

PERTZEL TAHAN & ASSOCIATES
Consultant Geologists
Established 1982

SUMMARY REPORT

DIAMOND DRILLING PROGRAM

NEW NORTH FARRELL MINE

EXPLORATION LICENCE 47/2003, WEST TASMANIA

For

SARACEN METALS PTY LTD

BY: A M HABETS
May 2005

Report Number: PTA06:015

1.0 INTRODUCTION

The deposits of North Farrell and New North Farrell lie within the EL47/2003 (see Figure 1) granted to Saracen Metals in June 2003. Together with older Mackintosh set of workings, they are located just outside the township of Tullah (previously called Farrell prior to 1905) see Figure 2.

The North Farrell and New North Farrell mines have produced a total of 715,200t at 12.4% Pb and 408g/t Ag between the period of 1899 to 1974 (Electrolytic Zinc Company (EZ) internal report May 1985). Zinc was either not excavated during that time or if it was it was brought to the surface as blended ore, it was used as backfill (Jim Powell -Tullah resident, personal communication, & EZ internal report May 1985). Old records show that the town, before the road was pushed through in the mid 1960's, was supported solely by the mine (North Farrell then the New North Farrell) which produced an average of 5 tons of high grade concentrate per day, with a mining cut of 9 inches thickness. These records also show very high concentrations of silver (logbooks held by Les Johnson – Tullah resident).

Pertzel Tahan & Associates recommended and supervised a program of eight diamond drill holes. These were designed to principally intercept ore blocks as previously defined by EZ in the New North Farrell Mine, to test for possible depth extensions to these blocks, to gain a better understanding of the geology and nature of the base-metal mineralisation, and to incorporate the data into a three dimensional model of the existing workings. A total of 2450 metres of core was drilled over 146 shifts (see Appendix 1) between 7th September 2005 and 10th April 2006. A total of 185 drill core samples were cut and sent for analysis.

2.0 GEOLOGY

2.1 Outline

Documentation of the geology, as well as surveying, of the underground Farrell workings is sparse. Discussions with two former miners (Jim Powell and Les Johnson) who worked in the New North Farrell Mine (NNFM) revealed that little testing ahead of and within the developments was conducted. Miners tended to work along productive horizons and simply “follow ore” (Jim Powell personal communication 2006). Some short horizontal diamond drill holes tested the immediate working environment.

The only known testing to advance ore reserves was by:

- EZ who carried out vertical to subvertical underground exploration below level 9 at the New North Farrell Mine, before the mine was allowed to be flooded
- EZ who drilled three deep surface diamond drill holes from two pads between 1965 and 1967
- Pasminco, which carried out a set of shallow surface diamond drill, holes between 1995 and 1996 to delineate an open pittable lead-silver-rich resource.

The surface geology of the Tullah Block is well described by McNeil (1986). General geology of the Farrell Group and Mackintosh mine workings is described in Jensen 1959. Lead/silver-rich ore is generally associated with a persistent zone of shearing, structures that provided pathways for mineralisation. This zone of shearing is observed within pyritic black shales and crystalline grey tuffs. Little documentation has been sighted for descriptions of mineralisation outside the Farrell Slates / Shales (see later discussion). Farrell Group Sediments (FGS) are overlain by porphyritic volcanics (generally andesites). These volcanics (the Central Volcanic Sequence – CVC) host minor veins of galena (see Appendix 2: FDD06 at 133.2 – 135.0m and assay results in Appendix 3)

Base-metal sulphides are developed within a distinctly cream coloured carbonate-rich (ankerite or siderite) vein system. Consultant petrologist P Ashley has interpreted this system as follows: *It “... represents a veined and brecciated, low grade metamorphosed and deformed black shale. Rocks have been recrystallised into a quartz-sericite assemblage, with minor graphitic material and disseminated pyrite. Veining, grading into brecciation, has occurred, with early infill by fine to medium grained quartz plus carbonate, with local pyrite aggregates and a little biotite-chlorite, followed by the main infill of medium to coarse grained carbonate, with minor quartz and a little biotite-chlorite and pyrite, and followed by late quartz-rich veining. The last veining has “epithermal” textures. Carbonate may be ankerite or siderite.”* (Appendix 4 Report Number 133835).

2.2 Discussion

Drill logs, objectives and results are shown in Appendix 2. Drill sections are shown in Appendix 4.

Four key points become apparent from the eight holes drilled into the New North Farrell prospect:

1. Mineralisation is not limited to the shales and slates of the Farrell Group Sediments (FGS). Mineralisation also extends into what has been described as the Mackintosh Tuff (MCT). Ashley in petrology report number 133913 (Appendix 5) describes this formation as follows:

“a former porphyritic felsic volcanic rock (e.g. tuff) or derived clastic sedimentary rock (epiclastic with relict quartz and plagioclase grains) that has undergone rather strong deformation and recrystallisation. The rock is now a fine grained quartz-sericite-albite-carbonate schist, with minor chlorite and pyrite, with some preservation of original phenocrystal grains of quartz and altered plagioclase.”

The MCT has been intersected in the following holes (where it is mineralised to some degree):

- FDD05 between 196.6 and 209.8 metres
- FDD07 at 483.75 metres
- FDD03 at 246.4 metres

This tuffaceous schist has not previously been recognised as containing ore bearing material in the environs of the NNFM. Structures observed in core suggests that it is likely to be a manifestation of a continuous geologic event that the path of mineralisation crosses, rather than a wedge or unconformity of the overlying volcanic sequence (CVC). Further study is required to clarify its setting.

2. Zinc and copper mineralisation appears to predominate over lead and silver at depth. This is most evident in the deeper holes drilled on the southern edge of the NNFM area but is less obvious in the northern deep holes (FDD02).

Examples occur in the following holes:

- FDD06 between 363.0 and 365.0 metres
- FDD07 between 377.7 and 379.0 metres

Tables of relative metal ratios are presented in Appendix 3b. Further scrutiny is required to understand if apparent metal zonation is a local or regional phenomenon.

3. The footwall of the ore lode in the most southern block drilled, appears to be truncated by a substantial fault with associated fault breccia and clay pug. This fault carries significant water, as discovered during drilling, and as well as talking to miners that worked that particular area. This region carried significant combined metal grades of over 8% and was intersected at two levels. The geologic setting of this ore shoot (which returned the highest grade intersection of the drill programme) and its position (between the NNFM and the earlier North Farrell Mine) presents opportunities for discovering larger shoots and continuations of existing shoots in untested ground to the south.

4. The ore lodes appear to manifest in a predictable, repeatable pattern along strike and down dip. Discrete markers, Interbed Zone (IZ), Major Fault (referred to as the Henty Fault by previous explorers, but not confirmed in the results of the Saracen drilling program) first appearance of cream-coloured carbonate veining (FCC) and the main lode zones can be used to predict the relative positions of intercepts of mineralisation of both sphalerite and galena, as shown in the table below.

Table 1 Spatial Relationships of Mineralised Intercepts and Geology

Hole	Interbed Zone (IZ)			Major Fault	Distance Below IZ	1st Q-Carb (FCC)	Distance below IZ	Lode Zone	Distance between FCC & Ore
Number	Start	Finish	Interval	at	IZ	at	IZ	at	
FDD01	150	154	4	157	3	198	44	223	25
FD002	211	223	12	228	5	295	72	314	19
FDD03	163	165	2	174.5	9.5	188.4	23.4	195.9	7.5
FDD04A	208.2	211.1	2.9	214	2.9	254	42.9	340	86
FDD05	124.05	134	9.95	184	50	147.9	13.9	202	54.1
FDD06	278	282	4	366	84	339	57	364	25
FDD07	280	284	4	380	96	358	74	378	20

Measurements are down hole intervals, distances are in metres

3.0 RESULTS / INTERSECTIONS

Tabulated assay results are shown in Appendix 3a and 3b.

A summary of drill hole grade intercepts, sub surface UTM coordinates and comments are shown below. These will be converted to Local Farrell Grid coordinates and included into a three dimensional computer model to compliment digitised archival material already collected.

Table 2 Mineralised Intercepts – Silver (values above 1 g/t Ag)

Hole ID	Depth From	Depth To	m	Ag g/t			Coord North	Coord East	RL
FDD01	208.00	209.25	1.25	2.00			385928.3	5379551	31.725
FDD01	212.15	226.00	13.85	47.81			385931.3	5379551	28.8422
FDD01	231.00	238.00	7.00	5.86			385944.9	5379551	15.7479
FDD02	287.50	296.30	8.80	3.63			385851.5	5379571	-89.4398
FDD02	305.65	308.38	2.73	1.38			385857.6	5379575	-106.163
FDD02	312.55	322.40	9.85	15.12			385860.1	5379576	-112.416
FDD03	187.85	201.70	13.85	27.61			385894.4	5379546	31.8203
FDD03	222.00	235.90	13.90	6.99			385916.9	5379545	6.15096
FDD03	244.65	246.60	1.95	2.00			385932.3	5379545	-10.4142
FDD03	272.90	274.00	1.10	1.00			385951.9	5379545	-30.7458
FDD03	274.60	275.65	1.05	1.00			385953.1	5379545	-31.965
FDD04A	317.80	325.20	7.40	4.97			385906.6	5379739	-106.123
FDD04A	332.30	335.40	3.10	4.77			385910.7	5379743	-119.317
FDD04A	341.80	351.50	9.70	6.36			385913.6	5379746	-127.944
FDD05	147.60	151.00	3.40	2.65			385958.8	5379666	96.0915
FDD05	157.00	161.00	4.00	2.25			385966.5	5379665	90.7997
FDD05	166.20	170.00	3.80	5.74			385974	5379664	85.6551
FDD05	182.30	210.00	27.70	6.19			385987.1	5379662	76.6521
FDD05	213.00	217.90	4.90	4.18			386012.2	5379657	59.4849
FDD06	133.20	135.00	1.80	39.11			385642.7	5379331	59.3113
FDD06	357.00	367.60	10.60	10.93			385771.9	5379349	-111.516
FDD07	373.80	379.00	5.20	2.98			385759.2	5379343	-148.895
FDD07	400.80	409.00	8.20	1.33			385775.4	5379345	-170.438
FDD07	409.60	411.00	1.40	1.33			385780.7	5379346	-177.426

Ag 1gram cut

Table 3 Mineralised Intercepts – Pb, Cu, Fe (values above 0.5% Pb)

Hole ID	Depth From	Depth to	m	Pb %	Cu ppm	Fe %	Coord North	Coord East	RL
FDD02	313.50	315.80	2.30	1.13	176.67	9.11	385860.4	5379576	-113.277
FDD02	320.20	322.40	2.20	2.04	133.33	6.76	385862.9	5379578	-119.349
FDD03	222.00	223.00	1.00	1.18	20.00	3.49	385916.9	5379545	6.15096
FDD05	193.50	195.00	1.50	1.77	65.00	8.09	385996.3	5379660	70.3892
FDD06	133.20	135.00	1.80	1.63	410.00	7.57	385642.7	5379331	59.3113
FDD06	364.00	365.00	1.00	2.10	2250.00	10.82	385777.9	5379349	-115.016

SUMMARY REPORT – NEW NORTH FARRELL MINE – DRILLING PROGRAM

Pb 0.5% cut

Table 4 Mineralised Intercepts – Zn, Cu, Fe (values above 0.5% Zn)

Hole	Depth	Depth	m	Zn %	Cu ppm	Fe %	Coord	Coord	
ID	From	To			ppm	%	North	East	RL
FDD01	223.00	225.00	2.00	0.51	40.00	9.06	385939.1	5379551	21.3052
FDD04A	334.30	335.40	1.10	1.71	145.00	7.71	385911.3	5379744	-121.137
FDD04A	345.10	347.00	1.90	1.45	90.00	7.62	385914.6	5379747	-130.935
FDD06	363.00	365.00	2.00	6.20	2250.00	10.82	385777	5379349	-114.516
FDD07	377.70	379.00	1.30	1.72	960.00	13.45	385761.6	5379344	-152.02

Zn 0.5% cut

Drill holes FDD01 and FDD03 (and possibly FDD02) encountered old mine workings. These are tabulated below.

Table 5 Mineralised Intercepts – Zn, Cu, Fe (values above 0.5% Zn)

Hole Number	Interval		Comment
	From	To	
FDD01	223.40	225.00	CAVITY of 0.30m
FDD01	211.40	215.00	Back fill stope with cavity
FDD02	228.10	229.40	LOST CORE 0.7m Cavity?
FDD03	224.40	225.90	1.5m stope with timber
FDD03	229.60	232.60	0.5m cavity

Generally material from these cavities (back fill) has not been assayed or included in the intersection data. However a representative 100mm pebble of ore material, that was recovered in the back fill from drill hole FDD01, returned assay values of 11.7% Pb and 1.15% Zn and 190g/t Ag (sample number 133829, NNFM - Level 7). This indicates the grades of the ore extracted from the NNFM during previous historic mining.

4.0 SAMPLING AND QUALITY CONTROL

Experienced contractors prepared drill core at a local facility in Rosebery rented by Saracen. Core was orientated, measured for recovery and logged for lithology, mineralogy and structure. Sampling took place at zones specified by a geologist supervising the programme. A maximum sample distance of 1.5m was used, with a more general distance of 0.5 – 1.0m adopted. Half core was cut using a diamond saw, samples were dispatched immediately to Burnie Research Laboratory (BRL).

The analytical techniques adopted by BRL is summarised below:

SAMPLE PREPARATION:

- **Oven Dry**
- **Jaw crush entire sample**
- **Riffle split 1kg, nominally no less than 1/16th of original sample**
- **Pulverise entire split, so that 90% passes 200 mesh**
- **Take 2 x 200g splits from pulverised material**
- **Store one 200g split for future reference**
- **Store residues until further notice**

ANALYSIS:

- **Pb, Zn, Ag, Fe, Cu, Au - acid dissolution, AAS from 50g sample charge**

Gold content was determined by fire assay for samples from drill holes FDD02 and above. Samples from FDD01 were analysed using both acid dissolution/AAS and fire assay.

At least one standard was included in each sample batch. Standard samples were also sent to an alternate laboratory for cross checking. Replicate analyses of 1 in 10 duplicates were conducted by BRL and selected quarter-core or duplicate pulverised pulps were subjected to check assaying by both BRL and an alternate laboratory.

A summary of the assaying sample quality analysis can be found in Appendix 6a – 6c.

5.0 Environmental Works

Environmental rehabilitation and site monitoring was carried out during the course of the drilling programme. A geologist was on site for the most part of the programme and regular discussions were held with drill contractors and landowners. Minimal vegetation clearing was required. Sites with existing access were chosen to reduce environmental impact.

Mineral Resources Tasmania personnel (David Gatehouse and John Pemberton 22nd March 2006 and David Gatehouse 11th November 2005) conducted routine site visits and appraisals during the course of the drilling program. Recommendations on the Farrell drilling areas and the Sterling Valley drill sites (subject to occupation in an earlier drilling campaign) were made by the MRT and were acted upon by Saracen. All equipment is out of these sites and they have been left in accordance with Environmental Code of Practice 2000. All drill holes have been either filled in or capped with PVC and tagged. Pad locations on private land (pad for FDD01, FDD02, and FDD03 as well pad for FDD06, FDD07 and FDD08) have been cleaned up under the supervision of the landowner and a company representative.

Reports of the environmental clean up and monitoring can be found in Appendix 7. These are yet to be copied and sent to David Gatehouse MRT.

The only future work that may be required on the environmental front is seeding of cleared area on the far northern pad (FDD05 and FDD06). This would require half a day slashing tee tree, to encourage seed germination.

LIST OF APPENDICIES

Appendix 1:	Daily Drill Progress Summary
Appendix 2:	Drill Logs
Appendix 3a:	Assay Results (with sample UTM coordinates)
Appendix 3b:	Indicative Metal Ratios
Appendix 4:	Drill Sections
Appendix 5:	Petrology Reports
Appendix 6a:	Check Assay Comparison
Appendix 6b:	Check Assay Standards
Appendix 7:	Environmental Works

Appendix 1: Daily Drill Progress Summary

Appendix 2: Drill Logs

Appendix 3a: Assay Results (with sample UTM coordinates)

Appendix 3b: Indicative Metal Ratios

Appendix 4: Drill Sections

Appendix 5: Petrology Reports

Appendix 6a: Check Assay Comparison

Appendix 6b: Check Assay Standards

Appendix 7: Environmental Works