z450	∠.01	.08	4.25	.45	2.20	.017
Z451	.12	.06	5.85	.30	5.32	.011
Z452	∠.01	.06	1.90	.20	1.38	.011
Z453	.01	.08	4.90	.30	2.08	.012
Z454	.01	.13	7.00	1.40	4.08	.059
Z455	.01	.10	6.95	1.05	4.56	.036
Z456	∠.01	.06	2.95	.10	3.32	.0080
Z457	∠.01	.02	.10	.05	.14	.0065
Z458	∠.01	.13	2.15	.10	1.40	.0090
Z459	∠.01	.10	1.40	.25	.18	.0073
Z460	∠.01	.01	.20	.05	.50	.0073
Z461	∠.01	.08	.05	.05	.15	.0078
Z462	∠.01	.04	∠.01	.10	.35	.0070
Z463	∠.01	.06	∠.01	.10	.31	.0070
Z464	∠.01	.08	2.50	.15	.37	.0050
Z465	∠.01	.06	1.00	.05	.23	.0048
Z466	∠.01	.06	.35	∠.05	.19	.0065
Z467	∠.01	.06	.01	.05	.11	.0050
Z468	∠.01	.05	.45	.10	.42	.010

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350 1309

821017

SPECTROGRAPHIC AND CHEMICAL ANALYSTS

ANALYSIS REPORT FOR:

. Gippsland Minerals N.L.,
. 131 Queen Street,
. MELBOURNE VIC. 3000.

PURCHASE ORDER No. Zeehan Tas.

DATE 26th July, 1971.

Sample	Cu	Zn	Pb	Sn	Ag oz/ton	Bi
Z469	∠.01	.05	3.15	1.25	3.65	.063
Z470	∠.01	.06	.01	∠.05	.16	.0045
Z471	∠.01	.07	.02	.05	.24	.0040
Z472	∠.01	.06	3.30	.65	4.55	.031
Z473	∠.01	.06	1.95	.30	4.52	.021
Z474	∠.01	.06	4.00	.60	4.70	.027
Z475	.01	.04	2.15	.80	6.22	.049
Z476	∠.01	.08	2.70	.85	4.35	.041
Z477	∠.01	.06	2.50	1.20	6.02	.070
Z478	∠.01	.07	.01	.15	.56	.0050
Z479	∠.01	.22	4.20	1.00	1.45	.0063
Z480	∠.01	.13	2.20	1.60	1.34	.010
Z481	∠.01	1.29	.90	.85	.62	.0030
Z482	∠.01	.08	1.25	.10	.20	.0020
Z483	∠.01	1.06	.70	1.15	.34	.0050
Z484	∠.01	.29	1.35	.65	.25	.0040
Z485	∠.01	.01	.01	∠.05	.16	.0040
Z486	∠.01	.06	1.50	.05	.05	.0030
Z487	∠.01	∠.01	2.00	.10	.42	.0043
Z488	∠.01	∠.01	.25	.05	.18	.0008
Z489	∠.01	∠.01	∠.01	.20	.51	.0008

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SPECTROGRAPHIC AND CHEMICAL ANALYSTS

ANALYSIS REPORT FOR:

. Gippsland Minerals N.L.,
. 131 Queen Street,
. MELBOURNE VIC. 3000.

PURCHASE ORDER No. Zeehan Tas.

DATE 26th July, 1971.

Sample	Cu	Zn	Pb	Sn	Ag oz/ton	Bi
Z490	<.01	<.01	1.25	.05	.36	.0020
Z491	<.01	<.01	.01	<.05	.11	.0018
Z492	<.01	<.01	.50	<.05	.16	.0015
Z493	<.01	.06	3.80	.75	.24	.0008
Z494	<.01	.08	3.10	.80	.71	.0065
Z495	<.01	.04	.25	.05	.17	.0003
Z496	<.01	.08	.60	.10	.32	<.0003
Z497	<.01	.08	.75	<.05	.20	.0008
Z498	<.01	.06	.40	.05	.16	.0010
Z499	<.01	<.01	3.70	.10	1.04	.0033
Z500	<.01	.01	2.60	.05	.94	.0028
Z501	<.01	.03	1.20	.15	.20	.0030
Z502	<.01	<.01	.70	.20	.20	.0033
Z503	<.01	<.01	.55	.10	.95	.0028
Z504	<.01	<.01	.60	<.05	.08	.0050
Z505	<.01	<.01	2.00	.85	4.19	.024
Z506	<.01	<.01	2.45	.95	3.70	.032
Z507	<.01	.01	2.15	.95	3.55	.046
Z508	.01	.06	2.10	.65	2.06	.021
Z509	<.01	.06	4.60	.65	2.89	.028
Z510	.05	.08	5.30	2.75	3.91	.16

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SPECTROGRAPHIC AND CHEMICAL ANALYSTS

ANALYSIS REPORT FOR:

. Gippsland Minerals N.L.,

· 131 Queen Street,

· MELBOURNE VIC. 3000.

PURCHASE ORDER No. Zeehan Tas.

DATE 26th July, 1971.

Sample	Cu	Zn	Pb	Sn	Ag oz/ton	Bi
Z511	∠.01	.15	.35	3.40	.16	.0070
Z512	∠.01	.01	1.35	.25	1.01	.0033
Z513	∠.01	.01	.30	.55	.11	.0023
Z514	∠.01	.06	.10	.05	.08	.0015
Z515	∠.01	.10	.30	.05	.12	.0008
Z516	∠.01	.10	∠.01	∠.05	.04	.0013
Z517	∠.01	.04	.10	3.64	.11	.0023
Z518	∠.01	.08	1.10	5.10	.10	.041
Z519	∠.01	.01	9.40	.90	2.10	.057
Z520	∠.01	.04	.60	.25	.88	.015
Z521	∠.01	.08	2.60	.30	.86	.0013
Z522	∠.01	.07	.60	.20	.20	.0008
Z523	∠.01	.04	.80	.05	.13	.0013
Z524	∠.01	.05	∠.01	.05	.07	.0015

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350 1309

018

821020

Zeehan

SPECTROGRAPHIC AND CHEMICAL ANALYSTS

ANALYSIS REPORT FOR:
. Gippsland Minerals N.L,
• 131 Queen Street,
• MELBOURNE VIC. 3000.

PURCHASE ORDER No Zeehan Tas,

DATE 28th July, 1971.

Sample	Cu	Zn	Pb	Sn	Ag oz/ton	Bi
Z525	.05	<.01	<.05	.15	.20	.0018
Z526	.01	.04	.05	.24	.19	.0025
Z527	.01	.95	.50	.03	.19	.0030
Z528	.03	.08	.05	.08	.40	.0020
Z529	.01	.80	.85	.17	.10	.0030
Z530	.02	.28	.50	.09	.15	.0005
Z531	.01	.31	.35	.05	.44	.0010
Z532	.01	.41	.85	.07	.15	.0023
Z533	.03	.11	1.65	.06	1.91	.0005
Z534	.02	.54	1.45	.25	.25	.0020
Z535	.04	.62	1.85	.10	.24	.0013

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821021

M71/430TM

SPECTROGRAPHIC AND CHEMICAL ANALYSTS

(Green Talc Chip Samples from ?here) (N)

ANALYSIS REPORT FOR:
Gippsland Minerals
138 Flinders Street
MELBOURNE. 3000

PURCHASE ORDER No. Zeehan

DATE 23rd. August 1971.

Sample	Sn %	Cu %	Zn %	Pb %	Ag Oz/Ton	Bi %
Z [illegible]	1.22	.07	.72	1.22	0.39	0.0038
Z 537	2.60	.19	2.00	2.60	0.63	0.0028
Z 538	.30	.05	6.60	.30	0.60	0.0025
Z 539	1.20	.17	6.45	1.20	1.40	0.0028
Z 540	.18	.02	.30	.18	0.27	0.0030
Z 541	.40	.03	.50	.40	0.35	0.0025
Z 542	.15	.02	∠.05	.15	0.39	0.0028
Z 543	.05	.10	.55	.05	0.43	0.0028
Z 544	∠.01	∠.01	.10	∠.01	0.24	0.0033
Z 545	.02	∠.01	.10	.02	0.23	0.0028
Z 546	.16	.01	.14	.16	0.70	0.0028
Z 547	.03	∠.01	.14	.03	0.12	0.0033
Z 548	.02	∠.01	.15	.02	0.14	0.0023
Z [illegible]	∠.01	∠.01	.30	∠.01	0.17	0.0028
Z 550	∠.01	∠.01	.60	∠.01	0.08	0.0020
Z 551	∠.01	∠.01	.30	∠.01	0.11	0.0023
Z 552	.03	∠.01	.55	.03	0.35	0.0025
Z 553	.02	∠.01	.35	.02	2.35	0.0028
Z 554	.02	∠.01	.34	.02	0.15	0.0023

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MN 36 M/62

020

821022

Sample	%Cu	%Zn	%Pb	%Sn	Ag/oz/ton
Chip Samples					
Z 615	0.01	0.01	0.45	0.14	0.16
616	0.02	5.20	6.00	0.20	2.86
617	0.01	5.25	6.73	0.27	0.15
618	0.01	0.23	2.23	1.38	0.10
619	0.01	7.10	4.70	0.20	1.59
620	0.01	0.77	4.08	0.88	2.82
621	0.02	1.18	1.31	0.47	0.11
622	0.01	2.08	3.70	0.57	1.67
623	0.01	<0.01	0.04	<0.01	0.30
624	0.01	0.01	0.26	0.02	1.71
625	0.01	<0.01	1.24	<0.01	2.73
626	0.01	<0.01	0.31	0.71	0.42
627	0.02	<0.01	0.04	<0.01	0.14
628	0.01	<0.01	0.02	<0.01	0.07
629	0.01	<0.01	0.44	0.04	0.30
630	0.01	0.01	0.48	<0.01	0.22
631	0.01	0.01	0.63	1.05	0.07
632	0.01	<0.01	0.86	0.22	0.16
633	0.02	<0.01	0.40	0.46	0.07
634	0.01	<0.01	0.32	<0.01	0.10
635	0.01	0.05	0.13	<0.01	0.07
636	0.01	<0.01	0.30	<0.01	0.12
637	0.04	0.33	2.09	<0.01	0.08
638	0.08	0.23	2.63	0.01	0.50
639	0.08	0.33	1.98	0.04	1.29
640	<.01	.02	<.01	<.01	.09
641	<.01	.01	<.01	<.01	.10
642	<.01	<.01	<.01	<.01	.07
643	<.01	.02	<.01	<.01	.06
644	<.01	.02	.01	<.01	.03
645	<.01	.02	.07	<.01	.09
646	<.01	.01	.04	<.01	.12
647	.02	.02	.21	<.01	.37
648	.02	.09	.04	<.01	.15
649	<.01	.05	.04	<.01	.16
650	<.01	.01	.02	<.01	.04
651	<.01	.01	.02	<.01	.06
652	<.01	.03	.02	<.01	.10
653	.03	.05	.05	<.01	.07
654	.01	.02	.01	<.01	.08
655	<.01	.01	<.01	<.01	.02
656	<.01	.01	.02	<.01	.10
657	<.01	<.01	<.01	<.01	.04
658	<.01	<.01	<.01	<.01	.05

Sample	%Cu	%Zn	%Pb	%Sn	Ag oz/ton
Chip Samples					
Z 659	<.01	.01	.01	<.01	.02
660	.02	.12	.15	<.01	.27
661	<.01	.01	.01	<.01	.06
662	<.01	.01	<.01	<.01	.02
663	<.01	.02	.01	<.01	.04
664	<.01	.02	<.01	<.01	.04

10,500E

10,000E

11,500N

11,000N

10,500N

QUEEN CREEK

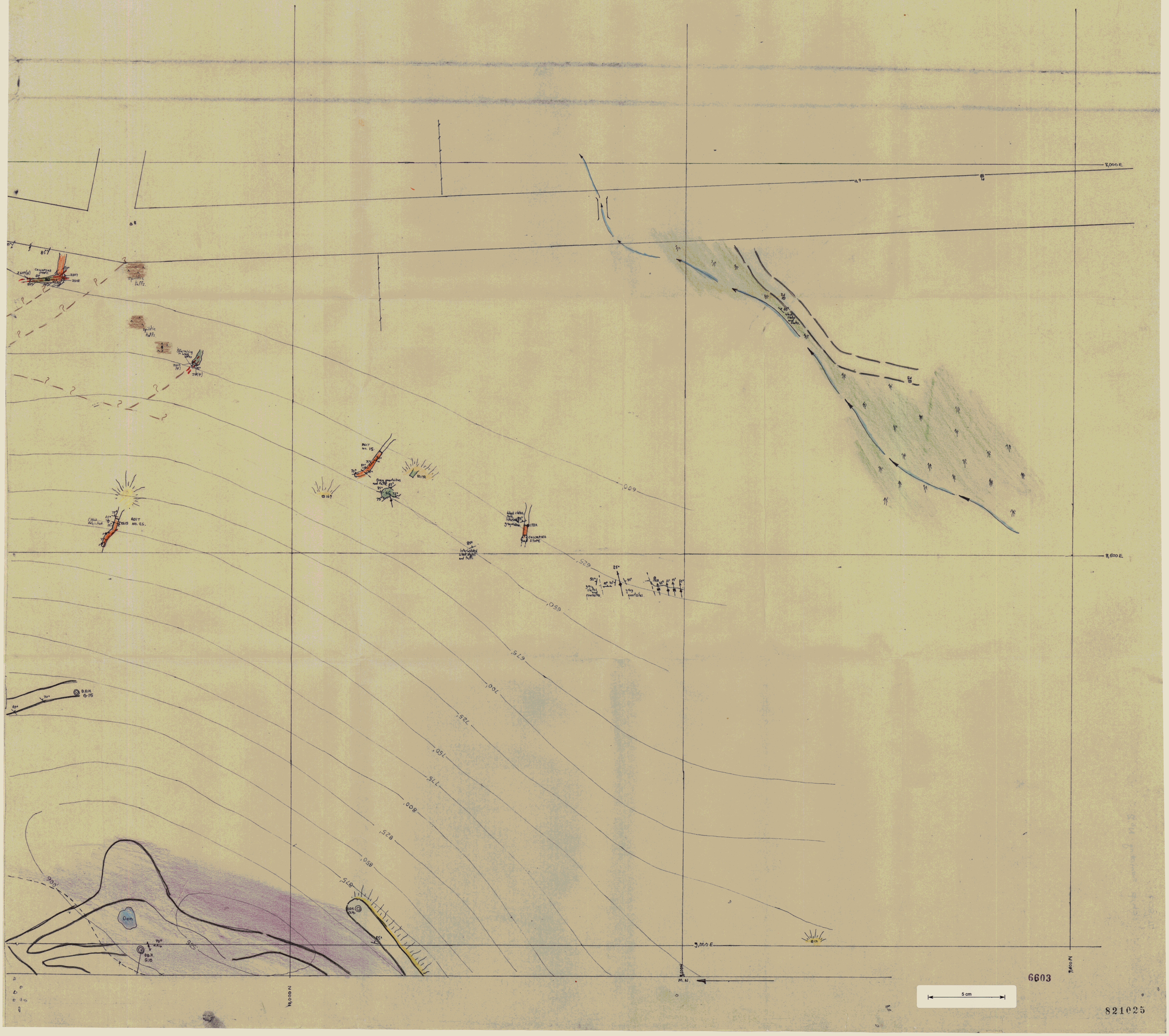
TO TRIAL HARBOUR

ADIT NO. 31

821024

6602

5 cm


8,000 E
8,500 E
9,000 E
8,000 N
9,500N
9,800 N
M.N.
COLLAPSED SHAFT.
Z609(4)
Z607
Z608
spilitic tuffs.
spilitic tuffs.
FeS2 veining in black slates
Z610 (4)
Z611(4)
ADIT NO. 15.
Grey quartzites and tuffs.
169
172
ADIT NO. 25.
Z615
black slates, rare, interbedded greywackes.
172A
COLLAPSED STOPE
Interbedded black slates and tuffs.
gray slates and quartzites.
gray quartzites.
172B
black slates and shales.
P1
P2
P3
600'
625'
650'
675'
700'
725'
750'
775'
800'
825'
850'
875'
900'
925'
D.D.H. G-15
D.D.H. G.10.
D.D.H. G.14
Dam
171

6603

821025

ZEEHAN CEMETRY

BOUNDARY OF CEMETRY RESERVE

QUEEN NO. 2 SHAFT

ADIT No. 30

ADIT No. 29

DATUM PEG

QUEEN NO. 4 SHAFT

10,500 E

10,000 E

9,500 N

10,000 N

10,500 N

821026

6604

5 cm

MAP SHEET NO. 2.

CHIP SAMPLE LOCALITY : 5FT WIDE SAMPLE UNLESS OTHERWISE INDICATED.
N.E. CHIP SAMPLES TAKEN IN ADIT AS SHOWN ON 20'=1" ADIT PLANS.

8,000 E

8,500 E

9,000 E

N.500 N

11,000 N

10,500 N

PAYNE'S OPEN CUT

ADIT No. 19

ADIT No. 20

ADIT No. 14

ADIT No. 18

ADIT No. 17

ADIT No. 16

ADIT No. 13

ADIT No. 12

ADIT CROSS-CUT

D.D.H. G.13

D.D.H. G.15

D.D.H. G.16 Gilludga

Dam

5 cm

6605

821027

B163
B147
B161
B159
B91
P4
P5
9,000 E
9,500E
11,000N
11,500N
775'
750'
725'
700'
675'
650'
625'
PLANE OF LONGITUDINAL PROJECTION
PORTAL CAGED-IN
COLLAPSED STOPE
No.7. DUNN'S TUNNEL
SITE OF OLD ADIT - BLOCKED WHEN ROAD PUT IN.
QUEEN CREEK
Q 70°
80° Grey laminated shales and micaceous quartzites.
70° Black slates and grey quartzites.
70° contorted black slates and grey quartzites.
grey shales and quartzites
Grey black slates and quartzites
contorted black slates.
M.N.
12°45'
T.N.
5 cm
50 0 50 100
SCALE 1:600
6606
821028

DAM

MILL SITE

MILL SITE

ADIT No. 24

ADIT No. 23

ADIT No. 22

ADIT No. 21

PIT No. 21

PIT

ADIT CAVED

MORTIMER No. 2 SHAFT

BUILDING

5 cm

6607

821029

ZEEHAN CEMETRY

BOUNDARY OF CEMETRY RESERVE

10000N

9500N

11000E

6608

821030

BOUNDARY OF GUSTAFF CLARK 10 ACRE LEASE

ARGENT NO.4 SHAFT

M.N.

9,000 N

9,500 N

9,000 E

9,500 E

6609

821031

LEGEND

- Massive light grey-buff porphyries very minor grey-siltstones.
- Interbedded grey to dark grey-black shales, chalcedonic siltstones and quartzites.
- Grey-buff to brown, spilitic tuffs, agglomeratic in parts.
- Massive quartz-pyrite lodes with varying amounts of galena, blende, carbonate, chamosite and siderite.
- Fault, showing dip.
- Fault inferred.
- Line of lode inferred.
- Strike and dip of bedding.
- Strike and dip of schistosity.
- Vertical schistosity.
- Fold axis along plunge.
- Geological boundary.
- Underground workings shown in thick line.
- Diamond drill hole.
- Trenches, pits.
- Main shaft.
- Shaft.
- Rise.
- Adit portal.
- Dumps.
- 25' Contour interval.
- Stoped area.

SCALE 1:600

GIPPSLAND MINERALS-COMINCO JOINT VENTURE

QUEEN HILL, ZEEHAN, TASMANIA

GEOLOGICAL PLAN

DRAWN BY:	P.J. OSBEN	14-10-71
TRACED BY:		
CHECKED BY:		

821032

6610

GIPPSLAND MINERALS-COMINCO JOINT VENTURE

QUEEN HILL, ZEEHAN, TASMANIA

GEOLOGICAL PLAN

DRAWN BY:	P. J. OSHEA	16-10-71
TRACED BY:		
CHECKED BY:		

SCALE 1:600

5cm

LEGEND

- Massive light grey-buff quartzites very minor pyrite blebs/beds.
- Interbedded grey to dark grey-black shales, siltstones and quartzites.
- Grey-buff to brown, spilitic tuff, agglomeratic in parts.
- Massive quartz-pyrite lodes with varying amounts of galena, blende, cassiterite, chamite and siderite.
- Fault, showing dip.
- Fault inferred.
- Line of lode inferred.
- Strike and dip of bedding.
- Strike and dip of schistosity.
- Vertical schistosity.
- Fold axis along plunge.
- Geological boundary.
- Underground workings shown in thick line.
- Diamond drill hole.
- Trenches, pits.
- Main shaft.
- Shaft.
- Rise.
- Adit portal.
- Dumps.
- 25' Contour interval.
- Sloped area.

Dam

No. 8

No. 7, DUNNS TUNNEL

No. 5

No. 6

No. 2

No. 3

No. 1 WIND AND FAIRFIELDS

No. 4 SHAFT

WATER TANK

Approx Position of Placer DDH

Plane of Longitudinal Projection

No. 4 LODE (APPROXIMATE POSITION ONLY)

TRACK

6611

821033

LEGEND

Massive light grey-buff quartzites very minor grey siltstones.

Interbedded grey to dark grey-black slates, shales, siltstones and quartzites.

Grey-buff to brown spilitic tuff, agglomeratic in parts.

Massive quartz-pyrite lodes, with varying amounts of galena, blende, cassiterite, stannite and siderite.

Fault, showing dip.

Fault inferred.

Line of lode inferred.

Strike and dip of bedding.

Strike and dip of schistosity.

Vertical schistosity.

Fold axis along plunge.

Geological boundary.

Underground workings shown in thick line.

Diamond drill hole.

Trenches, pits.

Main shaft.

Shaft.

Raise.

Adit portal.

Dumps.

25' Contour interval.

Stoped area.

SCALE 1:600

821034

GIPPSLAND MINERALS-COMINCO JOINT VENTURE	
QUEEN HILL, ZEEHAN, TASMANIA	
GEOLOGICAL PLAN	
DRAWN BY:	P.J. OSBEN 14-10-71
TRACED BY:	41-807
CHECKED BY:	D.G.W.

6612

LEASE BOUNDARY

1200 E
1000 E
800 E
600 E
400 E
200 E
00

1000 N
800 N
600 N
400 N
200 N
00
200 S
400 S

LEASE BOUNDARY

D 15
D 23
D 26
D 25
D 24
D 28
D 22
D 21
D 20
D 19
D 18
D 17
D 16
D 14
D 13

900'
875'
850'
825'
800'
775'
750'
725'
700'
675'
650'

A
A'
B
B'
C
C'
D
D'

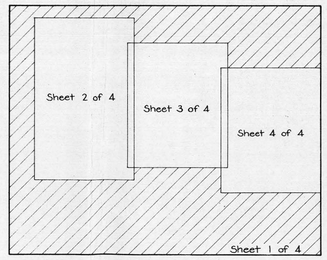
ADIT Nº 1
ADIT Nº 2
ADIT Nº 3
ADIT Nº 4
ADIT Nº 5
ADIT Nº 6
ADIT Nº 7
ADIT Nº 8
ADIT Nº 9

PROPOSED DDH.
DDH G1
DDH G2
DDH G3
DDH G4
DDH G5
DDH G6
DDH G7
DDH G8
PDDH 03
PDDH 010

TAYLOR'S LODE
CLARKE'S LODE
Caved in
TP 4

MILL SITE
MILL SITE
HUT
WATER TANK
SIGN POST
SWAMP
SWAMP
OLD BOILER
TRACK
TRACK
TRACK
TRACK
TO TRIAL HARBOUR
QUEEN No 4 SHAFT

INDEX TO SHEETS



LEGEND

- QUATERNARY – RECENT SWAMP DEPOSITS
- LOWER CAMBRIAN – SLATES, SHALES, SILTSTONES AND QUARTZITES
- CONAH SERIES – SPILITE
- PYRITE – GALENA – CASSITERITE – STANNITE LODES WITH QUARTZ-SIDERITE GANGUE
- INFERRED LINE OF LODE
- FAULT
- FAULT INFERRED
- GEOLOGICAL BOUNDARY
- SHEAR ZONE
- DIP AND STRIKE OF BEDS
- VERTICAL BEDS
- 30° FOLD AXIS ALONG PLUNGE
- PDDH DIAMOND DRILL HOLE PUT DOWN BY PLACER PROSPECTING
- DDH G1 DIAMOND DRILL HOLE PUT DOWN BY GIPPSLAND MINERALS N.L.
- UNDERGROUND WORKINGS SHOWN IN THICK LINE
- 25' CONTOUR INTERVAL
- C2 NUMBERED OUTCROP
- STOPED AREA

MAGNETIC NORTH

6cm

50' 40 30 20 10 0 50 100 150 200 FEET

Scale: 50' to 1"

71-807 821035

GIPPSLAND MINERALS N.L.

QUEEN HILL
ZEEHAN
TASMANIA 6613

DRAWN	P.J. O'SHEA
TRACED	B. R. POOLE
CHECKED	

No. 2.

LEGEND

- Pale gray-white quartzites
- Interbedded gray-dark gray and black slates, shales, siltstones and dust stones.
- Spilitic tuff, agglomeratic or amygdaloidal.
- Pyrite-quartz-silicate-galena-stannite-cassiterite lode.
- Pyrite-pyrrhotite-quartz-cassiterite lode.

M.N.

@ Dashed lines projected towards observer

Dotted lines projected away from observer

Dip of lode

No. 1 Level Workings

GEEVESLAND MINERALS-COMINCO JOINT VENTURE	
QUEEN HILL, ZEEHAN	
GEOLOGICAL PLAN OF	
No. 1 LEVEL, (520') QUEEN NO. 4 SHAFT	
DRAWN	P.J. O'HARA 6-11-71

SCALE : 50 FT = 1 INCH

5 cm

QUEEN NO. 4 SHAFT (630')

821036 6614

LEGEND

- Pale grey-white quartzites
- Interbedded grey-dark grey and black slates, shales, siltstones and subgreywackes.
- Spilitic lavas, agglomeratic or amygdaloidal.
- Pyrite - quartz - siderite - galena - stannite - cassiterite lode.
- Pyrite - pyrrhotite - quartz - cassiterite lode.

M.N.

Dashed lines projected towards observer

Dotted lines projected away from observer

Dip of lode

Stope Level Workings.

GIPPSLAND MINERALS-COMINCO JOINT VENTURE
QUEEN HILL, ZEEHAN

GEOLOGICAL PLAN OF
44 FT LEVEL, (602')
QUEEN NO. 4 SHAFT.

DRAWN P.J. 67/68 A 21-1-71

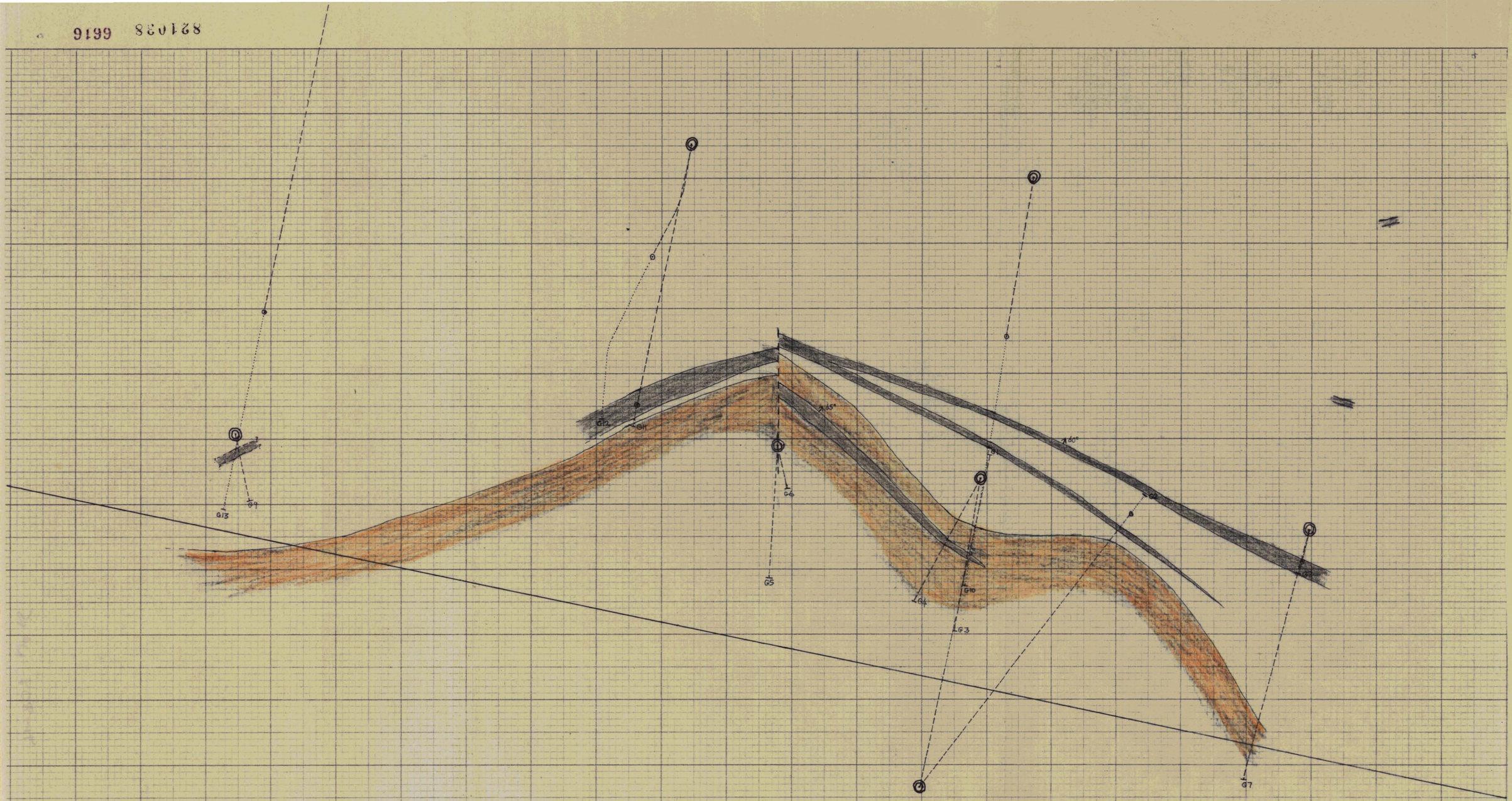
SCALE : 50 FT. = 1 INCH.

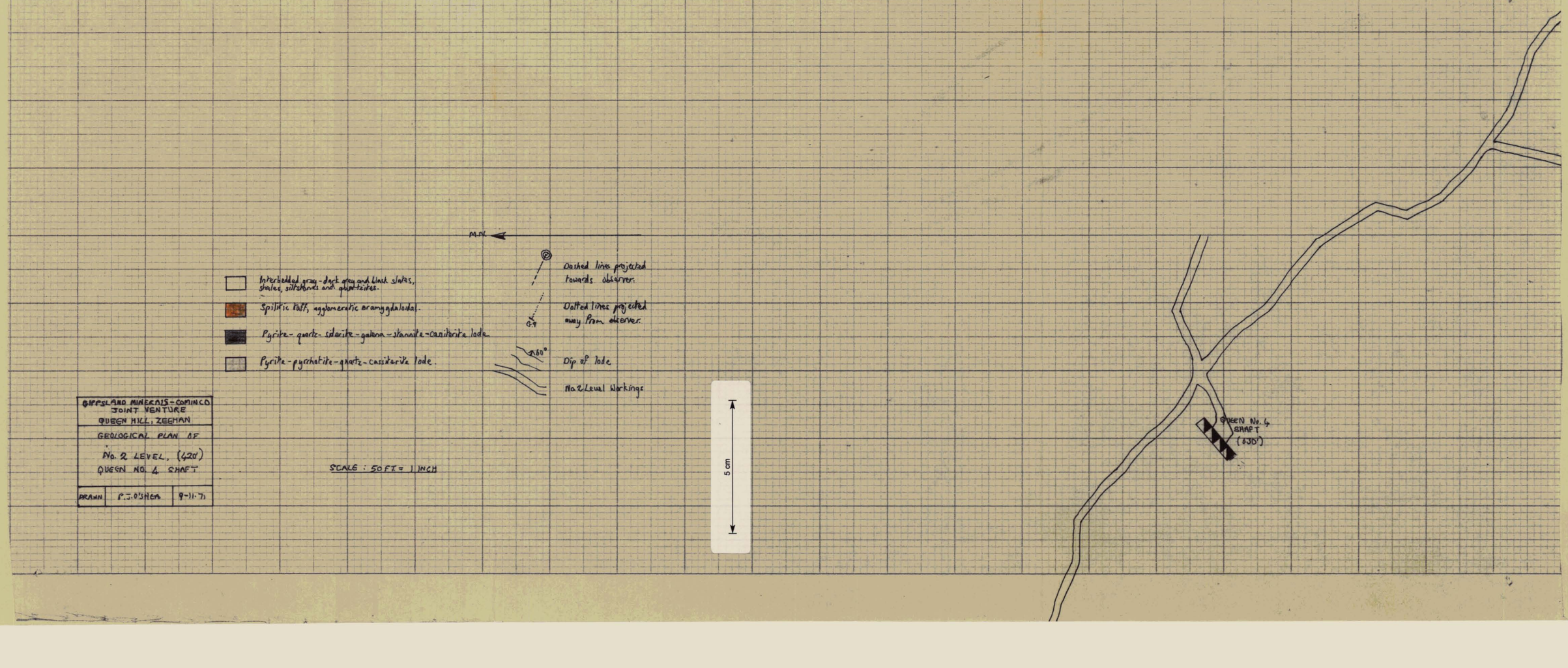
5 cm

QUEEN NO. 4 SHAFT (630')

821037 6615

9199 821038 6616





BIRKSLAND MINERALS-COMINCO JOINT VENTURE QUEEN HILL, ZEEHAN		
GEOLOGICAL PLAN OF No. 2 LEVEL, (420') QUEEN NO. 4 SHAFT		
DRAWN	P.J. O'SHEA	9-11-71

SCALE : 50FT = 1 INCH

821039

6617

9,000E

9,500E

10,000E

14,000N

13,500N

13,000N

DRIVE ON LODE

DRIVE ON LODE

APPROXIMATE OUTLINE OF ADIT

ADIT

SHAFT
200' DEEP

ADIT LEVEL AT
100 FT. IN SHAFT

ADIT CAVED-IN

ADIT CAVED-IN

ADIT CAVED-IN

13000N
13500N
14000N
13,000N
13,500N
14,000N
9,000E
8,500E
P.211
P.207
P.205
672'
P.216
668'
P215
712'
720'
P240
700'
APPROXIMATE POSITION OF ADIT
DRIVE ON LODE
715'
P228
702'
P208
684
P.236
SHAFT
76 FT.
DEEP
681'
P.237
RISE FROM
ADIT LEVEL
733'
P229
729'
P230
P.238
692'
744'
P231
Angular blocks
of grey
quartzite
strewn over
surface,
some in-situ.
750'
729'
P232
685'
P.239
leached
P.241
660'
650'
P.242
ADIT MOUTH
DOZED-IN
705'
P233
700'
675'
725'
650'
P.235 627'
643'
P234
585'
P.243
582'
P.244

821040
6618

821041

6619

13,000N

12,500N

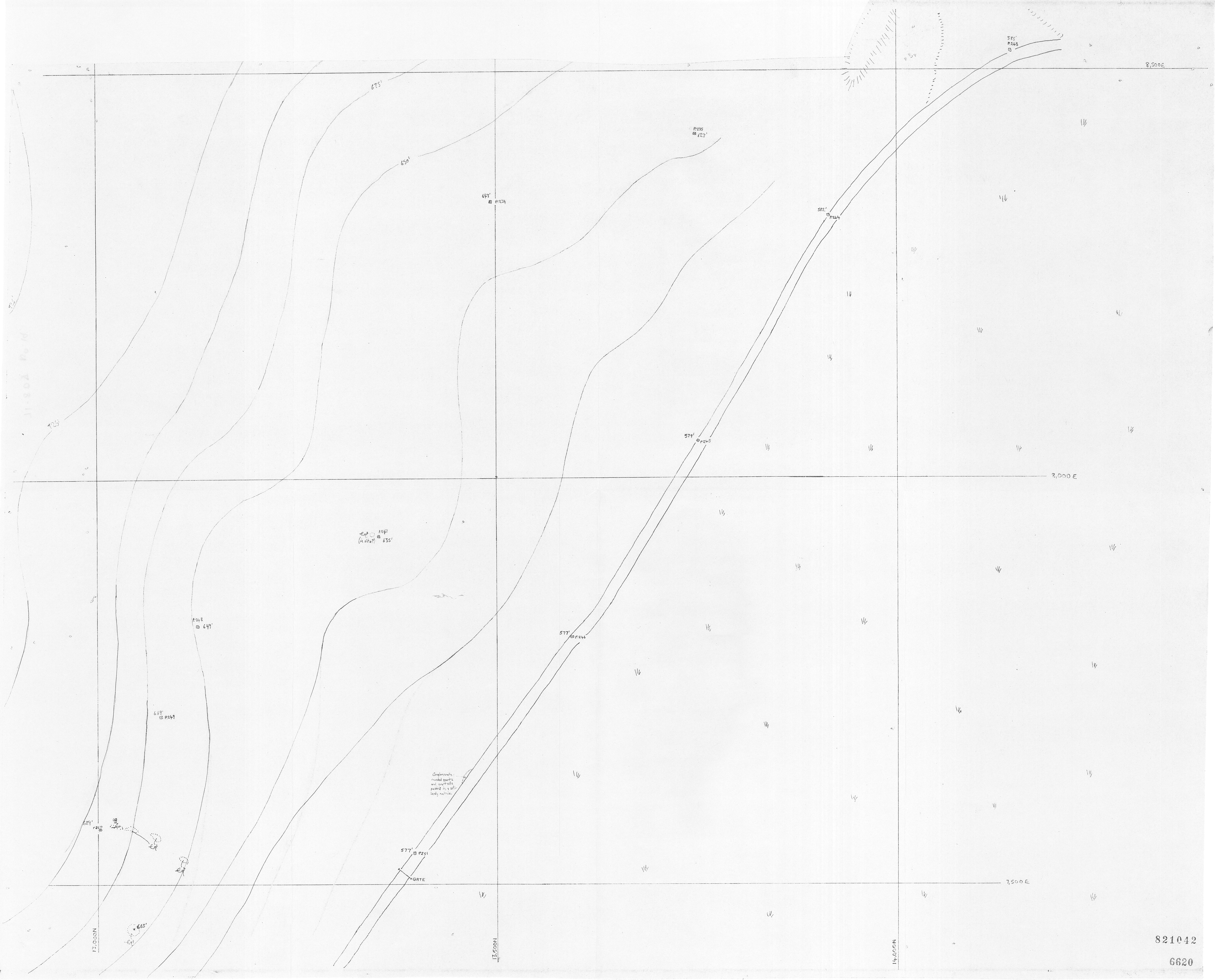
7,000E

7,500E

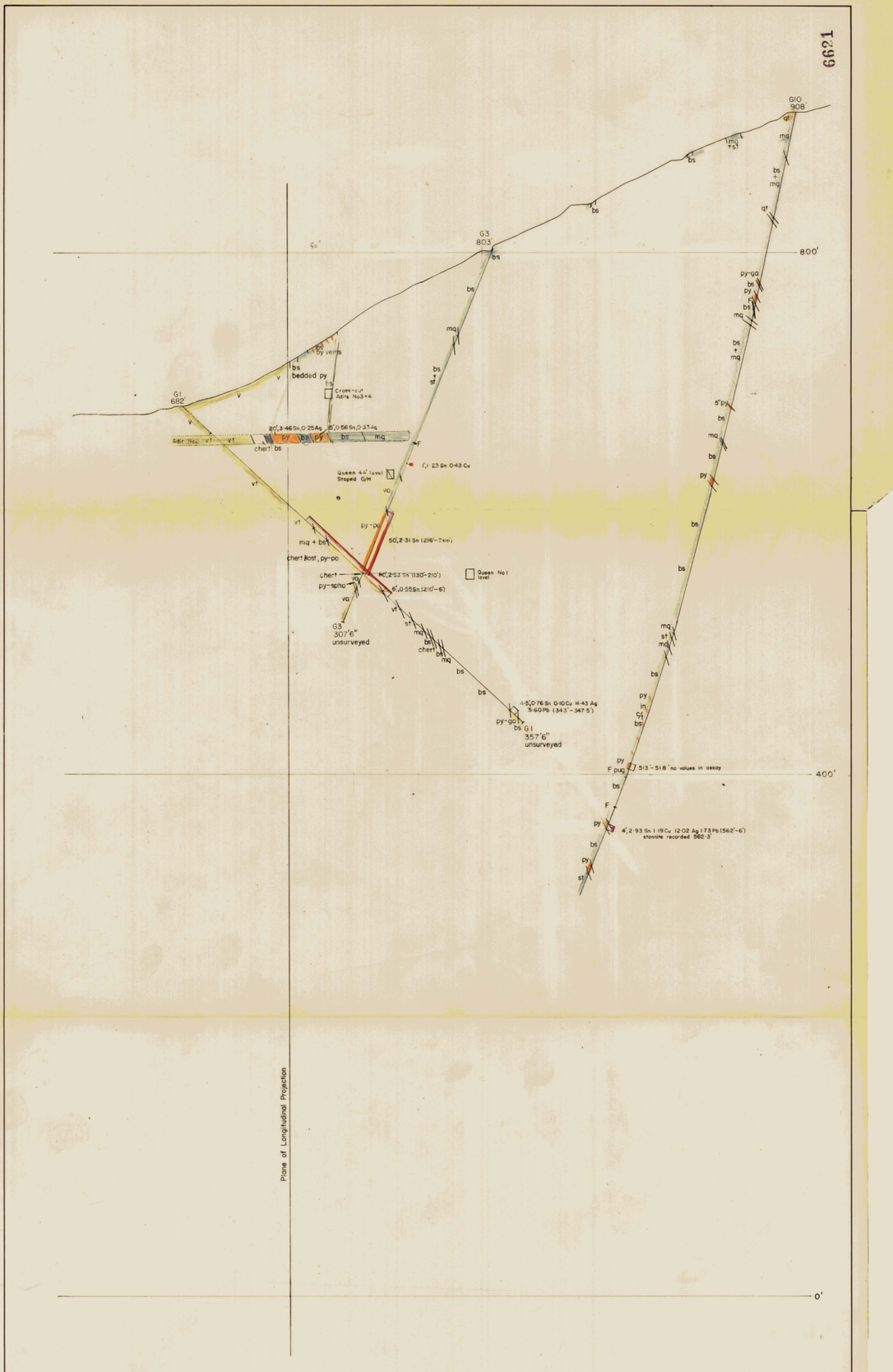
675'

700'

725'


675'
650'
725'
643' P.234
P.235 627'
585' P.243
582' P.244
579' P.245
577' P.246
577' P.251
GATE
8,500 E
8,000 E
7,500 E
13,000N
13,500N
14,000N
Eqt (in situ?) P.247 635'
P.248 649'
669' P.249
689' P.250
Eqt
Eqt
665'
Eqt
Conglomerate: rounded quartz and quartzite pebbles in a soft sandy matrix.

821042
6620



Cassiterite mineralization

Sn,Cu&Pb Values in percent
Ag Values in ounces per ton

Po Pyrrhotite

Py Pyrite veins, lodes, bedded pyrite

High Cu assays (possible stannite)

ga Galena(coarsely crystalline)

Si Siderite

Sph Sphalerite

qt Massive light grey-buff quartzite

Flaggy micaceous quartzites in thin(1/2") beds

Siltstones, carbonaceous in part

Black shales & slates

CAWARRAWAY

Spilitic tuff

Spilitic agglomerate

Spilitic lavas

-Q- Quartz veins

Contorted

-F- Fault

Dashed lines Projected Towards Observer
Dotted lines Projected Away from Observer

Section Bearing 282° viewed from South

0 10 20 30 40 50
METRES

50 0 50 100
FEET

5 cm

COMINCO EXPLORATION PTY.LTD.

NORTH WEST TIN FIELD, TASMANIA

QUEEN HILL, ML 36M/62

SECTION G10

COMINCO GIPPSLAND JOINT VENTURE

821043

41-807

No. 20.

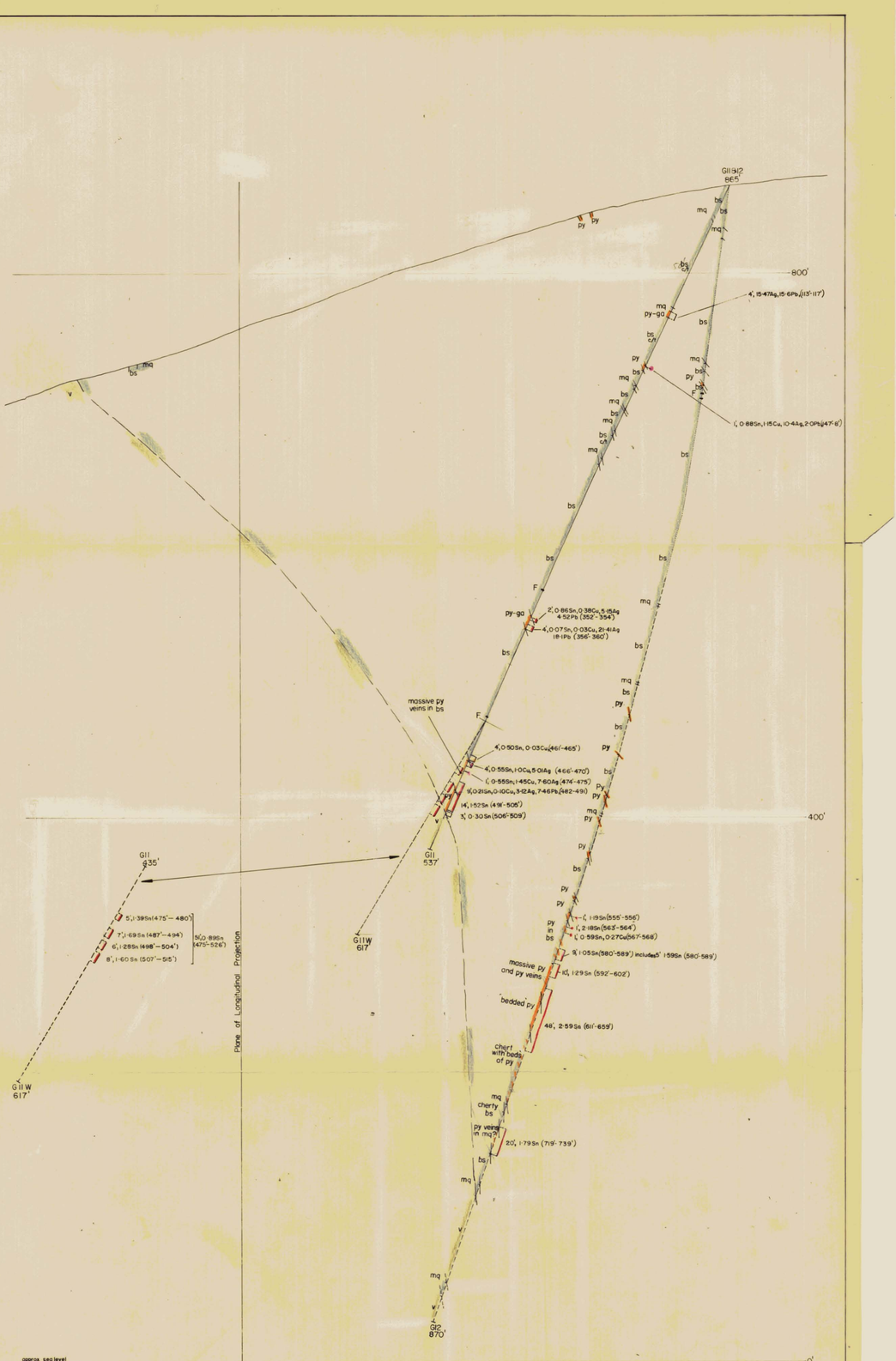
DRAWN BY: FLIEHS	TRACED BY: G.E.R.		
CHECKED BY			
REVISED BY	DATE	REVISED BY	DATE

Location code: K55/5/50

Scale: 1:600

Date: SEPTEMBER 1971

Plate: 645A/71



Cassiterite mineralization

Sn, Cu & Pb Values in percent
Ag Values in ounces per ton

Py Pyrite veins, lodes, bedded pyrite

High Cu assays (possible stannite)

ga Galena, (coarsely crystalline)

Si Siderite

Sph Sphalerite

qt Massive light grey-buff quartzite

mq Flaggy micaceous quartzites in thin(½") beds

st Siltstones, carbonaceous in part

bs Black shales & slates

CAMBRIAN

vt Spilitic tuff

vb Spilitic agglomerate

v Spilitic lavas

-Q- Quartz veins

Contorted

-F- Fault

Dashed lines Projected Towards Observer
Dotted lines Projected Away from Observer

Section Bearing 282° viewed from South

0 10 20 30 40 50
METRES

50 0 50 100
FEET

5 cm

COMINCO EXPLORATION PTY. LTD.

NORTH WEST TIN FIELD, TASMANIA

QUEEN HILL, ML 36M/62

SECTION GIIB-12

COMINCO GIPPSLAND JOINT VENTURE

71-807

821044

No. 21.

6822

DRAWN BY R.H.S. TRACED BY K.W.B.

CHECKED BY

REVISED BY DATE

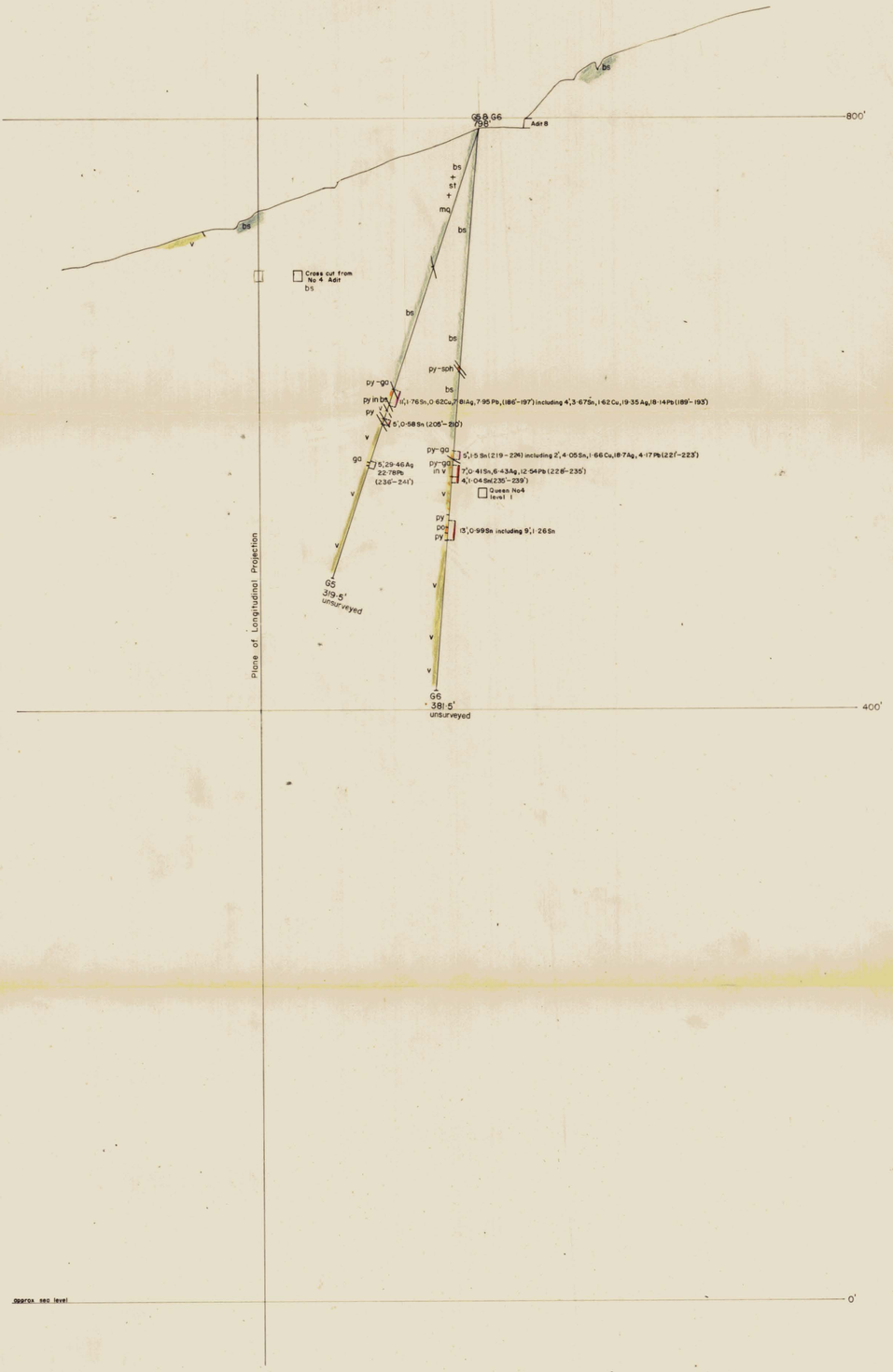
RECORDED BY DATE

Location code: K55/5/50

Scale: 1:600

Date: SEPTEMBER 1971

Plate: 645 D/71



Cassiterite mineralization

Sn,Cu,B,Pb Values in percent
Ag Values in ounces per ton

Po Pyrrhotite

Py Pyrite veins, lodes, bedded pyrite

High Cu assays (possible stannite)

go Galena, (coarsely crystalline)

Si Siderite

Sph Sphalerite

qt Massive light grey-buff quartzite

CAMBRIAN

mq Floggy micaceous quartzites in thin(½") beds

st Siltstones, carbonaceous in part

bs Black shales & slates

vt Spilitic tuff

vc Spilitic agglomerate

v Spilitic lavas

-Q- Quartz veins

Contorted

-F- Fault

Dashed lines Projected Towards Observer
Dotted lines Projected Away from Observer

Section Bearing 282° viewed from South

0 10 20 30 40 50
METRES

50 0 50 100
FEET

5 cm

COMINCO EXPLORATION PTY. LTD.

NORTH WEST TIN FIELD, TASMANIA

QUEEN HILL, ML 36M/62

SECTION G5,8,G6

COMINCO GIPPSLAND JOINT VENTURE

DRAWN BY F.L.HEMS TRACED BY G.E.R.

CHECKED BY

REVISED BY DATE

PASSED BY DATE

Location code: K55/5/50

Scale: 1:600

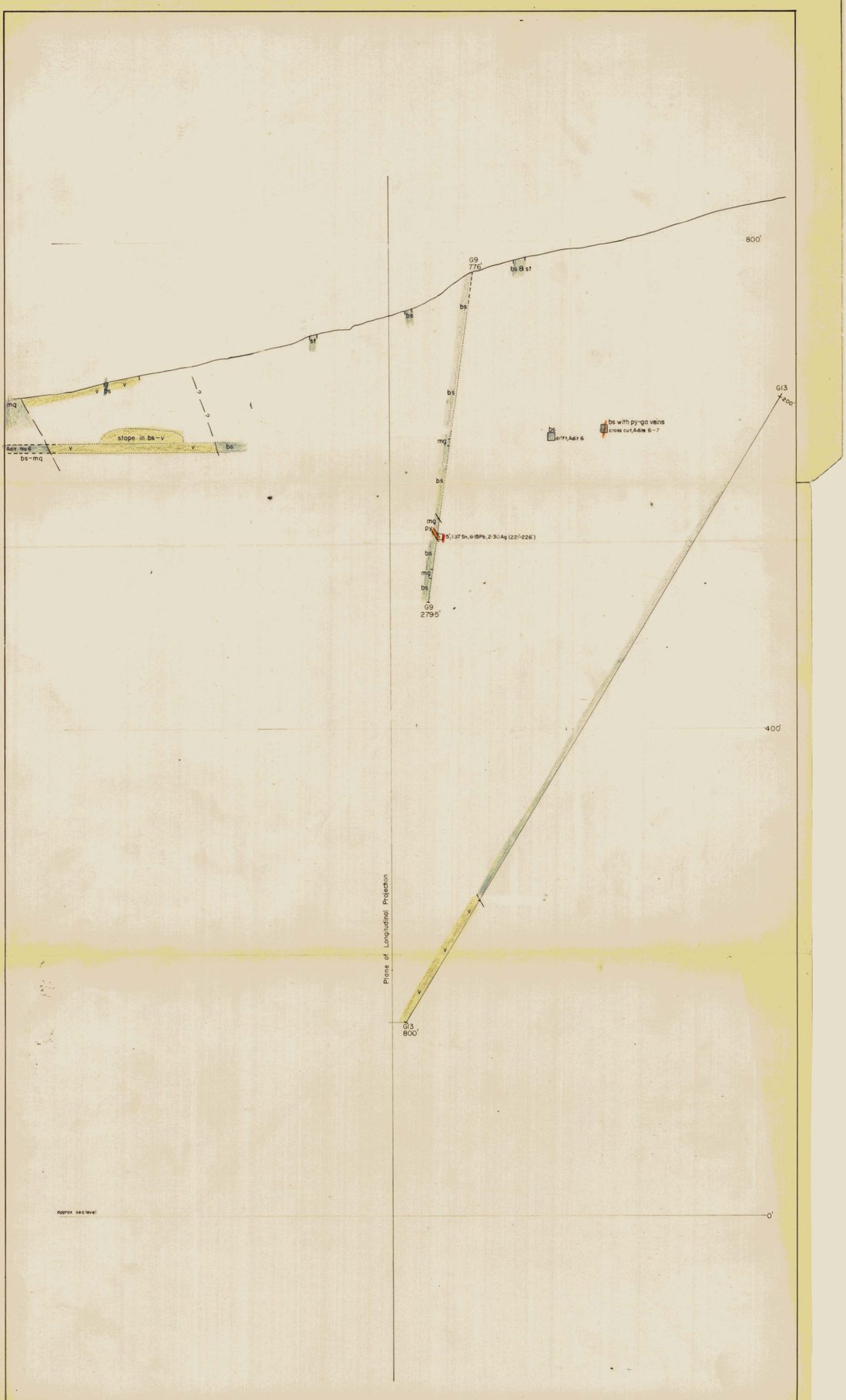
Date: SEPTEMBER 1971

Plate: 645E/71

71-807

No. 2

821045



Cassiterite mineralization

Sn, Cu & Pb Values in percent
Ag Values in ounces per ton

Py — Pyrite veins, lodes, bedded pyrite

High Cu assays (possible stannite)

ga — Galena, (coarsely crystalline)

Si — Siderite

Sph — Sphalerite

st — Massive light grey-buff quartzite

mq — Flaggy micaceous quartzites in thin ($\frac{1}{2}$") beds

st — Siltstones, carbonaceous in part

bs — Black shales & slates

v — Spilitic tuff

va — Spilitic agglomerate

v — Spilitic lavas

-Q- Quartz veins

Contorted

-F- Fault

Dashed lines Projected Towards Observer
Dotted lines Projected Away from Observer

Section Bearing 282° viewed from South

0 10 20 30 40 50
METRES

50 0 50 100
FEET

5 cm

COMINCO EXPLORATION PTY. LTD.

NORTH WEST TIN FIELD, TASMANIA

QUEEN HILL, ML 36M/62

SECTION G13

COMINCO GIPPSLAND JOINT VENTURE

DRAWN BY FL.HEALS | TRACED BY K.W.B.

CHECKED BY | DATE | REVISED BY | DATE | REVISED BY | DATE

Location code: K55/5/50 | Scale: 1:600 | Date: SEPTEMBER 1971 | Plate: 6450/71

821016

41-804

No 23

6624

Cassiterite mineralization

Sn,Cu & Pb Values in percent
Ag Values in ounces per ton

Po Pyrrhotite

Py Pyrite veins, lodes, bedded pyrite

High Cu assays (possible stannite)

ga Galena,(coarsely crystalline)

Si Siderite

Sph Sphalerite

CAMBRIAN

- qt — Massive light grey–buff quartzite
- mq — Flaggy micaceous quartzites in thin(½") beds
- st — Siltstones, carbonaceous in part
- bs — Black shales & slates
- vt — Spilitic tuff
- va — Spilitic agglomerate
- v — Spilitic lavas

–Q– Quartz veins

$c/_f$ Contorted

–F– Fault

Dashed lines Projected Towards Observer
Dotted lines Projected Away from Observer

Section Bearing 282° viewed from South

0 10 20 30 40 50
METRES

50 0 50 100
FEET

5 cm

COMINCO EXPLORATION PTY. LTD. 71-804

DRAWN BY FLH EHS TRACED BY G.E.R.

CHECKED BY

REVISED BY DATE

REVISED BY DATE

NORTH WEST TIN FIELD, TASMANIA

QUEEN HILL ML 36M/62

SECTION G7&G8

COMINCO GIPPSLAND JOINT VENTURE

Location code: K55/5/50

Scale: 1:600

Date: SEPTEMBER 1971

Plate: 645 B/71

821047

No 24

6625

BORE HOLE LOCATION PLAN — G.19 and G.20

BUILDING

P.12

Dip: 52°
Bearing: 282°
G.20

75°
At least 2' wide Zns lode

MONTANA NO. 2 SHAFT

G.19
Dip: 50°
Bearing: 282°

573'
P.24

Interbedded black carbonaceous shales, grey laminated chalks and buff tuffaceous chalks.

grey shales, tuffaceous in part.

587'
P.23

P.11

grey laminated siltstones

pale grey chalks and siltstones

grey siltstones and chert, minor buff tuffaceous chalks.

gray-black siltstones and quartzites.

gray-white quartzite

P.10 588'

ADIT NO. 21

1' wide fault zone. pale grey shales and siltstones.

grey quartzite.

Zn(?)
Zn(?)

P.15
589'

gray-white quartzite

P.16 621'

ADIT NO. 22

3' wide fault plane, rare pale blebs.

amygdules in spilite replaced by FeS2 where caught up in fault channel

Schistosity coincident with bedding.

P.17 658'

COLLAPSED PIT

P.T.

LODE WORKED OUT IN CUTS

P.9.

P18
690'

COLLAPSED ADIT

P.19
734'

Z622(5') IN ADIT

blebs of FeS2

ADIT BLOCKED.

ADIT NO. 23

P.22

706'

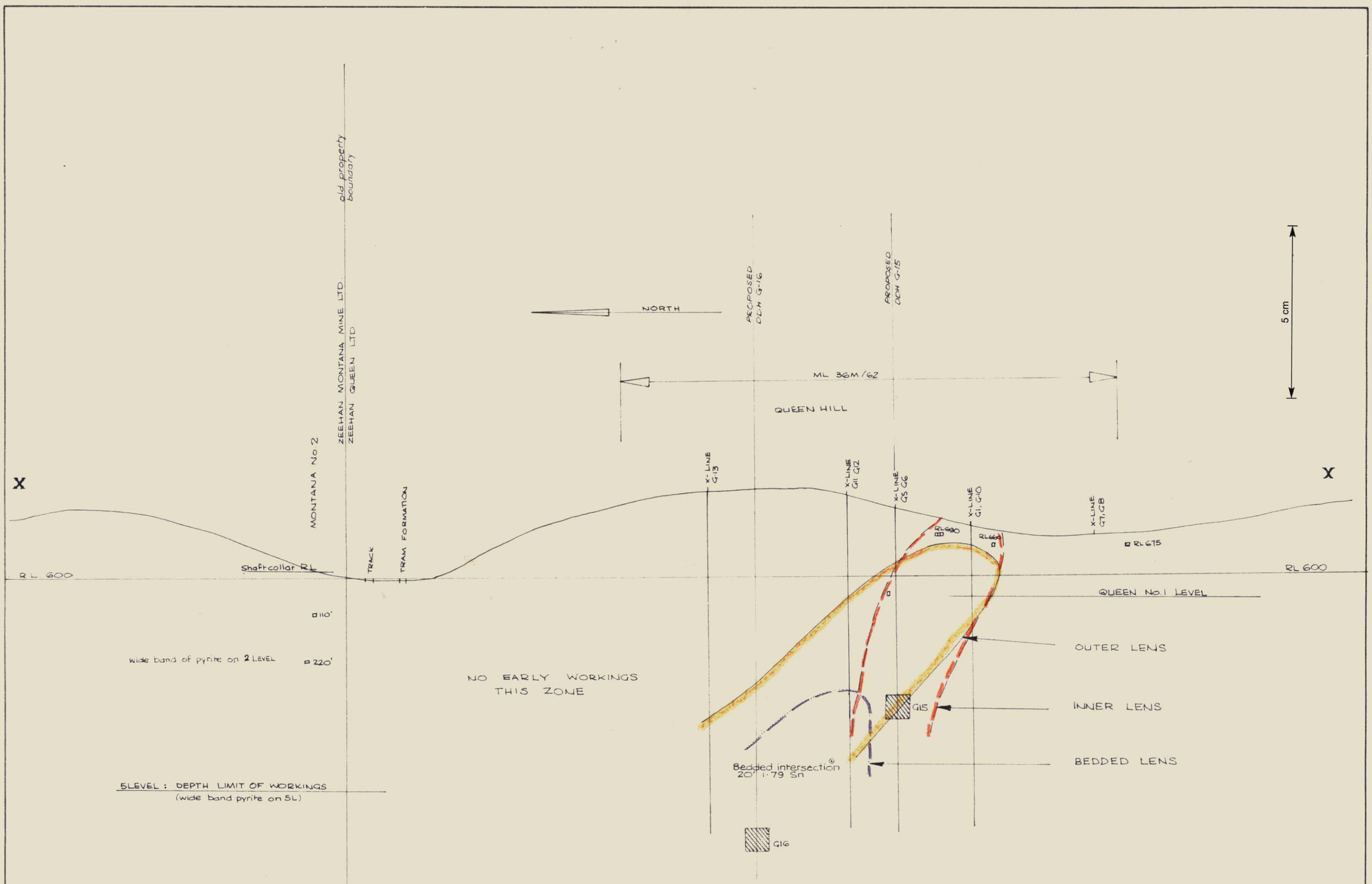
Z621(5')

fault channel 3' wide.

Z620(7')

ADIT COLLAPSED

821048
6626



G15	10275N	8677E	1000'
G16	10565N	8580E	1100'
			2100'

COMINCO EXPLORATION PTY. LTD.

DRAWN BY FLH:JB	TRACED BY JB.	QUEEN HILL - MONTANA Nº 2	821049
CHECKED BY	REVISED BY / DATE	N-S CROSS SECTION AT XX	
REVISED BY / DATE		(LOOKING SOUTH EAST)	6627
Location code:	Scale: V/H 1" = 200'	Date: Nov. 26 1971	Plate: 425 /71

ZEEHAN WESTERN MINE (Pb Ag)

Shaft collar 75' above elevation Mont #1
1000' vertical shaft, but most are above
300' level.
400'-700' no lodes.
At 800', lode 4' wide, stoped over 100' length.
At 1000', 3 narrow lodes.
Workings full of water.

Portal No. 3 level

ZEEHAN WESTERN LTD.

OONAH MINES LTD.

OONAH MINE

Major workings. Extensive adits & shaft to 430'.
Est. collar RL 720. Lodes strike W of N, dip E.
Except Carbonate Lode.
Faulted (Slide strikes N75°W, dip 75°NE (post-mineralisation)
GALEJA LODE - S of slide, shoot 1L to 5L (≥200' vert) - upper levels only.
WEST CARBONATE LODE - /S of slide, strike NE
STANNITE LODE (main producer) (mixture stannite & siderite
N & S of Slide
Argentiferous Sn-Cu sulphides (product Cu-Ag matte, Cu-Sn alloy)
Best stopes 3L to 6L (≥ 300' vert)
· 4L 3'9" - 6' lode / short (200') stopes.
· 5L 2'6" - 4'
Lodes graphitic. Well defined bands.
Stannite, pyrite, chalcopyrite, quartz (+ Bi, W, F)
Pb5 rare in stannite lode

In places, lode developed as overlapping narrow lenses at low angle to strike (p.88)

Placer 3,4,5

3 Level SLIDE (RL 540)

4L E.XC. (RL 520)

OONAH MINE

5 LEVEL (RL 425)

GALEJA ADIT 5 LEVEL (485')

Slate wall

Placer 7

Placer 1,6

BRADSHAWS (BRUCE'S TRIBUTE)

Series of overlapping lenses of pyrite up to 30' wide. Lodes adjacent to margin of Splilite. Assay 0·8 to 0·4% Sn, trace Cu
(Mined for H_2SO_4 manufacture)

Absence of defined walls; enclosures of slate within pyrite.

Placer 4,5,6

Placer 8,9,10

Placer 10,11

Placer 12,13

Placer 14,15

Placer 16,17

Placer 18,19

Placer 20,21

Placer 22,23

Placer 24,25

Placer 26,27

Placer 28,29

Placer 30,31

Placer 32,33

Placer 34,35

Placer 36,37

Placer 38,39

Placer 40,41

Placer 42,43

Placer 44,45

Placer 46,47

Placer 48,49

Placer