POR Porcupine Range Land System

Area: 50 km²

Landscape: Steep rocky range with extensive rock outcrop and scree slopes. There are two lines of

parallel hills included in the land system which are around 13 km apart.

Annual rainfall: 225 – 300 mm average range, with over 60% receiving 250 – 275 mm average

Geology: Proterozoic rocks of the Adelaide Geosyncline especially tillites of the Umberatana Group.

Main soils: RR (40%) Bare rock

L1 (35%) Shallow soil on rock (Rocky Rudosol-Tenosol)

Minor soils: C2 (7%) Gradational loam on rock (Shallow Red Dermosol-Kandosol-Calcarosol)

D4 (5%) Loam over pedaric red clay (Pedaric Red Sodosol-Dermosol)

A5 (5%) Rubbly calcareous loam on clay (Supracalcic-Lithocalcic Calcarosol on clay)

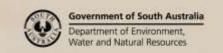
Summary: The Porcupine Range Land System consists of parallel elongate, curved, steep, rocky lines

of hills and rises. 75% of land has bare rock or very shallow rocky soils and is non-arable. Small pediments may have shallow gradational loam on rock; red, crumbly, texture contrast

soils or gradational calcareous soils.

Soil Landscape Unit summary: Porcupine Range Land System (POR)

SLU	% of area	Component	Main soils	Prop#	Notes
ABB	1.3	Rolling rises	L1	D	Hills and rises with linear rocky quartzite outcrops and shallow rocky soils
ABL	13.5	Very steep	L1	D	on interbedded fine-grained rocks.
		hills			ABB Rolling rises with shallow, often calcareous, soils on quartzite, 10-30% bare rock. Relief is 9-30m, slopes: 10-30%. ABL Very steep hills as above, with eroded watercourses. Relief is more than 90m, slopes are more than 60%. Main soils: Shallow stony soils on rock - L1. Rock outcrop - RR is common.
AEB	3.5	Rolling rises	L1RR	D	Non-arable rocky rises and low hills formed on mostly fine-grained
AED	11.0	Steep rises	L1RR	D	rocks. Soils are very shallow and more than 20% are petrocalcic (contain a calcrete layer).
					AEB Rolling rises with mostly very shallow loam on fine grained rock or bare rock, not or slightly calcareous. Relief is 9-30m, slopes are 10-30%. AED Steep rises with soils as above. Relief is 9-30m, slopes are 30-50%.
AQD	22.0	Steep low hills	L1RR C2	D	Main soils: <u>Shallow stony soils on rock</u> - L1 and <u>Bare rock</u> - RR . Steep low hills formed on quartzite with shallow rocky soils, bare rock outcrop or gradational loam over red clay. Non-arable. Relief is 30-90m, slopes are 30-50%. Main soils: sandy, <u>Shallow stony soils on rock</u> - L1 and <u>Bare rock</u> - RR .





h			,	_	
A-t	26.6	Steep low hills	RR	D	Steep low hills on tillites with mostly bare rock outcrop. Relief is 30-90m, slopes are 30-50%.
					Main soils: <u>Bare rock</u> - RR .
AYD	2.6	Steep low hills	RRL1	D	Steep low hills with shallow calcareous loam on calcareous siltstone or other fine grained rocks; or bare rock. Relief is 30-90m, slopes are 30-50%. Main soils: Bare rock - RR and. Shallow stony soils on rock - L1
DSC	2.2	Shallow	D1C2	V	
DSC	2.2		D1C2 D7	V	Undulating pediment and rises complexes with shallow, loamy surfaced, duplex soils over rock with more than 20% outcropping
		pediment		С	rock. Relief is less than 30m, slopes are 3-10%.
		Rock	L1RR	C	rock. Relief is less than 30th, slopes are 3-10%.
		outcrop			Main soils: <u>Clay loam over pedaric red clay on rock</u> - D1 , <u>Gradational</u> red-brown clay loam over rock- C2 , <u>Loam over poorly structured clay on rock</u> - D7 and <u>Shallow stony soils on rock</u> - L1 .
EVc	4.1	Undulating shallow pediments	A2	V	Undulating rises with rock outcrops and shallow calcareous soils formed on fine-grained calcareous rocks, including gradational calcareous sandy loam over clay loam on weathered rock; 10-30%
		Rocky outcrops	RR	С	shallow calcareous sandy loam on rock, or bare rock. 20-30% bare rock. Moderately gullied (10-20%) slightly saline subsoils. Slopes: 3-10%, relief: < 9-30m.
					Main soils: <u>Calcareous loam on rock</u> – A2 and <u>Bare rock</u> – RR .
JPB	2.9	Pediments	D4D1 A5	D	Gently sloping pediments with texture contrast soils formed on outwash sediments derived from basement rocks. Calcareous in some
		Rocky outcrops	RR	М	part of the profile. More than 20% of soils are pedaric (fine crumbly structure in subsoils). Deep calcareous rubbly clay loam over clay soils are also common. <10% rock outcrop. Slopes are 1-3%, relief is less than 9m.
					Main soils: <u>Loam over pedaric red clay</u> - D4 , <u>Loam over pedaric red</u> <u>clay on rock</u> - D1 and <u>Rubbly calcareous loam on clay</u> - A5 .
JZB	1.8	Pediment	D4A5	V	Pediment-basement rock complex with pediments with red texture
		Rocky	RR	L	contrast soils with clay loam over crumbly red clay, or rubbly
		outcrops			calcareous loam on clay and up to 30% rocky rises with shallow
JZm	8.4	Pediment	D4A5	V	texture contrast soils.
		Rocky	RR	L	JZB Gently sloping pediments, 10-20% rock outcrop.
		outcrops			Slopes are 1-3%, relief is less than 9m.
					JZm Undulating pediments and rock outcrops as above. Moderately
					gullied (10-20%) and scalded (5-10%).
					Slopes are 3-10%, relief is less than 9m.
					Main soils:
					Pediments and plains: Loam over pedaric red clay - D4 and Rubbly
					calcareous loam on clay - A5 with minor Deep moderately calcareous
					sandy loam - A3.
					Rocky rises: Bare rock - RR.

 ${\it \# PROPORTION codes assigned to Soil Landscape Unit (SLU) components:}\\$

D Dominant in extent (>90% of SLU)

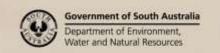
V Very extensive in extent (60–90% of SLU)

E Extensive in extent (30–60% of SLU)

C Common in extent (20–30% of SLU)

L Limited in extent (10–20% of SLU)

M Minor in extent (<10% of SLU)





Detailed soil profile descriptions:

- A2/L1 Shallow calcareous loam (Paralithic, Hypercalcic / Lithocalcic Calcarosol)(A2)
 - Gradational calcareous sandy loam over clay loam on weathered rock.
 - OR Shallow stony loam (Calcareous, Paralithic, Leptic Tenosol)(L1)
 - Shallow calcareous sandy loam on rock.
- A3 <u>Deep moderately calcareous (sandy) loam (Calcic Calcarosol)</u>
 - Calcareous (sandy) loam topsoil grading into loamy-clay loamy subsoil without a significant CO₃ buildup in the subsoil (<20% CO₃ in subsoil). Pediment type Calcarosols.
- A5 Rubbly calcareous loamy sand on clay (Supracalcic-Lithocalcic Calcarosol on clay)
 - Calcareous loamy sand topsoil grading into loamy-clay loamy subsoil on a clayey substrate. Usually rubbly. Clayey substrate occurs at >60 cm and <120 cm.
- C2 <u>Gradational loam on rock (Calcic / Hypercalcic Red Dermosol)</u>
 - Loam to clay loam grading to friable red clay with soft Class I carbonate within 50 cm, grading to weathering rock within 100 cm.
- Loam over red clay on rock (Hypercalcic / Calcic, Red Chromosol / Sodosol)
 - Medium thickness hard gravelly loam over a red clay, friable and finely structured (D1), to hard, coarsely structured and dispersive (D7), calcareous with depth, grading to weathering basement rock within 100 cm.
- **D4** <u>Loam over red friable clay (Calcic, Pedaric, Red Sodosol)</u>
 - Thin to medium thickness fine sandy loam to loam over finely structured friable red clay, calcareous from about 50 cm, grading to fine or medium grained alluvium.
- D7 Loam over dispersive red clay on rock (Calcic / Hypercalcic, Red Sodosol)
 - Medium to thick hard sandy loam to clay loam sharply overlying a coarsely structured dispersive red clay, calcareous with depth, grading to highly weathered kaolinized siltstone.
- L1 Shallow stony loam (Paralithic, Leptic Tenosol)
 - Shallow stony loam, often calcareous throughout or with depth, overlying weathering rock shallower than 50 cm.
- **RR** Bare rock.

Further information: <u>DEWNR Soil and Land Program</u>

