

**Dundas Mining Pty Ltd**  
**Annual Report on Exploration**  
**RL 5/2009 “Melba Siding”**  
**Dec. 2017 to Dec. 2018**

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## **Abstract**

Allegiance Mining Pty Ltd, holders of RL 5/2009 and owners of the nearby Avebury nickel + cobalt mine, was purchased in mid-July by Dundas Mining Pty Ltd. Dundas in turn is being managed by Lottah Mining Pty Ltd.

In the first full year under the new ownership work has consisted of a thorough review of previous exploration and mining activity and the creation of an ACCESS drill hole database to contain the details of the 181 drill holes which have been drilled within RL 5/2009 historically. That work is ongoing.

In the 2018/19 year work will consist of generating JORC compliant resources for the Genet's Winze/North Cuni, Nickel Reward and Devereaux deposits with detailed recommendations for drilling to be commenced as soon as possible.

It is expected that exploration of the tenement will intensify following the reopening of the Avebury mine with the generation of concentrate and resultant cash flow.

**The owners of the Avebury nickel + cobalt mine have a major advantage in exploration on RL 5/2009 as**

- **Lower grade discoveries will be considered economic due to the lack of capital required to build a mill and thus have much greater chance of development.**
- **Discoveries will turn more quickly into development and thus jobs**

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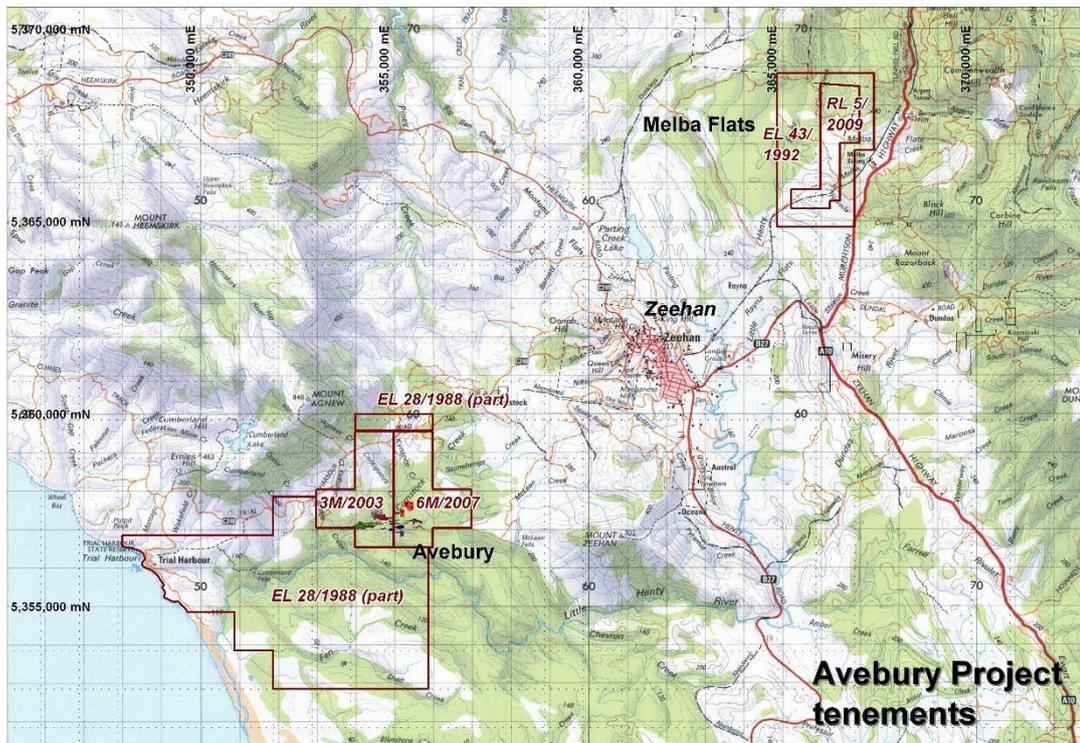
1	Previous Tenement Diagrams
2	Detailed Melba Flats Work History

## 1.0 Introduction

RL 5/2009 “Mt Zeehan” is a category 1 retention licence held by Allegiance Mining Pty Ltd, a subsidiary of Dundas Mining Pty Ltd. Lottah Mining Pty Ltd is managing and operating the project on behalf of Dundas Mining Pty Ltd.

### 1.1 Location and access

RL 5/2009 covers an area of 25 km<sup>2</sup> on Tasmania’s west coast between Zeehan and Renison Bell. Access to the tenement is achieved from the Murchison Highway. Access within the tenements is limited to a few tracks and old tram lines.



**Figure 1.1: RL 5/2009 location. Coloured symbols within the ML's are the solid wireframe shapes of the Avebury ore lenses.**

## 1.2 Land status and usage

The Majority of the Melba Siding Retention Licence is covered by State Forest with small areas in the southern most portion outlined as Proposed Regional Reserve and Crown Land (Figure 1.2).

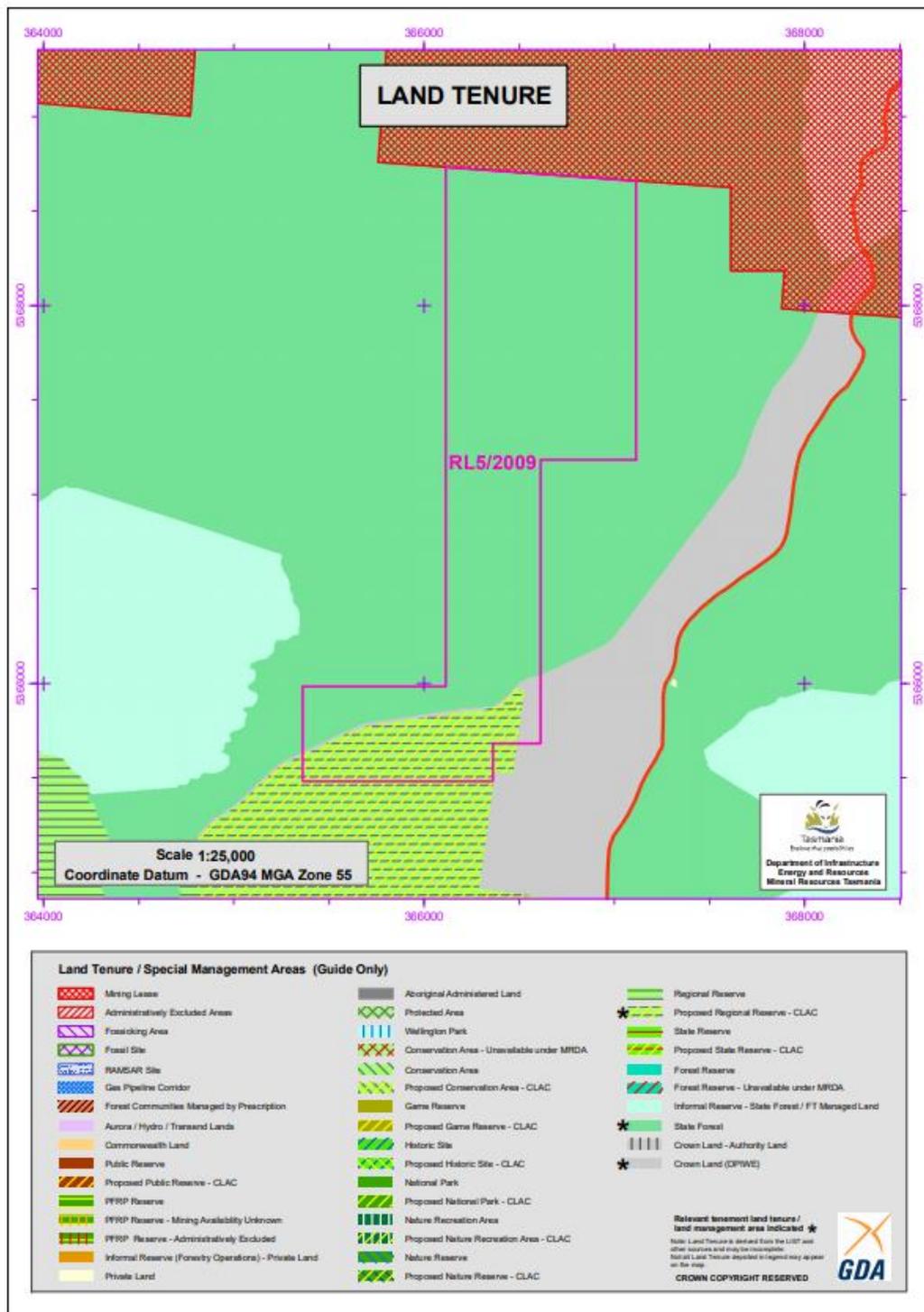


Figure 1.2: RL 5/2009 land status, tenure and usage (courtesy of the Department of Energy and Resources, Mineral Resources Tasmania).

### 1.3 Tenure

In October 2007 a 10-year mining lease 2M/2007 was granted. Subsequently, OZ Minerals applied for and was granted the conversion of Mining Lease 2M/2007 to a Retention Licence RL5/2009 under the provisions of Section 53(2) of the Mineral Resources Development Act, 1995. The application was made on the grounds of economic reasons not to mine the small-scale resources. The same economic conditions resulted in the Avebury nickel mine being placed on care and maintenance.

RL5/2009 was granted on 30/11/2009 for a four-year period to the 1/12/2013. The tenement was extended in 2013, 2014, 2015 and 2016 for periods of 12 months. In mid-2017 Dundas Mining Pty. Ltd. acquired the Avebury Nickel Mine and associated tenements by a friendly take-over of Allegiance Mining Pty. Ltd. in which name the tenements remain. The sale was completed on the 7<sup>th</sup> July, 2017.

A summary of the tenement history of Melba Flats is listed below in Table 1.1 and diagrams of previous tenement areas are included as appendices.

**Table 1.1 Melba Flats Area Tenement History**

<b>Melba Flats</b>				
<b>Year</b>		<b>Tenement</b>	<b>Tenement Name</b>	<b>Company</b>
<b>From</b>	<b>To</b>			
2017	2018	EL43/1992	Melba Flats	Dundas
2017	2018	RL5/2009	Melba Siding	Dundas
2010	2017	EL43/1992	Melba Flats	MMG
2010	2017	RL5/2009	Melba Siding	MMG
2009	2009	EL43/1992	Melba Flats	OZ
2009	2009	ML2/2007	Melba Siding	OZ
2008	2008	ML2/2007	Melba Siding	Allegiance
1999	2008	EL43/1992	Melba Flats	Allegiance
1998	1998	EL43/1992	Melba Flats	Rio
1992	1997	EL43/1992	Melba Flats	CRAE
1987	1992	SR1987 No 216	Incl. Melba Flats	
1975	1975	SPL127	Cuni	
1976	1987	EL15/1976	Dundas	CSR
1962	1973	EL2/1962	Cuni/Five Mile	EZ

### 1.4 Exploration focus

Dundas Mining Pty Ltd have acquired the Avebury nickel + cobalt mine with the full intent to reopen the operation in the near term.

As owners of a fully operational mill designed for nickel and cobalt ores Dundas Mining Pty Ltd's focus on exploration is primarily nickel +/- cobalt mineralisation.

As a mining company Dundas Mining Pty Ltd is also interested in any commodities of commercial value which may be located on EL 28/1988.

## 2.0 Geology

The geology of the Melba Flats area has been repeatedly summarised since the discovery of nickel ore in the early 1890's. The following is an amalgamation of the substantial body of work accumulated on the area's geology to date, with particular attention paid to Newnham's 2000 Annual Report as it's clarity and succinctness are difficult to surpass.

The Melba Flats area is dominated by a turbiditic sequence of the Cambrian Crimson Creek Formation, composed of mudstones, siltstones, sandstones and volcanoclastics. This sequence is generally thought to strike north-south and dip moderately to the east, except in the north near Genet's Winze where the strike is observed as curving to the northeast and dipping more to the southeast.

These sediments have been intruded by a series of parallel gabbroic dykes or sills attributed to the Serpentine Hill and Razorback Ultramafic bodies or perhaps associated with the Henty Dyke Swarm. The intrusives are noted to be dominantly concordant to sediment bedding, dipping at approximately 50 degrees to the east, with localised discordant zones. Typically narrow, the gabbros often display chilled or brecciated margins and are probably disrupted by cross faulting in the north and south.

Lenses of nickel and copper sulphide mineralisation (up to 75m in length and from 0.5-5.0m thick) have developed within these gabbro bodies intermittently over four kilometres of strike length. This mineralisation is typically disseminated and often increases in concentration on the western contacts. Composition is dominated by pentlandite, millerite, chalcopyrite and pyrite with cobalt, gold and PGE's associated with the nickel-copper sulphides.

Previous mining and drilling suggest that the lenses may have limited depth extents, but this is open to substantial debate, as cross faulting is a definite possibility and petrology suggests that the sulphides are hydrothermal in origin and the possibility of a larger magmatic source at depth has been mentioned.

### 3.0 Review of Previous Work

Since the discovery of nickel ore in the Melba Flats area in around 1893, a substantial amount of work has been carried out in the area, a tabulated chronological summary of which is included below (Table 3.1) with a more detailed tabulation including references included as Appendix 2.

The mining and exploration history of the Melba flats area reportedly begins in June of 1893 when Mr J. Dixon, amongst a number of others, marked out and was granted a licence for nickel. This initial flurry of activity was somewhat short lived, with nickel ore being of less interest than silver-lead ore at the time, thought to be the result of marketing, development and transport difficulties.

A renewal of interest in the area is recorded from 1911 to 1914, with a number of prospects being worked to produce small quantities of copper-nickel ore. These include North Cuni, Vaudeau, Devereaux, South Cuni, Blowfly and Mosquito workings. Extracted tonnages during this time reportedly ranged from 50 to nearly 3,000 with grades varying from 4-18.1% Cu and 5.5-17% Ni.

Intermittent mining resumed in the late 1920s, with North Cuni re-opening and Genet's Winze being established, along with shallow drilling by the Copper-Nickel Mining Company. A slow but steady state of activity followed including the drilling, government evaluations of the area and the re-opening of Vaudeau workings, until the nickel revival of the early 1950s.

This revival was purportedly attributed to a search for possible nickel supplies within the Commonwealth by Metal Scrap and Byproducts Ltd, parent company to Eagle Metals NL. A burst of drilling, metallurgical testing and early geophysical surveys followed with varying success.

The 1960's heralded the beginning of systematic exploration in the west of Tasmania. Rio Tinto investigated the Cuni area with aerial magnetics, magnetometer and soil surveys after carrying out a drilling review and in 1965 the Electrolytic Zinc Company of Australasia Limited (EZ) began exploring Melba Flats as part of exploration licence EL2/1965. Over the course of almost a decade, EZ carried out geophysical surveys, geochemical surveys, detailed geological mapping, diamond drilling and petrological studies in the area.

In 1976 CSR began exploring Melba Flats as part of EL15/1976 and by 1987 their examination of the area included bedrock, soil and stream sediment geochemical surveys, magnetics, ground magnetics, IP and resistivity surveys, diamond drilling and petrology.

The Division of Mines and Mineral Resources (Tasmanian Department of Resources and Energy) exempted the area (SR1987/216) from the Mining Act in 1987 to facilitate detailed follow-up work on the potential of Platinum Group Elements at Melba Flats. Following the completion of this in 1991, the exploration division of CRA began examining the ground as part of exploration licence EL43/1992. Additional soil, bedrock and rock chip sampling surveys were completed over the next 3 years along with follow-up geophysical surveys, diamond drilling and completion of an Honours Project on the geological setting of the mineralisation by Greenhill in 1995.

Following the merger of CRA with Rio Tinto, a joint venture with Allegiance Metals was entered into in 1997 passing the primary operation of exploration at Melba Flats (and Avebury area) over to Allegiance. In the subsequent decade, Allegiance drilled nearly 60 diamond drill holes, carried out additional and infill geophysical surveys, mapping, trenching and sampling of Melba Flats, resulting in the estimation of an indicated resource of 83,000t at 0.7% Ni, 0.6% Cu and 0.02% Co, and an inferred resource of 12,000t at 1.2% Ni, 3.3% Cu and 0.04% Co. Subsequently a mining lease, ML2/2007, was applied for and granted over the central area of the exploration tenement.

Drilling and other investigations continued at Melba Flats up to and during the takeover of Allegiance by Zinifex and the subsequent merger between Zinifex and Oxiana to form OZ Minerals, however in the aftermath of the 2008 Global Financial Crisis, activities on the prospect virtually

ceased as MMG took over OZ Minerals and a retention licence (RL5/2009) over the Melba Mining Lease, was applied for and granted.

As with EZ and Rio Tinto in the past, the Melba Flats deposits were again assessed as not being of adequate quality or quantity to cross MMG cost benefit thresholds. As such there has been minimal activity on the retention licence up to its sale (along with the Avebury Nickel Mine and other associated tenements) to Dundas Mining in 2017.

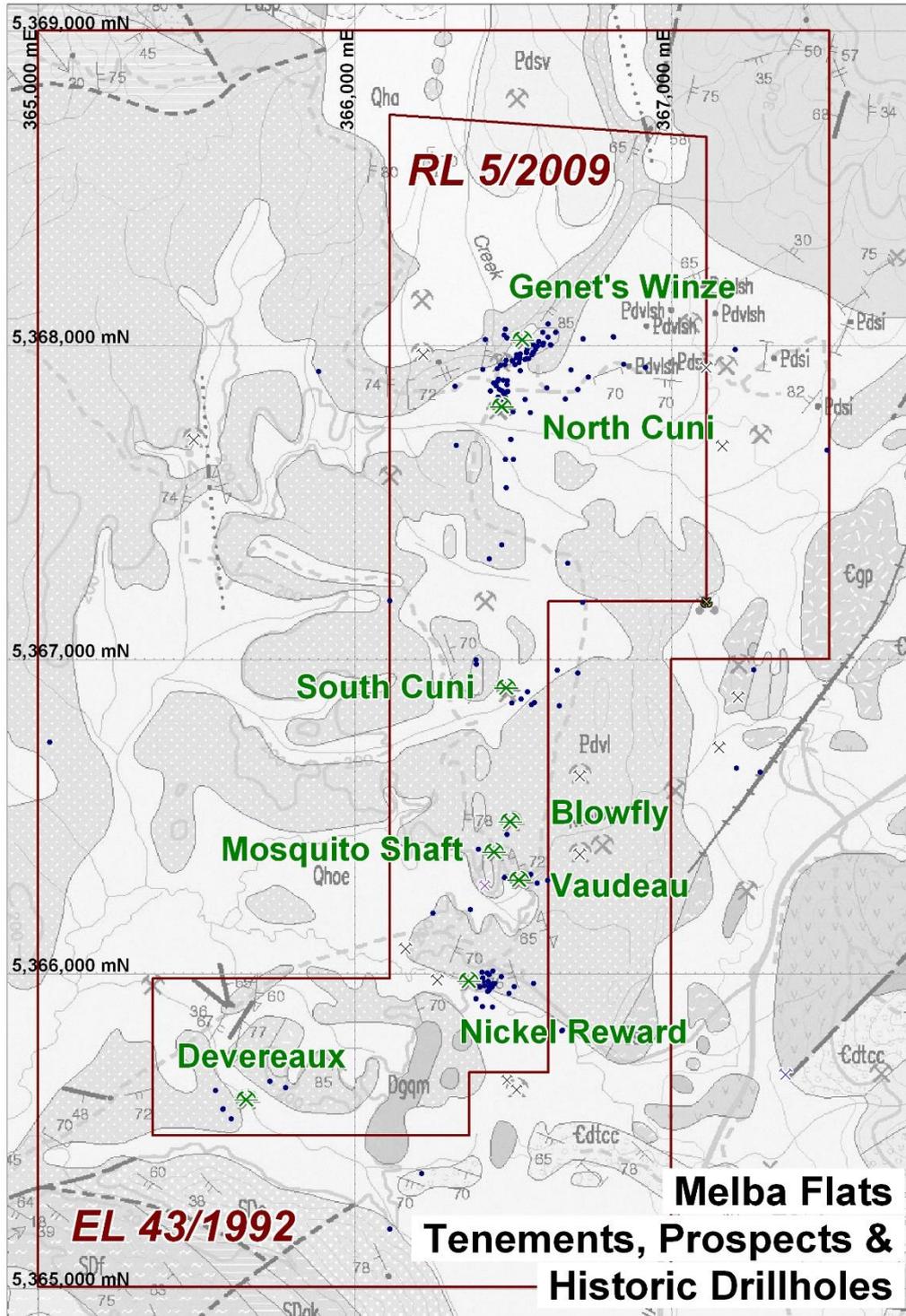


Figure 3.1: Melba Flats tenements, prospects and historic drillholes. Nickel prospects in green with historic drillholes as blue dots.

**Table 3.1. Melba Flats Tenement Activity Summary**

Year	Company	Tenement	Activities
1893			Discovery
1894			Nickel Reward Workings
1912	Dundas-Cuni Mining Company		North Cuni Workings begun
	Copper-Nickel Prospecting Syndicate		Vaudeau workings begun
1914	Dundas-Cuni Mining Company		North Cuni Workings closed
	Copper-Nickel Prospecting Syndicate		South Cuni Workings closed
	Copper-Nickel Prospecting Syndicate		Blowfly workings closed
	Copper-Nickel Prospecting Syndicate		Mosquito workings closed
	Copper-Nickel Prospecting Syndicate		Vaudeau workings closed
1926	Department of Mines and Explosives		Investigating prospectivity
1929			Genet's working opened
			North Cuni workings re-opened
1930	Copper-Nickel Mining Company		Drilling
	Government Department		Drilling Recommendations
1931	Copper-Nickel Mining Company		Genet's workings closed
1932			North Cuni works closed
1933	Government Department		Summary Report
			Work Proposal
			Economic Evaluation
1938	Australian Nickel N.L.		Vaudeau workings re-opened
1940	Gold Mines of Australia		Drilling
1948	Lead Nickel Mining Company		Vaudeau workings closed
1951	Bureau of Mineral Resources		Geophysical Surveys
1952	Government Department		Summary Report
	Eagle Metals N.L.		Nickel revival
1953			Drilling
1955(?)	Montana Silver-Lead Company N.L.		Flotation Tests
1956	Government Department		Drilling Report
1956 (?)	Montana Silver-Lead Company N.L.		Flotation Tests
1957	Bureau of Mineral Resources		Geophysical Surveys
	Government Department		Geological & Thin Section Report
			Core Logging Report
			Core Logging Report
Montana Silver-Lead Company N.L.		Core Logging Report	
			Drilling
1957 (?)	Montana Silver-Lead Company N.L.		Ore Investigation

1958 (?)	Rio Tinto		Drilling Review
1960			Magnetometer Survey
			Aerial mag
			Soil Sampling
1965	EZ	EL2/1965	Magnetometer Survey
			Magnetic Susceptibility Tests
			Drilling
1966			Drilling
1967			Magnetometer Survey
			Drilling
1968			Magnetometer Survey
			Geochemical Surveys
1969			Petrology & Mineralogy
1970			IP-Resistivity Survey
1971			Detailed Geological Mapping
			Geochemical Soil Sampling
			Turam Electromagnetic Surveys
			Magnetometer Surveys
1972			Diamond Drilling
	Geochemical Survey		
1973	Soil Survey		
	Magnetometer Survey		
1975		SPL127	Review of Cuni Deposits
1977	CSR	EL15/1976	Mineralogical/Geochemical Appraisal
1978			Drainage Sampling
			Mineralogical Examination and Petrographic survey
1979			Bedrock sampling (Auger)
			Soil Sampling
			Drainage Sampling
1980			Diamond Drilling
			Petrology
1982			Soil Sampling (Auger)
			Magnetics
			VLF-EM
			Infill aeromagnetics
1983			Soil Sampling
			Drainage Sampling
			Magnetics
			VLF-EM
			DIGHEM
			Reduction of Licence area
1984			Ground Magnetic Survey
			CSAMT
	VLF-EM Resistivity		
	Geochemistry		
1985	Fixed Wing Magnetic Survey		
	Ground Magnetic Survey		
	Diamond Drilling		
	Soil Sampling		
1986	IP Survey		
	Licence renewed		
1987	Relinquished Licence		
	Minor thin section work		

1988	Tas Dep Mines	SR1987 No 216	Gravity Survey										
1993	CRAE	SR1987 No 216	Fixed Wing Airborne TEM (QUESTEM) Survey										
			Review of Tasmanian Mines Department Gravity Data										
			Soil Sampling										
			Rock Chip Sampling										
			Petrology										
1994			CRAE	SR1987 No 216	Diamond Drilling								
					Petrology								
					Whole Rock Geochem (Dolerite)								
					Rock Chip Sampling								
					Soil and Bedrock sampling (Auger)								
					Bedrock sampling (Wacker)								
					Ground PROTEM Survey								
1995					CRAE	SR1987 No 216	Ground Magnetic Survey						
							IP-Resistivity Survey						
							Heliborne magnetic and Radiometric Survey						
	Drilling review												
	Diamond Drilling												
1997	Rio Tinto	SR1987 No 216					Soil Sampling						
	MRT						Honours Project (Phil Greenhill)						
							Heliborne magnetic Survey						
1998	Allegiance		EL43/1992	Application for partial Licence surrender									
1999				Joint Venture agreement with Allegiance									
2000				Allegiance			EL43/1992	Archaeological Survey					
								Diamond Drilling					
								Downhole Geophysics					
								Geophysics					
								Geophysics Interpretation Report					
					Petrology								
2001					Allegiance	EL43/1992		Aerial Photography					
								Photogrammetric Plans					
								Diamond Drilling					
2002								Allegiance	EL43/1992	Gradient Array IP Survey			
		Grid Establishment											
		Diamond Drilling											
2003		Allegiance								EL43/1992	Trenching		
	Sampling												
2004	Allegiance		EL43/1992								Outcrop Mapping		
				Diamond Drilling									
2005				Allegiance			EL43/1992				Resource Estimation		
											Petrology		
											Drill Hole Collar Surveys		
2006											Allegiance	EL43/1992	Gradient Array IP Survey
													Evaluation of Geophysical Data
2007					Allegiance	EL43/1992							Data Review
													Diamond Drilling

2007			Mining Lease Application
2008		EL43/1992, ML2/2007	Diamond Drilling
			Trenching
			Aerial Photography
2009	OZ		Diamond Drilling
2010	MMG	RL5/2009	Geochemical Investigation
		EL43/1992	3D Magnetic data Inversion
	CRH	EL20/2002	Soil Survey ("Melba Flats" South), Airborne EM
2011	GHD (MMG)	EL43/1992, RL5/2009	Botanical survey and fauna habitat assessment
	MMG	RL5/2009	Aerial LIDAR
EL43/1992, RL5/2009		Aerial LIDAR	
EL43/1992		Minor geochemical work	
EL43/1992, RL5/2009		Aerial LIDAR	
		Photogrammetric Survey	
2014			Masters Project Completion
2015			

#### **4.0 Exploration completed during the reporting period December 2017 to December 2018**

In the first full year under the new ownership work has consisted of

1. A thorough review of previous exploration and mining activity with over 170 reports downloaded from MRT's website, appraised and summarised – that work is ongoing.
2. Creation of an ACCESS database containing the data from 181 historic drillholes and including the assay results for 3565 drill hole samples.

A summary of historic exploration over the tenement is given in table 3.1 with a more detailed version in appendix 1. The full list of reports downloaded and appraised is given in the references.

This ongoing work has led to the definition of further work which is to be carried out in the coming year. This work is detailed in section 5.0.

## 5.0 Discussion

The Melba Flat area is of major significance to the new owners of the Avebury nickel + cobalt mine for a number of reasons.

- (1) Melba Flats contains further nickel deposits which are amenable to extraction at the Avebury mill and thus will add to the Avebury mill's life.
- (2) The deposits at Melba Flats in part include higher nickel grades which can be added to lower grade material at Avebury as "sweeteners" increasing the overall resource inventory of the Avebury project (Avebury + Melba Flats + EL 28/1988) and extending the projects overall life span.
- (3) Transport of concentrate from the Avebury mill is likely to include trucking to the Melba Flats rail head with rail from Melba to Burnie. Back loading ore from Melba to the Avebury mill will again improve the likelihood of a series of viable mining operations on the Melba field.

The compilation work to date reveals the considerable amount of exploration and in particular drilling which has been done on RL 5/2009.

Resources have been defined for both the Genet's Winze/North Cuni deposit in the north and Nickel Reward in the southeast of the tenement with a number of economic intersections at Devereaux almost sufficient for resource estimation. These resources have been modelled in the past using more rudimentary methodologies and would benefit from 3D modelling and resource estimation using SURPAC.

There is considerable scope to extend these resources, as well as defining new resources along strike, by further drilling and such is recommended.

The operators of the Avebury nickel mine and mill are the optimal explorers for further nickel resources at Melba Flats as the grade/tonnage threshold for an economic discovery is lower due to the existence of a fully paid for mill at Avebury.

## **6.0 Proposed Works Programme 2018/19 year**

Work proposed for the 2018/19 year will consist of

- (1) 3D modelling and resource estimation for the Genet's Winze/North Cuni and Nickel Reward deposits and also possibly the Devereaux deposit.
- (2) Detailed recommendations for further drilling of these three deposits to confirm, infill and extend said resources, and
- (3) Detailed recommendations for further drilling at the other nickel prospects on the Melba field,

with the recommended drilling work to be commenced as soon as possible to feed into the overall plan for the reopening of the Avebury nickel + cobalt mine.

## 7.0 Expenditure

Exploration expenditure for RL 5/2009 for the period December 2017 to December 2018 was \$14,743.95 bringing the total to date to \$9,455,356.

	\$
Geology	5,000
Geochemistry	0
Geophysics	0
Remote Sensing	0
Drilling	0
Gridding	0
Land Access	0
Rehabilitation	0
Feasibility Studies	0
Other	9,243.95
Administration	<u>500</u>
Total	14,743.95

## **8.0 Environmental**

There has been no exploration activity on the tenement and therefore no environmental disturbance. There are believed to be no outstanding liability issues.

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**Appendices**

**Appendix 1.**

**Previous Tenement Diagrams**

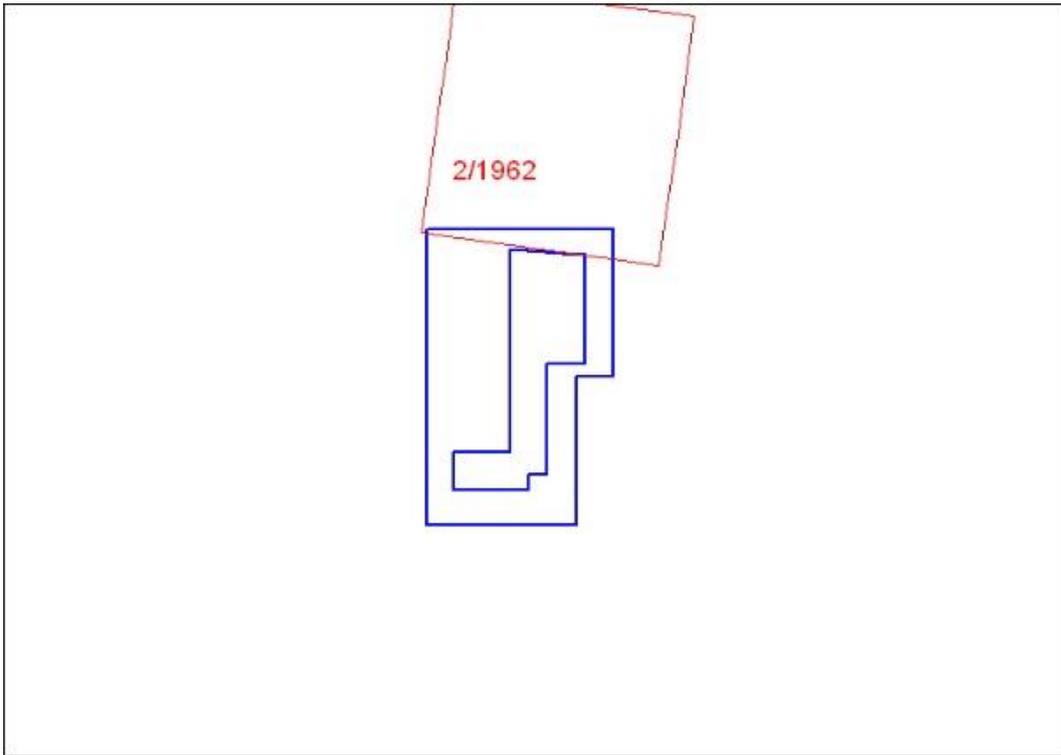


Figure 10.1. EL2/1962

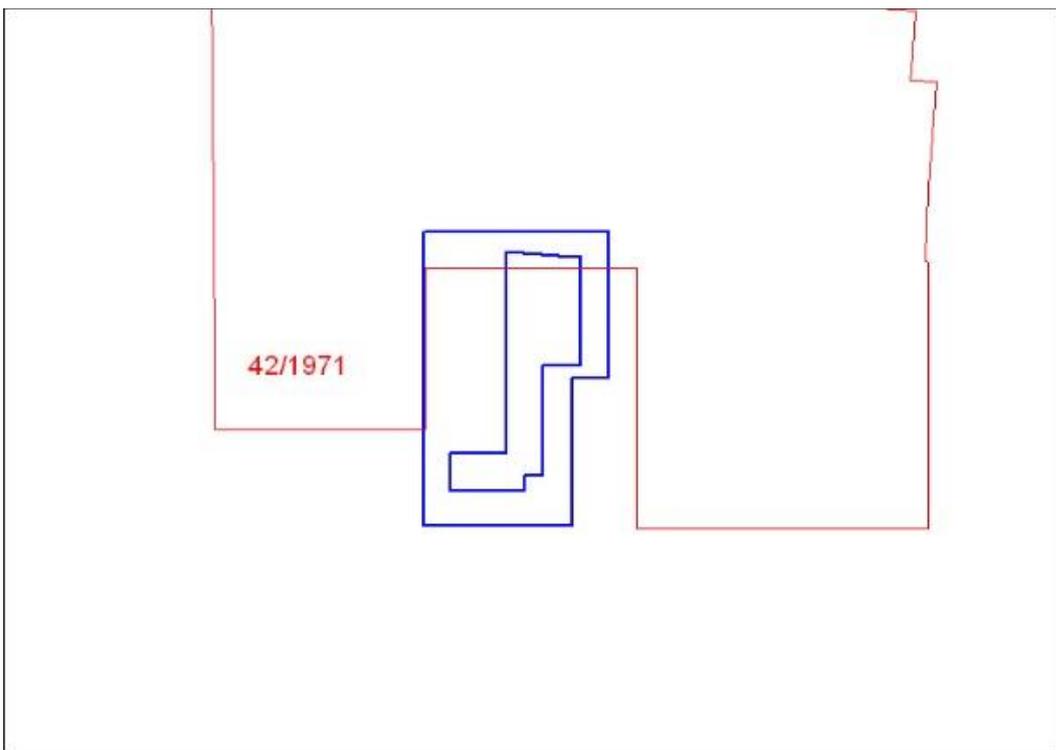


Figure 10.2. EL42/1971

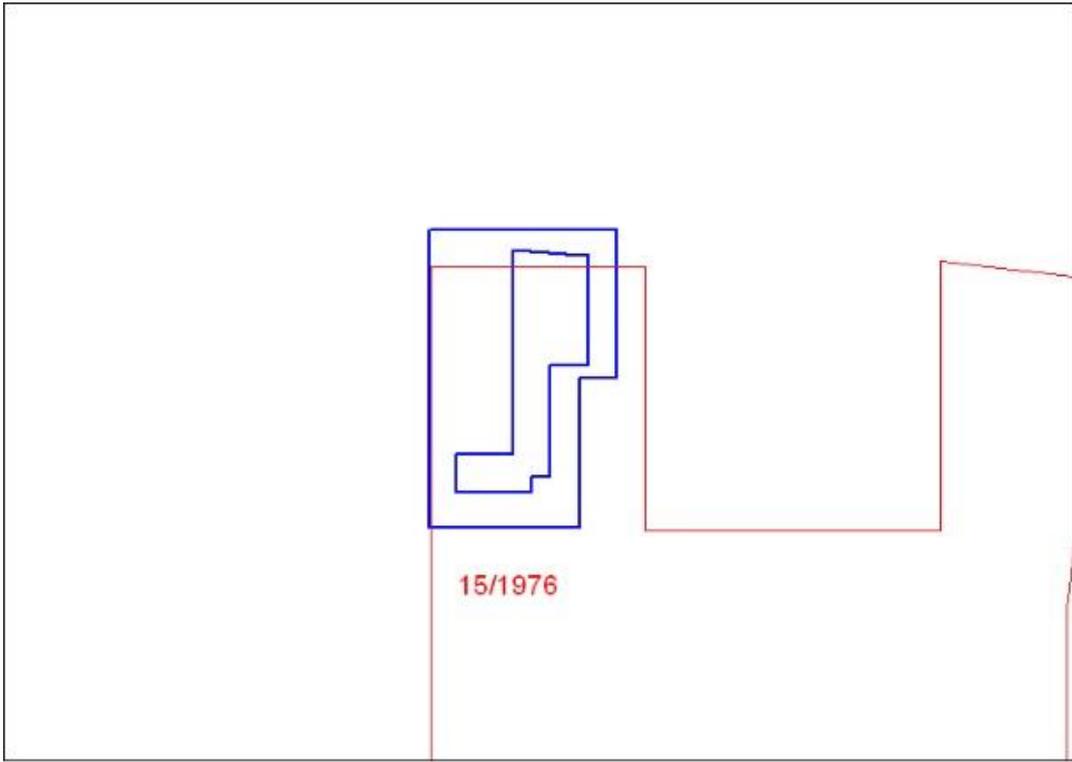


Figure 10.3. EL15/1976

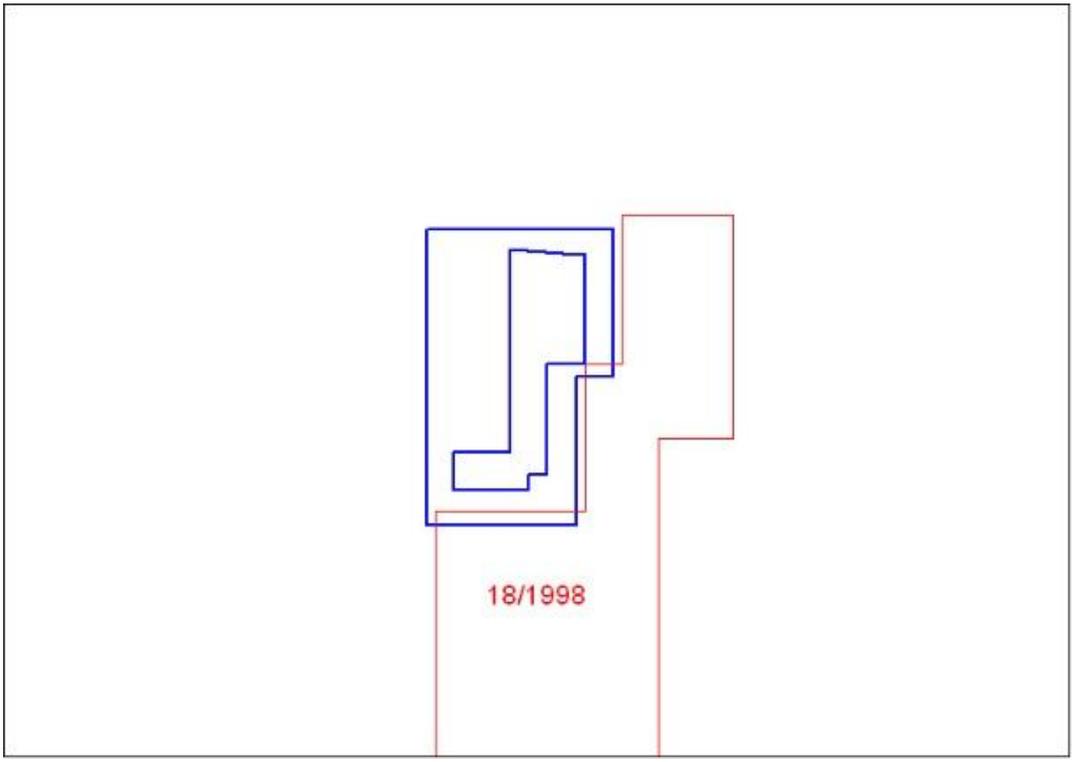


Figure 10.4. EL18/1998

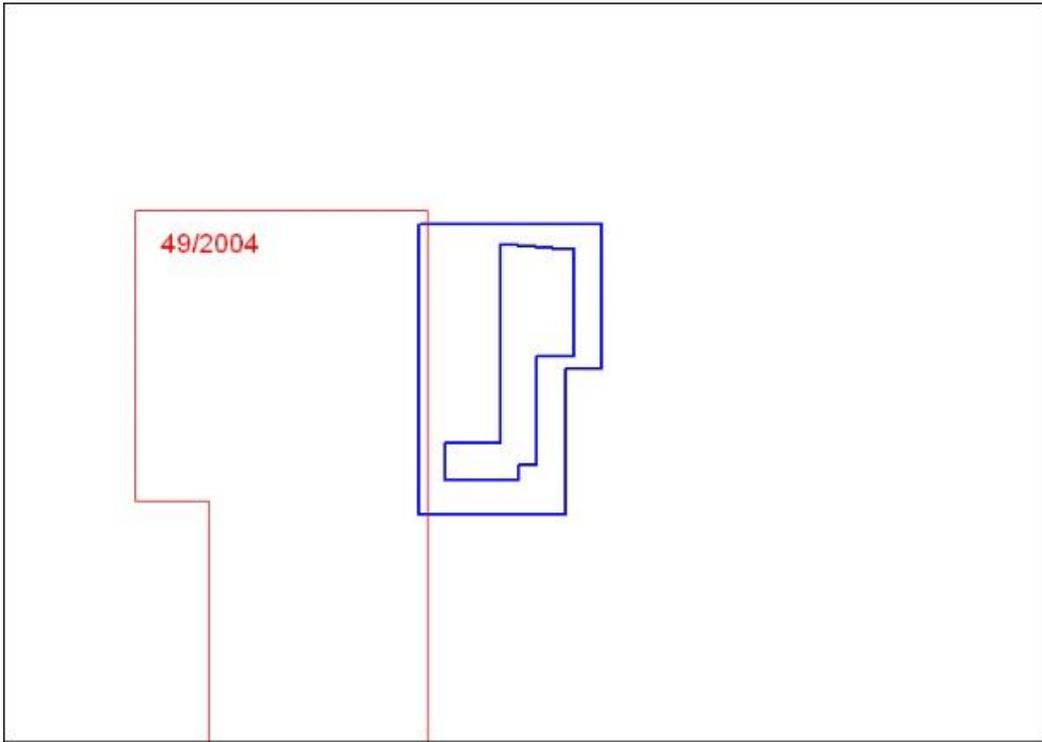


Figure 10.5. EL49/2004

## Appendix 2.

### Detailed Melba Flats Work History (including references).

Year	Activities	Details	Report #	Tenement	Company
1893	Discovery	J. Dixon marks out and is granted 40 acre lease for nickel (along with many others)	UR1952_72-97		
1894	Nickel Reward Workings	Shaft likely <6m	75_1147, UR1952_072-97		
1911	Bulk Sample of Ore	17% Ni, 6.45% Cu	75_1147		
1912	North Cuni Workings begun		75_1147		Dundas-Cuni Mining Company
1912	Vaudeau workings begun	25.3m trenching of ore at surface, then 5 exploratory drillholes	75_1147		Copper-Nickel Prospecting Syndicate
1912 (?)	Devereaux Prospect	Unknown shaft depth. Assays @ 5.5% Ni, 18.1% Cu	75_1147		
1914	Mining	Up to 1914 710t of ore shipped to Europe. But between 1912 & 1914 a syndicate sold 2,820t of ore: 8-11% Ni, 4-14% Cu	75_1147		
1914	North Cuni Workings closed	24.4m shaft	75_1147		Dundas-Cuni Mining Company
1914	South Cuni Workings closed	1189t produced. 23m shaft. Lode driven 29m south	75_1147		Dundas-Cuni Mining Company
1914	Blowfly workings closed	280t produced. Shaft to 10.7m	75_1147		Copper-Nickel Prospecting Syndicate
1914	Mosquito workings closed	52t produced (minimal records)	75_1147		Copper-Nickel Prospecting Syndicate

1914	Vaudeau workings closed	38.7m shaft. Levels opened at 21.3m and 37m. Stopes: 2,500t with 10.4% Cu	75_1147		Copper-Nickel Prospecting Syndicate
1926	Investigating prospectivity	Melbourne Cu-Ni Mine	UR1926_028-29		Department of Mines and Explosives
1928	Mining	207t of ore	75_1147		Copper-Nickel Mining Company
1929	Genet's working opened		75_1147		
1929	North Cuni workings re-opened	drove north along lode for 45m and south for 25-30m	75_1147		Copper-Nickel Mining Company
1930	Drilling	"DH1-8"	69_0563		Copper-Nickel Mining Company
1930	Drilling Recommendations		UR1930_75-77		Government Department
1931	Genet's workings closed		75_1147, UR1952_072-97		Copper-Nickel Mining Company
1932	North Cuni works closed		75_1147, UR1952_072-97		Copper-Nickel Mining Company
1933	Summary Report	Summary of Workings, Stakeholders, Ore reserves etc	UR1933_132-137		Government Department
1933	Work Proposal		UR1933_56_58		Government Department
1933	Economic Evaluation		UR1933_45_46		Government Department
1938	Vaudeau workings re-opened	278t containing 1975t Ni & 11.19t Cu	75_1147		Australian Nickel N.L.
1940	Drilling	"DH9-17" Drilled by The Tasmanian Department of Mines	75_1147, 69_0563, UR1941_027-30		Gold Mines of Australia
1948	Vaudeau workings closed	750t but no market. Total Production estimated at 3,900t	75_1147, UR1952_072-97		Lead Nickel Mining Company
1951	Geophysical Surveys	Self potential, EM, Magnetic (?)	75_1147, 69_0563		Bureau of Mineral Resources
1952	Summary Report		UR1952_36-43		Government Department

1952	Nickel revival	Investigation of possible supplies of Ni within the Commonwealth by Metal Scrap and Byproducts Ltd (Eagle Metals 'parent' company)	UR1952_72-97		Eagle Metals N.L.
1953	Drilling	EM1-EM5	75_1147, 69_0563		Eagle Metals N.L.
1955(?)	Flotation Tests	Flotation tests on core samples. High recovery but low overall grade? Difficulties with small quantities of test material	TR1_53_54		Montana Silver-Lead Company N.L.
1956	Drilling Report	Inconsistent marking/naming of core/hole IDs, missing mineralised core, disturbed core etc	UR1956_056-57		Government Department
1956 (?)	Flotation Tests	Flotation tests on 'dump' material	TR1_54_59		Montana Silver-Lead Company N.L.
1957	Geophysical Surveys	Self potential, EM, Magnetic (?)	69_0563		Bureau of Mineral Resources
1957	Geological & Thin Section Report	Rock samples and thin sections	UR1957_028-29		Government Department
1957	Core Logging Report	Missing Core etc.	UR1957_018		Government Department
1957	Core Logging Report	Missing Core etc.	UR1957_004		Government Department
1957	Core Logging Report	Missing Core etc.	UR1957_002		Government Department
1957	Drilling	Drilling of 18 holes (M6-M23) by Tas Mines Department for Montana Silver-Lead between 1955 and 1957	75_1147, 69_0563		Montana Silver-Lead Company N.L.

1957 (?)	Ore Investigation	More flotation tests	TR2_156_162		Montana Silver-Lead Company N.L.
1958 (?)	Drilling Review		TR3_11_27		Rio Tinto
1960	Magnetometer Survey		60_0311		Rio Tinto
1960	Aerial mag		60_0311		Rio Tinto
1960	Soil Sampling		60_0311		Rio Tinto
1965	Magnetometer Survey	northern part of EL ??	69_0568	EL2/1965	EZ
1965	Magnetic Susceptibility Tests	???	69_0568	EL2/1965	EZ
1965	Drilling	MFP109-MFP113	69_0563	EL2/1965	EZ
1966	Drilling	MFP114-MFP122	69_0563	EL2/1965	EZ
1967	Magnetometer Survey		67_0490	EL2/1965	EZ
1968	Drilling	MFP124-MFP132	69_0563, 68_0537, 68_0536	EL2/1965	EZ
1968	Magnetometer Survey		68_0537	EL2/1965	EZ
1968	Geochemical Surveys		68_0537	EL2/1965	EZ
1969	Petrology & Mineralogy	by AMDEL	69_0568	EL2/1965	EZ
1970	IP-Resistivity Survey	by McPhar	70_0643	EL2/1965	EZ
1971	Detailed Geological Mapping		71_0811	EL2/1965	EZ
1971	Geochemical Soil Sampling	samples taken at 50ft intervals along every line in the 'melba grid'	71_0811	EL2/1965	EZ
1971	Turam Electromagnetic Surveys	by Seigel Associates	71_0811	EL2/1965	EZ
1971	Magnetometer Surveys	by Scintrex	71_0811	EL2/1965	EZ
1972	Diamond Drilling	MFP173-MFP177	73_0940	EL2/1965	EZ
1972	Geochemical Survey		73_0940	EL2/1965	EZ
1973	Soil Survey	North Melba Flats-Argent Tunnel area	73_0965	EL2/1965	EZ
1973	Magnetometer Survey	Norther part of licence adjacent to Renison	73_0965	EL2/1965	EZ
1975	Review of Cuni Deposits		75_1147	SPL127	
1977	Mineralogical/Geochemical Appraisal	Heavy Metal Concentrates	78_1303	EL15/1976	CSR
1978	Drainage Sampling		79_1335	EL15/1976	CSR
1978	Mineralogical Examination and Petrographic survey		78_1251	EL15/1976	CSR

1979	Bedrock sampling (Auger)	4 lines re-opened and sampled at 10m intervals	80_1417	EL15/1976	CSR
1979	Soil Sampling	3.7 km were sampled on four lines at 10m intervals	80_1417	EL15/1976	CSR
1979	Drainage Sampling	follow up to previous sampling with closer spacing	80_1494	EL15/1976	CSR
1980	Diamond Drilling	CG1 and CG2	81_1599	EL15/1976	CSR
1980	Petrology	Petrology on CG1 & CG2	81_1599	EL15/1976	CSR
1982	Soil Sampling (Auger)	5 lines cut, surveyed and augered at 10m intervals	83_1928, 82_1684	EL15/1976	CSR
1982	Magnetics		83_1928	EL15/1976	CSR
1982	VLF-EM		83_1928	EL15/1976	CSR
1982	Infil aeromagnetics	In conjunction with Department of Mines	83_1928	EL15/1976	CSR
1983	Soil Sampling		83_2004, 83_1989	EL15/1976	CSR
1983	Drainage Sampling		83_2004, 83_1989	EL15/1976	CSR
1983	Magnetics	Aeromagnetics and ground magnetics	83_2004, 83_1989	EL15/1976	CSR
1983	VLF-EM		83_2004, 83_1989	EL15/1976	CSR
1983	DIGHEM		83_2004	EL15/1976	CSR
1984	Reduction of Licence area	reduced by 21.78 square Km	84_2175	EL15/1976	CSR
1984	Ground Magnetic Survey	two lines, N-S, 25m interval readings	85_2455	EL15/1976	CSR
1984	CSAMT	?	85_2455	EL15/1976	CSR
1984	VLF-EM Resistivity		84_2161	EL15/1976	CSR
1984	Geochemistry	Drainage Sampling	84_2157	EL15/1976	CSR
1985	Fixed Wing Magnetic Survey	100m E-W lines at 70m clearance (closely spaced, low-level)	86_2584	EL15/1976	CSR
1985	Ground Magnetic Survey		86_2584	EL15/1976	CSR
1985	Diamond Drilling	CG3, CG4, CG5, CG6	86_2584	EL15/1976	CSR

1985	Soil Sampling		86_2584	EL15/1976	CSR
1985	IP Survey		86_2584	EL15/1976	CSR
1986	Licence renewed	Final 12 month period renewal	87_2679	EL15/1976	CSR
1987	Relinquished Licence		94_3554	EL15/1976	CSR
1987	Minor thin section work	30 sections on 1986 Cuni drill core examined briefly for tin	87_2679	EL15/1976	CSR
1988	Gravity Survey	3 traverses	94_3554	SR1987 No 216	Tas Dep Mines
1993	Fixed Wing Airborne TEM (QUESTEM) Survey	Poor data quality	94_3554	EL43/1992	CRAE
1993	Review of Tasmanian Mines Department Gravity Data		94_3554	EL43/1992	CRAE
1993	Soil Sampling	129 Soil samples (semi regional)	94_3554	EL43/1992	CRAE
1993	Rock Chip Sampling	60 Rock Chip Samples	94_3554	EL43/1992	CRAE
1993	Petrology		94_3554	EL43/1992	CRAE
1994	Diamond Drilling	MF01-MF05 (North Cuni-Genet's Winze)	95_3729	EL43/1992	CRAE
1994	Petrology	14 Rock chip & 21 core samples	95_3729	EL43/1992	CRAE
1994	Whole Rock Geochem (Dolerite)	6 samples of host dolerite	95_3729	EL43/1992	CRAE
1994	Rock Chip Sampling	44 Rock chip samples	95_3729	EL43/1992	CRAE
1994	Soil and Bedrock sampling (Auger)	934 Soil (B&C Horizon) and bedrock samples. Hand auger.	95_3729	EL43/1992	CRAE
1994	Bedrock sampling (Wacker)	118 bedrock wacker samples	95_3729	EL43/1992	CRAE
1994	Ground PROTEM Survey	North Cuni-Genet's Winze grid	95_3729	EL43/1992	CRAE
1994	Ground Magnetic Survey	10.5 line Km data (North Cuni-Genet's Winze), 9 line Km of data (Nickel Reward - Vaudeau grid)	95_3729	EL43/1992	CRAE
1994	IP-Resistivity Survey	2.8 line Km of data (North Cuni-Genet's Winze, South	95_3729	EL43/1992	CRAE

		Cuni prospect areas)			
1994	Heliborne magnetic and Radiometric Survey	110 line Km of data: 40m spaced E-W line over 1.6x2.8km area over Melba	95_3729	EL43/1992	CRAE
1995	Drilling review	Maher, 1996 App1	96_3884	EL43/1992	CRAE
1995	Diamond Drilling	MF06-MF07 (Nickel Reward-Vaudeau)	96_3884	EL43/1992	CRAE
1995	Soil Sampling	1180 soil samples. Multi element analysis	96_3884	EL43/1992	CRAE
1995	Honours Project (Phil Greenhill)	Geological Setting and Mineralisation of the Cuni Cu-Ni Deposits	96_3884	EL43/1992	CRAE
1995	Heliborne magnetic Survey	Melba Flats included in wider exploration tenement survey	96_3884	EL43/1992	CRAE
1997	Application for partial Licence surrender		97_3994, 98_4130, 98_4123	EL43/1992	Rio Tinto
1997	Joint Venture agreement with Allegiance		97_3994, 98_4130, 98_4123	EL43/1992	Rio Tinto
1998	Archaeological Survey		ASR1998_01	EL43/1992	MRT
1999	Diamond Drilling	MF10	99_4295	EL43/1992	Allegiance
2000	Diamond Drilling	MF11-MF12	00_4422	EL43/1992	Allegiance
2000	Downhole Geophysics	Down-hole geophys by Outer Rim (Appendix 4)	00_4422	EL43/1992	Allegiance
2000	Geophysics	Nickel Reward surface geophysical survey (Appendix 4/5).	00_4422	EL43/1992	Allegiance
2000	Geophysics Interpretation Report	Interp report by Flagstaff (Appendix 5)	00_4422	EL43/1992	Allegiance
2000	Petrology	MF11 Petrology by CMS	00_4422	EL43/1992	Allegiance
2000	Aerial Photography		00_4422	EL43/1992	Allegiance

2000	Photogrammetric Plans		00_4422	EL43/1992	Allegiance
2001	Diamond Drilling	MF11-MF21. Trenching results	02_4654a	EL43/1992	Allegiance
2001	Diamond Drilling	MF13	01_4532	EL43/1992	Allegiance
2001	Gradient Array IP Survey	IP Report as Appendix	01_4532	EL43/1992	Allegiance
2001	Grid Establishment		01_4532	EL43/1992	Allegiance
2002	Diamond Drilling	MF11-MF21	02_4654	EL43/1992	Allegiance
2002	Trenching		02_4654	EL43/1992	Allegiance
2002	Sampling		02_4654	EL43/1992	Allegiance
2002	Outcrop Mapping		02_4654	EL43/1992	Allegiance
2003	Diamond Drilling	MF22-MF26	03_4848	EL43/1992	Allegiance
2004	Diamond Drilling	MF27-MF64 (not all drilled in this reporting year, see 2005)	04_5011	EL43/1992	Allegiance
2005	Diamond Drilling	MF27-MF64.	05_5162	EL43/1992	Allegiance
2005	Resource Estimation	Indicated and Inferred resource by Mick McKeown: Details and parameters used listed in McKeown report (Appendix).	05_5162	EL43/1992	Allegiance
2005	Petrology	Petrology Report by SKM (Appendix)	05_5162	EL43/1992	Allegiance
2005	Drill Hole Collar Surveys	Collar survey 'campaign': theodolite traverse, Peter Diprose.	05_5162	EL43/1992	Allegiance
2006	Gradient Array IP Survey	IP on 25m centres. Results in Appendix	06_5293	EL43/1992	Allegiance
2006	Evaluation of Geophysical Data		06_	EL43/1992	Allegiance
2006	Data Review		06_	EL43/1992	Allegiance
2007	Diamond Drilling	MF65-MF78	07_5465	EL43/1992	Allegiance
2007	Mining Lease Application		07_5465	EL43/1992	Allegiance
2008	Diamond Drilling	MF79-MF89	08_5626	EL43/1992 , ML2/2007	Allegiance
2008	Trenching	Trenching at Devereaux and	08_5626	EL43/1992 , ML2/2007	Allegiance

		North Cuni (Nic Turner)			
2008	Aerial Photography		08_5626	EL43/1992 , ML2/2007	Allegiance
2009	Diamond Drilling	MF94-MF107, also logging and assaying of MF90-MF93	09_5838	EL43/1992 , ML2/2007	OZ
2010	Geochemical Investigation	Magmatic Ni-Cu Sulphides in Mafic Sills at Melba Flats, Western Tasmania - A Geochemical Investigation. Crawford & Keays, 2010	10_6179	RL5/2009	MMG
2010	3D Magnetic data Inversion		10_6113	EL43/1992	MMG
2010	Soil Survey ("Melba Flats" South), Airborne EM	5, 1Km east-west lines. 50m spacing. 20m between samples along lines. Slight anomaly corresponding with 'gossanous ironstone' outcrop.	10_6000	EL20/2002	CRH
2011	Botanical survey and fauna habitat assessment		11_6340	EL43/1992 , RL5/2009	GHD (MMG)
2011	Aerial LIDAR	1 Km line spacing	11_6339	RL5/2009	MMG
2012	Aerial LIDAR		12_6527	EL43/1992 , RL5/2009	MMG
2012	Minor geochemical work	Comparison with Rayne gabbros. Conclusions: Rayne gabbro more fractionated than Melba gabbros	12_6406	EL43/1992	MMG
2014	Aerial LIDAR		14_6899	EL43/1992 , RL5/2009	MMG
2014	Photogrammetric Survey		14_6899	EL43/1992 , RL5/2009	MMG

2015	Masters Project Completion	Petrogenesis of the gabbroic sillhosting magmatic Ni- Cu-PGE sulphides at Melba Flats, Marcus Phua (Melbourne University)	15_	EL43/1992 , RL5/2009	MMG
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