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The rock engravings of several portions of the farm Doornkloof 393 JQ along the Magaliesberg Range

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ABSTRACT

The thesis was undertaken to make a first time recording of the rock engravings of several portions of the farm Doornkloof 393 JQ. The purpose of the recording was to aid in the preservation and conservation of the rock art throughout South Africa. The problem surrounding the weathering process and other threats facing the engravings is also researched. Determination of the effects of tourism and how it can play a major role in the preservation and conservation of the art is included.

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SUMMARY

The main purpose of the research was to record the rock engraving sites on several portions of the farm Doornkloof 393 JQ, which for the most part had previously not been recorded. To do this the sites were mapped and the individual engravings were located making use of GPS readings. Each engraving was recorded making use of carbon paper rubbings and they were studied in detail and measured, with their current condition recorded.

During the process of locating the sites other ruins were located, they include a Matabele kraal, a Sotho-Tswana kraal, a mission station , a old dam wall and a Boer War site. Although non-of the above sites were excavated, but they were recorded as far as there location is concerned and photo's were taken. Also theoretical research on the historical background of the above-mentioned sites was undertaken.

After studying the various engravings found the following results were noted:
The majority of the engraved work was produced by the Bushmen, but engraved pieces made by the Sotho-Tswana and settlers were also located. Three techniques were utilised in the area they are, the fine line, broad line and rubbed techniques. The fine line technique was utilised by all cultures, while the broad line technique was used exclusively by the Bushmen and the rubbed technique was used by the Sotho-Tswana.

Animals are the most frequently used subjects, with antelope making-up the bulk of the animals engraved with the eland being the preferred engraved antelope. The majority of the animals were engraved on there own, but a percentage were engraved with pattern work, other animals or with humans. Some of the pattern work engraved resembles entoptic phenomenon, but only a small percentage of animals were engraved on a surface depicting entoptic phenomenon. In theses cases the entoptic's offer nothing more than a good background for the engraved work. All the engraved human figures found are of female settlers.

A study into the state of the conservation and protection of the rock art to date was done. The results suggest that weathering is still the number one problem facing engravings and there is still no feasible solution to the problem. Thus the only solution at present is the education of the public, so that we can prevent vandalism and theft and to do this we need to open up more sites to the public as tourism can generate the much needed funds for further research in the field. These site must however be well managed and have educated staff running them and acting as tour guides, to ensure the protection of the artwork for future generations.

SAMEVATTING

Die hoofdoel van die navorsing op verskeie gedeeltes van die plaas Doornkloof 393 JQ is om die rotsgravures te dokumenteer wat nog nie voorheen beskryf is nie. Die verskeie terreine is gekarteer en die ligging van individuele gravures is met behulp van 'n G.P.S. aangedui. Elke gravure is met behulp van afvrywings met koolpapier gedokumenteer, in detail bestudeer, gemeet en die huidige toestand daarvan beskryf.

Gedurende die aanwysing van die terreine is murasies ontdek. Hulle sluit in 'n Matabele kraal, 'n Sotho-Tswanakraal, 'n sendingstasie, 'n ou damwal en 'n Boere-oorlogmurasie. Geeneen van die bogenoemde terreine is opgegrawe nie, maar hulle hulle lokaliteit is gedokumenteer en fotos van die murasies is geneem. Teoretiese navorsing in verband met die historiese agtergrond van die murasies is gedoen.

Nadat die gravures ontdek en bestudeer is, is vasgestel dat die meerderheid daarvan deur San-kunstenaars geproduseer is. Die Sotho-Tswana en koloniste het ook bydraes gelewer. Drie graveertegnieke is in die omgewing geïdentifiseer, naamlik die fynlyn-, breëlyn- en vrywingstegnieke. Die fynlyntegniek is deur al die bogenoemde kultuurgroepe gebruik, terwyl die breëlyntegniek eksklusief deur die San en die vryftegniek deur die Sotho-Tswana gebruik is. Diere is die meeste uitgebeeld. Hiervan is wildsbokke in die meerderheid, met die eland as die mees algemene wildsbok. Die meerderheid van die diersoorte is alleenstaande gegraveer, maar van hulle is ook tesame met verskeie patrone asook saam met ander diere en mense uitgebeeld. Van die patroonfigure is soortgelyk aan die visioene wat gedurende hallusinasies ervaar word. 'n Klein aantal van die diere is op 'n rotsoppervlakte saam met patrone uitgebeeld, maar daar is geen verbintenis tussen die twee nie. Al die menslike figure is dié van vroulike koloniste.

'n Ondersoek ten opsigte van die stand van die bewaring en beskerming van die rotskuns is gedoen. Die resultate dui aan dat natuurlike verwering die mees prominente bewaringsprobleem is. Vir hierdie probleem is tot dusver nog geen uitvoerbare oplossing gevind nie. Die enigste korttermyn-oplossing is die opvoeding van die publiek ten einde vandalisme en diefstal te voorkom. Om openbare opvoeding te bewerkstellig moet die terreine toeganklik gemaak word vir die publiek. Toerisme sal na verwagting fondse genereer vir verdere navorsing. Die terreine moet egter onderworpe wees aan 'n goeie bestuursplan. Opgeleide personeel moet aangestel word om die terreine te bestuur en om toeniste te begelei sodat die bewaring van die terreine daardeur verseker kan word.

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CHAPTER 1
INTRODUCTION

The Magaliesberg or 'Cashan Mountains' as the cultures under discussion knew the area are steeped in history. A mere 20km away lies the Sterkfontein Caves, the cradle of southern African man. Many cultures have inhabited the area since then and a multitude of battles were fought and lives lost in the fight for control of the region.

The settlers of approximately 1500 years ago were renowned for having left some of the best records of early prehistoric settlements in Africa, this recording continues to present times, (Mason, 1980). Waste areas of the region have been studied from an archaeological perspective with the aim from the start being education and tourism, to generate capital for the conservation of vast areas of historical interest, (Mason, 1980).

The Magaliesberg encompasses an extensive area, but for the purpose of this research the focus will fall on several portions of the farm known as Doornkloof.
The bulk of the research comprises the recording and analysis of rock engravings of the various cultures involved, however other sites of interest were also noted. The cultures studied include:
- Bushmen, Hunter-Gatherer culture (San)
- Bantu, Subsistence culture (Sotho-Tswana)
- Caucasian, Settlers (Boers)

The research area comprises of 16 sites of which 10 are purely sites containing rock engravings, while the rest although yielding several engravings, also include the remains of Iron Age and Boer ruins (see Map1)

Previous archaeological investigations in the area revealed that both the Caucasian and Bantu cultures were immigrants in the region, (Mason, 1980). The Caucasians haled from European and the Bantu from central African tribes. They immigrated for different reasons to the Caucasian communities who immigrated for conquest purposes and the Bantu due to tribal friction brought on by population explosion, (Mason, 1980).

Geology

In order to understand the Bushmen way of life and subsequently their engraved work, it is necessary to have a basic knowledge of the geology of the area. A geological understanding of the area is also important in that the engravers were specific in their choice of rock type. The rock types which comprise the Magaliesberg are predominantly Siliceous and Feldspathic Quartzite, Shale, layers of Slate and Hornfels, which are found within the Quartsites white outcrops of the berg (Curuthers, 1990). Norite and Gabbro, Diabase and Dolorite, Syenite (A particularly conspicuous dyke of syenite runs through Breedtsnek and Maanhaarrand, which lies southeast of Doornkloof.) and Dwyka Tilliteoure also occur, (Curuthers, 1990).

The Magaliesberg range runs in a "s"- shape from east to west, extending from Pretoria to Rustenberg, with a total length of 196km, (Curuthers, 1990). Subsidiary, parallel ranges lie to the south of it and together they are known as the "Bakenveld", (Curuthers, 1990). The Bronkhorstspruit River flanks the eastern most limit of the range, while the western limit boarders the Selons River. The northern most limit lies next to The Elands River, while the southern limit is Breedtsnek/Maanhaarrand, (Curuthers, 1990). The research area is situated on the boarder of the southern most limit of the Magaliesberg.

According to Curuthers (1990), the altitude of the highest point of the Magaliesberg is located at Nooitgedacht, approximately 8km northwest of the research area. It has an altitude of 1852m and is 532m higher than the valley floor, to the south.

Climate

An understanding of the climate of the area is important as it influences the Bushmen behaviour, animal behaviour and the weathering rate of the engravings, moisture being an engravings worst enemy.

The average rainfall for the Doornkloof section of the Magaliesberg is 686mm, with the highest rainfall measured between January and March and October and December, (Curuthers, 1990). There are approximately 80 rainy days per annum, with an average of 75 thunderstorms. The maximum daily temperatures range from 18,3°C to 30,6°C, with minimum temperatures ranging from 1,8°C to 17,3°C, (Curuthers, 1990). Wind speeds recorded in the area range from 1-10kmh. Mountain breezes are common on autumn and winter evenings, when cool air accumulates in the depressions on the mountain. Because of the higher comparative density of this air, it flows down the kloofs, displacing the warmer air below, hampering early morning visibility, (Curuthers, 1990).

The recording of the Bushmen and other engravings in the area is of extreme importance as they constitute a valuable, and vulnerable source of information about past cultures and how these people interacted with the environment, both physically and metaphysically. Their art is not merely decorative, but is a statement of their beliefs, rituals and lifestyle. It is also of value as far as aesthetic merit is concerned. San art brings the human world in contact with the spiritual world and is an expression of the unity of the San experience, (Lewis-Williams, 1988). The rock surface is a veil suspended between this world and the world of the spirit, the world that shamans enter through animal potency, (Lewis-Williams, 1988). Although the above statement may be true they are not the only purpose of the engravings, which are multi-facetted.

Engravings weather as a result of natural processes, which they are exposed to on a daily basis, as a result of location and much research is still needed in this area, before these processes will not longer pose this problem. Solutions have been identified and enforced to protect engravings from human induced dangers. They are however difficult to enforce, for this and the above

Due to the a fore mentioned problems surrounding engraving protection, it would seem natural to promote the removal of the pieces, as those already removed have been preserved far better than those in the veld, due to their new climate controlled environments, (Deacon, 1994). This indoor environment also improves the research conditions, but one crucial research component is lost in the process, namely the context of the work, which is necessary when it comes to studying the work in its totality, (Deacon, 1994). The engravings if put on display will now only have aesthetic meaning to the public, which hampers public education, which in tern is a disadvantage to the conservation and protection of the piece still on locatio

Tourism

One of the main problems pertaining to the protection of the engravings is the lack of funds, this is where tourism can be of great help. It can generate the necessary funds and in the process play a vital role in the education of the public, which is considered a primary aspect in the management of sites. For all of the above reasons tourism should receive a lot of attention, as it will not only provide much needed funding, but will also offer employment in a growing services market. For this form of tourism to become sustainable it will require well-developed management strategies. Legislation alone cannot prevent environmental abuse and the future of the rock art resources is in the hands of the landowners and tourists who visit the sites, thus an effective education system through tourism is necessary, (Meiklejohn et al(1995)).

CHAPTER 2
AN OVERVIEW OF BUSHMEN HISTORY AND CULTURE

In order to gage a better understanding of the Bushmen engravings, it is necessary to understand the Bushmen as a culture and for this reason an insight into their history, way of life and physical features is necessary.

The San mode of subsistence has continued virtually unchanged since Palaeolithic times. The significance of animals in the San lifestyle is first and foremost for food, but animals also feature in stories as gods and tricksters, (Hone, 1972). Numerous stories relate to how humans were once animals and for this reason animals are common in San culture. The relationship of the San with the animals extends to their rock art, (Lewis-Williams, 1989). They believed that by engraving the animals on the rock they come into contact with the spirit of that particular animal, (Lewis-Williams, 1989). Thus animals like the eland, which in the eyes of the Bushmen are the most powerful and have in their possession the most positive power are often engraved, (Hone, 1972).

Animals believed to be evil by the Bushmen, include animals against which they have no defence or which defy logic, such as the chameleon who can change colour and see in two directions at once, (Hone, 1972). These animals are said to posses an evil power which the Bushmen have no desire to posses and are thus less frequently engraved and for the most part engraved very small, (Hone, 1972). The Bushmen engraved for many reasons, which include religious, historical importance, to study their prey so as to improve their hunting skills and for recreation.

Bushmen History

The Bushmen or San people whose engravings comprise the bulk of the data being studied, belong to the Khoisan or Khoi Khoi (Hottentot) family. The Khoisan family is believed to be the oldest indigenous residents of Southern Africa, they occupied vast areas of land long before the arrival of Bantu and European settlers, (Mason, 1980).

Remains of Bushmen rock paintings, drawings and engravings are found in Namibia, South Africa, Lesotho and Zimbabwe and were created over a period of several thousands of years, (Tankana, 1980). In South Africa, the San mainly inhabited the Cape, Orange Free State, KwaZulu - Natal and previous Transvaal provinces where mild climates were the norm and rainfall was abundant, (Tankana, 1980).

According to Tankana (1980), in the seventeenth century, Holland colonised the Cape to set up a stopover point for trade with the West Indies. Their presence brought about oppression of the San and Khoi, forcing them to move inland. The San found this hard to deal with for religious reasons and opted for war with the Europeans, they were however ill-equipped to match their guns, cannons and military infrastructure. Moving north the San came into contact with the first Bantu tribes moving south and once again there was friction between the two groups. Stuck in a

war between the Europeans and the Bantu the San colony was forced to the brink of extinction, before being forced into the Kalahari desert, where there numbers are few.

Bushmen physical features

According to (Hone, 1972) the physical features of the Bushmen include the following physical traits:
- They are small in stature, with an average height of 155cm.
- Their physical features generally Negroid, having brown peppercorn hair and broad noses.
- They do, however, also have Mongoloid features, these include their yellow brown skin, prominent cheekbones, slightly upturned eyes and eye folds similar to Mongols.
- Their buttocks generally protrude and steatopygia is common among women.
-Their average mass ranges between 49kg and 54kg.

Bushmen Lifestyle

Background on Bushmen lifestyle according to (Hone, 1972) . The San are able to carry great loads, live off plants and animals and can walk approximately 30km a day during a hunt. The women who also built them decided upon campsites, they were erected on slightly elevated spots with an unobstructed view.

The men collect wood for the women to build with and were normally collected in acacia woodland, where there is an ample supply for building materials and firewood. Each nuclear family has its own hut, with the elderly moving in with the children. Unmarried girls live in co-operative houses, while unmarried boys simply sleep under the trees with their peers. The huts were arranged in a circle and consisted of between one and twenty families.

When building the huts the women first spread grass and foliage over the ground in a 2m diameter, after which large trunks gathered by the men are placed in a dome-like frame. This frame is then thatched, making use of tall grass growing in the area, leaving a space for the entrance. The huts are small and crude, being only two meters in diameter and two meters high. The entire hut can be completed in two to three hours, but unless there is a threat of rain the huts will be completed at leisure in approximately four to five days after initiation. The huts are utilised as protection from the rain and cold, to sleep in and to store cultural objects, clothes and food. The hearth was situated outside near the hut entrance and is where food was prepared and consumed.

The Bushmen are sociable and frequently visit other campsites, were they converse and share meals around the hearth. The 'social functions' of the hut include sleep, privacy and sexual intercourse of spouses. Food is always consumed outside the hut. The space in front of the hut, although not demarcated, is considered the family's space, while all other areas are public. There are no specific ablution areas, but excretion does take place outside the hut circles. Shady areas under trees are considered a communal area for work, talking and short diurnal sleeping. Children play within and outside the camp areas.

The Bushmen have few possessions, due to their movement patterns. During the hot season they often abstain from building huts and merely live under the trees, while in the winter the hearth is kept burning all night. Daily life starts at sunrise, with people waking up at their leisure. Breakfast is generally leftovers, after which the men will hunt or make tools and women will gather food, cook, build camps and collect firewood. Work is done alone or in-groups. Children generally stay within the camp area and play all day. Women have regular activity patterns while the men tend toward more irregular activity patterns. Once an animal is brought back to camp, people will eat throughout the day and no work will take place, they will spend the day sleeping, joking, and rolling with laughter, singing and dancing. Socialising after the evening meals is also favourite pass time.

The hunting of large game, by means of bow and arrow is very difficult, with the men often returning empty handed. The hunter must remain down wind of their prey and often be expected to walk between 20 and 30km per day as they track the animal after its initial flight to the point were their poisoned arrows begin to take effect. Dogs are sometimes used in this tracking process.

Once the animal has been found it is skinned quickly and the head and legs are removed. The body is then dissected into loads, which can be carried by the men. The horns are disposed of, except when needed to make a new axe handle or cultural object. Almost nothing is left behind, except the stomach, intestines and their contents which are sour and bitter in taste, they are however a valuable source of water in the dry months.

The hide is tanned, sectioned and used for food, clothing and skin carry-bags. The blood is poured into the stomach sack and hardened, then mixed with fat found around the intestines and put into the duodenum and small intestines to make sausage. The liver, heart and kidneys spoil easily so they are cooked and eaten immediately. Ribs are also eaten the night of the hunt. Women never eat the heart, as it is believed this will bring bad luck to the men's hunt and for this reason it is never brought back to camp. If the animal brought down is to big, the bones are discarded and the meat is cut into strips and dried, thus reducing the weight of the load and preventing spoilage. Animal flesh is never eaten raw, but cooked in melon water, with a little added fat for flavour.

Smaller antelope species and springhares are caught in snares. Compared to larger game, catching small game is easy. Even so, small game capture can be difficult as springhares only feed at night, and spend the day in their burrows; thus a four meter barbed pole has to be used to hook it.

Small antelope travel in pairs or alone and have predictable routes, so snares put on route are used to capture them. Five or six snares are put out at any one time and inspected daily. The problems experienced with the snares include the ropes that are used become useless and must be replaced, after a rainstorm.

Gathering is divided into two processes picking and digging; the process used depends on the plant in question. Parts of the plant located above the ground, that are used include, the leaves,

stalks, flowers, seed, fruit and resin. The subterranean parts include the root and underground stalks.

While plants comprise the bulk of the gathered foods, small animals such as tortoises, ants and various insects are also collected. Gathering, forms a more stable part of the San's subsistence. All the roots are cooked on the fire or in the ashes and then sieved through woven grass to separate it from the ashes. Honey is one of the Bushmen's favourite foods and eaten with the larvae and comb. An alcoholic beverage is also made of honey when water is available, it is mixed with warm water and yeast and left to ferment for a day and night. Beverages are also made with various berries collected.

San cultures tend to be small in scale, with a lack of tribal integration. They form nomadic residential group, with different levels of development in ideology, religion and art. Technologies are crude and limited and these hinder gatherer societies are totally dependent on nature. There possessions are limited to what they can carry, non-essential possessions like decorated objects, musical instruments and toys are possessed by only a small portion of the population, but used by everyone. The three main factors contributing to this limitation tendency are - The hunter / gatherer way of life entails the exploitation of nature, with minimal processing of the materials found.
- There is no demand for the development of the technical skills needed for agriculture and pastoralism and also therefore no place for an elaborate material culture.
- Physical limitations are imposed by difficult and often frequent migration patterns.

CHAPTER 3
MATERIALS AND METHODS

METHOD

1. **Previous research**

Previous research had been done in the Magaliesberg on rock engravings on an adjacent farm known as Doornhoek by the late Mr R. Steel of the University of the Witwatersrand. The research area extended from farms ranging from Skeerpoort to Olifantshoek near Rustenburg, (Steel, 1988). The research yielded only 412 engravings of which only four were engravings of Bushmen engraving themselves, (Steel, 1988). The research was undertaken due to a new proposed road layout scheme in the area, which never came about, (Steel, 1988). The reasons for this are unknown. Over the past fifty years work in the area has been undertaken by Mason (1980), Welbourne, and Steel (Steel's research took place over a ten year period, in the 1980's). Doornkloof where this study was conducted lies due south of Doornhoek. To date no work had been done on most of the portions of this farm. The research undertaken looked at portions twenty-two to twenty-five.

2. **Research method**

Maps with a scale of 1:50 000 of the study area were obtained, (2527CD Maanhaarrand and the 2527DC Hekpoort), as recommended by the national monuments council, (1992.a). A preliminary survey of the area was undertaken and the location of possible sites was noted. These sites include not only Bushmen engraving sites, but Sotho-Tswana and Matabele iron age sites as well as a Boer War site, the remains of an old dam wall and the ruins of a mission station.

Informal interviews with the local people was then undertaken to obtain oral history of the area; as much historical knowledge was passed down from generation to generation as with all cultures. The results of these discussions were unexpected. Although there are Tswana, Zulu and Bushmen descendants inhabiting the area today, non have lived there for more than thirty years an thus have no bonds to the cultural history of the area, they also know none of the myths and beliefs of the people who once lived there. The Department of Arts, Culture, Science and Technologies committee, undertook similar studies in the area for a cultural village they are developing, verifying these results. Thus the only background on the cultures that populated the area are obtainable from books and articles. Information on the Boer War was however obtained from one of the oldest white residents in the area Mrs. F. Pieterse, whose parents were involved in this war.

The identified sites were then studied individually. Each stone was examined for possible engravings. Those that had been engraved upon were then recorded making use of a global positioning system (GPS) to mark their exact location; they were also recorded in the form of a carbon paper rubbing and photographed. The contents of the engraved work were then studied

and the style and techniques noted. Also the terrain on which the engraved sites were located was studied. All of the above was mapped. All the engravings were studied in context with each other, to attain their purpose, be it hallucinations, boredom, the practice of artistic technique, study purposes or religion

A detailed theoretical study into all aspects of the work was undertaken. Most importantly a data form was developed to capture all the information in a standardised format. Such a form is necessary, as it prevents any crucial information pertaining to the engraved work from being omitted. It also allows for easy utilisation of the research work by future researchers. Pretoria University has an extensive range of such forms for various aspects of archaeology, but to date do not have such a form for engraved work. It is due to the a-fore mentioned and a need by the research project under discussion, that the undertaking of the formulation of such a form was undertaken. A detailed report on the data format follows:

THE DATA FORM

Although the archaeological department of Pretoria University has well developed information gathering forms and structures for most aspects of archaeology they have yet to develop a standard data capturing forms for rock engravings. A form was therefore developed based on those already in place for other areas within the discipline and by determining the specific needs required for rock engravings during the research process.

Data capturing forms are necessary to standardise a range of core archaeological information, so that it may be systematised and integrated in terms of a specific subject.

According to Meyer (1993), the requirements of a well-organised information format for basic record keeping, searches and descriptive, comparative and analytical studies pertaining to the relative theme or format are:

-It must comply with the minimum and necessary scientific standard.
-It must make provision for identification information as well as inherent, cognate and management information.
-The system and information contents must be defined systematically, logically and clearly.
-The system must be adaptable, information retrieval accessible and it be user friendly.
-Information entered must be explicit, concise and accurate.
-Comparison of information between learner's of the same discipline should be more accessible due to use of the information format.
-Information records must easily be distinguished from each other.
-Information systems and contents must easily be computerised.
-The process of putting information into the system and extracting it from it again should be quick and easy.

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-Standardised terms are necessary for computer searches in specific fields thus a short list should be designed for the field in question.
-Provision should be made were necessary for free descriptions in computerised data formats.

1. **Rock Engraving Description Form**

This form refers to the terrain or site were the engravings are found, a summary of the engravings found, detailed descriptions of each individual engraving and research and conservation details pertaining to each engraving.

Other forms to be used in conjunction with the rock engraving form include:

- Area description forms.
- Archaeological terrain description forms.
- Project planning forms.

The forma consists of 11 parts, a detailed description of which follows. The basic structure adopted is based on those developed by Meyer (1993), Kotze (1997), Swartz (1997), and Deacon (1994 and 1992.a). Francois et al also emphasises the need for a standardised system of documentation in a paper for the Australian Rock Art research association.

a) Part 1
As with all other forms, the Pretoria Universities information comes first. This includes the code number of the Department of anthropology and archaeology, the master file number, document number and page number. All the above are combined into part one of the form.

b) Part 2
Part two comprises of terrain identification details. These include the site or terrain number, field number and if applicable the national or official number of the terrain must be noted. The name of the terrain as accepted by the recorder for record purposes must also be noted. Any previously documented records must also be noted regarding the naming or re-naming of a site including references to the literature. Lastly refer to the general terrain description document mentioned above.

c) Part 3
Part three of the form refers to the location of the terrain.
Incorporated in this section is; an accurate account of the co-ordinates of the terrain. In the case of their being more than one set of co-ordinates reference should be made to the document supplying supplementary information. One should also include all references to additional documentation on the location of the terrain. These additional documents must accurately display the co-ordinates and locality of the terrain. They must also show the route from the nearest identifiable place via automobile and by foot from a predetermined direction, referring to area maps, relevant topographical maps and photos.

d) Part 4

Part four of the document refers to the nature of the rock engraving terrain in question. In a concise manor describe the nature of the terrain, including the type of rock engraving terrain e.g. Bushmen, Bantu or Settler, with it's respective standard terms or codes by which it will be known for computer purposes if necessary. Describe the rock engraving area in terms of its positioning e.g. open terrain (valley or hilltop), a vertical piece of ground, rock wall, overhang or opening of a cave. Secondly note any unique characteristics of that specific terrain. Describe the general nature of the rock surface on which the engraving was made e.g. grain of the rock, weathering, composition of the rock, fault lines or fractures, resistance of the rock. Lastly refer to the graphic and other information on the characteristics of the terrain in terms of engravings.

e) Part 5

In part five of the document note the general description of the rock engravings. Firstly give a general type description of the engravings found on the entire location e.g. 90% animal motive and 10% linear. Second, an estimate of the circumference of the area the engravings encompass. Then identify the individual engravings and the concentration percentages of single verses paired figures found on an individual rock on the specific terrain. Give a short summary of the categories of subjects e.g. 10 herbivores (4 browses and 6 grazers), 2 carnivores, 3 depiction of tools uses, 1 human figurine, 7 pattern figures, 9 linear figures and 5 unidentifiable figures due to damage incurred. Make use of standard terms when describing the above e.g. human figures, anthropomorphism figures, animal figures, identified animal types, spoor, plant life, phenomenon of nature, abstract figure types, unique topics, geometric forms (grids, circles, undulating lines), entoptic phenomena and tools used.

Also note the specific composition of grouped figures found on the rocks e.g. group activities (dancing, conflicts, hunting scene, rituals), groups of animals (of same species or different species and superimposing. Note in total how many engravings were encountered on the specific terrain. Record the various rock engraving techniques used (broad or fine line). By referring to graphic information note the records of occupation of various areas by subjects depicted be it human or animal. Include any other divers information that may be of use and lastly name the various interpretations applicable to the engraving e.g. interpretations derived from activities shown, cognitive deductions, abstract deductions and subjects derived via deductions.

f) Part 6

Part six of the document refers to information on specific individual rock engravings and must be documented accurately and as complete as possible always referring to it's unique number or description were by it can be identified. Once again name the reference number, field number and or the reference name of the particular figure and note it's exact location, making use of GPS readings. Note the image depicted, where this is not possible due to various reasons, state that it is unidentifiable and name it as such. In the case of not being able to identify an engraving due to part of it no longer existing, describe it as such. If more than one figure is found on the engraving identify the context of the grouping, also note the positioning of the figures and there position on the rock face, and indicate if the art of superimposing was used.

Also document the direction orientation of the figures. Then state the activities depicted by the figures if any and the associations of other objects found on the engraving to the main figure, if any. Note any unique characteristics depicted by the artist about his / her subjects profile. Also describe the attitude and position of figure. Name the technical and style characteristics used on the figure, in particular look at the nature and characteristics of the outer lines and that of the inner surfacing. On human figures note the use of clothing and body decorations. Refer to the quality of the depiction of every figure and explain all deductions and interpretations that were made from the figure about the figure and the logic and reasons for coming to the conclusions made. Refer to suitable analogies and state the sources they were obtained from. Very important, describe the condition of the engraving and note all recommendations for it's conservation. Refer to all documentation made of the engraving e.g. photo's, rubbings, free hand sketches or graphic documentation of the engraving. Also note if any replica of the engraving was made. Lastly note any other diverse information, you may deem relevant and of importance to the engraving and for future use.

g) Part 7
Part seven of the document concentrates on the research done on the engraving. Here all past research and documentation done on the engraving must be note, with specifics such as when it took place and all comment made about it at the time, add all documentation to attached reference list. Also describe the nature of the current research project, listing the aim, the extent and the method of documentation used. List all the dates on which documentation took place, list person or persons involved in the documentation process so that they might be contacted in the future and the describe it's current condition, using some for respective rolls they played e.g. facilitator, photographer, artistic documentation ext.

h) Part 8
Part eight of the document is an in-depth looks at the conservation of the engravings in question. If previous visits to the sites were made note the condition of the art recorded, with reference to photos, rubbings, then making records of them. If it is a first time visit to the sight, record the condition and make recommendation's for it's conservation, against factors like the sun, rain, run-off of water, wind, animals, lightning, vandals, isolation, unstable rock formation, development, dust, veldt fires, plants, moss and chemicals. Name all previous conservation efforts and refer to their results whether positive or negative. Also discuss all current conservation efforts and evaluate their results to date if applicable.

I) Part 9
Part nine deals with the cultural resource utilisation of the area. Note whether or not tourists may visit the sites and with what degree of supervision, if no supervision is necessary what degree of control of conservation is present, how regularly as the sites visited and how often is their condition reviewed. To what further extent can the area be utilised.

j) Part 10
In part ten a listing of all references must be made, as they are an invaluable resource to the researcher. Refer to the master file in which all core data and cross-references are kept. Also note the attached terrain, area and project planning documents, the graphic records of the

engravings, maps and plans. Lastly make a reference to all references use to facilitate research e.g. books, photo's, slides, negatives, rubbings, archive records, unpublished works, publications. Note the names of the informants providing any information relevant to the research, be it verbal or written.

k) Part 11
Lastly in part eleven note the details of the record holder, include such information as name, date recording took place, position held in research and contact details.

The above mentioned is only a recommendation and can be utilised if wish in point form or in the form of a paragraph. Point form utilisation however, makes use of the document easier for future researchers and insures that all relevant information is put into the document, and systematises research on the project making the workload lighter. An example of such a rock engraving form can be found in the appendix.

CHAPTER 4
GENERAL SITE AND ENGRAVED SUBJECT INFORMATION

GENERAL LIST OF SITES

The number of sites identified on the research area total 16 and each site has been classified alphabetically from A to P. The sites are further classified according to weather they are rock engraving sites, iron age ruins, Boer war ruins, mission station ruins, or a combination of the above. This gives a general overview of the research area, (Map 1). Here follows a listing of the sites:

A- Iron Age Stone Walled Site (Sotho-Tswana origin)

B- Rock Engraving Site (Various Animals)

C- Rock Engraving Site (Various Animal and Linear Motif)

D- Iron Age Stone Walled Site (Matabele origin)

E- Probable Mission Station, Stone Walled Site and Singular Rock Engraving (Human Figure)

F- Remains of an Old Dam Wall

G- Rock Engraving Site (Various Animal and Linear Motif)

H- Rock Engraving Site (Various Animal and Linear Motif)

I - Rock Engraving Site (Various Animal and Linear Motif)

J - Rock Engraving Site (Various Animal and Linear Motif)

K - Rock Engraving Site (Various Animal and Linear Motif)

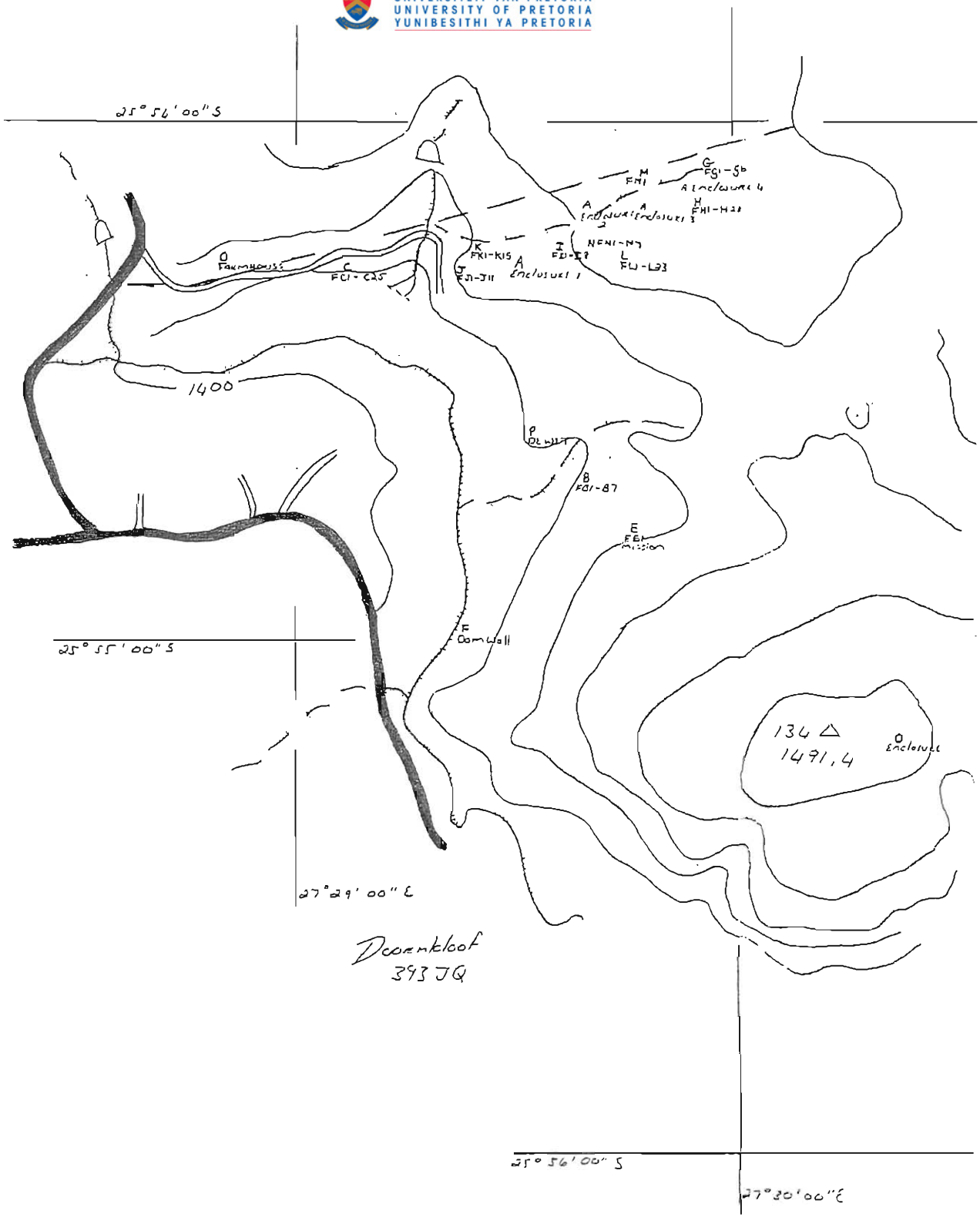
L - Rock Engraving Site (Various Animal and Linear Motif)

M- Rock Engraving Site (Linear Motif)

N - Rock Engraving Site (Various Animal and Linear Motif)

O - Old Boer Farm House

P - Boer War Site Remains (General De Wet' s camp)



(Map 1: The research area, detailing the site locations. This and all site maps that follow are based on a design utilised by Cox et al. (1990))

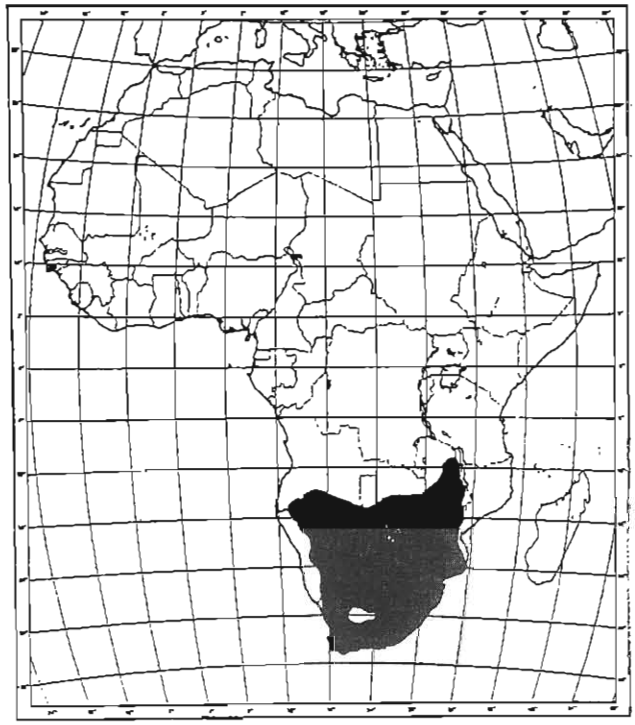
INVENTORY LIST AND BACKGROUND

The following is a list of the subject matter engraved in the research area. Listed next to the various subjects are the number of engravings featuring the specific subject. Engravings depicting various animals can be used to confirm or challenge the distribution patterns of the various animals. The engravings also depict the behaviour and unique characteristics of the various animals, which helps in the understanding of the animals and in the recreation of the bushmen way of life. In order however to be able to identify the distinguishing characteristics of the animals and to be able to clarify what aspect of the animals behaviour the artist is trying to convey, a in-depth study into the behaviour and characteristics of the animal must be undertaken. For this purpose, the background of each animal is included, so as to enhance the study of the engravings. All the subject matter on the characteristics and distribution of the animals was obtained from Skinner et al. (1990), unless otherwise stated.

BABOON (*Papio ursinus*) -- **3**

- There are vast variations of colour in individuals depending on the age, sex and geographical areas. The length of the tail is about the same as that of the head and the body. The males reach a body length of 1,1m with tails of 0,7m, with a mass of approximately 32kg, females weigh half that.

They are omnivores generally living in troops of up to 130 individuals and are found in Savannah and Arid zones (Map2).



(Map2: Baboon Distribution patterns)

BIRD *(Unidentifiable)* – **1**

- All birds have a preferred habitat, with specific needs and many will disappear entirely if their habitat is destroyed or degraded, as they are unable to adapt to different living conditions, (Newman, 1991). Probably the richest habitat in Southern Africa is the bushveld. It is comprised of various types of woodland and mixed bush varieties and in it's various forms, covers a great part of the afrotropical region and approximately three-quarters of Southern Africa, (Newman, 1991).

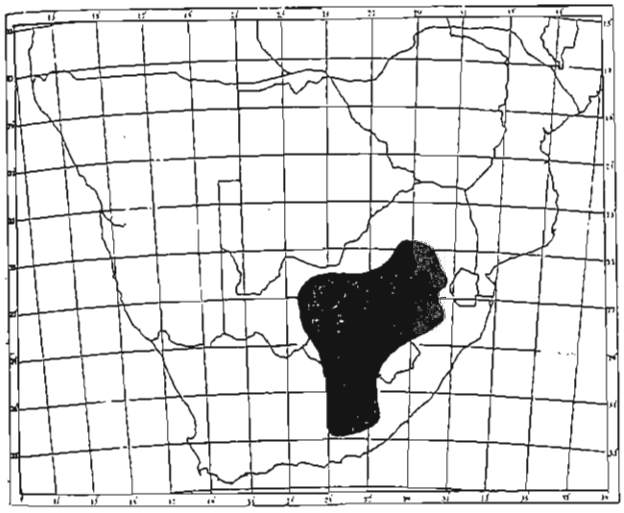
When attempting to identify birds, one needs to look at their relative size, the beak shape and colour, the length and colour of the legs, plumage colours and distinguishable marking, the habitat of the bird and what the bird is doing, (Newman, 1991).

BLESBOK *(Damaliscus dorcas phillipsi)* – **1**

- Are a medium sized antelope, measuring approximately 0,9m at the shoulder. Adult males have an average mass of 61.0kg, while females are lighter and smaller. Females have a more slender horn that hardly thickens at the base and males are generally darker in colour. Their long faces, high withers and sloping hindquarters give them a characteristic outline, reminiscent of their close relative the wildebeest and hartebeest. Their horns curve backwards and outwards and then slightly forwards towards the un-ridged tips .

The Blesbok is so called due to the markings on its face. They are endemic to the subregion, but their present distribution is artificial due to widespread introductions and reintroduction's. They only occur in protected herds on farms and reserves now. Because of the above-mentioned translocations, they have a wider distribution today than in the past. The Magaliesberg represented their northern most limits in the past. Blesbok were hunted relentlessly in the past for their meat and hides, as far back as 1893. Even when the roamed the land in there thousands they were seldom seen. They were common in the eastern Cape, Orange Free State, along the Molopo River and grassland, the former southern Transvaal and marginally in Kwazulu-Natal and west of the Maluti Mountains (Map3).

They are gregarious, diurnal grazers, with their height of activity in the early morning and late evening, preferring to lie under a shady tree during the heat of the day. This is due to the fact that they are susceptible to heat. During the summer months, males become soporific and can be approached closely with ease. They rest together in small groups and walk in single file, forming distinct paths. They have a characteristic habit of standing in oriented groups with their heads facing the sun, with their faces close to the ground. They will then frequently indulge in violent head shaking or stamping of their feet, followed by running in a small circle to only resume their place in the group. They have large bachelor groups, reaching a peak during the rut, harem herds consist of 2 - 25 females attended by one territorial male.



(Map3: Blesbok distribution patterns)

They are predominantly grazers, but will browse occasionally. They are partial to sprouting grasses, which appear after a burn. During winter minimal activity takes place, grazing lightly and selectively. They avoid grass with more than one season's growth.

BUCK (*Unidentified , artiodactyla*) – **13**
- Ungulates are even toed, characterised by the fact that the main mass of the body is borne by the third and forth toes on the feet equipped with keratinous hooves, (Franden, 1992). Ungulates are herbivores and ruminate, (Franden, 1992).

CAMEL (*Camelius dromedarius*) – **1**
- According to Hufnagl, (1972), the camel is not only holding its own, but has actually increased in number over the years. It's importance to man has shifted over the years from being predominantly a beast of burden and producer of milk, to that of being a valuable source of meat. Fossil remains of a wild form of camel, *Camelius thomasi*, were found in Pleistocene strata of Morocco, at Taza, as well as at Ain ET Turk, in W. Algeria and at El Guettar, in Tunisia.

No rock- paintings of a wild camel have been discovered in Africa so far, therefore it appears, they became extinct in North Africa before it could be portrayed or domesticated. Engravings of domesticated one humped camels, however date back to the first millennium B. C.

The average life expectancy of a working camel is approximately 25 years and in zoological gardens 30 to 40 years. They breed every second year and the gestation period is about 12 months.

They are a living example of the maximum adaptation to life in a hot and waterless milieu, and have even developed a double row of close-growing eyelashes, to keep out sand and sun from their eyes. Their nostrils can be tightly closed to keep the sand out. The camel can lose as much as 25% of its weight, in the form of body fluids, without dying or even suffering ill effects. Camels bite their drivers and herders during the mating-season. These bites are vicious, twisting the soft tissue, tearing and crushing bones that are often fractured.

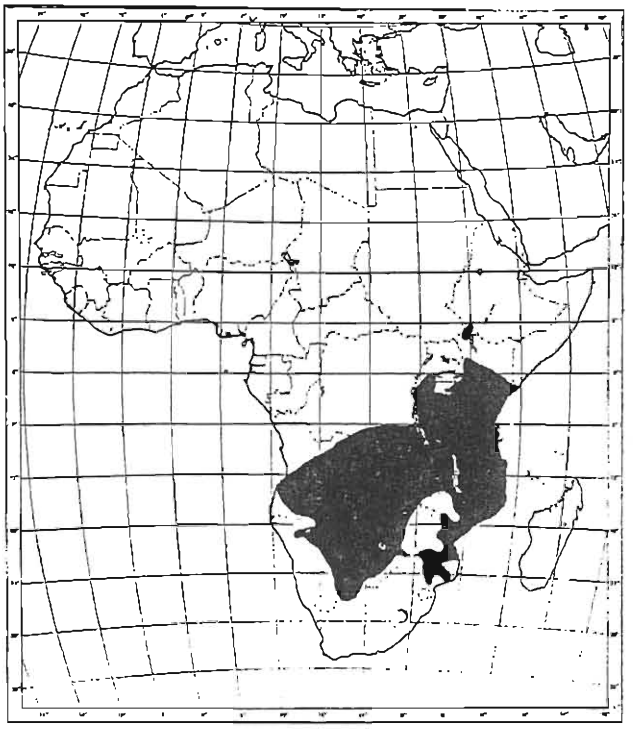
CAMELION (*Chamaeleo dilepis*) – **1**
-The Chameleon has a length of approximately 20 -24 cm, with a maximum of 35 cm, with a prehensile tail that is as long as its body and occipital flaps, (Branch, 1988). Coloration varies from pale yellow to green shades to brown, (Branch, 1988). This particular species under discussion is common as long as the area is suitable, (Branch, 1988).

Their diet consists of various insects including grasshoppers and beetles, (Branch, 1988). They are greatly feared by most tribes, due to the fact that they can change colour, look in two directions at once and bite readily, these characteristics are the subject of much folklore and contrary to popular belief they are not poisonous, (Branch, 1988).

Their predators include snakes, monkeys and birds, (Branch, 1988). Their habitat is that of Savannah woodland and enters the coastal forest of Zululand, (Branch, 1988). Their range includes Tropical Africa, south to Natal, the area formally known as Transvaal, north and eastern parts of Botswana, northern Cape and Namibia, (Branch, 1988).

ELAND (*Tragelaphus oryx*) – **32**
-The Eland is the largest of the African antelope, reaching up to 1,7m at the shoulder and clocking in at approximately 700kg for males and 460 kg for females.

Eland are widely distributed in Africa south of Uganda and Kenya. In South Africa it-self they were once found over vast areas , but since settlement their natural occurrence areas have been restricted to the extreme north of the Cape Province, Transvaal and Southern Botswana (Map4). They are versatile in their habitat requirements, but are most commonly found in Arid and Savannah areas were they are able to browse. Were water is readily available they drink regularly , but can obtain their moisture requirements from plants if needs be.



(Map4: Eland distribution patterns)

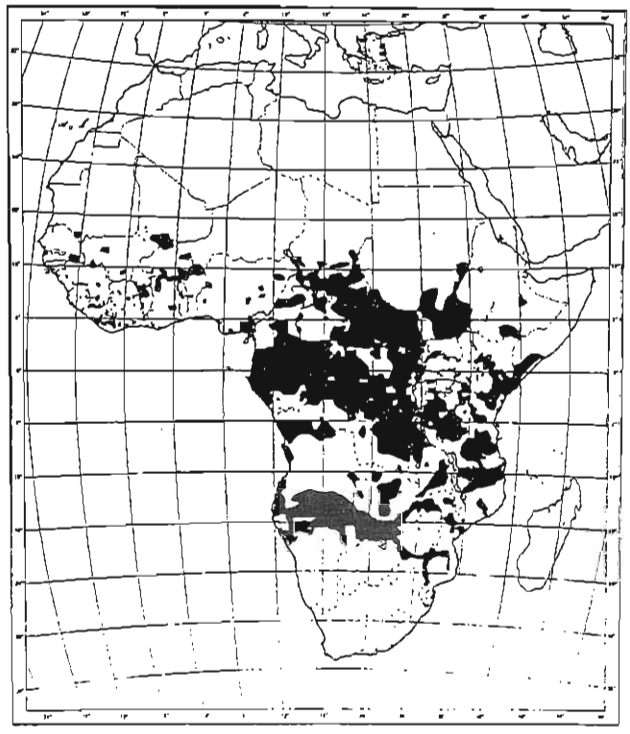
ELEPHANT (*Loxodonta africana*) – **2**

- They are the largest land mammal, and only cease growing at the age of 20 - 25 years. The males have an average high of 2,35m, while females reach 2,10m, but males can reach 3m and females 2,50m. Their ears have a well-developed triangular lobe, with the apex directed downward. Elephants don't require description being unique and well known. The tusks, which grow throughout life, are enlarged upper incisors, which replace tiny milk tusks, which only reach a size of 40mm and are shed at one year. These tusks are composed entirely of " dentine" or ivory.

By 1903 elephants practically ceased to exist in the subregion, in the space of 60 - 70 years, at that time 1200 000lbs of ivory were being imported to England, that equals approximately 50 000 elephants slain. Thankfully elephants everywhere in the subregion showed a remarkable capacity for recovery, to such an extent that populations have to be managed carefully and controlled, to prevent permanent damage to their habitat, making it one of the truly great conservation achievements. They occur in the South African subregion, in north and north-east Namibia, Northeast Botswana. In Zimbabwe they are located on the Limpopo and Zambezi

valley, in Mozambique they are located south of the Zambezi and in South Africa they are located in the Kruger National Park and other reserves and the Knysna forest (Map5). Elephants are catholic in their habitat requirements and are located everywhere were trees and water are present. A fresh supply of water is essential as they consume 160 litres per day per animal, also shade is a necessity for shelter and food in the form of grasses and browse plants.

Elephants are gregarious and are both diurnal and nocturnal especially in hot environments and live in family groups of an adult female and her offspring and her offspring and a number of closely related females and their offspring. At puberty males leave the group of their own accord and form herds. Bulls form with the family herds only when the females are in oestrus. Very old bulls live solitary lives. They have no territorial behaviour, but have home ranges, which vary greatly in size between various habitats. Elephants are peaceful by nature, but become aggressive if very sick and injured, also females with kids are unpredictable. Fights between males are rare. Elephants bathe, spray themselves and lay in water. They move at a steady walk, meandering over large distances. Their eyesight is not good, but their hearing and sense of smell are excellent. They vocalise in the form of trumpeting and screaming.

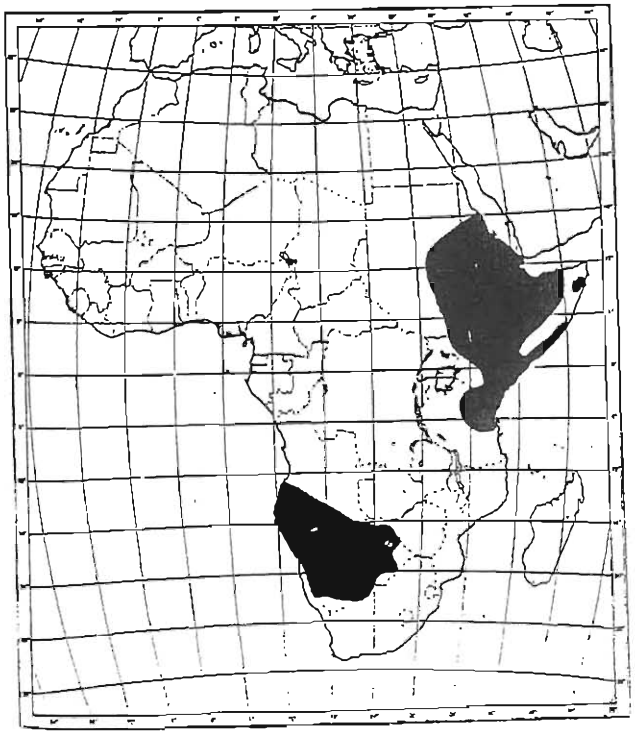


(Map5: Elephant distribution patterns)

Elephants both browse and graze, utilising a wide range of species. The ratio of the amount of food to the type depends on the availability and season. They love Mopane and re-growth from previously damaged trees. Elephants can be very destructive in their feeding habits, often uprooting trees.

GEMSBOK (*Oryx gazella*) – **5**
-Dubbed one of the most handsome antelope , it has long straight horns, a distinctly marked face and body, with a long flowing black tail. Males stand approximately 1,2m at the shoulder and weigh about 240kg, females weigh about 210kg, all have a distinct dewlap on the throat.

As far as distribution is concerned they are found in two discreet areas separated by 1000km, they are south of the Orange River (Namaqualand), Northwest Cape and the Karoo and then in Namibia and Botswana (Map6). They are found in arid terrain, open grassland, open bush savannah and light open woodland. Their diet consists of a great diversity of plant communities, including dry region roughage, they are grazers. Drinking water is not essential as they dig for succulent subterranean roots, rhizomes and bulbs. Gemsboks are gregarious, occurring in herds of about 300, small herds of approximately 30 and solitary males also occur.

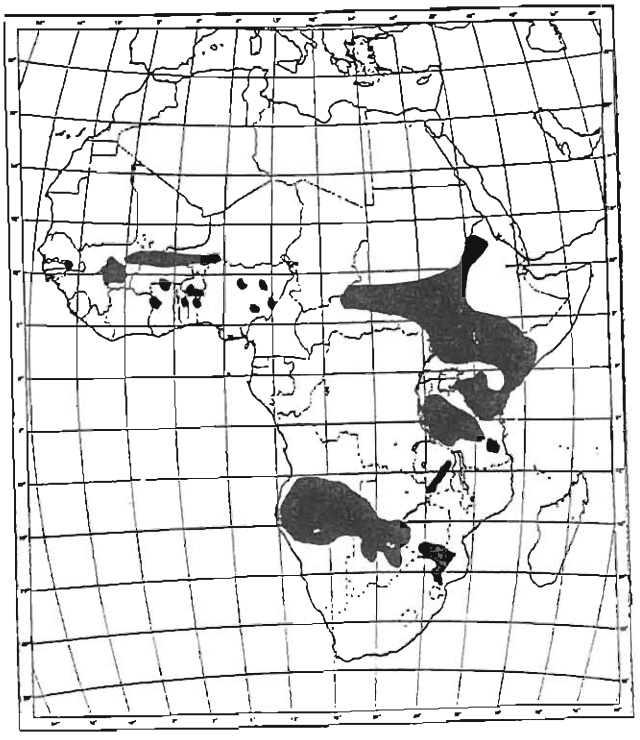


(Map6: Gemsbok distribution patterns)

GIRAFFE (*Giraffa camelopardalis*) – 7

- The giraffe has a very characteristic long neck, and is the tallest animal in the world today approximately 4.9 m - 5.2 m in males and 4.3 m - 4.6 m in females. There mass ranges around 1191 kg for males and 828 kg for females.

During historical times the limits of distribution have shrunk dramatically and are patchy and discontinuous. In the late seventeen hundreds and early eighteen hundreds they were recorded in areas ranging from the Orange River to Marocco and parts of the Sahara (Map7). Range shrinkage is due to rinderpest, poaching and settlement. They are generally found in Arid and Dry Savannah areas, ranging from scrub to woodland, they are browses but graze on occasion. They drink water were it is available but are not dependent on it as they can obtain all the moisture they need from the plants they eat. They are diurnal, generally docile and have a home range of approximately 24,6 km squared.

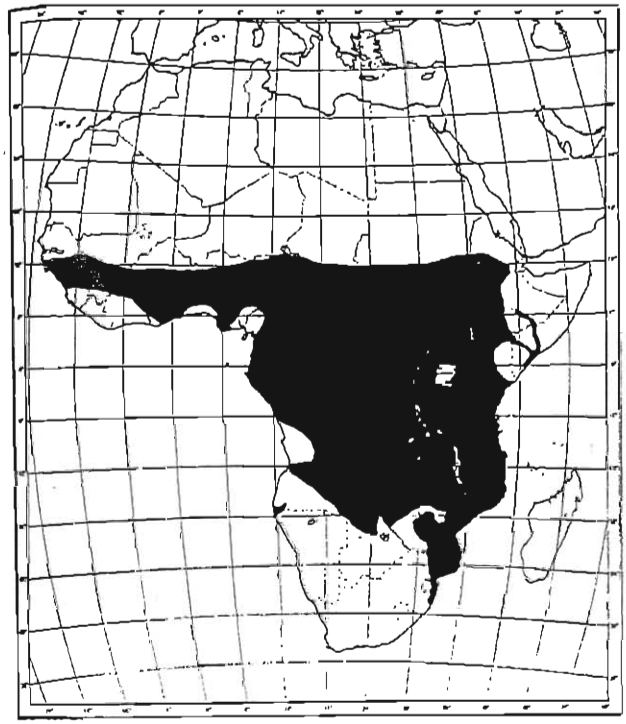


(Map7: Giraffe distribution patterns)

HIPPOPOTAMUS (*Hippopotamus amphibius*) – **2**

-Characteristics include its great size, short barrel-shaped body, smooth snake like skin and short stout legs. They have broad ,heavy heads with eyes and nostrils mounted on top. They have large wide mouths, armed with tusk-like canines and incisors. According to the proportion of the head the ears are small and stand up. They have a short tail that is flattened with sears bristles on the end. Males are larger than females.

They occur widely south of the Sahara and were once found in the lower Nile, but have been extinct there since 1815 (Map8). Due to being amphibious they are confined to adequate aquatic habitats, this brings about a discontinuous and patchy distribution.



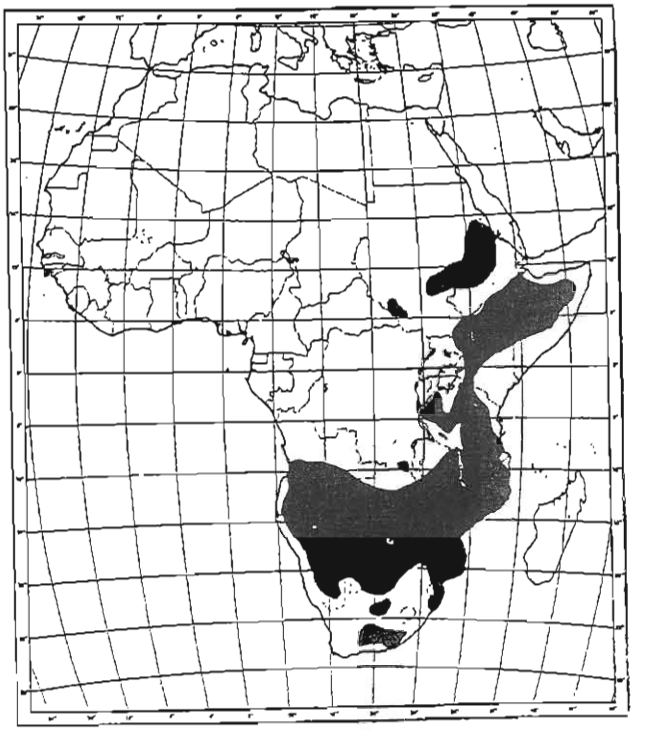
(Map8: Hippopotamus distribution patterns)

They are great wanderers that prefer shallow standing water near sandy banks on which to bask. They feed nocturnally and lie in water during the day. Adults can remain under water for five to six minutes at one time and swim in a jumping action. They eat up to 40kg of grass at night and are territorial.

KUDU (*Tragelaphus strepsiceros*) – **1**

-The kudu has been described as " acme of natures efforts to attain perfection of type" (Skinner and Smithers, 1990). Adults stand approximately 1,4m at the shoulder, with a mass of 250kg, females on the other hand measure 1,25m and weigh 200kg. They have a series of stripes of 5-14 , which are unevenly spaced. The ears in both sexes are large and broad for the size of their heads. Their horns grow for the duration of their lives, but only males have horns.

As far as distribution is concerned they are one of he most resilient of the large mammal species, surviving both hunting and settlement, but even so their range has shrunk. They are a savannah woodland species and are partial to broken rocky terrain where they have the cover of the woodland and a water supply , and plenty of browse (Map9). Seventeen Kudu still roam the farmland of Doornkloof today, under supervision of the farmers, whose conservation measures have led to a steady increase in their numbers over the years.



(Map9: Kudu distribution patterns)

LION (*Panthera Leo*) – **1**

-The Lion is the largest of the African carnivores, measuring 1,25m at the shoulder, with an average weight of 190kg for males and 126kg for females.

Its distribution has shrunk dramatically over the years, today apart from areas in which they have been reintroduced they are only found national parks and reserves in south- Africa (Map10). They have a wide habitat tolerance, finding only forests intolerable. Were water is available they drink regularly after meals, but can survive on the moisture they obtain from there prey. They are generally found in Sub-Saharan Africa or wherever medium to large herbivores are encountered.



(Map10: Lion distribution patterns)

OSTRICH (*Struthio camelus*) – **3**

- The Ostrich is well known as being the flightless bird, it is also a common resident, being utilised for farming purposes, (Newman, 1991). They are usually found in pairs or groups , with numerous children, (Newman, 1991).

In the wild they occur in isolated areas and also in game parks, (Newman, 1991). Their habitat includes woodland and wooded grassland in the east and thornveld or grassland in the arid

western regions, (Newman, 1991). The tail colour of the adults varies according to region, from white to grey to cinnamon- brown, (Newman, 1991).

QUAGGA *(Equus quagga)* – **1**

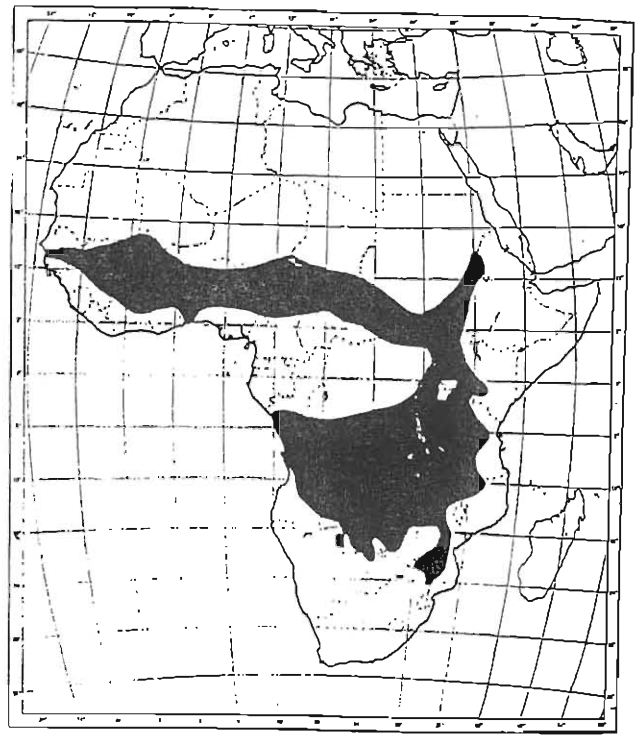
- They have narrow stripes on the forehead, which is noted as an important characteristic. They stand between 1,25 and 1,35m, with a total body length of approximately 2,57m. Only the foreparts of the body are striped. they had a broad dark band extending down the mid-back, the bands are broader and more regular on the neck and extending to include the erect mane and becoming lost in a series of spots and blotches about half way along the body. The legs, tail and under parts were white.

From all accounts the quagga was a species which grazed open country, in its known historical range. The existence of the quagga is debated today still, with the belief that it was mearly the result of a recessive gene, (Meltzer, pers. com 2000).

ROAN ANTELOPE *(Hippotragus equinus)* – **5**

- They are a large antelope, surpassed only in size by the eland. Males stand 1,4m at the shoulder and have a mass of approximately 270kg, while females are slightly smaller and lighter. Both sexes carry horns, but females are more lightly built. The horns rise from the top of the head in an even backward curve and are strongly ridged with a smooth point.

They are considered an endangered species in South Africa. In 1969 a capture operation established a breeding herd of 21 antelope on a provincial reserve and by 1983 numbers had increased to 181 animals. From this group translocation occurred. Numbers have steadily risen, except in 1984 when numbers dropped due to an outbreak of anthrax. At one time they occurred as far west as Gambia and east to Nigeria to the former Transvaal in the Kruger National Park, which was their southern boarder (Map11). Since those historical times, their limits have shrunk dramatically.



(Map11: Roan antelope distribution patterns)

Roan are sensitive to change in their habitat, either an increase in the woody vegetation or a reduction of the grass cover. Habitat requirements are critical, their occurrence is thus confined to lightly wooded savannah with extensive open areas of medium to tall grasses, where water is available. They avoid areas of short grass. As a result of their requirements their distribution is patchy and discontinuous.

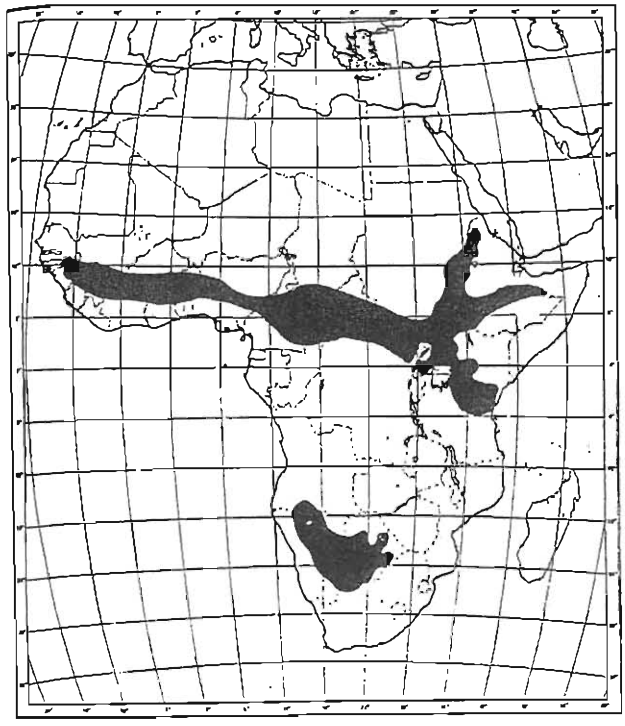
Roan are gregarious and found in small herds of 5 - 12 individuals. Social organisation consists of nursery herds, bachelor groups and solitary bulls. Herds are stable units and remain in one area for long periods. They are predominantly grazers and browse constitutes only a small proportion of their diet. They feed on medium to long grass, avoiding areas where the grass is short. The availability of the species of grass plays an important role in their selection of food. Roans have two peaks of grazing activity, early morning and late afternoon. They are delicate feeders and don't close crop the grass and will switch to browse in critical periods.

RED HARTEBEEST (*Alcelaphus buselapus*) – **1**

-The adult male stands approximately 1,25m at the shoulder with a mass of 150kg, females weigh in at 120kg. They have a characteristically shaped body, head and high humped shoulders, sloping backs and elongated heads on upright necks. Sexes have horns , but the males are heavier and set closely together at the base, the shape of the horns form a characteristic heart shape.

They have a wide but discontinuous distribution south of the Sahara (Map12). Distribution has shrunk dramatically during historical times. Their habitat is associated mainly with open country, grassland of various types, vleis, semi-desert bush savannah and to a lesser extent open

woodland. They are gregarious, occurring in small herds of up to 20 and larger and are predominantly grazers.

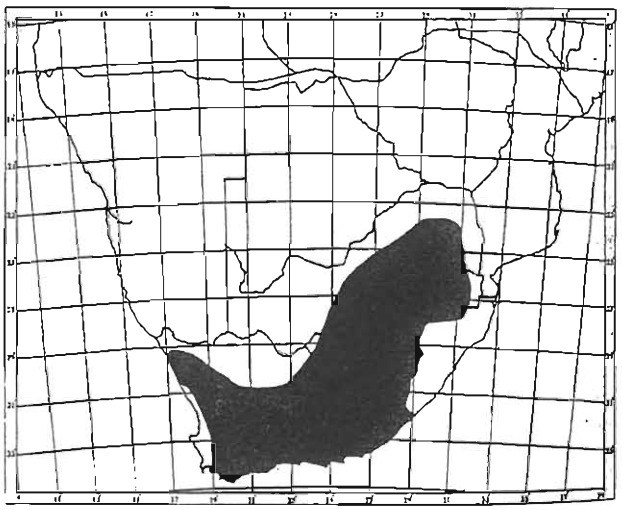


(Map12: Red hartebeest distribution patterns)

RHEBUCK (*Pelea capreolus*) – **3**

-Rhebuck are slender and graceful standing about 0,75m and weighing only 20kg. They have a long slender neck and very long narrow, pointed ears.

They are confined in their distribution as they like rocky areas with good grass cover and are dependent on water, they are only found in South- Africa in Mountainous grasslands above 3300ft (Map13).



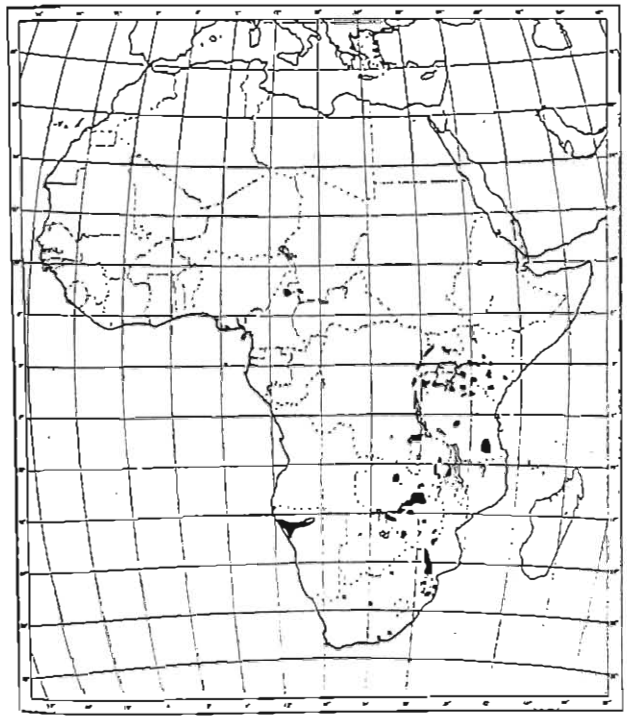
(Map13: Rhebuck distribution patterns)

BLACK RHINOCEROS (*Diceros bicornis*) – **1**

- Adults stand 1.6m at the shoulder with a mass of 1000kg. Characteristics include a prehensile upper lip, used for grasping twigs of woody plants they eat. They have a shorter head and a longer neck with small rounded ears. The Black Rhino lacks the nuchal hump on its back, carries its head higher than the white rhino and are a darker grey. The shape of the horns depend on the habitat of the rhino, maximum horn length measured was 1,20m. Their front feet are larger than their back feet.

Distribution has shrunk dramatically over historical times from 100 000 in 1960 to 3000 in 1990. Today they are only found in National Parks were they are offered protection from poachers (Map14). Their horns are sort after for medicinal uses by Asian traditional healers. Their desired habitat must contain sufficient shrubs and trees up to 4m in length and well-developed woodland with thickets in which to hide and utilise for shelter. They need water for drinking and in which

to bath and a mud-wallow is important. They are always within a 10km radius of water and are solitary animals.



(Map14: Black rhinoceros distribution patterns)

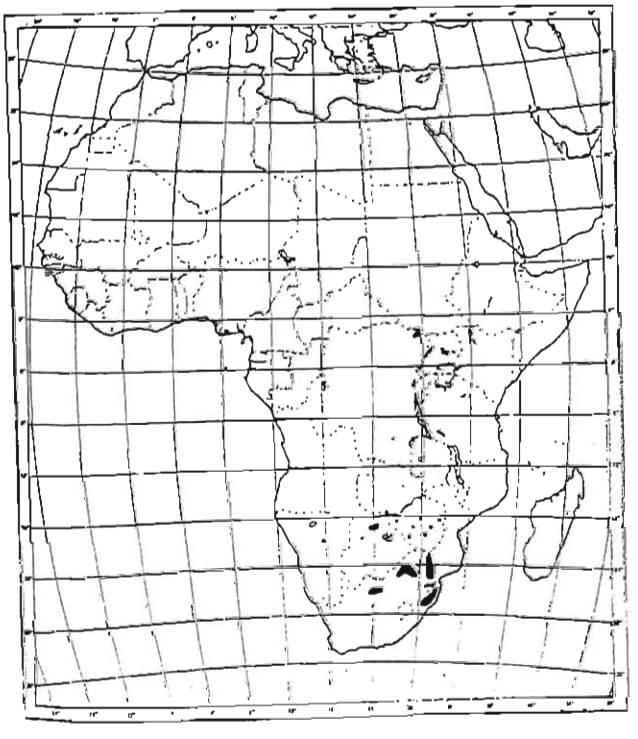
WHITE RHINOCEROS (*Ceratotherium simum*) – 3

-A shoulder height of approximately 1,8m is found in males and 1,77m in females with an average mass of between 2000 and 2300kg for males and 1600kg for females. Africa's third largest land mammal has a barrel-shaped body and short, thick limbs. It has a characteristic long head with long continually growing horns, pointed ears, wide squared-off lips, a distinct hump on the neck and a hump on its back, with a relatively short tail. The shape of its mouth allows the animal to eat cropped grass to within 10mm of the ground.

The distribution of the animal is evident from skeletal remains and Rock Art on the coasts of Morocco, Algeria and Tunisia through the Sahara and East Africa to South- Africa (Map15). In 1960 only 700 were still found in South Africa but through successful reproduction projects the numbers climbed to 2199 by 1989. White Rhino's have four basic habitat requirements :

1- Short Grass (preferred food)

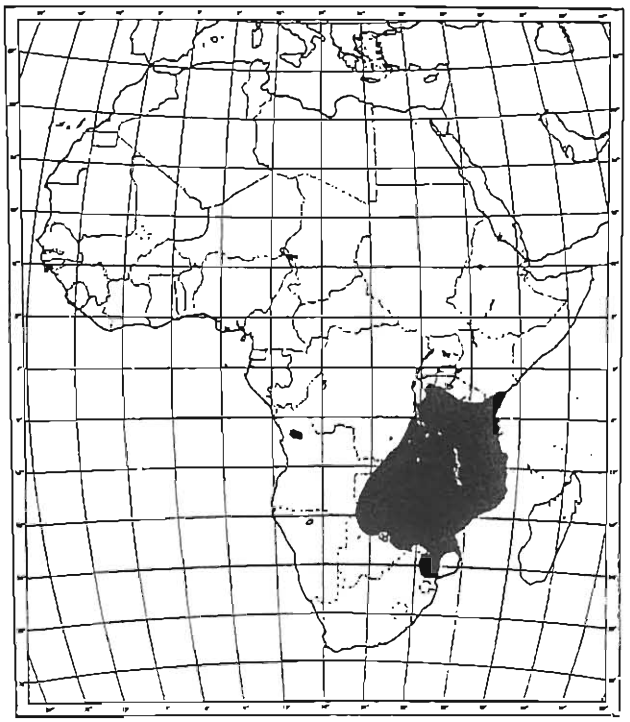
2- Water for drinking and wallowing
3- adequate bush cover
4- Relatively flat terrain
They are found in wooded grasslands, in small groups with a single dominant bull, having clearly defined territories.



(Map15: White rhinoceros distribution patterns)

SABLE (*Hippotragus Niger*) – **1**
- They are less robust and lighter in mass than there close relative the roan, reaching 1,35m at the shoulder and weighing 230kg.

They were first encountered west of Pretoria, but are extinct to the area today. Generally found in Savannah woodland areas around water on which they are dependent (Map16).



(Map16: Sable distribution patterns)

TERRAPIN (*Pelomedusa subrufa*) – **1**

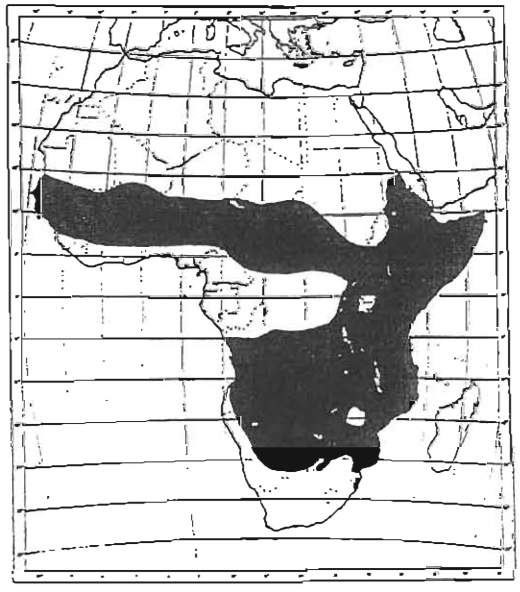
- The shield reptiles all have a characteristic shell, whether it be soft, leathery, hard, flat, knobbed, or hinged, (Branch, 1988). The first fossil records were found in Germany and date back to approximately 210 million years ago. (Similar fossil records have been recorded for South Africa), (Branch, 1988). Early tortoise had teeth , but these are absent in all forms today, (Branch, 1988).

The terrapin belongs to the tortoise family, (Branch, 1988). The species under discussion is the Marsh or Helmeted Terrapin, (Branch, 1988). They reach a length of 20-30 cm, with a maximum of 32 cm, (Branch, 1988). They are a common species to the temporal planes, (Branch, 1988). Being omnivores they eat anything, favourites include, water weed, insects and frogs, (Branch, 1988). Their habitats include, slow moving or still water, (Branch, 1988). Their range is large ,

almost everywhere were water is present, including the Central Karoo, Etosha, Sub-Saharan Africa and Madagascar, (Branch, 1988).

WARTHOG (*Phacochoerus aethiopicus*) – **1**
-They have been described as " incarnations of hideous dreams", " the most astonishing objects that have disgraced nature"(Skinner pers. com 1999.). Adult boars stand approximately 0,7m at the shoulder and weigh about 100kg, while females stand about 0,6m and weigh about 70kg. Characteristic features include an elongated head that slopes forward to the snout, they have distinctive facial "warts", with canine teeth that grow out sideways from the jaws like tusks, which are used for protection and to dig up roots and tubers.

They are found all over except in forest and desert areas. They are found in Namibia, Botswana, Zimbabwe, Mozambique, in South- Africa they are found in the area formally known as the Transvaal, the Cape Province and Natal (Map17). They prefer habitats like open ground, grassland, floodplains, vleis and open areas around water holes and pans. They love burnt ground were grass starts sprouting and are normally found near water although they are not dependent on it. They are diurnal, and use their forefeet for digging, live in holes in the ground and have social groups made-up of families.



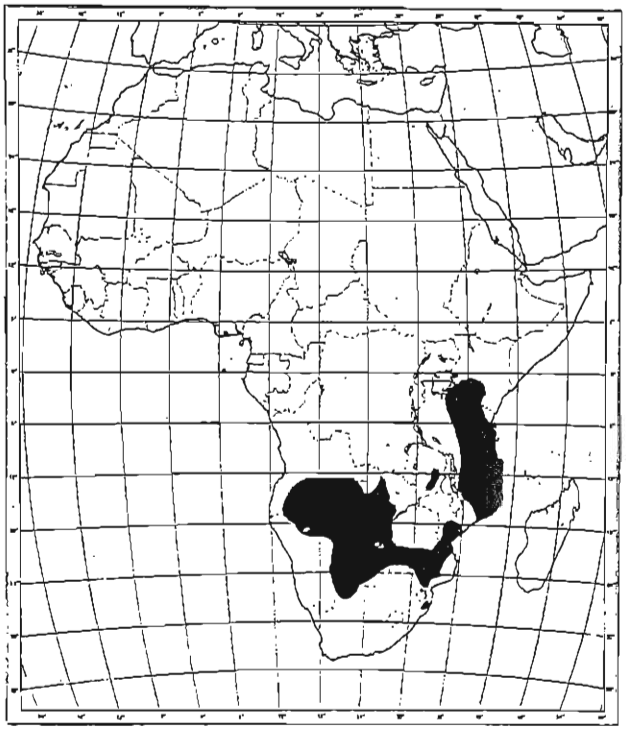
(Map17: Warthog disribution patterns)

BLUE WILDEBEEST *(Connochaetes taurinus)* – 1

- Adult males stand about 1,5m at the shoulder and have a mass of 250kg, while the females are smaller standing at 1,35m, with a mass of180kg. The humped shoulders and deep necks contrast with the more lightly built hindquarters with slender legs. The slope from shoulder to hindquarters is more pronounced. Their heads are massive and elongated broadening at the nostrils. Both sexes carry unridged horns,. arising from swollen bases, sweep outwards and slightly downward and then rise upward to the inwardly pointed tips, directed slightly backward.

Today they occur in two main, widely separated areas. They are located in Southwest Kenya to Northwest Mozambique and south from Zambia, into South Africa, with an isolated patch in the Luangwa valley in Zambia. In South Africa they were widespread in the area formally known as Transvaal and occurred as far south as the Orange and Vaal rivers (Map18). They occur in savannah woodland with the availability of shade and drinking water an essential habitat requirement. They utilise Acacia and Tamboti and have seasonal movements in the dry season to short grass areas on sandy riverbanks.

They are gregarious, occurring in herds of 20 or 30 or even up to thousands. Their social organisation consists of territorial males, female herds, which include their offspring for that year and bachelor herd. Territorial males will drop to their knees and horn spar, butting their heads to chase of the intruder. Sexually active bulls employ ritual displays directed to individual situations. They have a home range of approximately 2,5km2. They are grazers, preferring to feed on areas of short, green lawn-like grassland. They are partial to fresh sprouting grass on burnt areas or after rain. They don't eat grass more than 100 - 150mm high. They have a well-adapted snout for short grass as it is widened at the base.



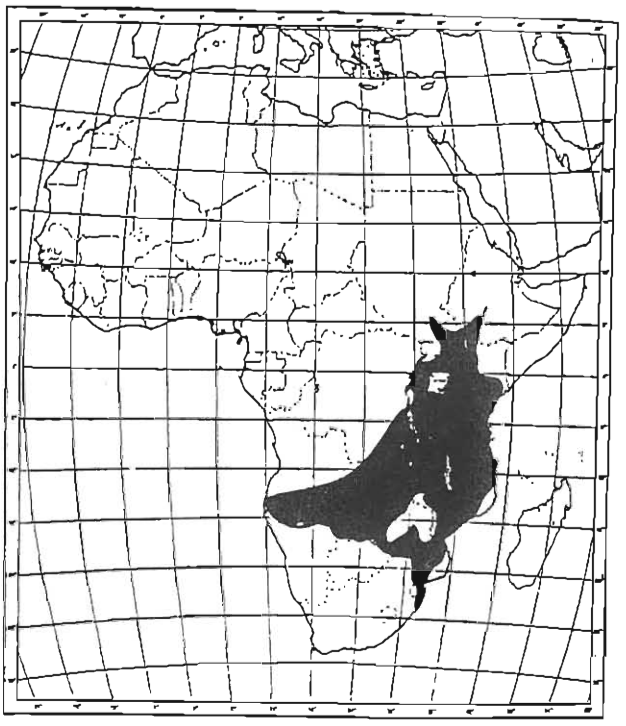
(Map18: Blue wildebeest distribution patterns)

ZEBRA (*Equus burchelli*) -- **4**

-They have a characteristic body patterning made-up of irregular waved mosaic patterns along the entire length of the body, they are characteristic striped pelages. Zebra's are always in prime condition with well-rounded bodies and shinny coats. Adult zebra's stand about 1,36m at the shoulder and weigh 320kg, there is no difference between males and females.

Their present day distribution shows marked shrinkage, naturally occurring groups are only found in game parks (Map19). They prefer savannah plains and are partial to open areas of woodland, open scrub and grassland were water is available. They are dependent on water for

survival. They are gregarious (live in-groups), whose size depends on their habitat. They are predominantly grazers, but occasionally browse and feed on herbs. (Table 1)



(Map19: Zebra distribution patterns)

LINEAR WORK – 15
Linear work constitutes engravings comprising of geometric shapes or lines, which do not appear to constitute a specific shape or object.

PATTERN WORK – 41
Geometric work also forms part of pattern work, but in this case, they formulate a specific shape, object or concept.

WEAPONS – 4

WEAPONS -- 4

According to (Hone,1972) weapons utilised by the Bushmen include:

- A bow (kiesha), is 2cm in diameter and 1 meter long, with the strung rope being 2mm thick, which is made from the tendons connecting the back and neck of a gemsbok.
- The arrows (kxaosha), are 7-10mm thick, 50cm long and made of the stalk of a cultivated plant, while the arrowheads were made of wire of a 2mm diameter, all these products were obtained through trade. The arrows do not have feathers on the end; thus they are not all that accurate, with a maximum shooting range of approximately 20 meters.
- The poisons (g! ain), are made of the larva of a small beetle called the Diamphidia simplex, which lives underground, appearing in the rainy season to feed on shrub leaves. Theses larva are gathered and crushed and stored in a poison jar. When needed they are dissolved in juice from the root of indigofera. It is painted on the arrow head except it's tip, it is very effective, but takes approximately 10- 20 hours to take effect.
- A spear (kxao), shaft is peeled from the *Grewia flava* stalk, the point is manufactured from an iron rod obtained through trade. It is rarely used as a throwing spear, but is used as a secondary weapon administered on dying game.
- A snare (g! UI), is a strong rope of two meters twisted from the fibres of the *sansevieria* aethiopica, a small branch fastened to one end of the rope serves as a pin.
- A snare (tsipi) is a steel trap obtained through trade.
- A springhare pole (g! an), is a one meter long pole, with a springbok horn tied to its tip.
- A knife (kxacho) is made in the same way that a spear point is made.
- An axe (n / ubi *or* bosha), was obtained through trade.
- A club (n / ua), is made from the swollen section of the root of the *Rhigozum* brevispinosum.
- A dog (aba) was the only domesticated animal the Bushmen owned and was used during the hunting process, to track the wounded game.

CULTURAL OBJECTS -- 2

According to (Hone, 1972) the cultural objects the Bushmen utilised include:

- A digging stick (n/ue), is made by peeling bark of Rhigozum brevispinosum, which is two meters in diameter and 80 - 110cm long and one end is cut diagonally (this is one of the Sans most important tools).
- A hunting bag (! komasha), is a sewn steenbok hide, of which the four legs are fastened together to form a sling for a bag. It contains the bow, arrow, spear, club, knife and fire stick of the hunters.
- A carry skin (N / au), is made from gemsbok, springbok, red hartebeest or wildebeest hide and used by women to carry gatherings. Both sexes use it for clothing or a sleep blanket.
- A carry net (/ ontsono), is made from the tendons of a gemsbok or other game that is twisted into thread and then woven into a net, which the men use to carry meat in.
- A small pouch (gyube), is a 30cm square tanned steenbok hide and was used to hold small articles and gathering berries.
- A container (dam) is used to carry cosmetics and medicines. They are made of a tortoise shell, with a beaded leather carry strap and leather lid.
- A water container (! kabi), is made of ostrich eggshell.

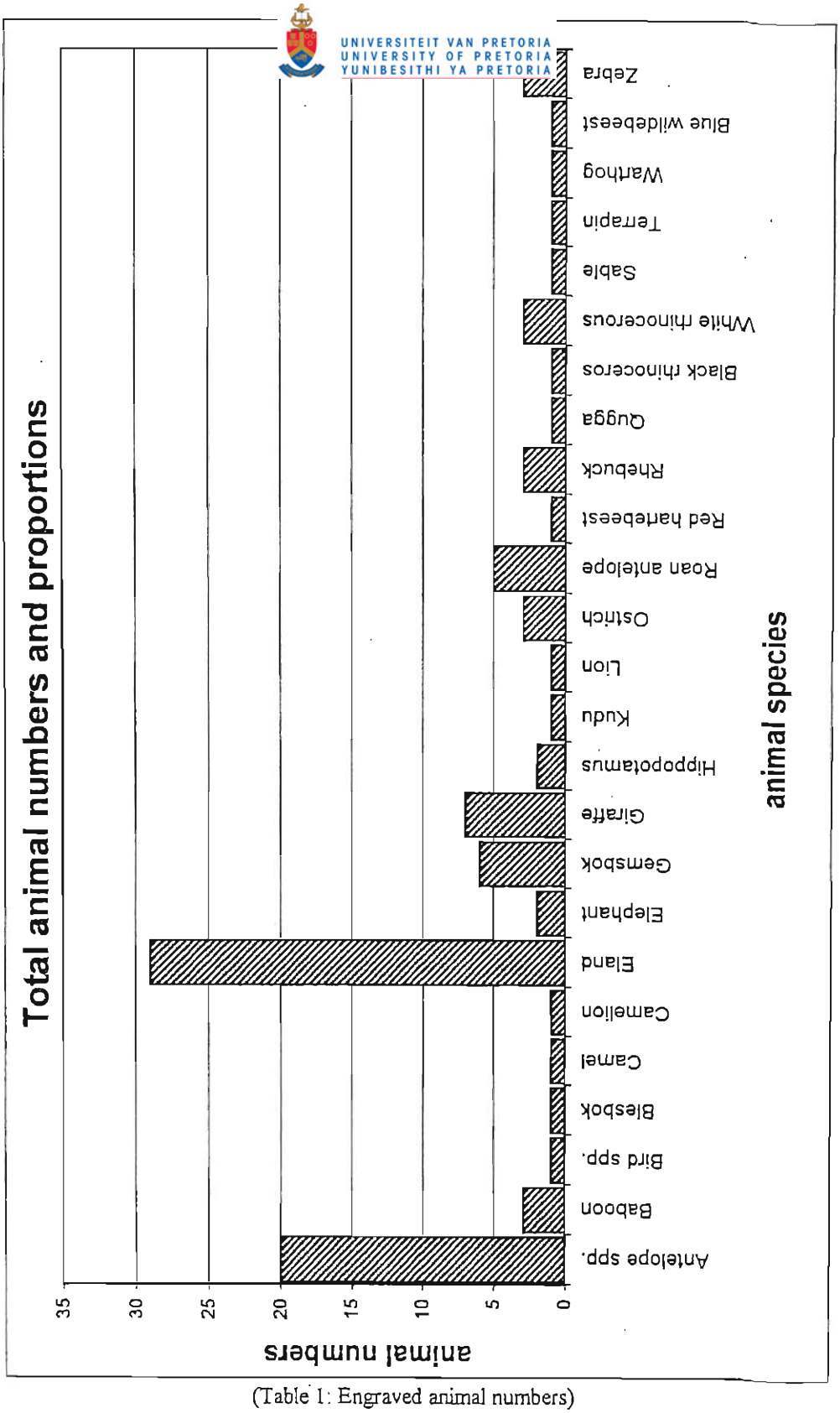
- A fire stick (le) is a rubbing stick made from *Catophrates alexandria*, which can produce a fire in approximately one minute.
- A pan (llkoe) is made of cast iron and obtained through trade.
- A bowl (xabasha) is made from enamel and obtained through trade.
- A cup (n / ubi), is made from enamel and obtained through trade.
- A spoon (i! kam), is also a traded object, although a tortoise shell may also be used.
- A fire-rake stick (gure) is a 70cm long made by shaving a *Boscia* albitrunca's trunk flat. It is used to rake-up embers, ashes and sand.
- A mortar (iika) & pestle (! koa), a mortar is a hollowed out section of an *Ochna* plusher trunk, while a pestle is a piece of branch 5cm in diameter.
-A sand sieve (/ aru), is a mat woven from grass and used to separate beans and seeds from the ashes and sand.

MISSION STATION (Ebenezer Mission) – **3**
The Ebenezer mission station, originated in 1849 and formed part of Evangelisch - Lutherische Mission sansalt zu Hermannsburg", Hermannsburg Evangelical Lutheran Missionary Society, (James et al. (1911)). The Lutherans enjoyed a 745 strong membership in South Africa, with missions in Natal and Bechuanaland (Bophuthatswana), it originated in the Hannover Province in Germany, (James et al. (1911)). The mission welcomed all non- Christian people. The mission comprised of two men and two wives, (James et al. (1911)).

HUMAN FIGURES (Homo *sapien sapiens*) – **4**
-All the figures are of Caucasian settlers and are female. This is verified by the fact that they are all portrayed wearing dresses. No engravings of Bushmen engraving images of themselves were located.

PIET (The *recording of Piets death*) – **3**
- Piet was a cattle herder in the Maanhaarrand area, who tragically died of a heart attack, in the fields he herded.

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(Table 1: Engraved animal numbers)

(Table 1: Engraved animal numbers)- In tabulating the animal numbers, the frequency of the subject matter can be compared. This serves to correlate the animals engraved with the notion that the animals were engraved for the purpose of study and religion. Animals forming part of the diet of the bushmen are engraved more often, so to are the eland, which hold religious connotations.

CHAPTER 5
INDIVIDUAL STUDY SITES

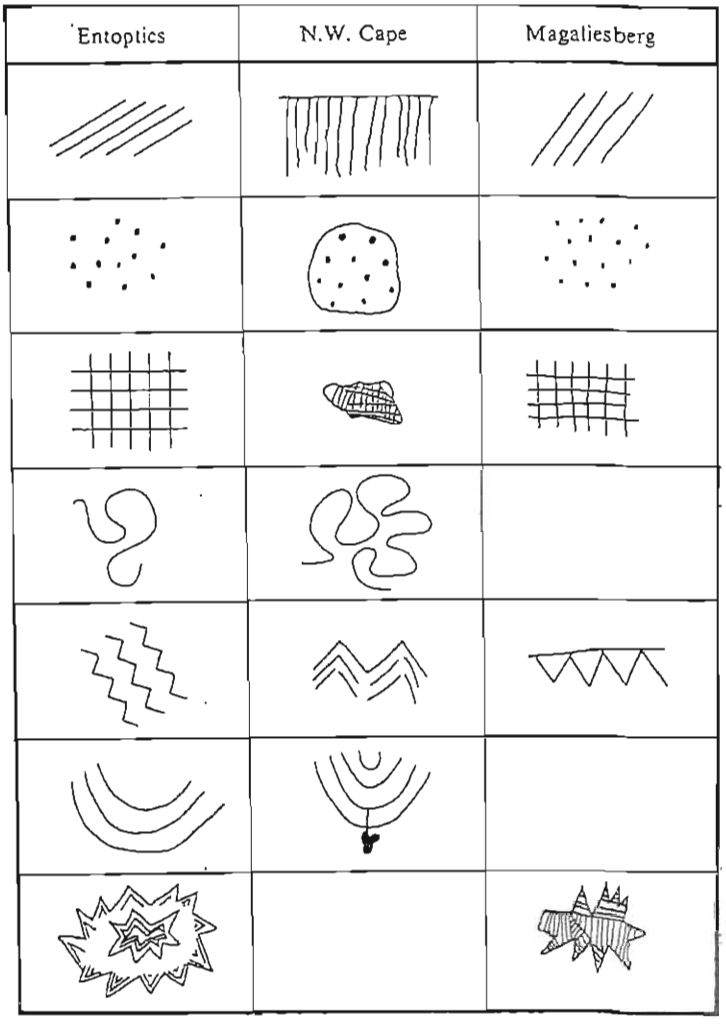
KEY CONCEPTS

To fully understand and be able to appreciate the artwork located at the individual sites, certain basic concepts pertaining to the rock engravings of the research area need to be understood. This includes an understanding of the various techniques used to engrave and certain theories on the purpose for engraving. The following are key concepts that need to be understood, in order to appreciate the engraved work.

1) Incision (incised) technique - It is a singular engraved (carved) line, simplistic in nature that curves to form the characteristic silhouette of the object or subject being engraved. Other lines may be engraved inside the silhouette, to enhance the character of the subject. In a few cases multiple lines are used to depict the engraved work.
2) Fine line technique - It is a style utilised in incision work, in which the incised lines are no more then 1mm in breadth.
3) Broad line technique - It is another style, younger than the fine line technique that was utilised in incised works. In this case the incised lines are broader than those of the fine line incisions are.
4) Entoptic phenomenon - They are luminous visual precepts that take on geometric forms such as grids, zigzags, dots, undulating lines, nested catenary curves and spirals, (Lewis-Williams, 1988). These shapes are experienced as glowing heat, shimmering, moving, rotating and enlarged patterns, independent of light from an external source, (Lewis-Williams, 1988). These phenomenon are experienced with the eyes open or shut at a distance of approximately 30cm, and change form rapidly (Table 2), (Lewis-Williams, 1988). The concave curves shown in the entoptics column of Table2 and in the north-western Cape column, which according to the Table does not occur in the Magaliesberg, does in fact occur in the Magaliesberg, but in the Magaliesberg they converge at the tips (Figure C4).

That the shamans engraved entoptic phenomenon is a distinct possibility but that they then went on to stage two of the hallucinations, in which according to Lewis-Williams,(1988) they would take these basic geometric forms and construe them into something they hoped to see in the spirit world, is debatable. Even more debatable is the statement, according to Lewis-Williams, (1988), that they then move on to stage three, in which the person will experience a vortex or rotating tunnel, that seemingly surround them, these tunnels then give way to images of people, animals, monsters and houses. The a-fore mentioned concept, is said to be what people undergoing a trance or hallucinations experience, this was proven through psychological testing, (Carson et al. (1992)). Other side effects, include an increased heart rate, a slowed down reaction time, itchy eyes, memory disfunction, a slowing down of information processing, all of which impair work productivity, (Carson et al. (1992)). Taking into account the high quality of work produced by the artists and the complexity of their work, it seems logical to presume that the person, would have to be at their full senses, during the production of the work. On studies the

person, would have to be at their full senses, during the production of the work. On studies the rubbings of the relevant engravings the above statements on entoptic phenomenon appear true, but if the actual engraved surface is studied it becomes clear that the "entoptic phenomenon" were engraved long before the subjects superimposed on them or vice versa. Also the styles used to engrave the animal images differ in style and technique from the "entoptics".

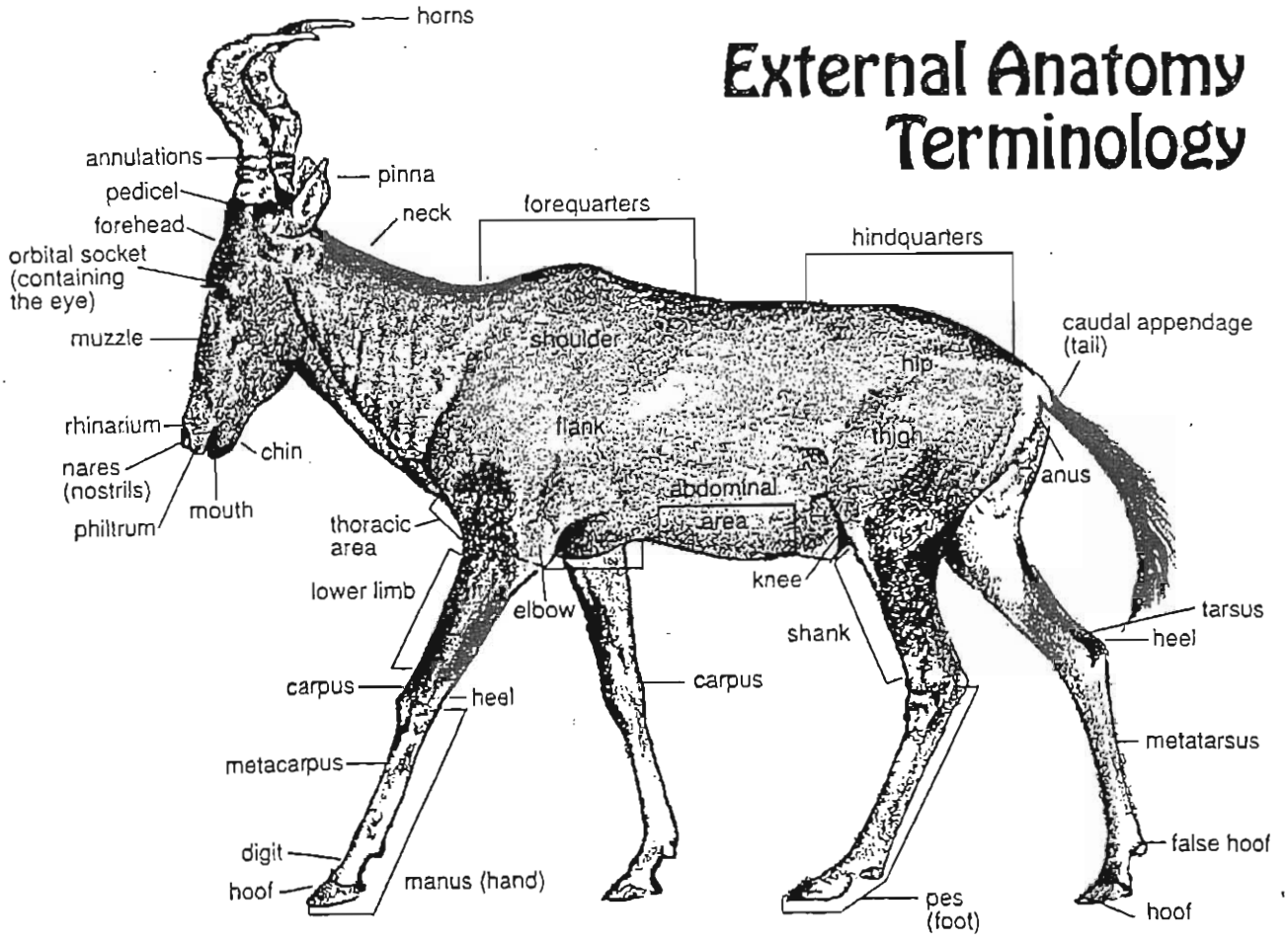


(Table 2: Entoptic phenomenon compared with engravings from the north-western Cape and the Magaliesberg, [Lewis-Williams, 1988])

The grade of the majority of the work produced by the Bushmen is of such a high standard, that it would be unrealistic to think that they engraved while in a trance or hallucinating. It is more realistic to believe that they created their masterpieces while at their full senses, engraving what they remember experiencing while under the influence. Also it is more realistic to believe they engraved animal, humans, monsters or houses on some of the entoptics simply because the make for an interesting background. This is verified by the statistics of the sites. All the entoptic's grouped with other subject were engraved long before the other subjects and making use of a different style and technique. Thus in conclusion, yes the Bushmen shamans did enter trances and make use of hallucinogenics, which led to them experiencing entoptic phenomenon and later engraving these phenomenon experienced, but this is where the experience ends.

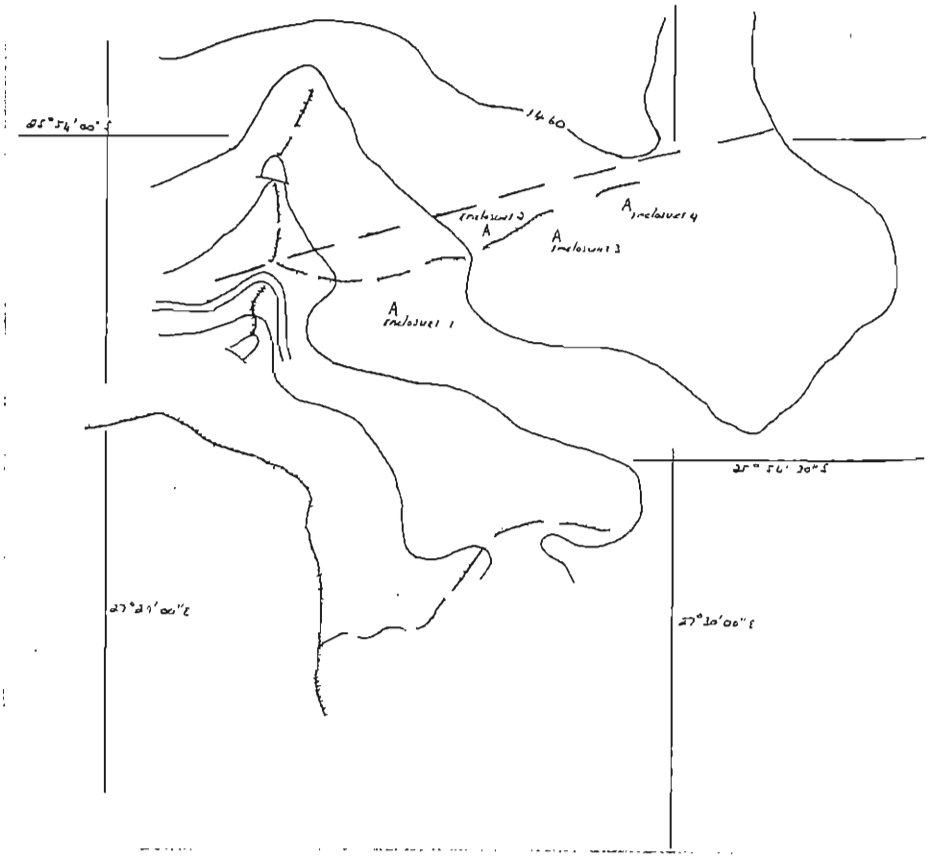
To further complicate matters, if we study basic human nature, we all " doodle", (scribble or draw absent mindedly) when we are board or to keep our minds and hands occupied, while doing something else like talking on the phone or sitting through a lecture. These " doodles" more often than not resemble "entoptic phenomenon" and we are not in a trance or hallucinating, due to the induction of drugs at the time. Thus the so called "entoptics" engraved by the bushmen, could perceivably have been "doodles", engraved by board bushmen, who had nothing better to do in-between hunting expeditions.

5) Hornfel rocks - Hornfel rocks were originally shale rock, but through metamorphic processes, which changed there chemical make-up became hornfel. They have a purple- blue interior with a bronze exterior, with a fine to medium texture. They produce an iron sound when clanged together, this is due to their mineral content, it also means they have a good , slow and even weathering rate, (Snyman pers Com. 2000).
6) Rock textures - Rock textures vary from fine, medium to rough grains. This is based on how coarse the rock surface is, which is determined by the size of the grains on the surface.
7)External anatomy terminology- (Figure1), of animals should be understood in order to describe an engraving correctly. A correct understanding of the anatomy of the animal aids in the identification of the animals.



(Figure1: External anatomy terminology, [Frandsen, 1992])

DETAILED SITE ANALYSIS



(Map20: Site A layout)

SITE A

Site A comprises of the ruins of an iron aged Sotho-Tswana village (Map20). The village is situated on top of a hill, there are no trees, but there are extensive grass types and extensive hornfel rock outcrops, these hornfel rocks were used to construct the walls of the enclosures. The site is approximately 300m from the nearest water source, which is a stream situated to the south of the settlement. The village had a panoramic view of the surrounding hills and valley. The fact

that there are no trees, expanses of grass and iron based hornfel rocks and that their huts would have been the tallest structures on the hilltop and taking into consideration the highveld thunder and lightning storms, the question of the villages safety from veld fires should be questioned. To date no excavations have been made on the site; the site consists of four individual scalloped enclosures running east, west. The largest enclosure lies one the western border and is approximately 100 meters in diameter; the original enclosure unfortunately no longer exists due to private development. The enclosure included numerous monoliths and four inner circles in the centre of the enclosure. The only record remaining of the enclosures are a few photographs and crude drawings (Illustration 1) and (Photo's 1-3).

The main enclosure has a central grid reference of 25° 54' 14,9" S and 27° 29' 30,3" E. The middle enclosure, which lies to the left of the other enclosures, has a grid reference of 25° 54' 16,0" S and 27° 29' 44,9" E. This enclosure is approximately ten meters in diameter (Photo's 4-5). The next circle is the smallest of them all approximately 5 meter's in diameter has a central grid reference of 25° 54' 19,0" S and 27° 29' 50,1" E (Photo6). The eastern most enclosure has the best and highest remaining outer walls, with three small enclosures inside it (Photo's: 7-11). It has a central grid reference of 25° 54' 21,1" S and 27° 29' 50,6" E. It is approximately fifteen meters in diameter. The remaining walls of all the enclosures, have diminished in height over the years, due to natural ground build-up and the removal of stones by early settlers to construct kraals for their cattle.

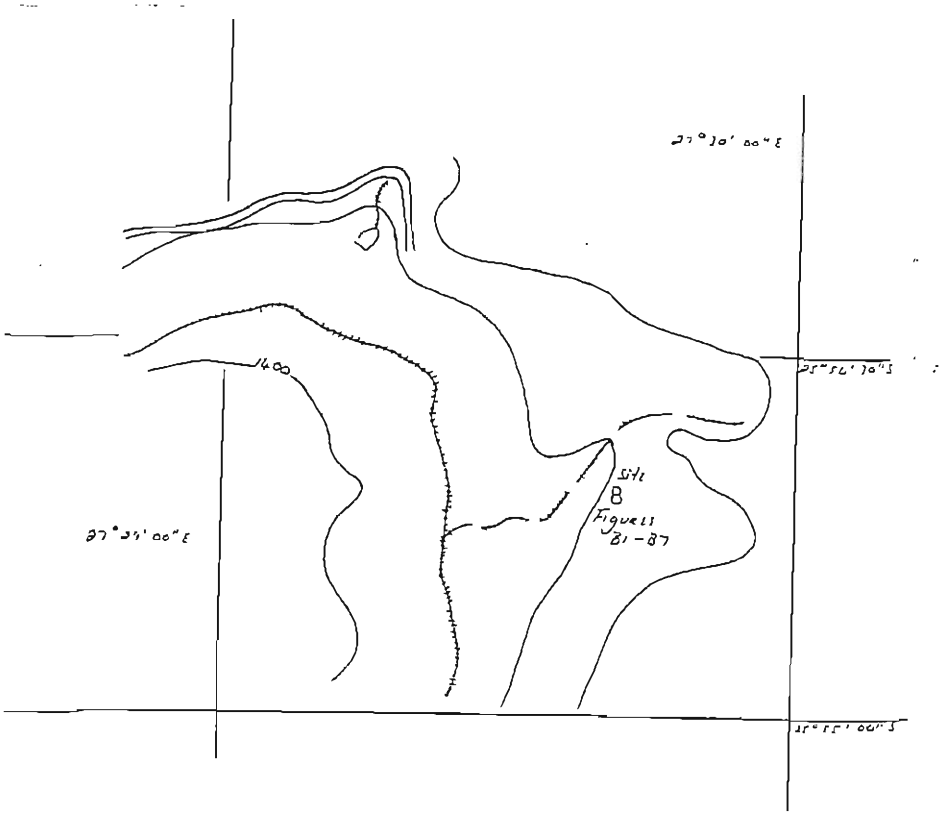
The Sotho-Tswana people are also responsible for numerous engravings located in the area, unlike the naturalistic style utilised by the Bushmen the Sotho make use of geometric shapes and multiple incisions, rubbing the rock, bringing the blue under tones of the rock to the fore. See photos 1-11 in appendix

SITE B

Site B, a Bushmen engraving site comprises part of the communal land shared by adjoining farms from the farm formally known as Doornkloof at a central grid reference of 25° 54' 43,0" S and 27° 29' 37,5" E (Map21). The terrain itself is located in an open valley floor just above the flood-line, which has caused extensive erosion over the years, which is currently being rectified. It is surrounded by hillsides on its southern and eastern sides offering some protection against the elements. While the terrain was in use it was on the banks of a water source, but due to changes in weather patterns over the years it is now approximately 30 to 40 meters from it. The rock surfaces are all the same medium in texture and are iron based hornfel rocks.

All the subjects are animal figurines, found in an area of approximately a 10m radius and include those of a giraffe, eland, lion, baboon, camel, and a rhebuck. All except two of the engravings are those of single figures, all in all there are seven animal figures. All paired engravings are those of paired animals. Fine and broadline techniques were used on the engravings on this particular site and all were incised making use of a naturalistic style.

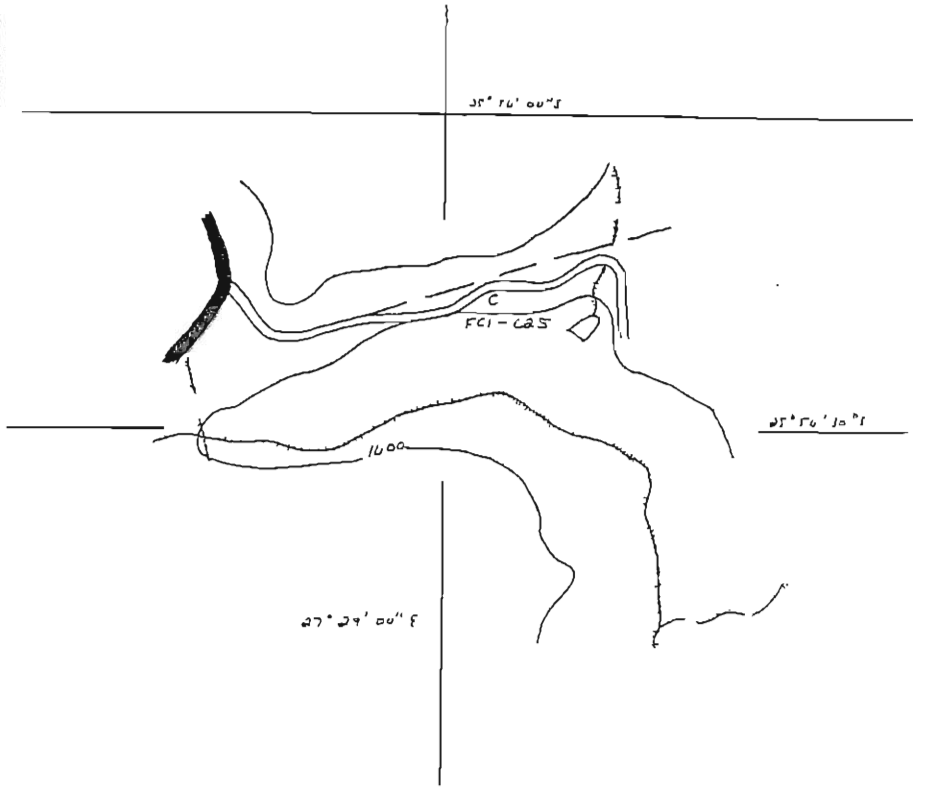
Camels do not naturally occur in the area, which serves to prove that Bushmen did not only engrave what they saw in their immediate vicinity. They could however have encountered camels utilised by traders, while following the northern annual migratory routes of animals, which formed part of their diet. See figures B1-B7 in the appendix for a detailed description of the individual engravings.



(Map21: Site B layout)

SITE C

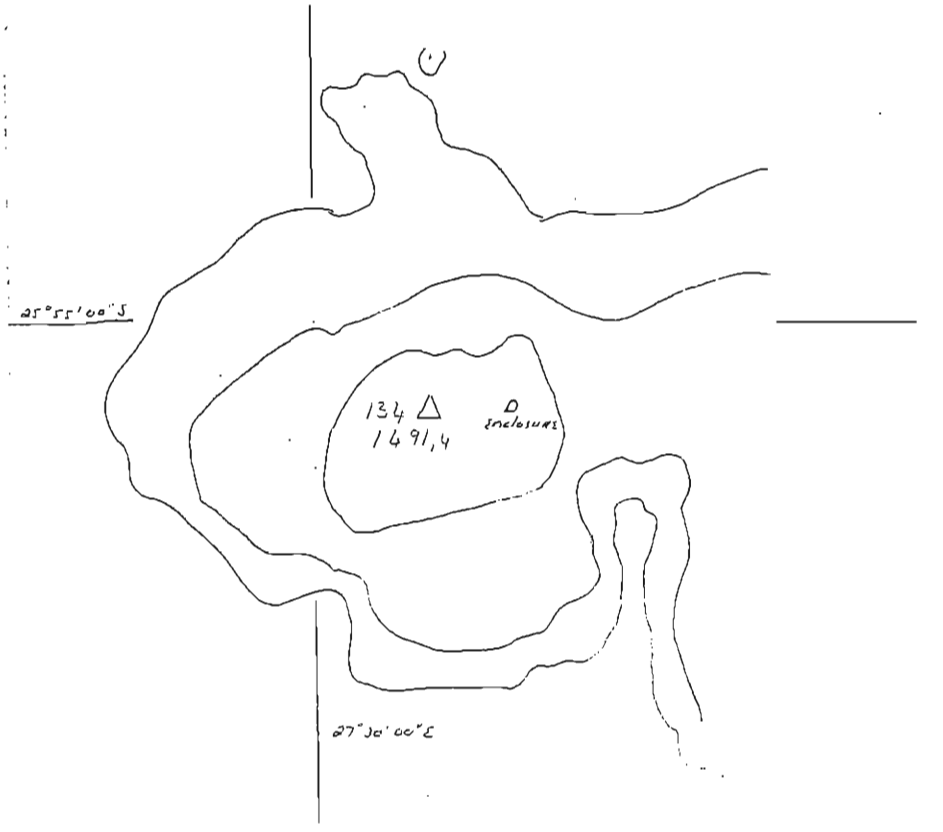
Site C, is an engraving site located on the southeastern slope of the hill on portion 22 of the farm Doornkloof, with a grid reference of 27° 29' 05,0" E and 25° 54' 16,0" S (Map 22). The terrain is a rocky slope just above arable farmland, which once formed part of a dam and lies approximately 150 meters from a water source. It is offered some protection from surrounding bush, although the terrain itself is not bushy. The rock surfaces range from fine to medium grain textures, with no lichen on the engraved rock surfaces. All the rocks are hornfel. The subjects found on the rocks are that of animals (mammals and reptiles), cultural objects, weapons, manmade structures, linear figures and pattern work. Animals found include eland, unidentifiable buck, rhebuck, hippopotamus, chameleon, ostrich and wildebeest. There are paired and unpaired engravings, the paired engravings are of the same subject, animals with animals and pattern work with pattern work. Fine and broad line techniques were used on site. The site comprises of Bushmen and Sotho-Tswana engraved work. See figures C1-C25 in the appendix for a detailed description of the individual engravings.



(Map 22: Site C layout)

SITE D

Site D comprises of the ruins of an Iron Age Matabele village (Map23). To date no on site excavations have been undertaken. The site circumference is approximately 30 meters in diameter. It is made-up of numerous scalloped walls. Some of the original stone walls inside the scalloped outer walls that surrounded the individual homesteads still remain. The enclosure is positioned on the highest point of the hill; a height meter positioned close by reads 1491,4 meters above sea level. The sight is located relatively far from the nearest water source. It can only be reached on foot. Numerous Matabele sites are found dotted all over the countryside. The central grid reference point of this site is 27° 30" 20,6" E and 25° 55' 13,1" S (Photo 25). The northern grid point is 27° 30' 17,7" E and 25° 55' 15,0" S (Photo 26), with the southern most point reading 27° 30' 17,7" E and 25° 55' 14,2" S (Photo's 27-28). The eastern most point is at a grid reference of 27° 30' 20,0" E and 25° 55' 13,3" S (Photo's 29-30), with the western point reading 27° 30' 17,8" E and 25° 55' 14,6" S (Photo 31).



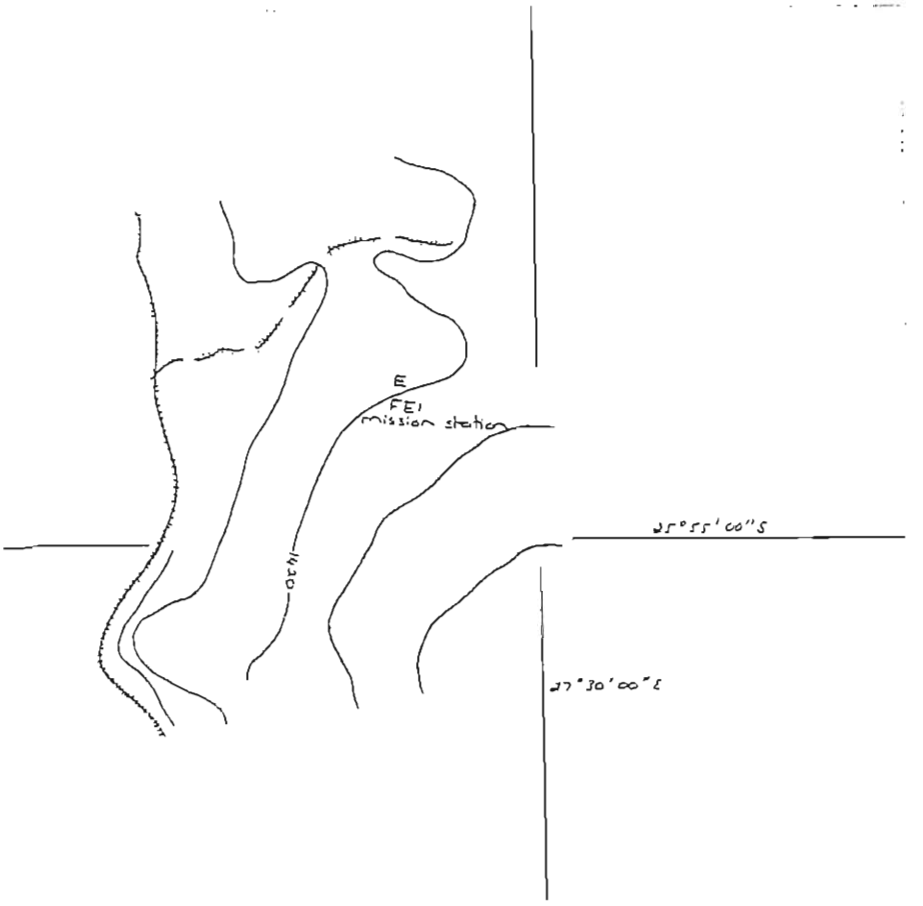
(Map 23: Site D layout)

These stone wall builders of the middle and late Iron Age brought with them cattle and a pan-African currency of wealth. Unlike the people of the early Iron Age, they tended to settle on hilltops rather than in valleys. This is an indication of greater military activity and a need for security. Their huts were cylindrical mud-plastered walls, with coarsely thatched conical roofs, (Pistorius, 1994). Cattle enclosures and fences around the settlements were made from the branches of the *Acacia* thorn trees, indigenous to the area. The first stone walls in the Magaliesburg were constructed around the 1600s, (Curuthers, 1990), (Photo's 32-34).

The war with the Zulu's in Magaliesburg took place in 1832, (Curuthers, 1990). Mzilikasi and a group of renegade warriors defected from the Zulu kingdom under Shakas reign, ending up settling in the Magaliesburg, (Curuthers, 1990). Even after Dingane had succeeded his brother, Mzilikazi was still living in constant fear of attack from the Zulu, who wanted him to return to the kingdom, (Curuthers, 1990). The structure of the Zulu society was designed for warfare and therefor called for constant periodical raids, (Curuthers, 1990). In 1832 the two Zulu forces clashed, little is known on the actual battle except that, both fought using successful strategies developed by Shaka and thus both sides suffered great losses and the outcome was inconclusive, (Curuthers, 1990). The loss in cattle and a renewed threat of another Zulu attack, persuaded Mzilikazi to move his headquarters, west to the Gabeni in the Marco River basin, thus only the western Magaliesberg remained in his domain, (Curuthers, 1990). See photos 25-34 in the appendix.

SITE E

Site E comprises of the remains of a former Evangelical Lutheran mission station, known as Ebenezer (Map 24), (James et al. 1911). All that remain are the stone walled foundations of the structure (Photo 35). The structure is rectangular in shape, and comprises of four rooms, no more than two meters in length. The grid reference points of the four corners of the building are as follows, the north-western corner reading 27° 29' 42,9" E and 25° 54' 49,8" S The north-eastern corner has a grid point of 27° 29' 41,8" E and 25° 54' 47,0" S. The southwestern corner has a grid reference point of 27° 29' 40,0" E and 25° 54' 49,3" S, with the southeastern corner reading 27° 29' 43,4" E and 25° 54' 47,9" S. There is only one entrance which faces south, towards the top of the hill, with a grid reference of 27° 29' 44,6" E and 25° 54' 49,5" S (Photo 36).



(Map 24: Site E layout)

In front of this door is an eroded open sand patch, from this it appears that this piece of ground has still not recovered from the years of use by the missionaries. There are a lot of trees growing inside the actual remains of the mission house and around the northern side of the structure. The structure is positioned midway up the northern face of the hill and can only be reached by foot (Photo 37). On a koppie north of this hill engravings are found of this structure facing in the direction of the structure, they display the four rooms and a steeple for a roof. See photos 35-37 in the appendix.

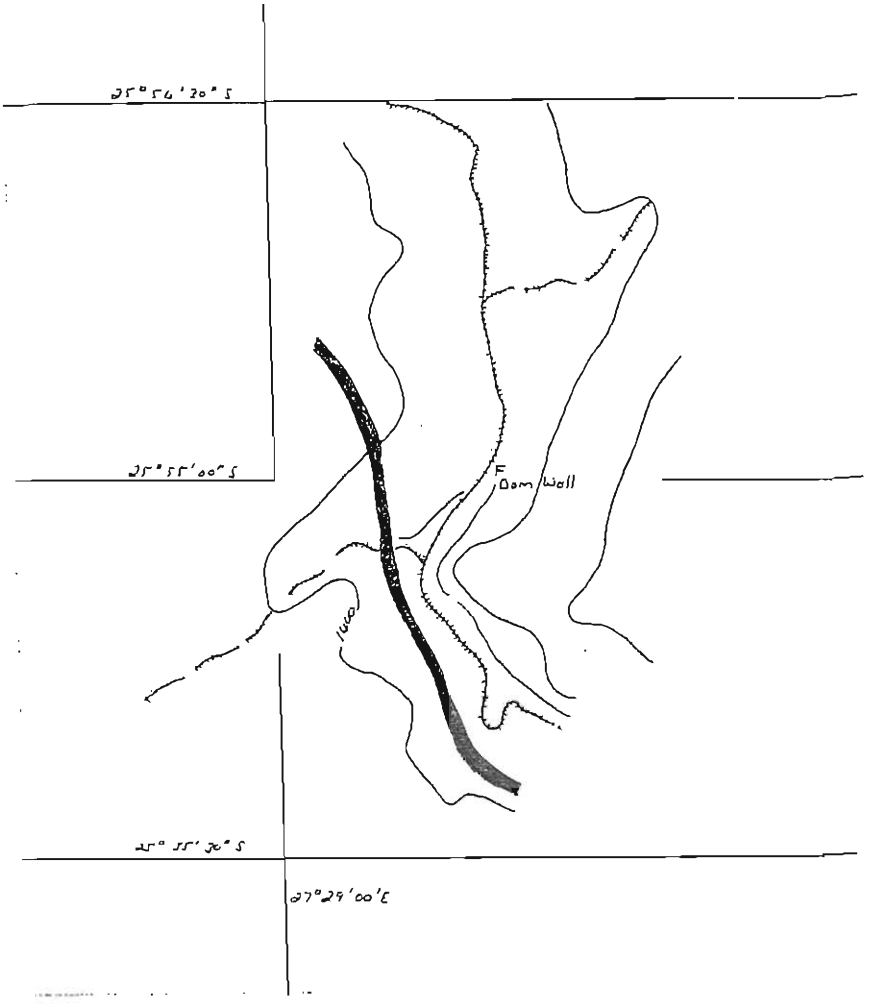
Many missions were recorded in South Africa. The Tswana chieftains looked upon the missionaries as diplomats, interpreters and providers of education, a link across the cultural chasm between black and white, (Curuthers, 1990). The Calvinist Boers clashed with the English missionaries on most grounds, but found the Lutheran doctrine acceptable, also the German missionaries were less critical of the Boers racial attitudes, (Curuthers, 1990). The German missionaries contributed largely to the peaceful settlement of the displaced population in the Magaliesberg, (Curuthers, 1990). The main purpose of the missions was religious instruction, but they also aided in the accumulation of wealth from wages and the acquisition of land, (Curuthers, 1990). They also provided top class elementary education, (Curuthers, 1990). By the end of the century seventeen mission schools were functioning on the northern side of the Magaliesberg, (James et al. 1911).

To the west of the structure there is a single isolated engraving of a female figurine. The figurine is engraved on a watermark located on the rock surface. The engraving is very small and stick-like. See photo 38 and figure E1 in the appendix for a detailed description of the engraving.

SITE F

Site F is located along the water source, being the old dam wall. Only fragments of it remain (Photo 39), as the rest has eroded and washed away over the years (Map26). The year in which it was completed was engraved into the wall this still remains, reading the fourth day, of the fifth month, of the year 1924. It was constructed according to the design and direction of a Mr. W, Swanepoel (Photo 40), the name of one of his aids; Petrus was also engraved on the wall (Photo 41). It was constructed of the hornfel rocks found in the area and was extremely well packed at a diagonal gradient and is approximately three meters in diameter (Photo 42-43). At certain sections of the wall the stones are reinforced with cement. The cemented portion of the wall comprises the overflow walls of the dam wall; these walls are approximately one meter in diameter and run in an angular "r" shape on the eastern side of the dam wall (Photo 44-45). Certain parts of the cement wall are reinforced with extra hornfel rocks (Photo 46).

The grid reference point of the tip of the "r" is 27° 29' 23,3" E and 25° 54' 59,9" S. The grid reference of the point were the top arm of the "r" shape changes direction reads 27° 29' 23,2" E and 25° 54' 59,4" S. The grid reference point of the angle were the vertical arm of the "r" begins reads 27° 29' 22,9" E and 25° 54' 00,9" S. The grid reference point of the eastern end of the dam wall reads 27° 29' 22,7" E and 25° 54' 59,4" S, while the western bank reads 27° 29' 24,8" E and 25° 54' 59,6" S. See photos 39-46 in the appendix.

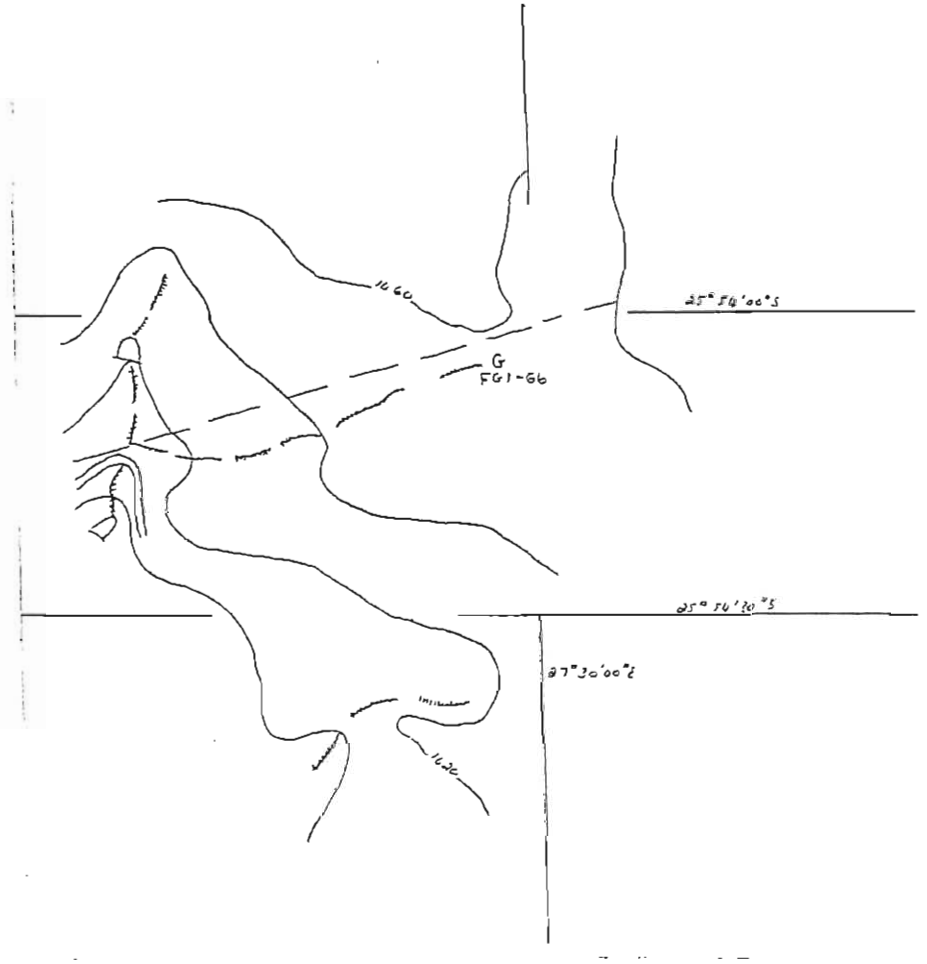


(Map25: Site F layout)

SITE G

Site G is relatively small, covering only a small area, no more than three meters in diameter (Map27). It is solely an engraving site, located on top of a hill, at a central grid reference of 27° 29' 50,1" E and 25° 54' 04,3" S. It lays just before the Doornkloof, Doornhoek farms boarder. It is part of portion 25 of the farm Doornkloof. The site is completely open, with the closest and only trees lying meters away on its north side. The site consists of a small out crop of hornfel rocks. It is very far from any water source. The rock surfaces are all fine to medium grained, with extensive erosion on most of the surfaces, this is due to the exposed nature of the site.

There are six engravings found at the site. Four of the engravings are definitely of Bushmen origin and are of animals, the other two engravings are of a mission station, the artists of these engravings are debatable. The problem being that the Sotho-Tswana people engraved making use of geometric shapes, and although the mission houses are engraved, using these shapes they are not done with the same artistry displayed by the Sotho-Tswana on other engraved works. They are clumsy as though the engravers were not used to making these shapes, which would be the case of the Bushmen, who made use of natural styles. The animals engraved include a rhino, red hartebeest, eland and gemsbok. Broad and fine line incision techniques were used to engrave with. See figures G1-G6 in the appendix for detailed engraving descriptions.

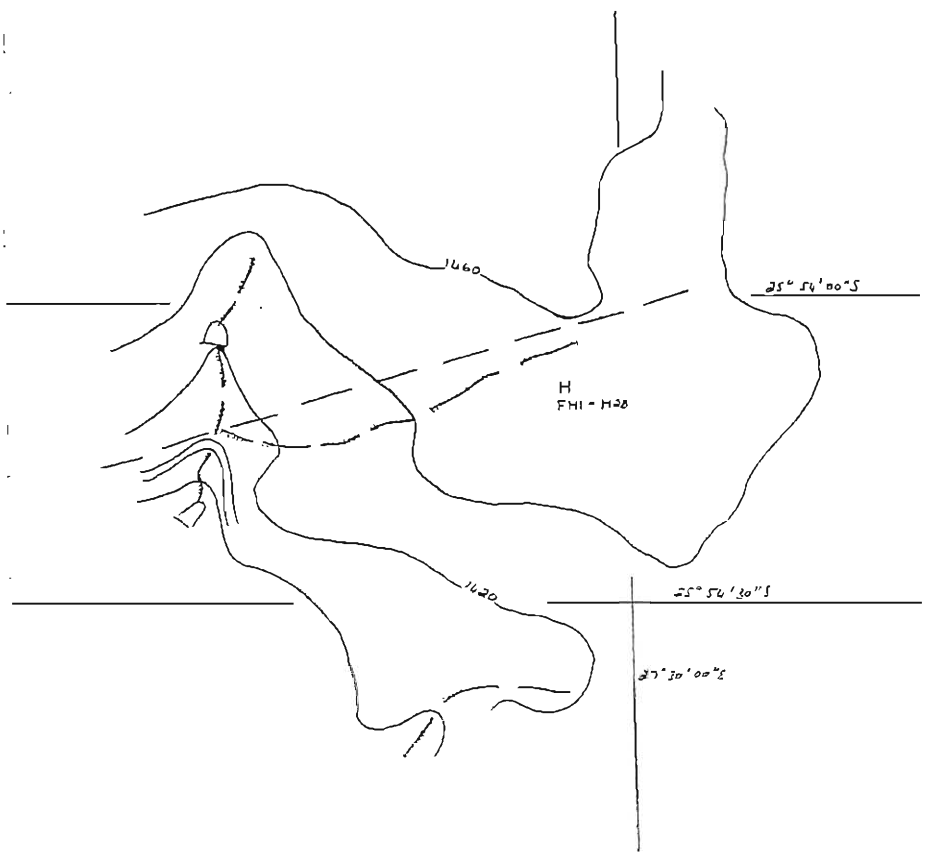


(Map26: Site G layout)

SITE H

Site H is a rock-engraving site, located on portion 25 of the farm Doornkloof (Map28). It comprises the top ridge and southern slope of the northern hill on the farm, with a general grid reference of 27° 29' 50,1" E and 25° 54' 08,3" S. The site comprises of Bushmen and Sotho-Tswana engravings. The engravings total 28, ninety percent of these are of Bushmen origin. The site itself is a very rocky ridge comprises of hornfel rocks; there are no trees with only sparse grass between the rocks. At the base of the hill there is a man made construction, a cattle kraal and shed, these however do not interfere with the engravings and poses no threat to them. Cattle do graze in this area, but tend not to venture onto the rocky hillside due to the sparseness of the grazing there, therefore they to pose no threat to the site. Some human vandalism has taken place over the years, but not during the time of this study. The only threats to the site at present are the elements, rain causing erosion and lightning damage. The site is approximately 400 meters from the nearest water source and lies just below the top kraal of the Sotho-Tswana village.

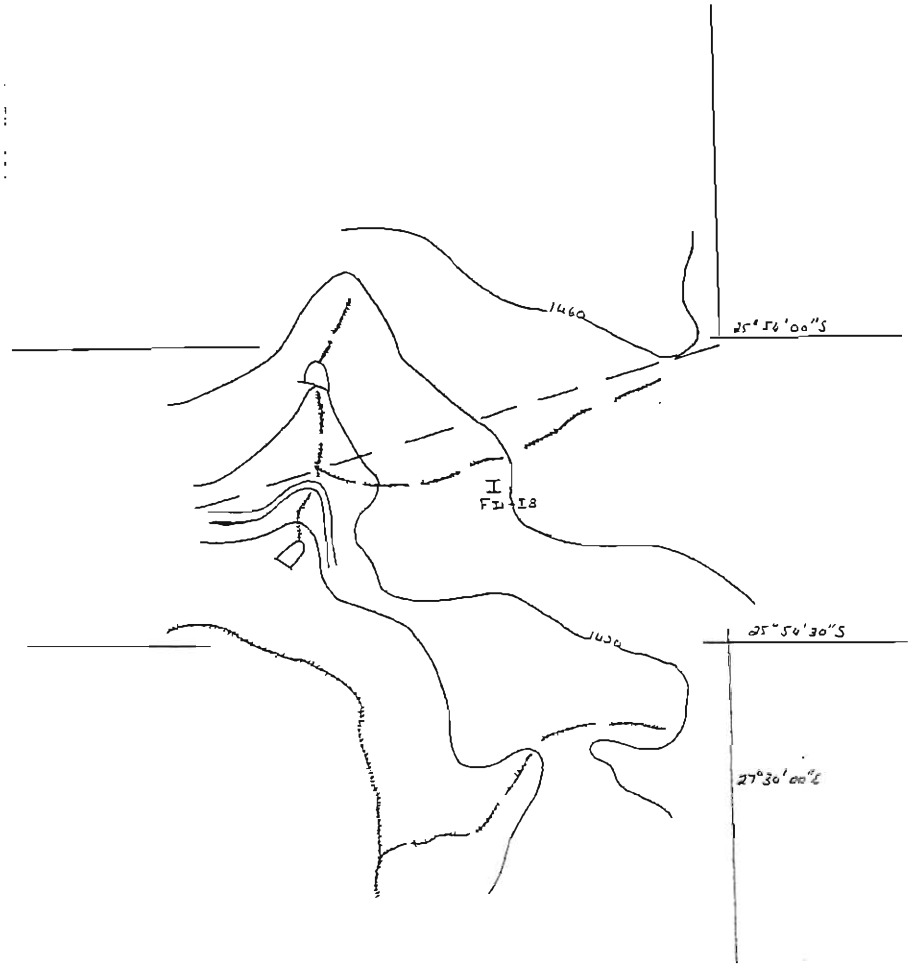
Animal species engraved include ostrich, warthog, white rhino, eland, giraffe, rhebok, zebra, unidentifiable antelope, blue wildebeest. There are also engravings of humans, pattern work and linear work. Pairing takes place in the form of animals with animals and linear and pattern work. See figures H1-H28 in the appendix for a detailed analysis of the individual engravings.



(Map27: Site H layout)

SITE I

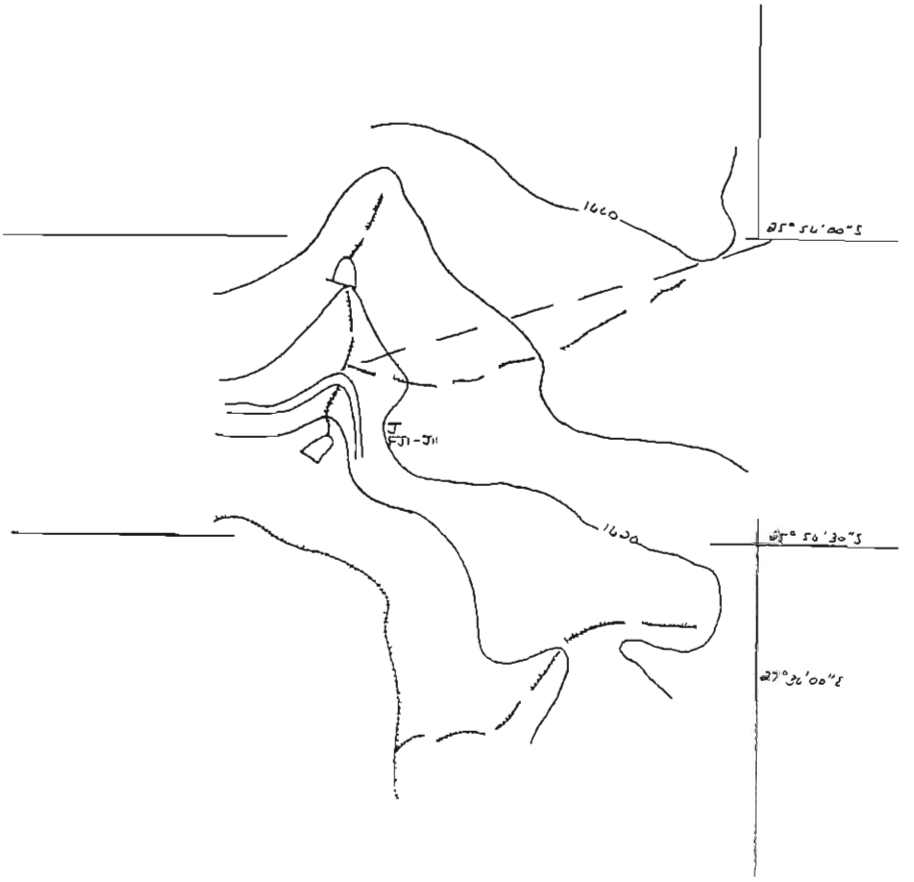
Site I comprise of both Bushmen and Sotho-Tswana engravings as well as engraved work done by the settlers (Map 29). The site is relatively small and lies between the main enclosure of the Sotho-Tswana village and the second enclosure of the Sotho-Tswana village. It is on top of an outcrop of hornfel rocks. The area it comprises is approximately ten meters in diameter. It is located on portion 24 of the farm Doornkloof, with a central grid reference of 27° 29‘ 33,1“ E and 25° 54‘ 15,0“ E. The outcrop is on a hilltop and is hundreds of meters from the nearest water source. Being located on an outcrop the engravings are protected from fires and cattle damage, but are exposed to lightning, as the iron base of the rocks on the hilltop attract the lightning. There are also no trees nearby, rendering the outcrop, the highest point. The site is comprised of eight engravings of which 62,5% are of Sotho-Tswana origin, 25% from Bushmen artists and 12,5% engraved by a Settler. Three of the engravings are patterns, three are of various animals, one is a cultural weapon and lastly there is one of a Piet the settler. See figures I1-18 in the appendix, for a detailed analysis of the individual engravings.



(Map28: Site I layout)

SITE J

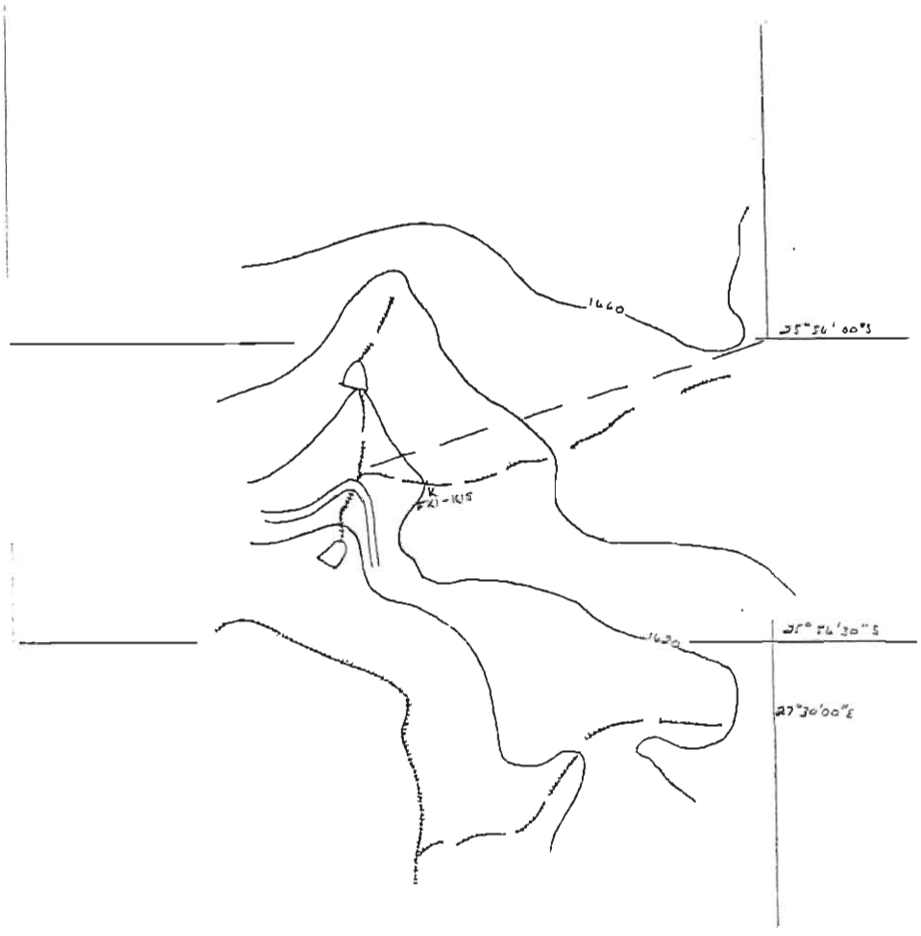
Site J is located on the western slope of a hill on portion 23 of the farm Doornkloof, with a central grid reference of 27° 29' 22,0" E and 25° 54' 18,1" S (Map30). There is a power line only recently erected running through the site, it's erection was however closely monitored and no harm came to the engravings. The site is flanked by a cattle kraal on the northern side a access road on the western side, farm and guest houses on the south and a boundary fence on the eastern side. Although the cattle walk through the site to the kraal everyday, no harm comes to the engravings as they stick to the pathways, which meander through the site. There are 11 engravings found on the site, which is approximately 30 meters in diameter. The site has animal and linear engravings on it. 36% of the engravings are of animal figures and include eland, elephant and an unidentifiable antelope. The other 64% of the engravings are of pattern work. See figures J1-J11 in the appendix, for a detailed analysis of the individual engravings.



(Map29: Site J layout)

SITE K

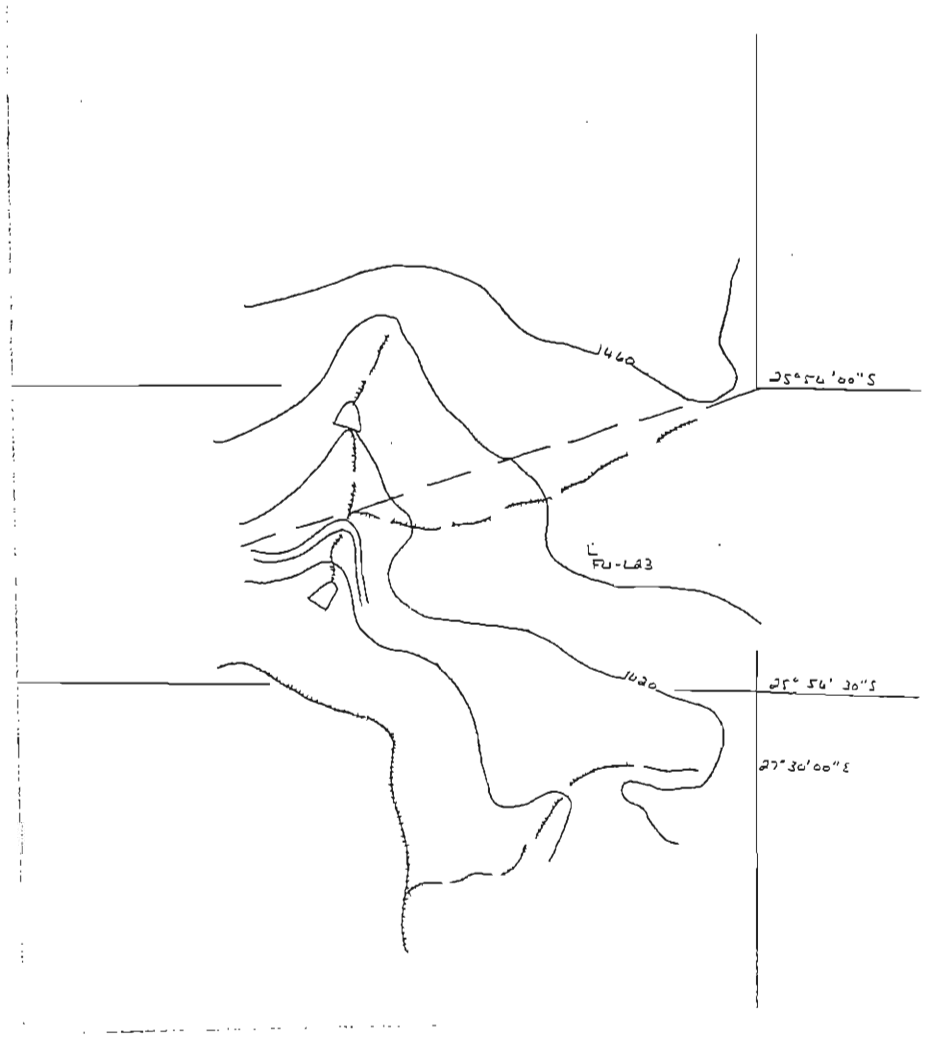
Site K is located to the north of Site J, it is on the western slope of the same hill Site J is on, but it is further up the hill and far enough from Site J to warrant it becoming its own site (Map31). The site is at a central grid reference of 27° 29' 21,5" E and 25° 54' 14,8" S. It has a access road on its northern boarder and shed on it's western boarder. The southern slope of the hill constitutes the southern boarder and settlement buildings, a dam and a tank stand form eastern boarder. It is located on portions 23 and 24 of the farm Doornkloof, with a boundary fence running through the site. The only tree that was on the site has recently fallen over, non-of the engravings were harmed in the process. The textures of the rock surfaces range from fine to rough grained. The site comprises of 53% Bushmen, 33% Sotho-Tswana and 13% Settler engravings. Both fine and broad line techniques were used. The engravings are comprised of 60% animal figures, 27% pattern work and 13% settler history. See figures K1-K15 in the appendix, for a detailed analysis of the individual engravings.



(Map 30: Site K layout)

SITE L

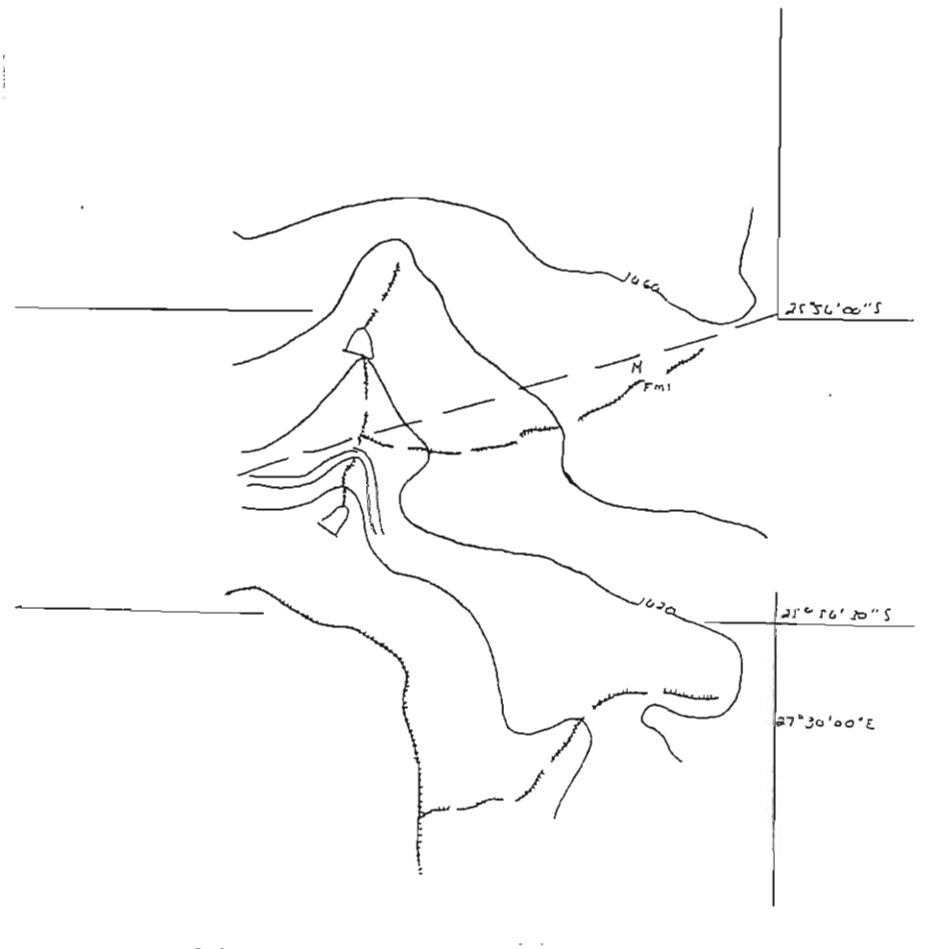
Site L is located on the eastern boarder of portion 24 of the farm Doornkloof (Map32). The site is a small "koppie" and the slopes surrounding it. The site is located at a central grid reference of 27° 29' 41.0" E and 25° 54' 16,5" S. The site consists of both Bushmen and Sotho-Tswana engravings. 61% of the engravings are of Bushmen origin and 39% are Sotho-Tswana. 57% of the engravings are of animal figurines and 43% are pattern work. The textures of the rock surfaces range from fine to rough grained surfaces. Animals engraved on the site include "quagga", roan antelope, eland, gemsbok, hippopotamus, blesbok and giraffe. See figures L1-L23 in the appendix, for a detailed analysis of the individual engravings.



(Map31: Site L layout)

SITE M

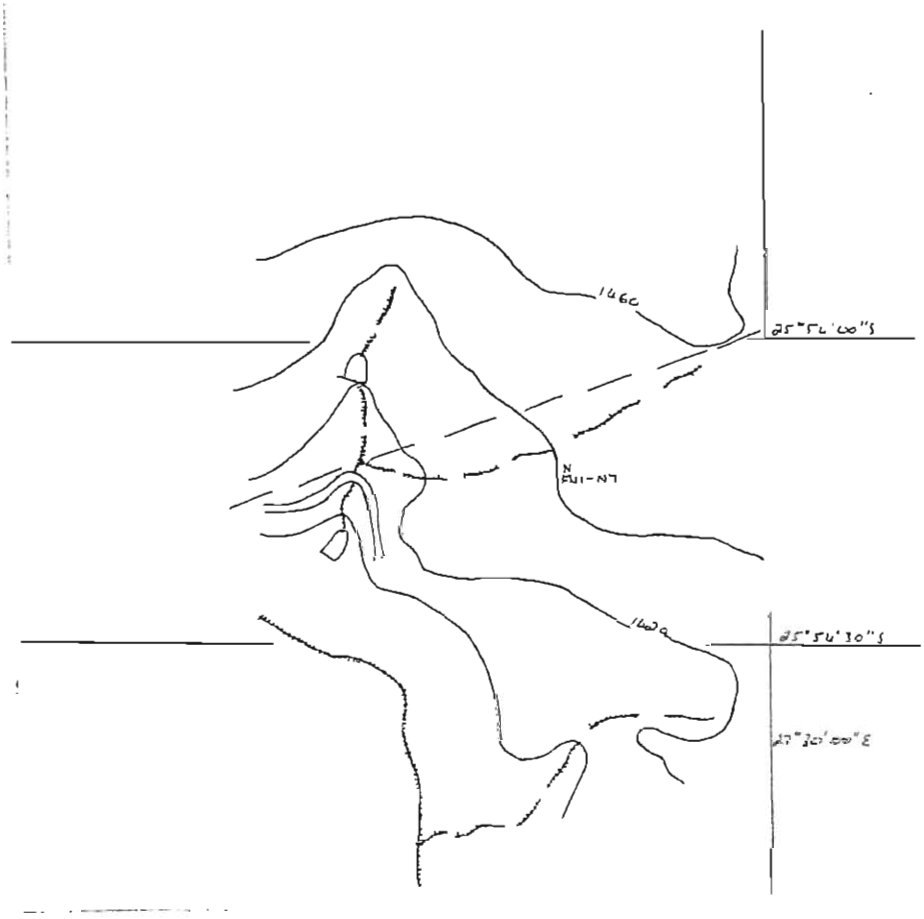
Site M is in fact out of contexts, consisting of only one engraving (Map 33). It is not in close proximity to any of the other sites. The engraving is located on an access road that is regularly used; this has however not impacted on the condition of the work. The road is the access road to portion 24 of the farm Doornkloof. The site is located at a longitude of 27° 29' 45,5" S and a latitude of 25° 54' 03,6" E. The engraving consists of an antelope and some pattern work. See figure M1 in the appendix for a detailed analysis of the engraving.



(Map32: Site M layout)

SITE N

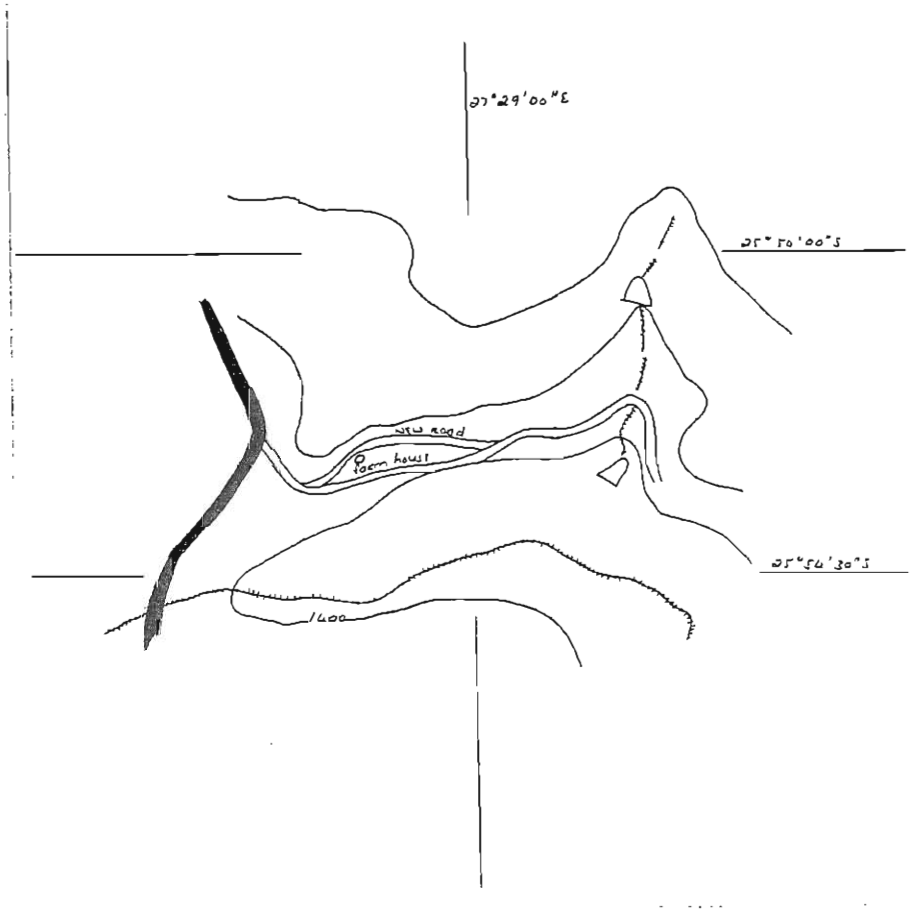
Site N in located on the portion 24 of the farm Doornkloof and is situated between site L and site I on a flat open plane, on an outcrop of hornfel rock (Map34). The site is small in comparison to some of the other sites, consisting of only seven engravings. 86% percent of the engravings are of animals and 14% are pattern work. The site is small being only approximately six meters in diameter. The site is protected on the eastern side, by a small hill. There are no trees on the site, which is surrounded by grazing. The site has a central grid reference of 27° 29' 58,8" E and 25° 54' 31,0" S. 43% of the engravings are of Bushmen origin and 57% of the engravings are of Sotho-Tswana decent. The textures of the rocks range from fine to rough in texture. Animals engraved include elephant, antelope and giraffe. See figures N1-N7 in the appendix for a detailed analysis of the individual engravings.



(Map33: Site N layout)

SITE O

Site O comprises the original farmhouse located on portion 22 of the farm formerly known as Doornkloof (Map35). It is located at a central grid reference of 27° 28' 52,7" E and 25° 54' 13,4" S (Photo72). The farmhouse was built using hornfel rocks found in the area, plastered together, using mud and dung (Photo73). Some engraved work can be noted on the walls of the house, on the hornfel rocks. They are linear in nature. The walls typical of the times are extremely thick, measuring approximately 1/2 a meter in diameter (Photo74). The inside of the house is dark due to the fact that the house is south facing and the windows are small and only located on the north and south sides. To top it off there is a stoop on the south side, letting in even less light (Photo75-76). Although the house probably originally had a grass roof, it has a corrugated iron roof today. Today this farmhouse is utilised as farm staff quarters. See photos 72-76 in the appendix.

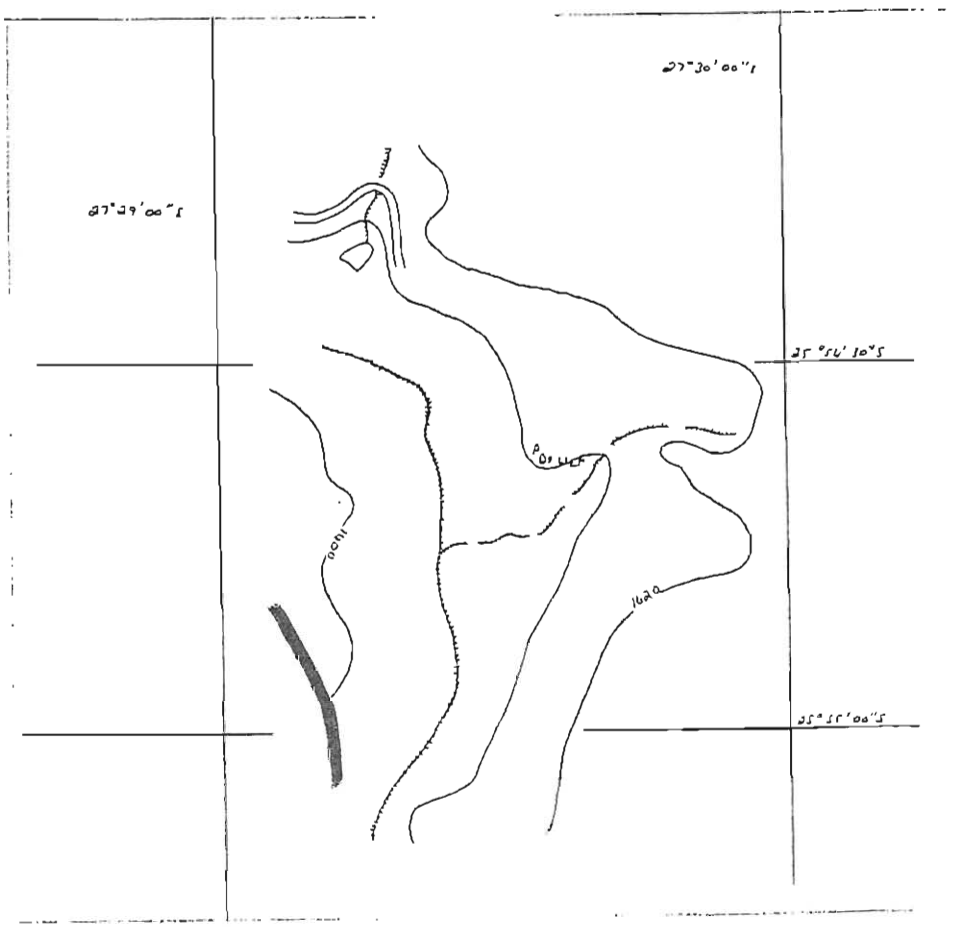


(Map34: Site O layout)

SITE P

Site P was one of General J. P. De Wets headquarters during the Anglo Boer War (Map36). This is based on oral history from the original owners of the farm. General De Wet and a small number of saboteurs were exceptionally elusive and passed through the area whilst on the run from the British who had cornered them at the Vaal River in august 1900, (Curuthers, 1990). In an attempt to reach the vast unoccupied bushveld, De Wet crossed the Magaliesberg at Olifantsnek moving along the north side and crossing again at Remhoogte and came to settle on the south side at the a-fore mentioned site, portion 23 of the farm Doornkloof, (Curuthers, 1990). From here he was able to avoid further contact with any British forces and return to the Free State unscathed, (Curuthers, 1990). The above is corroborated by Map 37, of De Wets movements in the area, (Curuthers, 1990).

All that remains on the site are the rock foundations of De Wets small rectangular shaped office and three small circular lookout posts under several bluegum trees (Photo77). This well-chosen site was situated only 10m from a water source. He had an excellent view of the Magaliesberg and surrounding hills, allowing him an unimpeded view of approaching enemy. See photo 77 and map 37 in the appendix.



(Map35: Site P layout)

CHAPTER 6
RESULTS

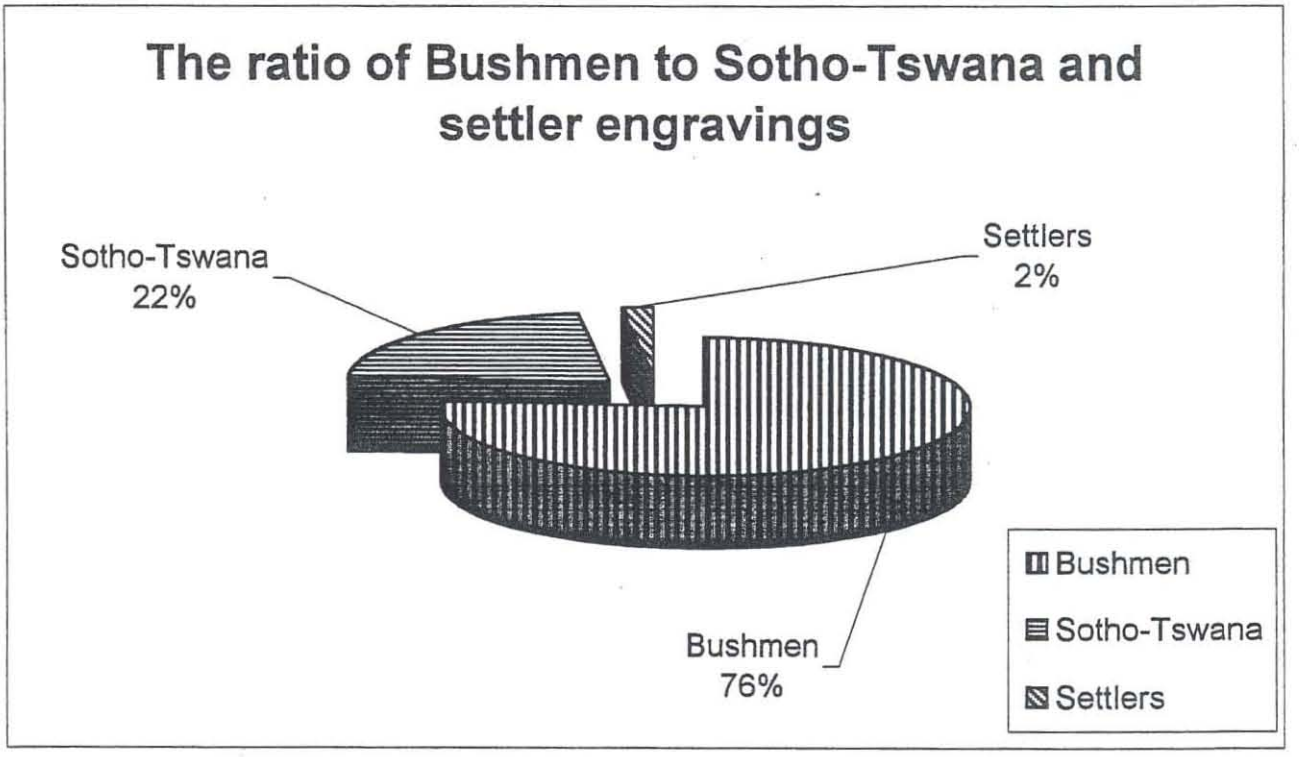
The results that follow pertain to those concluded from the individual engravings studied. Overwhelming evidence gained from the 16 sites on the Doornkloof farm confirms that the majority of the engravings are indeed of Bushmen origin. The remainder was produced by the Sotho Tswana and Settlers, (Figure 2). The engravings comprise of animal, pattern and linear work, human figures, cultural objects (These include food wessels and various weapons) and historical writings (Figure 3). Engraved animals comprise 53% of the artwork, and while pattern and linear work forms the second largest portion, human figures, cultural objects and historical writing only constitute 10% of the engravings located. Engraved animals receive the bulk of the focus as they have a direct correlation to the religious beliefs of the Bushmen as well as their daily life, (hunting).

There is a definite shift in the focus of the engravings studied on Doornkloof, from the paintings located in the Drakensberg. The Drakensberg painting are said to be of the oldest Bushmen recordings. The later paintings in this area depict a people comfortable with their environment, with a keen interest in expressing their culture. This concluded from their artwork, depicting mainly cultural activities, (hunting expeditions, trance and hallucination rituals and conflicts or wars).

The engravings of Doornkloof on the other hand focus on study. As mentioned animals formulate the bulk of the engraved work, with no cultural activities or self-portrates of Bushmen. The manner in which the animals are engraved corroborates this focus on study. Animals are depicted standing, walking, running, grazing, climbing up and down outcrops, laying down, interacting with their offspring, with the herd and being hunted by carnivores. The amount of detail, pertaining to unique characteristics of the individual animals, once again confirms, this culture of study.

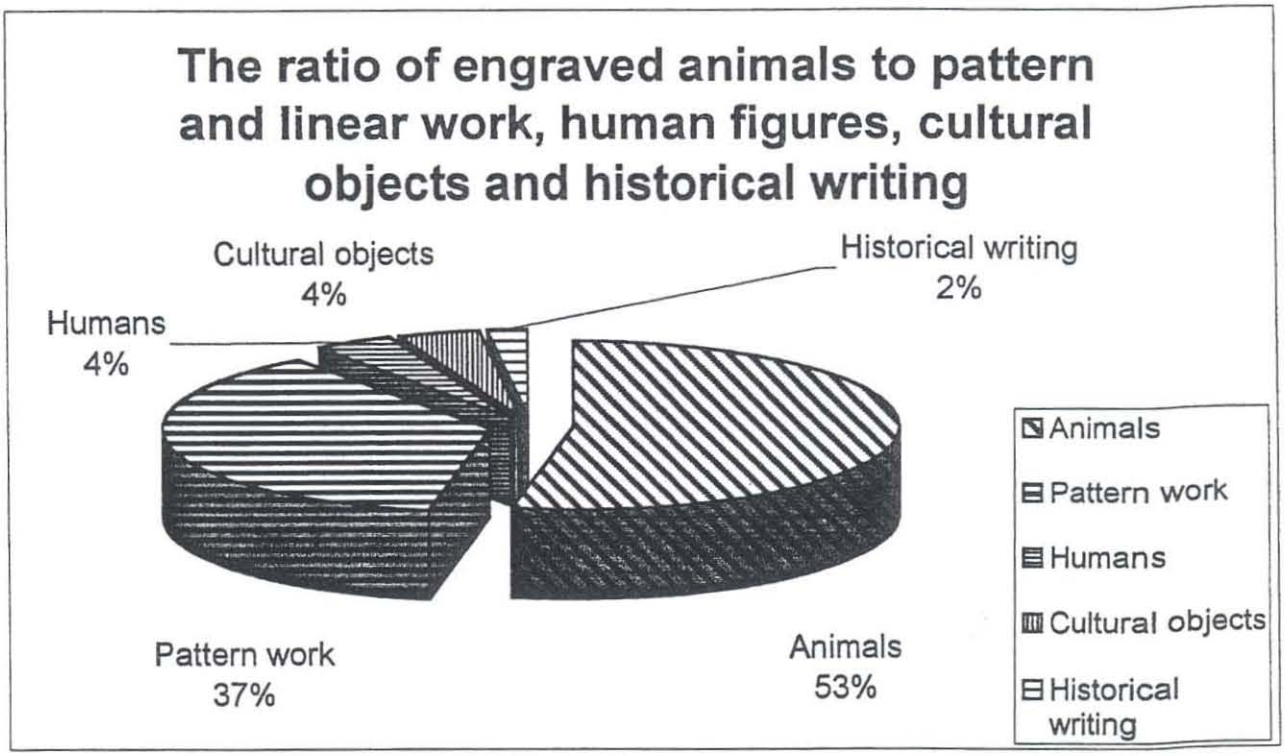
In keeping with this culture of study the human figures engraved were all of Caucasian people, (settlers). Theses human figures all wear dresses and have up side down triangular shaped faces. The use of a sharp, pointed face, to depict foreign persons appears to be inherent to all cultural groups, this was noted during psychological studies, (Hooper pers. Com 1999).

The focus on study in the Doornkloof area, is due to intricate relationship the Bushmen share with their environment. Bushmen require a in-depth knowledge of their surroundings, to insure their survival. They encountered the same animals in this area as in the Drakensberg, but due to the vast difference in environment, the animals behave differently, thus in order to get close enough to hunt the animals a in-depth study of their behavioural patterns, (daily activities and flight distance) was necessary. The settlers were also studied as the Bushmen realised, they had to attempt to co-operate with them as they stood no chance against them.



(Figure 2: The Ratio of Bushmen to Sotho-Tswana and Settler engravings)

The number of engravings recorded, differs from the number of engraved animals recorded as one engraved surface may yield more than one animal be it of the same or varying species (Table3).

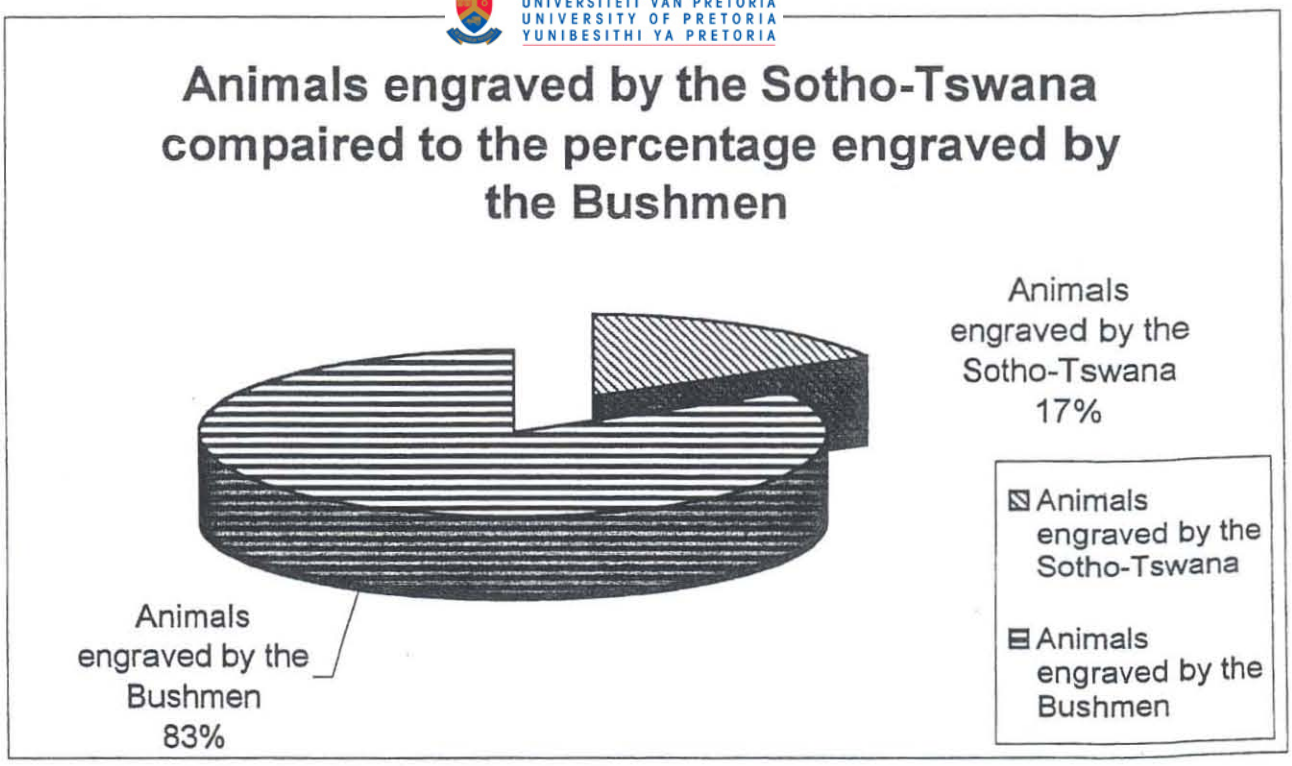


(Figure3: The ratio of engraved animals to pattern and linear work, human figures, cultural objects and historical writing)

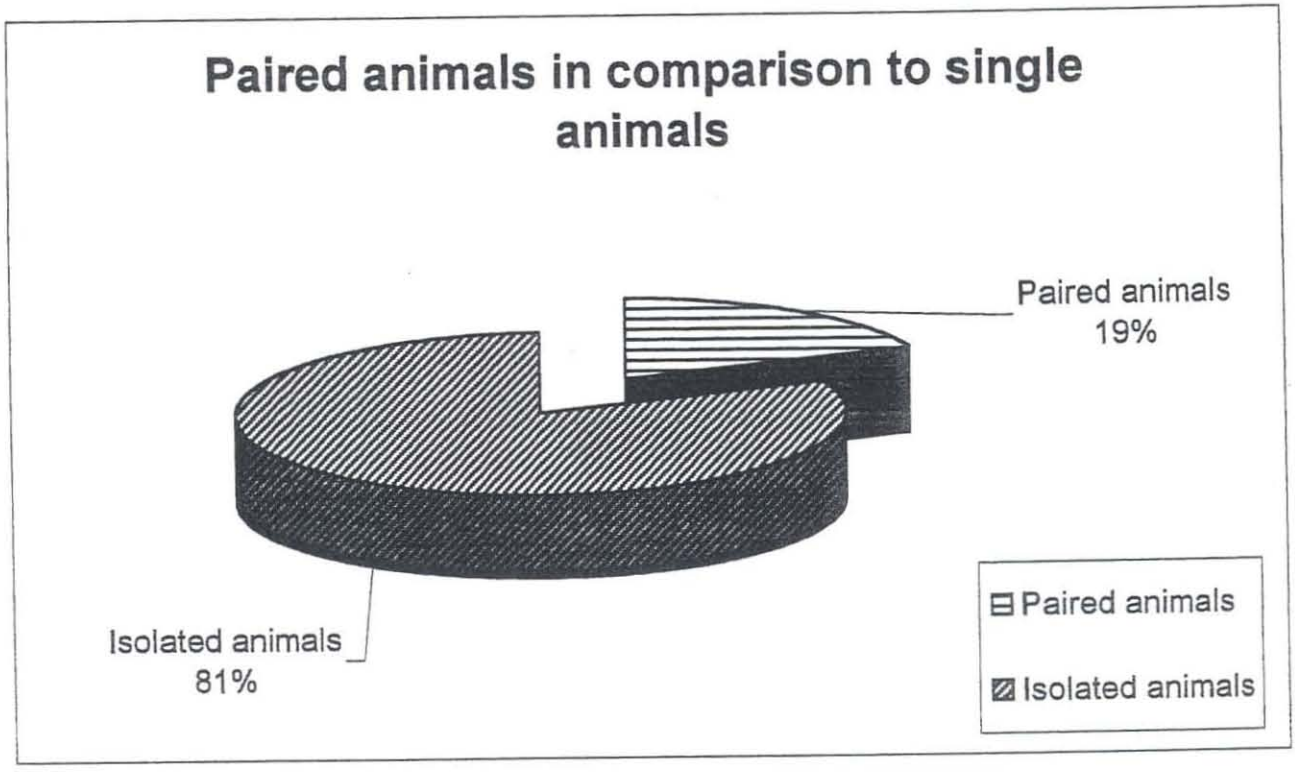
As stated before animals comprise the bulk of the engraved work and the majority were engraved by the Bushmen (Figure4). The bulk of the animals are isolated, with only a small margin paired (Figure 5). The paired animals are paired with other animals, be they of the same species or not, as well as various linear and pattern work and a small margin are paired with human figures, this pairing is however arbitrary (Figure 6). The overwhelming majority of the engraved animals are herbivores, with carnivores and omnivores comprising only 6% of the engraved work (Figure7). Similarly the majority of the animals are mammals, with birds and reptiles comprising only 7% of the engravings (Figure8). Antelope comprise the bulk of the engraved animal species, with the eland being the dominant choice (Figure9). The Bushmen engraved the unique distinguishing characteristics of the various species, with the eland this includes a coloration line running from the lower limb to the nuchal hump. Only a small percentage of the engraved eland located on the farm do not have this line, mainly due to the fact that the respective eland are stylised (Figure10).

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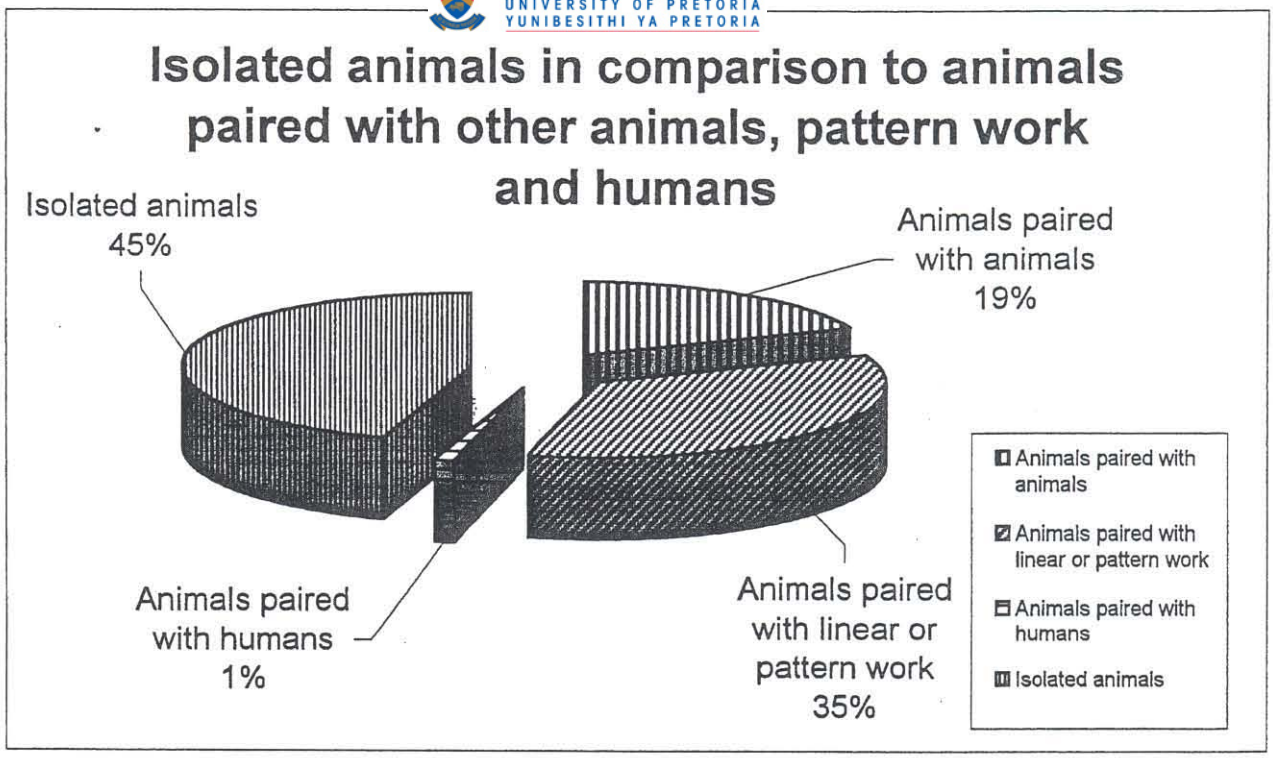
(Table3: Engravings versus the number of animals engraved)



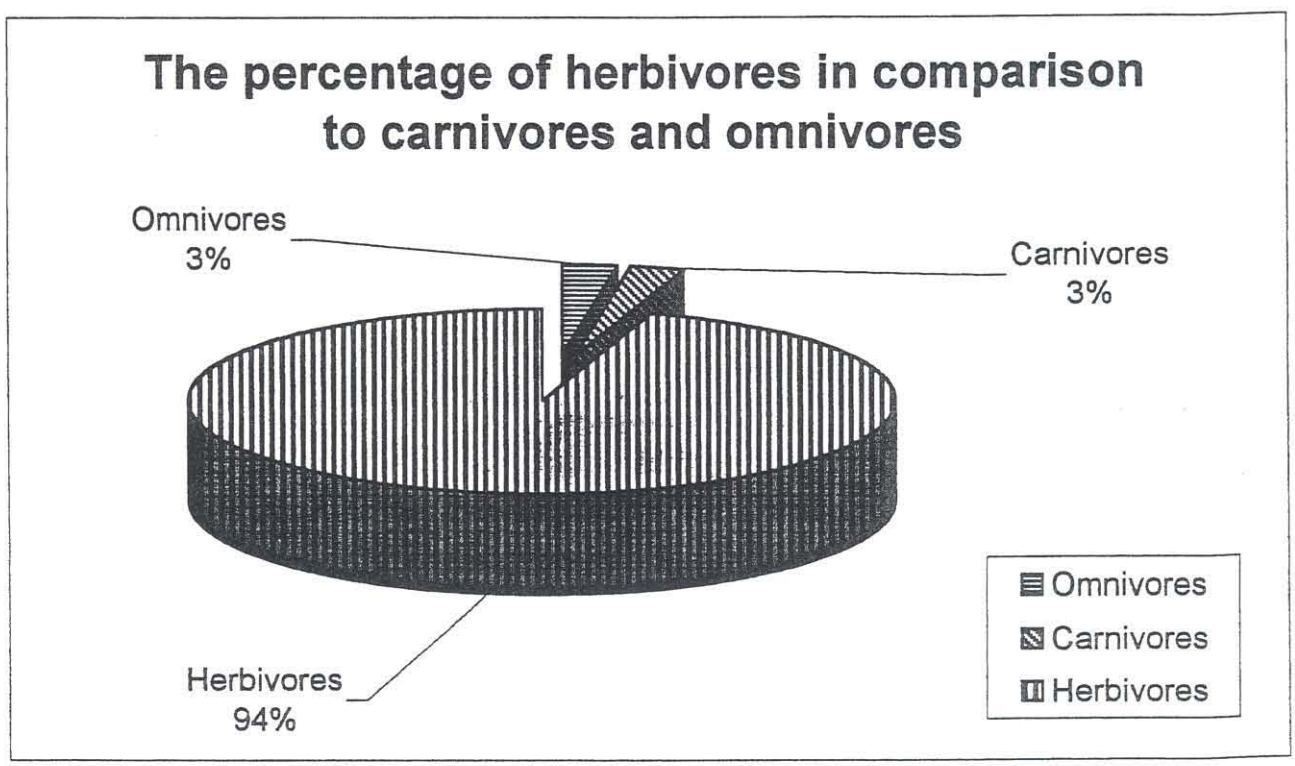
(Figure4: Bushmen versus Sotho-Tswana engraving numbers)



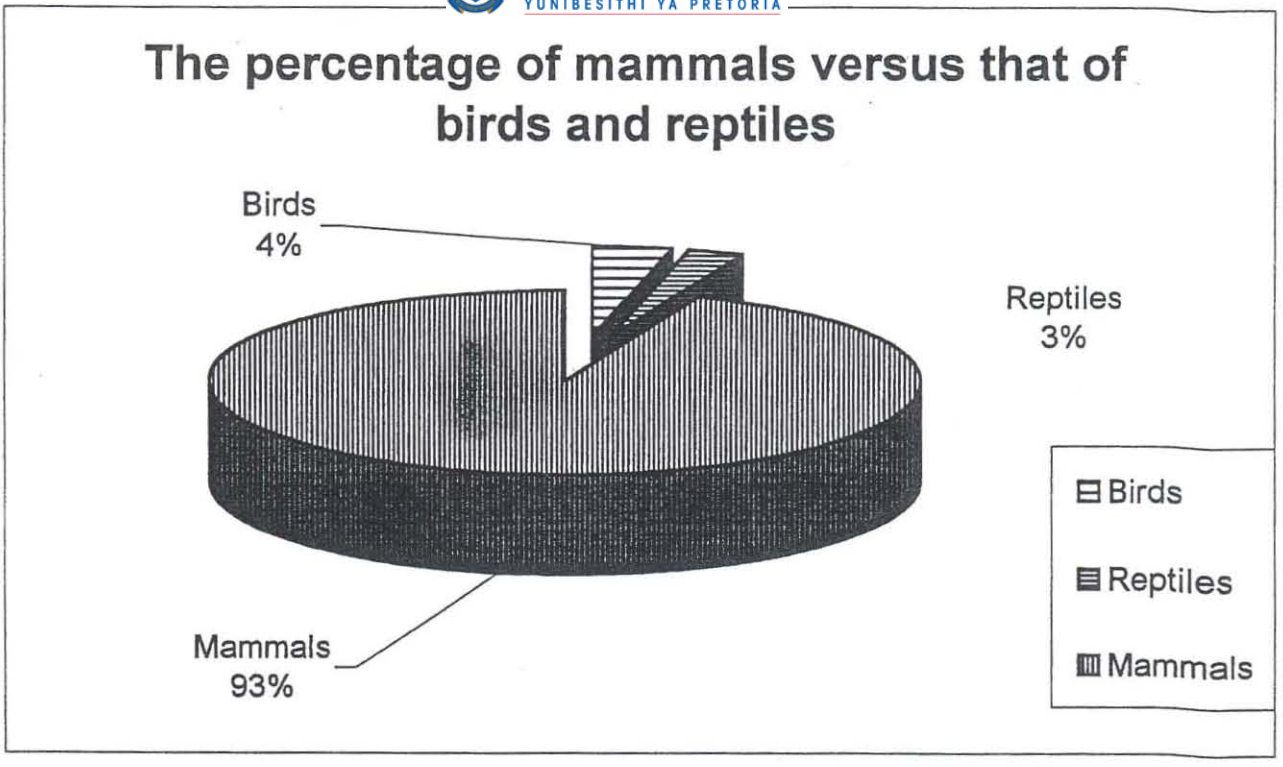
(Figure5: Paired versus single engraved animal figures)



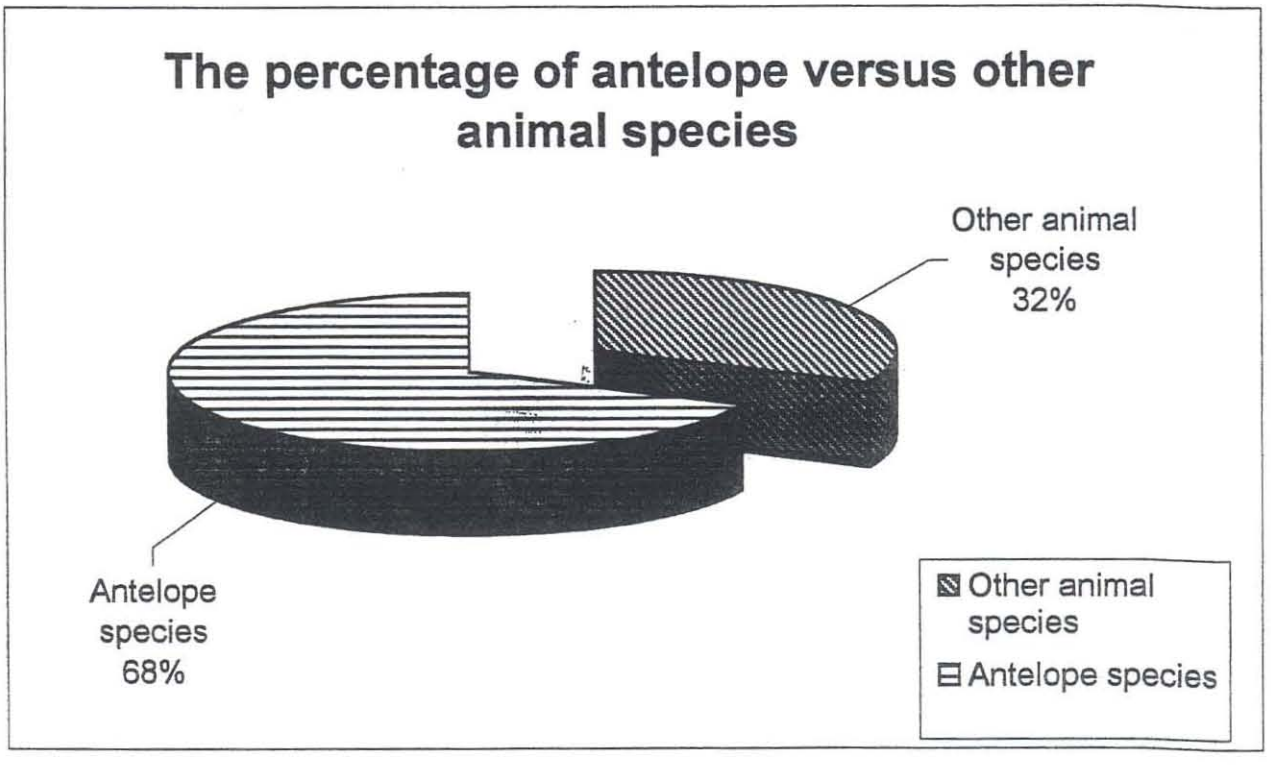
(Figure6: Animal pairings)



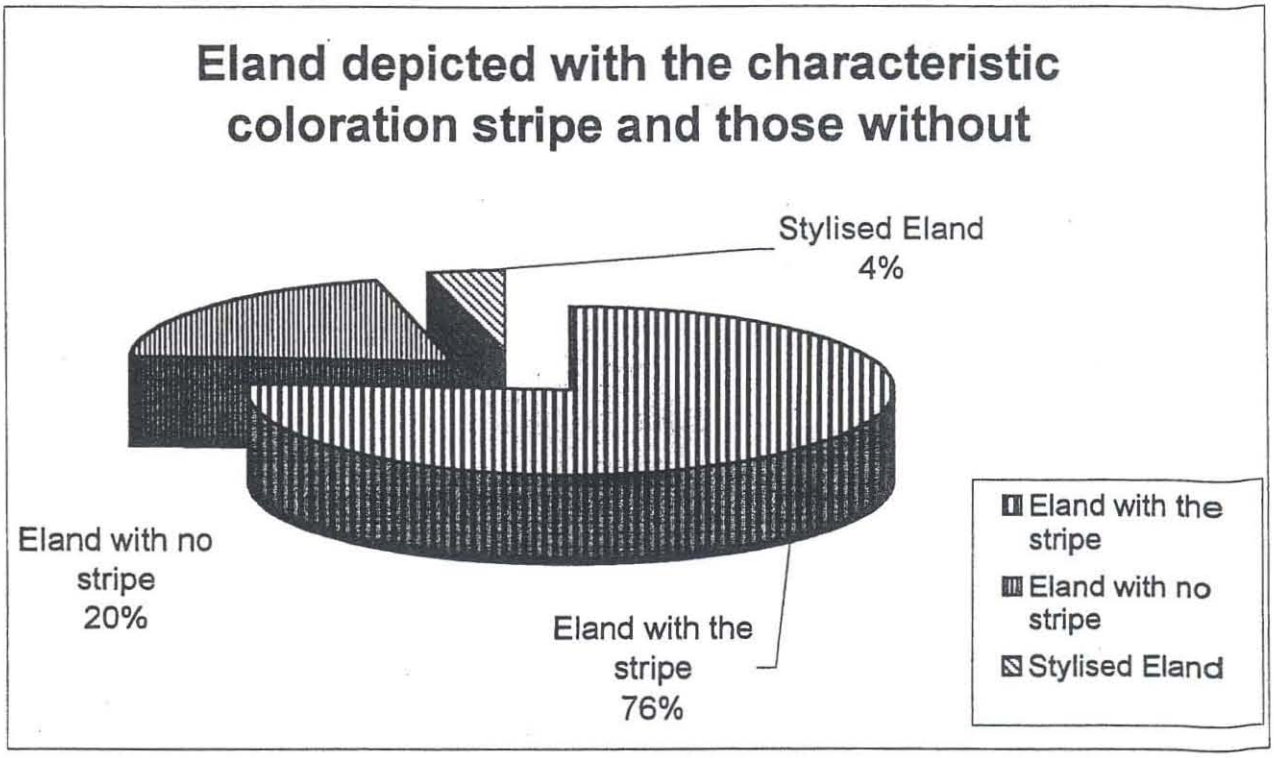
(Figure7: The number of herbivores versus the carnivores and omnivores)



(Figure8: The number of mammals versus the birds and reptiles)



(Figure9: The percentage of antelope versus other animal species)



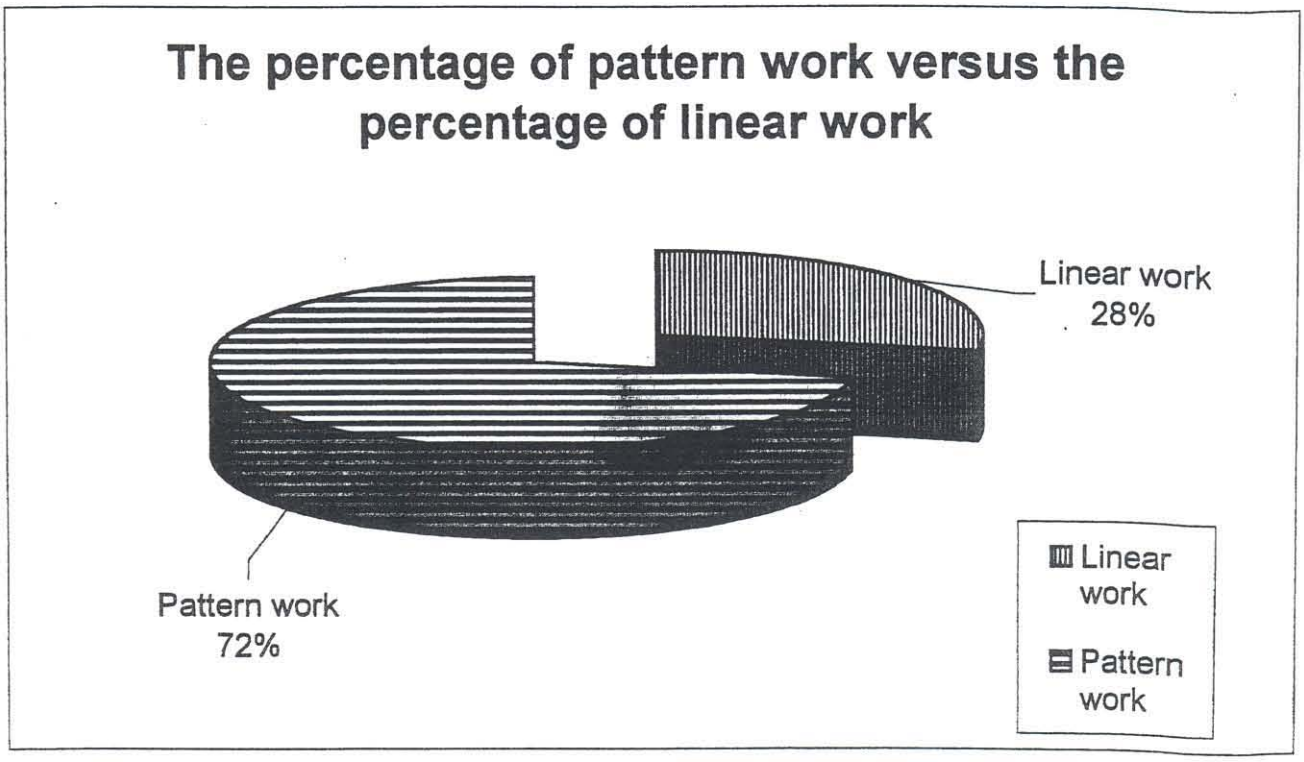
(Figure10: The coloration stripe of the eland)

The geometric works, which incorporates linear and pattern work, constitutes the final component of engraved work. Pattern work which is more common (Figure11), is structured and a large portion of it can be classified as "entoptic phenomenon", visions brought on by trances and hallucinations, (Figure12) or they could simply be doodles. According to Ockhams razor," entities are not to be multiplied beyond necessity", (Crystal, 1994), thus the latter is more plausible. As previously state, this "entoptic" work might share an engraved surface with other subjects, which in itself is rare, but they are not linked to these subjects in any manner, having been engraved at different time periods. In most cases they just make for an interesting background for the engraved work.

Certain of the pattern work pieces, closely resemble a form of art work excercise, practised to refine artistic style and fine motor skills, (Figures J8,J9 etc.). Less refined engravings are executed on badly weathered rock surfaces, corroborating this practice of the art form, to attain near perfection, (C24,H6 etc.).

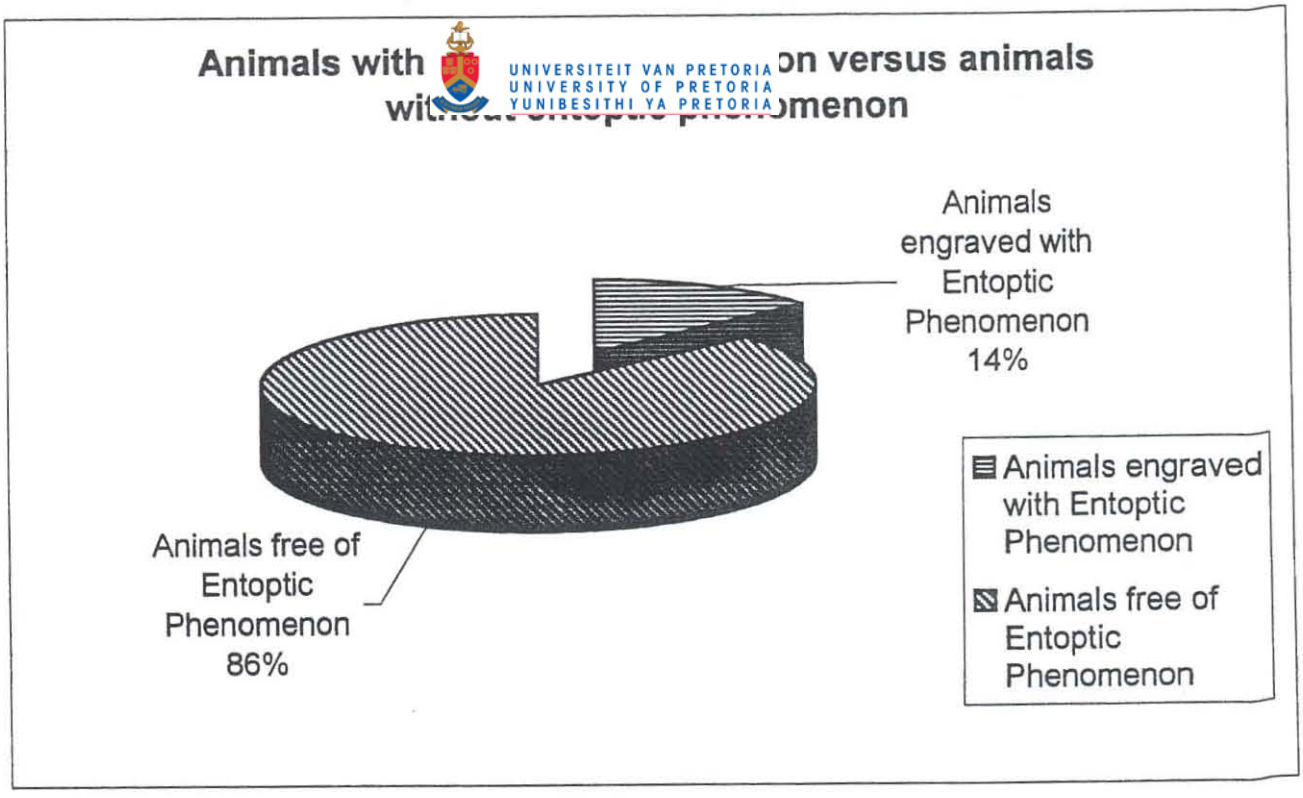
Three engraving techniques have been identified in the area, they are:
A fine line incision technique, utilised not only by the Bushmen, but also by the Sotho-Tswana and settlers.
A broad line incision technique, utilised by the Bushmen engravers.
A rubbing technique utilised by the Sotho-Tswana to exposed the blue inner core of the rock, thereby colouring the engraving in.

The fine line technique is by far the most commonly used (Figure13). As will be discussed in the dating of rock art, (Chapter 10) it is agreed that the fine line technique is the oldest engraving technique. This however does not mean that all engravings incised making use of the fine line technique are older than there counter parts. In fact the fine line incisions produced by the settlers date to a mere 86 years, as the settlers date their work. Also the fine line incision work produced by the Sotho -Tswana, can only date back to around the 16 hundreds, when they first came to settle in the area. Although the fine line technique is the oldest engraving technique used, but it must be taken in context, when trying to date the work as it is a technique that continued through time.

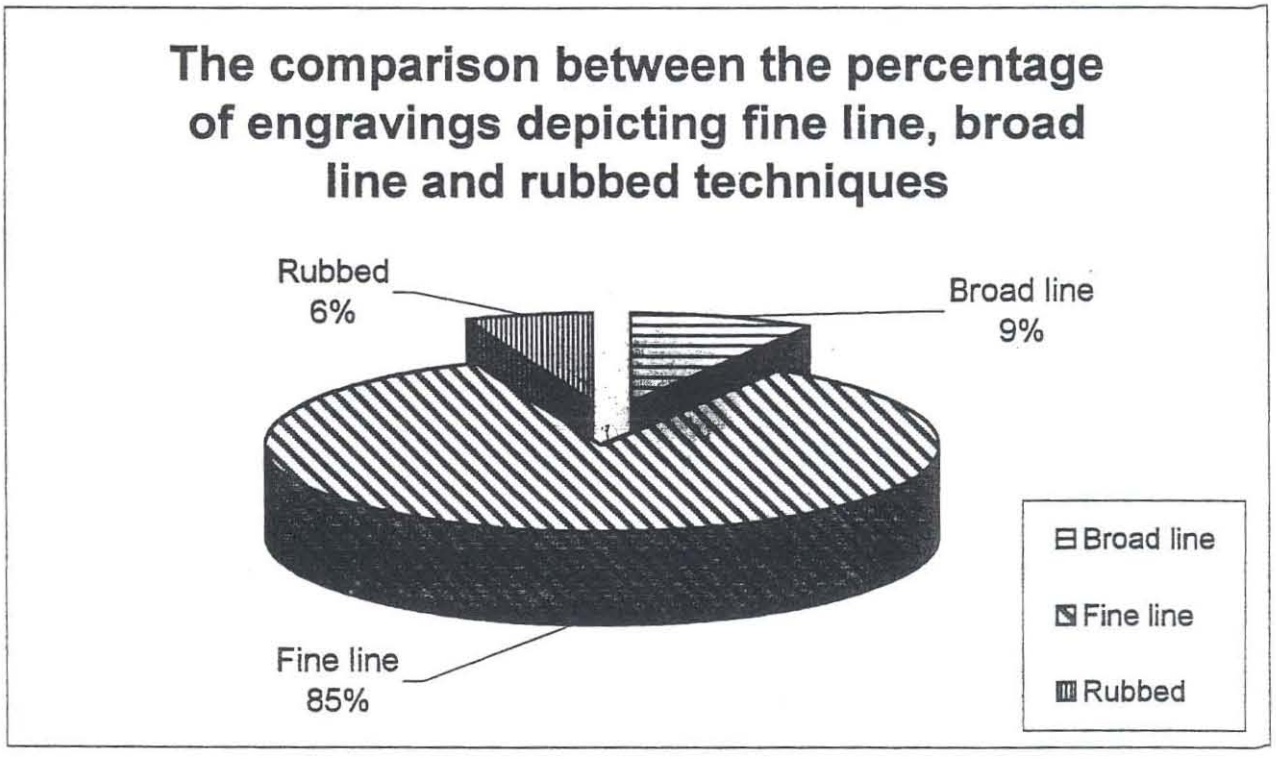


(Figure11: The number of pattern work versus the number of linear work)

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(Figure12: Animals with Entoptic phenomenon versus animals without Entoptic phenomenon)



(Figure13: The comparison between the percentage of engravings depicting, Fine line, Broad line and Rubbed technique)

The problem of weathering is far from being solved and thus tourism and education of the public must be the main focus at present in the conservation of the engravings. The best way to educate the public is on a personal one to one basis, this is the only way to instil a real and lasting passion for the art work, which is necessary to create a mind set of preservation. The best way to do this is through personal interaction with the artwork in its natural environment. By taking on this approach , you not only create desperately needed jobs for qualified persons, but you also create a service for a growing tourism market. By generating much needed awareness for the art form, you aid in its preservation. To date people are very aware of rock paintings, but have no idea as to what rock engravings are and are always pleasantly surprised once they are introduced to it.

The protection offered by the legislation determined by the National Monuments council, looks good on paper, but the general public is unaware of its existence, thus it offers no deterrent to vandals and thieves. Also due to the fact that they have not studied the subject, the general public is unable to identify the ruins of archaeological sites and will inadvertently destroy them during the development of there land and the law can do nothing about this, as they have had no knowledge of the sites existence in the first place.

CHAPTER 7
THE CONSERVATUIN OF ROCK ENGRAVINGS

Due to the precarious location of the engravings and their age, they have numerous threats, from humans and nature. For the a-fore mentioned reasons it would seem logical that the engravings should be removed to places of safe keeping, but in this process they loose a lot of their value and use. Thus all efforts should be made to conserve the engravings in there natural surroundings.

The geographical distribution of rock art differs broadly and is determined largely by geological distribution of rock types suitable for the various engraving techniques, (Avery, 1974). The distribution of engravings conforms for the most part to the distribution of dolomites and dolerite, which occur interspersed among the exposed sedimentary rocks on the Highveld, mainly as outcrops on low hills, (Avery, 1974). Elsewhere erosion has exposed the surface of ancient rocks, mainly diabase, also used to engrave upon, (Avery, 1974). The engravings occur on unprotected boulders or rock surfaces and are thus constantly exposed to the effects of vandalism; natural weathering and when they are located close to industries, the effects of pollution, (Avery, 1974).

1. The Problem of Weathering

Rock engravings are susceptible to the same environmental forces as the natural rock surface, (Rosenfeld, 1988). Weathering enlarges the existing pores of the rock, so that the moisture intake and movement are increased, (Meiklejohn, 1997). The more dynamic the moisture regime becomes, the more the rock weathering process increases and an accelerated rate of breakdown of the rock occurs, (Meiklejohn, 1997). According to Meiklejohn, (1997) and Rosenfeld, (1988) the major processes of weathering include:

- Disintegration
- Chemical alteration of minerals
- Crystallisation, pressure from precipitating salts and the hydration and dehydration of rock minerals
- Precipitates
- Scaling or flaking

The susceptibility of the particular rock to weathering depends on the characteristics of the rock type and the nature of the environment to which the rock is exposed, (Rosenfeld, 1988). In the Magaliesburg area were the majority of the rocks engraved upon are hornfel, which attract lightning, the likelihood of fissuration increases, which in turn increases the rock permeability and the chances of mineral alteration, (Rosenfeld, 1988). Fortunately the hornfel rocks contain quartz, which is a resistant mineral and thus has a slower weathering rate, still this doesn't render the rock resistant to weathering, (Avery, 1974).

To date little has been done to determine the process of deterioration and the development of techniques for preservation, (Meiklejohn, 1997). The reason being that there is a lack of understanding concerning the specific mechanisms pertaining to rock weathering in South

Africa, (Loubser, 1991). The majority of the research on rock weathering to date is purely speculative and is therefore inadequate and few investigations into specific weathering processes have been undertaken, (Meiklejohn, 1997). There is a definite need for in-depth research into the process of the decay of rock art, (Meiklejohn, 1997).

Rock breakdown occurs due to an interdependent complex of mechanisms, which include mechanical, chemical and biological mechanisms, (Meiklejohn, 1997). Each of these mechanisms must be studied independently and collectively, (Meiklejohn, 1997). Research done to date reveals that temperature and rock moisture is the most important environmental controls on weathering, (Meiklejohn, 1997). Also chemical analysis, rock property determination, rock strength and simulation experiments are valuable components of data collection, (Meiklejohn, 1997).

According to Dragovich, in Australia, Blackwelder (1933) and later Griggs investigated the effects of temperature variation on rocks. They experimented by heating and cooling granite specimens in a dry air oven at a temperature range of 110° C. They chose to use an artificial environment over field observations as they could then intensify the weathering environment and thereby hastening the weathering process. In this manor they could also establish which factors play a roll in the breakdown. They exposed the rock to the dry oven for enough cycles to cover a period of 244 years (each cycle is one day). They concluded that there was no change to the rock surface. They then subjected the granite to cooling by water instead of air. After they completed cycles equivalent to 2 and a half years, cracking and flaking were apparent. Therefore they concluded that temperature change in the absence of moisture had little effect on the rock surface, but a temperature and moisture variation favoured rapid weathering (Dragovich).

French workers to, who conducted numerous experiments on different rock types under different conditions, - constant temperature and constant moisture, see the role of moisture as very important
- Constant temperature and wet / dry cycles
- Temperature change and constant moisture
- Temperature change in the presence of wet / dry cycles
They to concluded that a temperature and moisture variation produces the greatest amount of weathering (Dragovich).

A temperature variation assists in producing minute cracks in the rock surface, which is then more readily penetrated by moisture, (Dragovich). The moisture causes a chemical alteration of the rock, which forms silicate clay minerals, (Dragovich). These alteration products, occur only along the cracks where moisture has penetrated for the time being, but assist in further rock breakdown because there presence reduces rock cohesion and also some clays have lattices that expand in the presence of moisture, which exert pressure on the adjacent mineral surfaces, (Dragovich).

In saline environments, salt crystals are precipitated during evaporation, (Dragovich). The crystals occupy a lesser volume than the initial saline solution, (Dragovich). Pressures are

however exerted in the process of salt crystallisation as crystals will continue to grow against confining pressures and the salt crystals therefore do not simply fill cracks in the rock, (Dragovich). They're potential for disrupting permeable rock is great, (Dragovich). The presence of moisture is unavoidable and weathering will proceed even more rapidly if salts are present in the water (Dragovich).

If we look at weathering were rock engravings are concerned, they have a better chance of survival in the field than paintings, because rocks are etched to some slight depth, (Dragovich). For this reason a thin layer of material could be weathered off without destroying the engravings, (Dragovich). In many cases weathering will proceed not only on the rock surface but also on the walls of the engravings themselves, thus tending to preserve them, (Dragovich). The weathering surface of the engraved rocks could therefore become "stable" with respect to conserving rock art, (Dragovich).

Hornfel rocks were the preferred medium of the Bushmen engravers in the Magaliesberg. Samples of hornfel rocks from the area of study were taken to the geological department of the university of Pretoria so that the mineral content could be established as well as the weathering rate of the rock. The hornfel rocks were originally shale rocks that due to extreme temperature changes, in excess of 400°C, like the volcanic action at Pilansberg, changed due to metamorphic processes, (Snyman pers. Com 1999). They are dark and fine-grained and found at the interface with dykes of igneous rock, which caused the metamorphism at the time of intrusion, (Curuthers, 1990). Hornfel rock does not retain the stratification of the original shale rock, (Curuthers, 1990). Shale rock consists of the following minerals - Quartz ($Si\ O_2$)

- Kaolimite $Al_2\ [(OH)\ 4\ /\ Si_2\ O_5]$ = clay
- Hematite $Fe_2\ O_3$
- K- feldspar $K\ [Al\ Si_3\ O_8]$

These peaty clay minerals are arranged parallel to each other laying horizontally, when they come in contact with heat in excess of 400° C, which was experienced during the volcanic action at Pilansberg. During this metamorphic process the shale rocks chemical make-up was altered to formulate a rock type called hornfel, (Snyman pers. Com 1999).
The chemical composition of hornfel is -

$Al_2\ [(OH)_4\ /\ Si_2\ O_5] + K\ [Al\ Si_3\ O_8\ ] + Fe_2\ O_3$, which forms

=

$K\ (Al_1\ Fe)_2\ [Si_3\ Al\ O_{10}\ (OH)_2]$ + Quartz, known as Biolite or

Or

$(Mg_1\ Fe)_3\ Al_2\ [Si_5\ Al\ O_{18}]$, known as Cordierite, which is purplish in colour, (Snyman pers. Com 1999).

The above symbols represent the following elements:
Al = Aluminum
OH = hydroxide ion
Si = Silicon
O = Oxygen
K = Potassium
Fe = Iron

Mg = Magnesium, (Zak, 1990).

As far as the weathering rate of the rocks is concerned, it is exceptionally good, (Snyman pers. Com 1999). A sample of the core profile of the rock was taken and when studied showed that the rocks weather very slowly and evenly, (Snyman pers. Com 1999). The outside of the rock is a golden brown in colour, caused by weathering (essentially a rusting of the rock), while the inside of the rock is a purple- blue colour (The true colour of the rock), (Snyman pers. Com 1999). This brown layer of "rust" is no more than one centimetre deep all over the rock surface and when you take into consideration that the rocks are over a million years old, the weathering rate is slow and even.

2. Other Natural causes for Deterioration

Other natural causes that can cause damage to the engravings are indirectly related to man, they are, (Steel).
- Bush encroachment, this bush causes shade and damp, which encourages the growth of moss and lichen, which cover the engraving,(Steel). Also these lichen, fungi and algae derive their nutrients directly from the mineral rock and the atmosphere, Rosenfeld, 1988).
- Termite heaps and small burrowing animals, which occur in over grassed areas. The actions of these animals cover the engravings, (Steel).
- Cattle dung and bird guano. These faeces stain and discolour the rocks and their high acid content also causes damage, (Steel).
- Veld fires, blacken from the soot and smoke and fine cracks and lamine occur at high temperatures, (Steel). Firebreaks can help control this, (Bachelor, 1990).
- Lightning, which they attract, due to their iron content, cracks metallic based rocks, (Steel). This is applicable in the research area, due to the mineral content of the hornfel rock.
- Floodwaters cause damage due to debris, stones and sand floating by.
- A silica layer, builds up from water splashing on the rock surface from rain or a waterfall, this causes the rock to form a whitish shine.

3. Damage by Humans and Domestic Animals

Man unfortunately is responsible for defacing many engravings by scratching there names, or graffiti over the engraved work, (Steel). There are also instances were people have taken it upon themselves to engrave over the original lines, deepening or broadening them and even adding features. Theft is also a big part of the deification of a collection. People do this to add to there own private collections or displays, (Steel). Unfortunately rock art has a price and for this reason, people remove them from the veld and sell them to the collectors. The wetting of engravings to enhance photographs and the making of casts for collections, both damage the engraving, (Steel).

Overgrazing force cattle to enter the boulder clusters for food, this is however indirectly the fault once again of man, (Steel). Most engravings are found among boulder clusters, which provide protection for the environment from veld fires, producing palatable grasses. These palatable grasses attract cattle, sheep and donkeys, when over grassing of the rest of the veld occurs, (Steel). However palatable the grass amongst the boulders is, it is sparse, thus cattle will

only venture into these area, if grassing on the open areas is depleted. The hooves of the animals produce broad scratch marks on the figures, (Steel). Fortunately the farmers in the Doornkloof area work together as far as grassing is concerned. They allow their cattle to graze together on one portion of land allowing the rest to rejuvenate and then rotate the land, thus the cattle have no need to enter the boulders.

Agriculture also plays a small part in the destruction of engravings, (Steel). Farmers need large amounts of arable land to farm on and thus clears vast areas for ploughing. The land on which people plough however needs to be as flat as possible and farmers tend to avoid areas with big boulders as their removal is both costly and difficult. As the majority of the engravings are located on the hill slopes and outcrops, land farmers will consider as a last resort.

Lastly man made structures are a culprit, in that engraved boulders were used to strengthen earth walls erected during dam building, (Steel). Other man made structures include roads, cable laying, irrigation (pipe trenches), fence erection, electrical and telephone pole erection and industrial pollution, (Steel). During the study of the engravings of this area electrical poles were erected, but this process was carefully monitored and no damage was caused to the engravings. This however was not easy, even though Eskom has a strict policy on environmental conservation. This policy does not filter down to the contractors who do the actual erection work. These contractors are uneducated were conservation is concerned and also do not care about archaeological terrain's and engravings as they don't realise there worth and importance. Thus they have to be monitored constantly, as these contractors will take short cuts were ever possible.

According to a report submitted by the, (National building research institute, 1983:12), " In the absence of a fully reliable method of permanently preserving rock paintings (engravings) in situ"....." paintings (engravings) of exceptional value that should be protected and preserved at all costs, if feasible, be removed from their settings to museums". Chapter 9 deals with the problems facing removal.

CHAPTER 8
THE LAW AND ROCK ART

Chapter 7 delt with the problems facing rock engravings, from both natural and human intervention. This chapter focuses on the law and legal implications, of human intervention and destruction of the engravings. The value of the legislation is questionable as their implementation is difficult.

The law pertaining to the protection of rock art extends as far back as 1911, known as the Bushmen Relics Protection Act (Act No. 22 of 1911), (Deacon). The main purpose of the Act was to control the export of original rock paintings and engravings, (Hoffman, 1971). Twelve years later the Natural, Historical and Monuments Act (Act No. 6 of 1923) made provision for the appointment of a Commission for the preservation of Natural and historical Monuments, (Hoffman, 1971). This act made provision for a wider range of sites than those of the Bushmen, (Deacon). An even greater diversity was catered for in the subsequent commission for the Preservation of Natural and Historical Monuments, Relics and Antiques Act (Act No. 4 of 1934), this act made it possible to declare particular sites national monuments, (Deacon). Amendments to this Act were made in 1937 and 1967, (Hoffman, 1971). This Act was replaced in turn by the National Monuments Act (Act No.28 of 1969), (Deacon). This Act was amended in 1986, (Deacon).

In legal terms at the present time, rock art is protected in two ways by the National Monuments Act:
1) By making it illegal to damage or export the art without a permit.
2) By declaring the site a national monument, (Deacon).
It is also protected in more general ways by the Environment Conservation Act of 1989,(Deacon). The following are three aspects of this Act.

" The permit system

1. The permit system

No person may "destroy, damage, excavate, alter, remove from its original site or export from the Republic" any rock art without a permit from the National Monuments Council. Rock art is defined as "any drawing or painting on stone or a petroglyph known or commonly believed to have been executed by Bushmen;. . . or by any other people who inhabited or visited the Republic before the settlement of the Europeans at the Cape." Anyone convicted of an offence in terms of this section of the Act may be liable to a fine of up to R10 000 or two years' imprisonment, or both.

Legally, then, the rock art is protected from any form of damage, whether as a result of deliberate or accidental action.

The problems with the permit system include that it leaves all rock art done after 1652 legally unprotected, (Deacon). It is also re-active rather than pro-active, meaning that it can only be enforced after someone has damaged a painting or engraving and due to there remote settings means that the crimes are not observed and the results of this are only noticed over a considerable period of time, (Deacon). Lastly there is no statutory commitment on the part of the council to conserve rock art sites other than those that have been declared national monuments, (Deacon).

" Declaration of national monuments

2. *Declaration of national monuments*

Additional protection may be given to selected sites by declaring them national monuments. Declaration does not change ownership of the property: it may be sold and transferred in the private sector, but it makes the National Monuments Council doubly responsible for the upkeep and maintenance of a rock art site. Because the property owner retains all rights, he or she is not bound to open the site to the general public and may decide without consultation with the National Monuments Council whether to do so or not. The owner is, however, bound to apply for a permit to alter the area declared a national monument, or indeed to alter the roads or landscape in the vicinity if this alteration is likely to affect the national monument.

"The environment Conservation Act

3. *The Environment Conservation Act*

Another player in the conservation of cultural resources is the Department of Environment Affairs. The Environment Conservation Act of 1989 enables the Minister of Environment Affairs to call for a report on the impact a particular development programme may have on the environment. Instead of making it illegal for a developer to embark on a project without an impact study, the Act puts the onus on the developer to do an environmental impact assessment at the earliest possible stage in the development process. Such an assessment would identify the presence of rock art sites and make recommendations regarding their safety and protection. This has worked very well in cases where the developer has been sensitive to rock art and cultural conservation generally.

Although regulations have not yet been promulgated and developers are not yet legally bound to do assessments, several have been done as the result of National Monuments Council vigilance and the interest of landowners.

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The National Monuments Act, 1969 (Act No. 28 of 1969) has once again been amended, the transitional provisions and consequential amendments for 1999 follow, (Republic of South Africa Government Gazette, Vol406, No. 19974).

Transitional provisions and consequential amendments

58. (1) For the purposes of this section, "the previous Act" means the National Monuments Act, 1969 (Act No. 28 of 1969).

(2) The National Monuments Council established by section 2 of the previous Act is hereby abolished and all its assets, rights, liabilities and obligations shall devolve upon SAHRA without formal transfer and without payment of any duties, taxes, fees or other charges. The officer in charge of registration of deeds registry must, on submission of the title deed and on application by the authority concerned, endorse such a title deed with regard to such development.

(3) Any person who was in the employment of the Council referred to in subsection (2), is regarded to have been appointed under this Act.

(4) The remuneration and other conditions of service of an employee contemplated in subsection (3) may not be less favourable than the remuneration and other conditions of service to which that employee was entitled to before.

(5) If a person appointed under subsection (3) or a person regarded to be so appointed, is dismissed, that person may within 14 days after the date of notification of the dismissal, appeal in writing against the dismissal to the Minister, who may confirm, vary or set aside the dismissal.

(6) The National Monuments Council library shall become part of the national heritage resources library established under section 13(2)*(b)*.

(7) The committees established by section 3A of the previous Act are hereby abolished and all their assets, rights, liabilities and obligations shall devolve upon SAHRA without formal transfer and without payment of any duties, taxes, fees or other charges.

(8) Unless it would in any particular case obviously be inappropriate, any reference in any law, document or register, to the National Monuments Council must be construed as a reference to SAHRA and any such reference to an officer or employee of the National Monuments Council must be construed as a reference to an employee of SAHRA performing functions or exercising powers similar to those of the first-mentioned officer or employee.

(9) All trust funds for which the National Monuments Council acted as trustee, including the War Graves Trust Fund referred to in section 9A of the previous Act, shall on the date of commencement of this Act become vested in SAHRA as part of the National Heritage Resources Fund referred to in section 40, and SAHRA must act as trustee on the same terms and conditions as existed prior to the commencement of this Act.

(10) On the establishment of a provincial heritage resources authority, arrangements must be made for the transfer of such assets, rights, liabilities and obligations of SAHRA in that province to the provincial heritage resources authority as the Minister and the MEC deem fit.

(11) Sites and objects which prior to the commencement of this Act were protected by notices in the *Gazette* in terms of the previous Act, shall, subject to the provisions of any provincial legislation for heritage resources conservation and any agreement in that regard, and without the need for the publication of notices in the *Gazette*, continue to be protected in terms of the following provisions of this Act:

(a) Immovable national monuments in terms of section 10 of the previous Act shall be provincial heritage resources sites: Provided that within five years of the commencement of this Act, the provincial heritage resources authorities in consultation with SAHRA, must assess the significance of such sites in accordance with the heritage assessment criteria set out in section 3(3) and prescribed under section 7(1) and SAHRA must declare any place which fulfils the criteria for Grade I status a national heritage site;

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(b) immovable pr… in terms of section 5(1) of the previous Act m… …egister for the province in which they are situated and in the inventory of the national estate;

(c) conservation areas in terms of section 5(9) of the previous Act shall be heritage areas: Provided that where no provision has been made for the protection of such areas in by-laws under the previous Act or in a town or regional planning scheme—

(i) sections 31(7)*(a)*, *(b)* and *(c)* of this Act automatically apply to such heritage areas; and

(ii) the local or other planning authority concerned must provide for the protection of such area in accordance with the provisions of section 31 within three years of the commencement of this Act;

(d) provisionally declared immovable properties in terms of section 5(1)*(c)* of the previous Act are provisionally protected for such remaining period as specified in the notice of provisional declaration;

(e) national gardens of remembrance in terms of section 9C of the previous Act are provincial heritage sites;

(f) cultural treasures in terms of section 5*(c)* and movable national monuments in terms of section 10 of the previous Act are heritage objects.

(12) A notice under section 10(3)*(a)* or 5(5)*(b)* of the previous Act which was served within six months prior to the commencement of this Act shall be deemed to be a notice served by a provincial heritage resources authority in terms of section 27(8) or section 29(1) and (2) of this Act, as the case may be.

(13) A permit issued under the previous Act shall be deemed to be a permit issued by the responsible heritage authority under the relevant section of this Act.

Regulations

59. The Minister may, by notice in the *Gazette* make regulations regarding—

(a) any matter which may or shall be prescribed in terms of this Act;

(b) any other matter which may be necessary or expedient in order to achieve the objects of this Act.

Repeal

60. The National Monuments Act, 1969 (Act No. 28 of 1969), and section 41(2) of the Environment Conservation Act, 1989 (Act No. 73 of 1989), are hereby repealed.

Short title and commencement

61. This Act shall be called the National Heritage Resources Act, 1999, and shall come into operation on a date to be fixed by the President by proclamation in the *Gazette*.

PENALTIES FOR NATIONAL HERITAGE ACT

(Section 51)

1. A fine or imprisonment for a period not exceeding five years or to both such fine and imprisonment.
2. A fine or imprisonment for a period not exceeding three years or to both such fine and imprisonment.
3. A fine or imprisonment for a period not exceeding two years or to both such fine and imprisonment.
4. A fine or imprisonment for a period not exceeding one year or to both such fine and imprisonment.
5. A fine or imprisonment for a period not exceeding six months or to both such fine and imprisonment.
6. A fine or imprisonment for a period not exceeding three months or to both such fine and imprisonment.

CHAPTER 9
THE MANAGEMENT OF ROCK ENGRAVINGS

Legislation comprises a integral role in the management of engravings, but on its own is not a effective means of conservation and protection. The implementation of this legislation is its downfall. Therefore adequate management systems are needed, as they form a basis from which the law can be enforced.

Rock Art is considered to be an important ethnographic record of earlier groups of people and is therefore used as a cultural record, (Rudner, 1989). Given that rock art is a valuable national and international heritage, it needs to be managed as a cultural resource, (Meiklejohn, 1995). An effective management policy provides the potential for future research and a foundation for rock art preservation, (Meiklejohn, 1995). According to Mazel, (1983) and Loubser, (1994), much of the motivation behind the management of rock art for its protection to date is purely from a academic perspective.

The first step is for national and provincial government and landowners to recognise its importance, not only as our cultural heritage, but as a tourist attraction and revenue earner, (Meiklejohn, 1995). Legislation protects rock art but doesn't provide for its future preservation, (Meiklejohn, 1995). The following management options are available to respective authorities:
1- to conserve the rock engravings.
2- to educate and inform the public.
3- to remove rock art to places of safekeeping.
4- to preserve rock art in situ.
5- to promote rock art for tourism, (Meiklejohn, 1995).

To preserve rock art, weathering processes need to be stopped or minimised, but due to inadequate research in this field, conservation, public education, removals and tourism have become the priorities, (Meiklejohn, 1995).

1. The Removal of Rock Art for safe keeping

In the past engravings were removed for one of two reasons:
1- To remove them from the threat of humans and nature and
2- For the convenience of studying them in a museum, (Loubser, 1994).
Fortunately this view changed due to a change in museum policy, financial logistics, conservation problems (curation and storage space shortages) and problems encountered during removals, (Loubser, 19940.

Removal is not only a difficult process, due to the shear size of the majority of the art surfaces, but it is also costly, requiring large equipment and the persons recruited to perform the tasks are often incompetent and negligent, (Loubser, 1994). More often then not, the artwork is damaged in the process, because weathered rock becomes brittle and flakes, (Loubser, 1994). Removal must be warranted, due to the fact that the engraved work losses its importance once it is taken out of context, and then only has aesthetic value, (Loubser, 1994). Dating and the analysis of

work that is not in situ is made difficult, (Loubser, 1994). Removal of engraved work to museums, normally ends in the engraving being stored in a store room, as they are difficult to display due to there shear size, thus they are lost to the public, (Deacon, 1992). Thus a viable alternative could be to create on site museums at selective sites, were tourist have access to the sites, and will still gain value from the removed pieces, (Deacon, 1992) . By adopting this management strategy, we will be able to protect the artwork and educate the public.

According to Deacon, (1992. b), the minimum standards for an archaeological on site museum and sites open to the public include:
-The approach to the site - site times and adequate sign posts
- Site should be kept locked
- If the site is open on appointment only, a guide must be available
- There must be maintained off road parking
- The parking must not encroach on the site
- There must be a barrier between the parking and the site
- There must be a litter bin, and it must regularly emptied
- Ablution blocks must be present and serviced
- Souvenir shop should be maintained
- The protection of the site - have a notice board explaining site protection by law
- Have a visitors book
- Put pamphlets and brochures in a protective case
- Have a physical barrier between the art and the public
- Remove all graffiti from the site
- Regular maintenance of the site is to be undertaken
- Regularly maintains the vegetation around the site
- Have a good record and filling system
- Record the sites on map
- Prevent people from camping on site, touching the painted surface and putting water on the surface to enhance a picture.

2.Tourism as an Option for Conservation

Tourism is one option whereby resources and people can be managed in a sustainable manor, especially via nature based, rural and farms tourism, (Meiklejohn, 1995). Many of the principles utilised in Ecotourism can be applied to the tourism of rock art, in that it could benefit the conservation of this rock form, (Meiklejohn, 1995). Ecotourism is a type of tourism who's main objective is to make money, in a responsible manor, and them to utilised this money for the conservation of the resources and improve the quality of life for the local inhabitants, (Hattingh, 1994). Ecotourism can generate increased revenue for further research into the conservation of the engravings. By creating a market, you create employment opportunities for people living near the sites as well as an opportunity to educate more people on the importance of the engravings, which in turn will aids in conservation.

Tourism is recognised, as the fastest growing industry in the world, with South Africa increasing in popularity as a tourism destination, the potential for utilising rock engravings as a draw card, is a distinct possibility, (Meiklejohn, 1995). Both Australia and France, have done exactly this and with great success, (Meiklejohn, 1995). The only problem preventing South Africa from reach the same success is our underdeveloped tourist infrastructure, (Meiklejohn, 1995). We also need to change the view we as South Africans have of our rock engravings to that of a national heritage and not as the heritage of an almost extinct culture, (Meiklejohn, 1995).

We need to market our rock art, as part of a package deal for would be tourists, (Hattingh, 1994). According to Meiklejohn, (1995), rock art would ideally have to be part of the nature based tourism industry, or on route a popular tourism route, as is the case with the Doornkloof engravings which are on the Magalies meander. Rock art must be considered a part of the natural environment as it utilises natural features and it enhances the environment, (National Monuments Council, 1990). The package needs to include natural and cultural resources, infrastructure, and such elements as service, quality of product and safety and security, (Satour, 1995). To successfully attract the foreign tourist we need to, first attract the South African tourist, (Satour, 1995). If we have pride in our own land, then others will have pride in our country, word of mouth and self image are critical for tourism development. A successful tourism industry starts at home, (Satour, 1995). By creating a financially viable and sustainable industry, we aid in the conservation of our cultural resources, (Meiklejohn, 1995).

To develop an interest in the field of rock art we need to expose the public to the art form in its natural habitat. We also need appropriately educated personal to conduct tours of the sites, (Satour, 1995). The guide should always know more than the tourist, (Satour, 1995). People can not related to the work via a taped recording, like those utilised in the Drakensberg sites, they want to be able to ask questions, and demand proper answers, (Mazel, 1982). It does not help to merely inform people about interesting facts surrounding the art form and telling them to conserve it, you need to ignite a passion for the art in them and a tape recording, pamphlets and books can't do that. Until you ignite this passion, you are doing little to conserve the art.

While tourism may be a feasible route to conserve our art, it is a service industry, and needs to be developed as such, in order to meet the demands of the public, (Meiklejohn, 1995). Thus land managers have to be employed on site to see to the protection of the cultural and natural resources, further more human and physical infrastructure are needed, (Meiklejohn, 1995).

According to Meiklejohn, (1995) rock art conservation and tourism form a symbiosis in that;
- The long-term protection of the resources is essential for sustainable tourism.
- Tourism can be a powerful tool for resource conservation is executed correctly, but could also has serious negative impacts if not managed properly.
- Tourism is a role player in the conservation of these resources, but by no means should be seen as the only resort.
- Tourism and Ecotourism have complex infrastructure needs that must be met in order to be sustainable.
- Landowner and local support are also crucial to resource conservation.
- The tourism must have a strong cultural and people element.

- There has to be co-operation between key groups, this being one of South Africa's major problem areas.
- A tourism policy must be formulated on both a regional and national scale.
- If the standard of service is not up to scratch, the tourist won't come no matter how good the product is.

3. Education and Management

In the words of Leeuwenburg, (1971), "Try to develop in the minds of as many people as possible an interest in the protection and preservation of theses sites", referring to rock art sites. The education of Rock art should be approached on a national and local level, (Mazel, 1982). On a national level knowledge of the art form should be brought to the public's attention through the media, public lectures and information brochures, (Mazel, 1982). Also a greater archaeological and cultural perspective should be incorporated into the school curriculum, (Mazel, 1982). At veld schools, rock art can be incorporated in the curriculum as an outdoor activity, for example the children can make their own art work (paintings, engravings, bead work and jewellery, clay figurines, hand prints), utilising the same resources in nature that the original artists did, (Natural History Museum, 1985).

On a local level the public should be informed and encouraged to appreciate and protect our heritage, in the form of displays, brochures, lectures and guided visitations to sites, (Mazel, 1982). The public is very aware and has been extensively exposed to rock paintings in South Africa. Experience has proven however that they are uneducated as far as rock engravings are concerned, being unaware of what they look like. Thus the conservation of engravings has a long way to go and is in its infancy as far as exposure and its placement in the tourism industry is concerned. Once the public has however been exposed to its beauty, complexity and simplicity, they gain a deep appreciation for it, and three-hour tours turn into five, with shear amazement and intrigue for the subject. Thus the tourist markets as far as this resource is concerned exits; it just has to be tapped in the right manor to ensure the maximum enjoyment for the tourist and conservation of the resource.

In a short period of time the Doornkloof collection has built up a local market for the resource, as well as an international one, with tourists ranging from England, Scotland, Hong Kong, America, Israel, Botswana, Russia, Ugoslavia and Namibia. The entire international market was gained through the word of mouth marketing by the South African tourist, who have already visited the site. Thus if the product is presented in the correct manor, which includes personalised service, you don't need a large expenditure to market the product, which in turn generates funds for the conservation of the resource and creates jobs.

General solutions to conservation problems can be a danger, and to overt this danger each case must be dealt with in accordance with the circumstances encountered on the site.

CHAPTER 10
DATING OF ROCK ENGRAVINGS

An aspect of rock engravings that inevitably comes to the fore during any investigation is the question of the age of the piece. Speculation constitutes the basis for dating rock engravings. Radio carbon dating a technique utilised in the dating of rock paintings, can not be utilised were engravings are concerned as you would be dating the actual rock, which inevitably in much older than the engraved work. Distribution patterns and engraved techniques used, can render clues to the relative age of the pieces. If the engraving depicts a event, of which the date is known a specific date can be attached to the engraving.

A in-depth study into the possible dating of the Doornkloof pieces was not undertaken, due to the complexity of the undertaking, which demands the attention of a complete study of its own. A general overview into the work already undertaken in this field, does however follow, as it is valuable to the study for future reference.

Rock art is widespread and of vital importance to the recording of prehistoric South African culture, (Humphreys, 1971). It is the only representation of the culture and achievements of the early inhabitants, (Humphreys, 1971). It's a unique look into the development of the prehistoric culture through the dimensions of time and space, (Humphreys, 1971). Rock engravings provide a contemporary view of some of the most essential elements of prehistoric environment and culture, yet rock art, as with all other art has an innate subjectivity that makes interpretation difficult, (Butzer, 1979). Age and overall context of semiarid engravings remain unknown, (Renfrew, 1994). Our knowledge of the lives of prehistoric societies in Southern Africa would be greatly enriched if we could date the art, and so relate its content to that of conventional archaeological cultures, (Inskeep, 1971).

There is extreme controversy as far as dating engravings is concerned, Willcox (1963) considers that " about 1000 years is the maximum possible time" for " rocks to degrade to the original depth of a petroglyph", (Humphreys, 1971). Mason (1962) on the other hand has suggested that " the earliest possible date of the engravings at Bosworth is the earlier part of the Later Stone Age approximately ten thousand years ago, (Humphreys, 1971). From these statements if is obvious that there is no agreement as far as the age of the engravings or the length of time that the engraving can survive, (Humphreys, 1971). There is, however, nothing to disclaim that the oldest existing engravings are of an equivalent age to the oldest existing paintings or vice versa, (Humphreys, 1971).

According to Butzer et al., (1979), the traditional dating methods utilised were engravings are concerned include:
1- Stylistic typologies - this is based on the paradigm of art evolution, which states that art evolved from primitive, to sophisticated and ultimately to degenerate work.
The different styles of engraving offer clues for stylistic sequence that may have temporal implications. In the past the art was divided according to different "styles" and "classes", but subsequent classification looked at a mix of content, style, technique and chronology. Still later

an objective typology, based primarily on technique was designed. This typology classifies engravings in the following categories - a) scraped engravings (multiple closely spaced lines)

b) Polished engravings (rubbing and grinding down the rock surface To create shallow forms)

c) Incised engravings (pressure grooving)

d) Pecked engravings (controlled uniform, vertical or inclined impact points that form dots or dashes)

e) Hacked engravings (uncontrolled, irregular blows, vertical or inclined, creating large holes)

f) Classical technique (animal engravings, pecked in silhouette to give a three dimensional effect)

This technological approach is used to systematically recognise a spatial variation, not only within a site, or between site clusters, but also between different regions. It also makes stratigraphic studies possible (Butzer et al., 1979).

According to Butzer et al., (1979), conclusions drawn from this type of studies show that:
- The oldest engraved work has very fine lines, less than 1mm in diameter and in cases were superimposing is present, they are found at the bottom of all the other engraved work.
- Pecked engravings, engraved in a classical style are intermediate in age, being younger than the out lined engravings, but older than outlined animals that are simplistic, over generalised or poorly proportioned.
- Classical are limited in number, but are linked in style and technology to more common representations that lack the unmistakable three dimensional effect.

2 - The sequence brought about by the art of superimposing, (Butzer et al., 1979). This sequencing aids in relative dating.

3 - Visual differences in the preservation and weathering of engravings, for example rock disintegration caused by - Exfoliation

- The reduction of line depth by granular rock face deterioration.

- A direct abrasion by geomorphic or animal agencies, (Butzer et al., 1979).

4 - Archaeological association - This include rock art that is found in a sealed and datable contexts, or by linking composite typologies based on style, super-impositioning and physical state, (Butzer et al., 1979).

5 - Thematic variation - South African engravings are divided into:

- Animals
- Human figures
- A mixed class of geometric forms and inanimate objects

These distributions imply that different sites had different functions, were used at different times, were used by different groups and cultures and to a certain degree there is correspondence between site location or size and demographic patterning, (Butzer et al., 1979).

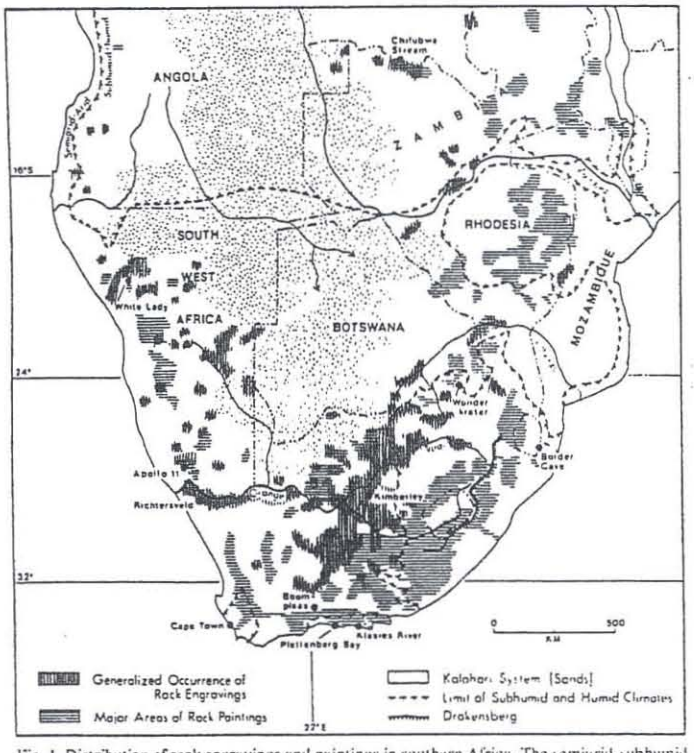


Fig. 1. Distribution of rock engravings and paintings in southern Africa. The semiarid-subhumid moisture boundary follows the Thornthwaite classification (1948).

1202

(Map 37, Rock engraving distribution, (Butzer et al., 1979))

The map indicates that engravings are typical of semiarid regions, while paintings are largely confined to the sub-humid and humid environment, (Butzer et al., 1979)
There is also consensus that all but a very few of the rock art clusters were done by "Bushmen"-few by Bantu, early travellers and farmers, (Butzer et al., 1979).

In an effort to date the engravings some attempts have been made to associate engraving sites with the cultural material found near them, even so this method is only suggestive, (Humphreys, 1971). No matter what technique for dating you may use the results are always relative, as all the

techniques are speculation. The only absolute dating possible is on the basis of subject matter and eyewitness accounts, which is only possible, in the case of the youngest paintings, which depict settler influence and wars. The older engravings seem in all probability to relate to some Late Stone Age culture.

The engravings recorded at Doornkloof comprise of very old incised fine line animals, younger incised broad line animals, superimposed work, a few younger scraped engravings and on or two pecked engravings. The work is comprised of animals, humans, geometric shapes and historical information. The artists who worked in the area came from various cultures which include the Bushmen, the Sotho-Tswana and European Settlers. The engravings in this area date anywhere from approximately 10 000 years to 86 years.

CHAPTER 11
SOUND AND ROCK ART

Neither the location nor subject matter of prehistoric rock art has yet to be satisfactorily explained, (Waller, 1993). Location and rock type play a part in the information supplied by the engraving, into the past of the Bushmen. Theories into the choice of location and rock type should be considered. Studies in France provide possible explanations for the location and subject matter of the art, (Waller, 1993). Both open-air and deep cave sites give reflected sound levels significantly above the ambient, (Waller, 1993). This suggests an acoustic influence on both the placement and content of the art, (Waller, 1993).

According to Waller, (1993), statistical results of studies done in Europe conclude that 90% of ungulates are found in sound reflecting environments. It is known that some ancient cultures considered echoing a supernatural phenomenon. Experiments with the sound reflection at rock art sites revealed that percussion noises (from clapping or producing stone tools) can yield echoes that sound similar to the galloping of a horse and that reverberation of percussion noises can sound like the thundering of a buffalo stampede.

This phenomenon of "hoofbeat" like echoes thus relates to the ungulate images as well as to the sound reflecting canyons and caves where the art is typically located, (Waller, 1993). Observations suggest that Palaeolithic ungulate art was produced in response to percussive sound reflections perceived as "hoofbeats", (Waller, 1993). The production of "hoofbeats" via sound reflection could have been part of a ritual intended to summon up game, (Waller, 1993).

The a-fore mentioned theory makes for interesting reading but would be prove with difficulty on the sites on Doornkloof, as the hornfel rocks on which the engraved work was executed, have a iron base. Therefore they all produce a metallic sound when tapped together, so you could not conclusively say that the ungulates were engraved on them for there sound representation or for ritual purposes. The good sound the rocks produced does however tell one that the rocks weather evenly and slowly, (Snyman pers. Com 1999).

CHAPTER 12
CONCLUSION

Rock engravings span over many centuries and that they have managed to last for all these years is a feat all its own. It is safe to assume however that many have been lost over the years due to development, weathering, theft, vandalism and other threats facing the art form. Many have been lost before they ever had a chance of being recorded and there are still many out there that has yet to be discovered and recorded. This recording is not only of importance because of the beauty of the art , but it is of great value to the scientific community, in that it offers an insight into the life style of a almost extinct culture and also information on distribution patterns and habits of animals found today and extinct species.

The problem of weathering is serious, but a feasible solution has yet to be found. The removal of engravings to museums is unrealistic for many reasons, not to mention they can't facilitate the large number of engraved pieces. Also the removal of engravings is a very costly process and the engravings loose a lot of there meaning in the process as there surroundings play a large role in the history they have to tell. Thus the only solution is to undertake a thorough on site recording of the engraved work, which has its own set of problem as there is a shortage of manpower, which in turn is due to a shortage in funding for such big and time consuming project.

The only foreseeable short term and long term solution to this problem is education through tourism, as this will not only educate the public but generate much needed funds and jobs. Making sites known to the public through tourism, has its own set of problems and for this reason your education plan must be effective so as to deter possible vandals. To do this you need educated professionals to act as guides on walks and restricted access to the sites.

APPENDIX

ROCK ENGRAVING DESCRIPTION FORM

Example of a rock engraving document:

1- Form 110/99 University of Pretoria UP/AGL/MF/.....
UP-Code.....Dept. Anthropology & Archaeology UP/AGL/D/.....
Page.....of.....

2-TERRAIN IDENTIFICATION

2.1- UP/AGL/T/..... 2.2- Field no. ..... 2.3- Official no. .....
2.4- Terrain name 2.4.1- Present name .....
2.4.2- Previous/Alternate name
.....
2.5-Terrain Documentation no. UP/AGL/A/ .....

3- LOCATION OF TERRAIN

3.1-Grid Reference Points .....° .....' ....." E/W .....° .....' ....." N/S
3.2- Additional Grid Points Document no. UP/AGL/D/ .....
3.3- Additional Terrain Location Documents UP/AGL/D/ .....

4- NATURE OF THE ROCK ENGRAVING TERRAIN

4.1- Terrain Description
4.1.1- Type of Rock Engraving Terrain .....
4.1.2- Type Landscape Terrain found in .....
4.1.3- Unique Terrain Characteristics .....
4.1.4- Rock Surface Characteristics .....
4.1.5- Mineral Make-up of Rock .....
4.2- Additional Graphic Record of Terrain Document UP/AGL/D/ .....

5- GENERAL DESCRIPTION OF ROCK ENGRAVINGS

5.1- General Description of Engravings in % .....
5.2- Area Circumference Site Occupies .....
5.3- Identify various Engravings .....
5.4- Concentration % of Single versus Paired Engravings .....
5.5- Summary of Figure Categories .....
5.6- Total Number of :

5.6.1- Human Figures ..... 5.6.2- Anthropomophismic Figures .....
5.6.3- Animal Figures ..... 5.6.4- Reptile Figures .....
5.6.4- Cultural objects ..... 5.6.6- Manmade Structures .....
5.6.7- Linear Figures ..... 5.6.8- Historical Documentation .....
5.6.9- Patterns ..... 5.6.10- Abstract .....
5.6.11- Plants ..... 5.6.12- Symbols .....
5.6.13- Unidentifiable Figures .....
5.7-Total Number Engravings on Terrain .....
5.8- Specific Group Figure Compositions .....
.....
5.9- Various Techniques Used .....
.....
5.10- Unique / Unusual Figures .....
.....
5.11- Various Interpretations Applicable .....
.....
5.12- Diverse Information Documentation no. UP/AGL/D/ .....
5.13- Graphic Record Documentation no. UP/AGL/D/ .....

6- INDIVIDUAL ROCK ENGRAVINGS

6.1- Figure no. UP/AGL/F/ ..... Field no. .....
Reference Name ..... Description .....
6.2- Subject / Figure .....
6.2.1- Scientific Name .....
6.3- Location .....° .....' ....."E/W .....° .....' ....." S/N
6.4- Paired Figures
6.4.1- Context .....
6.4.2- Positioning to each other .....
6.4.3- Arbitrary Positioning .....
6.4.4- Superimposing .....
6.5- All Figures .....
6.5.1- Activities Depicted .....
6.5.2- Size
6.5.2.1- Length ..... 6.5.2.2- Breadth .....
6.5.3- Unique Characteristics of
6.5.3.1- The Figure .....
6.5.3.2- The Subject .....
6.5.4- Technical Style Characteristics
6.5.4.1- Outer Lines .....
.....
6.5.4.2- Inner Lines / Surfacing .....
.....
6.5.4.3.- Quality of Depiction .....

.....
6.5.4.4- Arbitrary Positioning .....
6.5.4.5- Directional Positioning .....
6.5.4.6- Clothing / Body Decorations .....
6.5.4.7- Superimposing .....
6.5.5- Condition of Engraving .....
6.5.6- Recommendations Conservation .....
.....
6.5.7- Deductions / Interpretation of Figure .....
.....
6.5.7.1- Reasons for above .....
.....
6.5.8- Subjects Habitat
6.5.8.1- Originally .....
6.5.8.2- Presently .....
6.5.9- Graphic Records UP/AGL/D/ .....
6.5.10- Replica / Copy no. .....
6.5.11- Diverse Information .....
.....
.....
6.5.12- Remarks .....
.....
.....

7- RESEARCH

7.1- Previous Documentation .....
.....
7.1.1- Date of Documentation year ..... / month ..... / day .....
7.1.2- Comments .....
.....
7.2- Current Project
7.2.1- Description .....
.....
7.2.2- Aims .....
.....
7.2.3- Project Scope .....
.....
7.2.4- Methods Used .....
.....
.....
7.2.5- Dates yr. ..... m ..... d ..... / .....

yr. ..... m ..... d ..... / .....
yr. ..... m ..... d ..... / .....
yr. ..... m ..... d ..... / .....

7.2.6- Documentors .....
.....

8- CONSERVATION

8.1- Previous General Condition .....
.....
8.1.1- Date yr. ..... m ..... d .....
8.2- Current General Condition .....
.....
8.3- Conservation Concerns / Unfavourable Factors .....
.....
8.4- Previous Conservation Efforts .....
.....
8.4.1- Date yr. ..... m ..... d .....
8.4.2- Results
8.4.2.1- Positive .....
8.4.2.2- Negative .....
8.5- Current Conservation Efforts .....
.....
8.5.1- Date yr. ..... m ..... d .....
8.5.2- Evaluation .....
.....

9- CULTURAL RESOURCE UTILISATION

9.1- Tourism Possibilities .....
.....
9.2- Are Tourist Allowed ? .....

9.3- Tourism Project in Use .....
.....
9.4- Degree of Supervision ../.....
.....
9.5- Conservation Policy in Use .....
.....
9.6- Periodic Evaluation.....
9.7- Further Tourism Utilisation Possibilities .....
.....

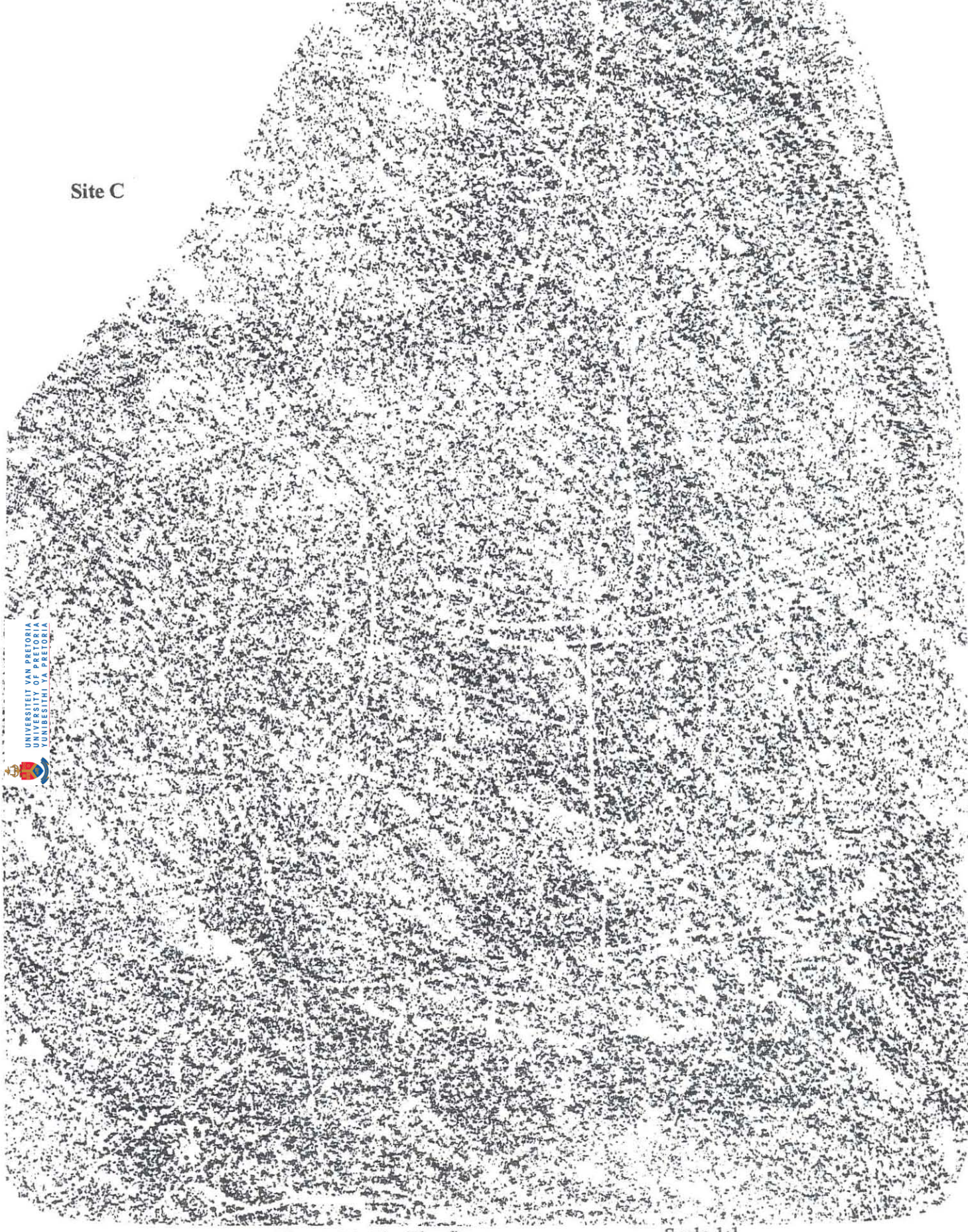
10- REFERENCE LISTING

10.1- UP/AGL/MF/ .....
10.2- References UP/AGL/D/ .....

11- RECORD HOLDER

11.1- Name .....
11.2- Date yr. ..... m ..... d .....
11.3- Position Held .....
11.4- Contact Details
11.4.1- Address .....
.....
11.4.2- Telephone no. Code ..... Number .....
11.5- Signature .....

Site C



(Figure C1: The Eland) Scale 1:1

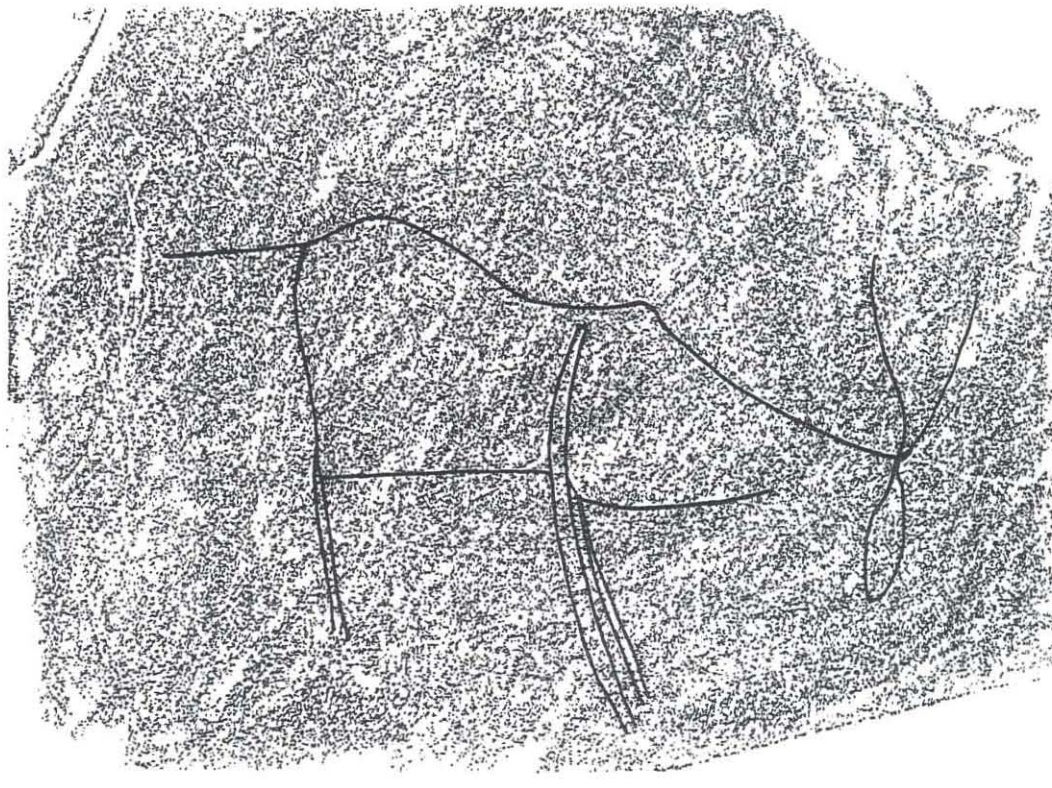
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Figure C1- **The Eland** (*Tragelaphus Oryx)* - Latitude 27° 29' 10.2" E
Longitude 25° 54' 14.2" S

Actual Size Length: 19cm Breadth: 28cm

A single partially naturalistic animal profile of an eland was engraved (Figure C1). The engraving was incised making use of a fine line technique. The caudal appendage, hindquarters and characteristic nuchal hump are naturalistic in style but the head and legs are not. The head is portrayed as an oval shape and the legs are two simple parallel lines, the horns are also distorted. The eland was engraved grazing with its caudal appendage in the air as if to be swatting flies. There are numerous other incised lines, on which the eland is superimposed. They are not arranged in any specific order and don't appear to be related to the eland in any way. They appear to be more weathered than those incisions of the eland, and thus were there long before it (Figure C1 defined).

The engraving faces south- east. The texture of the rock surface is medium grained, with a few small erosion marks located all over the surface, they don't however interfere with the engraved work. The condition of the engraving is good, with its only threat being the elements and possible bush encroachment, due to the fact that it is located on the periphery of the site.



(Figure C1 defined: The Eland)



(Figure C2: Linear work) Scale 1:1

Figure C2 - **Linear Figure** - Latitude 27° 29' 08,1" E
Longitude 25° 54' 16,2" S

Actual Size Length: 11cm Breadth: 19.5cm

The engraving is geometric in style and simplistic in nature (Figure C2). It was engraved making use of a fine lined incision technique. The engraving comprises of approximately six isolated parallel lines due to the rough texture of the rock they are hard to count (Figure C2 defined). A number of similar engravings can be found around Doornkloof, they seem to be made during the sharpening of the tools used to make the engravings.

The texture of the rock surface is very rough, with no erosion marks, but the rough surface makes the visibility of the engraving difficult. The condition of the engraving is good, with its only threat being the elements. The engraving faces south towards the water source.



(Figure C2 defined: Linear Work)

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(Figure C3: Linear Motif) Scale 1:2

Figure C3 - **Linear Motif** - Latitude 27° 29' 08,5" E
Longitude 25° 54' 16,1" S

Actual Size Length: 21cm Breadth: 33cm

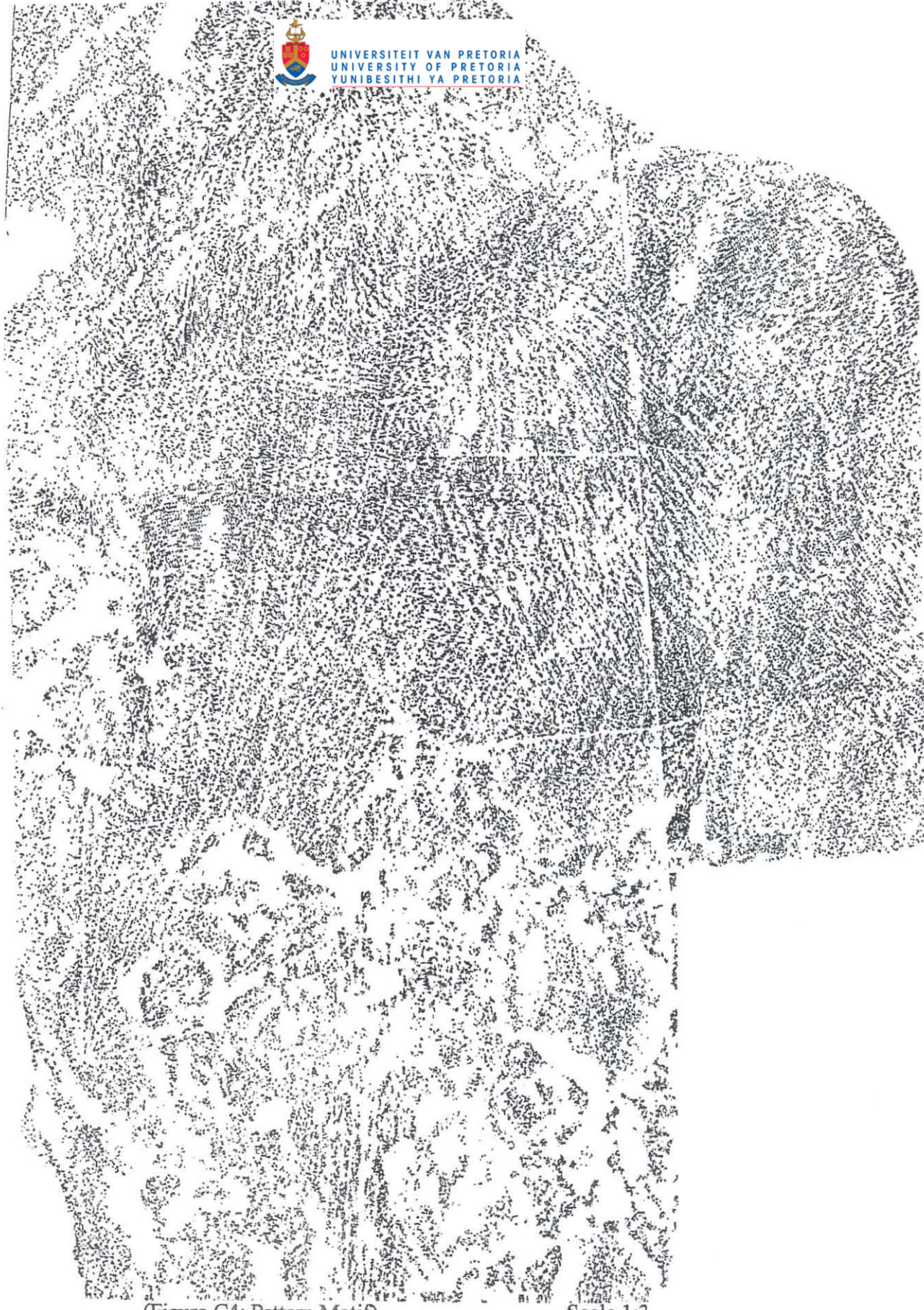
The engraved work is geometric in style and incised making use of a fine lined technique (Figure C3). The engraving consists of an incised motif of converging and parallel lines. They don't appear to create any formal pattern, but could be a crude attempt, by a beginner who made numerous attempts at some form of animal (Figure C3 defined).

The texture of the rock surface is medium grained, with numerous small erosion marks on the surface. The condition of the engraving is satisfactory, with its only threats being bush encroachment, due to its location on the periphery of the site and the elements. The engraved work faces south towards the water source.



(Figure C3 defined: Linear Motif)

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(Figure C4: Pattern Motif) Scale 1:3

Figure C4 - **Pattern Motif** - Latitude 27° 29' 07,1" E
Longitude 25° 54' 16,9" S

Actual Size Length: 38cm Breadth: 42.5cm

The engraved work is geometric in style and was engraved making use of a fine lined incision technique (Figure C4). Approximately 25 converging lines between two points form the main pattern work on the rock surface. The pattern work resembles a rainbow. This pattern work is also characteristic of entoptic phenomenon, brought on by hallucinations and trances, resembling parallel curved entoptic lines, which to date was said not to occur in the Magaliesburg. These lines are however difficult to distinguish due to the rough texture of the rock and the weathering that has taken place.

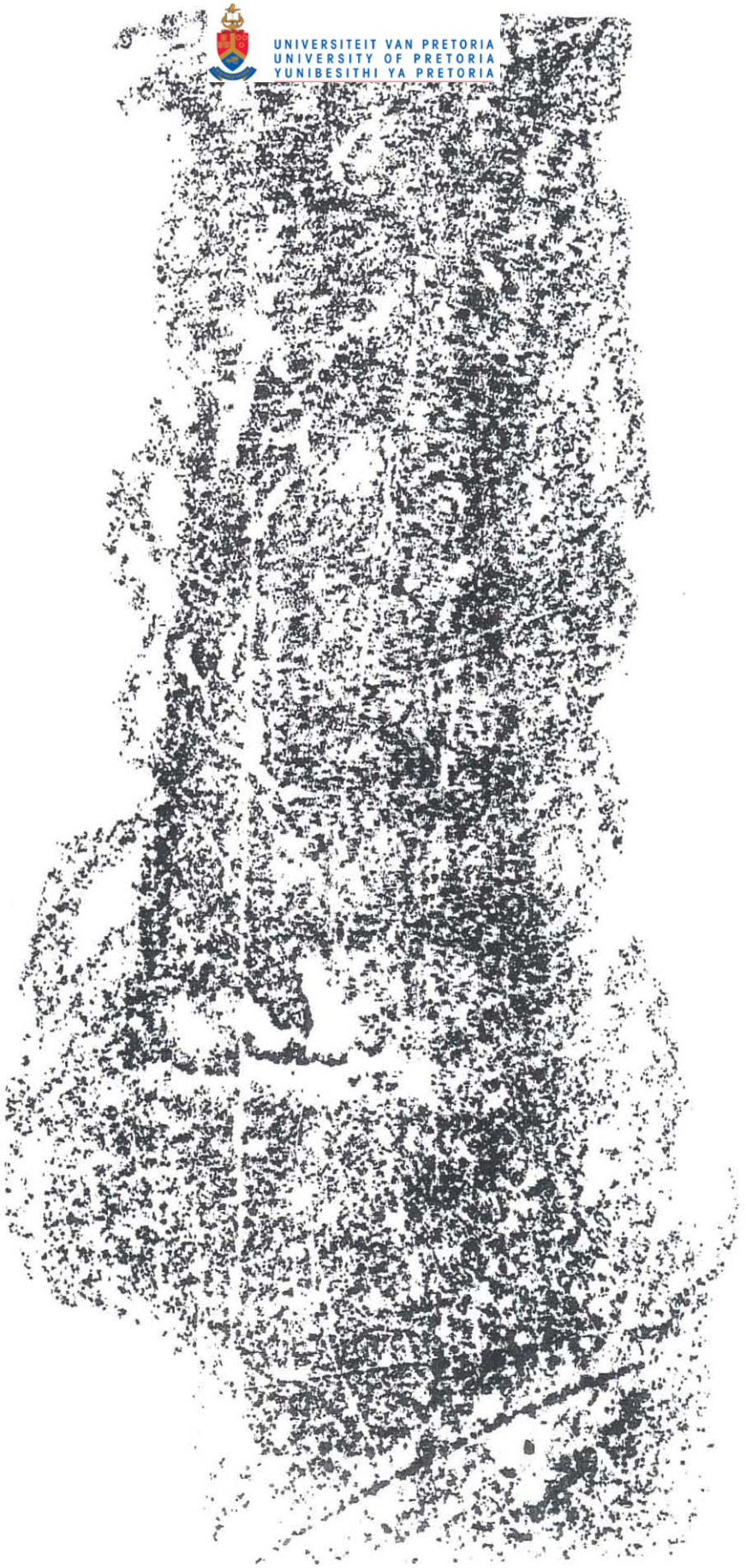
Numerous parallel lines are found on the north and east sides of the pattern work. Those found on the east side resemble the sharpening lines of figure C2 and overlap the pattern work. The scratching found on the north side of the pattern also overlap the pattern work. Various upside down " V" shaped lines are also visible above and to the right of the pattern (Figure C4 defined).

The texture of the rock surface is medium to rough grained, with numerous large and small erosion marks located all over the surface. The erosion marks interfere to a large extent with the rubbing made of the engraving, but in reality the condition of the engraved work, is satisfactory. The condition of the engraving is deteriorating due to the natural weathering of the rock surface, but there are no other threats.



(Figure C4 defined: Pattern Motif)

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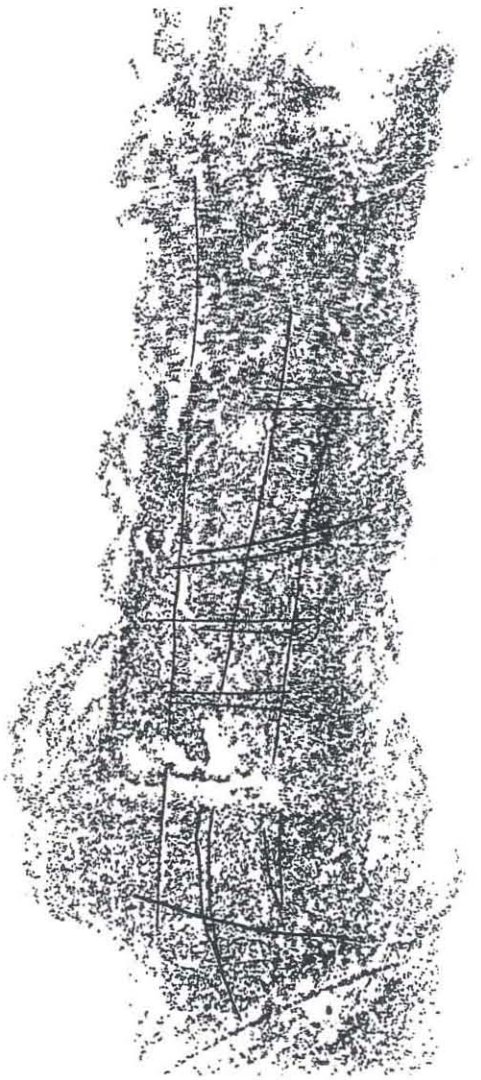
(Figure C5: Isolated parallel lines) Scale 1:1

Figure C5 - **Isolated Parallel Lines** - Latitude 27° 29' 08,2" E
Longitude 25° 54' 16,4" S

Actual Size Length: 24cm Breadth: 9cm

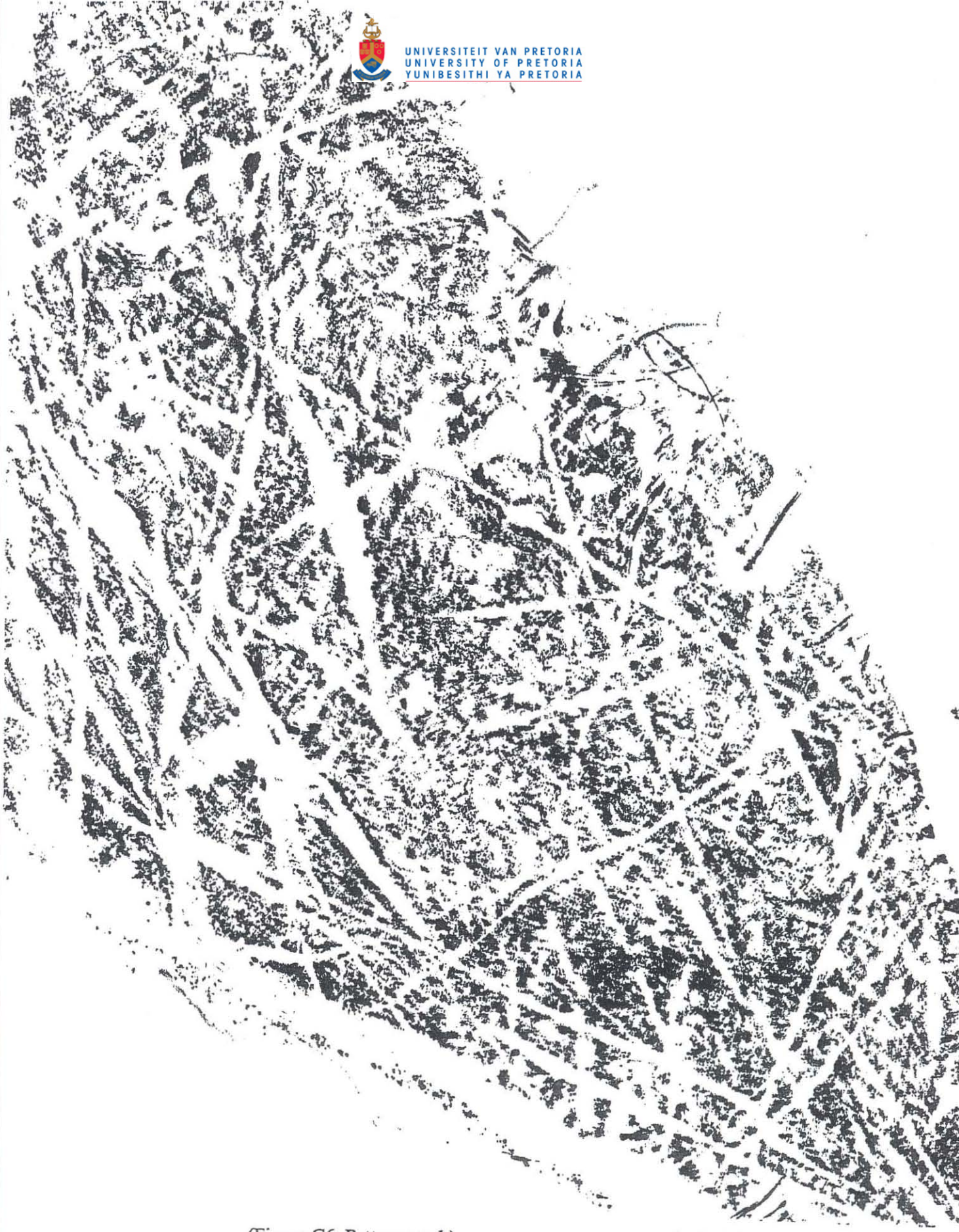
The work is geometric in style and incised making use of a fine lined incision technique (Figure C5). Three isolated incised parallel lines can be seen with various horizontal lines at periodic intervals, creating a ladder. The horizontal lines protrude past the three vertical ones. The whole design is simplistic in nature (Figure C5 defined).

The texture of the rock is rough, making visibility of the engraving difficult. There is weathering of the rock surface that interferes with the engraved work. The condition of the engraving is satisfactory, with its only threat being the elements.



(Figure C5 defined: Isolated parallel lines)

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(Figure C6: Pattern work) Scale 1:1

Figure C6 - **Pattern Work** - Latitude 27° 29' 07,0" E
Longitude 25° 54' 16,3" S

Actual Size Length: 27cm Breadth: 21cm

The pattern work is geometric in style and engraved making use of broadline incision technique (Figure C6). A rectangle with multiple criss-cross shapes all over the engraved surface. The pattern work has no particular structure or purpose. A number of excessively broad scrapings that can be seen, are the result of cattle walking on the rock surface (Figure C6 defined).

The texture of the rock surface is medium to fine grained, with numerous small erosion marks all over the surface, they don't however interfere with the engraved work. The condition of the engraving is good, with its only threat being the elements.



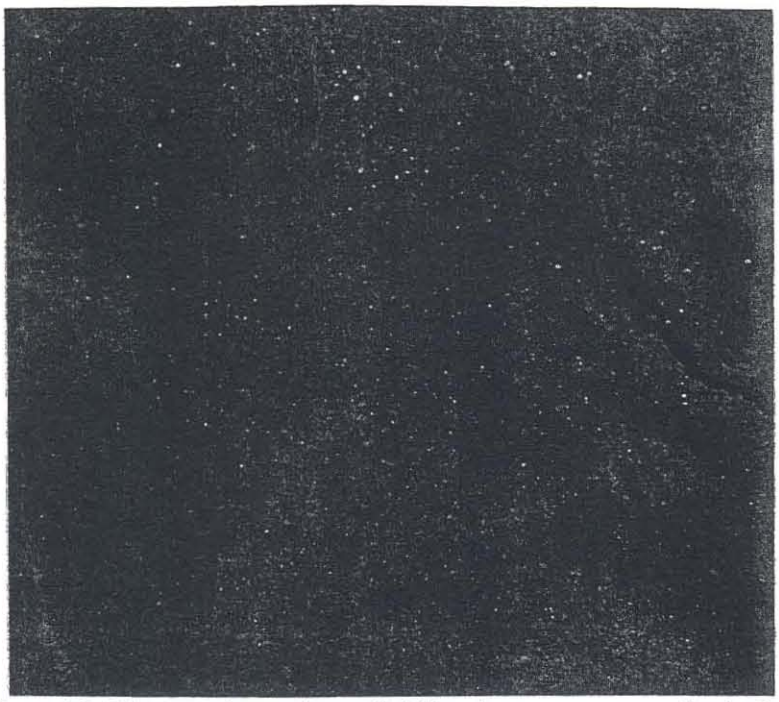
(Figure C6 defined: Pattern work)

Figure C7 - **Tortoise and Parallel Lines** - Latitude 27° 29' 07,4" E
Longitude 25° 54' 18,9" S

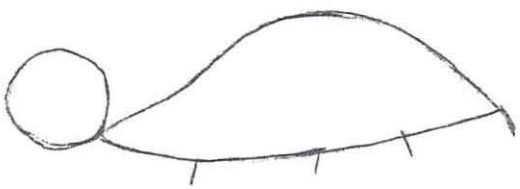
Actual Size Length: 13cm Breadth: 9cm

The engraved work is geometric and stylised and incised making use of a fine lined incision technique(Photo 18). Numerous parallel lines like those found in figure C2 are located above the tortoise. The tortoise is depicted very crudely as a half circle with four stick legs and a tiny circle for a head (Illustration C7).

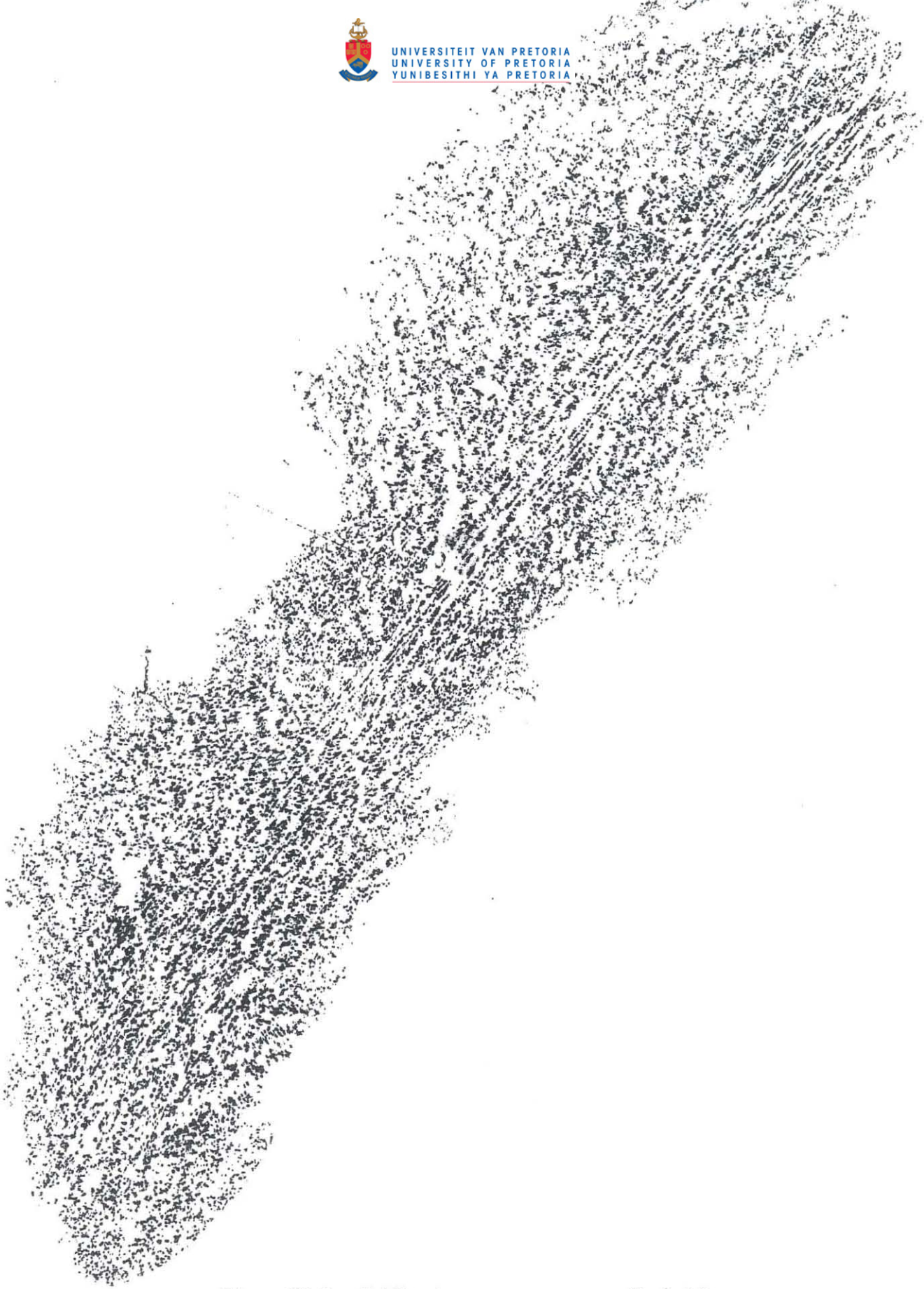
The rock surface it was engraved on is extremely fine textured and a fine line incision technique was used, thus it shows up badly in the rubbing made of it. It doesn't display well in the photograph taken of it; it was for this reason that a drawing was made of it. The engraving is located at the base of the hill, facing south towards the water source. The condition of the engraving at present is good, with its only threat being the elements.



(Photo 18: The tortoise and parallel lines) Scale 1:4



(Illustration C7: The Tortoise)



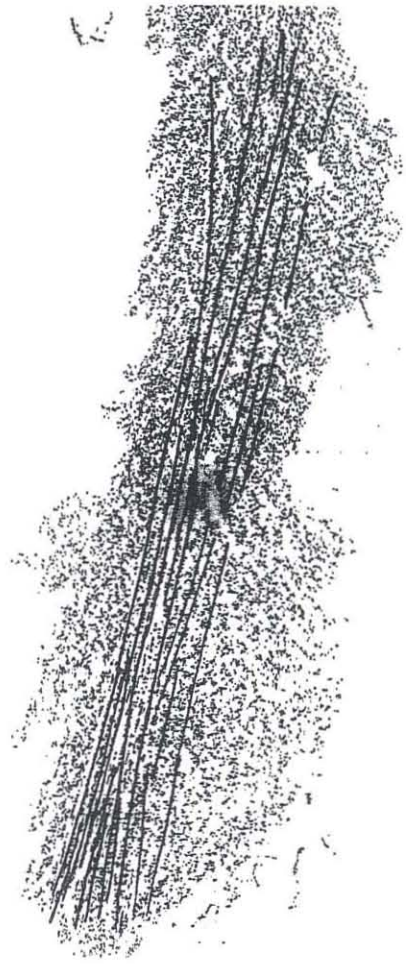
(Figure C8: Parallel lines) Scale 1:2

Figure C8 - **Parallel Lines** - Latitude 27° 29' 03,0" E
Longitude 25° 54' 14,9" S

Actual Size Length: 38cm Breadth: 10cm

The engraved work is geometric in style and incised making use of a fine lined incision technique (Figure C8). The pattern consists of numerous isolated parallel lines. They extend much further lengthways than those found in figures C2 and C7. Once again they appear to have been made during the sharpening of a cultural object. It does not resemble entoptic phenomenon (Figure C8 defined).

The rock surface is very rough in texture, as was the case in figure C2. There are numerous small erosion marks located on the surface; they don't however interfere with the engraved work. The figure does not lie within the immediate circumference of Site C, but is isolated further west, approximately 6 meters away. Due to it's isolation it has been incorporated into the site. It is located underneath dense trees and faces south, lying midway up the hill. It is under no threat, other than that of the elements.



(Figure C8 defined: Parallel lines)

Figure C9 - **Boer War Rifle** *(Haalgeweer)* - Latitude 27° 29' 05,3" E
Longitude 25° 54' 19,9" S

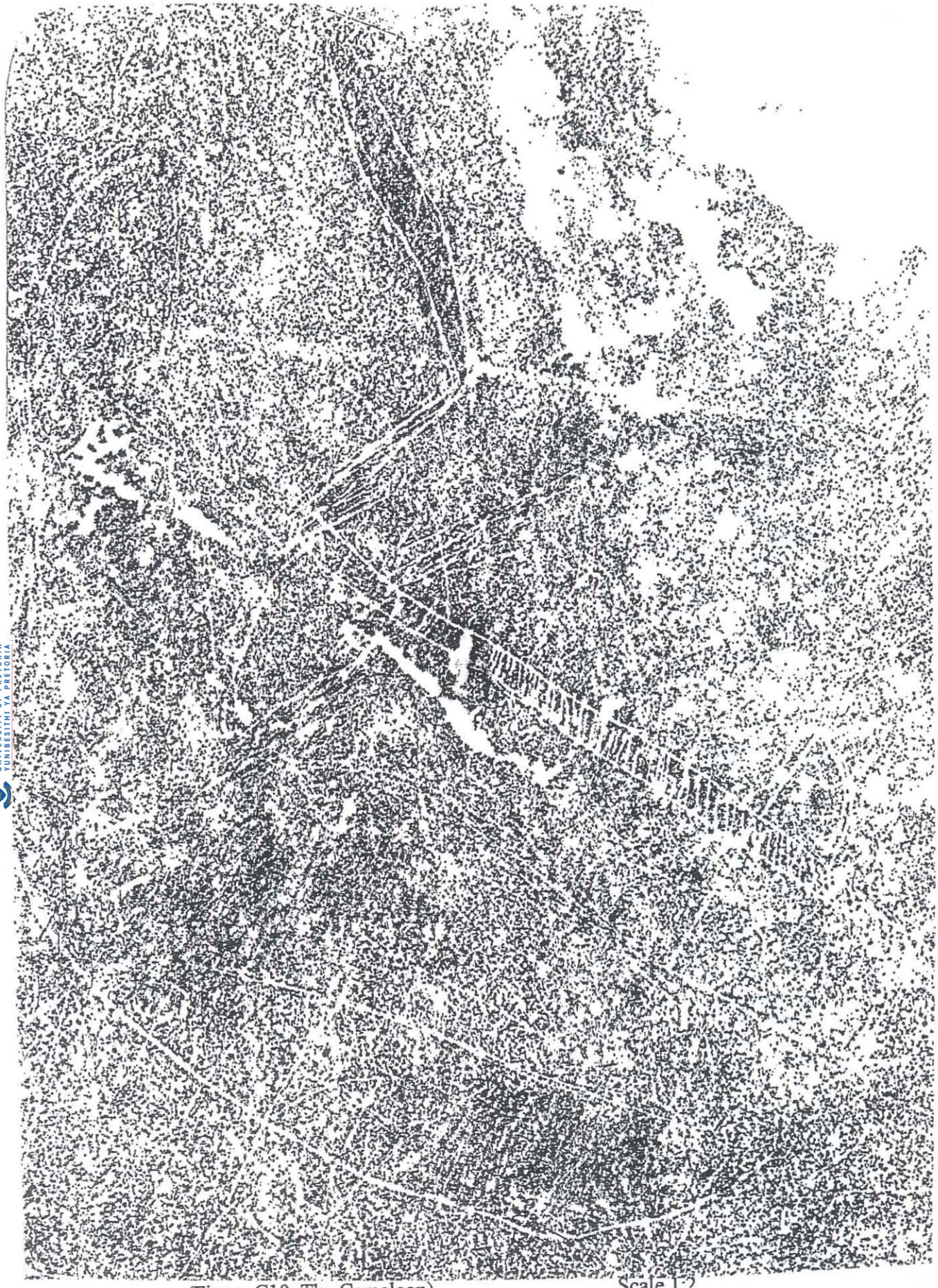
Actual Size Length: 3cm Breadth: 13cm

The engraved work is naturalistic in style and incised making use of a fine line technique (Photo 19). The rifle acts as a symbol of settler presence in the in the area and the conflicts they brought with them. It is also proof that these weapons of conflict impacted greatly on the Bushmen's lives and lifestyle. The rifle is an isolated figure, but complete with barrel, trigger,' loop' and but. The barrel is engraved in a weather portion of the rock surface and can therefor not be seen on the rubbing, but the incised lines can be noted buy the naked eye in the weathered rock.

The rock surface is very fine rendering rubbing difficult, there are a few erosion marks on the surface, but they don't interfere with the engraved work. The engraving faces a southwestern direction and is located at the base of the hill just above a man -made furrow. The only danger facing this engraving is the elements.



(Photo 19: The Boer War Rifle) Scale 1:2



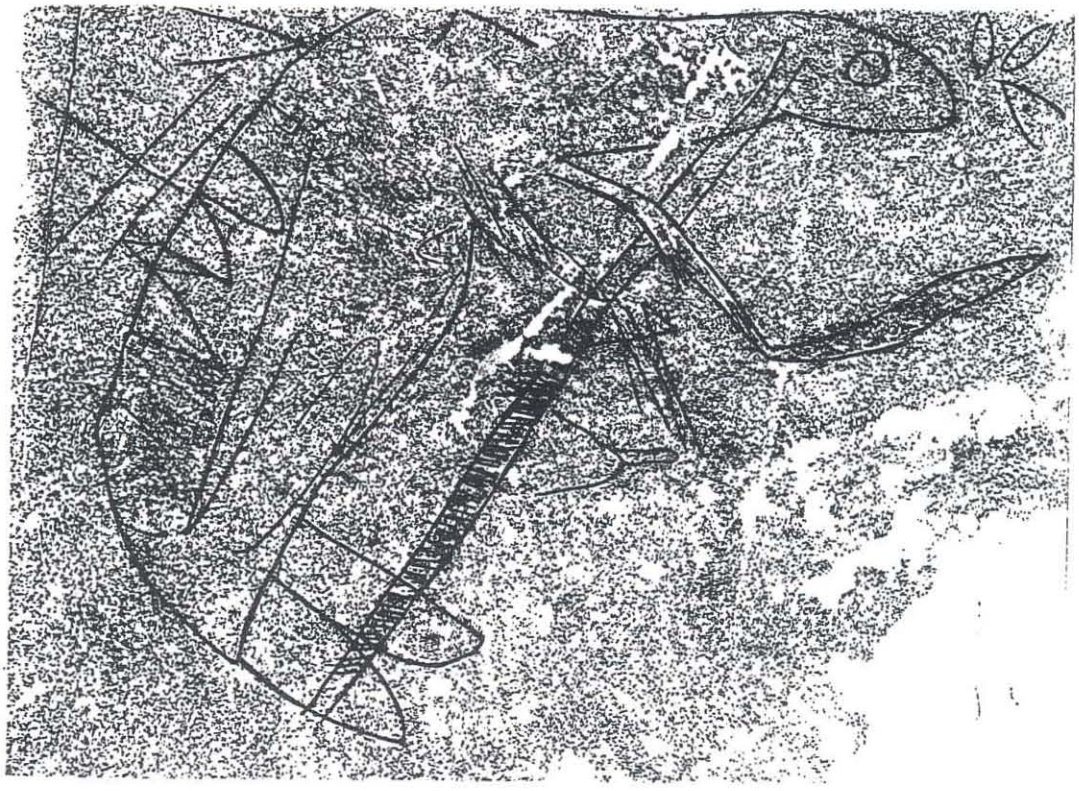
(Figure C10: The Cameleon) Scale 1:2

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Figure C10 - **The Chameleon** *(Chamaeleo dilepis)* - Latitude 27° 29' 06,0" E
Longitude 25° 54' 15,9" S
Actual Size Length: 21,5cm Breadth: 26cm

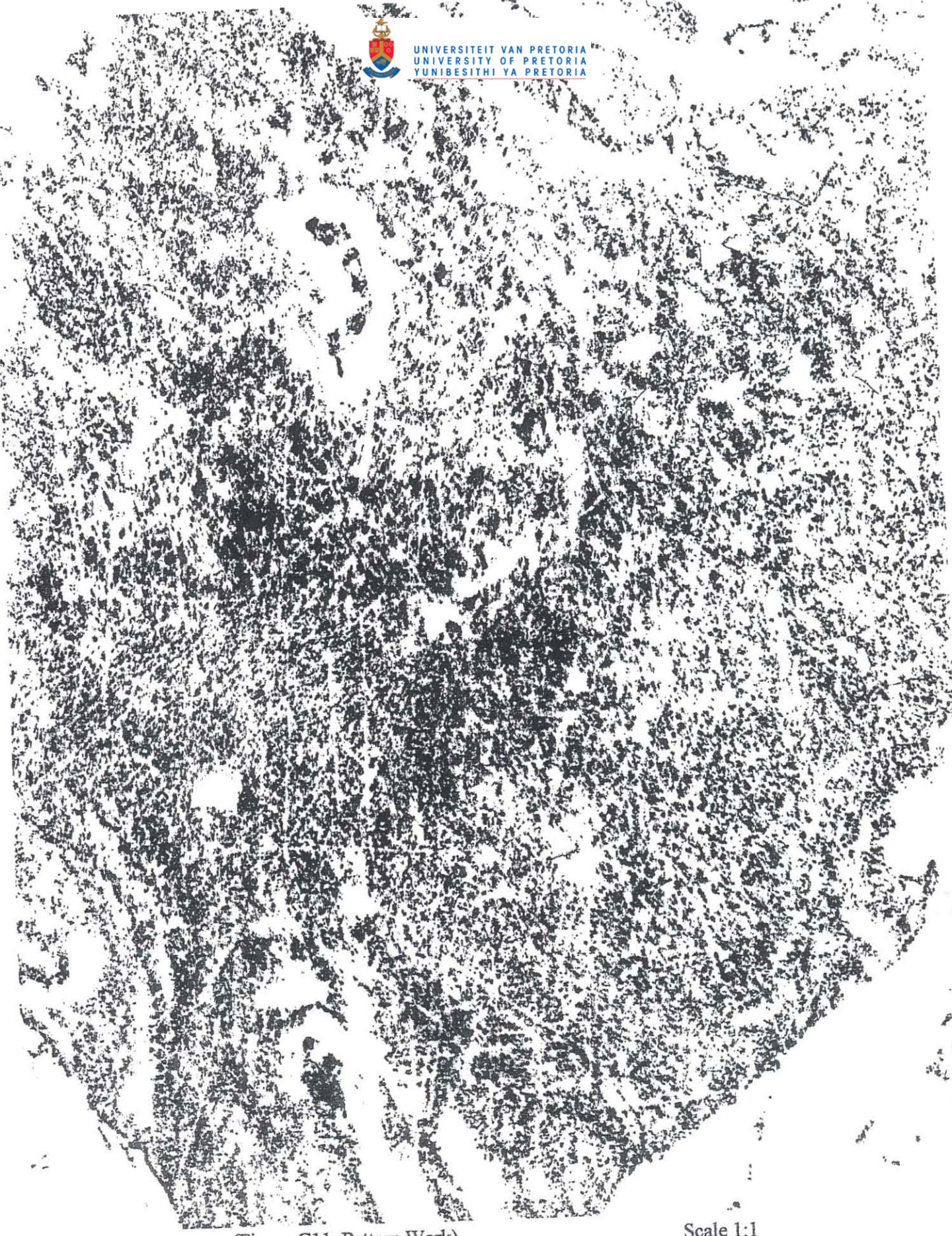
The engraving is naturalistic in style and engraved making use of an incised fine lined technique (Figure C10). The engraving is a naturalistic reptile profile of an isolated chameleon sitting on a branch. Multiple and single incised lines were used to portray the chameleon. The front legs, face and body are well proportioned and detailed, however the hind legs are lacking in character, portrayed as two oblong blobs. The head is detailed in that an eye is present. The front legs are made with multiple incised lines. There is pattern work present on the ridge of the chameleon's back, portraying camouflage. The tree branch is easily distinguished from the chameleon as numerous horizontal lines were incised between the two parallel lines making up the branch. Several leaves are located around the head adding to the idea of the chameleon being in a tree (Figure C10 defined). There are several other stray lines present that appear to bear no relation to the engraving.

The texture of the rock surface is medium grained, there's some weathering present below the front legs, but this doesn't interfere with the engraved work. The condition of the engraving is good, with its only threat being the elements. The engraving is placed towards the top of the hill and faces a southerly direction, towards the water source. To date this is the only known engraving of a chameleon in South- Africa.



(Figure C10 defined: The Chameleon)

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(Figure C11: Pattern Work)

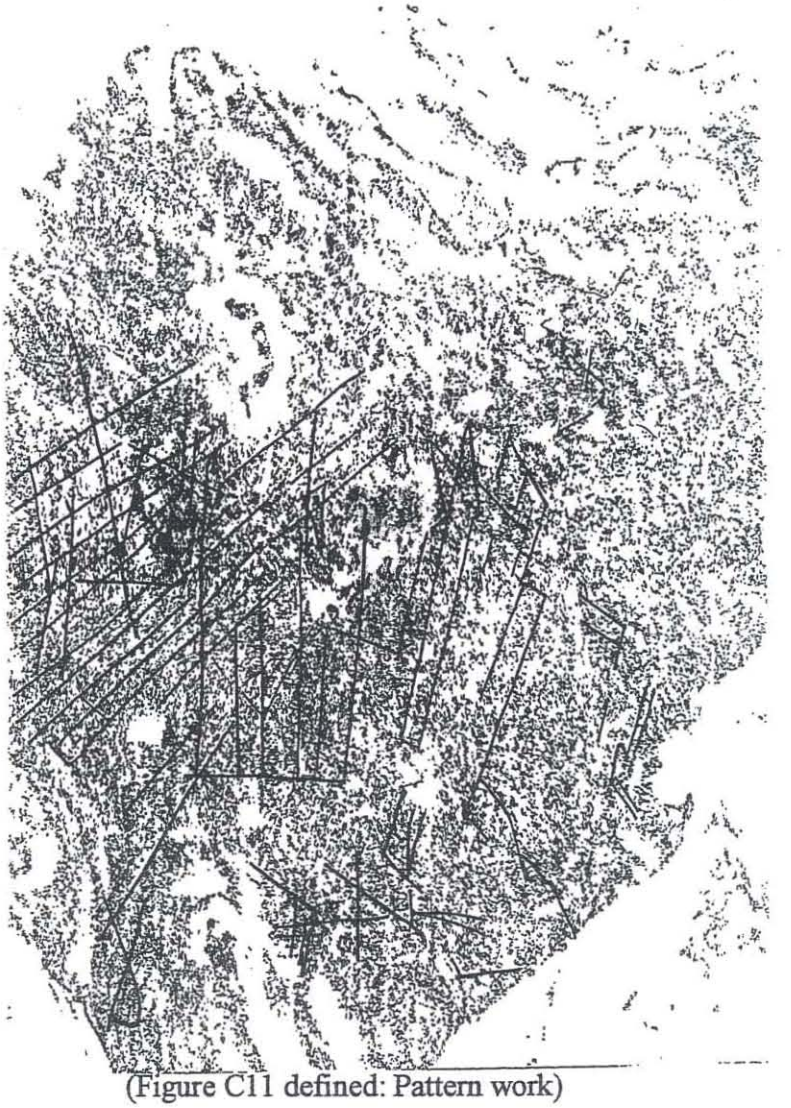
Scale 1:1

Figure C11 - **Pattern Work** - Latitude 27° 29' 06,5" E
Longitude 25° 54' 15,8" S

Actual Size Length: 19cm Breadth: 24cm

The engraving is geometric in style and incised making use of a fine lined technique (Figure C11). The engraving comprises of various lines drawn in all directions. Some of the lines run parallel to each other, others criss-cross these parallel lines and still some other parallel lines have zigzags running in-between them (Figure C11 defined). This engraved pattern work is typical of the kind Professor J. D. Lewis-Williams, classifies as entoptic phenomenon, brought on by hallucinations and trances, (Lewis-Williams, 1988).

The texture of the rock surface is very rough, with extensive weathering all over, making it difficult to study the lines. The condition of the engraving is poor. The engraving lies mid-way up the hillside, facing south. Its only threat is the elements that will increase the weathering.



(Figure C11 defined: Pattern work)

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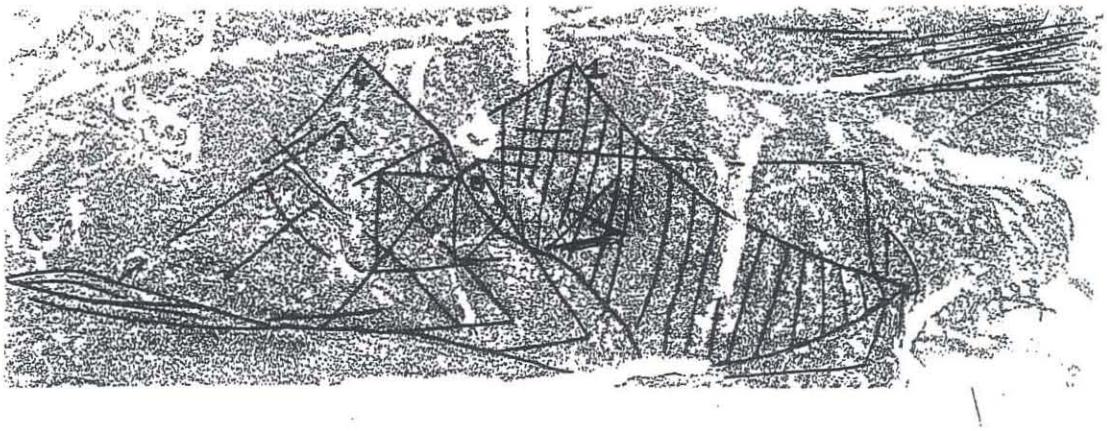
(Figure C12: Pattern work and parallel lines) Scale 1:3

Figure C12 - **Pattern Work and Parallel lines** - Latitude 27° 29' 06,5" E
Longitude 25° 54' 14.1" S

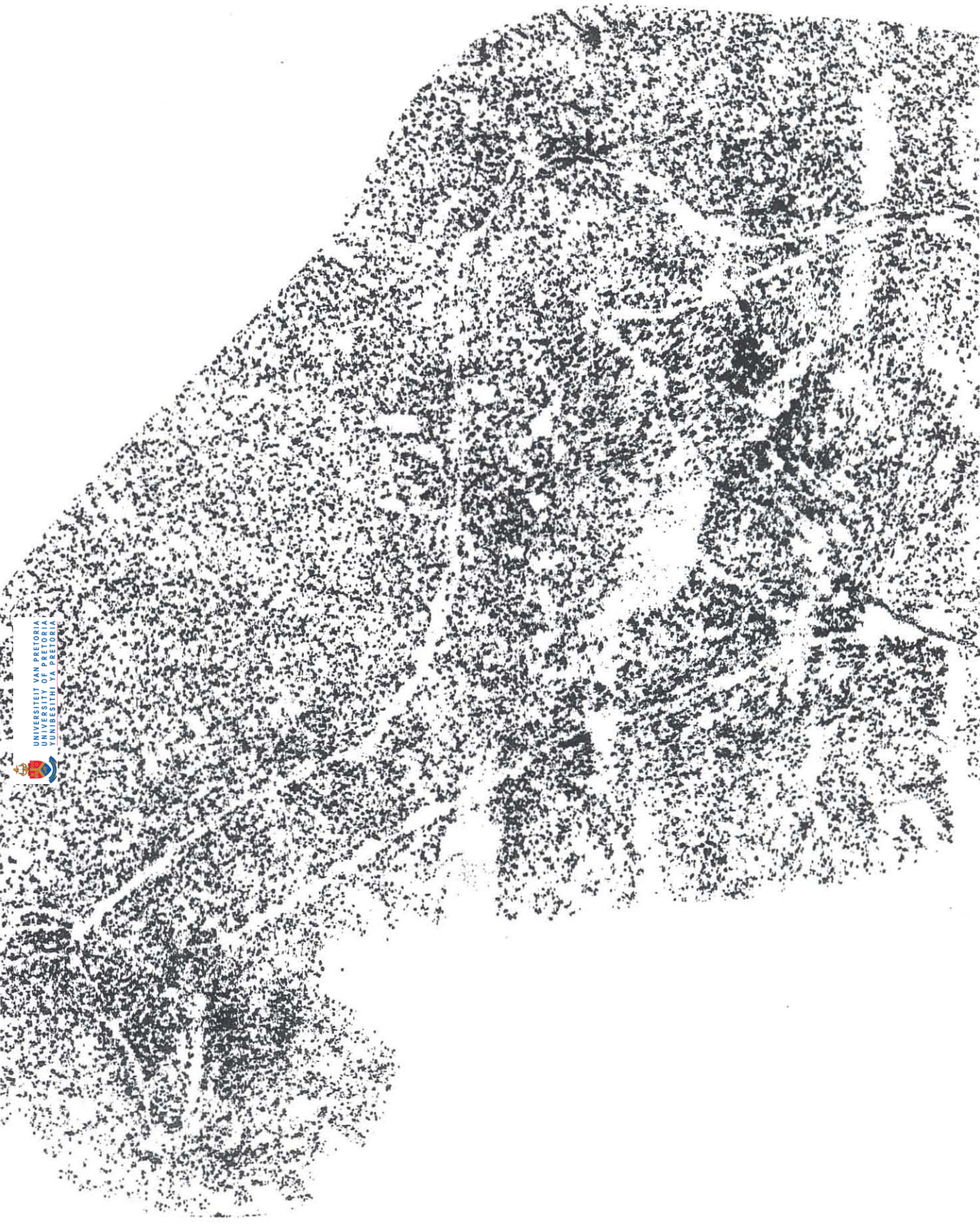
Actual Size Length: 17cm Breadth: 41cm

The engraved work is geometric in style and incised making use of a fine line technique (Figure C12). There is one main triangle (triangle 1), which has parallel lines running lengthways across the inside of it. These lines are prevalent on the right half of the triangle, but decrease in length while phasing out in the left half. The outer lines of this triangle are not straight, but curve slightly concave. From the third parallel line on the left to the last parallel line on the right there is a box like "u" shape, lying on its side, the top leg of the "u" being double that of the bottom. There is a squiggle on the right hand corner of the main triangle and a criss-cross and some stray lines in the centre of the main triangle. At the base of the last parallel line on the left of the main triangle a smaller triangle (triangle 2), is located. A triangle (triangle 3), of exactly the same size is found to the left and in line with triangle 2, they overlap each other. Above triangle's 2 and 3 a larger triangle (triangle 4), is found, its base is in line with that of triangles 1,2 and 3. It makes use of triangle 3s left arm for its own left side, but extends beyond it, its right side criss-crosses triangle 1 and 2. Below triangle 2 is a 5th triangle, partially sharing the other triangles base line. All the triangle lines were used and two extra lines were added to create a crude house, consisting of a square with a cross in it and a triangle for a roof. Lastly at the bottom left and top right of the pattern work multiple incised lines are found. The lines located on the top right, appear to have been made during the sharpening of a tool. (Figure C12 defined).

The rock surface is medium grained, with extensive weathering in and around the pattern work. The condition of the engraved work is satisfactory. The only threat present is further weathering.



(Figure C12 defined: Pattern work and Parallel lines)



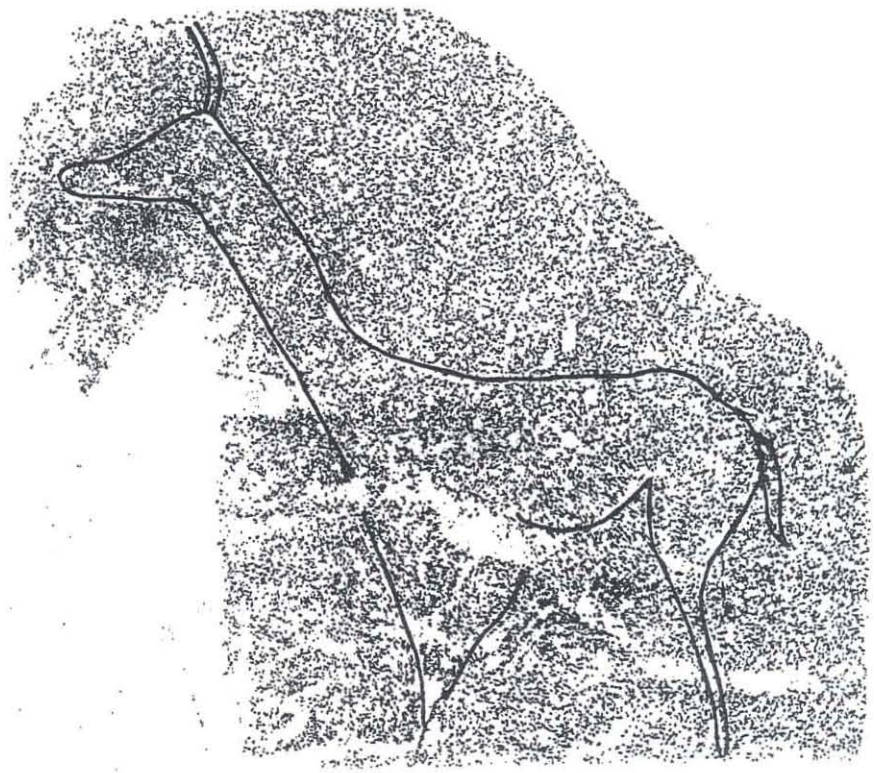
(Figure C13: The Rhebuck) Scale 1:1

Figure C13 -**The Rhebuck** *(Pelea capreolus)* - Latitude 27° 29' 05,6" E
Longitude 25° 54' 14.2" S

Actual Size Length: 21cm Breadth: 20,5cm

The complete rhebuck is visible (Figure C13). A fine line incision technique was use to portray this naturalistic image. The engraving is isolated. The characteristic forward curve of the horns, lengthy neck and readied stance of the buck was beautifully captured. The face, hindquarters and back legs portray the small stature of the rhebuck. The front leg is out of proportion; this is common in Bushmen engravings. A bushy caudal appendage is also present (Figure C13 defined).

The rock surface is medium to rough textured, with very little weathering. The engraving is positioned in the middle of the hill, facing southeast towards the water source. The condition of the engraving is good, with the elements being its only threat.



(Figure C13 defined: The Rhebuck)



(Figure C14: The Hippopotamus) Scale 1:6

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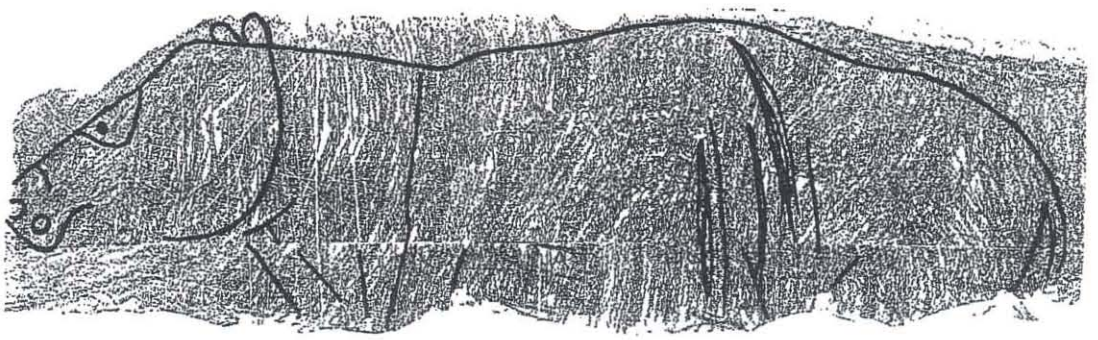
Figure C14 - **The Hippopotamus** *(Hippopotamus amphibius)*

-Latitude 27° 29' 06.4" E
Longitude 25° 54' 15,5" S

Actual Size Length: 30cm Breadth: 96,5cm

A broad line incision technique was used to engrave this isolated figure of a hippo. A naturalistic style was used (Figure C14). The head, body and caudal appendage are present, unfortunately the legs were broken off during the erection of a power line many years ago, it can not be put together again as it is in a millions pieces due to the shatter characteristic of the hornfel rock type. The head is detailed in that the mouth, nostrils, eye with a pupil and pinna are present, although the hippo as a whole is naturalistic the facial features are cartoon like. Behind the head, along the neck and behind the stomach area, just before the back legs there are multiple lines portraying the characteristic wrinkles found on hippo's hide. A portion of the caudal appendage is also present. The entire hippo has an engraved grid-like background incised on it, making use of a fine line technique, with some zigzag lines on the face and rump (Figure C14 defined). This pattern work is characteristic of entoptic phenomenon, but was applied many years after the engraved hippo, this grid pattern work was also dated, reading 1926.

The condition of what is left of the hippo is good; the rock surface is fine grained, with little weathering. The engravings only threat now is the elements. The hippo is positioned in the middle of the hill facing south, towards the water source. An area approximately 10km away from the engraving is still known today as Zeekeoihoek (hippo's corner).



(Figure C14 defined: The Hippopotamus)

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(Figure C15: Linear motif and Feather structure) Scale 1:3

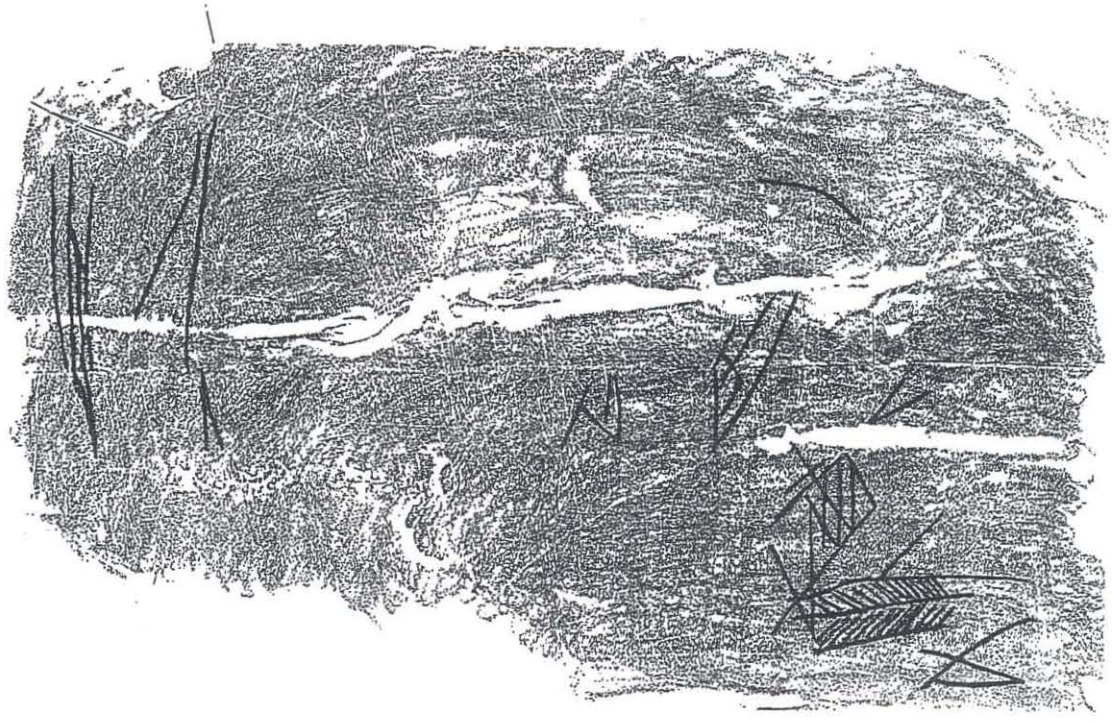
Figure C15 - **Linear motif and Feather structure -**

Latitude 27° 29' 10,4" E
Longitude 25° 54' 15,6" S

Actual Size Length: 42cm Breadth: 63cm

The work is stylised, making use of a fine lined incision technique (Figure C15). On the upper part of the engraving there are numerous long vertical lines that seemingly have no purpose. On the bottom left hand side there is a curved squiggle also without purpose. There are four attempts made at engraving feather structures, only the outer lines were incised before they were discarded. On the bottom right a fifth attempt at a feather structure was made, the outer lines are present as well as a portion of the inner lines. These inner lines are diagonally converging lines, running between the two outer converging and one centre line. They converge towards the back of the feather structure. This feather structure was also however not completed (Figure C15 defined).

The rock surface is fine grained, with some weathering-taking place in the centre and bottom left of the rock. The condition of the engraving is satisfactory. The engravings only threat is further weathering due to the elements. The engraving faces south and is positioned towards the base of the hill, approximately three meters above the furrow.



(Figure C15 defined: Linear motif and Feather structure)

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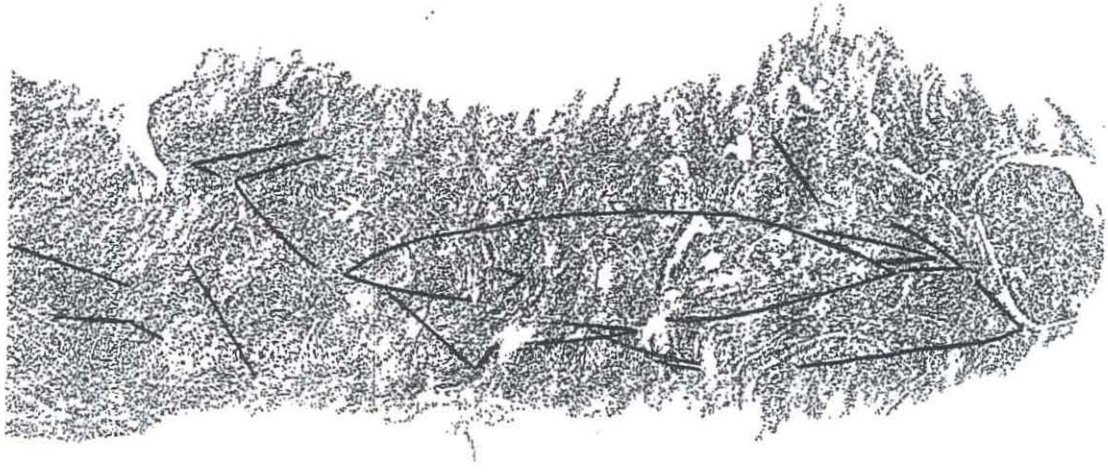
(Figure C16: Converging lines) Scale 1:2

Figure C16 - **Converging lines** - Latitude 27° 29' 07,9" E
Longitude 25° 54' 16,2" S

Actual Size Length: 3cm Breadth: 13cm

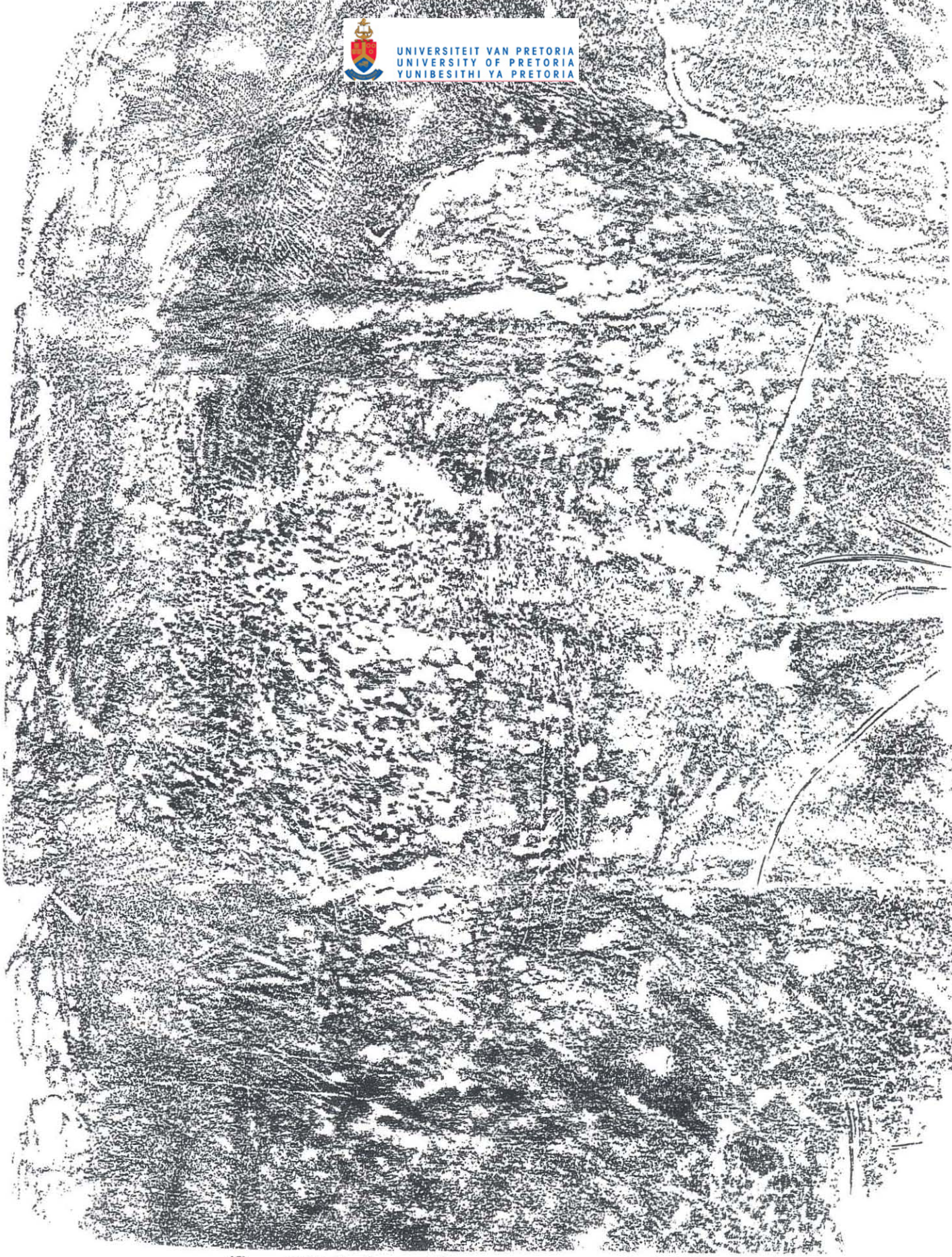
The engraving consists of two converging lines (Figure C16). The lines were engraved using a fine line incision technique. They appear to be the start of something that was never completed (Figure C16 defined).

The rock surface is fine textured and badly weathered. The condition of the engraved work is satisfactory. The positioning of the engraving is midway up the hill and facing south. Its only threat is further weathering due to the elements.



(Figure C16 defined: Converging lines)

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(figure C17: Feather motif) Scale 1:3

Figure C17 - **Feather motif** -

Latitude 27° 29' 06,5" E
Longitude 25° 54' 16,9" S

Actual Size Length: 23cm Breadth: 53,5cm

There are six feather structures that were incised into the rock surface making use of a fine line technique (Figure C17). Some are more complete than others are. Two are like the feather structure found in figure C15, having only two converging lines within the main structure, the other feather structure have three converging lines. There is a seventh structure that only has its outer converging lines (Figure C17 defined).

The rock surface is fine grained and very weathered, making subbing difficult. The condition of the engraving is satisfactory and is under no threat other than further weathering. It is positioned towards the base of the hill, approximately four meters above the furrow. It faces south.



(Figure C17 defined: Feather motif)

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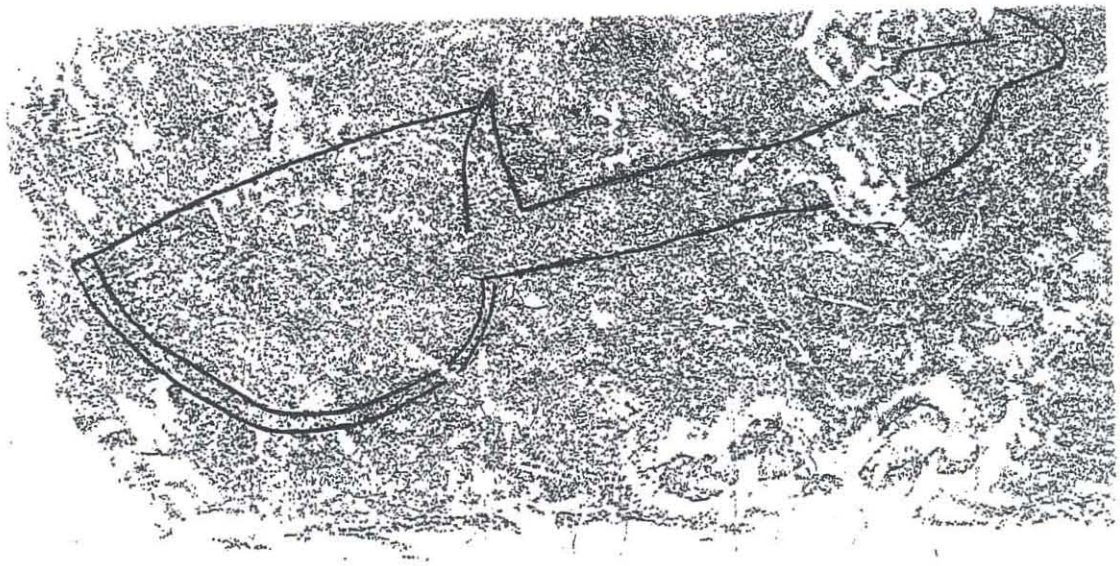
(Figure C18: Cultural object) Scale 1:2

Figure C18 - **Cultural object** - Latitude 27° 29' 05,1" E
Longitude 25° 54' 14,9" S

Actual Size Length: 38,5cm Breadth: 16,5cm

The engraved object is naturalistic in style and incised making use of a fine line technique. The cultural object engraved resembles a drinking beaker (Figure C18). A half moon parallel line thickening towards the handle is used to portray the cup portion. The handle is shown as being part of the cup and not a separate entity merely joined to the cup. The handle is a thicker parallel line culminating in a "S" bend at its end. There is a single line running between the two points of the half moon of the cup, portraying the rim of the cup (Figure C18 defined).

The rock surface is rough in texture with extensive weathering around the end of the handle. The condition of the engraved work is satisfactory. The engraving is under no threat other than further weathering. The engraving is positioned towards the base of the hill, above the furrow and faces northeast.



(Figure C18 defined: Cultural object)



(Figure C19: The Eland) Scale 1:3

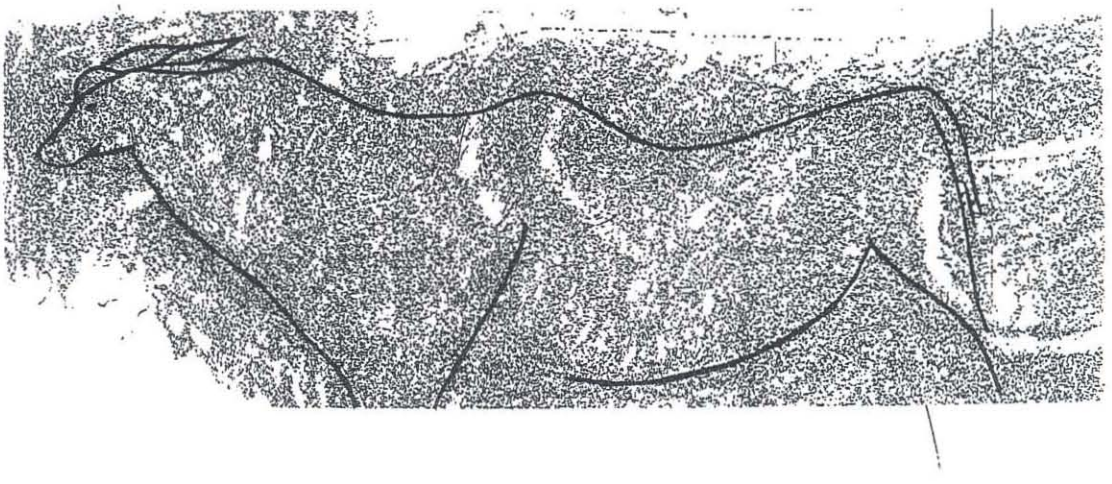
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Figure C19 - **The Eland** *(Tragelaphus oryx)* - Latitude 27° 29' 07,6" E
Longitude 25° 54' 17,5" S

Actual Size Length: 21cm Breadth: 51cm

The eland is naturalistic in style and was engraved using a fine line incision technique (Figure C19). The figure is isolated. Through the shear size portrayed around the neck and shoulders, it can be deduced that the subject is a bull. The characteristic bone mass on the forehead, curve in the horn, nuchal hump on the forequarters and characteristic line running from the lower limb to the nuchal hump are portrayed exceptionally well. Detail has also been added to the face, the nostrils and eyes are present. A portion of the caudal appendage is also present, but due to erosion in that area the rest of it is not visible. Once again and typical of Bushmen engravings the legs are neglected, especially the front legs (Figure C19 defined).

The rock surface is medium grained, with very little erosion. The engraving is old as the engraving is seen with difficulty by the naked eye. The condition of the rock and the engraving are good, with its only threat being the elements. The engraving is positioned at the base of the hill below the furrow, this prevents the run-off of rainwater from the hill reaching the engraving and causing accelerated erosion to the piece. The engraving face northeast away from the water source.



(Figure C19 defined: The Eland)



(Figure C20: Linear work and Antelope head) Scale 1:3

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Figure C20 - **Linear work and Antelope head** - Latitude 27° 29' 06,8" E
Longitude 25° 54' 17,4" S

Actual Size Length: 50cm Breadth: 44cm

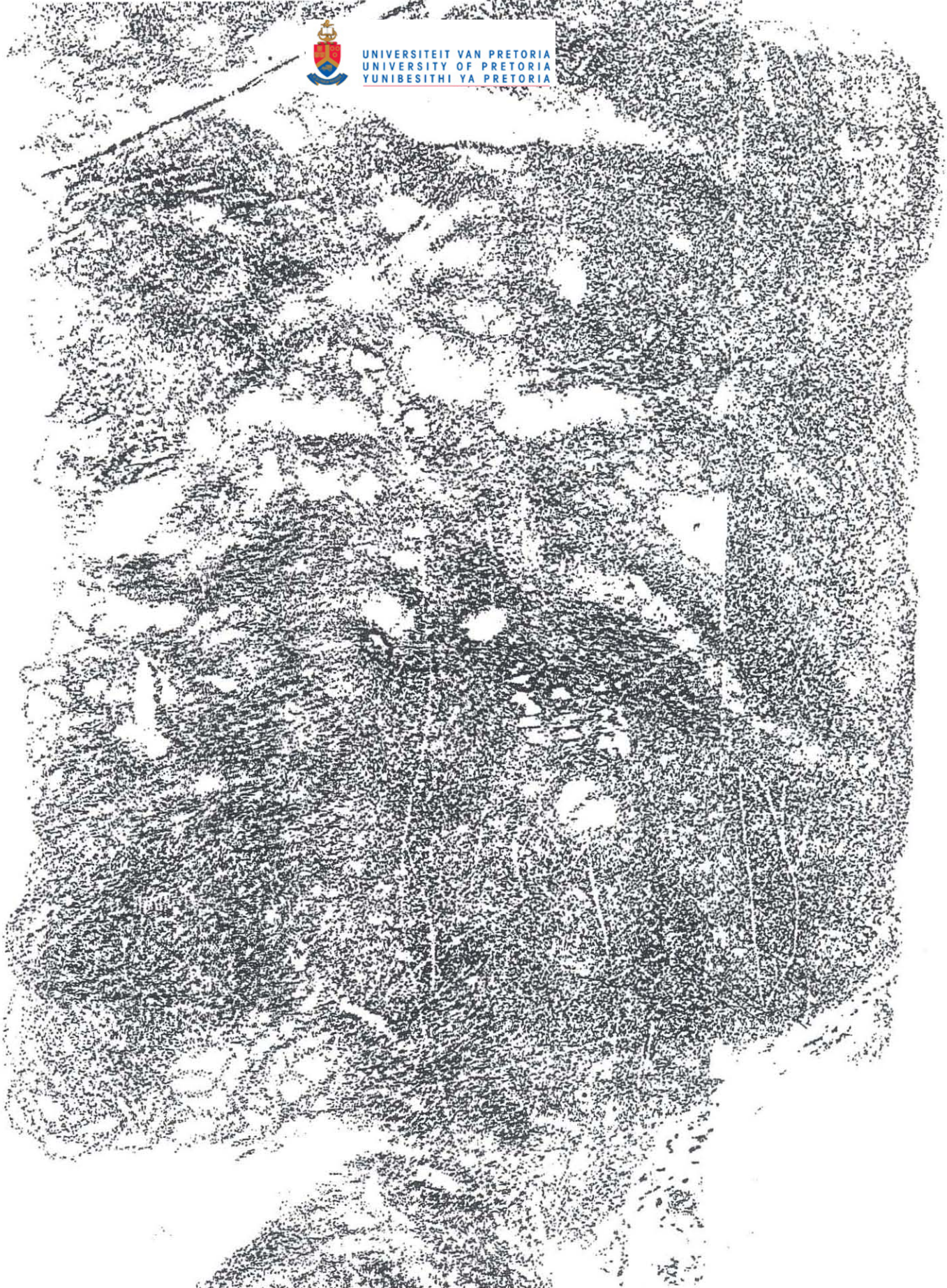
The engraved work is stylised and engraved making use of an incised fine line technique (Figure C20). The bulk of the engraving is made-up of various vertical, parallel and converging lines. There are also diagonal parallel lines between two converging lines, as well as zigzag lines between parallel lines. All the above seems typical of entoptic phenomenon. On the right hand side of the rock surface there is an unidentifiable buck, the horns, head, body and caudal appendage are visible, the style used is naturalistic, but the antelope is unidentifiable, (Figure C20 defined).

The engraving is positioned at the bottom of the hill below the furrow; it faces south towards the water source. The rock surface is rough in texture with extensive erosion; it is under no threat other than that of the elements. The condition of the engraving is satisfactory.



(Figure C20 defined: Linear work and Antelope Head)

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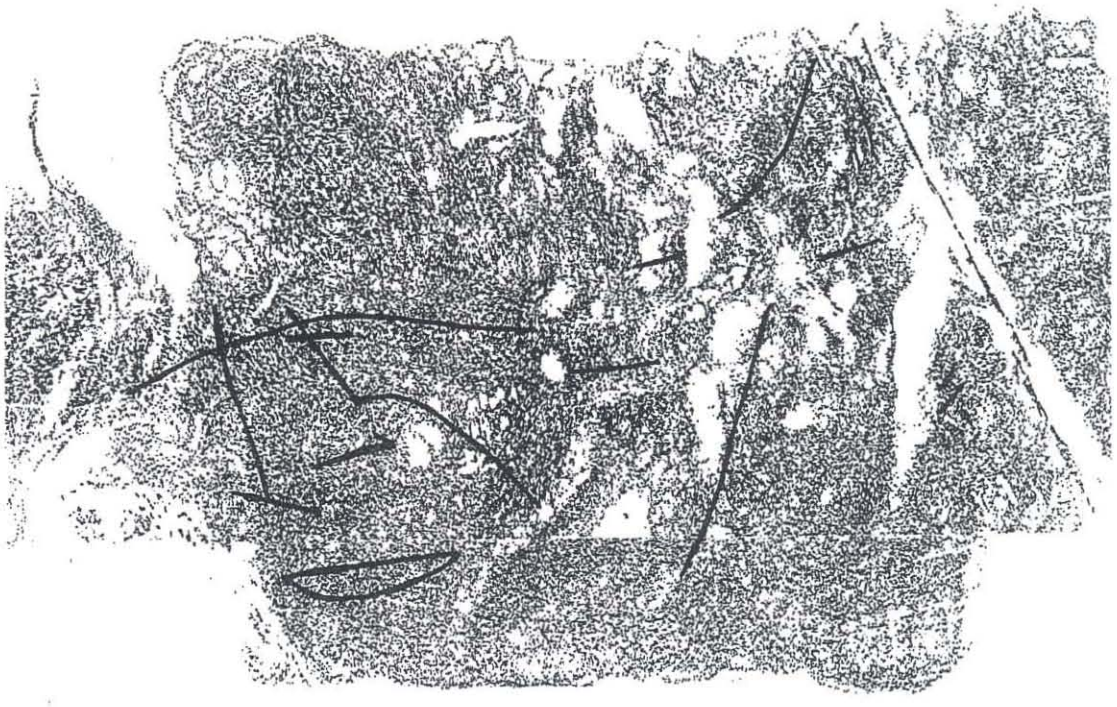
(Figure C21: Curved lines and Cultural object) Scale 1:2

Figure C21 - **Curved lines and cultural object** - Latitude 27° 29' 08,1" E
Longitude 25° 54' 15.6" S

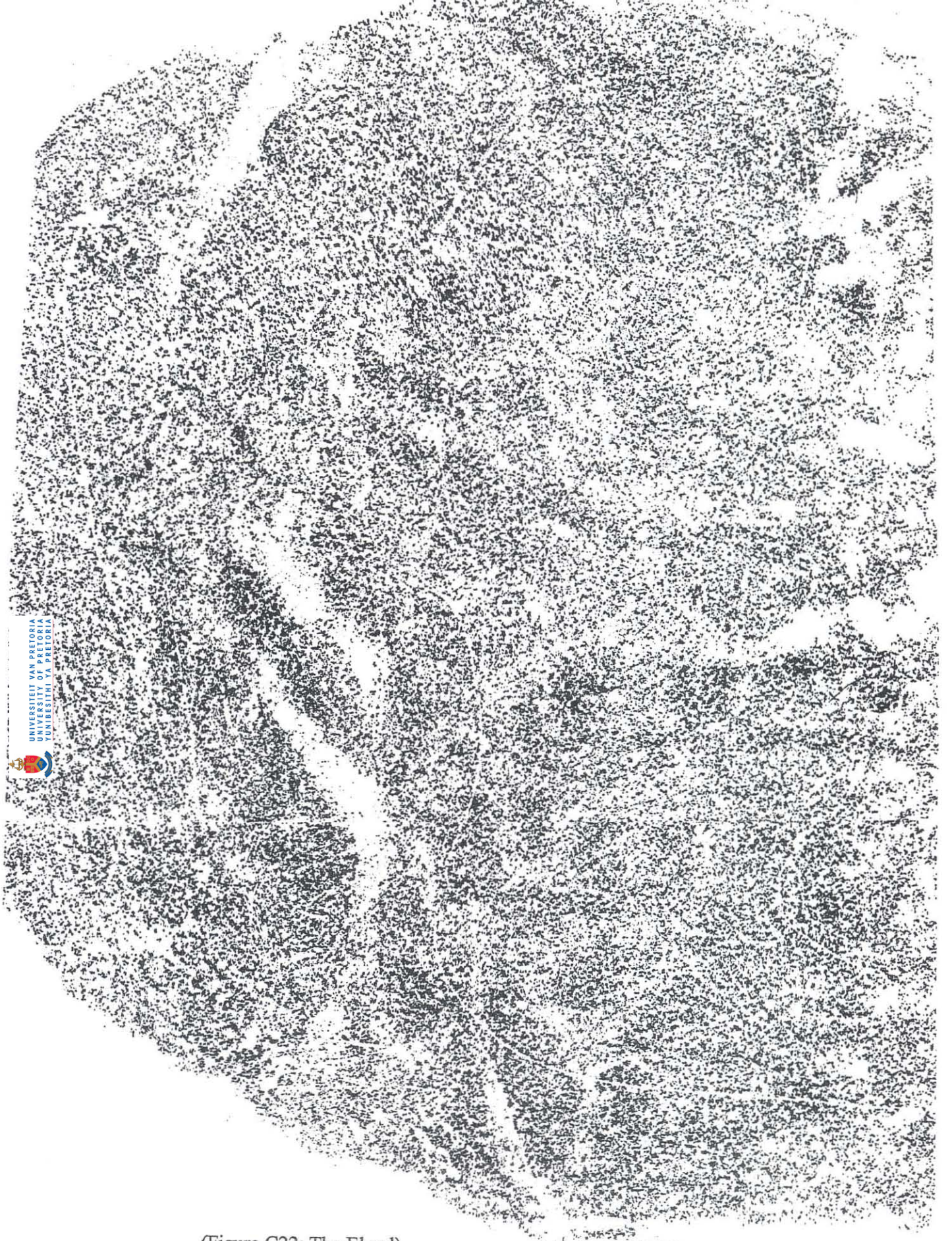
Actual Size Length: 21cm Breadth: 36cm

The engraving consists of various curved and wavy lines; they don't constitute any pattern or motif (Figure C21). Under these lines is a cultural object, which resembles a bowl. All the engraved work is incised and a fine line technique was used (Figure C21 defined).

The texture of the rock surface is medium grained, with extensive erosion. The engraving is under no threat other than the elements. The engraving is positioned midway up the hill, facing southeast. The condition of the engraving is satisfactory.



(Figure C21 defined: Curved lines and Cultural object)



(Figure C22: The Eland) Scale 1:1

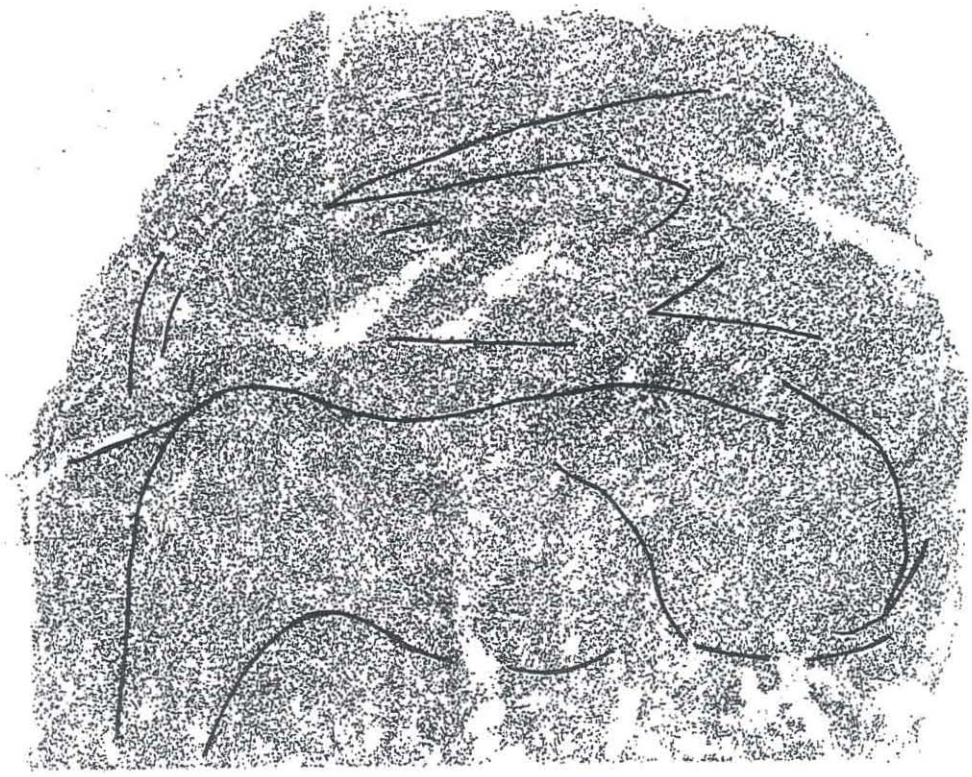
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Figure C 22 - **The Eland** *(Tragelaphus oryx)* - Latitude 27° 29' 05,9" E
Longitude 25° 54' 14,8" S

Actual Size Length: 19cm Breadth: 30,5cm

A naturalistic style was utilised and the engraving was incised making use of a fine line incision technique (Figure C22). The hindquarters and caudal appendage are well defined, once again the caudal appendage is engraved raised, portraying fly swatting. The nuchal hump on the forequarters is also present. The top part of the shank was engraved, but the rest of the leg was omitted (Figure C22 defined). A feather structure was started above the eland, but it to was discarded.

The texture of the rock surface is rough, hampering the visibility of the engraved work. There are numerous small and larger erosion marks on the surface; they don't however interfere with the engraved work. The condition of the work is satisfactory. The engraving faces south, towards the water source.



(Figure C22 defined: The Eland)

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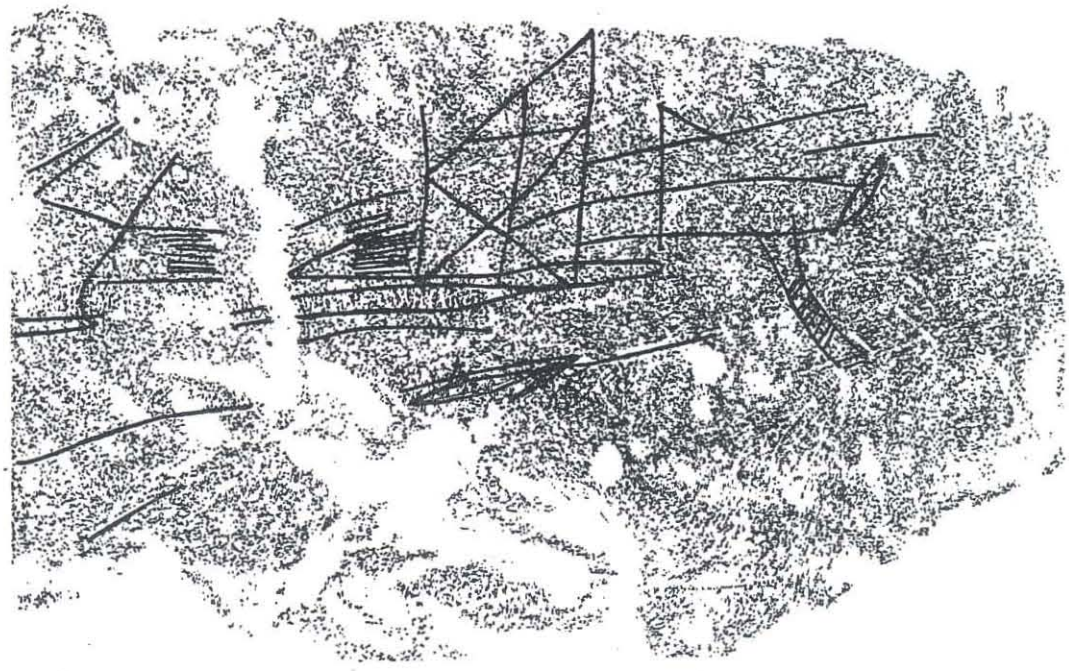
(Figure C23: Linear work and House motif) Scale1:1

Figure C 23 - **Linear work and House motif** - Latitude 27° 29' 07,3" E
Longitude 25° 54' 13,4" S

Actual Size Length: 14cm Breadth: 27,5cm

The engraved work is geometric in style and is incised making use of a fine line technique (Figure C23). The engraving background consists of various parallel and converging lines. There are some very fine wave-like parallel lines on the far right, just above this there are vertical parallel lines between two horizontal parallel lines. At the bottom centre of the engraving is a crude house, the base consists of a quadrangle with a criss-cross inside it. The roof is depicted by means of a triangle (Figure C23 defined).

The texture of the rock face is medium grained, with extensive erosion on the right hand side. The condition of the house is however not affected by this. The engraving is under no threat other than further weathering due to the elements. The engraving is positioned at the top of the hill and faces southwest.



(Figure C23 defined: Linear work and House motif)



(Figure C24: Unidentified Antelope) Scale 1:1

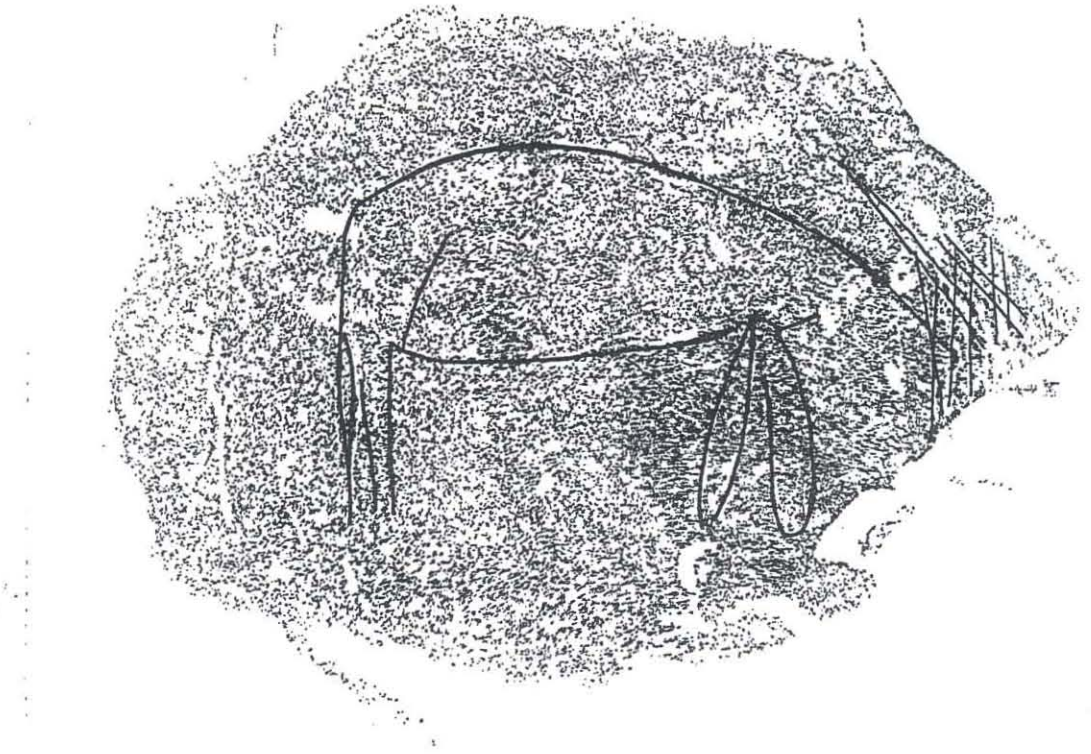
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Figure C24 - **Unidentifiable antelope** - Latitude 27° 29' 06,5"E
Longitude 25° 54' 15,3" S

Actual Size Length: 11,5cm Breadth: 20,5cm

A childlike style was used to engrave this buck; it is due to this crudeness that the buck is unidentifiable (Figure C24). A multiple fine line incision technique was used. The body is in the shape of a teardrop, getting bigger towards the hindquarters. The front legs are portrayed as two oblong blobs, while the back is stick like. A long caudal appendage is present reaching the back heel. The head is indefinable due to parallel lines located in this region, as well as a weathered patch located in the area. The horns are long and straight, extending towards the back (Figure C24 defined). The figure is isolated.

The texture of the rock surface is medium grained, with some erosion on the bottom right. The figure is positioned midway up the hill and is facing south. The condition of the piece is good, with its only threats being the elements.



(Figure C24 defined: Unidentifiable antelope)

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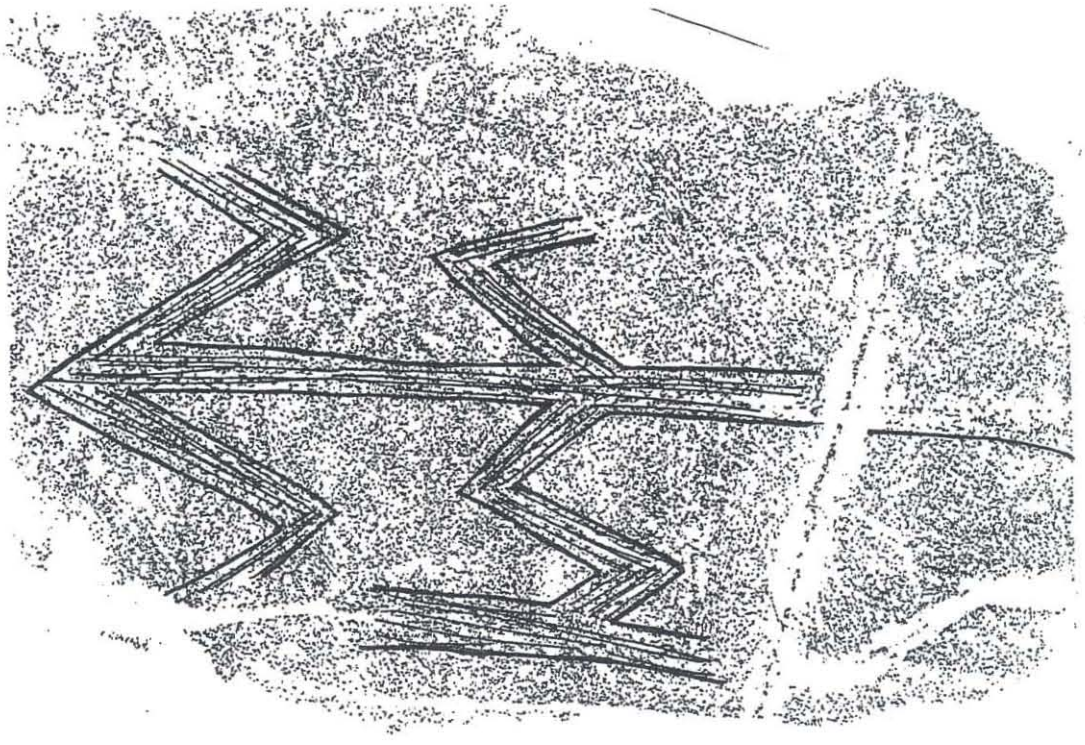
(Figure C25: Zigzag's on parallel lines) Scale 1:1

Figure C 25 - **Zigzag's on parallel lines** - Latitude 27° 29' 06,2" E
Longitude 25° 54' 15,0" S

Actual Size Length: 19cm Breadth: 28,5cm

The work is geometric in style (Figure C25). The engraving is a portrayal of Sotho- Tswana decorative style. There are two horizontal parallel lines, which have been made through multiple fine line incisions (rubbed), until the blue of the hornfel rock comes through. There are vertical zigzag's crossing the parallel lines, the same technique and style was used on them (Figure C25 defined). The pattern work is isolated.

The rock surface is medium to rough textured, with some erosion to the left of the engraving. The engraving is under no threat other than the elements. The condition is good. The engraving is positioned towards the top of the hill, facing southeast.



(Figure C25 defined: Zigzag's on parallel lines)

Site H



(Figure H1: The Ostriches and unidentifiable antelope) Scale1:2

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Figure H1- **The Ostriches and unidentifiable antelope** *(Struthio camelus)*
- Latitude 27° 29' 50,2" E
Longitude 25° 54' 14,1" S
Actual Size Length: 31cm Breadth: 49cm

Two ostrich images are present; both are engraved in a naturalistic style, making use of a broad line incision technique (Figure H1). The ostrich on the right is smaller and more proportionate than the one on the left. A line of severe erosion is found on the rock running vertically between the tail of the ostrich on the right and the beak of the one on the left. Also some erosion can be seen on the back of the ostrich on the left. Despite this erosion line erosion marks are found all over the rock surface, giving the rock a mottled look. Both ostriches are drawn standing up and facing forward in the same direction, which is east. There is no detail present in the faces or wings with the legs ending at the ankles. In the ostrich on the right the tail is drawn as part of the body and in the other ostrich the tail is added onto the body.

Super impositioning is found on the engraving. This was added by the Sotho-Tswana, this is seen in the engraved buck found on the ostrich on the rights back. The buck is stylised and a multiple fine line technique was used, the body is a horizontal rectangle and the legs are four vertical rectangles, placed close together. The neck a small horizontal rectangle attached to the base of the body, with the head drawn as a vertical oval and is placed in the middle of the neck, as though the animal was eating. There are various other parallel and converging lines above the buck, close to its head, these appear to have been engraved after the buck. Numerous parallel lines running horizontal and vertically are found on the neck area of the ostrich on the left, they to were engraved after the ostrich, these are also found on the caudal appendage and leg of this ostrich (Figure H1 defined). There is no entoptic phenomenon.

The rock faces south towards the water source, with the engraved surface lying at a fifty-degree angle to the earth surface. The texture of the rock surface is medium to fine grained, with extensive erosion. The only threat to the engraving is further weathering. The condition of the engraving is good even though there has been erosion; it has no affected the engraved picture as such. Its condition must however be monitored.



(Figure H1 defined: The Ostriches and unidentifiable antelope)

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Figure H2- **Warthog on White Rhino's back, with a Female figurine and an unidentifiable buck** *(Phacochoerus aethiopicus on Ceratotherium simum)*

- Latitude 27° 29' 47,4" E
  Longitude 25° 54' 11,7" S

Actual Size Length: 31cm Breadth: 49cm

The white rhino appears to have been the first motif engraved on the rock surface (Figure H2). A fine line incision technique was used along with a naturalistic style. The engraving is very old and can only be seen with difficulty by the naked eye and if pointed out. It is clearly a white rhino as the neck is short with a long face, very long horns (the front horn measuring 6cm on the engraving) and a square lip. The legs are short and it has a short caudal appendage. All the a fore mentioned are characteristics of a white rhino. The detail of the lip is no longer visible and no back legs are present, the front legs however end in the characteristic "v" shape used by the Bushmen. The pinna is portrayed as being sharply pointed.

The second motif engraved on the rock is that of a warthog, it was engraved diagonally on the rhino's back, its head facing were the rhino's back legs should have been. It was engraved using a broad line incision technique; the naturalistic style was maintained. It is engraved as being short and stocky, with a long snout. A mouth was present, but the tusks and pinna were omitted. Both the front and back legs end in the characteristic "v" shape of the Bushmen. The caudal appendage is engraved standing upright, a trait warthog's practice when alarmed, the warthog's head is also in the air as though it were vigilant. There is a bushy tuft at the end of the caudal appendage.

Still later work, numerous parallel lines are seen running through the tail of the warthog, they seem to serve no purpose. On the most right point of these lines an incised motif of a female figure is found. A fine lie technique was used, with the characteristic stick figure style. The head once again is an upside down triangle. The figure is wearing a dress, stick like arms are present, but the legs are not, the artists having run out of rock surface. To the left of the human figure and above the parallel lines a fine line engraving of the back end of an unidentifiable buck is present, it overlaps both the human figure and the parallel lines. The neck of the buck curves down, as though the animal were eating, but no head is present. The figure was discarded before completion. To the right of the human figure a strange fine line incision is found, resembling palm leaves, it is isolated (Figure H2 defined).

The rock surface used for the engraving is medium textured and faces south. There are extensive but small erosion marks present, particularly above and around the rhino's head. Despite this the overall condition of the engraving is satisfactory with its only threat being further weathering. Its condition is to be monitored.



(Figure H2 defined: Warthog on White Rhino's back, with a Female Figurine and a unidentifiable buck)

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(Figure H3: The Ostrich) Scale 1:1

Figure H3 - **The Ostrich** *(Struthio camelus)* - Latitude 27° 29' 51,1" E
Longitude 25° 54' 11,8" S

Actual Size Length: 26cm Breadth: 16,5cm

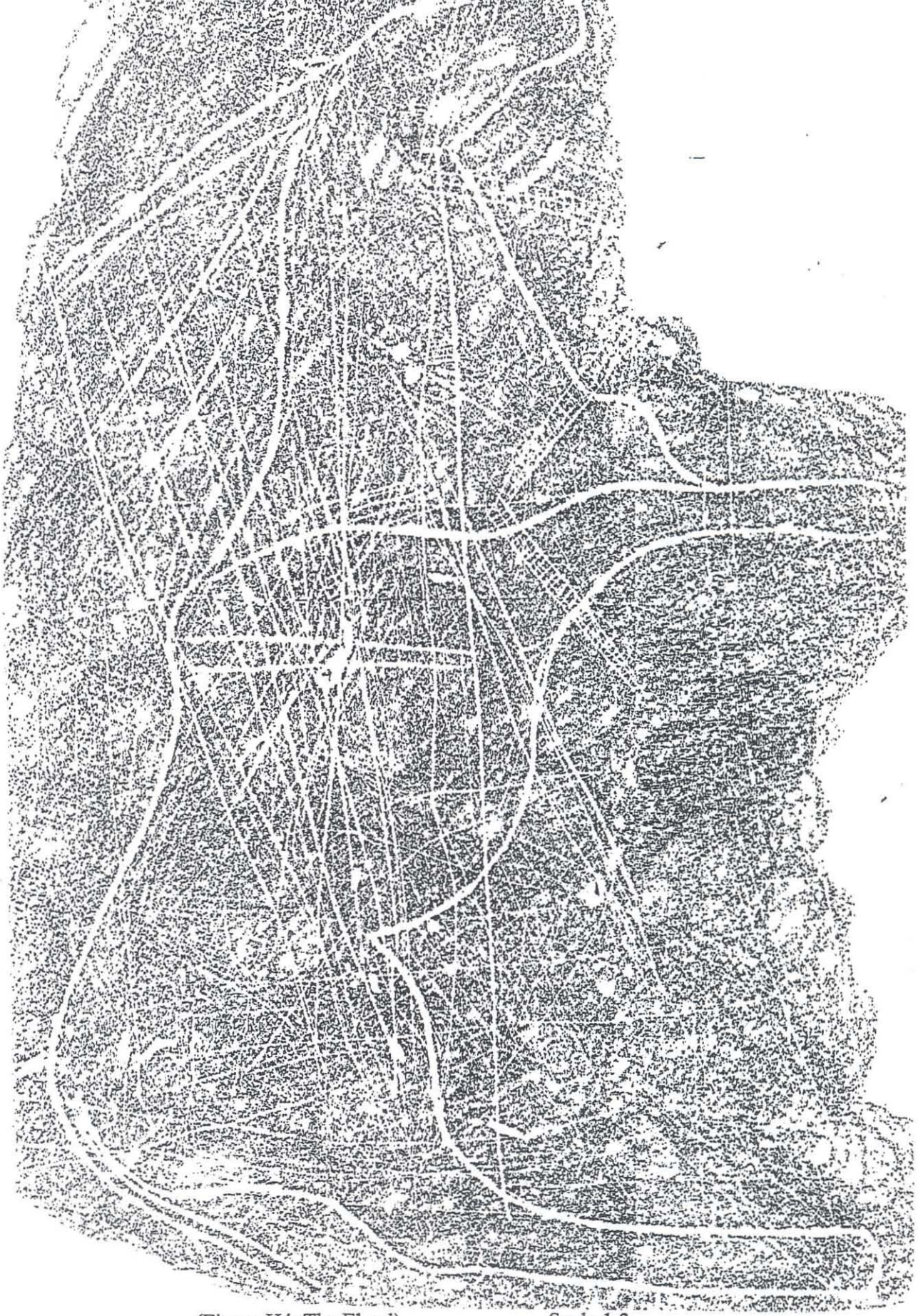
The ostrich an isolated figure was engraved making use of a fine line technique, along with a naturalistic style (Figure H3). The head is not well defined and viewing of it is further impaired due to elongated scratching engraved on it. The rest of the bird is extremely well proportioned and lines depicting feathers are present, adding detail to the engraving. Unlike the caudal appendage of the other engraved ostriches in figure H1, which poke out, this birds tail is tucked in, characteristic of a unstressed bird. The legs are long, but end abruptly with no foot present.

At a later stage two triangles were engraved on the bird, probably Sotho-Tswana in origin, using a fine line incision. A larger one on the birds back and a smaller one on its breast. The right hand arm of the smaller triangle is consists of three parallel lines (Figure H3 defined).

The rock surface is medium grained and the engraving faces south. There is extensive small erosion marks on the bird's body. The condition of the engraving is satisfactory, with its only threat being further weathering. It should be monitored.



(Figure H3 defined: The Ostrich)



(Figure H4: The Eland) Scale 1:3

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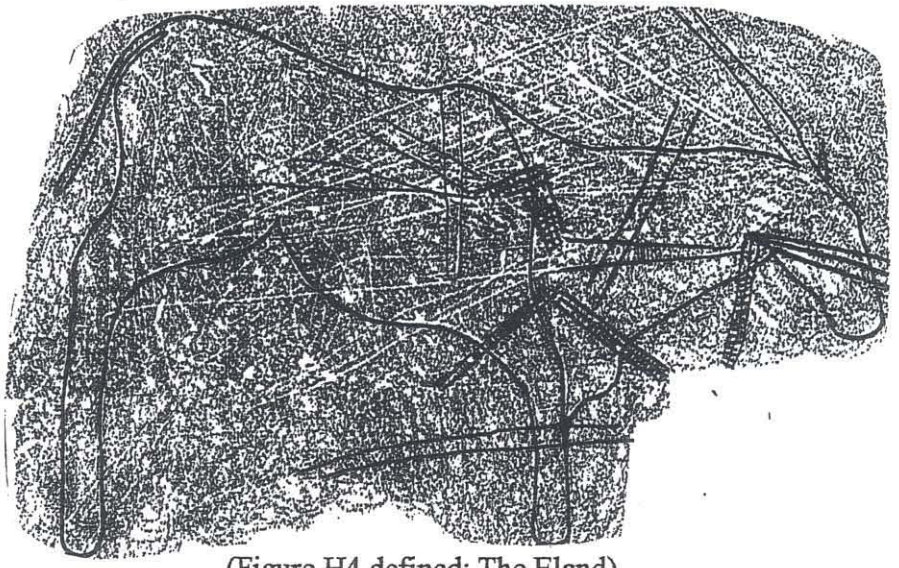
Figure H4 - **The Eland** *(Tragelaphus oryx)* -Latitude 27° 29' 51,3" E
Longitude 25° 54' 13,5" S

Actual Size Length: 28cm Breadth: 43,5cm

The eland was engraved making use of a broad line incision technique, and a naturalistic style (Figure H4). The antelope is isolated. The characteristic nuchal hump and line running from the hump to the lower limb is present. The eland is incredibly well proportioned, clear and precise. The horns are long measuring 11,2cm on the engraving. The only detail found is the presence of pinna. The legs in this case are rounded off, but the hooves are still not defined. The caudal appendage is portrayed as being short ending above the heel.

There is a lot of linear work found in the background of the motif, it was incised using a fine line technique and was clearly present many years before the eland was engraved as it is far more weathered than the eland. The linear work comprises of parallel and converging lines, on the back of the eland and zigzag ladders running horizontally along the top of the front leg and through the face. There are even more faint lines running vertically down the eland's back leg. It was said by Prof. J.D. Lewis-Williams (1988), that this particular piece of work was an, "....Eland with superimposed entoptic ladder-like forms and other lines...". Implying that the lines and eland have something to do with each other and were produced at the same time according to his entoptic phenomenon theory. On paper this appears so but if the actual engraving is viewed in the veld, it can clearly be noted that this can not be as the linear work is years older than the eland, and two different engraving techniques were used (Figure H4 defined).

The texture of the rock surface is fine grained, with some small erosion marks visible. The engraving faces southeast towards the water source. The condition of the engraving is excellent, with its only threat being further weathering due to the elements



(Figure H4 defined: The Eland)



(Figure H5: The Giraffe) Scale 1:4

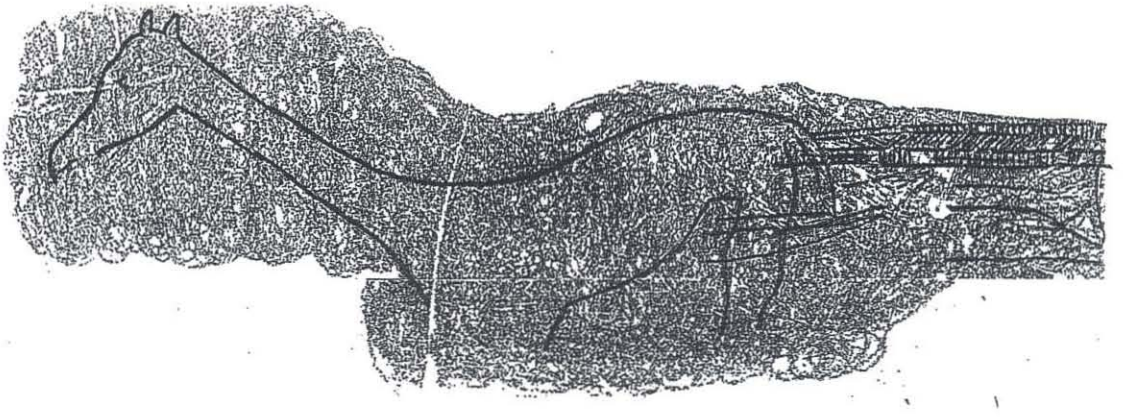
Figure H5 - **The Giraffe** *(Giraffa camelopardis)* - Latitude 27° 29' 50,4" E
Longitude 25° 54' 14,0" S

Actual Size Length: 25cm . Breadth: 80,5cm

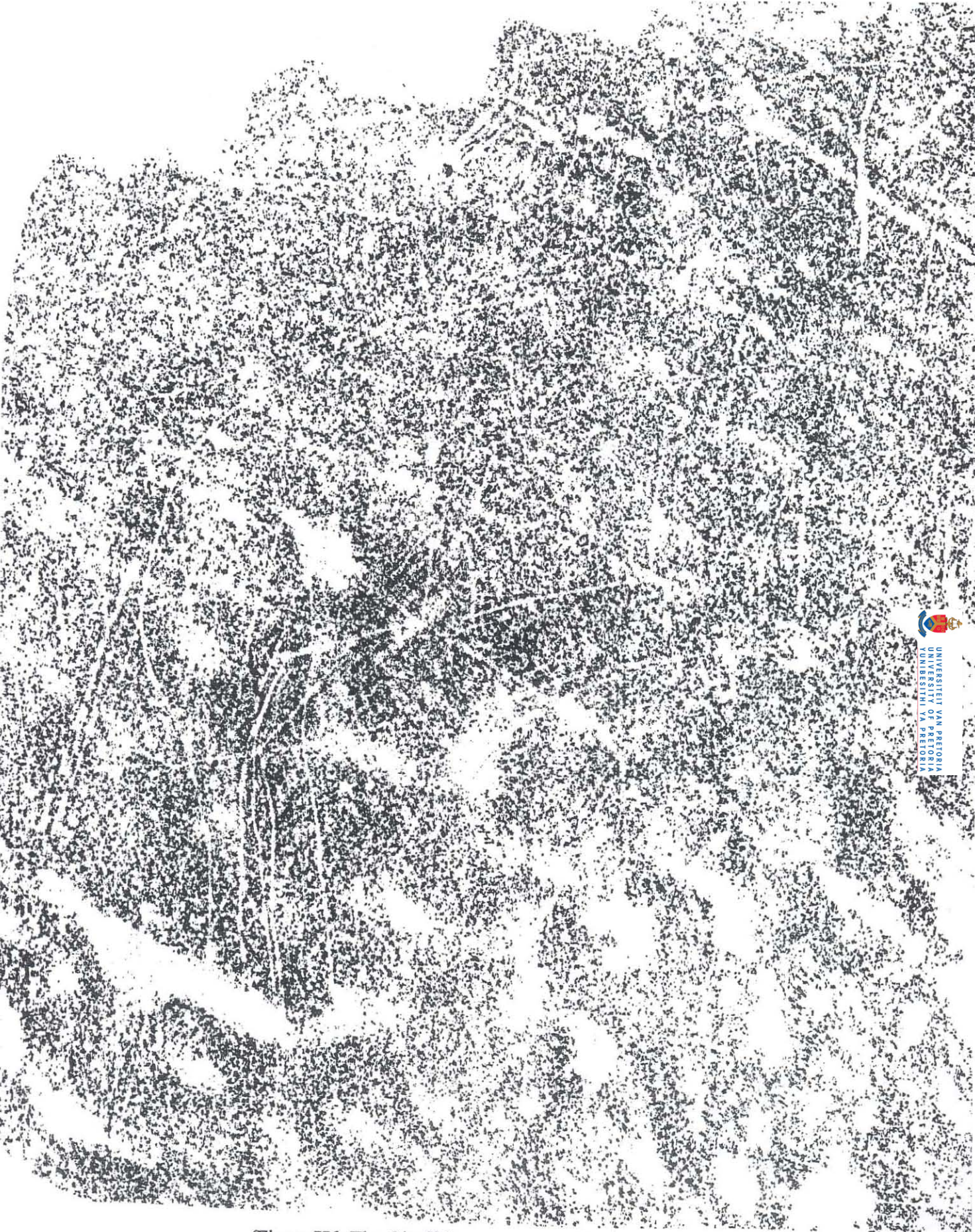
The giraffe was engraved using a fine line incision technique, and a naturalistic style (Figure H5). The head is extremely well proportioned, clear and detailed, showing pinna, an eye and mouth. Every curve of the head has been depicted with precision. The neck has two parallel lines running diagonally from the head. The thinner incision was added later, possible vandalism. The body is totally out of proportion with itself and the head, the main reason being the shape of the rock surface, chosen to engrave upon. The front legs were omitted, while the back leg is broad and clumsy. The caudal appendage is short and bushy, which is characteristic of a giraffe. Vandalism of the engraving has taken place in that someone has drawn over the original fine lines, evidence of this can be seen on the head, neck and body.

Linear fine line incision work is found, on the hindquarters of the giraffe and extends behind the motif, which are very clear, however these same patterns are found all over the rock surface, but are very faint. The incision work resembles the feather work found at site C, figures 15 and 17. A triangular shape can also be seen on the back leg. There are some other arbitrary lines under the feather work that don't depict anything (Figure H5 defined). Due to the vandalism it can not clearly be seen weather the giraffe or the linear work was done first.

The surface of the rock is fine textured, with small erosion marks found all over the rock surface, there are also some cattle hoof marks found near the back and caudal appendage area of the giraffe. The engraving faces southeast towards the water source. The condition of the engraving is satisfactory, with its only threat now being further weathering.



(Figure H5 defined: The Giraffe)



(Figure H6: The Giraffe) Scale 1:1

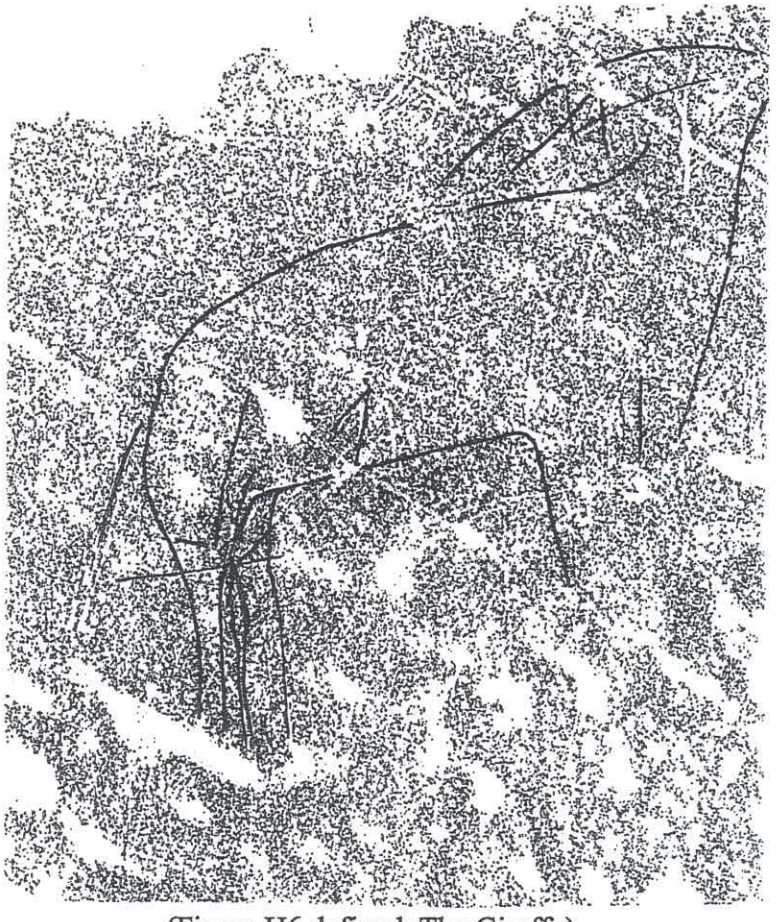
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Figure H6 - **The Giraffe** *(Giraffa camelopardalis)* - Latitude 27° 29' 49,9" E
Longitude 25° 54' 15,6" S

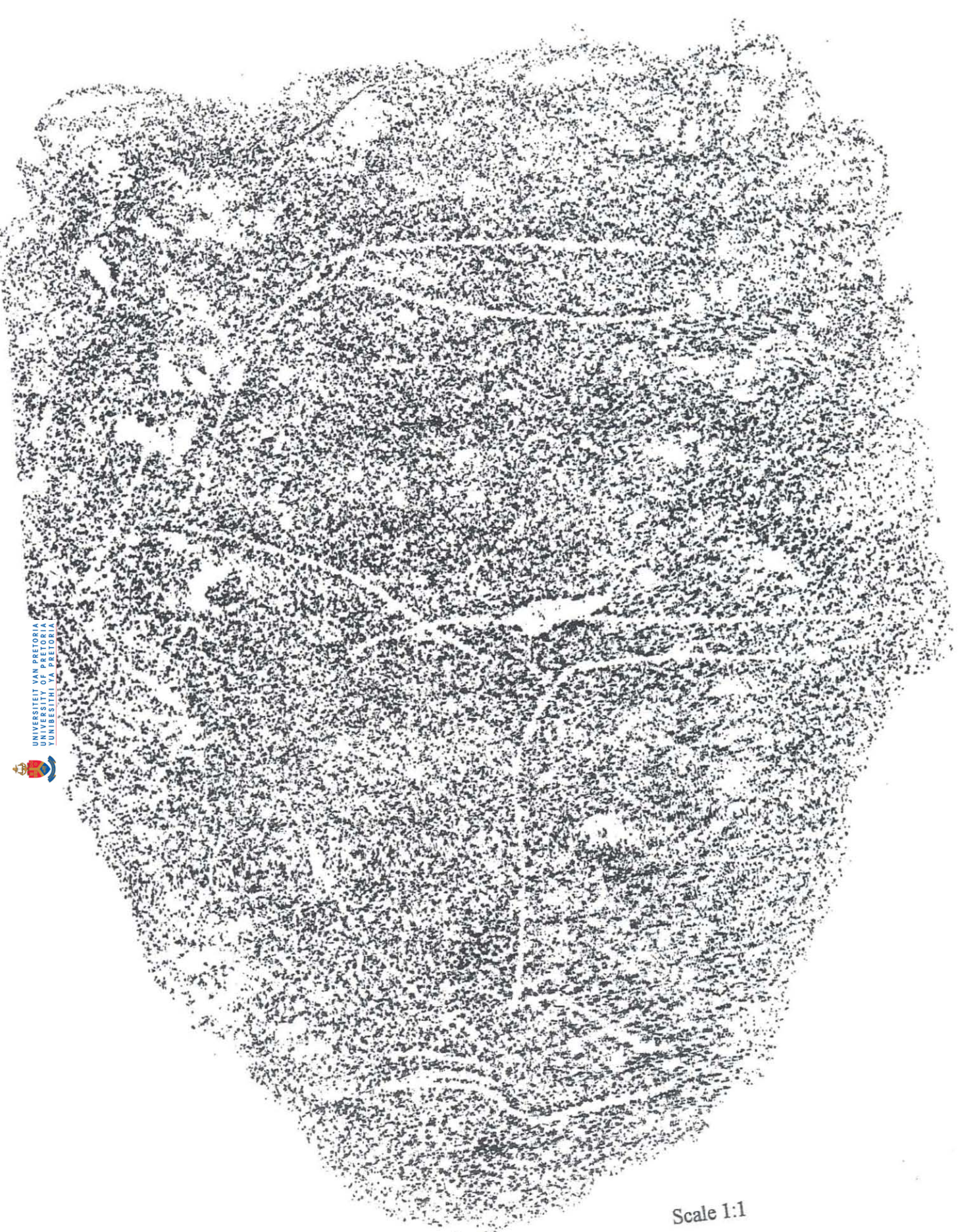
Actual Size Length: 22cm Breadth: 19cm

The giraffe was incised using a fine line technique and a naturalistic style (Figure H6). The body including the caudal appendage, front and back legs are present. The neck can be seen but the head was omitted due to a lack of rock surface. The workmanship is crude, with multiple lines used in places. There are a couple of stray lines present, but these appear to be prior attempts (Figure H6 defined).

The rock surface is rough in texture and unsuitable for rock engraving. There is extensive erosion on the bottom end of the rock and some in and around the engraving. A poor choice of rock was made. The engraving faces south. The condition of the engraving is poor, due to the poor choice of rock, it requires monitoring, but removal to a stable environment , would be too costly considering the subject matter. Engravings of poor technique are engraved on rough or badly eroded rock surfaces , thus "scholars" used these surfaces to practice on as more suitable surfaces were reserved artists with established technique.



(Figure H6 defined: The Giraffe)



Scale 1:1

(Figure H7: The Rhebuck)

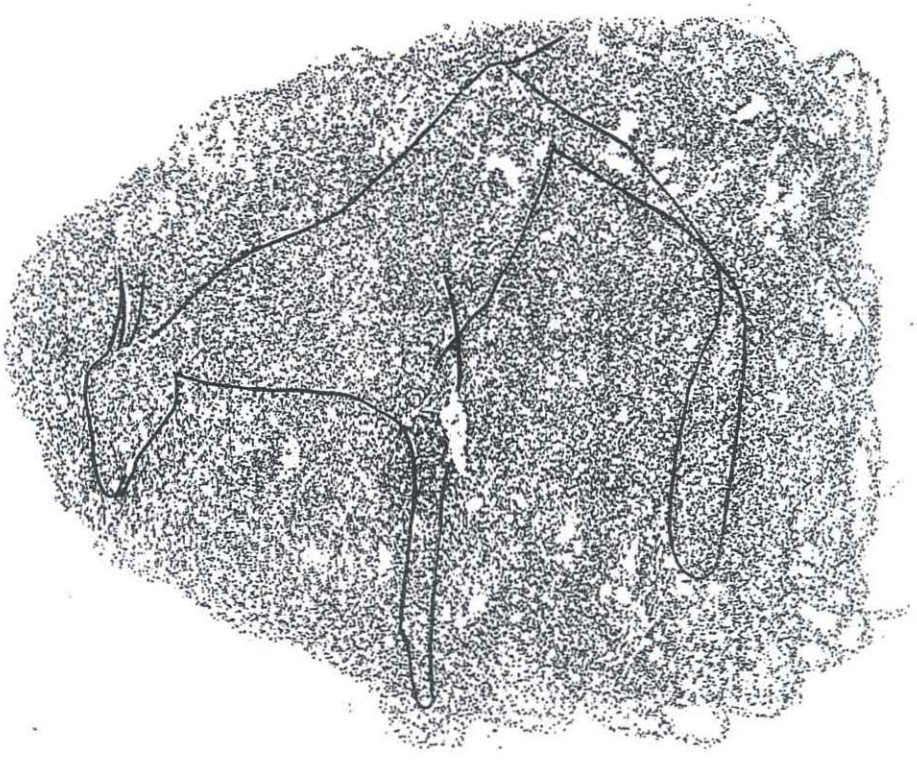
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Figure H7 - **The Rhebuck** *(Pelea capreolus)* - Latitude 27° 29' 52,8" E
Longitude 25° 54' 12,7" S

Actual Size Length: 17,5cm Breadth: 18cm

The engraving is that of a juvenile, evident in the uncertainty in the antelopes legs (Figure H7). The antelope is engraved in a naturalistic style, making use of a fine line incision technique. The characteristic forward curve of the horns, is the only clue to the identity of the buck. The body and legs are out of proportion as the artist was attempting to portray the awkwardness of the stance. While finding their feet the antelope hold there heads low as portrayed in the engraving . The back leg although out of proportion, is correct as far as length is concerned, as they do seem to long for the juveniles bodies, no matter what species of antelope at this point in there lives. Both the front and back legs end in a closed oblong shape. The caudal appendage is short and standing up. The head is beautifully portrayed and proportioned , with a mouth evident. Although baby antelope do not have horns at birth , the artist has portrayed the animal with horns, in this way people coming across his work are able to identify the type of buck is being portrayed (Figure H7 defined). The buck is isolated.

The texture of the rock used for the engraving is medium grained, with small erosion marks evident, particularly around the back end of the antelope. The engraving faces southwest. The condition of the engraving is satisfactory, with its only threat being the elements.



(Figure H7 defined: The Rhebuck)



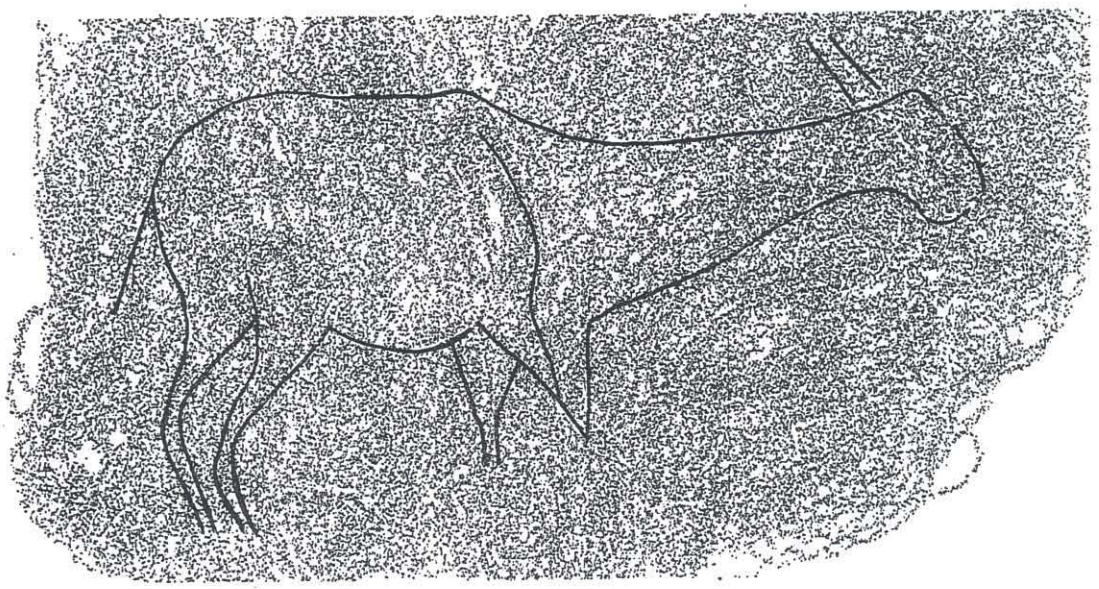
(Figure H8: The Eland) Scale 1:2

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Figure H8 - **The Eland** *(Tragelaphus oryx)* - Latitude 27° 29' 49,4" E
Longitude 25° 54' 13,2" S
Actual Size Length: 18,5cm Breadth: 31,5cm

The eland is portrayed using a beautiful naturalistic style and a fine line incision technique and is isolated (Figure H8). It is one of the most well defined eland bodies represented on Doornkloof. Once again the characteristic coloration line is present, running from the prehensile nuchal hump to the lower limb. The lower limb and shank of the legs have shape but the leg fades away towards the bottom. A major difference is that all four legs are portrayed in this engraving which is a rarity. The head and horns are out of proportion and lack the detail of the body (Figure H8 defined).

The texture of the rock surface engraved upon is medium in texture, with almost no erosion marks, rendering the condition of the engraving very good.



(Figure H8 defined: The Eland)



(Figure H9: The Eland)

Scale 1:4

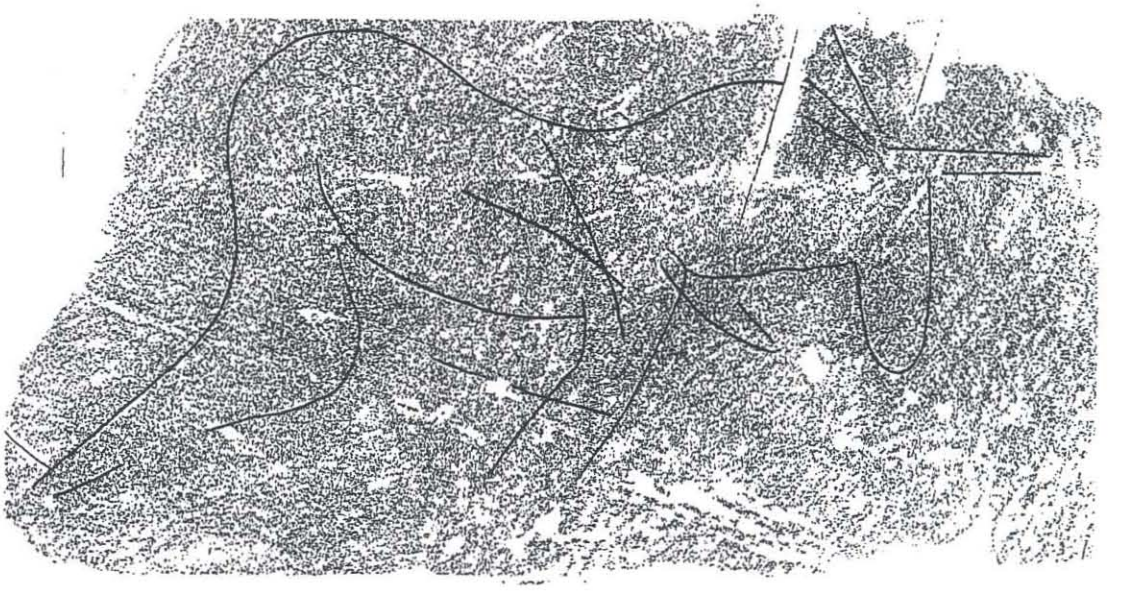
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Figure H9 - **The Eland** *(Tragelaphus oryx)* - Latitude 27° 29' 52,5" E
Longitude 25° 54' 12,7" S

Actual Size Length: 27,5cm Breadth: 49,5cm

The eland is portrayed in a naturalistic style, making use of a fine line incision technique and the subject is isolated (Figure H9). The eland may be styled naturalistically, but it is grossly out of proportion and clumsy. Large, flowing, curved lines were used to portray the eland. The prehensile nuchal hump although exaggerated is present. The back leg culminates in a "v" shape, while the front legs are two straight lines that are not lined-up. There is no detail found on the head (Figure H9 defined).

The texture of the rock surface is medium grained, with extensive erosion marks located below the engravings belly and in front of it's face. There are two raised ridges located above the eland head, by the nuchal hump and horns. Due to the extensive erosion the condition of the engraving is poor and needs to be monitored. The engraving is located at the base of the hill.



(Figure H9 defined: The Eland)



(Figure H10: Three Zebra) Scale 1:3

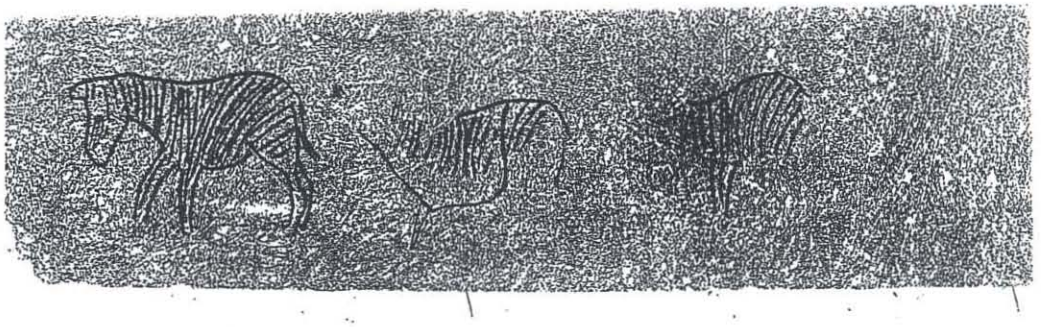
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Figure H10 - **Three Zebra** *(Equus brutally)* - Latitude 27° 29' 51,1" E
Longitude 25° 54' 14,4" S

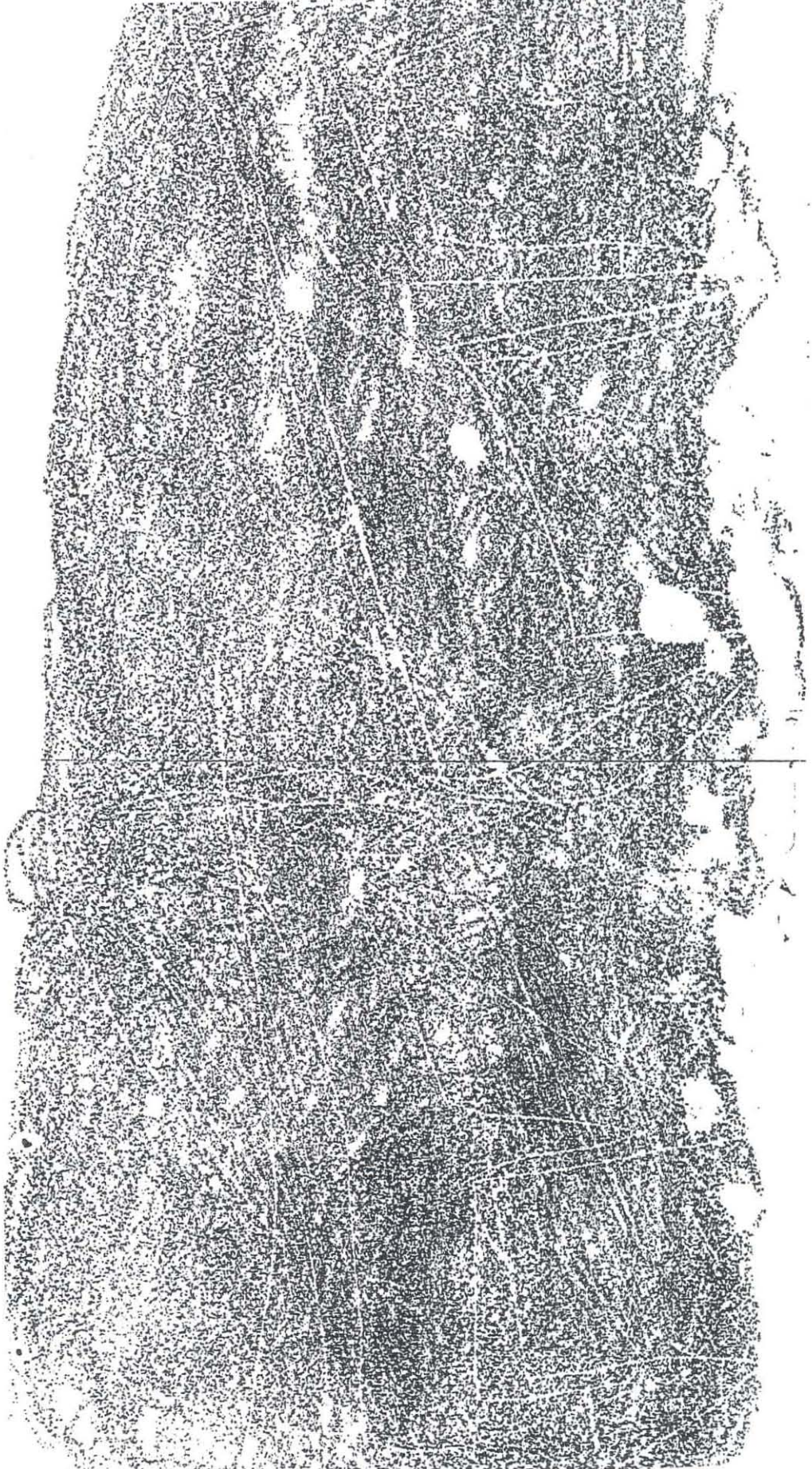
Actual Size Length: 20cm Breadth: 69cm

There are three zebra engraved making use of a naturalistic style and a fine line incision technique (Figure H10). The zebra most left is the best portrayal of the three zebra engraved, as the shape and detail to the head is perfect. It is engraved with four legs, the left back being the better shaped. The caudal appendage ends in a bushy tuft of hair and all the characteristic striped markings are present. The zebra is engraved walking. The second subject is not as clear or detailed as the first, with the only factor proving its presence being the characteristic stripes, the head and legs can not clearly be identified. The third subject is the same as the second, with only the stripes visible. There are a number of stray lines found all over all three subjects and don't appear to form part of any pattern. They appear to have been made after the engravings of the zebra, there are also a number of scratching produced behind the zebra which were probably made while sharpening a tool (Figure H10 defined).

The texture of the rock surface is medium grained, with a few, small erosion marks. There is one cattle mark on the back leg of the first zebra. The engraving is located at the very bottom of the hill and faces west. The condition of the engraving is satisfactory, but needs to be monitored.



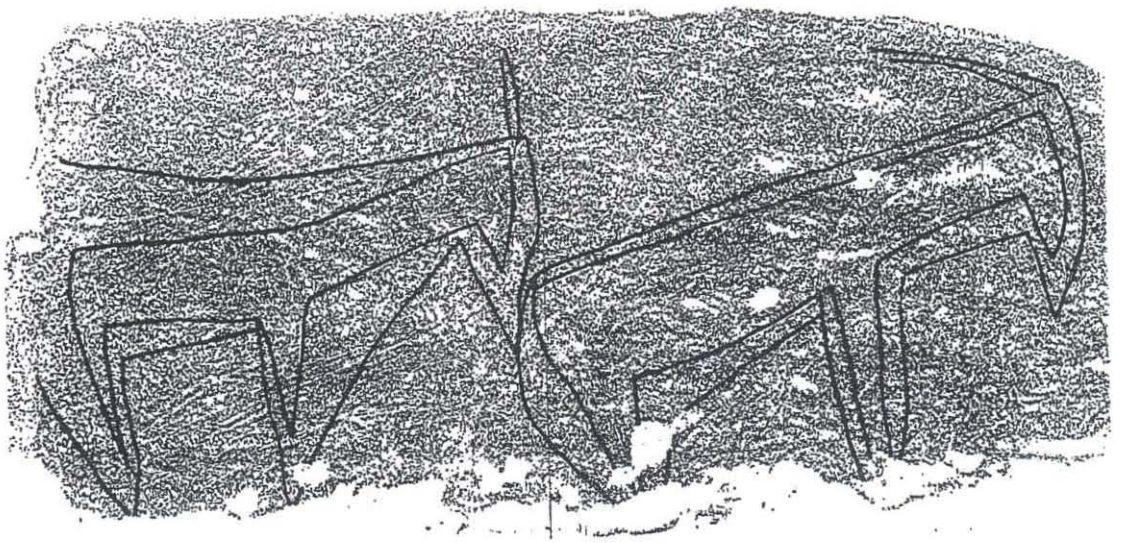
(Figure H10 defined: Three Zebra)



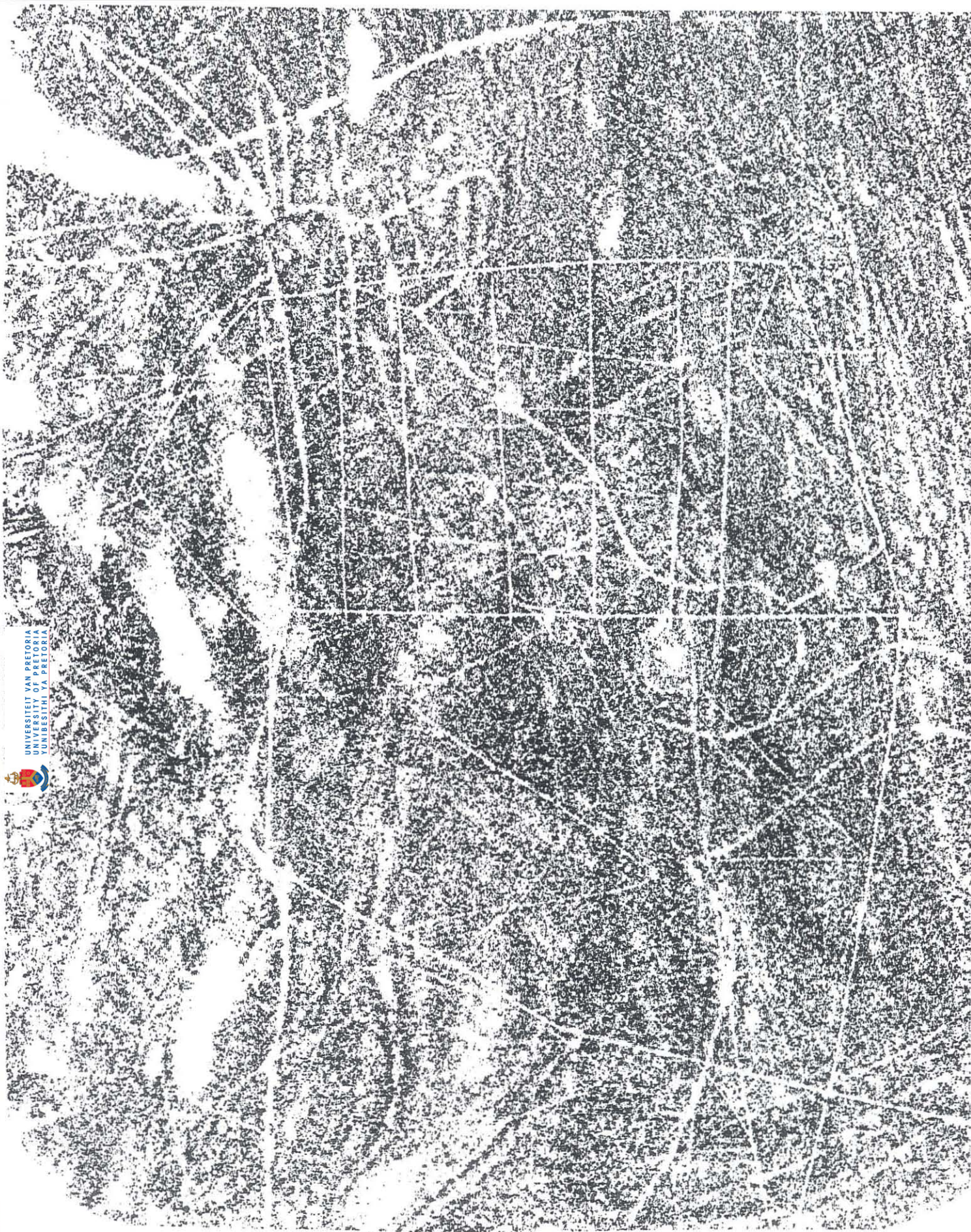
(Figure H11: The Eland) Scale 1:2

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(Figure H11 defined: The Eland)



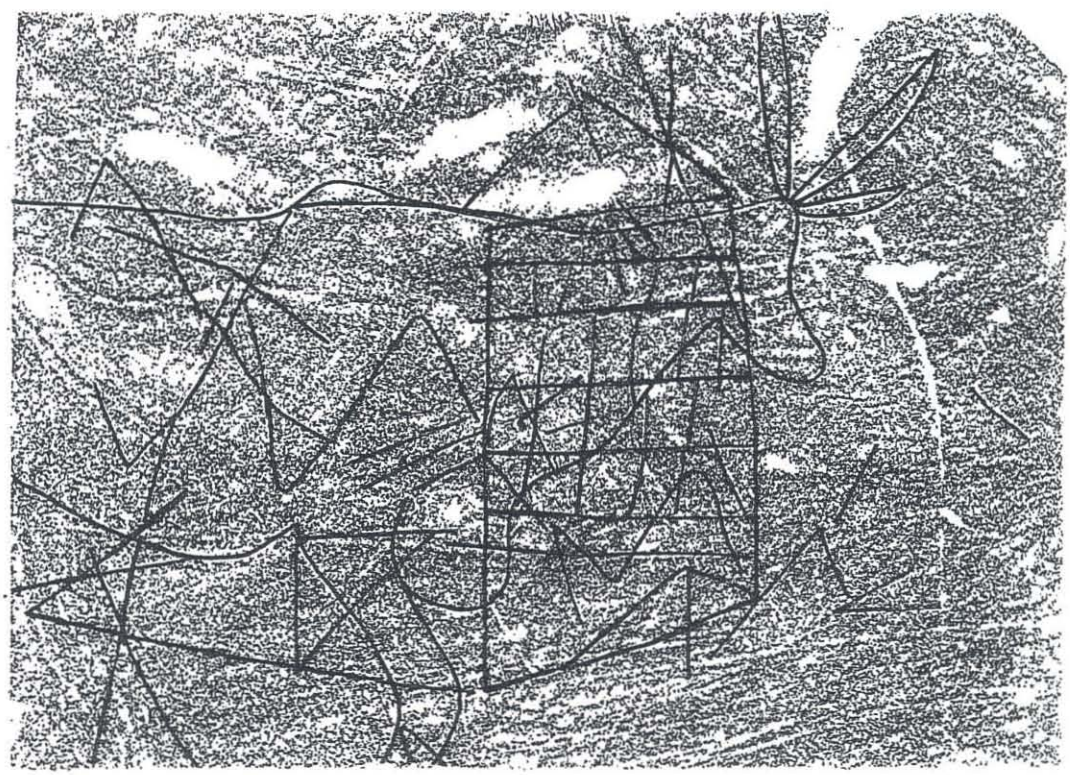
(Figure H12: The Eland) Scale 1:1

Figure H12 - **The Eland** *(Tragelaphus oryx)* - Latitude 27° 29' 47,9" E
Longitude 25° 54' 05,8" S

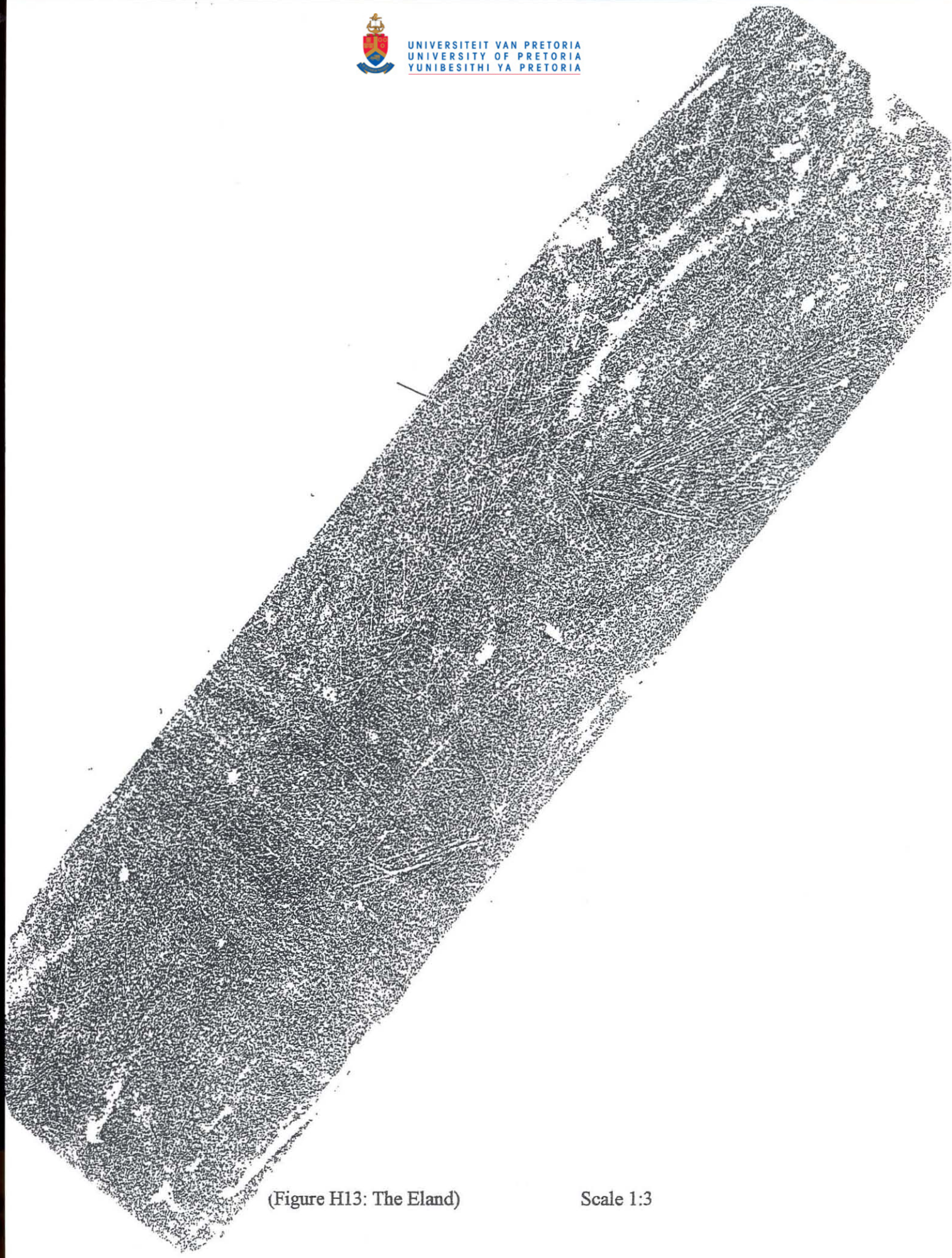
Actual Size Length: 22cm Breadth: 25cm

The eland is naturalistic in style and a broad line incision technique was used (Figure H12). The antelope is not well proportioned and is clumsy in design. The prehensile nuchal hump is however visible and so is the deposit of fat in the thoracic area of the fore legs. The horns are thick and clumsy, with the face being an awkward protrusion at the end of the neck. The legs are two curved parallel lines. Some time later a house was superimposed on the eland, this to is clumsy resembling that of a grade one's attempt. A triangle was used for the roof and a rectangle for the walls, a pattern portraying bricks is found inside the walls. Also an attempt at making the building three-dimensional can be noted to the left of the construction. Earlier than the engraved house, but after the engraved eland, zigzags were engraved running horizontal with the body and legs of the eland (Figure H12 defined).

The texture of the rock surface is medium to fine grained, with extensive erosion marks, above the back and around the head of the antelope. The eland is located towards the top and right of the hill, facing south. The condition is satisfactory, but needs monitoring.



(Figure H12 defined: The Eland)



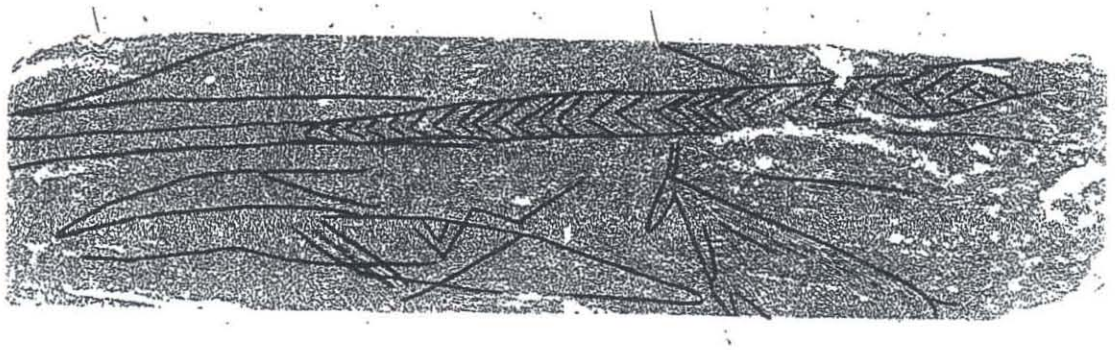
(Figure H13: The Eland) Scale 1:3

Figure H13 - **The Eland** *(Tragelaphus oryx)* - Latitude 27° 29' 51,3" E
Longitude 25° 54' 14,7" S

Actual Size Length: 21cm Breadth: 82,5cm

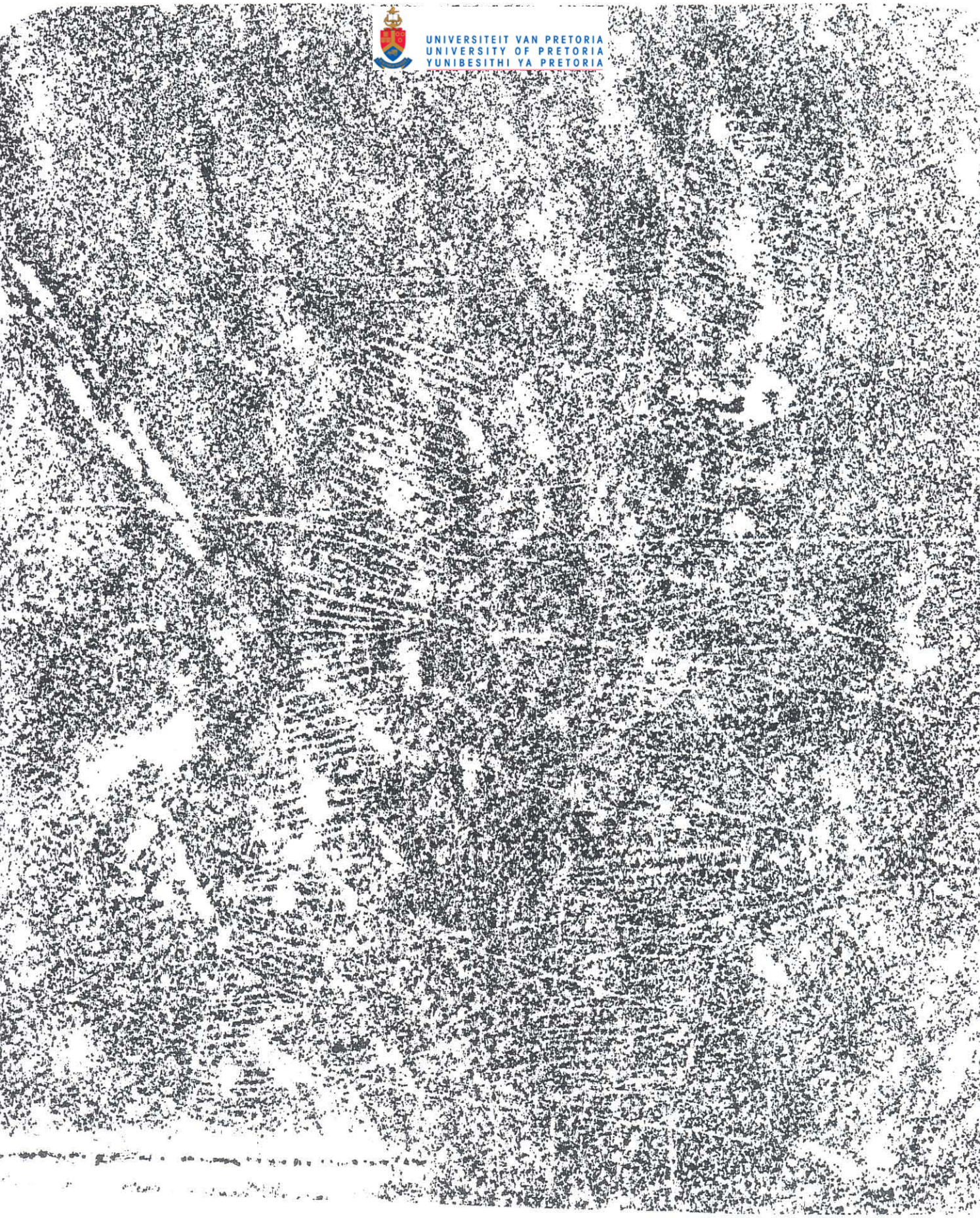
The eland is of Sotho-Tswana origin, is stylised and the technique used is a fine lined incision (Figure H13). The body has multiple parallel incisions, in a triangular shape. The face and legs are "v" shaped. Above the eland there are parallel lines, with chevron shapes in the one and vertical parallel lines in the other. Other triangular shapes are found in front of the eland (Figure H13 defined).

The rock surface texture is medium grained, with extensive erosion marks above the eland. The engraving is located in the middle and on the left side of the hill, facing southeast. The condition is satisfactory, with its only threat being further weathering. It needs to be monitored.



(Figure H13 defined: The Eland)

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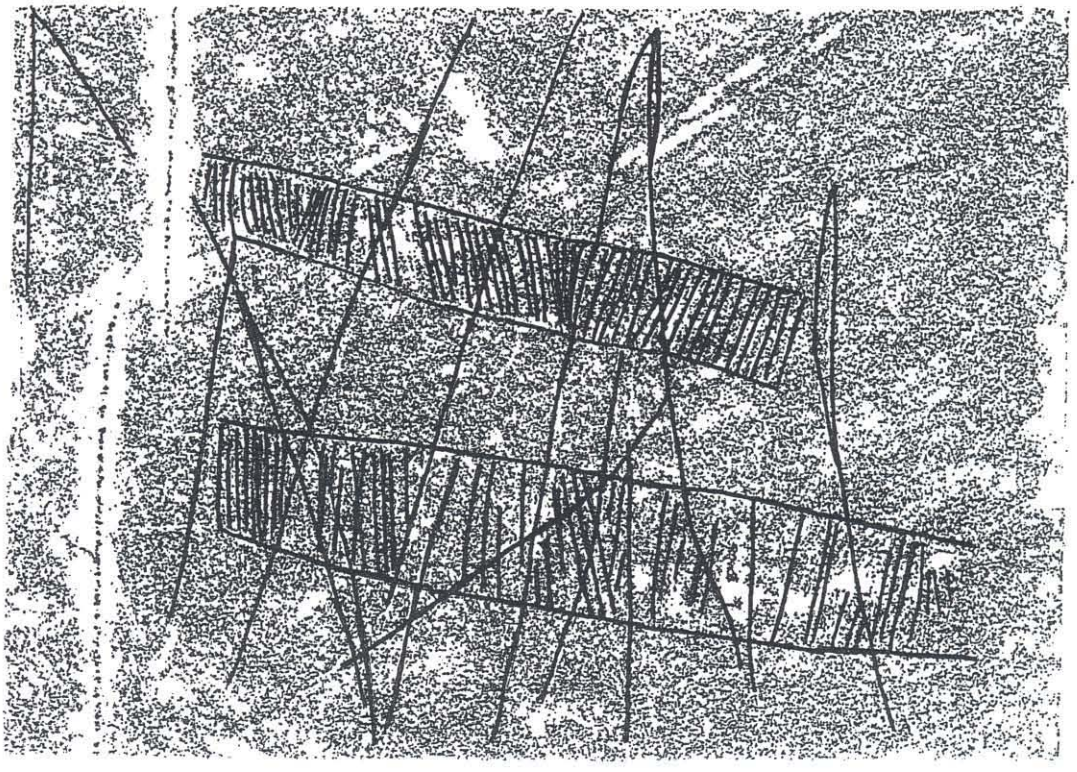
(Figure H14: Linear work) Scale 1:1

Figure H14 - **Linear Work** - Latitude 27° 29' 47,4" E
Longitude 25° 54' 16,0" S

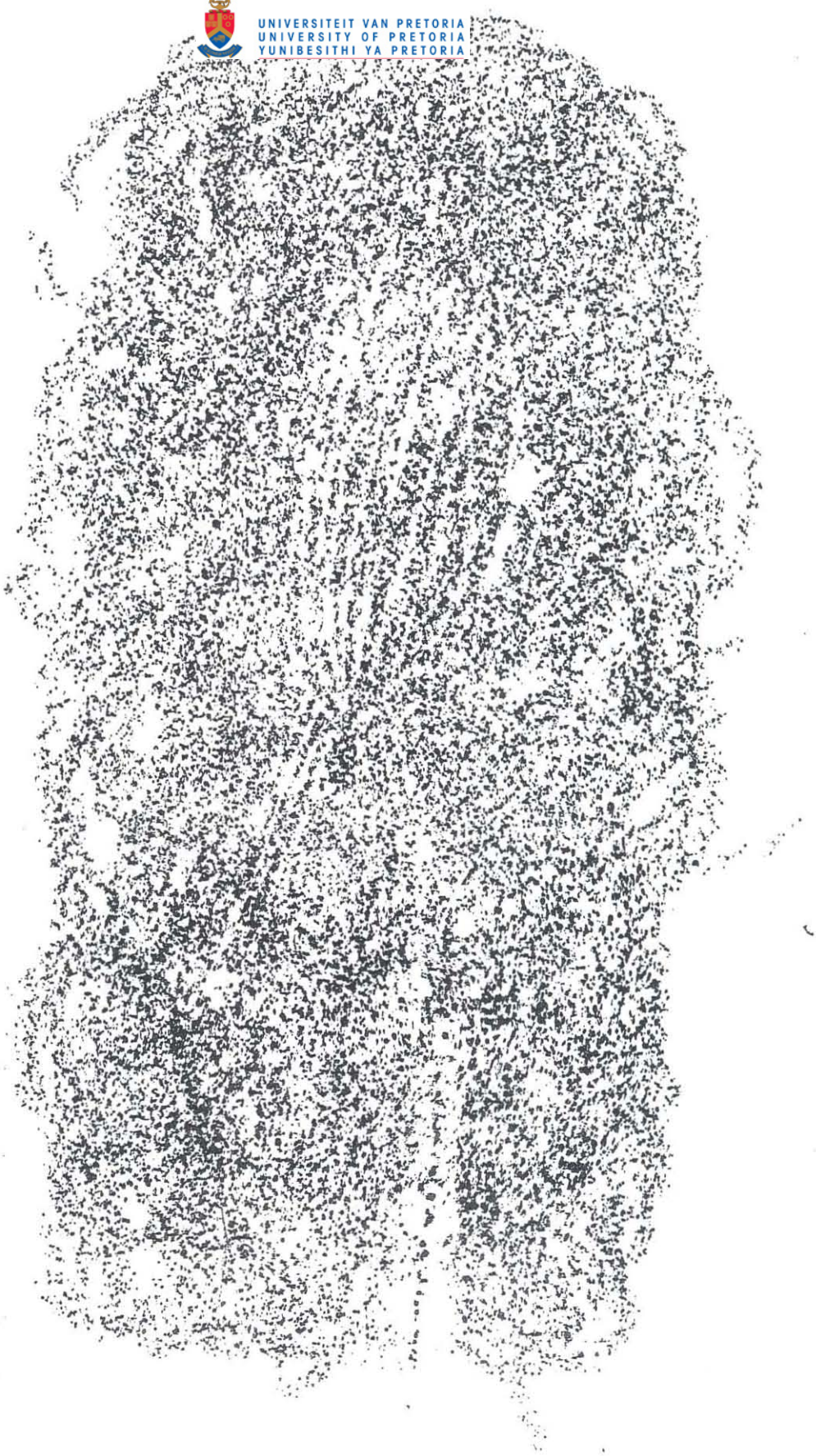
Actual Size Length: 14cm Breadth: 23,5cm

The linear work is isolated and the technique used is fine lined (Figure H14). The work appears to be of Sotho-Tswana origin, as it consists of zigzag lines running along the entire surface of the engraving and cross each other. These lines were superimposed on previous linear work resembling worm-like ladders, said to be characteristic of entoptic phenomenon. There are two of these worm ladders, running horizontally along the surface of the engraving (Figure H14 defined).

The texture of the rock surface is medium grained, with extensive erosion marks and elevated marks, over the surface. Also towards the top of the rock cattle marks can be noted. The condition of the engraving despite all of the erosion marks, is satisfactory, but needs to be monitored.



(Figure H14 defined: Linear Work)



(Figure H15: Human Figure) Scale 1:1

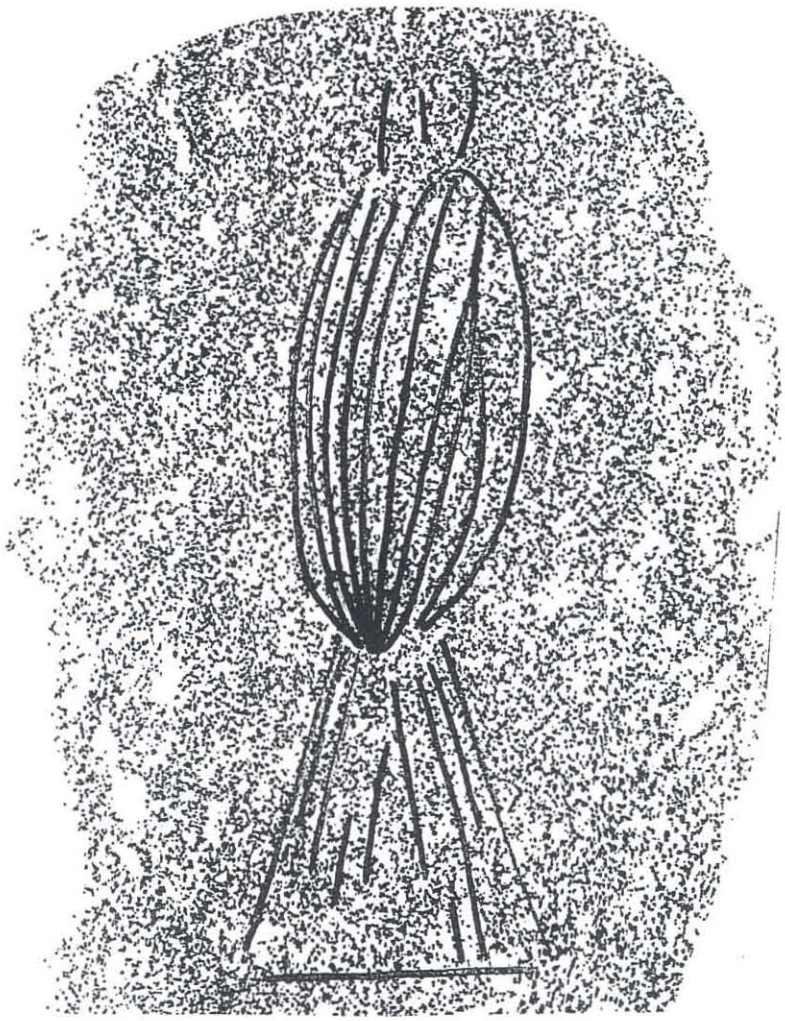
Figure H15 - **Human Figure** *(Homo sapien sapiens)*

- Latitude 27° 29' 50,9" E
Longitude 25° 54' 15,0" S

Actual Size Length: 18cm Breadth: 8cm

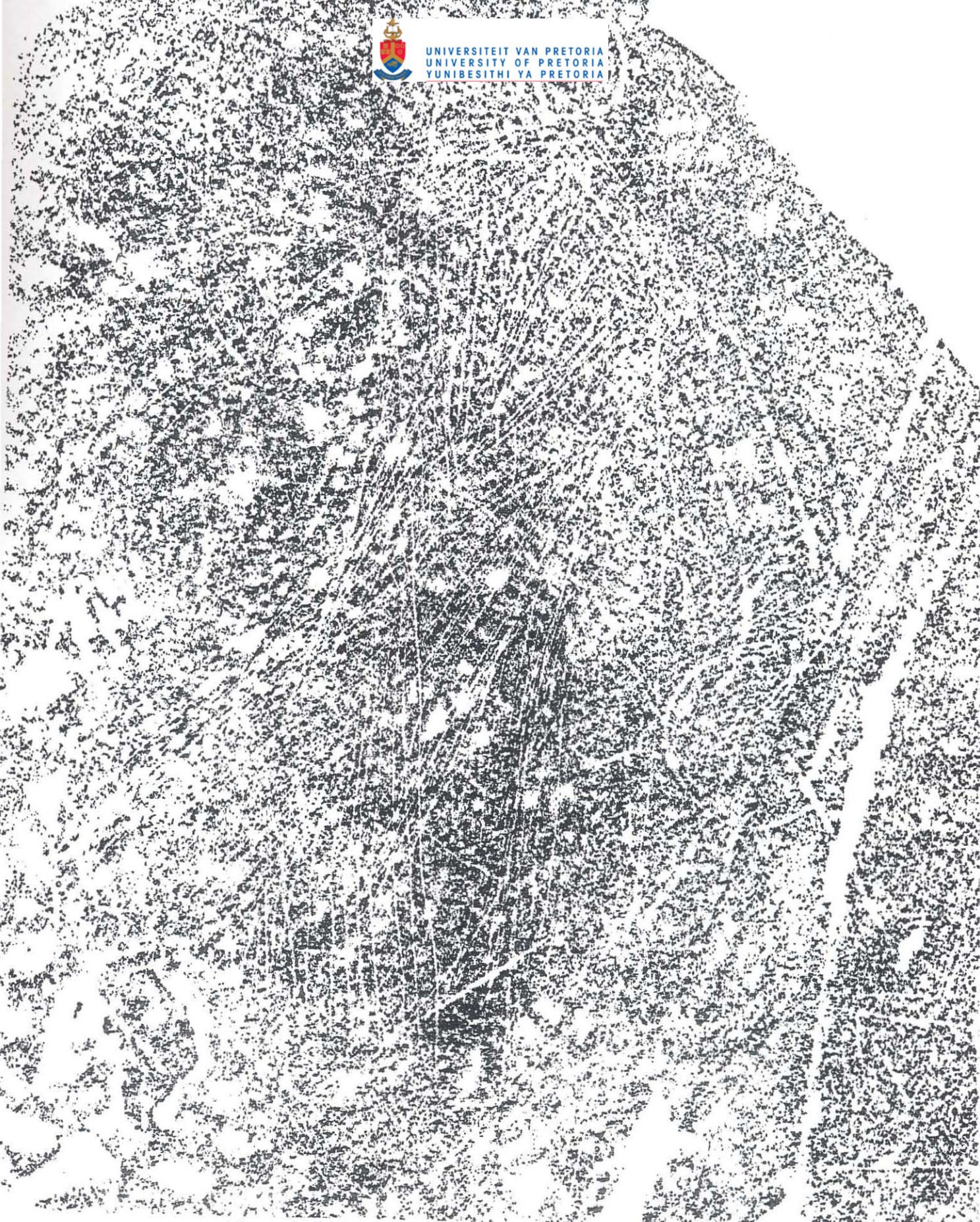
The human figure is stylised, similar to the drawing of a grade two, the technique utilised is fine line incision (Figure H15). The arms legs and head are not clearly visible, this is due to the rough texture of the rock, making the visibility of lines difficult. The head is triangular in shape and the arms and legs are simple straight lines. The figure is female this can be deduced due to the fact the figure is portrayed as wearing a dress. The waistline of the dress is low and the dress is comprised of multiple vertical lines (Figure H15 defined).

The texture of the rock surface is rough, with few erosion marks. There is one raised rock mark found at the base of the engraving. The condition of the engraving is good, although visibility is bad due to the rough texture of the surface. The engraving is located towards the top left-hand side of the hill and faces south.



(Figure H15 defined: Human Figure)

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(Figure H16: Human and Antelope) Scale 1:1

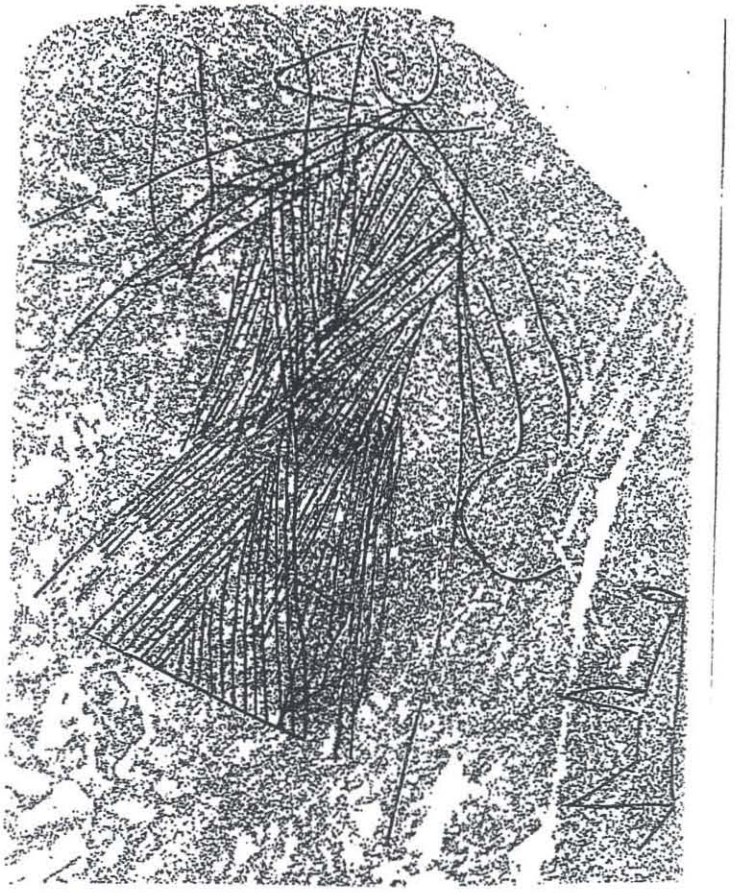
Figure H16- **Human and Antelope** *(Homo sapien sapiens)*

- Latitude 27° 29' 50,5" E
Longitude 25° 54' 15,6" S

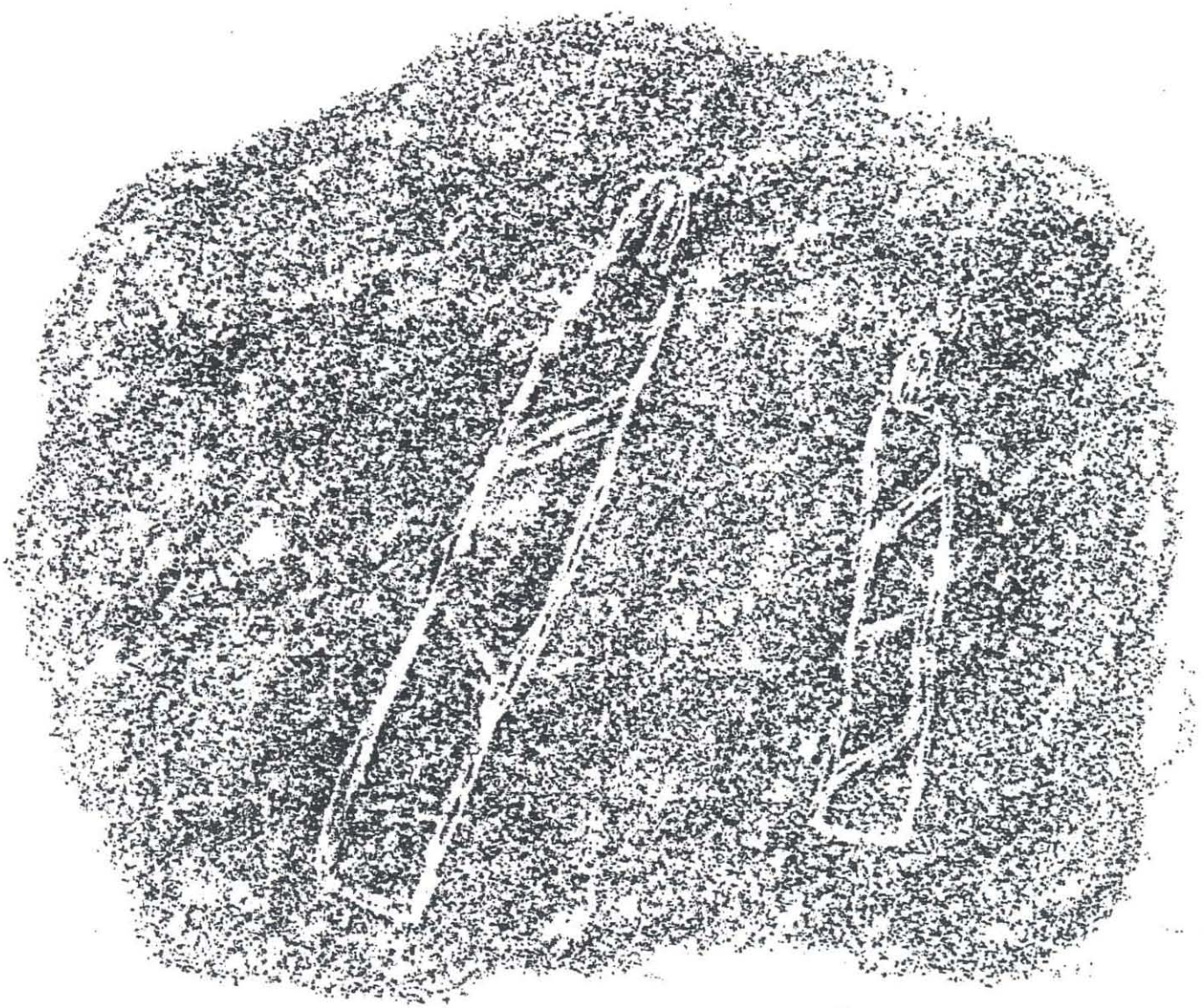
Actual Size Length: 24cm Breadth: 20cm

The engraving consists of a human figure, which is stylised, making use of a very fine lined technique (Figure H16). The figure in this case does not resemble that of a young child's artwork , it is far more free style. Viewed with the naked eye on the rock surface the subject appears to be male and wearing pants, but in viewing the rubbing it is clearly visible that the figure is in fact female and that the artist has attempted to portray the complexity of the garment she is wearing. The head is triangular in shape, while the arms are clumsy and out of proportion, there are no legs present. Below the figure and on its right a small stick-like interpretation of a buck is found, it is 9cm in breadth with a length of 5,5cm. The head, neck, body and legs are triangular in shape. There are horns and a caudal appendage present (Figure H16 defined).

The surface of the rock is medium to rough in texture, with extensive erosion marks present especially on the bottom left hand side of the engraved surface. the condition of he engraving is poor and needs to be monitored. The engraving is located towards the base of the hill and on the left side, facing southeast.



(Figure H16 defined: Human and Antelope)



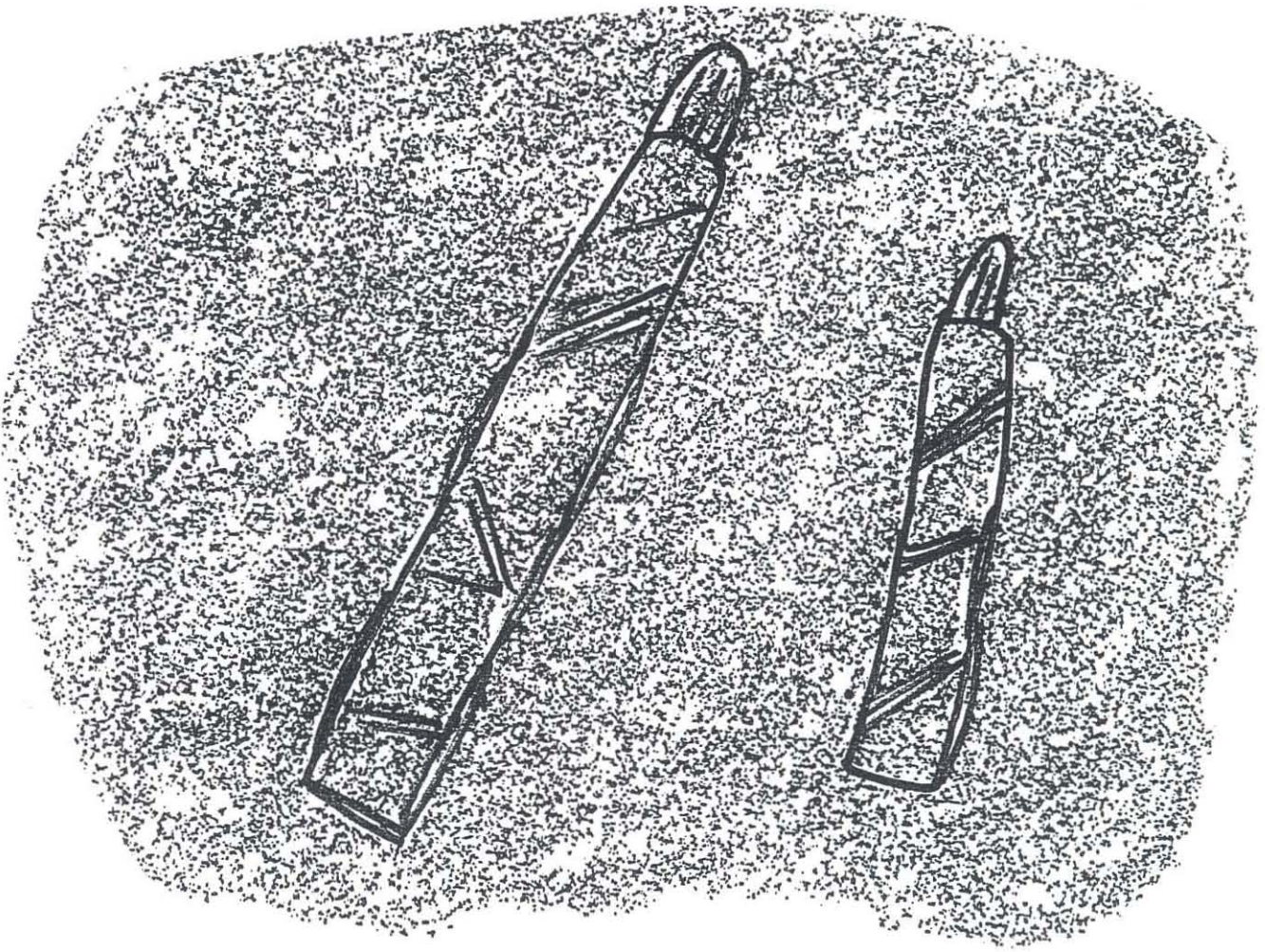
(Figure H17: Bullets) Scale 1:1

Figure H17 - **Bullets** - Latitude 27° 29' 51,7" E
Longitude 25° 54' 15,1" S

Actual Size Length: 10cm Breadth: 12,5cm

The engraving consists of two bullets from a "haelgeweer" (shotgun), which were incised making use of a multiple fine line incision technique (Figure H17). The style used is very realistic with detail given to markings on the bullets. The bullet found on the right is smaller in size than that on the left (Figure H17 defined). No other engraving work is found on the rock surface.

The surface of the rock is medium in texture, with very few erosion marks found on the surface. The condition of the engraving is good. The engraving is located towards the base and on the far left-hand side of the hill. It faces southwest, towards the closest water source.



(Figure H17 defined: Bullets)

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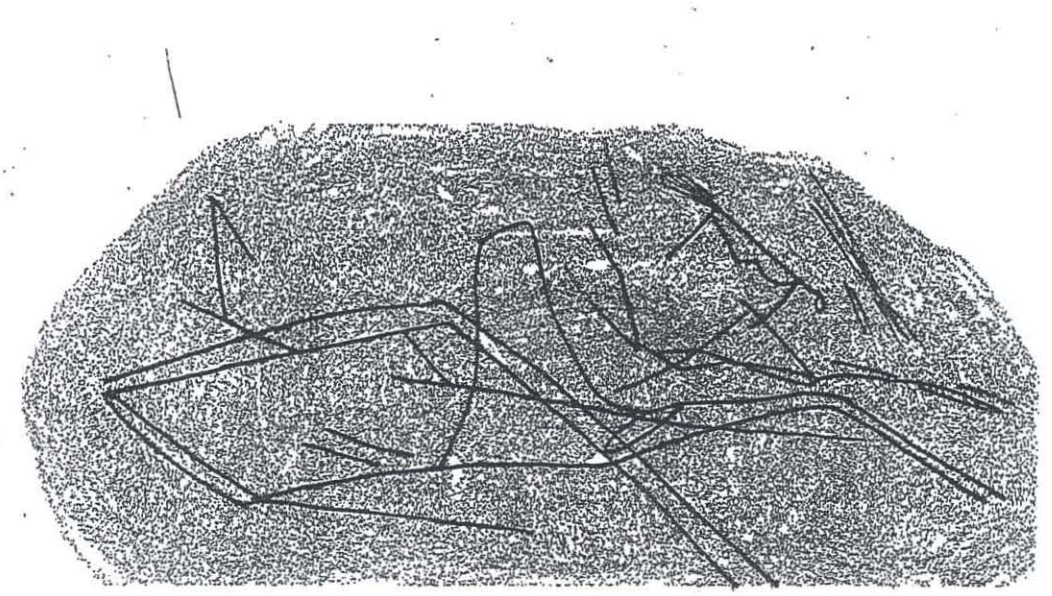
(Figure H18: Antelope and Linear work) Scale 1:2

Figure H18 - **Antelope and Linear work** - Latitude 27° 29' 50,8" E
Longitude 25° 54' 11,9" S

Actual Size Length: 19,5cm Breadth: 44cm

The majority of the engraved surface is comprised of linear work (Figure H18). The technique utilised is a fine lined incision and stylised. The major linear work is a parallel lined, rigid figure eight. The figure eight is superimposed on older engraved lines that don't appear to depict anything. On the top right hand corner of the engraved surface, there is a stylised engraving of an antelope. Once again the body is comprised of a triangle, the legs and head consist of multiple straight lines and there is a bushy caudal appendage (Figure H18 defined). The buck is unidentifiable.

The surface of the rock is medium in texture, with very few erosion marks. The condition of the engraving is good. The engraving is located towards the very top of the hill, and faces southwest.



(Figure H18 defined: Antelope and Linear work)



(Figure H19: The Eland) Scale 1:2

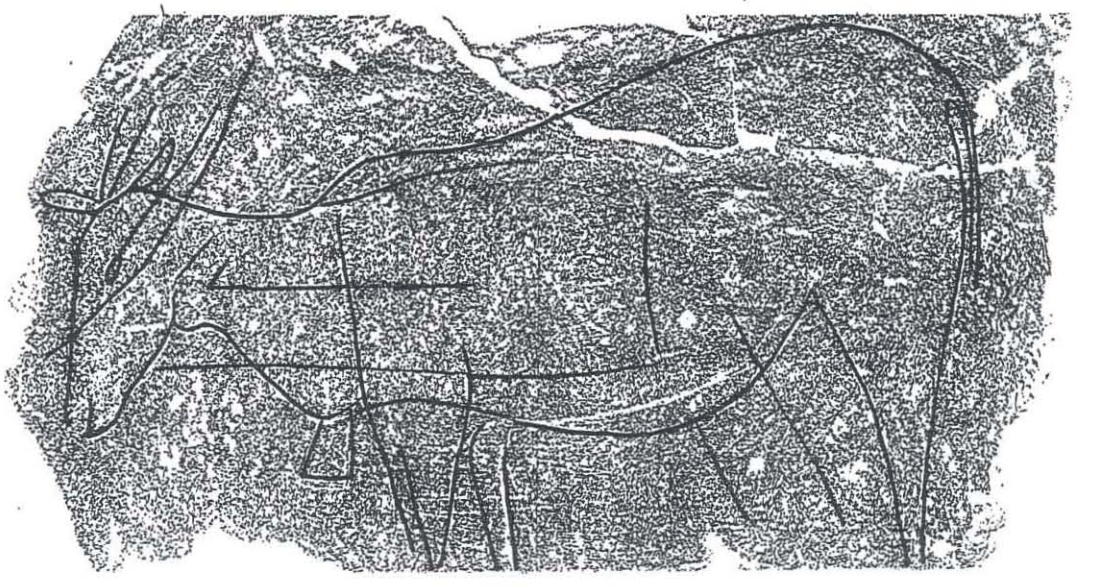
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Figure H19 - **The Eland** *(Tragelaphus oryx)* - Latitude 27° 29' 52,9" E
Longitude 25° 54' 12,7" S

Actual Size Length: 21,5cm Breadth: 35,5cm

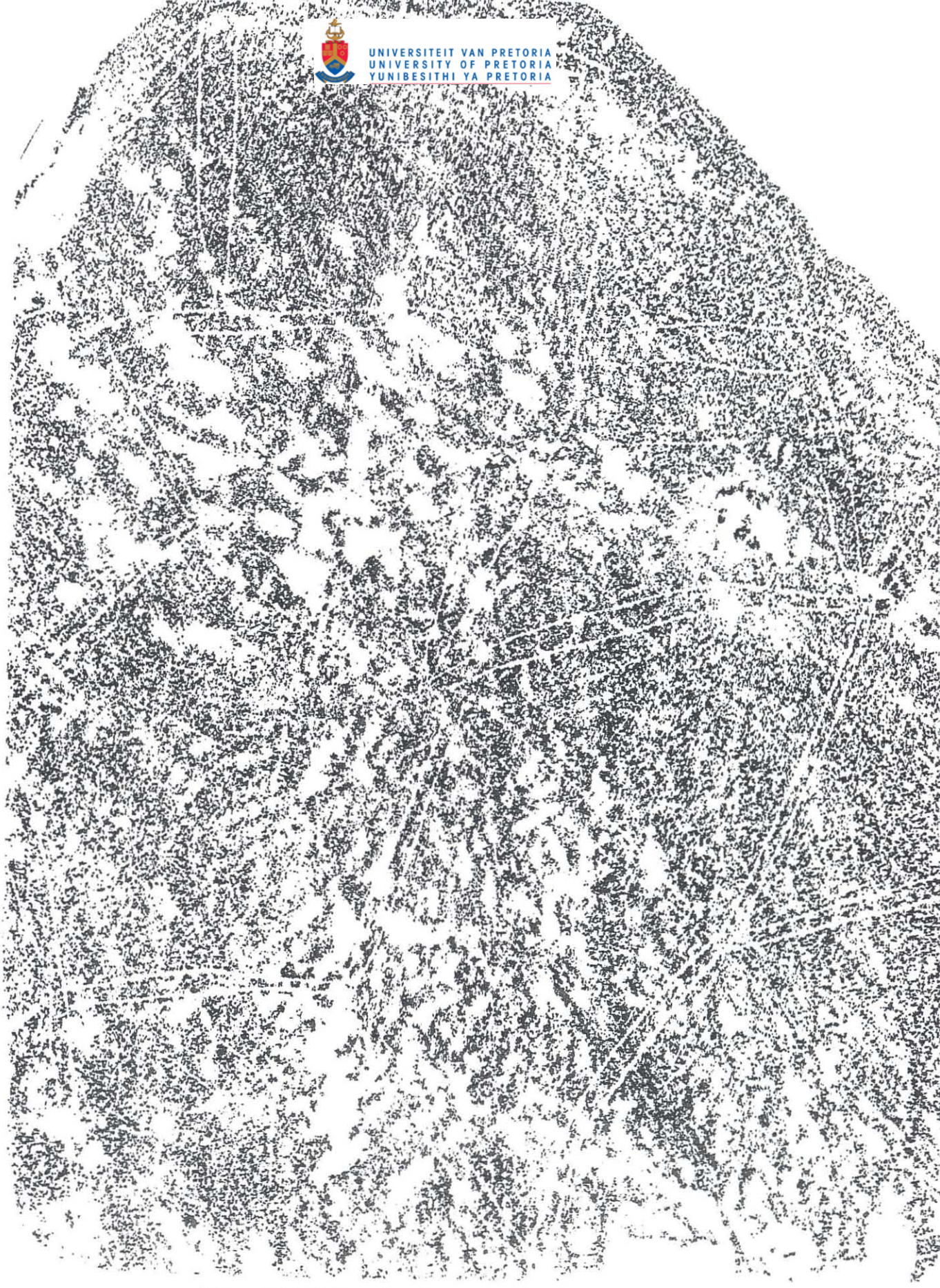
The engraving is an extremely naturalistic portrayal of an eland (Figure H19) . A broad line technique was used and the gentile nature of the antelope was captured. The head is extremely well defined and includes eyes, nostrils, pinna and horns. The horns are however not well defined. A long the neck and back the nuchal hump is present also the fat deposit found under the neck was added afterwards. The characteristic coloration line running from the hump to the lower limb is present. Both front legs are engraved, but are just parallel and converging lines. Only one back leg is engraved, it to is just two converging lines. A caudal appendage is also present. The eland is depicted walking (Figure H19 defined).

The texture of the rock surface is medium grained, with a number of small erosion marks, found all over the engraved surface. Along the back of the eland, there is a major eroded crack, caused by lightning, the damage to the engraving is not to severe. The condition of the engraving is good despite the erosion damage and its only threat is the elements. The eland is located towards the top of the hill and faces south.



(Figure H19 defined: The Eland)

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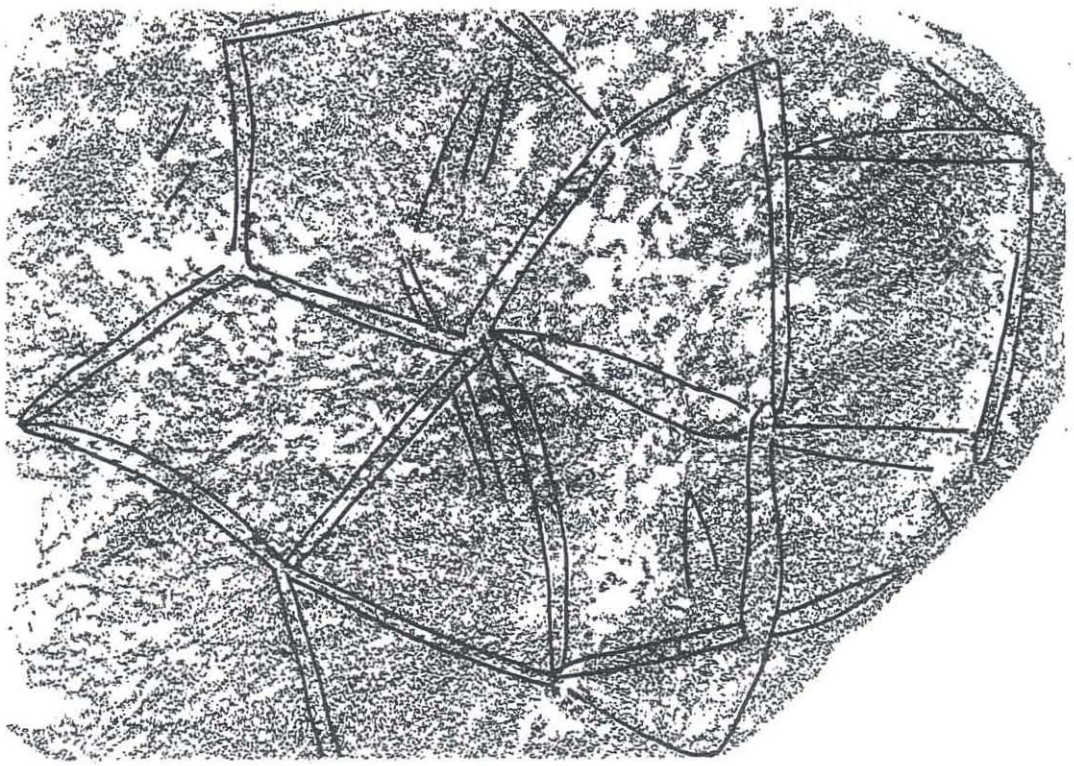
(Figure H20: Pattern Work) Scale 1:1

Figure H20 - **Pattern work** - Latitude 27° 29' 53,7" E
Longitude 25° 54' 13,0" S

Actual Size Length: 22cm Breadth: 28cm

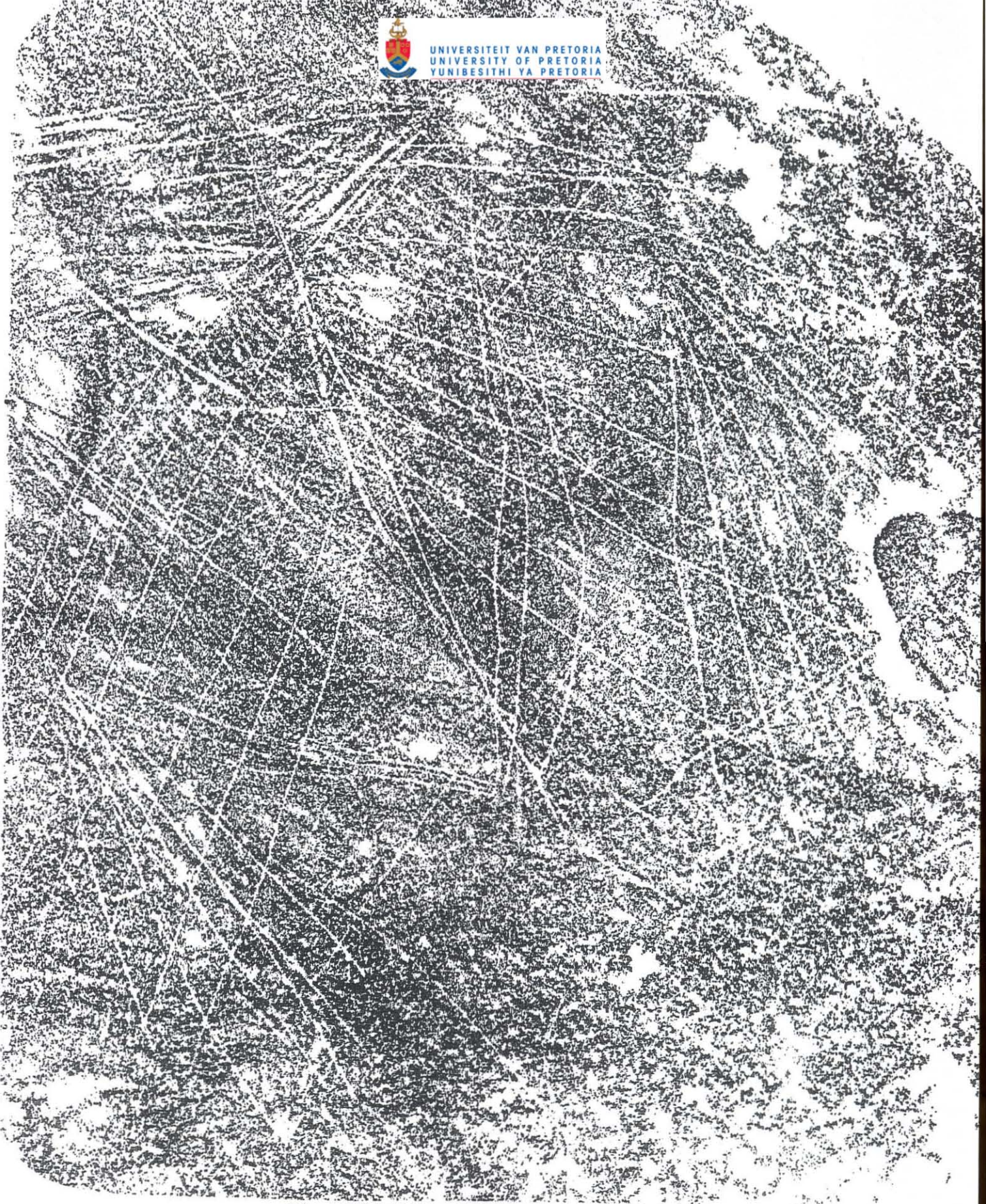
The pattern work is stylised and a fine line technique was utilised (Figure H20). All the lines are double and parallel and together resemble honeycomb. Some of the "comb" units are rectangular, while others are triangular and still others are pentagonal and quadrangular. The outer "walls" of the comb pattern work is oblong in shape (Figure H20 defined). There is no other pattern work present.

The texture of the rock surface is medium grained, with extensive erosion marks covering the entire rock surface. These erosion marks have not however impacted on the engraved work which appears for the most part to have been done after the erosion took place, monitoring will however have to take place. The condition of the engraving is satisfactory. It is located on the top of the hill towards the left and faces north.



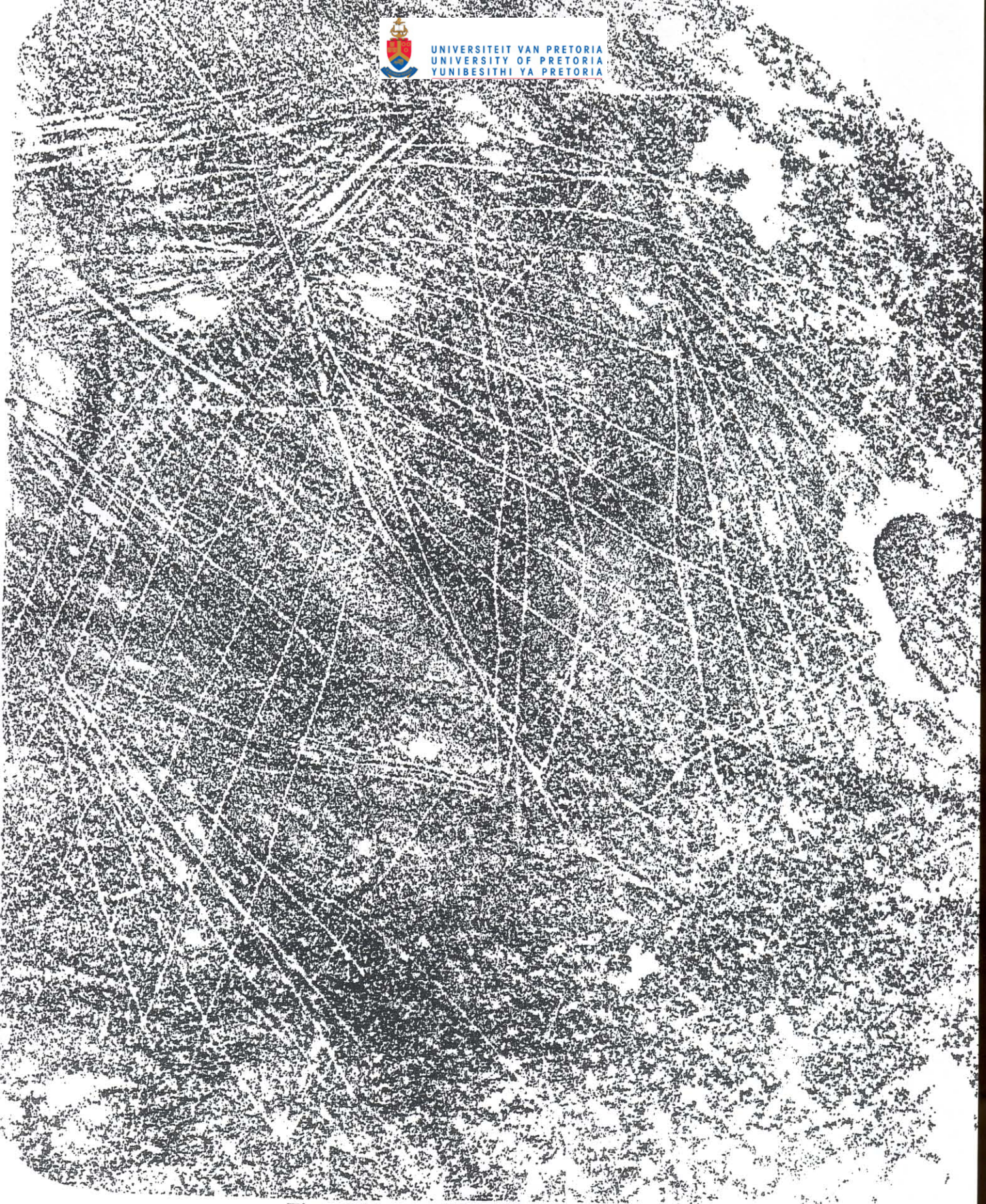
(Figure H20 defined: Pattern work)

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(Figure H21: Pattern work) Scale 1:1

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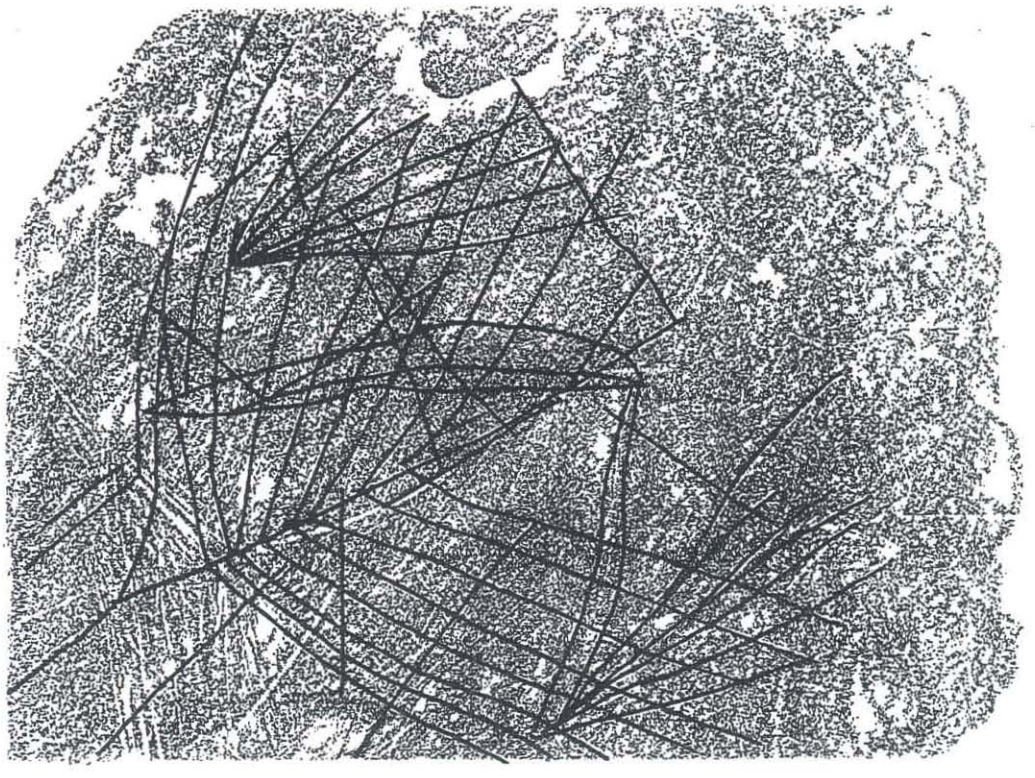
(Figure H21: Pattern work) Scale 1:1

Figure H21 - **Pattern work** - Latitude 27° 29' 55,1" E
Longitude 25° 54' 16,4" S

Actual Size Length: 21cm Breadth: 25cm

The technique used to engrave the pattern work was fine lined (Figure H21). The first pattern work engraved are multiple converging lines. Three converge in a westerly direction and one in a southern direction, in total there are four. Superimposed on the converging lines, there is the start of a feather like structure, of which only the outer lines were engraved, this structure is 14,5cm in length. In the top right hand corner of the engraved surface, there is multiple scratching, from sharpening, tools. Superimposed on all of this is a chevron like pattern, which covers most of the other engraved work and also points west. There is one central line to which the "chevron" lines converge. The chevron is comprised of eight lines (Figure H21 defined).

The texture of the rock is medium to fine grained, with extensive erosion marks found around the periphery of the engraved surface, with only small erosion marks found on the engraved surface. The condition of the engraving is good, with its only threat being the elements. The engraving faces west.



(Figure H21 defined: Pattern work)

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(Figure H22: Antelope) Scale 1:2

Figure H22 - **Antelope** *(Unidentifiable)* - Latitude 27° 29' 50,5" E
Longitude 25° 54' 14,6" S

Actual Size Length: 32cm Breadth: 21,5cm

The style used is naturalistic and a broadline incision technique was used (Figure H22). Only the back end of the buck is still visible, the entire front end is in splinters, due to a lightning strike and is irreparable. For the a fore mentioned reason the antelope can not accurately be identified. All four legs of the antelope were engraved, which is a rarity, the legs converge towards the bottom. The caudal appendage is engraved as lying behind the visible surface. Superimposed on the antelope, close to it's tail is a feather structure, also multiple fine lines are found drawn in various directions on and below the antelope, they seem to serve no purpose (Figure H22 defined).

The surface of the rock is fine grained, with very few erosion marks. The condition of the remaining engraved antelope is very good. The engraving faces south.



(Figure H22 defined: Antelope)

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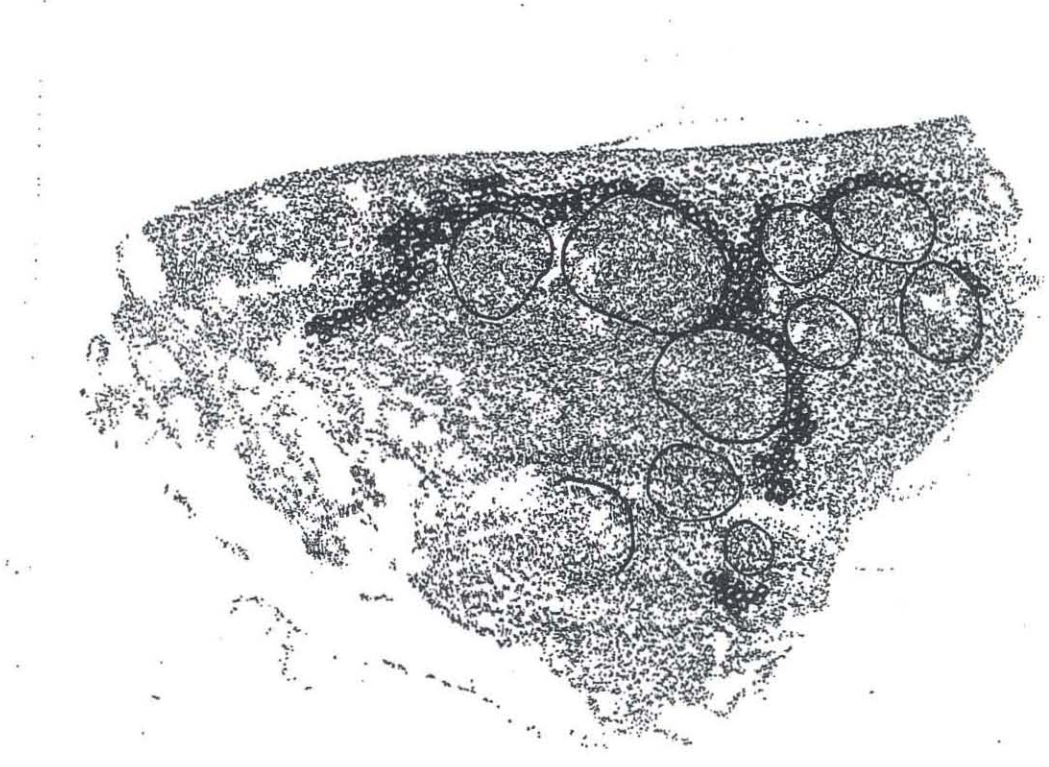
(Figure H23: Pattern work) Scale 1:1

Figure H23 - **Pattern work** *(Town planning)* - Latitude 27° 29' 52,3" E
Longitude 25° 54' 13,5" S

Actual Size Length: 14,5cm Breadth: 20cm

The technique utilised was fine lined incisions and the pattern work is structured (Figure H23). There are seven bigger circles found in the centre of the engraved surface, that touches each other's circumferences to form a big enclosure. Around the outside of these circles there are multiple very small circles, sometimes forming single lines and at other times forming multiple lines. To the left of this structure there is a similar structure but smaller. The main circles of this enclosure only consist of five circles. Once again there are numerous small circles surrounding the enclosure. This could be the first rudimentary town planning, plans (Figure H23 defined).

The texture of the rock surface is fine grained, with extensive erosion marks, especially on the top left-hand side of the engraved surface. The condition of the engraving is poor due to the erosion and the fine texture of the rock surface. The engraving needs to be monitored. The pattern work is located towards the top of the hill and faces northwest.



(Figure H23 defined: Pattern work)

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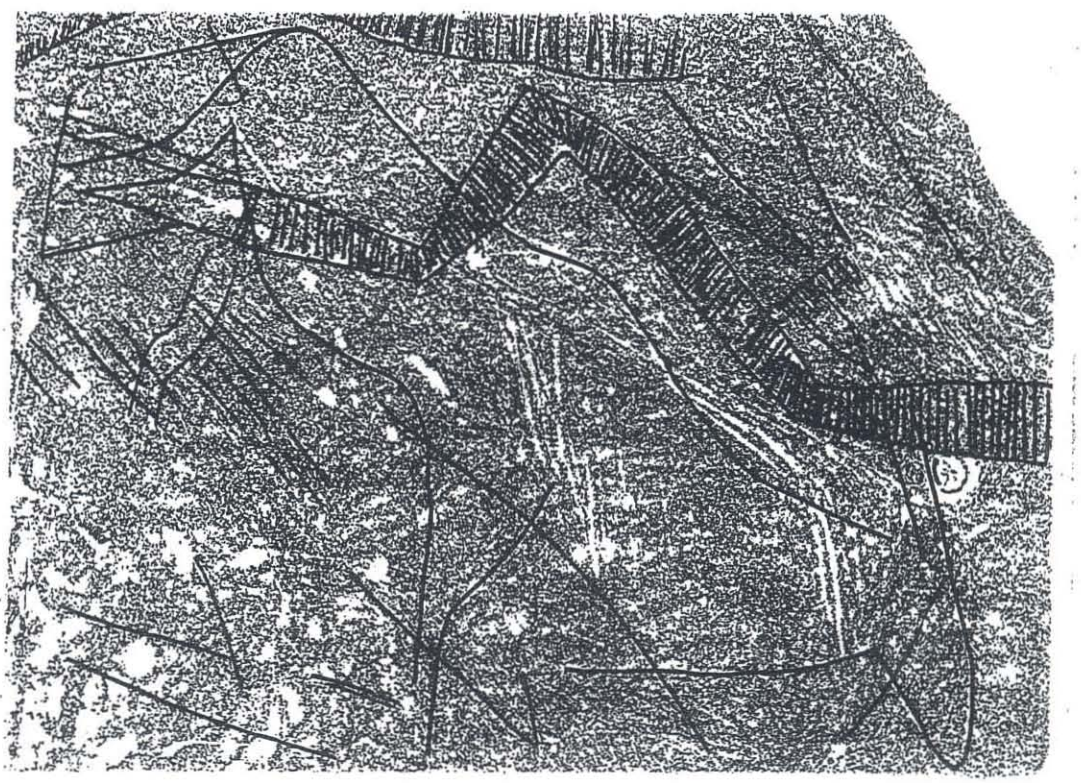
(Figure H24: The Eland) Scale 1:1

Figure H24 - **The Eland** *(Tragelaphus oryx)* - Latitude 27° 29' 50,8" E
Longitude 25° 54' 13,7" S

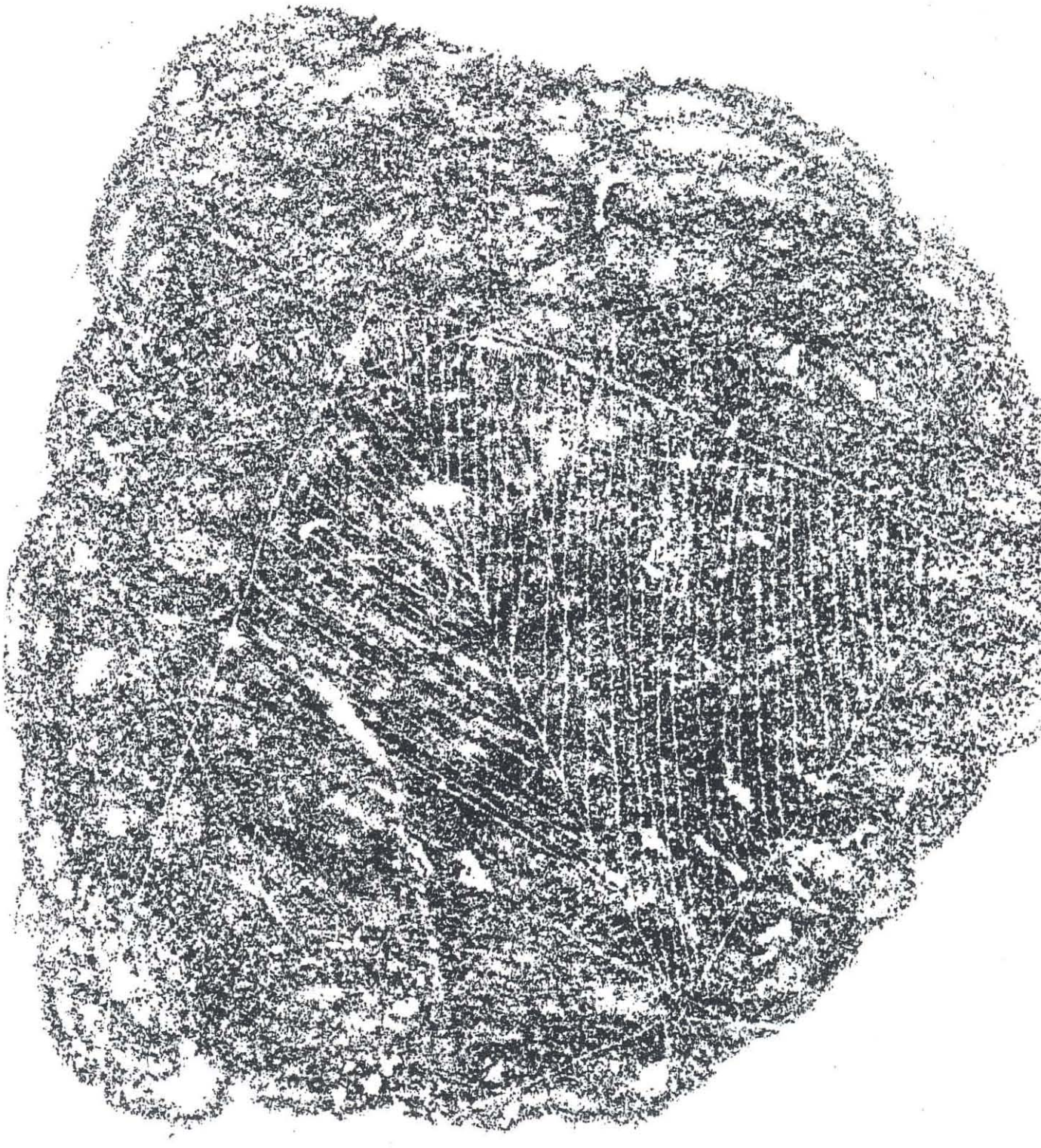
Actual Size Length: 21cm Breadth: 28cm

The eland engraved is naturalistic in style and incised utilising a broad line technique (Figure H24). The eland is portrayed running. The head has no detail , but is well proportioned. The neck is very thick and out of proportion with the body, this could be due to the fact that the eland is running. Only one front leg is present, but both back legs were engraved, all the legs converge towards the end. The caudal appendage is very long. The characteristic coloration line from the nuchal hump to the lower limb is present. Superimposed on the eland there is zigzag worm like ladders that were incised using a fine line technique. These patterns run above the eland and through the back of the eland. There are a number of other stray lines that seem to serve no purpose (Figure H24 defined).

The texture of the rock surface is fine grained, with extensive erosion marks below the eland and fewer, smaller marks on the engraved surface. The condition of the engraving is satisfactory, but needs to be monitored. Its only threat is the elements. The engraving faces south and is located towards the top of the hill.



(Figure H24 defined: The Eland)



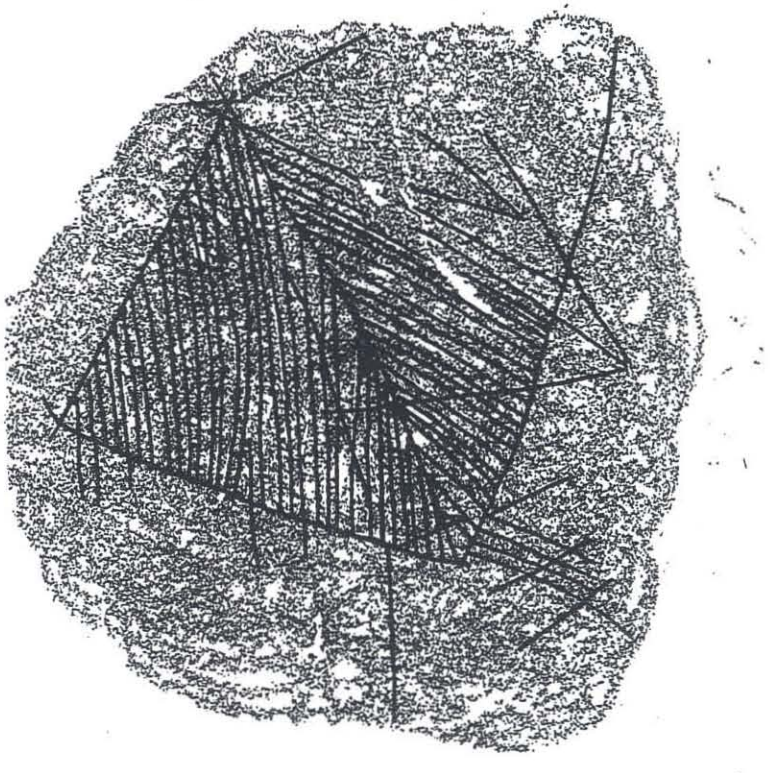
(Figure H25: Pattern work) Scale 1:1

Figure H25 - **Pattern work** - Latitude 27° 29' 51,3" E
Longitude 25° 54' 15,0" S

Actual Size Length: 14,5cm Breadth: 14,5cm

The pattern work is structured and a fine line incision technique was used (Figure H25). The pattern work consists of a square, divided in two, to form two triangles. Each triangle has multiple parallel lines, running vertically to the base, which are the two outer walls that face southeast. Another triangle is found on the outer wall of the triangle on the right. It is attached to the outer side, not forming the base for the inner parallel lines (Figure H25 defined).

The texture of the rock engraved upon is medium grained, with numerous small erosion marks, found all over the rock surface. The condition of the engraving is satisfactory, but needs to be monitored. It's only threat at present is the elements. The engraving is located in the middle of the hill and faces northwest.



(Figure H25 defined: Pattern work)



(Figure H26: Human Figure) Scale 1:1

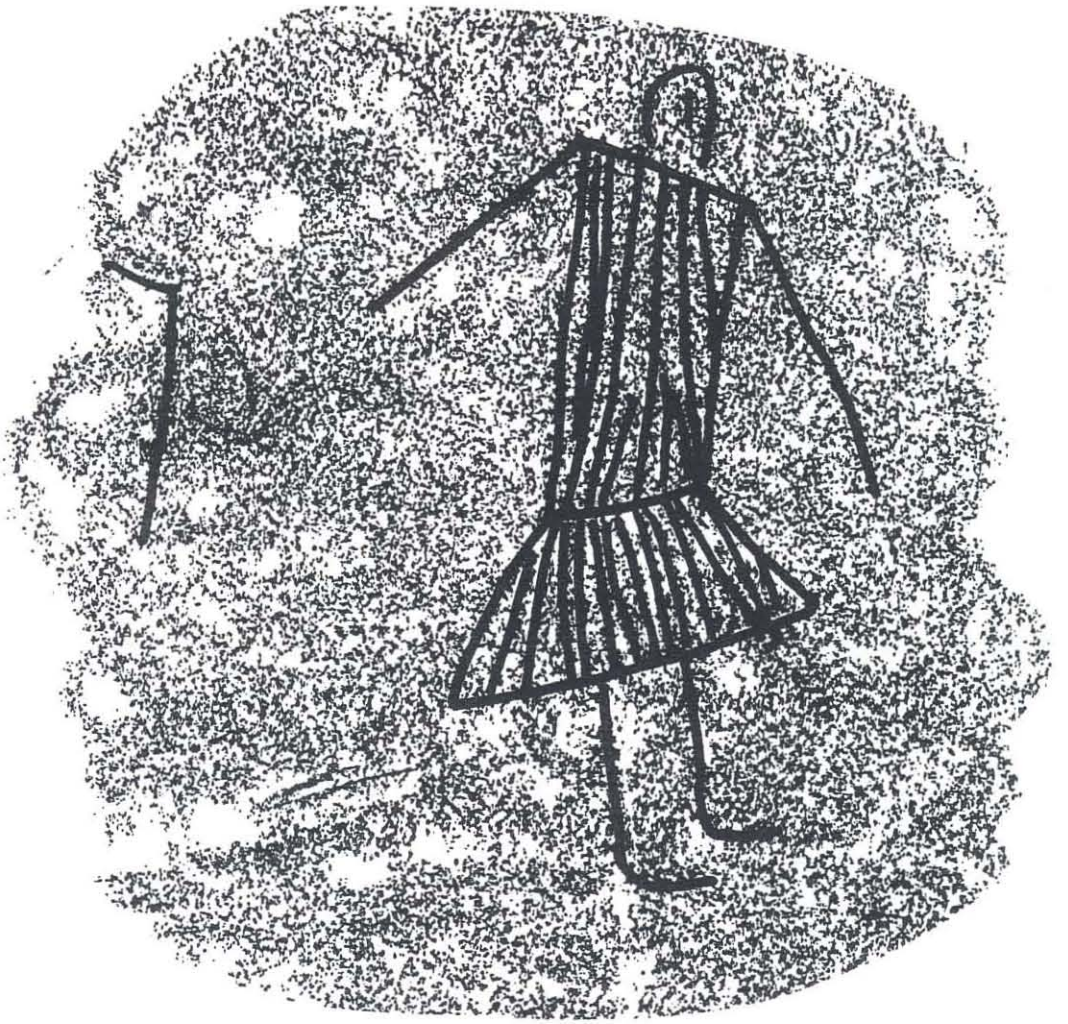
Figure H26 - **Human figure** *(Homo sapien sapiens)*

- Latitude 27° 29' 50,8" E
Longitude 25° 54' 14,2" S

Actual Size Length: 11,5cm Breadth: 7cm

The figure is a stylised female, incised making use of a fine line technique (Figure H26). The figure is isolated. She is portrayed wearing a dress, once gain as in figure H15, the garment has a low waist and has multiple stripes running down the length of the dress. The arms and legs are present and is stick like ,the legs having feet on the end, they both face right. Both the arms and the legs are out of proportion being exaggerated. The head is an upside down "u" shape with no detail and no neck (Figure H26 defined).

The surface of the rock engraved upon is rough in texture, with numerous erosion marks covering the entire surface area. The condition of the engraving is satisfactory, but warrants monitoring. The engraving is located in the middle and left of the hill and faces south.



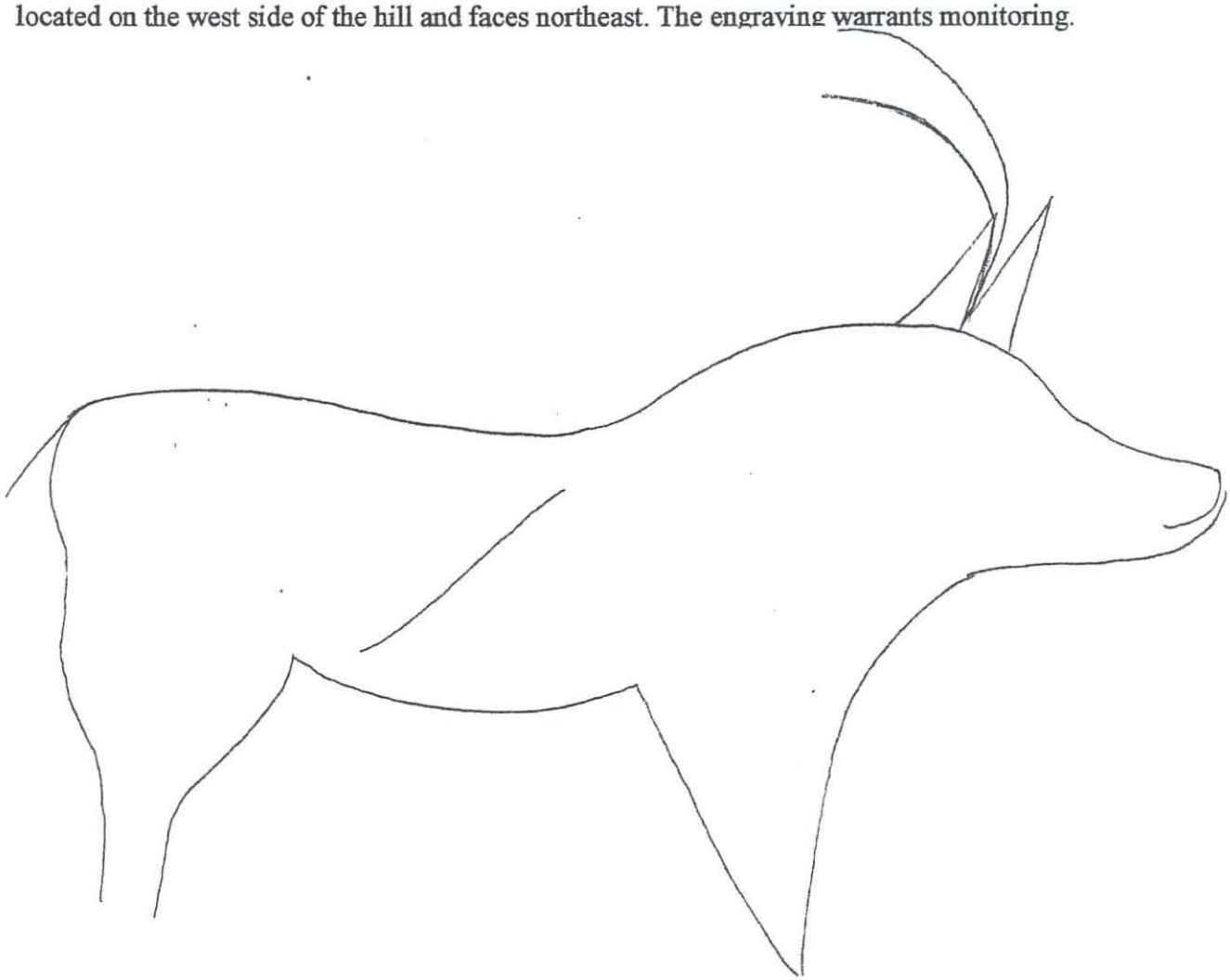
(Figure H26 defined: Human Figure)

Figure H27 - **The Sable** *(Hippotragus niger)* - Latitude 27° 29' 50,6" E
Longitude 25° 54' 13,7" S

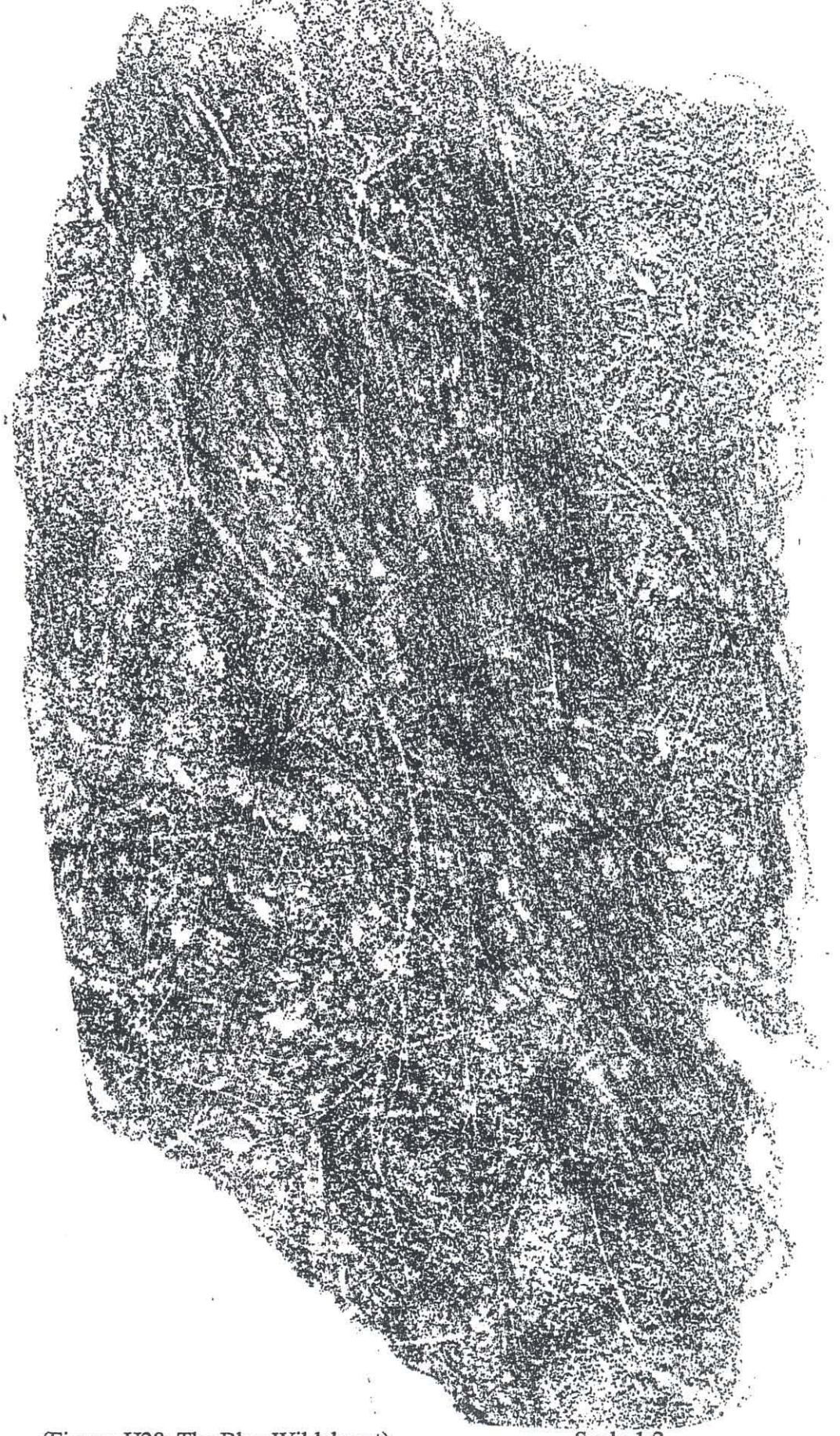
Actual Size Length: Breadth:

The sable is naturalistic in style and a fine line incision technique was used (Illustration 3). The artist captures the regal nature of the sable beautifully. The head is detailed in that the pinna ,horns, eye banks and mouth are portrayed. The regal stance of the head and the curved shape of the neck are well captured. The hindquarters and caudal appendage are present. The shank of the back leg is well defined, but fades away at the pes. The front leg is the typical "v" shape used by the Bushmen.

The texture of the rock surface engraved upon is very rough, making it impossible to make a rubbing or photograph the sable. It is only visible to the naked eye if pointed out , for this reason the engraving had to be drawn. There are a number of small erosion marks found on the engraved surface, but in general the condition of the engraving is satisfactory. The sable is located on the west side of the hill and faces northeast. The engraving warrants monitoring.



(Illustration 3: The Sable) Scale 1:1



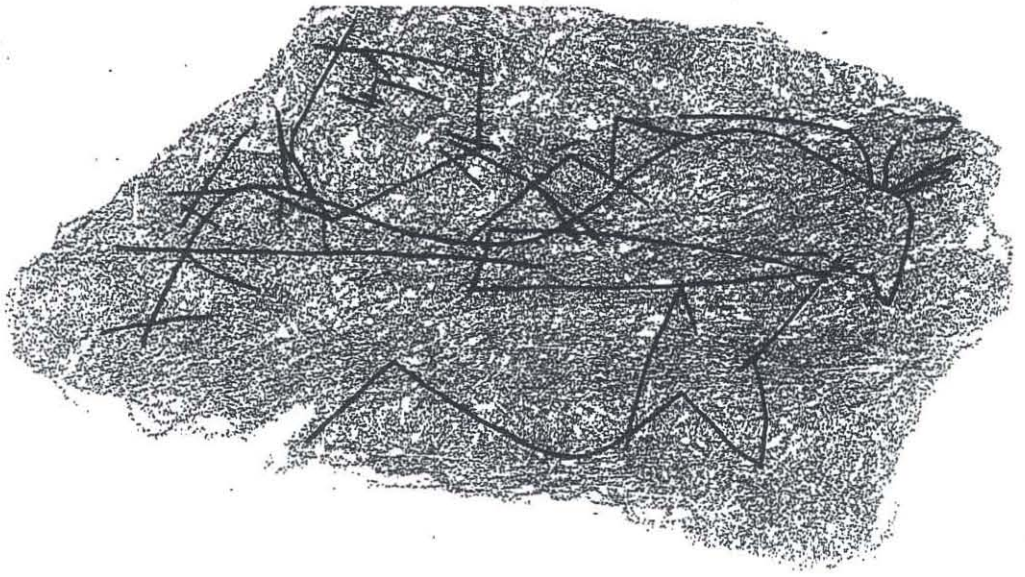
(Figure H28: The Blue Wildebeest) Scale 1:2

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Figure H28 - **The Blue wildebeest** *(Connochaetes taurinus)*
- Latitude 27° 29' 49,1" E
Longitude 25° 54' 14,8" S
Actual Size Length: 14cm Breadth: 30cm

The animal was engraved making use of a natural style and an incised fine line technique (Figure H28). The animal is portrayed running, but is not well proportioned and also is not well detailed. The only identifiable characteristics are the rounded forequarters and the curve of the one horn. The lower limb is present in the form of two short converging lines, while the shank forms more of a rectangular shape. The caudal appendage is portrayed as a short straight line. Numerous stray fine lines are found all over, but don't amount to anything. The surface area on which the wildebeest is engraved was previously rubbed smooth, remnants of this can clearly be seen (Figure H28 defined).

The texture of the rock surface is medium grained, but smooth were the surface has been rubbed. There are numerous, very small erosion marks found all over the rock surface. The condition of the engraving is satisfactory. The engraving is located in the centre of the hill and faces south.



(Figure H28 defined: The Blue Wildebeest)

Site I



(Figure II: The Eland) Scale 1:2

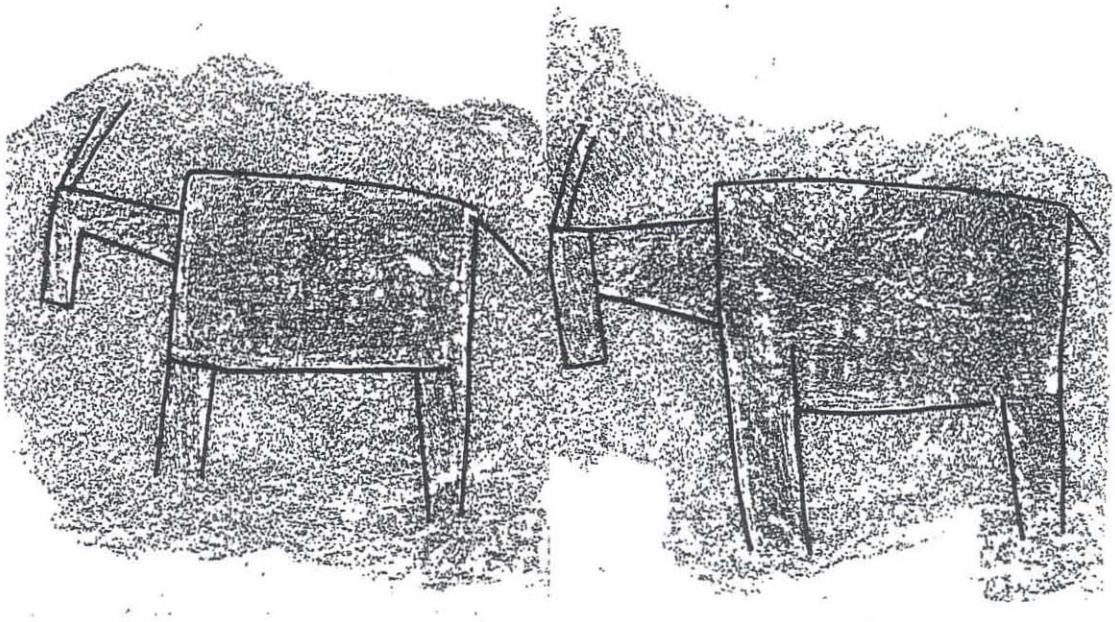
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Figure I1 - **The Eland** *(Tragelaphus oryx)* - Latitude 27° 29' 33,2" E
Longitude 25° 54' 15,1" S

Actual Size Length: 19cm Breadth: 42cm

The origin of the stylised eland is Sotho-Tswana (Figure I1). A fine line technique was utilised, with a rubbed rock surface to reveal the blue under tone of the rock. There are two incised eland , both facing west. The bodies of both are rectangular, the forequarters extending above the neck to portray the nuchul hump. The head and neck are one resembling a "L" shape, lying on its side. Both the horns and caudal appendage are simple straight lines. The legs of the eland on the left are seen as separate entities from the body and are rectangular in shape, while the legs of the other eland are part of the body, but also rectangular in shape. In the both cases the head, neck, body and legs have been rubbed, to bring out the blue under tones of the hornfel rock. The eland engraved on the left is slightly bigger than that on the right (Figure I1 defined).

The rock surface engraved upon is rough in texture, with numerous small erosion marks, that seem to be emphasised on the rubbed areas. Despite this the condition of the engraving is good, with its only threat being the elements. The engraving is located on top of the outcrop and faces south towards the water source.



(Figure I1 defined: The Eland)

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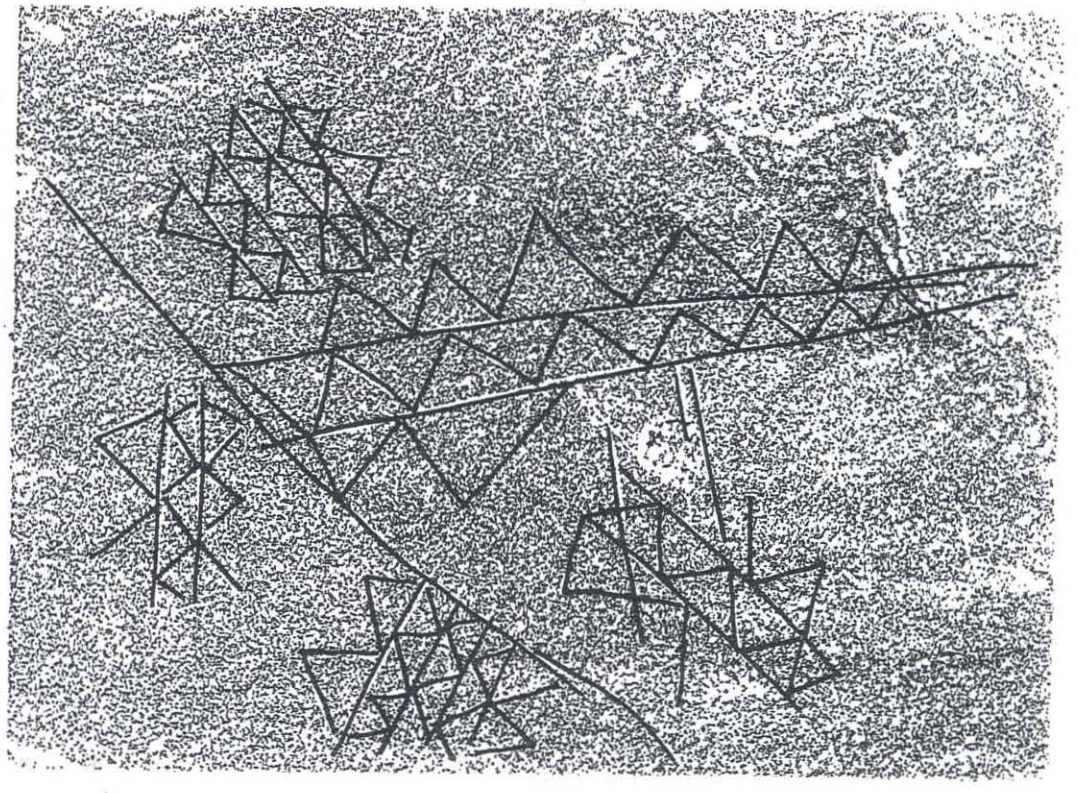
(Figure I2: Pattern work) Scale 1:1

Figure I2 - **Pattern work** - Latitude 27° 29' 30,5" E
Longitude 25° 54' 16,4" S

Actual Size Length: 21cm Breadth: 29cm

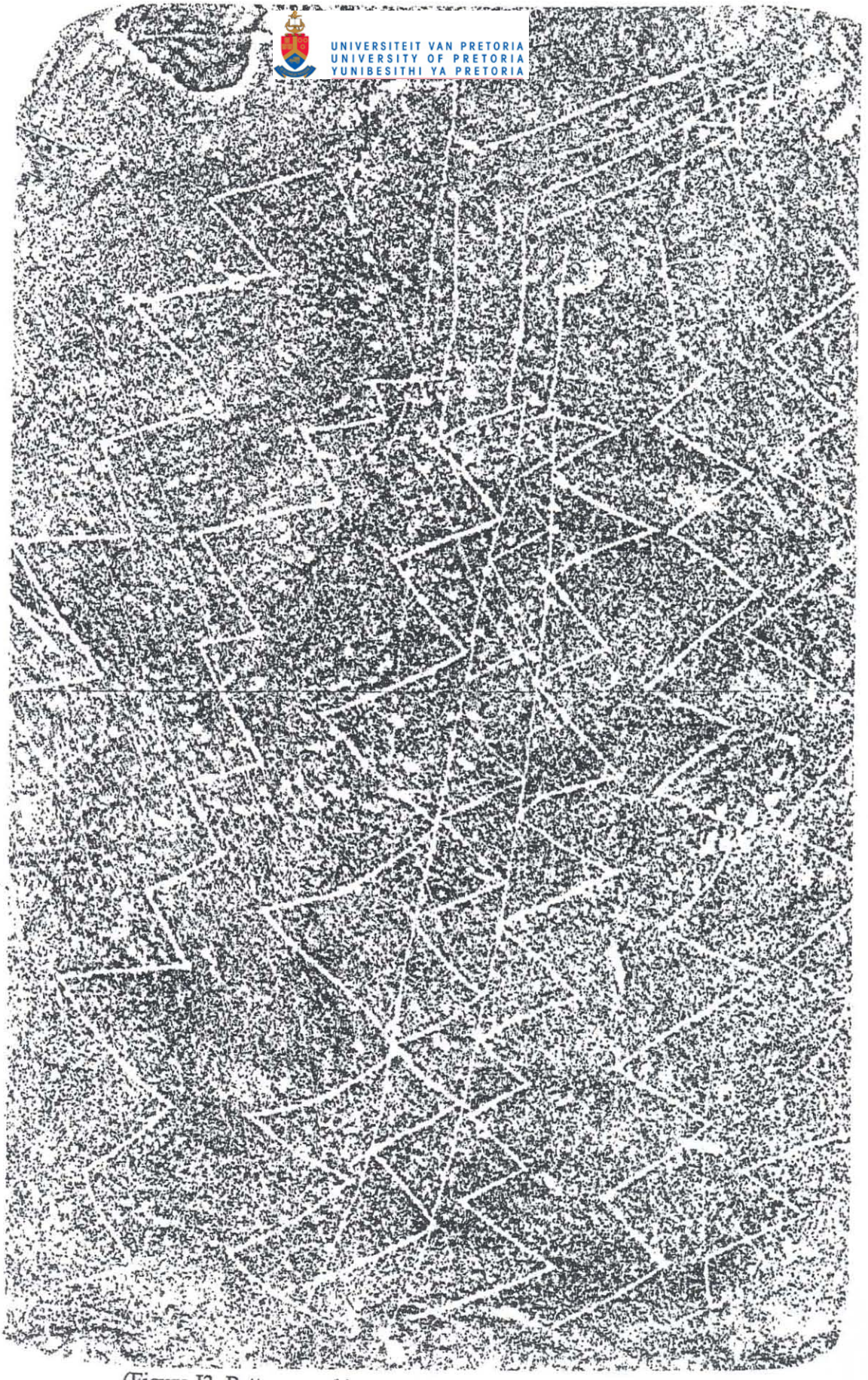
The engraved work is of Sotho-Tswana origin, portraying there decorative patterning (Figure I2). The technique used with which to incise the pattern work is fine lined. In the centre of the engraved surface, there are converging horizontal lines. There are zigzag lines in between, above and below, the converging lines. Above and to the left of the centre pattern, there is a smaller pattern work, consisting of four diagonal parallel lines, with zigzag lines above, below and in between them. To the left and slightly below the centre pattern work, there are two vertical converging lines and once again there are zigzag lines above, below and in-between them. Lastly there are two more pattern designs, exactly like the one located above the centre pattern located below the centre pattern (Figure I2 defined).

The texture of the engraved surface is medium to rough grained, with very few small erosion marks and one large watermark, in the top right corner. The condition of the engraving is good with its only threat being the elements. The engraving is located at the base of the hornfel outcrop and faces west.



(Figure I2 defined: Pattern work)

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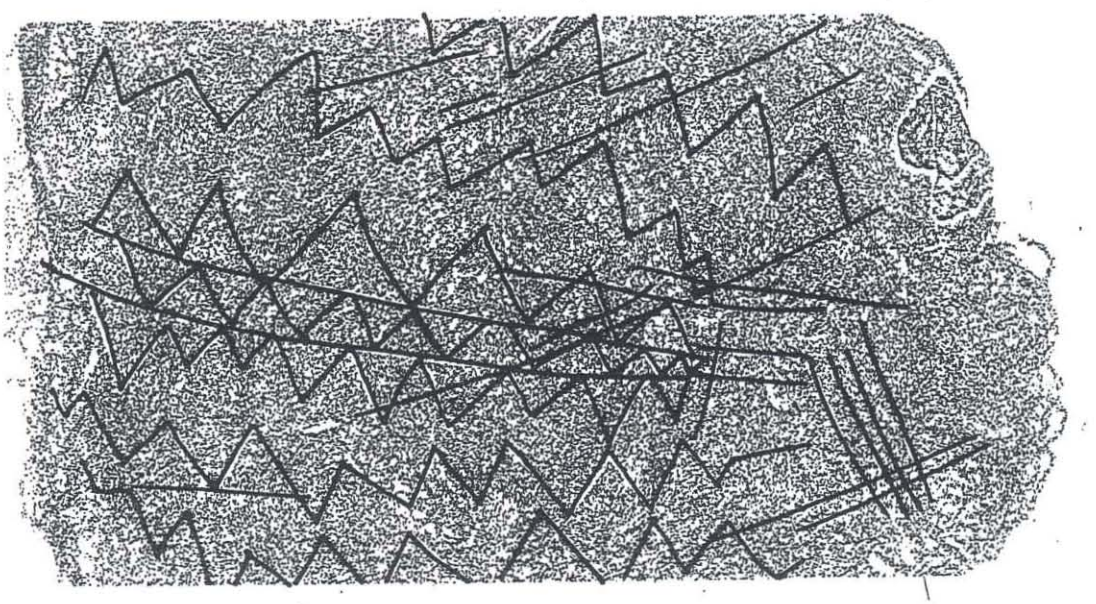
(Figure I3: Pattern work) Scale 1:2

Figure I3 - **Pattern work** - Latitude 27° 29' 29,2" E
Longitude 25° 54" 14,7" S

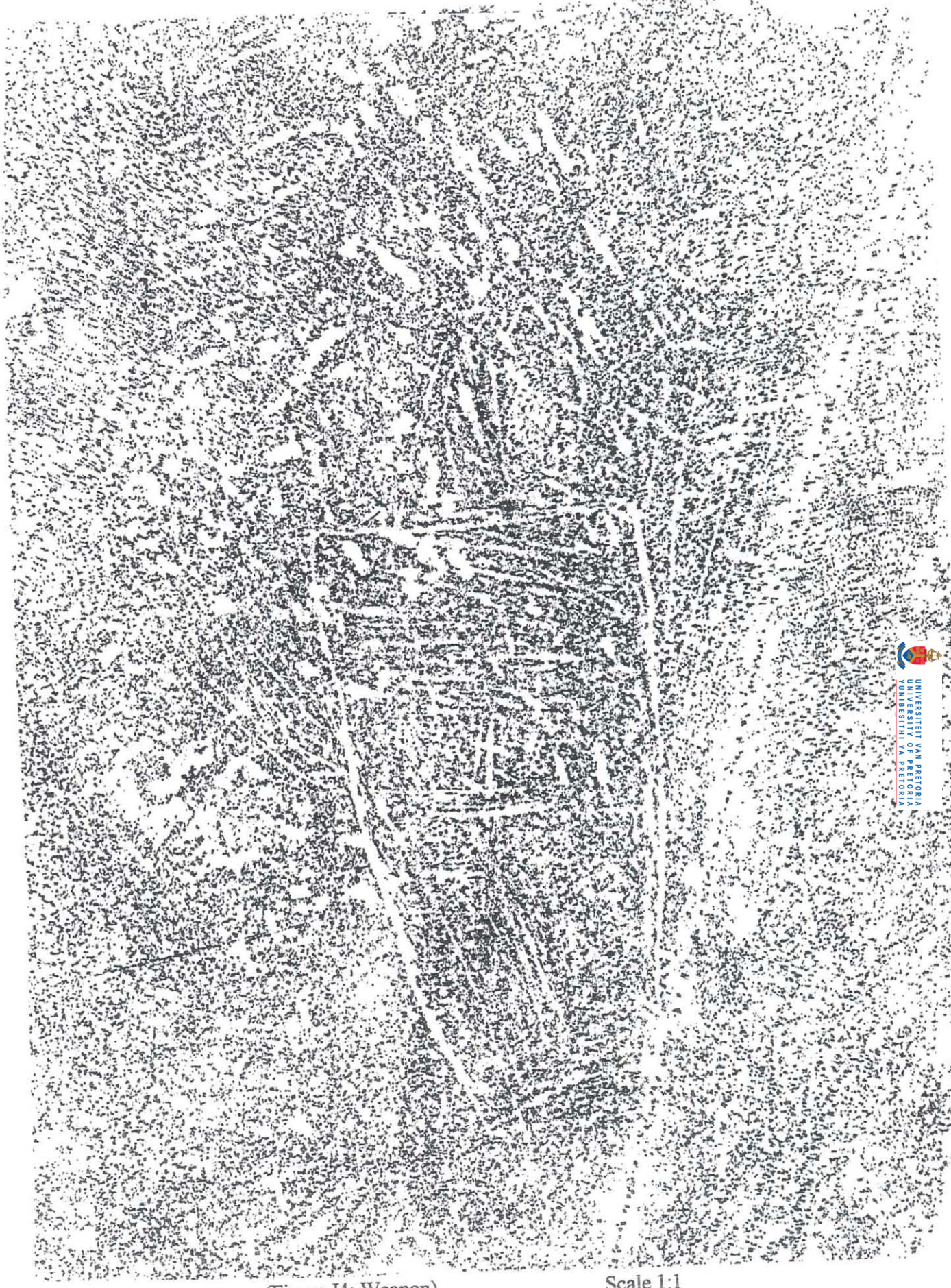
Actual Size Length: 22cm Breadth: 35,5cm

The pattern work as in figure 2 is of Sotho-Tswana design (Figure I3). In the centre of the engraved surface there are two horizontal converging lines, with zigzag lines below, above and in-between, the converging lines. Above and below the centre pattern, there are two lines of horizontal zigzag patterning. To the left and adjoining the centre pattern work there are four "L" shaped parallel lines. There are a number of stray incised lines that serve no purpose (Figure I3 defined).

The texture of the engraved surface is rough, with a number of small erosion marks and one water mark at the bottom left of the rock surface, which in no way impacts on the engraving. The condition of the engraving is good. The engraving is located, approximately five meters from the hornfel outcrop and is isolated, it faces northwest.



(Figure I3 defined: Pattern work)



(Figure I4: Weapon) Scale 1:1

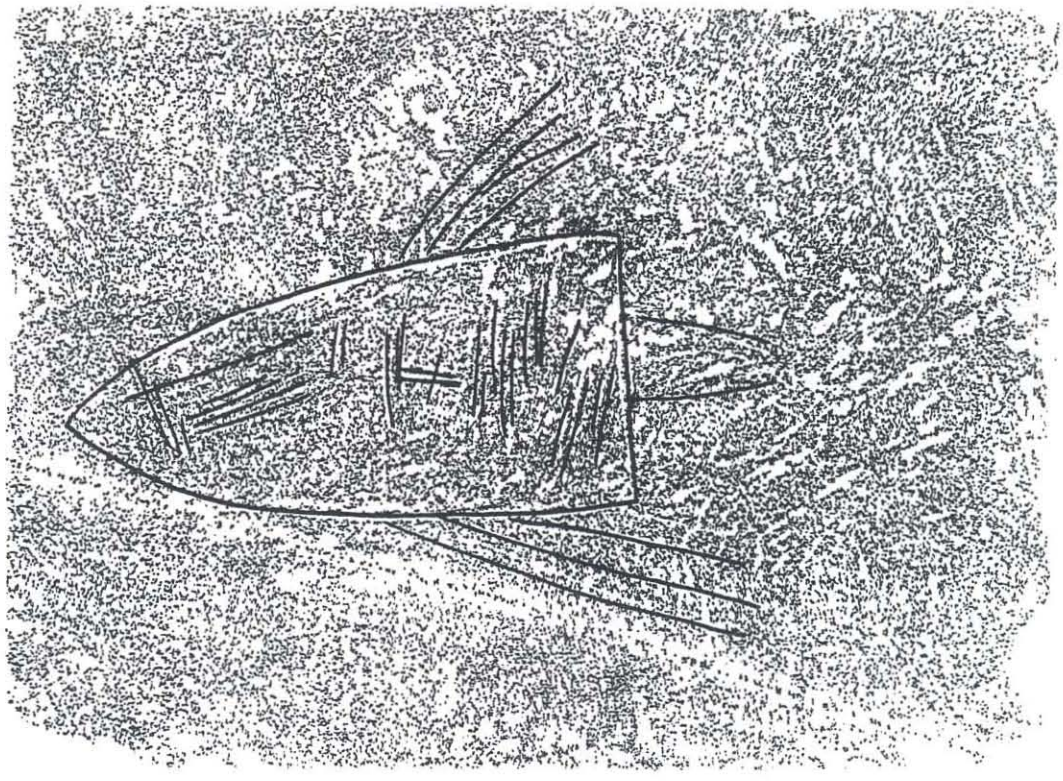
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Figure I4 - **Weapon** *(Spear head)* - Latitude 27° 29' 31,4" E
Longitude 25° 54' 16,1" S

Actual Size Length: 16cm Breadth: 26,5cm

The spear was incised making use of a fine line technique (Figure I4). The spearhead is triangular in shape, with multiple incisions in various directions depicting the texture and wear of the spearhead. At its base part of the shaft is present, it is six centimetres in length. On either side of the head there are lines radiating outwards , depicting the speed at which the spear is moving (Figure I4 defined).

The texture of the rock surface engraved upon is rough, with a raised erosion mark underneath the head. The surface of the rock is so rough that the engraving can not be identified with the naked eye, it can only be seen in the rubbing. The condition of the engraving is good. It is located on the western base of the hornfel outcrop and faces east.



(Figure I4 defined: Weapon)

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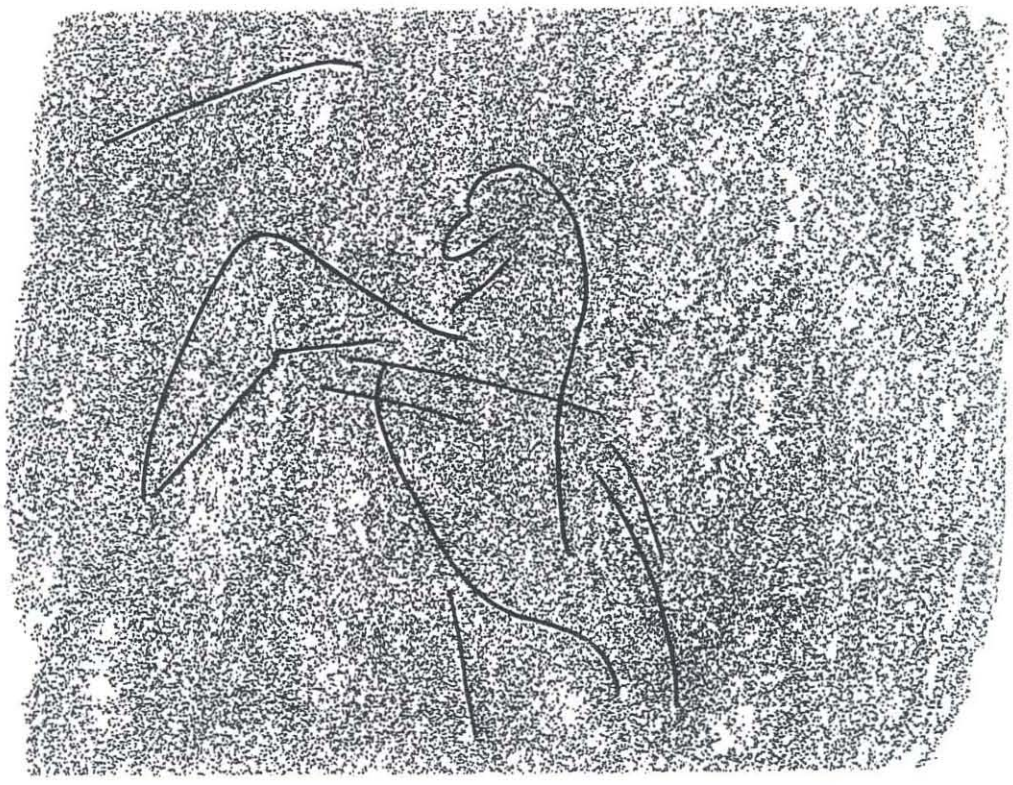
(Figure I5: A Bird) Scale 1:1

Figure I5 - **A Bird** *(unidentifiable)* - Latitude 27° 29' 31,7" E
Longitude 25° 54' 18,5" S

Actual Size Length: 16,5cm Breadth: 16cm

The engraving is naturalistic in style and was incised using a fine line technique (Figure I5). At first glance the engraving simply looks like a number of curved lines, but on closer inspection the left wing is easily identified. The body and tail are present. The head also present is not well defined. There is one stray line above the bird that appears to have nothing to do with the bird and might be a first attempt (Figure I5 defined).

The texture of the rock surface is rough, with a few small erosion marks, found around the bird. The condition of the engraving is good. The engraving is located, slightly north of the hornfel outcrop and faces west. Its only threats are the elements.



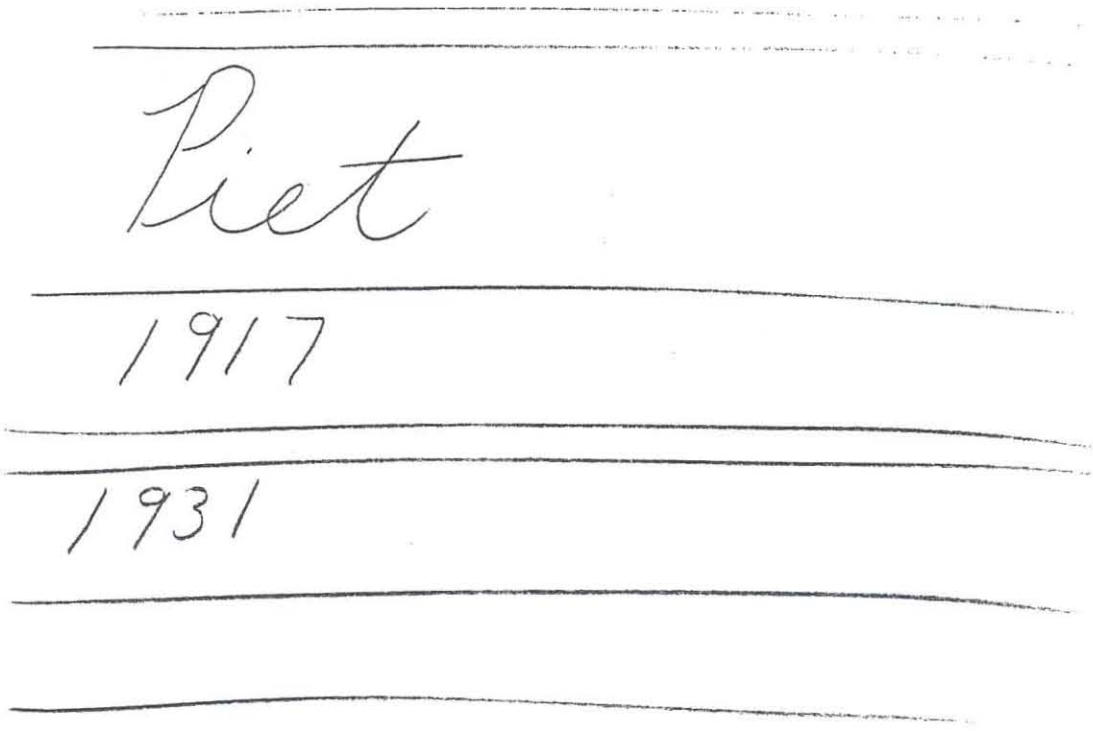
(Figure I5 defined: A Bird)

Figure I6 - **Piet** *(a settler)* - Latitude 27° 29' 33,9" E
Longitude 25° 54' 10,8" S

Actual Size Length: 17cm Breadth: 18cm

The engraving is written in cursive and engraved using a fine line technique (Illustration 4). The written engraving is written like a grade one is taught, there is a parallel line at the top, below this the name Piet is incised in cursive, with a soft up and hard down line technique. Below the name there is a single line, below the line the date 1917 is engraved. Below the date there is another parallel line and below this is the date 1931. Under the last date there is a single line and then a gap followed by another single line.

The texture of the rock surface is very rough and although visually it can be identified with careful inspection, on the rubbing and photograph it is seen with difficulty, because of the large grain size. The condition of the engraving is good with very few small erosion marks and it's only threat the elements. The engraving is located along the southern base of the outcrop and faces south.



(Illustration 4: Piet) Scale 1:1

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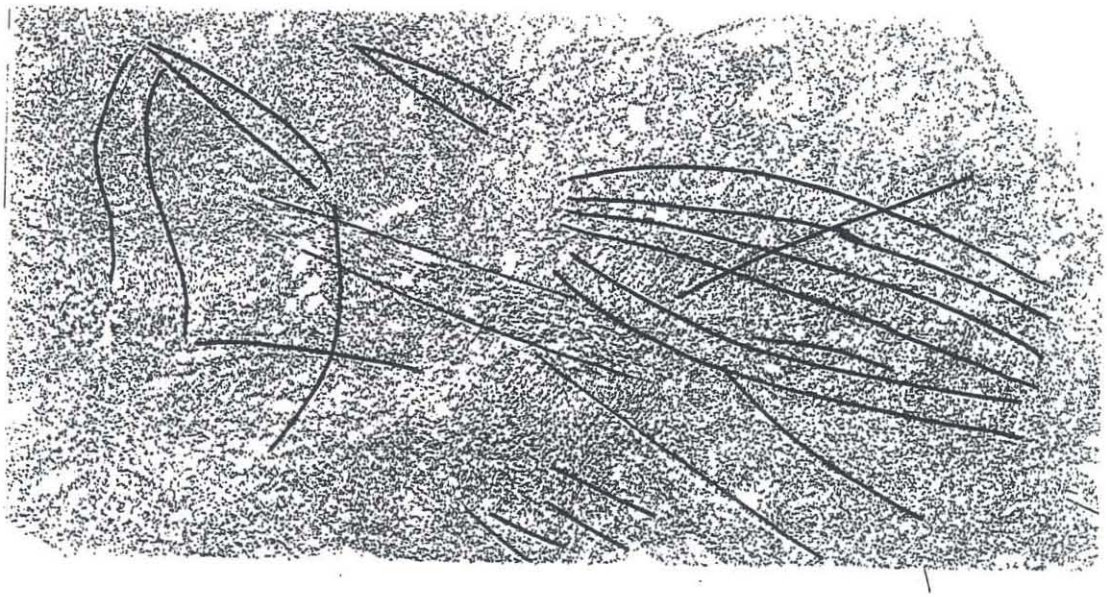
(Figure I7: Pattern work) Scale 1:2

Figure I7 - **Pattern work** - Latitude 27° 29' 31,9" E
Longitude 25° 54' 16,6" S

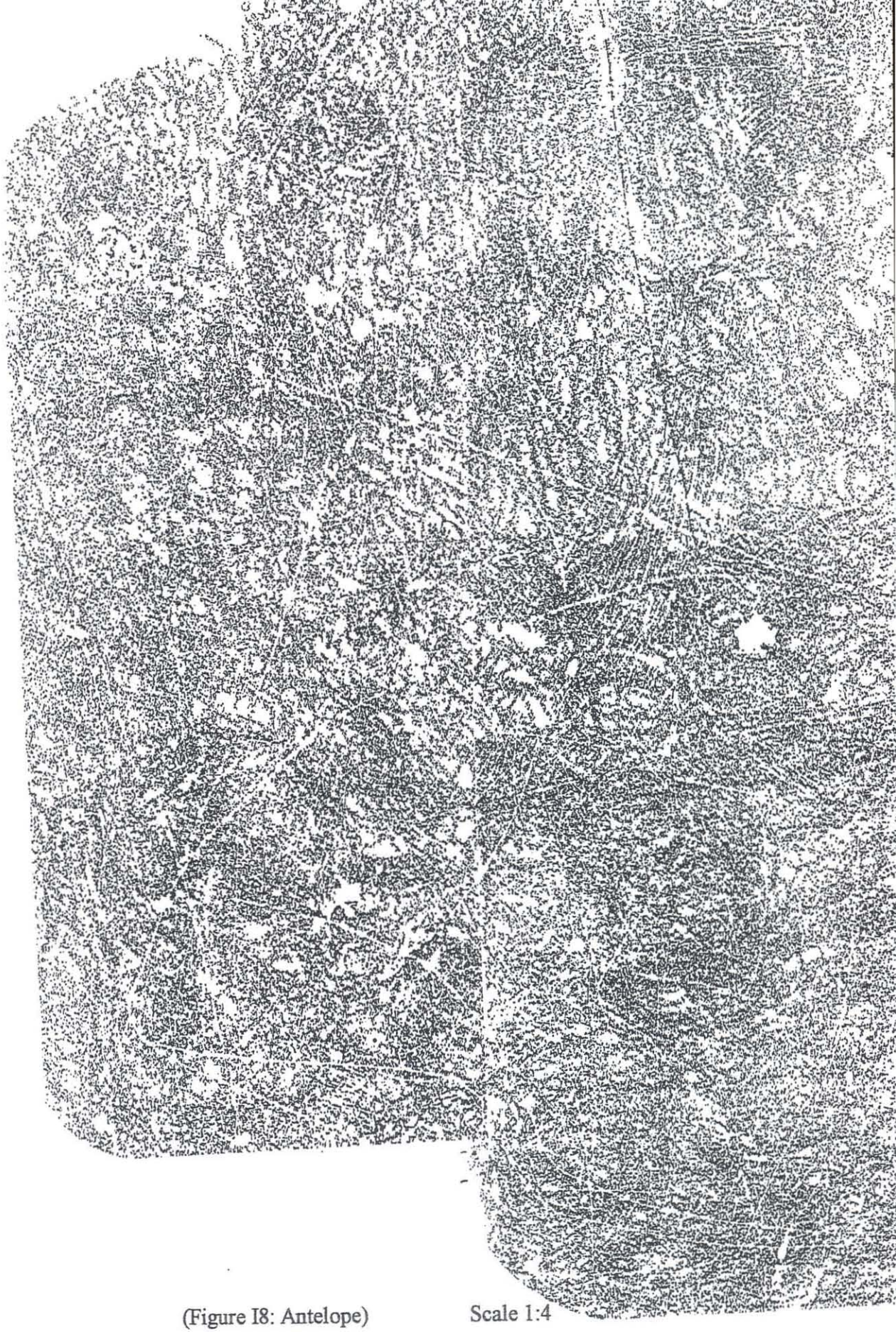
Actual Size Length: 22cm Breadth: 38cm

The technique used to engrave upon the rock is fine lined (Figure I7). On the top right of the engraved surface there are six converging lines, there are vertical lines joining the first four lines. Just below them there are scratching's made by sharpening tools. Above this there are upside down parallel "V" shaped lines (Figure I7 defined).

The texture of the rock surface is very rough, with numerous small erosion marks all over the engraved surface. The condition of the engraved work is poor and needs to be monitored. Due to the contents of the engraved work it does not warrant a costly removal. The only threat facing the engraving is further weathering. The engraving is located on the western base of the hornfel outcrop and faces east.



(Figure I7 defined: Pattern work)



(Figure I8: Antelope) Scale 1:4

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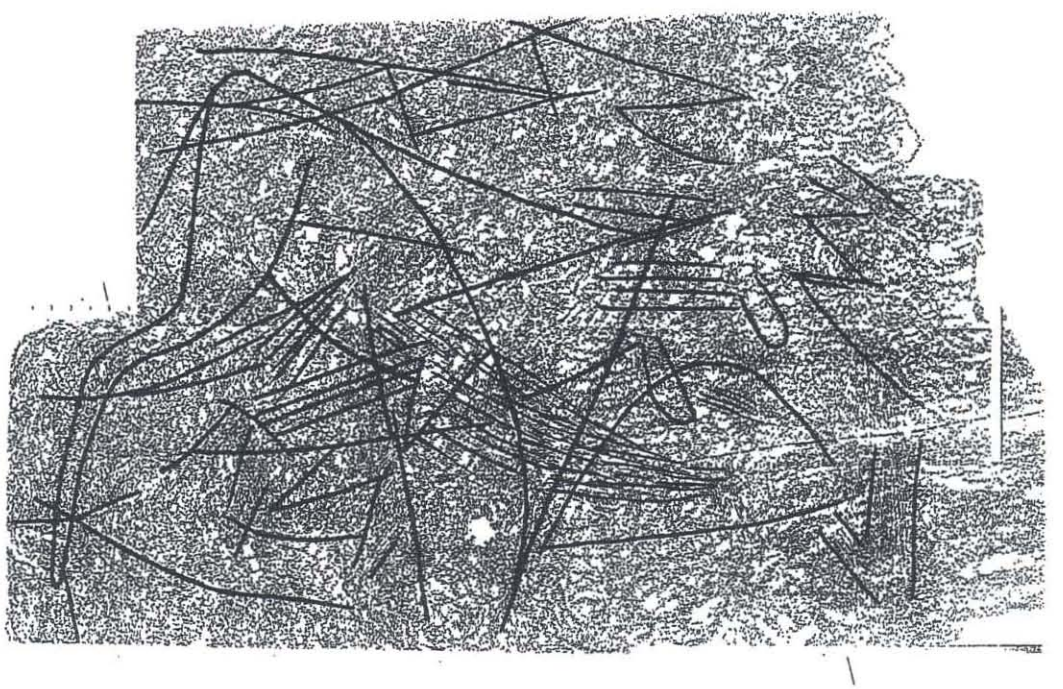
Figure I8 - **Antelope** *(unidentifiable)* - Latitude 27° 29' 33,3" E
Longitude 25° 54' 14,5" S

Actual Size Length: 43cm Breadth: 59cm

The antelope is unidentifiable, is stylised and is incised making use of a broad line technique (Figure I8). The shank and pes are naturalistic in style, but the rest of the antelope is stylised. The caudal appendage is present, so are the hindquarters. The abdominal and forequarter areas as well as the lower limb and manes are represented as a triangle with a concave base. The characteristic coloration line running from the prehensile nuchal hump to the lower limb, is present, which means that the engraving was engraved by the Bushmen. Following the line of the neck , it becomes clear that the antelope is portrayed grazing. Unfortunately the head is not visible as numerous lines were scratched over it. The horns are also not visible (Figure I8 defined).

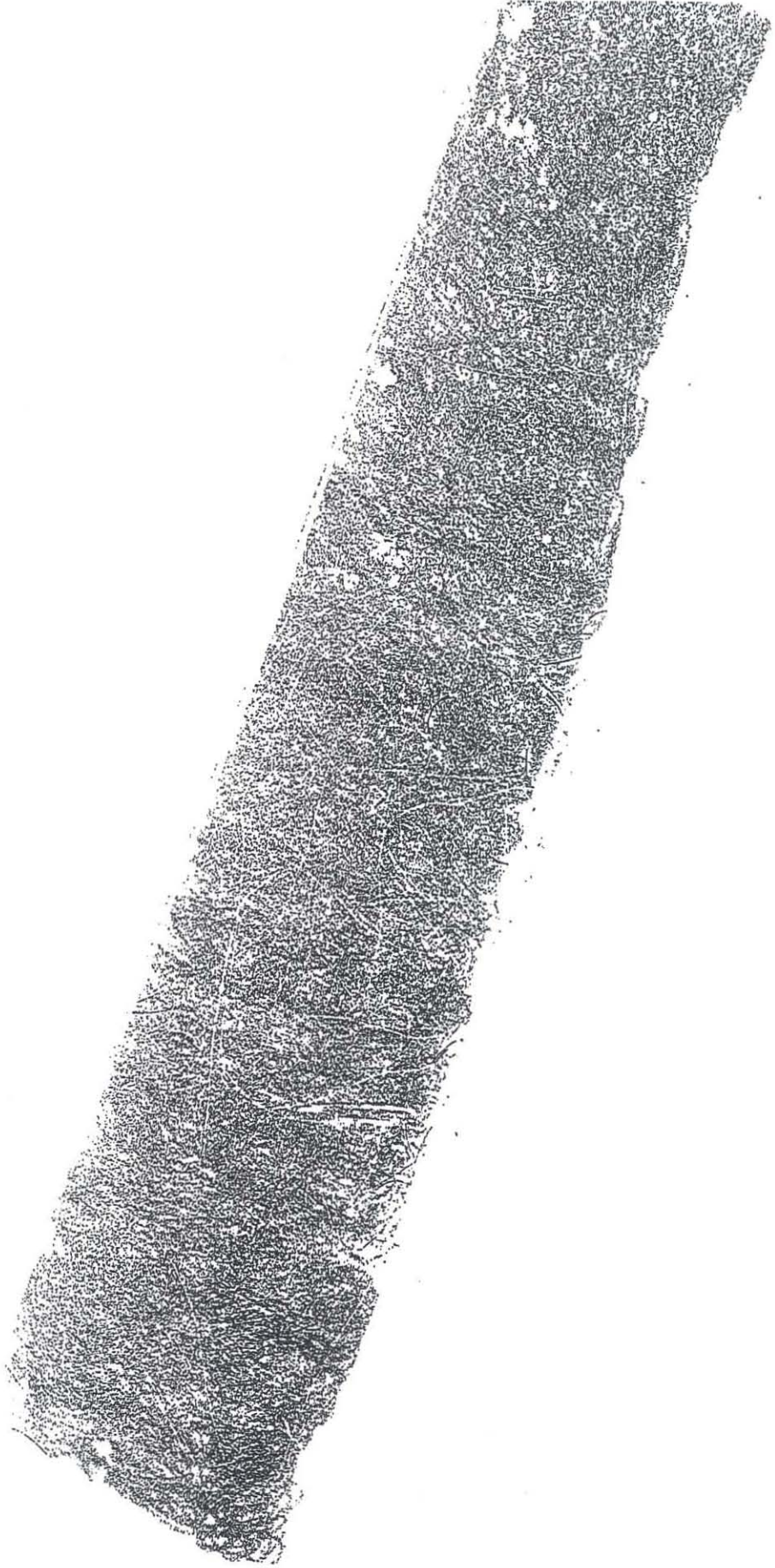
Scratching's like those of tools being sharpened are found running horizontally over the front leg. Numerous parallel, converging and curved lines are found all over the engraved area, possible entoptic behaviour. This entoptic behaviour however has no bearing on the engraved antelope, having been done after the antelope.

The texture of the engraved rock surface is medium to rough in grain. There are numerous erosion marks found all over the engraved surface. The condition of the engraving is poor and needs to be monitored. Its only threat at present is further weathering. The engraving is located on the eastern peak of the hornfel outcrop and faces north.



(Figure I8 defined: Antelope)

Site J



(Figure J1: The Eland) Scale 1:4

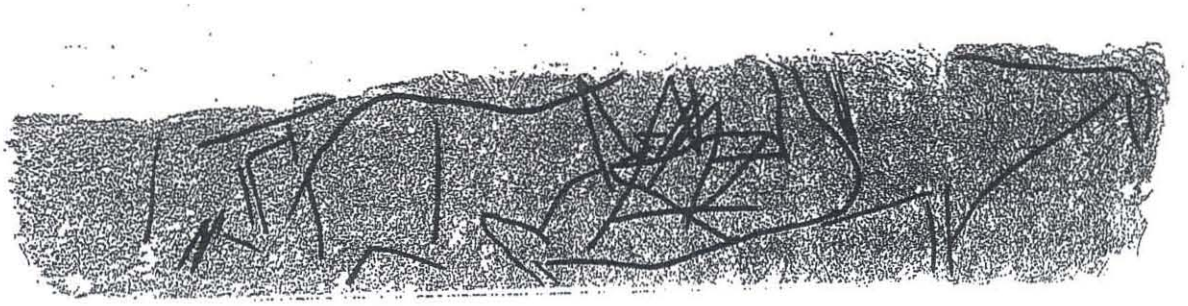
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Figure J1 - **The Eland** *(Tragelaphus oryx)* - Latitude 27° 29' 19,4" E
Longitude 25° 54' 17,8" S

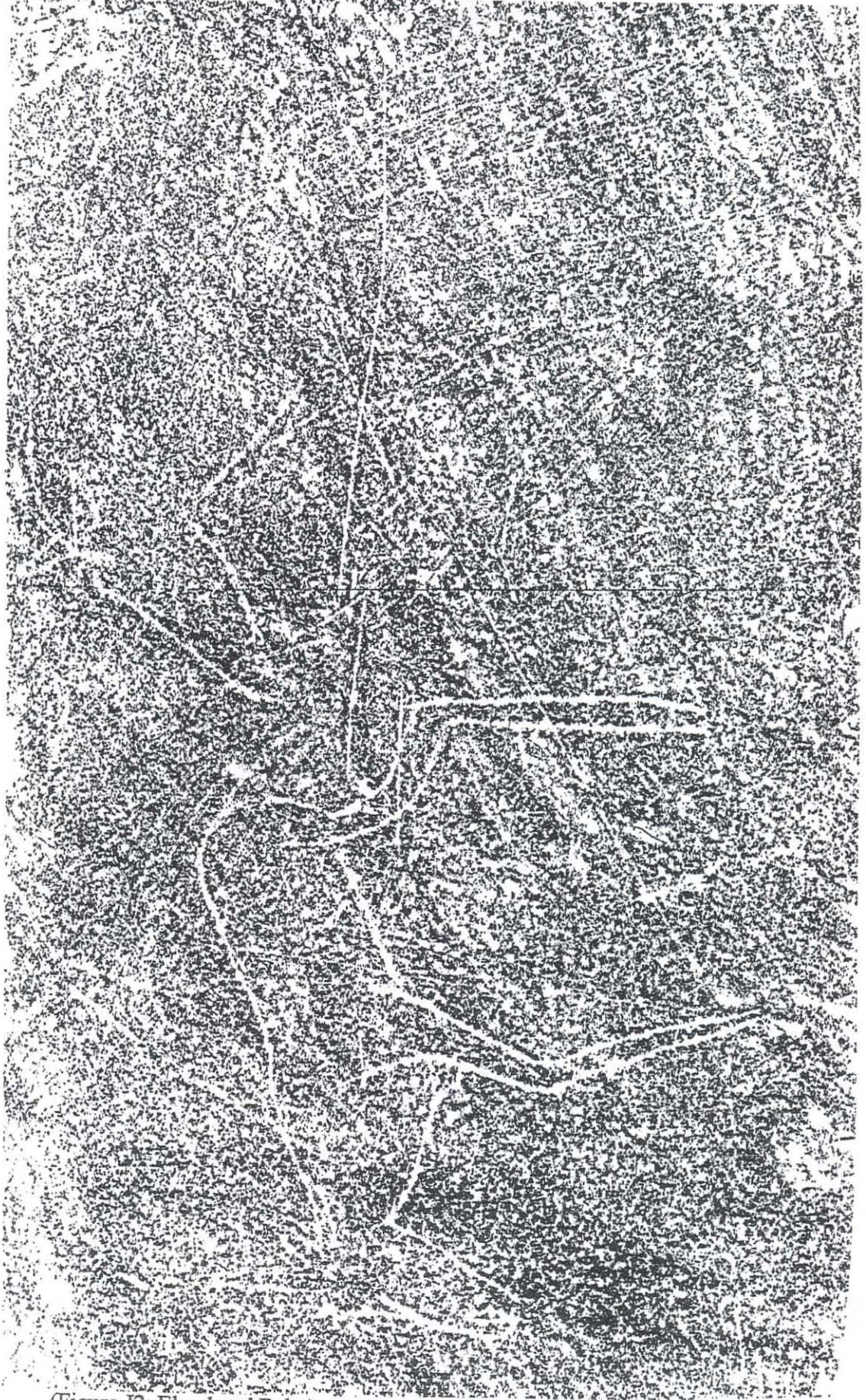
Actual Size Length: 22cm Breadth: 90cm

The eland is naturalistic in style and incised making use of a fine line technique (Figure J1). The head, horns, neck and forequarters are well proportioned, but the hindquarters are distorted. The characteristic coloration line running from the nuchal hump to the lower limb is vague but present. The antelope is engraved lowering its head. The shank and pes are enlarged and the caudal appendage extends to the heel of the back leg, which is correct. Both legs come to an abrupt end. There are two more eland engraved upside down on the naturalistic eland. They to are naturalistic in style. The eland on the right has a head and back leg, and the nuchual hump is present. The eland on the left has an oval shaped head and front legs, the back leg and caudal appendage was omitted. The neck and forequarters of both eland are triangular in shape (Figure J1 defined).

The texture of the rock surface is medium grained, with a few small erosion marks found all over the engraved surface. The condition of the engraving is satisfactory, but must be monitored . The engraving is located in the centre of the site and faces south.



(Figure J1 defined: The Eland)



(Figure J2: Eland and Baby) Scale 1:2

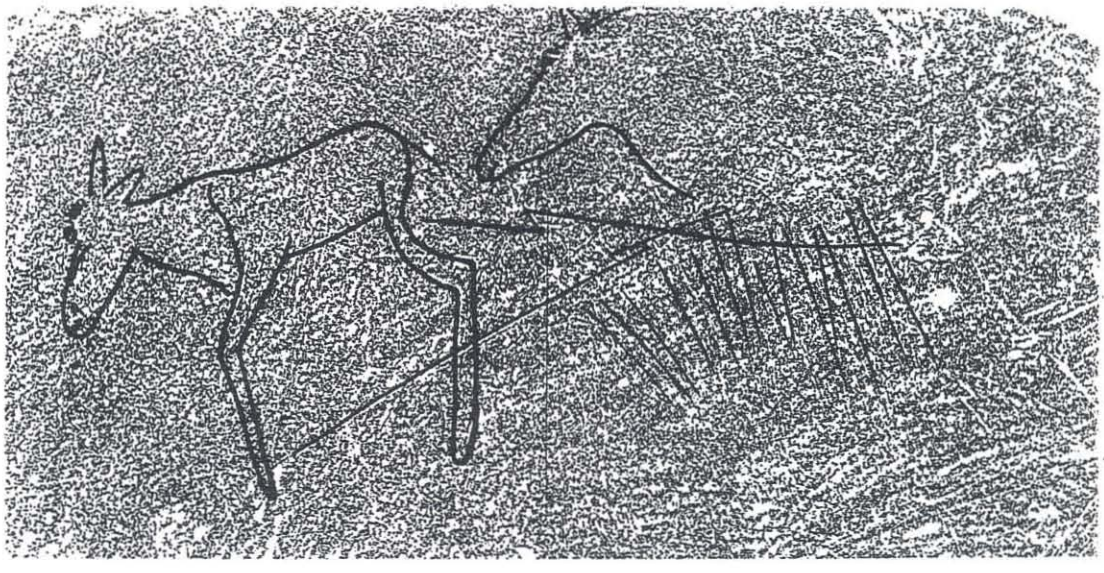
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Figure J2 - **Eland and baby** *(Tragelaphus oryx)* - Latitude 27° 29' 18,8" E
Longitude25° 54' 16,7" S

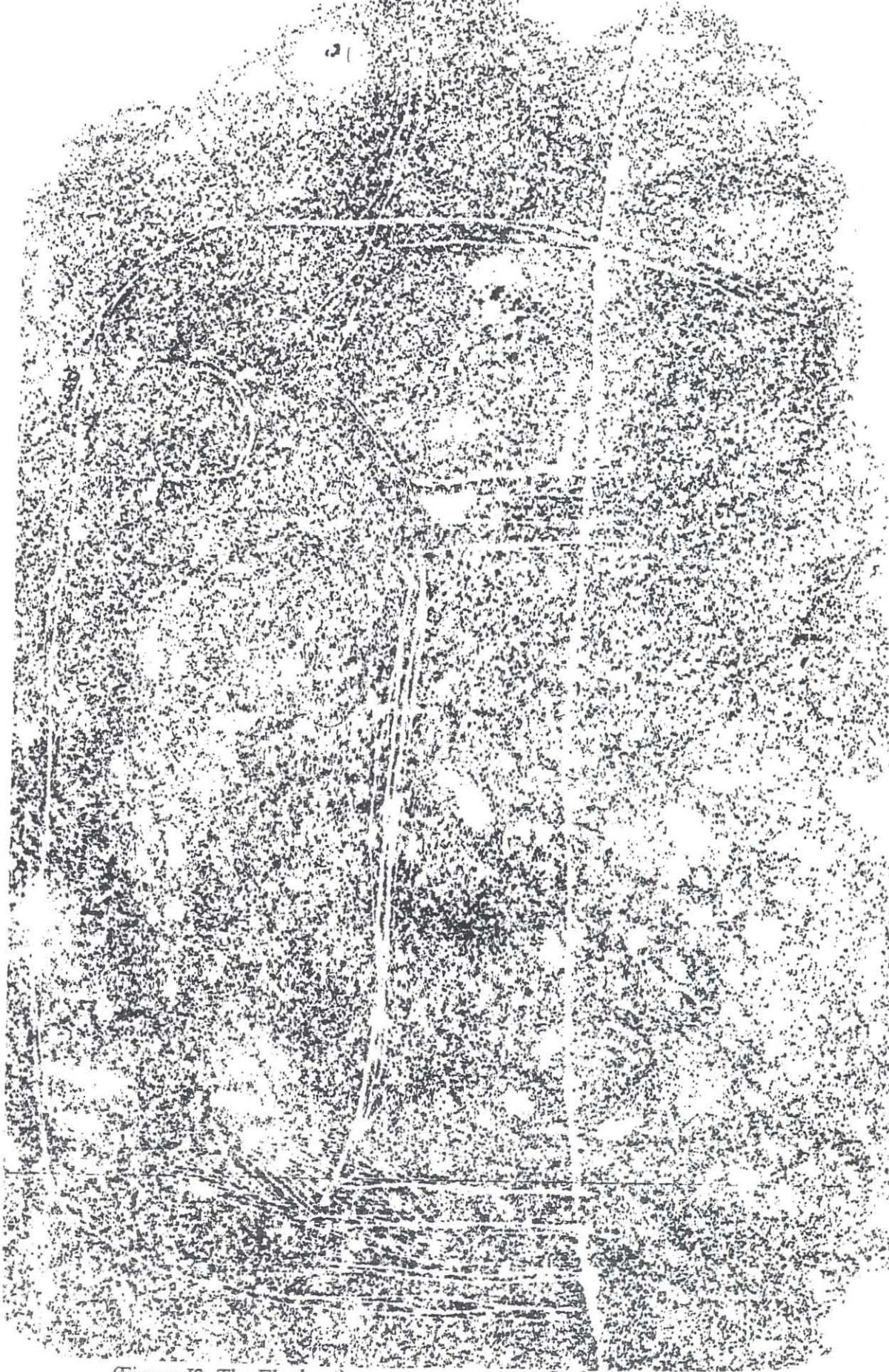
Actual Size Length: 22cm Breadth: 39cm

The engraving is naturalistic in style and a broad line incision technique was used (Figure J2). The engraved surface consists of an eland mother and her calf. The calf is very detailed and natural. The head includes detail of both pinna, orbital sockets, nose and mouth, even coloration marks and the characteristic pronounced forehead are visible. The forequarters, including the nuchal hump and characteristic coloration line running from the hump to the lower limb are included. The thoracic area is highlighted. The lower limb, carpus and manus of the front leg were engraved, however the hoof was omitted. The shank, heel and pes of the back leg were included, but once again the hoof was omitted. The hindquarters and caudal appendage are also present, the caudal appendage is just a short straight line. The mother is portrayed as watching her calf from behind the grass. The mother is not as detailed as the calf with only her head and neck exposed. The head includes a mouth, pinna and a crude representation of horns, all based on a neck. Below the head engraving of the eland there are numerous diagonal scratching's representing the long grass. There are numerous other multiple and single lined scratching's found all over the engraved surface, that are not part of the original engraved work, but superimposed on it and don't amount to anything (Figure J2 defined).

The surface of the rock engraved upon is medium in texture, with numerous small erosion marks found all over the surface and some cattle marks on the top right hand corner, that don't interfere with the engraving itself. The condition of the engraving is good , but needs to be monitored. Its only threat at present is further weathering due to the elements. It is located towards the base of the hill towards the guesthouses and faces north- east.



(Figure J2 defined: Eland and Baby)



(Figure J3: The Elephant) Scale 1:2

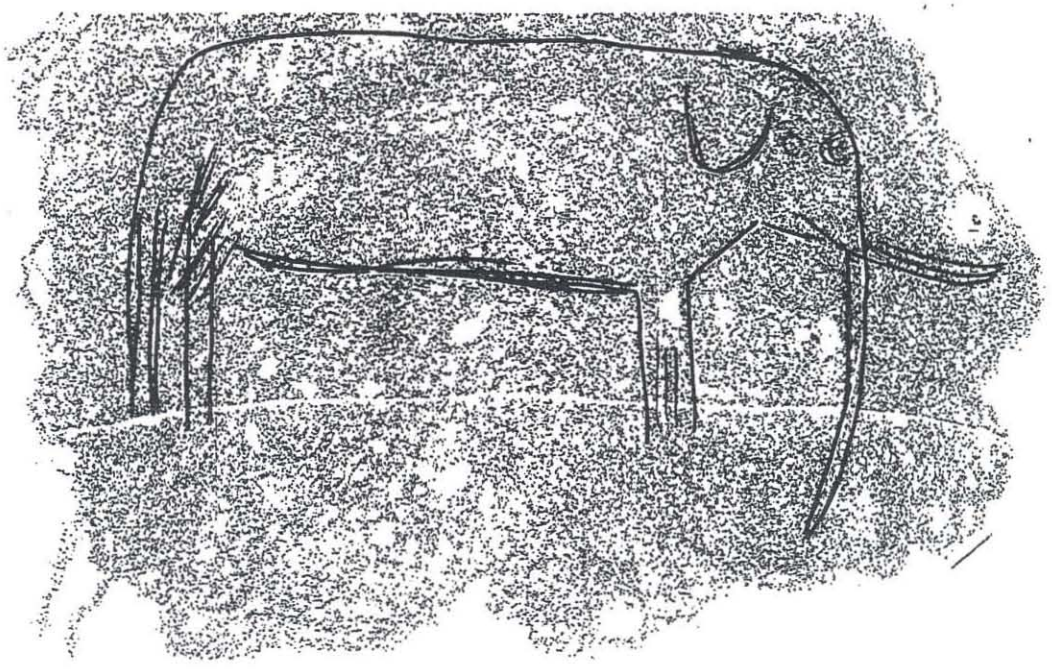
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Figure J3 - **The Elephant** *(Loxodonta africana)* - Latitude 27° 29' 19,0" E
Longitude 25° 54' 17,1" S

Actual Size Length: 18,5cm Breadth: 30cm

The engraving is stylised, simplistic and is incised using a multiple fine line technique (Figure J3). The engraving is not well proportioned, with the ear being to small and the eye of the elephant being too big. The head is detailed and includes an ear, eye, teeth and trunk. All four legs are present, but no tail can be identified. The body of the elephant is portrayed as being oval in shape and the legs are simple straight parallel lines (Figure J3 defined).

The texture of the rock surface is rough, with numerous small erosion marks found all over the engraved surface. The condition of the engraving is good. There is a lightning crack running all the way through the rock along the base of the engraving, which has split the rock in two, but it has in no way hurt the engraving. The engraving is located in the middle of the hill and faces west.



(Figure J3 defined: The Elephant)

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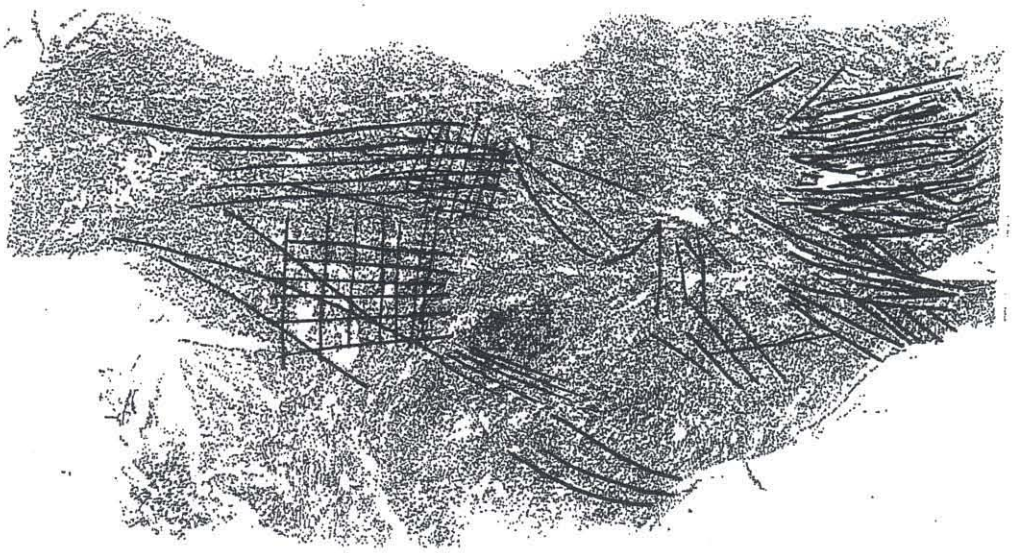
(Figure J4: Pattern work) Scale 1:3

Figure J4 - **Pattern work** - Latitude 27° 29' 15,6" E
Longitude 25° 54' 14,5"S

Actual Size Length: 41cm Breadth: 78cm

The engraved work is stylised and a fine line incision technique was used (Figure J4). According to Prof. J.D. Lewis-Williams work on entoptic phenomenon, entoptics are diagonal parallel lies, dots, grids, squiggles, zigzags, parallel curves and star shapes, all of these have been found in the Magaliesberg, except the parallel curves and squiggles. Entoptic phenomenon's are observed by people due to hallucination, brought on by drugs and trances, they are common to shamanistic societies, like the Bushmen. The pattern work found on this engraving could be entoptic. There are long horizontal parallel lines, overlapping a grid, next to some relaxed zigzags. On the far right there are several deep engraved lines, from tool sharpening. Below all of this there are further very fine multiple scratching (Figure J4 defined).

The texture of the rock surface is medium in grain, with extensive erosion marks on the left-hand side of the engraving and smaller erosion marks on the rest of the rock surface. The condition of the engraving is poor and needs to be monitored, but due to the content of the engraving costly removal is not recommended.



(Figure J4 defined: Pattern work)

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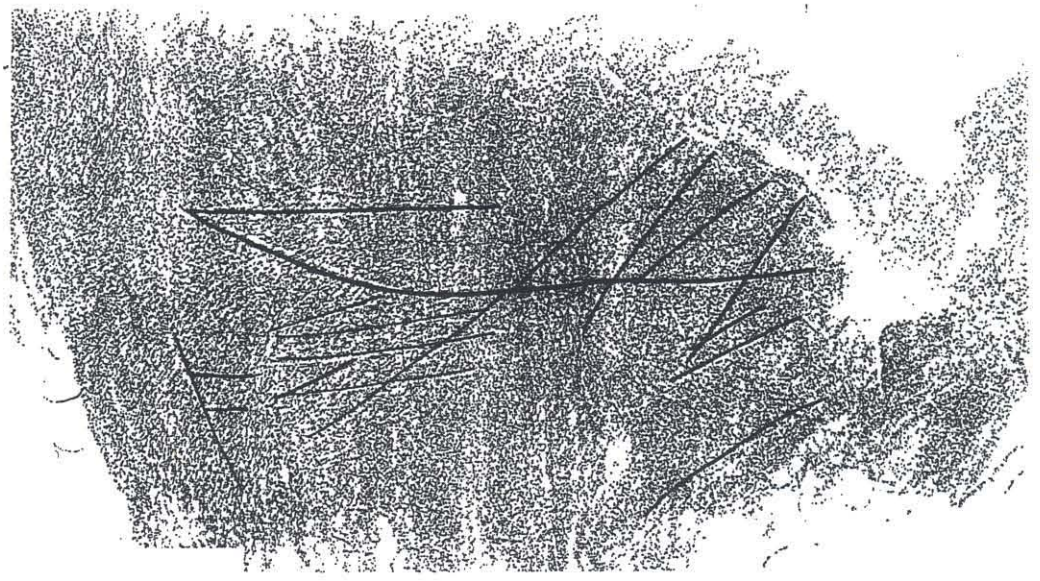
(Figure J5: Pattern work) Scale 1:2

Figure J5 - **Pattern work** - Latitude 27° 29' 16,9" E
Longitude 25° 54' 17,5" S

Actual Size Length: 17cm Breadth: 29cm

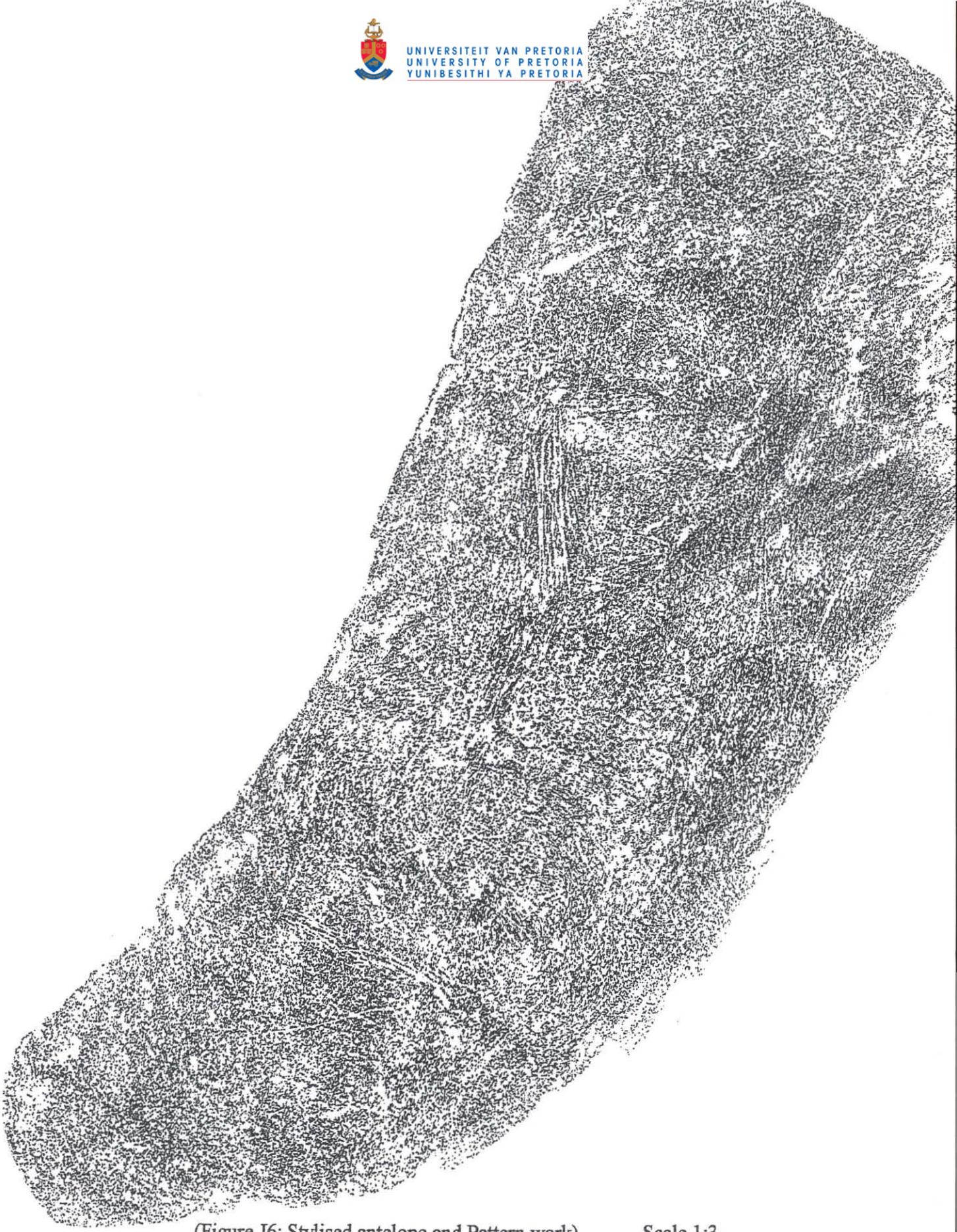
The pattern work was incised making use of a fine line technique (Figure J5). There is no structure to the work, which consists of parallel lines and converging lines, which run in all directions and are different sizes (Figure J5 defined).

The texture of the rock surface is fine grained, making rubbing difficult. There are a number of small erosion marks on the engraved surface. The condition of the engraving is satisfactory.



(Figure J5 defined: Pattern work)

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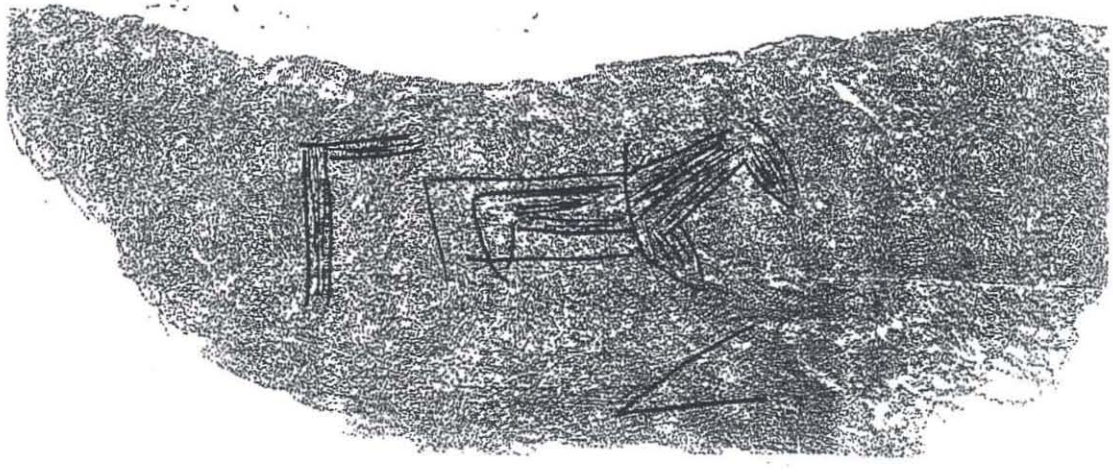
(Figure J6: Stylised antelope and Pattern work) Scale 1:3

Figure J6 - **Stylised antelope and Pattern work** - Latitude 27° 29' 18,9" E
Longitude 25° 54' 17,7" S

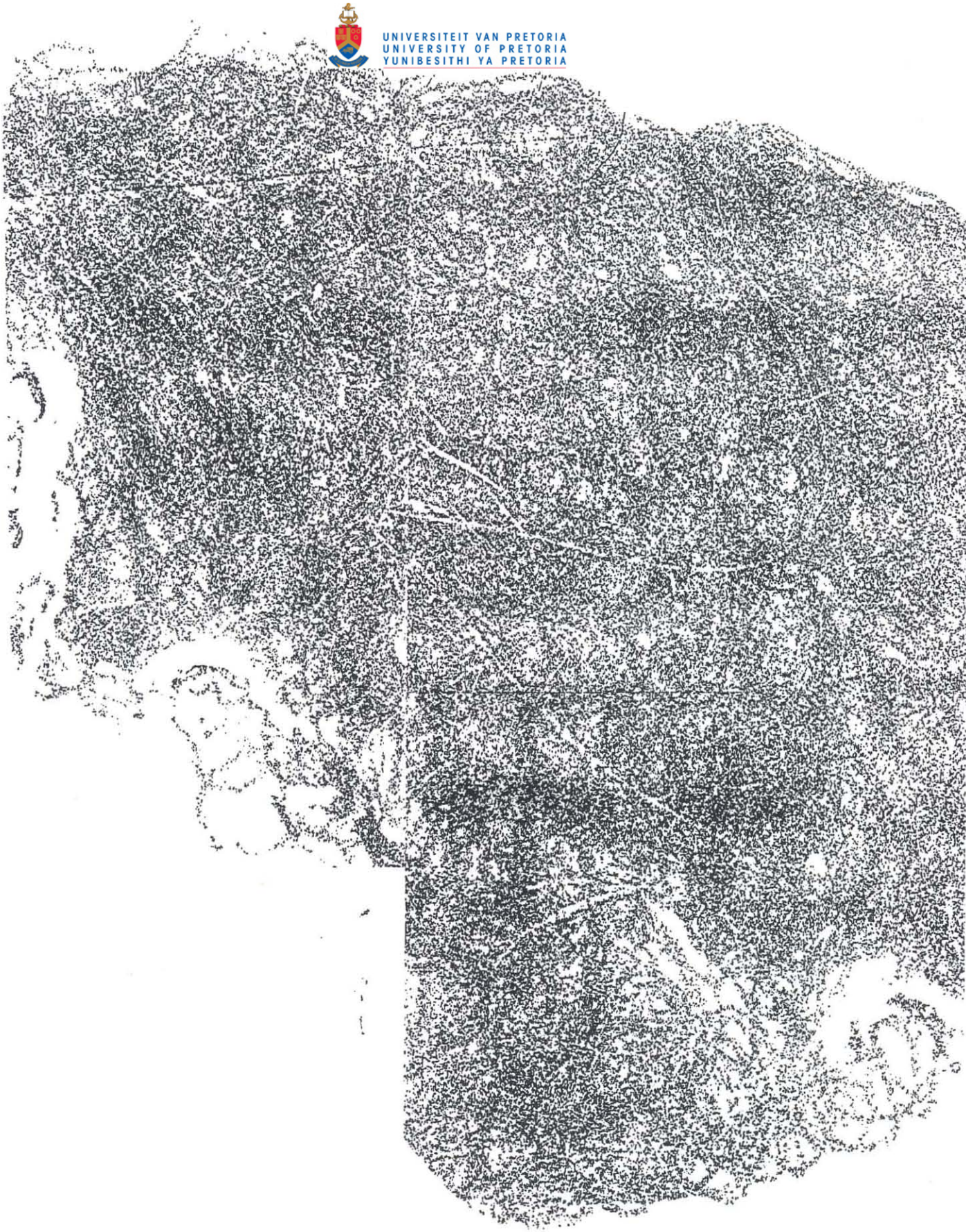
Actual Size Length: 25,5cm Breadth: 65cm

The engraved work depicted on the rock was incised making use of a fine line technique (Figure J6). At the top and centre of the engraved surface there is a stylised multiple incision of a buck. The body and legs of the buck are rectangular and the head and neck are triangular in shape. The buck is superimposed on linear work, which includes parallel, converging and curved lines in various directions (Figure J6 defined). The style of engraving suggests that the artist be of Sotho-Tswana origin.

The surface of the rock has a fine-grained texture, with numerous small erosion marks. The condition of the engraving is satisfactory, with its only threat being further weathering due to the elements. The engraving is located towards the centre of the hill and faces east.



(Figure J6 defined: Stylised antelope and Pattern work)



(Figure J7: Pattern work) Scale 1:3

Figure J7 - **Pattern work** - Latitude 27° 29' 16,7" E
Longitude 25° 54' 20,7" S

Actual Size Length: 28cm Breadth: 28cm

The pattern work is incised making use of a fine line technique (Figure J7). The pattern work is entoptic in nature with curved lines above and a grid pattern above. The grid pattern work is made of converging lines (Figure J7 defined).

The texture of the rock surface is fined grained, with numerous small erosion marks on the engraved surface and large erosion marks on the periphery. The condition of the engraving is good, but should be monitored.



(Figure J7 defined: Pattern work)

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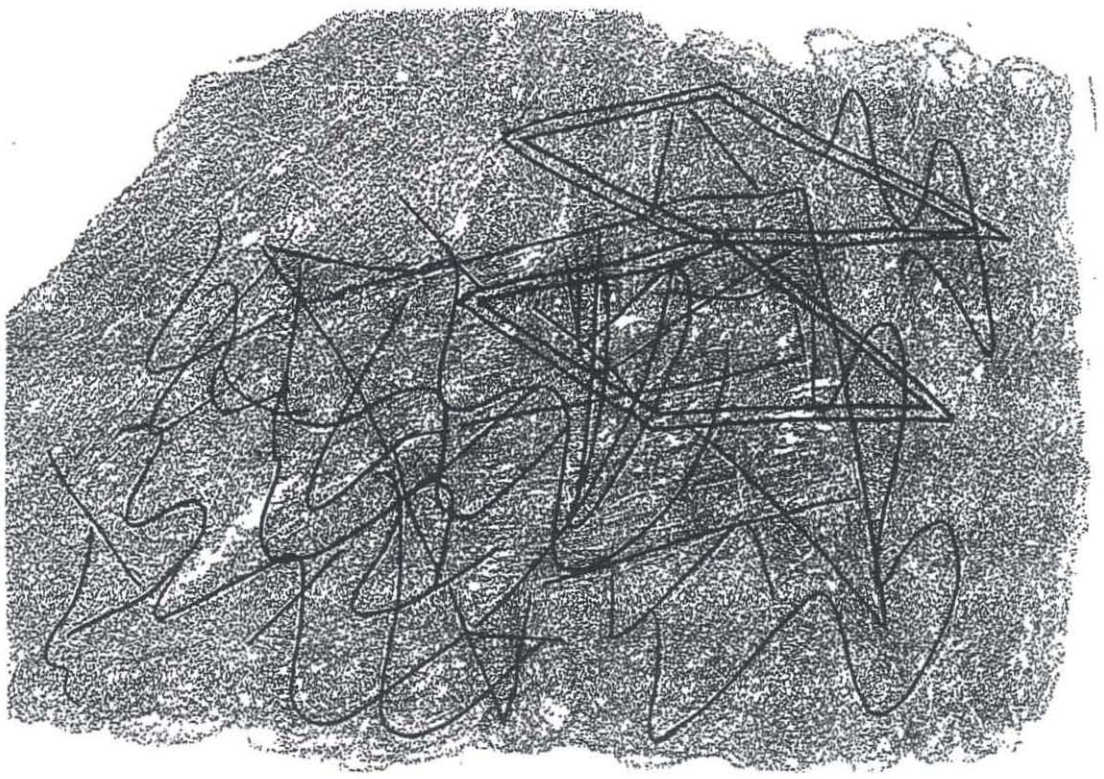
(Figure J8: Pattern work) Scale 1:3

Figure J8 - **Pattern work** - Latitude 27° 29' 24,2" E
Longitude 25° 54' 19,6" S

Actual Size Length: 32cm Breadth: 49cm

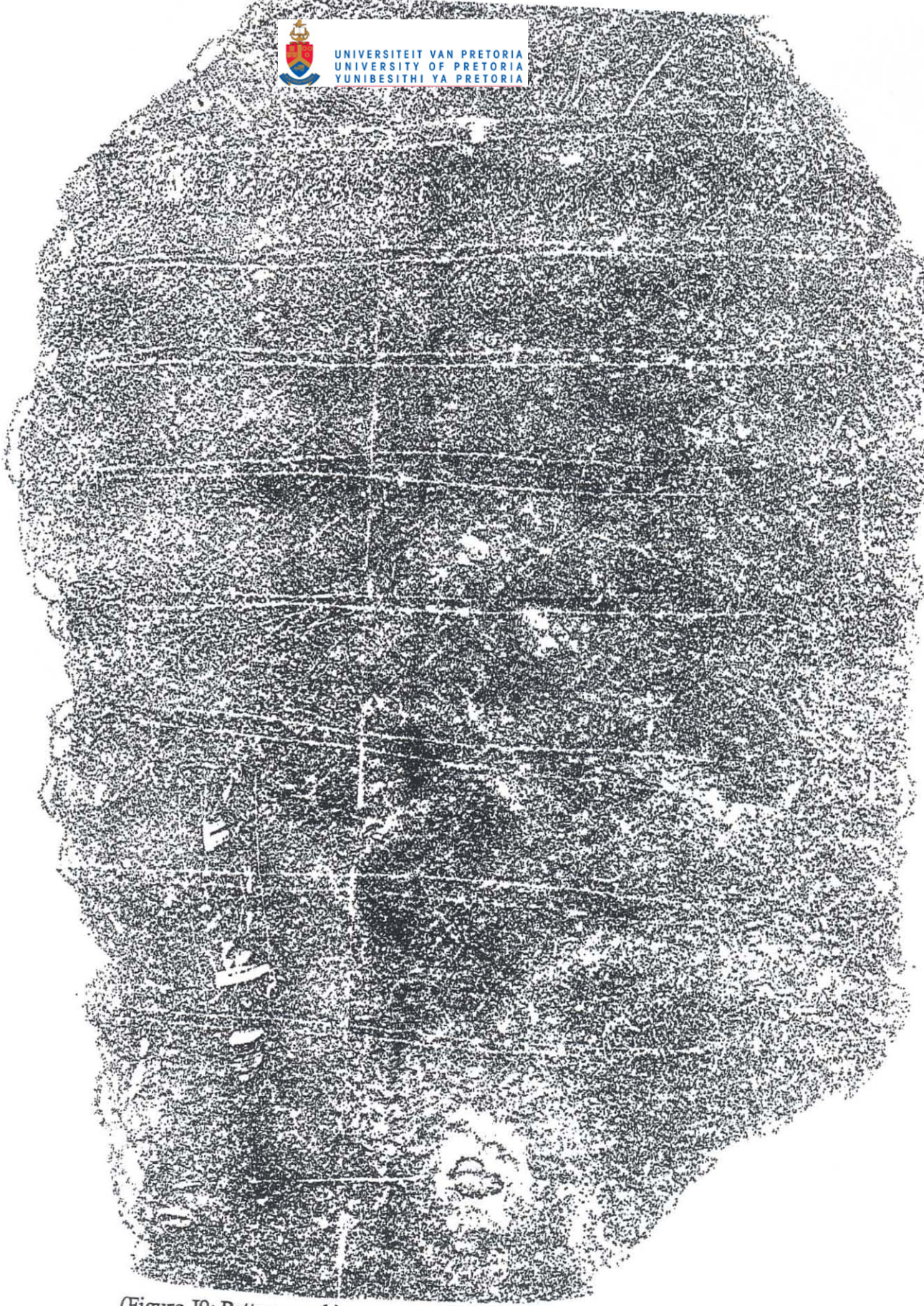
The pattern work is structured and purposeful and the technique used is fine lined (Figure J8). There is a large rubbed quadrangle, consisting of multiple fine line incisions, with four rubbed triangles on the top and bottom of the quadrangle. Superimposed on top of this, is pattern work representing mirror imagery. Multiple curved lines were engraved representative of water, with two "M" shapes forming the reflection. The "M" shapes are comprised of parallel lines, with the legs of the two shapes touching. This is proof that the Bushmen understood complex concepts (Figure J8 defined).

The texture of the rock surface engraved upon is medium grained. There are numerous small erosion marks on the engraved surface as well as one or two cattle marks. The condition of the engraving is good, with its only threat being further weathering due to the elements. The engraving is located towards the top of the hill and faces southwest.



(Figure J8 defined: Pattern work)

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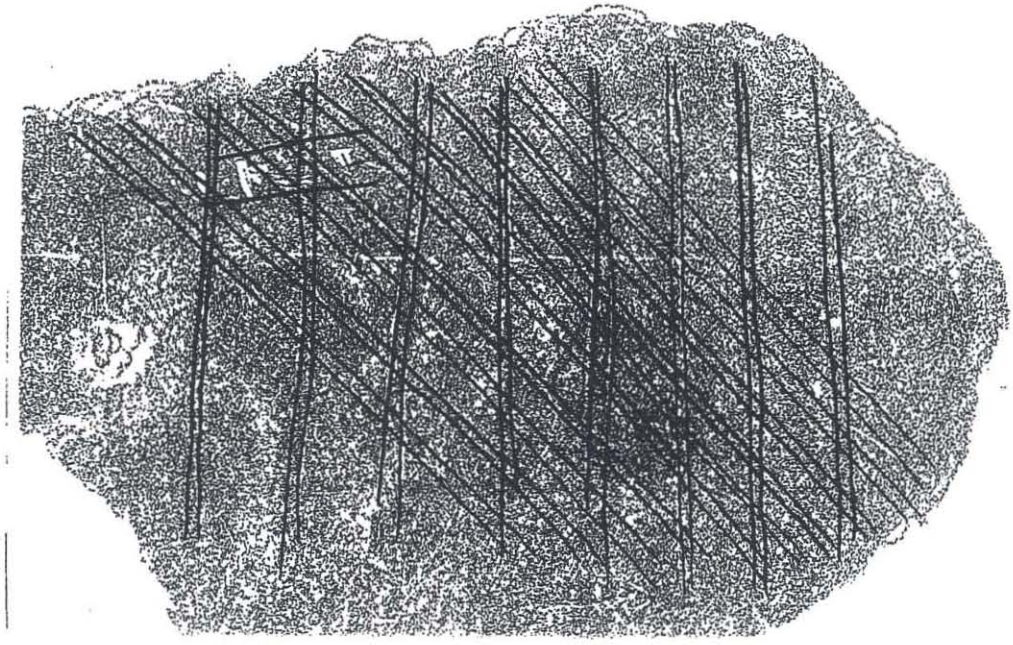
(Figure J9: Pattern work) Scale 1:1

Figure J9 - **Pattern work** - Latitude 27° 29' 17,8" E
Longitude 25° 54' 14,4" S

Actual Size Length: 32cm Breadth: 41cm

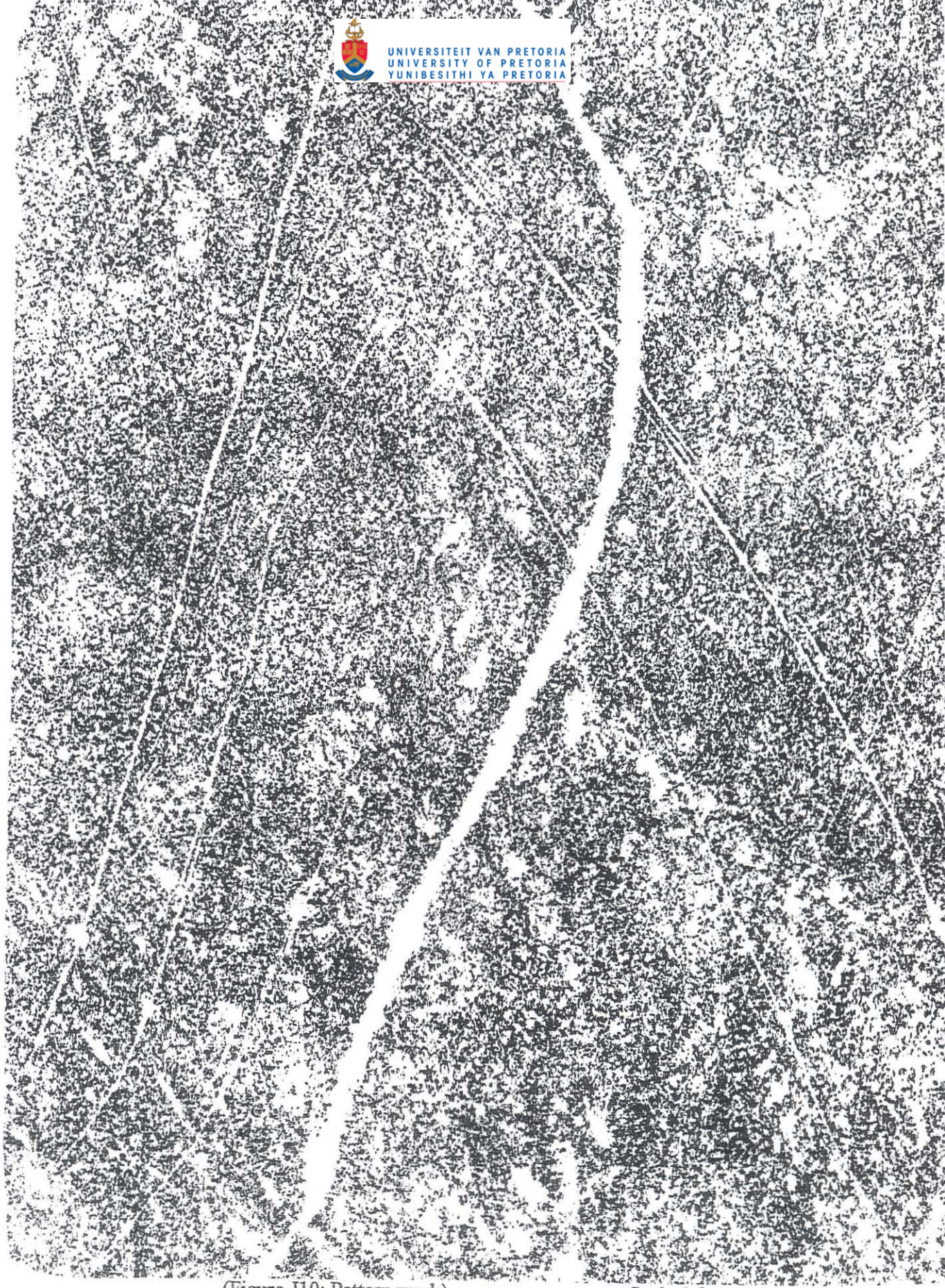
The pattern work is structured and a fine line incision technique was used (Figure J9). The pattern work consists of eight equally spaced parallel lines and thirteen equally spaced diagonal parallel lines. The vertical parallel lines are superimposed on the diagonal parallel lines, but were engraved at the same time (Figure J9 defined).

The texture of the rock surface engraved upon is medium grained. There are numerous small erosion marks present all over the engraved surface with a large erosion mark on the right hand side of the engraved surface, this however doesn't interfere with the engraved work. The condition of the engraving is good, with its only threat being further weathering due to the elements. The engraving is positioned towards the top of the hill and faces east.



(Figure J9 defined: Pattern work)

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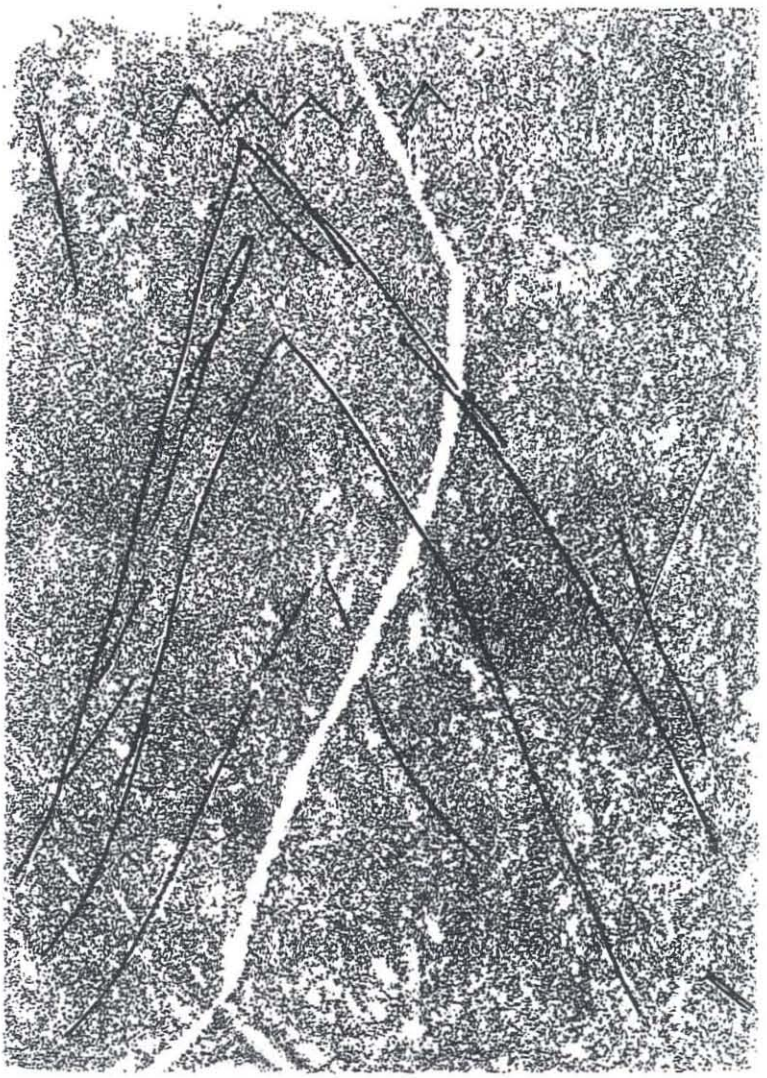
(Figure J10: Pattern work) Scale 1:3

Figure J10 - **Pattern work** - Latitude 27° 29' 20,9" E
Longitude 25° 54' 16,7" S

Actual Size Length: 25,5cm Breadth: 21,5cm

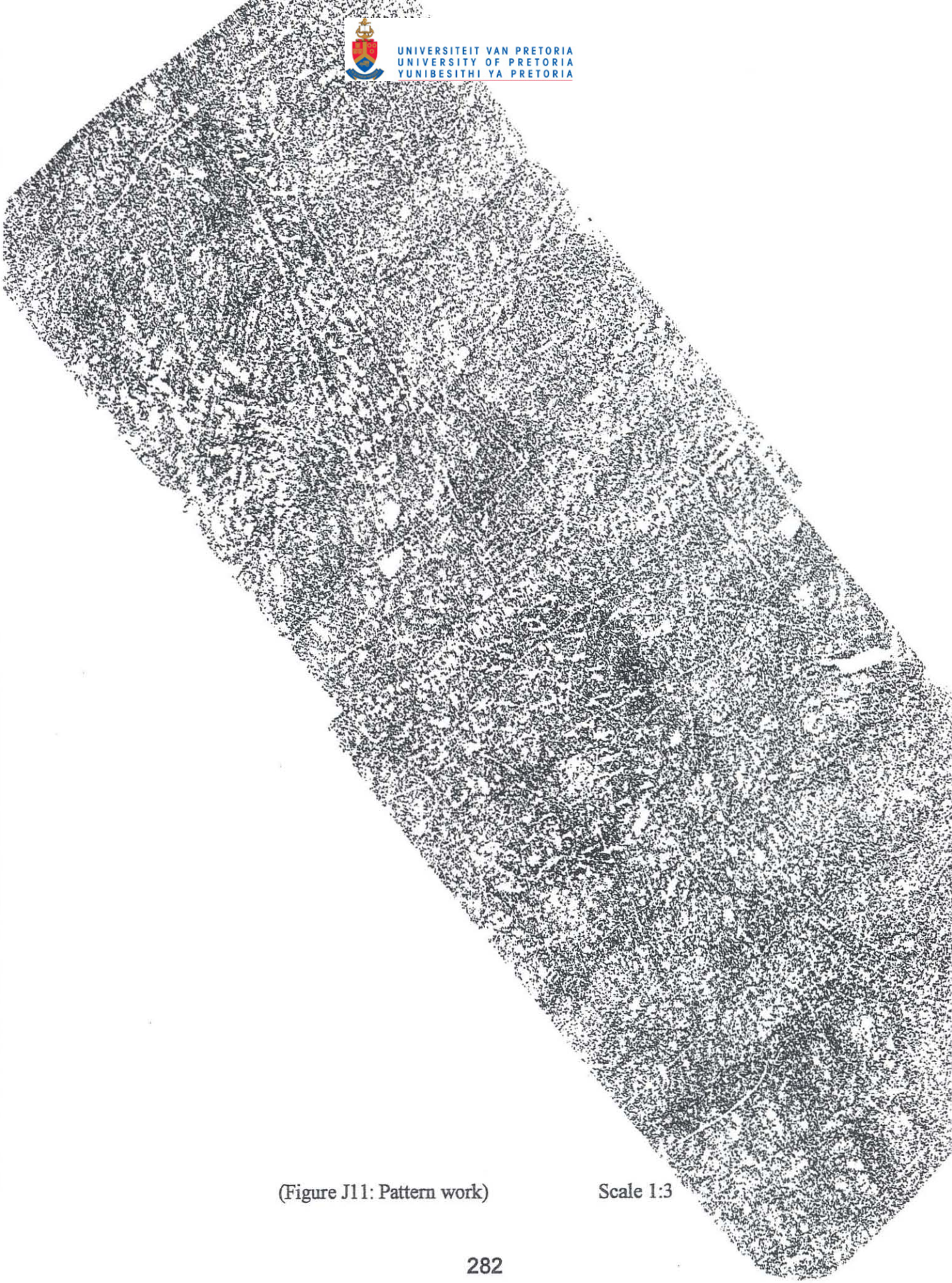
The pattern work is structured and incised making use of a fine line technique (Figure J10). The pattern work consists of three, parallel; upside down "V" shapes. At the tip of the largest "V" and superimposed on the "V" shape there is a single zigzag line that is very faint (Figure J10 defined).

The texture of the rock surface engraved upon is medium grained, with numerous small erosion marks all over the engraved surface. Running down the middle of the engraving is a crack, which was caused by lightning. Considering everything the condition of the engraving is good. The engraving is located towards the top of the hill and faces northeast.



(Figure J10 defined: Pattern work)

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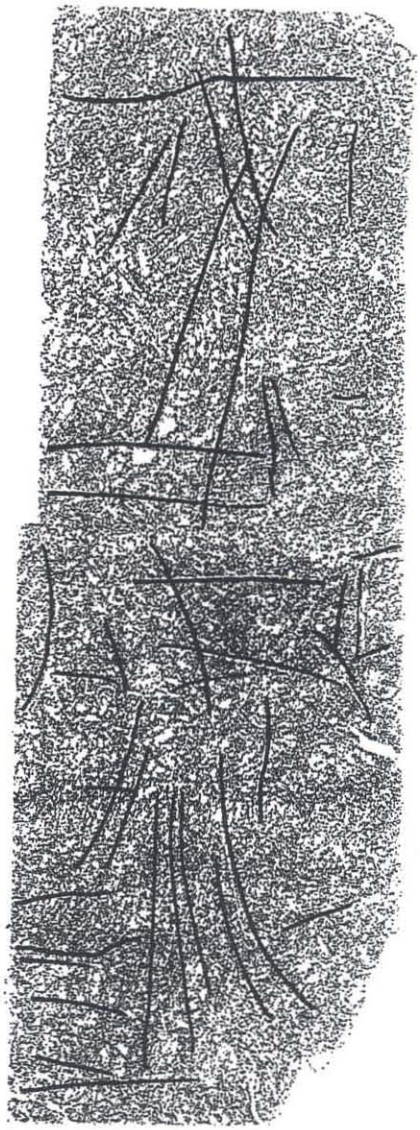
(Figure J11: Pattern work) Scale 1:3

Figure J11 - **Pattern work** - Latitude 27° 29' 19,0" E
Longitude 25° 54' 16,8" S

Actual Size Length: 55cm Breadth: 22cm

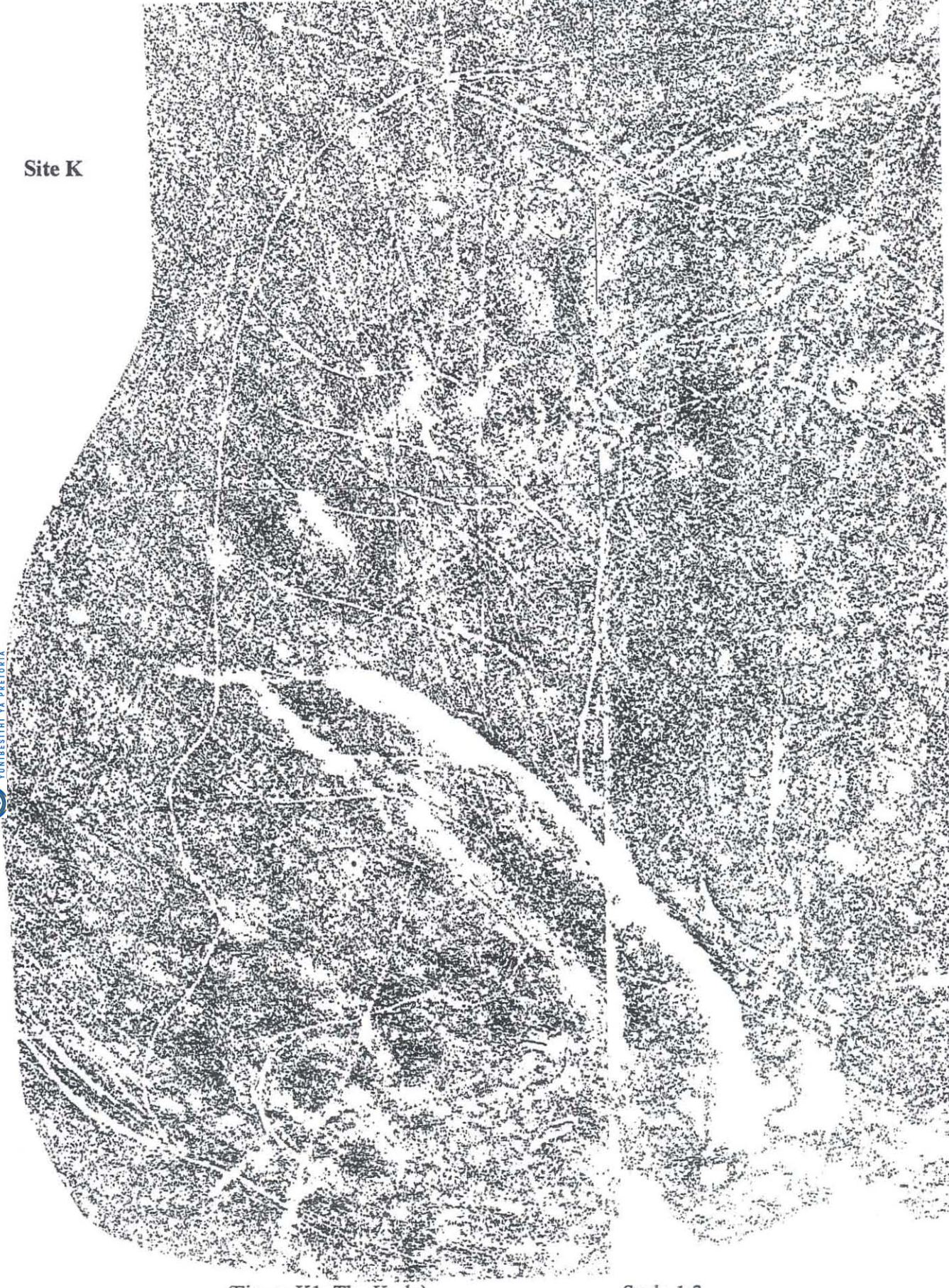
The engraved work is incised making use of a fine line technique (Figure J11). The engraving comprises of two covering lines, with punched markings inside, there are other punch marks found elsewhere on the rock surface. Superimposed on this pattern work are various curved lines, possible entoptic phenomenon (Figure J11 defined).

The texture of the rock surface is fine to medium grained, with numerous small erosion marks found all over the rock surface. The condition of the engraving is satisfactory, with its only threat being further weathering. The engraving is located midway up the hill, behind the guest house and faces north.



(Figure J11 defined: Pattern work)

Site K



(Figure K1: The Kudu) Scale 1:3

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Figure K1 - **The Kudu** *(Tragelaphus strepsiceros)*

- Latitude 27° 29' 21,2" E
Longitude 25° 54' 14,4" S

Actual Size Length: 35cm Breadth: 41cm

The kudu is engraved in a naturalistic style, making use of fine line technique; the antelope is well proportioned (Figure K1). It is impossible to tell weather or not the head was detailed due to the erosion over the years, the horns are also difficult to define due to later scratching that took place. The forequarters, including the nuchual hump are well defined. The thoracic area is well defined. The front legs are no longer clearly visible due to erosion of the rock surface. The hindquarters, shank and pes of both back legs are well defined. The hoof of the left back leg is also include, this is a rarity. The caudal appendage is present but is no longer well defined due to erosion marks. The characteristic curved coloration stripes are present on the side of the antelope; there are eight in total (Figure K1 defined).

The texture of the rock surface is medium to rough grained. There are numerous small erosion marks found all over the engraved surface. On the bottom left there are major erosion marks, which have damaged the front legs of the kudu, this needs to be monitored closely. The condition of the engraving is satisfactory and looks worse on paper than it is in reality, it does however need to be monitored. The engraving is located on the far northern side of the site, midway up the hill and faces north.



(Figure K1 defined: The Kudu)





(Figure K2: The White Rhinoceros) Scale 1:6

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Figure K2 - **The White Rhinoceros** *(Ceratotherium simum)*

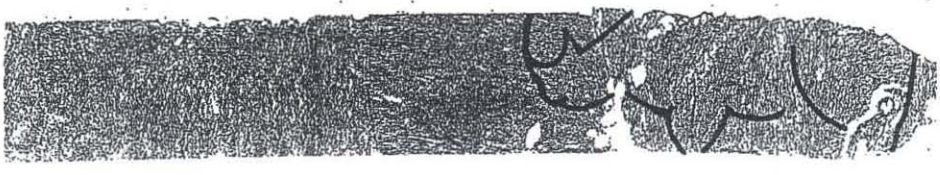
- Latitude 27° 29' 19,4" E
Longitude 25° 54' 14,6" S

Actual Size Length: 22cm Breadth: 131cm

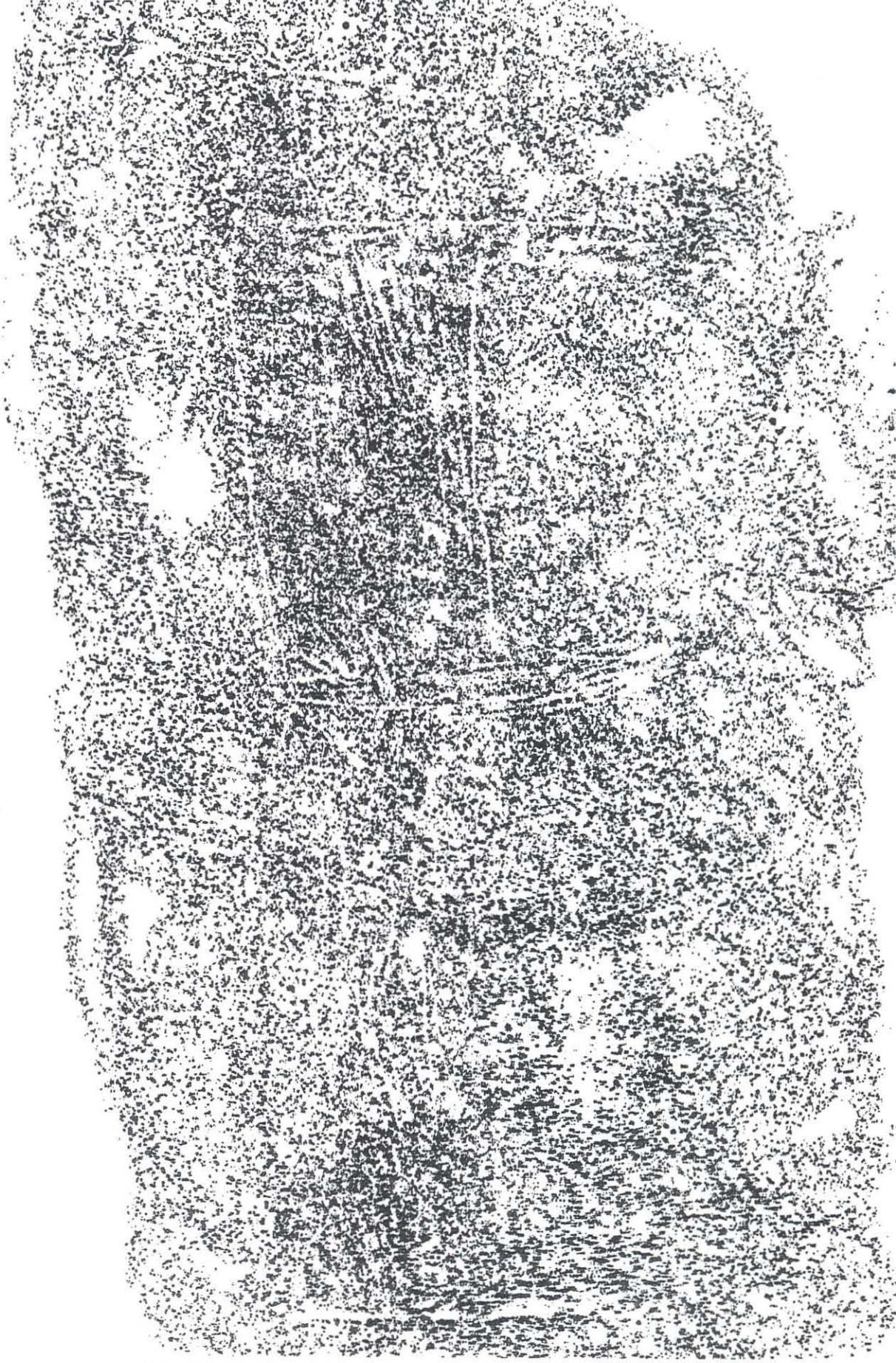
The engraved rhino is naturalistic in style and incised making use of a broad line technique (Figure K2). Superimposed on the rhino is linear pattern work, which is incised in a fine line technique. The rhino was broken in two at the neck, due to a crack caused by lightning and because the rhino is located on a 45 degree angled slope the body rolled approximately a meter away from the head. The body was over turned, and had to be located, put back in place and clean up.
The rhino itself is 22cm in length and 63cm in breadth.

The head is detailed in that the mouth and characteristic shape of the mouth, which is broad and flat are well illustrated. The front horn, which never ceases, growing in white rhino's, length is well portrayed and measures 12cm on the engraving, there is also a big difference between the length of the front and back horn, which is something not encountered in the black rhino. The back horn also curves forwards and in the black rhino it curves backwards. That section of the head, which would have included the ears, was destroyed during the lightning strike and is in to many pieces to be reconstructed. The forequarter which includes the nuchal hump, was chipped away when the body rolled down the hillside, the hindquarters and caudal appendage suffered the same fate. Fortunately the characteristic barrel shape of the body and the short stockiness of the legs can still be seen. The manus and pes of the rhino were not engraved, due to the size of the rock surface. The rhino is well proportioned. Later linear work was superimposed on the rhino; it consists of arbitrary incisions and parallel lines, which serve no purpose, forming no formal pattern or structure. The lines radiate in all directions, with the engraved rhino being no exception (Figure K2 defined).

The texture of the rock surface engraved upon is medium to fine grained, With numerous small erosion marks located all over the surface. Below the head there are three large erosion marks and on the body which was over turned for years there are a number of larger erosion marks, especially around the back leg. The condition of the rhino's head is good, while the body is satisfactory and needs to be monitored. It's only threat is further weathering. The rhino is located near the northern edge of the site, midway up the hill and faces north.



(Figure K2 defined: The White Rhinoceros)



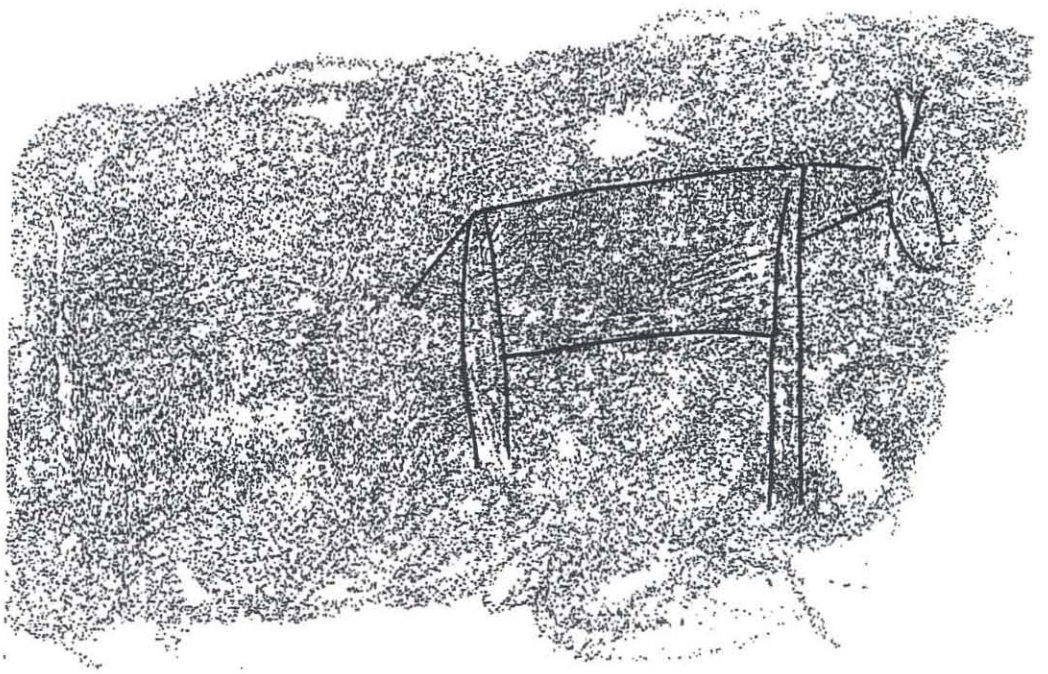
(Figure K3: The Eland) Scale 1:1

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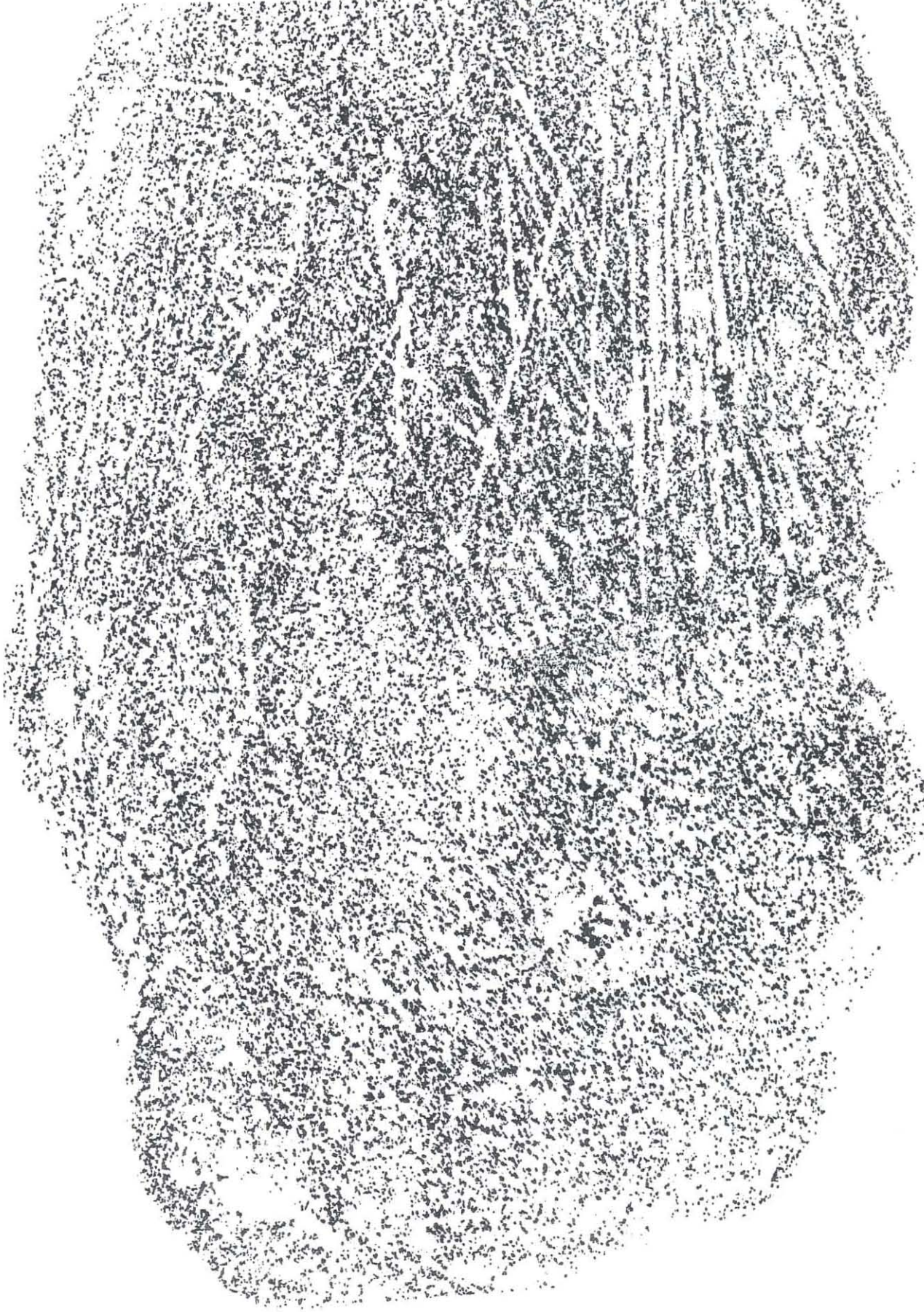
Figure K3 - **The Eland** *(Tragelaphus oryx* - Latitude 27° 29' 24,7" E
Longitude 25° 54' 14,0" S
Actual Size Length: 12cm Breadth: 14,5cm

The engraving is stylised, making use of geometric form and a multiple fine line technique (Figure K3). The geometric form suggests that the eland be of Sotho-Tswana origin. The body of the antelope is rectangular in shape. The back leg is portrayed as a separate rectangular shape extending from the hindquarters to the pes. The front leg is also a separate rectangular shape, extending from the lower limb to the manus. The neck is triangular in shape, with the head being totally out of proportion and oval in shape. The horns are two straight lines. The entire engraved surface has a coloured in affect, attained by multiple incisions, rubbing the rock surface until the blue undertone of the rock is revealed (Figure K3 defined).

The texture of the rock surface is rough, with numerous small erosion marks found all over the surface. The condition of the engraving is satisfactory, but needs to be monitored. The engraving is located towards the top of the hill and faces west.



(Figure K3 defined: The Eland)



(Figure K4: White Rhinoceros) Scale 1:1

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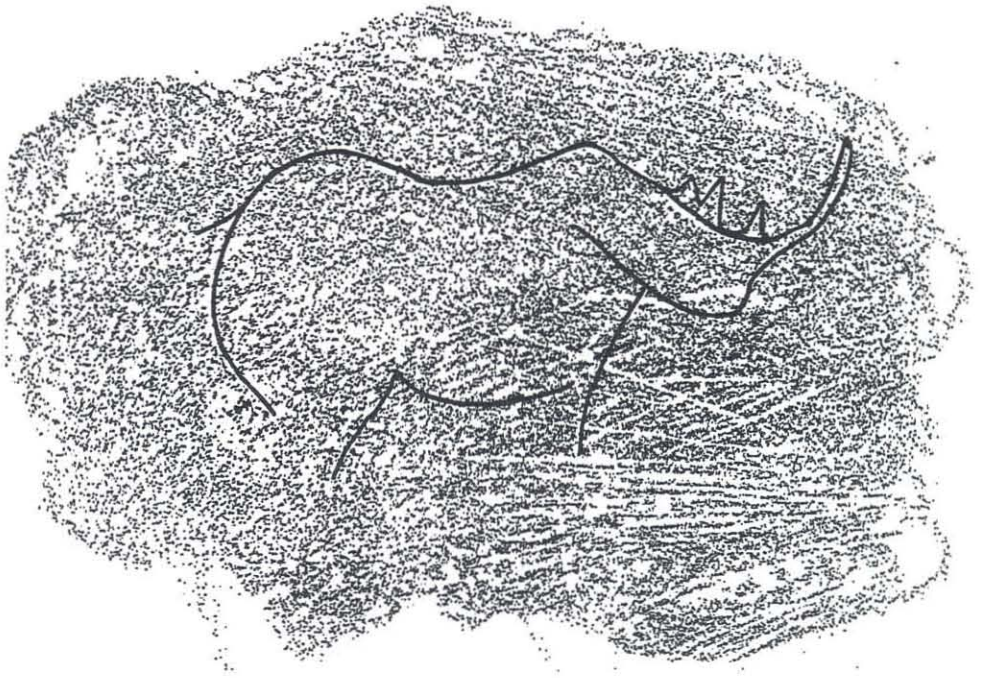
Figure K4 - **White Rhinoceros** *(Ceratotherium simum)*

- Latitude 27° 29' 24,1" E
Longitude 25° 54' 14,1" S

Actual Size Length: 17cm Breadth: 21cm

The rhino is naturalistic in style and incised making use of a fine line technique (Figure K4). The characteristic square mouth, extra long front horn, shorter back horn, pointed ears, long head, distinct nuchal hump, barrel shaped body, short stocky legs and short tail are very well defined. The visibility of the engraved rhino is impaired on the rubbing due to the rough texture of the rock and also due to the arbitrary incisions superimposed around the front end of the rhino. The legs and feet are exceptionally well defined on this particular rhino, but are not visible on the rubbing (Figure K4 defined).

The texture of the rock surface is very rough, with several small erosion marks found on the engraved surface. The condition of the engraving is satisfactory, with its only threat being the elements. The engraving is located at the very western boarder of the site and faces southeast.



(Figure K4 defined: White Rhinoceros)



(Figure K5: The Eland) Scale 1:1

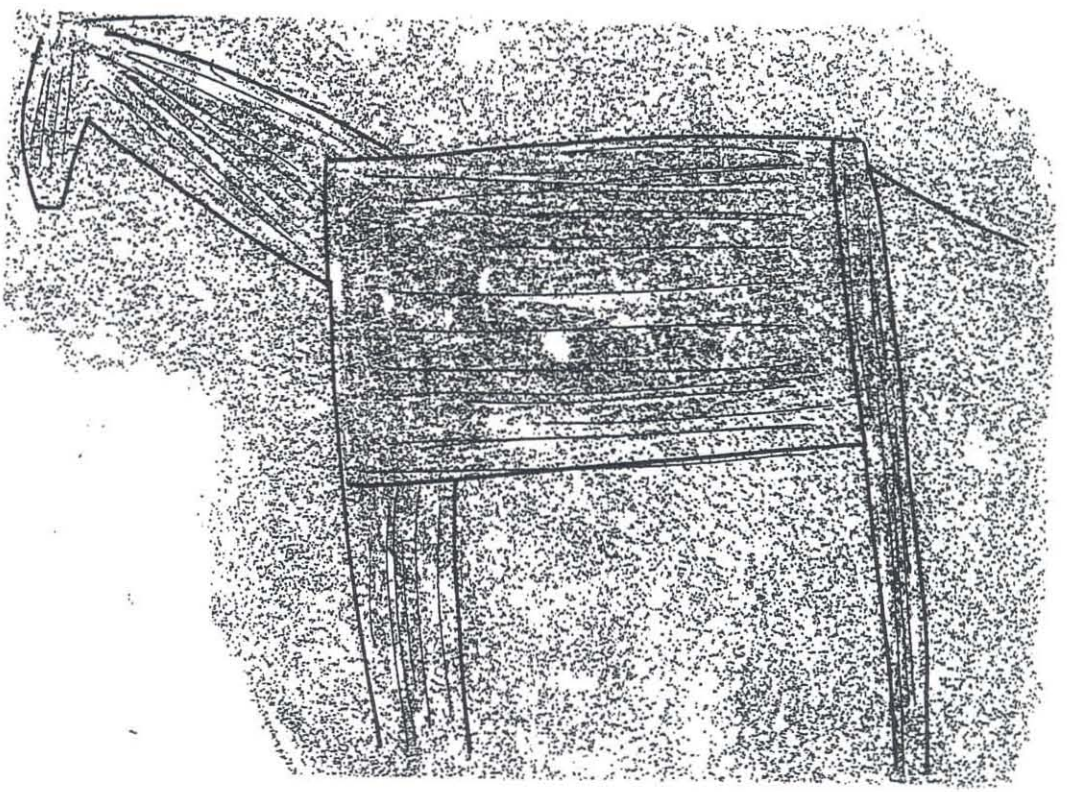
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Figure K5 - **The Eland** *(Tragelaphus onyx)* - Latitude 27° 29' 23,2" E
Longitude 25° 54' 17,7" S

Actual Size Length: 22cm Breadth: 28,5cm

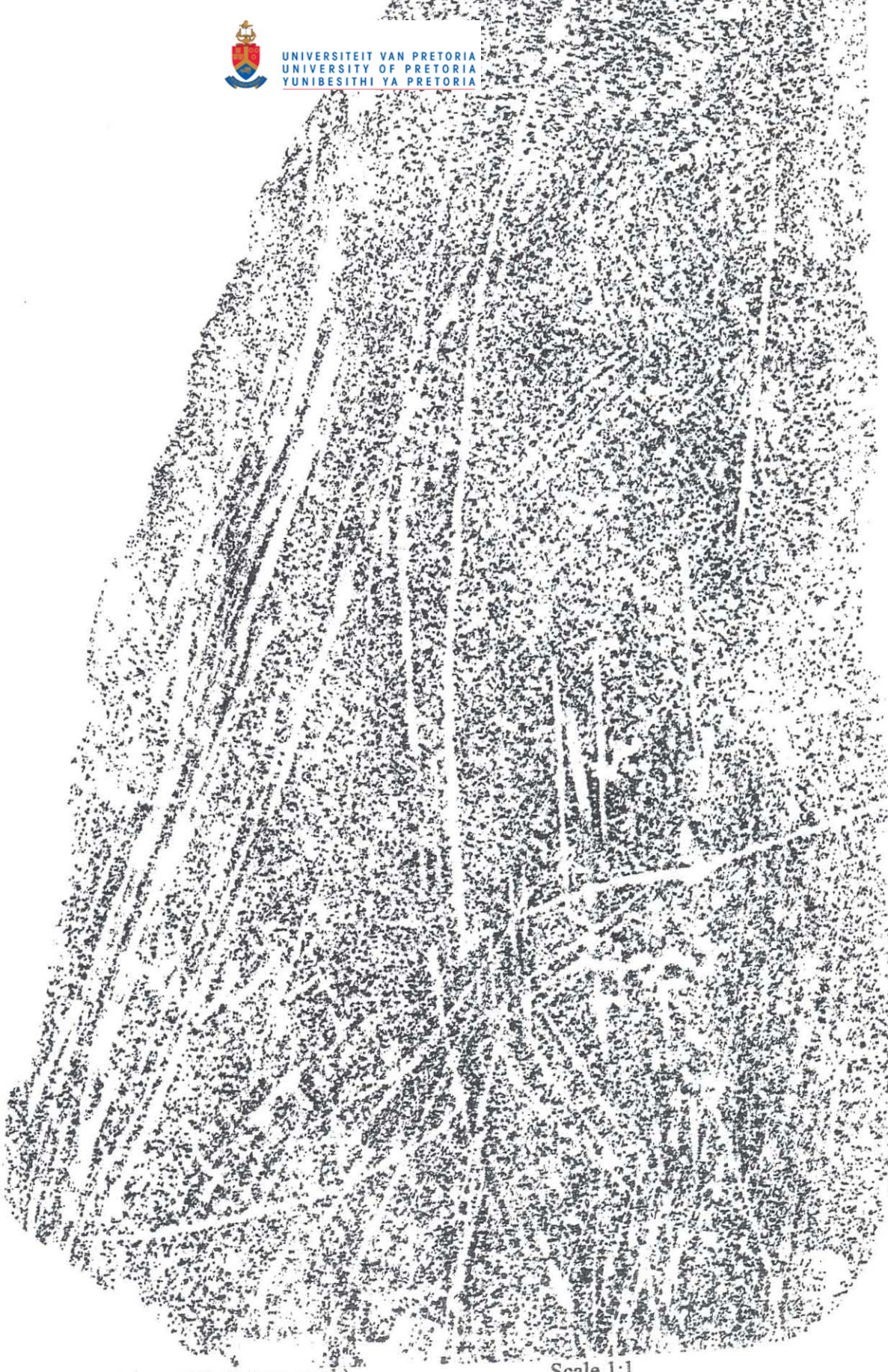
The eland is stylised making use of geometric shapes and a multiple fine lined incised technique (Figure K5). The geometric style is of Sotho-Tswana origin. The body is rectangular is shape. The front and back legs are also rectangular in shape. The neck is triangular and the head an oblong oval. The horns and caudal appendage are simple straight lines; the horns are almost horizontal due to the size of the rock surface. The entire engraved surface is incised with multiple fine lines, rubbed until the blue under tone of rock was exposed (Figure K5 defined).

The texture of the rock surface is very rough, with numerous small erosion marks all over the surface of the rock. The condition of the engraving is good. The engraving is located towards the top of the hill close to the Sotho-Tswana village and faces southwest.



(Figure K5 defined: The Eland)

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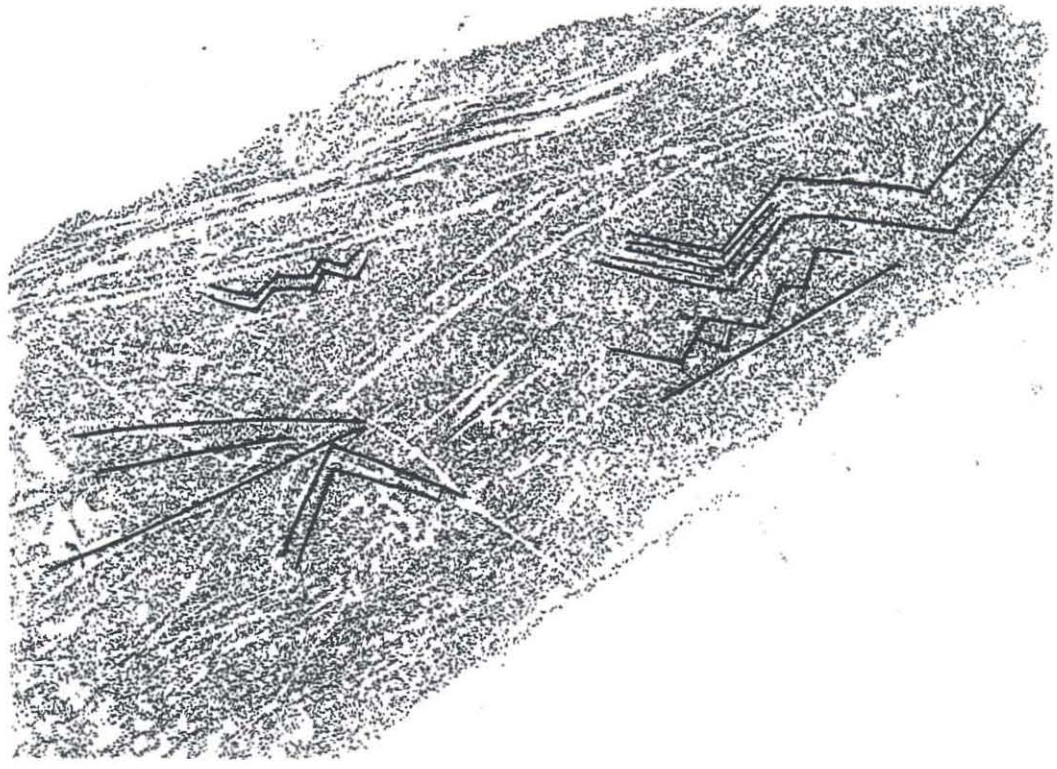
(Figure K6: Pattern work) Scale 1:1

Figure K6 - **Pattern work** - Latitude 27° 29' 20,4" E
Longitude 25° 54' 14,2" S

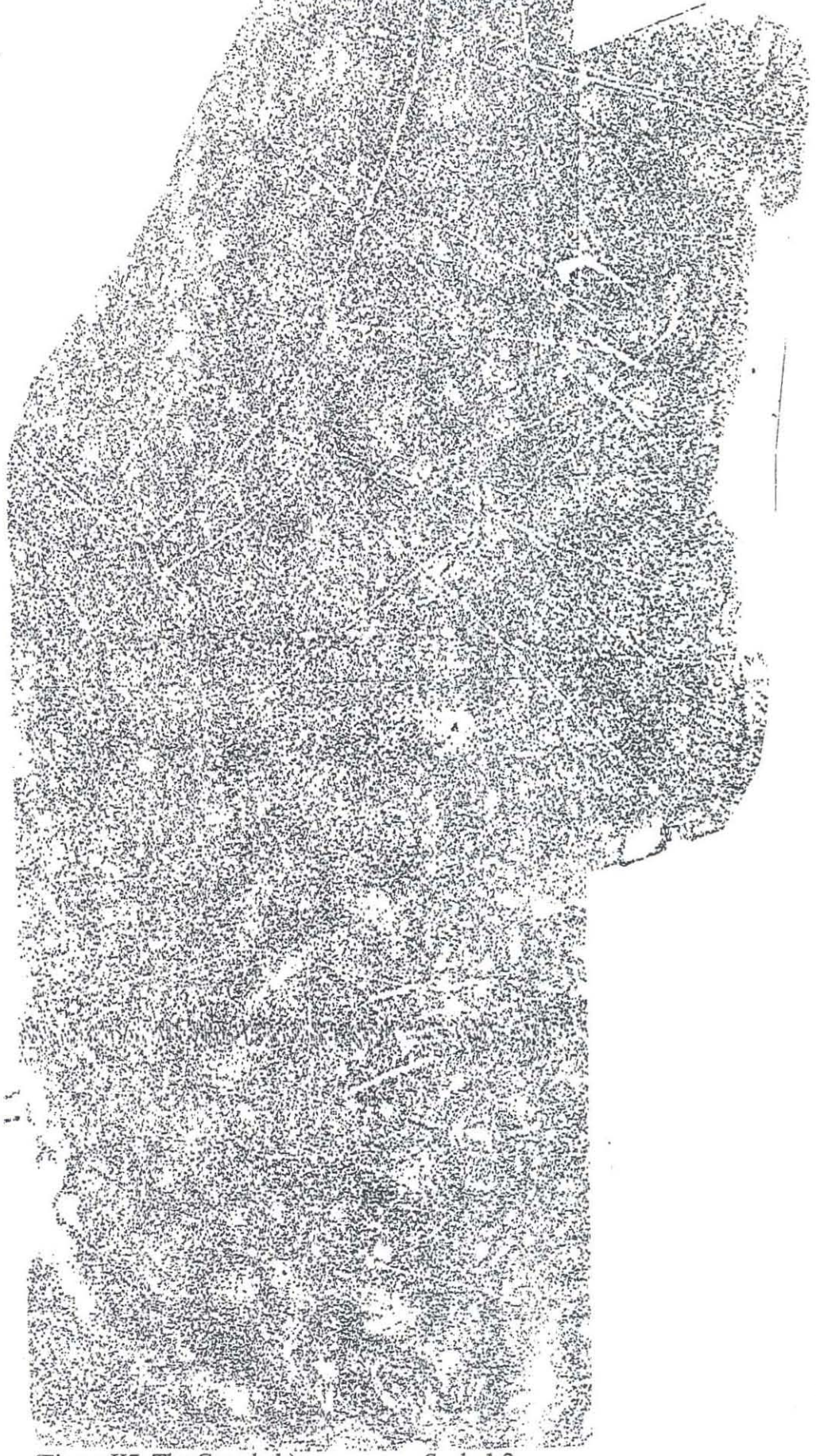
Actual Size Length: 20cm Breadth: 28cm

The various linear works were engraved making use of a fine line technique and later broad line incisions (Figure K6). On the right hand side of the engraved surface there is zigzag pattern work, consisting of five lined parallel zigzag's and single lined zigzags underneath that. To the left of the engraving there are three parallel upside down "V" shapes. Superimposed on the pattern work are numerous arbitrary broad line incisions that seem to serve no purpose (Figure K6 defined).

The texture of the rock surface is medium grained, with erosion marks located around the top and left periphery of the engraved surface. The condition of the engraving is satisfactory. The engraving is located towards the top of the site and face northwest.



(Figure K6 defined: Pattern work)



(Figure K7: The Gemsbok) Scale 1:2

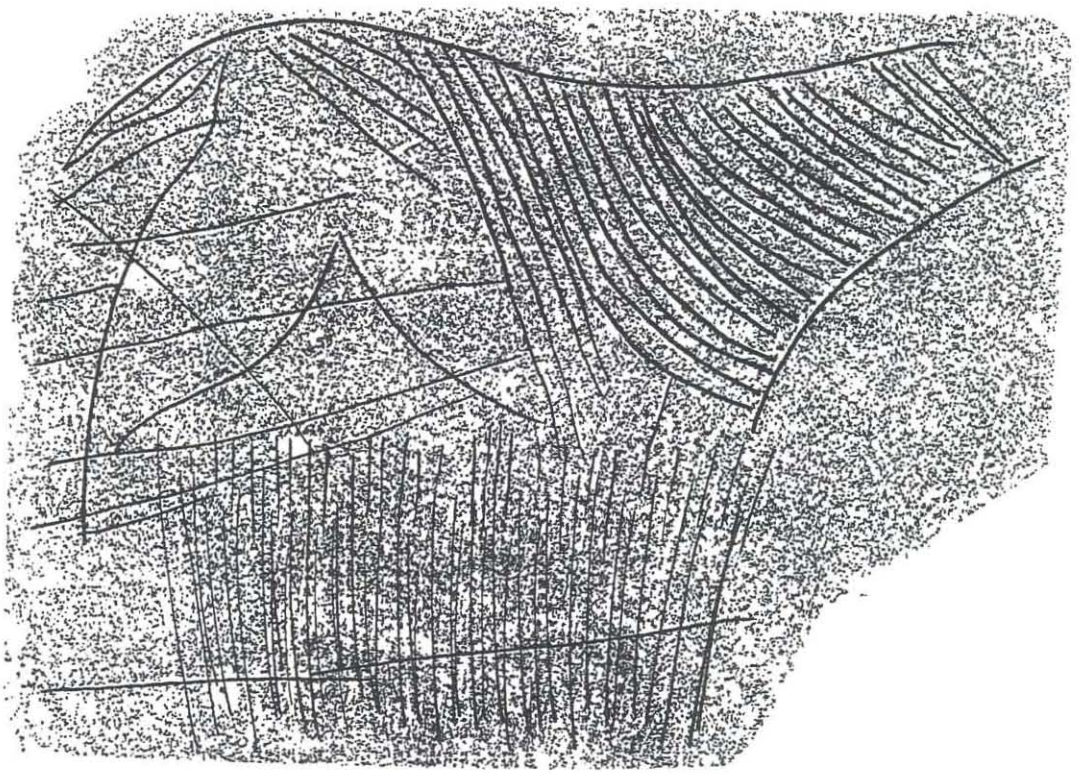
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Figure L1 - **The Quagga** *(Equus quagga)* -Latitude 27° 29' 42,2" E
Longitude 25° 54' 16,1" S

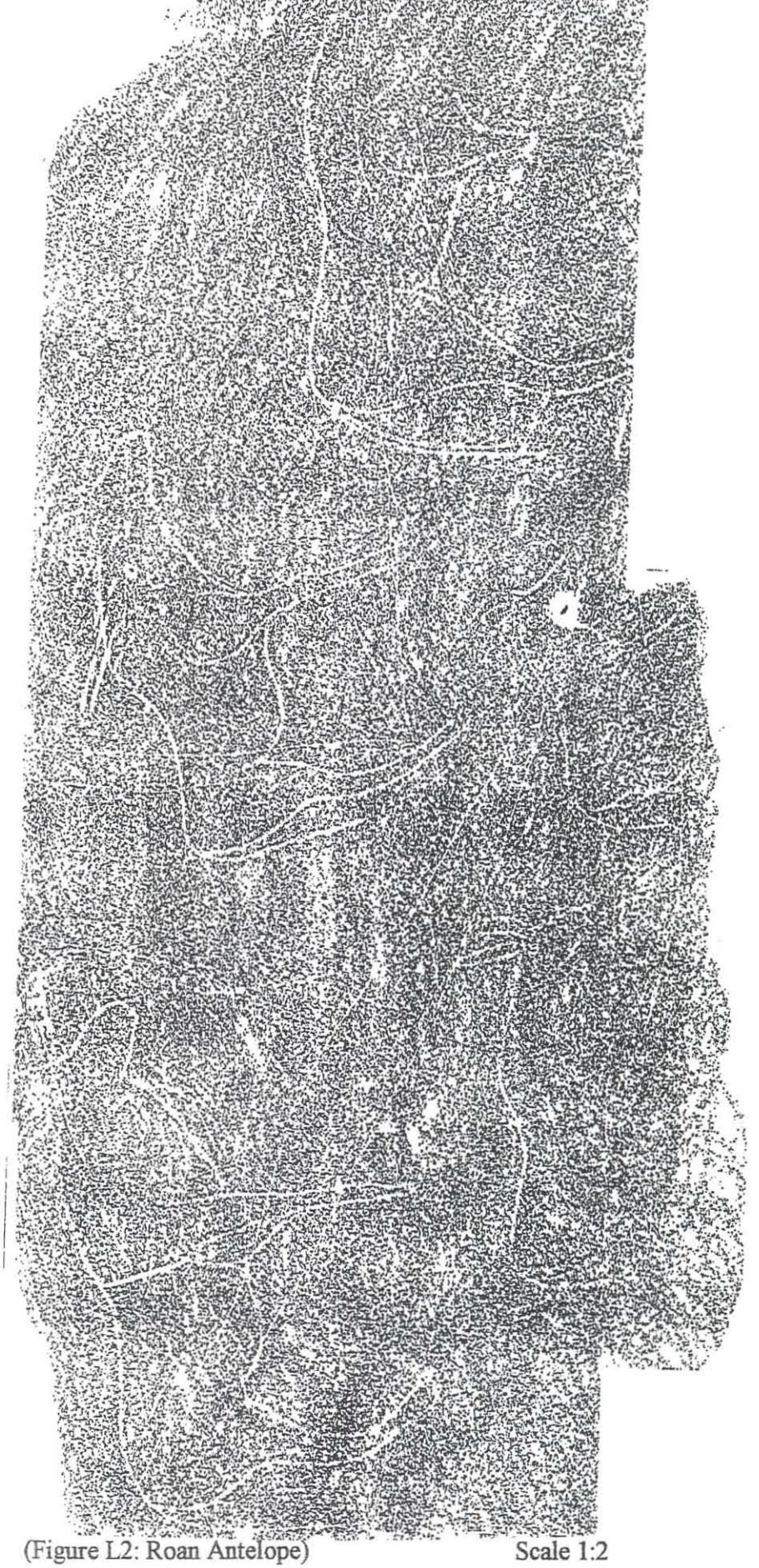
Actual Size Length: 20,5cm Breadth: 30,5cm

The quagga is naturalistic in style and engraved making use of an incised fine line technique (Figure L1). The quagga is portrayed standing in long grass and is headless, due to erosion. The body is short and stocky, with a characteristic flat back and rounded belly. The lower limb and shank of the legs are visible, but the pes and manus are hidden behind the grass. The caudal appendage ends in a bushy tuft. The characteristic coloration stripes of the quagga are portrayed in detail on the engraving. The neck of the quagga ends in a sharp point and there is no head. Superimposed on the quagga hindquarters is a leaf like structure, below this structure there are several converging lines (Figure L1 defined).

The texture of the rock surface is medium grained, with a number of small erosion marks all over the engraved surface. The condition of the engraving is satisfactory. The engraving is located at the base of the hill close to the eastern boarder and faces west.



(Figure L1 defined: The Qugga)



(Figure L2: Roan Antelope) Scale 1:2

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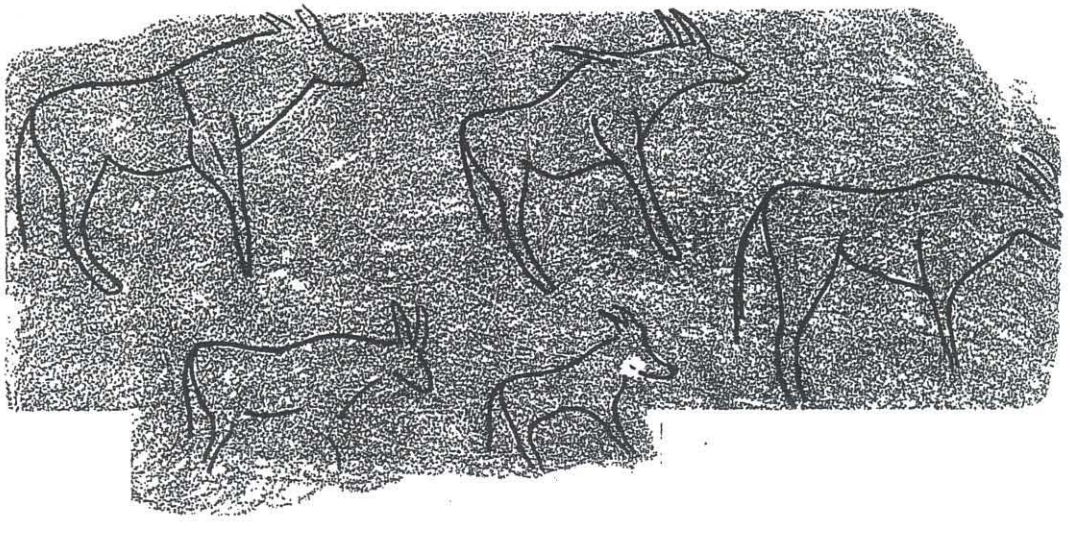
Figure L2 - **Roan Antelope** *(Hippotragus equinus)*

- Latitude 27° 29' 44,9" E
Longitude 25° 54' 15,8" S

Actual Size Length: 24,5cm Breadth: 56,5cm

There are five roan engraved in a naturalistic style and incised making use of a fine line technique (Figure L2). The roan engravings cover the entire rock surface and all face in the same direction. The heads are well proportioned, shaped and designed, they are short and narrow and each include backward curved horns and large ears. Their broad necks and nuchal hump are well portrayed. The fore and hindquarters are realistically portrayed. Distinction is made between the lower limb and the manus of the front leg and the shank and pes of the back legs. The caudal appendage extent to the heel of the back legs. Superimposed on the roan and very finely engraved are converging lines radiating in various directions (Figure L2 defined).

The texture of the rock surface engraved upon is medium grained, with numerous small erosion marks all over the surface. The condition of the engraving is good. The engraving is located at the base of the hill close to the eastern boarder of the site and faces west.



(Figure L2 defined: Roan Antelope)



(Figure L3: The Eland) Scale 1:1

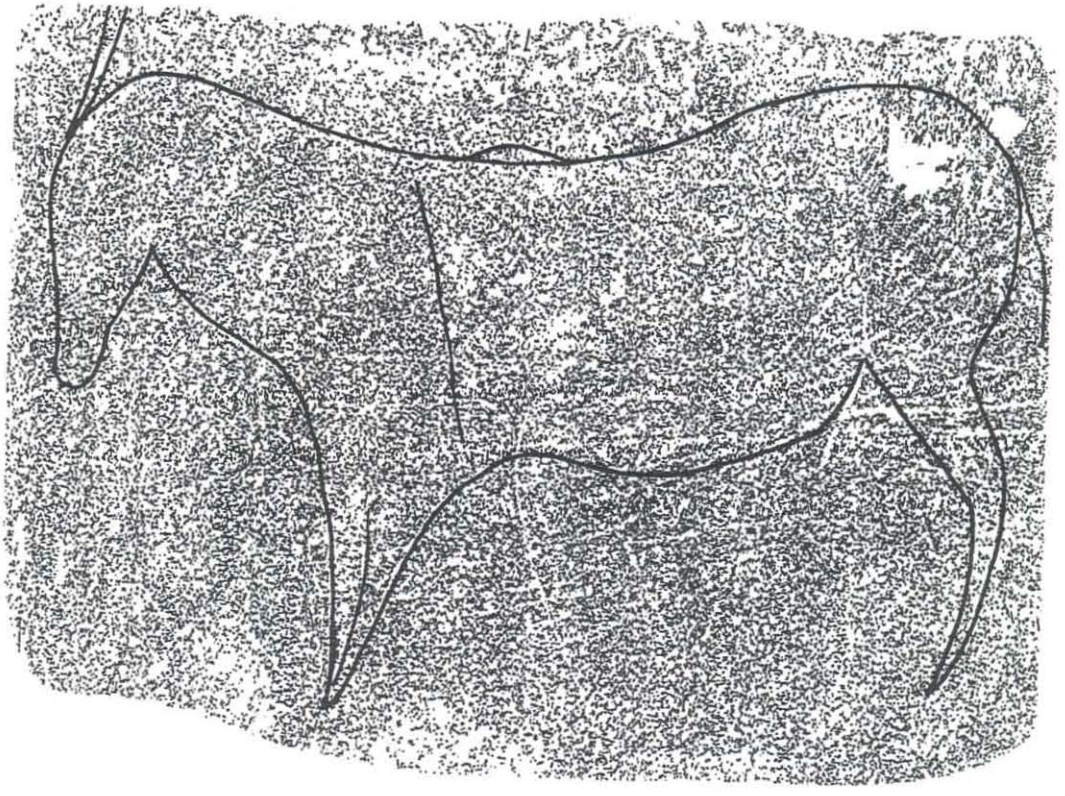
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Figure L3 - **The Eland** *(Tragelaphus oryx)* - Latitude 27° 29' 42,7" E
Longitude 25° 54' 15,3" S

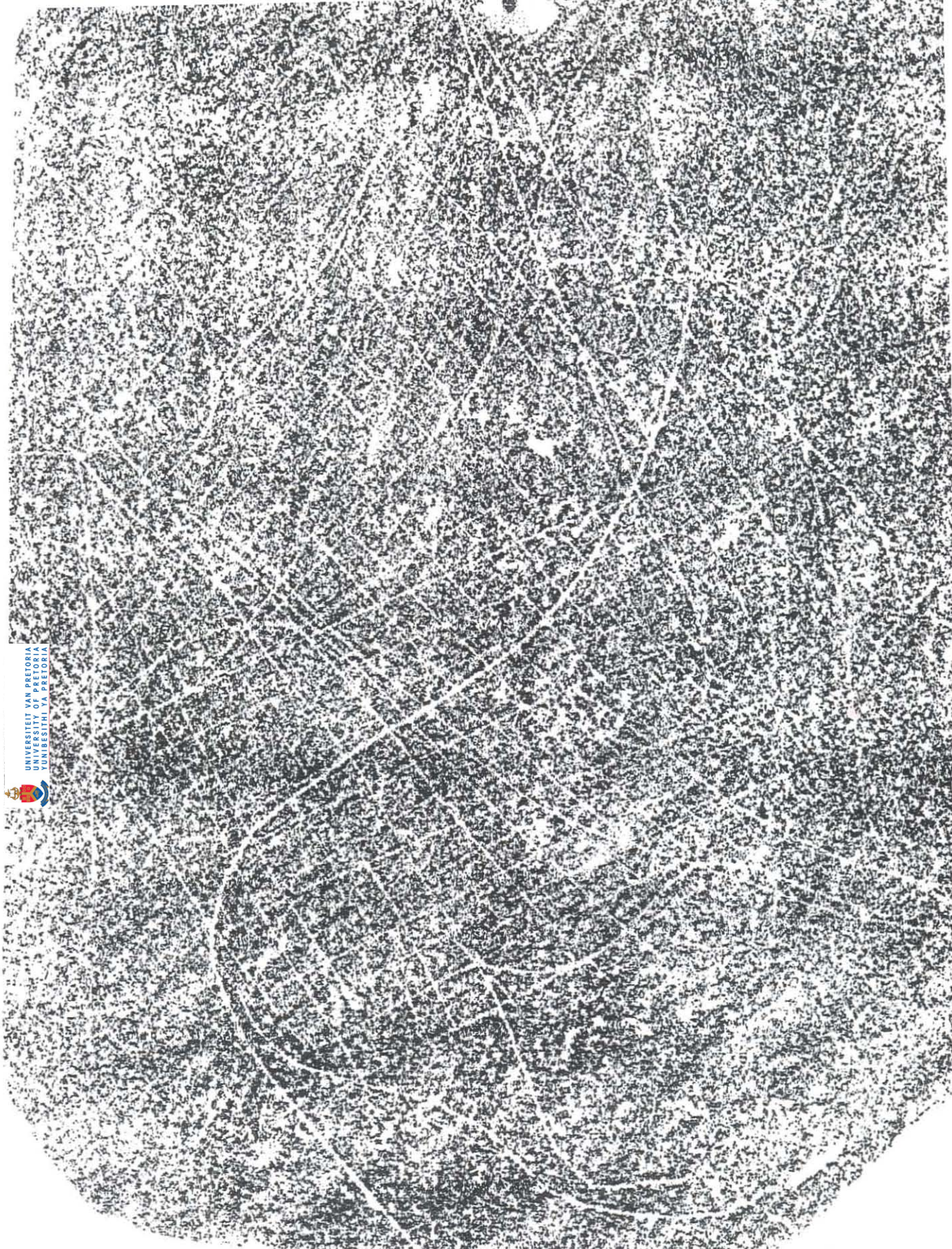
Actual Size Length: 19,5cm Breadth: 27,5cm

The eland is naturalistic in style and is engraved making use of a fine line incision technique (Figure L3). The engraving covers the entire rock surface. The head is beautifully detailed; the spirals of the horns are included as well as the raised forehead. The nuchal hump found on the forequarters is portrayed. The front leg is a converging "V" shape, while the back leg shows more detail with differentiation between the shank and pes. No hooves are detailed. The hindquarters are well proportioned and the caudal appendage is a simple straight line. Superimposed on the eland are numerous converging lines forming a cracker shape (Figure L3 defined).

The texture of the rock surface is medium to rough grained, with numerous small erosion marks found all over the rock surface. The eland covers the entire rock surface. The condition of the engraving is satisfactory. The engraving is located towards the base of the hill close to the eastern boundary of the site and faces northeast.



(Figure L3 defined: The Eland)



(Figure L4: Eland and Pattern work) Scale 1:2

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Figure L4 - **Eland and pattern work** *(Tragelaphus oryx)*

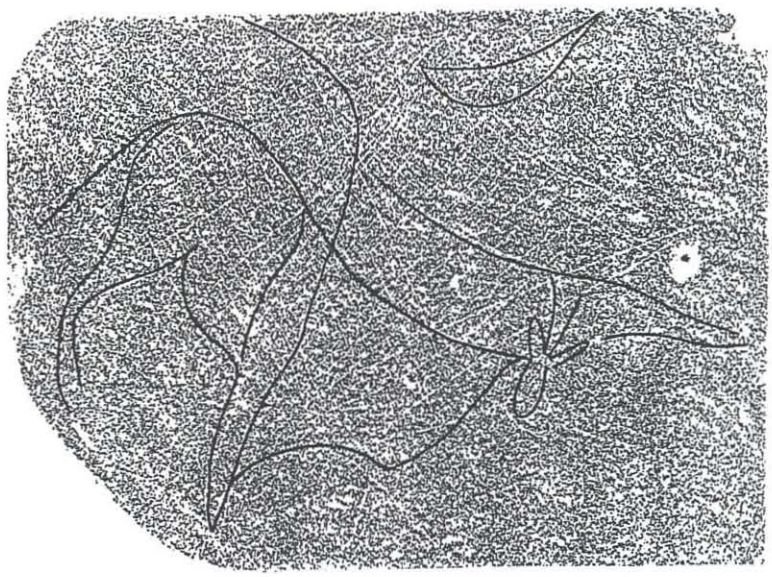
- Latitude 27° 29' 46,2" E
Longitude 25° 54' 17,5" S

Actual Size Length: 17cm Breadth: 21cm

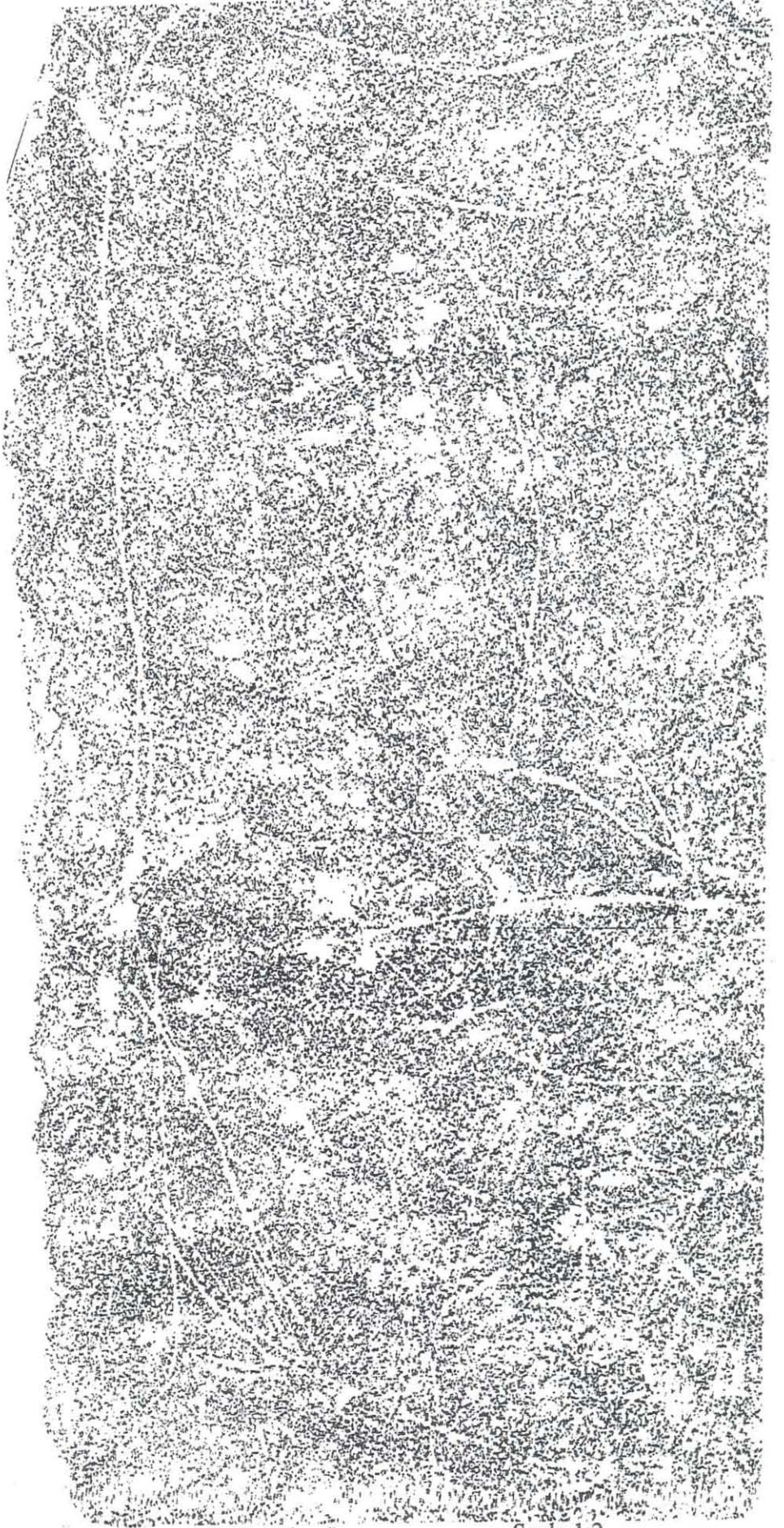
All the engraved work is incised making use of a fine line technique, with the styles ranging from naturalistic to geometric forms (Figure L4). There is a lot of super-impositioning found on this specific engraving. The engraved work covers the entire rock surface. The first engraved work was an abandoned attempt at an unidentifiable buck, only the outline of the hind and forequarters are present. The engraved eland appears to be the second work done. The hindquarters of the antelope are well defined and include a proportionately sized caudal appendage. There is differentiation between the shank and pes of the back leg, but no hoof is present. While the abdominal area is well defined, the front leg is a characteristic "V" shape used by the Bushmen. The thoracic area is defined, but the nuchal hump is not portrayed. The neck converges to a point, on which a lopsided oval shaped head is attached and detailed in that pinna are present. The horns are two simple straight lines.

Some time later part of the abandoned buck outline was used with a further added line to portray the outline of a feather structure. At the same time a half moon structure was engraved 9,5cm above the hindquarters of the eland as well as an oval shape which extends above and through the elands head. Superimposed on this is a parallel lined, upside down " V" shape, which lies next to and overlaps the tip of the half moon shape. Also a curved converging line was engraved and is located above the head of the eland. Superimposed on all of this and covering virtually the entire engraved surface is grid pattern work, a common form of entoptic phenomenon. Lastly superimposed on all of this are two converging lines that overlap the neck of the eland (Figure L4 defined).

The texture of the rock surface is medium to fine grained, with numerous small erosion marks located over the entire surface. The condition of the engraved work is good. The engraving is located at the base of the hill on the eastern boarder and faces southwest.



(Figure L4 defined: Eland and Pattern work)



(Figure L5: The Eland) Scale 1:2

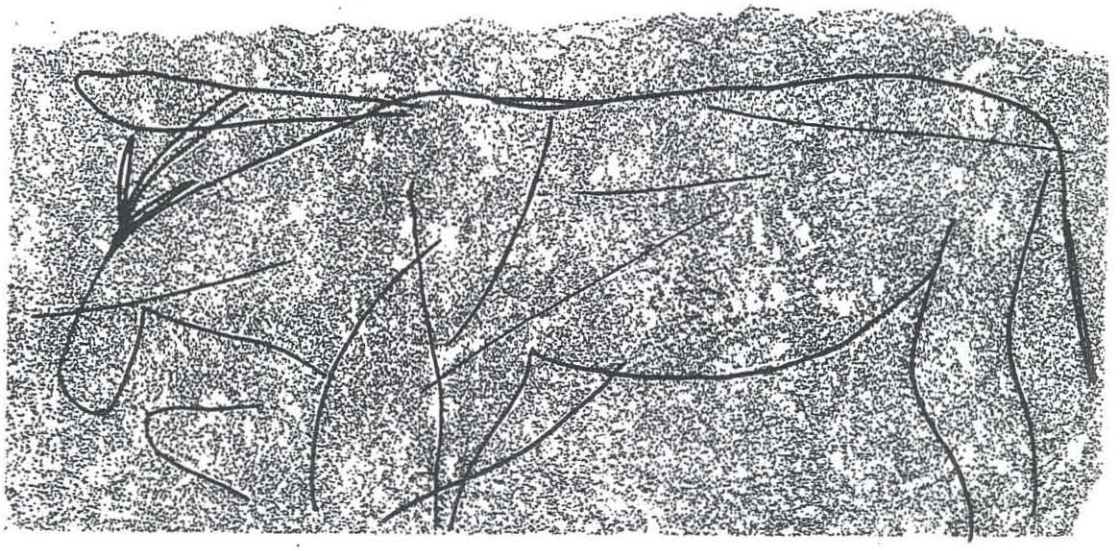
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Figure L5 - **The Eland** *(Tragelaphus oryx)* - Latitude 27° 29' 43,5" E
Longitude 25° 54' 16,8" S

Actual Size Length: 18cm Breadth: 44,5cm

The eland is engraved making use of an incised fine line technique and while the style is naturalistic it is exaggerated out of all proportion and is childlike (Figure L5). The head is an oblong shape, with no finer detail. The horns are two simple slightly curved lines and both pinnas are portrayed. The neck is very broad, with the nuchal hump almost non-existent. One characteristic proving the identity of the antelope is the faint coloration line running from the nuchal hump to the front leg, confirming that the antelope is an eland. The front legs are grossly over exaggerated, with very little form; the elbow is however defined. The hindquarters are nicely curved, but once again the back legs are over exaggerated and the curve of the leg which differentiates the shank from the pes, is portrayed back to front. The caudal appendage is a simple straight line, but the length is correct. Superimposed on the eland are two converging lines, one above the head, overlapping the horns and nuchal hump and the second overlapping the elbow and abdominal area (Figure L5 defined).

The texture of the rock surface is medium grained, with numerous small erosion marks located all over the rock surface. The condition of the engraving is satisfactory, but needs to be monitored. The engraving is located towards the base of the hill, near the eastern boarder of the site and faces north.



(Figure L5 defined: The Eland)



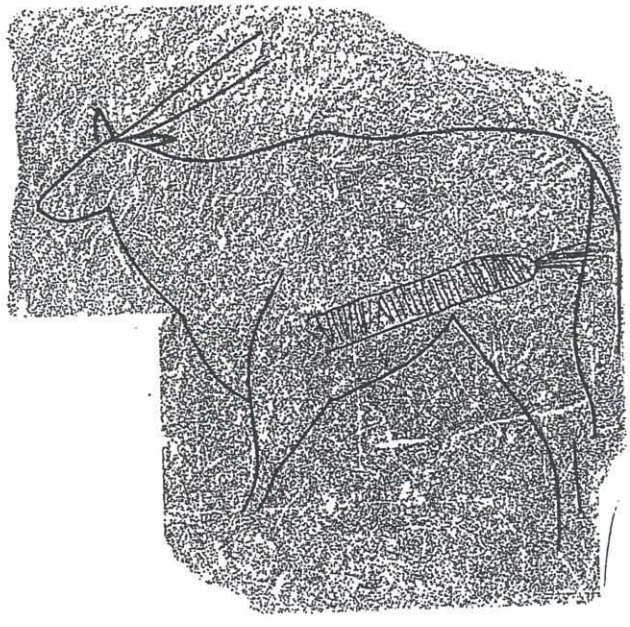
(Figure L6: The Gemsbok and Pattern work) Scale 1:3

Figure L6 - **The Gemsbok and Pattern work** *(Oryx gazella)*
- Latitude 27° 29' 68,1" E
Longitude 25° 54' 29,6" S
Actual Size Length: 41,5cm Breadth: 40cm

The eland is engraved in a naturalistic style, making use of an incised broad line technique (Figure L6). The pattern work is geometric and incised making use of a fine line technique. The eland covers almost the entire rock surface, with the pattern work superimposed on it. The entire eland is well proportioned; the head is stocky, with the horns represented as long straight lines, at 45° angles towards the back, characteristic of the gemsbok. Both pinna are portrayed on either side of the horns. The neck is long and broad, with a well-defined thoracic area. The muscles of the area known as the flank are represented. While the lower limb of the front leg is displayed, that is the leg end. The abdominal area is not well defined. The hindquarters are well defined, with a correctly represented caudal appendage, which ends in a bushy tuft and extends to the false hoof. The shank and pes of the back leg is differentiated, although the pes is somewhat neglected and the hoof area is omitted.

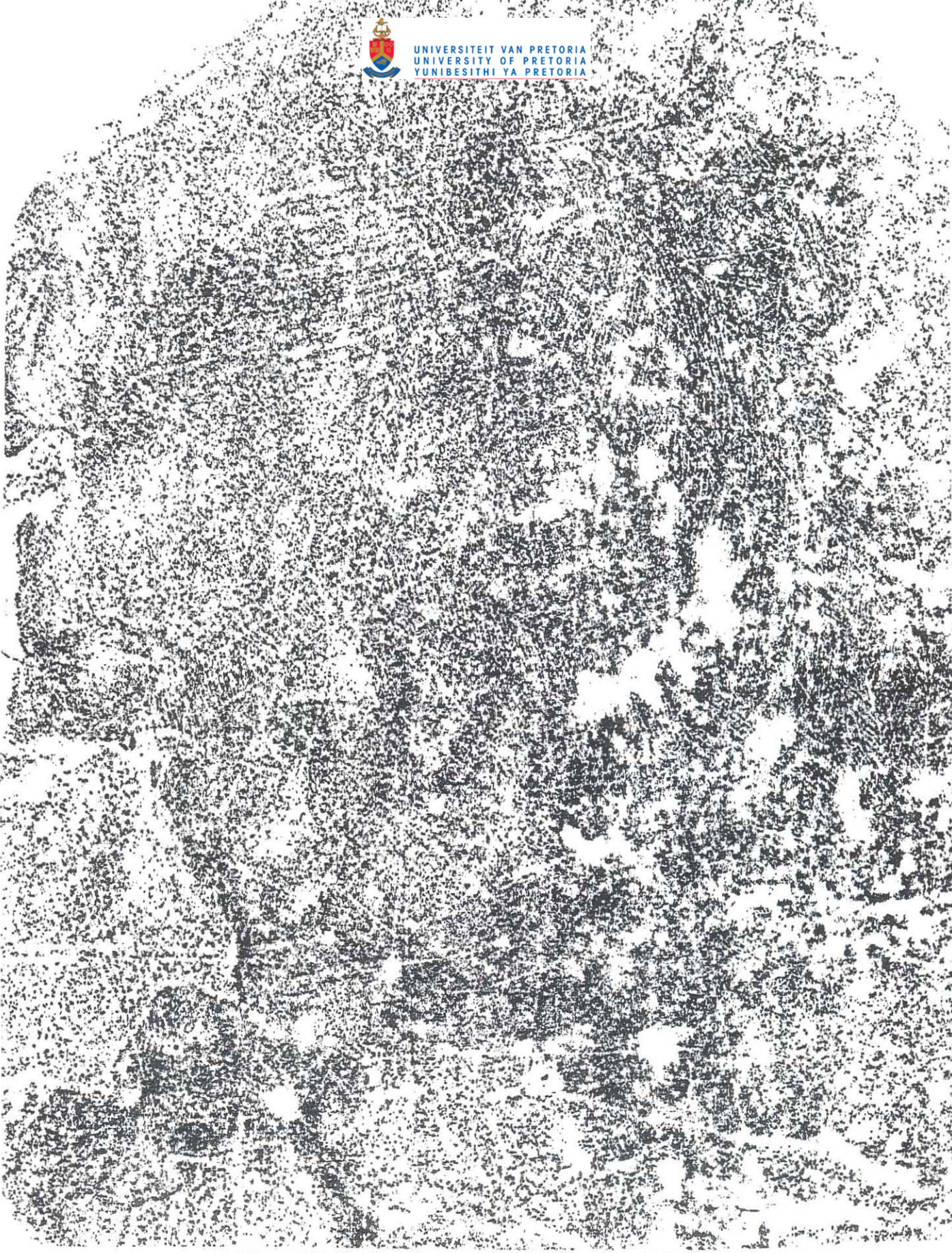
Inside the body of the gemsbok, there is an entpotic ladder-like form that was engraved prior to the gemsbok and is quite weathered. On the right end of the ladder approximately six straight lines radiating from the ladder. Superimposed on all the above-mentioned engraved work is a grid pattern with a difference, the difference being the size of the squares that make-up the grid. In this case they are larger than usual. There are a number of stray lines present on the engraving that don't form part of the gemsbok or the pattern work and seem to have no purpose (Figure L6 defined).

The texture of the rock surface is medium grained, with numerous small erosion marks all over the rock surface. Above the head of the gemsbok, there is a larger erosion patch, which doesn't interfere with the engraving, but should be monitored.
The condition of the engraving is good. The engraving is located on the top of the ridge, on the northern boarder of the site and faces north.



(Figure L6 defined: The Gemsbok and Pattern work)

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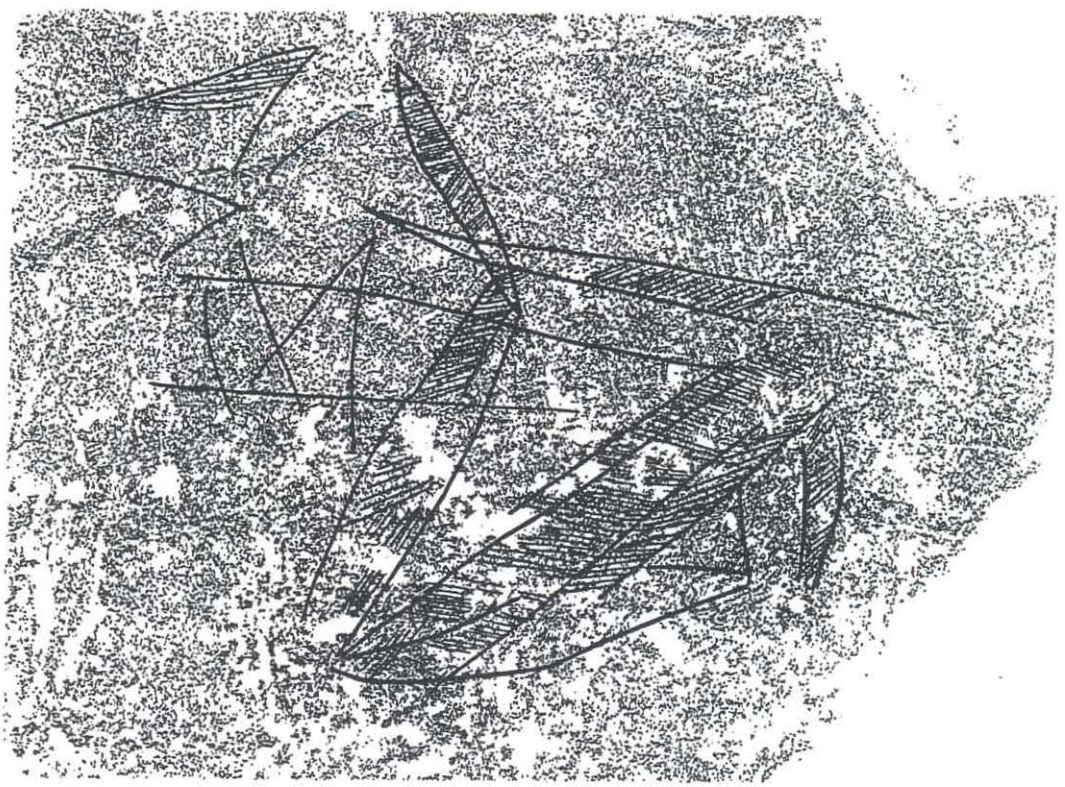
(Figure L7: Feather-like pattern work) Scale 1:1

Figure L7 - **Feather-like Pattern work** - Latitude 27° 29' 40,6" E
Longitude 25° 54' 16,9" S

Actual Size Length: 18,5cm Breadth: 27,5cm

The pattern work is structured and incised making used of an extremely fine lined technique (Figure L7). There are eleven overlapping feather-like structures, radiating in various directions and they differ in size. These feather structures are superimposed on incisions made by sharpening tools and also two upside down "V" shapes. The right hand side of the " V" is a parallel line (Figure L7 defined).

The texture of the rock surface is medium grained, with numerous large erosion marks especially on the top of the rock. The condition of the engraving is satisfactory but needs to be monitored. The engraving is located at the base of the hill on the eastern boarder of the site and faces south.



(Figure L7 defined: Feather-like pattern work)



(Figure L8: Eland and Pattern work) Scale 1:2

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Figure L8 - **Eland and Pattern work** *(Tragelaphus oryx)*

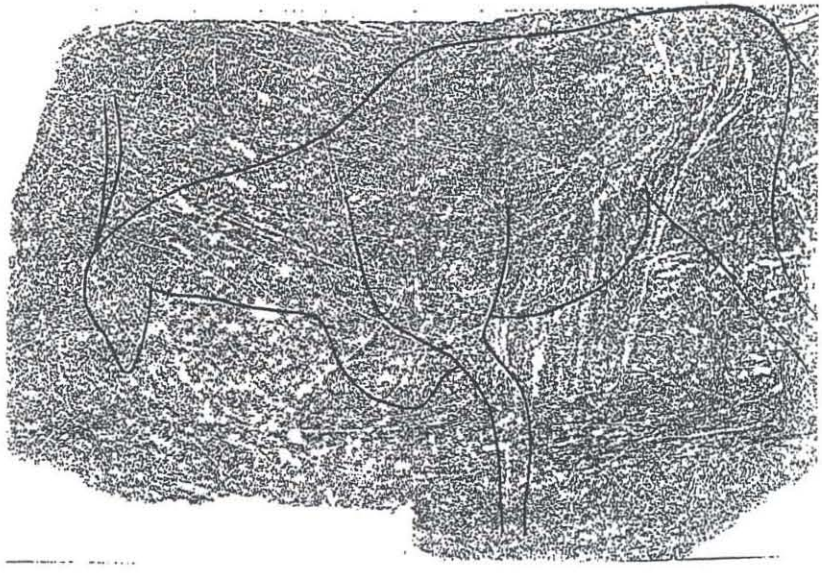
- Latitude 27° 29' 41,1" E
Longitude 25° 54' 15,1" S

Actual Size Length: 27,3cm Breadth: 35,5cm

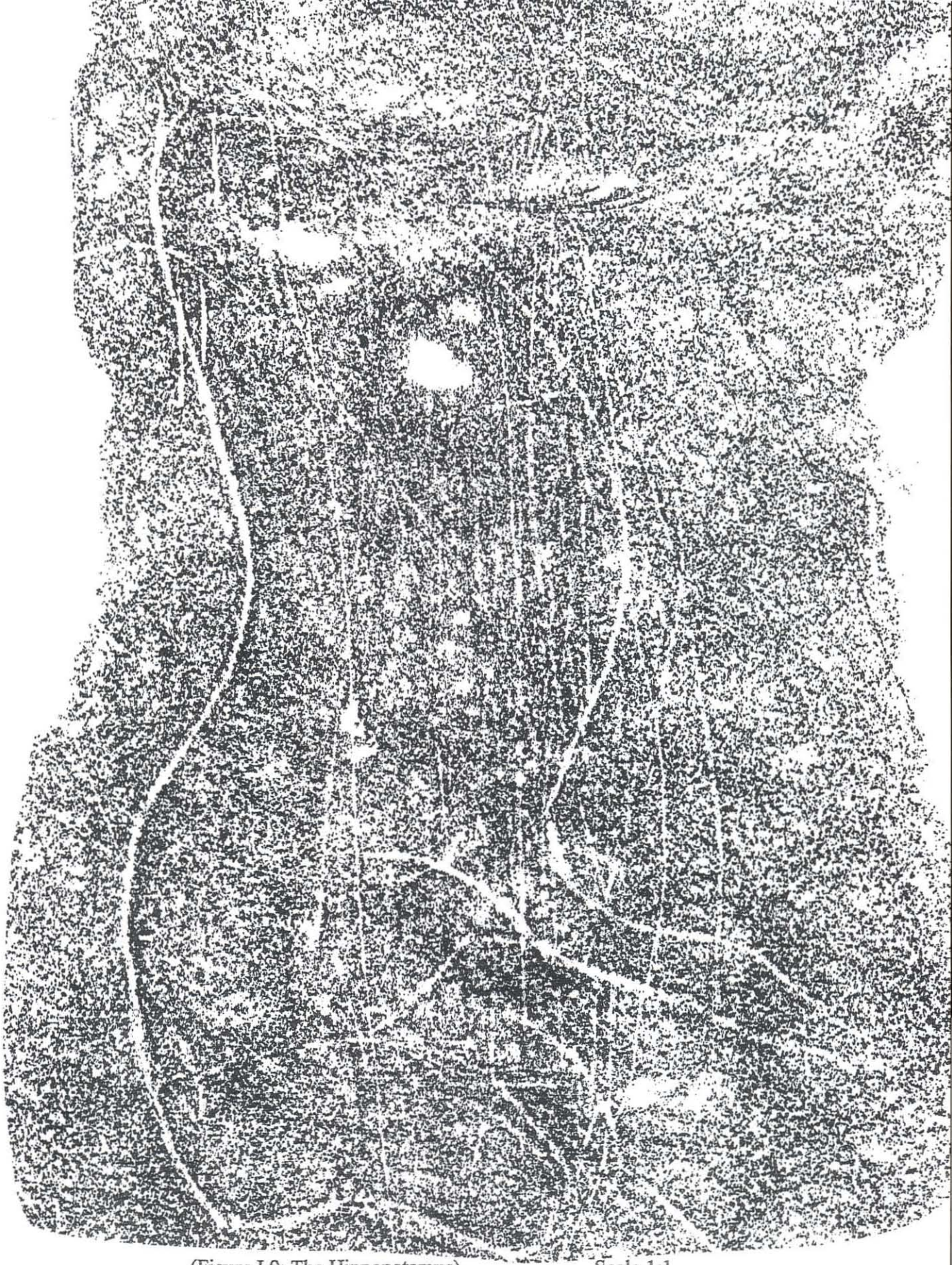
The eland is naturalistic in style and is engraved making use of a fine line incision technique (Figure L8). The pattern work superimposed on the eland is structured and incised using a fine line technique, further broad line incision work is also found. It is however not structured. Under all the engraved work and on the bottom left hand side of the engraving there is a back to front "L" shape that has been rubbed, rendering the once medium grained texture of the rock now fine. The eland was superimposed on the rubbed "L". The head of the eland is well shaped and looking down, there is no detail besides the horns. The neck is thick and the thoracic area and nuchal hump is well defined. The muscles of the flank are defined and the lower limb and manus of the front leg are differentiated, although the heel is portrayed back to front. The abdominal area and hindquarters are defined. The shank and pes of the back leg are differentiated, but are cut off at the false hoof due to the constraints of the rock surface. The caudal appendage is a simple straight line.

Superimposed on the eland is a broad line incision that resembles the hindquarters of a buck. Superimposed on all of this are numerous feather like structures at different stages of completion and different sizes, radiating in various directions. There are approximately nine of these structures. Lastly there is a form of entoptic phenomenon in the form of undulating lines that converge between two points, resembling a hammock or upside down rainbow. These engraved lines cover the entire engraved surface (Figure L8 defined).

The texture of the rock surface is medium grained, with numerous erosion marks and a few cattle marks. The condition of the engraving is poor and needs to be monitored closely, with the possibility of removal. The engraving is located at the base of the hill on the eastern boarder and faces south.



(Figure L8 defined: Eland and Pattern work)



(Figure L9: The Hippopotamus) Scale 1:1

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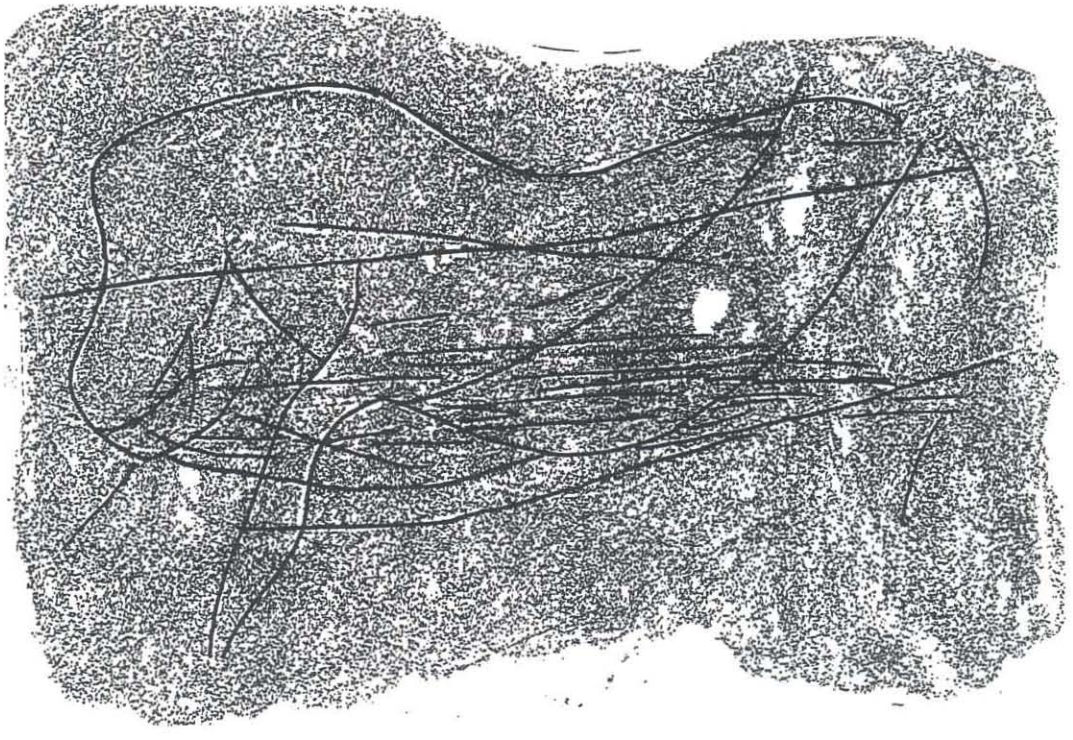
Figure L9 - **The Hippopotamus** *(Hippopotamus amphibius)*

- Latitude 27° 29' 37,5" E
Longitude 25° 54' 16,3" S

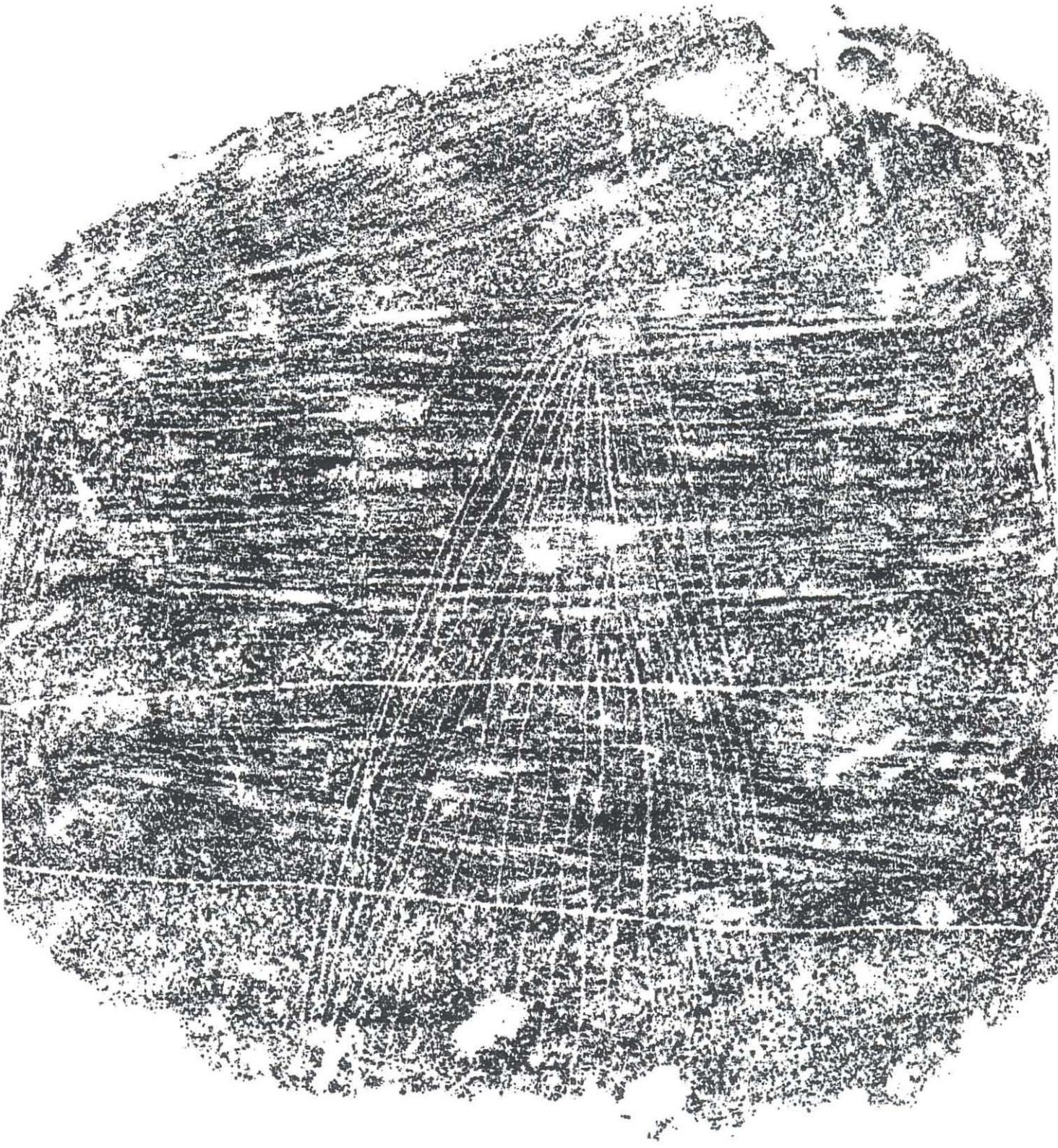
Actual Size Length: 16cm Breadth: 24cm

The hippopotamus is engraved in a child-like manor and incised making use of a broad line technique, there are also some fine lines superimposed on the hippo (Figure L9). The hippo is totally out of proportion. The head is large and rather well shaped, but contains no detail. The neck is thick, but depicted as being held to high; also the back is hollowed, while in nature a hippo has a flat back. The front leg is engraved to long and thin, thus totally out of proportion and converges to a point. The belly starts out correct, but then takes a sharp rise to joint up with the back, no back leg is present. Superimposed on the hippo are horizontal incised fine lines, some appear to converge, while others are parallel. There is no distinct pattern present. There is an upside down triangle located above the head and two converging curved lines on the rump of the hippo. There are also two converging curved lines on the neck of the hippo (Figure L9 defined).

The texture of the rock surface is fined grained, with numerous small erosion marks all over the rock surface. The condition of the engraving is satisfactory. The engraving is located towards the top of the hill and in the centre of the site boundaries and faces north.



(Figure L9 defined: The Hippopotamus)



(Figure L10: Pattern work)

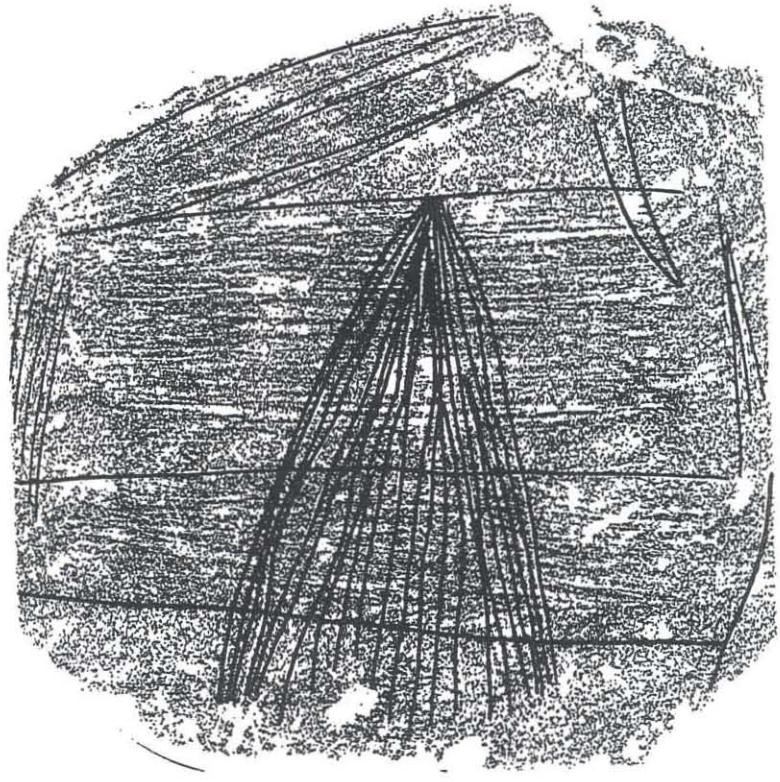
Scale 1:1

Figure L10 - **Pattern work** - Latitude 27° 29' 39,8" E
Longitude 25° 54' 15,6" S

Actual Size Length: 18cm Breadth: 20,5cm

Two parallel quadrangular rubbed shapes cover almost the entire rock surface (Figure L10). The rubbings are engraved making use of multiple fine line incisions. The quadrangles are outlined using a simple fine line. There is a further rubbing, diagonally above the quadrangles, on the edge of the rock surface. Superimposed on the quadrangle rubbings are twenty-one vertically converging lines (Figure L10 defined).

The texture of the rock surface is medium grained, with numerous small erosion marks, all over the rock surface. The condition of the engraving is satisfactory, but should be monitored. The engraving is located towards the top of the hill and on the eastern boarder of the site and faces south.



(Figure L10 defined: Pattern work)



(Figure L11: The Eland) Scale 1:2

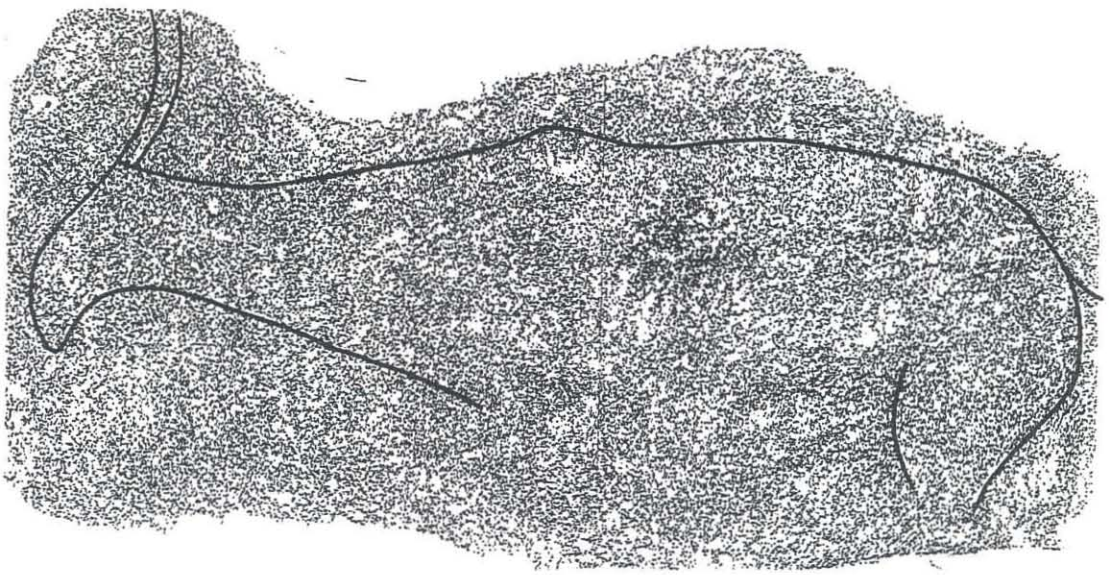
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Figure L11 - **The Eland** *(Tragelaphus oryx)* - Latitude 27° 29' 39,4" E
Longitude 25° 54' 15,0" S

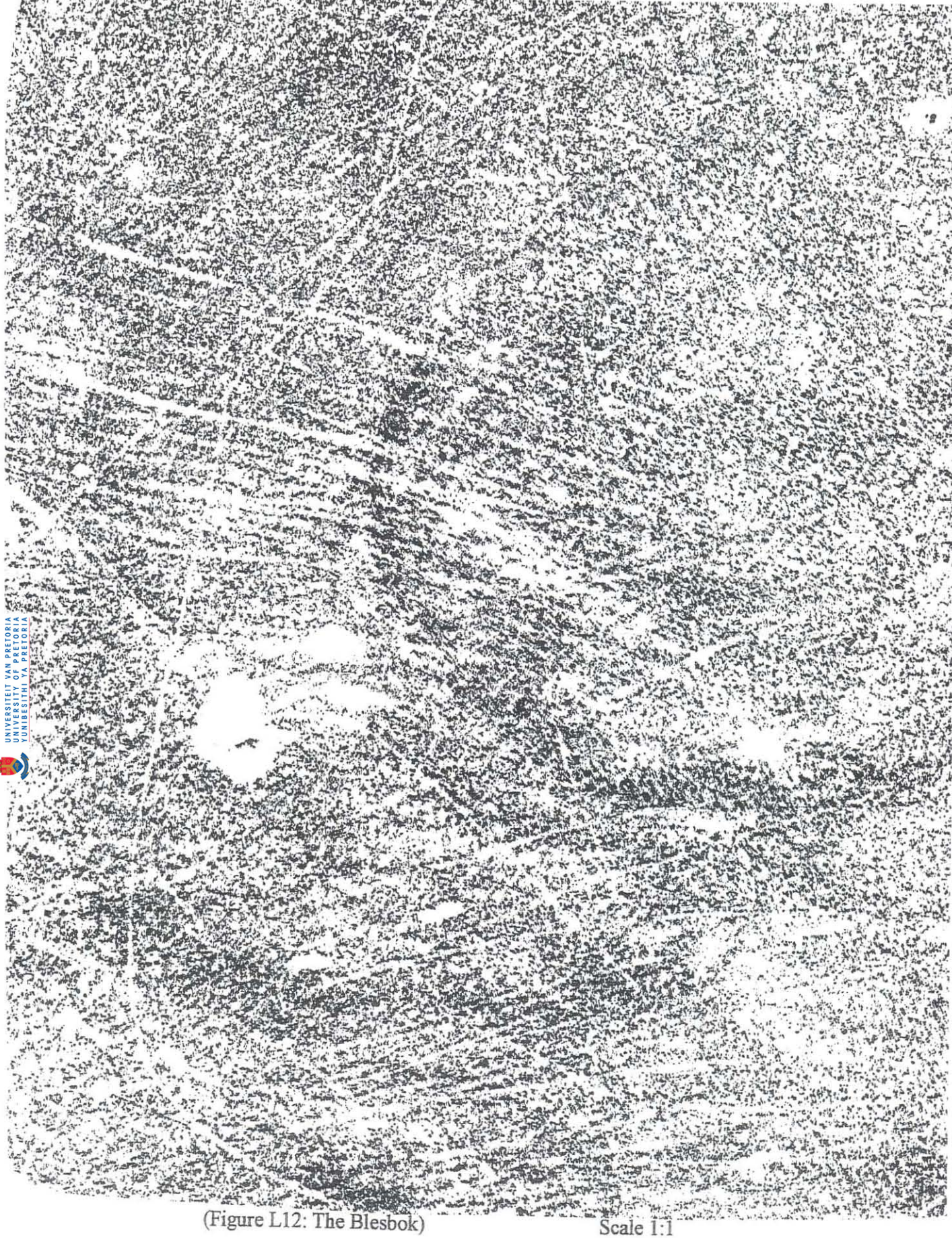
Actual Size Length: 19,5cm Breadth: 40cm

The eland is engraved in a natural style, making use of a fine line technique, but is not well proportioned (Figure L11). The head is not well styled, with the bulge of the forehead, located at the muzzle, which is slightly bulged, but not to the extent portrayed in this engraving. The mouth is portrayed as running to a point, which is out of character. The horns are depicted as two simple curved lines. The neck is engraved as being very broad which is correct, but way to long, as though it is really extending its neck. The nuchal hump is well defined, with the back hunched and the hindquarters lying lower than the back. The abdominal area is shortened and contracted, with the front and back legs lying close together. Only the lower limb of the front leg is portrayed and only the knee and shank of the back leg is visible. The caudal appendage of the eland is engraved as a short horizontal line. All the above evidence points to the fact that the eland was engraved defecating (Figure L11 defined).

The texture of the rock surface is medium grained, with small erosion marks all over the rock surface. The condition of the engraving is satisfactory. The engraving is located towards the top of the hill and faces north.



(Figure L11 defined: The Eland)



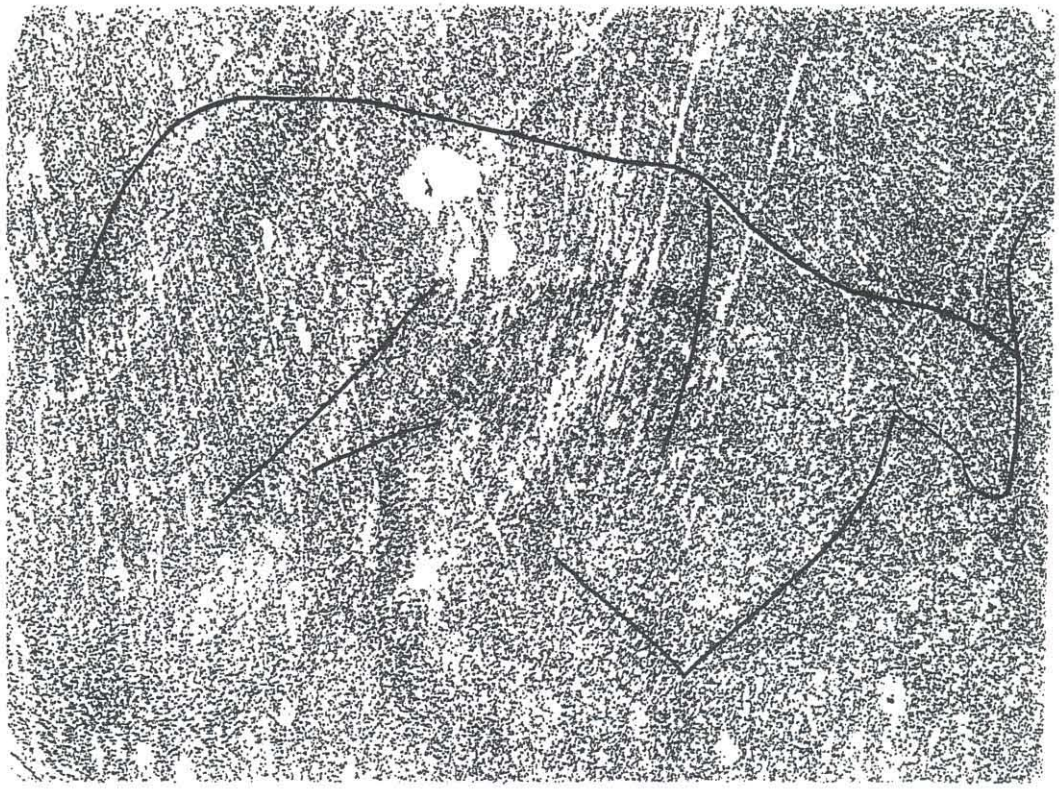
(Figure L12: The Blesbok) Scale 1:1

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Figure L12 - **The Blesbok** *(Damaliscus dorcas phillipsi)*
- Latitude 27° 29' 64,6" E
Longitude 25° 54' 31,5" S
Actual Size Length: 18cm Breadth: 26,5cm

The blesbok is engraved in a naturalistic style, making use of a fine line technique (Figure L12). The blesbok is superimposed on numerous diagonal, broad line incisions, radiating in various directions. This is possible entoptic phenomenon. The blesbok was engraved some time later, judging by the weathering of the engraved lines. The head is engraved as a dainty oblong shape, with the horns portrayed as an extended 'V' shaped line. The antelope is engraved grazing. The nuchal hump is portrayed, with the characteristic level back and sloped hindquarters. The front leg is portrayed as a 'V' shape with the back leg being a larger 'V' shape that joins up with the front leg, forming a zigzag shape. The caudal appendage is not visible (Figure L12 defined).

The texture of the rock surface is medium grained, with numerous small erosion marks located all over the rock surface. There is one larger erosion mark found in the body of the antelope, but does not interfere with the engraved work. The condition of the engraving is satisfactory, but needs to be monitored. The engraving is located towards the top of the hill in the centre of the site and faces northwest.



(Figure L12 defined: The Blesbok)



(Figure L13: Eland and Calf) Scale 1:1

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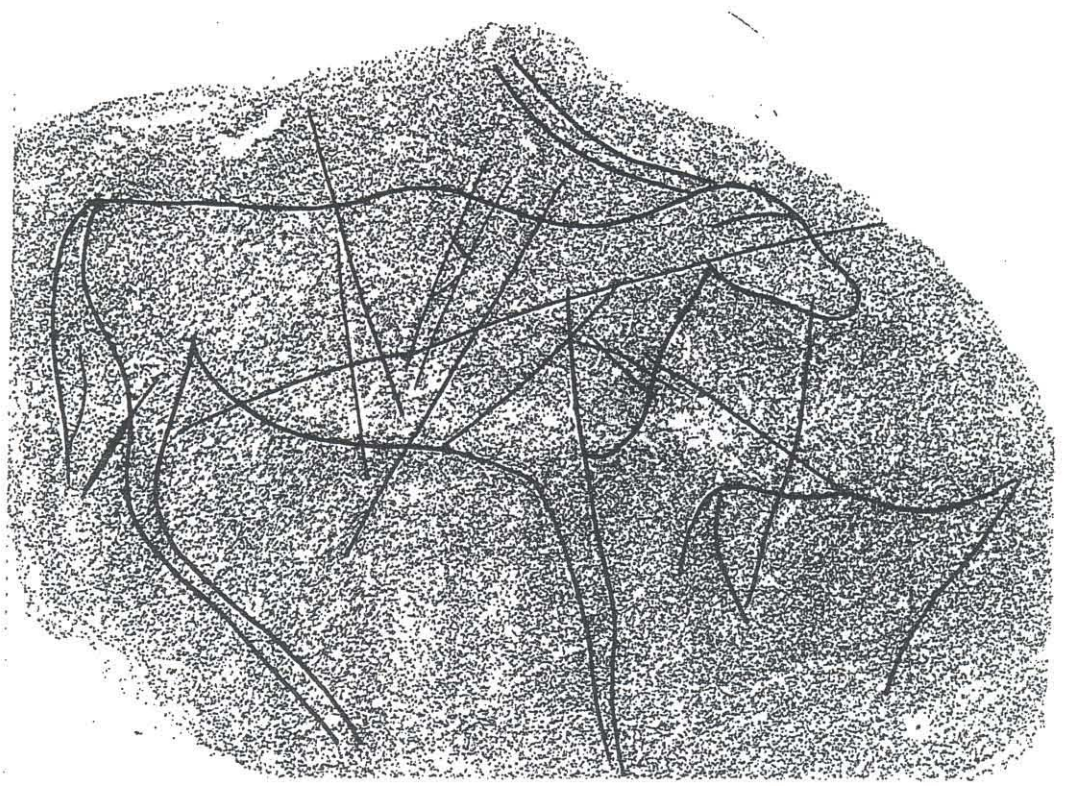
Figure L13 - **Eland and calf** *(Tragelaphus oryx)* - Latitude 27° 29' 69,4" E
Longitude 25° 54' 33,8" S

Actual Size Length: 20cm Breadth: 26,5cm

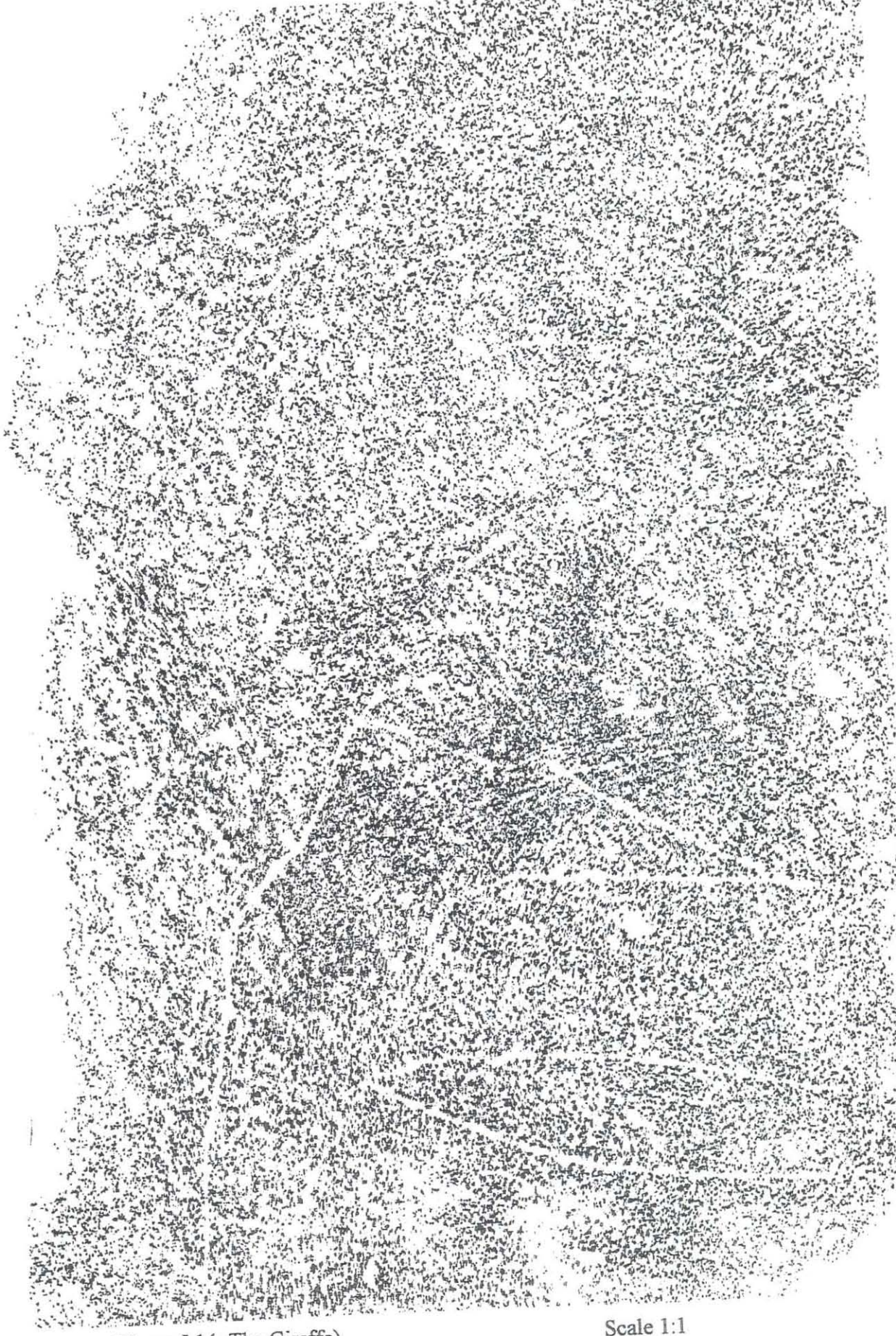
The eland is engraved in a naturalistic style, making use of a fine line technique (Figure L13). The eland is superimposed on two engraved "V" shapes and a single diagonal line. The head is well shaped including the bulge of the forehead and muzzle, with extraordinary long horns. The neck is proportioned, with a defined nuchal hump and thoracic area. The muscles of the flank and thigh are portrayed. The abdominal area is well shaped. The lower limb and manus are differentiated and well defined, but the hoof is not apparent. The shank and pes of the back leg are also differentiated and well shaped, but once again the hoof was omitted. The length of the caudal appendage is correct ending at the heel of the back leg.

The calf is engraved in front of the mother. The head of the calf is not well defined or clearly visible, but the neck, nuchal hump and hindquarters are defined, but slightly out of proportion. The front leg is a large 'V' shape, with the back leg being a simple curved line. The caudal appendage is present and extends to the heel of the calf (Figure L13 defined).

The texture of the rock surface is medium grained, with small erosion marks located all over the rock surface. The condition of the engraving is good. The engraving is located in the hollow of the hill and faces southwest.



(Figure L13 defined: Eland and Calf)



(Figure L14: The Giraffe)

Scale 1:1

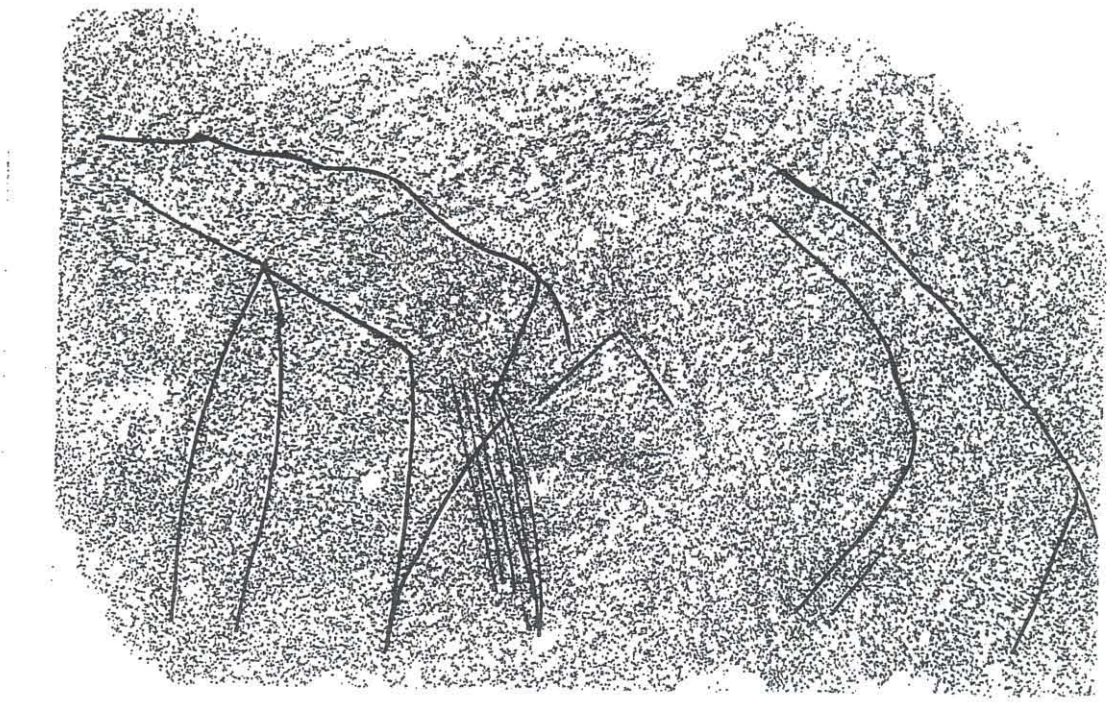
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Figure L14 - **The Giraffe** *(Giraffa Camelopardalis)* - Latitude 27° 29' 68,1 " E
Longitude 25° 54' 28,7 " S

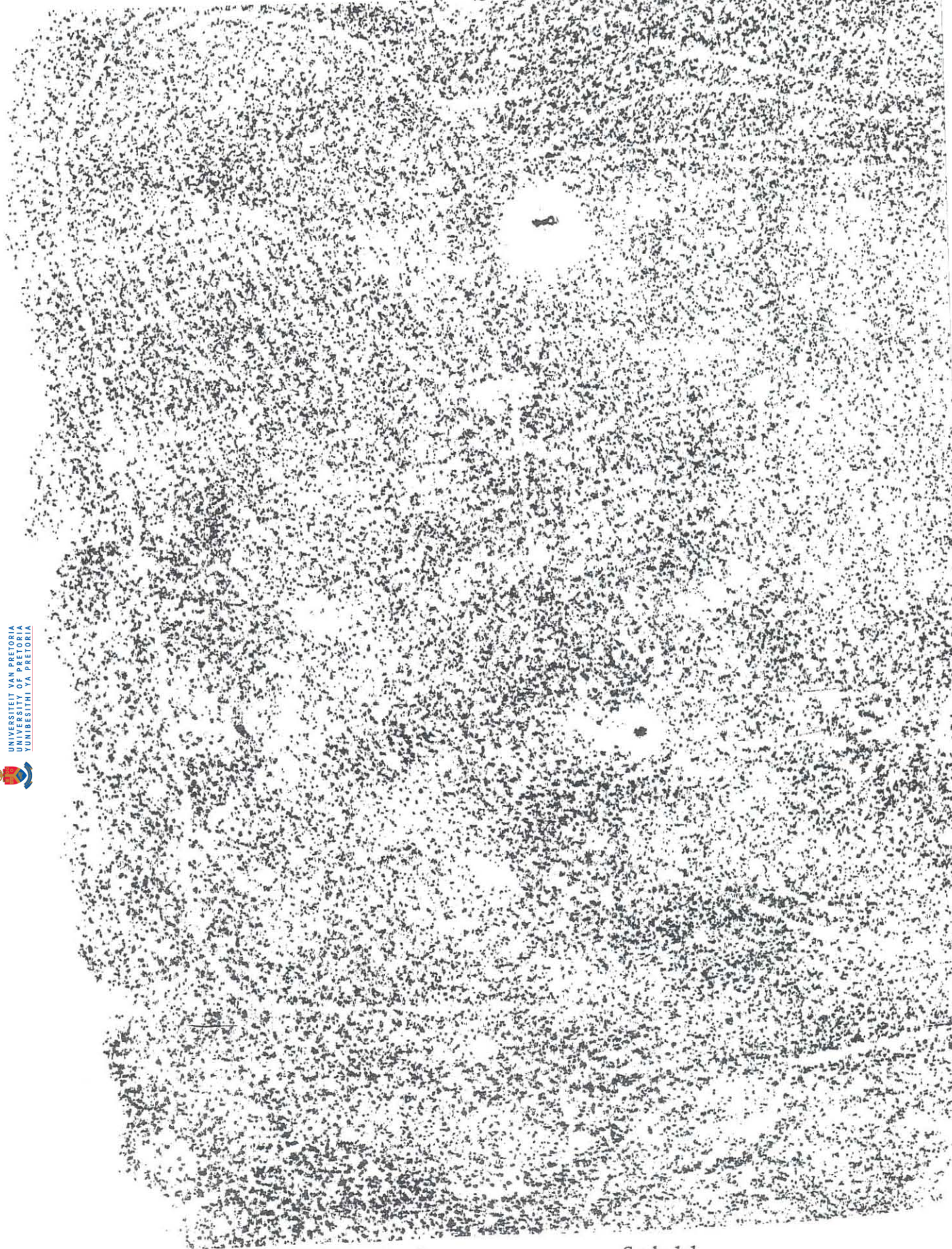
Actual Size Length: 15,5cm Breadth: 27,5cm

The giraffe are stylised and incised making use of a fine lined technique (Figure L14). The giraffe on the right is less visible than the giraffe on the left, due to the rough texture of the rock. The body of the giraffe on the right is triangular in shape, with four straight diagonal lines for legs. A short caudal appendage is visible. No head is visible. The body of the giraffe on the left is better styled, with a well-defined nuchal hump and hindquarter. A short caudal appendage is present. The back leg is a "V" shape, while the front legs are two diverging curved lines. The neck of the giraffe culminates in a point, but no head is present. The stance of the body of this giraffe suggests it is busy lowering its head. The giraffe both face the same direction (Figure L14 defined).

The texture of the rock surface is rough, with numerous small erosion marks located all over the rock surface. The condition of the engraving is satisfactory, but should be monitored. The giraffe are located towards the top of the hill and face west.



(Figure L14 defined: The Giraffe)



(Figure L15: The Eland) Scale 1:1

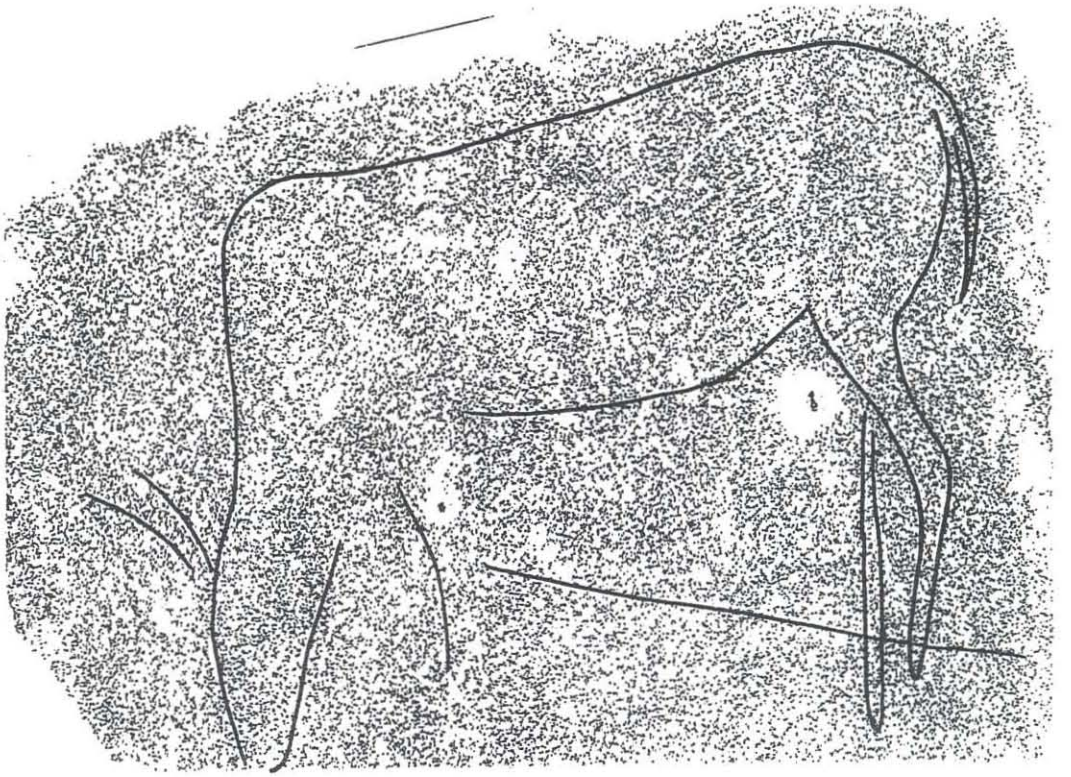
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Figure L15 - **The Eland** *(Tragelaphus oryx)* - Latitude 27° 29' 71,5 " E
Longitude 25° 54' 29,0 " S

Actual Size Length: 20cm Breadth: 25,5cm

The eland is naturalistic in style and engraved making use of a fine line incision technique (Figure L15). The eland is engraved grazing and covers the entire rock surface. The head is well styled, with appropriately curved horns and pinna. A pronounced nuchal hump is present, with a flat back. The eland has well defined hindquarters and caudal appendage. There is no definition in the front legs, but the shank and pes of the back leg are clearly defined (Figure L15 defined).

The texture of the rock surface is medium to rough, with numerous small erosion marks located all over the rock surface. The condition of the engraving is good, although the visibility is impaired due to the rough texture of the rock. The eland is located towards the top of the hill and faces northwest.



(Figure L15 defined: The Eland)

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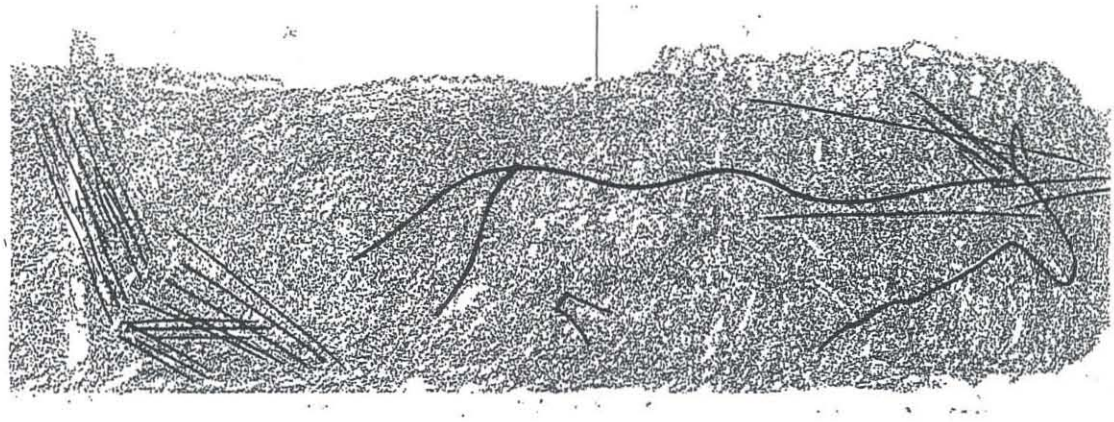
(Figure L16 – The Eland) Scale 1:3

Figure L16 - **The Eland** *(Tragelaphus oryx)* - Latitude 27° 29' 68,7" E
Longitude 25° 54' 30,6" S

Actual Size Length: 17,5cm Breadth: 66cm

The eland is engraved in a naturalistic style, making use of a fine line incision technique (Figure L16). The eland comprises approximately three-quarters of the rock surface; the rest of the surface is covered in pattern work. The head of the eland is well shaped, with two well-defined horns. The neck is thick and stocky, with a defined nuchal hump. The shape and stance of the head, neck, forequarters, hindquarters and caudal appendage, suggest that the engraved antelope was running at the time of the engraving. Only part of the lower limb of the front leg and the shank of the back leg are present, due to the size of the rock surface. Superimposed on the head of the eland are six converging lines and underneath the eland there are numerous diagonally engraved lines. These lines are superimposed on a rubbed pattern, resembling the body of an antelope, but there is no head. The body is a quadrangular shape, while the legs are two triangles (Figure L16 defined).

The texture of the rock surface is rough, with small erosion marks located all over the engraved surface. The condition of the engraved work is good, but visibility is difficult due to the texture of the rock surface. The engraving is located on the top of the hill and faces north.



(Figure L16 defined: The Eland)

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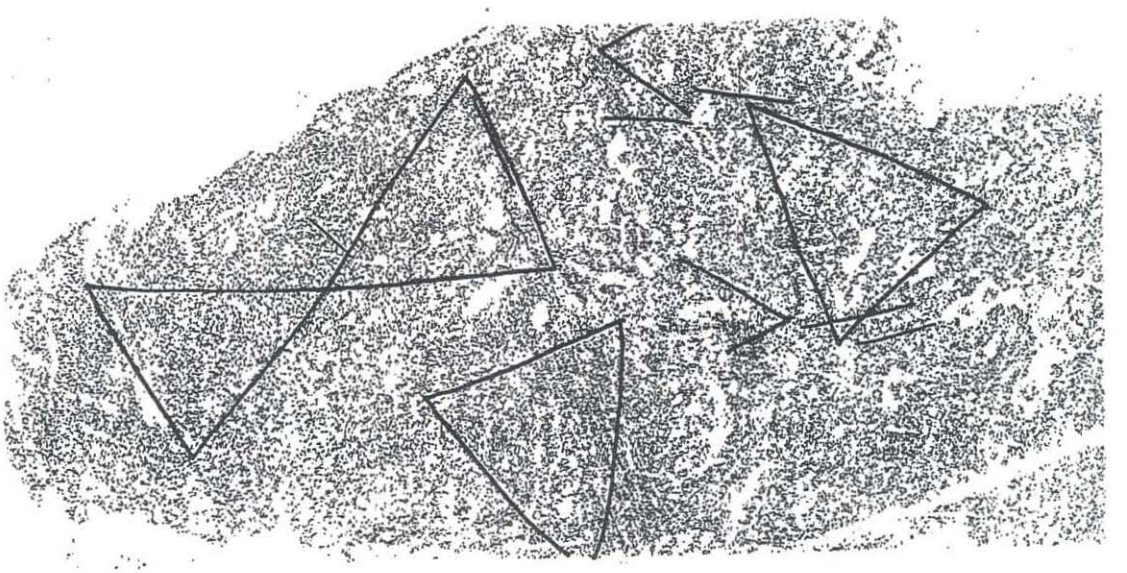
(Figure L17: Pattern work) Scale 1:3

Figure L17 - **Pattern work** - Latitude 27° 29' 44,5" E
Longitude 25° 54' 15,6" S

Actual Size Length: 22cm Breadth: 35cm

The pattern work is geometric in style and was engraved making use of a fine line incision technique (Figure L17). The pattern work is comprised of seven triangles that face different directions and are different sizes. Two of the triangles on the top left touch points forming a bow tie. A number of the triangles are superimposed on a simple rectangular rubbing, the purpose of which are unknown (Figure L17 defined).

The texture of the rock surface is medium grained, with numerous large erosion marks located all over the rock surface, they don't however interfere too much with the engraved work to. The condition of the engraving is satisfactory, but needs to be monitored closely. The engraving is located at the top of the hill on the western boarder of the site and faces south.



(Figure L17: Pattern work) Scale 1:2

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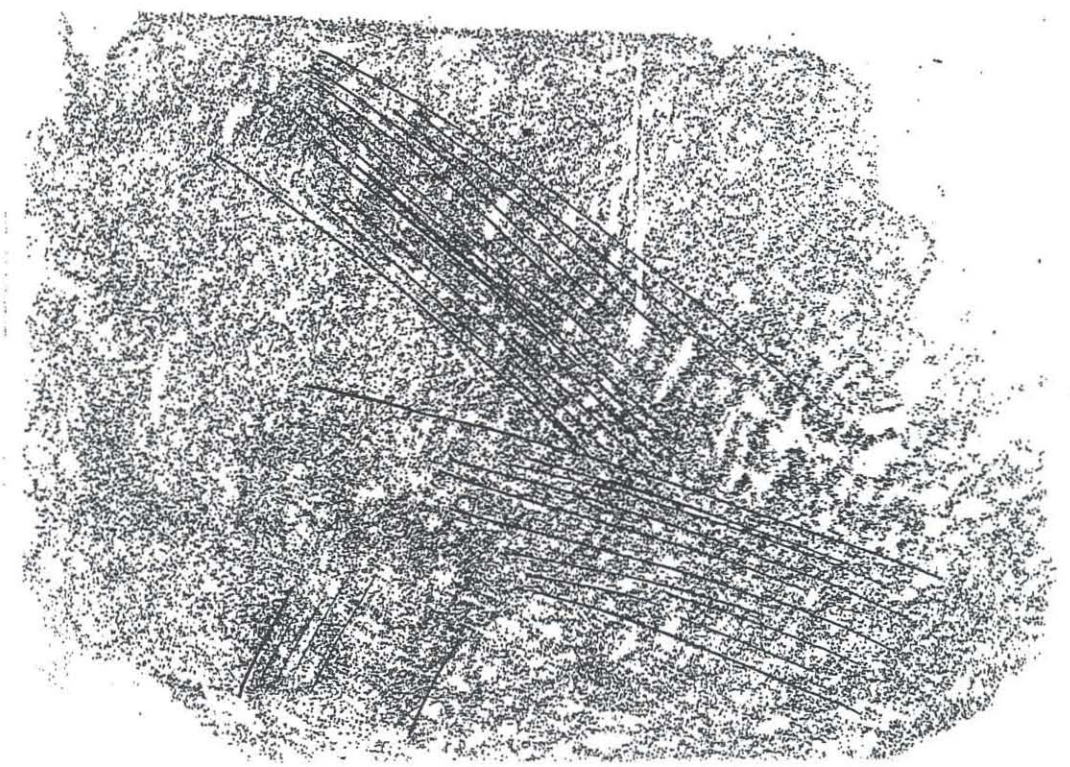


(Figure L18: Pattern work) Scale 1:1

Figure L18 - **Pattern work** - Latitude 27° 29' 37,3" E
Longitude 25° 54' 17,2" S
Actual Size Length: 21cm Breadth: 20,5cm

The pattern work is geometric and engraved making use of a fine line technique (Figure L18).The pattern work is rubbed a style common to the Sotho-Tswana people. The rubbed work is in a zigzag pattern, going from smaller to bigger zigzags, moving from left to right (Figure L18 defined).

The texture of the rock surface is rough, with numerous small erosion marks all over the rock surface. The condition of the engraved work is satisfactory. The engraving is located at the top of the hill and faces north.



(Figure L18 defined: Pattern work)

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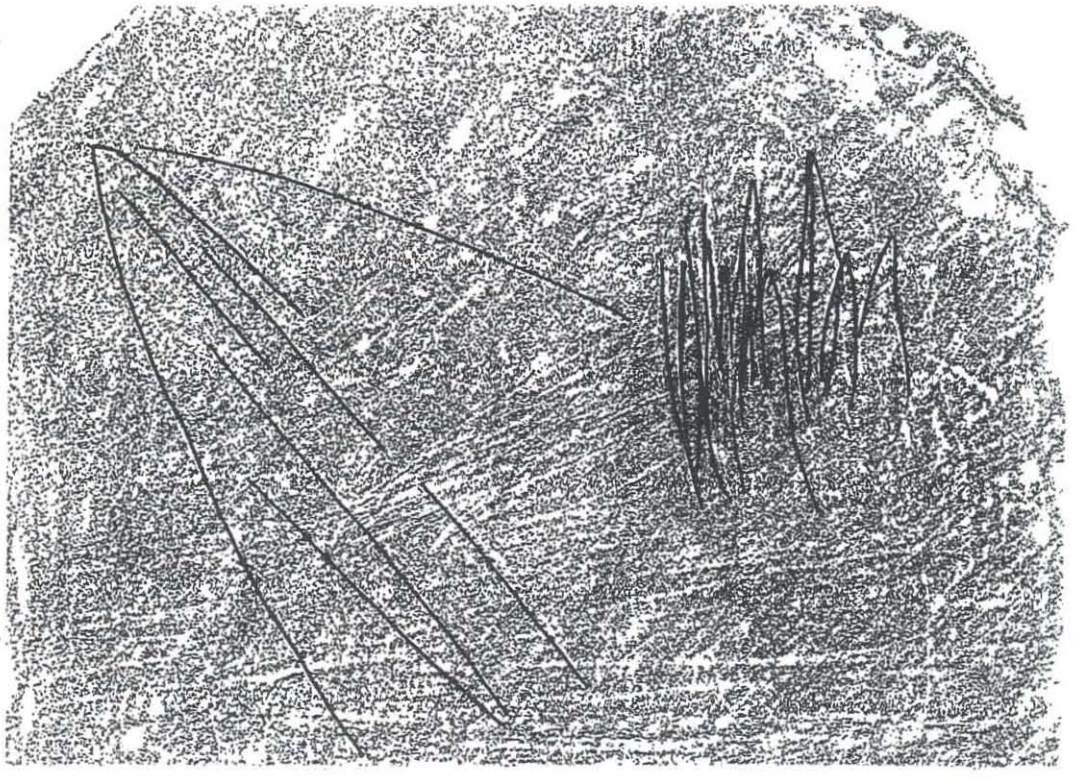
(Figure L19: Pattern work) Scale 1:1

Figure L19 - **Pattern work** - Latitude 27° 29' 68,1" E
Longitude 25° 54' 28,8 " S

Actual Size Length: 22cm Breadth: 28,5cm

There are multiple horizontal broad line incisions, which in turn have a number of short diagonal fine lines incised on them (Figure L19). Superimposed on the diagonal lines are upside down 'V' shapes, there are approximately twelve of them, they differ in size and shape. Superimposed on the horizontal lines is the outline of a feather structure. Underneath the feather structure and lying horizontal to the feather structure is the outline of another feather structure. Surrounding the first feather structure is a very fine lined, upside down 'V' shape (Figure L19 defined).

The texture of the rock surface is medium to fine grained, with numerous small erosion marks all over the rock surface. The condition of the engraving is satisfactory. The engraving is located at the top of the hill on the western boarder of the site and faces north.



(Figure L19 defined: Pattern work)



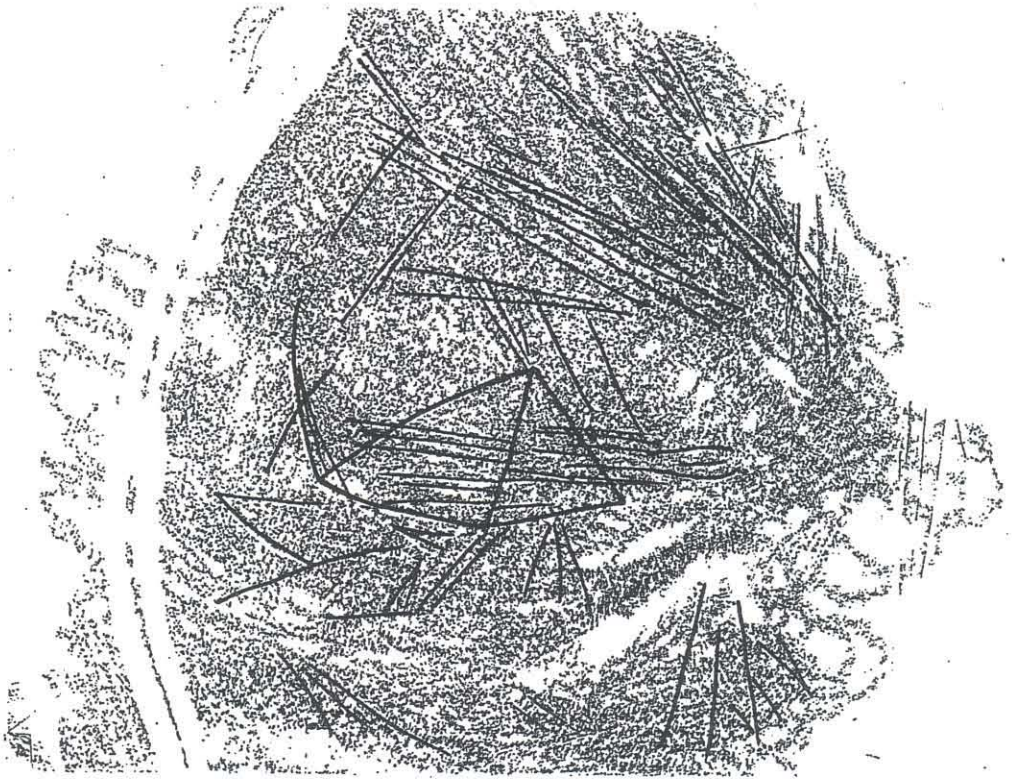
(Figure L20: Pattern work) Scale 1:1

Figure L20 - **Pattern work** - Latitude 27° 29' 70,3" E
Longitude 25° 54' 30,8" S

Actual Size Length: 21,2cm Breadth: 19,5cm

There are multiple broad line incisions, running horizontally and diagonally, in the centre and the top of the engraving (Figure L20). Superimposed on the horizontal incisions in the centre, is a pyramid structure, inside a larger triangle. Just below this is an upside down triangle, with two overlapping triangles to the right of it. At the bottom right of the engraved surface, is a large triangle with seven vertical lines inside the triangle. On the left corner of the large triangle encompassing the pyramid is a half moon shape (Figure L20 defined).

The texture of the rock surface is fined grained, with numerous small erosion marks, all over the surface. There are a number of larger erosion marks on the left-hand side of the rock and also on the bottom and bottom right hand side of the rock surface. The condition of the engraving is poor and needs to be monitored. The engraving is located on the top of the hill and faces northwest.



(Figure L20 defined: Pattern work)

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(Figure L21: Pattern work) Scale 1:1

Figure L21 - **Pattern work** - Latitude 27° 29' 68,8" E
Longitude 25° 54' 35,4" S

Actual Size Length: 26cm Breadth: 22cm

The engraving is geometric in style and engraved making use of an incised fine line technique (Figure L21). The engraving covers ninety percent of the rock surface. The entire engraving comprises of numerous different sized and shaped triangles. The triangles are superimposed on each other, are inside each other or are next to each other. There are one or two curved lines, which don't appear to form part of anything (Figure L21 defined).

The texture of the rock surface is fine grained, with numerous small erosion marks all over the rock surface. There is a large erosion mark on the bottom left hand side that interferes with the engraved work. The condition of the engraving is poor due to two reasons, a) the erosion marks and b) the fine texture of the rock surface. The engraving is located towards the top of the hill and faces south.



(Figure L21 defined: Pattern work)

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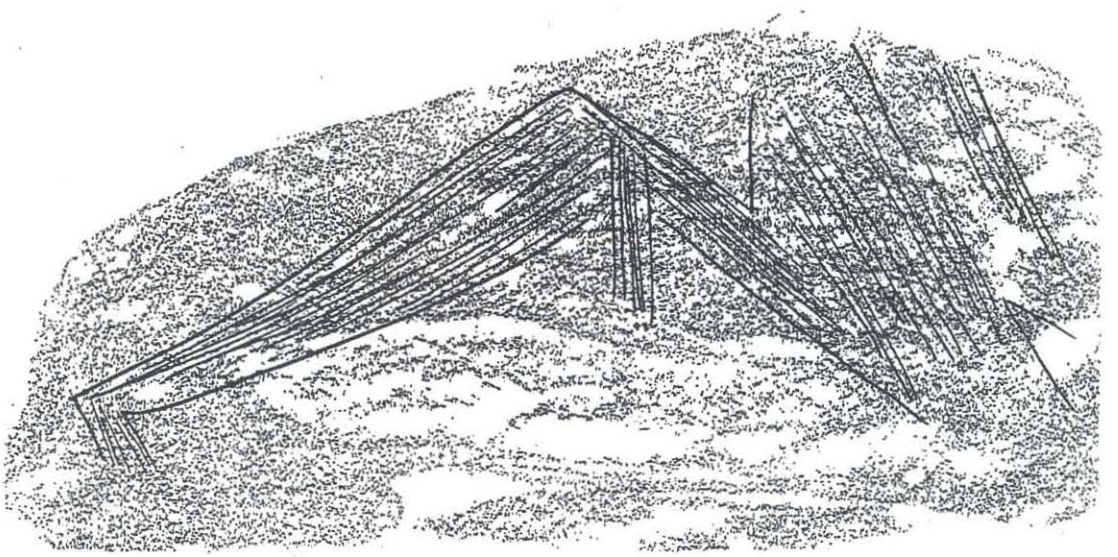
(Figure L22: Pattern work) Scale 1:2

Figure L22 - **Pattern work** - Latitude 27° 29' 66,3" E
Longitude 25° 54' 30,3" S

Actual Size Length: 15cm Breadth: 40cm

The pattern work is rubbed, making use of multiple incised fine lines (Figure L22). The pattern work makes up a zigzag pattern. The pattern is not even or equal, the lines having different gradients and lengths. The pattern work covers approximately eighty percent of the rock surface (Figure L22 defined).

The texture of the rock surface is medium grained, with numerous small erosion marks all over the rock surface. At the base of the rock surface there is a large erosion mark, it fortunately doesn't interfere with the engraving, which is situated above this erosion. The condition of the engraving is satisfactory, but should be monitored. The engraving is located towards the top of the hill and faces southeast.



(Figure L22 defined: Pattern work)

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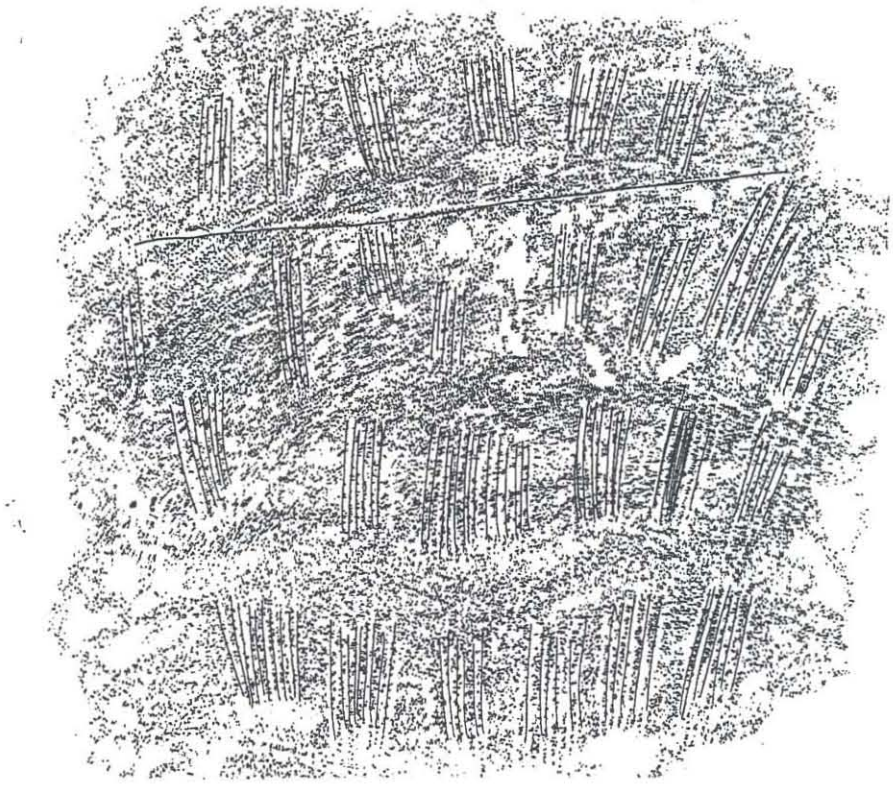
(Figure L23: Pattern work) Scale 1:1

Figure L23 - **Pattern work** - Latitude 27° 29' 65,2" E
Longitude 25° 54' 29,2" S

Actual Size Length: 21cm Breadth: 23cm

The patter work is structured and engraved making use of a fine line incision technique (Figure L23). The engraved work covers approximately fifty percent of the rock surface. The pattern work consists of twenty-six short grouped multiple incised parallel lined structures. The grouped incised lines differ in number as well as in length. The bundles are divided into four lines, the on at the bottom has six bundles, the one above it also has six bundles. The row above that has eight bundles and the row at the top has six bundles. The engraved work is either a crude form of counting or a representation of a planted crop. Superimposed on the bottom three rows, is a large square, divided along the horizontal by a single line. To the left of the bundles is a large upside down 'V' shape (Figure L23 defined).

The texture of the rock surface is medium grained, with small erosion marks on the engraved surface, they don't however interfere with the engraving. The condition of the engraving is good. The engraving is located on top of the hill, close to the northern boarder and faces north.



(Figure L23 defined: Pattern work)

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Site A

(Illustration 1: The western most enclosure)

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Site B



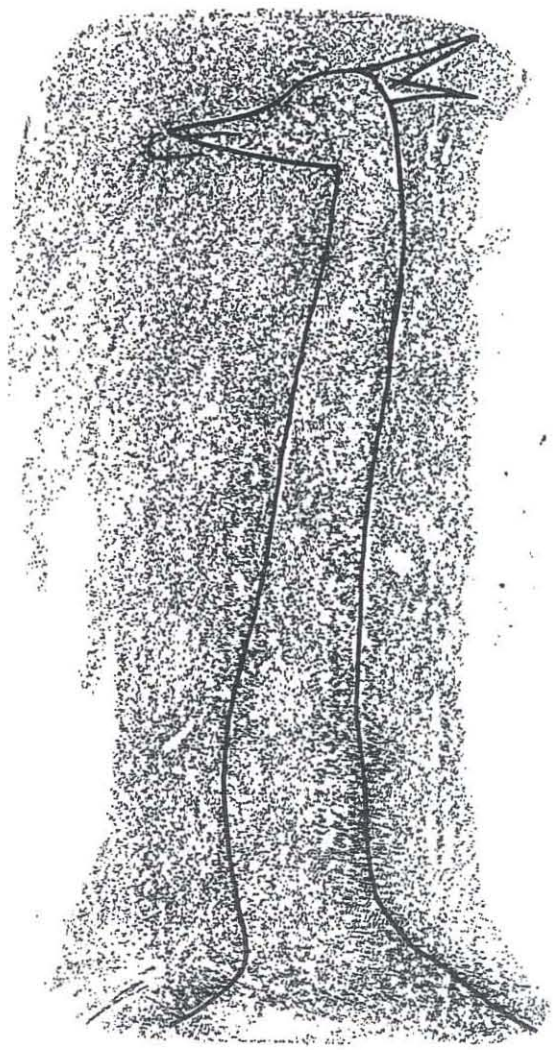
(Figure B1: The Giraffe) Scale 1:1

Figure B1- **The giraffe** (*Giraffe Camelopardalis*) - Latitude 27° 29' 39,4" E
Longitude 25° 54' 43,5" S

Actual Size length: 28,5cm breadth: 13cm

Only the head and shoulders are visible, due to the fact that the rock chosen on which to do the engraving was to small to incorporate a body (Figure B1). A naturalistic style with a fine lined incision technique was utilised, they however failed to successfully capture the character of the giraffe a gift found in most Bushmen engravings. Sharp lines were used on the face and pinna, while curved lines depict the neck and shoulders. A mouth and eye are apparent. Two fine lines found near the ears appear to be a first attempt at the engraving that was discarded; a rounded attempt was also made at the mouth. No other engraved work is present (Figure B1 defined).

The giraffe is facing west towards the water source. The texture of the rock surface on which the giraffe was engraved is medium grained, with a few small erosion marks, that don't affect the engraving in any way. The condition the engraving is good, it is under no threat other than the elements.



(Figure B1 defined: The Giraffe)



(Figure B2: The Eland) Scale 1:3

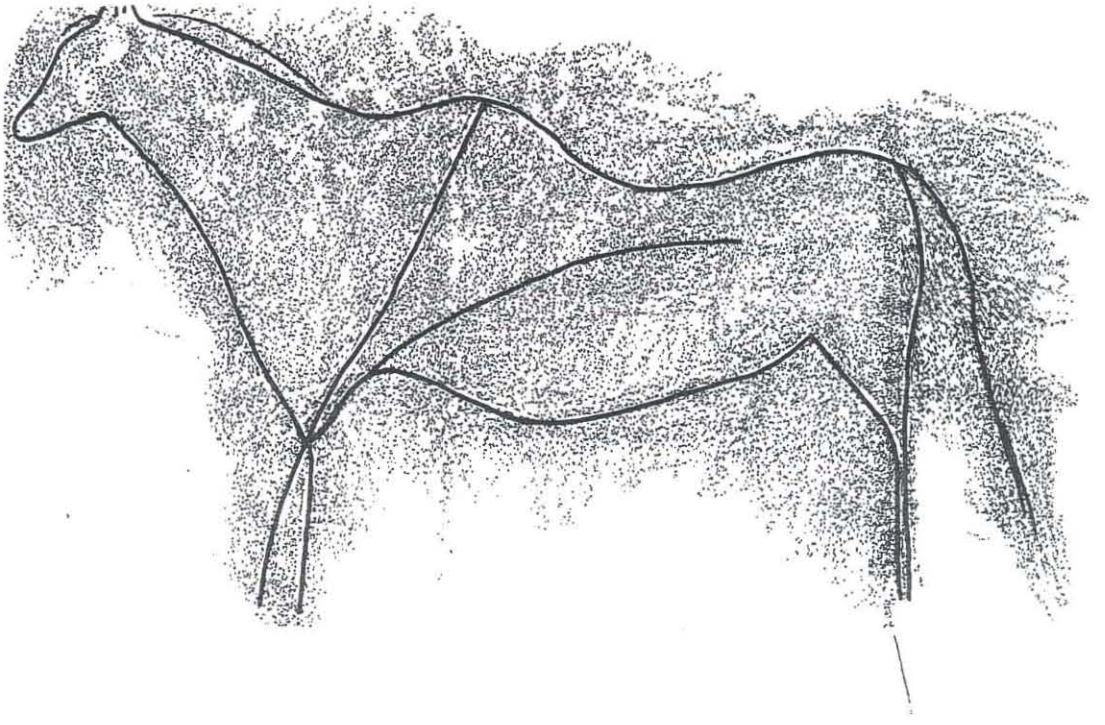
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Figure B2 - **The Eland** (*Tragelaphus oryx*) - Latitude 27° 29' 38,1" E
Longitude 25° 54' 43,0" S

Actual Size length: 29,5cm breadth: 50,5cm

The complete eland is visible (Figure B2). A broad line incision technique was used; the style is very natural, making use of curved lines. The head is particularly well engraved, although the pinna are no longer clearly visible due to the fact that they are engraved on the crest of the rock, which has weathered down over the years, for this same reason the horns are also no longer visible. The character and majesty of the eland are captured beautifully in the characteristic nuchal hump found on the forequarters, also very characteristic are the band of hair shown behind the neck and on the forehead, the broad neck and shoulders shown indicate that the subject engraved was a large bull. The legs are not clearly defined, shown only as straight lines. The caudal appendage is very long reaching the base of the heel of the back leg another characteristic of the animal. A characteristic found in most eland engraved by the Bushmen is a coloration line running from the nuchal hump on it's back to the lower limb, this is a feature seldom noticed by people today. Some fine lines are found on the body and at the base of the tail that don't appear to be part of the engraving, they were either there before or made afterwards or were simply mistakes (Figure B2 defined).

The subject was drawn facing a south- westerly direction, towards the water source. The texture of the rock surface engraved upon is medium grained, with a few small erosion marks located on the surface, it doesn't however interfere with the engraved work. The engraving is currently in a good condition, and under no threat other than that imposed by the elements.



(Figure B2 defined: The Eland)



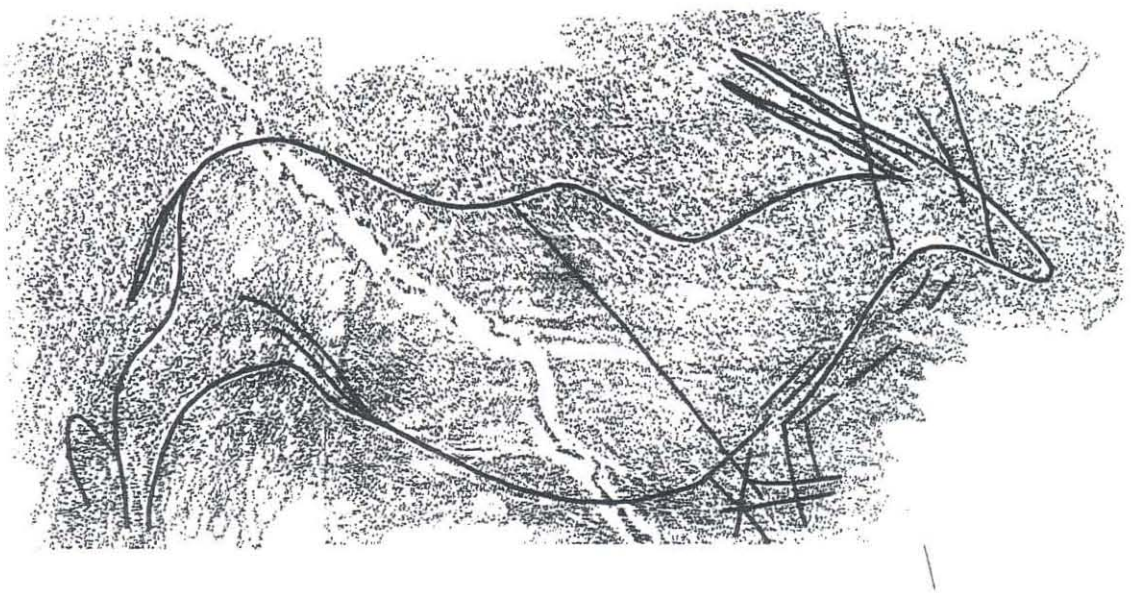
(Figure B3: The Eland) Scale 1:2

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Figure B3 - **The Eland** (*Tragelaphus oryx*) - Latitude 27° 29' 37,5" E
Longitude 25° 54' 43,1" S
Actual Size Length: 19,5 cm Breadth: 37 cm

Besides a missing front leg the entire eland engraved is visible (Figure B3). A naturalistic style with a fine line incision technique was used, various fine lines are found on the eland that do not appear to be part of the engraving. These lines are not as deep set as those of the eland and appear to have been engraved after the eland was engraved. Once again the character of the eland was beautifully captured, the nuchal hump on the back, the long caudal appendage. The horns of the animal are very long indicating that the animal was old and the thick, broad neck is an indication that the animal was a male. The shank of the hind leg has marked definition but the pes fades away into the rock, this is a characteristic found in most Bushmen engravings. This could be due to the grassland hiding the legs of the animals from the view of the Bushmen or for religious purposes. On this particular engraving it appears that the eye of the eland was also engraved. Due to the many other lines found on the engraving, the distinction of the horns is made difficult (Figure B3 defined).

The eland was drawn facing east, away from the water source. On this particular rock there is a weathered ridge running from the rear end of the eland to the region behind the front legs. The texture of the engraved surface is medium to fine grained, with a few small erosion marks located on the surface, these however don't interfere with the engraved work. Besides the weathered ridge the engraving is in a satisfactory condition, with it's only threat being those of the elements.



(Figure B3 defined: The Eland)



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(Figure B4: The Eland and the Lion) Scale 1:1

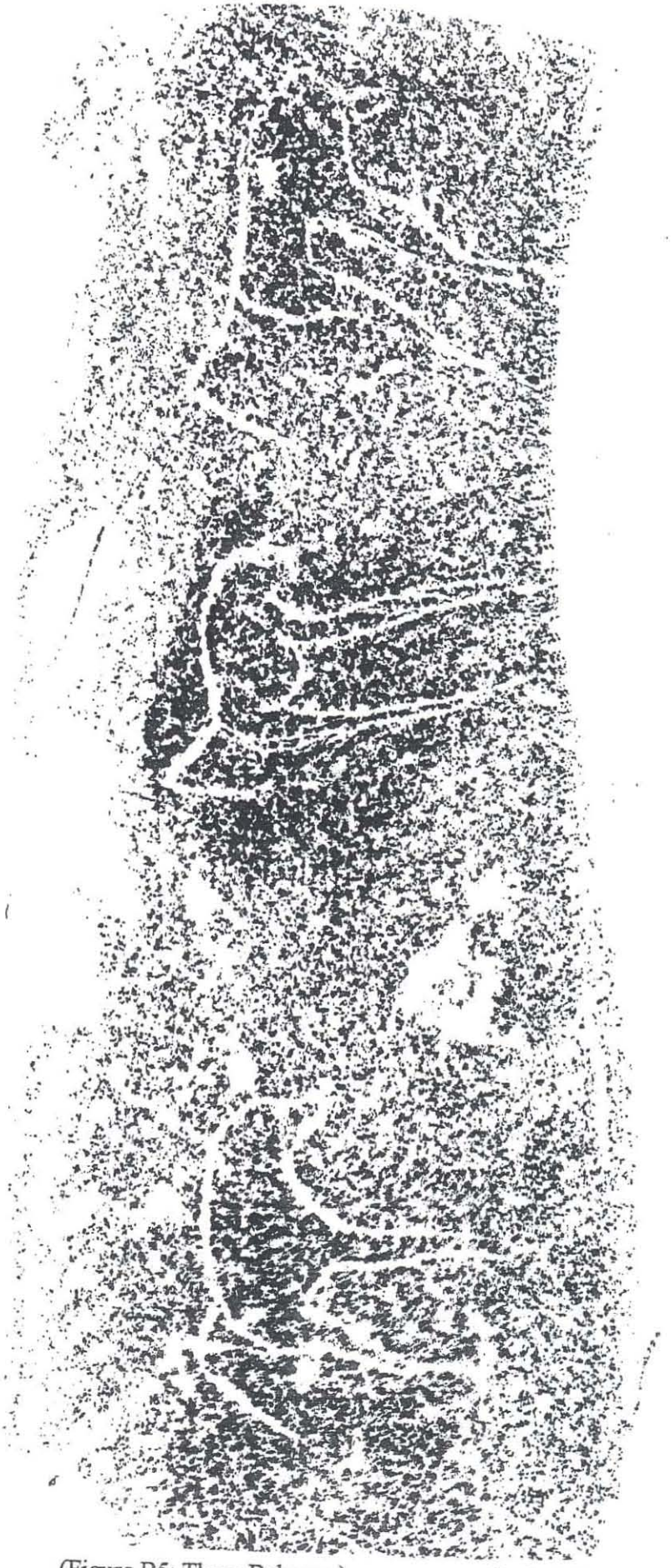
Figure B4 - **Eland and Lion** (*Tragelaphus oryx and Panthera leo)* -
Latitude 27° 29' 36,5" E
Longitude 25° 54' 43,6" S
Actual Size Length: 18,5 cm Breadth: 23 cm

This is one of the two-paired engravings identified on the site (Figure B4). Both are naturalistic in style and engraved making use of a fine line incision technique. The lion is the smaller of the two engraved mammals and lies a couple of centimetres above the elands hindquarters giving the elusion that the lion is watching its prey from a distance. The lion being the smaller of the two animals engraved is the better composed, the eland is largely out of proportion. The lion's character was captured perfectly in the way it holds its head, the shape of its back, its caudal appendage including its stance. The size of the figure is 7 cm by 4,5 cm. The hindquarters, caudal appendage and hind legs of the eland are in proportion as well as the head, horns and neck, but the front leg, nuchal hump on the forequarters and abdominal area are grossly distorted. This distortion could be due to the fact that the artist was attempting to portray the eland in flight. The horn's, head and neck are portrayed as small and dainty, therefore the animal was female. The size of the Eland is 23 cm by 12 cm (Figure B4 defined). There are no other lines on the rock besides those of the engraving.

The engraving faces east away from the water source. The texture of the rock surface is medium grained, with a few small erosion marks located on the surface, these however don't interfere with the engraving. The engraving is currently in a good condition, with its only threat being those of the elements.



(Figure B4 defined: The Eland and the Lion)



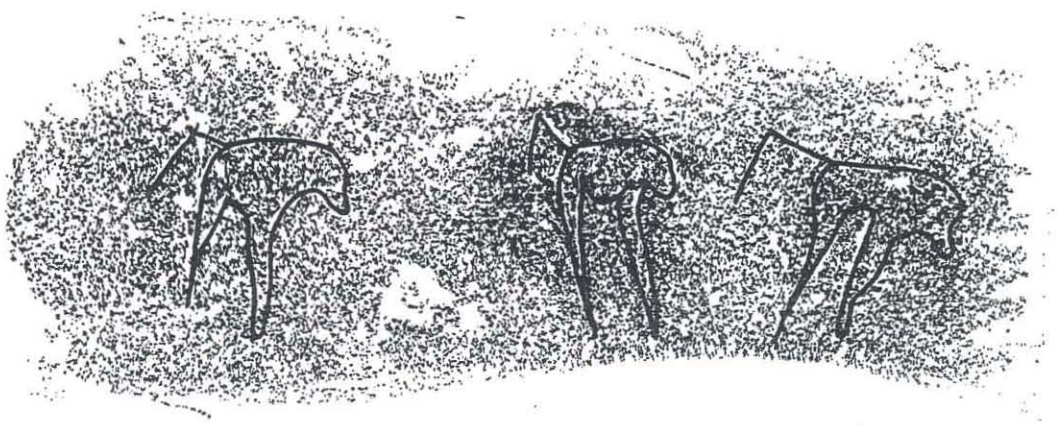
(Figure B5: Three Baboons) Scale 1:1

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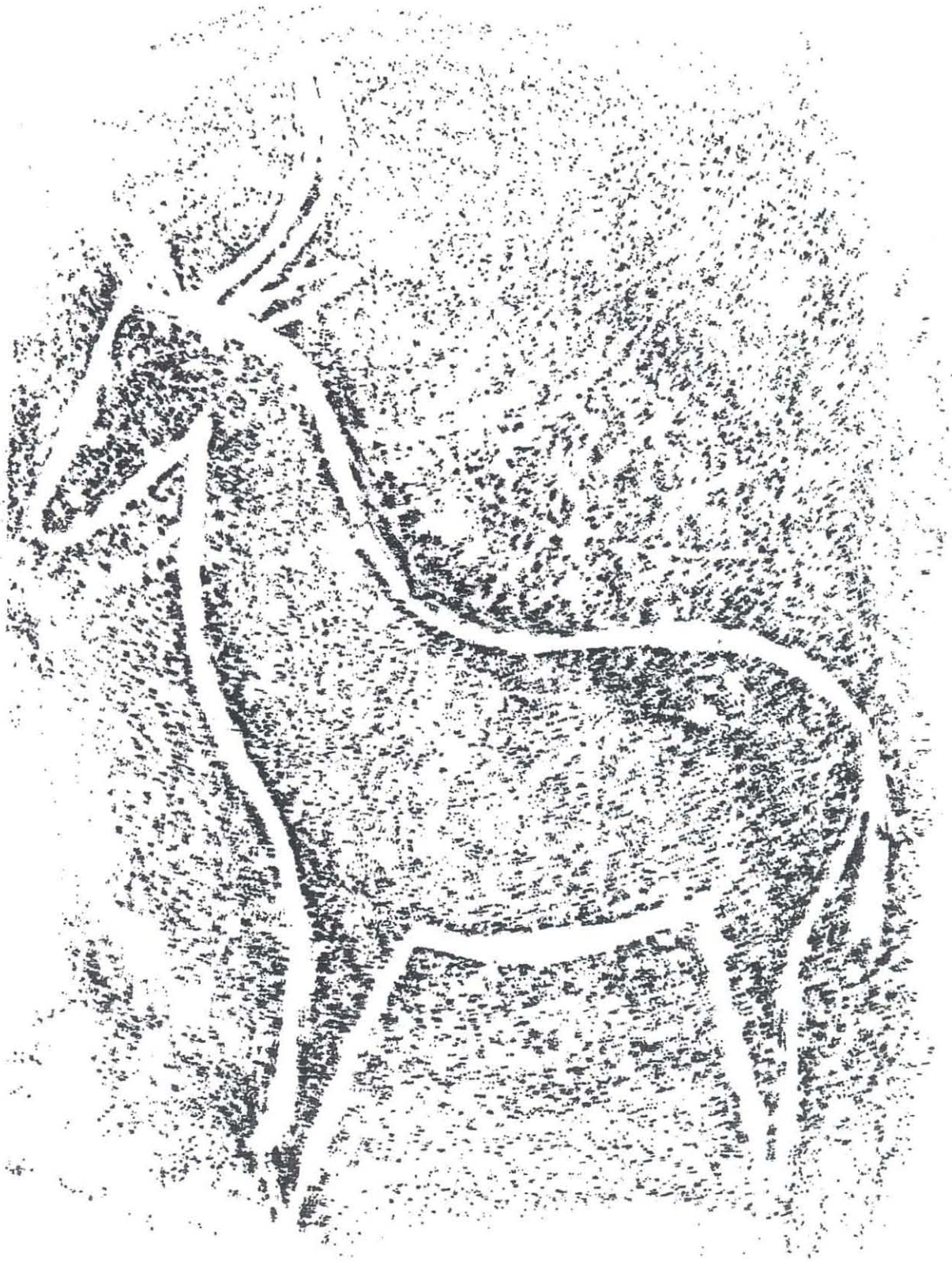
Figure B5 - **Three Baboons** (*Papio ursinus*) - Latitude 27° 29' 37,3" E
Longitude 25° 54' 45,0" S
Actual Size Length: 6 cm Breadth: 22 cm

There are three complete animals, all engraved making use of an incised fine line technique and are naturalistic in style (Figure B5). The baboon's are walking in a straight line, which is characteristic of these animals, who follow the troop leader. The stance, shape of the caudal appendage and the heads of the animals are true to character, especially the caudal appendages which are engraved at right angle's, characteristic of the baboon (Figure B5 defined).

The baboons are facing north- east away from the water source. The texture of the rock surface they were engraved upon is rough, with a few small erosion marks on the surface. These erosion marks in no way interfere with the engraved work; the texture of the rock does however make the visibility of the engraving difficult. The engraving is in a good condition, with only the elements posing any threat.



(Figure B5 defined: Three Baboons)

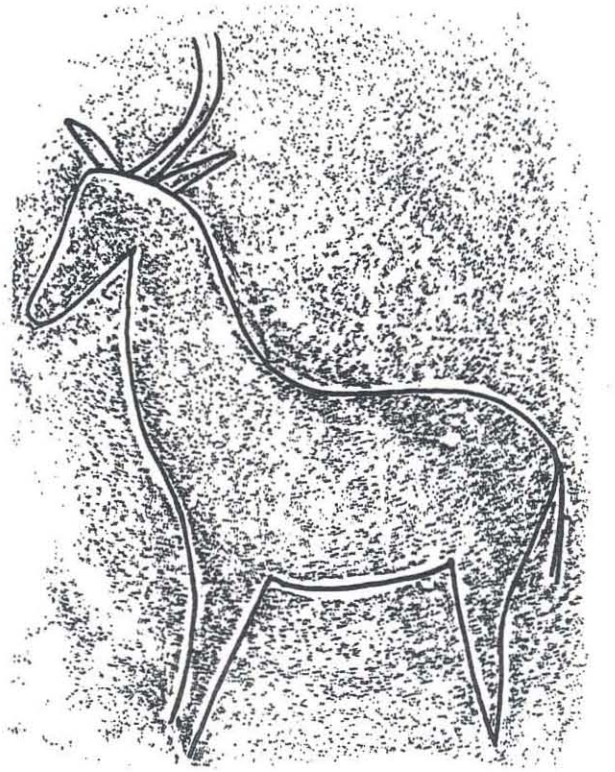


(Figure B6: The Rhebuck) Scale 1:1

Figure B6 - **The Rhebuck** (*Pelea capreolus*) - Latitude 27° 29' 37,2" E
Longitude 25° 54' 42,8" S
Actual Size Length: 20 cm Breadth: 15 cm

The complete animal is visible and engraved in a naturalistic style (Figure B6). The technique utilised is a fine lined incision this is however difficult to see as the engraving has been vandalised, someone has carved over the existing lines, forming unusually broad lines, the vandal work was date, reading 1918. Besides all of this the face, pinna, horns, body and caudal appendage are well shaped. The legs are present but not well defined, ending in a "V" shape. The animal has been portrayed as having a very regal stance. There are a number of other fine lines present on the rock, which appear to have nothing to do with the rhebuck (Figure B6 defined).

The engraving faces east away from the water source. The texture of the engraved surface is medium grained, with a few small erosion marks on the surface, they don't however interfere with the engraved work. The current condition of the animal even though its shape is clearly defined, will have to be noted as poor due to the vandalism. It's only threat at present is the elements.



(Figure B6 defined: The Rhebuck)



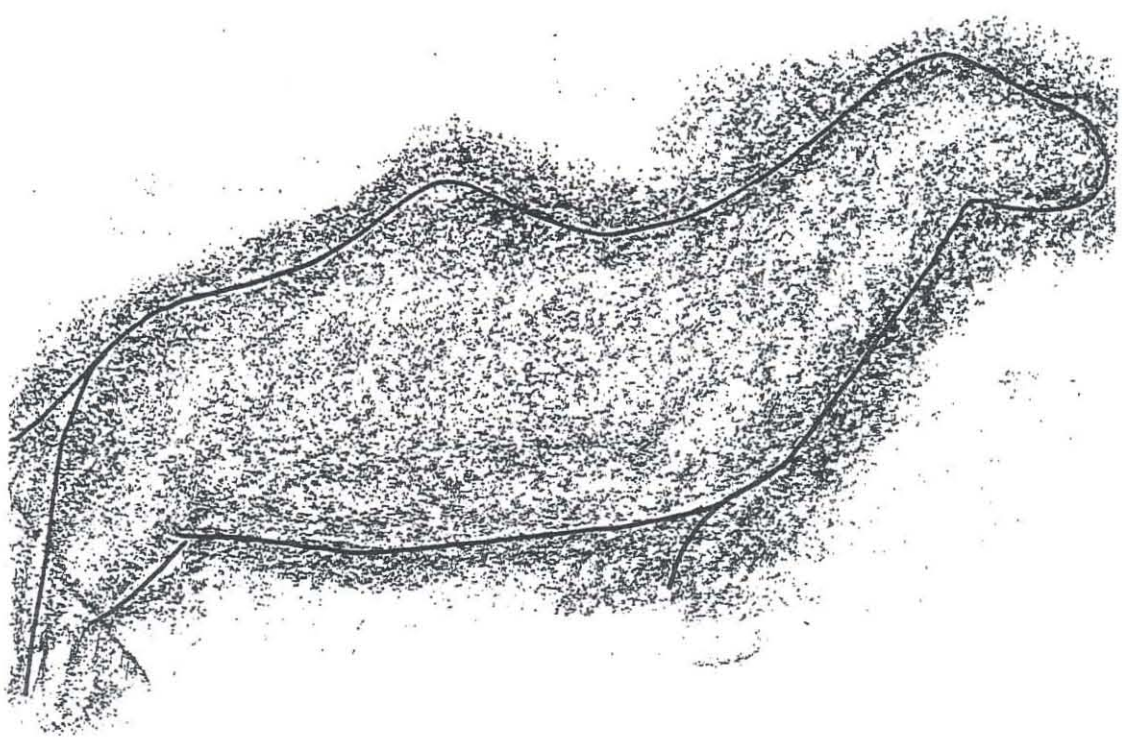
(Figure B7: The Camel) Scale 1:1

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Figure B7 - **The Camel** (*Camelius dromedarius*) - Latitude 27° 29' 38,5" E
Longitude 25° 54' 43,1" S
Actual Size Length: 17 cm Breadth: 30 cm

The complete animal, minus the front legs is visible (Figure B7). The engraving has been engraved making use of a naturalistic style, utilising a fine line incision technique. Camels are not indigenous to this area, therefore this particular engraving must have been done from memory, about an animal the Bushmen encountered possibly during trading with foreign cultures. This might render a clue as to the relative age of the engraving. The characteristics of the camel were well captured as can be seen in the hindquarters, with the characteristic down sloping behind, even the single fat hump is drawn to proportion and in the correct position, in the middle of the back. The head is rounded and the mouth is large but the pinna is omitted. The body is well defined (Figure B7 defined).

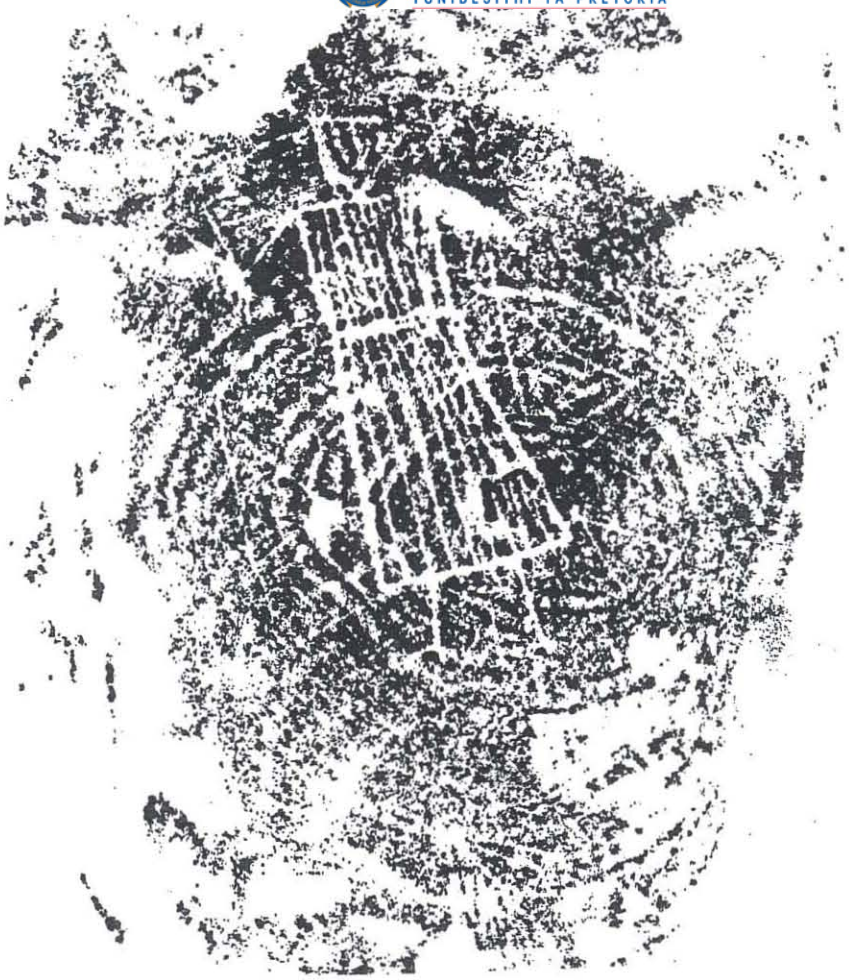
The engraving faces east away from the water source. The texture of the surface engraved upon is medium grained, with a few small erosion mark, these don't however effect the engraved work. The condition the engraving is good, with the elements posing its only threat.



(Figure B7 defined: The Camel)

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Site E



(Figure E1: Female Figurine) Scale 1:1

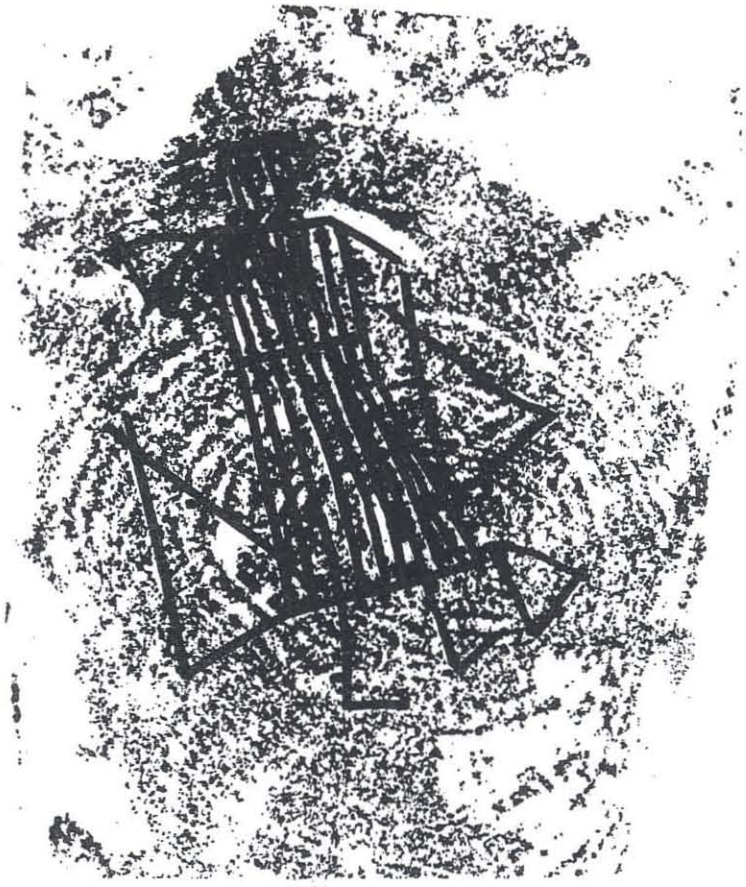
Figure E1 - **Female Figurine** *(Homo sapien sapiens)*

- Latitude 27° 29' 44,1" E
Longitude 25° 54' 41,0" S

Actual Size Length: 6cm Breadth: 3cm

The engraving is of an isolated female figure; this is apparent as she is depicted wearing typical settler clothing. A long vertically stripped dress with a belt. Her arms, legs and feet are crudely drawn, like those found in stick figures. The head is portrayed as an upside down triangle, the base forming the top of the head. The use of the head, being portrayed as a triangle is a shaped used by all races to show the person as being foreign. A fine line incision technique was used with a crude style. There are four very lightly engraved triangles engraved around the figure, pointing up towards the head.

The rock surface is smooth in texture. The figure is however engraved on an eroded portion of the rock; it was engraved after the erosion had taken place. The Bushmen being so religious and superstitious and wanting the settlers, with whom they clashed so dramatically, to leave the country, might have chosen this eroded rock in the hopes that they would vanish like the engraving would due to the erosion, unfortunately this did not transpire. The engraving is the only one found near the ruins and lies west of them, approximately eight meters away; the engraving itself faces north- west. The condition of the engraving is still good, with its only threat being the elements.



(Figure E1 defined: Female Figurine)

Site G



(Figure G1: The Black Rhinoceros) Scale 1:1

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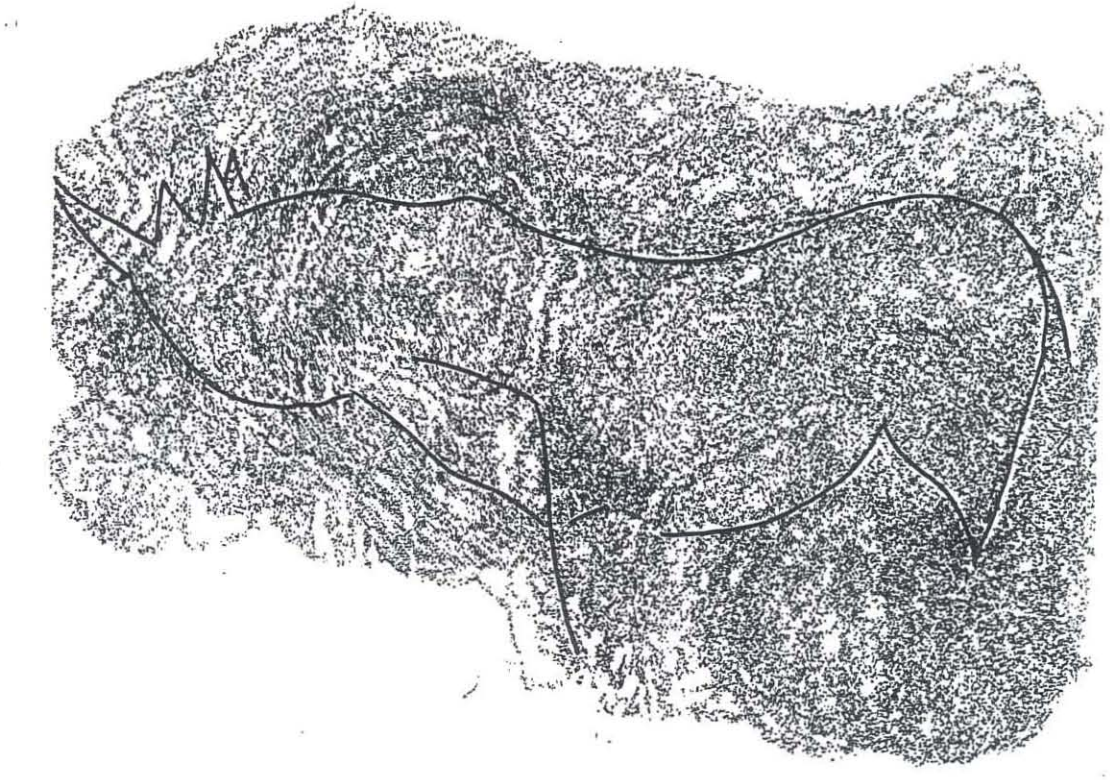
Figure G1 - **The Black Rhinoceros** *(Diceros bicornis)*

- Latitude 27° 29' 47,8" E
Longitude 25° 54' 03,8" S

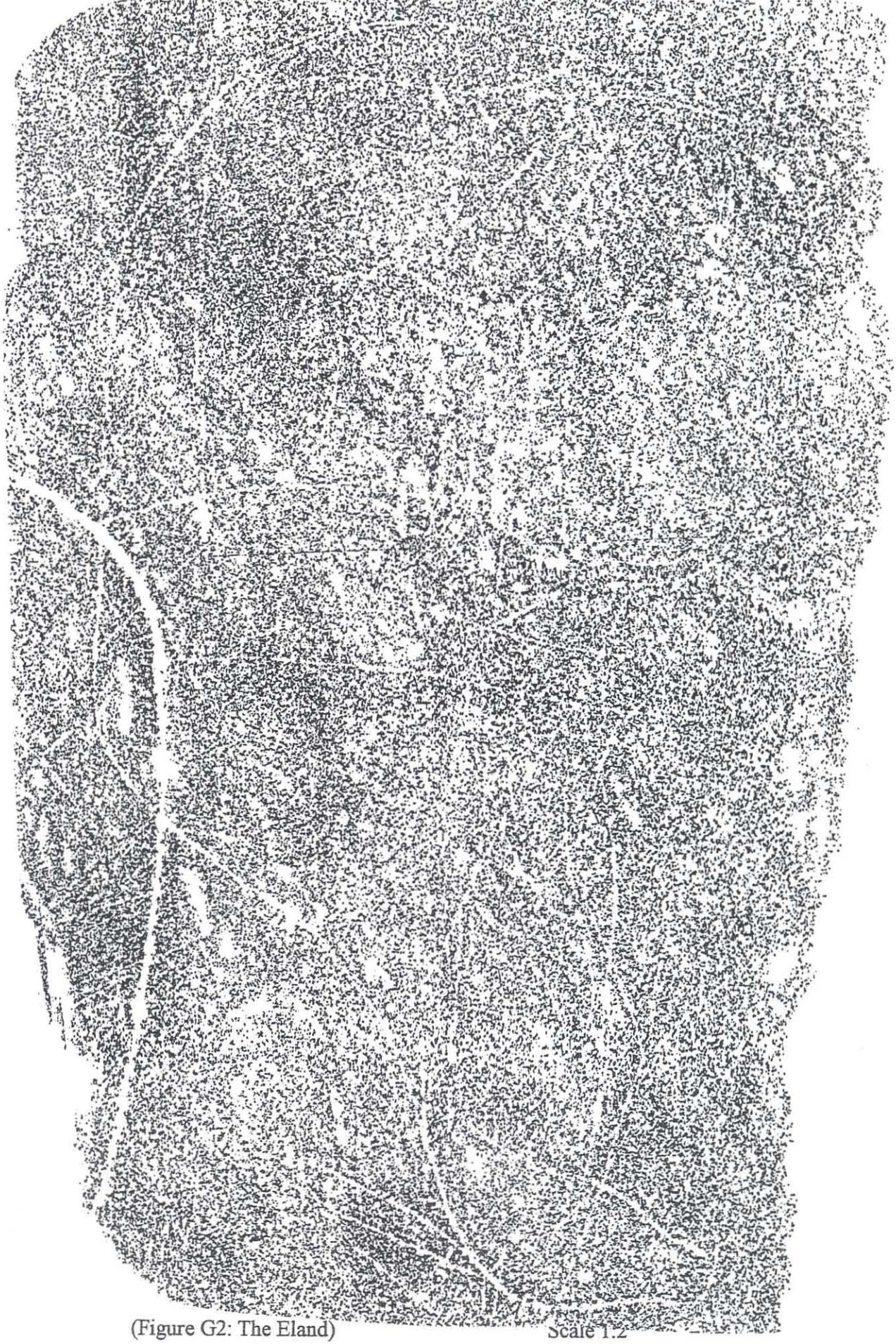
Actual Size Length: 14,5cm Breadth: 27,5cm

The engraving is of an isolated black rhino (Figure G1). A fine line incision technique was used, along with a naturalistic style. The engraving is recognisable as a black rhino due to the pointed lip, as well as the fact that its head is held quite high and it doesn't have much of a nuchal hump on its forequarters. Both horns are visible, with the front one being twice the length of the back horn. The back, abdomen, rump and caudal appendage are well engraved, but once again true to the Bushmen style of engraving the legs are badly portrayed, the front being non-existent and the back being a clumsy "v" shape. No facial features are visible (Figure G1 defined).

The rock surface is badly eroded, especially around the face and neck area; this erosion took place after the rhino was engraved. This could be due to the fact that the rock is close to the earth surface and would thus receive the brunt of the water runoff from the outcrop. The engraving faces north, towards the bush area (a black rhinos natural habitat). The engraving is in a poor condition; its only threat is further weathering.



(Figure G1 defined: The Black Rhinoceros)



(Figure G2: The Eland) Scale 1:2

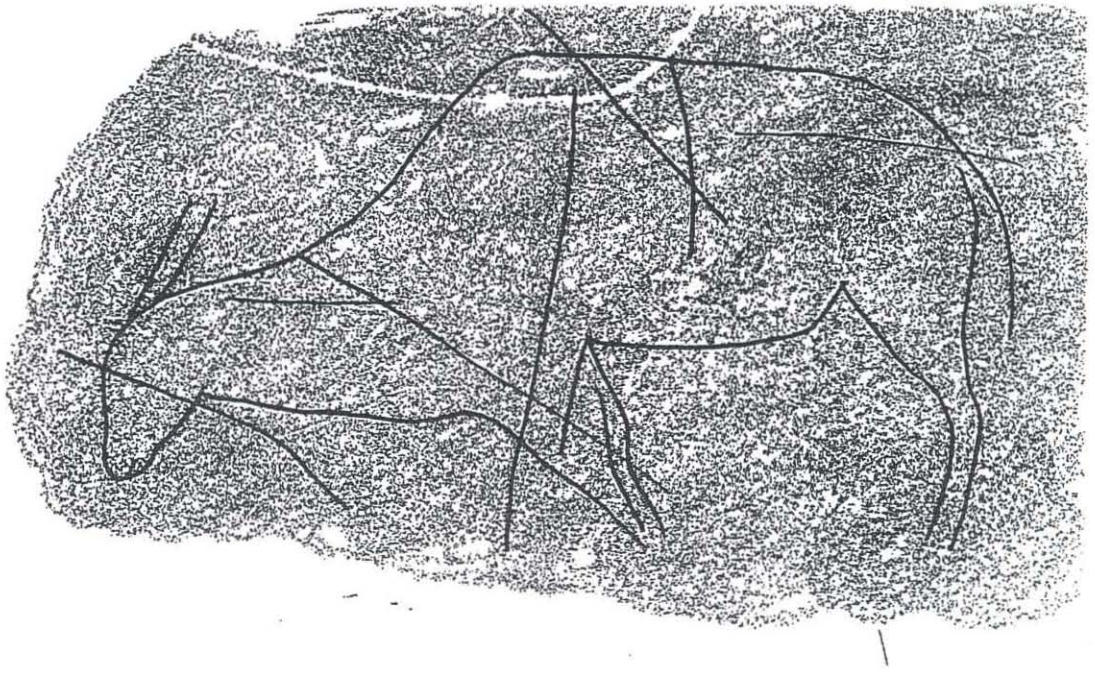
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Figure G2 - **The Eland** *(Tragelaphus oryx)* - Latitude 27° 29' 47,5" E
Longitude 25° 54' 03,3" S

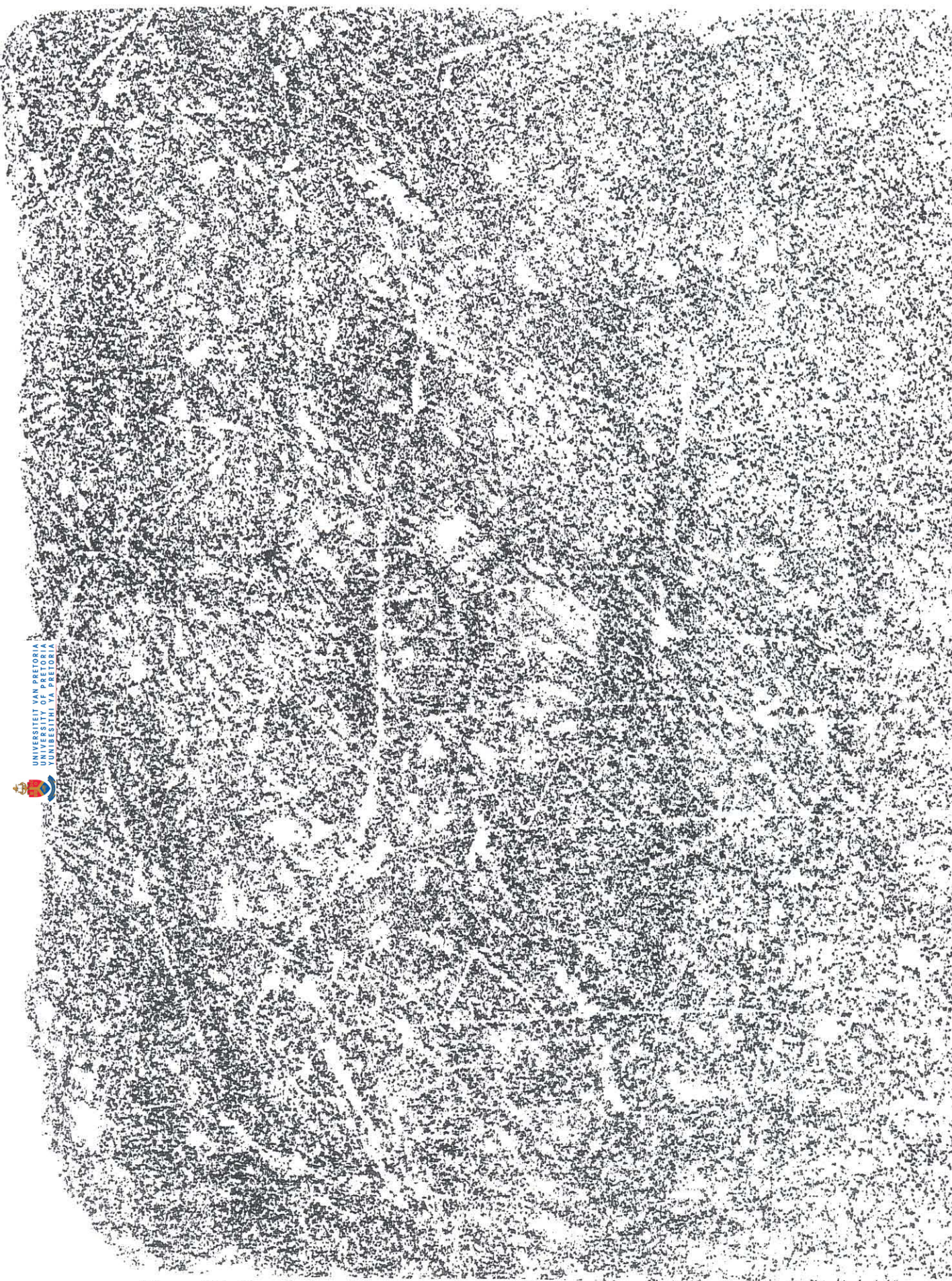
Actual Size Length: 16cm Breadth: 30cm

A fine line incision technique was used to engrave the eland (Figure G2). The style is naturalistic and animal is portrayed grazing. The engraving appears to be very old, as it is no longer visible to the naked eye and is only through the rubbing that the engraving can be appreciated. The animal is well proportioned, on the head a small incision is present depicting a mouth, the horns although simple in style are also present. The characteristic coloration line running from the nuchal hump to the lower limb is also present. The caudal appendage and back leg are well defined; the front leg however is once again a crude "v" shape. There are a number of stray lines present that don't constitute any form and don't seem form part of the engraving (Figure G2 defined).

The rock surface is medium grained, with no erosion present. The engraving although not visible to the naked eye anymore, is in a good condition, with its only threat being further weathering due to the elements. The engraving is positioned at the base of the outcrop, on the eastern side and faces south.



(Figure G2 defined: The Eland)



(Figure G3: Gemsbok and Tswana pattern work) Scale 1:1

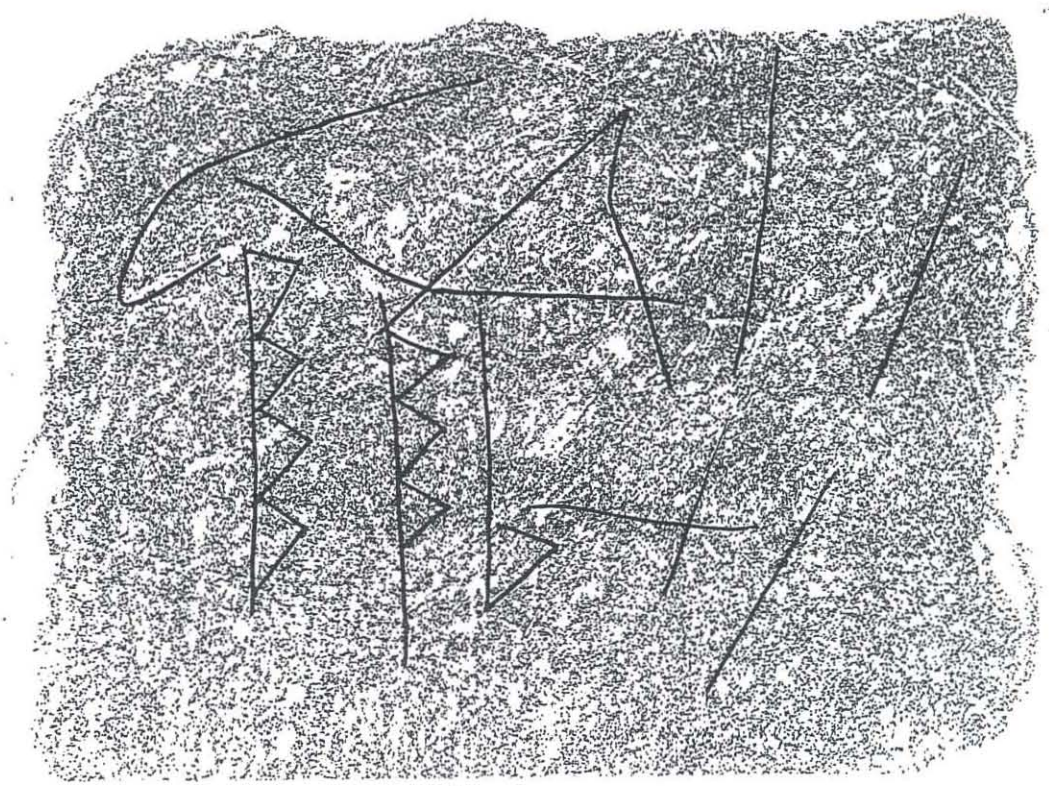
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Figure G3 - **Gemsbok and Tswana pattern work** *(Oryx gazella)*
- Latitude 27° 29' 47.9" E
Longitude 25° 54' 01,5" S

Actual Size Length: 19,5cm Breadth: 23cm

The engraved gemsbok was done in a fine line technique and a naturalistic style, but is incomplete (Figure G3). It is however very old and weathered and can only be seen with difficulty. The proportions used are not of the best as the body is rather elongated, the horn lengths of the specimen engraved are very long and measure ten centimetres on the engraving. The Sotho-Tswana decorative pattern work found on the engraved surface was done long after the original engraving as they can clearly be seen. They have been engraved extremely finely and comprise of zigzag's that run vertically between two parallel lines. There are two of these incised pattern works. There are also other lines present that don't constitute anything formal and are very finely engraved (Figure G3 defined).

The rock surface on which the engraving was executed is fine grained with few erosion marks. The engraving of the gemsbok is very old and weathered, but its condition is good. The engraving is positioned on the west side of the outcrop and faces northwest. It is under no threat other than further weathering and hoofed animals.



(Figure G3 defined: Gemsbok and Tswana pattern work)



(Figure G4: The Redhartebeest) Scale1:3

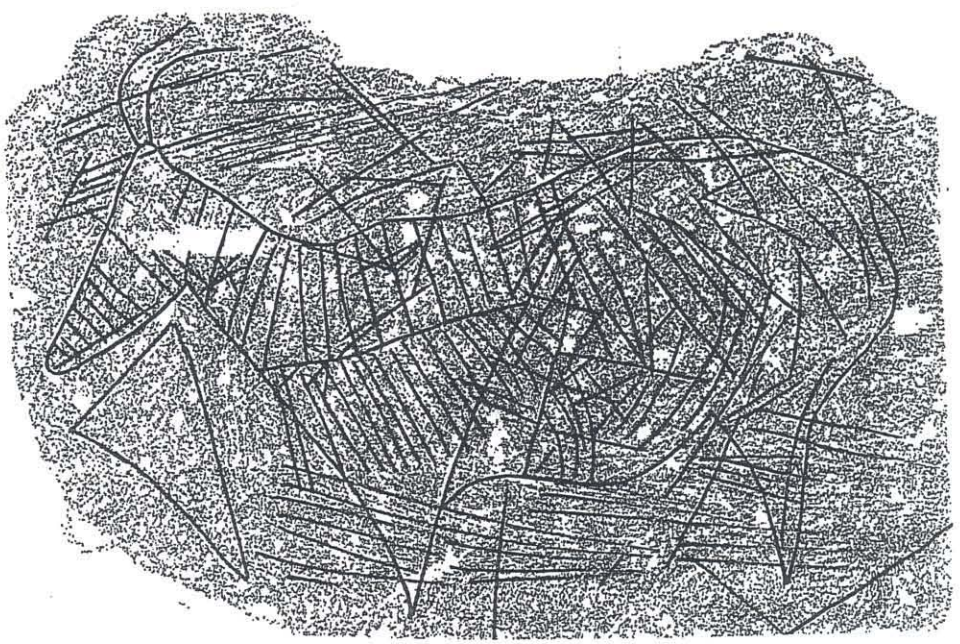
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Figure G4 - **The Redhartebeest** *(Alcelaphus buselapus)*
- Latitude 27° 29' 47,8" E
Longitude 25° 54' 03,4" S
Actual Size Length: 25,5cm Breadth: 39cm

The isolated motif of the red hartebeest was incised making use of a broad line technique and a naturalistic style (Figure G4). It's characteristic sharp, elongated facial features, heart shaped horns, nuchal hump on it's forequarters and short stocky body, are excellently captured. Once again the front and back legs are crude "v" shapes. The antelope appears to have been engraved stepping down something as the rump is normally lower than the shoulders, but in this case is slightly elevated. The front leg and front portion of the abdomen are also engraved, lower than the back leg, emphasising the fact that the animal is stepping down something.

The entire background of the antelope is covered in linear work that was executing using a fine line technique. There are some zigzag's along the back and rump of the antelope and numerous horizontal lines above the head and below the stomach of the animal. Along the neck there are liners patterns that resemble the veins of a leaf, along the rump there are lines resembling chevrons, that point towards the rump. There are numerous other stray lines. The lines appear to have been made long before the engraved antelope, which is superimposed on them, as they are not as visible as the antelope. The pattern work is typical of entoptic phenomenon (Figure G4 defined).

The rock surface of this engraving is fine grained, with dotted erosion marks. Even though there are a few erosion marks, the condition of the engraving is still good, and it faces no threat other than further weathering. The engraving is positioned on top of the outcrop and faces south.



(Figure G4 defined: The Redhartebeest)

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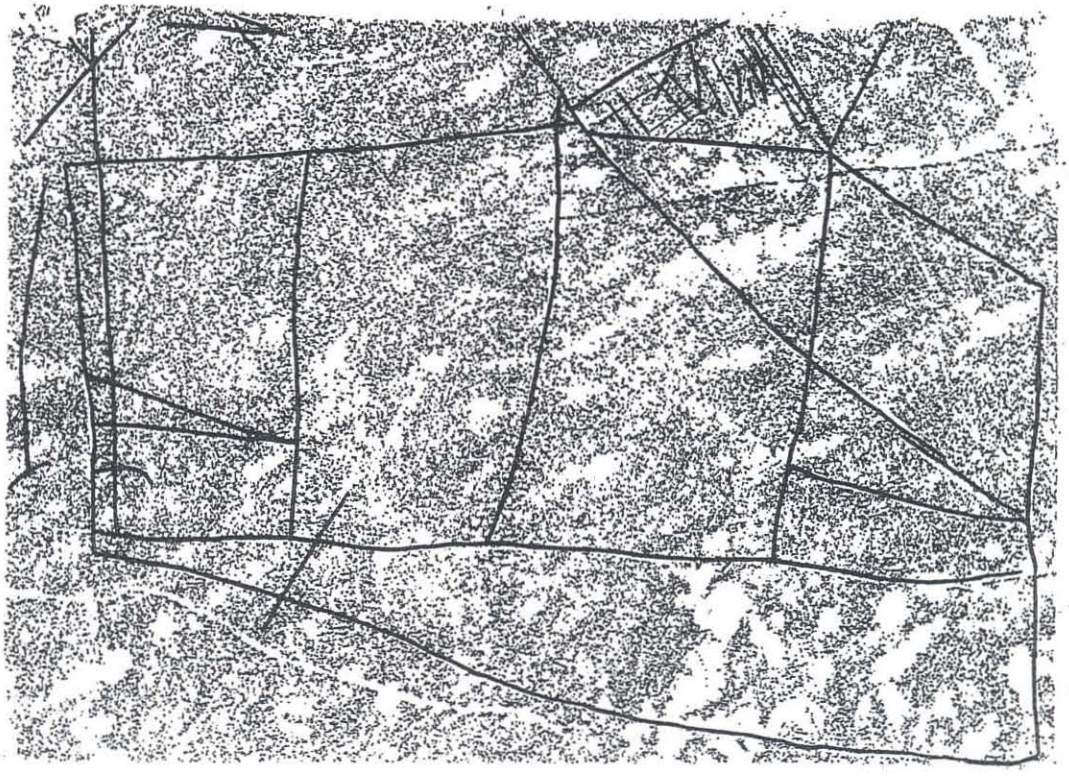
(Figure G5: The Mission Station) Scale 1:1

Figure G5 - **The Mission Station** - Latitude 27° 29' 47,3" E
Longitude 25° 54' 03,9" S

Actual Size Length: 21cm Breadth: 28cm

The mission station is isolated and incised making use of a fine line technique; the style is very crude (Figure G5). Four lopsided rectangles are used to portray the four rooms of the mission. The left outer wall is drawn using a double line to show its thickness. The foundation is also depicted as a double line, although the lines are thicker towards the right hand side of the building. The steeple depicted as a triangle is located on the second room from the right; the triangle has a lot of scratching inside as if to colour it in, so as to highlight it. The rectangle below the triangle is the biggest of the four, the other rooms tapping off towards their respective sides, showing that the entrance was in the steeple room. There are a number of stray markings around and a zigzag motif at the base of the room most right (Figure G5 defined).

The surface of the rock is medium grained and badly eroded, once again could this be the engravers desire to see the settlers leave. The engraving faces south towards the remains of what appears to be the mission station remains. It is positioned north east of the outcrop on a solitary rock. The condition of the engraving is very bad due to the erosion that has taken place; this is its only threat.



(Figure G5 defined: The Mission Station)

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(Figure G6: The Mission Station (2)) Scale 1:1

Figure G6- **The Mission Station (2)** - Latitude 27° 29' 49,3" E
Longitude 25° 54' 04,1" S

Actual Size Length: 19,5cm Breadth: 23,5cm

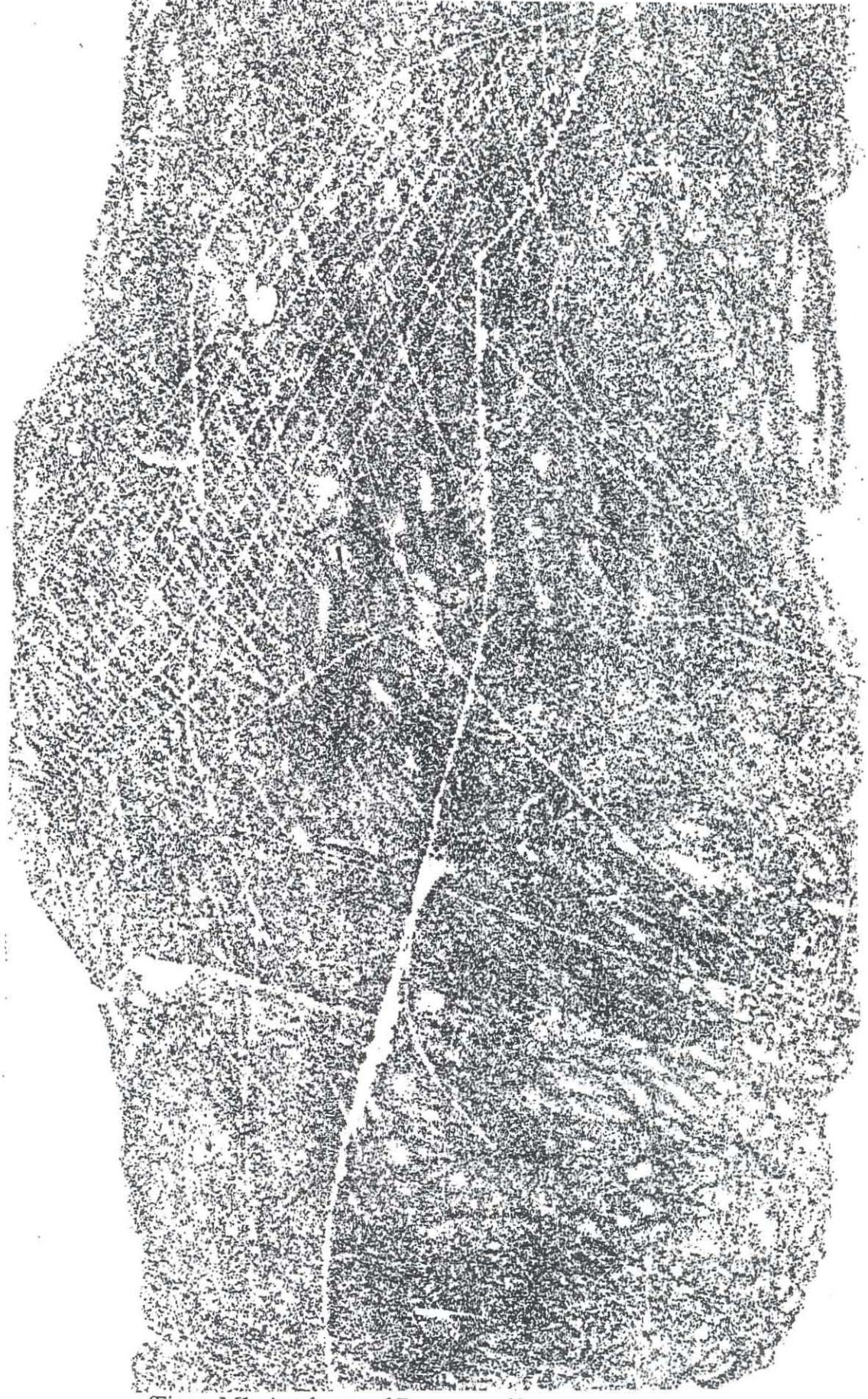
This second isolated engraving of the mission station, lies approximately 1,5 meters from the first, it to is incised making use of a fine line technique, with a crude style (Figure G6). It faces north away from the station. The steeple is located on the second room from the left; thus the engraving is portraying the back of the station. Once again the rooms next to the steeple room taper off to their respective sides. The foundation is once again thick doubles line (Figure G6 defined).

The rock surface of this engraving is very badly eroded, especially on the right hand side of the rock. The engraving faces north, away from the ruins of the original mission station. The condition of the engraving is very bad due to the erosion of the rock surface; this is its only threat.



(Figure G6 defined: The Mission Station (2))

Site M



(Figure M1: Antelope and Pattern work)

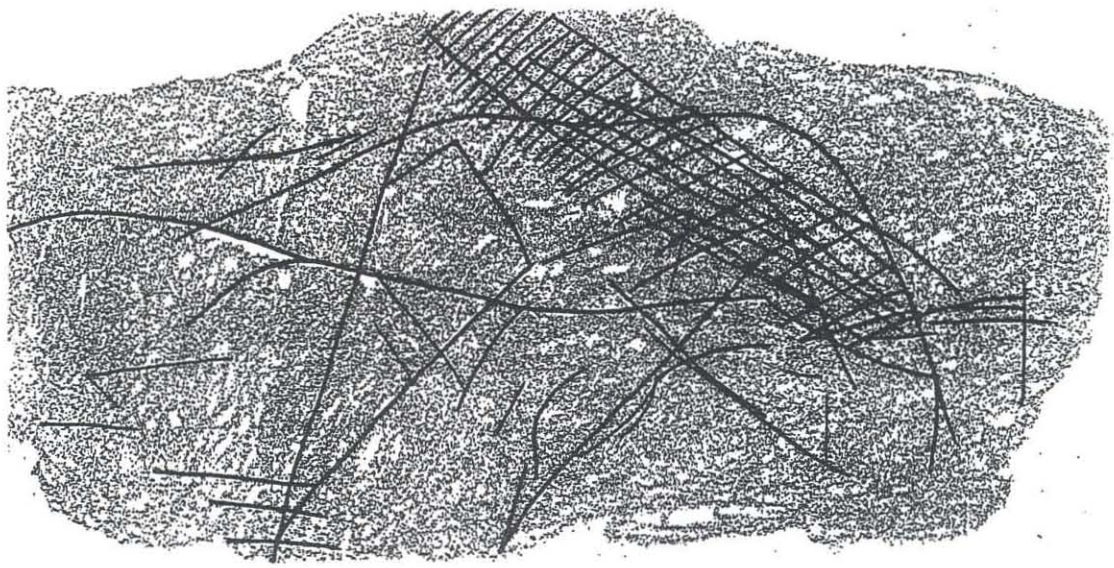
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Figure M1 - **Antelope and Pattern work** - Latitude 27° 29' 45,5" E
Longitude 25° 54' 03,6" S

Actual Size Length: 22cm Breadth: 47cm

The bulk of the engraved work is geometric in style, making use of a fine line incision technique (Figure M1). There is however a broad line incision of the back of a buck. It appears as though the incision of the bucks back is the first work done on the rock. The nuchal hump, hindquarters and caudal appendage are engraved; at this point the engraving was abandoned. Some time later the grid work above the engraved buck was incised; it is possible entoptic phenomenon. Superimposed on the grid and buck are two geometric shapes resembling bow ties, they over-lap each other. There are also two smaller bows above the hindquarters. There are a couple of up side down 'V' shapes and curved lines as well (Figure M1 defined).

The texture of the rock surface is medium to fine grained, with numerous small erosion marks located all over the surface. The condition of the engraving is good. The engraving is located on the access road and faces north.



(Figure M1 defined: Antelope and Pattern work)

Site N



(Figure N1: The Elephant) Scale 1:3

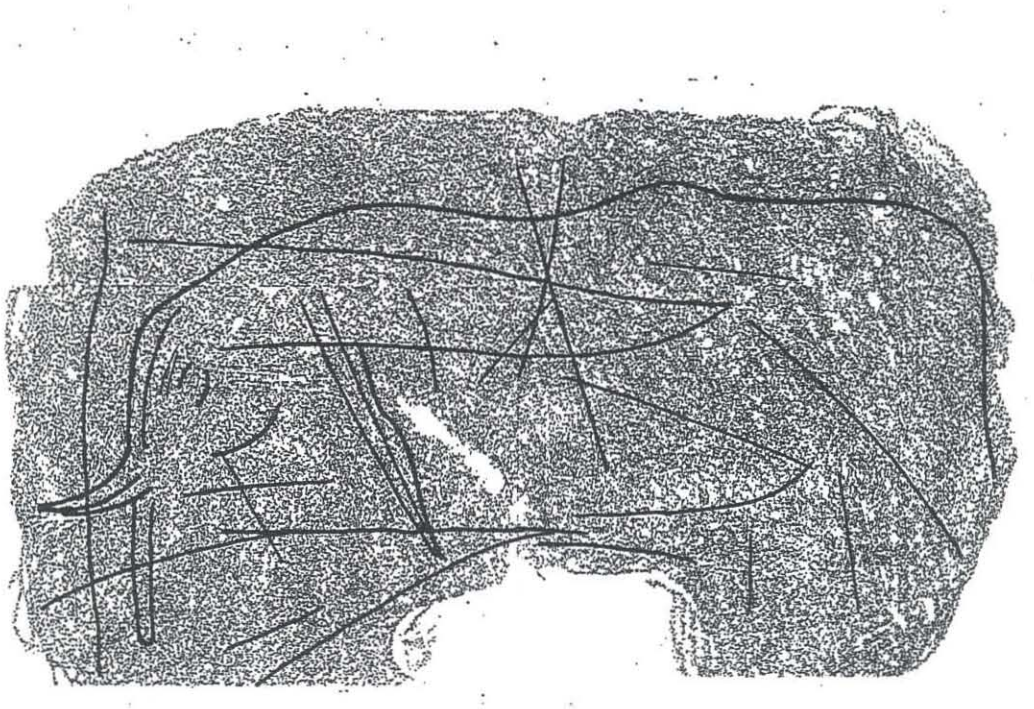
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Figure N1 - **The Elephant** *(Loxodonta africana)* - Latitude 27° 29' 58,3" E
Longitude 25° 54' 30,7" S

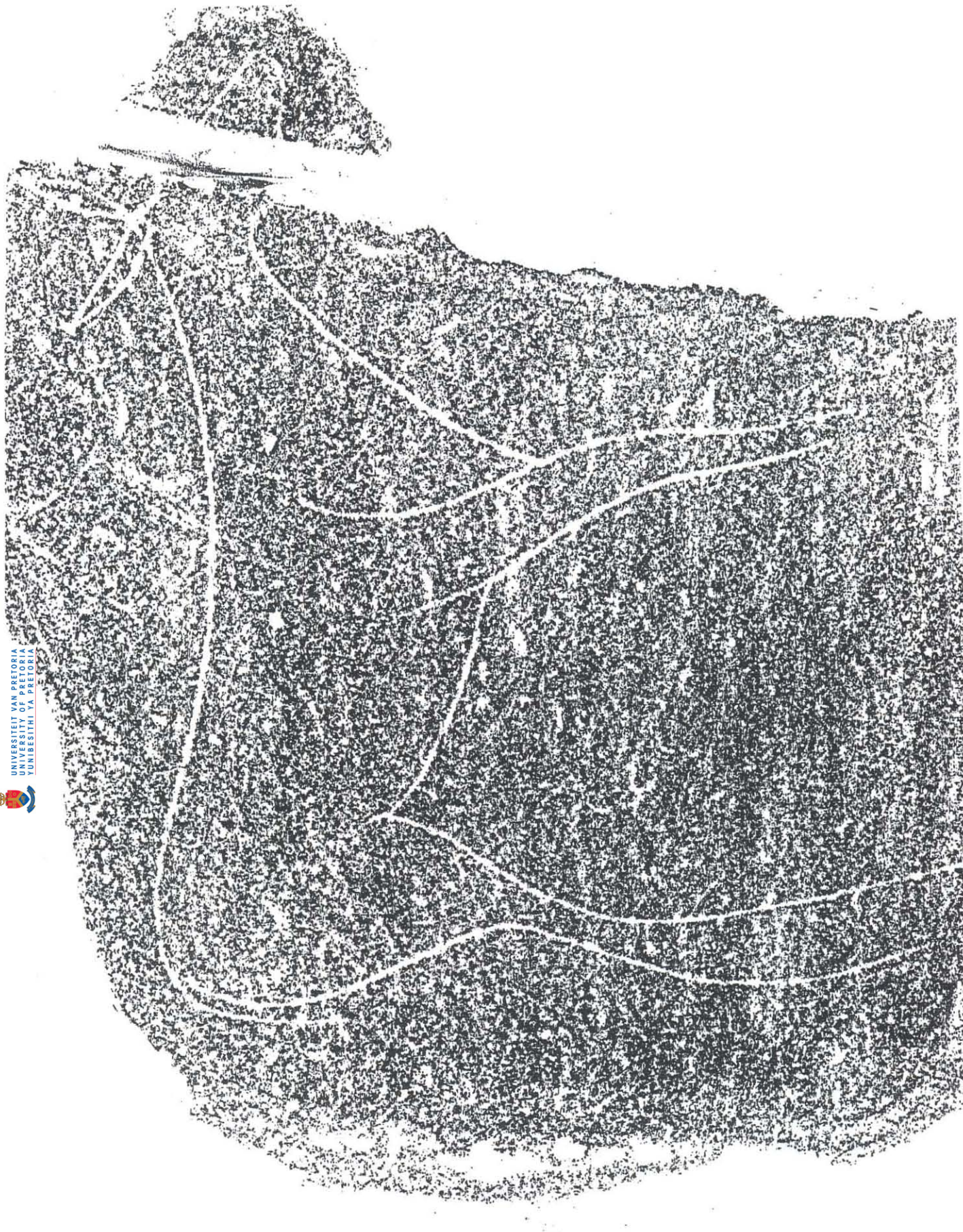
Actual Size Length: 23cm Breadth: 52cm

The elephant is natural in style and incised making use of a fine line incision technique (Figure N1). The elephant covers approximately ninety percent of the rock surface. The head is well defined including an eye, which is out of proportion, being far larger than that of a real elephant. The trunk and both tusks are represented. The ear is present, but is more angular than in reality. The nuchal hump on the back is prominent. The front and back legs are portrayed as being very thick, with a well defined abdominal area. The caudal appendage was omitted. Superimposed on the elephant is a rectangular shape, converging lines, an up-side down 'V' shape, a couple of bow-tie shapes around the head area, a curved line under the elephant and multiple incisions around the neck and face of the elephant (Figure N1 defined).

The texture of the rock surface is rough, with numerous small erosion marks all over the rock surface. There is one large erosion mark located below the elephant, but it does not interfere with the engraving. The condition of the engraving is satisfactory, although the rough texture of the rock does make visibility difficult. The engraving is located on the southern boarder of the site and faces north.



(Figure N1 defined: The Elephant)



(Figure N2: Baby antelope) Scale 1:1

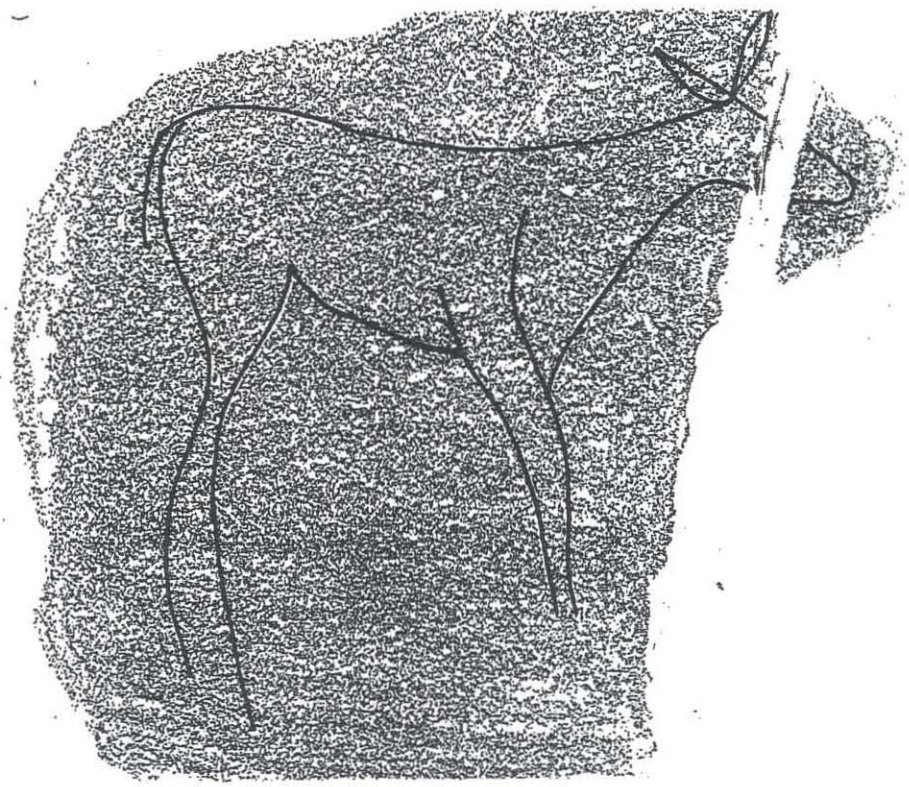
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Figure N2 - **Baby antelope** *(Unidentifiable)* - Latitude 27° 29' 59,2" E
Longitude 25° 54' 32,4" S

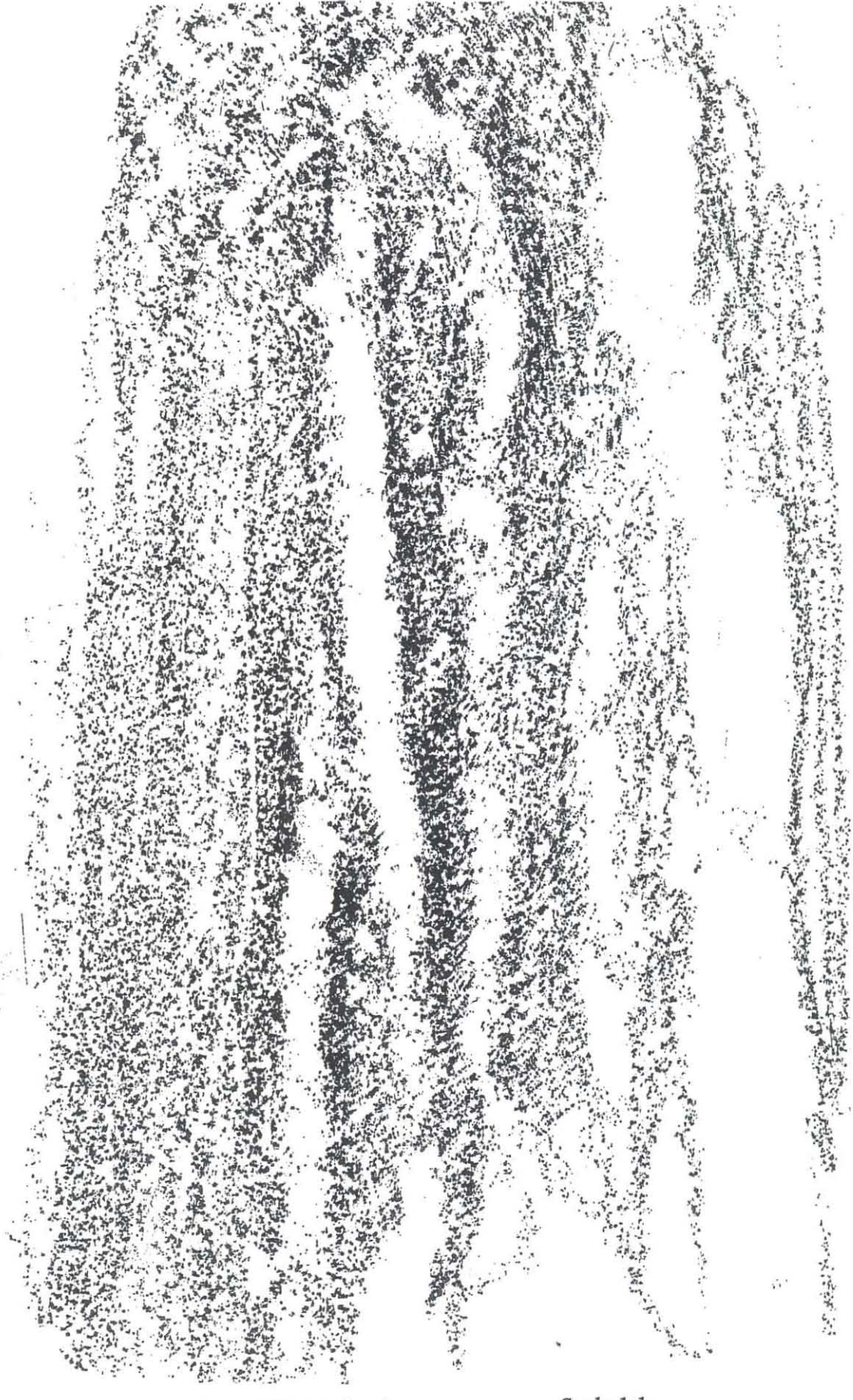
Actual Size Length: 19,5cm Breadth: 19cm

The engraving is naturalistic in style and engraved making use of a broad line incision technique (Figure N2). The engraving covers almost the entire rock surface. The engraved antelope is a juvenile and can thus not be identified as it has not yet got any of it's characteristic markings e.g., horns, body shape and coloration line is an indication that it is an eland. The head is well shaped, with both pinna incised. The muzzle is cracked in two, due to a lightning strike. The neck, back and hindquarters are well shaped. The lower limb and manus of the front leg is differentiated. The muscles of the flank and thigh are well defined. To a certain degree the shank and pes of the back leg are differentiated. Both the front and back legs are not finished off, but instead left open. The caudal appendage is short, not covering the hindquarters. The antelope is beautifully portrayed (Figure N2 defined).

The texture of the rock surface is medium grained, with almost no erosion marks, except for a large crack across the muzzle area, caused by lightning. The condition of the engraving is good. The engraving is located in the centre of the site and faces southeast.



(Figure N2 defined: Baby antelope)



(Figure N3: Antelope) Scale 1:1

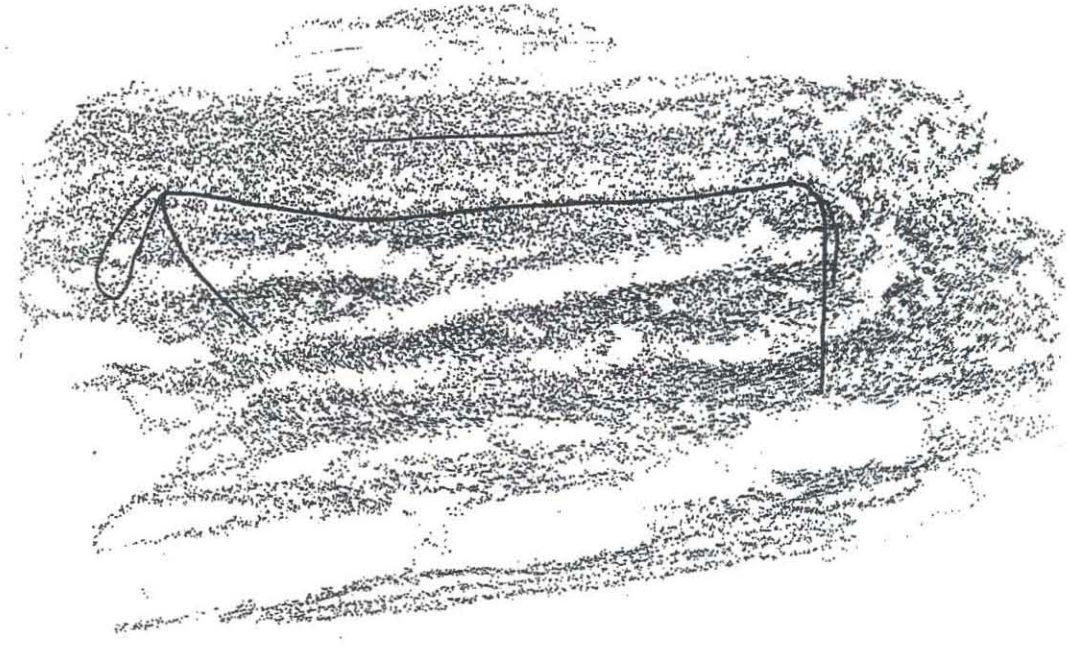
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Figure N3 - **Antelope** *(unidentifiable)* - Latitude 27° 29' 58,7" E
Longitude 25° 54' 30,5" S

Actual Size Length: 7cm Breadth: 19,5cm

The engraving is stylised and engraved making use of a fine line incision technique (Figure N3). The engraving comprises approximately sixty percent of the rock surface. The head of the buck is shaped like a teardrop. The neck culminates in a point. The back is flat, with the hindquarters, being a relaxed 45° angle. There is a long caudal appendage. The legs were omitted. There is a curved line that runs up the neck and above and along the back of the buck, which is superimposed on the buck (Figure N3 defined).

The texture of the rock surface is medium grained, with numerous small erosion marks. There are also a number of large erosion marks, running horizontal with and through the engraved buck, interfering with the engraving. The condition of the engraving is poor, but its contents don't warrant a costly removal process. The engraving is located, in the centre of the site and faces west.



(Figure N3 defined: Antelope)

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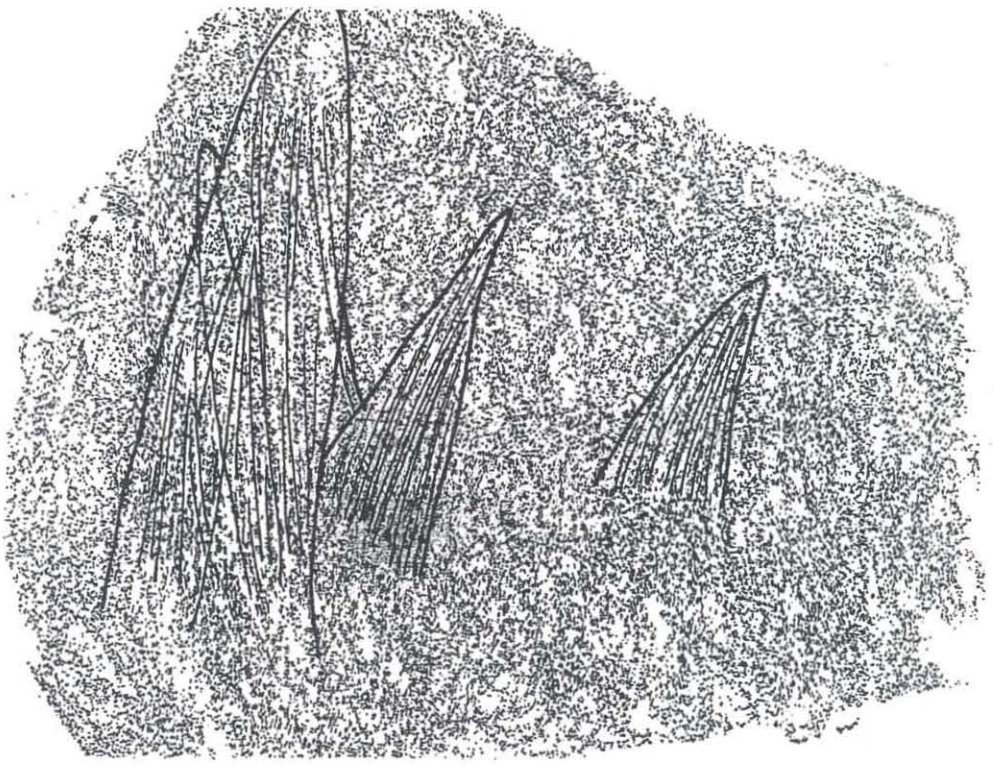
(Figure N4: Pattern work) Scale 1:1

Figure N4 - **Pattern work** - Latitude 27° 29' 58,7" E
Longitude 25° 54' 30,2" S

Actual Size Length: 18cm Breadth: 17,5cm

The pattern work is stylised and engraved making use of a fine line incision technique (Figure N4). The engraving comprises ninety percent of the rock surface. The engraving consists of three peaks, with multiple incised lines inside each peak. Each peak curves ever so slightly to the right (Figure N4 defined).

The texture of the rock surface is medium to rough, with numerous small erosion marks all over the surface. The condition of the engraving is good. The engraving is located at the northern boarder of the site and faces north- west.



(Figure N4 defined: Pattern work)



(Figure N5: Stylised antelope) Scale 1:1

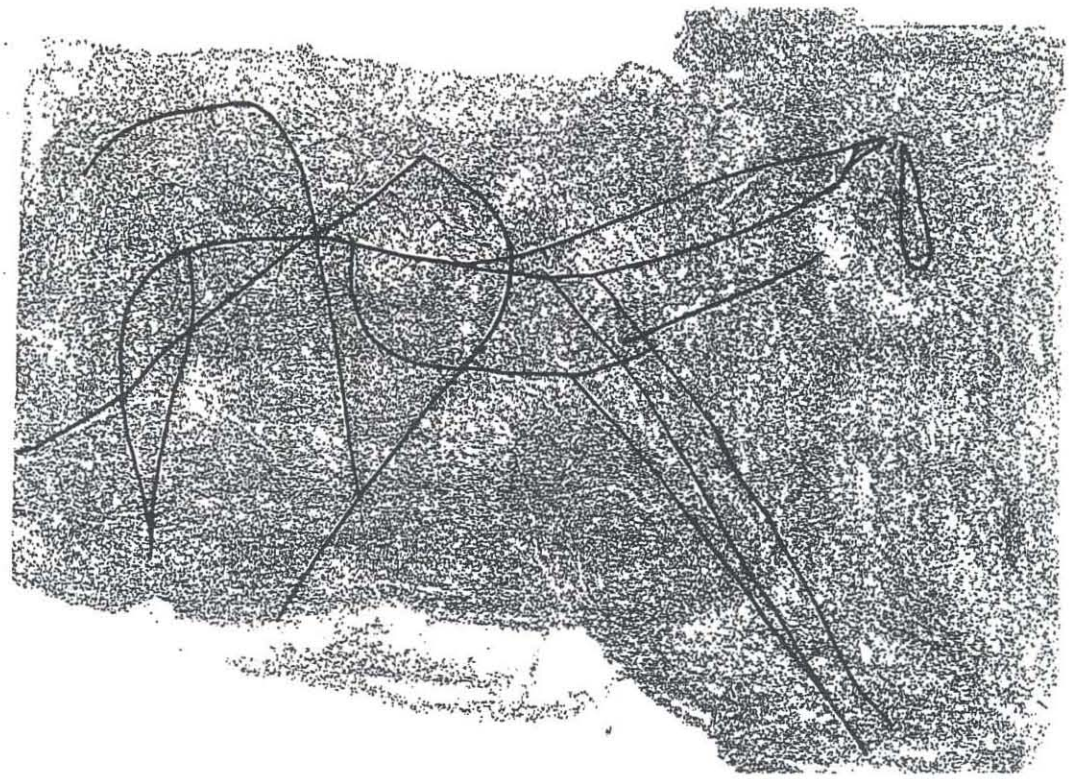
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Figure N5 - **Stylised Antelope** *(unidentifiable)* - Latitude 27° 29' 58,1" E
Longitude 25° 54' 30,3" S

Actual Size Length: 13,5cm Breadth: 23cm

The engraving is stylised and engraved making use of a fine line incision technique (Figure N5). The engraving covers approximately eighty percent of the rock surface. The unidentifiable buck was the first art engraved on the rock. The head is an oval shape and so is the neck. The back is a simple slightly curved line. The back leg is a large oval, with a simple upward curved line for a caudal appendage. The abdominal area is defined, with a front leg comprising of two slightly shaped lines. Superimposed on the buck's neck is the outline of a feather structure. There is a curved line running vertically down the back of the buck. Superimposed on this is a large small 'n'. Below the 'n' there is another curved line (Figure N5 defined).

The texture of the rock surface is fined grained, with a number of small erosion marks located all over the rock surface. The condition of the rock engraving is satisfactory. The engraving is located, towards the northern boarder of the site and faces west.



(Figure N5 defined: Stylised antelope)

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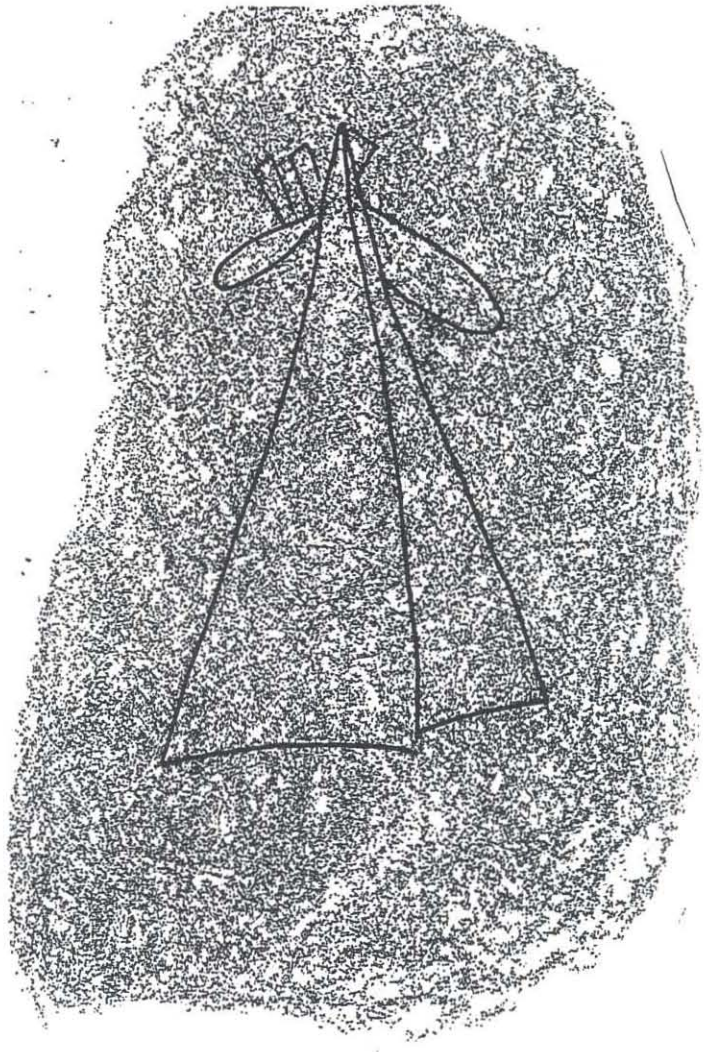
(Figure N6: The Giraffe) Scale 1:1

Figure N6 - **The Giraffe** *(Giraffa Camelopardalis)* - Latitude 27° 29' 59,3" E
Longitude 25° 54' 30,7" S

Actual Size Length: 23cm Breadth: 11cm

The engraving is stylised and incised making use of a fine line incision technique (Figure N6). The engraving comprises approximately eighty percent of the rock surface. Only the neck and heads of both giraffe were engraved. Both the necks are depicted as right-angled triangles, with their backs touching. Both the heads are simple oblong shapes, extending from the tips of the triangles. The "horns" of the giraffe on the left are engraved, but were omitted from the giraffe on the right (Figure N6 defined).

The texture of the rock surface is medium grained, with numerous small erosion marks located all over the rock surface. The condition of the rock engraving is satisfactory, but should be monitored. The engraving is located in the centre of the site and faces east.



(Figure N6 defined: The Giraffe)

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(Figure N7: Antelope and Pattern work) Scale 1:1

Figure N7 - **Antelope and Pattern work** - Latitude 27° 29' 36,5" E
Longitude 25° 54' 15,6" S

Actual Size Length: 13cm Breadth: 14cm

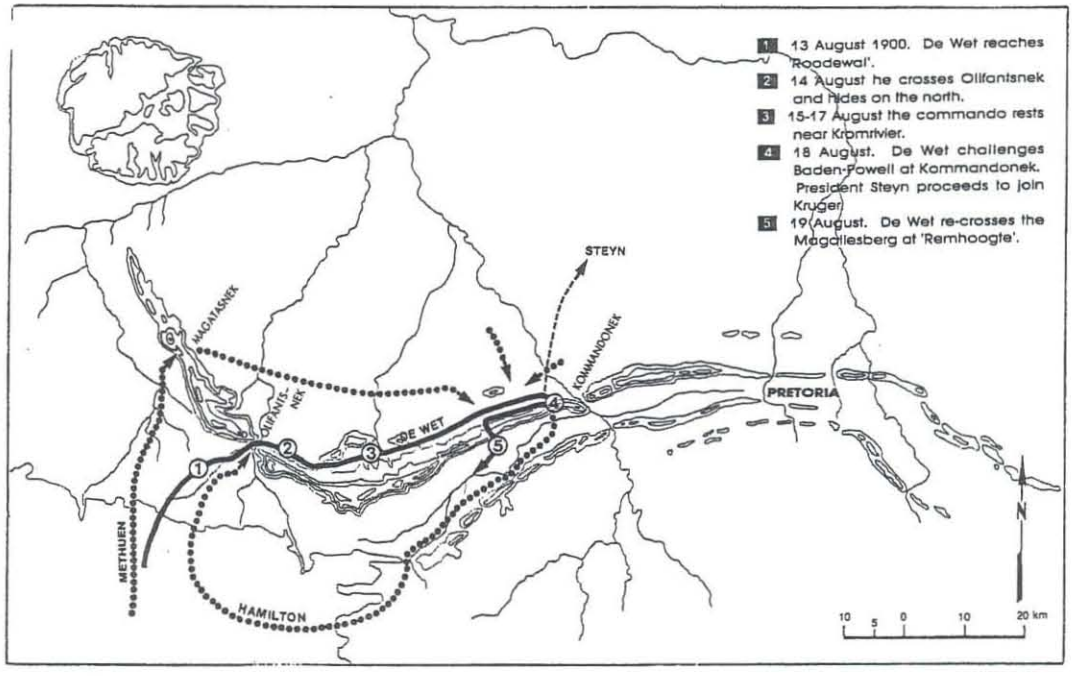
The engraved work is natural and stylised and all are incised making use of a fine line technique (Figure N7). The engraving covers ninety percent of the rock surface. The antelope was the first art work engraved. The antelope consists of a well-styled upper head, horns, a long neck and a flat back and was engraved grazing. At this point the engraving was discontinued. At a later stage multiple incisions were made in the curve of the buck. Superimposed on the incisions there is a diagonal oval shape. Below this there are three converging lines and superimposed on this and starting at the tip of the antelopes nose is a curved line (Figure N7 defined).

The texture of the rock surface is fine grained, with numerous small erosion marks located all over the rock surface; they don't however interfere with the engraved work. The condition of the engraving is good. The engraving is located towards the centre of the site and faces north.

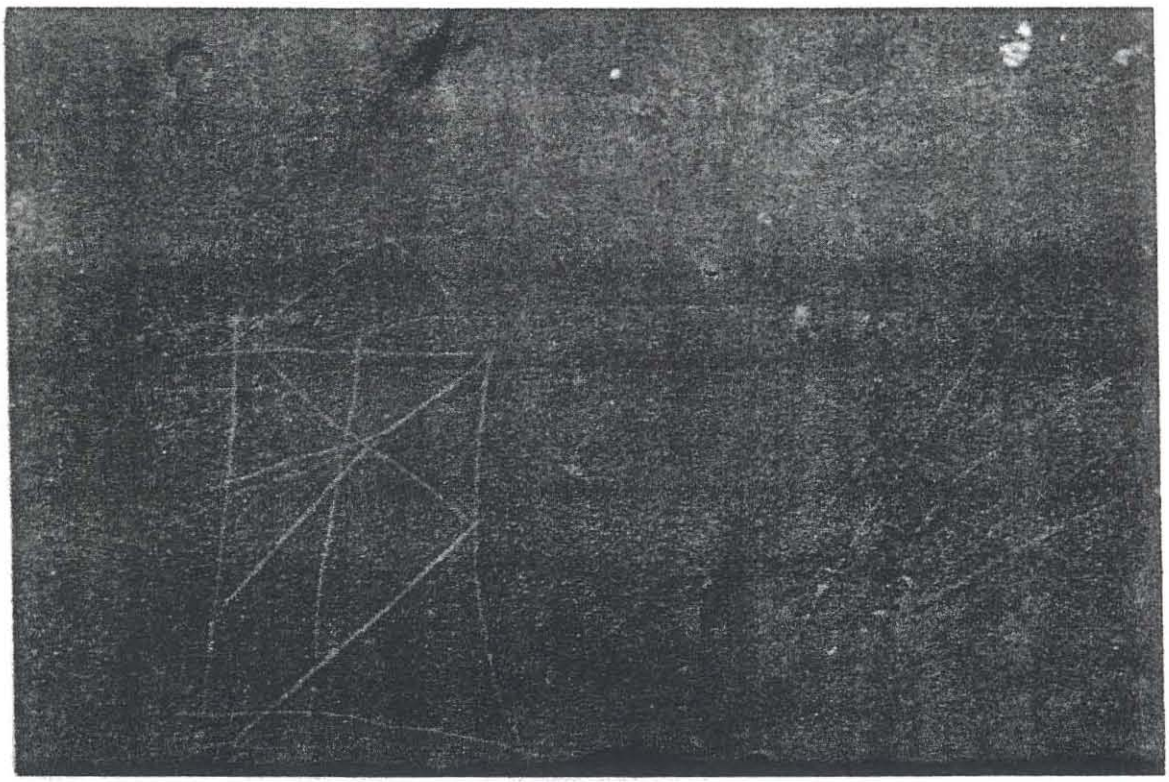


(Figure N7 defined: Antelope and Pattern work)

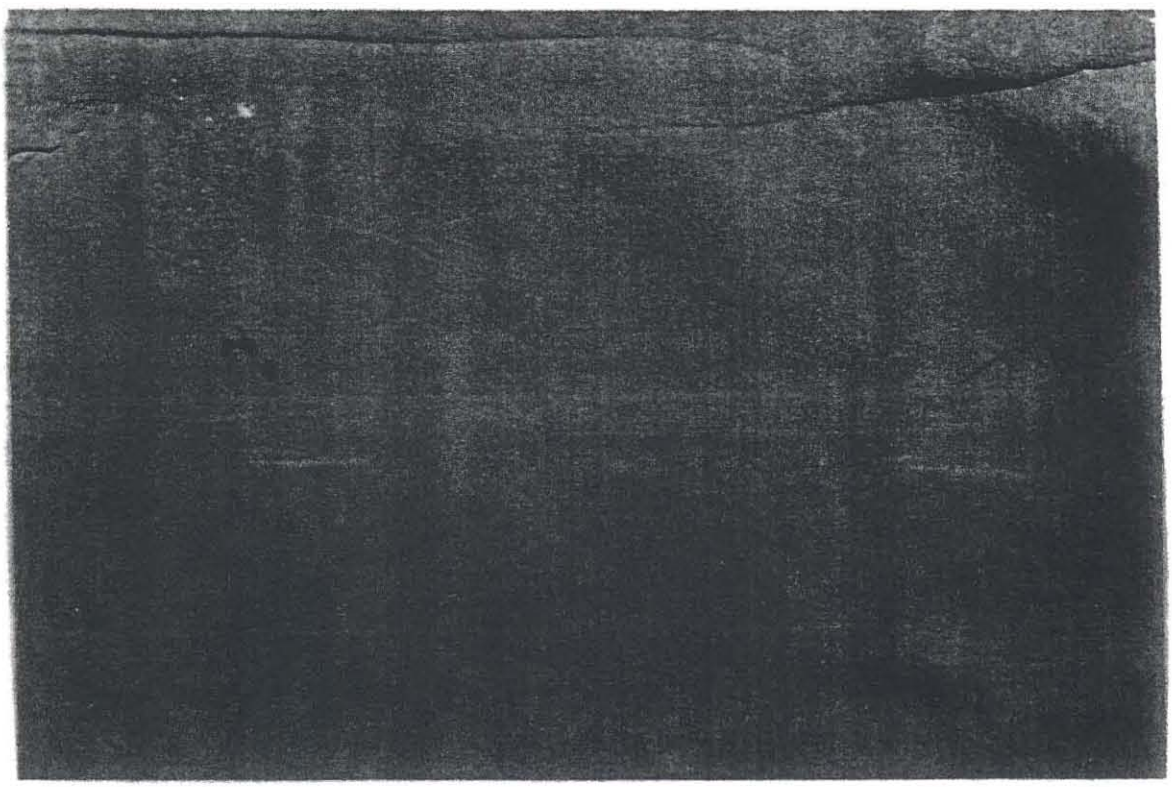
Site P



(Map37: Map of General De Wets movements in the Magaliesberg, Curuthers (1990))

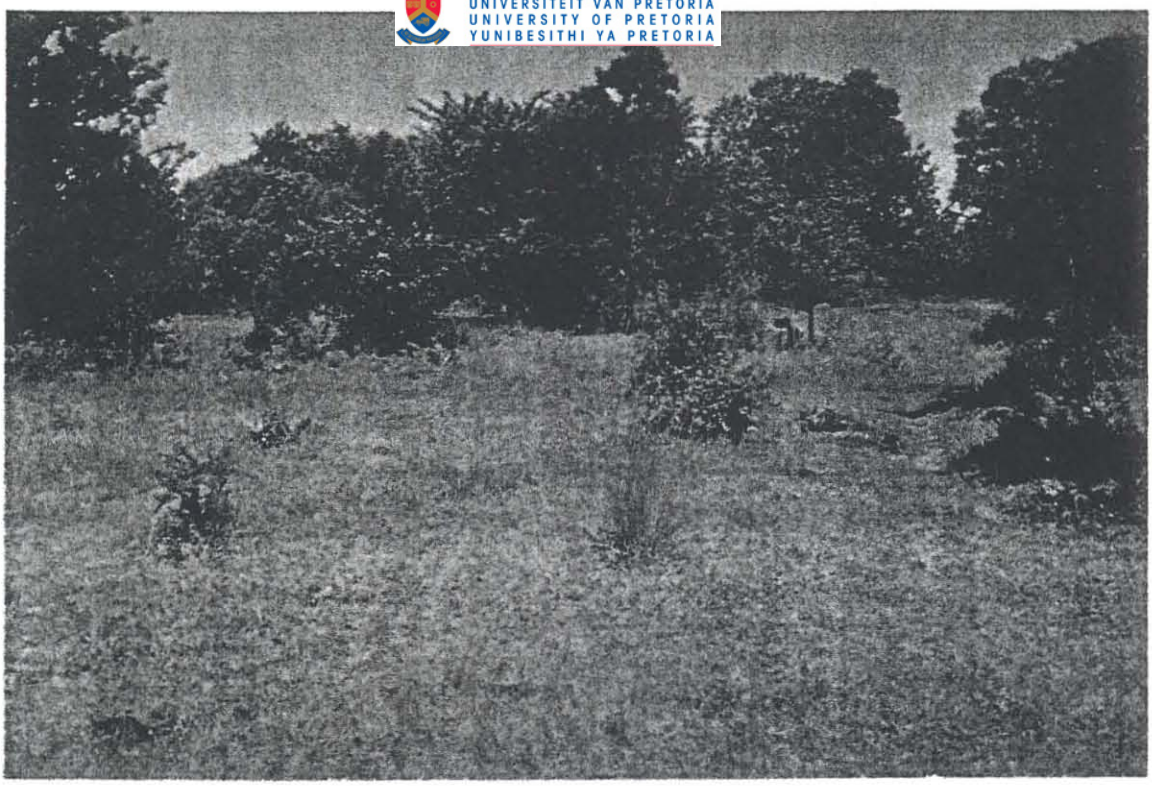


(Photo23: FigureC23- Linear work and house motif)

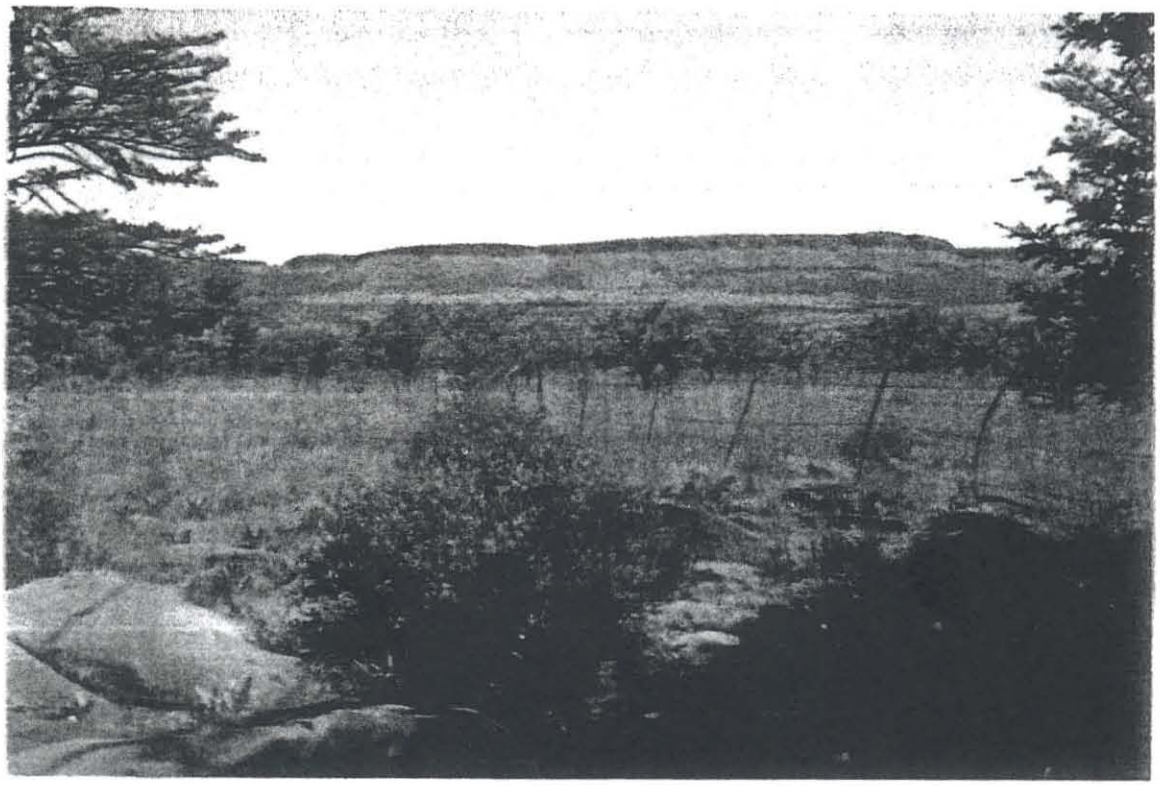


(Photo24: Figure C25- Zigzag's on parallel lines)

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(Photo 25: Inner kraal area of the Matabele village)



(Photo 26: Northern view from the Matabele village)

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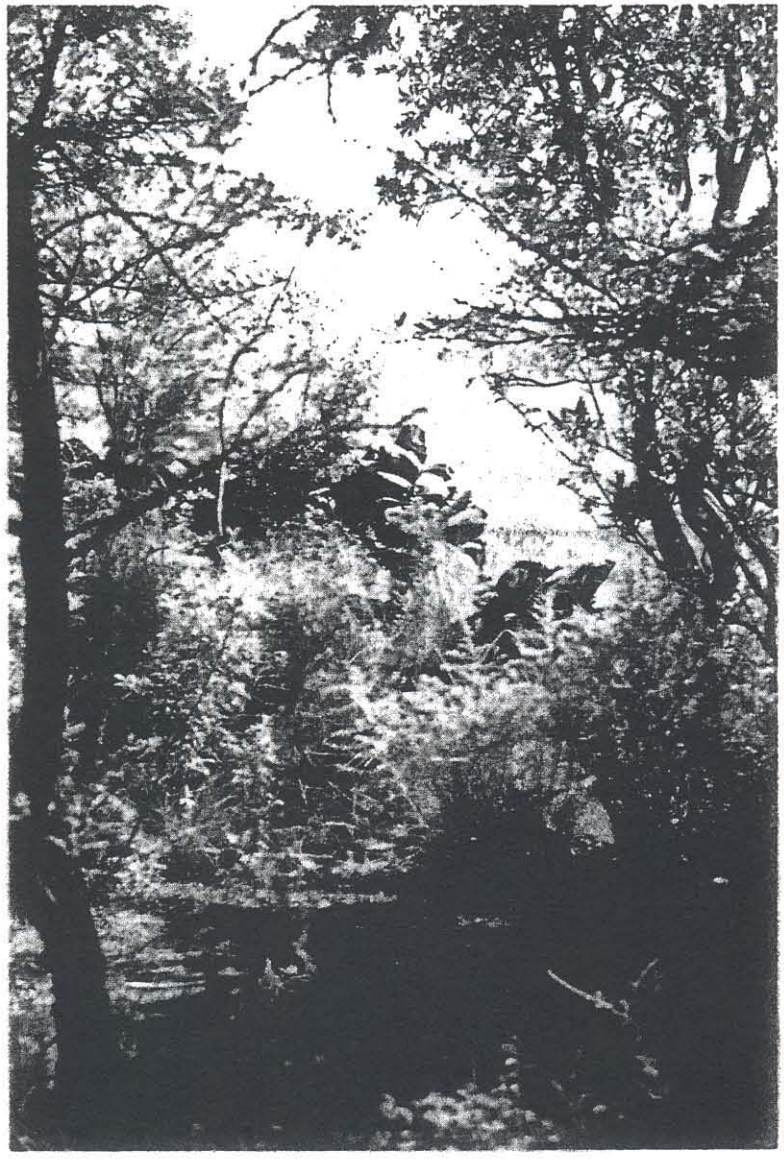


(Photo 27: Southern entrance to the Matabele village)



(Photo 28: A section of the remaining southern wall)

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(Photo 29: The eastern entrance to the Matabele village)

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(Photo 30: A section of the remaining eastern wall)

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(Photo 31: The western entrance to the Matabele village)



(Photo 32: The remaining stone wall of a small enclosure inside the Matabele village on the western side)



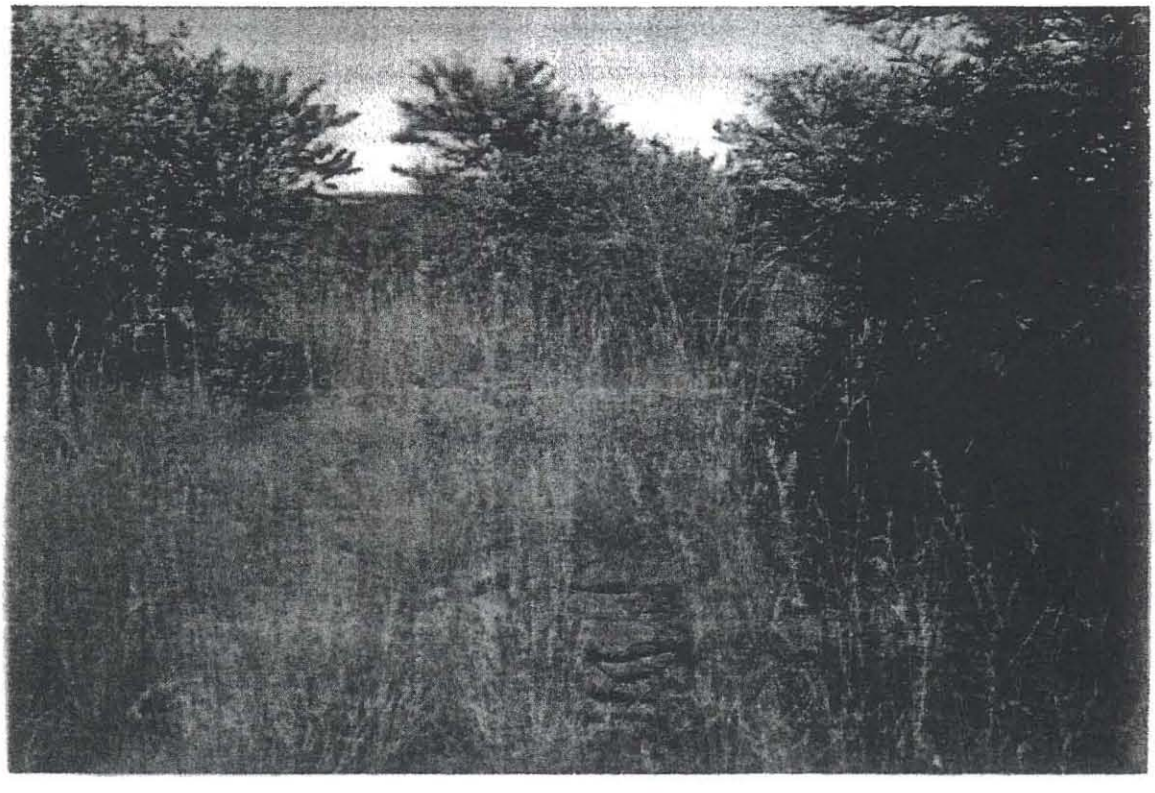


(Photo's 33+34: The remaining walls of a small enclosure inside the Matabele village on the northern side)

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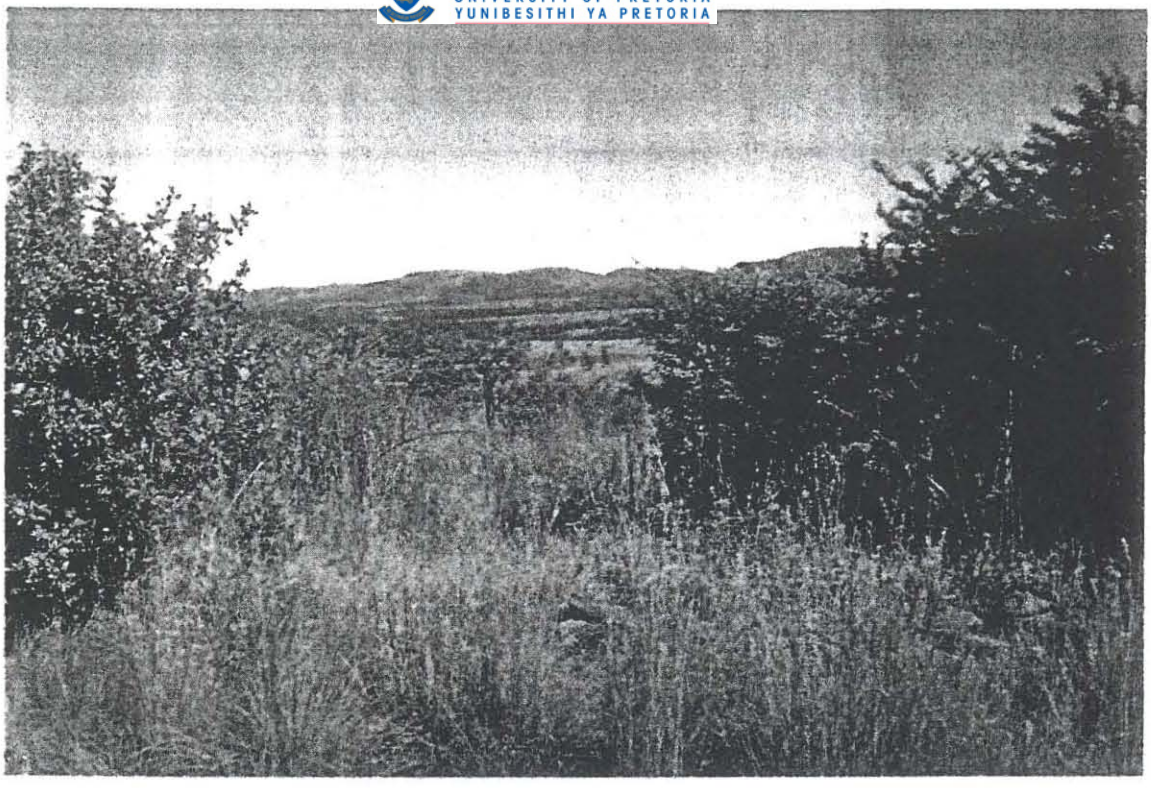


(Photo 35: A remaining stone wall of Ebenezer)



(Photo 36: The southern entrance of Ebenezer)

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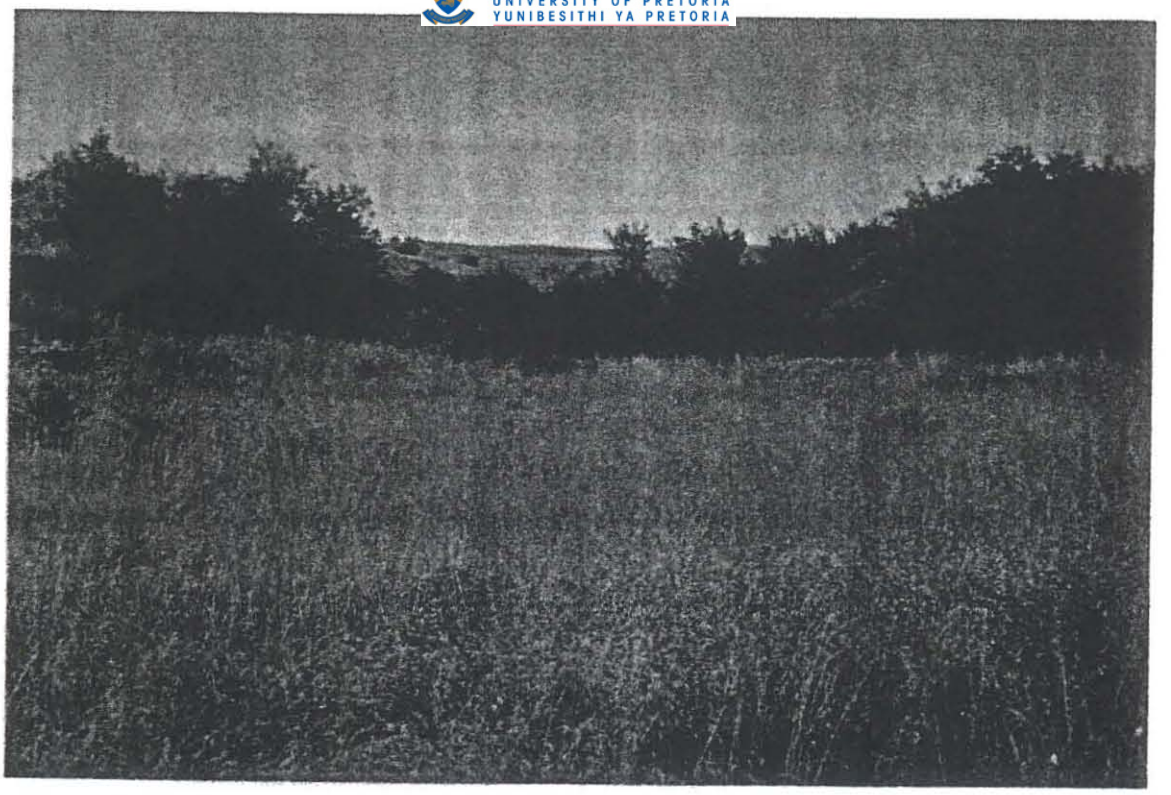


(Photo 37: The northern view from Ebenezer)



(Photo 38: Figure E1, Female Figurine)

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(Photo 39: A view of the Dam wall today)

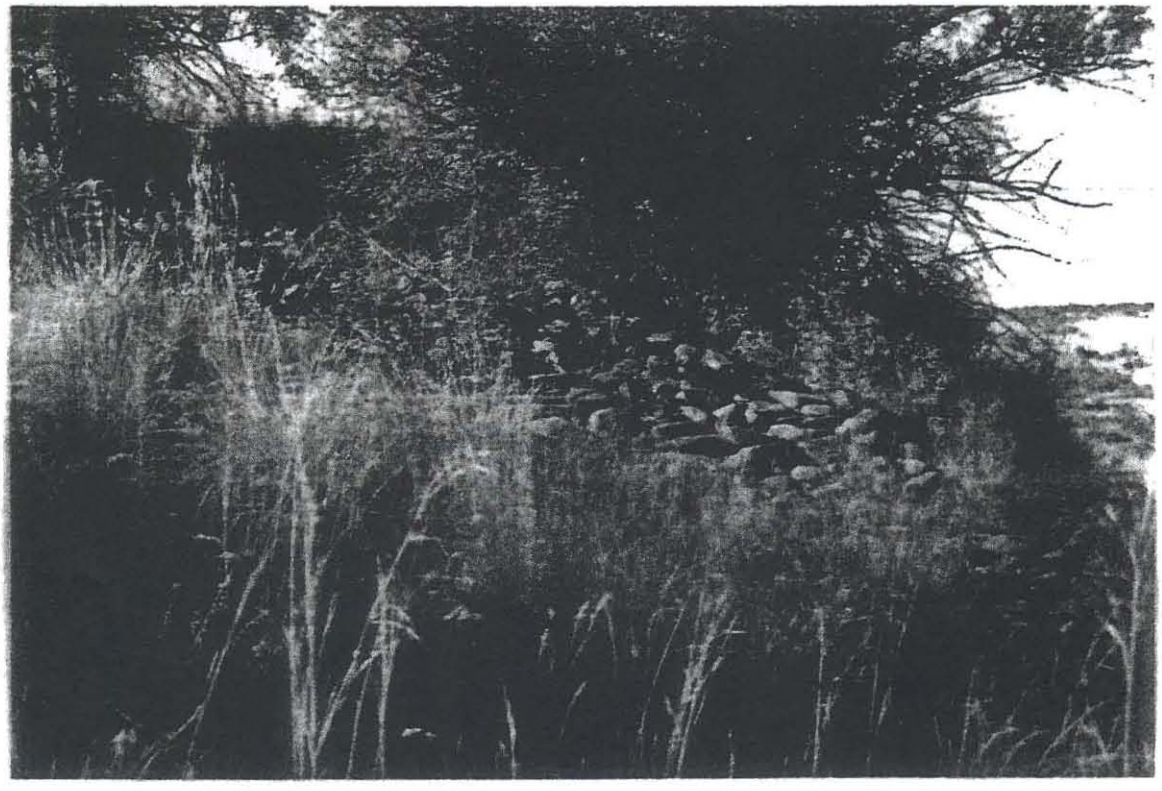


(Photo 40:The date of completion and the engineers name)

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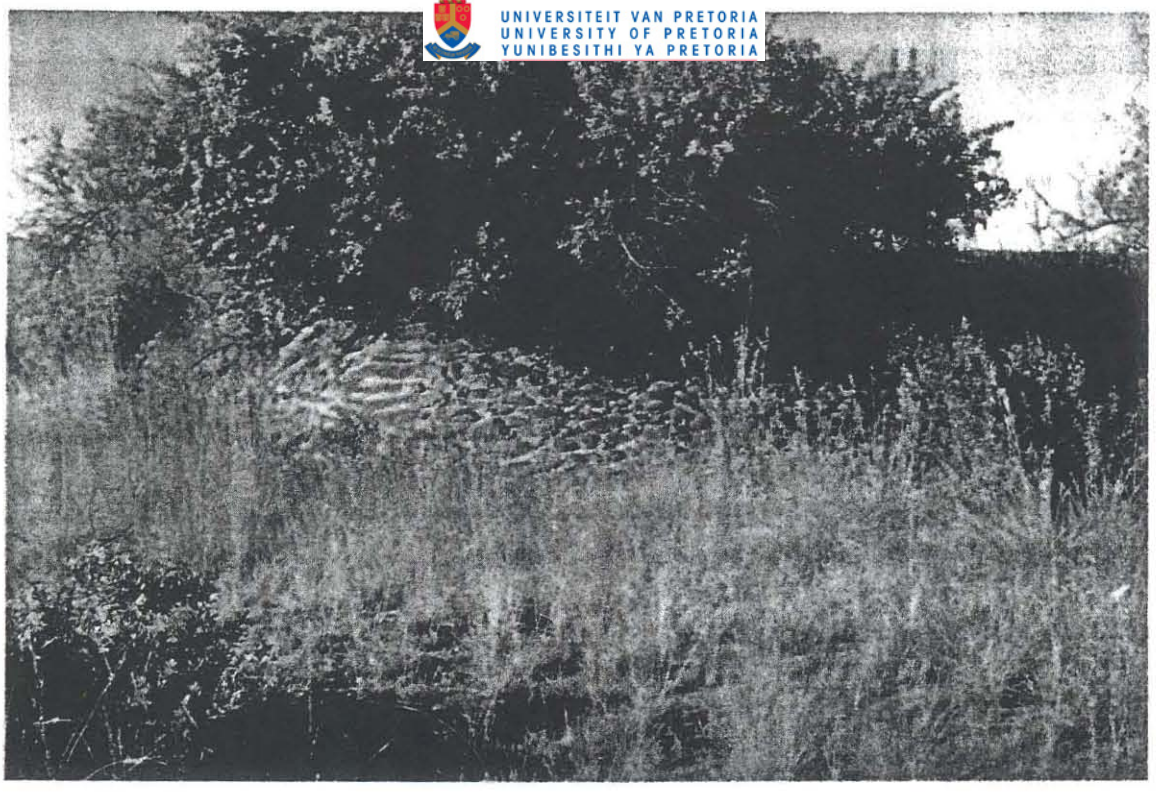


(Photo 41: The name of one of the builders)



(Photo 42: The well packed hornfel wall)

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(Photo 43: The start of the cement usage in the Dam wall)



(Photo 44: The end of the overflow wall, depicting the hornfel and cement usage in it's construction)

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(Photo 45: The gradient of the overflow wall)

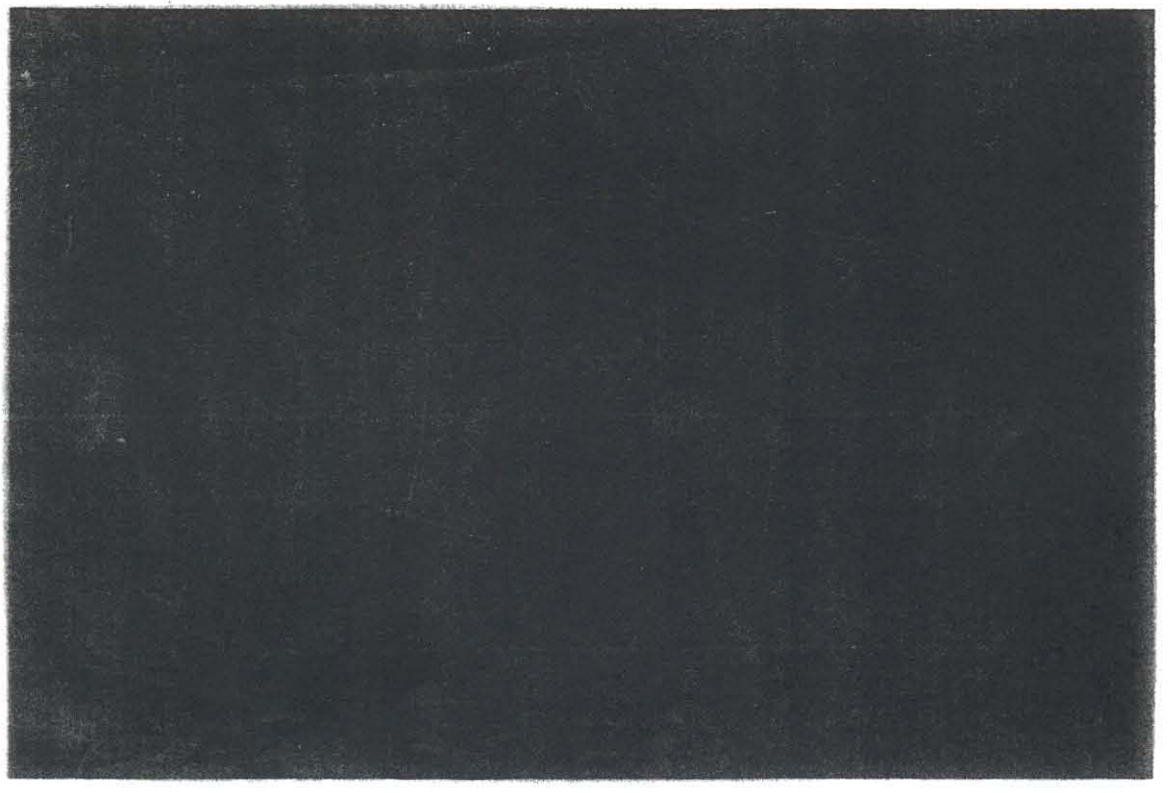


(Photo 46: The reinforced cement wall)

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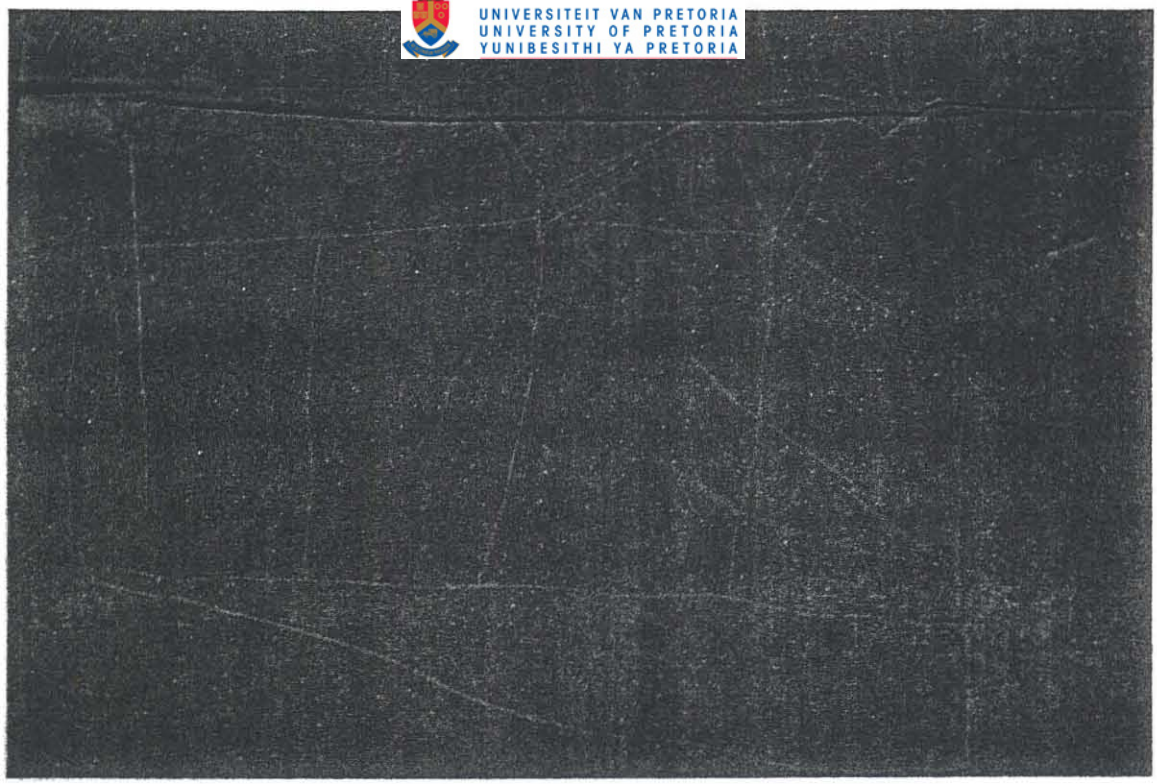


(Photo47: Figure G4- The Red hartebeest)

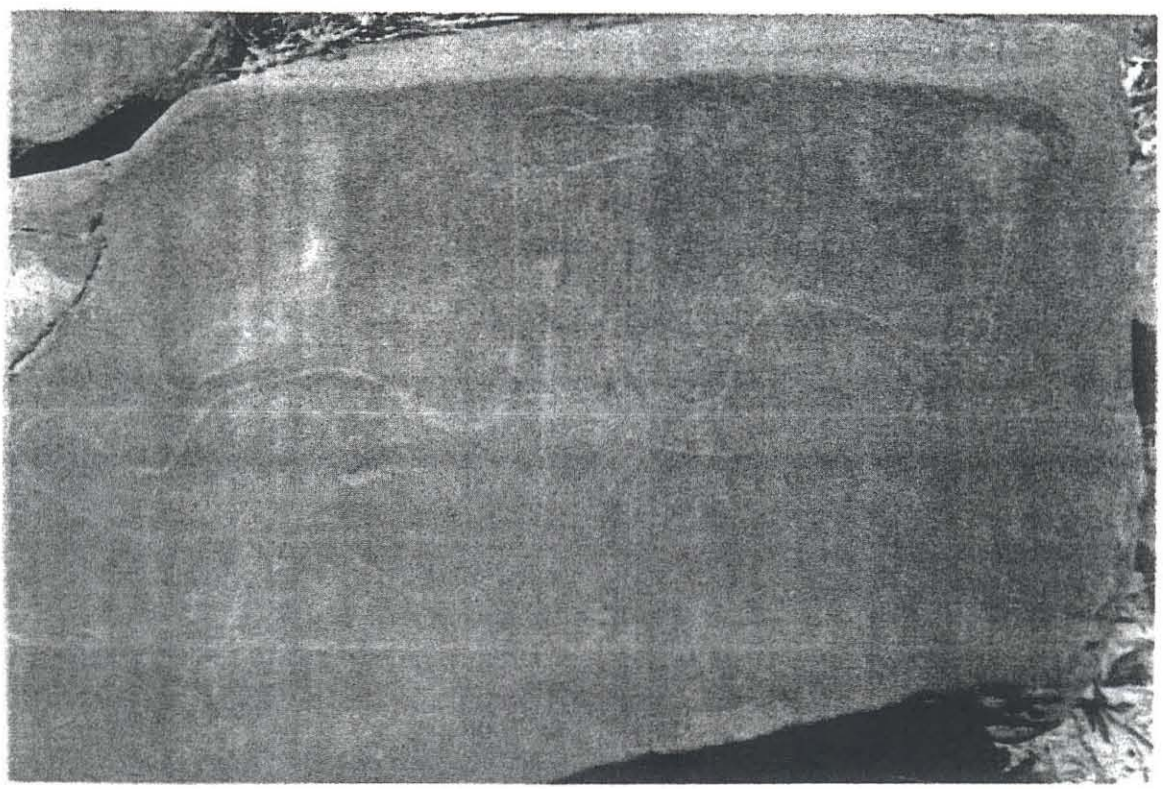


(Photo48: Figure G5- The Mission station)

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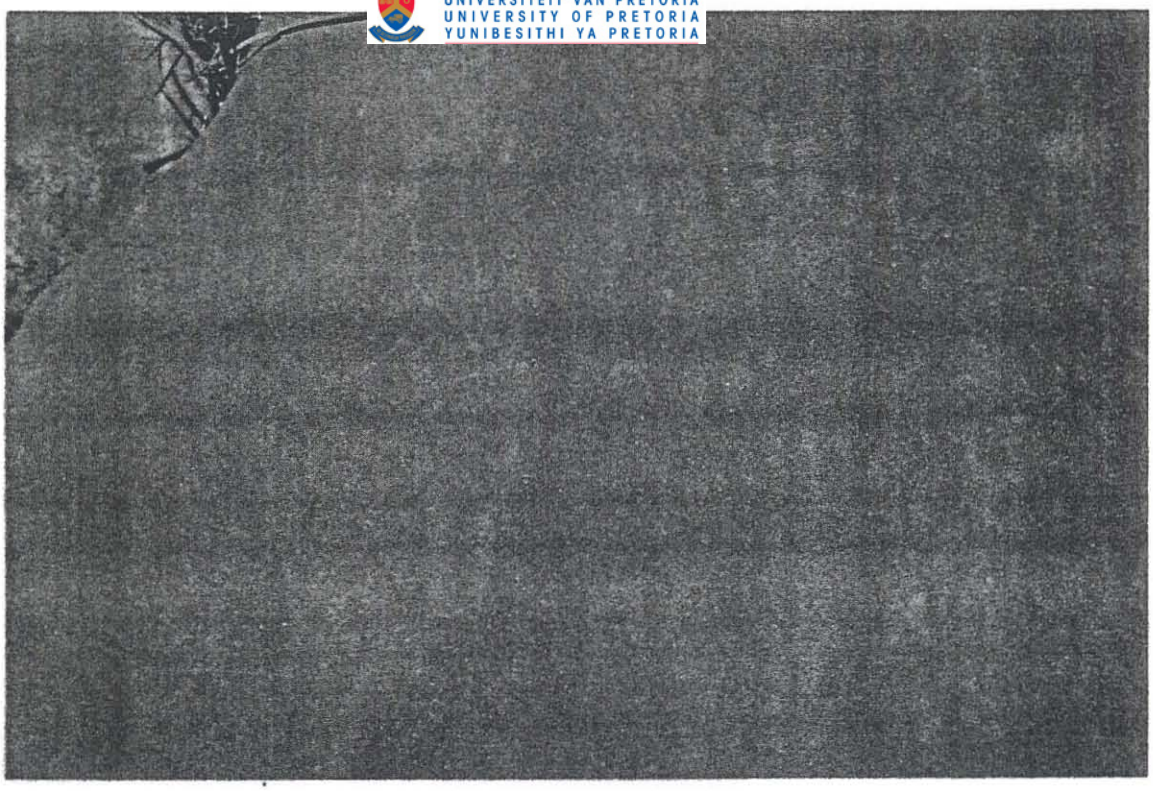


(Photo49: Figure G6- The Mission station (2))

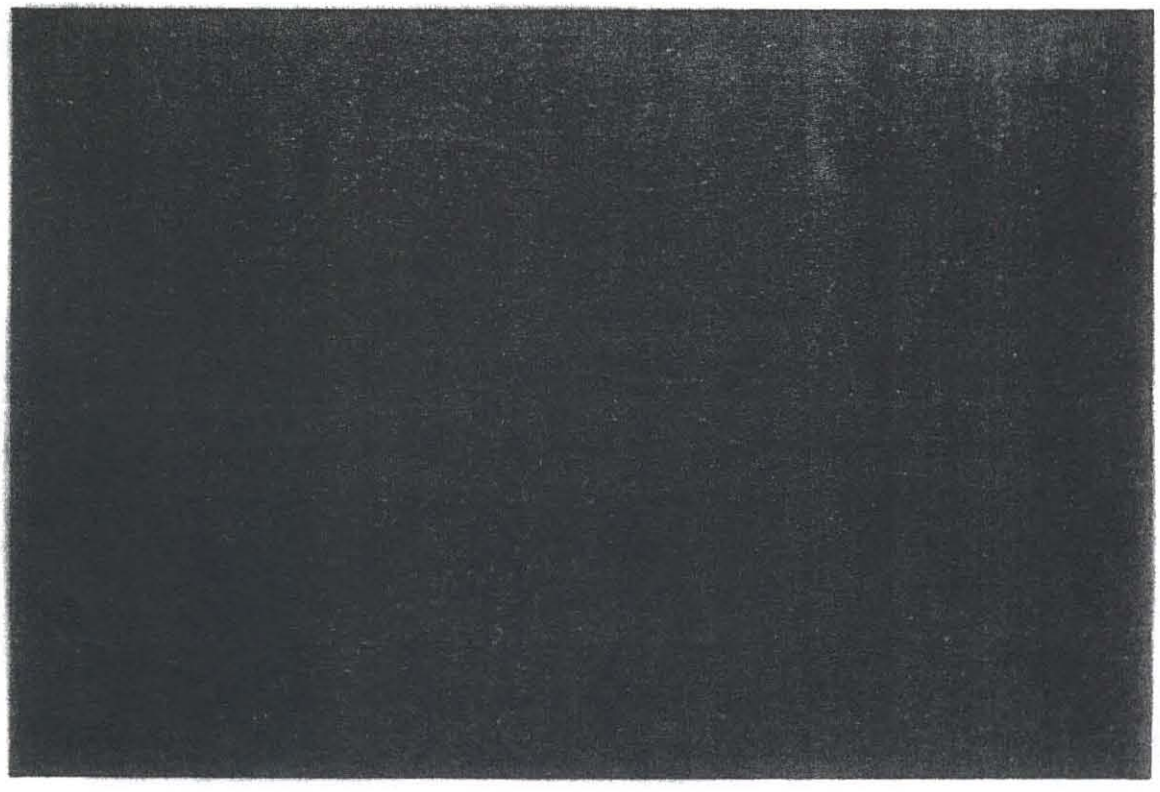


(Photo50: Figure H1- The Ostriches)

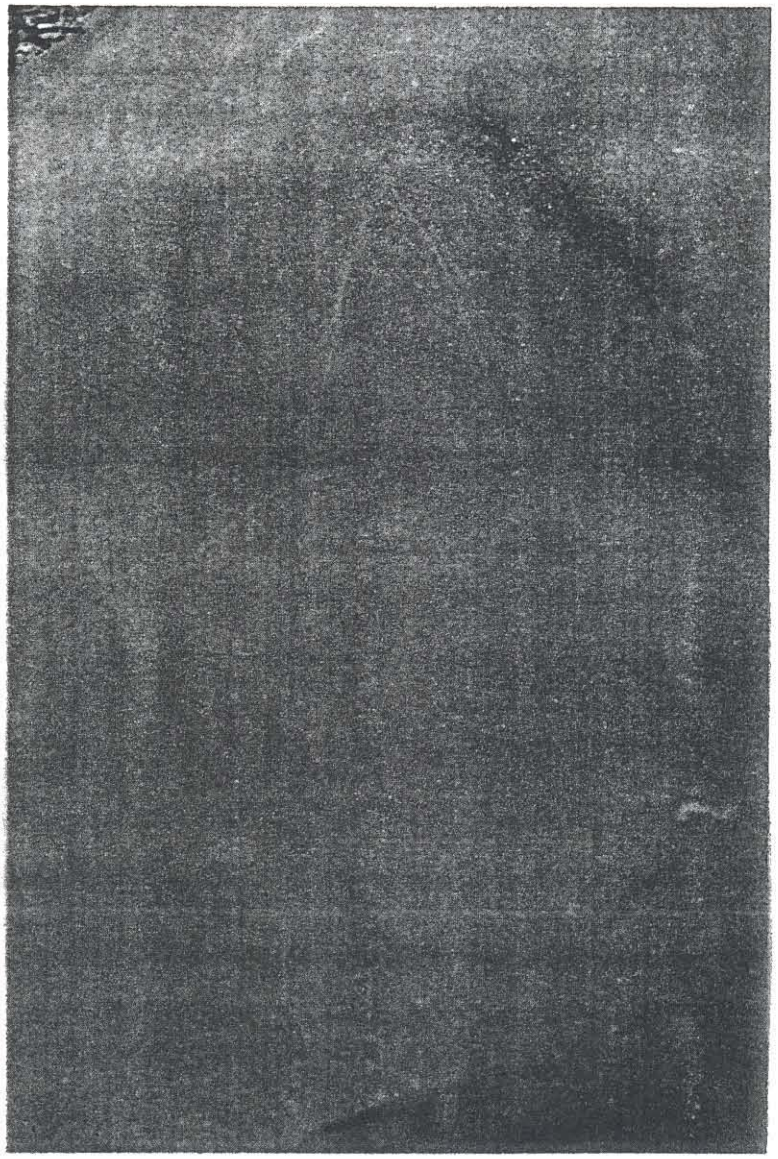
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(Photo51: FigureH2- Warthog on White Rhino's back)

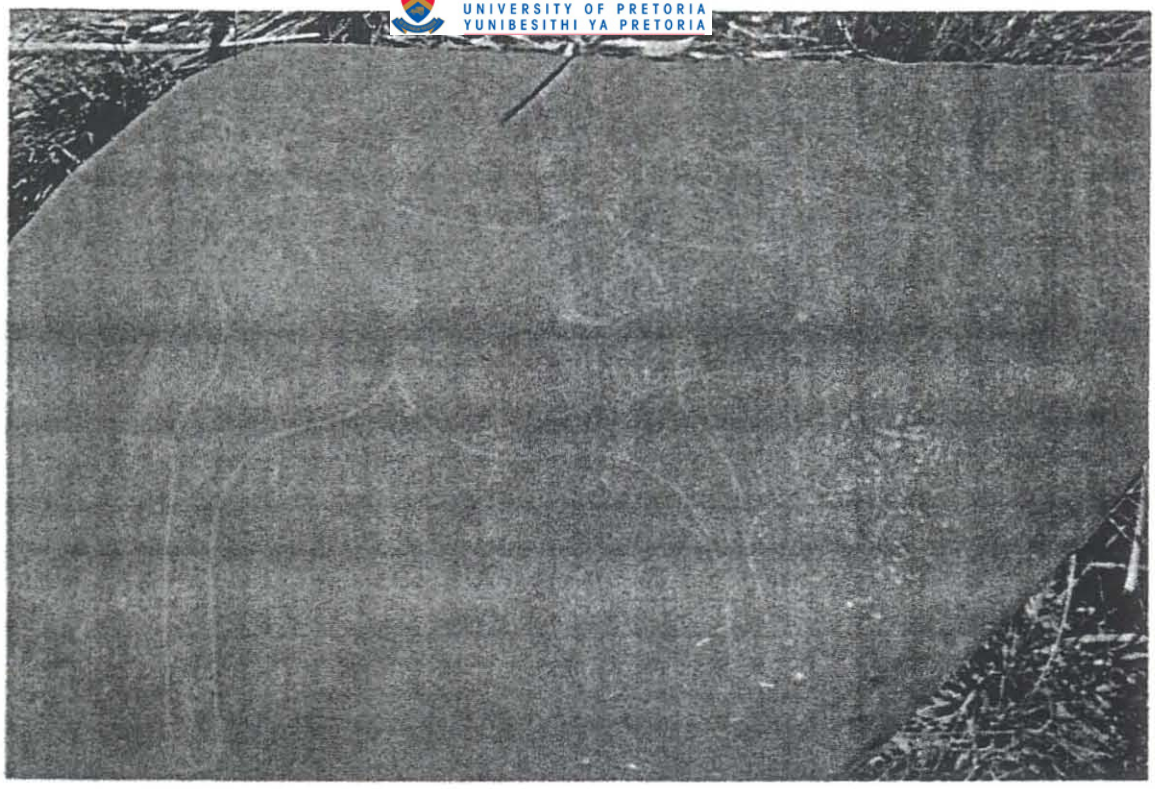


(Photo52: FigureH2- Close-up of the Warthog)

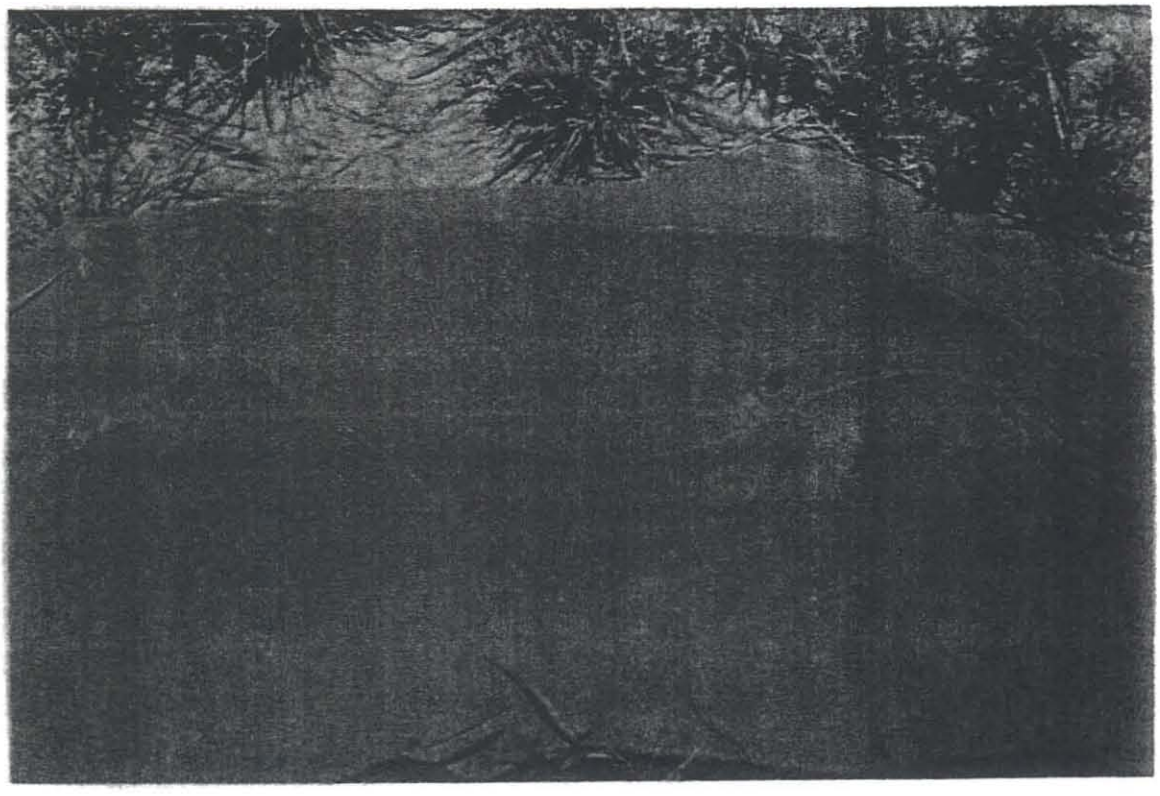


(Photo53: FigureH3- The Ostrich)

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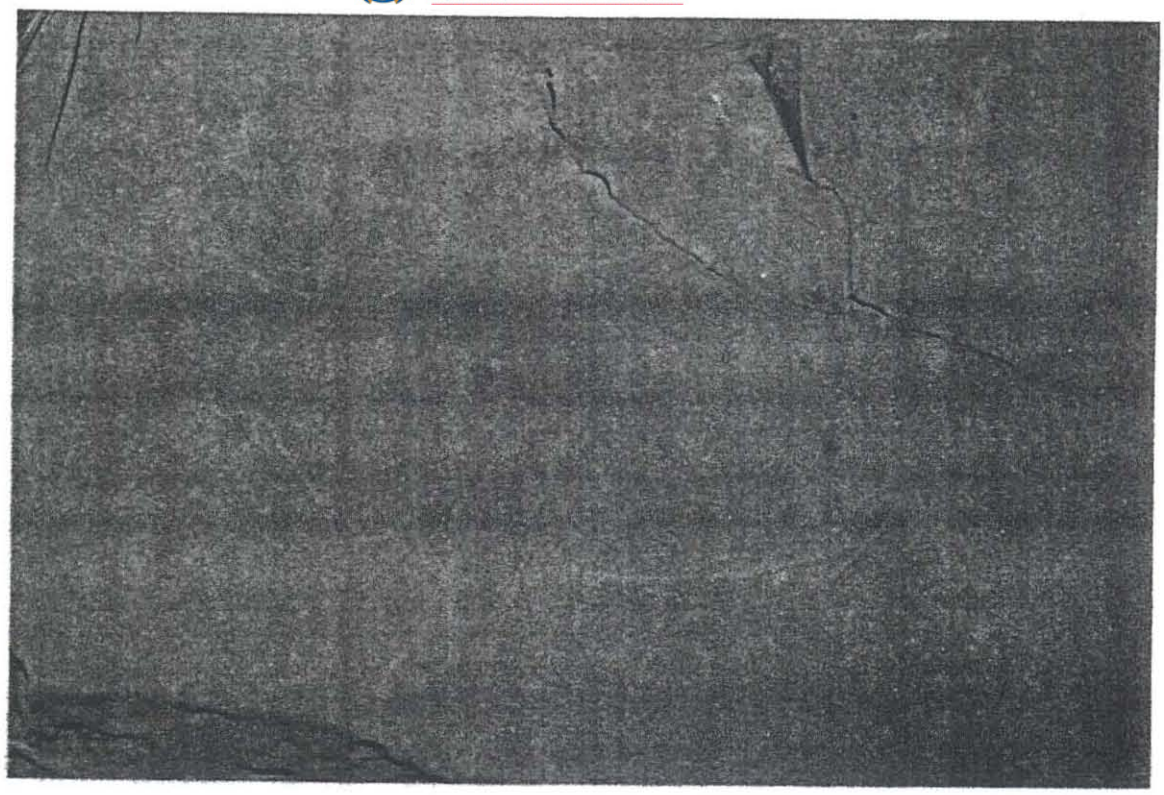
(Photo54: Figure H4- The Eland)



(Photo55: FigureH5- The Giraffe)



(Photo56: Figure H16- Human and Antelope)

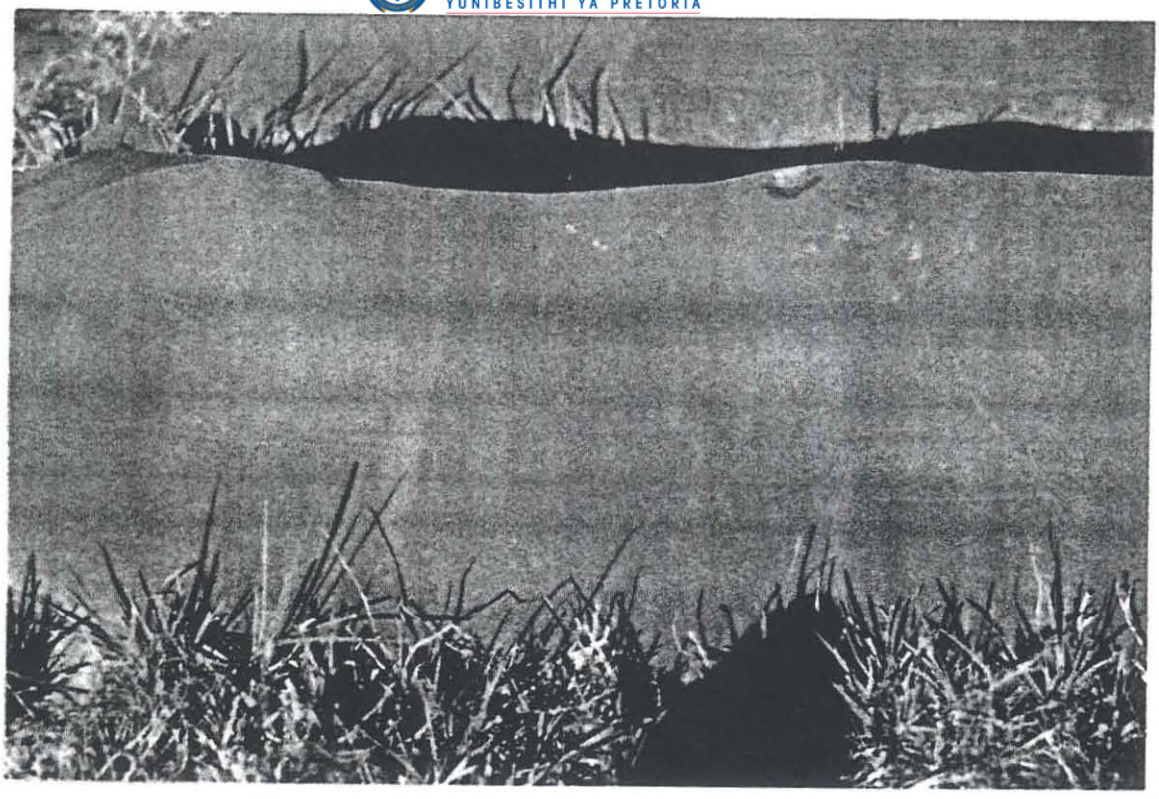


(Photo57: FigureH19- The Eland)

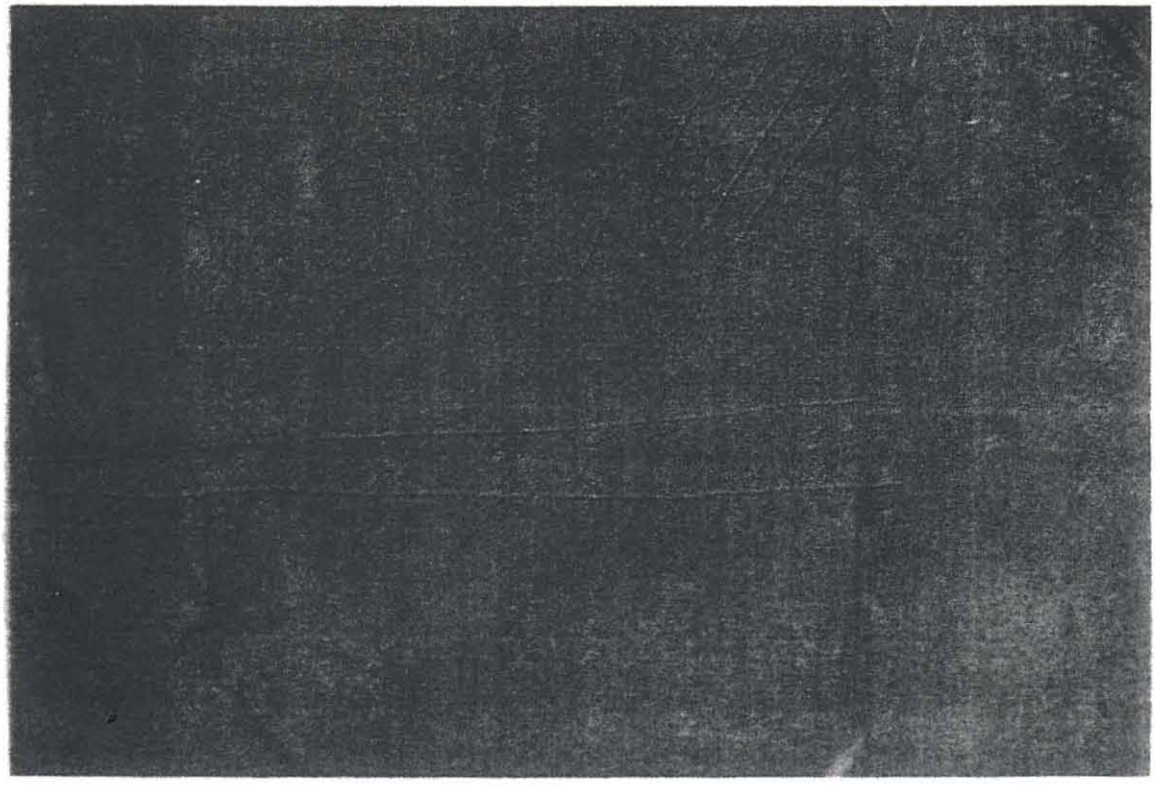


(Photo58: Figure H24- The Eland)

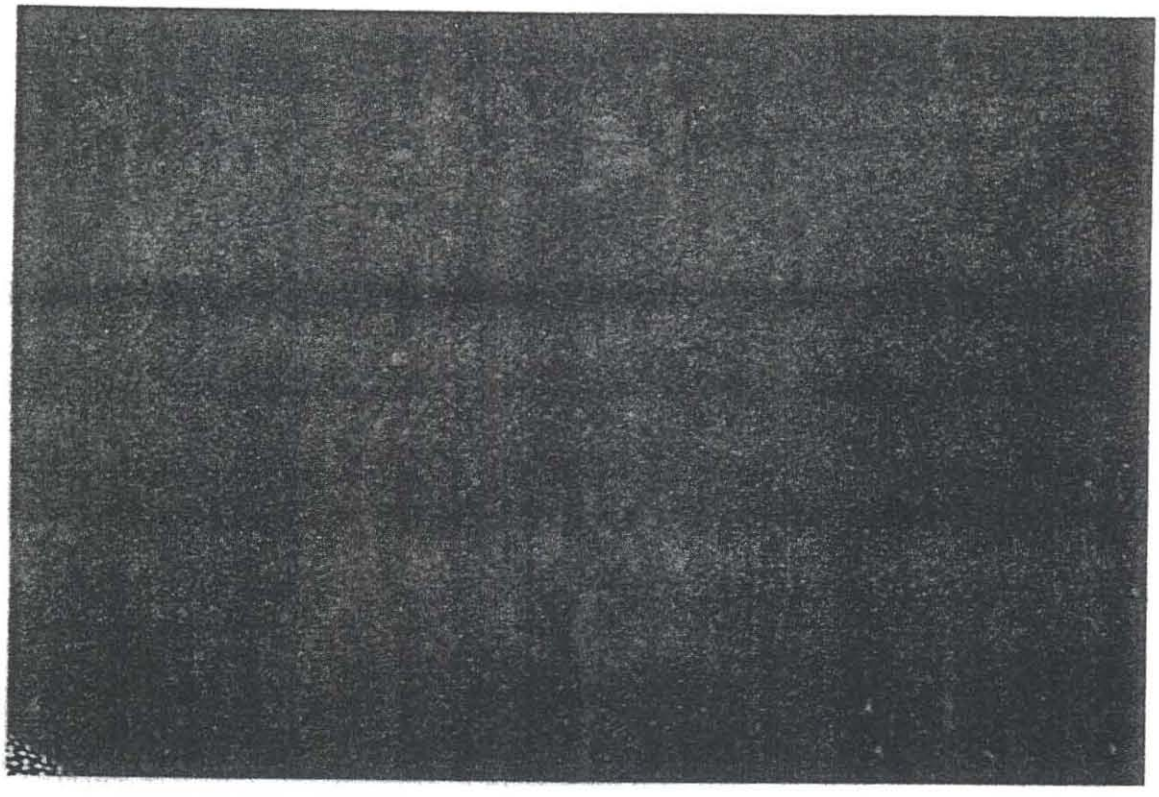
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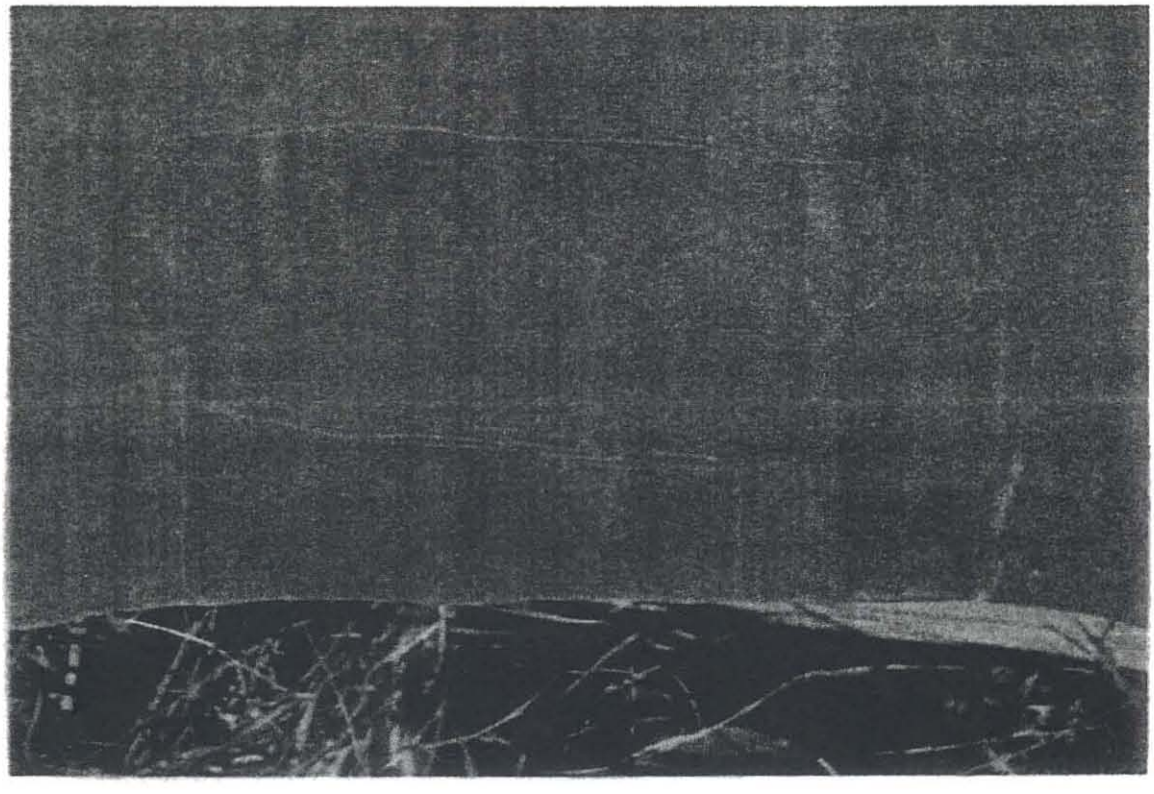
(Photo59: FigureI1-The Eland)



(Photo60: Figure I2- Pattern work)

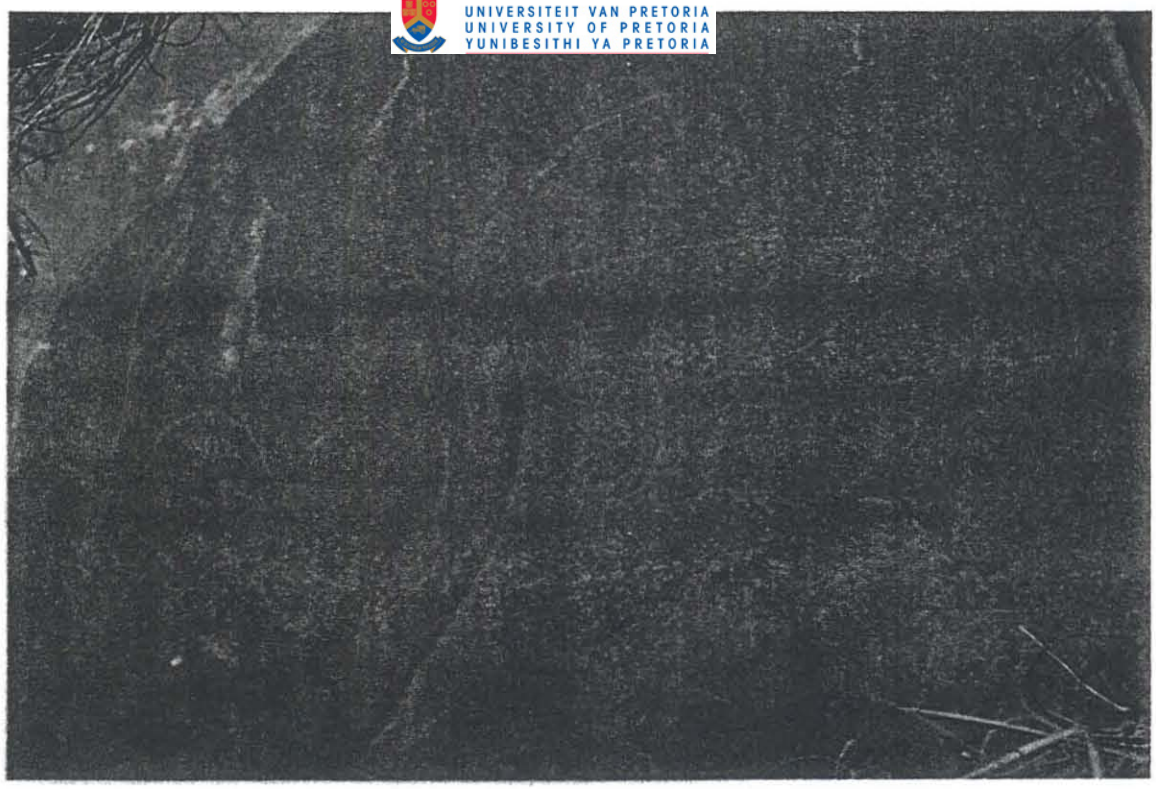


(Photo61: Figure J2- Eland and Baby)



(Photo62: FigureJ3- The Elephant)

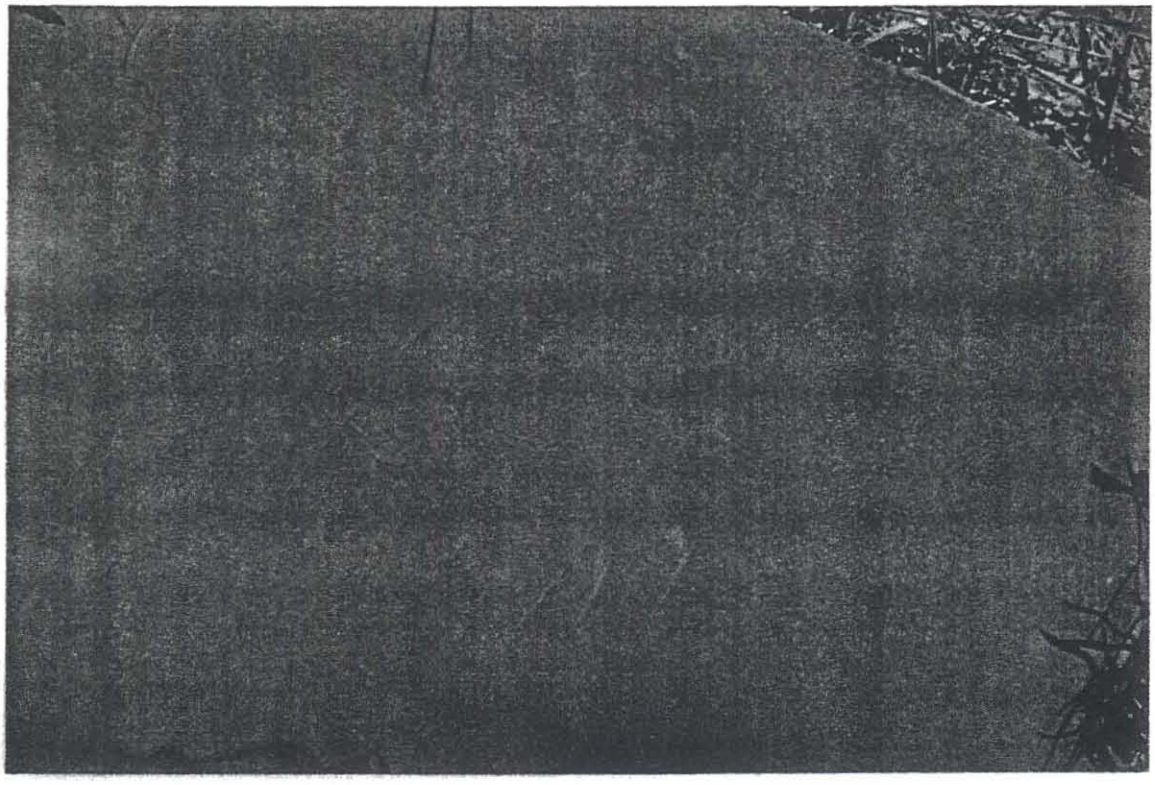
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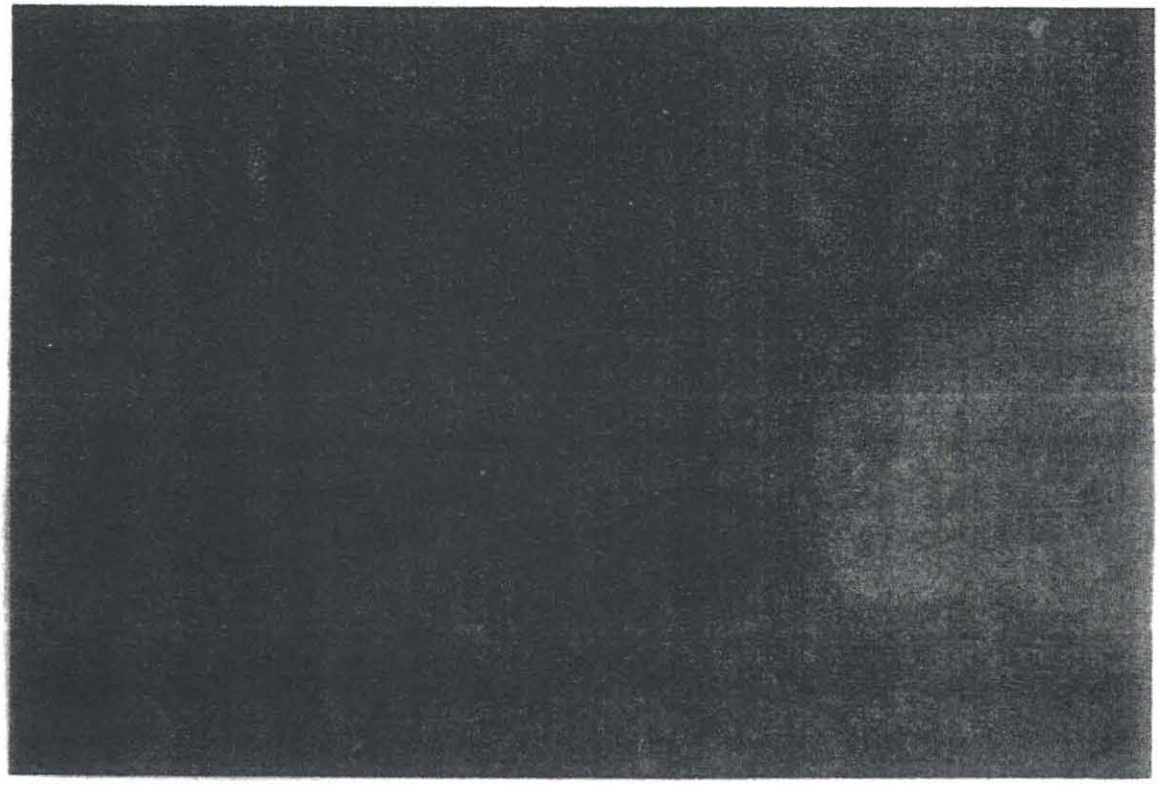
(Photo63: Figure K1- The Kudu)



(Photo64: Figure K2- The White rhinoceros)



(Photo65: Figure K10- The Gemsbok)

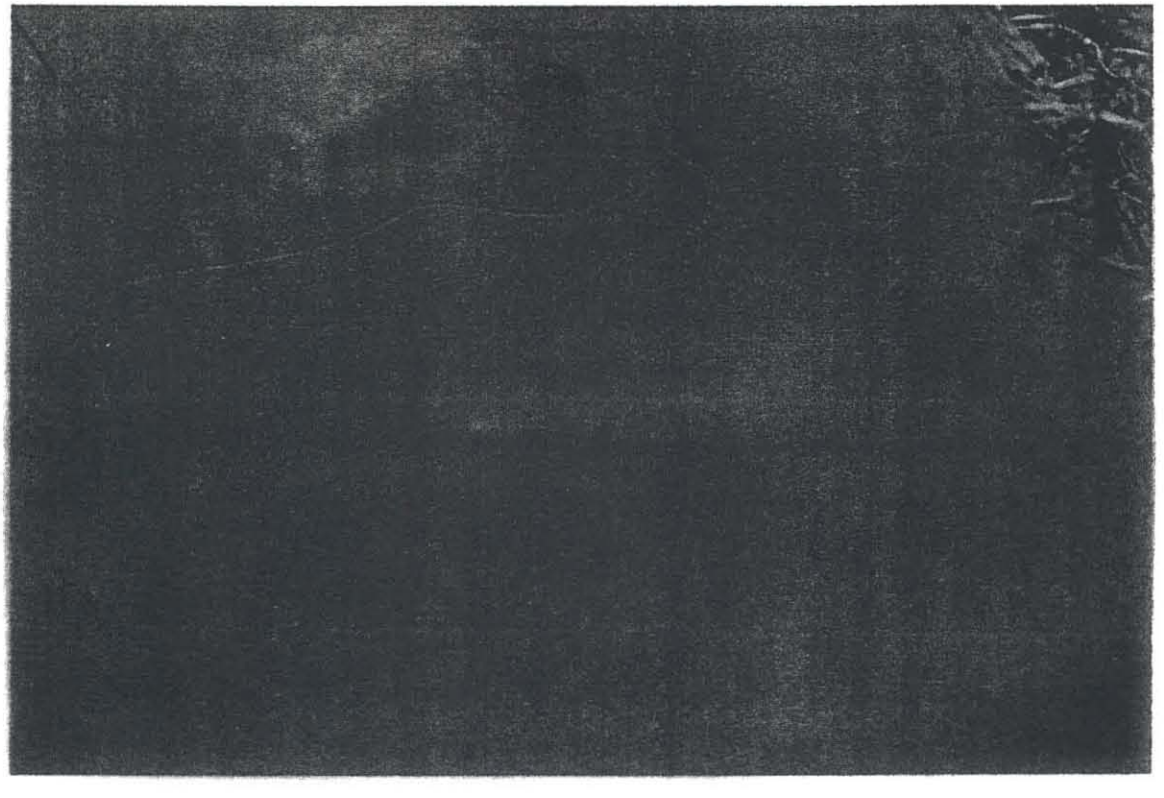


(Photo66: FigureL4- Eland and Pattern work)

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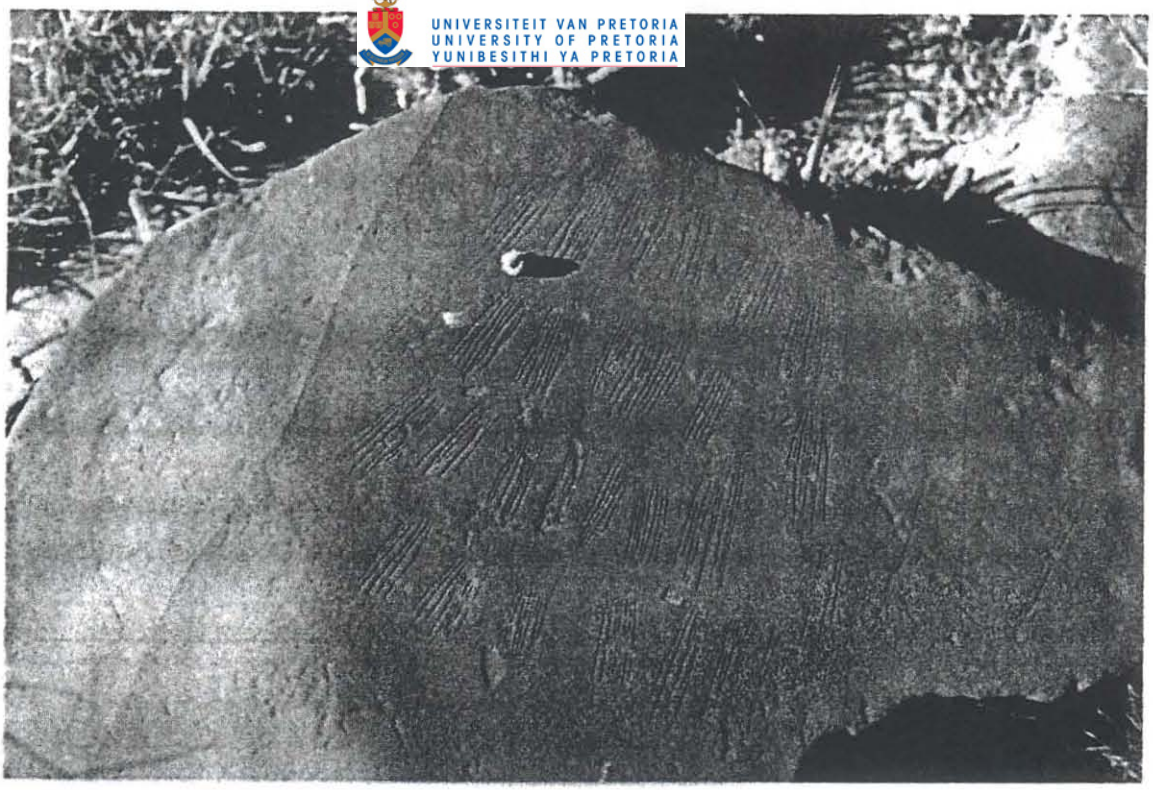


(Photo67: Figure L9- The Hippopotamus)

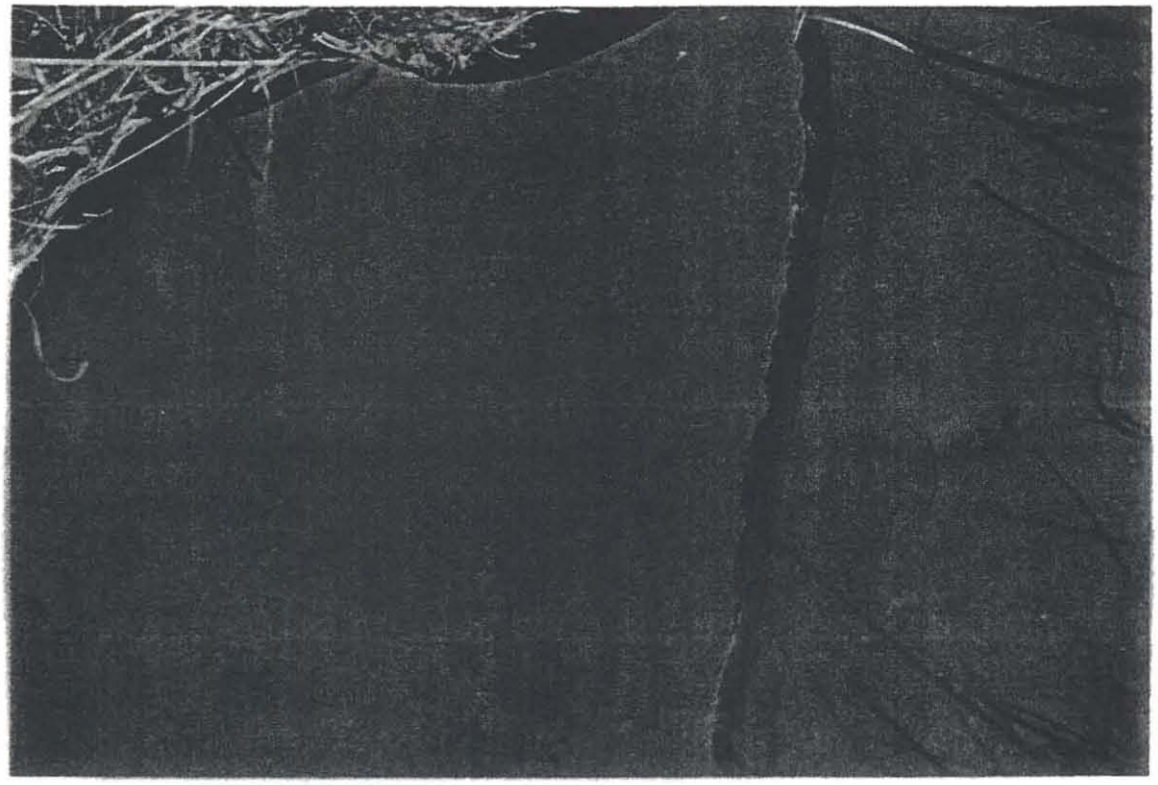


(Photo68: Figure L13- Eland and Calf)

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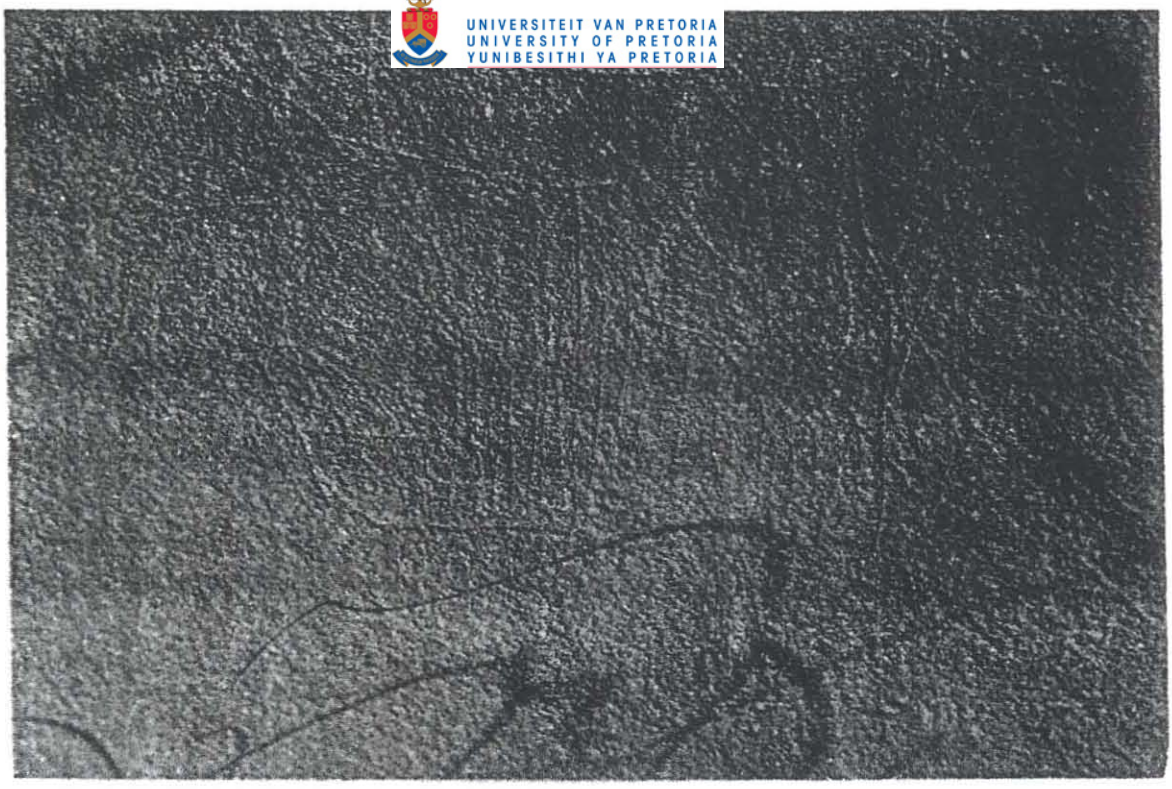


(Photo69: Figure L23- Pattern work)

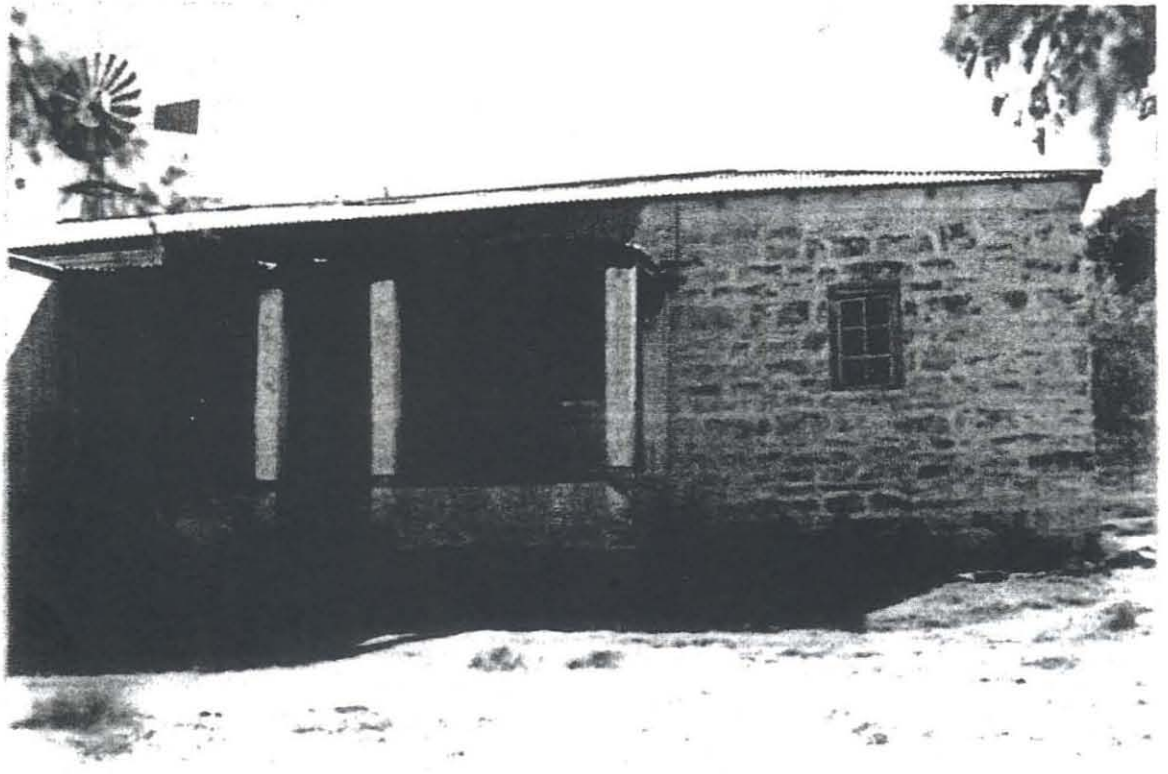


(Photo70: Figure N2- Baby antelope)

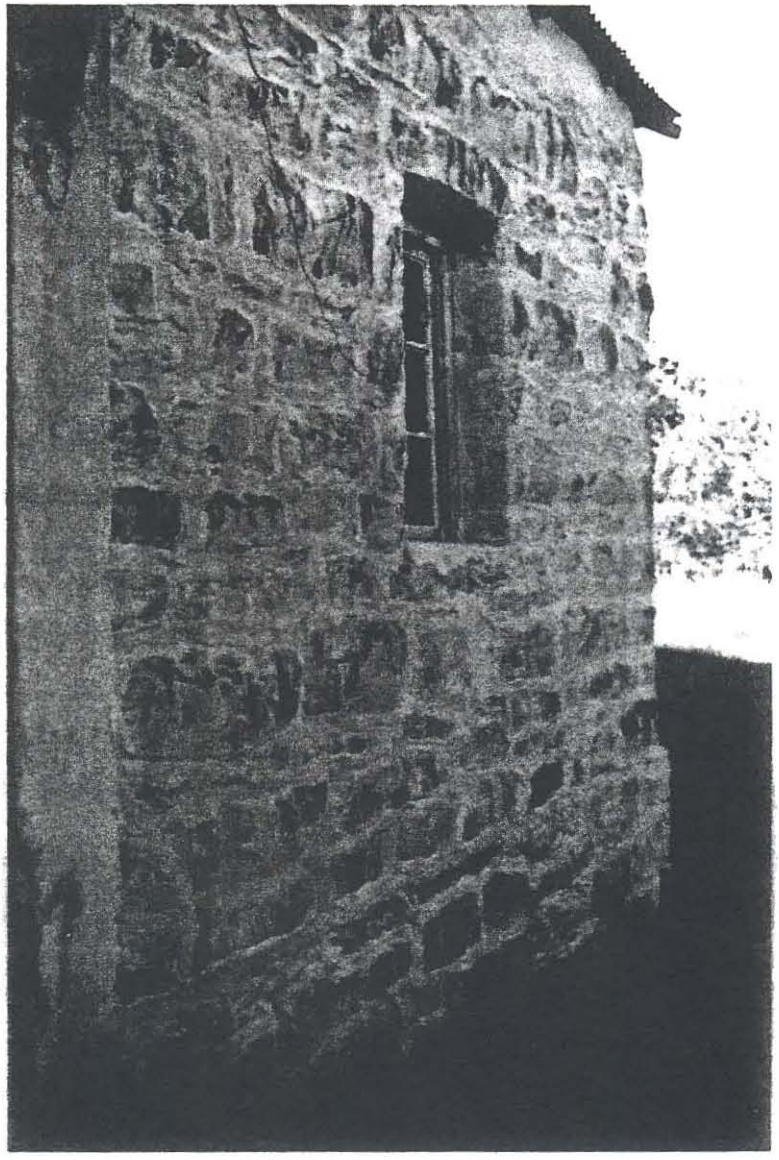
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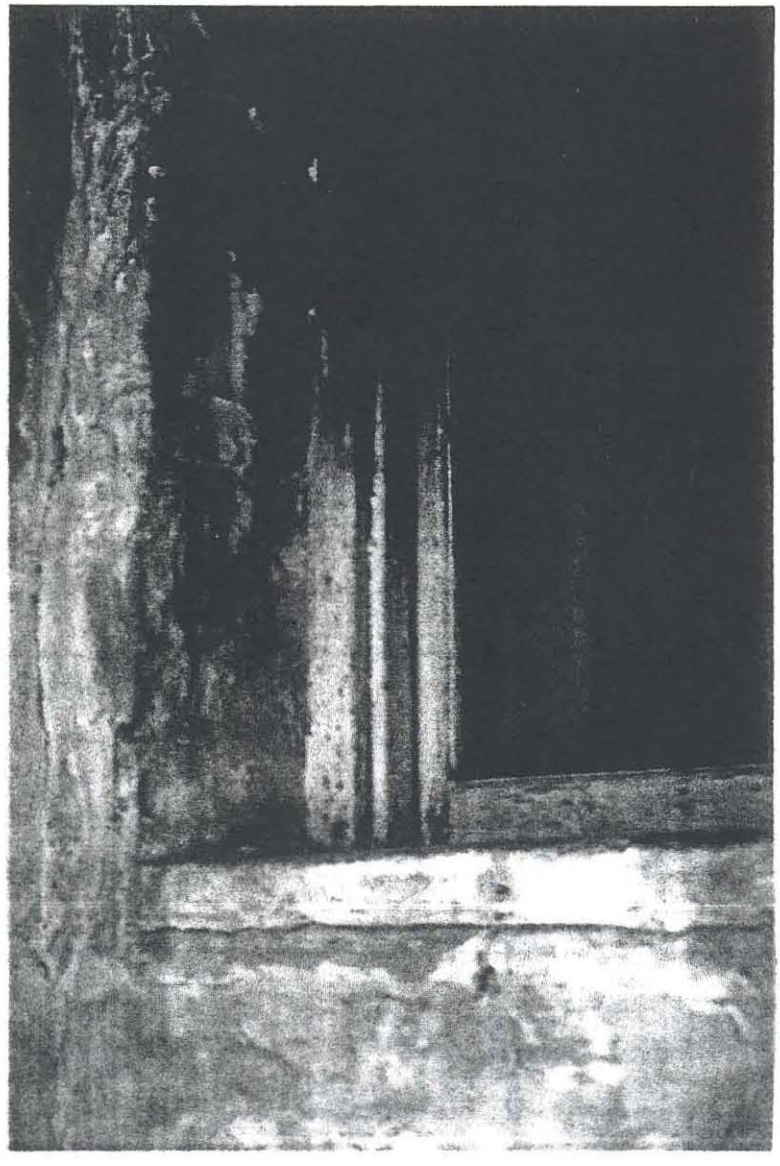
(Photo71: Figure N7- Antelope and Pattern work)



(Photo72: The Farmhouse)



(Photo73: The hornfel rocks used to build the house)



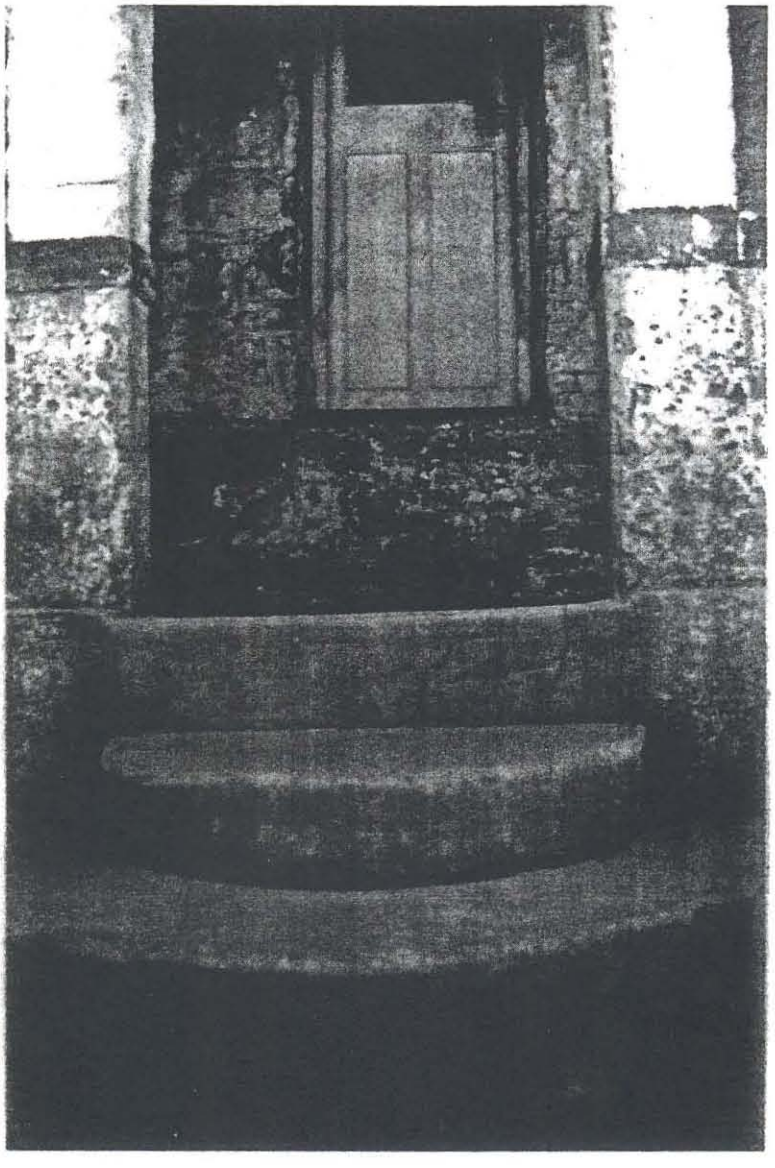
(Photo74: The thickness of the walls can be noted at the windows)

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(Photo75: The stairs leading to the southern and main entrance of the house)

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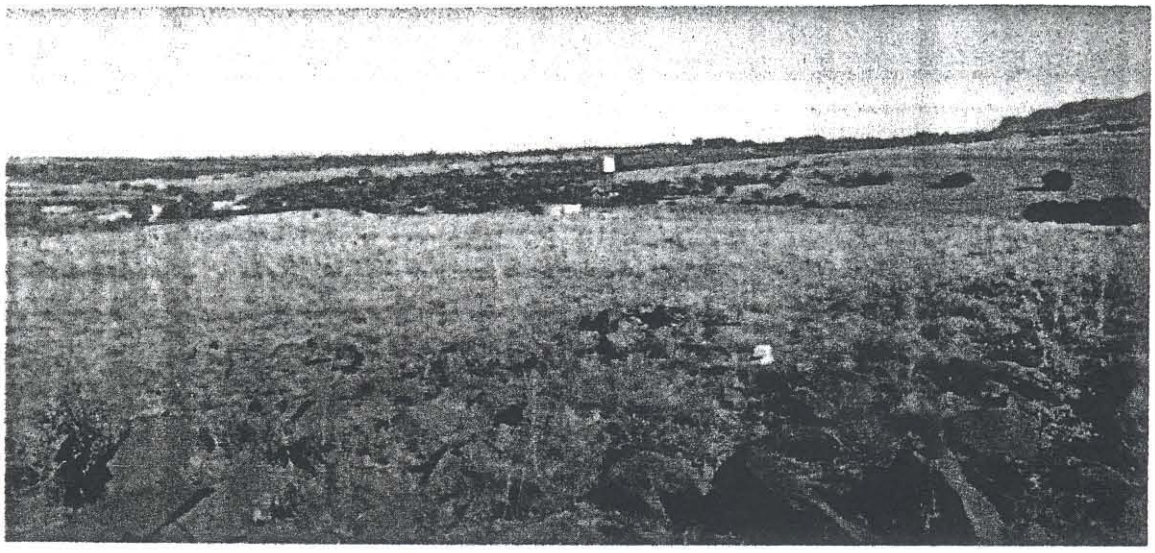
(Photo76: The steps leading to the stoop on the south side)

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(Photo77: General De Wets office)

PHOTOGRAPHS



(Photo1: The western most enclosure, before the development)



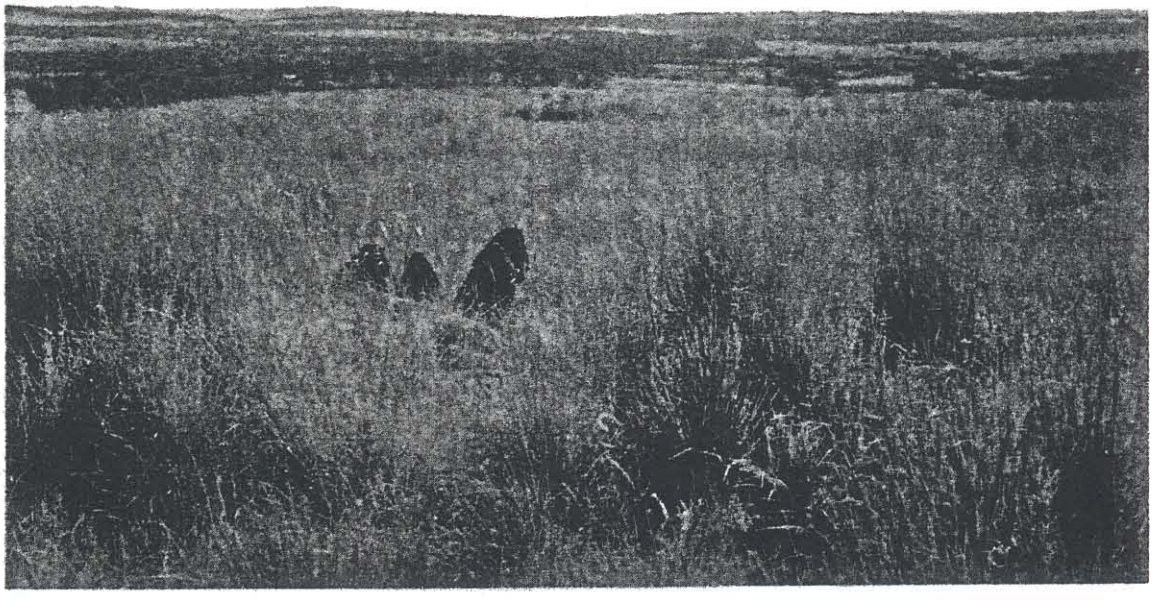
(Photo2: A section of the scolloped walls of the western most enclosure)

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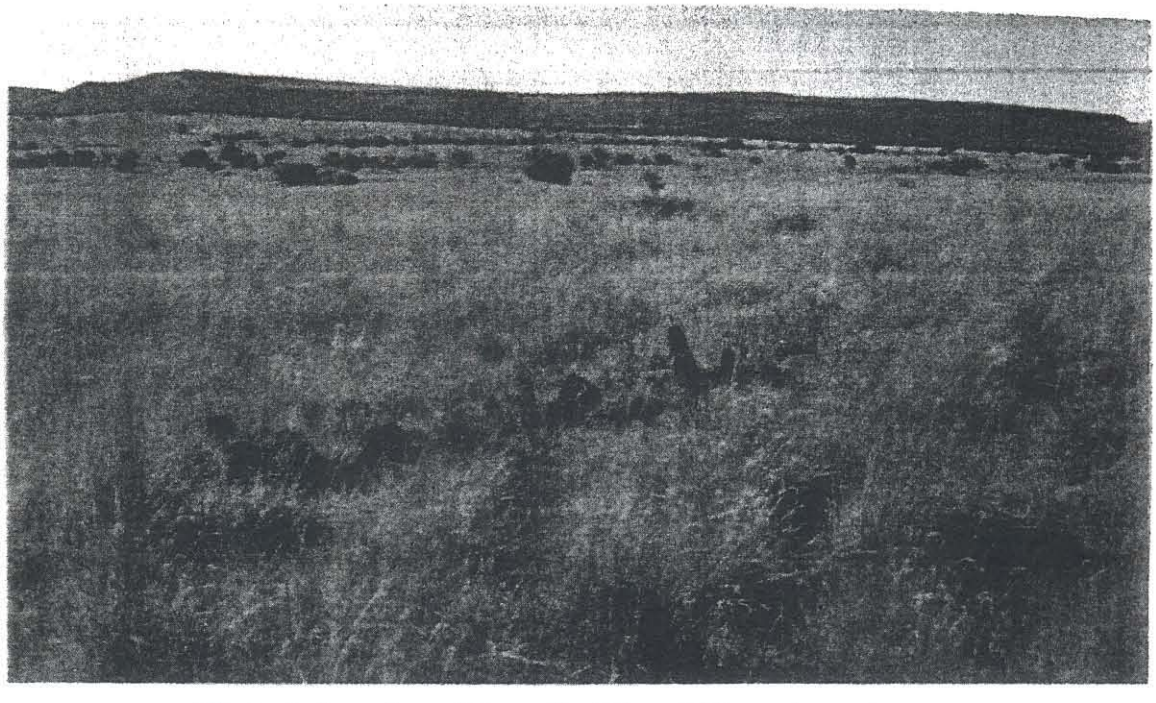


(Photo3: Monoliths located in the western enclosure)

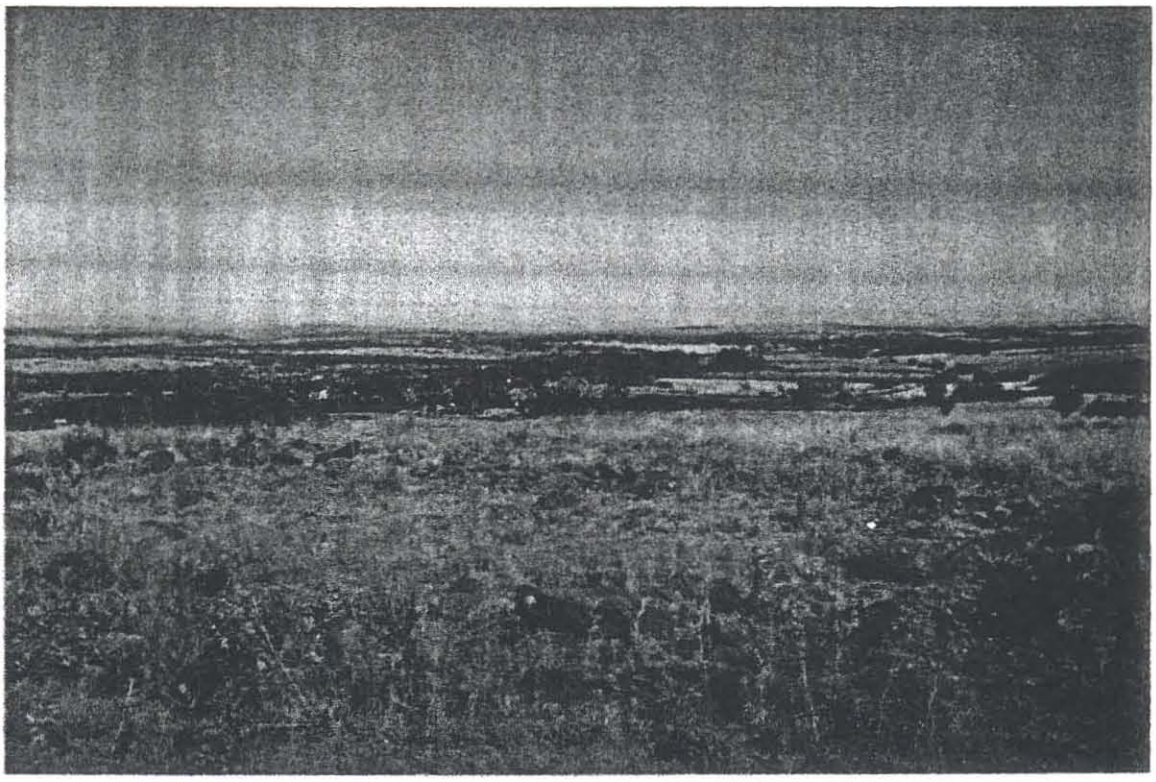
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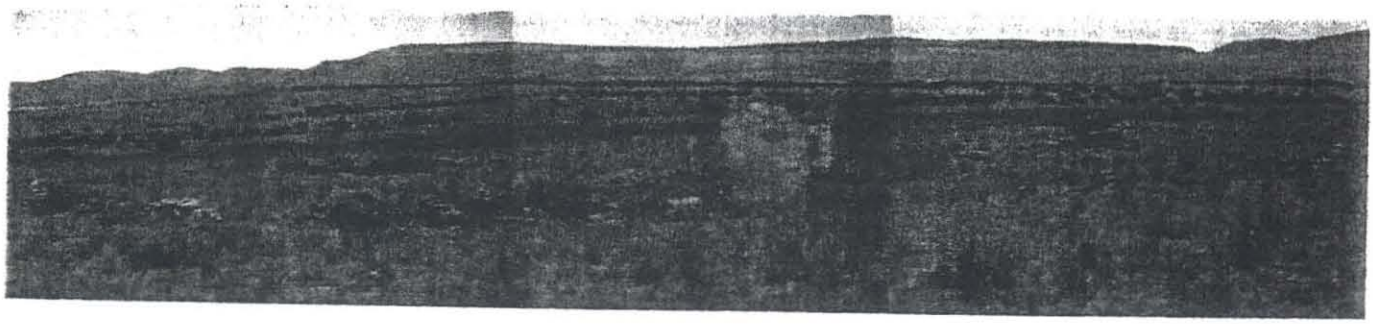
(Photo 4: Monoliths located in the middle enclosure)



(Photo 5: A section of the wall of the middle enclosure)

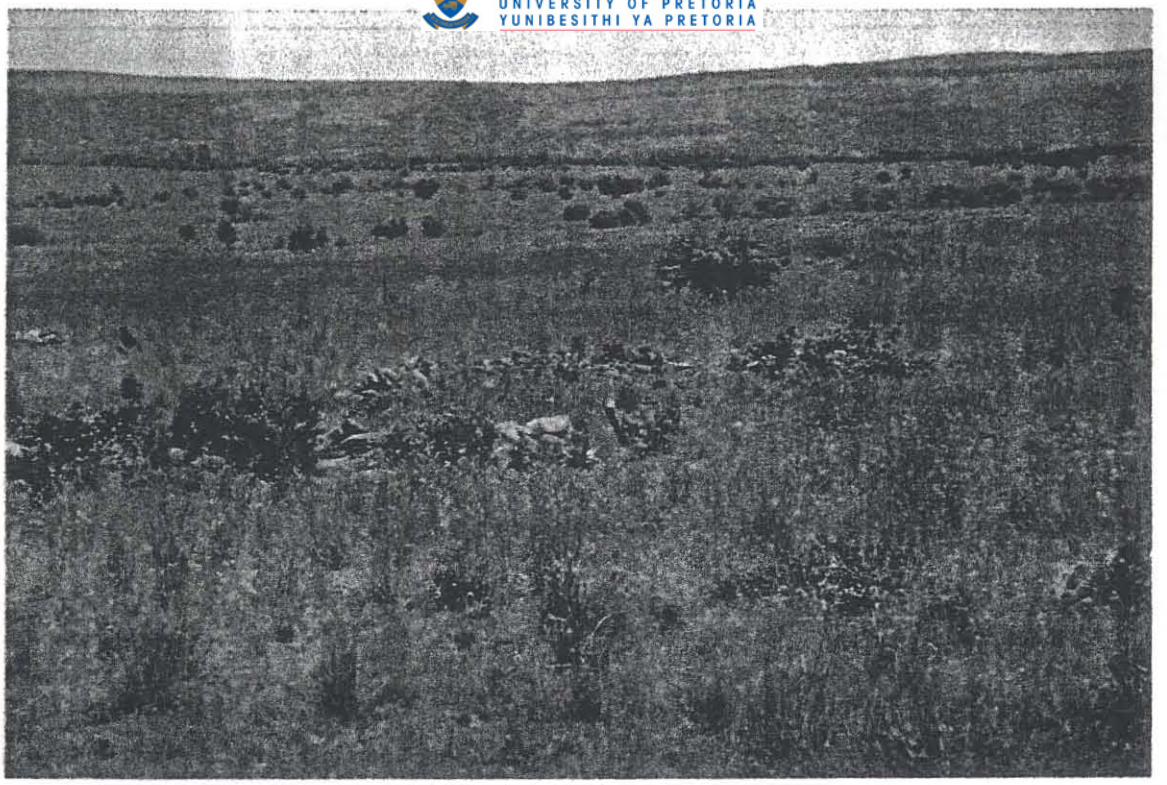


(Photo 6: The small enclosure, which lies between the middle and eastern most enclosure)

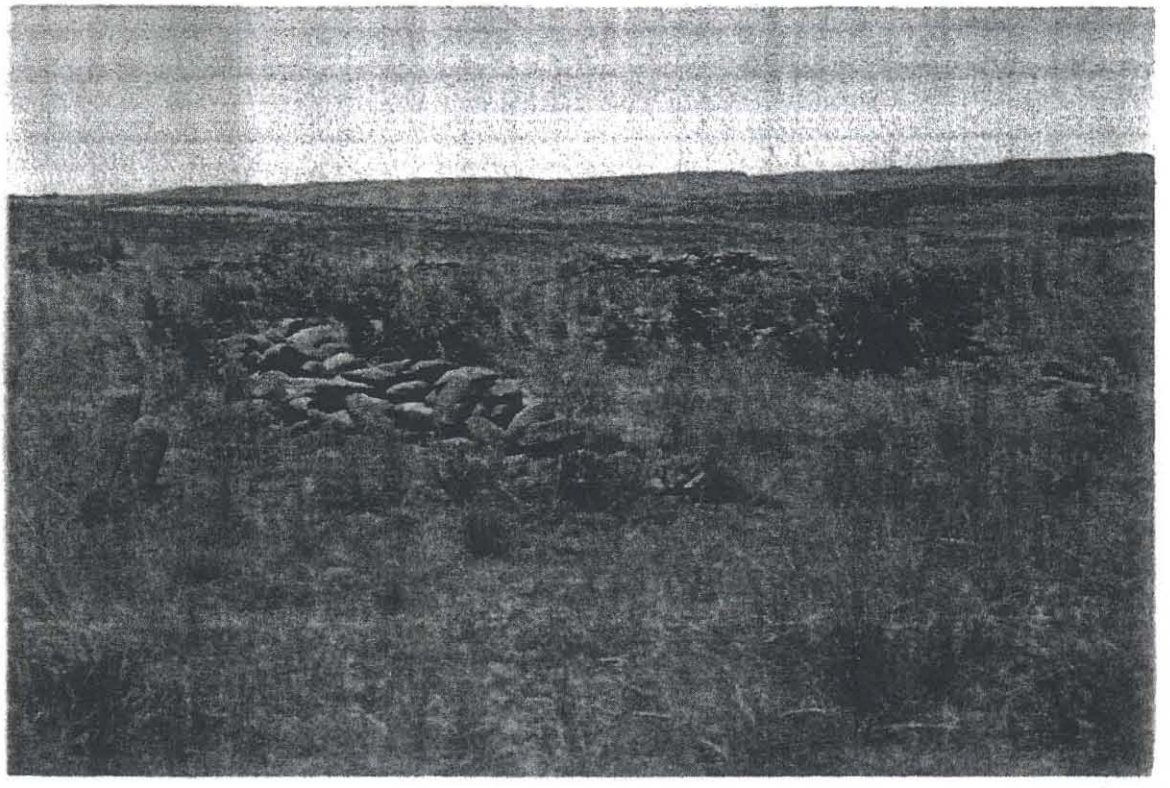


(Photo7: The eastern most enclosure, which has the highest remaining walls)

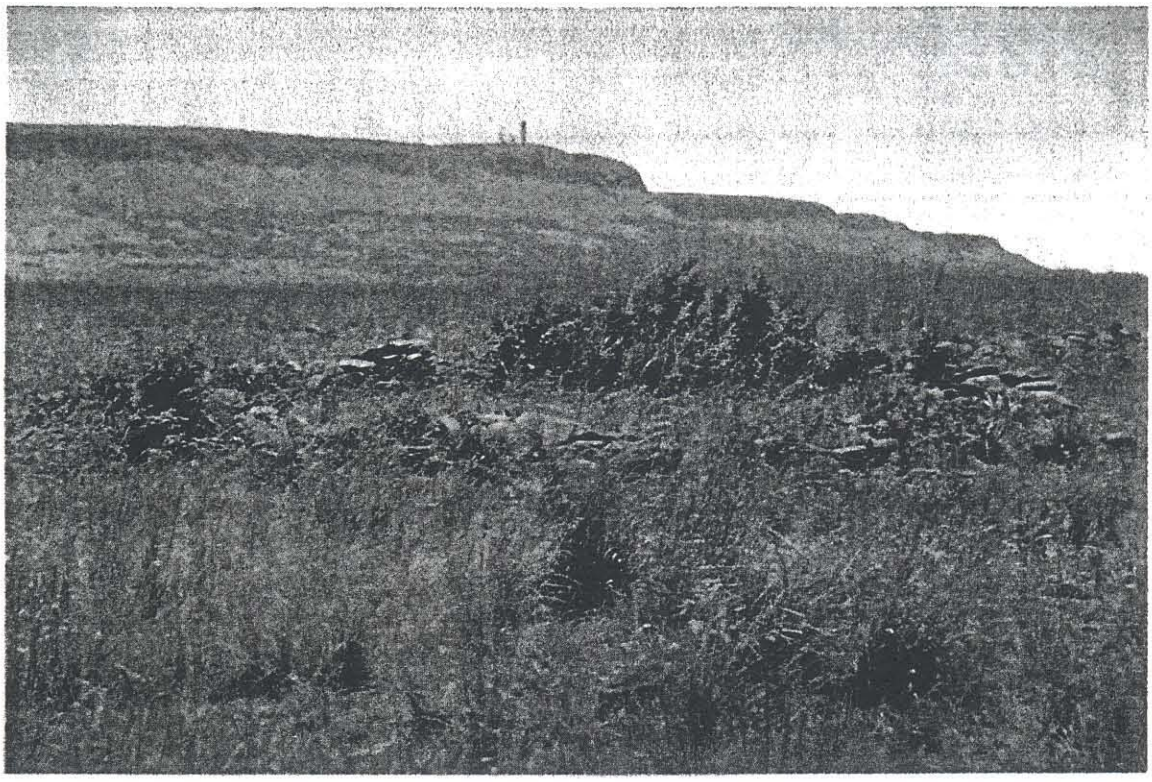
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(Photo 8: Southern most small enclosure inside the eastern most enclosure)



(Photo 9: A close-up and southern view of the enclosure featured in photo 8)



(Photo 10: The northern smallest enclosure located in the eastern enclosure)

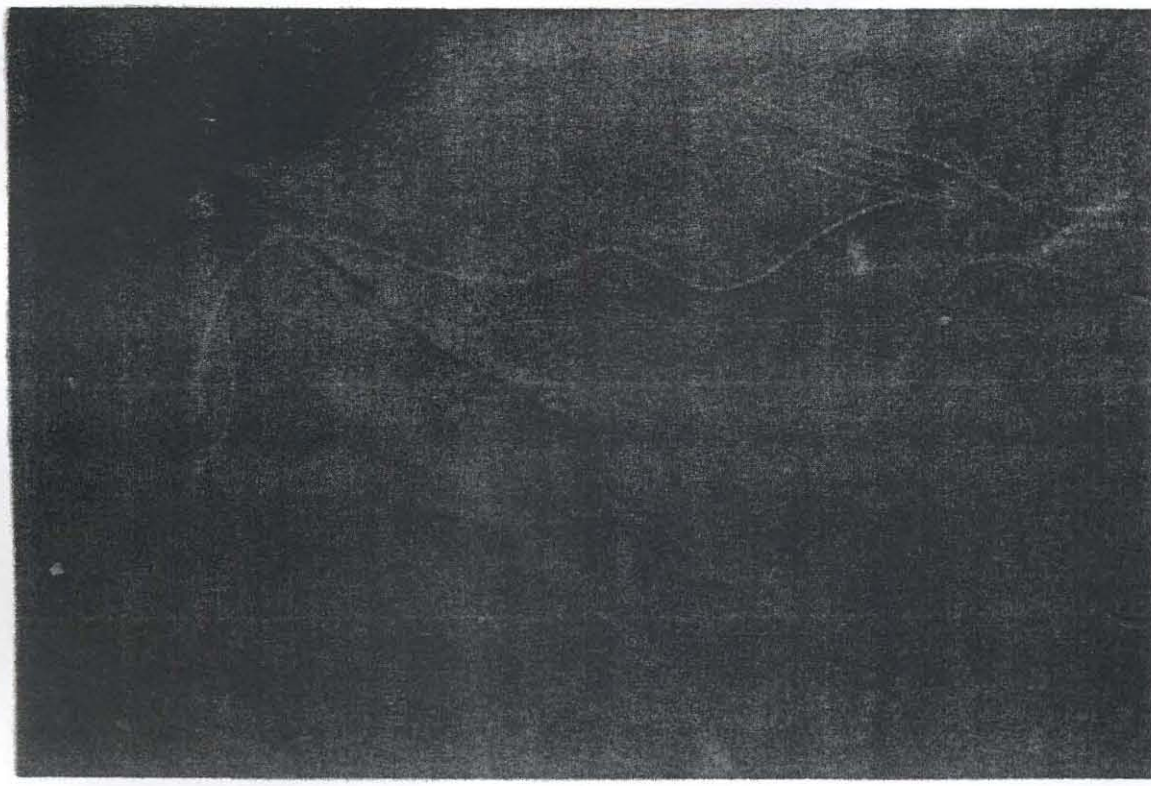


(Photo 11: The eastern smallest enclosure located in the eastern enclosure)

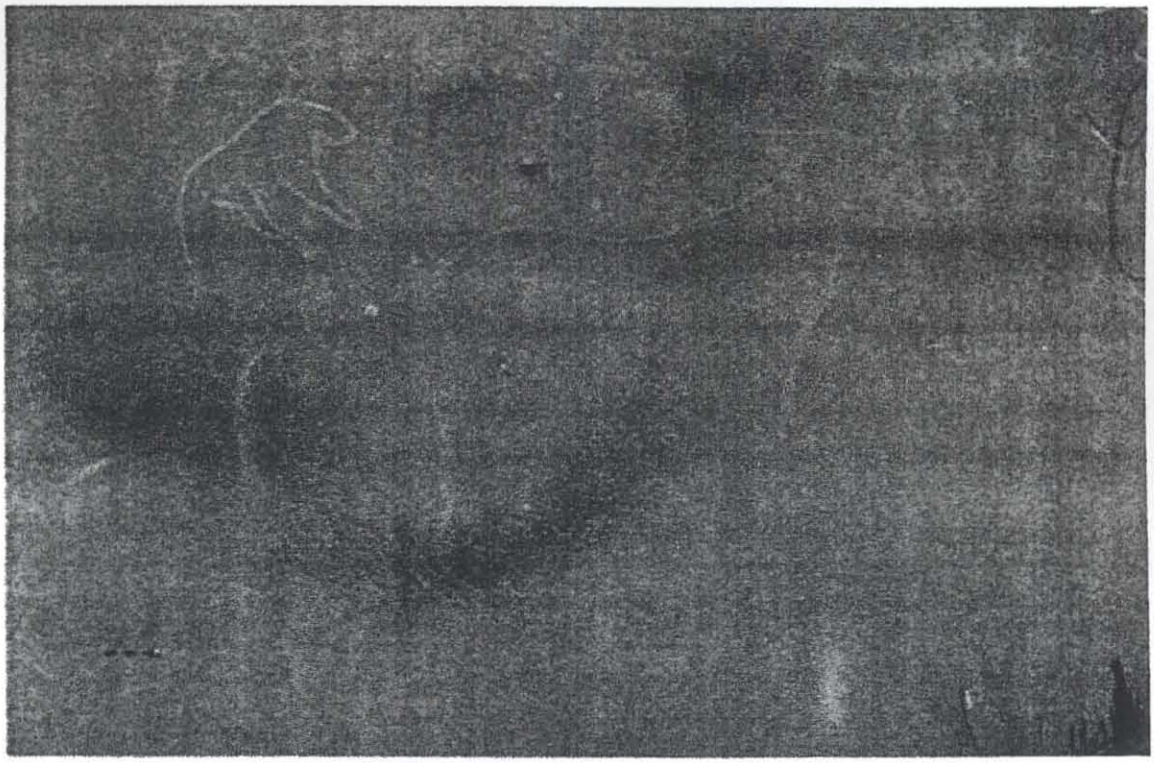
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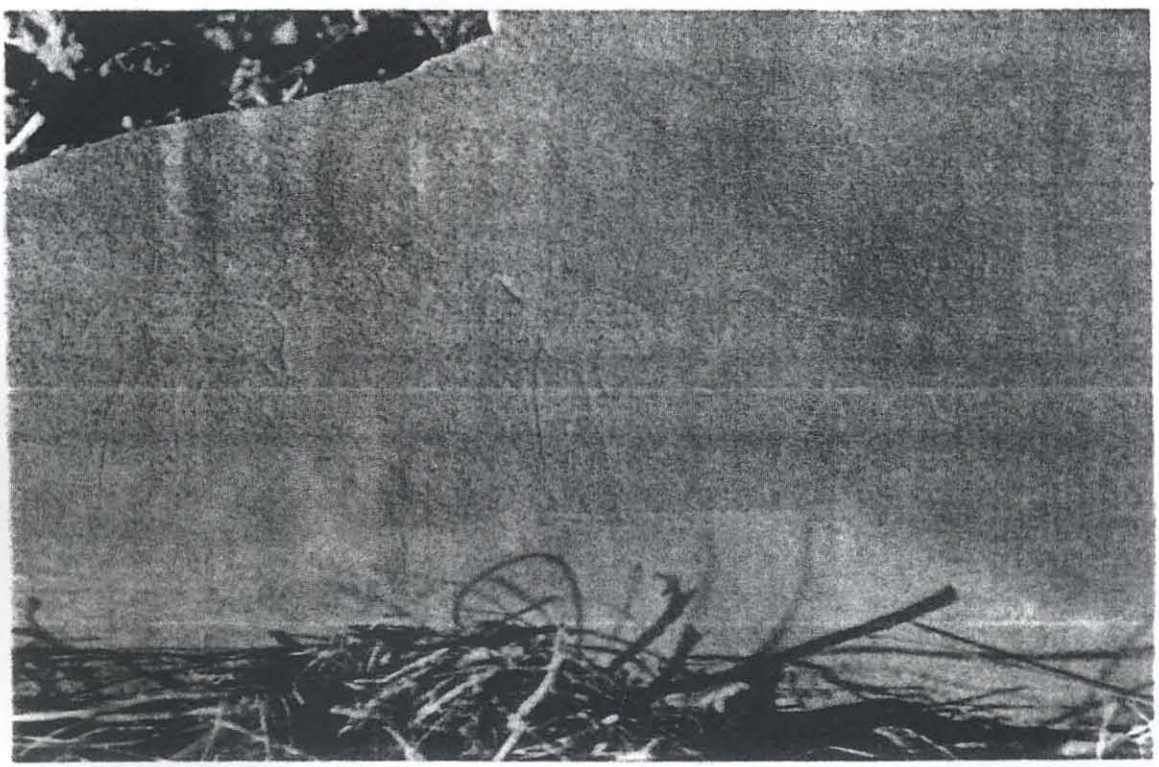
(Photo12: Figure B2- The Eland)



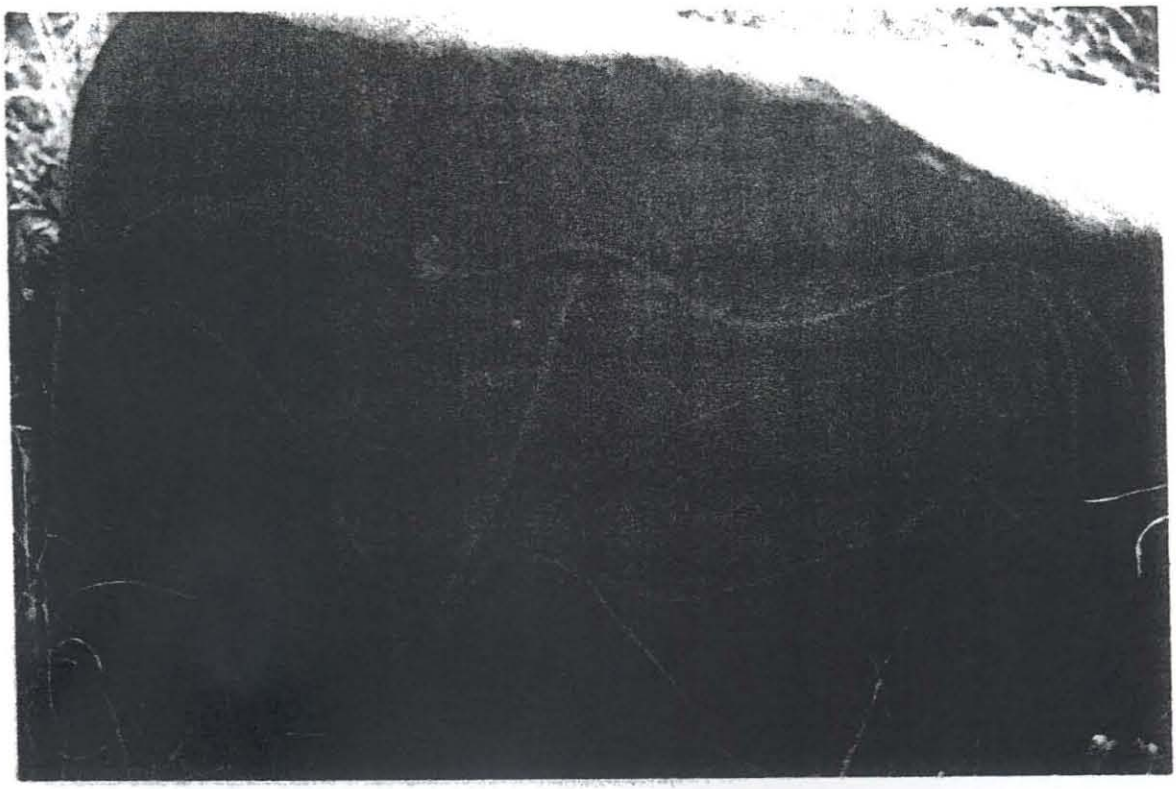
(Photo13: Figure B3- The eland)



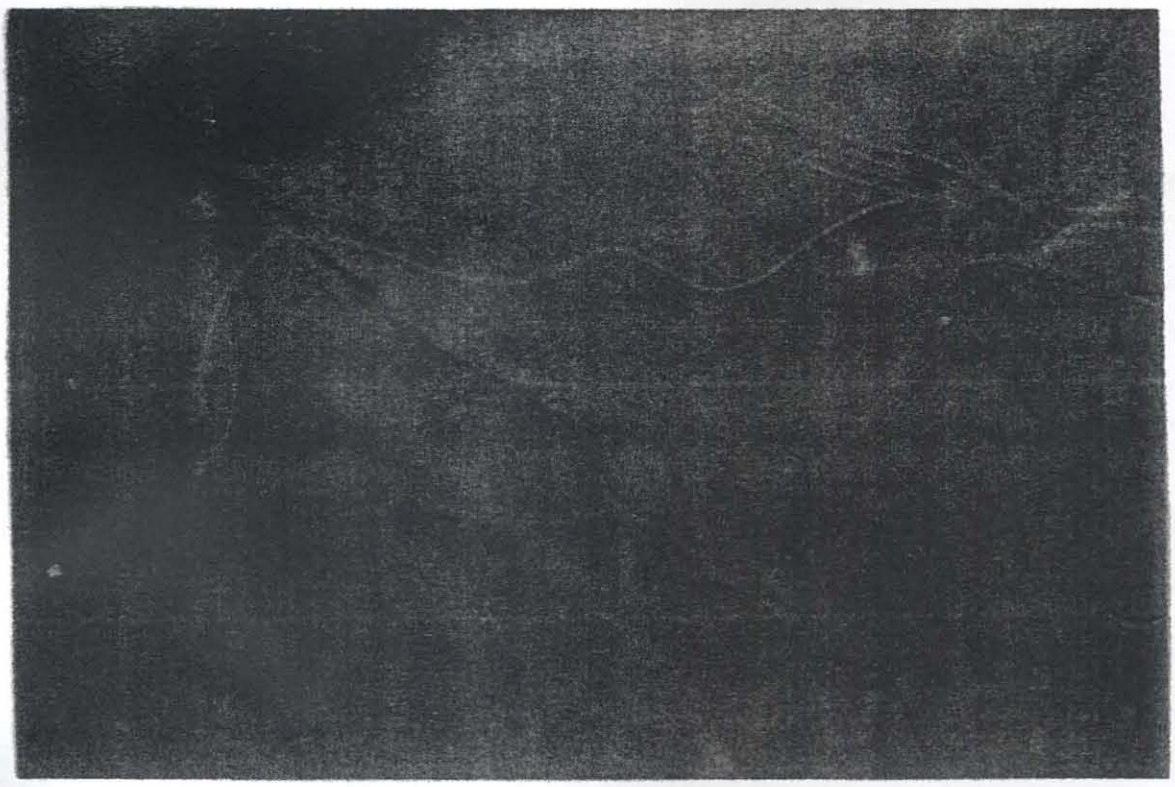
(Photo14: Figure B4- The Eland and Lion)



(Photo15: FigureB5- Three Baboons)



(Photo12: Figure B2- The Eland)

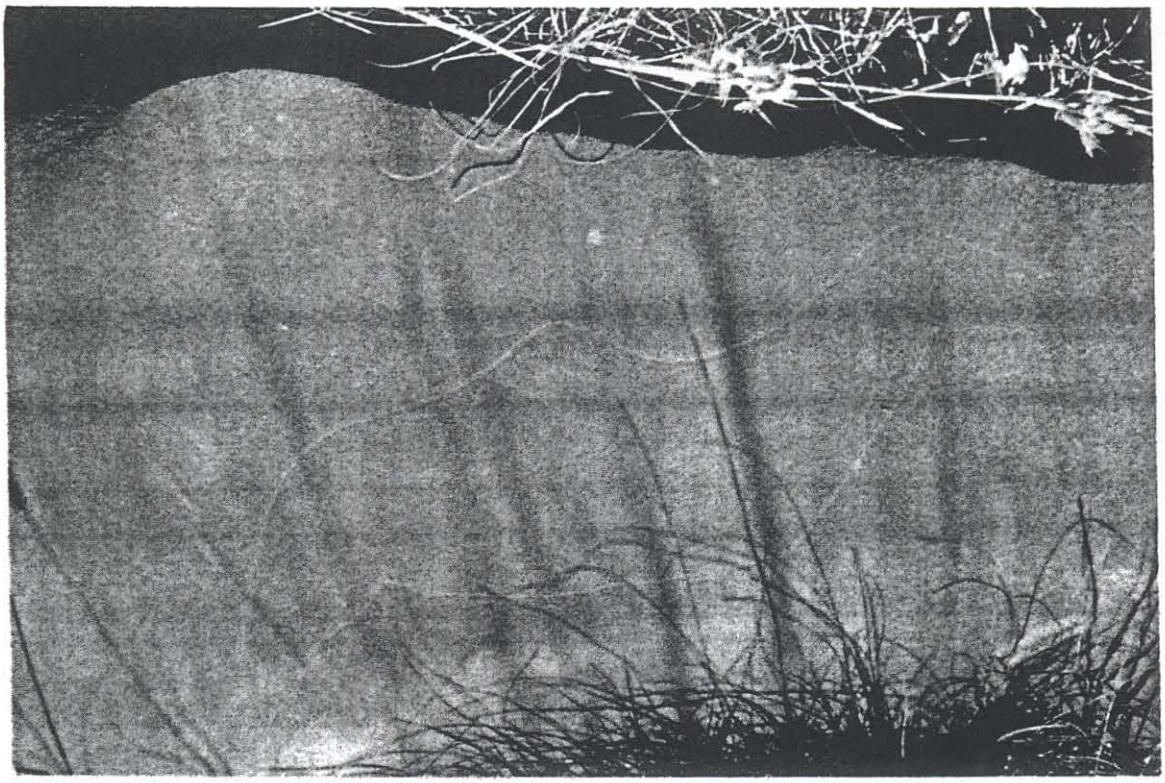


(Photo13: Figure B3- The eland)

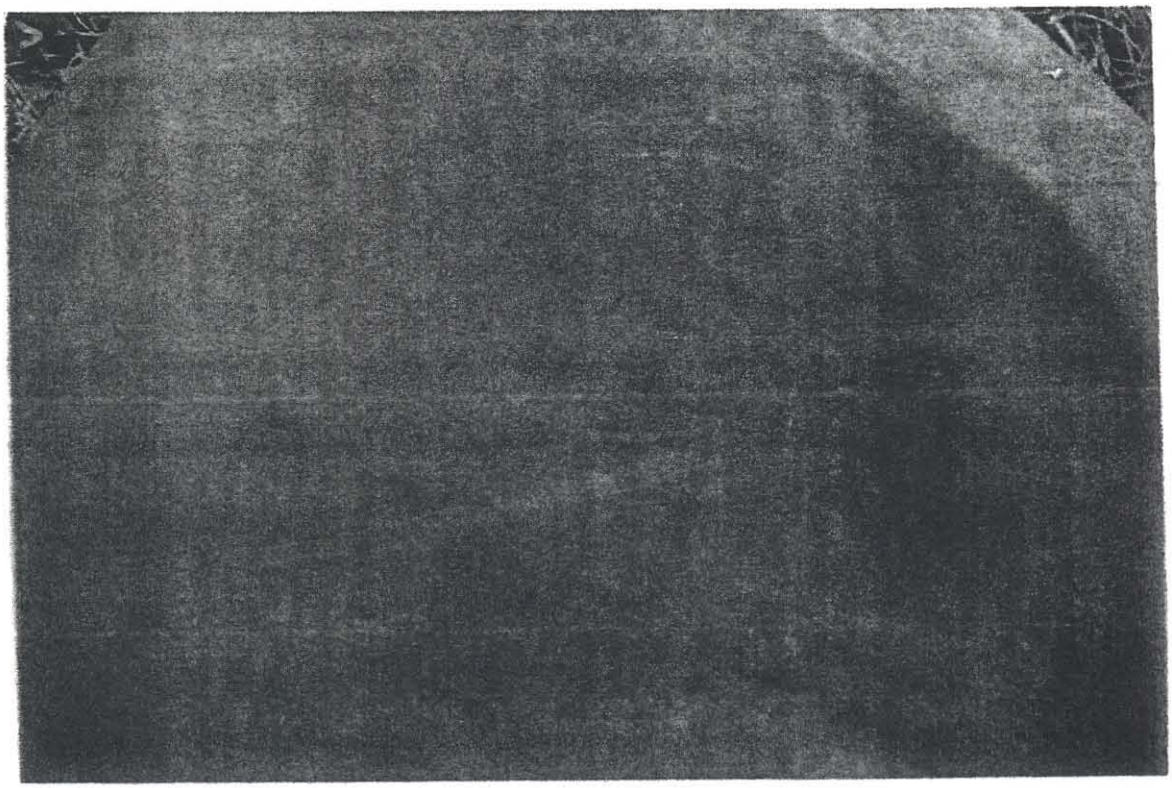
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(Photo16: Figure B6- The Rhebuck)

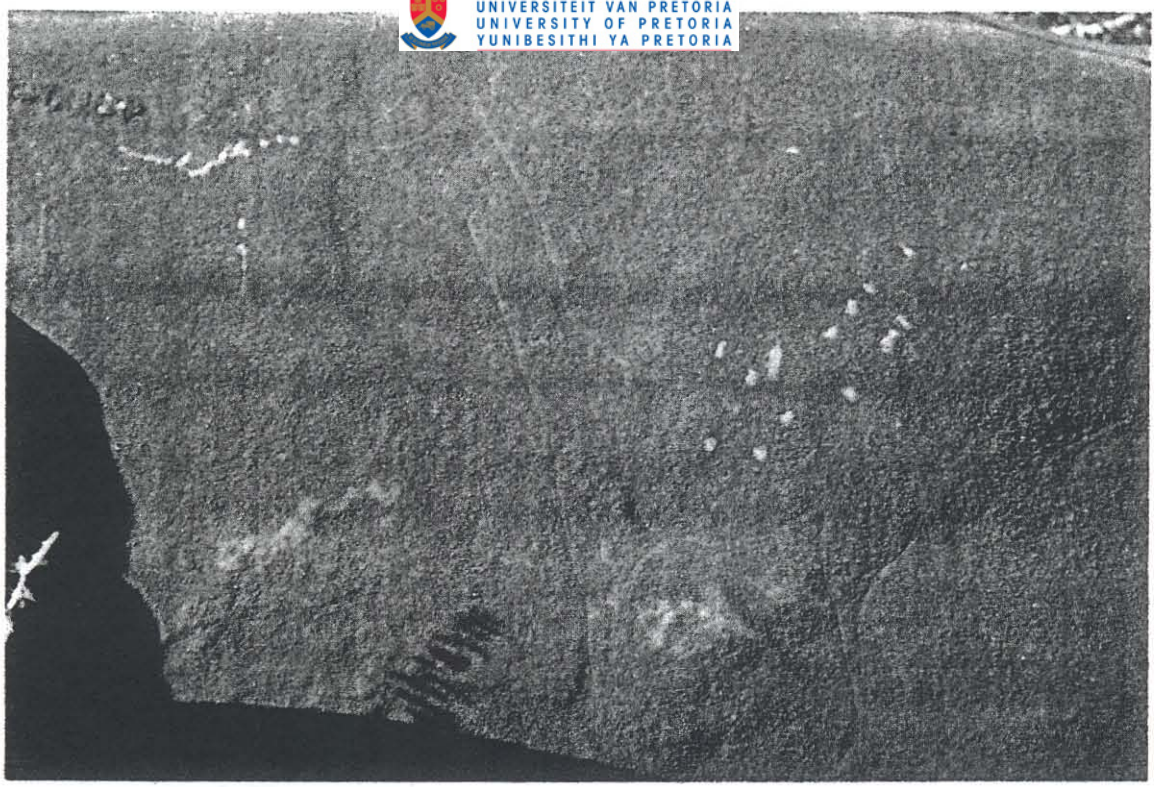


(Photo17: Figure B7- The Camel)

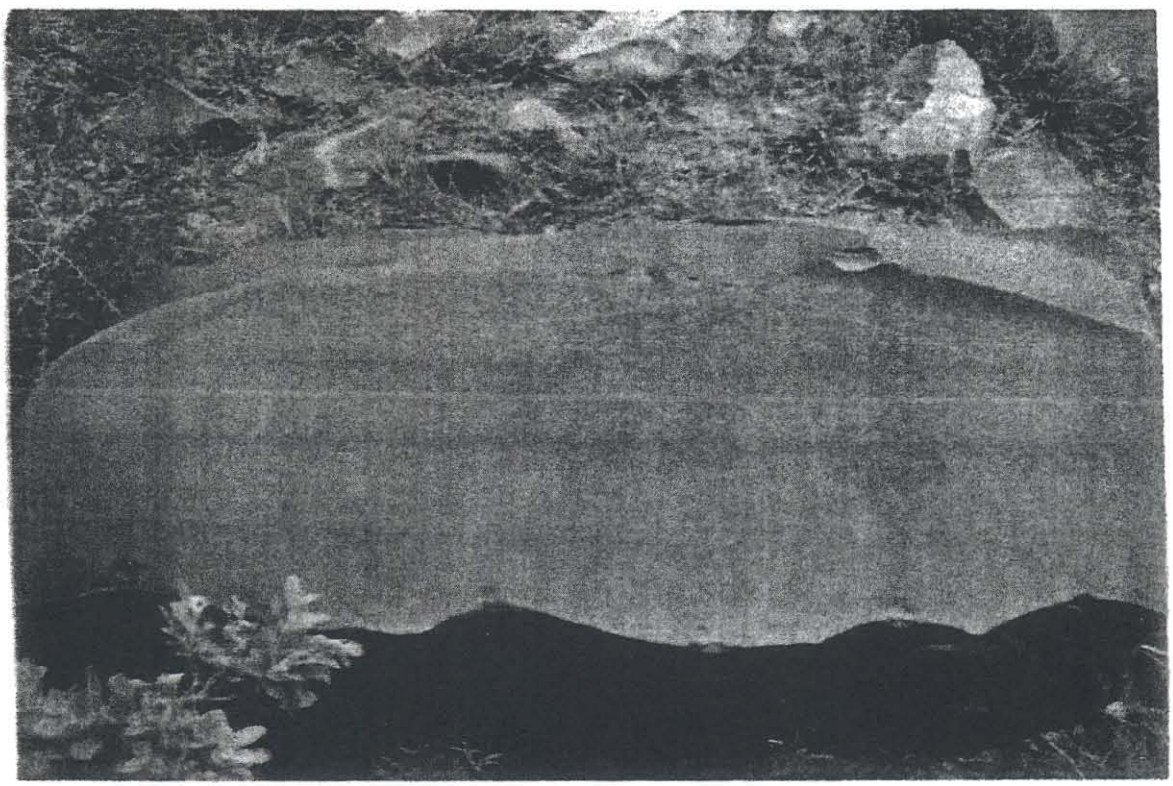


(Photo20: Figure10- The Camelion)

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(Photo21: Figure C13- The Rhebuck)



(Photo22: Figure C14- The Hippopotamus)

GLOSSARY

Ambient -surrounding
Anthropomorphismic - attribution of human form to god, animal, or thing.
Band - a term used to describe small-scale societies of hunters and gatherers, generally less than 100 people, who move seasonally to exploit wild food resources. Kinship ties play an important part in social organisation.
Canines - pointed tooth between incisors and molars.
Carnivore - flesh eating.
Caudal appendage - the tail.
Characteristic - typical or distinctive, feature or quality.
Cohesion - sticking together; force with which parts cohere.
Composition - act or method of putting together into a whole.
Conservation - preservation, esp. of natural environment.
Culture - refined understanding of the arts and other human intellectual achievement; customs and civilisation of a particular time or people.
Data - known facts or things used as basis for inference or reckoning.
Diurnal - active during the day.
Education - systematic instruction.
Endemic - regularly or only found among specific, people or country.
Entoptic phenomena - the fist stage of altered consciousness, which include visual precepts that take on geometric forms such as grids, zigzags, dots, undulating lines, nested catenary curves and spirals.
Fissuration - opening, esp. long and narrow one made by cracking or splitting.
Gregarious - living in flocks or communities.
Grid reference - system of numbered squares printed on map and forming basis of map references.
Habitat - a vegetation or climatic type in which a given type of animal has its being.
Herbivore - feeding on plants.
Home range - the area over which an animal usually travels in pursuit of its normal activities.
Incisors - any of teeth between canine teeth.
Lamine
Lattice - structure of crossed laths or bars with spaces between, used as screen, fence, etc.
Linear - of or in lines; long and narrow and of uniform breadth.
Location - particular place.
Manus - the entire hand section of an animal.
Mongoloid - resembling Mongolians in racial origin or in having broad flat (yellowish) face.
Nares - nostrils.
Naturalistic - adherence to nature in art; realism.
Nocturnal - active by night.
Omnivores - feeding on both plants and flesh.
Orbital cavity - the bony socket enclosing and protecting the eyeball in the skull.
Outcrop - emergence of stratum etc. at surface.

Pattern - decorative design.
Pes - entire foot section of an animal.
Pinna - ears.
Precipitate - to send rapidly into certain state or condition, to be deposited in solid form from solution.
Prehensile - able to be used to grasp.
Radius - straight line from centre to circumference of circle or sphere.
Relative dating - the determination of chronological sequence without recourse to a fixed time scale.
Religion - a framework of beliefs relating to supernatural or superhuman beings or forces that transcend the everyday material world.
Research design - systematic planning of archaeological research, usually including (1) the formulation of a strategy to resolve a particular question; (2) the collection and recording of the evidence; (3) the processing and analysis of these data and it's interpretation; and (4) the publication of results.
Rut - periodic sexual excitement of male antelope.
Savannah - grassy plain in tropical or subtropical region.
Site - the ground on which something stood or stands or is to stand.
Soporific - tending to produce sleep.
Subsistence - almost all crops are consumed by the household; merely enough to provide bare necessities of life.
Superimpose - lay or place on top of something else.
Symbol - thing generally regarded as typifying, representing or recalling something.
Systematise - make systematic.
Technique - mechanical skill in art.
Terrain - tract of land as regards its natural features.
Texture - quality of a surface or substance when felt or looked at.
Thoracic - referring to the chest.
Tourism - provision of tours or services for tourists, esp. commercially.
Ungulate - hoofed animal.

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