Greenvale Silicon Pty Ltd

DIATOMACEOUS EARTH INVESTMENTS PTY. LTD.
GREENVALE SILICON PTY. LTD.
(Greenvale Silicon Joint Venture - GVSJV)

EXPLORATION PERMITS FOR MINERALS (EPM) 19573

Partial Relinquishment Report
For 34 Sub Blocks Relinquished 12 December 2017

Prepared By:
Agripower Australia Limited – 20 February 2018

Distribution:
1 x Agripower Australia Ltd, Sydney
1 x Greenvale Silicon Pty Ltd, Charters Towers

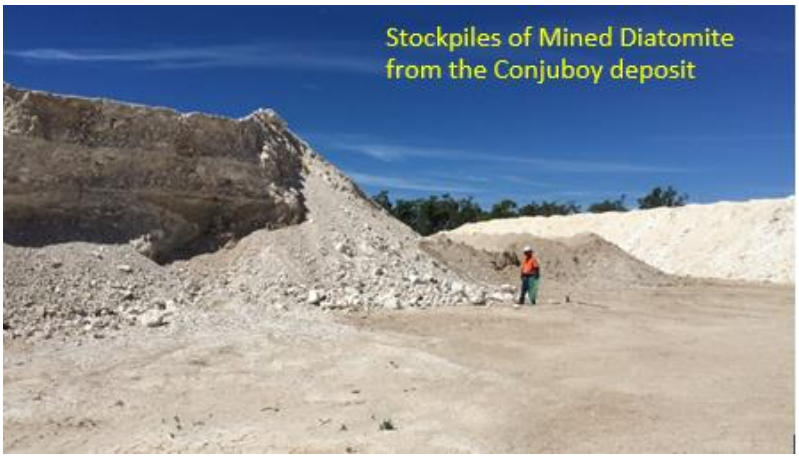
Cover Photo: Allochthonous (Proximal) outwash deposit of Diatomaceous earth with a well-developed and somewhat calcretised soil horizon on top – Site 100977 (border of EPM13236 and EPM19573)

SUMMARY

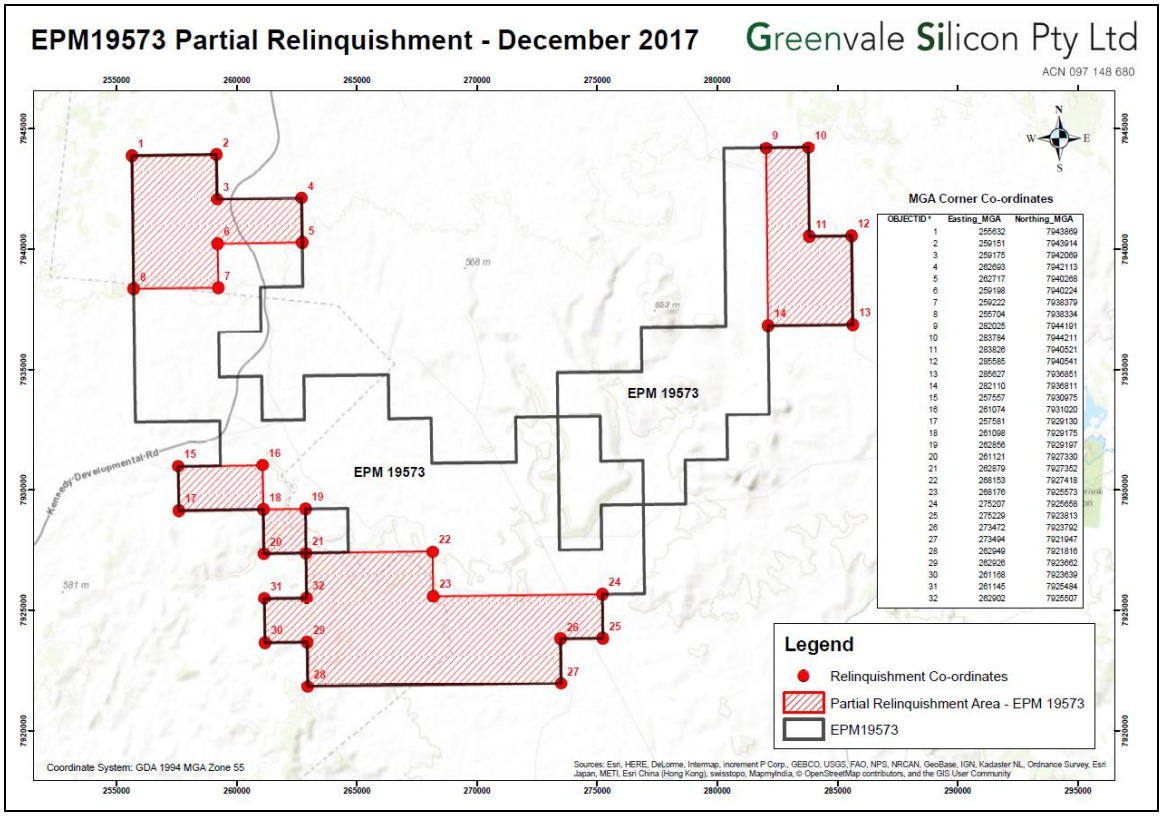
Diatomaceous Earth Investments Pty Ltd. (“DEI”) and Greenvale Silicon Pty. Ltd. (“GVS”), under Joint Venture Agreement, namely, “Greenvale Silicon Joint Venture (GVSJV)” hold two Mineral Development Licences (MDL’s 325 and 326), four Exploration Permits for Minerals (EPM’s 13236, EPM13995, EPM19573 and EPM25110); and one Mining Lease (ML 10279) over the Conjuboy Diatomaceous Earth Deposit.

These tenements cover the Conjuboy Diatomaceous Earth Deposit, 48km north of the town of Greenvale, North Queensland. The project comprises a diatomite-bearing sequence.

Diatomaceous Earth, more commonly known as “Diatomite” in as an industrial mineral and are found more commonly in sedimentary successions formed from collections of the fossilized skeletal remains of single-celled aquatic algae.



This report is presented as the partial relinquishment report of 34 sub-blocks relinquished from EPM19573 that was submitted to the Department of Natural Resources and Mines on 7 December 2017 and approved as same by an authorised delegate for the Minister on 11 December 2017.



The relinquished areas of EPM19573 been fully assessed by the GVSJV exploration team through ongoing field mapping.

The relinquished areas of EPM19573 lie outside of the geological, geophysical and geochemical region of interest in terms of the GVSJV exploration model and it is now well understood that the area does not contain diatomite bearing sequences of economic interest to the group.

TABLE OF CONTENTS

LIST OF FIGURES and TABLES

1. INTRODUCTION

The information contained within this report relates to exploration activities conducted over and on the 34 sub-blocks that were partially relinquished from EPM19573 up until the partial relinquishment approval date of 11 December 2017.

1.1. Location

The Conjuboy Project area located some 48km northwest of Greenvale, North Queensland (Figure 1), and is located equidistantly from both Cairns and Townsville.

Diatomaceous Earth Investments Pty Ltd. ("DEI") and Greenvale Silicon Pty. Ltd. ("GVS"), under Joint Venture Agreement, "Greenvale Silicon Joint Venture (GVSJV)" hold two Mineral Development Licences (MDL's 325 and 326), four Exploration Permits for Minerals (EPM's 13236 13995, 19573 and 25110); and one Mining Lease (ML 10279) over the Conjuboy Diatomaceous Earth Deposit.

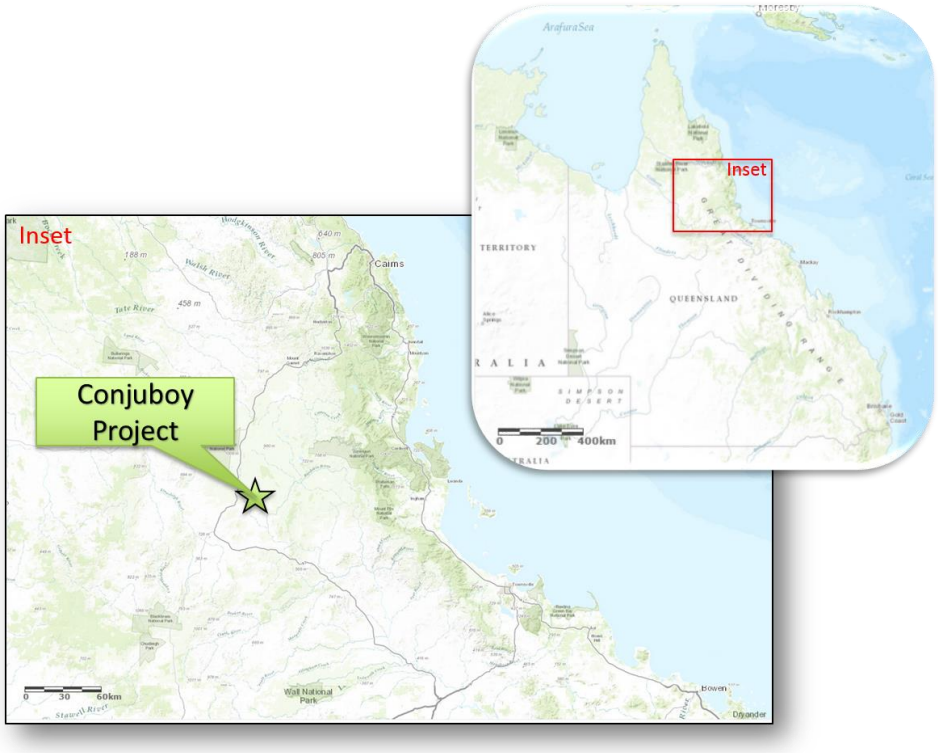


Figure 1 - Conjuboy Project Location

The project comprises a diatomite-bearing sedimentary sequence that is mined and transported to the Diatomaceous Earth Processing Facility located at Charters Towers, Queensland.

1.2. Topography

The Conjuboy Project is located at an elevation of about 520m and lies on the southern margins of a basalt dome of about 5000km^2 that forms the McBride Plateau. The centre of the dome reaches an elevation of 1,028 metres. The dome comprises numerous basalt lavas that flowed radially outward from 164 volcanic centres. The volcanic centres range from low hills formed by eroded plugs to well preserved cones with craters.

Around the margins, where the basalt is locally 5m thick, surface drainage features are separated by, and run parallel to the basalt flows (Figure 2 B). Basalt flow fronts present low, but distinctive 'jump ups' in the generally subdued topography (Figure 2 A).

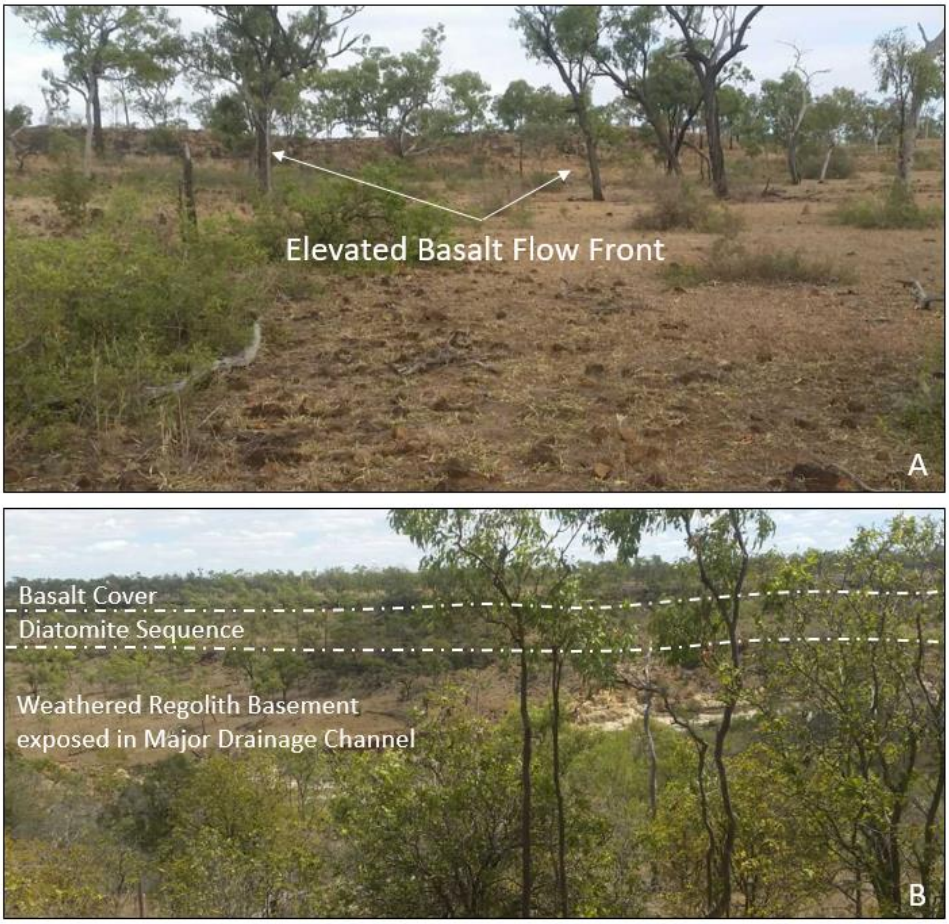


Figure 2 – Typical Local topographic variations seen at the Project Site

The mining project is immediately adjacent to a low basalt wall that represents the southernmost extension of the lava flows. It is located largely on a topographic feature known as Greasy Plain – an area of heavy dark clay. Greasy Plain is located on the fringe of the southern extent of the basalt lava flow and has been developed by intensive in situ chemical weathering of the underlying clayey Tertiary to Quaternary rocks (Figure 2 B), some of which are diatomaceous. It is around 5 metres lower in elevation than the basalt flow.

2. General Tenure Information

2.1. Percentage Holding

The Conjuboy Project and all related tenement holdings over the Conjuboy Diatomaceous Earth Project were subject to a Joint Venture between Greenvale Silicon Pty Ltd and Diatomaceous Earth Investments Pty Ltd.

This Joint Venture is known as the Greenvale Silicon Joint Venture ("GVSJV"). Greenvale Silicon Pty Ltd. has 80% interest in the project and Diatomaceous Earth Investments Pty. Ltd. has a 20% interest holding.

Table 1 - Percentage Holdings of Diatomaceous Earth Joint Venture Partners

HOLDER	PERCENTAGE (%)
Diatomaceous Earth Investments Pty. Ltd.	20.0
Greenvale Silicon Pty. Ltd.	80.0
TOTAL	**100.0**

Greenvale Silicon Pty. Ltd. is the nominated principal holder of all Conjuboy Project tenements.

2.2. Grant and Expiry Dates for the Project Tenements

Prior to the Partial Relinquishment of the 34 sub-blocks from EPM19573; Exploration Permit for Minerals (EPM) 13236 and 13995, 19573, 25110, Mineral Development Licences (MDLs) 325 & 326; Mining Lease (ML) 10279 grant dates & expiry dates were as follows:

Table 2 - Conjuboy DE Project Tenement Assignments

Conjuboy Diatomaceous Earth Project			
TENEMENT	**GRANT DATE**	**EXPIRY DATE**	**Tenement Size**
EPM 13236	9 March 2001	8 March 2018 (Renewal Lodged)	6 Sub-blocks
EPM 13995	6 June 2003	6 June 2017 (Renewal Lodged)	6 Sub-blocks
EPM 19573	17 Sept 2013	17 Sept 2019	86 Sub-blocks
EPM 25110	9 Sept 2014	9 Sept 2019	87 Sub-blocks
MDL 325	20 April 2001	1 May 2021	3,429 Ha
MDL 326	20 April 2001	1 May 2021	1,943 Ha
ML 10279	28 Oct 2004	31 October 2054	133 Ha

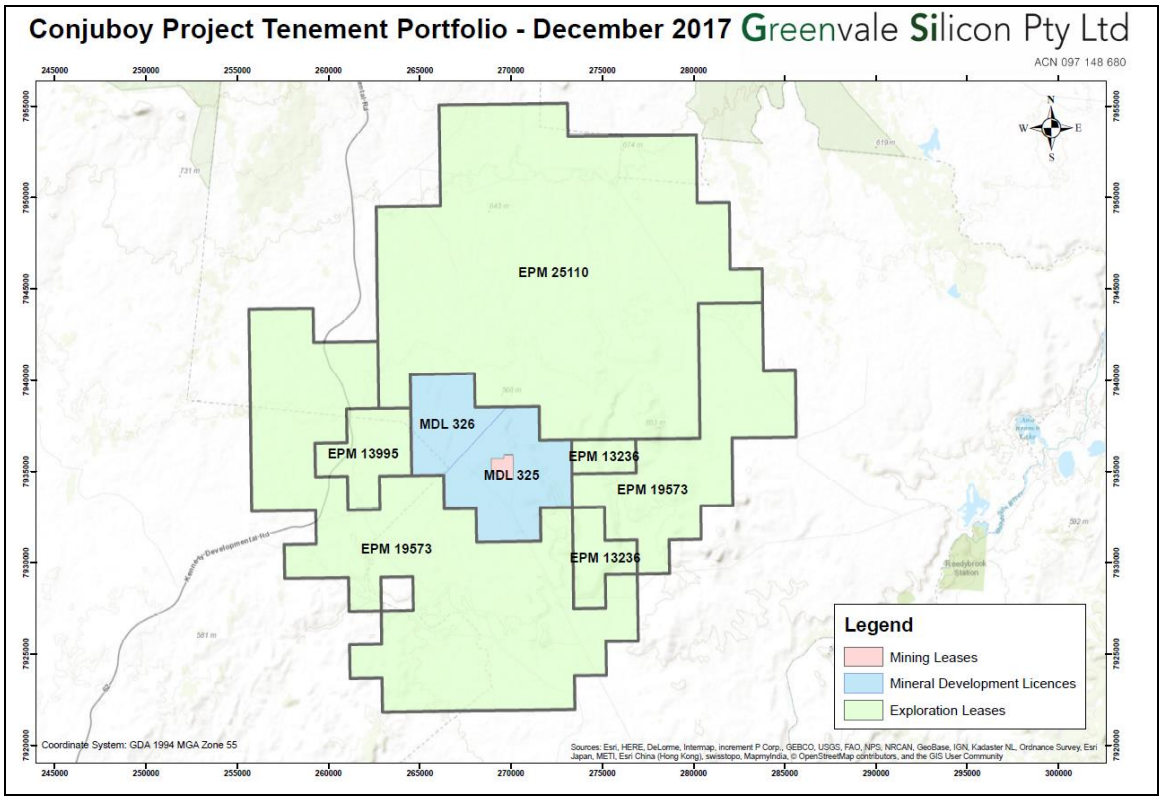


Figure 3 - Conjuboy Diatomaceous Earth Project Tenements

The abovementioned tenements form the 'Conjuboy Diatomaceous Earth Project'.

- MDLs 325 and 326 are located approximately 48km north west of the town of Greenvale.
- EPM 13236 is located approximately 30km north of the town of Greenvale.
- EPM 13995 is located approximately 30km north of the town of Greenvale.
- EPM 19573 is located approximately 22km north of the town of Greenvale.
- EPM 25110 is located approximately 30km north of the town of Greenvale.

2.3. Blocks and sub-block Information EPM19573

Exploration Permit for Minerals (EPM) 19573 (called "Gilldale Project") covers an area of approximately 241km^2 and consists a contiguous portion of the Conjuboy Diatomaceous Earth Deposit.

Prior to the Partial Relinquishment of the 34 sub-blocks from EPM19573; The blocks and sub-blocks or areas which comprise EPM19573, were as tabulated below:

Table 3 - Tenement Details for the EPM19573 prior to the partial relinquishment being approved

EPM19573 Tenement details					
Description	**TENEMENT**	**Number of sub-cells**	****BIM**	***BLOCK No.**	**SUB-BLOCK No.**
Exploration Permits for Minerals (EPM's)	**EPM 19573**	86	TOWN	2241	b, c, g, h, j, k, m, n, o, p, r, s, t, w, x
			TOWN	2243	y, z
			TOWN	2244	a, b, f, g, l, m, n, q, r, s, v
			TOWN	2313	b, c, d, j, k, n, o, p, u
			TOWN	2314	a, b, f, g, h, l, m, n, o, p, r, s, t, u, v, w, , x, y, z
			TOWN	2315	b, c, d, e, f, h, j, k, l, o, q, s, v, w, x
			TOWN	2316	a
			TOWN	2385	e
			TOWN	2386	a, b, c, d, e, f, g, h, j, k
			TOWN	2387	a, b, f

*BIM = Block Identification Map
**TOWN is an abbreviation of Townsville

2.4. Partial Relinquishments

Greenvale Silicon maintain a partial relinquishment strategy to remain in good standing the Department of Natural Resources and Mines (DNRM) and endeavour to relinquish the required amount of sub-blocks within the relinquishment year unless nil-relinquishment is granted for the Tenement Assignment by the Minister or authorised delegate of the Minister upon request under special circumstances by Greenvale Silicon.

The partial relinquishment report of 34 sub-blocks relinquished from EPM19573 was submitted to the Department of Natural Resources and Mines on 7 December 2017 and was approved as same by an authorised delegate for the Minister on 11 December 2017.

Greenvale Silicon Pty Ltd on behalf of the GVSJV as per the agreed relinquishment schedule within the accepted tenement assignment documentation conditions of grant for EPM19573; and pursuant to s139, s140 and s141 of the Mineral Resources Act 1989 (MRA); submitted the following 34 sub-blocks (listed below) for voluntary partial relinquishment from EPM19573.

Table 4 - The 34 sub-blocks to be relinquished from the tenure are detailed as follows:

EPM19573 – 34 Partial Relinquishment nomination			
BIM	**BLOCK**	**Sub-Blocks**	**Number of sub-blocks**
TOWN	2241	B, C, G, J, J, K, M, N	8
TOWN	2244	B, G, M, N, R, S	6
TOWN	2313	N, O, U	3
TOWN	2314	V, W, X	3
TOWN	2385	E	1
TOWN	2386	A, B, C, D, E, F, G, H, J, K	10
TOWN	2387	A, B, F	3
		Total	**34**

The 34 Sub-block voluntary relinquishment from the tenure was approved by the Department of Environment and Heritage Protection and the Department of Natural Resources and Mines on 11 December 2017, with the relinquishment taking effect on 12 December 2017.

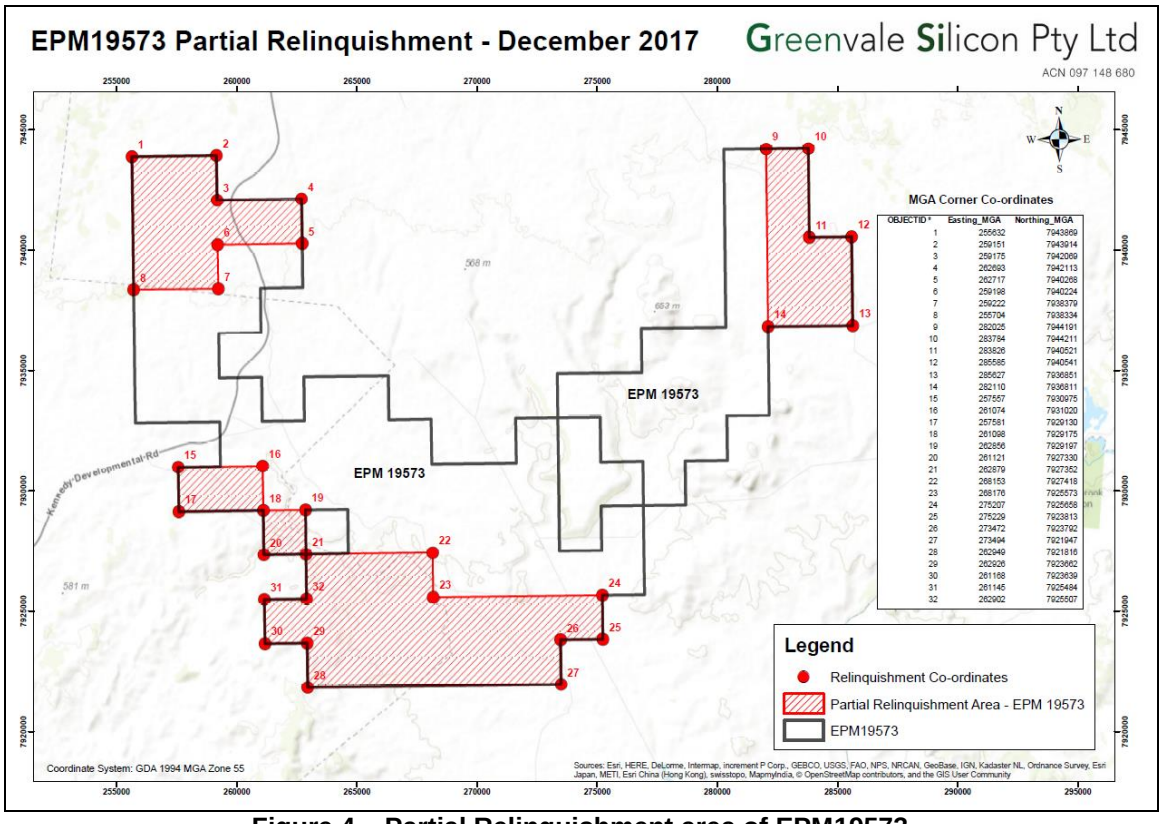


Figure 4 – Partial Relinquishment area of EPM19573

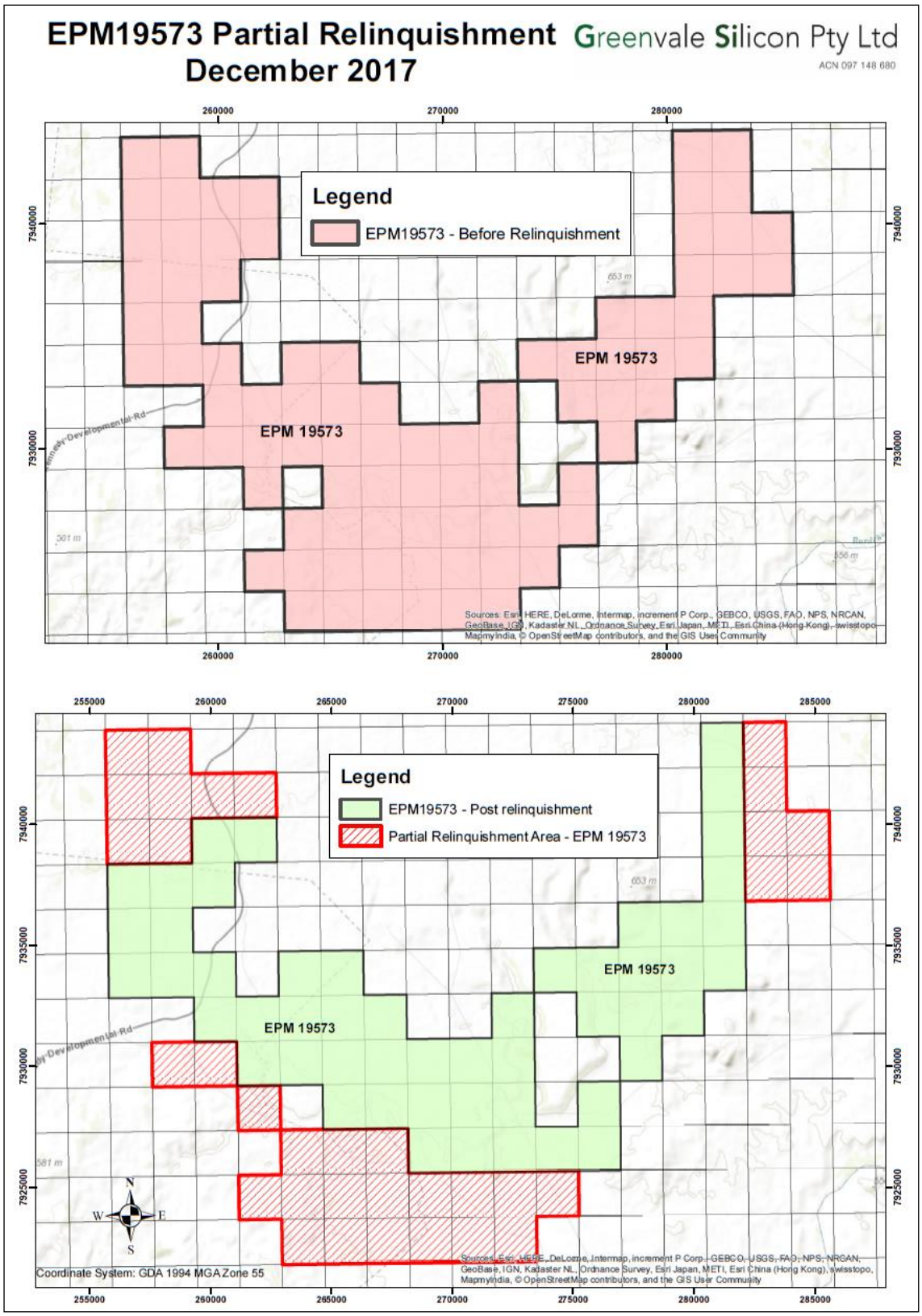


Figure 5 – Comparison maps before and after partial relinquishment of 34 sub-blocks from EPM19573

Table 5 - Tenement Details of EPM19573 after the 34 sub block partial relinquishment was approved

Conjuboy Diatomaceous Earth Project Tenement listings					
Description	**TENEMENT**	**Number of sub-cells**	****BIM**	***BLOCK No.**	**SUB-BLOCK No.**
Exploration Permits for Minerals (EPM's)	**EPM 19573**	52	TOWN	2241	O, P, R, S, T, W, X
			TOWN	2243	Y, Z
			TOWN	2244	A, F, L, Q, V
			TOWN	2313	B, C, D, J, K, P
			TOWN	2314	A, B, F, G, H, L, M, N, O, P, R, S, T, U, Y, Z
			TOWN	2315	B, C, D, E, F, H, J, K, L, O, Q, S, V, W, X
			TOWN	2316	A

*BIM = Block Identification Map
**TOWN is an abbreviation of Townsville

3. LAND USE AND NATIVE TITLE

3.1. Native Title

An Indigenous Land Use Agreement ("ILUA") covering all of the Conjuboy Project tenements was registered on 25 August 2004.

3.2. Land Use and Background Tenure

Perpetual Leases ("GHPL"), Grazing Homestead Freehold Leases ("GHFL") and Pastoral Holdings ("PH") as follows:

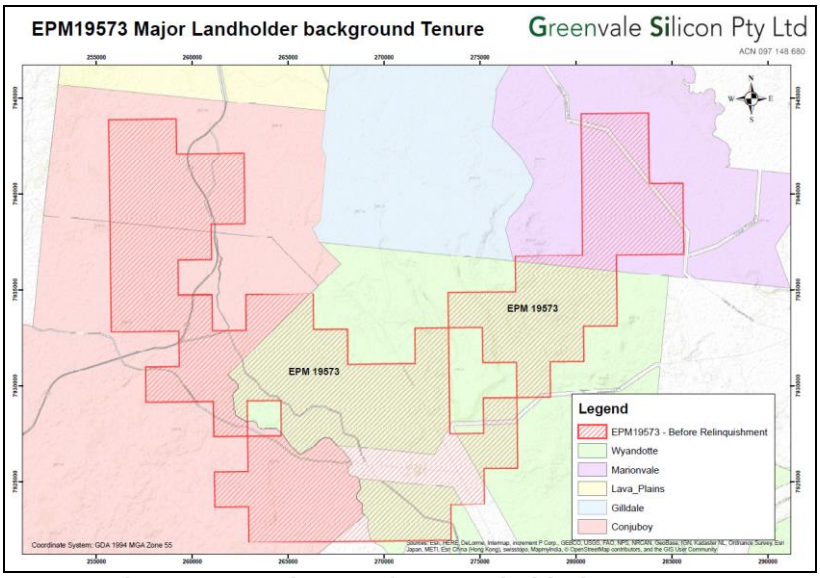


Figure 6 – Background Tenure behind EPM1573

Table 6 – EPM19573 – Background Tenure summary

Mining Tenure	Background Tenure	Tenure Type	Landholder details
EPM19573	Road/Stock Route	Road	DNRM
	Lot 200 on SP232790	GHFL	Wyandotte Station
	Lot 4594 on PH1586	PH	Conjuboy Station
	Lot3 GU26	GHFL	Marionvale Station

The effect that the partial relinquishment of the 34 sub-blocks will have on the background tenure of the project is consisted very minor.

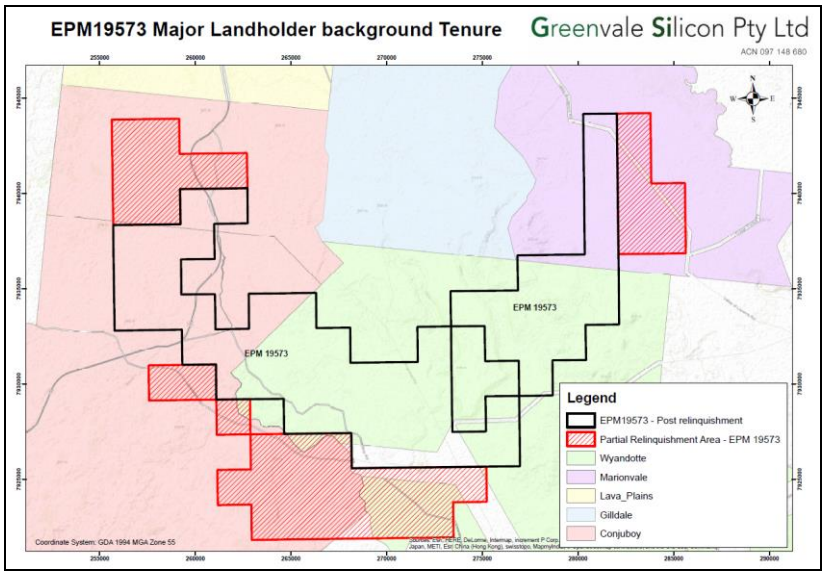


Figure 7 – Background Tenure behind EPM19573 and the relationship of Landholders with the relinquished sub-blocks

4. GEOLOGICAL DATA

4.1. Regional Geology

The regional scale geology of the Conjuboy project is made up of Tertiary-Quaternary basalt, underlain by lacustrine diatomaceous earth and weathered regolith profile of a Cambrian metamorphic sequence (Figure 8). Other basement sequences in the region include meta-sedimentary rocks of the Upper Cambrian Balcooma Meta-volcanics and igneous rocks of the Upper Cambrian Ringwood Park Microgranite and Silurian Dido Granodiorite.

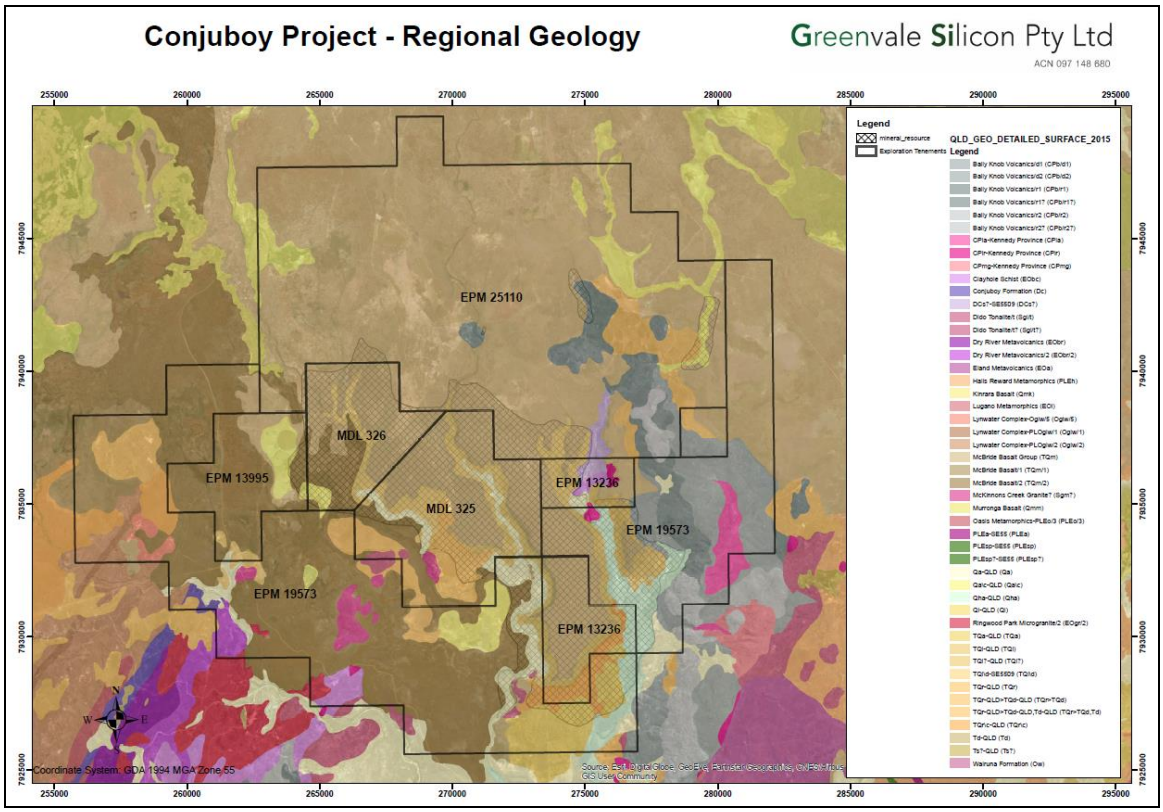


Figure 8 – Regional Geology of the Conjuboy Project Tenement Portfolio

The surface geology of the project is dominated by Tertiary-Quaternary basalt cover that is dissected by the drainage channels of the Wyandotte and Forester Creeks, exposing the Tertiary-Quaternary lacustrine sedimentary sequence. A thick layer of diatomaceous earth (up to 30m tick) dominates the sequence, which is the unit of economic interest.

Regionally, the diatomaceous earth unit is typically poorly cemented, containing a few clay lenses and minor sandstone intercalations. Where exposed in creek cuttings, the diatomite horizon is around 10-15 metres in thickness, and is covered by 0-5 metres of sandy clay, diatomite rubble, basalt rubble and soil. Locally, the diatomite horizon reaches thicknesses of up to 20m. Minor, narrow, (10cm), sub-vertical dolerite dykes cut the sequence sporadically.

4.2. Basin Architecture and Local Geology

Geological interpretation from mapping exercises around the Conjuboy Diatomaceous Earth Project suggests that the lacustrine sediments (Diatomite deposits) were deposited in a fairly shallow basin that was “cut-off” by localized tectonic movements from the south-east. This tectonic movement elevated and formed ridges to the south of the Conjuboy area and thus blacked off and dammed the freshwater sources to form an inland lake within which the diatomite deposits formed.

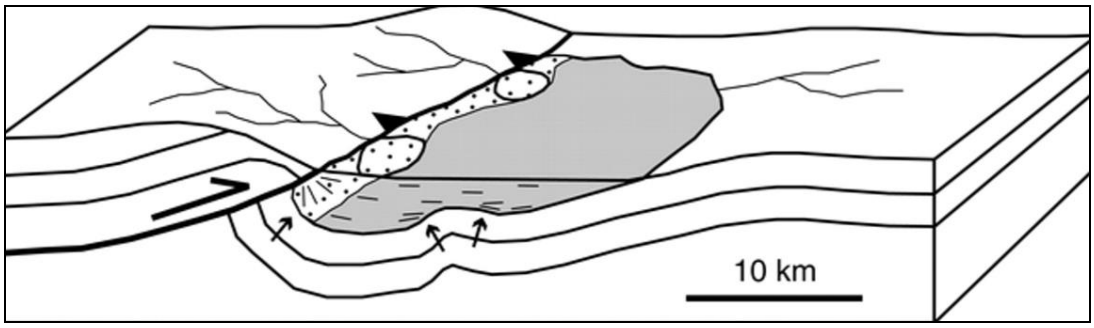


Figure 9 – Basin Architecture where tectonic movement from the south stopped river flow and formed an inland lake

Underneath the diatomite deposit, a basal weathered regolith unit (up to 30m in thickness) is identified throughout the area of the basin. This weathered horizon lies above the fresh basement sequences (saprolite) in the project area and was formed over millions of years though the chemical weathering of the basement volcanic rocks.

A laterite profile normally develops above the regolith horizon and this can be identified at numerous sites throughout the project area. Where laterite in mapped on surface, it is a common tell-tale sight that no diatomite will be found underneath it.

Tertiary basalt cover overlies the diatomite-bearing sequence at the Conjuboy deposit and has an apparent gentle slope to the west. This slope is accentuated in the southern portion of the area where elevation differences at the base of the basalt straddling Wyandotte Creek infers either some late stage faulting or alternatively, two separate flow events.

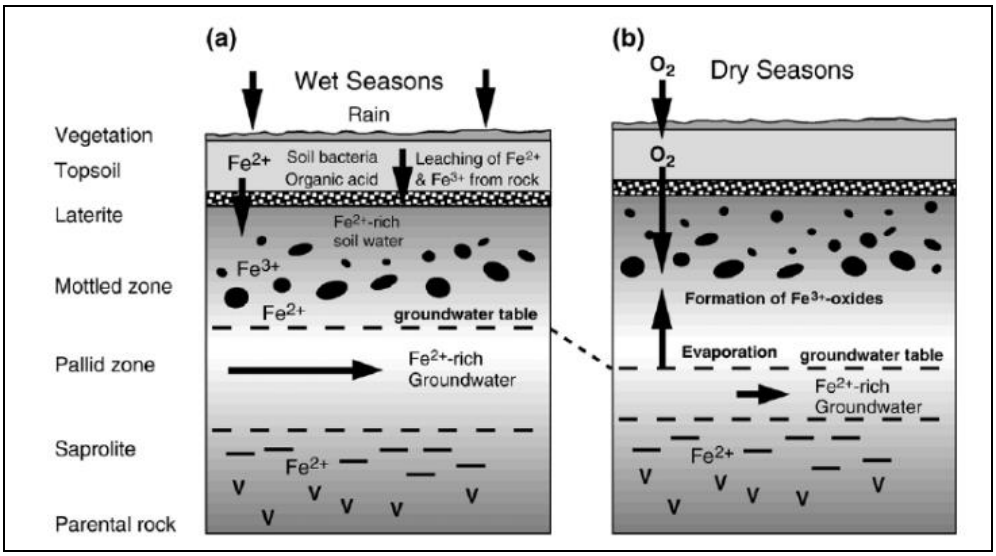


Figure 10 – Chemical weathering processes that form a regolith profile

Typically the geological profile of the Conjuboy Diatomaceous Earth Deposit can be summarised by Figure 11 and corresponding Table 7.

Table 7 – Typical Geological mapping sections identified at the Project Site

Diatomite commonly present where this geological profile is observed		**No Diatomite occurs where these geological profiles are observed**				
Geological Section 1	**Geological Section 2**	**Geological Section 3**	**Geological Section 4**	**Geological Section 5**	**Geological Section 6**	**Geological Section 7**
Soil Cover	Soil Cover	Soil Cover	Soil Cover	-	Soil Cover	Soil Cover
Tertiary Basalt	-	Tertiary Basalt	-	-	Tertiary Basalt	Tertiary Basalt
Thin soil profile	-	Thin ancient soil and laterite profile	-	-	-	-
Diatomite bearing sequence	**Diatomite bearing sequence**	-	-	-	-	Thin ancient laterite profile
Thin weathered laterite	Thin weathered laterite	Thin ancient soil and laterite profile	Thin ancient soil and laterite profile	-	-	Older Basalt Flow
Weathered Regolith	Weathered Regolith	Weathered Regolith	Weathered Regolith	Weathered Regolith	Weathered Regolith	Weathered Regolith
Basement Volcanic Rocks	Basement Volcanic Rocks	Basement Volcanic Rocks	Basement Volcanic Rocks	Basement Volcanic Rocks	Basement Volcanic Rocks	Basement Volcanic Rocks

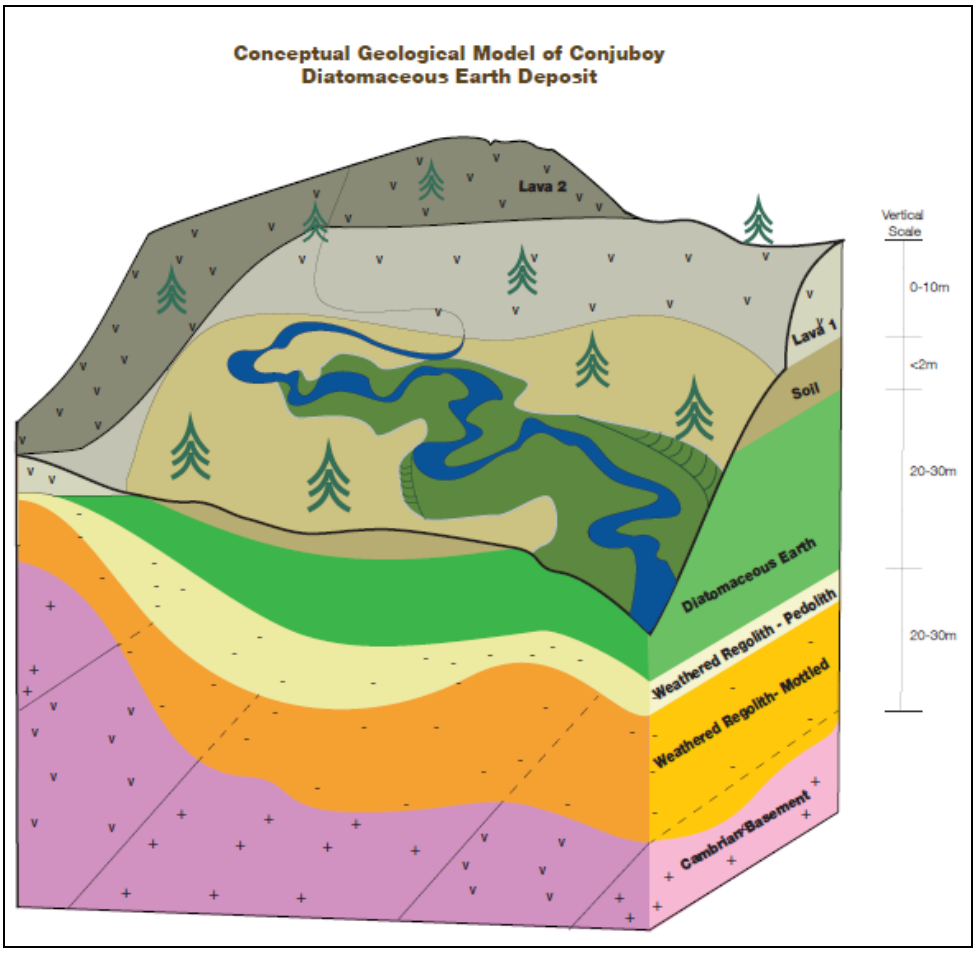


Figure 11 – Schematic Basin Architecture

4.3. Local Geology of the Relinquished area of EPM19573

Assessing the typical geological sections from Table 7 above, diatomite bearing sequences have only assessed to have been identified in areas that resemble cross sections 1 and 2 of the logs – Typical diatomite outcrops are depicted in Figure 15.

Geological field mapping exercises have been continuously conducted over the area of the tenement portfolio and where geological sections 3 through 7 have been identified to exist in an area, this area has no chance of containing any diatomite bearing sequences of any significant interest. Understanding sections 3 through 7, a laterite profile normally develops above the regolith horizon (that significantly predates the deposition of the diatomite bearing sequence in the area), it is a common tell-tale sight that no diatomite will be found underneath it.

Geological mapping exercises have been conducted by the GVSJV geology team over the entire areas of the Conjuboy Project and also on the areas that have been partially relinquished from EPM19573.

The local geology of the area is typically covered by either

1. A older lateritic profile (Figure 13), or
2. a deep weathered basalt plain that directly overlies the Cambrian Basement sequences
3. the surface expressions of the deep weathered Cambrian Basement sequence that sits stratigraphically below the Miocene diatomite bearing sequences (Figure 14)

All three of these areas from field mapping alone confirm that no diatomite bearing sequences of significant interest will occur within these relinquished areas and no geochemical testing or samples were taken from the area that has been relinquished.

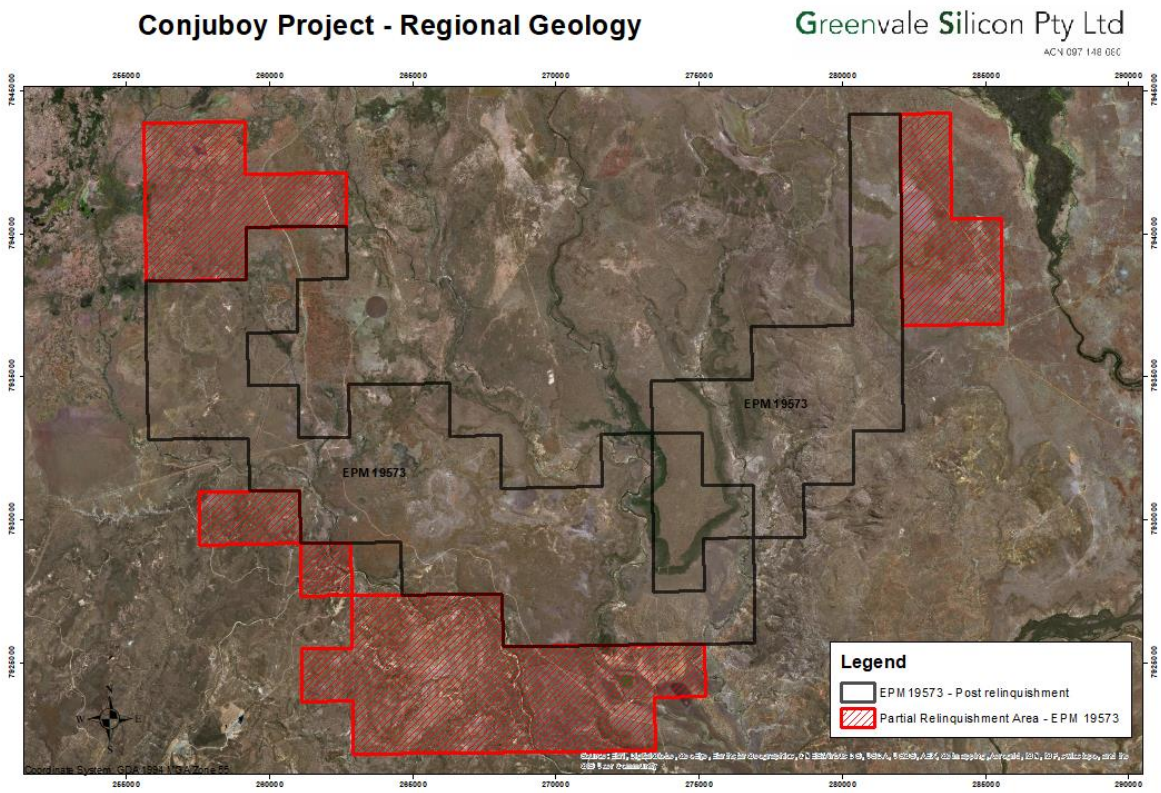


Figure 12 – Satellite image of the relinquished parts of EPM19573

Figure 13 – Typical Pisolitic laterite profile sitting atop of older weathered Cambrian Basement sequences within the project area

Figure 14 – Typical illustration of the weathered basement Cambrian Volcanics that underlie the Diatomite resources at the Conjuboy Diatomite Deposit.

Figure 15 - Examples of mapping sites where diatomite has been identified and sampled within EPM19573

5. EXPLORATION RATIONALE

The Conjuboy Diatomaceous Earth Deposit is unique in its architecture. The diatomite bearing sequences are close to surface and has been preferentially preserved to a high degree due to the capping basalts that have ensured only small portions of the deposit have eroded.

Typical exploration techniques such as geological field mapping, aerial photograph interpretation, geochemical sampling, architectural element analysis and drilling are consisted sufficient to define the outcrop extents and provide further information for JORC 2012 Resource categorisation.

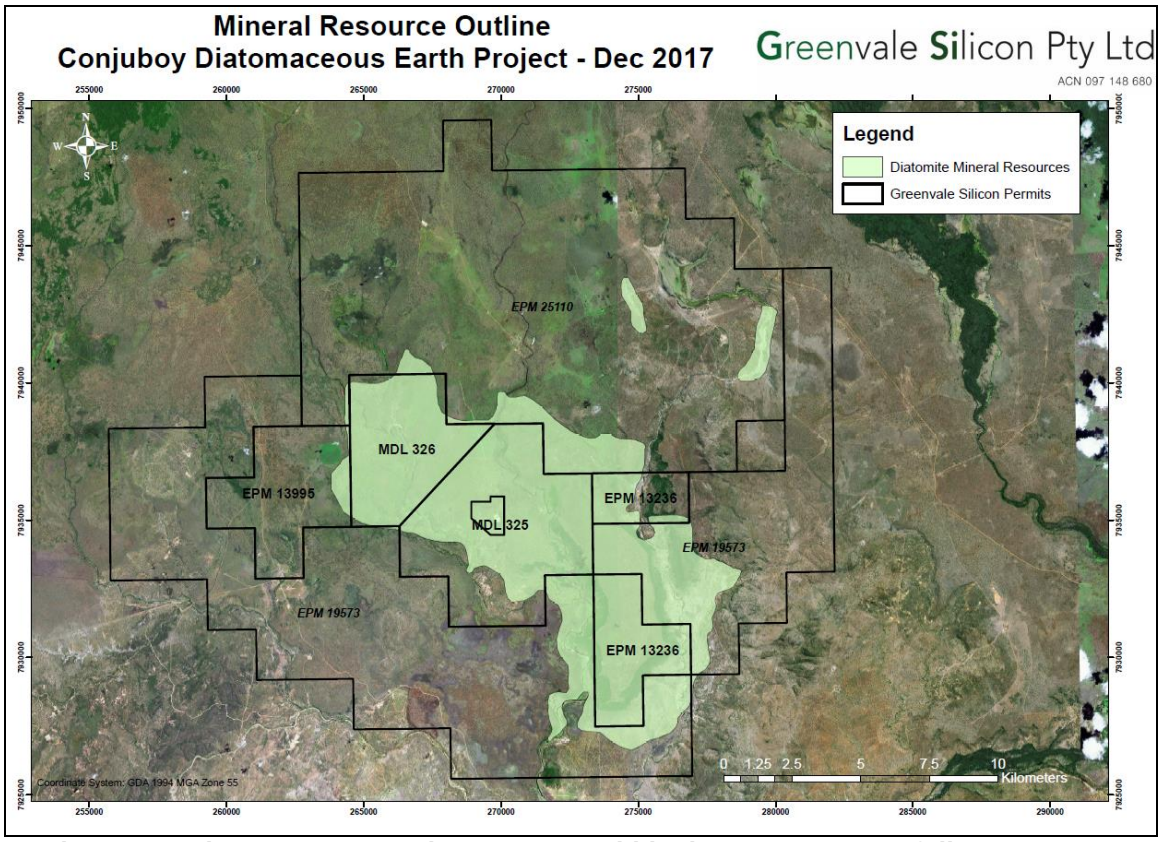


Figure 16 - Diatomaceous Earth Resources within the Tenement Portfolio – Dec 2017

Over the areas covered by the GVSJV tenement package, and because the package is quite large, there remains a high degree of confidence that further diatomite bearing sequences will be located in the near proximity to the existing mineral resources that have already been defined in the project package.

The GVSJV team has been systematically and constantly assessing potential for further diatomite bearing sequence within the tenement package and have identified areas within the tenement package where no diatomite bearing sequences of economic benefit exist. These areas will be partially relinquished in due course.

6. REASON THE HOLDER HAS PARTIALLY RELINQUISHED THE AREA

The 34 sub-blocks relinquished from EPM19573 lie outside of the geological, geophysical and geochemical region of interest in terms of the GVSJV exploration model.

The area has also been fully assessed by the GVSJV geology team by ongoing field mapping and it is understood that the area does not contain diatomite bearing sequences of economic interest to the group.