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Republic of South Africa

A LETTER OF RECOMMENDATION FOR THE EXEMPTION OF A FULL PHASE 1 PALAEOLOGICAL HERITAGE IMPACT ASSESSMENT

IN RESPECT OF

**THREE AREAS KNOWN AS THE DENMARK, GROENE VALLEI NORTH
AND GROENE VALLEI SOUTH PROJECTS LOCATED WITHIN TASMAN
PACIFIC LIMITED'S PROSPECTING RIGHT AREA KNOWN AS SITE 37**

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1. Description of the project area:

The project area comprises three areas within Tasman Pacific Limited's Prospecting Right area known as Site 37 in the Eastern Cape. These areas are referred to, herein, as the Denmark, Groene Vallei North and Groene Vallei South Projects (Figure 1).

GPS co-ordinates of the corner points defining the three project areas are as follows:

Table 1. Denmark Project area corner points (WGS84) (see Figure 2 for location):

Corner point	Latitude	Longitude
1	-32.0395487243	25.3825760521
2	-32.0400222840	25.3771215571
3	-32.0372634993	25.3760516297
4	-32.0369914672	25.3769852821
5	-32.0356583250	25.3764612327
6	-32.0350801200	25.3786850402
7	-32.0352614675	25.3797426176
8	-32.0355098502	25.3807522289
9	-32.0353257050	25.3816644569
10	-32.0359469764	25.3819755215
11	-32.0382095155	25.3827230991

Table 2. Groene Vallei North Project area corner points (WGS84) (see Figure 3 for location):

Corner point	Latitude	Longitude
1	-32.0780966817	25.3127324580
2	-32.0795550106	25.3088984215
3	-32.0784502635	25.3087160903
4	-32.0779777121	25.3091003833
5	-32.0775719741	25.3100552781
6	-32.0774755826	25.3105718165
7	-32.0774026993	25.3112501623
8	-32.0777511278	25.3122687487

Table 3. Groene Vallei North Project area corner points (WGS84) (see Figure 4 for location):

Corner point	Latitude	Longitude
1	-32.0818764462	25.3027575136
2	-32.0824650506	25.3011942796
3	-32.0815042754	25.3014823885
4	-32.0809986156	25.3021344163

The aerial extent of the two project areas is approximately:

1. Denmark Project = 27.05 ha
2. Groene Vallei North Project = 4.8 ha
3. Groene Vallei South Project = 1.165 ha

2. Description of the projects:

Tasman Pacific Minerals Limited is the holder of a Prospecting Right known as Site 37. Application has been made to amend the approved Environmental Management Plan (EMP) and Prospecting Work Programme (PWP) to allow drilling upon two areas within Site 37. These three areas are identified in the draft amended EMP as the Denmark, Groene Vallei North and Groene Vallei South Project areas (Figure 5). These three areas constitute a relatively small proportion of the entire Prospecting Right area (which totals 22,533 ha), and are the only areas where disturbance of the land surface (i.e. invasive prospecting) is allowed within the draft amended EMP.

The borehole drilling activities on either site will be conducted in the same manner, but utilizing different numbers of boreholes and areal extents. Drilling will be predominantly conducted using reverse circulation percussion drill rigs, but will include a very small proportion (approximately 5%) of diamond drill holes. The maximum diameter of these holes at the earth's surface will be approximately 5½ inches (or 14cm).

Drilling is planned to occur in two phases. Phase 1 drilling will be spaced out over a 100m x 100m grid. The intent of Phase 1 drilling is to delineate the lateral extent of uranium/molybdenum mineralisation in the subsurface. Should such mineralisation be identified the Phase 2 drilling will take place on a more

closely spaced 50m x 50m grid. Phase 2 drilling will occur only in the immediate vicinity of the mineralisation.

Trenching, pitting or test mining activities are not allowed to occur and are specified as such in the approved and amended Prospecting Work Programmes. Thus, there will be no significant disturbance of the land surface or excavations occurring during the exploration outlined in the amended EMP.

3. Possible palaeontological impacts of the projects:

The major possible palaeontological impacts of the proposed exploration project are the crushing and moving of palaeontological specimens from their original location. These two outcomes may occur as a result of the fossils being drilled through by the drill rig or as a result of vehicle wheels passing over the fossils. However, as outlined below this is not a significant probability. Similarly, there is a very small possibility of a fossil actually being drilled through by the drilling rig.

The possible impacts, as outlined above, are mitigated by the fact that Tasman Pacific has indicated in their amended EMP document that an Environmental Control Officer (ECO) will be appointed who will be on site during the conducting of the drilling. That ECO will be the site geologist and, as such, will have professional training sufficient to allow them to recognise the presence of fossils should any be encountered during the movement of vehicles across the land surface.

The amended EMP states that vehicular movements will be restricted to a defined system of tracks (twin spoor pads only, as no new graded roads will be constructed). Both these tracks and the sites of the proposed boreholes will be inspected by the ECO before their initial usage and should any fossil material be identified the track would be diverted around the material or the borehole relocated to avoid damage. The discovery would then be reported to a suitably qualified professional palaeontologist for appraisal and possible excavation.

4. Reasons why a Palaeontological Impact Assessment is not required:

The drilling activities will take place upon sediments of the Barberskrans Member of the Balfour Formation (Adelaide Subgroup, Beaufort Group). Accordingly, it may be expected that the strata may contain vertebrate

representatives of the *Dicynodon* Assemblage Zone (Rubidge *et al.*, 1995) and plants of the *Glossopteris* flora. However, the vertebrate fossils of the Beaufort Group are normally rare occurrences at the surface. This situation is also true of plant fossil assemblage sites; but where they do occur they tend to be distributed over a sufficiently wide area that the amount of damage done by a borehole or vehicle wheel would not be significant (considering the small percentage of the land surface that will be affected directly by these activities).

The above generalisation concerning the scarcity of Beaufort Group fossils has been substantiated in the field as I (in my capacity as an independent consultant, the holder of a Ph.D in Palaeontology and significant professional experience as a palaeontologist in South Africa) have personally visited the three proposed drilling project areas and extensively traversed them by foot. **It was my observation that no fossil material was observed anywhere within the boundaries of the two areas.** Thus, the likelihood of any palaeontological material being destroyed or moved as a result of the proposed prospecting activities is remote due to the scarcity of material.

There are no known or historical fossil sites of significance or scientific importance (e.g. Geosites or the locations of the sites of historically important collecting activities) located within either project area that would require specific preservation.

Given the above information I feel that it can fairly be motivated that there is no need for a full Phase 1 Palaeontological Impact Assessment to be conducted on either of the two project areas.

5. References

Rubidge, B.S., Johnson, M.R, Kitching, J.W., Smith, R.M.H., Keyser, A.W. and Groenewald, G.H. (1995). An introduction to the Biozonation of the Beaufort Group. - In: Rubidge, B.S. (ed), *Biostratigraphy of the Beaufort Group (Karoo Supergroup)*. South African Committee for Stratigraphy Bisotratigraphic Series, **1**, 46 pp.

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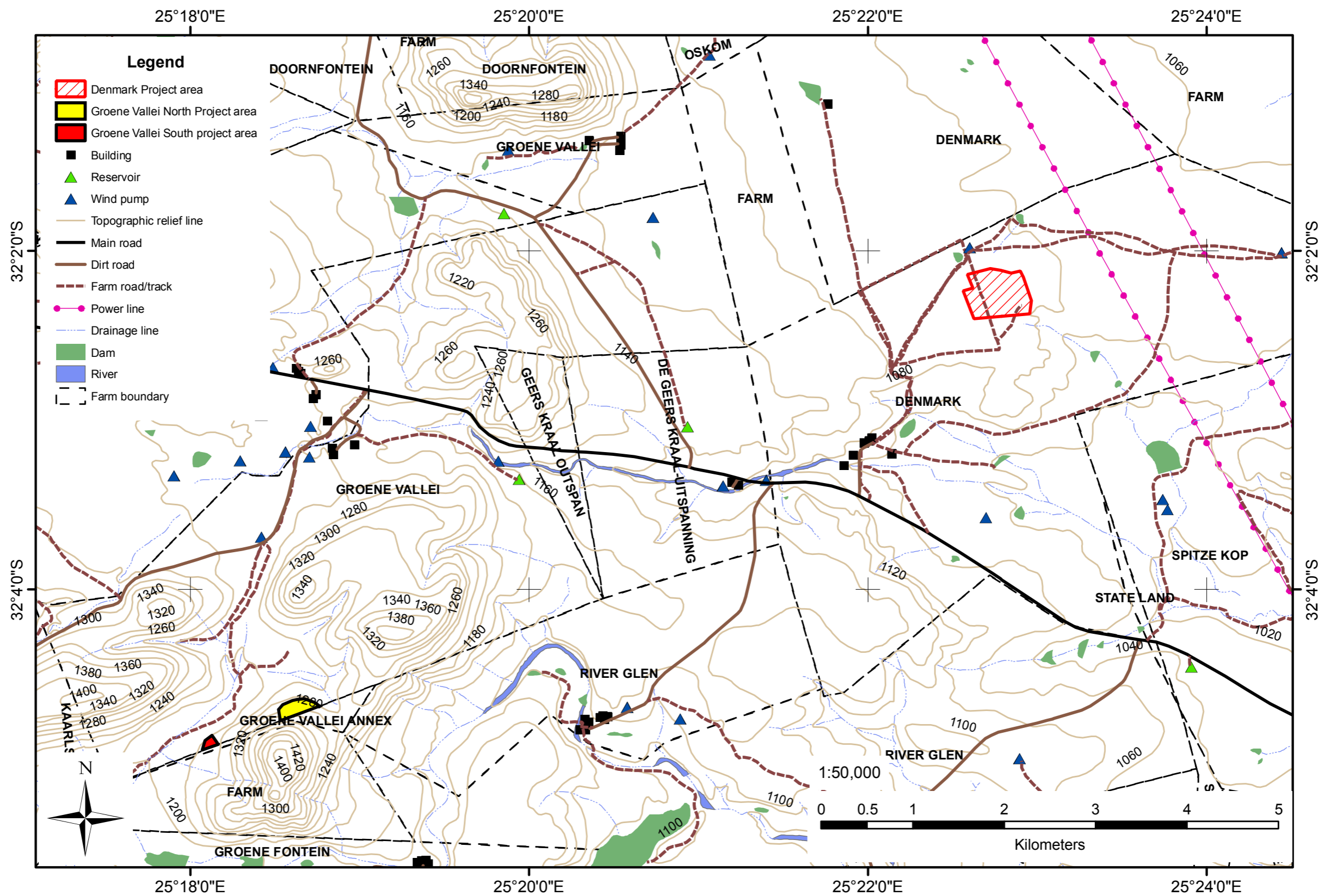


Figure 1. A topographic map showing the location of the Denmark, Groene River North and Groene River South projects relative to each other within Tasman Pacific Minerals Limited's Prospecting Right area known as Site 37.

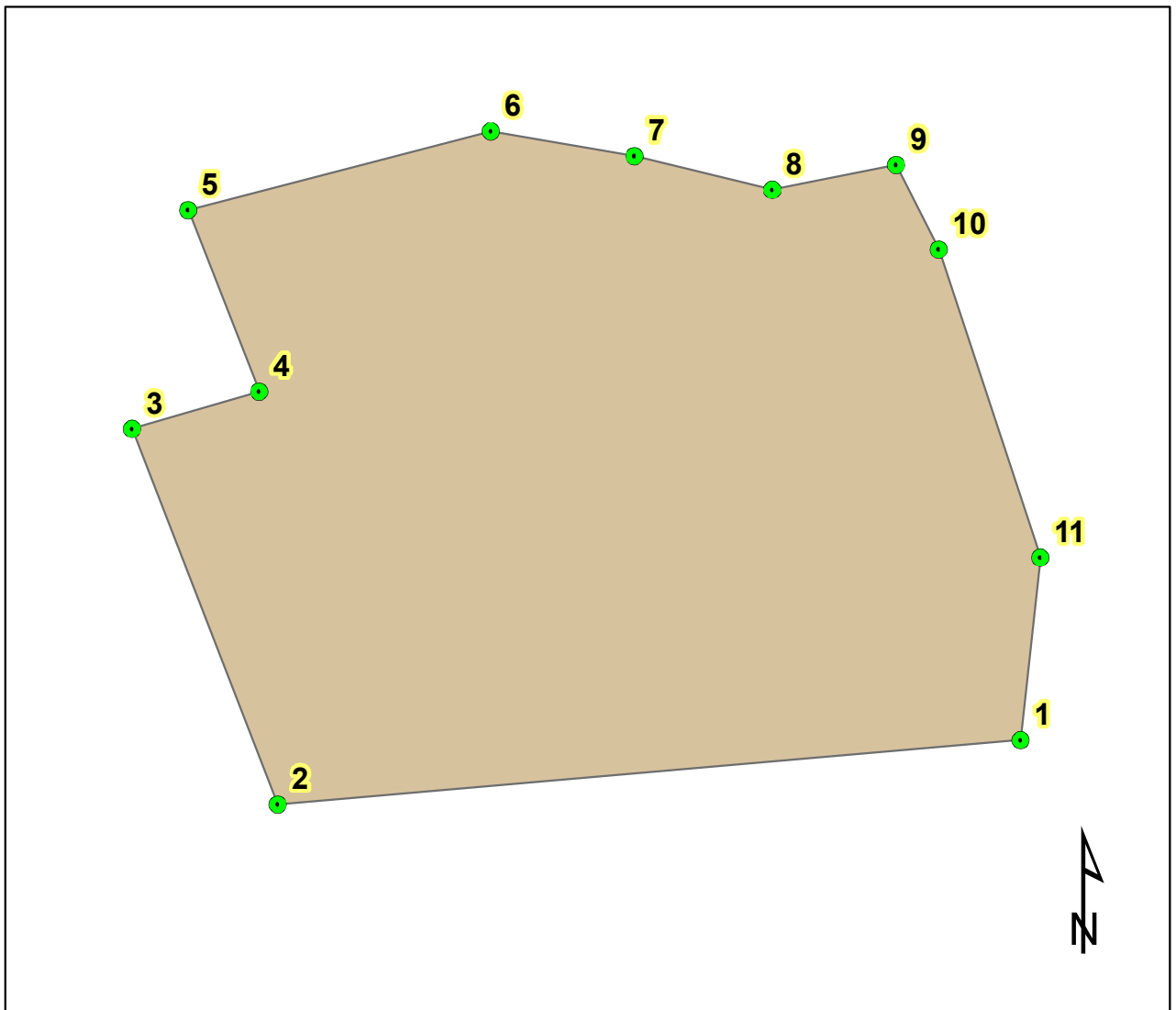


Figure 2. Figure indicating the location of the numbered corner points appearing in Table 1 and which define the Denmark project area.

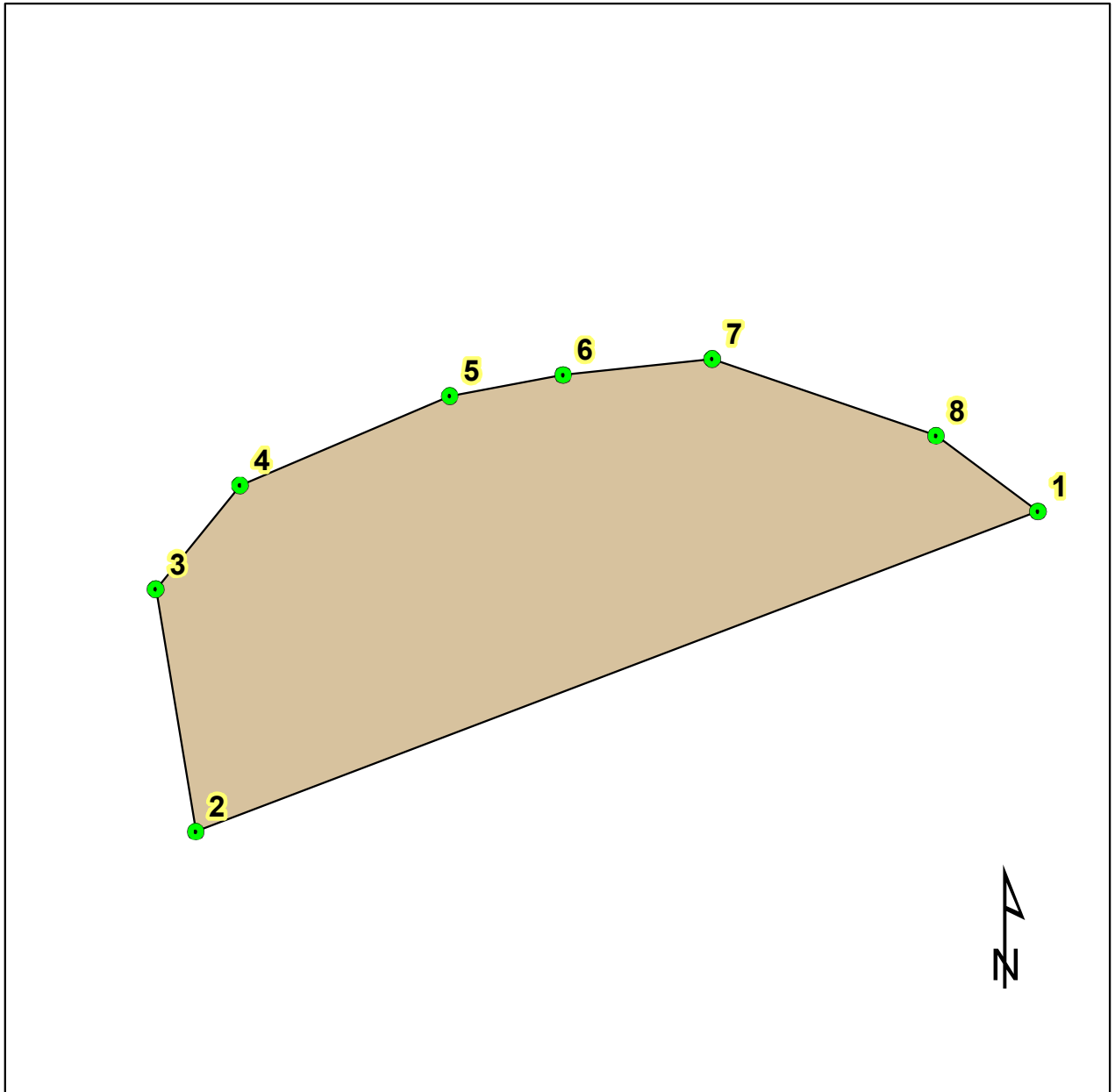


Figure 3. Figure indicating the location of the numbered corner points appearing in Table 2 and which define the Groene Valleij North project area.

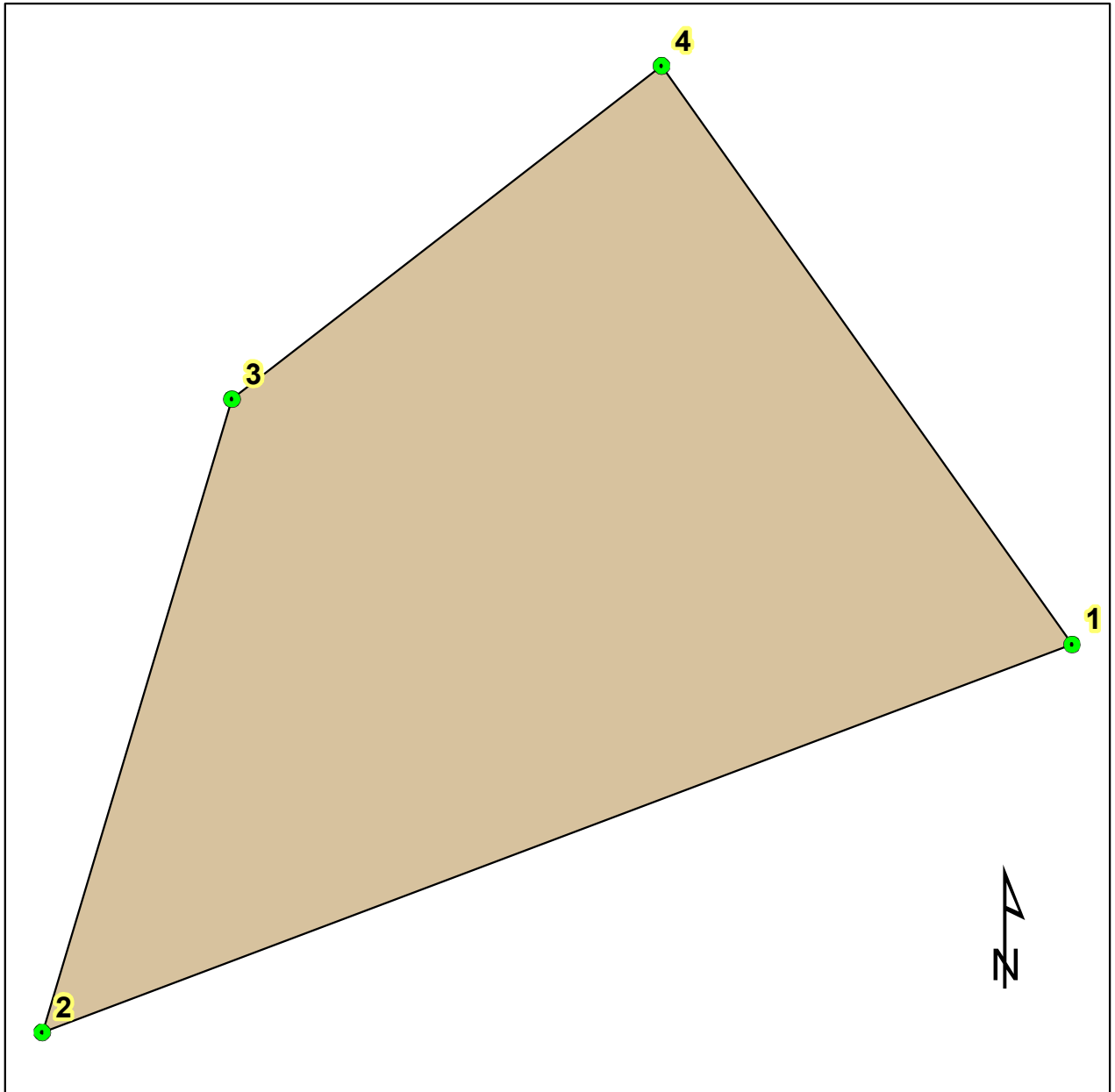


Figure 4. Figure indicating the location of the numbered corner points appearing in Table 3 and which define the Groene Valleï South project area.

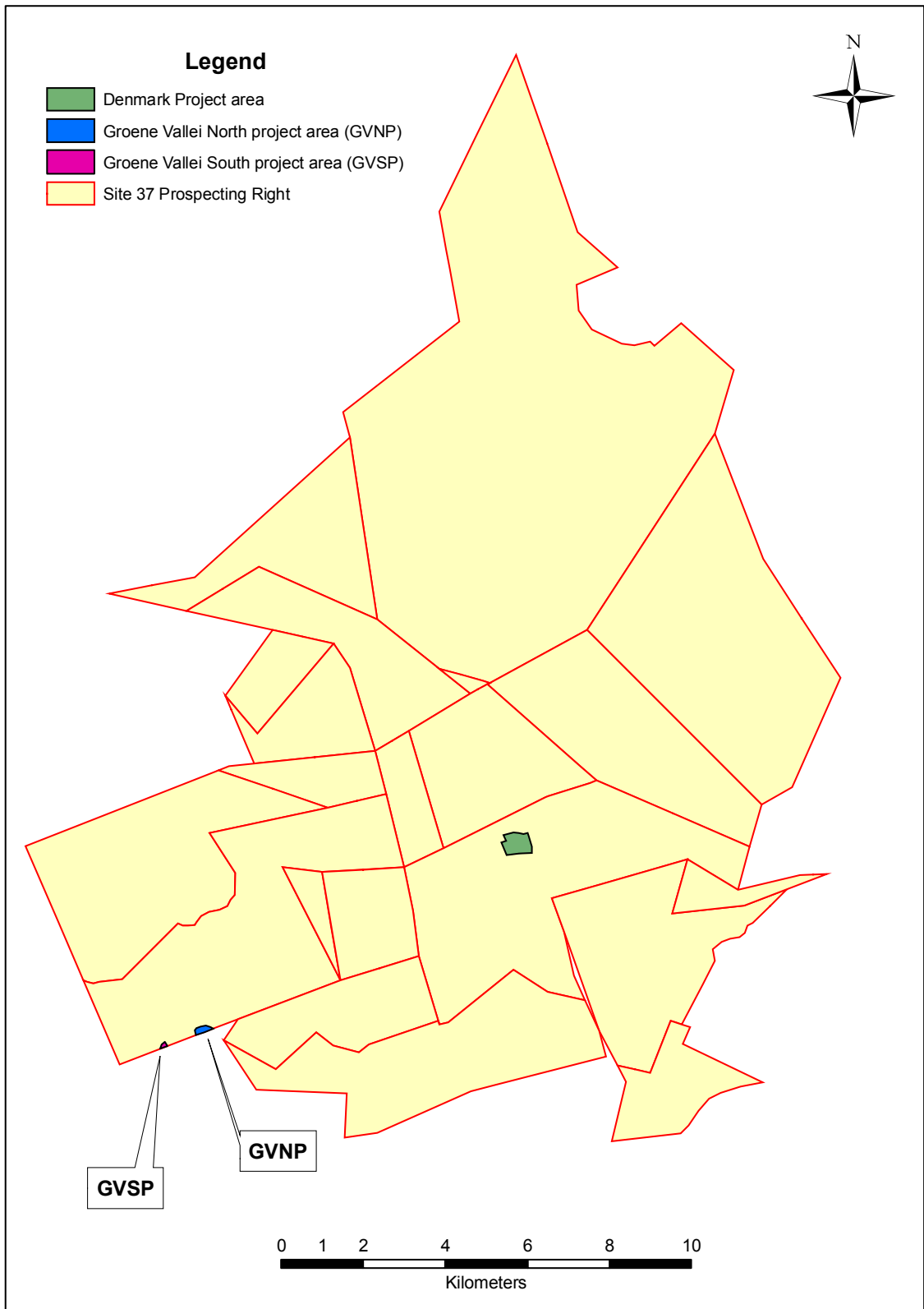


Figure 5. Figure indicating the location of Denmark, Groene Vallei North and Groene Vallei South project areas within Tasman Pacific Mineral Limited's Prospecting Right area known as Site 37.