

RL 6 / 2005
MONARCH
NORTH EAST TASMANIA

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VAN DIEMAN MINES PTY LIMITED

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OVERVIEW

After the acquisition of the North East Tasmanian mining tenements from Mineral Holdings Australia (MHA) in 2004 and subsequent collection of the data package accompanying that acquisition, Van Dieman Mines Pty Limited (VDM) conducted a re-assessment of the tenement. Previous work within EL 10/2000, Monarch has delineated a Probable Resource containing both tin and sapphire.

In 2005 VDM made application to convert that Exploration Licence to a Retention Licence. That application was subsequently granted in 2006 as RL 6/2005.

In 2006 following grant, VDM commenced field work within the tenement. These works were oriented to collection of survey data, specifically drill hole locations, old workings, mining cultural features and other cultural features such as roads, fence lines, etc. Field crews managed to locate a number of old drill holes that enabled old drill location and resource plans to be accurately digitized and added to the VDM GIS database.

Field work is continuing within the tenement and in the next year will be expanded to include pre-DPEMP technical studies including baseline water sampling, flora and fauna surveys, cultural heritage and Aboriginal heritage surveys. The company has now included a large amount of old data to its GIS database and will use those data to recalculate and re-assess the mineral resource.

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1.0 INTRODUCTION:

The tenement encompasses an area of 4 blocks on the north western end of the tin bearing Mt Cameron Granite massif.

A number of drill programs were undertaken undertaken between 1958 and 1980 by BHP, BMI Mining and AMDEX Mining. These resulted in the delineation of a tin bearing resource within the tenement. That resource trends south eastward and runs outside of RL 6 / 2005 and into EL 59 / 2005. The VDM field crew has located numerous old drill holes and test pits and as a result it has been possible to accurately locate the resource base on modern AMG mapping. Work is ongoing.

VDM is continuing to update its GIS database. In order to obtain 3D location data, X, Y and Z coordinates, the company is continuing to conduct local GPS surveys around the old worked and drilled areas. Additional heavy mineral sampling is being conducted in worked areas, particularly at Monarch. Assessment of historical data will continue and will be used to define possible targets for geophysical surveys, GPR or seismic.

2.0 LOCATION AND ACCESS:

The tenement is located in north eastern Tasmania approximately 10 km west of the Township of Glasstone..

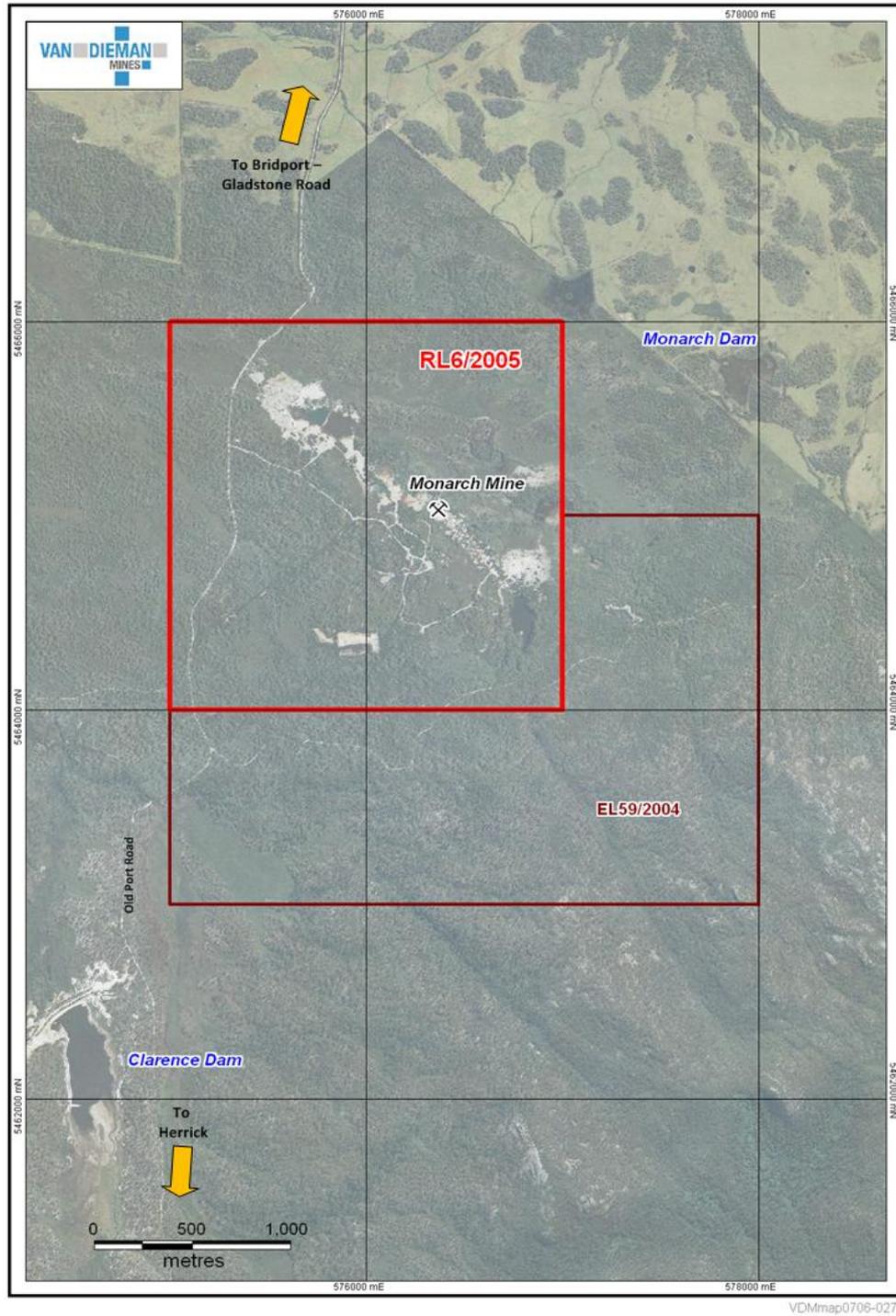
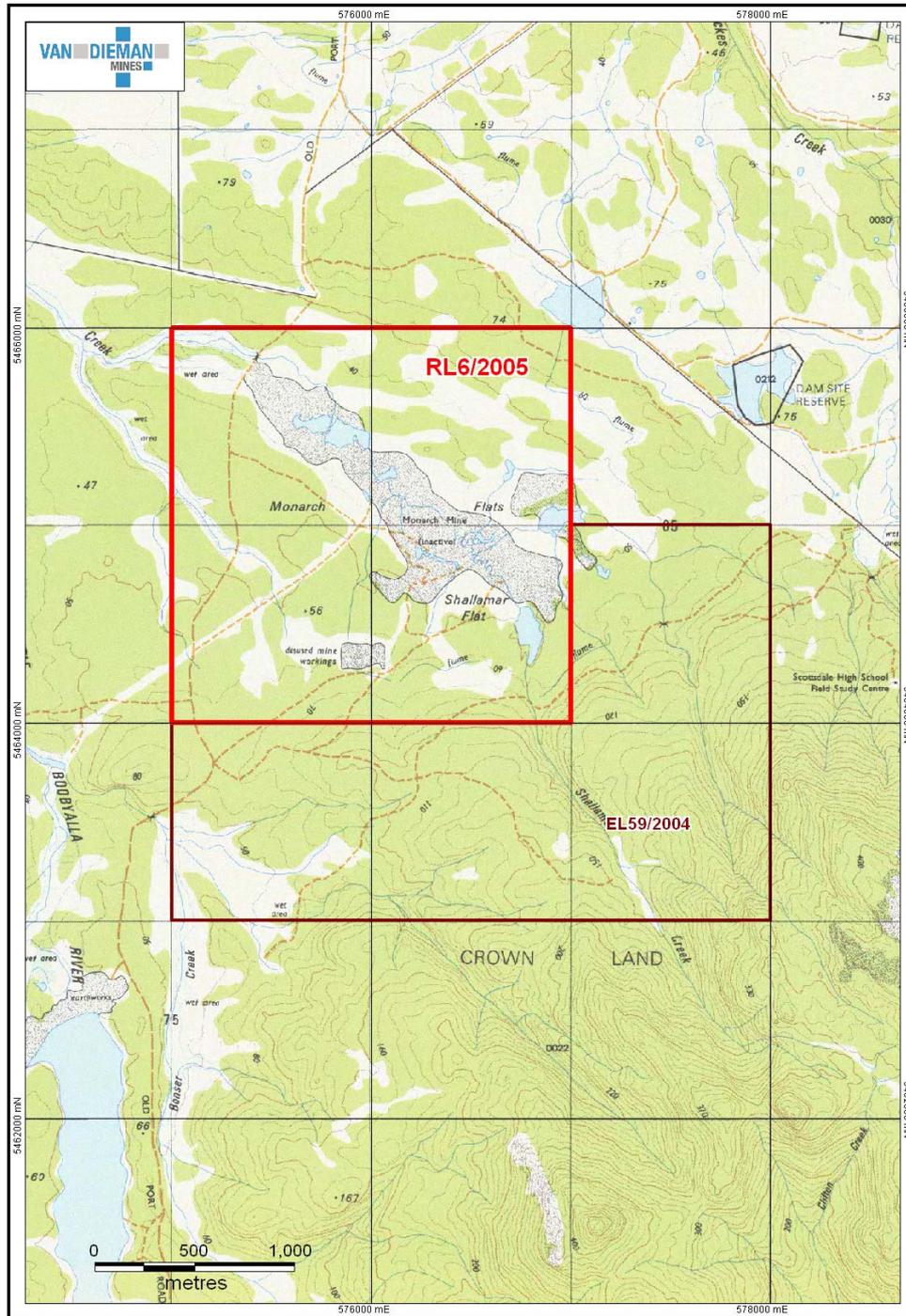


FIGURE 1 - LOCATION PLAN
AIRPHOTO BASE

Access to Monarch is via the Gladstone to Bridport Road and then southwards along Old Port Road to the Monarch turn-in. Numerous old mining tracks provide access throughout RL 6 / 2005.



VDMmap0706-029

**FIGURE 2 - LOCATION PLAN
TOPOGRAPHIC BASE**

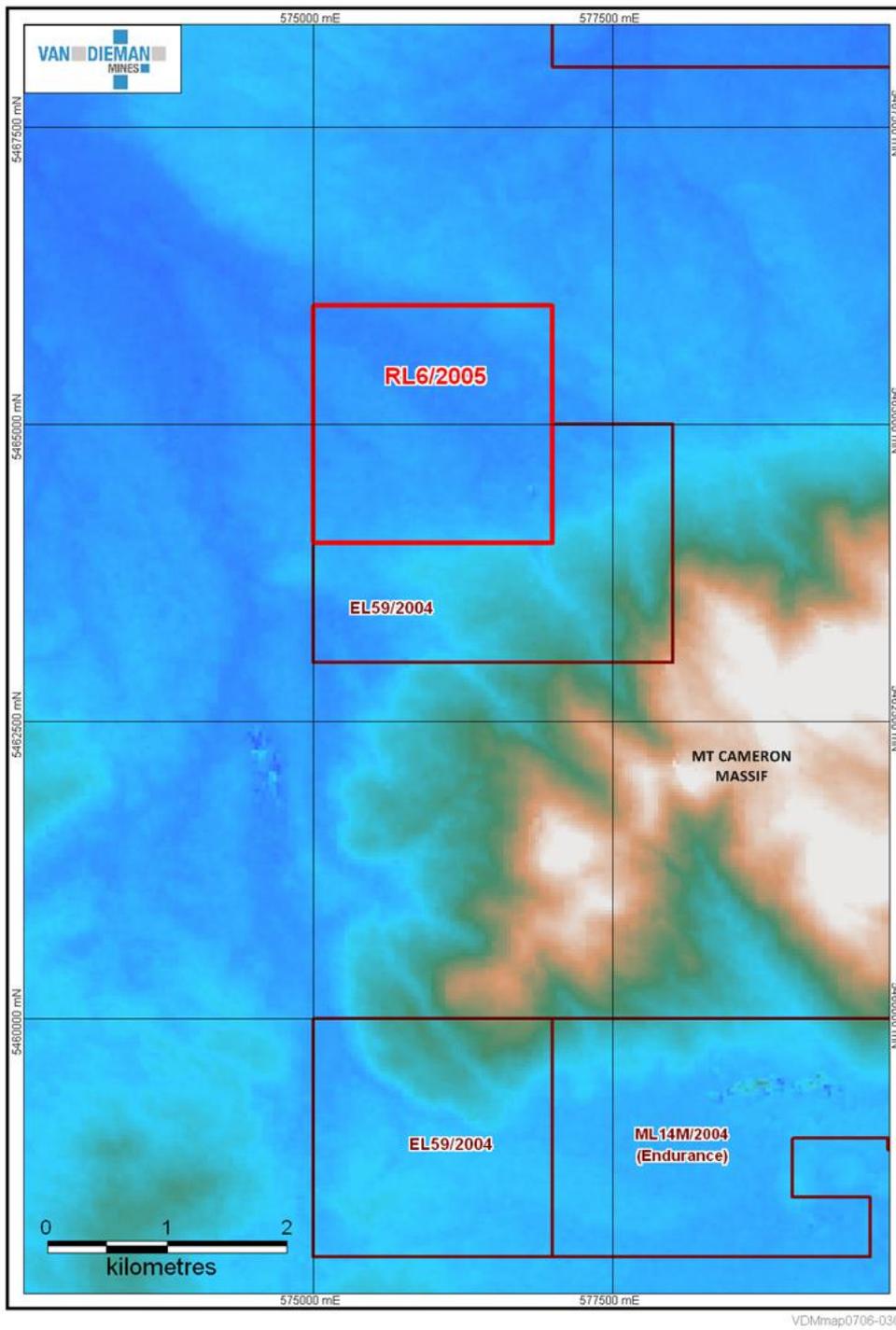


FIGURE 3 - LOCATION PLAN
SATELLITE IMAGE BASE

3.0 HISTORICAL BACKGROUND:

Alluvial tin was first worked in the general area in about the early 1880's.

Tin was probably first discovered in the Monarch area in the late 1800's and most initial works were carried out by Chinese miners. During the early 1900's it is likely that the Chinese miners were replaced by locally based small scale mining activities.

In 1922 the Monarch Tin Mining Company was formed and the first recorded production appeared the following year in the Report of the Secretary for Mines, Tasmania. During the period from 1922 to 1936 the company produced some 71.5 tonnes of cassiterite concentrates, see Table 1.

TABLE 1 - HISTORICAL TIN PRODUCTION AT MONARCH

YEAR	TONS OF METAL Contained in Concentrates
1923	8.99
1924	21.05
1925	6.31
1928	21.21
1929	8.80
1934	2.30
1935	2.85
TOTAL	71.51

The Monarch Company appears to have conducted some scout drilling during this period and were responsible for the large area of workings now seen in the south end of RL 6 / 2005 and within EL 59 / 2004.

Following the closure of the Monarch Company's operations the area was worked intermittently by tributors and local miners until the early 1960's at which time the area was secured as Special Prospecting Licence 339 by Mr. V. Woods of Pioneer. Woods carried out some scout drilling during the summer of 1963. In 1964 BHP took an option on the area from Woods but abandoned the arrangement in the following year after carrying out geological and geophysical surveys and a drilling program. BHP calculated the Monarch reserves as being 2,909,300 cubic yards at a grade of 5.8 oz / cubic yard of 70% SnO₂ concentrate.

In late 1965 a similar option was secured by Austminex Pty., Ltd., who after a short drilling program abandoned the arrangement.

In March 1966 Kathleen Investments (Aust) Limited secured an option arrangement with Woods the arrangement being a free option for one year followed by a twelve month extension for \$2,000.00 and a purchase exercise price of \$40,000.00. In 1966 the company carried out a limited testing program in the Bonser Creek area, they did not extend for the second year of the option.

The Endurance Tin Mining Company purchased the Monarch area from Woods in September 1968. At that time Woods was appointed as Production Manager for the Endurance operation. In December of the same year Endurance commenced the construction of a water supply dam and production commenced at Monarch prior to the purchase of the operation by B.M.I in early 1970. The Endurance operation involved hydraulic monitoring of the alluvium and gravel pumping to a set of sluice boxes with jigs. Subsequently the operation utilised scrapers and bulldozers and finally a dragline. As mining progressed B.M.I carried out an extensive program of auger drilling. The results of that program were used as mining controls, however due to poor implementation, it is almost certain that this resulted in some payable ground being overlooked. B.M.I ceased operations at Monarch in 1973.

In the late 1970s and early 1980's, the area was taken up by Amdex Mining Limited, both as an exploration licence and as individual mining leases. Amdex undertook limited test work and recalculated the resources deleting the ground previously worked by Endurance and B.M.I. Since the work by Amdex there appears to have been little further exploration and the area remained vacant until secured by Mineral Holdings in 2000.

Details of the various drilling campaigns appear as Table 2.

TABLE 2 - SUMMARY OF HISTORICAL DRILLING AT MONARCH

COMPANY	AREA	YEAR	TYPE	NO OF HOLES
Rio Tinto	Dead Horse Creek	1958	Percussion	1
Rio Tinto	Shallamar Flats	1958	Hand Plant	5
Mr. V. Wood	Monarch Flats	1964	Unknown	8
BHP	Vicary Creek	1964 - 65	Percussion	135
BHP	Bonser Creek	1964 - 65	Auger	14
Kathleen Investments	Bonser Creek	1966	Percussion	7
BMI	Monarch Flats	1971 - 73	Auger	641
BMI	Monarch Flats	1979	Backhoe Pit	10
Amdex	Monarch Flats	1980	Rev. Circulation	48
Amdex	Monarch Flats	1980	Percussion	9
Amdex	Bonser Creek	1980	Percussion	1
Amdex	Bonser Creek	1981	Percussion	9

4.0 GEOLOGY:

Since acquiring tenure to this property VDM has continued to reassess the regional geological setting particularly as it pertains to the alluvial deposition during the Tertiary period. Historical data; mine locations, drill hole locations and geophysical data are being progressively added to a regional database.

4.1 REGIONAL SETTING:

It is not proposed to provide a detailed description of the older geological units, a brief outline of the nature of each major unit is provided, in tabulated form, Table 3 and a geological map as Figure 4.

The tabulation sets out the significance of each unit. It is the Tertiary units, in particular the basal sections, that are of economic significance as they contain the heavy mineral concentrations; cassiterite, tantalite, gold and sapphire being the most economically important.

At Monarch the tin bearing deposits consist of Quaternary alluvials deriving their sediment load from the granitic rocks of the Mt Cameron granite massif.

Uplift and massive erosion in the Tertiary is the main influence controlling the development of all the tin bearing deposits of the north east. Locally the deposits may vary in the nature of their deposition however the sediment source of the alluvial gravels remains basically the same. In some instances granite based sediments predominate and in others meta-sediments.

At Monarch the presence of a zirco-spilic suite of heavy minerals in addition to the tin bearing granitic suite is somewhat puzzling. There is no evidence to suggest that any Tertiary basalts were deposits north of the Mt Cameron granite body. The granite body would have been present as a granite basement high during the youngest period of Tertiary volcanism. Further, there is ample evidence to suggest the Shallamar Creek deposits are derived directly from the Mt Cameron granites, tin is coarse and locked cassiterite - quartz particles are quite common. The presence of older Tertiary alluvials surrounding the younger Shallamar Creek deposits may account for, and be the source of, the zircon-spilic suite.

Tertiary geomorphology is not fully understood, the palaeo-channels of the ancient Ringarooma, Boobyalla and Musselroe Rivers that dominated the drainage system in the north east have yet to be accurately defined. Current work relating to palaeo-basement is dealt with in more detail in the following section.

Periods of uplift and faulting, marine transgression and regression are also not well understood. Faulting observed in Tertiary gravels at Pioneer and postulated at Endurance indicate that the area was geologically quite unstable up to and including the period of Younger Basalt volcanism. There is now strong evidence to suggest that the Quaternary deposits of the Shallamar Creek area may in fact be early Tertiary in age as they appear to plunge over a steep drop-off just west of Monarch into the ancient Boobyalla River marine embayment. BHP in their early work record marine fossils in drill holes west of Monarch.

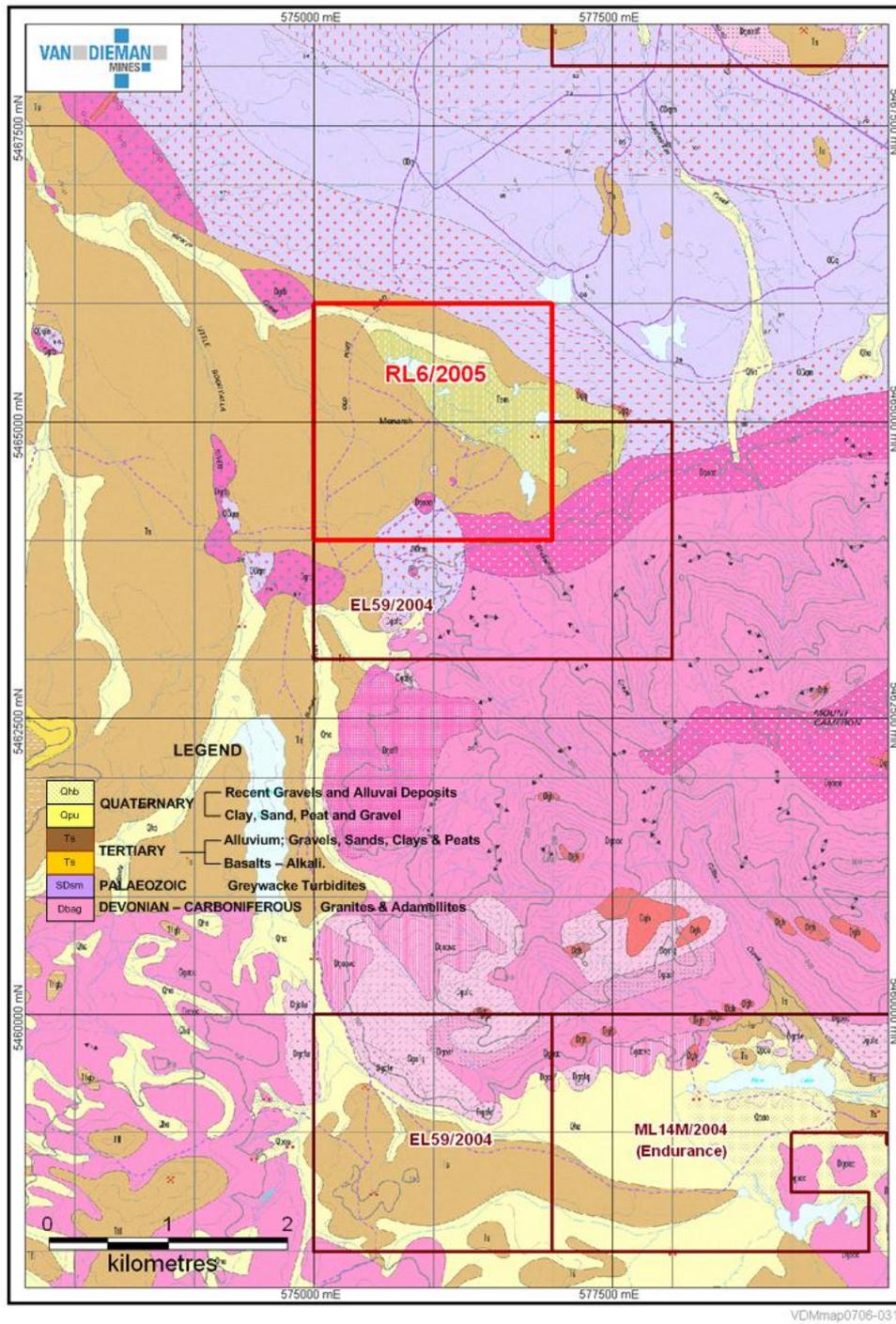


FIGURE 4 - GEOLOGICAL PLAN OF RL 6/2005

TABLE 3
REGIONAL GEOLOGICAL SETTING
MAJOR GEOLOGICAL UNITS

AGE	UNIT	DESCRIPTION	SIGNIFICANCE
DEVONIAN - CARBONIFEROUS	Blue Tier Batholith	Porphyritic fine to coarse grained granite / adamellite and biotite-hornblende granodiorite	Forms the tin rich Mt Cameron Massif to the south of Aberfoyle and basement around the southern edge of the Tertiary marine embayment. Locally may be a source of tin.
JURASSIC	Dolerite	Dolerite	Forms a resistant basement outcrop and is the bounding feature of the eastern edge of the Tertiary marine embayment. Sporadic outcrops may occur resting on granite basement along the southern edge of the embayment
ORDOVICIAN TO DEVONIAN	Mathinna Beds	Quartzwacke turbidite sequence locally hornfelsed adjacent to granite bodies	Forms basement in parts of the Aberfoyle area and its low weathering resistance may lead to the development of tin rich Tertiary channels cut into this unit.
TERTIARY	Unnamed	Sands, clays and gravels, locally bouldery. Lignite zones at some localities. Some evidence of ferricrete and silcrete development.	Basal layers are generally tin (cassiterite) enriched, locally of economic significance. Also known to contain gold, sapphire, rutile, zircon and ilmenite.
QUATERNARY	Unnamed	Highly variable; sands, clays, peats, Aeolian dune deposits, swamp and marsh deposits.	Locally represent overburden zones over Tertiary tin bearing alluvial deposits

4.2 LOCAL GEOLOGY:

The tenement lies at the north western end of the Mt Cameron granite massif. The alluvial geology at Monarch is of a local nature with the bulk of the alluvial sediments being derived as direct erosional shed from the Mt Cameron massif. Sands and gravels have a dominant granitic component although there is a minor meta-sediment fraction probably derived from weathering of local outcrops (southern boundary of RL 6/2005) of Mathinna Beds meta-sediments and from weathering of Tertiary gravel outcrops that surround tenement.

The Shallamar Creek tin bearing alluvials appear to be incised into a Tertiary alluvial profile that rests on a granitic basement. There is no evidence to date that Tertiary alluvials underlie the Shallamar Quaternary tin bearing deposits

The presence of sapphire at Monarch is unusual as the area is not connected to any stream system that sheds from a basaltic source. The weathering of Tertiary alluvials is considered the most likely source of the sapphire - spinel heavy mineral fraction.

The heavy mineral suite consists of:

- The Granitic Suite - cassiterite, zircon, xenotime/monazite, ilmenite, rutile, topaz, tourmaline and tantalite - columbite;
- The Zirco-Spilic Suite - consists of basaltic zircon, spinel, sapphire, ilmenite, and magnetite; and
- The Metasediment Suite - probably is the source of gold.

4.3 RECENT EXPLORATION:

Work during the past twelve months has consisted of both field and office activities. Field crews continue to locate old drill holes (See Photo 1), test pit locations and old workings (See Photo 2). These are subsequently accurately located using GPS technology and the locations then used to correct digitized plots of old data. In 2006 VDM staff were able to produce a more accurate drill hole location plan, see Figure 5. The discovery of additional data during early 2007 resulted in the development of a new map, Figure 6.

Accurate plotting of the old drill hole locations has enabled VDM to create a number of basement topographic representations, Figures 7, 8, 9 and 10. Specifically conventional line contours of basement, Figure 7 and in addition colour renditions of basement, Figure 8 (2006) and Figure 9 (2007) and a 3D visualisation (Figure 10).



PHOTO 1: LOCATION PEG, DRILL HOLE MP52



PHOTO 2: OLD WORKINGS ON SHALLAMAR CREEK

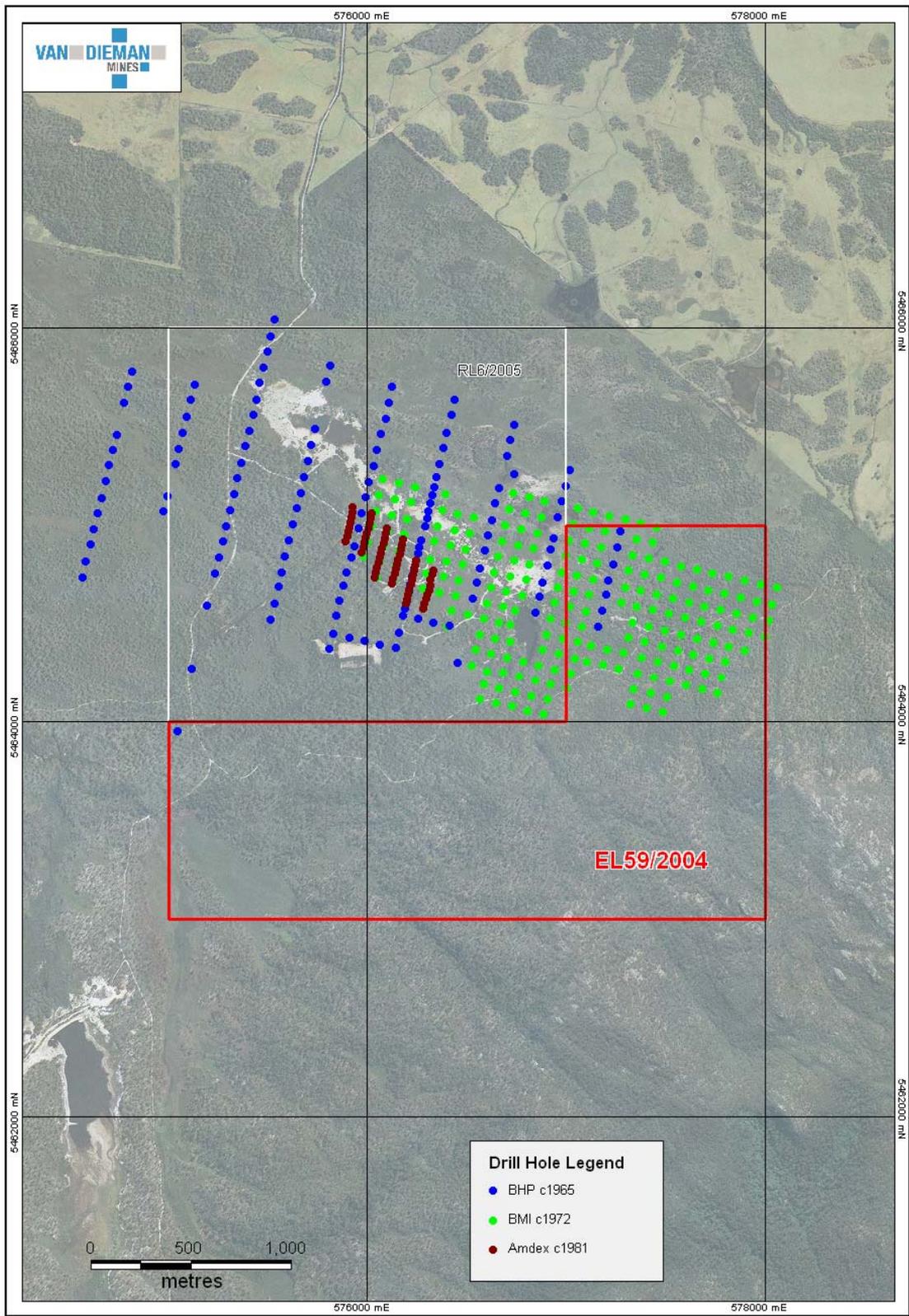


FIGURE 5: DRILL HOLE LOCATION PLAN - MONARCH, 2006

The additional drill hole locations lie almost entirely within the central section of the tenement, Figure 6.

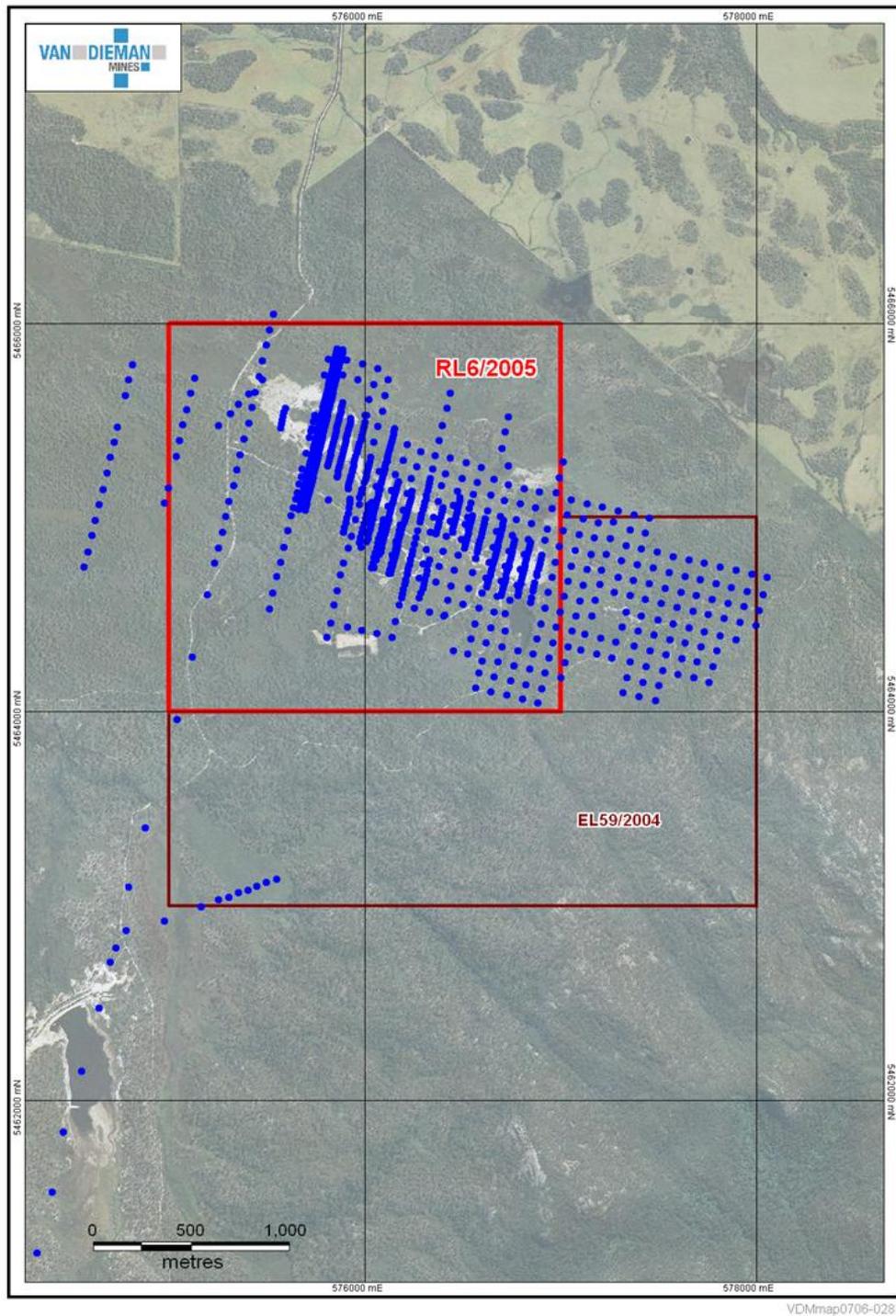


FIGURE 6: DRILL HOLE LOCATION PLAN - MONARCH, 2007

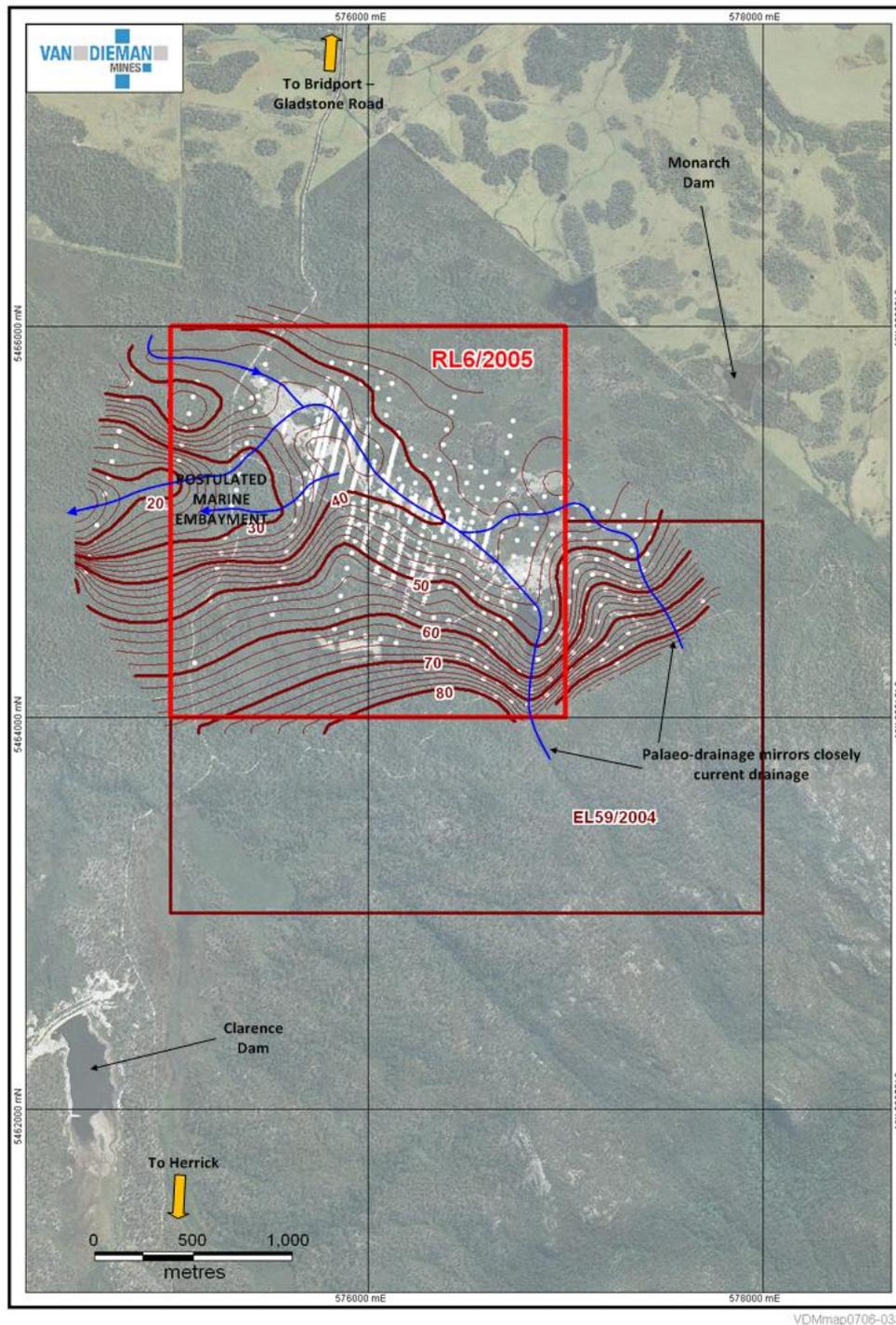


FIGURE 7: LINE CONTOUR MAP OF BASEMENT AT MONARCH, 2007

Figure 7 indicates that in the south eastern section of the tenement there is close correlation between the present drainage and the palaeo drainage. To the west the palaeo drainage falls away sharply into a deep basin, interpreted to be a marine embayment.

The present day drainage flows against the palaeo drainage out of the tenement in the north west corner.

The basement topography depicted in Figure 8 indicates the broad deep trough located in the west of the tenement and interpreted to be a marine embayment associated with the Boobyalla marine embayment feature. BHP record shell fossils from very deep drill holes in this region.

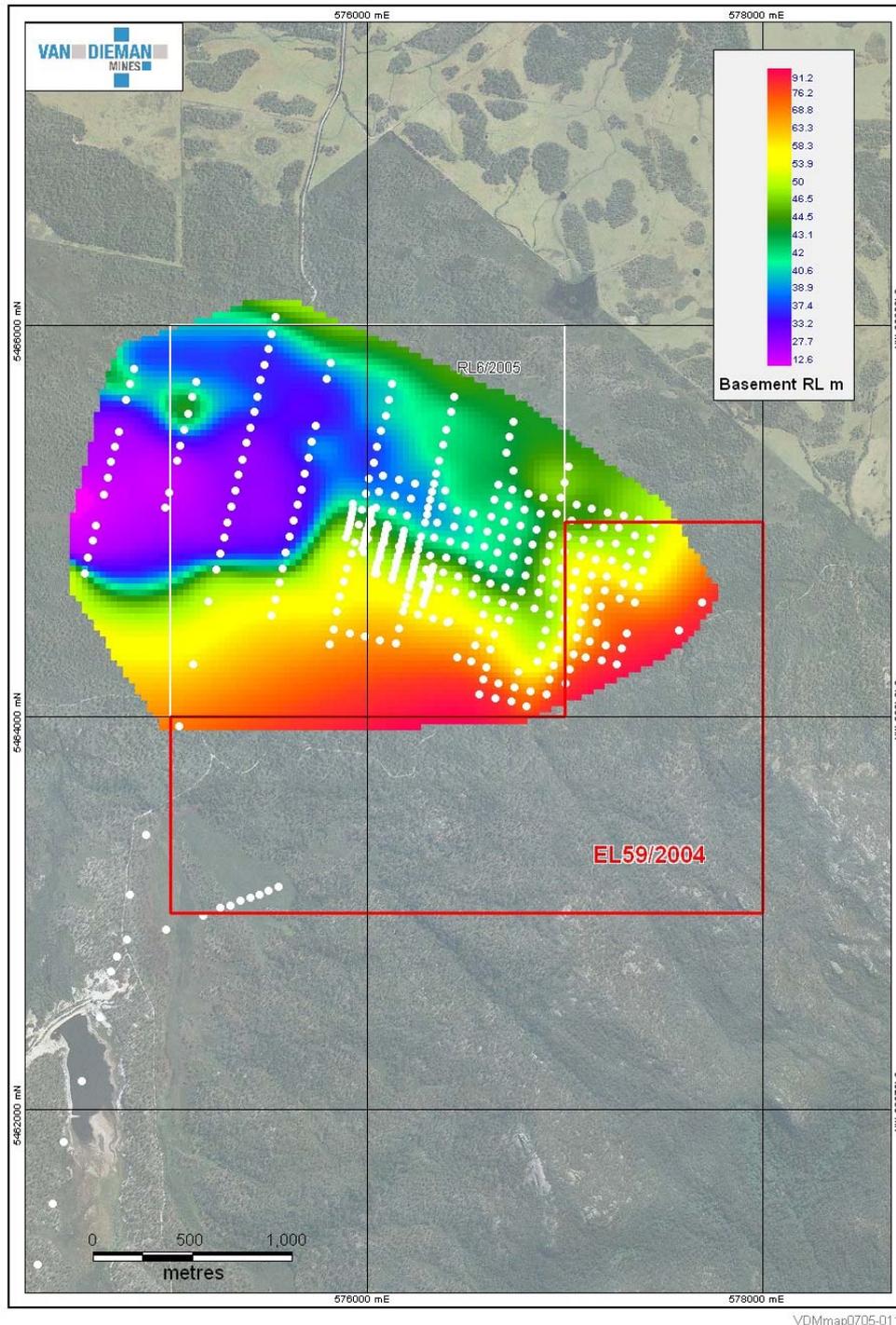


FIGURE 8: COLOUR RENDITION OF BASEMENT AT MONARCH, 2006

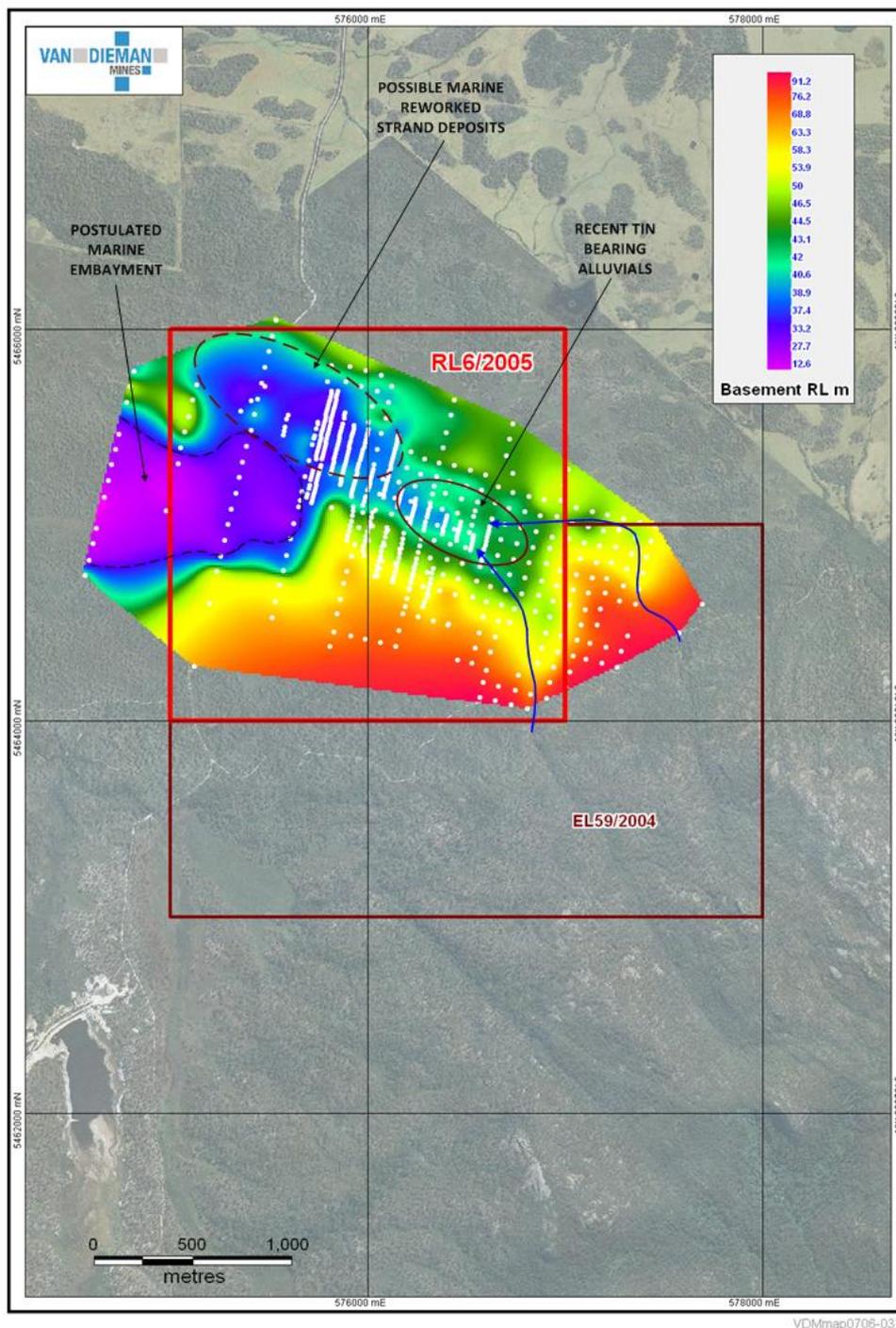


FIGURE 9 - COLOUR RENDITION OF BASEMENT AT MONARCH, 2007

The addition of the extra drill data in early 2007 has confirmed the general basement topography and the presence of a possible marine embayment feature north west of the main Monarch resource. There is some evidence to suggest that the Monarch deposits are not alluvial but may represent, in part, marine reworked strand line deposits that grade eastwards into true terrestrial alluvials.

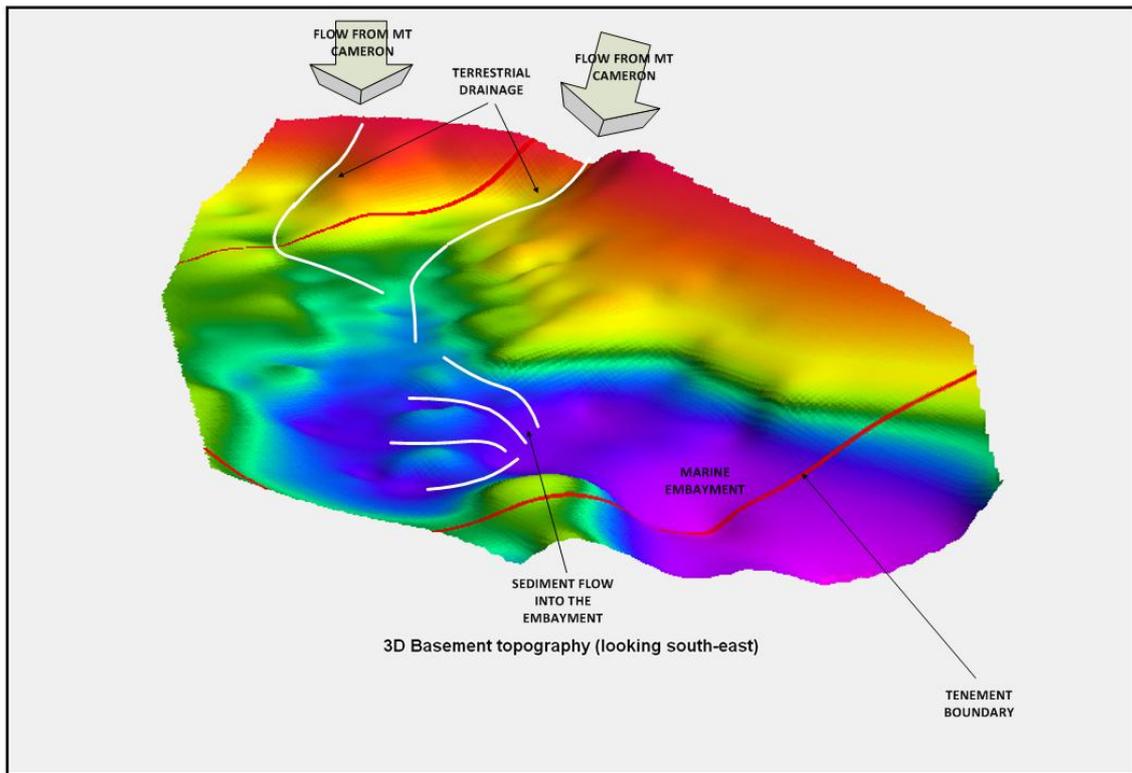


FIGURE 10 - 3D VISUALISATION OF MONARCH, 2007

The 3 D visualization, Figure 10, provides a more detailed impression of the steep walls of the postulated marine embayment. Low basement highs along the northern edge of the embayment appear to have dissected the outflow from the Shallamar deposits. These features may represent low near shore islands behind which marine reworking of the Monarch tin bearing deposits developed a series of tin bearing strands along the embayments shoreline.

5.0 DISCUSSION OF RESULTS:

The 2007 generation of topographic maps has shed new light on a number of geological interpretations of the alluvial orebodies at Monarch.

Data generated by VDM has been applied on a regional basis and in particular to RL 6/2005. Basement topography indicates that a sharp change in stream profile (gradient) occurs within the small streams shedding the Mt Cameron Massif. This resulted in the deposition of a broader, fan like, alluvial deposit in the stream system below the change in gradient. Figures 9 and 10. This resulted in the deposition of the Shallamar Creek alluvial tin deposits at Monarch.

The palaeo drainage interpreted from these maps indicates some marine influence was active and that the lower Shallamar Creek deposits may represent marine reworked strand line deposits. This theory is supported by evidence of marine shelly fossils in old BHP drill holes from the western section of the Monarch drill pattern.

There has to be a reasonable level of confidence in the various generations of drill hole data. The 2006 maps and 2007 basement topographic maps have not altered to any great extent even though some 400 additional holes were added to the database. The general basement features remain the same and if anything the actual channels are now better defined.

The 3D visualization has more clearly defined the lateral extent of the deposits and it is unlikely that any further significant deposits, other than perhaps eluvial and associated surficial tin bearing gravels, will be located within RL 6/2005. The full extent of the terrestrial alluvials is yet to be accurately defined, that is, the area in the south east of the tenement along the drainage of Shallamar Creek.

6.0 PROPOSED WORK PROGRAMS:

Proposed work programs include:

- i. Further GPS surveying particularly of cultural heritage features such as old pits, tracks and other mine related features;
- ii. Revision and upgrading of drill logs to AMG and metric measurement;
- iii. Recalculation and replotting of the resource base; and
- iv. Heavy mineral sampling of exposed mine faces and old stockpiles.

7.0 CONCLUSIONS:

At Monarch the location of drill holes and test pits has been very successful and allowed VDM to replot and digitize old maps with a high level of accuracy. The addition of an extra 400 plus holes in 2007 has better defined the lateral extent of the deposits and confirmed the controls on deposition of the tin bearing resource.

The old drill hole data and the basement topographic works have confirmed that a marine embayment was probably active during the Tertiary and that at least part of the Shallamar Creek deposits were subjected to marine reworking during the Tertiary period.

An assessment of the previous work including drilling, test pitting and seismic surveying is now well advanced and preliminary results indicate that the previous resource outline is open to the south east and probably continues into the adjoin tenement EL 59/2004 as recent terrestrial tin bearing alluvial terrace deposits and to a lesser extent eluvial and surface screes. Both zones would be amenable to a backhoe pitting or shallow auger type testing program.

Any extension to the west would be into deep marine ground and unless there is evidence of a tin rich outwash fan occurring in this region these deposits may well be too deep to exploit.

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9.0 APPENDICES:

9.1 DRILL HOLE LOCATION DATA SHEETS, MONARCH

See Separate Electronic File RL62005_200706_02_Appendix