## **Geotechnical Consult Services**

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## **Geotechnical Conditions: Humansrus Solar 4 development**

Geotechnical Consult Services have conducted the geotechnical investigations for two other proposed solar energy generation facilities Humansrus 1 and 2 on the farm Humansrus 147, Prieska, Northern Cape in February 2015.

The site conditions encountered on both these proposed development areas were classified as suitable (with precautions) for the development of the PV solar energy generating facilities. No geotechnical factors were identified that resulted in either of the proposed development areas being unsuitable for the development of the planned facilities, each with a planned capacity of up to 75 MW. The precautions identified are related to shallow soil profiles, with hardpan calcrete occurring close to surface, requiring pre drilled rammed foundations rather than the conventional rammed foundations for founding the solar panel structures.

The whole property (Humansrus 147) is underlain by surface calcrete and Dwyka Tillite bedrock on a gentle undulating landscape with no major drainage features. The proposed development area for Humansrus Solar 4 Energy Facility is also expected to be underlain by a shallow soil profile with hardpan calcrete overlying bedrock, requiring pre-drilled rammed foundations and result in intermediate to hard excavatability for trenches. No problem soils is expected, no mining activities (past or present) will impact the site and no shallow groundwater conditions is expected. From a geotechnical perspective the proposed Humansrus Solar 4 site area is suitable for development. It is however recommended that a detailed geotechnical site investigation be conducted to determine the detailed founding conditions for the site.

Yours sincerely

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