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Annual Report to 5/11/99. EL15/97 - Arthur River

Pacific Nevada Pty Ltd; Turner Geological Services
Turner, N.J. EL15/97

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EL15/97 P1

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See folio 50

EL15/97 ARTHUR RIVER
ANNUAL REPORT TO 5.11.99

Volume 1 of 2

Prepared by: N.J. Turner Geological Services Pty Ltd
65 Lochner St, West Hobart, Tasmania 7000

28th October 1999

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ANNUAL REPORT TO 5.11.99**

Volume 1 of 2

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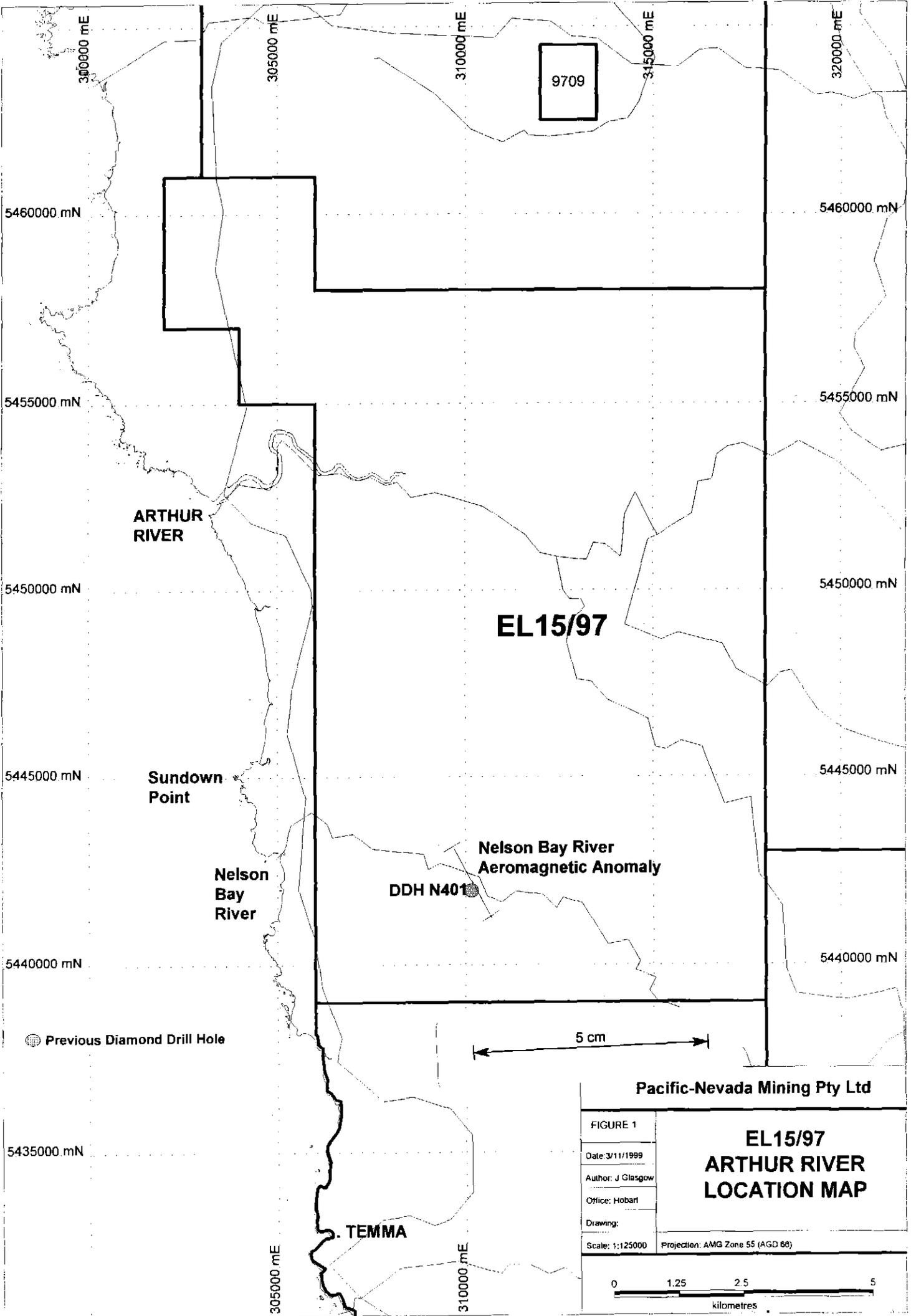
1.0 Summary

- Core from diamond drill hole N401 in the Nelson Bay River area was relogged and reassayed. This hole was drilled north east at 50° inclination in order to test a south west dipping magnetic unit contained in Proterozoic siltstone.
- Aeromagnetic data show that the magnetic unit at Nelson Bay River is the largest of a cluster of similar bodies that mostly occur further to the south west, nearer to Temma. The magnetic bodies have NNW strike and are strongly discordant to bedding.
- The magnetic unit at Nelson Bay River corresponds to an iron-rich interval in DDH N401 which extends from 46m depth to 75m depth. The interval includes a total of 16m (51-55m, 61-73m) of relatively coarse grained, magnetite bearing material which ranges 35.2-49.3% Fe. The remainder of the interval consists of fine grained, dark grey and cream alteration assemblages with Fe ranging 6.45-24.5%.
- Patchily anomalous Cu, up to 911ppm, occurs in the iron-rich interval whilst As ranges 2-140ppm. Gold was not detected in DDH N401.
- Scattered anomalous values of Cu, Pb, As and Fe occur above and below the iron-rich interval. This anomalism appears to be related to veins and to localised alteration.
- Pacific-Nevada is planning to carry out 400m of new diamond drilling (?2 holes x 200m) at the Nelson Bay River Prospect, with collar positions determined from preliminary ground magnetic profiling. This drilling will test Pb anomalism in soils SW of DDH N401. It will also test for gold in the iron-rich rocks at a greater depth than was achieved by DDH N401.

2.0 Introduction

This report presents the work carried out in EL15/97 Arthur River (Figure 1) during the twelve months to 5/11/99. There is one previous annual report for EL15/97 (Reid, 1998). It provides details of location, access and land tenure, as well as brief reviews of the regional geology and the exploration philosophy.

Initially, Homestake and Selwyn/Starra models were favoured for possible gold occurrences in EL15/97, and the adjacent EL27/97. However, the Tennant Creek style of gold-bearing ironstone body is now seen as an interesting possible analogy with the iron-rich bodies in EL15/97 and EL27/97.



Pacific-Nevada Mining Pty Ltd

FIGURE 1
 Date: 3/11/1999
 Author: J Glasgow
 Office: Hobart
 Drawing:
 Scale: 1:125000

**EL15/97
 ARTHUR RIVER
 LOCATION MAP**

Projection: AMG Zone 55 (AGD 68)



Previous Diamond Drill Hole

5 cm

TEMMA

3.0 Work carried out by Pacific-Nevada

3.1 RELOGGING DDH N401

The magnetic unit at Nelson Bay River was drilled by Pickands Mather International in 1967. Records of the company's work are kept in the form of plans, cross sections and logs by Mineral Resources Tasmania's library, but no specific report appears to exist. Core from DDH N401 is kept in MRT's core store at Mornington. The core sizes are small – NX, BX, AX.

Little petrological work has been carried out on the Nelson Bay River magnetic unit and its host rocks. However, work near Temma (Weber, 1983; Dove, 1988), has indicated that the magnetic units and their host rocks display pyrometasomatism. This process apparently caused the early formation of fibrous amphibole (grunerite), garnet, stilpnomelane, magnetite and sulphides. Siderite, chlorite and sericite formed later. A similar overall suite of minerals is present at Nelson Bay River.

Pickands Mather assayed the iron-rich interval in DDH N401 for a range of metals, though apparently not for gold, whilst 13 selected samples from the drill hole were assayed for gold by Herrmann and Sumpton (1982). None of the latter samples returned gold above detection limit.

Since substantial parts of the core were not assayed at all in the previous programs, Pacific-Nevada systematically split and assayed all the core. Satisfactory samples were generally obtained except in some of the sections where there had been poor core recovery and/or multiple previous sampling. Results are presented in Appendix 1.

3.2 AEROMAGNETIC INTERPRETATION

Flagstaff Geoconsultants carried out an interpretation of available aeromagnetic data for the Temma district. Their report is presented as Appendix 2. It relates to both EL15/97 and EL27/97.

4.0 Future work

Previous work in the adjacent EL27/97 has shown that there is gold in the Possum Creek magnetite body and in the Strickland magnetite body. There appears to be an association of gold with lead at Possum Creek, and an association with copper at Strickland.

In the coming year Pacific-Nevada plans to put down 400m of new diamond drilling (?2 holes x 200m) in the Nelson Bay River magnetite body. One hole will be located about 100m south west of DDH N401, and will be inclined to the north east. It will test Pb anomalism in soils (Herrmann and Sumpton, 1982) that was not tested by the previous hole. It will also test the magnetite body at greater depth than DDH N401.

Preliminary work will include detailed ground magnetic profiling so that the drill holes will be accurately positioned relative to the magnetic unit. A combined mapping and rock chip sampling program will also be carried out in the surrounding area.

5.0 Environmental matters

No work that incurred an environmental impact was undertaken during the year.

6.0 References

Anon.1967. Plans, sections and logs for the Nelson River prospect. Pickands Mather International. Mineral Resources Tasmania library.

Dove, A. 1988. EL7/87 Annual report on exploration completed in the Nelson River area of Western Tasmania to 26/6/87. Bach Holdings Pty Ltd. Mineral Resources Tasmania TCR 88-2823.

Herrmann, W. & Sumpton, J. 1982. Progress Report EL1/77 Temma Area 1981. Geopeko. Mineral Resources Tasmania TCR 82-1721.

Reid, R. 1998. EL15/97. Report on exploration activity 5/12/97 to 5/12/98. Pacific-Nevada Mining Pty Ltd.

Weber, G.B. 1983. Rocky Cape EL1/77. Progress report on the Temma area. CRA Exploration Pty Ltd. Mineral Resources Tasmania TCR 83-2094.

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EL15/97: Annual Report to 5.11.99

APPENDIX 1

1A RELOGGING OF DDH N401, NELSON BAY RIVER, PICKANDS
MATHER INTERNATIONAL, 1967

Location and orientation

Local grid 10100E 10000N

Azimuth (estimate) 48° AMG

RL (estimate) 76m asl

AMG (estimate) 310295E 5442222N

Inclination 45°

Core recovery

See original logs.

1B ANALYTICAL DATA FOR DDH N401

Samples

Nominally over 1m intervals except at geological boundaries.

Analytical methods - Analabs

Dry, jaw crush, fine pulverize, ring mill (SO33); gold by 30g fire assay, lead collection, AAS (F630); copper, lead, zinc, bismuth, arsenic, iron by four acid digest, AAS (G104/A104); As by hydride generation, AAS (G104/H104).

APPENDIX 1A

EL27/97 Arthur River, DDH N401, Pickands Mather Int. 1967.

From (m)	To (m)	Description
		Weathering: limonitic oxidation giving orange and red colours to 9m; common but patchy oxidation to 21.5m; scattered patches of oxidation to 26.2m.
1.8	46	Predominantly dark grey siltstone with about 25% pale, quartzose, sandy bands of 5-40mm thickness which may be graded and have scoured bases with associated sandstone dykes. Granular character of siltstone suggests metamorphism or alteration. Bedding/core axis angle 0-10°. 8-9m: Thicker quartz sandstone with patches of disseminated pyrite. 14.1-21.25m: Extremely broken core with abundant fragments of milky vein quartz. Vuggy, disseminated py.
46	50	Transition through 46m such that pale sandy bands become indistinct. Texture suggestive of metamorphism or alteration.
50	51.24	Very broken, dark grey, fine grained core. ?altered.
51.24	52.31	Negligible recovery.
52.31	54.75	Granular magnetite with white mineral and olive silicate
54.75	55	Strong, sub-planer foliation in magnetite with white mineral and fibrous ?amphibole. Angle to core axis 60°.
55	56.5	Relatively nonmagnetic, massive, finely granular, altered rock. Partly leached.
56.5	58.25	Dark grey, finely granular, altered rock with scattered quartz veins up to 5mm thick.
58.25	60.16	Very broken, massive, finely granular, brown, altered rock. Milky quartz present.
60.16	73.12	Relatively coarse grained magnetite as patches, crude bands and disseminated grains in pale coloured, fibrous ?amphibole. Scattered patches of fine grained, green, massive ?chlorite which also contain disseminated mt. Crude banded fabric at an average 60° to core axis.
73.12	73.94	Relatively coarse grained fibrous ?amphibole, no mt., pink and green silicates.
73.94	74	No core.
74	74.1	Very poor recovery. Includes piece of massive chalcopyrite.
74.1	85.2	Dark grey siltstone with granular texture suggestive of metamorphism or alteration. Sparse paler grey, sandy bands present. Bedding/core axis angle 10-30°.
85.2	86.42	Poor recovery of spotted alteration. Includes mt and banded py, cp (?vein).

86.42	137.56	Dark grey siltstone with sparse paler bands persists. Bedding/core axis angle 0-25°. 91.38-91.5: Fibrous ?amphibole in vein at 45° to core axis. Crude banding in vein.
137.56		End of hole at 451 feet 4 inches.

ASSAYS

Project: Arthur River

Prospect: Nelson River

Exploration Licence: EL15/97

Hole Number: N401

Sample Number	Units		ppm	ppm	ppm			ppm	%	ppm	ppm			ppm	ppm					%	ppm	
	Detection Limit		0.01	0.01	4			5	0.001	4	2			1	100					0.01	20	
	Method	From	To	F630	F630	A104	A104	A105	A104	A104	A104	H104	A104					A104	A104			
	From	To	Au	Au(R1)	Au(R2)	Au(R3)	Cu	Cu(R1)	Pb	Pb(R1)	Zn	Zn(R1)	Ag	Ag(R1)	As	As(R1)	Sn	Pt	Pd	Ni	Fe	Bi
6760001	1.83	3	-0.01	-			37		35	-	24		-2		10	-100					4.65	-20
6760002	3	4	-0.01	-			43		53	-	32		-2		11	-100					4.65	-20
6760003	4	5	-0.01	-			37		33	-	35		-2		14	-100					2.8	-20
6760004	5	6	-0.01	-			76		50	-	35		-2		28	-100					3.75	-20
6760005	6	7	-0.01	-			35		36	-	75		-2		17	-100					2.95	-20
6760006	7	9	-0.01	-			108		49	-	194		-2		21	-100					7.8	-20
6760007	9	10	-0.01	-			35		39	-	81		-2		7	-100					2.4	-20
6760008	10	11	-0.01	-0.01			57		189	-	90		-2		12	-100					5.2	-20
6760009	11	12	-0.01	-			17		25	-	74		-2		3	-100					3.35	-20
6760010	12	13	-0.01	-			14		12	-	71		-2		2	-100					4.3	-20
6760011	13	14	-0.01	-			17		50	-	102		-2		5	-100					6.5	-20
6760012	14	16	-0.01	-0.01			10		13	-	105		-2		11	-100					2.5	-20
6760013	16	17	-0.01	-			11		15	-	39		-2		-1	-100					0.94	-20
6760014	17	19	-0.01	-			14		33	-	133		-2		5	-100					1.44	-20
6760015	19	20	-0.01	-			27		39	-	122		-2		-1	-100					2.6	-20
6760016	20	20.5	-0.01	-0.01			119		70	-	155		-2		-1	-100					6.5	-20
6760017	20.5	21.25	-0.01	-			398		130	-	96		-2		73	-100					12.6	-20
6760018	21.25	22	-0.01	-			521		117	-	221		-2		24	-100					15.2	-20
6760019	22	23	-0.01	-			33		49	-	154		-2		13	-100					4	-20
6760020	23	24	-0.01	-			9		9	-	183		-2		1	-100					8.2	-20
6760021	24	25	-0.01	-			9		6	-	143		-2		-1	-100					6.5	-20
6760022	25	25.25	-0.01	-			146		-5	-	124		-2		13	-100					15.2	-20
6760023	25.25	27	-0.01	-			27		33	-	120		-2		-1	-100					6.05	-20
6760024	27	27.73	-0.01	-			23		51	-	318		-2		4	-100					6.5	-20
6760025	27.73	31	-0.01	-			6		40	-	173		-2		-1	-100					12.5	-20
6760026	31	33	-0.01	-			11		40	-	375		-2		6	-100					16.1	-20
6760027	33	34	-0.01	-			6		29	-	123		-2		-1	-100					5.8	-20

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Sample Number	Units		ppm		ppm		ppm		%		ppm		ppm		%		ppm				
	Detection Limit		0.01	0.01	4	5	0.001	4	2	1	100	0.01	20								
	Method	F630	F630	A104	A104	A105	A104	A104	H104	A104	A104	A104	A104								
From	To	Au	Au(R1)	Au(R2)	Au(R3)	Cu	Cu(R1)	Pb	Pb(R1)	Zn	Zn(R1)	Ag	Ag(R1)	As	As(R1)	Sn	Pt	Pd	Ni	Fe	Bi
6760028	34	35	-0.01	-			4	37	-	64		-2		-1	-100					3.35	-20
6760029	35	36	-0.01	-			5	51	-	63		-2		-1	-100					2.85	-20
6760030	36	37	-0.01	-			4	92	-	80		-2		-1	-100					2.9	-20
6760031	37	38	-0.01	-			11	93	-	102		-2		2	-100					6.4	-20
6760032	38	39	-0.01	-			13	138	-	168		-2		10	-100					5.75	-20
6760033	39	40	-0.01	-			7	36	-	100		-2		2	-100					6.35	-20
6760034	40	41	-0.01	-			6	60	-	178		-2		-1	-100					10.3	-20
6760035	41	42	-0.01	-			8	40	-	130		-2		-1	-100					8.05	-20
6760036	42	43	-0.01	-			24	50	-	122		2		4	-100					8.2	-20
6760037	43	44	-0.01	-0.01			19	47	-	99		-2		2	-100					3	-20
6760038	44	45	-0.01	-			9	50	-	120		-2		8	-100					2.7	-20
6760039	45	46	-0.01	-			16	41	-	152		-2		28	-100					7.8	-20
6760040	46	47	-0.01	-			17	34	-	155		-2		8	-100					15.9	-20
6760041	47	48	-0.01	-			7	14	-	154		-2		-1	-100					9.75	-20
6760042	48	49	-0.01	-			7	33	-	114		-2		3	-100					6.45	-20
6760043	49	50	-0.01	-			8	5	-	246		-2		6	-100					18	-20
6760044	50	51	-0.01	-0.01			6	-5	-	207		-2		5	-100					21.5	-20
6760045	51	54	-0.01	-			5	-5	-	135		-2		2	-100					40.4	-20
6760046	54	55	-0.01	-			7	-5	-	145		-2		2	-100					35.3	-20
6760047	55	56.5	-0.01	-			22	-5	-	122		-2		27	-100					22.6	-20
6760048	56.5	56.5	-0.01	-			5	-5	-	221		-2		4	-100					23.6	-20
6760049	56.5	57	-0.01	-			16	26	-	175		-2		5	-100					11.3	-20
6760050	57.74	59.3	-0.01	-			27	26	-	225		-2		91	-100					19.7	-20
6760051	59.3	60	-0.01	-			10	-5	-	148		-2		21	-100					22.8	-20
6760052	60	61	-0.01	-			13	-5	-	149		-2		81	-100					24.5	-20
6760053	61	62	-0.01	-			10	-5	-	150		-2		14	-100					35.8	-20
6760054	62	63	-0.01	-			20	-5	-	113		-2		5	-100					47.8	-20
6760055	63	64	-0.01	-			133	-5	-	123		-2		81	-100					44.4	-20
6760056	64	65	-0.01	-			82	-5	-	133		-2		96	-100					44.2	-20
6760057	65	66	-0.01	-			165	-5	-	110		-2		>100	140					49.3	-20
6760058	66	67	-0.01	-			911	-5	-	116		-2		56	-100					49	-20
6760059	67	68	-0.01	-			180	-5	-	119		-2		5	-100					39.4	-20

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	Units	ppm	ppm			ppm	ppm	%	ppm	ppm	ppm	ppm							%	ppm		
	Detection Limit	0.01	0.01			4	5	0.001	4	2	1	100							0.01	20		
	Method	F630	F630			A104	A104	A105	A104	A104	H104	A104							A104	A104		
Sample Number	From	To	Au	Au(R1)	Au(R2)	Au(R3)	Cu	Cu(R1)	Pb	Pb(R1)	Zn	Zn(R1)	Ag	Ag(R1)	As	As(R1)	Sn	Pt	Pd	Ni	Fe	Bi
6760060	68	69	-0.01	-			214		68	-	146		-2		3	-100					45.3	-20
6760061	69	70	-0.01	-			43		-5	-	104		-2		62	-100					46.3	-20
6760062	70	71	-0.01	-0.01			190		-5	-	123		-2		47	-100					41.6	-20
6760063	71	72	-0.01	-			285		-5	-	66		-2		7	-100					45.5	-20
6760064	72	73	-0.01	-			33		-5	-	129		-2		6	-100					35.2	-20
6760065	73	74	-0.01	-			368		131	-	105		-2		2	-100					22.4	-20
6760066	74	75	-0.01	-			13		7	-	142		-2		3	-100					16	-20
6760067	75	76	-0.01	-0.01			46		42	-	67		-2		19	-100					6.35	-20
6760068	76	77	-0.01	-			128		11	-	73		-2		9	-100					9.85	-20
6760069	77	78	-0.01	-			69		164	-	55		-2		6	-100					5.1	-20
6760070	78	79	-0.01	-			33		308	-	80		-2		>100	120					6.15	-20
6760071	79	80	-0.01	-			87		1255	-	79		-2		14	-100					6.05	-20
6760072	80	81	-0.01	-			17		516	-	77		-2		16	-100					6.35	-20
6760073	81	82	-0.01	-			29		387	-	65		-2		9	-100					5.2	-20
6760074	82	83	-0.01	-			8		213	-	43		-2		8	-100					3.85	-20
6760075	83	84	-0.01	-			5		27	-	50		-2		-1	-100					4.8	-20
6760076	84	85.2	-0.01	-			96		33	-	65		-2		23	-100					6.4	-20
6760077	85.2	86.42	-0.01	-0.01			4220		-5	-	138		-2		25	-100					22.3	-20
6760078	86.42	87	-0.01	-			396		11	-	129		-2		>100	190					10.7	-20
6760079	87	88	-0.01	-			18		-5	-	39		-2		6	-100					3.1	-20
6760080	88	89	-0.01	-			67		28	-	139		-2		15	-100					7.55	-20
6760081	89	90	-0.01	-			67		57	-	113		-2		10	-100					5.15	-20
6760082	90	91	-0.01	-			63		12	-	98		-2		4	-100					4.9	-20
6760083	91	92	-0.01	-			98		5	-	116		-2		4	-100					10.2	-20
6760084	92	93	-0.01	-			11		38	-	111		-2		4	-100					5.4	-20
6760085	93	94	-0.01	-			6		38	-	63		-2		54	-100					2.6	-20
6760086	94	95	-0.01	-			24		50	-	118		-2		29	-100					6.1	-20
6760087	95	96	-0.01	-0.01			20		51	-	90		-2		70	-100					5.3	-20
6760088	96	97	-0.01	-			55		87	-	93		-2		>100	120					5.7	-20
6760089	97	98	-0.01	-			31		144	-	101		-2		22	-100					6.3	-20
6760090	98	99	-0.01	-			4		44	-	70		-2		35	-100					4.3	-20
6760091	99	100	-0.01	-			5		28	-	71		-2		4	-100					3.7	-20

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Sample Number	From	To	Au	Au(R1)	Au(R2)	Au(R3)	Cu	Cu(R1)	Pb	Pb(R1)	Zn	Zn(R1)	Ag	Ag(R1)	As	As(R1)	Sn	Pt	Pd	Ni	Fe	Bi
6760092	100	101	-0.01	-	-	-	-4		21	-	54	-2	-2		3	-100					3.3	-20
6760093	101	102	-0.01	-	-	-	-4		22	-	59	-2	-2		5	-100					3.9	-20
6760094	102	103	-0.01	-	-	-	-4		24	-	73	-2	-2		4	-100					4.5	-20
6760095	103	104	-0.01	-	-	-	-4		30	-	69	-2	-2		6	-100					3.05	-20
6760096	104	105	-0.01	-	-	-	4		34	-	91	-2	-2		25	-100					2.7	-20
6760097	105	106	-0.01	-	-	-	-4		28	-	98	-2	-2		9	-100					3.6	-20
6760098	106	107	-0.01	-	-	-	5		62	-	96	-2	-2		4	-100					5.55	-20
6760099	107	108	-0.01	-	-	-	5		43	-	110	-2	-2		6	-100					6.5	-20
6760100	108	109	-0.01	-	-	-	17		46	-	125	-2	-2		6	-100					7.85	-20
6760101	109	110	-0.01	-	-	-	11		58	-	138	-2	-2		8	-100					6.4	-20
6760102	110	111	-0.01	-	-	-	9		57	-	89	-2	-2		3	-100					5.1	-20
6760103	111	112	-0.01	-	-	-	-4		25	-	73	-2	-2		6	-100					3.95	-20
6760104	112	113	-0.01	-	-	-	4		19	-	90	-2	-2		-1	-100					6	-20
6760105	113	114	-0.01	-	-	-	-4		17	-	43	-2	-2		1	-100					2.55	-20
6760106	114	115	-0.01	-	-	-	-4		19	-	77	-2	-2		4	-100					6.05	-20
6760107	115	116	-0.01	-	-	-	-4		35	-	110	-2	-2		4	-100					6.25	-20
6760108	116	117	-0.01	-	-	-	7		54	-	79	-2	-2		5	-100					4.45	-20
6760109	117	118.14	-0.01	-	-	-	4		31	-	70	-2	-2		9	-100					3.95	-20
6760110	118.14	119	-0.01	-	-	-	-4		17	-	36	-2	-2		4	-100					3.1	-20
6760111	119	120	-0.01	-	-	-	-4		17	-	48	-2	-2		2	-100					2.7	-20
6760112	120	121	-0.01	-0.01	-	-	-4		23	-	49	-2	-2		1	-100					3.95	-20
6760113	121	122	-0.01	-	-	-	9		35	-	105	-2	-2		4	-100					6.4	-20
6760114	122	123	-0.01	-	-	-	6		38	-	84	-2	-2		8	-100					5.8	-20
6760115	123	124	-0.01	-	-	-	4		43	-	54	-2	-2		5	-100					3.9	-20
6760116	124	125	-0.01	-	-	-	9		43	-	139	-2	-2		7	-100					6.2	-20
6760117	125	126	-0.01	-	-	-	37		115	-	249	-2	-2		3	-100					8.45	-20
6760118	126	127	-0.01	-	-	-	23		57	-	133	-2	-2		12	-100					7	-20
6760119	127	128	-0.01	-0.01	-	-	24		43	-	129	-2	-2		19	-100					6.45	-20
6760120	128	129	-0.01	-	-	-	19		63	-	97	-2	-2		11	-100					6.1	-20
6760121	129	130	-0.01	-	-	-	7		27	-	71	-2	-2		11	-100					4.6	-20
6760122	130	131	-0.01	-	-	-	28		58	-	124	-2	-2		17	-100					3.65	-20
6760123	131	132	-0.01	-	-	-	7		101	-	72	-2	-2		7	-100					3.5	-20

11

613014

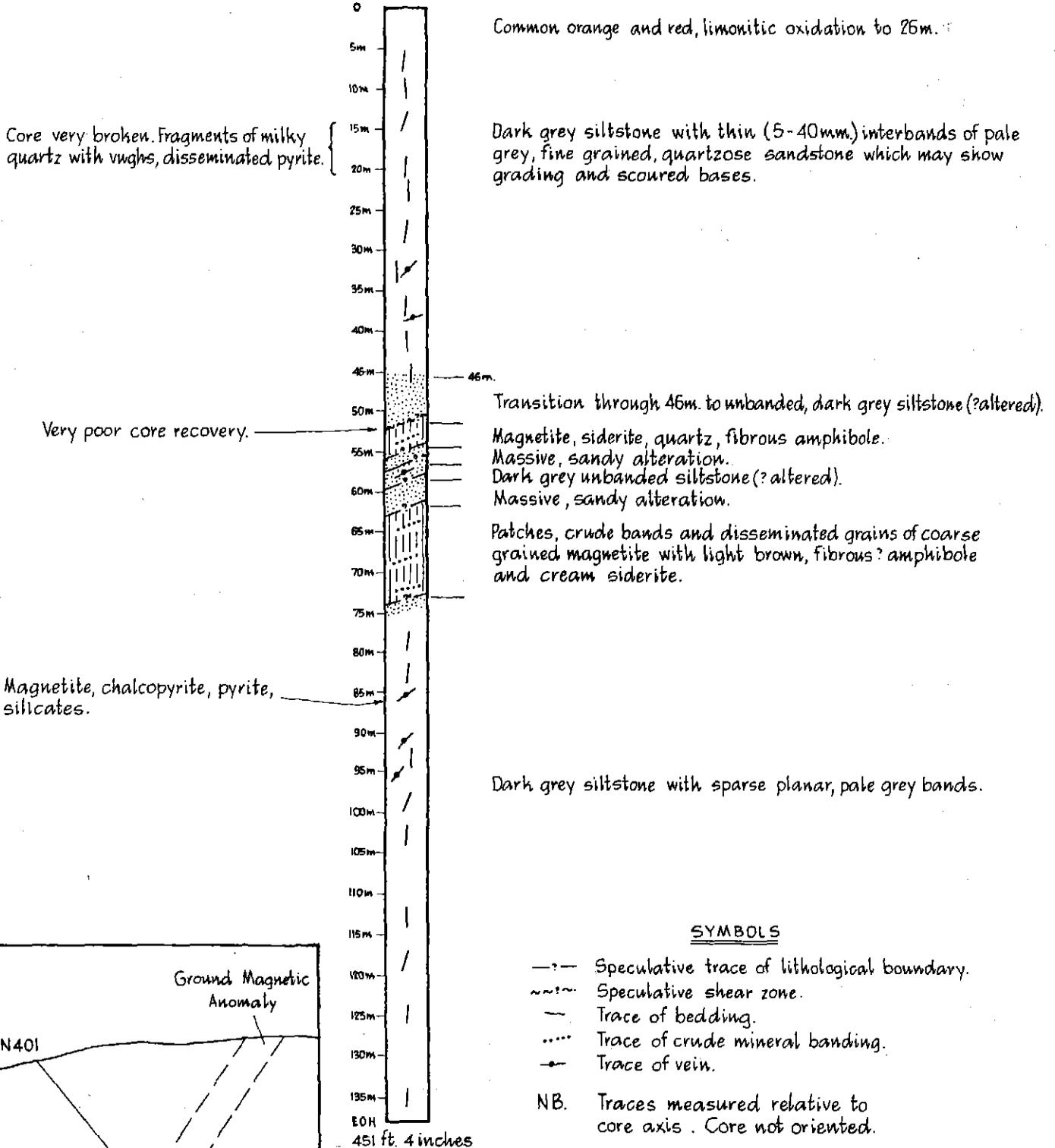
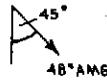
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			Detection Limit	0.01	0.01			4	5	0.001	4		2		1	100					0.01	20
			Method	F630	F630			A104	A104	A105	A104		A104		H104	A104					A104	A104
Sample Number	From	To	Au	Au(R1)	Au(R2)	Au(R3)	Cu	Cu(R1)	Pb	Pb(R1)	Zn	Zn(R1)	Ag	Ag(R1)	As	As(R1)	Sn	Pt	Pd	Ni	Fe	Bi
6760124	132	133	-0.01	-			8	32	-	52	-2		9	-100							3.45	-20
6760125	133	134	-0.01	-			-4	17	-	62	-2		1	-100							3.15	-20
6760126	134	135	-0.01	-			18	67	-	118	-2		2	-100							5.35	-20
6760127	135	136	-0.01	-			8	33	-	59	-2		5	-100							3.1	-20
6760128	136	137	-0.01	-			5	34	-	53	-2		-1	-100							3.2	-20
6760129	137	138.66	-0.01	-			5	27	-	52	-2		7	-100							3.2	-20

12

613015

SPECIFICATIONS OF DDH N401

Local Grid 10100m E 10000m N
 AMG (estimate) 310295m E 5442222m N
 Azimuth (estimate) 048° AMG
 Inclination 45°
 Depth 137.56m.
 Collar elevation (estimate) 76m. asl



SYMBOLS

- Speculative trace of lithological boundary.
 - ~::~~ Speculative shear zone.
 - - - Trace of bedding.
 - Trace of crude mineral banding.
 - >-> Trace of vein.
- NB. Traces measured relative to core axis. Core not oriented.

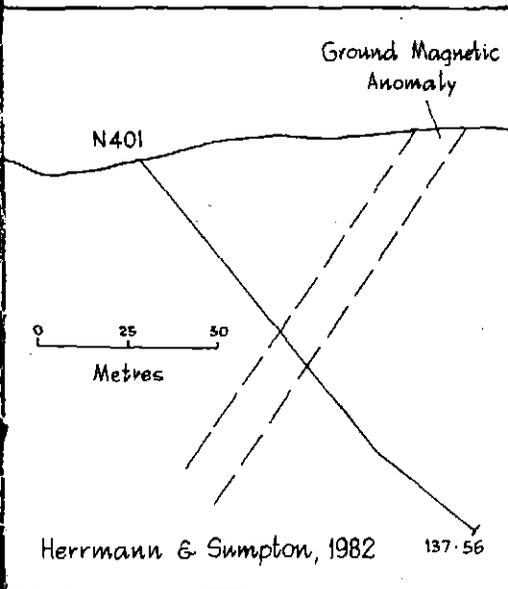


FIG. 2

Pacific - Nevada Mining Pty. Ltd.

EL 15/97 ARTHUR RIVER
 NELSON BAY RIVER PROSPECT
 RELOGGING OF DDH N401

Compiled: Nic Turner Drawn: Peter Nankivell
 29 Oct '99

613017

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PACIFIC NEVADA PTY LTD
TEMMA AREA, N.W. TASMANIA
GEOPHYSICAL MODELLING

BY N. HUNGERFORD
FLAGSTAFF GEOCONSULTANTS
AUGUST 1999

Copy to: Pacific Nevada, Perth x 3
Pacific Nevada, Hobart x 1
Flagstaff GeoConsultants (Melbourne) x 1

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SUMMARY

All the anomalies investigated in this report within the Temma area have been drill tested to a greater or lesser extent as verified by intersections of magnetite in drill core.

However, judging from modelling using the aeromagnetic data, they may have been incompletely tested. This is particularly the case with the Nelson and Little Eel prospects.

The Nelson prospect covers the strongest magnetic anomaly and indicates a considerable volume of magnetite. As a gold-copper target this prospect warrants the most attention, at least from a geophysical perspective.

MAGNETIC MODELLING

The data used for the magnetic modelling of the four prospects at Temma comes from the AGSO airborne geophysical survey known as North West Forests. Magnetic data were collected on survey lines 200 metres apart, flown east-west, and with a sensor height of 90 metres. Reading interval is about 7 metres.

For this work, the located profile data were windowed from the full data-set to cover the Temma licence, and those profiles that went directly over the drill holes were then selected for subsequent modelling using the program ModelVision.

The located data were also gridded using a bi-directional algorithm to a 50 metre cell size. This grid was then used to calculate the 1st Vertical Derivative, and the Total Magnetic Intensity, both Reduced to the Pole. The latter process is carried out in order to compensate for the inclination of the earth's magnetic field, in order to place the peak of the magnetic anomaly directly over the magnetic source (assuming negligible magnetic remanence in the source).

The following images are included with this report:

- TMI, Reduced to the Pole; Equal Area Colour stretch
- TMI (RTP); Linear colour stretch to emphasis and isolate the strongest magnetic responses within the Temma licence
- 1st Vertical Derivative (RTP), which enhances magnetic sources close to the surface (effectively removes background regional effects)

The profile modelling carried out for each prospect did not incorporate any of the existing drilling results at this stage, mainly because of the uncertainty about the AMG locations of the drillholes. So the resultant models are not constrained by any geological information.

On the attached model profiles, the centre panel is the TMI, and the top panel is the 1st Vertical Derivative. The bottom panel shows the sources with a depth scale in metres below the sensor (which averages 90m above ground). Due to the ambiguities inherent in potential field modelling, only simple tabular models have been assumed since there is very little in the way of geological constraints that might suggest more suitable and more complex forms.

GEOLOGY

The rocks throughout the Temma area are understood to be predominantly sediments. The aeromagnetic images suggest the presence of (conformable?) magnetic horizons that can have considerable strike extent. These bear similarities to BIF horizons in Proterozoic terranes elsewhere in Australia, although the Temma anomalies are of shorter strike length and show little evidence of folding, at least in plan.

BIF horizons elsewhere in the Proterozoic are generally more magnetic, having amplitudes the order of thousands rather than hundreds. Only the Nelson prospect has comparable amplitudes.

NELSON RIVER PROSPECT

The aeromagnetic model indicates a very magnetic unit at 310310mE, 5442203mN, with a dip of about 60° to the west, and a vertical depth to top of a few metres.

The collar of drill hole N-401 appears to be at this location also, which implies that the drill hole is collared too far east to fully intersect the magnetic source. (Fig 4a).

However the Geopeko ground magnetic data (1983) indicate that this hole should have intersected the magnetic target successfully, and this appears to be verified by the intersection of magnetite and ultramafic at about 30 metres vertical depth. The ground magnetic data suggest a dip to the west which agrees with that from the aeromagnetic modelling.

It would appear that the AMG coordinates of this drill hole are incorrect, or less likely that the hole has been collared incorrectly with respect to the ground and aeromagnetics.

The unconstrained modelled magnetic susceptibility of about $42,000 \times 10^{-5}$ SI indicates a magnetite content of about 10% over about 80 metres. Note that the magnetic anomaly amplitude is proportional to the product of the susceptibility and width, so that it is usually difficult to be accurate about either, without prior knowledge. The drilling indicates a main magnetite zone of width about 7 metres, with magnetite veins occurring above and below this intersection.

If the width of the magnetic body is fixed at 7 metres, then a susceptibility of about $420,000 \times 10^{-5}$ SI fits the observed profile equally well, as can be seen by comparing Fig 4 and Fig 5. This susceptibility implies a magnetite content of 70-80%.

LITTLE EEL PROSPECT

The depth to the top of the modelled magnetic source is about 50 metres from surface, suggesting it does not outcrop, and that drill hole DD82 LE-1 only intersected the top of the magnetite body (Fig 6).

The modelled dip (75° W) agrees well with that indicated on the drill-section. Another magnetic body, subtly expressed on the TMI profile, occurs about 150m to the east with an east dip, thus suggesting that an anticline may be present, possibly with the east limb faulted down to the east.

If the existing hole is properly located and if geochemical results warrant it, a deeper hole from the opposite direction (i.e. from west) could be useful, to properly test the magnetic source. If extended far enough it could intersect the fold axis of the speculated anticline, which could be an interesting target for structurally controlled gold.

The Little Eel magnetic body has limited strike extent (about 150m) which may have implications for possible tonnage of any mineralisation present.

POSSUM CREEK PROSPECT

The magnetite unit here appears to be relatively deep, with a top depth of about 100 metres. If this is the case then drillhole DD82 PG1 has probably drilled over the main source of massive magnetite.

The geophysically modelled dip of 70°W is somewhat steeper than that suggested from the drilling, but in the same direction. (Fig 7).

The ground and airborne magnetic surveys both indicate an ironstone of about 1500 metres in strike length. However the variations in anomaly amplitude along strike suggest either facies variations, unit thinning or faulting. The existing hole appears to have been drilled very close to a possible fault, and a better location could be about 500 metres along strike to the south where a coherent elongated anomaly is present.

STRICKLAND PROSPECT

This prospect is on the most magnetic part of a magnetic trend that extends over 4 kilometers in strike. Two closely spaced parallel trends to the north may indicate limbs of a fold, which coalesce at the Strickland anomaly.

The magnetic model (Fig 8) shows an anticline with a more steeply dipping west limb. The depth is very close to ground level (i.e. subcropping).

Assuming the collar AMG coordinates are correct, drillholes T301 and T302 have intersected the magnetic units where expected from the modelling. (Note that the east-west flight line for the modelling goes between these two holes that are 250 metres apart).

It may be worth considering a hole from the west, collared west of T302, that would better intersect the western limb of the anticline, and, if deep enough, test for mineralisation in the fold axis.

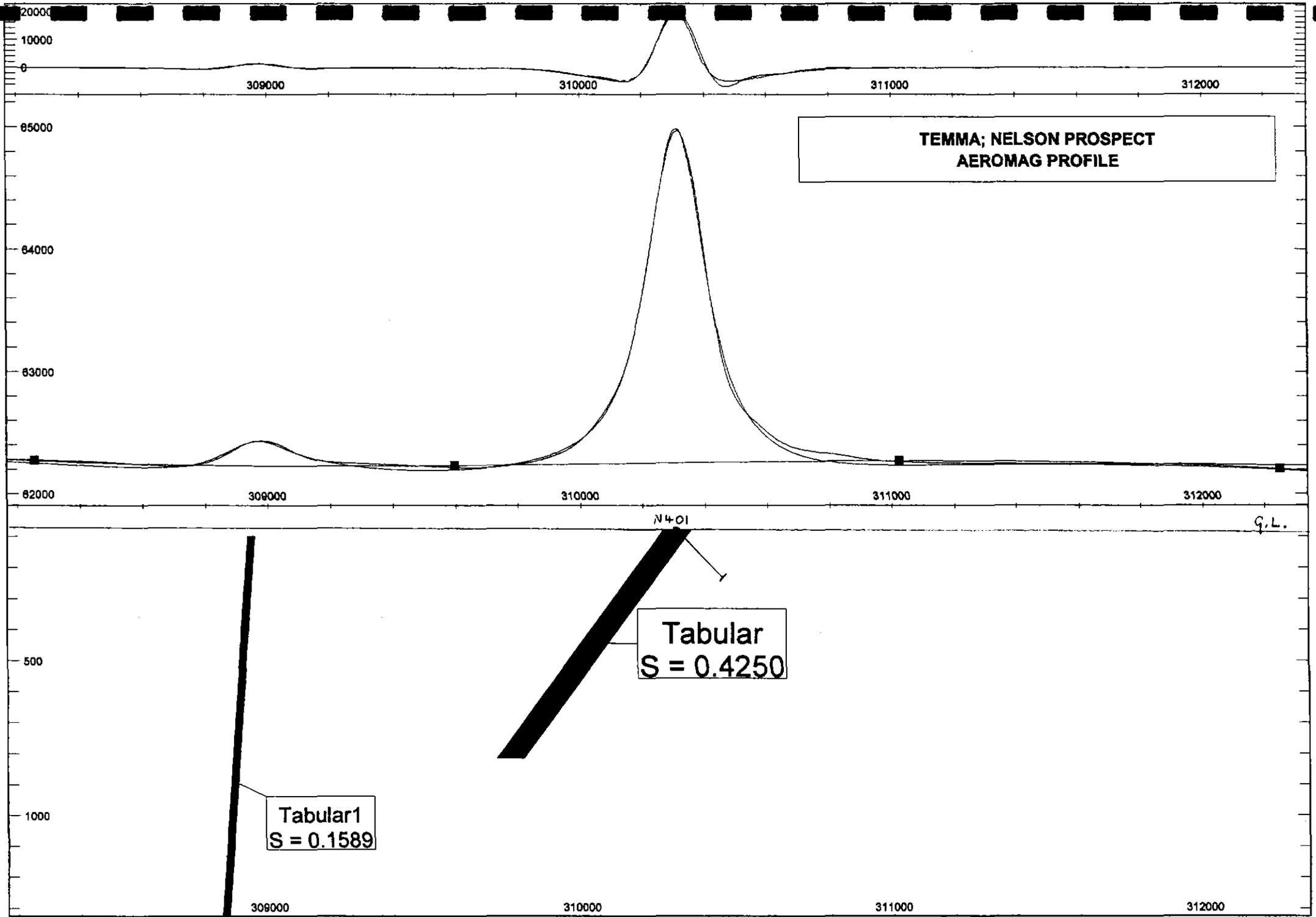
RECOMMENDATIONS

For most of the prospects it is essential to verify the accurate AMG locations of the old drill holes, in order to verify that the magnetic targets have been properly tested.

Either the collar coordinates should be measured accurately with GPS, or preferably a line of ground magnetics is carried out along each drill section. The latter is preferable since it enables more accurate modelling to be carried out as a further check on previous drill testing, and it is also an aid to future drill-hole targeting.

If the presence of massive sulphides is possible then consideration should be given to carrying out Electromagnetic surveys to help assist in future drill targeting. These could either be ground surveys over particular magnetic prospects, or airborne surveys over the licence. The latter could be desirable if mineralisation has no magnetic signature.

Such surveys (surface and downhole) have been used with success at magnetite-hosted copper-gold deposits such as Osborne, Starra, Ernest Henry and Eloise in N.W. Queensland. (They are generally not used in the Tennant Creek Field due to the depth of the ironstones and their small extent in plan).



TEMMA; NELSON PROSPECT
AEROMAG PROFILE

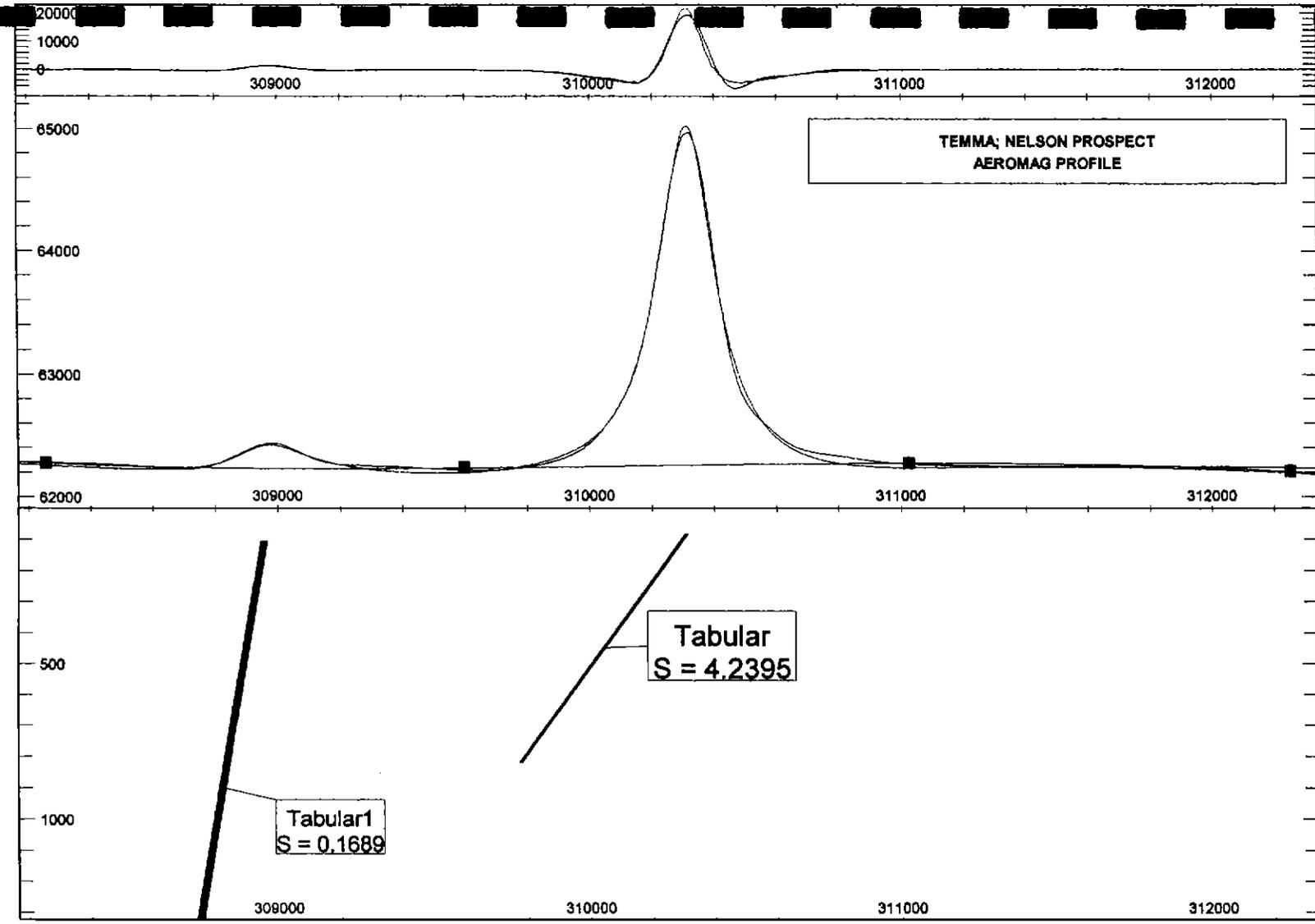
Tabular
S = 0.4250

Tabular1
S = 0.1589

N40E

G.L.

613023



613024

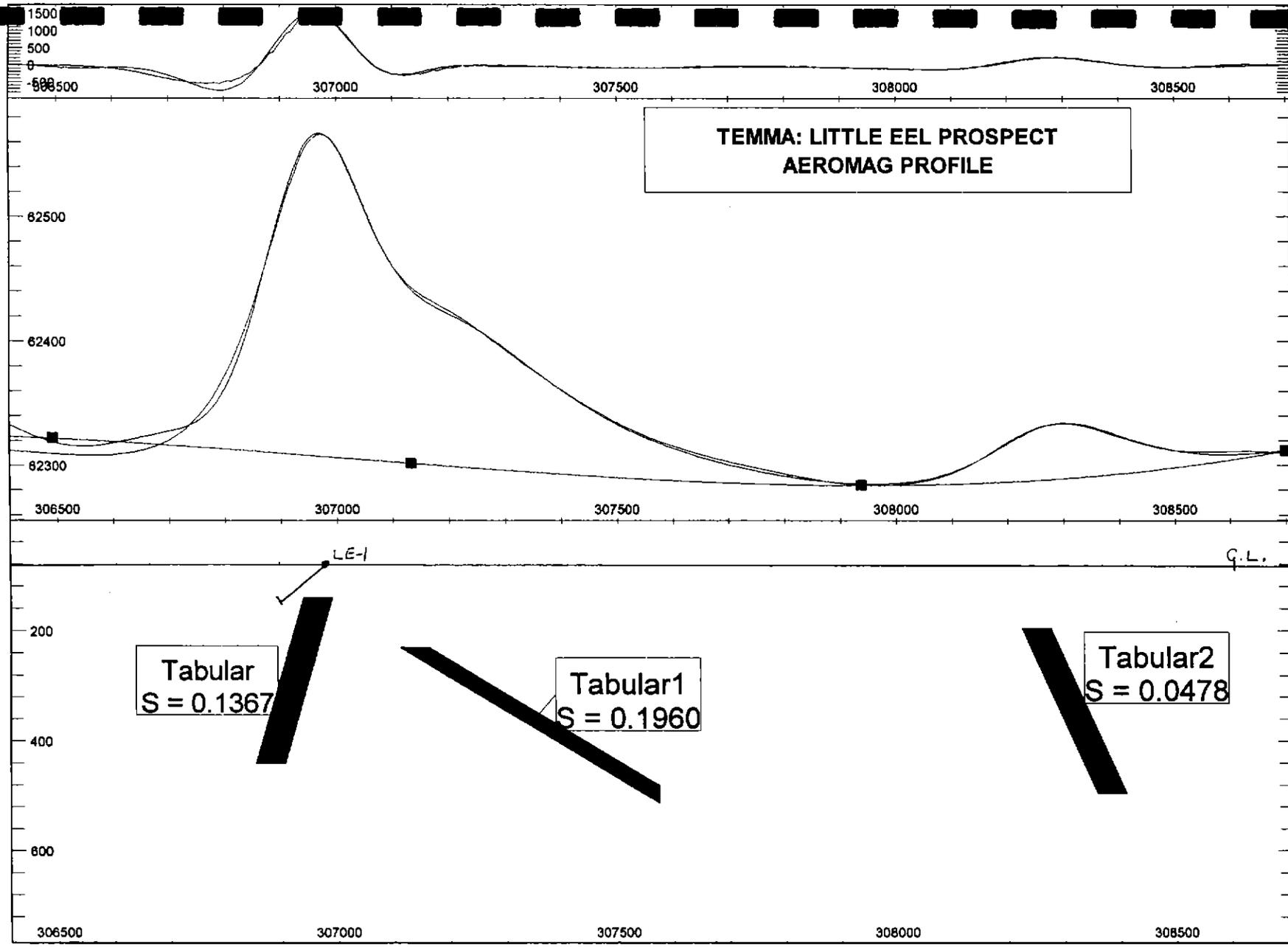


Fig 6

613025

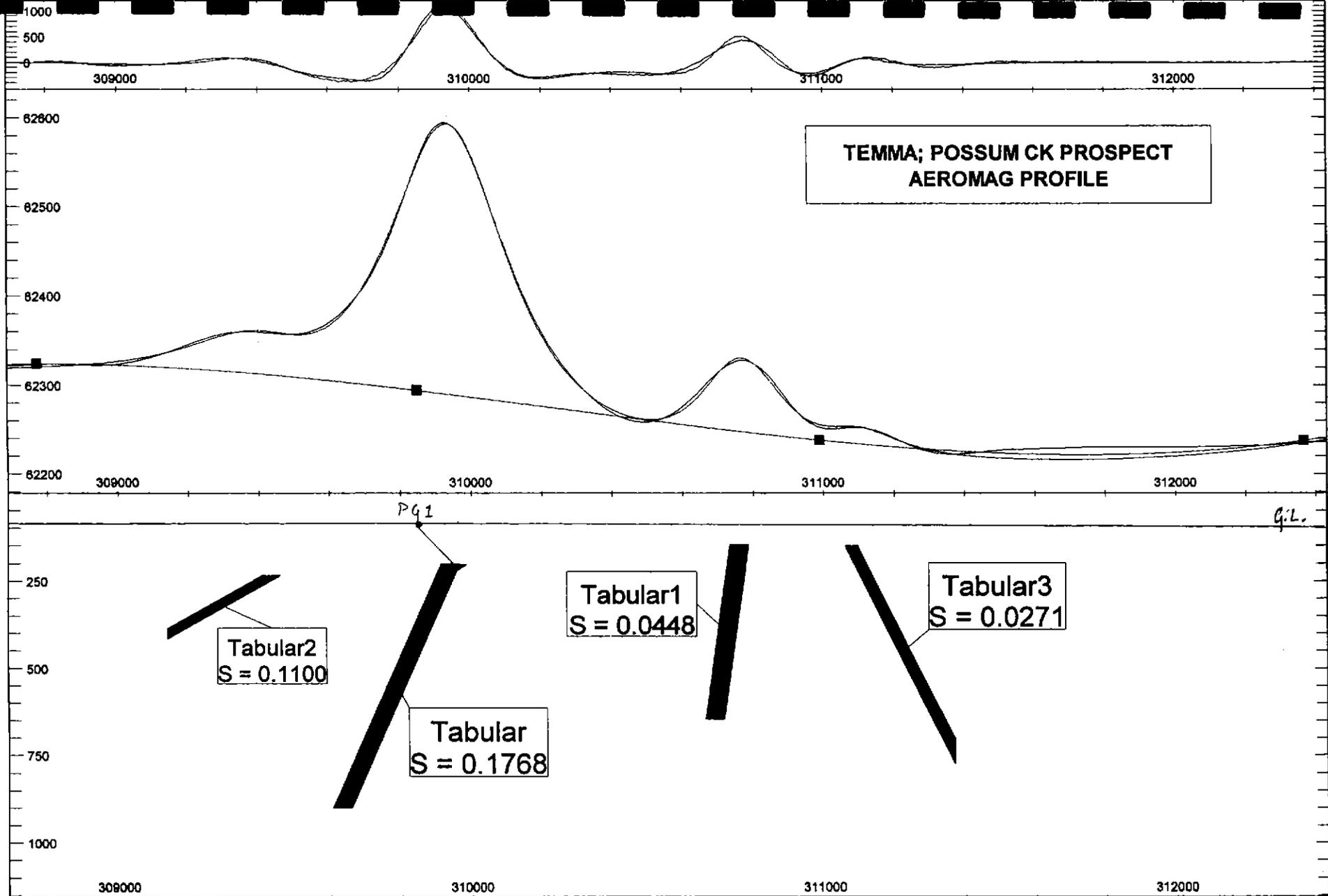
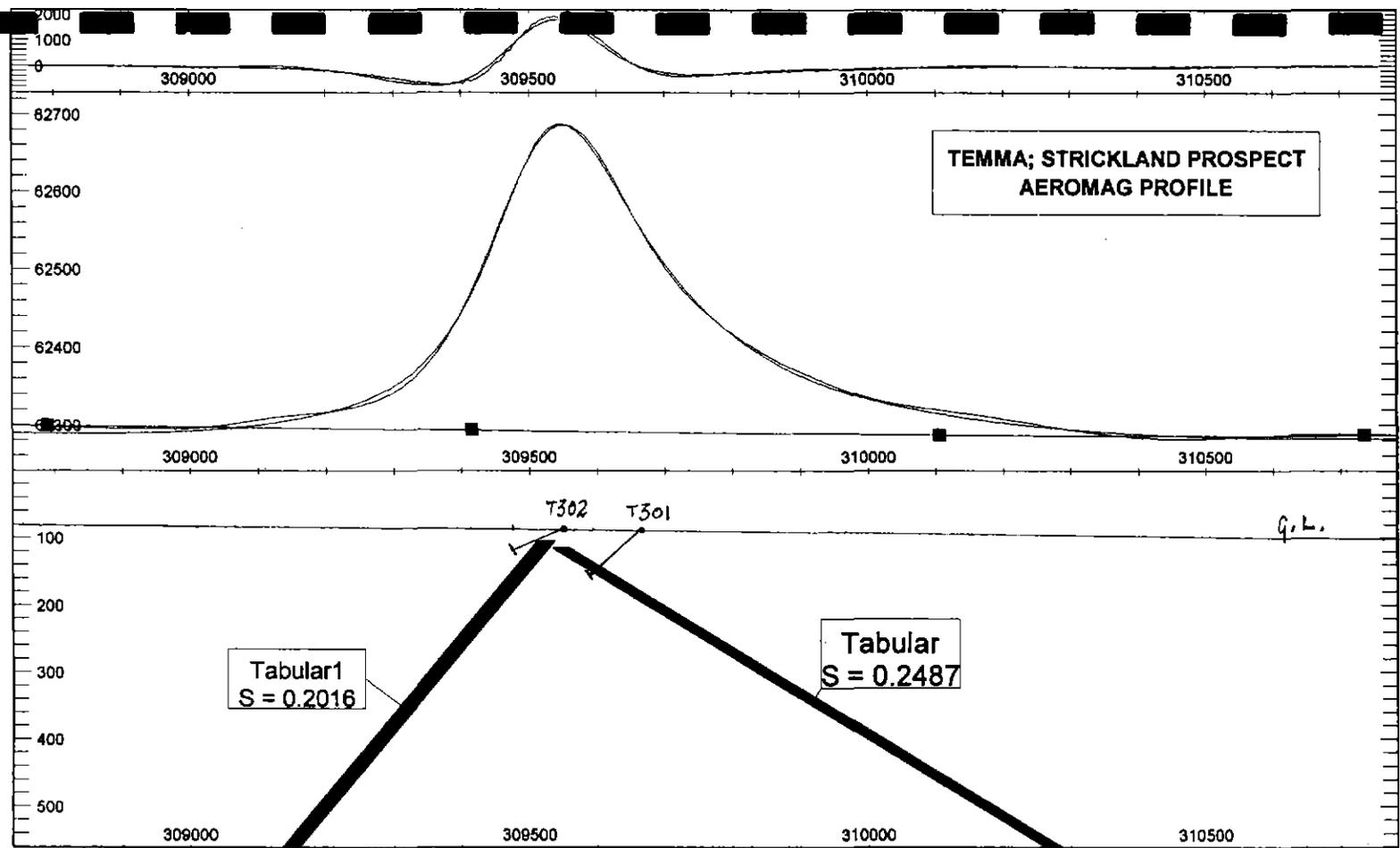


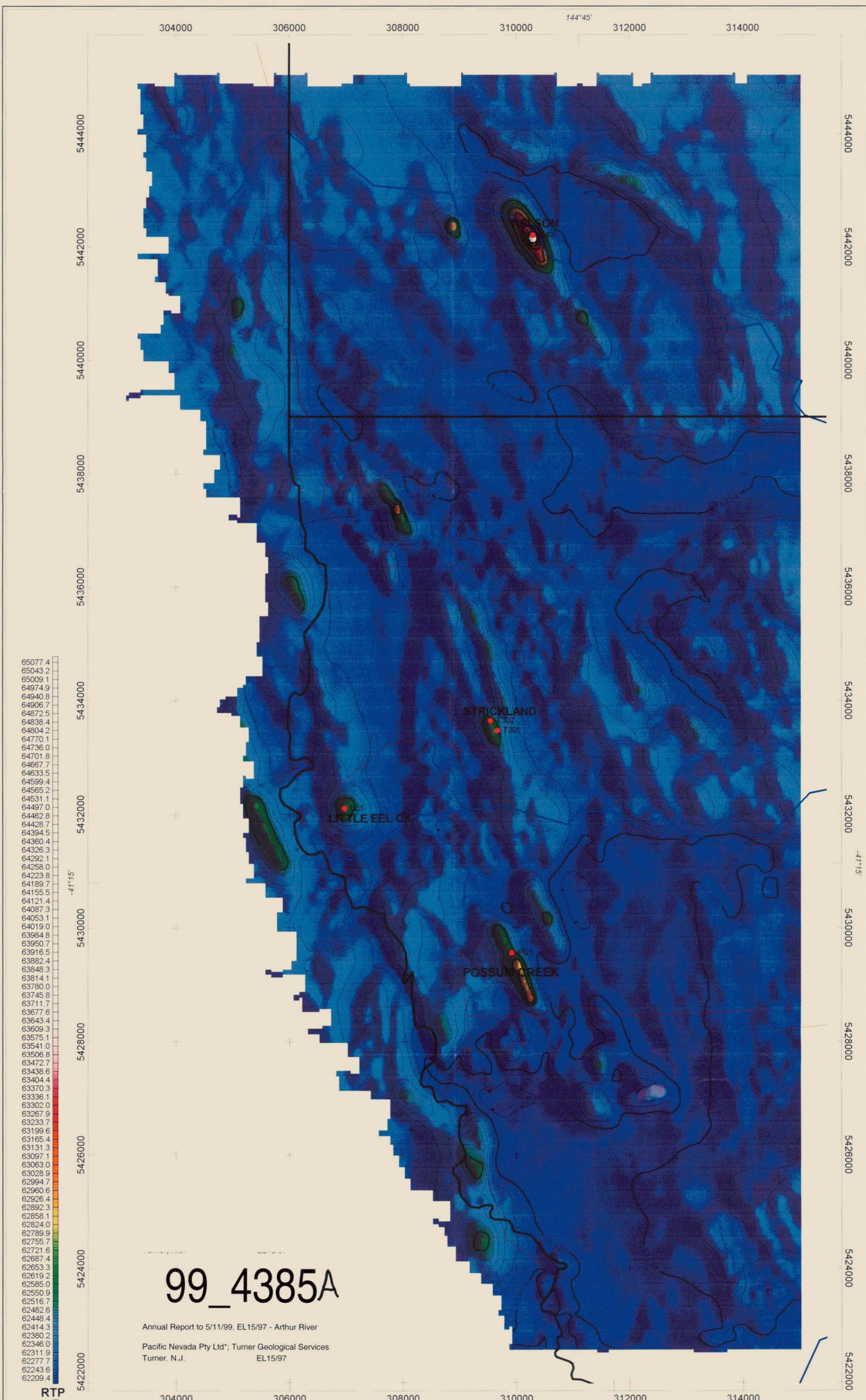
Fig 7

613026



613027

Fig 8



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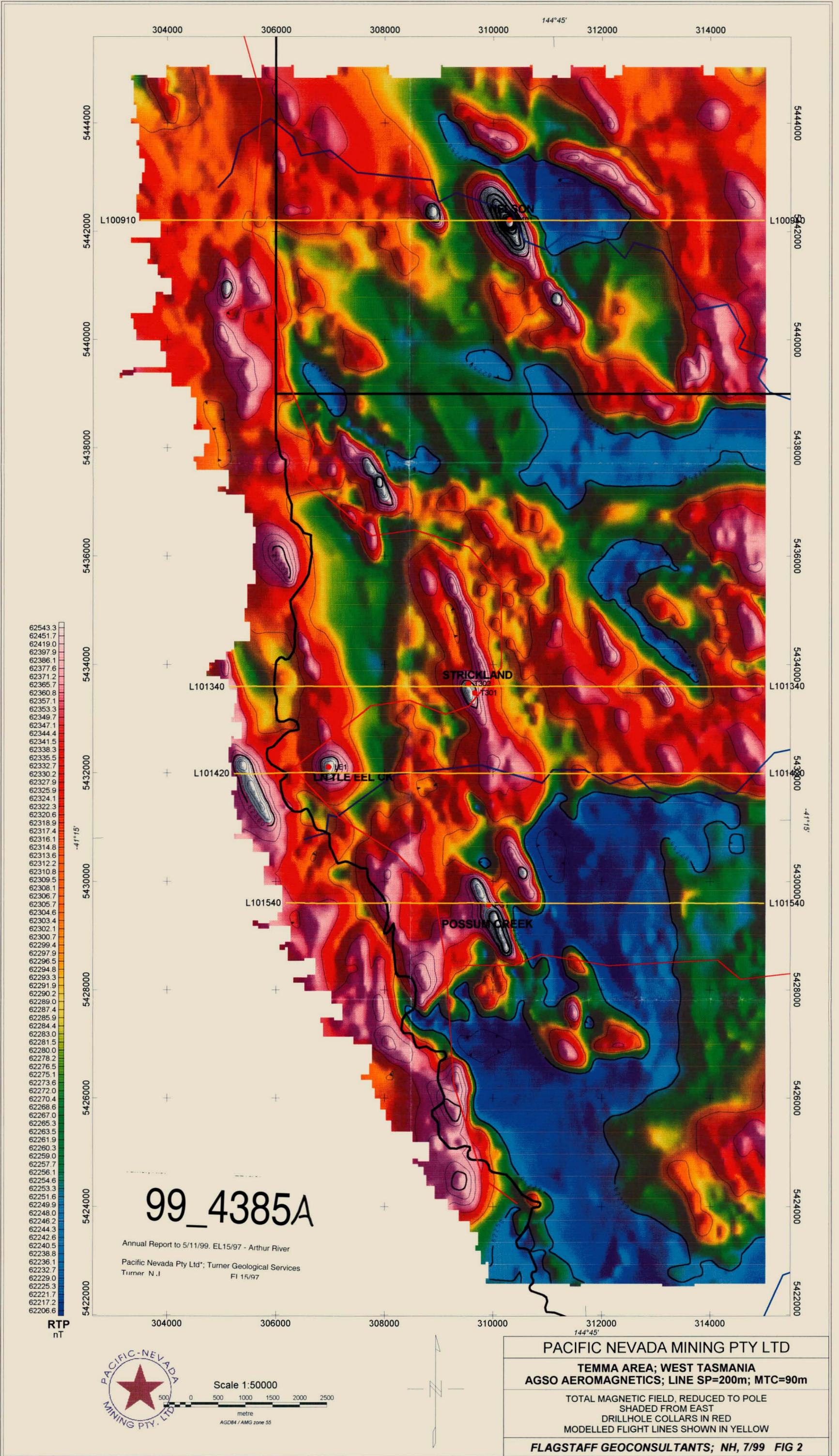
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 Pacific Nevada Pty Ltd; Turner Geological Services
 Turner. N.J. EL15/97



PACIFIC NEVADA MINING PTY LTD
TEMMA AREA; WEST TASMANIA
AGSO AEROMAGNETICS; LINE SP=200m; MTC=90m
TOTAL FIELD, REDUCED TO POLE; LINEAR COLOUR STRETCH SHADED FROM EAST
FLAGSTAFF GEOCONSULTANTS; NH, 7/99

FIG. 1

5 cm



62543.3
62451.7
62419.0
62397.9
62386.1
62377.6
62371.2
62365.7
62360.8
62357.1
62353.3
62349.7
62347.1
62344.4
62341.5
62338.3
62335.5
62332.7
62330.2
62327.9
62325.9
62324.1
62322.3
62320.6
62318.9
62317.4
62316.1
62314.8
62313.6
62312.2
62310.8
62309.5
62308.1
62306.7
62305.7
62304.6
62303.4
62302.1
62300.7
62299.4
62297.9
62296.5
62294.8
62293.3
62291.9
62290.2
62289.0
62287.4
62285.9
62284.4
62283.0
62281.5
62280.0
62278.2
62276.5
62275.1
62273.6
62272.0
62270.4
62268.6
62267.0
62265.3
62263.5
62261.9
62260.3
62259.0
62257.7
62256.1
62254.6
62253.3
62251.6
62249.9
62248.0
62246.2
62244.3
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62240.5
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62225.3
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62217.2
62206.6

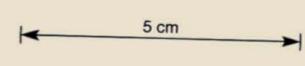
RTP
nT

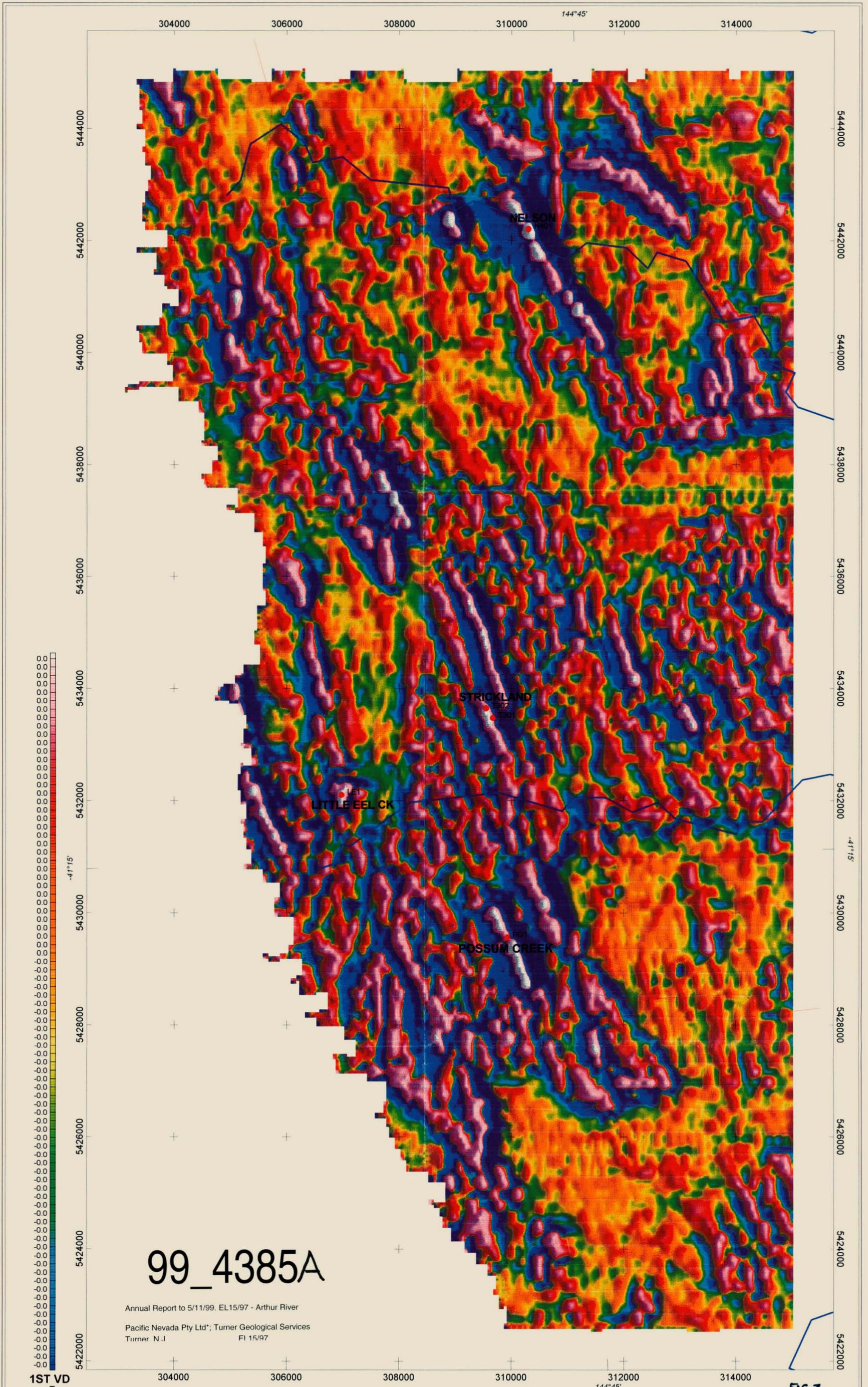


Scale 1:50000
0 500 1000 1500 2000 2500
metre
AGD84 / AMG zone 55

PACIFIC NEVADA MINING PTY LTD
TEMMA AREA; WEST TASMANIA
AGSO AEROMAGNETICS; LINE SP=200m; MTC=90m
TOTAL MAGNETIC FIELD, REDUCED TO POLE
SHADED FROM EAST
DRILLHOLE COLLARS IN RED
MODELLED FLIGHT LINES SHOWN IN YELLOW
FLAGSTAFF GEOCONSULTANTS; NH, 7/99 FIG 2

613029

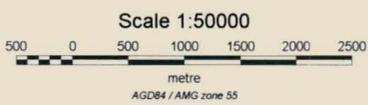




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 Pacific Nevada Pty Ltd*; Turner Geological Services
 Turner N.J. FI 15/97

1ST VD
nT



PACIFIC NEVADA MINING PTY LTD
TEMMA AREA; WEST TASMANIA AGSO AEROMAGNETICS; LINE SP=200m; MTC=90m
1ST VERTICAL DERIV, REDUCED TO POLE SHADED FROM EAST DRILLHOLE COLLARS IN RED
FLAGSTAFF GEOCONSULTANTS; NH, 7/99

FIG.3

5 cm