
**ENVIRONMENTAL MANAGEMENT
PROGRAMME / ENVIRONMENTAL IMPACT
ASSESSMENT**

*APPLICATION FOR A MINING
RIGHT IN TERMS OF SECTION
22(4) OF THE MPRDA,
(ACT 28 OF 2002)*

Applicant: DF Visser Delwery (Edms) Bpk.

**Farm: Schutsekama No. 103 &
Koodoosberg No. 141**

District: Herbert

Date: October 2011



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A. EXECUTIVE SUMMARY

This site for which a Mining Right Conversion application was submitted has been worked by various other companies and individuals and extensive agricultural practices is occurring over the surface area, and can no longer be seen as pristine area. The historical/previous prospecting efforts that took place resulted in several shallow opencast pits. There are one tailings dam/dump that were used for this operation and one of which are old and totally grassed.

Three mining areas were identified namely: Area No1: The area on southern side of the Riet River road (still actively mined and also historically mining remnants); Area no. 2: area on the northern side of the Riet River (no mining activity, only used for grazing purposes, not fenced -off); Area No. 3: The small area separately on the northern side of the Riet River, also historically mined (majority of the surface area rehabilitated).

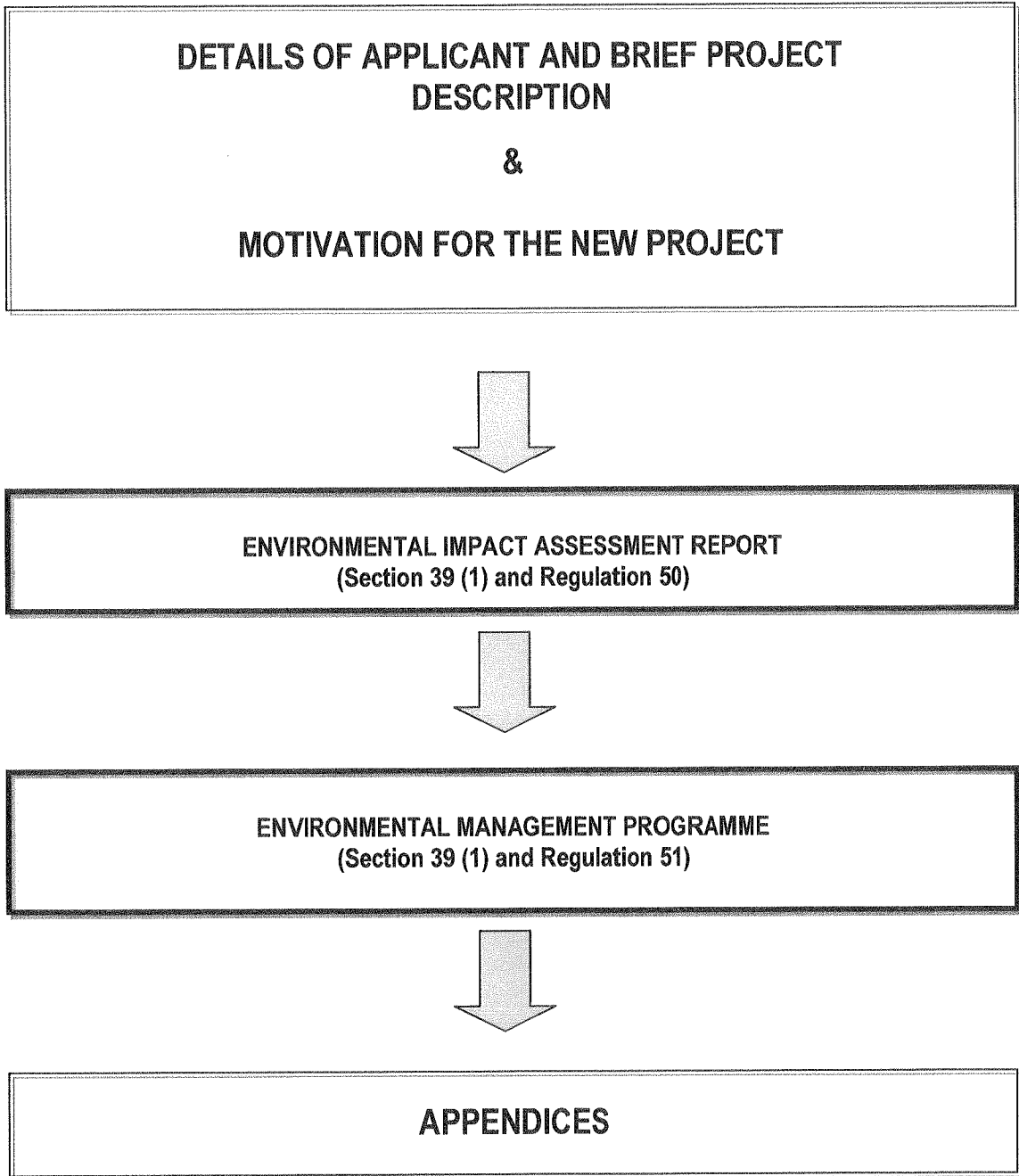
The major environmental impacts that currently exist and that will be created by the continued mining of this site will be:

- There is one existing open excavations;
- 2 Tailings dumps (one old and one new (busy));
- The permanent impact on geology;
- The potential negative impact that may be caused by dust and noise generation on neighbouring environments;
- Temporary loss of land capability/ land use (grazing).

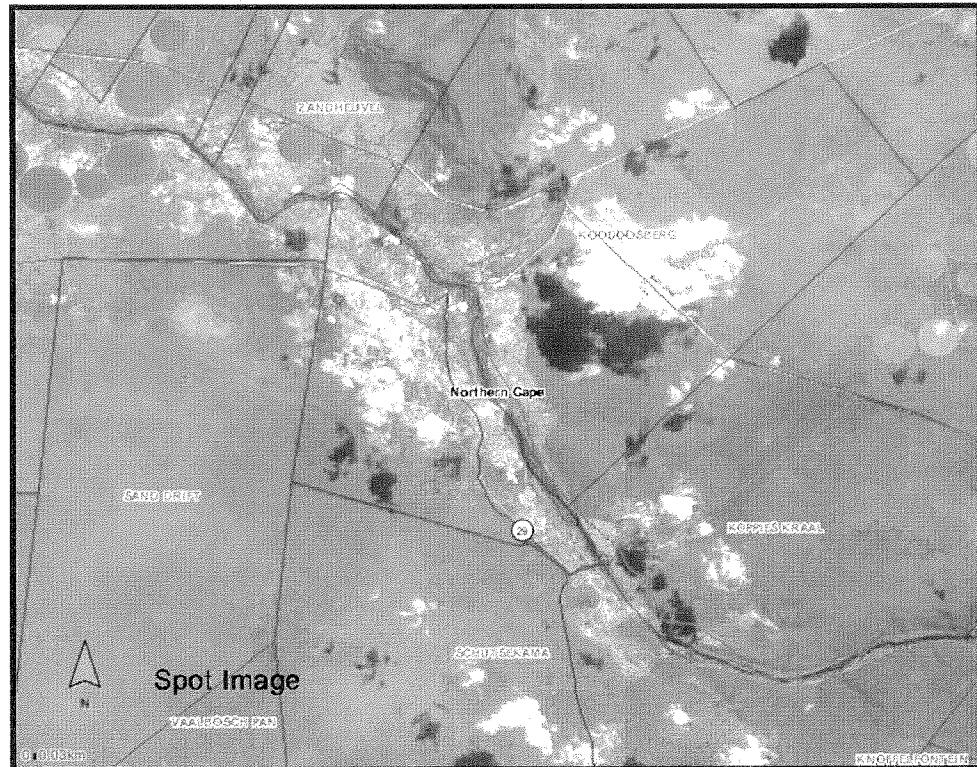
DF Visser Delwery (Edms) Bpk. will with the correct rehabilitation methods have a positive impact on the environment than what is currently the situation. The topography of new disturbance will be returned to its original slope (or as near to it as possible). The new disturbed parts of the site can become an agricultural commodity with the correct rehabilitation methods.

The overall closure and post-closure land capability objectives will be to rehabilitate the affected parts of the mining right site towards agricultural grazing.

B. DOCUMENT CONTENT FLOW DIAGRAM



EIA, EMP and other documentation in support of application of for a Mining Right



MINE: DF Visser Delwery (Edms) Bpk. (DIAMOND OPENCAST MINE)

APPLICABLE SECTION:

PORTION:	FARM:	HECTARES:
<ul style="list-style-type: none"> • Remainder of Portion 2 of Mineral area 3 (Portion of Mineral area 2) of the Remaining Portion; 	Koodoosberg No. 141	28.0605 ha
<ul style="list-style-type: none"> • Portion 2 & Portion 3 of Mineral area 4 (Portion of Mineral area 2) of the Remaining Portion 		42.4445 ha
<ul style="list-style-type: none"> • Portion E & Portion F of Mineral area 5 (Portion of Mineral area 3) 	Schutsekama No. 103	140.0534 ha
DISTRICT:	Herbert	210.5584 ha

1. SHORT PROJECT DESCRIPTION

1.1 NAME OF APPLICANT:

Name of Applicant:	DF Visser Delwery (Edms) Bpk.
Registration no:	98/00504/07
Physical Address:	The farm Schutsekama 103
Postal Address:	P. O. Box 16 Plooyburg 8350
Tel. & Fax no:	053-581 7144
Director/operations manager:	Deon Scholtz
Contact information:	083 269 8102

1.2 NAME OF THE OWNER OF THE SURFACE OF THE LAND CONCERNED:

See **Figure 1** – Sketch Plan of Old Order Mining Right for the area over which the mining site extents and **Figure 2** for the Google Earth Image date 02/06/2010, indicating the location of the Mining Right area. The current surface land owners are reflected in **Table 1**. The application for this Mining Right is however over the old mineral right area and not over the surface right area. See **Annexure 1** for copies of the listed title deed, that overly this area.

Annexure 1: Title Deed

Table 1: Summary of the farms where the proposed development will take place

FARM	OWNERSHIP	TITLEDEED
Schutsekama No. 103		
The Remainder	Scholtz Schutsekama Trust	T1383/1999
Koodoosberg No. 141		
The Remainder	Steyn Familie Trust	T1021/2006

Figure 1: Sketch Plan of Old Order Mining Right area – at back of report

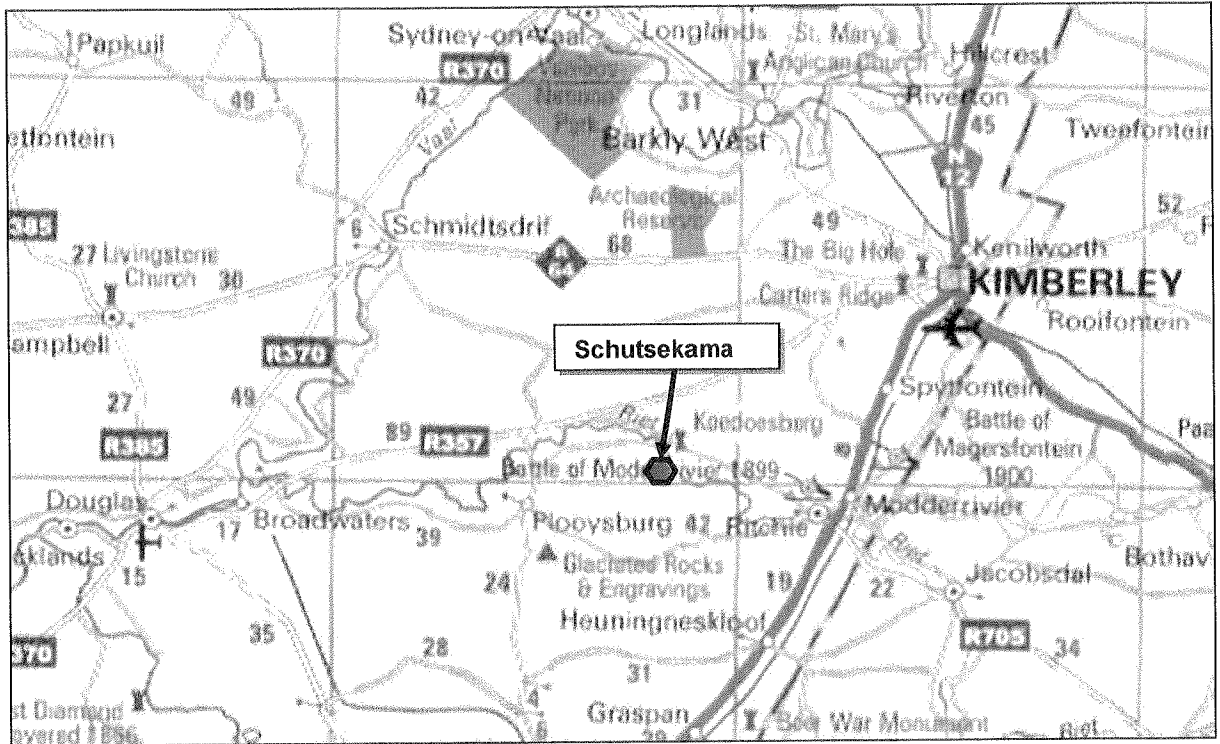
Figure 2: Google Earth Image indication Mining Right Area



1.3 REGIONAL SETTINGS:

Figure 3: 1:250 000 Locality Map indicating location of mining site- at back of document.

Figure 4: Road Map



1.3.1. Magisterial District:

The area (Kimberley) falls in the Sol Plaatjes Local Municipality area of the Kimberley District, under the Frances Baard District Municipality of the Northern Cape Province, with their offices situated in Kimberley.

1.3.2. Regional Services Council Authority:

Frances Baard District Municipality.

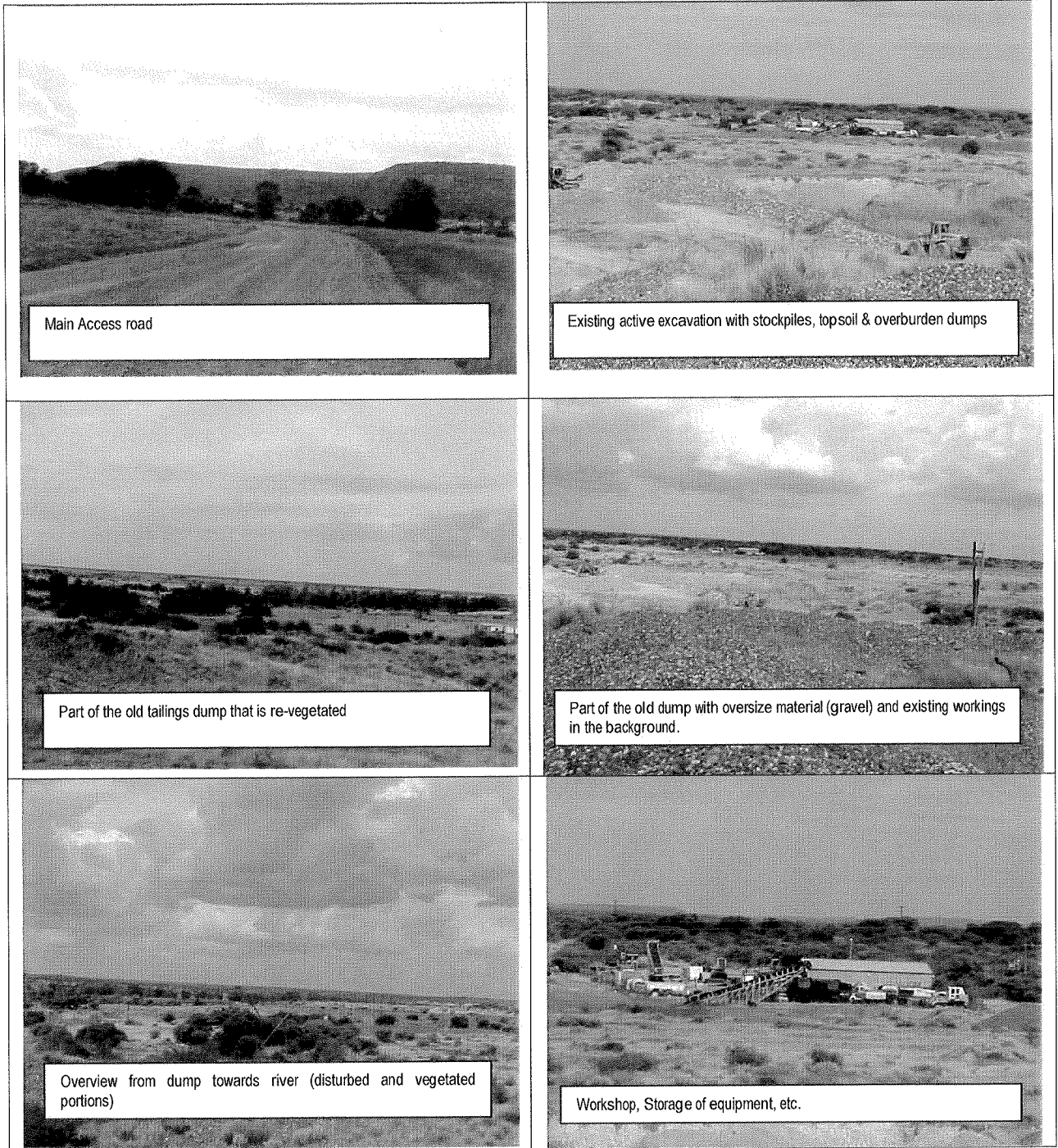
1.3.3. Directions and distance to neighbouring town/s:

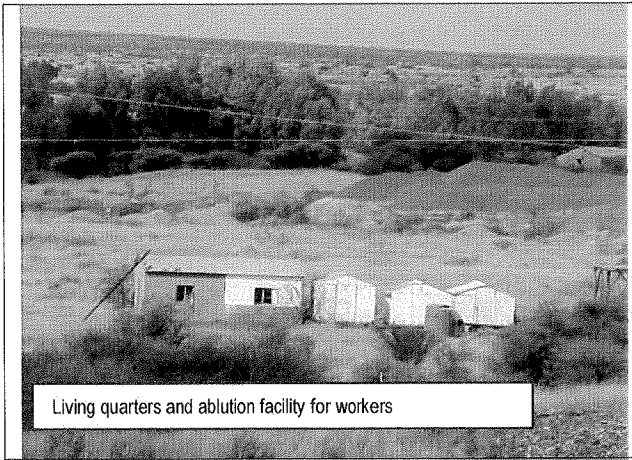
The mine is situated ±54 km from Kimberley on the Kimberley/Douglas (R357 tarred road), turn left on the Richie gravel road for ±12,6km, mine situated on the right hand side of the road.

1.3.4. Surface infrastructure:

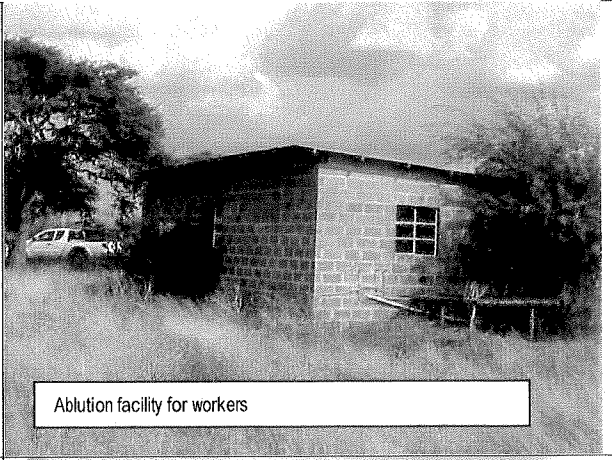
Access is gained via the RICHIE/MODDERRIVIER gravel road and existing farm roads. The mine is an existing mine, which consists of AREAS NO. 1, NO. 2 & NO. 3. **Figure 5, 6 & 7** gives an idea of what could be found on the different areas, set in the following photo table.

Figure 5: Photos of existing infrastructure - AREA NO.1 (Existing disturbed mining area)

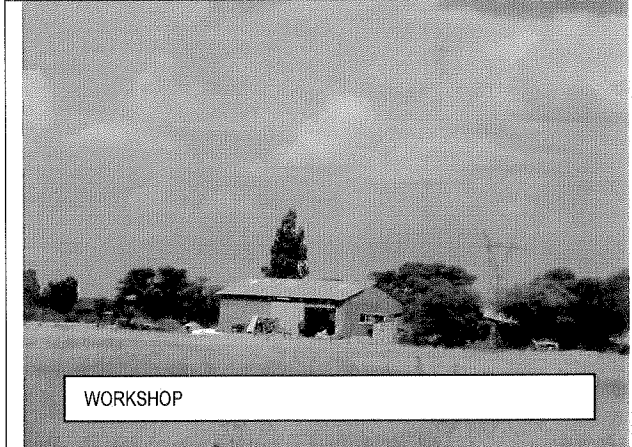




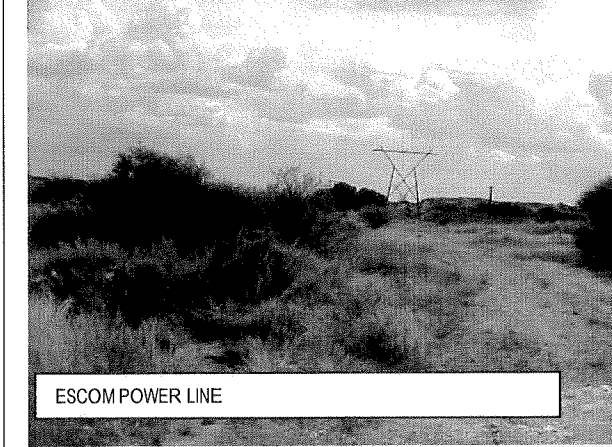
Living quarters and ablution facility for workers



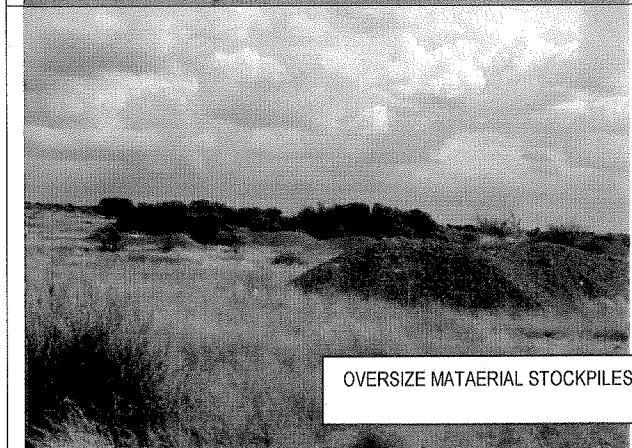
Ablution facility for workers



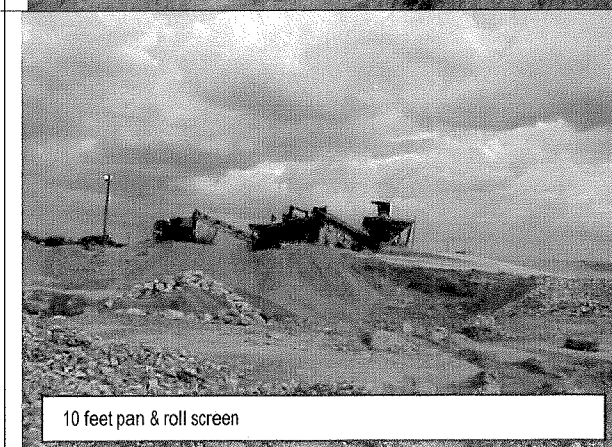
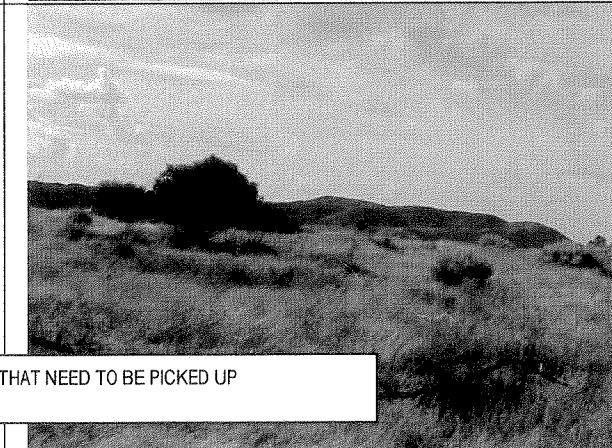
WORKSHOP



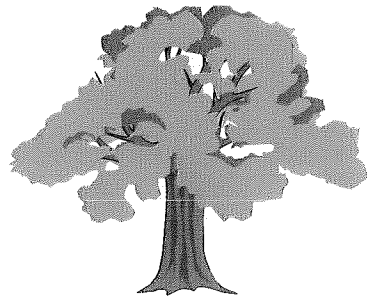
ESCOM POWER LINE



OVERSIZE MATAERIAL STOCKPILES THAT NEED TO BE PICKED UP



10 feet pan & roll screen



Daan Erasmus – Cell: 082 895 3516; Fax: 018 – 468 4015; Tel. 018 – 468 5355; P. O. Box 6499, Flamwood 2572; E-mail:

dera@xsinet.co.za

DERA

Environmental Consultants

**APPLICATION FOR
AMENDMENT OF
AUTHORISATION FOR SOLAR
POWER PLANT AT FARM
SCHUTSEKAMA 103**

Applicant: Electra Energy Holdings Ltd

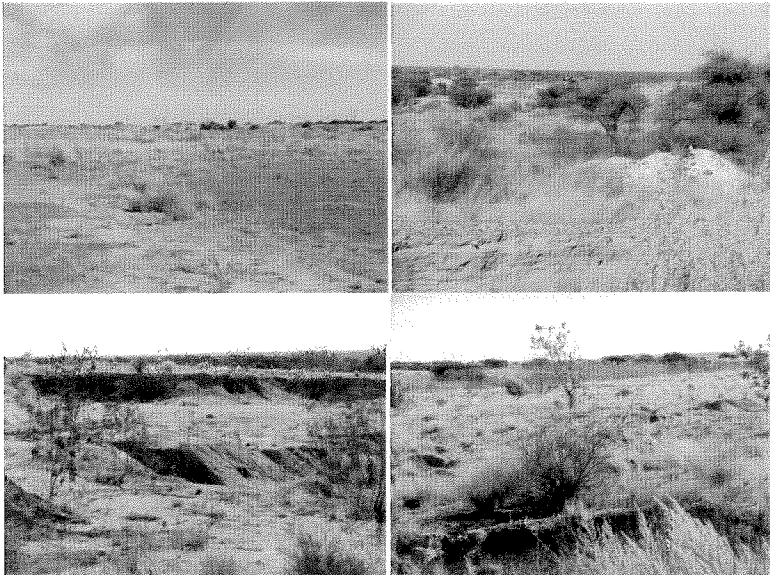
Farms: The farm Schutsekama 103

District: Herbert

DMR Ref. No: 5/3/2/3324 Or 6/2/2/2358

EIA INFORMATION REQUIRED FOR SOLAR ENERGY FACILITIES CHECK LIST

- Description of All affected farm portions: The Solar Plant will cover the entirety of Portion E and F of Mineral Area 5 over the farm Schutsekama Nr. 103, in the District of Herbert. The Total extent of the area is 140. 0534 hectares. All the land has been mined to termination over the past 15 years. Following previous mining activity, the land is not fit for agricultural use and given its rural location, no other beneficial use of the land can be conceived.
- 21 digit Surveyor Code: C03200000000010300000
- Copies of Deeds of affected farm portions: Overleaf
- Photos of areas that give a visual perspective of all parts of the site:



- Photographs from sensitive visual receptors: Not applicable (there are none)
- Solar Plant design Specifications;
 - Type of Technology: Solar Photovoltaic
 - Structure height: Max 4m
 - Surface Area to be covered: 140.0534 Hectares of Portions E and F of the farm Schutsekama 103
 - Structure Orientation: North – South Uniform Tracker rows
 - Laydown Area Dimensions: Individual 2 Axis Tracker arrays spaced 15m apart in rows stretching uniformly from north to south of site as indicated in APPENDIX V
 - Generation capacity: 30MW

INTRODUCTION

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	/ ENVIRONMENTAL IMPACT ASSESSMENT	
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1. INTRODUCTION

Electra Energy Holdings Ltd, in conjunction with Schutsekama Investments and DF Visser Delwery, is planning to develop the 'Schutsekama Solar Energy Facility' on a site approximately 25 km to the west of Modderivier in the Francis Baard District Municipality and 40km south west of the famous mining town of Kimberley in the Northern Cape province. The project would be a Photovoltaic (PV) system with a nominal generation capacity at grid connection point of 30 MW for national distribution (with an option for a further option to install another 45MW) and would contribute to targets for renewable energy generation in South Africa and the Province.

The site was selected on the basis of the outcomes of a preliminary assessments and Environment Impact Assessments undertaken by Dera Environmental Consultants DMR Ref No: (NC) 5/3/2/3324 and 6/2/2/2358 and Electra Energy in 2010. This exercise identified and evaluated 3 location alternatives for the Project and the sites identified on Schutsekama 103 were found most favourable in terms of the criteria which included proximity to national grid substations, grid powerlines, type and quality of vegetation, presence of rare plant species, soil type and depth, and the hydrology.

As the Project would be related to electricity generation where "*(i) the electricity output is 20 megawatts or more; and (ii) the elements of the facility cover a combined area in excess of 1 hectare*", under the EIA Regulations, (GN R387) a Scoping and EIA are triggered. However, **given that the proposed site(s) are ex mining sites that have previously undergone EIA inspection and are now infertile and unused, Electra Energy Holdings Ltd is applying for authorization extension under clause 39 of NEMA government notice 33306.**

The following document, together with the Environmental Impact Assessment and Environmental Management Program (NC) 6/2/2/2358 (APPENDIX VII) provides information on current environmental conditions at the proposed Solar Power Plant sites and outlines the potential impact of the construction of a 30MW Solar Power Plant.

2. ROLEPLAYERS

The Applicant

The applicant, also referred to as the developer, is Electra Energy Holdings Ltd, in conjunction with Shutsekama Investments and DF Visser Delwery.

The Environmental Assessment Practitioner

The Environmental Assessment Practitioner (EAP) is Dera Environmental Consultants (DEC). DEC is an independent, self-funded, environmental consulting and research company which specialize in environmental impact assessments of mining and industrial development projects in South Africa.

Specialists

Independent Specialists have been commissioned by DEC to undertake studies specific to their discipline: geotechnical, agricultural, botanical; faunal; social; visual; heritage; and palaeontological. Please refer to DMR Ref. No: (NC) 6/2/2/2358 (APENDIX VII)

Interested and Affected Parties

Interested and Affected Parties (I&APs) are any person, group or organisation interested in or affected by the proposed activity; and any organ of state that may have jurisdiction over any aspect of the activity. The environmental authorisation process aims to provide opportunities for everyone to contribute to the process.

Commenting Authorities

Commenting authorities are those organisations or bodies whose focus or mandate is relevant to the Project and associated activities. They are required to issue comments and recommendations to ensure the process is robust and all aspects are considered.

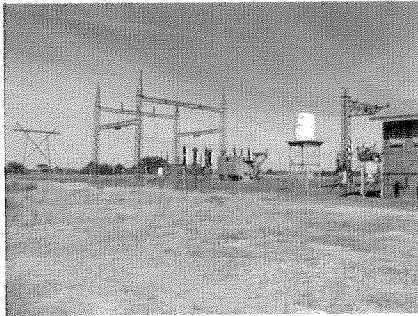
Competent Authority

The competent authority is the decision-making authority and in this case the listed activities require a decision at the national level. The Department of Environmental Affairs (DEA) is therefore the competent authority for this Project.

3. DESCRIPTION OF THE BASELINE ENVIRONMENT

Schutsekama 103

Eskom Colburt Substation: Photo 1



Eskom Colburt Substation: Photo 2

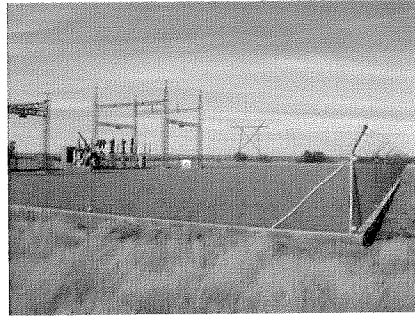
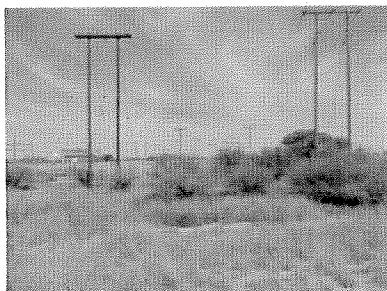


Figure 3: Power Line Photo locations

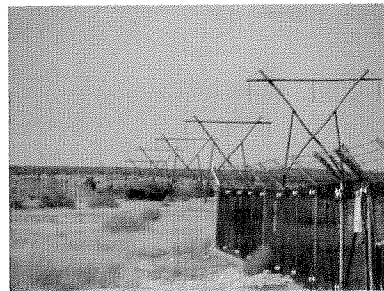


Source: Google Earth

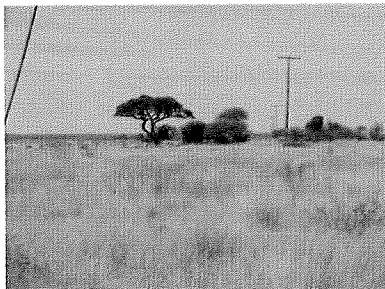
Power Line A: 66 KV North



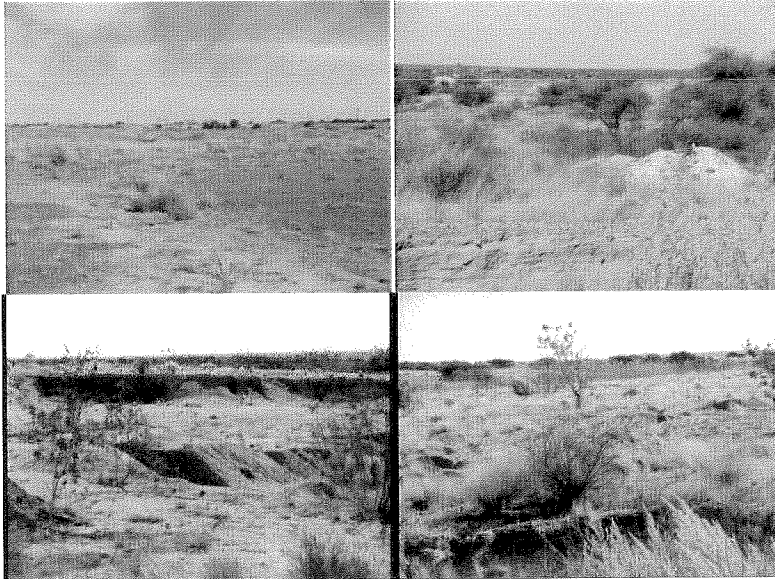
Power Line B: 132kV East



Power Line C: 66kV South East



Solar Site (view clockwise, from North, South, East and West of Site)



3.1 Geographical and Administrative

The proposed site for the Project is located approximately 25 km west of the town of Modderivier and falls within the Sol Plaatje local Municipality area of the Kimberley District, under the Francis Baard District Municipality – DC9 Northern Cape. The MRM is a Category B Municipality and essentially a rural municipality. The study area is located within the magisterial district of 'Herbert'.

3.2 Land Use

The total site footprint is approximately 150 ha and lies within a portion of Schutsekama103 Farm.

There is no current or proposed land use on the site.

All vegetation on the site are already destroyed by previous mining activities.

The N12 National Road (leading to Johannesburg and Cape Town) lies +/- 25KM to the East.

There is an Eskom 132KV substation on the site and three Eskom transmission lines pass across the site. (2 x 66kV and 1 x 132 kV)

3.3 Topography

The three potential sites chosen for the 30MW power plant are all relatively flat. There is a gentle slope from South to North West to East forming a natural run-off for rainwater to the Reit river. While there is no history of flooding on any of the proposed site areas, the Reitriver is prone to flooding on the far north and eastern side of the farm denoted by the 100yr Floodline. This is not considered a physical threat to the Power Plant or its operation. The Site, surrounding the existing substation is situated on relatively flat, previously mined land with little vegetation and borders the Reitriver to its north. The site slopes gently from west to east and has perfect natural drainage to the Reitriver. The sites are interspersed with few tailings dumps and shallow exploration holes.

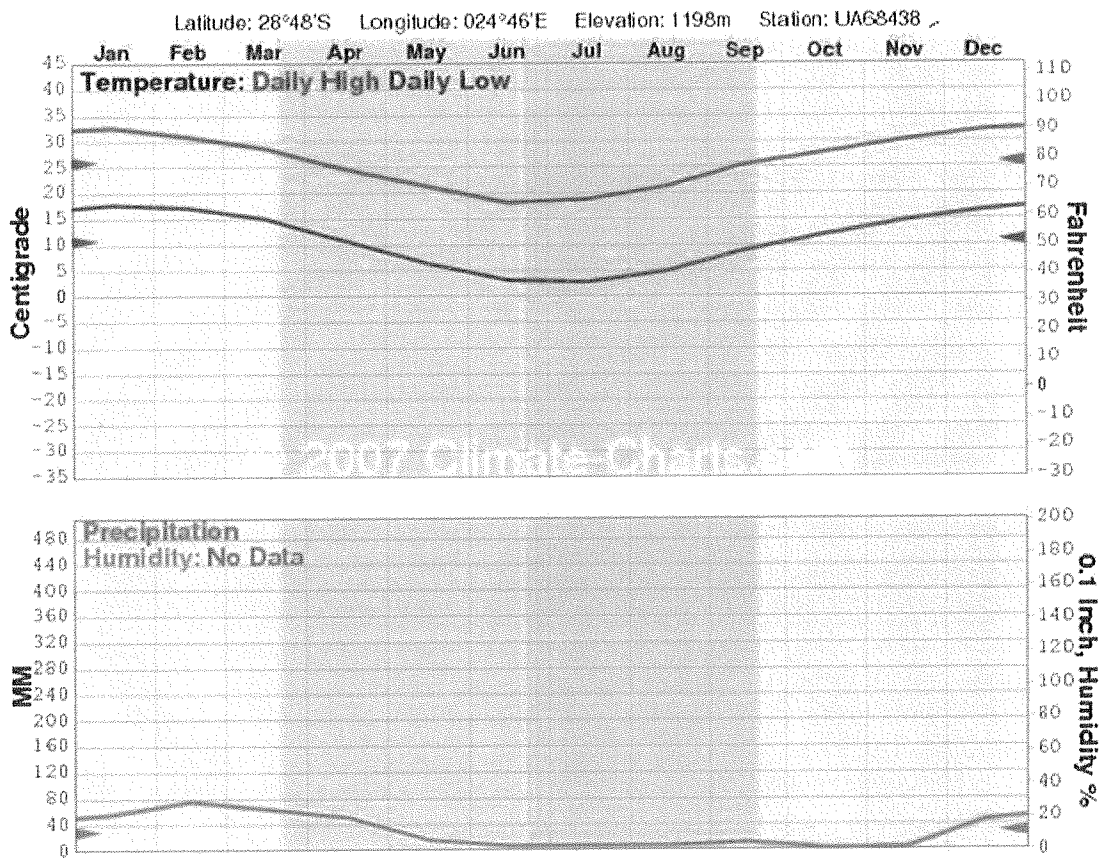
3.4 Water Resources

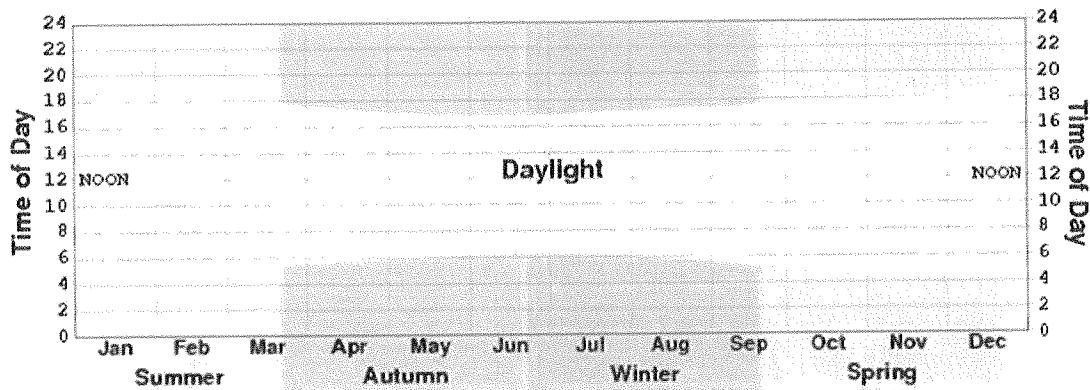
A drainage line with lesser tributaries cuts across the site from west-east. Its catchment area beyond the site perimeter to the east. Natural drainage across the site is good and uninhibited.

There are 2 boreholes on the farm and the depth of the borehole/water table is +/- 10m. However they are located at considerable distance from the proposed sites. Water for ablutions and site maintenance will have to be pumped from these sites or supplied from the Reitrivier located on the northern border of Site. Water for ablutions etc can also be transported periodically by truck from existing boreholes to site.

3.5 Climate

The study area is located in the Northern Cape and has a Mediterranean Climate, receiving most of its rainfall during winter. However, the study is located in the Great Karoo which is typically arid. The mean annual precipitation for the area is between 150 - 470 mm, with an average of 30 mm, which peaks in late winter (July to August) (Mucina and Rutherford, 2006). The area is subject to seasonal drought, but the most influential climatic factor is temperature. The mean daily maximum is 25.4°C. Frequent high daily temperatures with relatively low rainfall on aridified soil result in extreme evaporative potential, with a mean precipitation of only 30 mm.





Source: US Naval Observatory

3.6 Agricultural Potential

There is no history of cultivation of the land on the sites. Neighbouring farms to the north of the Reitriver are / have been engaged in crop farming.

Previous mining operations at the sites have contributed to their aridification. Organic material is lost to the soil which compacts and forms an impermeable soil crust that increases runoff and decreases infiltration. This all contributes to minimal replenishment of the water table. The evaporative demand on the soil is more than double the soil moisture supply and the mean of 30 mm rainfall is unable to adequately replenish this moisture loss.

3.7 Botany

The majority of the affected area has been mined and the vegetation has been irreversibly changed to a very impoverished community. Some alien annual grasses seem to be common during the winter and spring rainy season. Some patches of natural vegetation do still occur of which the majority have been severely impacted. These areas are, however, still of significance to conservation as they have not lost their biodiversity. No rare plant species or communities were found here.

On the wider farm, the following has been identified;

Trees

Camel Thorn (*Acacia erioloba*), False umbrella Thorn (*Accacia leuderitzii* var. *luediritzii*), Grey Camel Thorn (*Acacia haematoxylon*)

Grass

Thimble grass (*Fingerhuthia Africana*)
 Foxtail buffalo Grass (*Cenchrus ciliaris*)
 Nine Awned grass (*Enneapogon cenchroides*)
 Small bushman grass (*Stipagrostis obtusa*)
 Sweet grass (*Panicum schinzii*)

3.8 Social

Schutsekama is located in very rural surroundings 25km from Modder river. Towns within this 25km radius are Motswedimosa (previously Ritchie). Population c. 10,000. 16Km from site) and Plooyburg

(Population: c. 10, 000). The City of Kimberley is with a 40Km radius (Population: c.350, 000),

In the immediate vicinity of Schutsekama, there are 5 privately owned and operational farms.

Mining operations at Schutsekama currently employ over 50 staff, the majority of whom are qualified equipment operators for land excavation and movement of heavy objects. Semi Skilled (machine operators) labour for construction of the power plant (i.e land/earth works + heavy equipment lifting) will be sourced from the farm and from surrounding mining operations.

It is anticipated that that unskilled laborers for the construction of the power plant will be sourced from the local towns of Motswedimosa and Plooyburg.

Schutsekama has a lease agreement with the Plooyburg Afrikaans Church, owner of the central 'Old School Hotel' apartment block for suitable, furnished apartments for skilled labourers during construction phases of the power plant. Only senior management will (if they choose) live on site.

3.9 Visual

The surroundings are predominantly agricultural or natural karoo-type veld in character. The scenic quality of the area has, however, been compromised by agricultural and mining operations and pylons, as well as by Eskom power lines, an existing electrical substation and various borrow pits and spoil heaps.

The proposed sites are NOT visible from the N12 National Road or the nearest settlement town of Motswedimosa (Ritchie)

The site is visible from farmsteads on the other side of the valley, but not visible from any towns or other settlements. The site is also not overlooked by any nature reserves or other protected landscapes. The Mokala National Park lies 20Km to the South.

3.10 Transport infrastructure

Directions to Schutsekama

From Cape Town:

N1 North, N12 North , R357 West

Distance: + / - 900 Km

From Durban:

N3 North, N5 West , N8 West, N12 South , R357 West

Distance: + / - 850 km

There is already considerable road infrastructure within and surrounding the site. The N12 (N1) National Road connects Cape Town with the interior and passes approximately 25 km east of the site. From Durban, the N3 leads into the interior and connects with the N8 and later the N12 to the Kimberley area. There is a local access road which connects the site with the N12 via Modder River. Site access roads are suitable to accommodate HGVs, heavy duty mining and earth moving vehicles as well as private road vehicles in all weather conditions.

4. Technology

AUTHORIZED EQUIPMENT

Modules: Powerlight, SunPower, Yingli, Suntech, Evergreen Solar, Sanyo, O-cells made by Aleo, Solar Semiconductor

Trackers: Powertracker, Sunpower, Mecasolar

Inverters: Xantrex, SMA, Siemens, Ingeteam

Medium-Voltage Electrical Power Lines

BICC GENERAL CABLE	(www.bicc.es)
PRYSMIAN CABLES & SYSTEMS (PIRELLI CABLES Y SISTEMAS)	(www.es.prysmian.com)
NEXANS	(www.nexans.com)
SOLIDAL CONDUCTORES ELÉCTRICOS	(www.solidal.pt/)
INCASA	(www.incasa-cables.com)
ECN CABLE GROUP	(www.ecn.es)

Transformer and Sectioning Stations

Cells / Encapsulated Cells

SCHNEIDER ELECTRIC (MERLIN GERIN)	(www.merlengerin.es)
ORMAZÁBAL Y CÍA	(www.ormazabal.es)
INAEI	(www.inael.com)
IBÉRICA DE APARELLAJES	(www.iberapa.es)
ABB T&D SYSTEMS	(www.abb.com)
AREVA T&D	(www.aveva-td.com)
MANUFACTURAS ELÉCTRICAS	(www.me-sa.es)
SIEMENS	(www.siemens.es)
VEI ELECTRIC SYSTEMS	(www.vei.it)

SF6-insulated cells and switchgear in metal housings

SCHNEIDER ELECTRIC (MERLIN GERIN)	(www.merlengerin.es)
INAEI	(www.inael.com)
IBÉRICA DE APARELLAJES	(www.iberapa.es)
ABB T&D SYSTEMS	(www.abb.com)
AREVA T&D	(www.aveva-td.com)
VEI ELECTRIC SYSTEMS	(www.vei.it)

Power transformers

SCHNEIDER ELECTRIC (MERLIN GERIN)	(www.merlengerin.es)
ORMAZÁBAL Y CÍA	(www.ormazabal.es)
IMEFY	(www.imefy.com)
ALKARGO	(www.iberapa.es)
ABB TRAFO	(www.abb.com)

SIEMENS	(www.siemens.es)
INCOESA	(www.incoesa.com)
OASA	(www.oasanet.com)
CONSTRUCCIONES ELÉCTRICAS JARA	(www.trafojara.com)
LAYBOX	(www.laybox.com)

Prefabricated housings

POSTES NERVIÓN	(www.postesnervion.es/)
PREPHOR	(www.prephor.com)
INAEL	(www.inael.com)
ORMAZÁBAL Y CÍA	(www.ormazabal.es)
SCHNEIDER ELECTRIC (MERLIN GERIN)	(www.merlingerin.es)
IBÉRICA DE APARELLAJES	(www.iberapa.es)
AREVA T&D	(www.areva-td.com)

Low-voltage lines

BICC GENERAL CABLE	(www.bicc.es)
PRYSMIAN CABLES & SYSTEMS (PIRELLI CABLES Y SISTEMAS)	(www.es.prysmian.com)

Low-voltage panels

Rectifiers – battery chargers

ZIGOR	(www.zigor.com)
SAFT POWER SYSTEMS IBERICA S.L.	(www.spsi.es)
EMISA – EXIDE	(www.exide.com)
ENERTRON	(www.enertron.net)

Protective cabinets and A.S. [auxiliary services] control

PROYECTOS MECA	(www.proymeca.com)
CYMI	(www.cymi.es)
ABB SISTEMAS INDUSTRIALES	(www.abb.com)
CUADRELEC	(www.cuadrelec.com)
PMC Ingeniería	(www.pmc-engineering.com)

Exterior cabinets

PINAZO	(www.pinazo.com)
ELDON	(www.eldon.es)
HIMEL	(www.himel.com)
RITTAL	(www.rittal.es)

Electrical protective devices**Indirect and direct protective devices for MV cells**

SCHNEIDER ELECTRIC (MERLIN GERIN)	(www.merlengerin.es)
ORMAZÁBAL Y CÍA	(www.ormazabal.es)
ABB T&D SYSTEMS	(www.abb.com)
AREVA T&D	(www.areva-td.com)
SIEMENS	(www.siemens.es)
GENERAL ELECTRIC	(www.GEIndustrial.com)
TEAM ARTECHE	(www.teamartech.es)
ZIV	(www.ziv.com)

Direct LV protective devices

SCHNEIDER ELECTRIC (MERLIN GERIN)	(www.merlengerin.es)
MOELLER	(www.moeller.es)
ABB SISTEMAS INDUSTRIALES	(www.abb.com)
GOULD	(www.gould.com)

Metal-oxide lightning rods

TYCO ELECTRONICS RAYCHEM GMBH	(www.energy.tycoelectronics.com)
IBÉRICA DE APARELLAJES	(www.iberapa.es)
INAEI	(www.inael.es)
ABB	(www.abb.es)
CELSA	(www.celsa.com)

Supervisory System**PLCs [programmable logic controllers]**

SCHNEIDER ELECTRIC	(www.schneider-electric.com)
BECKHOFF	(www.beckhoff.es)
ROCKWELL AUTOMATION	(www.rockwellautomation.com)
GENERAL ELECTRIC FANUC	(www.gefanuc.com)

5. Infrastructure

The primary infrastructure units required for solar energy generation are called 'PV Systems' or 'trackers'. It is proposed that there would be up to 2,280 PV Systems (13.156 kW per PV System) which facilitate a nominal generation capacity at grid connection point of 30 MW. The mechanical structure of the PV System is also called 'tracker' since the panel tracks the path of the sun. The electricity is transmitted through underground cabling to the substation where it would be transformed to a voltage that is compatible with the national grid.

The PV Systems are packaged and connected into 48 'Strings' that would be connected to 48 Central Inverters (requiring 24 Compact Stations) by 400 V cabling. It is proposed that the cables would be laid in trenches excavated to a depth of ± 1 m and would follow internal access roads where possible. From the Compact substations, underground medium voltage cabling would connect to the existing 'Colburt' Eskom central 132kV substation situated on the site. **No new ESKOM substation or power transportation infrastructure is required and therefore no EIA of grid connection is necessary.** A permanent facility for operational and maintenance functions will require a footprint of approximately 350 m² and would include an office building housing also the power plant control centre, a workshop, a warehouse, telecoms, security and ablutions. A parking area, a bus turning point will be required. There are existing access roads on the site that are suitable for the requirements of the plant. Water would be abstracted from existing boreholes on-site and from the Reitrivier which runs through the Schutsekama property mainly for the supply of on-site ablution facilities and as cleaning water for the solar modules. Current Registered certificate number: 23046730. Current use: 650M³ / Month. The Solar Power plant will require: MAX 12500 Litres / Week.

5.1 Construction Phase

Construction is proposed for 4 - 6 months from May/June 2011 to November/December 2011. A modular approach would be used for the construction of power plant sections (fields of the trackers), which would be constructed in continuous manner section by section and erected in 5 phases: (1) preparation and land survey, (2) civil works, (3) cable laying, (4) mechanical and electrical system assembly, (5) commissioning and optimization. A lay down and workshop/storage area (approximately 1,500m²) would accommodate the assembly of the tracker equipment during construction.

Approximately 300 trucks in total would be required to transport all the equipment to site which equates to 3 containers per week. It is intended to use local labour forces for construction. The estimated overall employment impact, which includes highly skilled, semi-skilled and unskilled labour, is in the range of 100 to 150 people.

5.2 Operational Phase

Operational activities mainly consist of module cleaning and regular maintenance of the trackers (drives, gears) and the electrical equipment (mainly inverters) and security patrolling. Cleaning of the trackers is done on a rolling basis to assure a regular cleaning every week / 2 weeks (depending on weather and site conditions). Maintenance is done on a rolling basis with six months intervals for each tracker System. Surveillance and security staff are also required on a full time basis. With these ongoing activities, a constant workload of staff is required. Operational traffic would comprise approximately 1 truck with container, every 1 to 2 weeks for spare parts, as well as daily movements from staff which would be either through a minibus service or private cars. It is intended to use local labour forces for the operation and maintenance phase of the facility. At the present stage of the program the overall employment impact, which includes skilled (10%), semi-skilled (20%) and

unskilled personnel (70%), is in the range of 100 to 140 people. The training concept would ensure that the most qualified and motivated staff from the construction phase shall have the opportunity to form part of the permanent operation team. The infrastructure has a design life of a minimum of 25 years, there would be no decommissioning during this lifetime, thereafter a lease extension may be obtained, or the trackers would be retrofitted.

6. PROJECT DESIGN

6.1 DESIGN ASSUMPTIONS

Design and execution for the proposed Project would be undertaken by the Engineering, Procurement and Construction (EPC) contractor, the layout for which is shown in APPENDIX V.

The trackers would be located uniformly on the site outlined in the ESRI Shapefile APPENDIX V. This area has been identified as suitable in terms of topography, aspect and geology. The proposed layout would comprise a modular system, with 52 trackers per module, spaced 15 m apart to avoid shading. The exact location of each tracker would depend on the founding conditions and the micro siting would be undertaken at the detailed design stage. The steel support structure of the trackers would be galvanized steel and would not be painted. The galvanizing would weather to a non-reflective medium grey.

Internal access roads on the site would be required for construction and would remain during operation for maintenance activities. These roads would not be surfaced and to reduce disturbance and landtake would only run between every second row of trackers approximately 36 m apart. It is preferred for safety and security that all cabling is underground. The systems would be connected to Compact substations by 400 V cabling. It is proposed that the cables would be laid in trenches excavated to a depth of circa 1 m and would follow internal access roads where possible.

Central Inverter

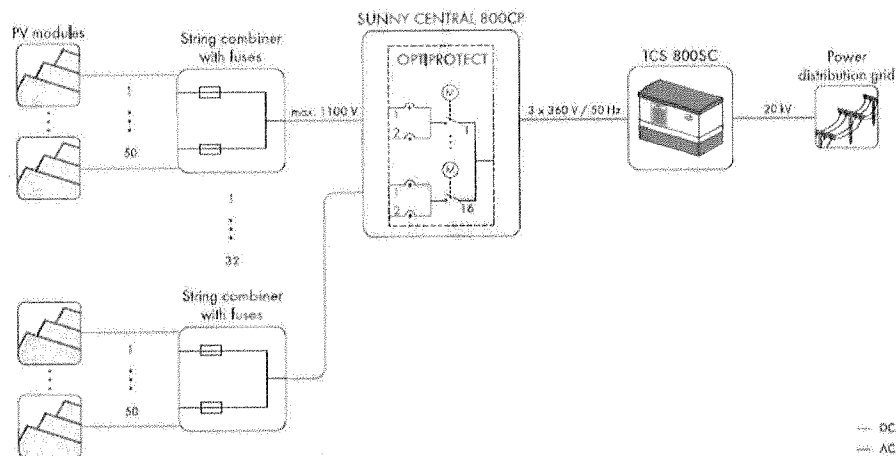


Compact Sub Station



From the Compact sub stations, underground medium voltage cabling would connect to the Central Existing Colburt Eskom Substation feeding into the national grid via the existing 132kV line.

SCHEMATIC DIAGRAM OF A PV PLANT



A permanent facility for operational and maintenance functions would require a footprint of approximately 350 m². This would include an office building housing also the power plant control centre, a workshop, a warehouse, telecoms, security and ablutions.

Lighting is only proposed on the buildings and the areas of trackers would remain unlit. In case additional lighting is required to light up individual trackers due to special weather or other circumstances, mobile lights (torches) either carry on or mounted to a vehicle are proposed subject to detailed design.

Sewage treatment would be via a low volume sewage treatment plant on site with a minimum capacity of treating an average of 0.36kl/day. A water abstraction point from existing boreholes or the Reitriver on site would be used for water supply for construction activities, and during operation for the supply of onsite ablution facilities, cleaning water for the solar modules and fire fighting.

Associated infrastructure proposed includes a water treatment plant for treatment of secondary groundwater. The use of borehole water is subject to adequate supply being confirmed through borehole monitoring and would be registered with the Department of Water Affairs. Stormwater infrastructure will be required to collect storm water from events of up to 1 in 5 years from the buildings, roads and hardened areas in an underground piped system; however this will not apply to the areas where solar trackers are located.

6.2 DESIGN: CONSTRUCTION PHASE

Construction activities

Construction would involve the following activities:

6.2.1 Site establishment

These activities involve the appropriate surveys, the erection of perimeter fences, demarcation of No go areas, clearance of vegetation and stockpiling of topsoil, establishment of temporary construction camp and laydown areas.

A laydown and workshop/storage area would accommodate the assembly of the tracker equipment during construction and is also required for normal civil engineering construction equipment. It is anticipated that the footprint for this area is 1, 500 m².

Civil works

- Trenching for the cable runs is required to link individual trackers with package substations, and the package substations with the main substation. Other trenching may be required to accommodate services;
- Excavation for the tracker foundations, which would be either mass concrete or piling depending on local conditions;
- Concrete work would be required for the construction of the permanent operational buildings, the substation and for the foundations for the trackers and electrical cabinet plinths. A concrete batching area currently operation at the farm located at the 'Crushing Plant' outlined in the ESRI Shapefile map APPENDIX II will be utilized to this end.

6.2.2 Mechanical and electrical assembly

This involves setting up the mechanical and electrical equipment and the necessary connections within the substation and in relation to the tracker equipment.

6.2.3 Cable laying

It is preferred that they cables are laid in trenches are below ground to reduce risk of theft and fire damage. A high conductivity environment needs to be ensured.

6.2.4 Installation of trackers

A modular approach would be used for the construction of power plant sections (fields of the trackers), which would be constructed in continuous manner section by section and erected in 5 phases:

- i) Site preparation and land survey;
- ii) Civil works;

- iii) Cable laying;
- iv) Mechanical and electrical system assembly; and
- v) Commissioning and optimization.

6.2.5 Provision of services

During the construction phase, ablutions would be typical portable, chemical toilets which could be moved throughout the site depending, on which section of the site is being constructed. Existing boreholes on site are proposed to supply water during construction, for concrete batching, general ablutions, and for rehabilitation of vegetation after construction. Water storage facilities would be investigated.

As susceptible to erosion would be protected by installing necessary temporary and permanent drainage works as soon as possible and by taking other measures necessary to prevent the surface water from being concentrated in streams and from scouring slopes in work areas or stockpiles.

Electricity would be provided by existing access points on the site and if necessary by diesel generators at certain locations.

6.2.6 Construction traffic

Approximately 350 trucks in total would be required to transport all the equipment to site which equates to roughly 3 containers per week.

The following equipment would require transportation to the site:

- Tracker masts and wings;
- PV Modules;
- PV system incidentals and PV plant auxiliaries (inverters, panels, Compact Stations, etc. ;
- Reinforcing (or Rebar) steel; and
- Earth, AC, internet cables

(Concrete cement sand and aggregate stone is readily available on the farm)

6.2.7 Construction Labour Requirements

It is intended to use local labour forces where reasonably possible for the construction of the Solar Energy Facility. At the present stage of the program the overall employment impact, which includes high skilled and low skilled labour is in the range 150 people. The target for employment of local labour (from the region) is 70% and this is discussed further as a social impact. The breakdown of the number of staff required per skills category is set out below;

Breakdown of skills required during construction

Skills Level Composition

Skilled Civil works technician 5%

Skilled Electrician 2.5%

Skilled Machine drivers (fork lifters, cranes, truck drivers) 10%
 Skilled Mechanic 5%
 Semi skilled 22.5%
 Unskilled 55%

Note: These are estimates subject to change during the construction of the Project

While the local employees would have no additional social infrastructure requirements, it is intended that employees from outside the area would reside in neighbouring town of Motswendimosa (previously Ritchie) or Plooyburg. There is living accommodation on site for management staff.

6.2.8 Working hours

Construction would be undertaken during the standard working hours for building sites in South Africa 8: 30 am to 4:30pm. However, it should be noted that mining operations on the farm operate on a 24 hour basis. This option can be further considered if necessary.

6.2.9 Construction Timeframe

Construction is proposed for 12 to 16 months from 2012 to 2014.

6.3 DESIGN: OPERATIONAL PHASE

6.3.1 Permanent infrastructure and operational activities

The project is designed in a way that a maximum number of staff would be recruited from the existing Shutsekama farm and local area. Necessary training would be provided by the applicant in cooperation with South African educational institutions to teach the skills for PV power plant operation and maintenance.

Operational activities mainly consist of module cleaning, regular maintenance of the tracking units (drives, gears) and the electrical equipment (mainly inverters) and security patrolling.

Cleaning of the trackers is done during daylight hours on a rolling basis to assure a regular cleaning every 2 to 4 weeks (depending on weather and site conditions).

Maintenance is done on a rolling basis with six months intervals for each PV System. These staff (namely mechanics and electricians) work in a shift mode.

In addition, surveillance and security staff would ensure the correct functioning and security of the plant on a 24/7 basis. The security staff would also work on a shift basis.

With these ongoing activities, a constant workload of staff would be achieved.

6.3.2 Operational traffic

Traffic during operation would access the site via the existing farm entrance. Operational traffic would comprise approximately 1 truck monthly with for spare parts.

Staff would commute daily from their homes to the site. A minibus service would assure the transportation for the morning and evening shift.

6.3.3 Operational labour requirements

It is intended to use local labour forces where reasonably possible for the operation and maintenance phase of the Solar Power Plant. At the present stage of the program the overall employment impact, which includes high skilled and low skilled labour, is in the range of 100 people.

Of this total approximately 10% of employment opportunities would be for skilled personnel (technicians, plant operators and management), 20% for semi skilled personnel (administrative, drivers, paramedics), and 70% for low skilled personnel (cleaning, security, support staff, etc).

6.3.4 Breakdown of skills required during operation

Skills Level Composition

10%

Skilled Mechanical technicians

Skilled Plant operators

Semi-skilled Admin including Plant Management

20%

Semi-skilled Drivers

Semi-skilled First aid/paramedics

Unskilled Support staff (facility management, canteen)

70%

Unskilled Tracker cleaners

Unskilled Security staff

Note: These are estimates subject to change during the lifespan of the Project

The training concept would ensure that the most qualified and motivated staff from the construction phase shall have the opportunity to form part of the permanent operation team of the plant. The local employees would have no additional social infrastructure requirements however it is intended that the employees from outside the area would become residents of Plooyburg.

Working hours

The morning shift would start early in the morning. 06:00 to 07:00, for a duration of 4 hrs ending at 11:00 at the latest, whilst the evening shift would be 4 hrs in duration starting at approximately 17:00. The shift hours adapt to sunrise and sunset. It is anticipated that operational staff (engineers and security staff) would man the facility 24/7.

6.3.5 Operational Timeframe

The infrastructure would become operational in 2013 and has a design life of a minimum of 25 years, after which it would be:

- Extended in use for a minimum of 10 years dependent on a lease extension; or
- Retrofitted with new equipment for 25 years+ use; or
- Decommissioned

7. DECOMMISSIONING

The infrastructure has a design life of a minimum of 25 years. There would be no decommissioning during this lifetime.

Foundations of PV Systems would be designed for optimal decommissioning conditions, although after the lifetime of 35 years (including the 10 year lease extension) a retrofit reusing the foundation is very probable. If decommissioning is undertaken, the foundations would either be designed to be of a depth of 500 mm or could be removed to a sufficient depth to allow for topsoil reinstatement and revegetation over footings. All other relevant materials of the PV Plant are valuable raw materials for recycling and reuse (copper, zinc plated steel, inox steel, glass).

8. NEED AND DESIRABILITY

Need or 'timing' of the development can be seen in light of the present global trend towards renewable energy which is largely based on initiatives to reduce the dependency on fossil fuels, the emission of greenhouse gases and their impacts on climate change. South Africa is actively seeking to reduce impacts on climate change and has made commitments to international initiatives such as the United Nations Framework Convention on Climate Change (1992), the Kyoto Protocol (1997), the Johannesburg Declaration (2002), and the Copenhagen Accord (2009). This is also reflected in the national and provincial policy framework. The promotion of renewable energy is part of this drive to reduce emissions through diversification of electricity supply and energy security. The proposed Project converts energy from sunlight into electricity for contribution to the national electricity grid. Solar energy is one of a number of freely available sources for renewable power generation. However in South Africa, related technology is still emerging and there are no existing large scale grid connected projects to date. This form of renewable energy technology often has the least impact on the surrounding environment in terms of emissions, waste, and noise and the enabling policy environment highlights the need for such development.

Desirability or 'placing' of the development has been assessed from a physical environmental perspective through the pre-scoping site selection process, and on a policy and planning level. It is evident that the Project is desirable as it would contribute towards the vision for the area through the generation of employment opportunities, and would also allow for rehabilitation of the site which would lead to an overall improvement of the environmental quality in the area.

9. LEGAL, PLANNING AND POLICY CONTEXT

9.1 Environmental Management

Various acts, regulations, policies and planning documents provide the framework and context for this Project and associated activities. In terms of environmental management, compliance with the provisions in the following Acts would ensure that the environment is not adversely affected through the development of the Project:

- The Constitution (Act 108 of 1996);
- National Environmental Management Act (107 of 1998) (NEMA);
- Environment Conservation Act (73 of 1989) (ECA);
- National Heritage Resources Act (25 of 1999) (NHRA);
- National Environmental Management: Biodiversity Act (10 of 2004);
- National Environmental Management: Protected Areas Act (57 of 2003);
- National Water Act (No 36 of 1998);

- National Environmental Management: Air Quality Act (39 of 2004);
- National Environmental Management: Waste Act (59 of 2008);
- Conservation of Agricultural Resources Act (43 of 1983) (CARA); and
- National Veld and Forest Fire Act (101 of 1998);
- Occupational Health and Safety Act (85 of 1993; and
- Hazardous Chemical Substances Regulations (1995).

9.2 Renewable Energy Generation

Other national legislation and policy which is relevant to the renewable energy context are as follows:

- National Energy Act (Act 34 of 2008);
- White Paper on the Energy Policy of the Republic of South Africa (1998);
- White Paper on Renewable Energy (2003);
- NERSA Renewable Energy Feed-In Tariff (REFIT) Guidelines (2009); and
- Draft National Integrated Resource Plan (IRP) (2010).

Other provincial policy, plans and guidelines provide the context for the project and verify the support for renewable energy and serve to guide the implementation thereof. Developmental and spatial policy at the provincial and municipal level also provides the framework within which this Project is being proposed. It is evident that the Project may contribute towards addressing social and economic issues pertaining to the Motswedimosa, Plooyburg, Modder River and Kimberley area and in doing so, accord with the vision for the area.

10. ASSESSMENT OF POTENTIAL ENVIRONMENTAL IMPACTS

The environmental impacts have been assessed by the respective specialists and the findings are summarised below:

10.1 Botany

The proposed development may have two negative impacts, a threat to botanical biodiversity and loss of rare and threatened species; and increased soil loss, through new access routes. This holds true for all the development phases of the project (Construction, Operation and Decommissioning phases). However, if the proposed mitigation measures are followed the development may have positive impacts on the environment, as current ongoing operations continue to result in the degradation of the area.

10.2 Fauna

The construction of the solar tracking infrastructure may destabilize or transform the sensitive drainages on the site, which represent sensitive fauna habitat and should thus be avoided. Any vehicular access across any of the drainages should be constructed with minimum bank and natural vegetation disturbance. A 15 m undisturbed natural buffer strip should be maintained on both sides of the middle of each drainage line during all phases of the project. This impact is assessed to be of high significance without mitigation and low with mitigation.

Habitat and population fragmentation will occur due to the security fence around the outer perimeter of the area for populations of smaller and medium sized vertebrates. This may result in the fragmentation of important areas of habitat for species such as hares, mongooses, porcupines, tortoises and certain ground birds. In mitigation of this negative impact, a small gap of ± 150 mm should be provided at ground level, all along the security boundary fence around the affected area. There is some potential for larger birds colliding with infrastructure when in flight. The affected area is not a known "flight" path for larger birds, although bustards and blue cranes to occur in the area.

The problem generally relates to relatively “invisible” infrastructure like cables and power cables. The security fence should be adequately marked and the entire length of the 132 kV transmission line should be marked with bird “flappers” or diverters to make it visible.

The establishment of the proposed development may displace certain faunal species, temporarily or permanently, as a result of the noise and physical disturbance that will be associated with the construction phase of the development. Permanent displacement of any particular species should not have any lasting negative impact on the survival of the population of that species, because of the extensive availability of identical habitat immediately adjacent to the affected area.

There is a possibility that nocturnal insect-eating bats may be attracted to the solar power infrastructure at night by their prey insects that are attracted by security lights. The use of yellow light rather than white light would mitigate this impact from medium to low since yellow light does not attract flying insects.

10.3 Visual

Given the topography and nature of the landscape at the Schutsekama site, the remoteness of the area and the existing infrastructure on the site, it is anticipated that the solar energy facility would have a small to medium impact before mitigation.

The visual impacts can, however, be partly reduced by applying the visual mitigation measures, and it is anticipated that the visual impact would be medium after mitigation.

10.4 Social

During construction, the key social issues associated with Project include:

- Creation of employment and business opportunities, and the opportunity for skills development and on-site training;
- Influx of construction workers employed on the project;
- Influx of job seekers;
- Increased risk of stock theft, poaching and damage to farm infrastructure associated with construction workers; and

During operation, the key social issues associated with the Project include:

- Creation of employment and business opportunities. The operational phase would also create opportunities for skills development and training;
- The establishment of infrastructure to generate renewable energy;
- Potential impact on tourism;
- Impact on farming activities; and
- The visual impacts and associated impact on sense of place and landscapes.

The findings of the SIA indicate that none of the potential negative impacts associated with the construction or operational phase would have a bearing on the decision. In addition all of the potential negative impacts can be effectively mitigated if the recommended mitigation measures are implemented. There exist opportunities to enhance the positive impacts, namely local employment and business opportunities. The proposed development also represents an investment in clean, renewable energy infrastructure, which, given the challenges created by climate change, represents a positive social benefit for society as a whole.

11. CONCLUSIONS AND RECOMMENDATIONS

11.1 Agricultural Potential

Previous ongoing mining operations on all three proposed sites render the option of agricultural cultivation of the area unwise and difficult to justify financially. Even rehabilitation of the land has not brought it to a sufficient state for agrarian activities.

Water extraction for cultivation would have a negative impact on the general area, and would result in the further aridification of the land.

It is therefore recommended that the former mined lands of the study area should not be used for agricultural production and that the disturbed areas can be made available for some other type of land use such as the Electra Energy Solar power Plant Project.

11.2 Social

The proposed development also represents an investment in clean, renewable energy infrastructure, which, given the challenges created by climate change, represents a positive social benefit for society as a whole. The potential visual impacts associated with the facility would impact on the areas rural sense of place and landscape character. This impact would be for the entire operational lifespan (approximately 25.30 years) of the facility. However, these impacts are not considered to represent a fatal flaw. It is therefore recommended that the facility as proposed be supported, subject to the implementation of the recommended mitigation measures and management actions contained in the report.

11.3 Impact Statement for the Schutsekama Solar Energy Facility

The key benefit will be the employment, training and business opportunities generated in the context of the local economy, assessed as medium or high to medium significance. The physical environment would also be enhanced, namely through the mitigation of existing soil erosion along the drainage channels assessed as having a high positive impact. In terms of paleontology, the potentially low negative impact may well change to positive as findings may contribute to and improved understanding of local fossil heritage. The Project is further supported by the current policy context and contributes to climate change mitigation through the investment in clean, renewable energy generation and this is assessed as being of medium significance.

A The No Go Option results in no change to the status quo which would not be preferable.

Social benefits such as the employment, training and business opportunities would not be realised. At a broader level, the No Go option would represent a lost opportunity for South Africa to supplement its current energy needs with clean, renewable energy.

These negative socio economic impacts in the form of opportunity losses have been assessed as having a medium significance.

On the basis of the information above, we find no reason or fatal flaw which should prevent the Schutsekama Solar Power Plant from being granted environmental authorisation. With respect to grid connection

APPENDIX 1 -- Survey System Datum Site Co-Ordinates

ELECTRA ENERGY HOLDINGS LTD

SCALE 1 : 25 000

Northern Cape Province
Administrative District HERBERT

DESCRIPTION OF LAND UNDER APPLICATION
FOR A

SOLAR POWER PLANT

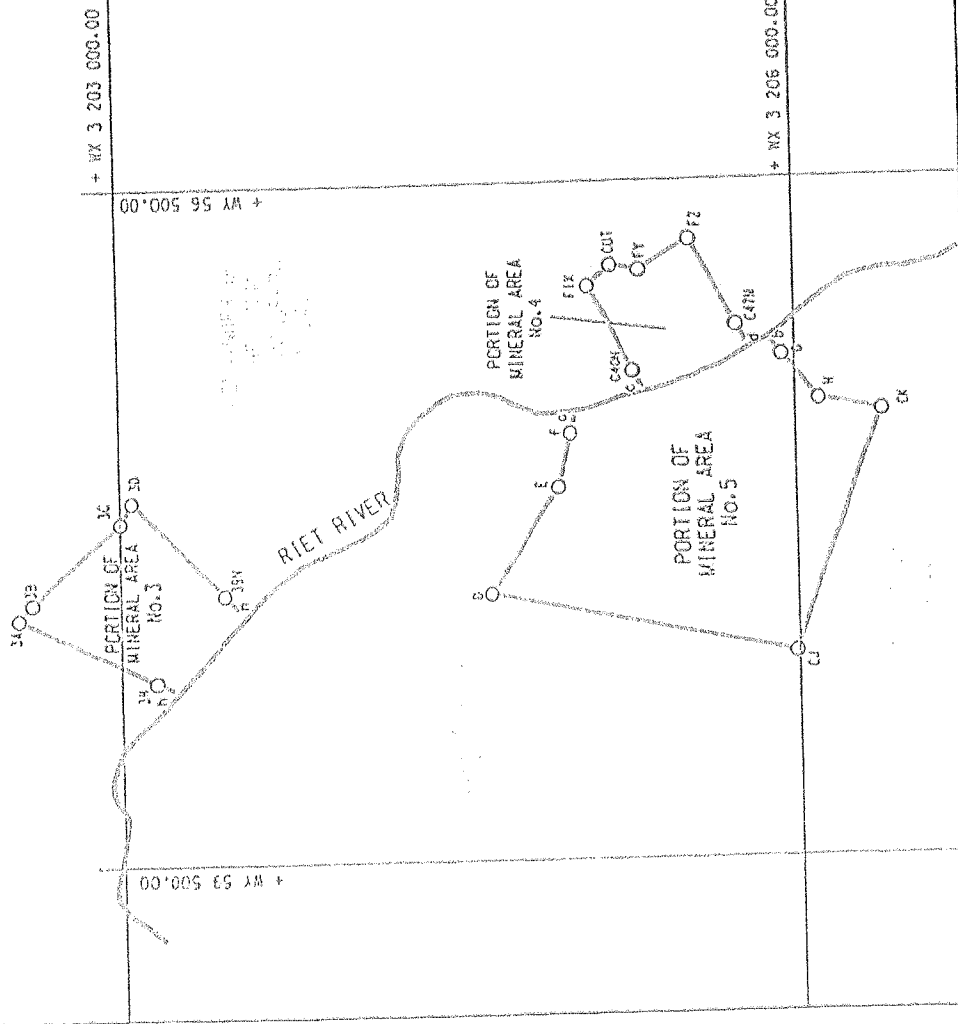
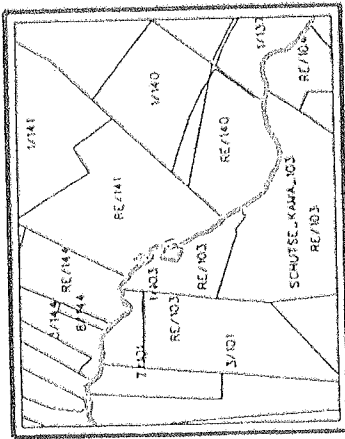
THE FIGURE LETTERED FIX,CUT,FY,FZ,C47N,d
MIDDLE OF RIET RIVER, c-C40N
BEING A PORTION OF MINERAL AREA 4
(PORTION OF MINERAL AREA 2) OVER THE
REMAINDER OF THE FARM KODDOSBERG No.41
= 28.0605ha

THE FIGURE LETTERED 3A,3B,3C,3D,39N,n
MIDDLE OF RIET RIVER,d-3H,
BEING A PORTION OF MINERAL AREA 3
(PORTION OF MINERAL AREA 2) OVER THE REMAINDER
OF THE FARM KODDOSBERG No.141
= 42.4445ha

THE FIGURE LETTERED D,E,F,g,RIET RIVER,
d,g,H,CK,CJ
BEING A PORTION OF MINERAL AREA No.5
(PORTION OF MINERAL AREA No.3)
OVER THE FARM SCHUISEKAWA No.103
= 140.0534ha

WITH REGARDS TO A MINING RIGHT
IN TERMS OF THE MPRO (ACT 28 OF 2002)

LOCALITY PLAN : Not to Scale



MPT NUMBER :

**SURVEY SYSTEM
DATUM WGS84
WG 25**

CO-ORDINATES		
NAME	Y	X
FIX	+ 56959.22	+ 3205091.56
CUT	+ 56868.52	+ 3205187.47
FY	+ 56891.77	+ 3205319.76
FZ	+ 56759.82	+ 3205340.74
C47N	+ 57140.88	+ 3205743.39
40N	+ 57336.81	+ 3205266.10
3A	+ 58394.13	+ 3202547.37
3B	+ 58326.68	+ 3202510.22
3C	+ 57974.89	+ 3203002.72
3D	+ 57882.63	+ 3203057.12
39N	+ 58303.97	+ 3203462.71
3H	+ 58685.35	+ 3203157.89
D	+ 58315.51	+ 3204639.61
E	+ 57846.66	+ 3204944.18
F	+ 57608.03	+ 3205002.33
G	+ 57503.15	+ 3205027.81
D	+ 57208.85	+ 3205888.33
G	+ 57276.80	+ 3205943.70
H	+ 57476.75	+ 3206106.04
CK	+ 57528.92	+ 3206383.17
CJ	+ 58594.71	+ 3205988.17

PLAN APPROVED :

REGIONAL MANAGER NORTHERN CAPE

DATE :

NAME OF APPLICANT :

SIGNED :

DATE :

COMPILED BY C.H. FRANKEL (EC02422)

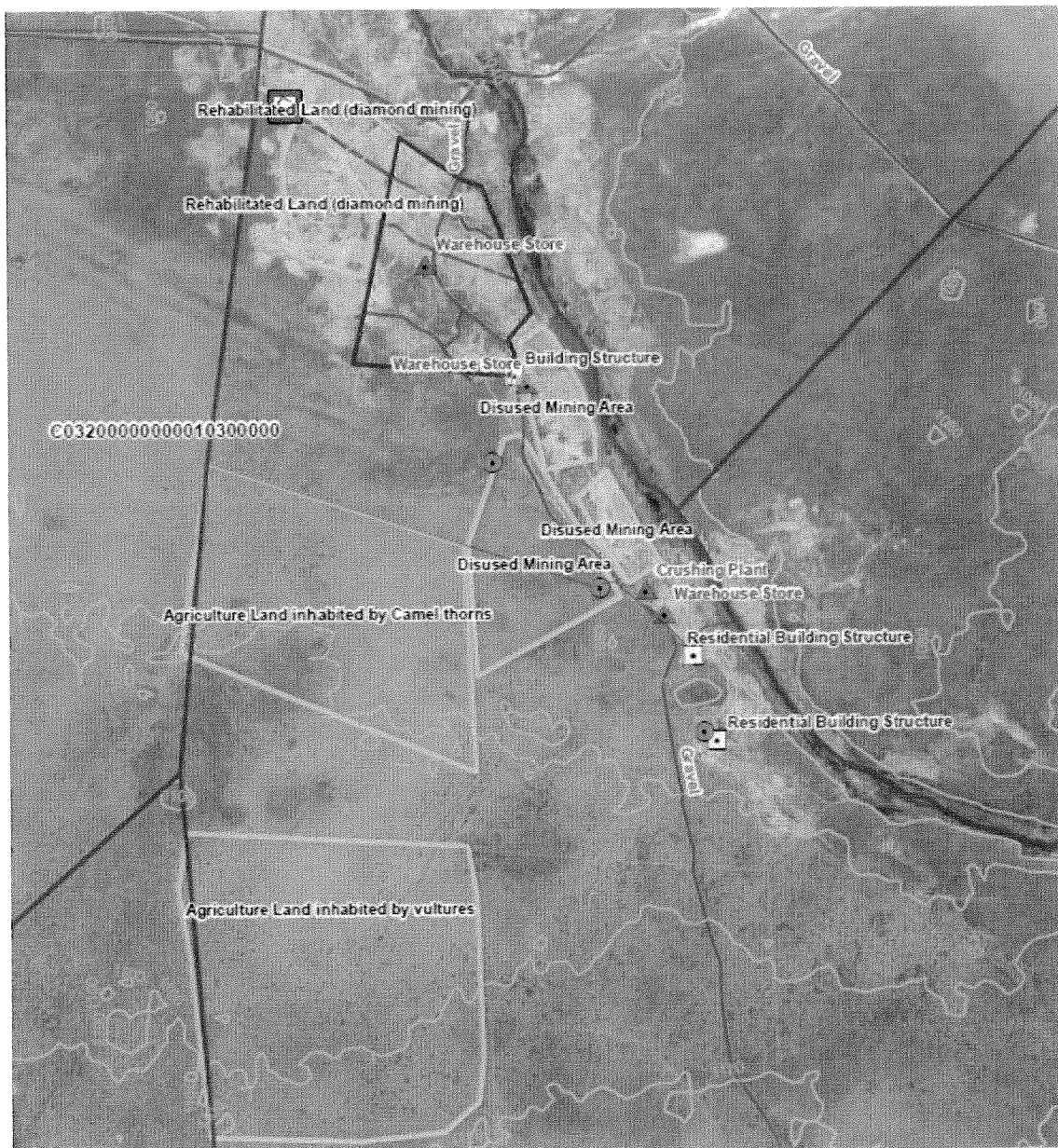
SIGNED

DATE

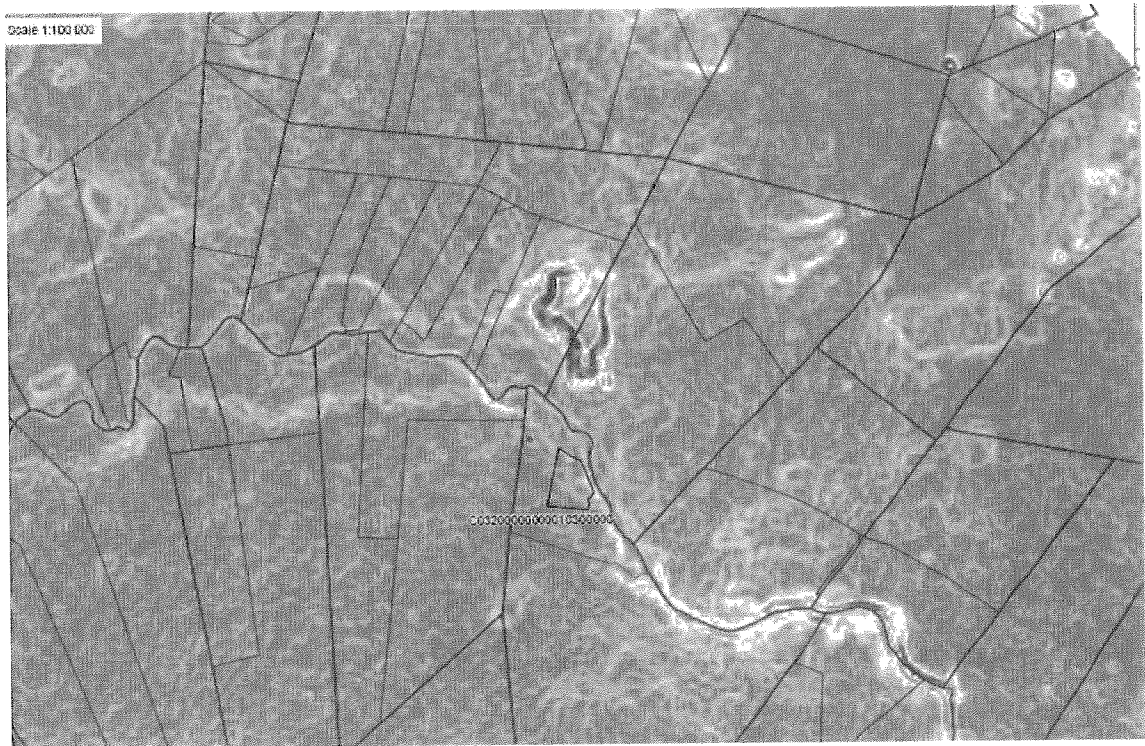
Olav
6 September 2011

CHEH FRANKEL LAND SURVEYORS
Professional Land Surveyors
Technisch en Ingenieurs Buro
11 Binnendijk
1145 BE11
Somerset
9501
T 028 95 91000
F 028 95 91001
E info@chehfrankel.co.za

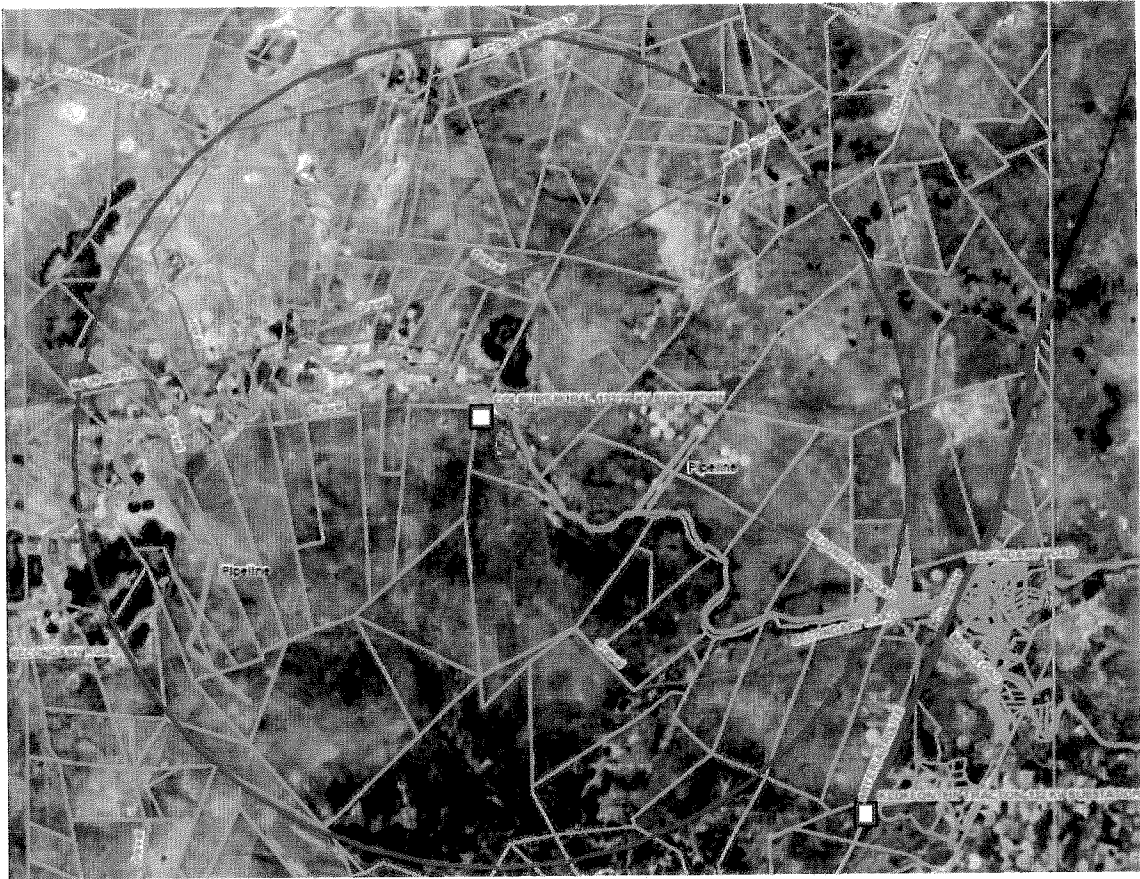
APPENDIX II – ESRI Shapefile Status Quo



APPENDIX III – ESRI Shapefile SLOPE ANALYSIS MAP



APENDIX IV – ESRI Shapefile Map 20KM Radius Status Quo



APPENDIX V – ESRI Shapefile Plant Design



APPENDIX VI

RECEIPT



REPUBLIC OF SOUTH AFRICA

DEPT. VAN MINERALE EN ENERGIË
 PRIVAATSAK/PRIVATE BAG X8003
 No. 0938695
 2004-10-12
 Official date stamp
 KIMBERLEY 8300
 DEPT. OF MINERALS AND ENERGY

Received from

Name D.F. VISSEN DEWERTSE EDINS
 Address Box 1
LICHTENBURG code 2610

Description APP CONVERSION OF AN OLD ORDER MR

R A N D	Millions		Thousands		
	One	Hundred	Ten	One	

Drawer _____
 Cheque No. _____
 Cheque date _____
 Amount R 500.00

Payment method
 Cash
 Cheque
 Postal orders
 Other (specify)

Hundred			Cent	
Hundred	Ten	One	Ten	One
<u>Five</u>	<u>None</u>	<u>None</u>	<u>None</u>	<u>None</u>

S. Langera
 Issued by

Issued without prejudice

DEPT VAN MINERALE EN ENERGIË



CHECKLIST

NB : ALL CERTIFIED DOCUMENTS MUST HAVE BEEN CERTIFIED WITHIN THE LAST 3 MONTHS OF THE DATE OF RECEIPT OF THE APPLICATION !!

J MINING RIGHT CONVERSION

LODGEMENT FORM FOR THE CONVERSION OF AN OLD ORDER MINING RIGHT

- A Details of the land or area applied for
- B Affidavit
- C Mortgage bonds/rights
- D Terms and conditions of present old order right
- E Title Deed(s) in respect of land
- F Original old order right
- G Social and labour plan
- H Statement to continue mining after conversion
- I Mining work programme
- J Financial and technical competence
- K Existing rights and past compliance
- L EMP Report: Compliance
- M Undertaking to give effect to section 2(d) and (f)
- N Prescribed Fee
- O Copy of identity document
- P Certified copy of incorporation
- Q Certified copy to commence business
- R Resolution, if acting in a representative capacity
- Z Co-ordinates in digital format (ASCII)
- Other

Application received in terms of the Mineral and Petroleum Resources Development Act, 2002 (Act 28 of 2002)
NORTHERN CAPE REGION (S)

12 OCT 2004

Print Name S JAROSIEN

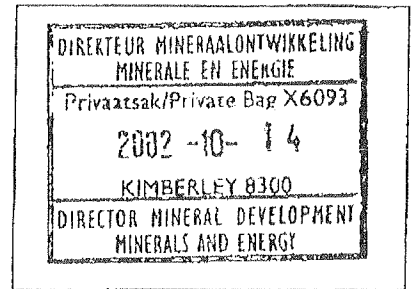
Signature: [Signature]

DEPARTMENT OF MINERALS AND ENERGY

[Signature]
2006/10/12

REPUBLIC VAN SUID-AFRIKA
DEPARTEMENT VAN MINERALE EN ENERGIE
MYNPERMIT

(Mineraalwet, 1991 : Artikel 9(1) gelees met 9(3)(d))



Kantoordatumstempel

Permit No.

MP 152 /2002

Kantoorverwysing

NC 5/3/2/3324

Magtiging word hierby kragtens en behoudens die bepalings van die Mineraalwet, 1991 verleen aan

DF VISSER DELWERY (EIENDOMS) BEPERK

Identiteits- of registrasienommer

1 9 9 8 / 0 0 5 0 4 / 0 7

(hierna "die houer" genoem)

van

POSBUS 110685

HADISON PARK

8306

om vir

DIAMANTE

te myn op

REstant VAN KOODOOSBERG

No.

141

Landrosdistrik

KIMBERLEY

Streek

NOORD-KAAP

soos getoon op aangehegte sketskaart No.

NC 5/3/2/3324

Onderteken deur die direkteur op

14 OKTOBER 2002

Volle naam van die houer van die reg op die betrokke mineraal

CHRIS EN RIA VISSER TRUST

Tensy hierdie permit opgeskort, ingetrek of opgesê word of verval, is dit geldig vir 'n tydperk wat strek van die datum van uitreiking tot

13 OKTOBER 2004

Gesek. fisen in wwe opslae

GUILLAUME BOSHOFF FOSTER
PROKUREUR EX OFFICIO
SWARTST 27 OTTOSDAL

Hierdie permit stel nie die houer van die vereistes van enige ander wetsbepaling of van enige beperkende bepalings of voorwaardes vervat in die titelakte van die betrokke grond, vry nie en maak ook nie inbreuk op die regte van enigiemand anders wat 'n belang in die betrokke grond of uitskot of die mineraalregte ten opsigte van die betrokke grond of uitskot het nie.

Geteken te

KIMBERLEY

op hede die

14de

Dag van

OKTOBER 2002

.....
**WAARNEMENDE DIREKTEUR
MINERAALONTWIKKELING
NOORD-KAAPSTREEK**

VoorAr9A/SJ/617

Sesant. f. 1/10/02 - w. o. s. l. e. j.
[Signature]
11/10/02

**GUILLAUME HENRI
BOSHOFF FOSTER
PROKUREUR EX OFFICIO
SWARTST 27 OTTOSDAL**

NOTAS:

BAKERS GEFLEAS 1:10000 YSTERPERKENTING
 X - OORLOP
 KORTROLLE PUNTE
 ALLE PENE GEMERK "N" IS SLEGT LITTEK.
 38-161 x 1,22m OP LYN NA 37

WYSIGING	BESKRYWING	DATUM
3	ONDOERVOLDEEL IN 3 BLOKKE VAN 10 NA APRIL 19	19 APRIL 19
4	TOEGESAGDE BLOKKE TROETSUIT	APRIL 19
5	17-34-44-14-14 NA	APRIL 19
2	GEFLEDE BLOKKE	APRIL 19
1	DELF AREA IN BLOKKE VAN 10-10-10	19 APRIL 19
	VERGROOT DELF AREA NA 10-10-10	FEB 19

GRIVANIS & SAAMAN
 Professionele Landmeters
 Topografiese en Ingenieurs Opmeters
 Deelnemer en Dorpsreëlbegeleiders

Waterskant 14
 Privaat 107
 Kimberley 8200

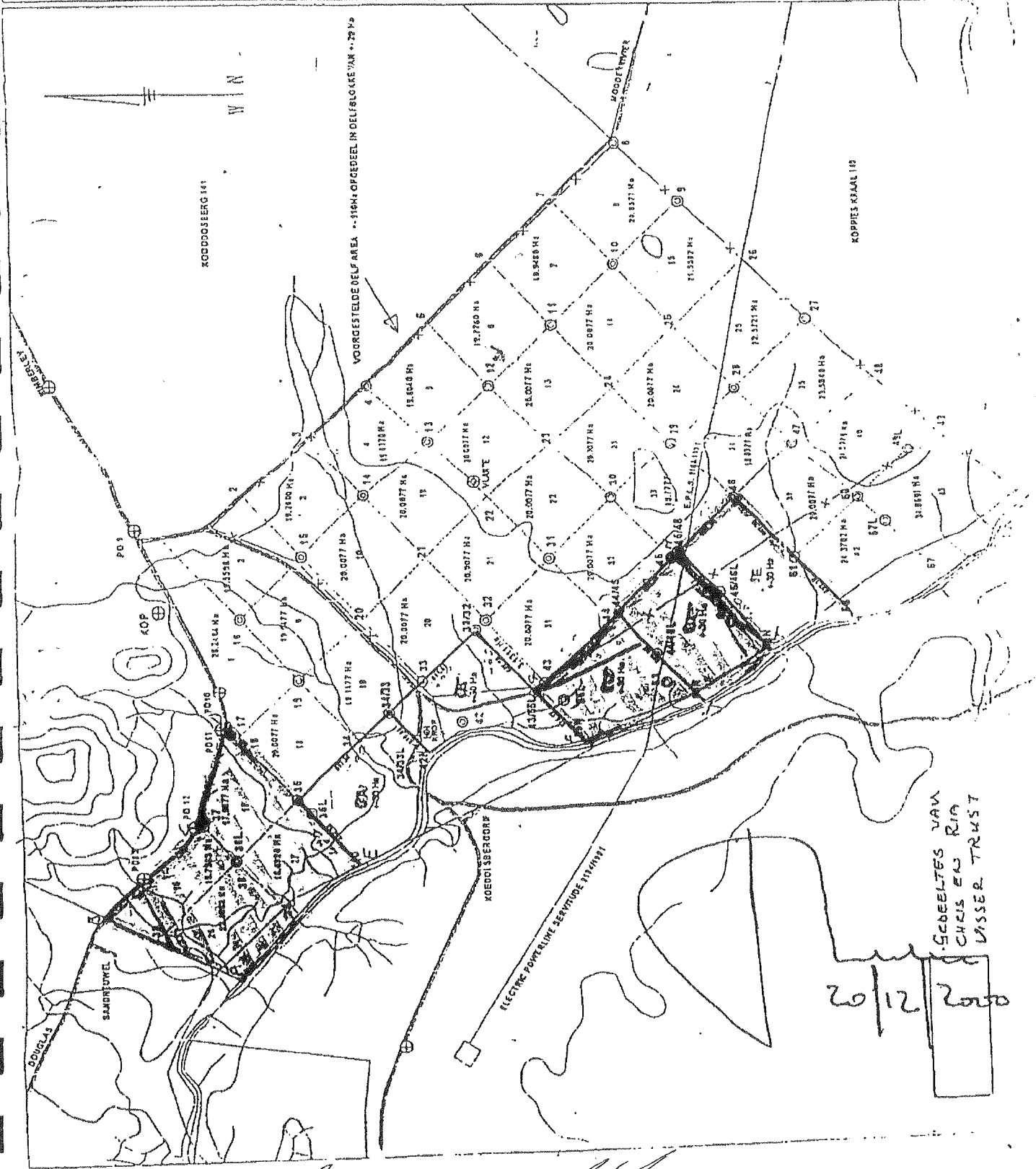
Tel: (0631) 811 718
 Fax: (0631) 811 321
 E-mail: gsaaman@klimstun.co.za

PROEJ
 KOOODOOSBERG 141

TEKENING BESKRYWING
 DELF BLOKKE KOOODOOSBERG

TEKENING NR.
 www.klimstun.co.za

SKAAL 1:20 000 (1cm = 700m)	OP-GEMEEK DEUR CETEKEY
DATUM DESEMBER 1992	



SKEETES VAN
 CHRIS EN RIM
 WASSER TRUST

20/12/2010

Segetiferen in woorde van
 GUILLAUME HENRI BOSHOFF FOSTER
 PROKUREUR EX OFFICIO
 SWARTST 27 OTTOSDAL
 11/10/14

APPENDIX IX