A SURVEY OF CULTURAL RESOURCES IN THE PIT 5 & 6 MINING AREAS, KRIEL COLLIERY, KRIEL DISTRICT, MPUMALANGA PROVINCE

For:

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REPORT: 97KH20

Date of survey: November 1997

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SUMMARY

A survey of cultural resources in the Pit 5 & 6 Mining Areas, Kriel Colliery, Kriel district, Mpumalanga Province

A variety of structures and sites of cultural significance were identified during a survey of the above area. This has left a legacy of cultural resources which will have to be considered before development takes place. It is judged that all the identified sites would be impacted upon to various degrees by the proposed mining. It is therefore recommended that the development can continue only after suitable mitigation measures were implemented.

This consists of the following:

1. The relocation of all the graves, their contents and headstones, in the various cemeteries located within the mining area, before mining takes place.

2. That appropriate measures be taken to safeguard the cemeteries located just outside the mining area, so that they are not endangered during mining activities.

3. It must be kept in mind that archaeological objects and features, due to their specific nature, usually occur below ground level. It is therefore recommended that the developers be notified that archaeological sites might be exposed during construction. If anything is noticed, it should be reported immediately to a museum, preferably one at which an archaeologist is available, so that an investigation and evaluation of the find can be made.

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KRIEL DISTRICT, MPUMALANGA PROVINCE

1. AIMS OF THE SURVEY

The National Cultural History Museum was requested by Kriel Colliery to survey two farms, Frischgewaagd 60IS and Vierfontein 61IS. It is planned to strip-mine these area for coal. The aim of the survey was to locate, identify, evaluate and document the sites, objects and structures of cultural significance found within the boundaries of the area that is to be mined.

2. TERMS OF REFERENCE

The Terms of Reference for the study were to:

- 2.1 Identify all objects, sites, occurrences and structures of an archaeological or historical nature, ie cultural resources, located in the area of the proposed development.
- 2.2 Assess the significance of these cultural resources in terms of their

historical, social, religious, aesthetic and scientific value.

- 2.3 Describe the possible impact of the proposed development on these cultural remains, according to a standard set of conventions.
- 2.4 Propose suitable mitigation measures to minimize possible negative impacts on the cultural resources. This can include recommendations for the sustainable development and use of the identified cultural resources.
- 2.5 Develop procedures to be implemented if previously unidentified cultural resources are uncovered during construction phase.

3. CONDITIONS AND ASSUMPTIONS

The following aspects have a direct bearing on the survey and the resulting report:

- Cultural resource is a broad, generic term covering any physical, natural and spiritual properties and features adapted, used and created by humans in the past and present. Cultural resources are the result of continuing human cultural activity and embody a range of community values and meanings. These resources are non-renewable and finite. They can be, but are not necessarily identified with defined locations.
- The significance of the sites and artifacts is determined by means of their historical, social, aesthetic, technological and scientific value in relation to their uniqueness, condition of preservation and research potential. It must be kept in mind that the various aspects are not mutually exclusive, and that the evaluation of a site is done with reference to any number of these.
- Significance is site-specific and relates to the content and context of the site. Sites regarded as having low significance have already been recorded

in full and require no further mitigation. Sites with medium to high significance require further mitigation.

- The latitude and longitude of an archaeological site are to be treated as sensitive information by the developer, and should not be disclosed to members of the public.
- All recommendations are made with full cognisance of the relevant legislation, in this case the National Monuments Act (No 28 of 1969, as amended).

4. METHODOLOGY

4.1 Preliminary investigation

4.1.1 Survey of the literature

A survey of the relevant literature was conducted with the aim of reviewing the previous research done and determining the potential of the area. In this regard, various anthropological, archaeological and historical sources were consulted - see list of references below.

4.1.2 Data sources

The Archaeological Data Recording Centre (ADRC), housed at the National Cultural History Museum, Pretoria, was consulted.

4.1.3 Other sources

The topocadastral and other maps were also studied - see list of references below.

4.2 Field survey

The field survey was done according to generally accepted archaeological practices, and was aimed at locating all possible sites, objects and structures. The area was divided into blocks, making use of natural and human-made topographical elements. These blocks were then surveyed in detail by walking and driving across it. In each block, areas with a potential for human use were investigated. Special attention was given to outcrops, cliffs were inspected for rock shelters, while stream beds and unnatural topographical occurrences such as trenches, holes and clusters of trees were investigated.

4.3 Documentation

All sites, objects and structures identified were documented according to the general minimum standards accepted by the archaeological profession. Coordinates of individual localities were determined by means of the **Global Positioning System** (GPS)¹ and plotted on a map. This information was added to the description in order to facilitate the identification of each locality.

4.4 Presentation of the information

In discussing the results of the survey, a chronological rather than a geographical approach was followed in the presentation of an overview of human occupation and land use in the area. This helps the reader to better understand the potential impact

¹ According to the manufacturer a certain deviation may be expected for each reading. Care was, however, taken to obtain as accurate a reading as possible, and then correlate it with reference to the physical environment before plotting it on the map.

of the proposed development. Information on the individual objects, sites, occurrences and structures is presented in Appendix 2 and summarised in Table 1.

5. DESCRIPTION OF THE AREA SURVEYED

The area under investigation (Figure 1) is in the form of two irregular blocks of land. Generally speaking, this is gently rolling highveld, with the most important geographical feature being the Rietspruit which is running through the area. Some rocky outcrops, are located on the northern eastern edges of the study area.

It is assumed that any possible habitation of the area in the past would have taken place close to the water, but in this particular case these areas can be classified as to wet and is accordingly not suitable for human habitation. Most of the rest of the area under consideration is subjected to intensive agricultural activities, with the result that any

mi	Figure 1: Map showing the area investigate	ed
NASIONALE KULTUURHISTORIESE MUSEUM NATIONAL CULTURAL HISTORY MUSEUM	Report 97KH20	November 1997

archaeological indicators visible on the surface would have been destroyed or disturbed out of context.

6. DISCUSSION

A few Middle and Late Stone Age tools were noticed in the Rietspruit, especially downstream from the bridge on the farm Vierfontein. One MSA core was found amongst the sandstone outcrops next to the tar road on the north eastern border of the study area on the farm Frischgewaagd. All these are surface finds and are in al probability disturbed out of context.

No objects, structures or sites dating to the Iron Age were identified.

A few structures of historical age were identified. These can be attributed to either farming or mining activities. In the former case, the structures seem largely to be the remains of old farm labourer houses. Currently, these are mostly demolished to such an extent that it is only the foundations of the structures that is remaining. Very little information would be recovered on further investigation and they can therefore be discounted. The same can be said for the old mining structures.

A number of informal cemeteries (ie lacking fencing, maintenance, etc) were identified. It is, however, very difficult to establish the exact number of graves in each of these. The reason for this is that most of the graves are not properly marked. It is also not always possible to indicate how many of these graves have headstones, as some of them are quite informal and small. Even if they are marked, most of them are very overgrown with grass, or, due to the wetness of the area, they have subsided into the ground. In these cases, it is possible to detect some of them because of the hollows in the ground.

Relocation of the graves becomes a matter of obtaining permission from descendants (directly), or by advertising in the newspapers about the pending move. This is followed by permission from the Department of Health of the relevant province, as well as permission from the premier of that province. A commercial firm of undertakers then relocates the graves to a mutually agreed site.

7. CONCLUSIONS AND RECOMMENDATIONS

There are, to our knowledge, nothing in the area that would stop the mining activities from being carried out. The major problem would be the relocation of all the graves to a mutually agreed site.

The following recommendations are made:

 Table 1: Summary of impact description and assessment of pit 5 & 6 of Kriel Colliery mining area (see Appendix 2)

Site no.	Type of site	Significance of impact	Certainty of prediction	Status of impact	Recommended management action	Legal requi	rement
2629AA1 2629AA2 2629AA3 2629AA4 2629AA5 2629AA6 2629AA6 2629AA7 2629AA8 2629AA9 2629AA10 2629AA10 2629AA10 2629AA12 2629AA13 2629AA13 2629AA14 2629AA15 2629AA16 2629AA17 2629AA18 2629AA19	Historic Historic Historic Historic Historic Historic Historic Historic Historic Historic Historic Historic Historic Historic Historic Historic Historic Historic Historic Historic Historic Historic Historic Historic Historic Historic	Medium Medium Low Medium Low Medium Medium Low Low Low Low Low Low Low Low Low Low	Definite Definite Definite Definite Definite Possible Possible Definite Definite Definite Definite Definite Definite Definite Definite Definite Definite Definite Definite Possible	Negative Negative Neutral Negative Neutral Neutral Neutral Neutral Neutral Neutral Neutral Neutral Neutral Neutral Negative Negative Negative Negative Negative Neutral Neutral Neutral Neutral Neutral Neutral	Relocate graves & headstones Relocate graves & headstones 1 = no further investigation necessary Relocate grave 1 = no further investigation necessary 1 = no further investigation necessary If proven, relocate graves If proven, relocate graves 1 = no further investigation necessary 1 = no further investigation necessary Relocate graves only if endangered Relocate graves and headstones Relocate graves and headstones 1 = no further investigation necessary Relocate graves only if endangered Relocate graves only if endangered	NMC; none	Ordinan. Ordinan. Ordinan. Ordinan. Ordinan. Ordinan. Ordinan. Ordinan. Ordinan. Ordinan. Ordinan.

7.1 The relocation of all the graves, their contents and headstones, in the various cemeteries located within the mining area, before mining takes place.

7.2 That appropriate measures be taken to safeguard the cemeteries located just outside the mining area, so that they are not endangered during mining activities.

7.3 It must be kept in mind that archaeological objects and features, due to their specific nature, usually occur below ground level. It is therefore recommended that the developers be notified that archaeological sites might be exposed during construction. If anything is noticed, it should be reported immediately to a museum, preferably one at which an archaeologist is available, so that an investigation and evaluation of the find can be made.

8. REFERENCES

8.1 Unpublished data

8.1.1 Data base

Archaeological Data Recording Centre (ADRC), National Cultural History Museum, Pretoria.

8.2 Published sources

8.2.1 Books and journals

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8.2.2 Maps

1: 50 000 Topocadastral map - 2629AA

9. PROJECT TEAM

J van Schalkwyk - project leader

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APPENDIX 1: STANDARDIZED SET OF CONVENTIONS USED TO ASSESS THE IMPACT OF PROJECTS ON CULTURAL RESOURCES

Significance of impact:

- low where the impact will not have an influence on or require to be significantly accommodated in the project design
- medium where the impact could have an influence which will require modification of the project design or alternative mitigation
- high where it would have a "no-go" implication on the project regardless of any mitigation

Certainty of prediction:

- Definite: More than 90% sure of a particular fact. Substantial supportive data to verify assessment
- Probable: More than 70% sure of a particular fact, or of the likelihood of that impact occurring
- Possible: Only more than 40% sure of a particular fact, or of the likelihood of an impact occurring
- Unsure: Less than 40% sure of a particular fact, or the likelihood of an impact occurring

Status of the impact:

With mitigation and the resultant recovery of material, a negative impact can be turned positive. Describe whether the impact is positive (a benefit), negative (a cost) or neutral

Recommended management action:

For each impact, the recommended practically attainable mitigation actions which would result in a measurable reduction of the impact, must be identified. This is expressed according to the following:

- 1 = no further investigation/action necessary
- 2 = controlled sampling and/or mapping of the site necessary
- 3 = test excavation to determine if further work is necessary
- 4 = preserve site if possible, otherwise extensive salvage excavation and/or mapping necessary
- 5 = preserve site at all costs

Legal requirements:

Identify and list the specific legislation and permit requirements which potentially could be infringed upon by the proposed project, if mitigation is necessary.

APPENDIX 2: SURVEY RESULTS

[See Appendix 1 for an explanation of the conventions used in assessing the cultural remains]

1. Site number: 2629AA1

Location: Frischgewaagd 60IS: 26°11'54.2"S; 29°10'26.9"E [X 2898589.972; Y - 17405.473]

<u>Description</u>: An informal cemetery consisting of approximately 15 graves, although more might be present. Of these, five have headstones.

<u>Discussion</u>: These graves are still visited by relatives, as is evidenced from the coins found on them. Some these are of the new issue 50c pieces. The graves are situated in the area that is to be mined and should therefore be relocated.

Significance of impact: Medium

Certainty of prediction: Definite

Status of impact: Negative

<u>Legal requirements</u>: Some of the graves have headstones that seem to be older than 50 years and are therefore protected by the National Monuments Act. The relocation of the graves will therefore have to be done in accordance with Transvaal Ordinance (No. 7 of 1925) and the National Monuments Act (No. 28 of 1969). However, the local Authority might also have its own requirements concerning this matter, which will have to be pursued by the developer self. Recommended management action: Relocate all the graves and headstones

<u>Site number</u>: 2629AA2
 <u>Location</u>: Frischgewaagd 60IS: 26°11'43.5"S; 29°10'32.3"E [X 2898260.898; Y - 17555.846]

Description: Approximately 25 graves, of which 4 have headstones.

<u>Discussion</u>: The graves are situated in the area that is to be mined and should therefore be relocated.

Significance of impact: Medium

Certainty of prediction: Definite

Status of impact: Negative

Legal requirements: Transvaal Ordinance (No. 7 of 1925), and possibly the National Monuments Act (No. 28 of 1969) - see no. 1 above.

Recommended management action: Relocate all the graves and headstones

3. Site number: 2629AA3

Location: Frischgewaagd 60IS: 26°11'43.9"S; 29°10'34.7"E [X2898273.298; Y - 17622.465]

<u>Description</u>: Ruins of an old homestead, demolished down to foundation level. Refuse middens containing recent artifacts occur.

<u>Discussion</u>: This is only one of a number in this particular area. All seems to have been farm labourer houses and are judged not to be very old.

Significance of impact: Low

Certainty of prediction: Definite

Status of impact: Neutral

Legal requirements: None

Recommended management action: 1 = no further investigation/action necessary

4. Site number: 2629AA4

Location: Frischgewaagd 60IS: 26°11'42.4"S; 29°10'43.7"E [X 2898227.479; Y - 17872.414]

<u>Description</u>: Single grave with a headstone, identifying the person as Anna Schalekamp, who died in February 1901. The headstone seems to be in quite good

state of preservation and it is thought that it might have been erected much later. <u>Discussion</u>: This grave is situated in the area that is to be mined and should therefore be relocated.

Significance of impact: Medium

Certainty of prediction: Definite

Status of impact: Negative

Legal requirements: Transvaal Ordinance (No. 7 of 1925), and possibly the National Monuments Act (No. 28 of 1969) - see no. 1 above.

Recommended management action: Relocate the grave and headstone.

5. Site number: 2629AA5

Location: Frischgewaagd 60IS: 26°11'54.2"S; 29°10'40.2"E [X 2898590.473; Y - 17774.738]

<u>Description</u>: Ruins of an old farm labourer homestead, demolished down to foundation level. Refuse middens containing recent artifacts occur.

<u>Discussion</u>: This structure does not seem to be very old and can therefore be disregarded.

Significance of impact: Low

Certainty of prediction: Definite

Status of impact: Neutral

Legal requirements: None

Recommended management action: 1= no further investigation/action necessary

6. Site number: 2629AA6

Location: Frischgewaagd 60IS: 26°12'16.5"S; 29°09'24.4"E [X 2899274.010; Y - 15669.375]

<u>Description</u>: An old farmstead outbuilding, built from blocks of hard plinthite (more commonly known as ferricrete).

Discussion: Only a section of this structure is standing and not much can be

determined of its age and function <u>Significance of impact</u>: Low <u>Certainty of prediction</u>: Definite <u>Status of impact</u>: Neutral <u>Legal requirements</u>: None Recommended management action: 1= no further investigation/action necessary

7. Site number: 2629AA7

Location: Frischgewaagd 60IS: 26°12'16.5"S; 29°09'24.4"E [X 2899274.010; Y - 15669.375]

<u>Description</u>: Six features, possibly more, that might be graves. It is located approximately 30 metres to the south-south-west of the previous structure.

<u>Discussion</u>: It is not very certain if these are graves, as the remains of other structures also occur in the immediate vicinity. If they are graves, they should be relocated as they are situated in the area that is to be mined.

Significance of impact: Medium

Certainty of prediction: Possible

Status of impact: Negative

Legal requirements: Transvaal Ordinance (No. 7 of 1925), and possibly the National Monuments Act (No. 28 of 1969) - see no. 1 above.

Recommended management action: If it proves to be graves, they should be relocated.

8. Site number: 2629AA8

Location: Frischgewaagd 60IS: 26°12'13.9"S; 29°09'24.9"E [X 2899194.015; Y - 15683.353]

<u>Description</u>: The headstone of a grave, located amongst heaps of stone that might be three graves.

<u>Discussion</u>: It is not certain if these are graves. If they are, they should be relocated as they are situated in the area that is to be mined.

Significance of impact: Medium

Certainty of prediction: Possible

Status of impact: Negative

Legal requirements: Transvaal Ordinance (No. 7 of 1925), and possibly the National Monuments Act (No. 28 of 1969) - see no. 1 above.

Recommended management action: If it proves to be graves, they should be relocated.

9. Site number: 2629AA9

Location: Vierfontein 61IS: 26°12'40.4"S; 29°07'55.0"E [X 2900006.735; Y - 13186.628]

<u>Description</u>: Remains of an old structure, built of blocks of sandstone on top of an outcrop of sandstone.

<u>Discussion</u>: It is not possible to determine the origin or function of this structure Significance of impact: Low

Certainty of prediction: Definite

Status of impact: Neutral

Legal requirements: None

Recommended management action: 1 = no further investigation/action necessary.

10. Site number: 2629AA10

Location: Vierfontein 61IS: 26°13'08.2"S; 29°08'37.5"E [X 2900863.494; Y - 14365.534]

Description: Concrete bases on which machinery was mounted.

<u>Discussion</u>: These in all probability originated from mining activities in the area and can possibly be related to the old mining shaft close by.

<u>Significance of impact</u>: Low <u>Certainty of prediction</u>: Definite <u>Status of impact</u>: Neutral <u>Legal requirements</u>: None <u>Recommended management action</u>: 1 = no further investigation/documentation necessary

11. Site number: 2629AA11

Location: Vierfontein 61IS: 26°13'26.3"S; 29°08'36.5"E [X 2901420.465; Y - 14337.159]

<u>Description</u>: Slabs of concrete, which seems to have been the bases of a number of smaller houses or other buildings.

<u>Discussion</u>: These in all probability originated from mining activities in the area and can possibly be related to the old mining shaft close by.

Significance of impact: Low

Certainty of prediction: Definite

Status of impact: Neutral

Legal requirements: None

<u>Recommended management action</u>: 1 = no further investigation/documentation necessary

12. Site number: 2629AA12

Location: Vierfontein 61IS: 26°13'32.5"S; 29°08'25.8"E [X 2901610.937; Y - 14039.939]

<u>Description</u>: Two farm labourer homesteads. The one is still standing, although the second is demolished down to foundation level.

<u>Discussion</u>: There might be graves below the small tree standing to the south, although it is very difficult to determine this.

<u>Significance of impact</u>: Low <u>Certainty of prediction</u>: Possible <u>Status of impact</u>: Negative <u>Legal requirements</u>: None <u>Recommended management action</u>: If there are no graves, 1 = no further investigation/action necessary

13. Site number: 2629AA13

Location: Vaalpan 68IS: 26°14'05.6"S; 29°08'17.5"E [X 2902629.296; Y - 13808.464]

<u>Description</u>: An informal cemetery, consisting of possibly more than 30 graves, of which approximately 15 have headstones.

<u>Discussion</u>: This site is outside the area that is to be mined, but still inside the danger zone. Care will therefore have to be taken when mining activities are carried out in this area.

Significance of impact: Low

Certainty of prediction: Definite

Status of impact: Neutral

Legal requirements: None

Recommended management action: 1 = no further investigation/action necessary

14. Site number: 2629AA14

Location: Vierfontein 61IS: 26°12'44.9"S; 29°07'34.4"E [X 2900144.647; Y - 12614.611]

<u>Description</u>: A single grave, with a headstone. The remains of the foundations of old structures, possibly of farm labourer houses, are located close by.

<u>Discussion</u>: This grave is situated outside the area that is to be mined, but still within the danger zone. Care will therefore have to be taken when mining activities

are carried out in this area. <u>Significance of impact</u>: Low <u>Certainty of prediction</u>: Definite <u>Status of impact</u>: Neutral <u>Legal requirements</u>: None Recommended management action: 1 = no further investigation/action necessary

15. Site number: 2629AA15

Location: Frischgewaagd 60IS: 26°11'39.2"S; 29°09'14.2"E [X 2898125.819; Y - 15387.556]

<u>Description</u>: A cemetery containing more than 25 graves, with approximately 13 that have headstones.

<u>Discussion</u>: These graves are located in the area that is to be mined and it is recommended that it should be relocated.

Significance of impact: Medium

Certainty of prediction: Definite

Status of impact: Negative

Legal requirements: Transvaal Ordinance (No. 7 of 1925), and possibly the National Monuments Act (No. 28 of 1969) - see no. 1 above.

Recommended management action: Relocate all graves and headstones

16. Site number: 2629AA16

Location: Frischgewaagd 60IS: 26°12'35.1"S; 29°09'20.8"E [X 2899846.277; Y - 15568.742]

<u>Description</u>: A cemetery containing more than 20 graves, with approximately 5 that have headstones. The last dated headstone dates to 1950.

<u>Discussion</u>: Although this site is located within the existing powerline servitude which would not be mined, it is recommended that they should be relocated.

Significance of impact: Medium

Certainty of prediction: Definite

Status of impact: Negative

Legal requirements: Transvaal Ordinance (No. 7 of 1925), and possibly the National Monuments Act (No. 28 of 1969) - see no. 1 above.

Recommended management action: Relocate all graves and headstones

17. Site number: 2629AA17

Location: Frischgewaagd 60IS: 26°12'04.4"S; 29°10'15.3"E [X 2898903.434; Y - 17082.994]

<u>Description</u>: A number of old homesteads, possibly originating as farm labourer houses. A number of refuse middens are located in the area, showing ash and material dating recent times.

<u>Discussion</u>: These structures seem to be of recent origin and can be disregarded. It would, however, be interesting to excavate some of them by means of archaeological methods to determine what type of material can be retrieved in this manner.

Significance of impact: Low

Certainty of prediction: Definite

Status of impact: Neutral

Legal requirements: None

Recommended management action: 1 = no further investigation/action necessary

18. Site number: 2629AA18

Location: Frischgewaagd 60IS: 26°12'04.4"S; 29°10'31.9"E [X 2898904.049; Y - 17543.870]

<u>Description</u>: A cemetery containing probably more than 12 graves, of which at least 4 have headstones. Some bluegum trees have fallen down over the site, making

the counting of the graves difficult.

<u>Discussion</u>: This site is located outside the area that is to be mined, but still within the danger zone surrounding the mining area. Care will therefore have to be taken when mining activities are carried out in this area.

Significance of impact: Low

Certainty of prediction: Definite

Status of impact: Neutral

Legal requirements: None

Recommended management action: 1 = no further investigation/action necessary

19. Site number: 2629AA19

Location: Frischgewaagd 60IS: 26°10'36.0"S; 29°10'19.5"E [X 2896183.213; Y - 17203.207]

<u>Description</u>: Informal cemetery consisting of possibly more than 50 graves, of which approximately 10 have headstones.

<u>Discussion</u>: This site is located outside of the area that is to be mined, and also seems to be just outside of the danger zone surrounding the area. It would therefore not be impacted upon directly by the mining activities, though care should be taken when work is carried out in this area.

Significance of impact: Low

Certainty of prediction: Probable

Status of impact: Neutral

Legal requirements: None

Recommended management action: 1= no further investigation/action necessary

APPENDIX 3: GLOSSARY AND ABBREVIATIONS

This section is included to give the reader some necessary background. It must be kept in mind, however, that these dates are all relative and serve only to give a very broad framework for interpretation.

STONE AGE

Early Stone Age (ESA)	2 000 000 - 150 000 Before Present
Middle Stone Age (MSA)	150 000 - 30 000 BP
Late Stone Age (LSA)	30 000 - until c. AD 200

IRON AGE

Early Iron Age (EIA)	AD 200 - AD 1000
Late Iron Age (LIA)	AD 1000 - AD 1830

HISTORICAL PERIOD

Since the arrival of the white settlers - c. AD 1830 in this part of the country

19. <u>Site number</u>: 2629AA19
<u>Location</u>: 26°03'32.0"; 29°03'17.2"E
<u>Description</u>: Cemetery
<u>Discussion</u>:
<u>Significance of impact</u>:
<u>Certainty of prediction</u>:
<u>Status of impact</u>:
<u>Legal requirements</u>:
Recommended management action: