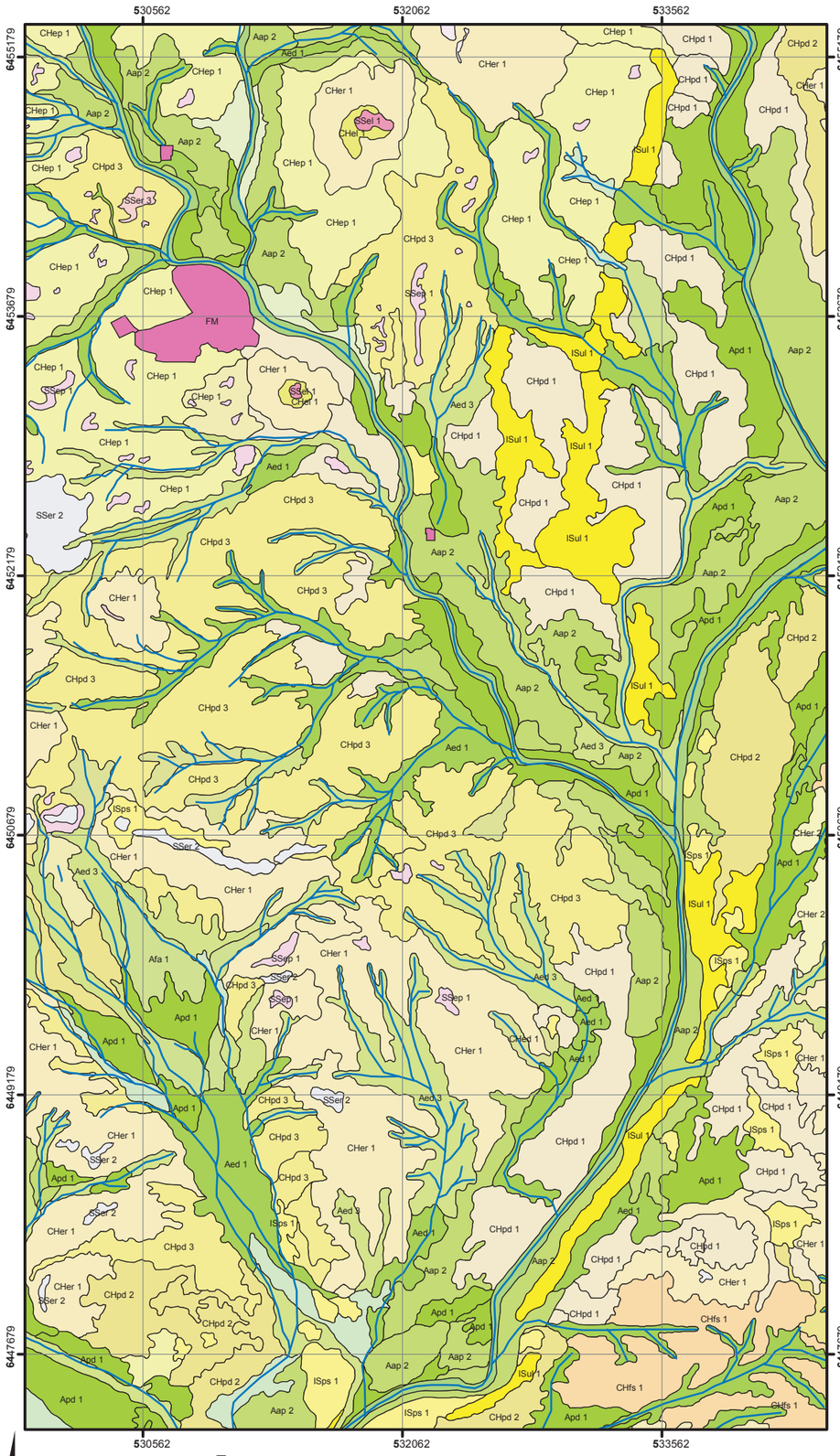
PINNACLES (PINE CREEK) REGOLITH-LANDFORM MAP (1:10 000)



Compiled by K.A. Hulme & S.M. Hill, 2006

HORIZONTAL DATAUM: WGS84, UTM ZONE 54S

TRANSPORTED REGOLITH

ALLUVIAL SEDIMENTS — *ALLUVIAL SEDIMENTS*

Aap 1 — Sub-rounded to rounded fine-grained red-brown sands, silts with minor clays and gravels comprised mostly of quartz and lithic fragments (5-15 mm), on a very low landsurface. Includes sub-angular to sub-rounded coarse quartz sand and minor quartzose lithic gravel surface lag. Vegetation dominated by *Acacia victoriae* with minor chenopod shrubs such as *Maireana pyramidata*, and *Atriplex vesicaria*.

Aap 2 — Sub-rounded to rounded fine-grained red-brown sands, silts with minor clays and gravels comprised mostly of quartz and lithic fragments (5-15 mm), on a very low landsurface. Includes sub-angular to sub-rounded coarse quartz sand and minor quartzose lithic gravel surface lag. Vegetation dominated by chenopod shrubs including *Maireana pyramidata*, and *Atriplex vesicaria* with minor *Acacia victoriae*.

Apd 1 — Sub-rounded to rounded quartz sands and minor quartzose and lithic fragments (5-15 mm), with fine-grained red-brown sands and silts with minor clays. Vegetation dominated by chenopod shrubs including *Maireana pyramidata* with mior *Atriplex vesicaria*, and *Bassia ssp*.

Aed 1 — Sub-angular to sub-rounded red-brown quartzose lithic sands and silts, with minor lithic clasts (10-40 mm), elongated drainage depression including narrow incised channel and lower valley margins. Gullying from surrounding landforms and minor melon holes. Vegetation dominated by *Acacia aneura* with minor chenopod shrubs including *Maireana pyramidata* and *Atriplex vesicaria*.

Aed 2 — Sub-angular to sub-rounded red-brown quartzose lithic sands and silts, with minor lithic clasts (10-40 mm), elongated drainage depression including narrow incised channel and lower valley margins. Gullying from surrounding landforms and minor melon holes. Vegetation dominated by *Acacia victoriae* with minor chenopod shrubs including *Maireana pyramidata* and *Atriplex vesicaria*.

Aed 3 — Sub-angular to sub-rounded red-brown quartzose lithic sands and silts, with minor lithic clasts (10-40 mm), elongated drainage depression including narrow incised channel and lower valley margins. Gullying from surrounding landforms and minor melon holes. Vegetation dominated by *Acacia victoriae* with minor chenopod shrubs including *Maireana pyramidata* and *Atriplex vesicaria*.

Afa 1 — Sub-rounded to rounded fine-grained red-brown sands, silts and clays, with minor gravels comprised mostly of quartz and lithic fragments (5-15 mm), on a very subtle relief. Vegetation dominated by *Acacia victoriae* with minor chenopod shrubs including *Maireana pyramidata*, with minor *Atriplex vesicaria*, and *Bassia ssp*.

CHANNEL DEPOSTS

ACar 1 — Major ephemeral meandering channel approximately 50-80 m wide, consisting of minor braided channels with ocassional levees. Sub-angular to sub-rounded red-brown quartzose sands, red-brown silts, and sub-angula to sub-rounded lith fragments with minor heavy minerals. Imbricated gravesl (5-30 mm). Minor exposures of slightly weathered bedrock. Vegetation dominated by open woodland *Eucalyptus camaldulensis* with minor *Acacia victoriae* and scattered chenopod shrubs such as *Atriplex vesicaria* and *Maireana pyramidata*.

AEOLIAN SEDIMENTS — *AEOLIAN SANDS*

ISps 1 — Rounded to well rounded fine-grained quartzose sands and silts, with coarse grains quartzose sands and minor lithic fragments exposed within the swales, with irregular hummocky dunnes on a low landsurface. Vegetation grassland dominated by *Stipa ssp.* and *Astrebla ssp.* with minor chenopod shrubs including *Maireana pyramidata* and *Atriplex vesicaria*.

ISul 1 — Rounded and spherical fine-grained quartzose sands and silts, with coarse grains quartzose sands and minor lithic fragments exposed within the swales, on a low long narrow landsurface. Vegetation dominated by chenopod shrubs including *Maireana pyramidata* and minor *Atriplex vesicaria*, and grasses *Stipa ssp.* and *Astrebla ssp*.

COLLUVIAL SEDIMENTS — *SHEET FLOW DEPOSITS*

CHel 1 — Angular to sub-angular lithic and quartzose gravels (10-150 mm), with silts and sands. Angular to sub-rounded red-brown sands with minor silts and clays. Minor powdery, nodular and hardpan regolith carbonate accumulations. Geohazard: talus deposit. Vegetation dominated by chenopod shrubs such as *Maireana pyramidata* and *Maireana sedifolia* with minor *Atriplex vesicaria* and scattered *Sida petrophila* and *Bassia ssp*.

CHer 1 — Angular to sub-rounded red-brown sands with minor silts and clays, angular to sub-rounded lithic and quartzose gravels (5-30 mm). Minor powdery, nodular and hardpan regolith carbonate accumulations. Vegetation dominated by chenopod shrubs such as *Maireana pyramidata* and *Maireana sedifolia* with minor *Atriplex vesicaria* and scattered *Sida petrophila* and *Bassia ssp*.

CHer 2 — Angular to sub-rounded red-brown sands with minor silts and clays, angular to sub-rounded lithic and quartzose gravels (10-150mm). Minor powdery, nodular and hardpan regolith carbonate accumulations. Vegetation dominated by chenopod shrubs such as *Maireana pyramidata* and *Maireana sedifolia* with minor *Atriplex vesicaria* and scattered *Sida petrophila* and *Bassia ssp*.

CHep 1 — Angular to sub-rounded red-brown sands with minor silts and clays, angular to sub-rounded lithic and quartzose gravels (5-30mm). Minor powdery, nodular and hardpan regolith carbonate accumulations. Vegetation dominated by chenopod shrubs such as *Maireana sedifolia* and *Maireana pyramidata* with minor *Atriplex vesicaria* and scattered *Acacia aneura*, *Sida petrophila* and *Bassia ssp*.

CHep 2 — Angular to sub-rounded red-brown sands with minor silts and clays, angular to sub-rounded lithic and quartzose gravels (5-10 mm). Minor powdery, nodular and hardpan regolith carbonate accumulations. Vegetation dominated by chenopod shrubs such as *Maireana pyramidata* and *Maireana sedifolia* with minor *Atriplex vesicaria* and *Acacia aneura* and *Bassia ssp*.

CHpd 1 — Sub-angular to sub-rounded coarse lithic and quartzose sands, sub-rounded red-brown sands and silts, with sub-angular to sub-rounded lithic quartzose gravels (5-15 mm), with minor fragments of regolith carbonate accumulations on a low topographical relief. Vegetation dominated by chenopod shrubland such as *Maireana sedifolia* and *Maireana pyramidata* with scattered *Bassia ssp*.

CHpd 2 — Sub-angular to sub-rounded coarse lithic and quartzose sands, sub-rounded red-brown sands and silts, with sub-angular to sub-rounded lithic quartzose gravels (5-10 mm), with minor fragments of regolith carbonate accumulations and maghemite (*y*-Fe2O3) on a low topographical relief. Vegetation dominated by chenopod shrubland such as *Maireana sedifolia* and *Maireana pyramidata* with scattered *Bassia ssp*.

CHpd 3 — Sub-angular to sub-rounded coarse lithic and quartzose sands, sub-rounded red-brown sands and silts, with sub-angular to sub-rounded lithic quartzose gravels (5-15 mm), with minor fragments of regolith carbonate accumulations on a low topographical relief. Vegetation dominated by chenopod shrubland such as *Maireana sedifolia* and *Maireana pyramidata* with scattered *Bassia ssp*.

CHed 1 — Sub-angular to sub-rounded red-brown quartzose lithic sands and silts, with sub-angular to sub-rounded lithic fragments and gravel lags (10-40 mm). Vegetation dominated by *Acacia aneura* with minor chenopod such as *Maireana pyramidata* and *Atriplex vesicaria*.

CHfs 1 — Angular to sub-rounded lithic and quartzose gravel within red-brown fine sands and silts, seperated by dense vegetation dominated by chenopod shrubs such as *Maireana pyramidata*, *Maireana sedifolia* and minor *Atriplex vesicaria*, colonising the fine sand and silts.

FILL — *FILL*

FM — Urban/Barrier Pinnacles Mine, surface lags are highly variable. Vegetation is variable and includes abundant exotic species.

IN-SITU REGOLITH

SAPROLITH — *SAPROCK*

SSel 1 — Slightly weathered bedrock, with minor ferruginous staining and fractures. Comprised of coarse angular lithic, and quartzose gravels with minor regolith carbonate accumulations on a moderate relief (30-90 m) land surface, with red-brown sands and minor clays. Vegetation dominated by chenopod shrubs *Maireana pyramidata*, *Maireana sedifolia* and *Atriplex vesicaria* with scattered *Acacia aneura*, minor *Sida petrophila* and *Casurina cristata* (*ssp. pauper*).

SSer 1 — Slightly weathered bedrock, with minor ferruginous staining and fractures. Comprised of coarse angular lithic, and quartzose gravels with minor regolith carbonate accumulations on a slight relief (9-30 m) land surface, with red-brown sands and minor clays. Vegetation dominated by chenopod shrubs *Maireana pyramidata*, *Maireana sedifolia* and *Atriplex vesicaria* with scattered *Acacia aneura*, minor *Sida petrophila* and *Casurina cristata* (*ssp. pauper*).

SSer 2 — Slightly weathered bedrock, with minor ferruginous staining and fractures. Comprised of coarse angular lithic, and quartzose gravels with minor regolith carbonate accumulations on a slight relief (9-30 m) land surface, with red-brown sands and minor clays. Vegetation dominated by chenopod shrubs *Maireana pyramidata*, *Atriplex vesicaria* with scattered *Acacia aneura* and minor *Sida petrophila*.

SSer 3 — Slightly weathered bedrock, with minor ferruginous staining and fractures. Comprised of coarse angular lithic, and quartzose gravels with minor regolith carbonate accumulations on a slight relief (9-30 m) land surface, with red-brown sands and minor clays. Vegetation dominated by chenopod shrubs *Maireana pyramidata*, *Atriplex vesicaria* with minor *Sida petrophila*.

SSep 1 — Slightly weathered bedrock, with minor ferruginous staining and fractures. Comprised of coarse angular lithic, and quartzose gravels with minor regolith carbonate accumulations on a low relief (0-9 m) land surface, with red-brown sands and minor clays. Vegetation dominated by chenopod shrubs *Maireana pyramidata*, *Atriplex vesicaria* with minor *Sida petrophila*.

LANDFORMS

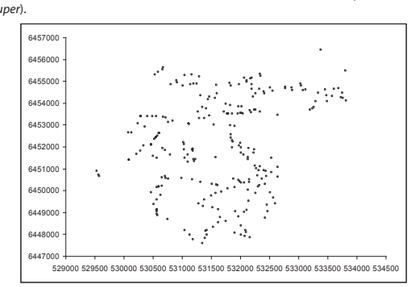
a - Alluvial landforms
ap - alluvial plain
pd - depositional plain

ed - drainage depression
ar - alluvial channel
fa - alluvial fan

fs - sheetflood fan
ep - erosional plain (0<9 m)
er - erosional risel (9<30 m)

el - erosional low hill (30<90 m)
ps - sandplain
ul - logitudinal dunefield

m - man made



FIELD SITE LOCATIONS