

**Phase 1 Heritage Impact Assessment for the proposed
exploratory drill holes on the Gamsberg inselberg on
Portion 1 of the farm Gams 60 , Khai-Ma Local
Municipality, NC Province.**

Report prepared for
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by
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Summary

A Phase 1 Heritage Impact Assessment was carried out for 46 new exploratory drill holes out of a total of 80 drill holes on the Gamsberg inselberg situated near the town of Aggeneys between Pofadder and Springbok in the Northern Cape Province. A field assessment of the proposed drill hole sites on the north-eastern rim of the inselberg showed very little physical evidence of aboveground archaeological traces. With very little topsoil on an overall very rocky terrain the environment is almost certainly not conducive to the preservation of cultural material. A few isolated and mostly informal flakes were observed but these are considered to be derived and ephemeral. Investigation of the proposed drill hole sites within the basin indicate that, in contrast to the rim sites, the basin is a depositional feature as a result of erosion and down-weathering over millions of years while which has partly degraded by previous mining activities. Except for a few isolated occurrences of weathered flakes the drill hole localities are considered to be of occurrences of low archaeological importance. The historical importance of the Aggeneys/Gamsberg area is alluded to in early 19th century records as a place of refuge and conflict during the colonial frontier period. The Cape Thirstland region (comprising Namaqualand, Bushmanland, Gordonia and Griqualand West) has historically witnessed episodes of genocide against the Bushman people. Corresponding to the historical descriptions, there is only one large ravine located to on the south-southeastern side of the mountain, which matches up to the area identified as Site SG 7 in Morris' report on Gamsberg (2013b). The ravine is located outside the proposed impact areas, about 2.5 km from the closest drill holes in the basin and about 1.8 km from the nearest drill holes on top of the inselberg. The field assessment provided no above-ground evidence of prehistoric structures, buildings older than 60 years, or material of cultural significance or *in situ* archaeological sites within each of the drill hole sites. It is also considered unlikely that significant subsurface artefact occurrences will be found below the surface within the boundaries of the proposed development footprints, given the slow rate of erosion within the basin. It is recommended that the so-called "Inkruip ravine is protected as a permanent no-go area. As an important heritage component within the local cultural landscape, it is also advised that the ravine itself is investigated further by means of a specialist study. The drill hole sites are assigned a site rating of Generally Protected C. No further archaeological mitigation is required for the drill hole localities, as long as all the planned activities are restricted to within the boundaries of proposed development footprint.

Contents

Summary	2
Introduction.....	4
Locality data.....	6
Background	6
Field Assessment	7
The “Inkruip” Bushman Massacre Incident.....	8
Impact Statement and Recommendation	12
References	12
Tables and Figures	16

Introduction

A Phase 1 Heritage Impact Assessment was carried out for 46 new exploratory drill holes on the Gamsberg inselberg situated near the town of Aggeneys between Pofadder and Springbok in the Northern Cape Province (**Fig. 1 & 2**). The region's unique and non-renewable archaeological and palaeontological heritage sites are 'Generally' protected in terms of the National Heritage Resources Act (Act No 25 of 1999, section 35) and may not be disturbed at all without a permit from the relevant heritage resources authority. As many such heritage sites are threatened daily by development, both the environmental and heritage legislation require impact assessment reports that identify all heritage resources including archaeological and palaeontological sites in the area to be developed, and that make recommendations for protection or mitigation of the impact of the sites.

The National Heritage Resources Act (NHRA) (No 25 of 1999) identifies what is defined as a heritage resource, the criteria for establishing its significance and lists specific activities for which a heritage specialist study may be required. In this regard, categories of development listed in Section 38 of the NHRA are:

- The construction of a road, wall, power line, pipeline, canal or other similar form of linear development or barrier exceeding 300m in length;
- The construction of a bridge or similar structure exceeding 50m in length;
- Any development or other activity which will change the character of the site;
- Exceeding 5000 m² in extent;
- Involving three or more existing erven or subdivisions thereof;
- Involving three or more subdivisions thereof which have been consolidated within the past five years;
- Costs of which will exceed a sum set in terms of regulations by the South African Heritage Resources Agency (SAHRA).
- The rezoning of a site exceeding 10 000 m².

- Any other category of development provided for in regulations by the South African Heritage Resources Agency (SAHRA).

In many cases, the nature and degree of heritage significance is largely unknown pending further investigation (e.g. capped sites, assemblages or subsurface fossil remains). On the other hand, it is also possible that a site may contain heritage resources (e.g. structures older than 60 years), with little or no conservation value. In most cases it will be necessary to engage the professional opinion of a heritage specialist in determining whether or not further heritage specialist input in an EIA process is required.

Terms of Reference

- Identify and map possible heritage sites and occurrences using available resources.
- Determine and assess the potential impacts of the proposed development on potential heritage resources;
- Recommend mitigation measures to minimize potential impacts associated with the proposed development.

Methodology

The heritage significance of the affected area was evaluated through a desktop study and carried out on the basis of existing field data, database information and published literature. This was followed by a field assessment by means of a pedestrian survey. A Garmin Etrex Vista GPS hand model (set to the WGS 84 map datum) and a digital camera were used for recording purposes. Relevant archaeological and palaeontological information, aerial photographs and site records were consulted and integrated with data acquired during the on-site inspection.

Site significance classification standards prescribed by SAHRA (2005) were used to indicate overall significance and mitigation procedures where relevant (**Table 2**).

Locality data

1 : 50 000 scale topographic map 2918 BA Haramoep

1 : 250 000 scale geological map 2918 Pofadder

Gamsberg coordinates: 29°14'40.37"S 18°58'18.17"E

The study area consists of a total of 39 drill hole localities within the basin of the Gamsberg inselberg and 41 drill hole localities situated on the north-eastern rim of the inselberg (**Fig. 3 & 4**) The area is underlain by sediments of the Namaqua-Natal Metamorphic Complex, where rocks of the Bushmanland Group and Precambrian granites outcrop in places. The prominent inselbergs and ranges of hills which characterise the arid landscape of the area are formed by the metavolcanic-metasedimentary units of the Bushmanland Group that usually occur as major, often overturned, synformal infolds in the associated granitic gneisses (Baillie *et al.* 2007). Geologically recent superficial deposits along the valley floors are largely made up of by gritty to gravelly, brown top soils composed of an admixture of weathered bedrock, calcretes and Quaternary wind-blown sands.

Background

Archaeological and historical evidence show that the Middle Orange River and Bushmanland regions have been populated more or less continuously during prehistoric times and that the region was extensively occupied by Khoi herders and San hunter-gatherers during the last 2000 years (Morris & Beaumont 1991; Beaumont *et al.* 1995; Smith 1995). According to Beaumont (1986) archaeological visibility in the region was high during the Last Glacial Maximum, a viewpoint that is in contrast to that indicated for southern Africa as a whole (Deacon and Thackeray 1984). Beaumont *et al.* 1995 also noted that MSA artifact occurrences are widespread in the Bushmanland area, but are mainly preserved as low density surface scatters on the landscape.

The principal Khoikhoi inhabitants of the Middle Orange River were the Einiqua who belonged to the same language group as the Namaqua and Korana, namely the Orange River Khoikhoi (Penn 2005). The Einiqua occupied the area around and east of the Augrabies Falls while the Korana occupied the Middle-Upper Orange River further to

the east. A large number of burial cairns were excavated near the Orange River in the Kakamas area and appear to be related to Korana herders (Morris 1995). It is pointed out that while Bushmanland sites in the surrounding area appear to be ephemeral occupations by small hunter-gatherer groups, substantial herder encampments found along the Orange River itself indicate that the banks and floodplains of the river were more intensely exploited (Morris & Beaumont 1991; Beaumont 1995). Hinterland sites are mainly restricted rock shelters near mountainous terrain sand dune deposits, or around seasonal pans and springs (Beaumont 1995). Herder sites with ample pottery have been recorded near Aggeneys and, east of Pofadder, at Schuitdrift South (Morris 1999) and historical records show that herder groups settled at the stronger springs such as Pella (Thompson 1827).

No Iron Age sites are expected to be found in this area as it falls outside the southwestern periphery of distribution of Iron Age settlement in the region (Humphreys 1976) although Thompson (1827) recorded marauding bands along the lower reaches of the Orange River, comprising Bushmen, Korana and Tswana.

Grinding grooves have been found on rock outcrops in the Gamsberg area (Morris 2011) and rock paintings, grinding surfaces and cupules sites are known from the Black Mountain Mining property at Aggeneys and at the foot of the mountain on Zuurwater 62 (Morris 2013a). Morris (2010, 2013a, 2013b) noted very sparse localized scatters of MSA stone tools at the top of Gamsberg, including a MSA knapping site, and ESA material, including a Victoria West core on quartzite within the Gamsberg basin.

Field Assessment

A field assessment of the proposed drill hole sites on the north-eastern rim of the inselberg showed very little physical evidence of aboveground archaeological traces (**Fig. 5 - 8**) With very little topsoil on an overall very rocky terrain the environment is almost certainly not conducive to the preservation of cultural material. A few isolated and mostly informal flakes were observed but these are considered to be derived and ephemeral.

Investigation of the proposed drill hole sites within the basin indicate that, in contrast to the rim sites, the basin is a depositional feature as a result of erosion and down-weathering over millions of years while which has partly degraded by previous mining activities (**Fig. 9 - 11**). Except for a few isolated occurrences of weathered flakes the dlrill hole localiiies are considered to be of occurrences of low archaeological importance.

The “Inkruip” Bushman Massacre Incident

The historical importance of the Aggeneys/Gamsberg area is alluded to in early 19th century records as a place of refuge and conflict during the colonial frontier period. The Cape Thirstland region (comprising Namaqualand, Bushmanland, Gordonias and Griqualand West) has historically witnessed episodes of genocide against the Bushman people (Penn 2005) and the incident in which a group of San were cornered and shot at the so-called “Inkruip” ravine (Morris 2013) refers.

With the arrival of the Dutch in the 17th century and the subsequent northward expansion of both the trekboers and independent groups of Khoi and people of mixed racial or cultural origin (known in the parlance of the day as “Basters”) during the 18th century, the Bushmen in the west of the country were being steadily encroached by colonial expansion (Dunn 1931; Findley 1977; Penn 2005). The Company Government (VOC) in 1774 appointed thirteen veld corporals to protect the border farmers and by the time of the First British Occupation in 1795 it was believed by the government that total eviction of the San from the territory was the only way to deal with the ongoing cattle-raiding problem. It was has estimated that in the last ten years of Company Government rule an average of 250 Bushmen a year were shot by official commandos (van der Merwe, 1937). At the end of the eighteenth century various Khoi / ”Baster” groups, started to spread north in order to escape conscription and increasing racial discrimination in the Colony by adopting a wandering, predatory existence. Most famous of these was Afrikander and his son, who by 1823 could muster 300 men, attacking Namaqua and Koranna, and robbing them of their stock, and the Bushmen of their children (Thompson 1827: 290-291). Other Khoi groups, including the Griqua families, Kok and Barend, spread east along the Orange to escape the attacks of the marauders and eventually settled at Klarwater (which was named Griquatown in 1813). However, the Griquas and especially a group called the

Bergenaars started to systematically slaughter the Bushmen living in the area, even though the wealthy Kok and Barends families were treating the Bushmen well (Campbell 1922).

By the 1850's, the San had almost been completely subdued in the west and the hilly country adjacent to the Orange River (Namaqualand) was now mostly occupied by the Khoi; according to a surveyor general report only one band of Bushman, numbering some forty-eight, was recorded in the region by 1855 (Findley 1977). In spite of their resistance, the San were continually forced to withdraw further and further into the very heart of the Cape Thirstland, the area adjacent to the Hartebeest River (north of modern day Kenhardt). Several families of mixed cultural or racial origin had moved into the region between Pella and the Hartebeest River during the late 1850's and by 1859, the trekboers began to advance on the Hartebeest, but only in times of drought, after which time they returned to Calvinia and the Hantam in the south (Findley 1977; Penn 2005).

In a letter dated September 1861, written to the Attorney General by Resident Magistrate and Civil Commissioner of Namaqualand at Springfontein (Springbok), Louis Anthing, the extermination of Bushmen in the region was brought up when Anthing reported on eyewitnesses accounts of commando raids against the Bushmen of the Hartebeest River by the Khoi/"Baster" corporal of Pella, as well as a smaller commando composed of Dutch and "Basters" (VsKB. 5/2/1 Papers despatched by Resident Magistrates, Namaqualand Oct. 1855 - Oct. 1862, in Findley 1977: 30). In 1862 Anthing set off from Springbokfontein and obtained the testimony of a trader, named J. Nicholson. who told him that when he first visited the western part of Bushmanland ten or twelve years previous, there were many San living there while on a subsequent journey in 1859 he noticed that Khoi/"Basters" had moved into the area and there was only one bushmen camp left there - those who were not killed became either servants of the Khoi/"Basters" or **fled to a mountain near the Orange River** (CO 4414: J. Nicolson' s Deposition, An thing - Colonial Office 1/4/1862, in Findley 1977: 35). According to Nicholson Khoi/"Basters", and Xhosa from Schietfontein, Namaqualand, the Bokkeveld, Hantam, Roggeveld, the districts of Calvinia, Fraserburg, and Hope Town had all shared in the attacks on the Bushmen. Nicholson also reported on a large number of Dutch farmers from the Bokkeveld and Hantam

region, headed by Caspar Nieuwoudt, and Elias Nel who came to a place called 'Boschdruif' (see **Fig. 12**) and attacked a kraal of Bushmen, killing all except one man and some children, who were afterwards distributed amongst the farmers (A .Mr. Steenkamp, who took part in this commando, was willing to testify to its actions in court. CO 4414 : Anthing - Colonial Office, 29/5/1863, in Findley 1977: 35).

In addition to early traveler accounts and missionary records from Griqualand West, Louis Anthing's reports confirm that the involvement of Dutch as well as mixed-descent groups in the killing of Bushmen in the northern Cape south of the Orange River was pretty extreme, which adds support to the likelihood that the "Inkruip Massacre" at Gamsberg really happened. The legend is also given credence by several sources.

Following C.R. Burger's dissertation on the origin and meaning of farm and place names in Namaqualand (1986), the name Aggeneys appeared first in written form as *Achenijs* in 1859 in the *Wildschutboek* (CO 4405, Cape Archives in Burger, 1986), while the origins of *Gams* or *Gaams* probably refers to the Nama words *Tha-aams* alluding to "grass spring" or *t'kams* for tufted grass according to Thompson (1827): "*The adjoining plains are covered with grass which grows all in separate tufts, like the hair on the head of a Hottentot. From this feature the spot derives its name t'Kams, a term signifying 'tufted grass,' in the Namaqua dialect.*"

In reference to the name Aggeneys, Nienaber and Raper (1977) noted that "*Long before the turn of the century, the Bushmen had several strongholds in the mountains between Pofadder and Springbok and from these they carried out raids on the farmers. Finally the farmers could no longer tolerate the marauding Bushmen and formed a commando which followed the spoor of the Bushmen and the livestock that they had stolen to the kloof, which is today known as Aggeneys.*" However, Burger (1986:147-148) refers to a local, retired farmer's letter which states that Aggeneys was not the place where the Bushmen were massacred, but rather a ravine (poort) located on the southern side of Gamsberg: "*Die laaste vesting waar die Boesmans doodgeskiet is deur die Boere, was nie Aggeneys nie, maar baie beslis aan die suidekant van Gamsberg - so 'n lelike kloof in die berg. Jy kan dit sien as jy met die*

ou gruispad ry". Today the latter goes from Aggeneys (N14) to Brandvlei with a turnoff going northeast to Pofadder, around the southern part of Gamsberg (**Fig. 13**).

Corresponding to the above descriptions, there is only one large ravine located to on the south-southeastern side of the mountain, which matches up to the area identified as Site SG 7 in Morris' report on Gamsberg (2013b).

The ravine is located outside the proposed impact areas, about 2.5 km from the closest drillholes in the basin and about 1.8 km from the nearest drillholes on top of the inselberg (**Fig. 14**).

Nature of Impacts

It is expected that the proposed drilling activities will be localized, and that potential archaeological impacts, if any, will be confined to the a very small footprint. Bedrock underlying the study area is not considered to be palaeontologically significant, because of the metavolcanic-metasedimentary nature of the strata. There is a low probability that colluvial surface deposits within the basin may contain large capped Stone Age occurrences, given the slow rate of erosion.

Extent of Impact

Possible extent of impact following the construction activities will be locally restricted to potential damage or destruction as a result of excavations into Bushmanland Group strata and colluvial overburden within the basin.

Duration of Impact

The proposed developments are considered long term with the consequence that any damage or destruction to geological strata and archaeological heritage within the affected area will be permanent.

Cumulative Impact

There currently exists a well-established mining footprint within a 50 km radius of the proposed developments. The proposed developments will be carried out on a landscape where mining activities is a common feature.

Impact Statement and Recommendation

The field assessment provided no above-ground evidence of prehistoric structures, buildings older than 60 years, or material of cultural significance or *in situ* archaeological sites within each of the drill hole sites. It is also considered unlikely that significant subsurface artefact occurrences will be found below the surface within the boundaries of the proposed development footprints, given the slow rate of erosion within the basin.

The Inkrui ravine is located outside the proposed impact areas, about 2.5 km from the closest drillholes in the basin and about 1.8 km from the nearest drill holes on top of the inselberg. It is recommended that the ravine is protected as a permanent no-go area (**Fig. 15**). As an important heritage component within the cultural landscape it is also advised that the ravine itself is investigated and recorded by means of a specialist study.

The drill hole sites are assigned a site rating of Generally Protected C. No further archaeological mitigation is required for the drill hole localities, as long as all the planned activities are restricted to within the boundaries of proposed development footprint.

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AUTHOR DETAILS

Dr. Lloyd Rossouw specializes in the southern African Quaternary and has over twenty years of extensive fieldwork experience. He graduated with Archaeology and Cultural Anthropology for his BA degree and went on to receive training in southern African archaeology at Honours level at the University of Stellenbosch's Archaeology Department. He received specialized training in faunal osteology and Quaternary palaeontology for his MSc-degree at the Bernard Price Institute of Palaeontology (Wits) and obtained his PhD-degree at the University of the Free State, specializing in plant microfossil research. He is a member of the Association for Southern African Professional Archaeologists (ASAPA) and the Palaeontological Society of Southern Africa (PSSA).

DECLARATION OF INDEPENDENCE

I, Lloyd Rossouw, declare that I act as an independent specialist consultant. I do not have or will not have any financial interest in the undertaking of the activity other than remuneration for work as stipulated in the terms of reference. I have no interest in secondary or downstream developments as a result of the authorization of this project.

Yours truly,

A handwritten signature in black ink, appearing to read 'L Rossouw', written in a cursive style.

18 July 2019

Tables and Figures

Table 1. Summary of points taken during survey.

GPS #	Coordinates	HSL
318	S29 14.113 E18 58.892	1097 m
319	S29 14.179 E18 58.986	1103 m
320	S29 14.218 E18 59.118	1113 m
321	S29 14.250 E18 59.250	1117 m
322	S29 14.362 E18 59.442	1123 m
323	S29 14.461 E18 59.672	1130 m
324	S29 14.532 E18 59.923	1129 m
325	S29 14.763 E18 59.726	1150 m
326	S29 14.978 E18 59.852	1154 m
327	S29 14.773 E19 00.029	1150 m
328	S29 14.866 E18 59.607	1138 m
329	S29 14.679 E18 59.550	1143 m
330	S29 14.612 E18 59.446	1136 m
331	S29 14.888 E18 59.441	1148 m
332	S29 15.247 E18 58.152	1028 m
333	S29 15.123 E18 58.173	1014 m
334	S29 15.004 E18 58.119	1011 m
335	S29 15.036 E18 58.160	1010 m
336	S29 15.114 E18 58.424	1009 m
337	S29 15.069 E18 58.525	1009 m
338	S29 15.061 E18 58.362	1009 m
339	S29 15.243 E18 58.493	1013 m
340	S29 15.368 E18 58.175	1034 m
341	S29 15.378 E18 58.405	1021 m
342	S29 15.326 E18 58.603	1014 m
343	S29 15.413 E18 58.355	1024 m
344	S29 15.491 E18 58.353	1033 m
345	S29 15.521 E18 58.429	1031 m
346	S29 15.474 E18 58.554	1024 m
347	S29 15.424 E18 58.473	1021 m
348	S29 15.415 E18 58.285	1022 m
349	S29 15.452 E18 58.246	1029 m
350	S29 15.393 E18 58.014	1037 m

Table 2. Field rating categories as prescribed by SAHRA.

Field Rating	Grade	Significance	Mitigation
National Significance (NS)	Grade 1	-	Conservation; national site nomination
Provincial Significance (PS)	Grade 2	-	Conservation; provincial site nomination
Local Significance (LS)	Grade 3A	High significance	Conservation; mitigation not advised
Local Significance (LS)	Grade 3B	High significance	Mitigation (part of site should be retained)
Generally Protected A (GP.A)	-	High/medium significance	Mitigation before destruction
Generally Protected B (GP.B)	-	Medium significance	Recording before destruction
Generally Protected C (GP.C)	-	Low significance	Destruction

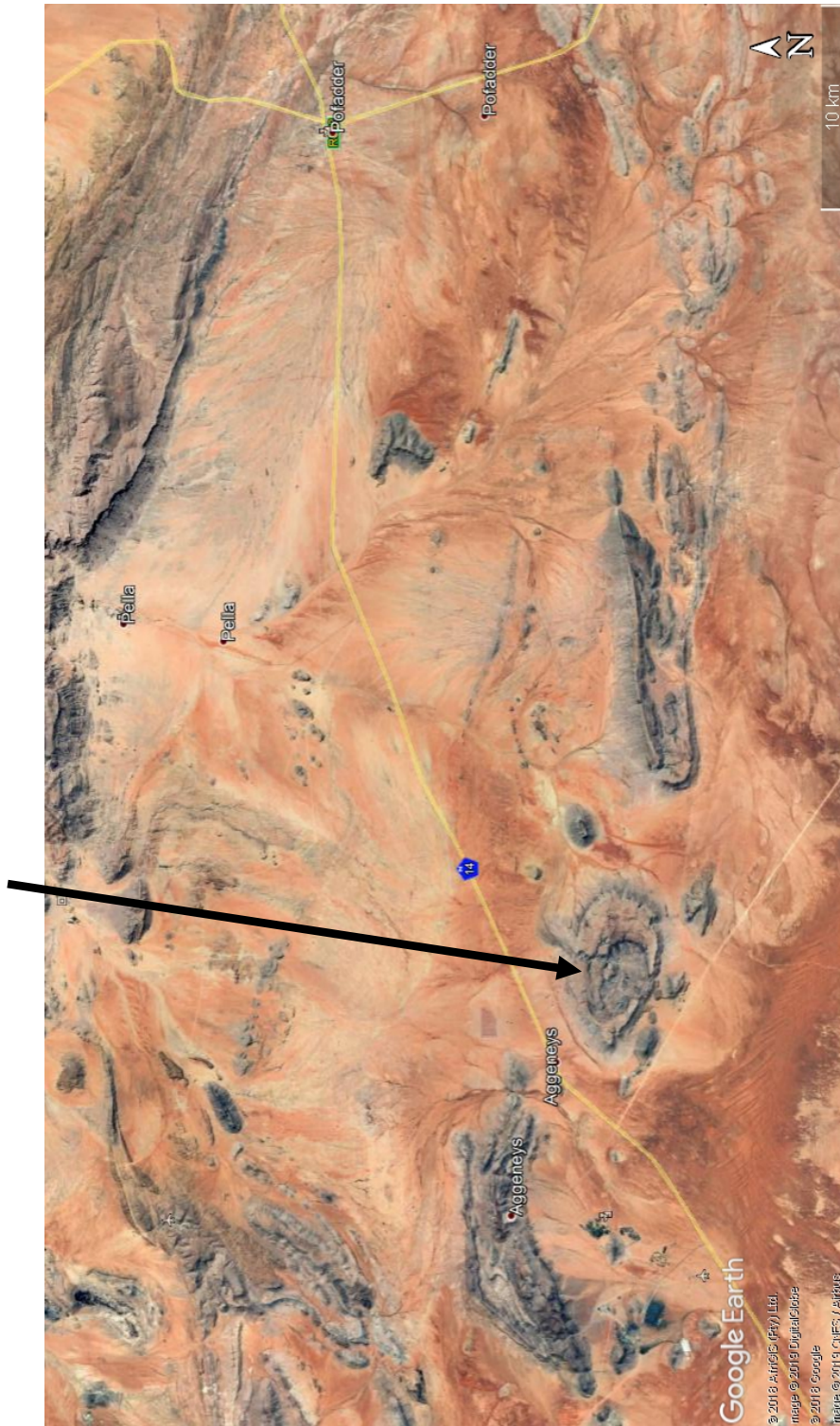


Figure 1. Aerial view of the Gamsberg inselberg in relation to its position to Aggeneys and Pofadder.

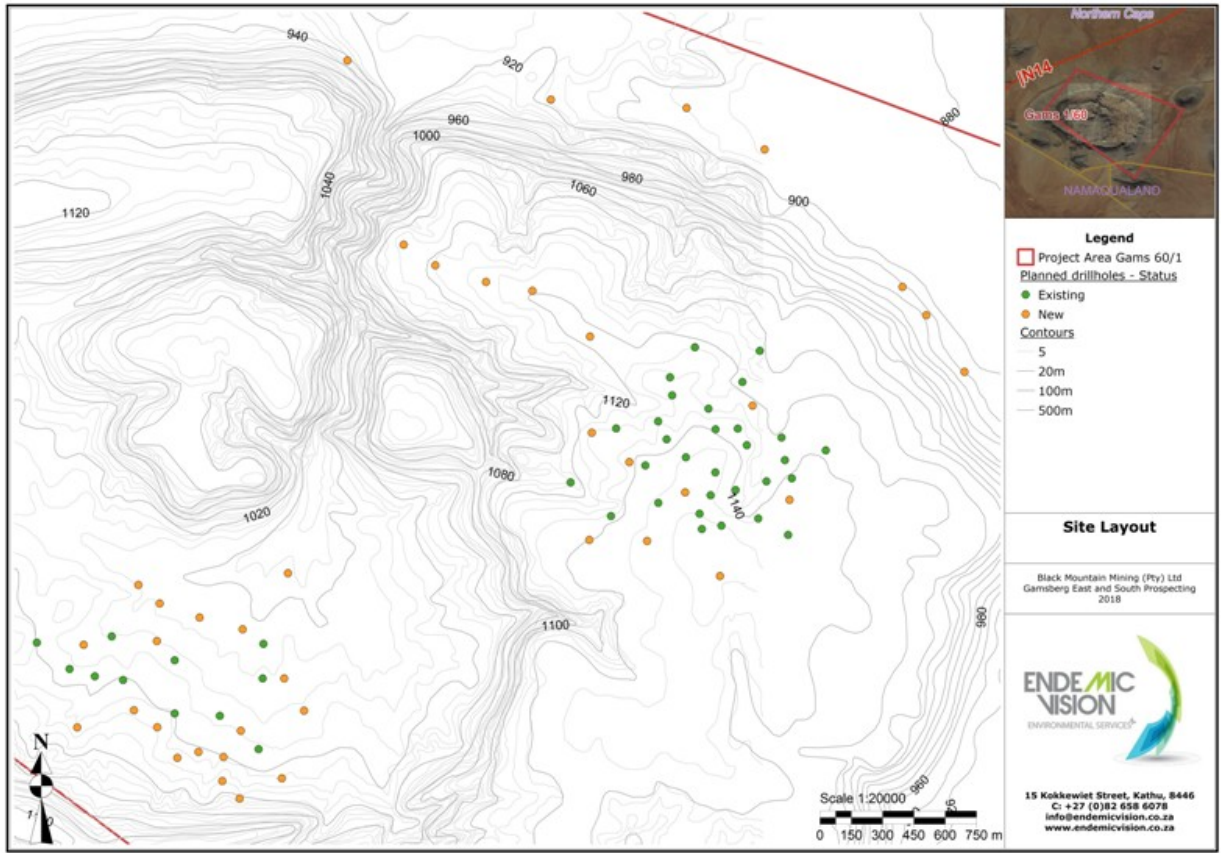


Figure 2. Site layout of the proposed drill hole localities at Gamsberg.

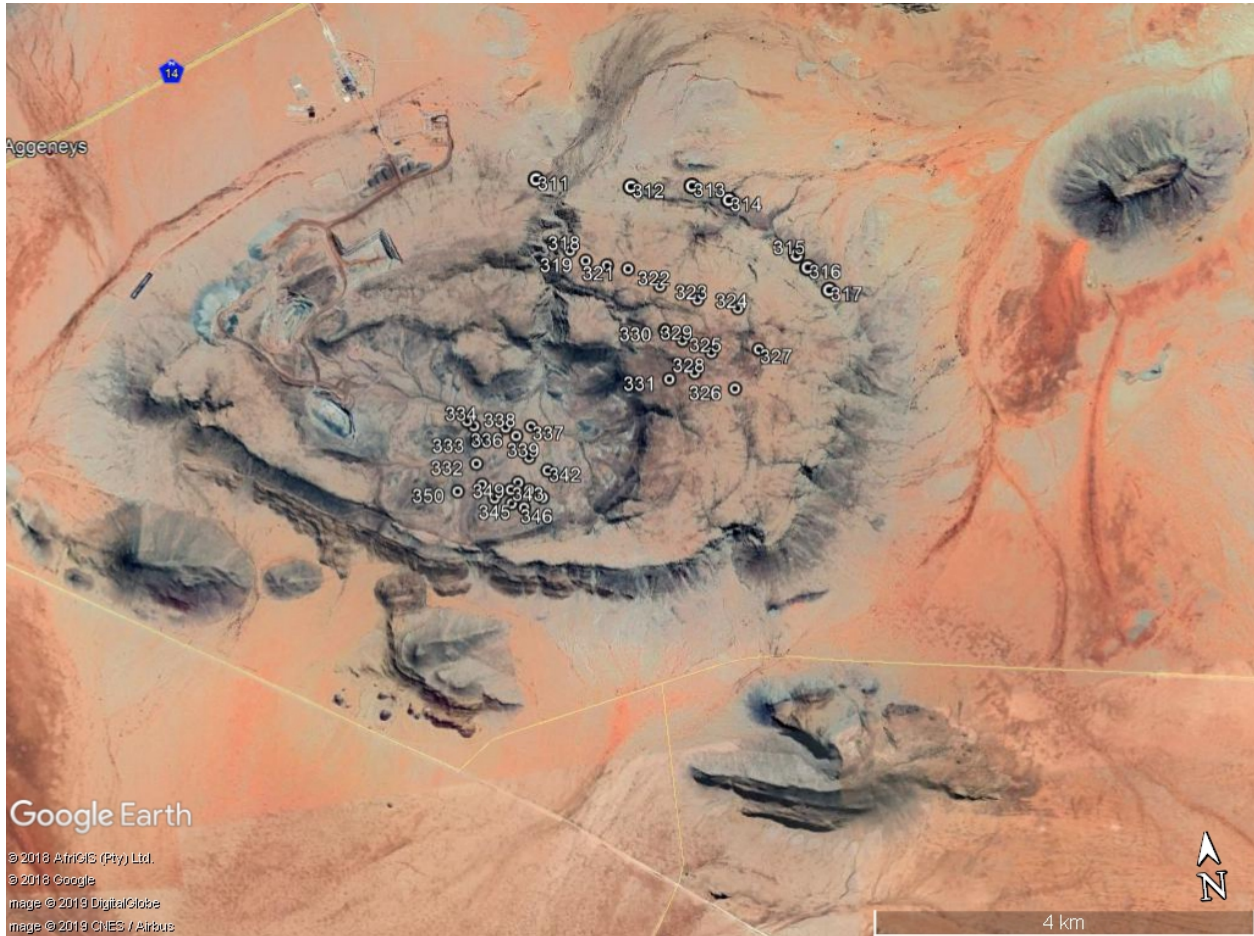


Figure 3. Aerial view of the Gamsberg inselberg.

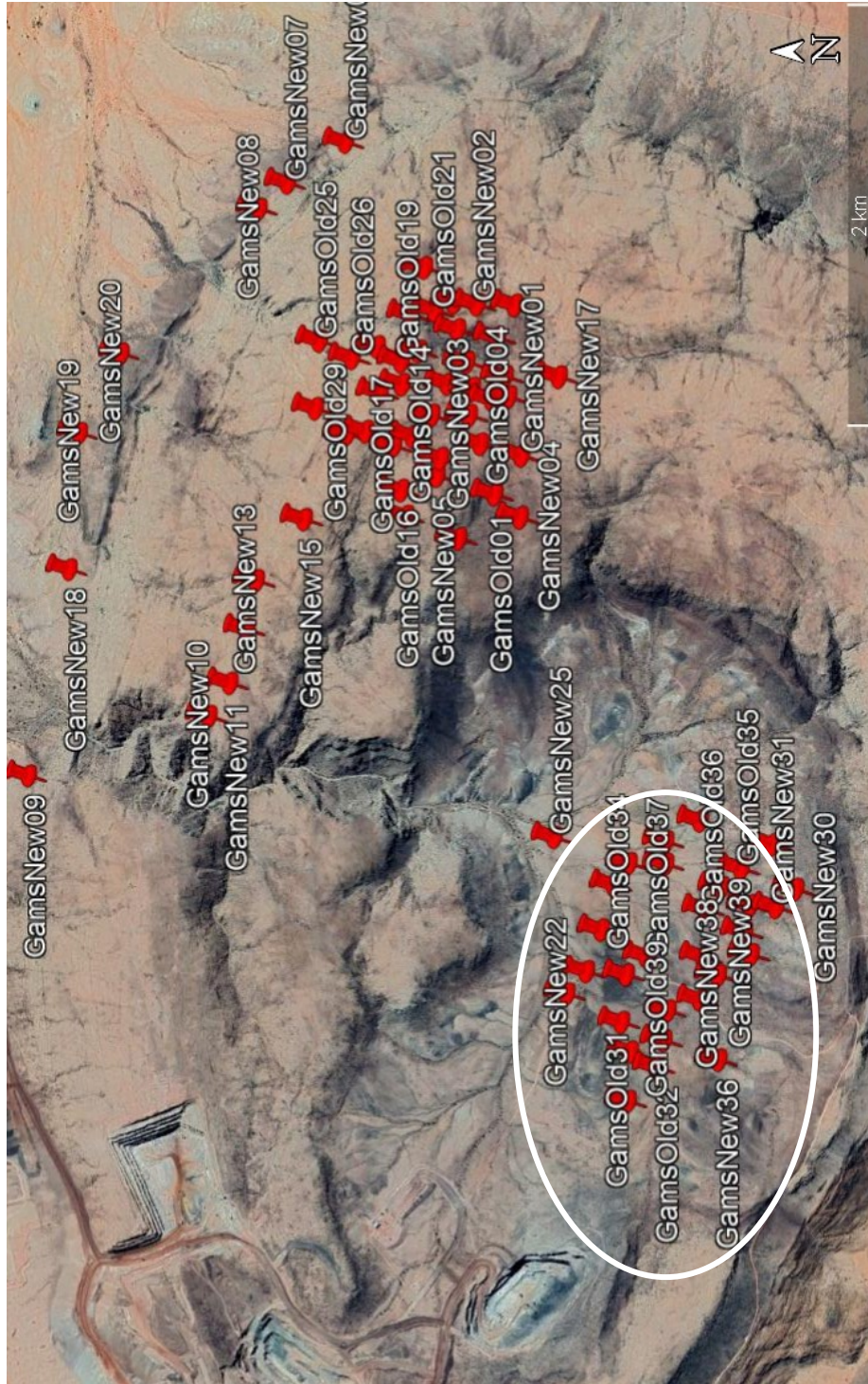


Figure 4. The study areas consists of 39 drill hole localities in the basin (ellipse) and 41 drill hole localities on the north-eastern rim of the inselberg.



Figure 5. General view of the landscape on the north-eastern rim of the inselberg.



Figure 6. General view of the landscape showing very little topsoil on an overall very rocky terrain.



Figure 7. General view of drill hole locality and surrounding environment.



Figure 8. General view of existing drill hole on outer rim of the inselberg.



Figure 9. General view of the landscape within the basin (above) and degraded terrain as a result of previous mining activities (below).



Figure 10. General view of individual drill hole localities in the basin (above). Very few, isolated occurrences of weathered flakes (below).



Figure 11. Old structures related to mining activities (above) and terrain previously degraded by mining activities (below).



Figure 12. Late 19th century map of Bushmanland (after Findley 1977). Gamsberg is indicated by the red star.



Figure 13. Oblique aerial view of the ravine which is located on the southern side of the inselberg and visible from the road to Brandvlei.

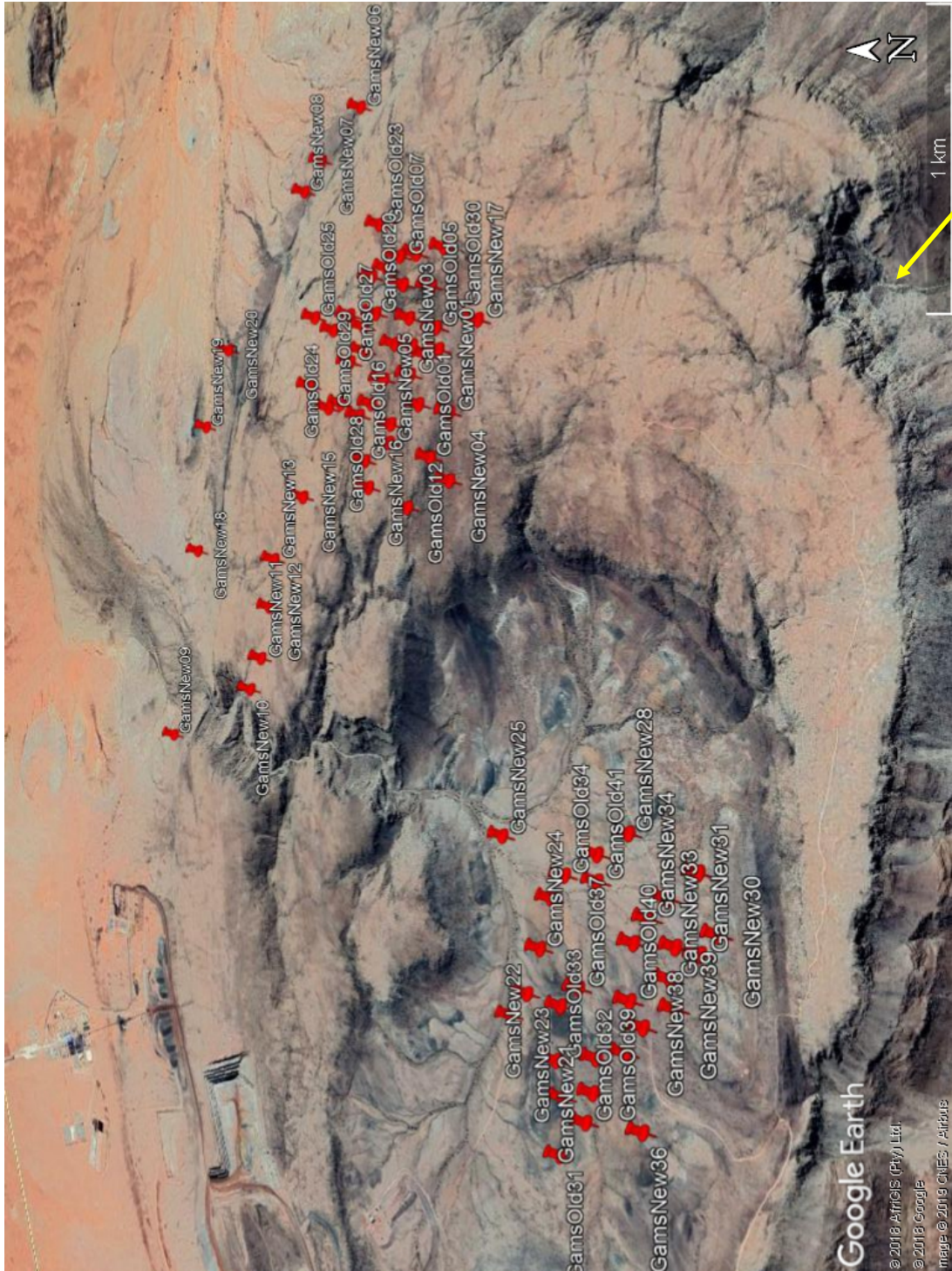


Figure 14. The “Inkruip” ravine (yellow arrow) is located outside the proposed impact areas, about 2.5 km from the closest drillholes in the basin and about 1.8 km from the nearest drillholes on top of the inselberg.

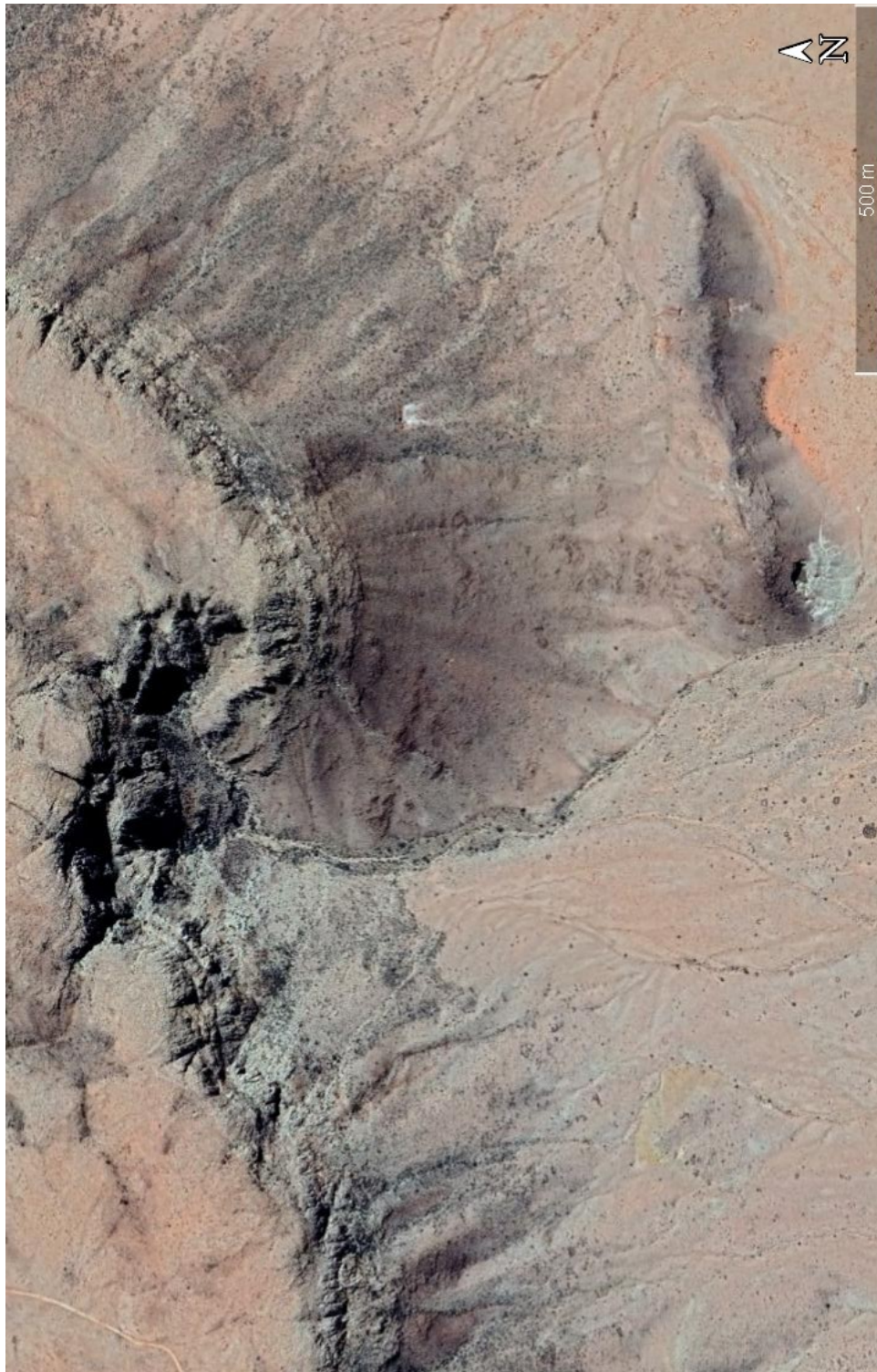


Figure 15. Close-up aerial view of the so-called “Inkruip” ravine. It is recommended that the ravine is protected as a permanent no-go area.