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No. 9307

EL 2252 AND EL 2266

ELY HILL AND ANT HILL

**ANNUAL AND PROGRESS REPORTS TO LICENCE
EXPIRY/SURRENDER FOR THE PERIOD
10/1/1997 TO 17/12/2004**

Submitted by
Redfire Resources NL, CBH Resources Ltd and Taipan X Pty Ltd
2004

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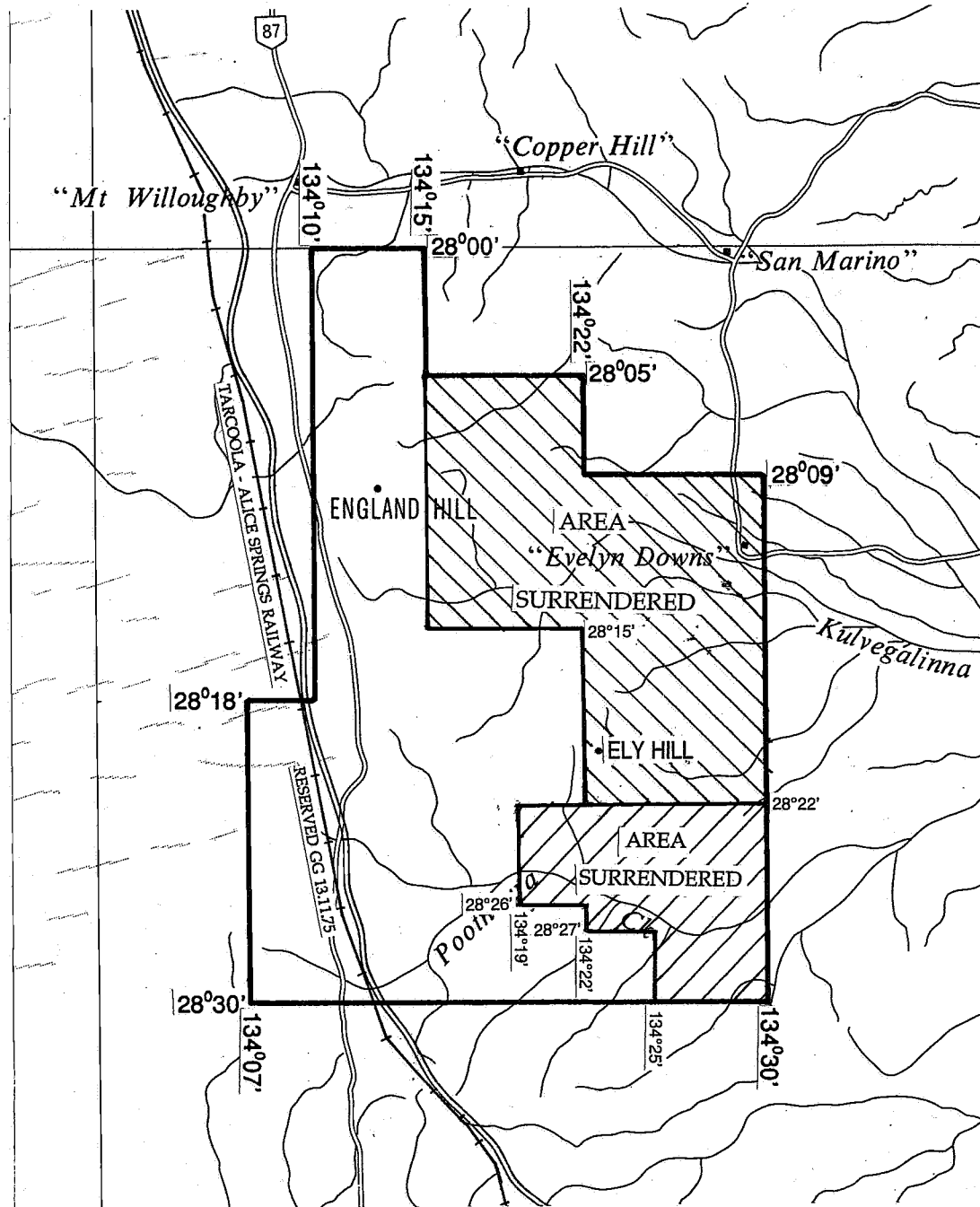
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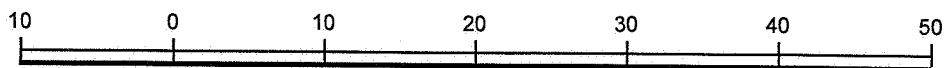


Government of South Australia
Primary Industries and Resources SA

SCHEDULE A



SCALE 1 : 500 000



CONSOLIDATED BROKEN HILL LTD

APPLICANT : RANGESIDE PTY. LTD.

869

DM : 414/95

OPAL/MINERAL

1074

AREA : 4596 square kilometres (approx.)

1:250 000 PLANS : MURLOOCOPPIE

LOCALITY : ELY HILL AREA - Approximately 100 km northwest of Coober Pedy

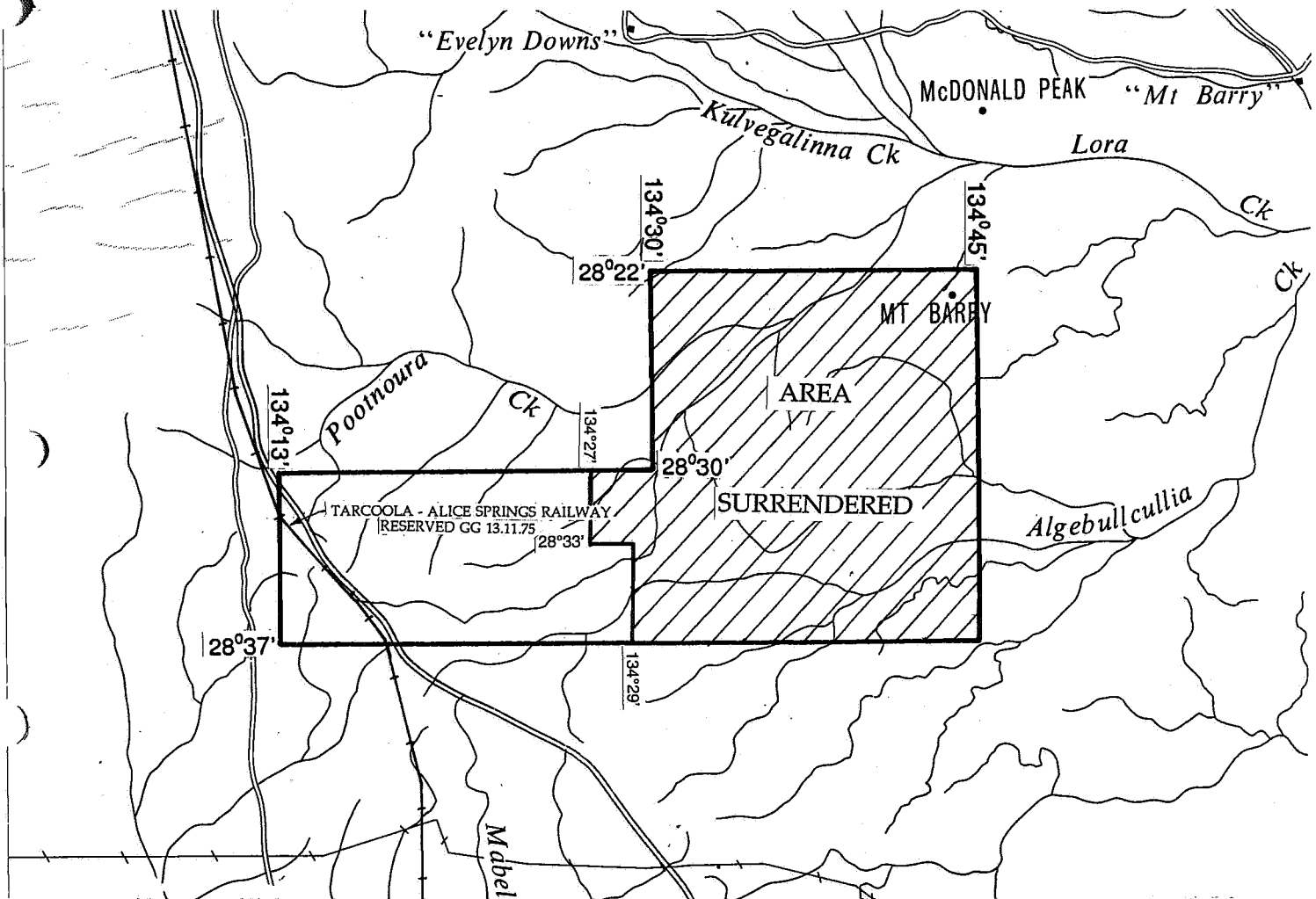
DATE GRANTED : 10 Jan 1997

DATE EXPIRED : 9 Jan 1998

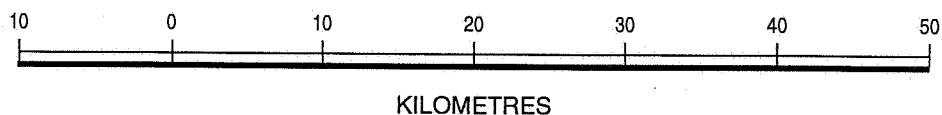
EL No : 2252

99
2000
2001 2002

SCHEDULE A



SCALE 1 : 500 000



APPLICANT : ~~RANGESIDE PTY. LTD.~~ CONSOLIDATED BROKEN HILL LTD

DM : 209/96

OPAL/MINERAL

319
AREA : ~~1036~~ square kilometres (approx.)

1:250 000 PLANS : MURLOOCOPPIE

LOCALITY : ANT HILL AREA - Approximately 60 km north of Coober Pedy

DATE GRANTED : 14 February 1997 DATE EXPIRED : 13 February 1998

EL No : 2266

2000
2001
2002

REDFIRE RESOURCES NL

ACN 009 423 858

EXPLORATION LICENCES 2252 and 2266

ANT HILL OPAL PROJECT

South Australia

FIRST ANNUAL REPORT
To 9 March 1998



Prepared by N.H. Martin

March 1998

Mines & Energy SA

R98/00204



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Pitt Research Pty. Ltd. 1997

SUMMARY and INTRODUCTION

This forms the First Annual Report for EL's 2252 and 2266, the Ant Hill Opal Project, and details the exploration work carried out by Redfire Resources N.L. to 9 March 1998.

Work undertaken during the first year of tenure has focused on;

- i) The compilation of geological data and opal occurrences
- ii) Acquisition of colour air photos and satellite images.
- iii) Photo and satellite interpretation.

Results from these studies indicates that zones of prospective stratigraphy and weathering alteration suitable to host a large Coober Pedy style opal field are present within the Project area. Historic opal workings are located within this prospective zone.

Analysis of data collected to date has resulted in the development of an exploration model for the formation of opal mineralisation within the Project area. This model will be used to target areas of anomalous opal mineralisation. Planned work for the coming reporting period includes;

- i) Securing a satisfactory agreement with all Aboriginal land claimants.
- ii) Reconnaissance geological field mapping.
- iii) Reconnaissance scale RAB drilling.

No field work will commence until agreements with all Aboriginal land claimant is made.

1. LOCATION AND ACCESS

Exploration Licences 2252 and 2266 are adjacent licences located approximately 55 kilometres North North East of Coober Pedy (Figure 1). Access to the Ant Hill Project area from Coober Pedy is via the sealed Stuart Highway which traverses the Western flank of both tenements. Access to the remainder of the Project area is via station traction tracks and fence lines. Vegetation throughout the Project area is sparse allowing for abundant access away from existing tracks.

Sheep grazing is the major agricultural activity throughout the Project area.

2. TENURE

Exploration Licences 2252 and 2266 were granted for a one year term to Rangeside Pty. Ltd., a wholly owned subsidiary of Redfire Resources N.L., on the 10 January 1997 and 14 January 1997 respectively. Tenement boundaries are shown in Figure 2. These tenements represent the first tenement taken out for regional opal exploration under the new South Australian Opal Mining Act.

Memorandum of Variation was granted to both EL 2252 and 2266 on the 14 July 1997 to allow for opal exploration. In accordance with Schedule C of the Memorandum of Variation technical reporting of metals exploration will be forwarded to the Department under a separate cover.

Letters of Renewal for both EL 2252 and 2266 have been lodged with the Department.

4. PREVIOUS EXPLORATION

The licences taken out by Redfire represent the first granted for opal exploration following the introduction of the South Australian Opal Mining Act in 1997. No open file data detailing opal exploration over EL's 2252 and 2266 was found in the Department. The only evidence of old opal workings within the Ant Hill Project area is at England Hill located in the northern portion of EL 2252. No data or recorded production is available for these workings.

Previous exploration for other commodities has been limited over the Ant Hill Project area and mainly focused on coal. Previous exploration is summarised in the following table:

EL No.	Company	Envelope No.	Comments
15	Exoil N.L.	2173,2249	Coal Exploration
39	Exoil N.L.	2249	Coal Exploration
148	BP Minerals	2453,2454	Coal Exploration
184	Australian Selection	2556	Coal Exploration
620	Afmeco	3838	4 holes for 1007m gave no encouragement for U
948	LSD Trading	No Documents	
982	Meekatharra Minerals	No Documents	
1325	CRA Exploration	6732	Diamond and RC drilling of magnetic targets. Most prospects intersected gneissic basement at less than 200 metres. Best prospect, Bardy, intersected 1m at 0.27% Cu from 167.1m and 0.55 m at 0.18% Cu from 188m.
1326	CRA Exploration	8156	
1406	Meekatharra Minerals	No Documents	
1681	SA Coal Corp	No Documents	
1767	BHP	8647	17 RC drill holes with no anomalous intersections. Most holes ending in granitic gneiss.
1801	BHP	8647	

5. CURRENT EXPLORATION

Work undertaken during the current reporting period on EL's 2252 and 2266 has been a detailed study by B.R. Senior & Associates Pty. Ltd. ("Senior") on the potential for precious opal mineralisation (Senior, 1997. Appendix 1). This study focused on the compilation and analysis of stratigraphic, weathering and geomorphic data. This was combined with Photointerpretation to identify zones of potential opal formation.

6. CONCLUSION and PROPOSED WORK

Geological and geomorphical analysis of the Ant Hill Project area Senior has highlighted that the western zone of EL 2252 and 2266 displays geological and weathering alteration characteristics similar to the Coober Pedy Opal Field. It is concluded that this zone has the potential to host a large scale, Coober Pedy style opal field. Historic opal workings at England Hill falls within this zone.

Proposed work for the coming year on the Ant Hill Project is;

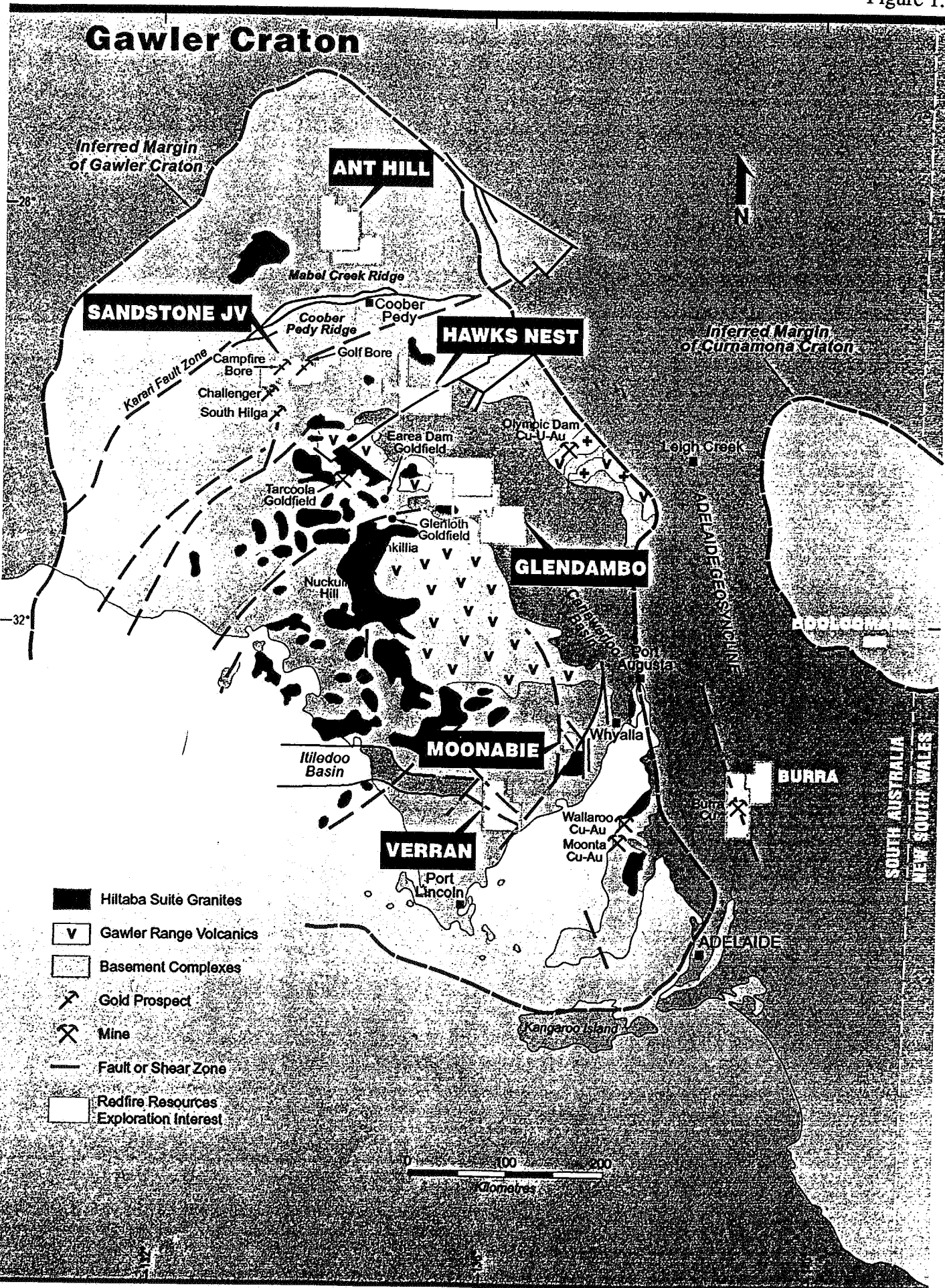
- i) Securing a satisfactory agreement with all Aboriginal land claimants.
- ii) Reconnaissance geological field mapping aimed at identifying specific weathering profiles.
- iii) Reconnaissance scale RAB drilling aimed at identifying opal mineralisation, and favourable stratigraphy and weathering alteration.

No field work will commence until agreements with all Aboriginal land claimant is made.

FIGURES

SOUTH AUSTRALIA

Figure 1.



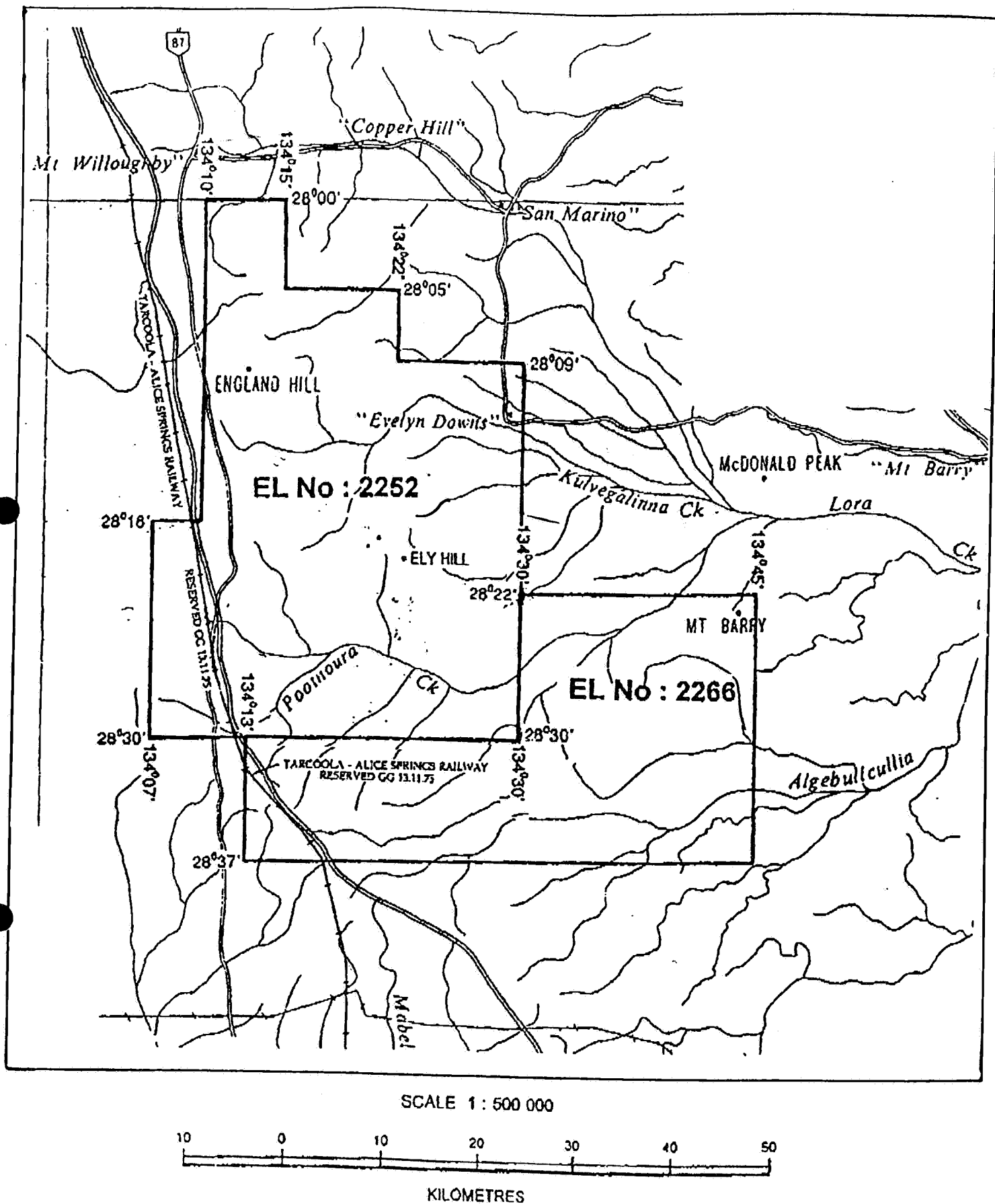


Figure 2. Ant Hill Project. Tenement Location.

Appendix 1

B.R. Senior & Associates Pty Ltd

GEOLOGICAL CONSULTANTS

POTENTIAL PRECIOUS OPAL DEPOSITS WITHIN EL 2252, MURLOOCOPPIE, S.A.

undertaken on behalf of
REDFIRE RESOURCES N.L.
December 1997

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SUMMARY

A digital photogeological study within EL2252 in the Murloocoppie 1:100 000 Sheet area of South Australia was directed at targeting areas where potential economic precious opal deposits could occur. Careful examination of the component layers within the deeply weathered Cretaceous sedimentary sequence indicates that the deeply weathered sequence developed according to the position of former palaeodrainage and, as a consequence, exhibits marked lateral and vertical variation in profile character and thickness. Occurrences of precious opal appear coincident with zones where maximum penetration of deep weathering occurred. These zones are found mid-way between palaeovalley axes and former interfluvies. Modern drainage exploits zones of thinner deep weathering, because here resistance to erosion of the hard, in part duricrusted, weathered sequence is least. As erosion proceeds, the harder thicker zones of the deeply weathered sequence are progressively exposed and the former valleys become plateau-like uplands bounded by crenulate escarpments. This process is known as topographic inversion. The inferred opal deposits lie within these uplands, though only rarely has erosion penetrated deeply enough to provide natural outcrops of these deposits. Comparison of this area with the Coober Pedy opal fields shows many similarities. Coober Pedy style of opal deposits are rarely found within modern drainages and almost never traverse a palaeodrainage axis. Furthermore they are almost invariably associated with an overlying Cretaceous/Tertiary sedimentary sequence, which is also deeply weathered. The presence, or former presence, of this sequence (Map unit K-T) appears crucial to the likely presence or otherwise of precious opal deposits. Palaeovalley axes and generalised zones where opal deposits are likely to be found are indicated in the accompanying map. Secondary controls of opalisation, such as spaces created by intraprofile joints and small faults formed by heaving smectite clays, are too small to be seen at photoscale (approx. 1:88 000). Interpretation of selected target areas at 1:20 000 scale would enable annotation of structural features which could be accurately located and used for drilling targets.

1. INTRODUCTION

1.1 Location

The exploration licence area (EL 2252) is located within the Murloocoppie 1:100 000 map sheet in South Australia. The study area is located in Figure 1.

1.2 Methods & Materials

Colour aerial photographs at approximately 1:88 000 scale were obtained from the Department of Environment & Natural Resources, Netley, S.A. The Murloocoppie 1:250 000 map sheet and the unpublished Murloocoppie 1:100 000 map sheet were obtained from Auslig in Canberra, A.C.T.

The aerial photographs were annotated stereoscopically utilising a Wild mirror stereoscope equipped with a 3 x binocular. Geological and weathered profile component boundaries were compiled in black, drainage in blue, structure in red and culture in green. The small scale of the aerial photographs necessitated detailed annotation.

The annotated data were digitised under the stereoscope using Digital Mapping Systems software. This software photogrammetrically rectifies each photograph. Ground control was through use of the AGSO/AUSLIG 9-second DEM of Australia, which provides an easting, northing and elevation point every 9 seconds of arc, which is equivalent to about 250 m spacings on the ground. Each photograph contained about 11 000 individual control points which led to a high degree of accuracy in the resulting interpretation map of the E.L. area. A hard copy of the interpretation map is presented at 1:100 000 scale and in digital format as a DXF file.

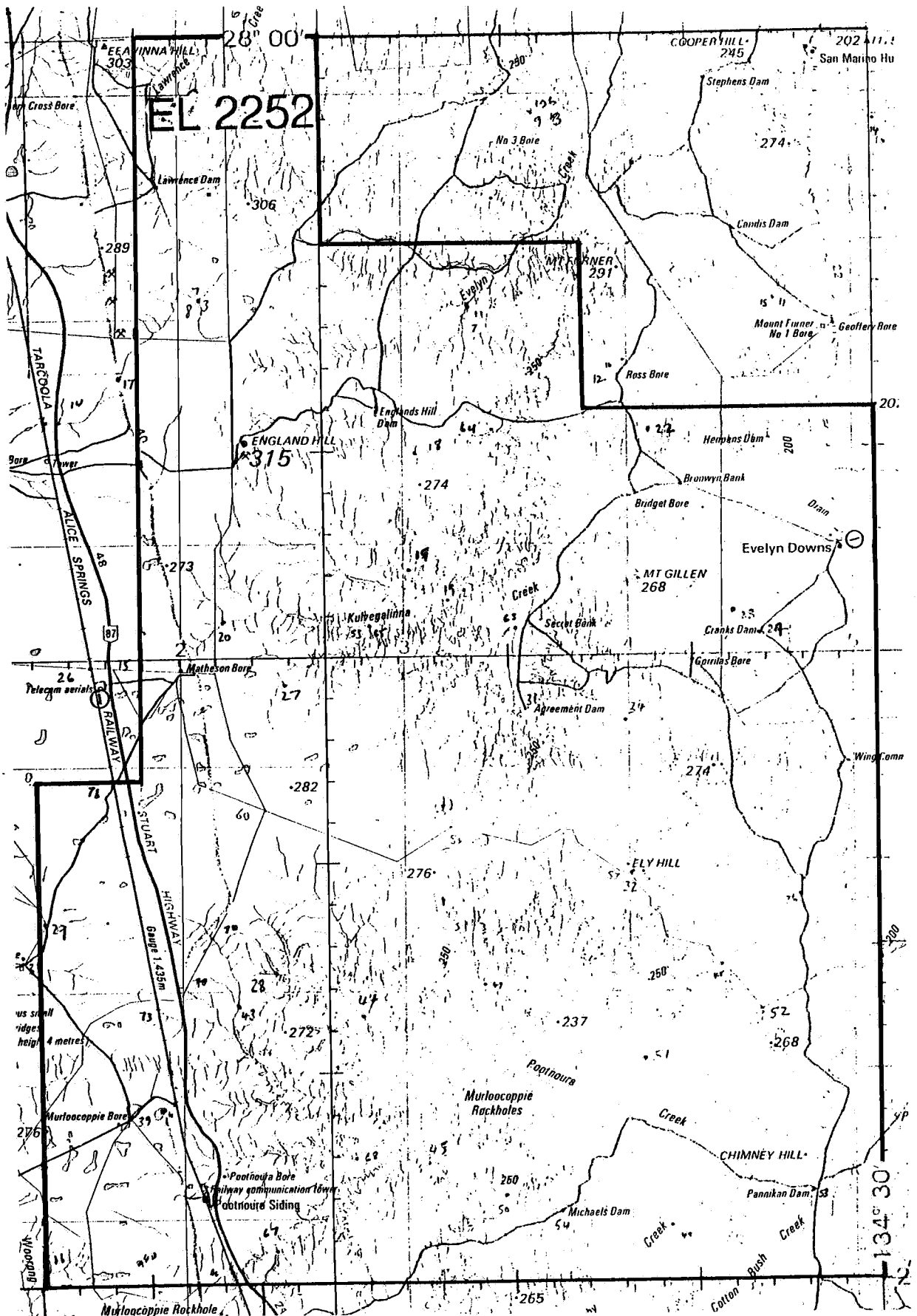


Fig 1. Locality map.

2.3 Further development of the deeply weathered profile during the late Oligocene and early Miocene

Following some erosion and truncation of the late Cretaceous and Palaeocene deeply weathered profile, the sequence was re-weathered. Palaeomagnetic dating (Idnurm & Senior, 1978) and oxygen isotope dating (Bird & Chivas, 1993) demonstrate that this weathering event took place in the late Oligocene and early Miocene. At this time amorphous silica, iron and alumina oxides were remobilised, cementing the upper part of the weathered profile forming a hard duricrust. Silcrete profiles developed locally transforming fluvial quartzose sediments into silcrete. The latter have a patchy distribution in the study area and were not mapped. However, they are found as a component of the duricrust in Map unit CP and according to the published geological maps also form small hill cappings within Map unit K-T.

Opal was likely to have been deposited contemporaneously with the mid Tertiary duricrusting event. Surplus silica may have been transported by surface and groundwater, downslope along pre-inherited routes within the palaeovalley systems. Some of this silica found its way into the deeper parts of the weathered profile where lateral and vertical permeability barriers, and small intraprofile faults and joints provided spaces where groundwater ponding occurred. These zones were closely coincident with areas of maximum development of the deeply weathered profile because, in these situations, pronounced vertical fluctuations in the groundwater table enabled multiple episodes of injection of silica-saturated groundwater. During lowered groundwater table conditions silica gels formed, which hardened into opal. During higher water table events additional silica saturated groundwater accumulated. Through repetition of these processes, spaces in the host profile were eventually filled with opaline silica.

2.4 Post mid-Tertiary landscape development

The overall hardening of the deeply weathered profile during the late Oligocene and early Miocene led to the development of a new erosional regime. The duricrusted component of the deeply weathered profile was, and still is, strongly resistant to erosion. As a result thinner zones of poorly developed, weathered rocks were eroded exposing the softer, relatively unweathered Cretaceous Eromanga Basin sequence. New drainage systems became established, eating their way back into the deeply weathered profile. The duricrust component

receded through a process of progressive scarp retreat. Eventually, through a process of topographic inversion, former lowlands protected by hard duricrust, became flat-surfaced uplands, and former interfluvies became valleys. Some complete, scarp-bounded palaeodrainage valleys can be clearly seen in the study area. Characteristically these valleys broaden downslope and very gentle slopes on the duricrust surface are directed towards the largely abandoned palaeodrainage axis. The former drainage is usually mirrored through the presence of a linear or curvilinear network of tiny claypans. Because these palaeodrainage valleys reflect the position of maximum development of the deeply weathered profile, they provide a useful guide to precious opal exploration.

2.5 Development of a palaeovalley exploration model

A diagrammatic model of a topographically inverted palaeovalley is illustrated in Figure 2. The thickness of the Coober Pedy Profile duricrust (Map symbol CP) diminishes downslope within the palaeovalley and loses its identity within sediments (Map unit K-T) comprising both Cretaceous (Eromanga Basin sequence) and Cainozoic (Eyre Basin sequence) sedimentary rocks and sediments. This unit crops out poorly and in the main is concealed by widespread, thin, Quaternary sediments. These sediments are only shown in the accompanying map where they are sufficiently thick to obscure the identity of the underlying sequence. The Cretaceous component of this sequence may comprise the late Lower Cretaceous Marree Formation. The upper part of this sequence probably comprises a condensed sequence of Tertiary sediments which were generally not prone to duricrusting and may also comprise sediment increments of post-duricrust age.

The Cretaceous component is deeply weathered and exhibits white tones in the aerial photographs due to the presence of abundant kaolinite. Because of increasingly high near-surface palaeogroundwater levels, the deeply weathered profile was progressively less well developed downslope along the palaeovalley axis. Optimum groundwater fluctuation occurred midway between the palaeovalley axis and the former interfluvies. The latter had impeded weathered profile development due to the greater impact of mechanical erosion processes.

Precious opal deposits coincide with zones of optimum development of the deeply weathered profile. The model explains why there is a relatively rapid lateral transition into non opal-

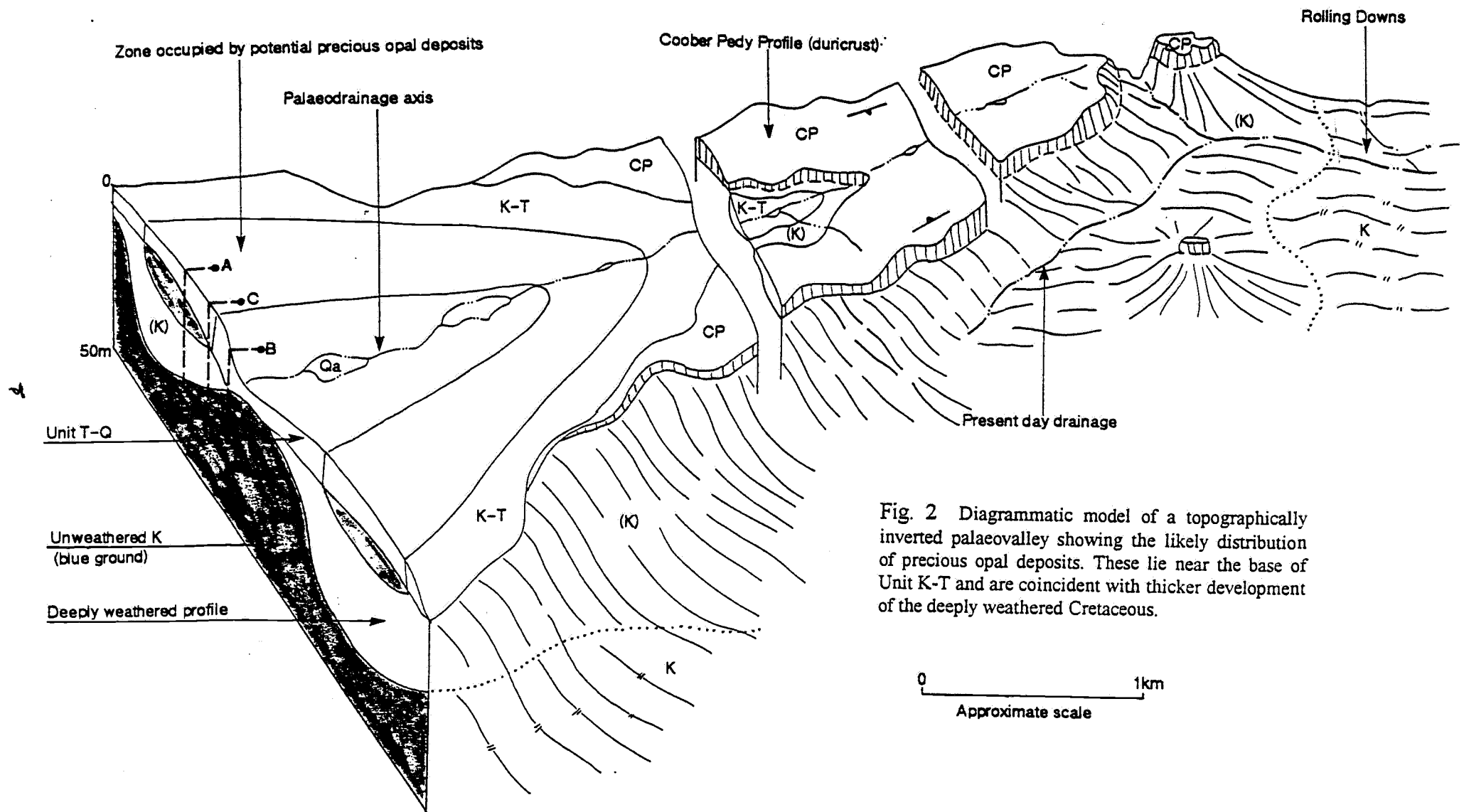


Fig. 2 Diagrammatic model of a topographically inverted palaeovalley showing the likely distribution of precious opal deposits. These lie near the base of Unit K-T and are coincident with thicker development of the deeply weathered Cretaceous.

bearing 'blue ground' located close to the palaeodrainage axis, and a more gradual transition from opal-containing sediments to 'blue ground' towards the interfluves. Consider the locations of three opal exploration drill holes (Fig. 2). Drill hole A would be likely to encounter precious opal within a thick zone of deeply weathered sedimentary rocks. Drill hole B, located about 600 m distant, would penetrate a markedly thinner profile of deep weathering before encountering unweathered 'blue ground'. Drill hole C, located near the margin of the opal deposit, is only 200 m or less from non prospective ground and would also encounter a thin profile of deep weathering.

A tributary connecting with the main palaeovalley axis (not shown in Fig. 2) would have a similar effect in creating a rapid lateral transition from a thick to a thin zone of weathering, or from an opaline to a non-opaline environment.

Further down the palaeovalley the thickness of deep weathering is expected to gradually diminish due to palaeovalley widening and the prevalence of continuous, near-surface palaeo-groundwater levels. Contemporaneous accumulations of alluvial sediments would also hinder development of a deeply weathered profile.

As a consequence of the above processes, precious opal deposits are likely to occupy elongate, ellipsoidal or horseshoe shapes in plan view, and are confined to the mid sectors in former palaeodrainages. Opal deposits are also closely related to the base of the Cretaceous Marree Formation in the study areas (base of Map unit K-T). Generally this unit is poorly exposed. However, wherever exposures occur, there is a coincidence with precious opal occurrences. The opal diggings near England Hill provide a good example of this phenomenon.

The model accords closely with opal deposits which are found within the Coober Pedy & Andamooka Precious Stones Fields. In the published geological maps it can be seen that there are almost no opal fields within modern drainages (old interfluves), and none within the lower sectors of palaeodrainage axes (Dept of Mines & Energy, 1979 & 1989). The palaeodrainage axes can be deduced from the positions of linear belts of claypans. Many of the established fields are elliptical or arcuate in plan view and these are distribution patterns predicted by the proposed model.

3. CONCLUSIONS & RECOMMENDATIONS

Using the predictive model as a guide, the optimum locations for potential precious opal deposits are shown by a stipple pattern in the photo-interpreted map of EL 2252 which accompanies this report. Unfortunately a large portion of the suspected opal-bearing terrain is concealed below Quaternary sand. This is particularly true in the general area between Murloocoppie Bore, north to about 5 km south of England Hill. In this area aeolian sand has covered Map Unit K-T and as a consequence has smothered photointerpretable indications of palaeodrainages. The dissected terrain located to the east of the photo-identified palaeovalley systems is unlikely to contain precious opal deposits and should be relinquished. However there are possibilities of opal occurrences in places where Map unit K-T has been eroded along its eastern boundary in relatively recent time and a few possible opal workings are identified in these outlying areas. Only local knowledge or an airborne or ground reconnaissance would lead to identification of such occurrences. The scale of photography used (approx. 1:88 000) during this study is too coarse to positively identify hand-dug workings. Probable shafts and drill holes can be seen at a few localities, particularly in the vicinity of England Hill, and at an unnamed locality 8 km southwest of Agreement Dam and 3 km southeast of Murloocoppie Bore. These localities are shown on the map.

The areas predicted as having potential for economic precious opal deposits are rather small, and provide priority exploration areas. Opal occurrences near England Hill, and other unnamed localities to the south, should be evaluated in the field. It seems likely that these may have originally been found through the presence of opal float coinciding with sporadic outcrops near the base of Unit K-T. As a result, these occurrences may comprise the leading edges of deposits which may continue downslope into entirely concealed locations. Localities where quality precious opal has previously been found, but not evaluated fully by drilling and shaft sinking, comprise priority target areas.

This study has identified the primary control over the distribution of precious opal in the Exploration Licence area. However, identification of secondary controls associated with

former open spaces associated with vertical and lateral permeability barriers (Senior, in press) are vital to the potential presence of an economic opal field. The existing aerial photographs are too coarse a scale to identify these small features. It is recommended that selected areas be flown in colour, at a scale of 1:20 000 or less. Detailed annotation of surface-expressed linear and curvilinear features could be identified. Each aerial photograph would require at least four accurately located ground control points which could be obtained using a high accuracy GPS Differential system. Following digital mapping and rectification, interpreted joint and fault intersections, which give optimum conditions for dilation and creation of spaces where opal preferentially forms, could be located on the ground with an accuracy of better than 10 metres. Specific drill sites to evaluate these structures could be selected, following creation of a fully rectified digital map of each area. This systematic approach would be likely to be cost effective and have a higher success of intersecting potential economic precious opal than random drilling within the indicated opalised areas or drilling on a grid.

4. REFERENCES

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SENIOR, B.R., In press - Exploration Model. Weathered Profile-hosted Precious Opal Deposits. *AGSO Journal of Geology & Geophysics*.

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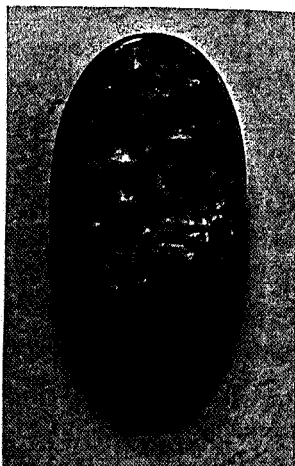
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POTENTIAL PRECIOUS OPAL DEPOSITS WITHIN E.L. 2266, MURLOOCOPPIE, S.A.



undertaken on behalf of
REDFIRE RESOURCES N.L.
January 1998

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SUMMARY

A digital photogeological study within EL 2266 in the Murloocoppie area of South Australia was directed at elucidating the distribution of potential economic precious opal deposits. Careful examination of the component layers within the deeply weathered Cretaceous sedimentary rocks indicates that precious opal occurrences lie within topographically inverted palaeovalley systems, and are distributed along elongate ellipsoidal zones where optimum thickness of deep weathering developed. In these areas the hard duricrust capping, which characteristically forms the upper part of the deeply weathered profile, is likely to be thin or absent. In its place are accumulations of non-duricrusted deeply weathered sediments of Cretaceous and Tertiary age. A model was developed showing the optimum zones in the landscape where precious opal is likely to occur. The western portion of the E.L. is ideally located for Coober Pedy style precious opal deposits although there are no photo-indications that precious opal has previously been mined. However, at a locality just east of Tea Pot Dam, ground disturbance analogous to opal mining is present. This site appears to occupy a relict segment of a palaeovalley, but the presence of opal at this locality would require field checking. East of 134° 30' the area appears to have low potential for precious opal as the host profile is largely eroded and merges with a landscape of open, undulating plains known as "rolling downs".

Palaeovalley axes and generalised zones where opal deposits are likely to be found are indicated in the accompanying map. Secondary controls of opalisation, such as spaces created by intraprofile joints and small faults formed by heaving smectite clays, are too small to be seen at photoscale (approx. 1:88 000). Interpretation of selected target areas in aerial photographs at about 1:20 000 scale would enable annotation of structural features which could be accurately located and used for drilling targets.

1. INTRODUCTION

1.1 Location

The exploration licence area (EL 2266) is located within the Murloocoppie 1:250 000 map sheet in South Australia. The study area is located in Figure 1.

1.2 Methods & Materials.

Colour aerial photographs at approximately 1:88 000 scale were obtained from the Department of Environment & Natural Resources, Netley, S.A. The Murloocoppie 1:250 000 map sheet and the unpublished Mabel Creek, Mirackina and Algebullcullia 1:100 000 map sheets were obtained from AUSLIG in Canberra, A.C.T.

The aerial photographs were annotated stereoscopically utilising a Wild mirror stereoscope equipped with a 3 x binocular. Geological and weathered profile component boundaries were compiled in black, drainage in blue, structure in red and culture in green. The small scale of the aerial photographs necessitated detailed annotation.

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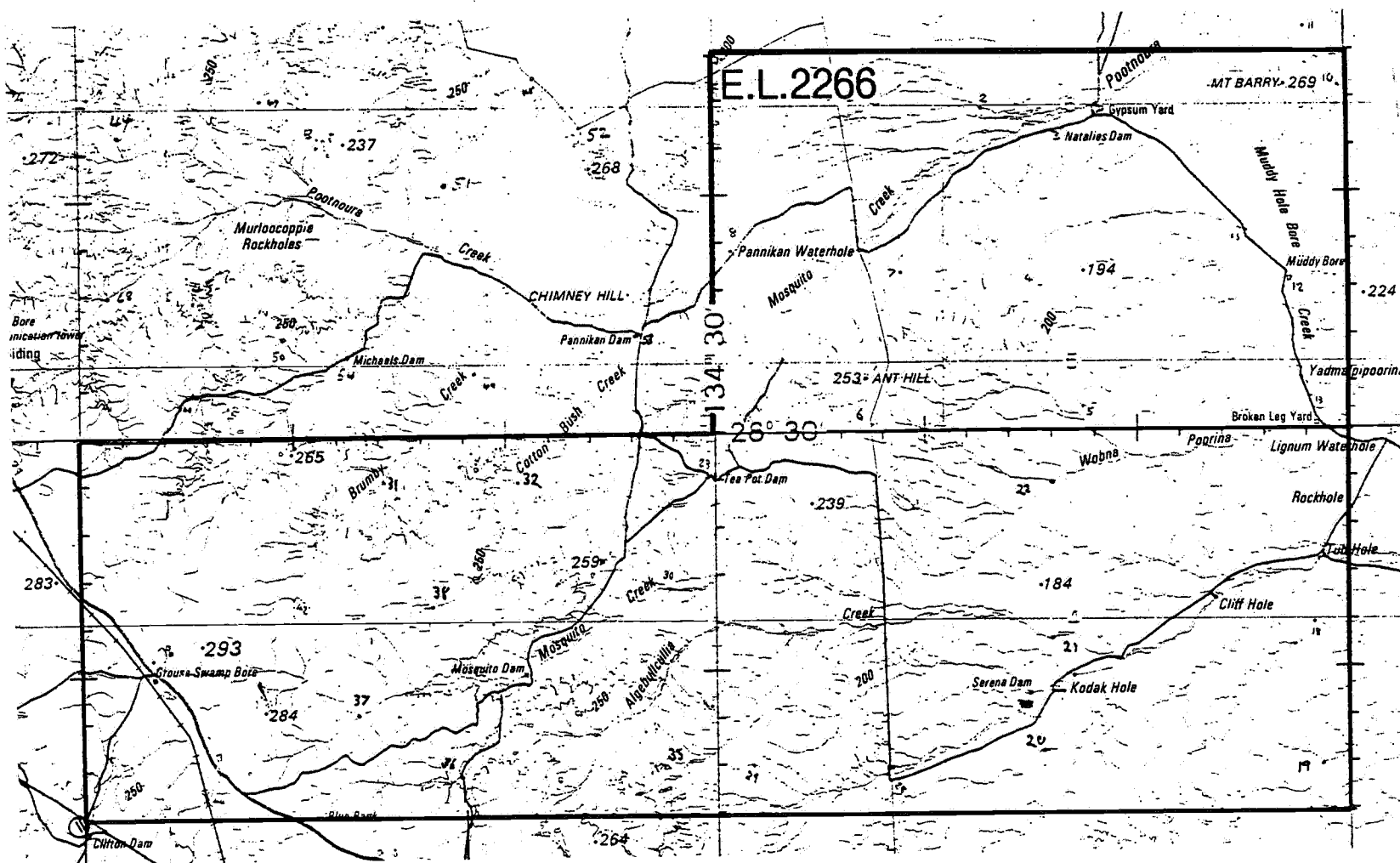


Fig 1. Locality map.

2. STRATIGRAPHY

2.1 Regional geology

EL 2266 lies along the western margin of the Cretaceous Eromanga Basin. The sedimentary sequence is essentially flat lying and, for the most part, is deeply weathered and duricrusted. It is likely that two deep weathering events occurred, the first in the late Cretaceous and Palaeocene and the second, which was a crust-forming event, in the late Oligocene and early Miocene. The sedimentary rocks are largely derived from parent material which was deficient in quartz. As a consequence the sandstones are largely composed of feldspathic and lithic clasts which are susceptible to alteration during deep weathering. The bluish colour of the unweathered Cretaceous sedimentary rocks is due to the presence of disseminated iron pyrites and the acid reaction of this mineral with fluctuating groundwater, during deep weathering events, leading to marked kaolinisation, precipitation of iron oxides and silicification within the profile.

2.2 Development of the deeply weathered profile during the late Cretaceous and Palaeocene

Deposition of the Eromanga Basin sequence ceased in the latter part of the early Cretaceous. At this time the landscape was depositionally flattened, though later it became gently undulating as drainages towards the actively downwarping Lake Eyre Basin became established.

During the late Cretaceous and Palaeocene, exposed Eromanga Basin sedimentary rocks were deeply weathered forming a dominantly kaolinitic profile up to 100 m thick. The deepest penetration of chemical weathering coincided with zones where maximum vertical fluctuations in groundwater occurred. It is likely that these zones were located mid-way between drainage valley axes and their adjacent interfluvies. Development of a thick weathered profile would have been prevented along valley axes due to a prevailing near-surface groundwater table. In the interfluvies contemporaneous mechanical erosion would also have prevented a thick deep weathering profile from developing.

2.3 Further development of the deeply weathered profile during the late Oligocene and early Miocene

Following some erosion and truncation of the late Cretaceous and Palaeocene deeply weathered profile, the sequence was re-weathered. Palaeomagnetic dating (Idnurm & Senior, 1978) and oxygen isotope dating (Bird & Chivas, 1993) demonstrate that this weathering event took place in the late Oligocene and early Miocene. At this time amorphous silica, iron and alumina oxides were remobilised, cementing the upper part of the weathered profile forming a hard duricrust. Silcrete profiles developed locally transforming fluvial quartzose sediments into silcrete. The latter have a patchy distribution in the study area and were not mapped. However, they are found as a component of the duricrust in Map unit CP and according to the published geological maps also form small hill cappings within Map unit K-T.

Opal was likely to have been deposited contemporaneously with the mid Tertiary duricrusting event. Surplus silica may have been transported by surface and groundwater, downslope along pre-inherited routes within the palaeovalley systems. Some of this silica found its way into the deeper parts of the weathered profile where lateral and vertical permeability barriers, and small intraprofile faults and joints provided spaces where groundwater ponding occurred. These zones were closely coincident with areas of maximum development of the deeply weathered profile because, in these situations, pronounced vertical fluctuations in the groundwater table enabled multiple episodes of injection of silica-saturated groundwater. During lowered groundwater table conditions silica gels formed, which hardened into opal. During higher water table events additional silica saturated groundwater accumulated. Through repetition of these processes, spaces in the host profile were eventually filled with opaline silica.

2.4 Post mid-Tertiary landscape development

The overall hardening of the deeply weathered profile during the late Oligocene and early Miocene led to the development of a new erosional regime. The duricrusted component of the deeply weathered profile was, and still is, strongly resistant to erosion. As a result thinner zones of poorly developed, weathered rocks were eroded exposing the softer, relatively unweathered Cretaceous Eromanga Basin sequence. New drainage systems became established, eating their way back into the deeply weathered profile. The duricrust component

receded through a process of progressive scarp retreat. Eventually, through a process of topographic inversion, former lowlands protected by hard duricrust, became flat-surfaced uplands, and former interfluves became valleys. Some complete, scarp-bounded palaeodrainage valleys can be clearly seen in the study area. Characteristically these valleys broaden downslope and may become covered by thin Quaternary sediments. Under the stereoscope it can be seen that very gentle slopes on the duricrust surface are directed towards the palaeodrainage axis. The former drainage is usually mirrored through the presence of a linear or curvilinear network of tiny claypans. Because these palaeodrainage valleys reflect the position of maximum development of the deeply weathered profile, they provide a useful guide to precious opal exploration.

2.5 Development of a palaeovalley exploration model

A diagrammatic model of a topographically inverted palaeovalley is illustrated in Figure 2. The thickness of the Coober Pedy Profile duricrust (Map symbol CP) diminishes downslope within the palaeovalley and loses its identity within sediments (Map unit K-T) comprising both Cretaceous (Eromanga Basin sequence) and Cainozoic (Eyre Basin sequence) sedimentary rocks and sediments. This unit crops out poorly and in the main is concealed by widespread, thin, Quaternary sediments. These sediments are only shown in the accompanying map where they are sufficiently thick to obscure the identity of the underlying sequence. The Cretaceous component of this sequence may comprise the late Lower Cretaceous Marree Formation. The upper part of this sequence probably comprises a condensed sequence of Tertiary sediments which were generally not prone to duricrusting and may also comprise sediment increments of post-duricrust age.

The Cretaceous component of map unit K-T is deeply weathered and exhibits white tones in the aerial photographs due to the presence of abundant kaolinite. Because of increasingly high near-surface palaeogroundwater levels, the deeply weathered profile was progressively less well developed downslope along the palaeovalley axis. Optimum groundwater fluctuation occurred midway between the palaeovalley axis and the former interfluves. The latter had impeded weathered profile development due to the greater impact of mechanical erosion processes.

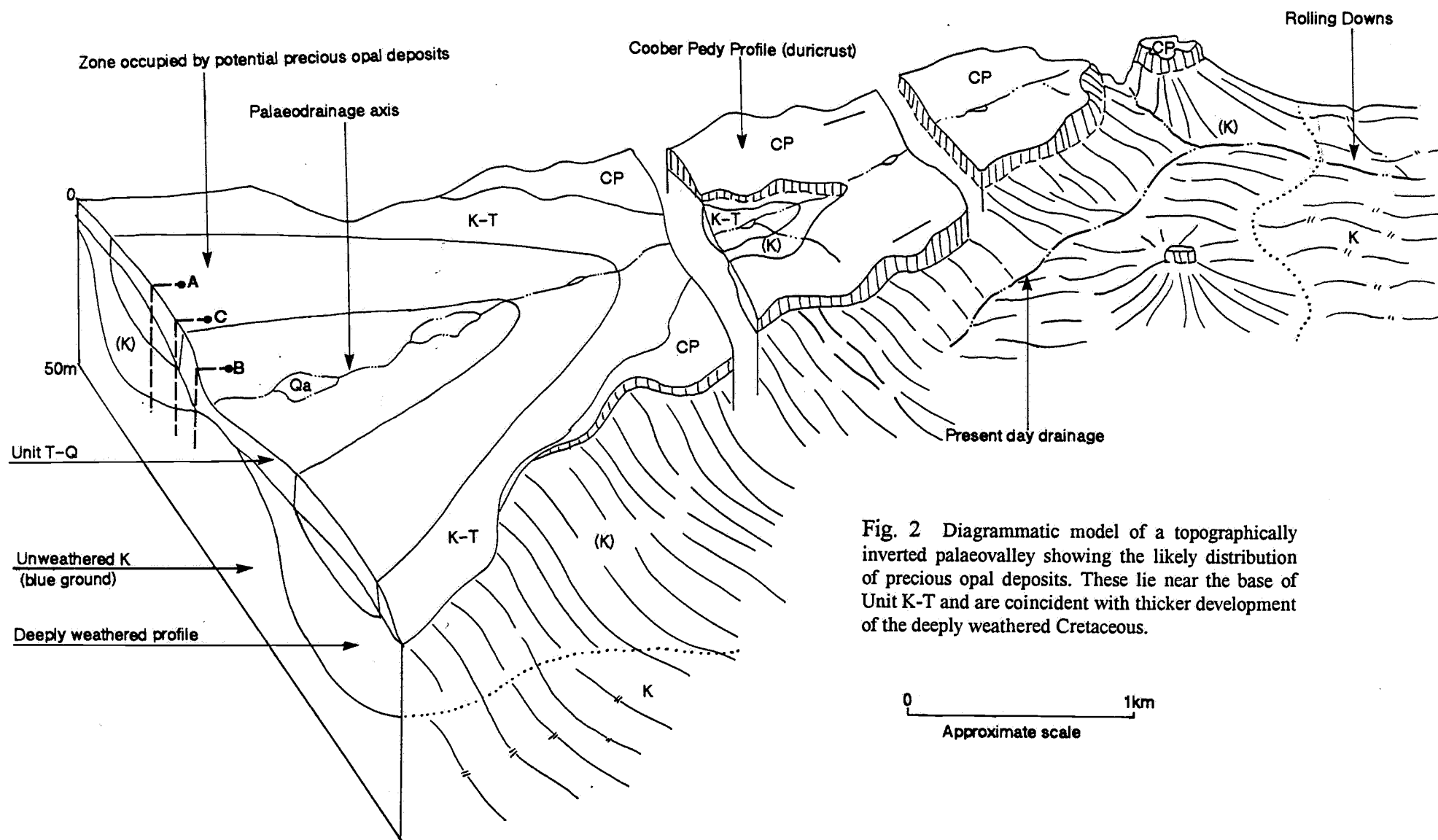


Fig. 2 Diagrammatic model of a topographically inverted palaeovalley showing the likely distribution of precious opal deposits. These lie near the base of Unit K-T and are coincident with thicker development of the deeply weathered Cretaceous.

Precious opal deposits coincide with zones of optimum development of the deeply weathered profile. The model explains why there is a relatively rapid lateral transition into non opal-bearing 'blue ground' located close to the palaeodrainage axis, and a more gradual transition from opal-containing sediments to 'blue ground' towards the interfluves. Consider the locations of three opal exploration drill holes (Fig. 2). Drill hole A would be likely to encounter precious opal within a thick zone of deeply weathered sedimentary rocks. Drill hole B, located about 600 m distant, would penetrate a markedly thinner profile of deep weathering before encountering unweathered 'blue ground'. Drill hole C, located near the margin of the opal deposit, is only 200 m or less from non prospective ground and would also encounter a thin profile of deep weathering.

A tributary connecting with the main palaeovalley axis (not shown in Fig. 2) would have a similar effect in creating a rapid lateral transition from a thick to a thin zone of weathering, or from an opaline to a non-opaline environment.

Further down the palaeovalley the thickness of deep weathering is expected to gradually diminish due to palaeovalley widening and the prevalence of continuous, near-surface palaeo-groundwater levels. Contemporaneous accumulations of alluvial sediments would also hinder development of a deeply weathered profile.

As a consequence of the above processes, precious opal deposits are likely to occupy elongate, ellipsoidal or horseshoe shapes in plan view, and are confined to the mid sectors in former palaeodrainages. Opal deposits are also closely related to the base of the Cretaceous Marree Formation (base of Map unit K-T). Generally this unit is poorly exposed and hence natural opal float is very restricted in its occurrence.

The model accords closely with opal deposits which are found within the Coober Pedy & Andamooka Precious Stones Fields. In the published geological maps it can be seen that there are almost no opal fields within modern drainages (old interfluves), and none within the lower sectors of palaeodrainage axes (Dept of Mines & Energy, 1979 & 1989). The palaeodrainage axes can be deduced from the positions of linear belts of claypans. Many of the established

fields are elliptical or arcuate in plan view and these are distribution patterns predicted by the proposed model.

2.6 Distribution of potential precious opal deposits in EL 2266.

No opal workings can be seen in the aerial photographs in the western part of the area where the presence of palaeodrainage axes and weathered Cretaceous and Tertiary sediments (Map unit K-T) indicate a significant potential. Two groups of possible drill holes are identified in the southwest corner of the EL. An area of ground disturbance analogous with precious opal mining can be seen just east of Tea Pot Dam, in the northeast corner of photo 5-98. This locality is near a palaeovalley remnant which has possible economic significance, however the presence of precious opal here would require field verification.

Approximately two thirds of EL 2266, east of Longitude 134° 30' (Grid easting 451000) has low potential for precious opal. Here the plateau terrain of weathered rocks becomes progressively eroded giving way eastwards to an open terrain of grassland plains known as "rolling downs".

3. CONCLUSIONS & RECOMMENDATIONS

Using the predictive model as a guide, the optimum locations for potential precious opal deposits are shown by a stipple pattern in the photo-interpreted map of EL 2266 which accompanies this report. The dissected terrain and “rolling downs” plains located to the east of the photo-identified palaeovalley systems is unlikely to contain precious opal deposits and should be relinquished. However there are possibilities of opal occurrences in places where Map unit K-T has been eroded along its eastern boundary in relatively recent time and photo-identified, possible opal workings near Tea Pot Dam should be investigated. The scale of photography used (approx. 1:88 000) during this study is too coarse to positively identify isolated, hand-dug workings. Two groups of drill holes are identified in the southwest corner of the E.L. and are located near a small, largely eroded, palaeovalley remnant.

This study has identified the primary control over the distribution of precious opal in the Exploration Licence area. However, identification of secondary controls associated with former open spaces associated with vertical and lateral permeability barriers (Senior, in press) are vital to the potential presence of an economic opal field. The existing aerial photographs are too coarse a scale to identify these small features. It is recommended that selected areas be flown in colour, at a scale of 1:20 000 or less. Detailed annotation of surface-expressed linear and curvilinear features could be identified. Each aerial photograph would require at least four accurately located ground control points which could be obtained using a high accuracy GPS Differential system. Following digital mapping and rectification, interpreted joint and faults intersections could be plotted at 1:5000 scale or better. Typical opal entrapment sites in dilation zones, along clusters of joints and faults, which generally have a strike length of only a few metres to about 100 metres, could be located on the ground with an accuracy of better than 10 metres. Drill holes located in potential opal entrapment sites are likely to have a higher success of intersecting a potential economic resource than random drilling, or drilling on a closely-spaced grid within indicated opalised areas.

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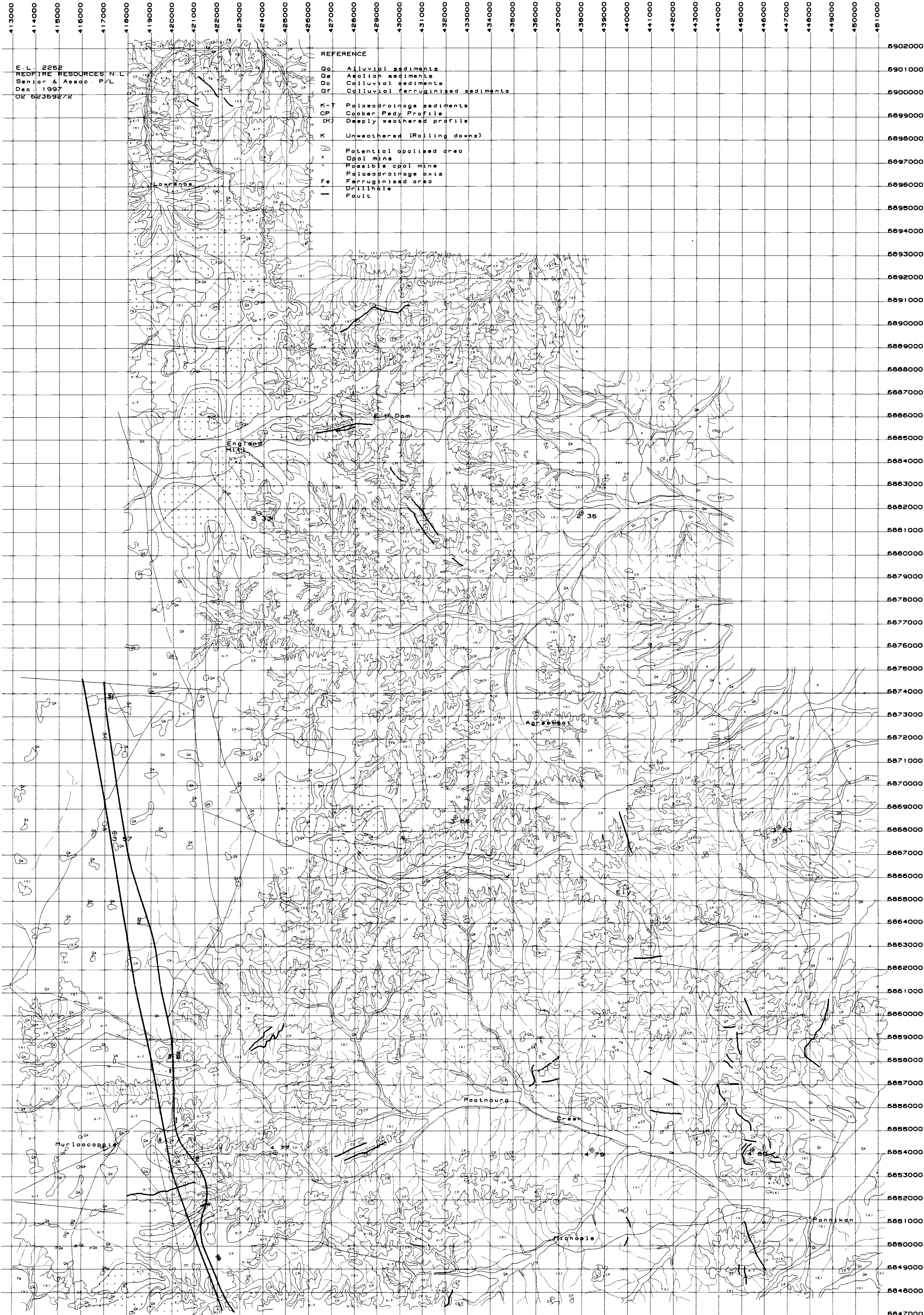
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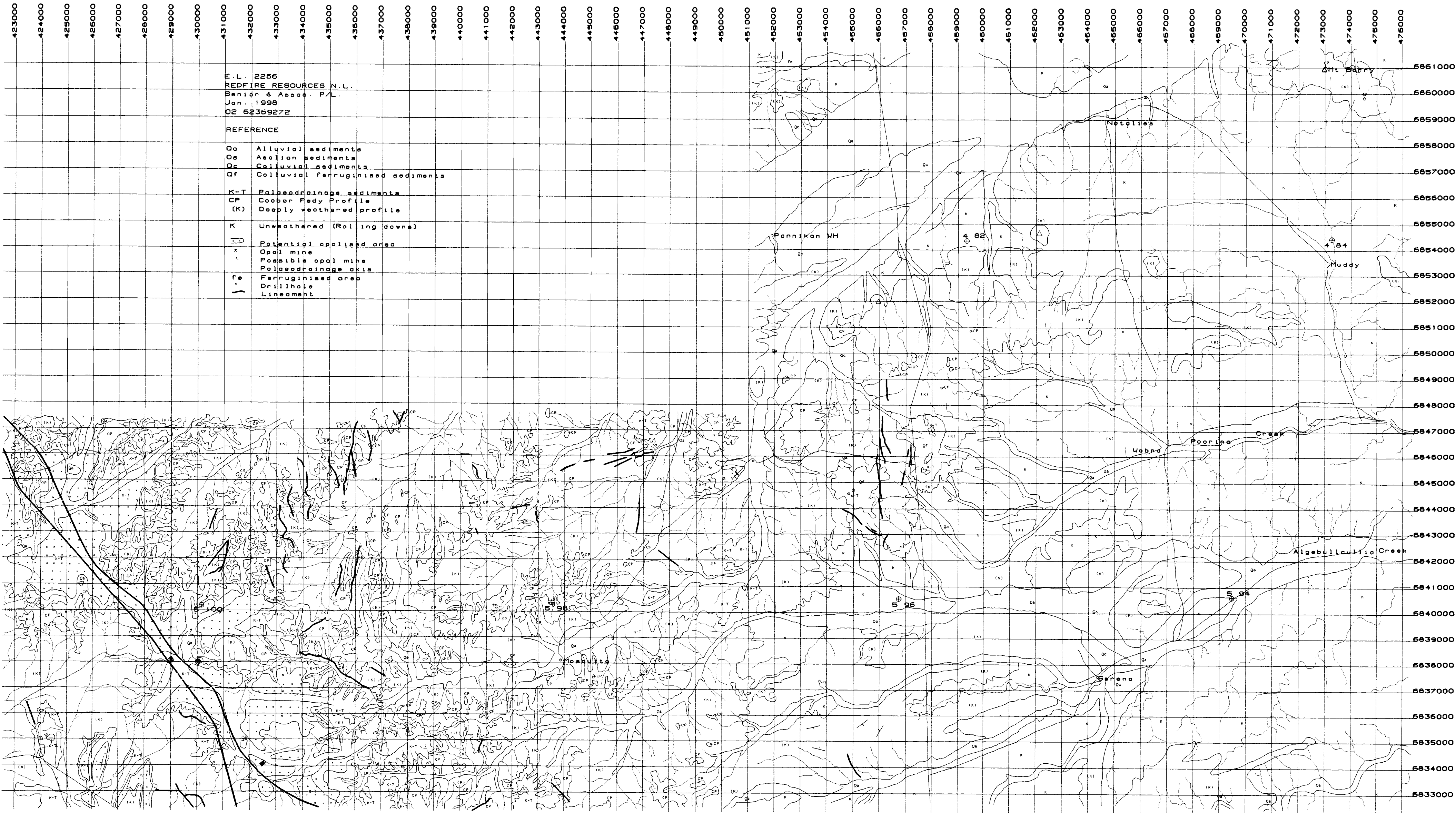
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Plans





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ANT HILL EL 2252 and 2266 (OPAL)
ANNUAL REPORT
to 13 February 1999

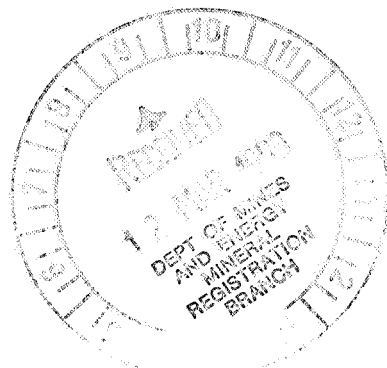
by C A Simpson.

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9 March 1999



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1. INTRODUCTION

Exploration licenses 2252 and 2266 comprise the Ant Hill project, which is targeted at locating and developing large-scale opal deposits within the Coober Pedy region of South Australia. This is the second annual report for this project covering work carried out to 13 February 1999. The two licenses are treated as one project area for reporting purposes.

Project work to date includes compilation of geological and opal occurrence data, photo and satellite image geological interpretations, field reconnaissance of target areas, gathering of information on previous opal workings, and initiation of Native Title negotiations to reach an agreement on land clearance and access.

2. LOCATION AND ACCESS

The Ant Hill project is situated in the north-western part of central South Australia, approximately 900 kilometres north-west of Adelaide (see Figure 1). The licences are fully contained within the Murlocoppie (SH 53-2) 1:250 000, and within the Mabel Creek (5740) and Murlocoppie (5741) 1:100 000 sheets.

Exploration licenses 2252 and 2266 are adjacent licences located approximately 55 kilometres north-north-west of Coober Pedy. Access to the project area is via the sealed Stuart Highway that traverses the western flank of both tenements. Further access to the remainder of the project area is via station tracks and fence lines traversing the region.

3. LAND USE AND VEGETATION

The area is situated in an arid zone typical of central Australia; rainfall is very low, averaging 150 mm per year, with temperatures quite high in the summer months (mean average for January above 35 degrees Celsius). All creeks are ephemeral, and no permanent surface water exists (water holes in major creeks often hold water throughout the year, however can dry out in drought years).

Vegetation is sparse upon the gently undulating gibber covered plains of the Stuart Range, being mostly grasses with few saltbush/bluebushes. The edge of the Stuart Range, characterised by the 'breakaway' country, lies near the eastern margin of the licenses. This is marked by an abrupt change in elevation (40 to 50 meters relative) over a short distance as numerous dissecting creeks drain eastwards off the escarpment.

Cattle grazing is the main agricultural activity in the region, with the stations of Mt Willoughby and Evelyn Downs included in the license areas.

4. TENEMENT

The two exploration licenses 2252 and 2266 were granted to Rangeside Pty Ltd, a wholly owned subsidiary of Redfire Resources N.L. on the 9 January and 13 February 1997 respectively. The licenses were renewed on 8 December 1998 over reduced areas, comprising a 45% overall reduction in tenement size.

These tenements represent the first tenements applied for and granted for regional opal exploration under the new Opal Mining Act (1997).

5. NATIVE TITLE

A Native Title claim covers the project area, and discussions have commenced, with proposals submitted for access agreements and site clearances.

Figure 1.

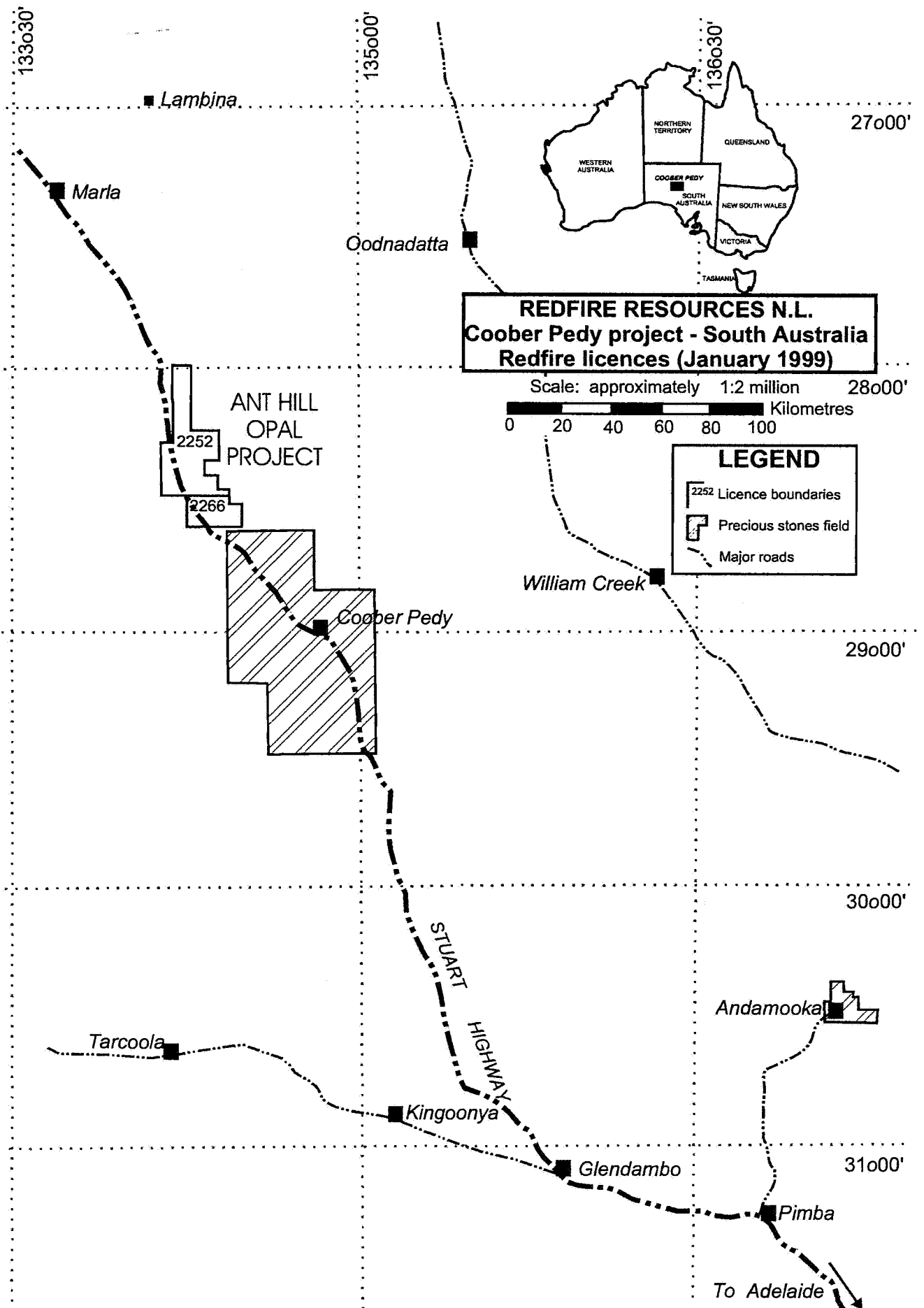
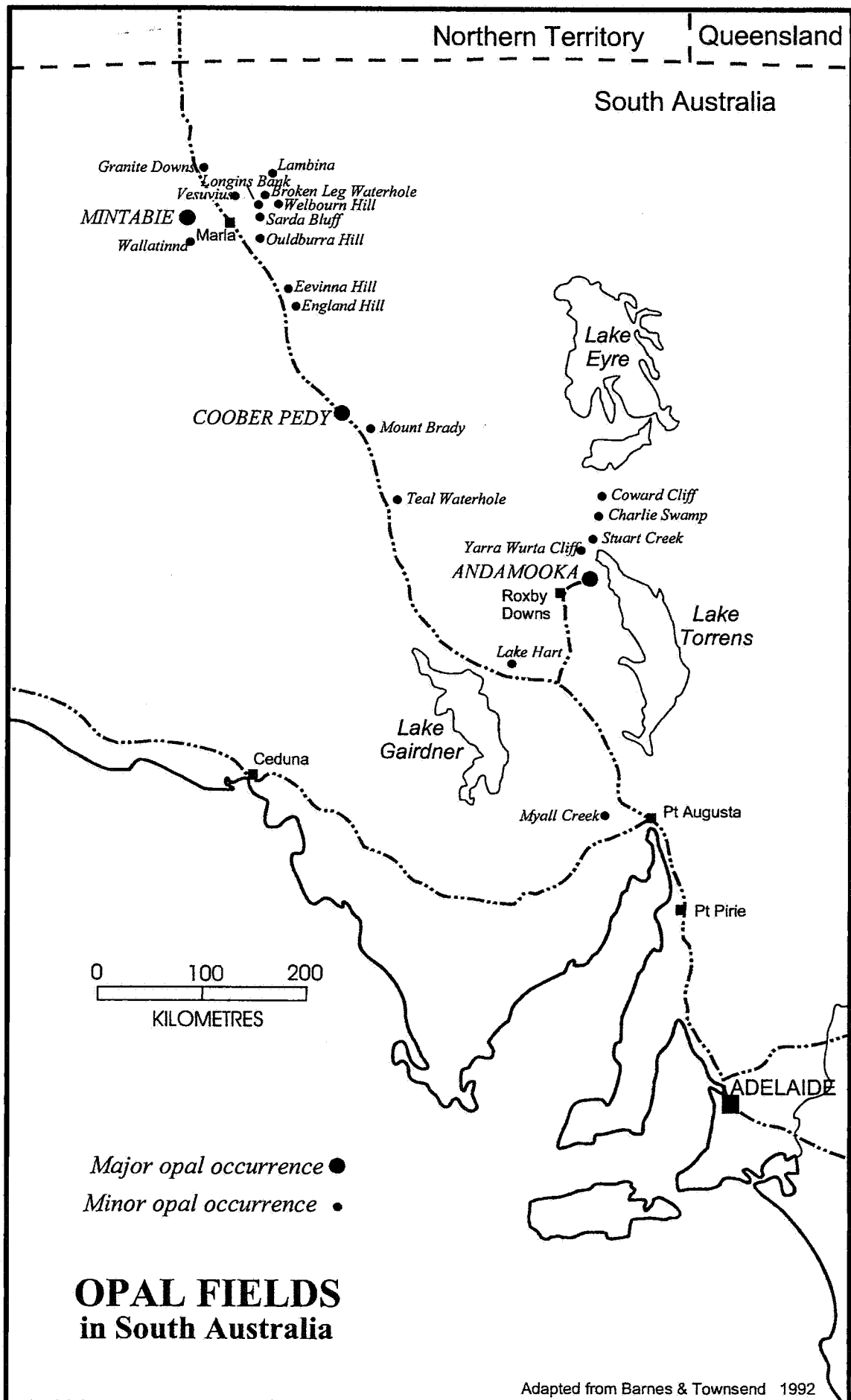


Figure 2.



6. REGIONAL AND TENEMENT GEOLOGY

Within the Coober Pedy region, rocks vary in age from Archaean (granitoids and metasediments) at depth to recent alluvium and aeolian sand deposits at the surface. The lithologies of interest for opal formation are Cretaceous (Bulldog Shale) to Tertiary (Russo Beds) in age, and are outcropping or thinly covered by latter Tertiary and Quaternary sediments along the eastern margin of the Stuart Range.

The Stuart Range trends in a general northwesterly direction extending from near Pt Augusta in the south, to past the Northern Territory border in the north. It encompasses the opal fields of Andamooka, Coober Pedy and Lambina (Seven Water Holes), as well as many smaller workings between these fields (Figure 2). The range is an elevated (40 to 50 metres relative) tableland characterised by an abrupt escarpment to the east (the 'breakaways'), and a gentle dipping slope towards the west. The range's western extent is covered by Quaternary aeolian sands characteristic of central Australia.

All opal discovered in the Coober Pedy region has occurred within areas of the Stuart Range in a weathered marine shale unit (Bulldog Shale). Characteristically this deeply weathered unit forms bleached, porous, kaolinitic claystone (*miner's term - sandstone*) overlying unweathered darker, denser smectitic claystone (*miner's term - mud*). Precious and potch opal is mostly found as veins infilling cracks and joints and occasionally replacing fossils. These are usually found anywhere in the upper bleached zone, rarely in the lower claystone, and occasionally in the overlying red silts termed the Russo Beds (*miner's term - biscuit band*) as eroded fragments from veins in the lower Bulldog Shale.

Opal is formed as part of the weathering process that occurred within the Bulldog Shale during the late Cretaceous to early Tertiary. Gradual drying of the weathered unit (by evaporation or filtering) produced ground water rich in colloidal silica which was then trapped in open spaces possibly also formed by the weathering process. These trap sites may be for instance clay rich (or less porous) bands (*miner's term - levels*), fractures caused by jointing (*miner's term - slides*), or the replacement of carbonate fossils by silica (*miner's term - shells*). The abundance of silica in the ground water would have been produced by the conversion of smectite clay and feldspar to kaolin, and also possibly the corrosion of quartz grains.

Precious opal is rare in the full sequence due to the unusual conditions required to accumulate the equal sized silica spheres and their packing into a regular array. This is likely to be effected by local conditions such as relative location to fluid movement pathways (*slides*), or characteristics of the surrounding host rocks such as porosity, acidity, and the presence of other minerals such as alunite, all of which may hasten or impede the formation of opal.

In general, all areas of deeply weathered Bulldog Shale are prospective for opal formation. The most prospective areas for economical deposits will lie upon the Stuart Range where overlying Tertiary and Quaternary sediments, which become prevalent toward the west, are thin or absent.

7. PREVIOUS EXPLORATION AND MINING

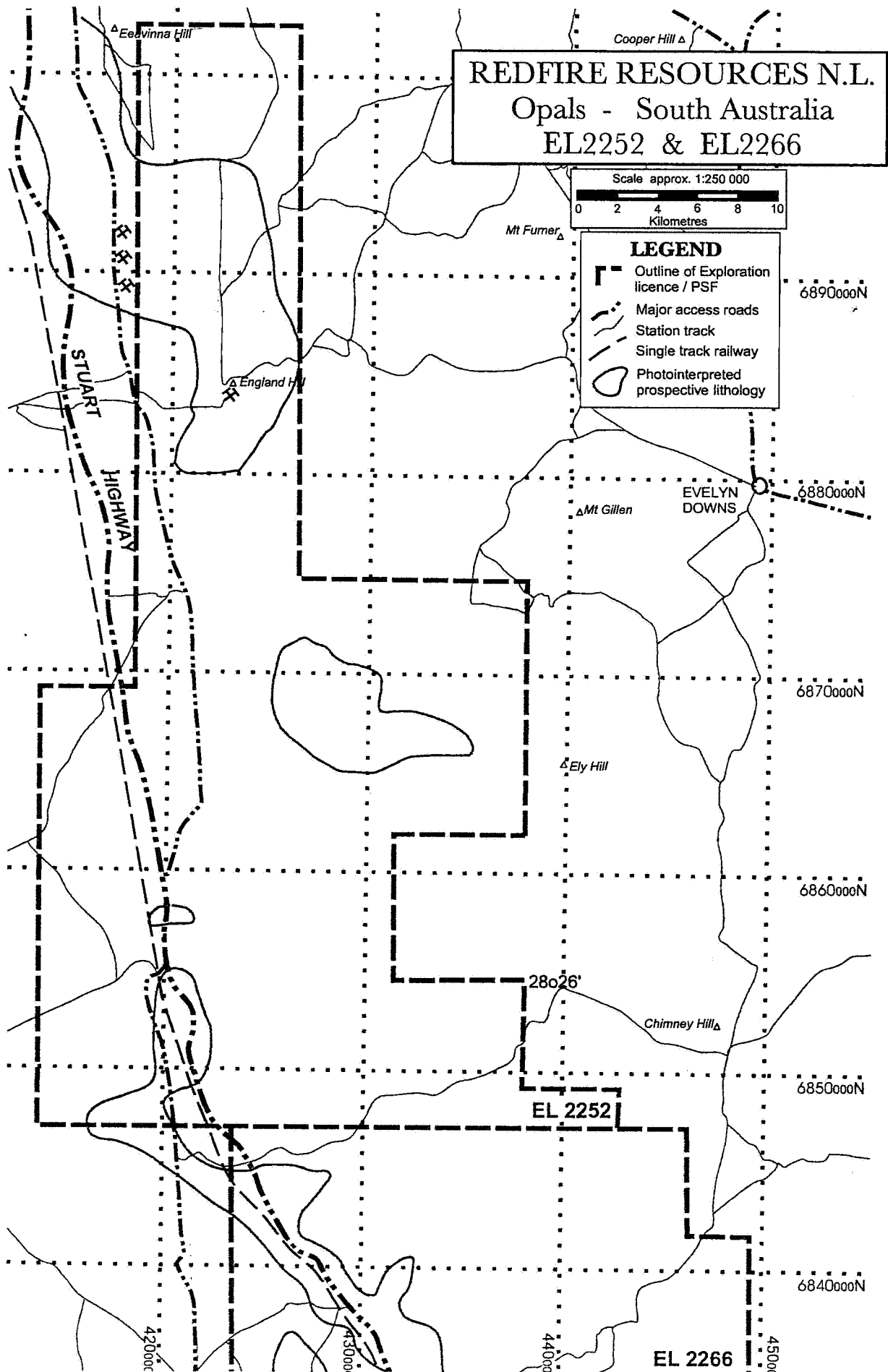
This information has been outlined in the previous annual report.

8. TARGETS

Photogeological interpretations have identified relationships between palaeovalley systems and opal occurrences within the Coober Pedy fields. These palaeovalley systems have been identified within the project boundaries and detailed photointerpretation has generated target areas (Figure 3). The methodology for locating target areas has been outlined in reports appended in the previous annual report.

Field geological reconnaissance has been completed over the target areas and confirmed their prospectivity to host opal mineralisation. Priorities have been assigned to the target areas for follow-up testing.

Figure 3.



9. WORK COMPLETED to 13 February 1999

Work completed within the project area for the last 12 month period includes:

- Literature research
- Compilation of unpublished information for the region on opal workings
- Field reconnaissance of target areas (May 1998 and February 1999)
- Compilation of a draft agreement for Native Title negotiations
- Attend meetings with Native Title claimants of the Coober Pedy region

10. CONCLUSIONS AND RECOMMENDATIONS

Geological and geomorphological analysis has highlighted areas within the leases that have direct relationships to areas around Coober Pedy hosting opal deposits. Field reconnaissance confirmed a close similarity between the geological setting of the opal fields of Coober Pedy and the target areas. Potch floaters and past-productive opal fields were mapped within the target areas.

Native Title negotiations are continuing, with clearances of first priority areas expected to be carried out within the next few months. A formal agreement has been compiled and is now being amended following discussions with the Native Title claimants.

Once the Native Title negotiations have been completed, further field mapping and reconnaissance drilling programs are planned.

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REDFIRE RESOURCES N.L.
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to 13 February 2000

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APPENDIX I	England Hill region
	Geological interpretations, previous exploration, mapping methodology

1 INTRODUCTION

Exploration licenses 2252 and 2266 comprise the Ant Hill project, which is targeted at locating and developing large-scale opal deposits within the Coober Pedy region of South Australia. This is the third annual report for this project covering work carried out to 13 February 2000. The two licenses are treated as one project area for reporting purposes.

Project work to date includes compilation of geological and opal occurrence data, photo and satellite image geological interpretations, field reconnaissance and mapping of target areas, gathering of information on previous opal workings, and initiation of Native Title negotiations to reach an agreement on land clearance and access.

2 LOCATION AND ACCESS

The Ant Hill project is situated in central South Australia, approximately 900 kilometres north-west of Adelaide (see Figure 1). The licences are fully contained within the Murlocoppie (SH 53-2) 1:250 000, and within the Mabel Creek (5740) and Murlocoppie (5741) 1:100 000 sheets.

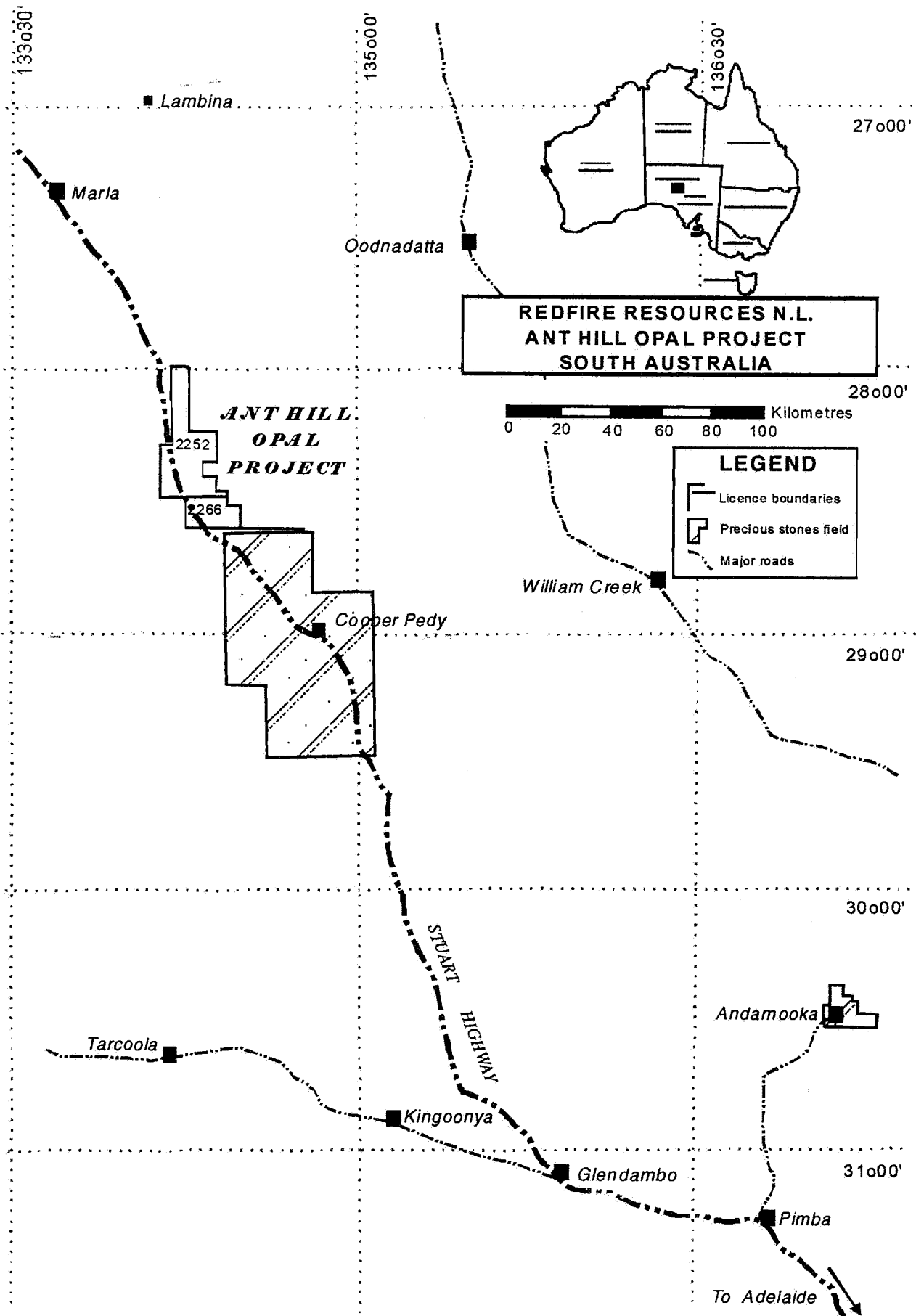
Exploration licenses 2252 and 2266 are adjacent licences located approximately 55 kilometres north-north-west of Coober Pedy. Access to the project area is via the sealed Stuart Highway that traverses the western flank of both tenements. Further access to the remainder of the project area is via station tracks and fence lines traversing the region.

3 LAND USE AND VEGETATION

The area is situated in an arid zone typical of central Australia; rainfall is very low, averaging 150 mm per year, with temperatures quite high in the summer months (mean average for January above 35 degrees Celsius). All creeks are ephemeral, and no permanent surface water exists (water holes in major creeks often hold water throughout the year, however can dry out in drought years).

Vegetation is sparse upon the gently undulating gibber covered plains of the Stuart Range, being mostly grasses with few bushes and trees. The edge of the Stuart Range, characterised by the 'breakaway' country, lies near the eastern margin of the licenses. This is marked by an abrupt change in elevation (40 to 50 meters relative) over a short distance as numerous dissecting creeks drain eastwards off the escarpment.

Cattle grazing is the main agricultural activity in the region, with the stations of Mt Willoughby and Evelyn Downs included in the license areas.



4 TENEMENT

The two exploration licenses 2252 and 2266 were granted to Rangeside Pty Ltd, a wholly owned subsidiary of Redfire Resources N.L. on the 9 January and 13 February 1997 respectively. Both licences have been renewed for a further 12 month period over 100% of their previously reduced tenement areas.

These tenements represent the first tenements applied for and granted for regional opal exploration under the new Opal Mining Act (1997).

5 NATIVE TITLE

Discussions with the registered Native Title claimants of the region, the Antakirinja Land Management Aboriginal Corporation (ALMAC) have continued throughout this reporting period. An agreement has been drafted in order to allow exploration to be carried out on the licences, with amendments being made in line with negotiations with the claimants.

6 REGIONAL AND TENEMENT GEOLOGY

This information is contained within the previous annual reports and will not be repeated here. Detailed descriptions for the England Hill region are given in Appendix I.

7 PREVIOUS EXPLORATION AND MINING

This information is contained within the previous annual reports and will not be repeated here. Detailed descriptions for the England Hill region are given in Appendix I.

8 TARGETS

Photo-geological interpretations have identified prospective areas that appear to have geological similarities to areas within the Coober Pedy Precious Stones Field. These target areas were checked by field reconnaissance, and the majority of sites visited indicated good geological similarities to Coober Pedy style opal fields.

Project work involves defining the highest priority zones within these areas in order to carry out exploratory drill programmes aimed at locating large-scale opal resources.

9 WORK COMPLETED to 13 February 2000

Work completed within the project area for the last 12 month period includes:

- ♦ Continuing literature reviews

- ♦ Continuing research of information (unpublished) for the region from local opal miners
- ♦ Field reconnaissance of licence areas (December 1999)
- ♦ Discussions with Native Title claimants

10 CONCLUSIONS AND RECOMMENDATIONS

Photo-interpretations and field reconnaissance of the licence areas has identified similar geological relationships of depicted target zones to opal productive areas within the Coober Pedy Precious Stones Field. Previous opal workings and geology within the England Hill region were mapped, and indicate a zone of high potential to host a large-scale opal deposit.

Native Title negotiations are continuing in order for exploratory drilling work to be carried out. Upon completion of these proceedings, a prospecting drilling programme is recommended for the high priority zone around the England Hill region.

The prospectivity of the licence areas to host a large scale opal deposit remains high.

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APPENDIX I

England Hill region

APPENDIX I

The England Hill region

The highest priority region defined to date within the licences is the area immediately surrounding the England Hill workings. This area lies within a regional target zone that stretches for over 20 kilometres north-westwards, and encompasses other opal workings along the old Stuart Highway to the south of Eeavinna Hill (see following plans). All of these workings lie in a photo-interpreted target zone, and subsequent geological reconnaissance has identified outcropping to sub-cropping good weathered claystone and some opal *floaters* in many localities throughout this area. An unknown value of precious opal has been extracted from the fields in this region, but is estimated at between \$1 to 3 million (*sourced from Coober Pedy miners*), with a report that black opal was also mined from the England Hill workings (supported by black patch *floaters* found in the field).

This target zone is generally topographically higher than the surrounding region, however is dissected by many broad creeks and valleys leaving remnant hills and mesas (eg. England Hill mesa). This region around England Hill holds many similarities to how Coober Pedy may have looked in the earlier part of this century (before intensive prospecting and mining), and is believed to have potential to hold many of the Coober Pedy sized opal fields within this priority zone

The England Hill diggings are the most intensively excavated opal workings within the licence areas, having been mined intermittently from about 1962, with back-filling of many potentially dangerous holes carried out after the latest mining episode in 1997. No records of production have been kept for this region, therefore it is unknown when and how much each of the individual workings produced.

Opal workings at this locality comprise numerous old hand holes, backhoe trenches (some infilled), and dozer cuts (some infilled), with reports of several auger drill holes (infilled) and four Calweld shafts (infilled), spread across a 1000 metre striking zone up to 500 metres wide, as outlined on the following plan. Most of these workings show good weathered claystone with opal indicators (*floaters*) found in or around several workings. The host lithology for opal formation is observed to be white silty claystone, quite similar to that observed in the Coober Pedy fields, with minor purple ferruginous staining and fracturing caused by weathering in parts. The claystone is overlain in part by a thin sequence (to 1 metre thick) of carbonaceous red silts and gravels, possibly equivalent to the Russo Beds of Coober Pedy, and is capped by massive grey silcrete and silcrete scree on the crest of the hill.

England Hill is a generally north-south trending mesa rising 15 to 20 metres above the surrounding plain level. It has a relatively sharp southern and western escarpment (which shallows to the north), and a shallow dipping, scree covered, eastern tableland. The recorded workings are located at the southern extent of this mesa, which is observed to continue northerly for a minimum of 13 kilometres (*field reconnaissance, 1998*), and has exposures of similar weathered claystone and silcrete capping on its north-eastern extent as to that at England Hill. Unrecorded opal workings were also located on the western side of this mesa approximately 2 kilometres north of England Hill (see the following plans). These workings comprise numerous backhoe trenches, several old hand holes, and one shallow cross-driven bulldozer cut. It is unknown if any precious opal was produced from these newer workings, and at what date the work was carried out, however the amount of work performed suggests that good indicators or saleable opal were located.

The area between the England Hill workings and these newer workings is characterised by the highest portion of the mesa, outcrop of good weathered claystone in parts, and a well developed

massive silcrete capping. These characteristics can be directly compared to many regions containing opal fields within the Coober Pedy Precious Stones Field, with the majority of the Coober Pedy fields easily being able to fit within the untested 2 kilometre extent of ground between the two England Hill workings. This area is a high priority target for the location of a large opal resource, with systematic drilling of this zone recommended at the earliest possible date.

Mapping procedures

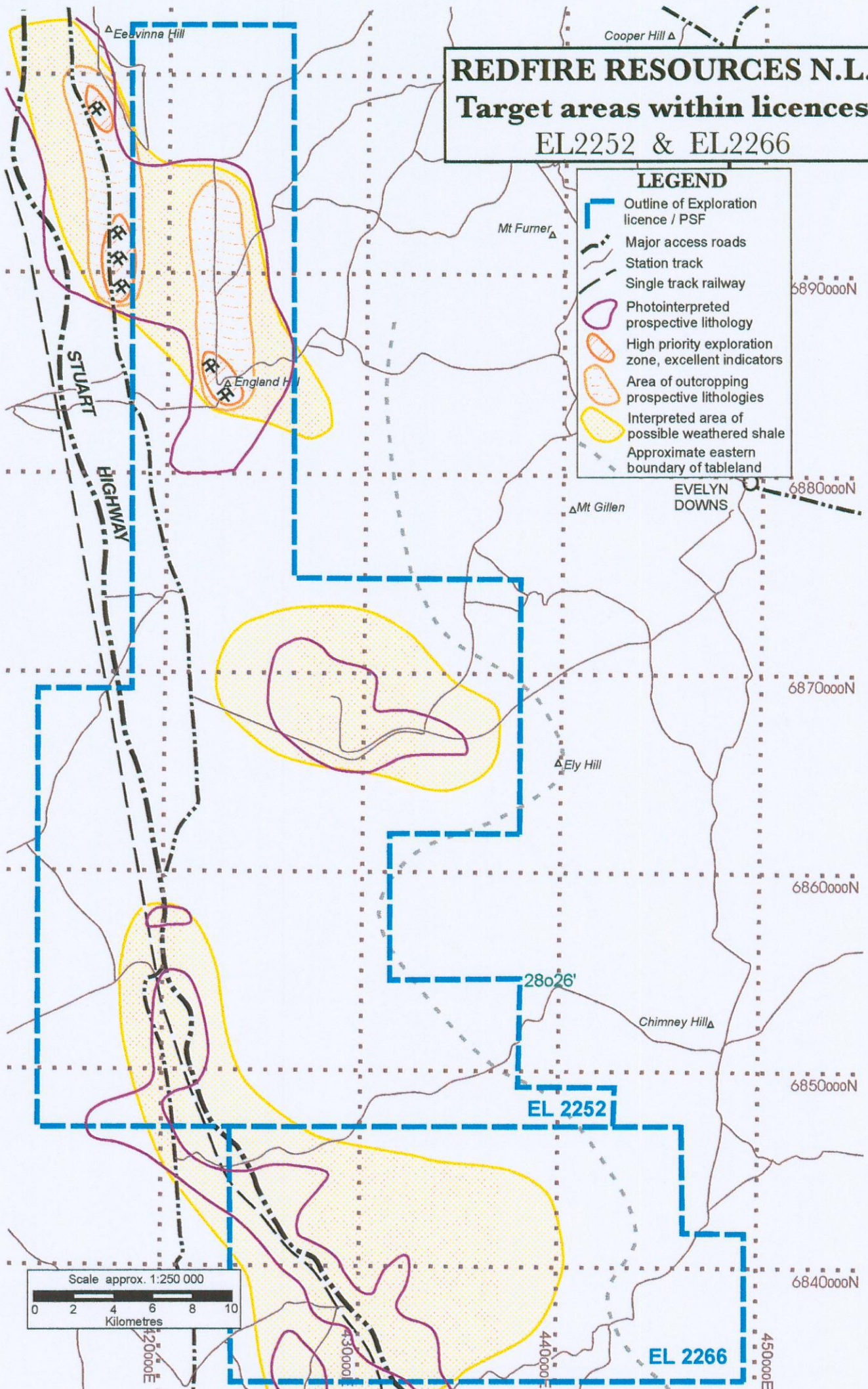
The workings and geology of the following plan were briefly mapped by two one day field excursions to the area. GPS coordinates using a Garmin 12XL hand held were taken on localities of most of the workings and plotted to scale on the following plan. The northern workings (new area) were less accurately mapped than the workings around England Hill (southern workings). Similarly the geology is interpretative between the workings as much of this area is covered by silcrete scree.

There are still minor opal workings and interesting geological sites within this region that were sighted but not visited due to access restrictions (heavy rain) and lack of field time. Further reconnaissance mapping, assisted by the use of the most recent aerial photography, is recommended for the next field programme.

REDFIRE RESOURCES N.L. **Target areas within licences** **EL2252 & EL2266**

LEGEND

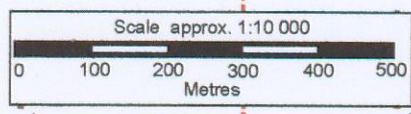
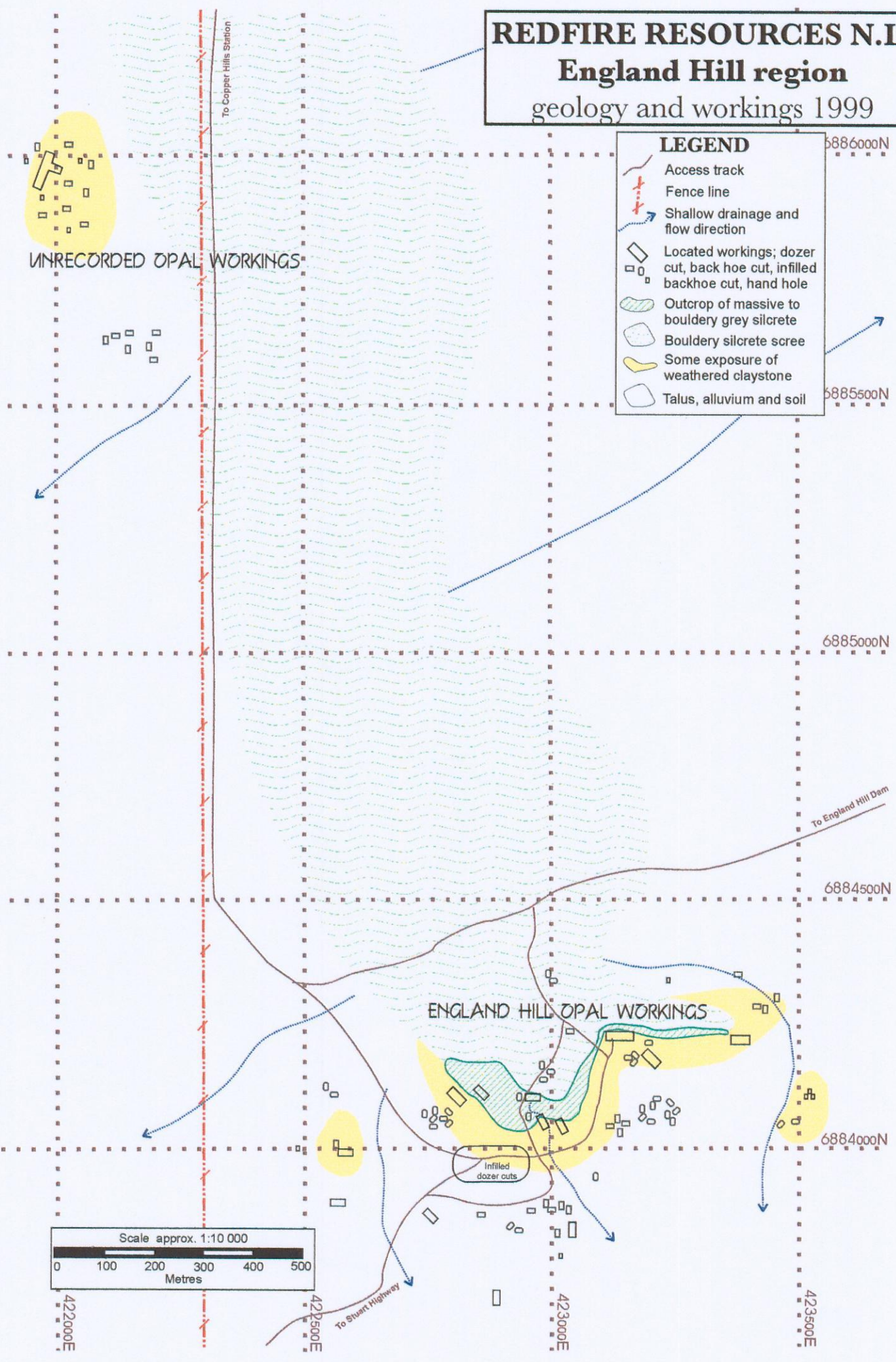
-  Outline of Exploration licence / PSF
-  Major access roads
-  Station track
-  Single track railway
-  Photointerpreted prospective lithology
-  High priority exploration zone, excellent indicators
-  Area of outcropping prospective lithologies
-  Interpreted area of possible weathered shale
-  Approximate eastern boundary of tableland



REDFIRE RESOURCES N.L. **England Hill region** geology and workings 1999

LEGEND

- Access track
- Fence line
- Shallow drainage and flow direction
- Located workings; dozer cut, back hoe cut, infilled backhoe cut, hand hole
- Outcrop of massive to bouldery grey silcrete
- Bouldery silcrete scree
- Some exposure of weathered claystone
- Talus, alluvium and soil



REDFIRE RESOURCES Ltd.
ACN 009 423 858

ELY HILL EL 2252 (OPAL)
ANNUAL REPORT
to 9 January 2001

Prepared for:
Redfire Resources Ltd.
Level 4, 12-14 O'Connell Street
Sydney, NSW, 2000

Prepared by:
C A Simpson (Consulting Geologist)
February 2001

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SUBMISSION OF DIGITAL DATA

This report has been submitted digitally in the form of a .pdf (Adobe Portable Document Format) saved onto a labelled 1.44 Mb floppy diskette.

Label: Redfire Resources Ltd.
EL 2252 Annual report 2001
Digital submission of report

File name: EL2252_200102_01_Main report

File size: approximately 840 Kilobytes

File Type: PDF (Adobe Portable Document Format)

i SUMMARY OF ACTIVITIES

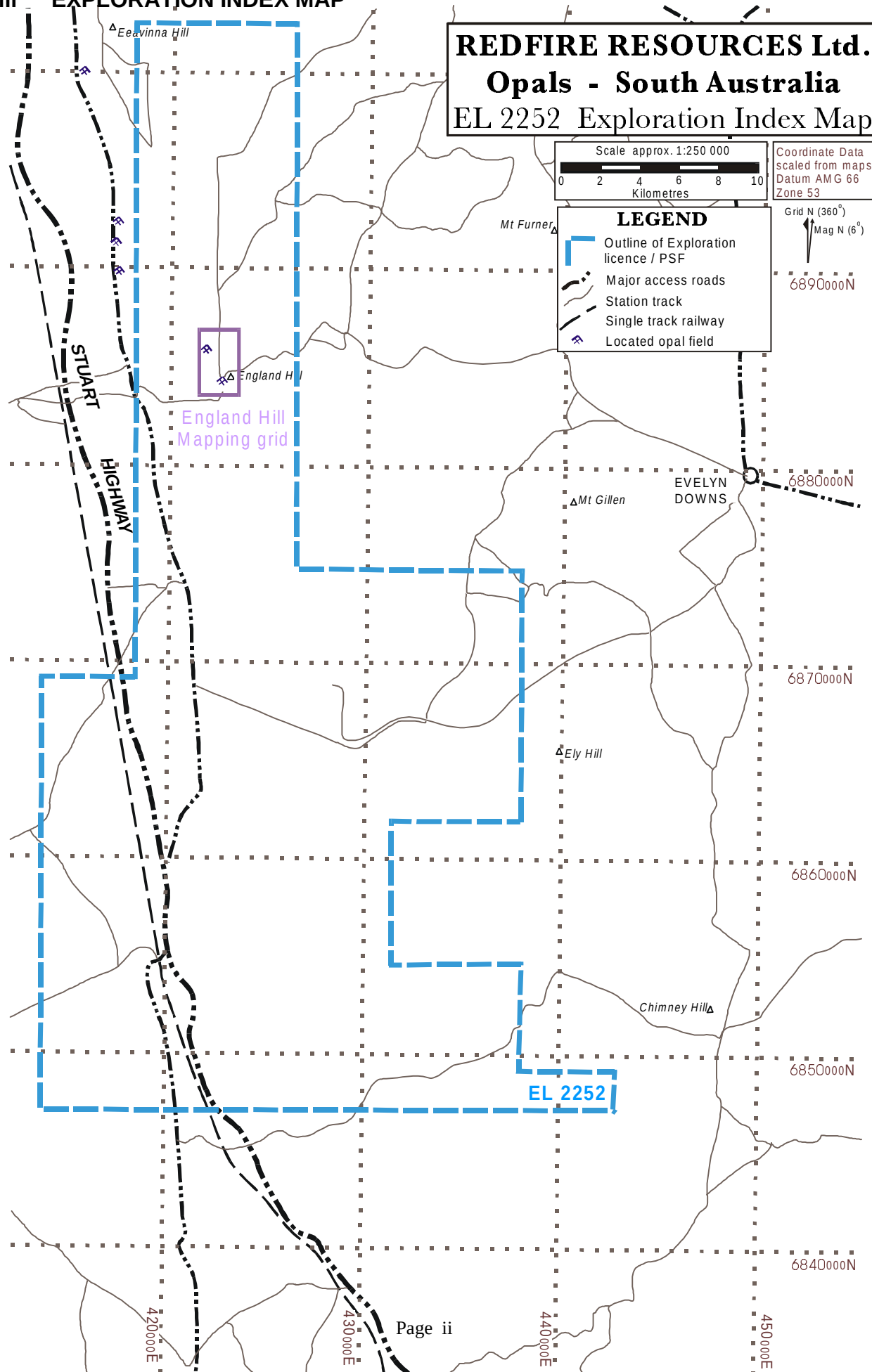
The Ely Hill project area is situated north of the township of Coober Pedy in the state of South Australia. Exploration activities are targeted at locating and developing large-scale opal deposits.

Activities carried out within the licence for the last 12 month period (10 January 2000 to 9 January 2001) include Literature reviews, Digital Terrain Modelling, Drill hole research and interpretations, Field reconnaissance and Initiation of Native Title proceedings. Most of these activities were carried out upon the whole of the licence excluding field mapping of previous workings, which was carried out upon the England Hill prospect only (see Exploration Index Map below).

ii KEYWORDS

Bulldog Shale, Cretaceous Aged, Digital Terrain Modelling, Drill hole research, England Hill prospect, Eromanga Basin, Field mapping, Murloocoppie (SH 53-2 & 5741) mapsheets, Opals, Photointerpretations, Remote sensing.

iii **EXPLORATION INDEX MAP**



1 INTRODUCTION, HISTORY AND EXPLORATION RATIONALE

Exploration licence 2252 is part of a project (including other exploration licences 2266, 2672 & 2787) targeted at locating and developing large-scale opal deposits within the Coober Pedy region of South Australia. This is the fourth annual report for this licence covering work carried out to 9 January 2001.

Project work to date includes compilation of geological and opal occurrence data, aerial photograph geological interpretations, Digital Terrain Modelling, field reconnaissance of target areas and mapping of existing opal workings. Native title negotiations have been commenced, with public advertising of intention to explore and initiation of discussion with claimants in order to reach an agreement to carry out ground disturbance exploration operations.

Exploration licence 2252 was granted to Rangeside Pty Ltd, a wholly owned subsidiary of Redfire Resources Ltd on the 10 January 1997. This licence has been renewed for a further 12 month period over 100% of its previously reduced tenement area (see *Simpson, 1999 (b)*). Current tenement area is 869 square kilometres. This tenement represents the first exploration licence granted for regional opal exploration within the state of South Australia under amendments to the Mining and Opal Mining Acts (enacted 1997).

The project area is situated in central South Australia, approximately 900 kilometres north-west of Adelaide (see Figure 1). Exploration Licence 2252 is fully contained within the Murloocoppie (SH 53-2) 1:250 000 and the Murloocoppie (5741) 1:100 000 sheets. The licence is centred approximately 95 kilometres north-north-west of the township of Coober Pedy. Access to the project area is via the sealed Stuart Highway and/or the old unsealed Stuart Highway that both traverse the western flank of the licence. Further access to the remainder of the licence area is via station tracks and fence lines traversing the region.

The area is situated in an arid zone typical of central Australia. Rainfall is very low, averaging 150 mm per year, with temperatures quite high in the summer months (mean average for January above 35 degrees Celsius). All creeks are ephemeral, and no permanent surface water exists (water holes in major creeks often hold water throughout the year, however can dry out in drought years). Vegetation is sparse upon the gently undulating gibber covered plains of the Stuart Range, being mostly grasses with few bushes and trees. The edge of the Stuart Range, characterised by the 'breakaway' country, lies within the most eastern portion of the licence. This is marked by an abrupt change in elevation (20 to 40 meters relative) over a short distance as numerous dissecting creeks drain eastwards off the escarpment. Cattle grazing is the main agricultural activity in the region, with the stations of Mt Willoughby and Evelyn Downs included within the licence area.

Exploration licence 2252 is the first tenement to be granted for opal exploration over this area. Previously productive opal workings exist within the licence boundaries, however no records were kept for any opal mining or exploration activities (as opal mining legislation does not currently enforce record keeping). Previous exploration for other commodities has focussed on base metals and coal within the Coober Pedy region. Relevant information for this project area is summarised in Table 1, with drill results given in Appendix I.

Figure 1.

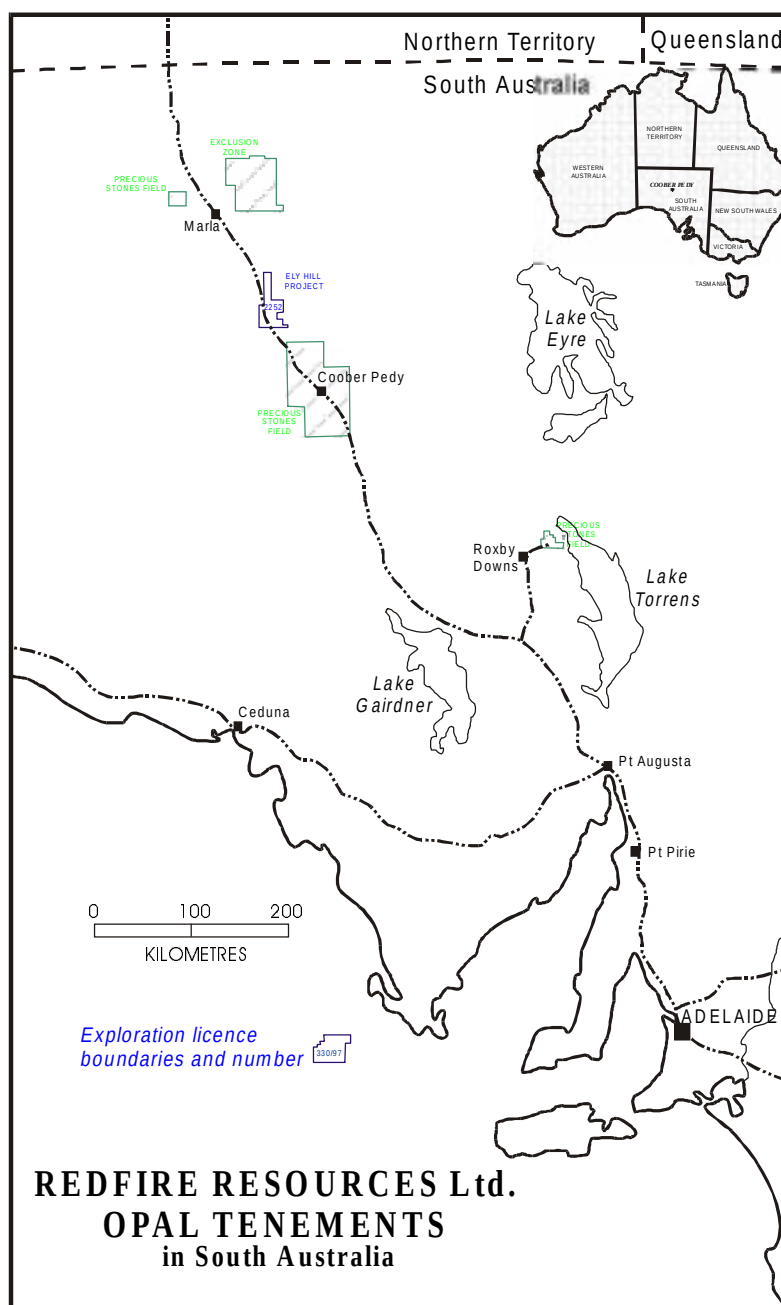


Table 1.

Company	Year of drilling	Target commodity	Envelope No.	Summary of operations
?	?	Water	6259	Drilling of Matheson bore, stratigraphy summarised on appended plan to report
BP Minerals	1974	Coal	2454	1 drill hole within the licence area to 102.1 m depth
Meekathara Minerals	1981	Coal / Base metals	5910	1 drill hole on boundary of licence area to 305 m depth

2 REGIONAL AND TENEMENT GEOLOGY

Within the Coober Pedy region, rocks vary in age from Archaean (granitoids and metasediments) at depth to recent alluvium and aeolian sand deposits at the surface. The lithologies of interest for opal formation are Cretaceous (Bulldog Shale) to Tertiary (Russo Beds) in age, and are outcropping or covered by thin Tertiary and Quaternary sediments along the eastern margin of the Stuart Range (*Pitt & Barnes, 1976*).

All opal discovered in the Coober Pedy region has occurred within areas of the Stuart Range in a weathered marine shale unit (Bulldog Shale). Characteristically this deeply weathered unit forms bleached, porous, kaolinitic claystone (*miner's term - sandstone*) overlying unweathered darker, denser smectitic claystone (*miner's term - mud*). Precious and potch opal is mostly found as veins infilling cracks and joints and occasionally replacing fossils. These are usually found anywhere in the upper bleached zone, rarely in the lower claystone, and occasionally in the overlying red silts termed the Russo Beds (*miner's term - biscuit band*) as eroded fragments from veins in the lower Bulldog Shale.

Opal is formed as part of the weathering process that occurred within the Bulldog Shale during the late Cretaceous to early Tertiary. Gradual drying of the weathered unit (by evaporation or filtering) produced ground water rich in colloidal silica which was then trapped in open spaces possibly also formed by the weathering process. These trap sites may be for instance clay rich (or less porous) bands (*miner's term - levels*), fractures caused by jointing (*miner's term - slides*), or the replacement of carbonate fossils by silica (*miner's term - shells*). The abundance of silica in the ground water was produced by the conversion of smectite clay and feldspar to kaolin, together with the corrosion of quartz grains (*Barnes et. al., 1992*).

Precious opal is rare in the full sequence due to the unusual conditions required to accumulate the equal sized silica spheres and their packing into a regular array. This is likely to be effected by local conditions such as relative location to fluid movement pathways (*slides*), or characteristics of the surrounding host rocks such as porosity, acidity, and the presence of other minerals such as alunite, all of which may hasten or impede the formation of opal.

In general, all areas of deeply weathered Bulldog Shale are prospective for opal formation. The most prospective areas for economical deposits will lie upon the Stuart Range where overlying Tertiary and Quaternary sediments, which become prevalent toward the west, are thin or absent. The area to the east of the Stuart Range is an erosional plain where the soft weathered Bulldog Shale has been removed leaving low potential for opal deposits.

Within Exploration Licence 2252, extensive outcrops of Bulldog Shale have been mapped (*see Pitt and Barnes, 1976*), and is interpreted to exist below shallow cover throughout the licence area. Intensely weathered Shale horizons have been mapped around previously productive opal working within the England Hill zone as described in Appendix II.

3 GEOPHYSICS

No geophysical surveys relevant to opal exploration have been carried out within the project.

4 REMOTE SENSING DATA

Photogeological interpretations have identified prospective target zones (Figure 3) that appear to have geological similarities to areas within the Coober Pedy Precious Stones Field. In addition to this, Digital Terrain Modelling (DTM) plans clearly show the higher topographic portions of this licence, and therefore areas most likely to have preserved thicker sequences of Bulldog Shale, to be in the north of the licence (Figure 4).

Details of methodology for photogeological interpretations have already been outlined in previous annual reports (*Martin, 1998*) and will not be repeated here.

Digital Terrain Modelling plans were purchased in a processed state from PIRSA mapping branch using AUSLIG data. Details of processing parameters are given in Appendix III.

5 SURFACE GEOCHEMISTRY

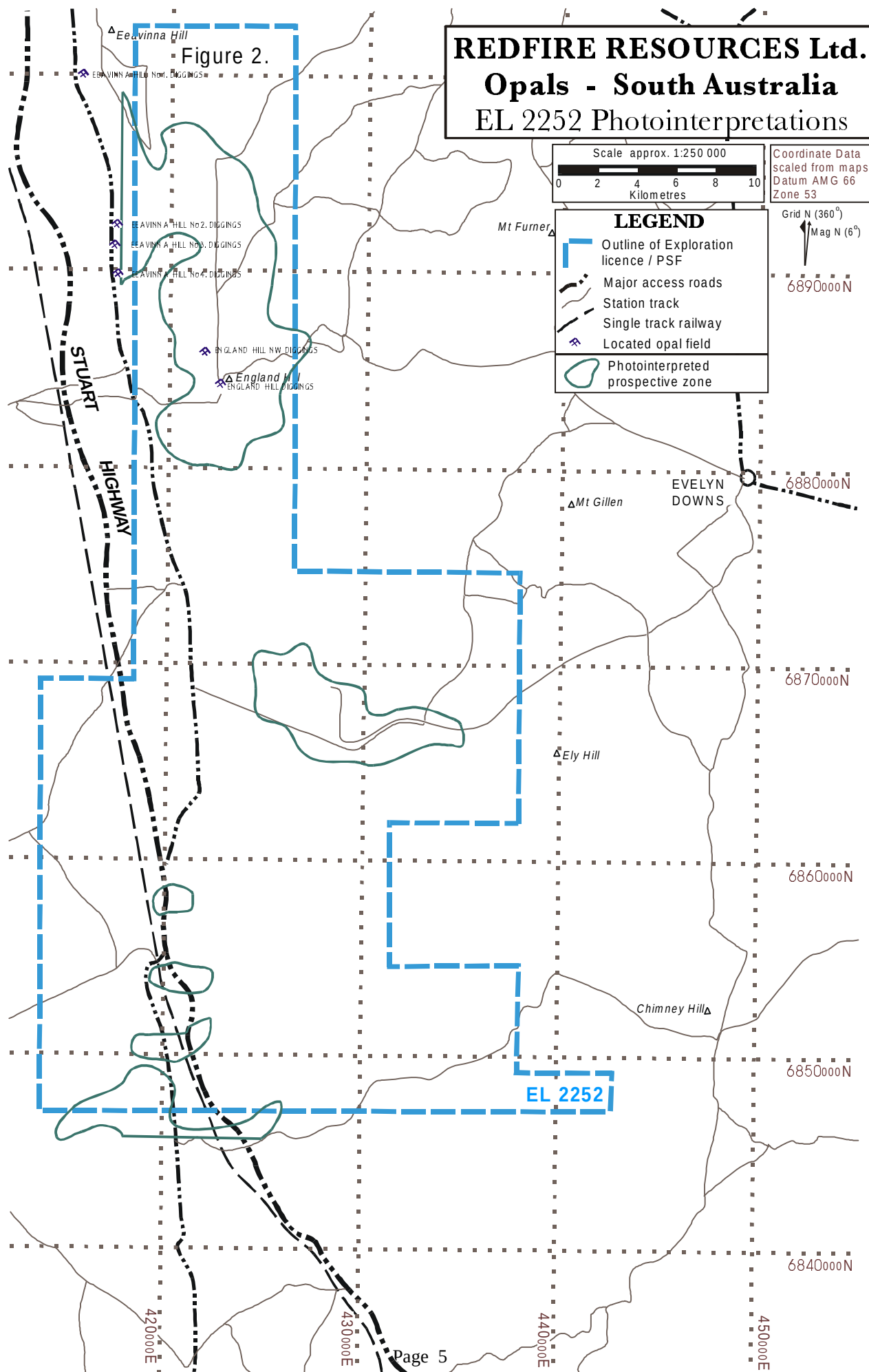
No geochemical surveys relevant to opal exploration have been carried out within the project.

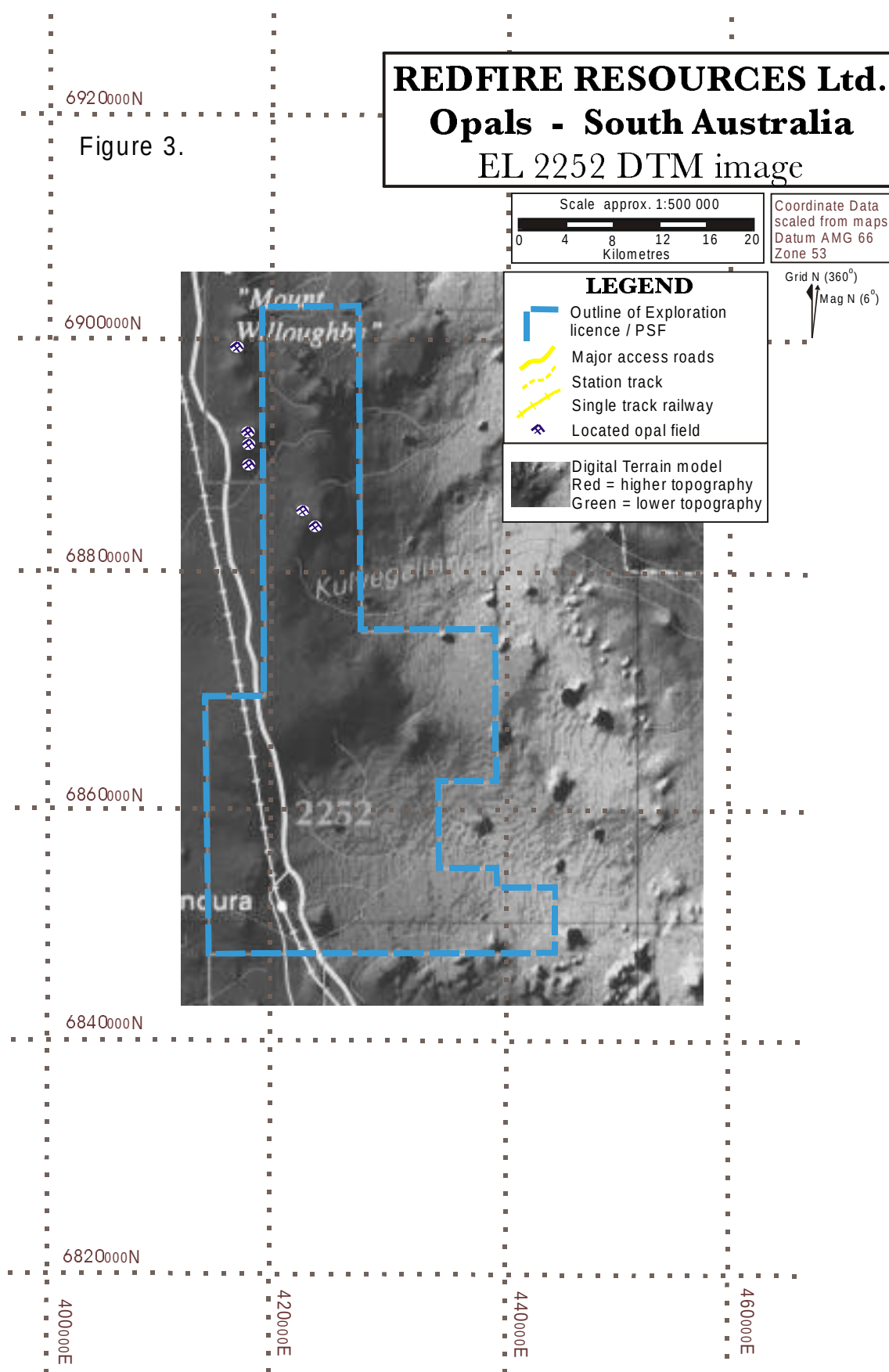
6 DRILLING

No drilling has been carried out within the project area by Redfire Resources Ltd to date. Reconnaissance drilling is planned following the conclusion of Native Title proceedings. Interpretations of previous drill holes (as detailed in Appendix I) indicates the target lithology (Bulldog Shale) is present throughout the project area and is substantially thick. Weathered Bulldog Shale is reported to a depth of 54 metres in Matheson Bore, which is comparable to and greater than reported depths of weathering within the Coober Pedy Precious Stones Field (to 39 metres, logged from water bores).

7 OTHER STUDIES OR WORK

No other studies or work relevant to opal exploration have been undertaken within the project.





8 ENVIRONMENT

No ground disturbance exploratory operations have been undertaken within the project, and therefore no rehabilitation is required to be carried out.

9 ORE RESERVES AND RESOURCES

No ore reserves can be measured from the little on-ground exploratory work carried out. The field mapping and remote geological interpretations have predicted extensions to previously mined opal fields. However, full extents and overall grade of any opal deposits can not be estimated until sufficient drilling and bulk sampling is carried out.

There are no production records for the opal mining already carried out within the licence. However, research from the miners (or associated persons) who worked these field have indicated that there were several rich deposits mined, with extraction of high quality gem opal, including rare black opal. The combined value of opal extracted from these fields (intermittent mining from 1962 to 1997) is estimated to be around \$1 million (sale values extrapolated to current market prices). The location of the mined opal lodes is unconfirmed.

10 EXPENDITURE

Please refer to submitted 6 monthly summary reports that include expenditure.

11 CONCLUSIONS

Photointerpretations, Digital Terrain Modelling, drill hole research and field reconnaissance of the licence area has identified similar geological relationships of depicted target zones to opal productive areas within the Coober Pedy Precious Stones Field.

Small areas of the England Hill target zone have been previously mined for opal (intermittently from about 1962 to 1997). It is reported that high quality gem opal, including black opal, has been recovered from these many mining episodes. Geological interpretations, based on remote sensing backed up by on-ground mapping, predict extensions to these opal fields that remain untested.

Native Title proceedings have been initiated in order for ground disturbance exploration work to be carried out. Upon completion of these proceedings, an exploratory drilling programme is recommended for the high priority zone within the England Hill region.

The prospectivity of the licence area to host large-scale opal deposits remains high.

12 REFERENCES

- Barnes L.C., Townsend I.J., Robertson R.S. & Scott D.C. 1992; Opal: South Australia's gemstone, *South Australia department of Mines and Energy handbook no 5. (revised edition)*.
- Benbow M.C. 1982; Coober Pedy, South Australia. *Explanatory notes, 1:250 000 geological series*.
- Hiern M.N. 1976; Precious opal - South Australia, *In: Knight C.L. (Ed.) Economic Geology of Australia and Papua New Guinea, 4, Industrial minerals and rocks. Australian Institute of Mining and Metallurgy, Monograph series, 8: 322-323*
- Martin N.H. 1998; Ant Hill opal project, South Australia. *First annual report for EL's 2252 & 2266*.
- Pitt G.M. & Barnes L.C. 1976; Murloocoppie geological mapping sheet SH 53-2. *South Australian Geological atlas series*.
- Robertson R.S. & Scott D.C. 1990; Geology of the Coober Pedy precious stones field, *Report of investigations 56, Geological survey of South Australia*.
- Simpson C.A. 1999 (a); Ant Hill, EL's 2252 & 2266 (opal), *Annual report to 13 February 1999*.
- Simpson C.A. 1999 (b); Ant Hill, EL's 2252 & 2266 (opal), *Partial relinquishment report to 8 December 1998*.
- Simpson C.A. 2000; Ant Hill, EL's 2252 & 2266 (opal), *Annual report to 13 February 2000*.

APPENDIX I

Results of drill hole research

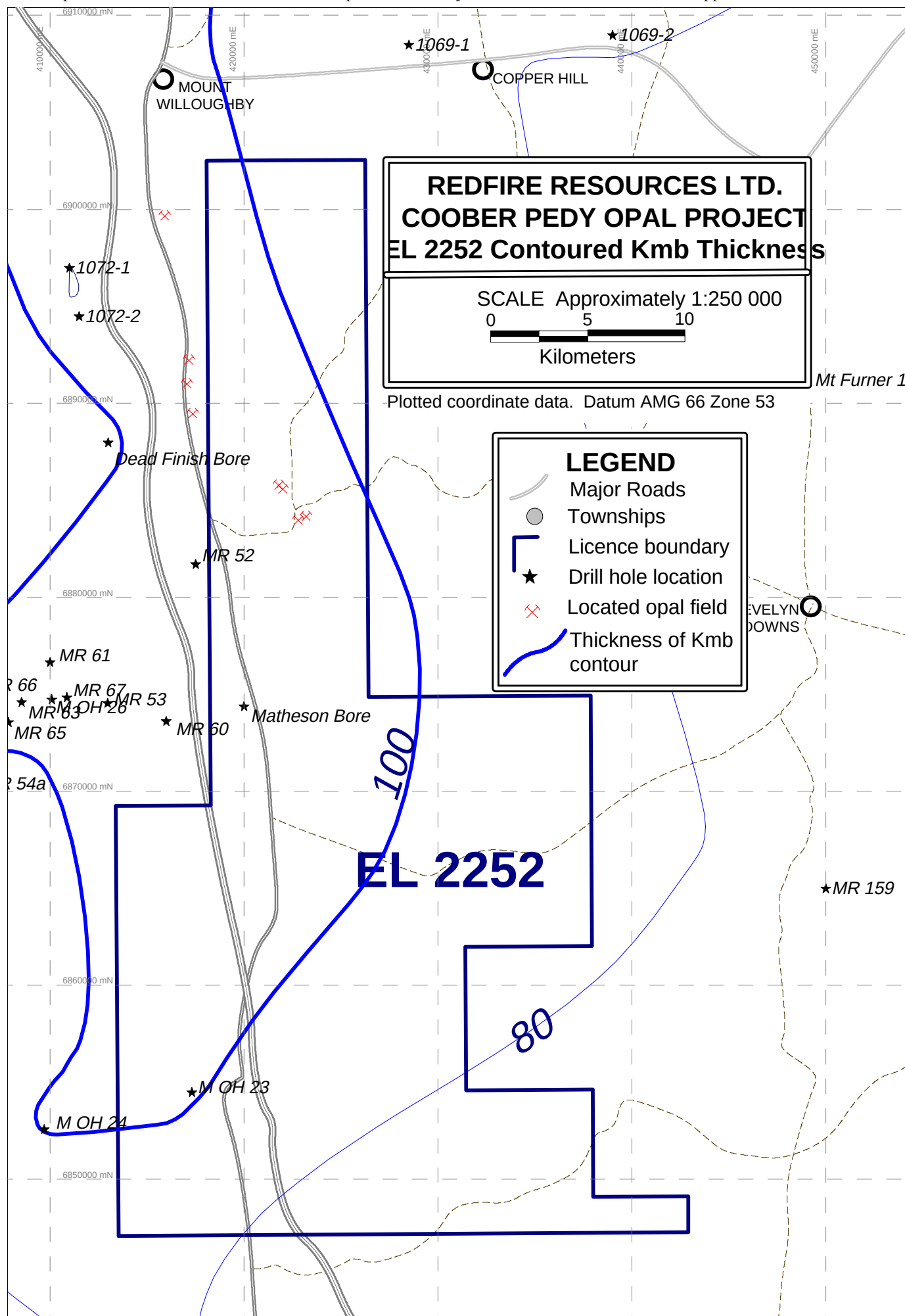
Appendix I Results of drill hole research

Information of previous drill holes performed within the licence area was carried out by researching open file reports available through the Primary Industries and Resources South Australia. This has resulted in the location of 3 drill holes within the licence area (excluding majority of water bore data). Drill hole logs or summary logs were available in the reports, which have enabled creation of the following data. The results of drilling are tabulated below and are indicated on the following plan.

Using the available drill data in conjunction with data from the surrounding area, modelling of the thickness of the Bulldog Shale was carried out. The results of these interpretations indicate that the Bulldog Shale (target lithology for opal deposit exploration) is present throughout the licence area and is thickest in the central portion of the licence (>100 metres thick).

Hole No.	Envelope No.	AMG (E)	AMG (N)	Collar RL (m)	Azimuth	Dip	Total Depth (m)	Bulldog Shale	
								From (m)	To (m)
Matheson Bore	6259	420000	6874400	275	0	90	143	0	115
MOH 23	2454	417308	6854489	270	0	90	102.1	0	102.1
MR 52	5910	417500	6881720	280	0	90	305	5	126

Coordinate data referenced to AMG66. These locations have been copied from available metric data or converted from lat/long coordinates where this information was available in the researched reports. Some hole locations were measured from copied plans (most to scale) in order to get coordinate data, and are therefore less accurate.



APPENDIX II

Results of field reconnaissance and mapping of existing opal workings

Appendix II Results of field reconnaissance and mapping of existing opal workings

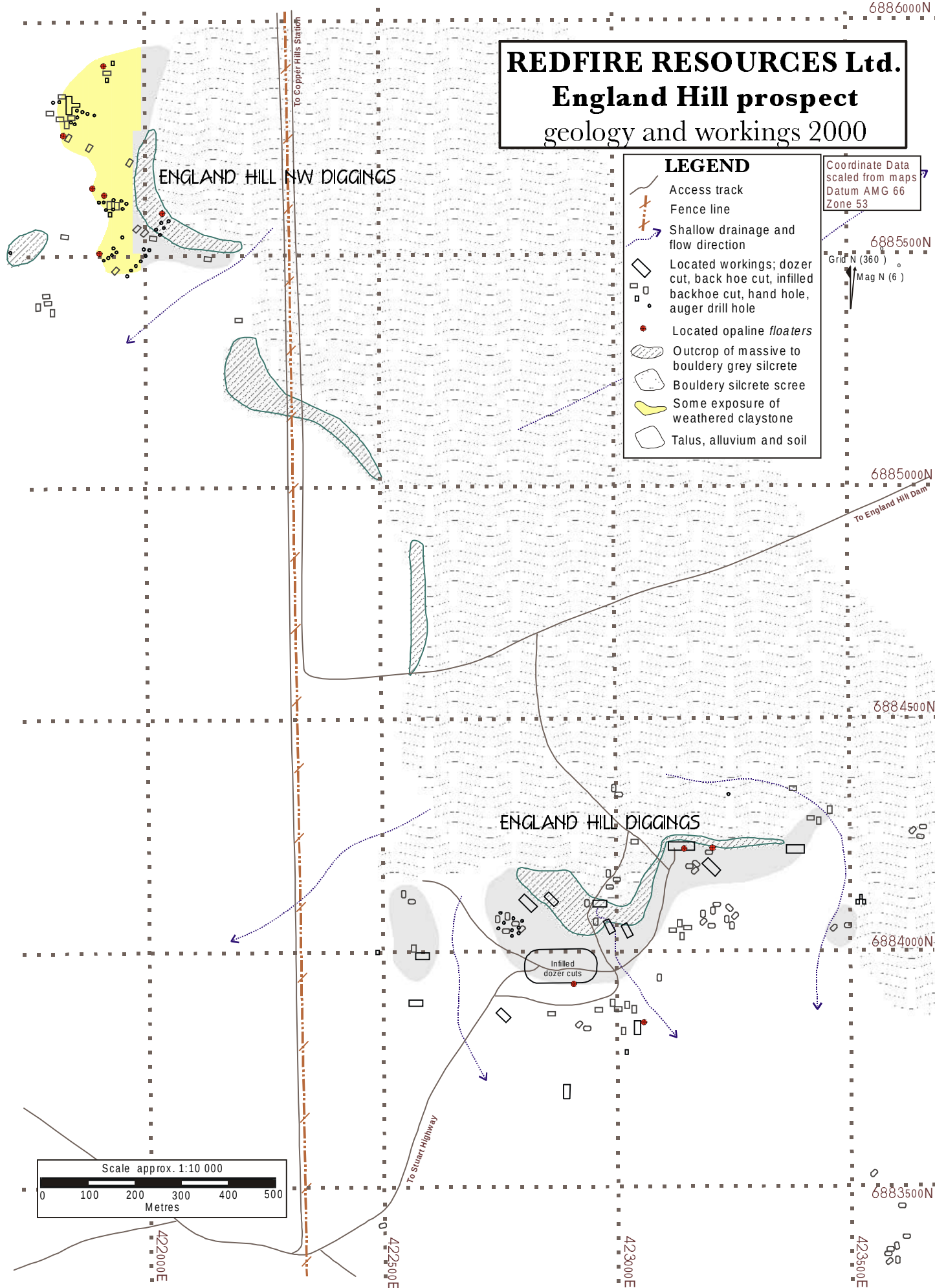
Field reconnaissance of the licence area has been carried out over the last few years via several short field excursions. Many of the target zones generated from remote geological interpretations have been briefly traversed, with observations noted and samples taken at indicative outcrops. Few samples have been collected outside of the immediate areas surrounding the existing opal workings, and no samples have been submitted for analysis. The collected samples are specimens of located surface opal (*floaters*) and host rock with brief descriptions at located sites given in the following table.

The geology and workings indicated on the following plan were briefly mapped during the above field surveys. A Garmin 12XL hand held GPS was used to take localities of most of the workings, which was then plotted to scale on the following plan. The geology between the two workings is interpretative as much of this area is covered by silcrete scree. All coordinates are referenced to the Australian Metric Grid, Datum AGD 66.

REDFIRE RESOURCES Ltd. FIELD DESCRIPTIONS OF VISITED OPAL WORKINGS *ENGLAND HILL REGION*

Working number	Date visited	AMG coordinates		Approximate size of workings
		from (E/N)	to (E/N)	
<i>England Hill</i>	10/05/98 9/12/99 6/03/00	422560 6883890	423440 6884310	1 km strike
Description;	Numerous scattered workings, comprising bulldozer cuts (>15), backhoe trenches (>60), auger holes (>20) and hand holes (>5) were recognised in field mapping of the area. A report of 4 Calweld holes on top of the mesa is also reported from this area, however due to extensive backfilling of the workings there were not recognised to differ from infilled backhoe trenches. Most of the workings are shallow (<2 m depth) with some auger holes believed to drill deeper. The highest intensity of workings are within close proximity, and extending to 300 m S of the escarpment. Isolated workings are located to 900 m away from the centre of the field.			
Mineralisation;	White to light blue and black patch floaters have been located around and between the workings, some with blue colour and one with flecks of blue to green in black magpie patch.			
Topography;	The workings are located on the S slope of a large SI capped mesa. Steep S and W escarpments are present in places, together with shallow sloping 'spurs' away from the mesa, predominantly towards the E portion of the field.			
Geology;	Competent white fgr to mgr chippy cs in places, some tubule development noted, and some purple staining in 'pods' or 'pipe-like' structures. Cs appears softer and more broken than as at Coober Pedy, but may be due to shallow nature of the workings. Cs becomes more calcareous and regolithic near surface, with a capping of ~1 m calcareous red sits in some areas, and a broad capping of massive to bouldery grey SI (1 to 2 m thick) on top of the mesa.			
<i>England Hill NW</i>	10/05/98 6/03/00	421770 6885400	421930 6885920	600 m strike
Description;	Numerous scattered workings comprising one cross-driven bulldozer cut, backhoe cuts (>20), auger holes (>35) and several hand holes. Most of these workings still remain open, however all are shallow (<2 m deep), excluding the auger holes which also appear drilled to only shallow (30 ft) depths. The workings are situated in close proximity, and up to 300 m away, from a shallow SI capped escarpment.			
Mineralisation;	White to light blue and black patch floaters, some with bands and flecks of blue, green and red colour, have been located around and between the workings. One black patch floater has a band of green colour.			
Topography;	The workings are located on the W slope of the same large SI capped mesa as previously described. In places the escarpment is steep, however further N becomes more gradual, draining W into a large plainal region.			
Geology;	The geology is very similar to previously described, although the majority of workings have only dug to 2 m deep, and have exposed only a regolithic cs partially cemented by calcareous silts. Underlying fresher cs has not been exposed in the cut but is postulated to exist at depth.			

REDFIRE RESOURCES Ltd. **England Hill prospect** geology and workings 2000



APPENDIX III

Digital Terrain Modelling methodology

Appendix III Digital Terrain Modelling methodology

Digital Terrain Modelling (or DTM) is a pictorial presentation of the change in surface topography for a selected region. This information is used to more easily recognise higher topographic regions, which are areas most likely to have preserved thicker sequences of weathered Bulldog Shale. This weathered unit is the target lithology for opal exploration and is formed by deep weathering events occurring since the late Cretaceous. Field reconnaissance of these interpreted areas has confirmed that these depicted zones contain more intensely weathered claystone than surrounding areas. Abundant silcrete has also been mapped in the near surface environment throughout these topographically higher zones. The presence of this massive to bouldery silcrete has acted as a resistance to erosion of the underlying softer weathered shale units.

DTM plans were compiled by the PIRSA mapping branch from the readily available AUSLIG topographic data. This data is comprised of the available spot height and 50 metre contour data generated from compilation of the 1:250 000 topographical sheets for the region. A pixel size of 220 metres was used in generating the majority of the DTM images. Although this data is not as accurate as other methods available (ie. recent Digital Elevation Modelling (DEM) data recorded in conjunction with aeromagnetic/gravity surveys) the data is readily available and cheaply processed.

All grid coordinates on the DTM images are referenced to AGD 94. In some cases the overlying information is plotted in reference to AGD 66, and the underlying DTM image has been referenced to this coordinate system. All plans are annotated to the relevant coordinate system accordingly.

The DTM plans were generated at 1:500 000, 1:250 000 and 1:100 000 scales for the project region. The pixel size was resampled to 100 metres from 220 metres for the 2 smaller scale plans.

Plans are available in hard copy form only, with a scanned image for the Ely Hill project (at 1:500 000 scale) presented within the body of the report.

REDFIRE RESOURCES Ltd.
ACN 009 423 858

ANT HILL EL 2266 (OPAL)
ANNUAL REPORT
to 13 February 2001

Prepared for:
Redfire Resources Ltd.
Level 4, 12-14 O'Connell Street
Sydney, NSW, 2000

Prepared by:
C A Simpson (Consulting Geologist)
March 2001

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SUBMISSION OF DIGITAL DATA

This report has been submitted digitally in the form of a .pdf (Adobe Portable Document Format) saved onto a labelled 1.44 Mb floppy diskette.

Label: Redfire Resources Ltd.
 EL 2266 Annual report 2001
 Digital submission of report

File name: EL2266_200103_01_Annual report

File size: approximately 530 Kilobytes

File Type: PDF (Adobe Portable Document Format)

i SUMMARY OF ACTIVITIES

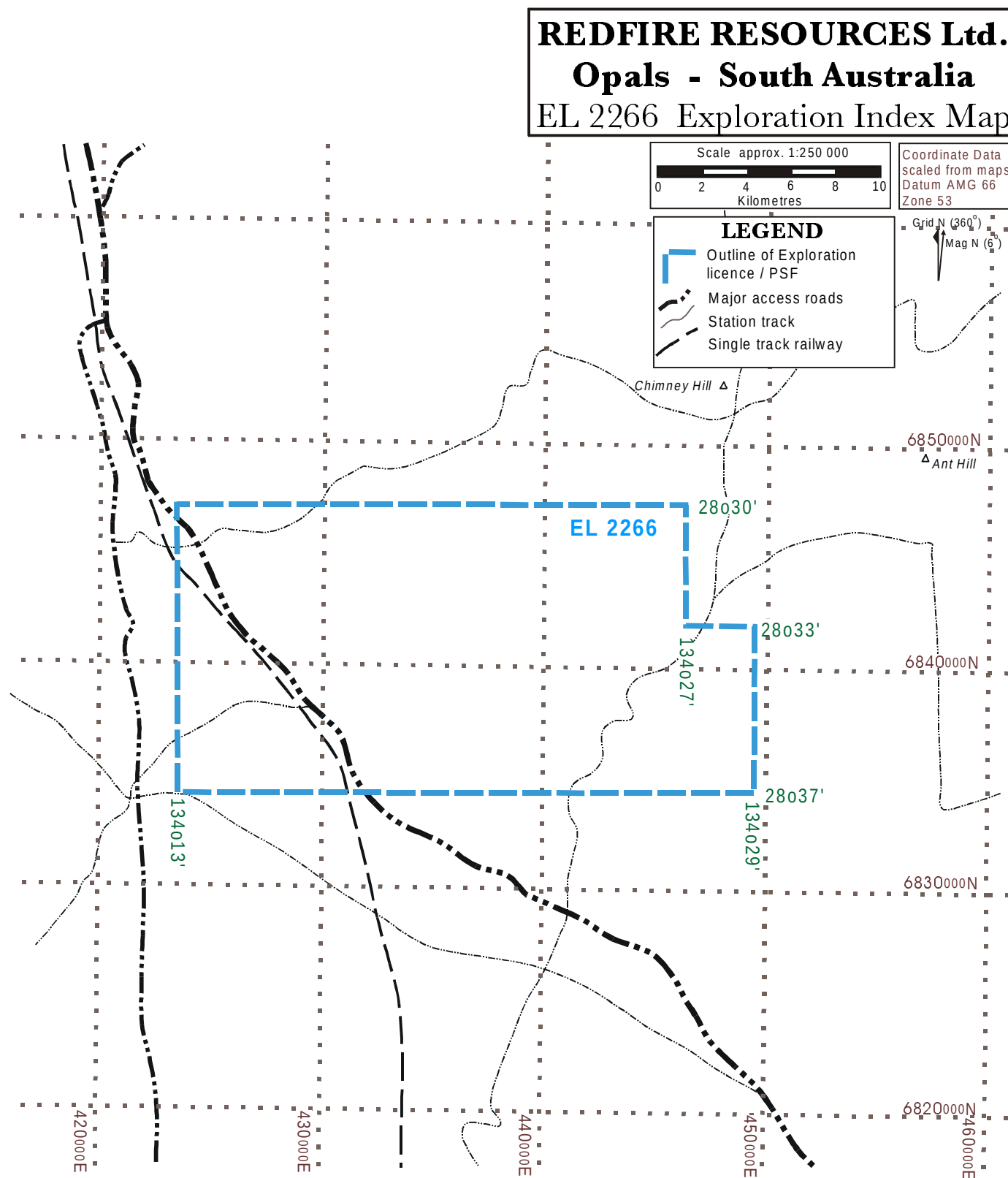
The Ant Hill project area is situated north of the township of Coober Pedy in the state of South Australia. Exploration activities are targeted at locating and developing large-scale opal deposits.

Activities carried out within the licence for the last 12 month period (14 February 2000 to 13 February 2001) include Literature reviews, Digital Terrain Modelling, Drill hole research and interpretations, Field reconnaissance and Initiation of Native Title proceedings. All of these activities were carried out upon the whole of the licence area (see Exploration Index Map below).

ii KEYWORDS

Bulldog Shale, Cretaceous Aged, Digital Terrain Modelling, Drill hole research, Eromanga Basin, Field reconnaissance, Murloocoppie (SH 53-2) & Mabel Creek (5740) mapsheets, Opals, Photointerpretations, Remote sensing.

iii EXPLORATION INDEX MAP



1 INTRODUCTION, HISTORY AND EXPLORATION RATIONALE

Exploration licence 2266 is part of a project (including other exploration licences 2252, 2672 & 2787) targeted at locating and developing large-scale opal deposits within the Coober Pedy region of South Australia. This is the fourth annual report for this licence covering work carried out to 13 February 2001.

Project work to date includes compilation of geological and opal occurrence data, aerial photograph geological interpretations, Digital Terrain Modelling and field reconnaissance of target areas. Native Title negotiations have been commenced, with public advertising of intention to explore and initiation of discussion with claimants in order to reach an agreement to carry out ground disturbance exploration operations. Aboriginal Heritage clearances were carried out within the adjacent EL 2252 within this reporting period, however high priority target zones do not exist within EL 2266, and therefore no clearance surveys were undertaken for this licence.

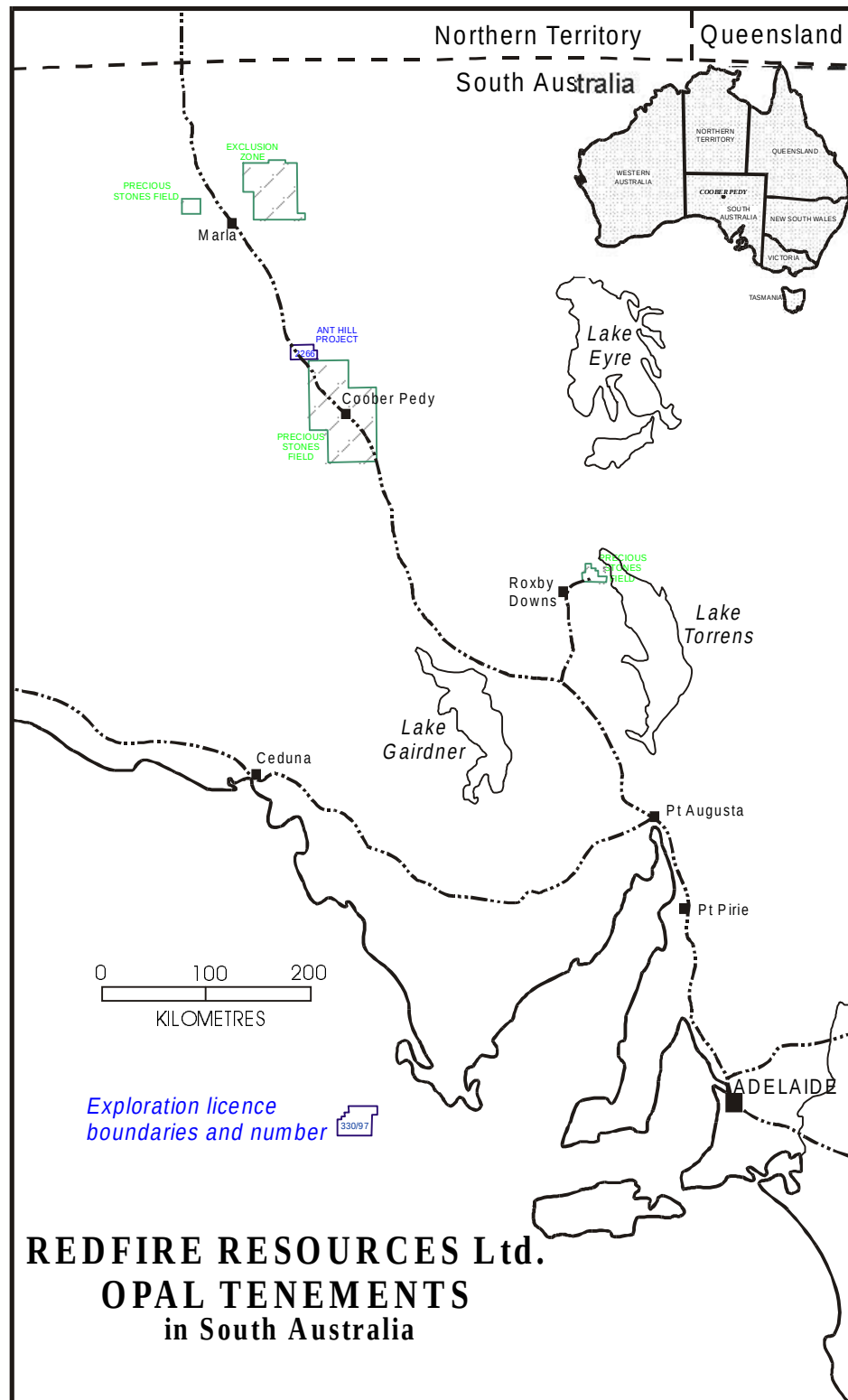
Exploration licence 2266 was granted to Rangeside Pty Ltd, a wholly owned subsidiary of Redfire Resources Ltd on the 14 February 1997. This licence has been renewed for a further 12 month period over 100% of its previously reduced tenement area (see *Simpson, 1999 (b)*). Current tenement area is 319 square kilometres. This tenement is one of the first exploration licences granted for regional opal exploration within the state of South Australia under amendments to the Mining and Opal Mining Acts (enacted 1997).

The project area is situated in central South Australia, approximately 900 kilometres north-west of Adelaide (see Figure 1). Exploration Licence 2266 is fully contained within the Murloocoppie (SH 53-2) 1:250 000 and the Mabel Creek (5740) 1:100 000 sheets. The licence is centred approximately 65 kilometres north-west of the township of Coober Pedy. Access to the project area is via the sealed Stuart Highway and/or the old unsealed Stuart Highway that both traverse the western flank of the licence. Further access to the remainder of the licence area is via station tracks and fence lines traversing the region.

The area is situated in an arid zone typical of central Australia. Rainfall is very low, averaging 150 mm per year, with temperatures quite high in the summer months (mean average for January above 35 degrees Celsius). All creeks are ephemeral, and no permanent surface water exists (water holes in major creeks often hold water throughout the year, however can dry out in drought years). Vegetation is sparse upon the gently undulating gibber covered plains of the Stuart Range, being mostly grasses with few bushes and trees. The edge of the Stuart Range, characterised by the 'breakaway' country, lies within the eastern portion of the licence. This is marked by an abrupt change in elevation (20 to 40 meters relative) over a short distance as numerous dissecting creeks drain eastwards off the escarpment. Cattle grazing is the main agricultural activity in the region, with Mt Willoughby Station being the sole pastoral lease covering the licence area.

Exploration licence 2266 is the first tenement to be granted for opal exploration over this area and as such there are no records for opal prospecting or mining. Previous exploration for other commodities has focussed on base metals and coal within the Coober Pedy region, with no company drill holes located within the licence boundaries. Drill hole interpretations for the region are summarised in Appendix I.

Figure 1.



2 REGIONAL AND TENEMENT GEOLOGY

Within the Coober Pedy region, rocks vary in age from Archaean (granitoids and metasediments) at depth to recent alluvium and aeolian sand deposits at the surface. The lithologies of interest for opal formation are Cretaceous (Bulldog Shale) to Tertiary (Russo Beds) in age, and are outcropping or covered by thin Tertiary and Quaternary sediments along the eastern margin of the Stuart Range (*Pitt & Barnes, 1976*).

All opal discovered in the Coober Pedy region has occurred within areas of the Stuart Range in a weathered marine shale unit (Bulldog Shale). Characteristically this deeply weathered unit forms bleached, porous, kaolinitic claystone (*miner's term - sandstone*) overlying unweathered darker, denser smectitic claystone (*miner's term - mud*). Precious and potch opal is mostly found as veins infilling cracks and joints and occasionally replacing fossils. These are usually found anywhere in the upper bleached zone, rarely in the lower claystone, and occasionally in the overlying red silts termed the Russo Beds (*miner's term - biscuit band*) as eroded fragments from veins in the lower Bulldog Shale.

Opal is formed as part of the weathering process that occurred within the Bulldog Shale during the late Cretaceous to early Tertiary. Gradual drying of the weathered unit (by evaporation or filtering) produced ground water rich in colloidal silica which was then trapped in open spaces possibly also formed by the weathering process. These trap sites may be for instance clay rich (or less porous) bands (*miner's term - levels*), fractures caused by jointing (*miner's term - slides*), or the replacement of carbonate fossils by silica (*miner's term - shells*). The abundance of silica in the ground water was produced by the conversion of smectite clay and feldspar to kaolin, together with the corrosion of quartz grains (*Barnes et. al., 1992*).

Precious opal is rare in the full sequence due to the unusual conditions required to accumulate the equal sized silica spheres and their packing into a regular array. This is likely to be effected by local conditions such as relative location to fluid movement pathways (*slides*), or characteristics of the surrounding host rocks such as porosity, acidity, and the presence of other minerals such as alunite, all of which may hasten or impede the formation of opal.

In general, all areas of deeply weathered Bulldog Shale are prospective for opal formation. The most prospective areas for economical deposits will lie upon the Stuart Range where overlying Tertiary and Quaternary sediments, which become prevalent toward the west, are thin or absent. The area to the east of the Stuart Range is an erosional plain where the soft weathered Bulldog Shale has been removed leaving low potential for opal deposits.

Within Exploration Licence 2266, extensive outcrops of Bulldog Shale have been mapped (*see Pitt and Barnes, 1976*), and is interpreted to exist below shallow cover throughout the licence area. Outcrops of intensely weathered shale have been observed at several localities within the licence area, with brief descriptions given in Appendix II.

3 GEOPHYSICS

No geophysical surveys relevant to opal exploration have been carried out within the project.

4 REMOTE SENSING DATA

Photogeological interpretations have identified prospective target zones (Figure 2) that appear to have geological similarities to areas within the Coober Pedy Precious Stones Field. In addition to this, Digital Terrain Modelling (DTM) plans clearly show the higher topographic portions of this licence, and therefore areas most likely to have preserved thicker sequences of Bulldog Shale, to be extensive throughout the central and western licence area (Figure 3).

Details of methodology for photogeological interpretations have already been outlined in previous annual reports (*Martin, 1998*) and will not be repeated here.

Digital Terrain Modelling plans were purchased in a processed state from PIRSA mapping branch using AUSLIG data. Details of processing parameters are given in Appendix III.

5 SURFACE GEOCHEMISTRY

No geochemical surveys relevant to opal exploration have been carried out within the project.

6 DRILLING

No drilling has been carried out within the project area by Redfire Resources Ltd to date. Research has indicated that no reported company drill holes exist within the licence area, although interpretations of drill holes for the region (Appendix I) indicate that the target lithology (Bulldog Shale) is present throughout the licence area and is substantially thick (around 60 metres).

7 OTHER STUDIES OR WORK

No other studies or work relevant to opal exploration have been undertaken within the project.

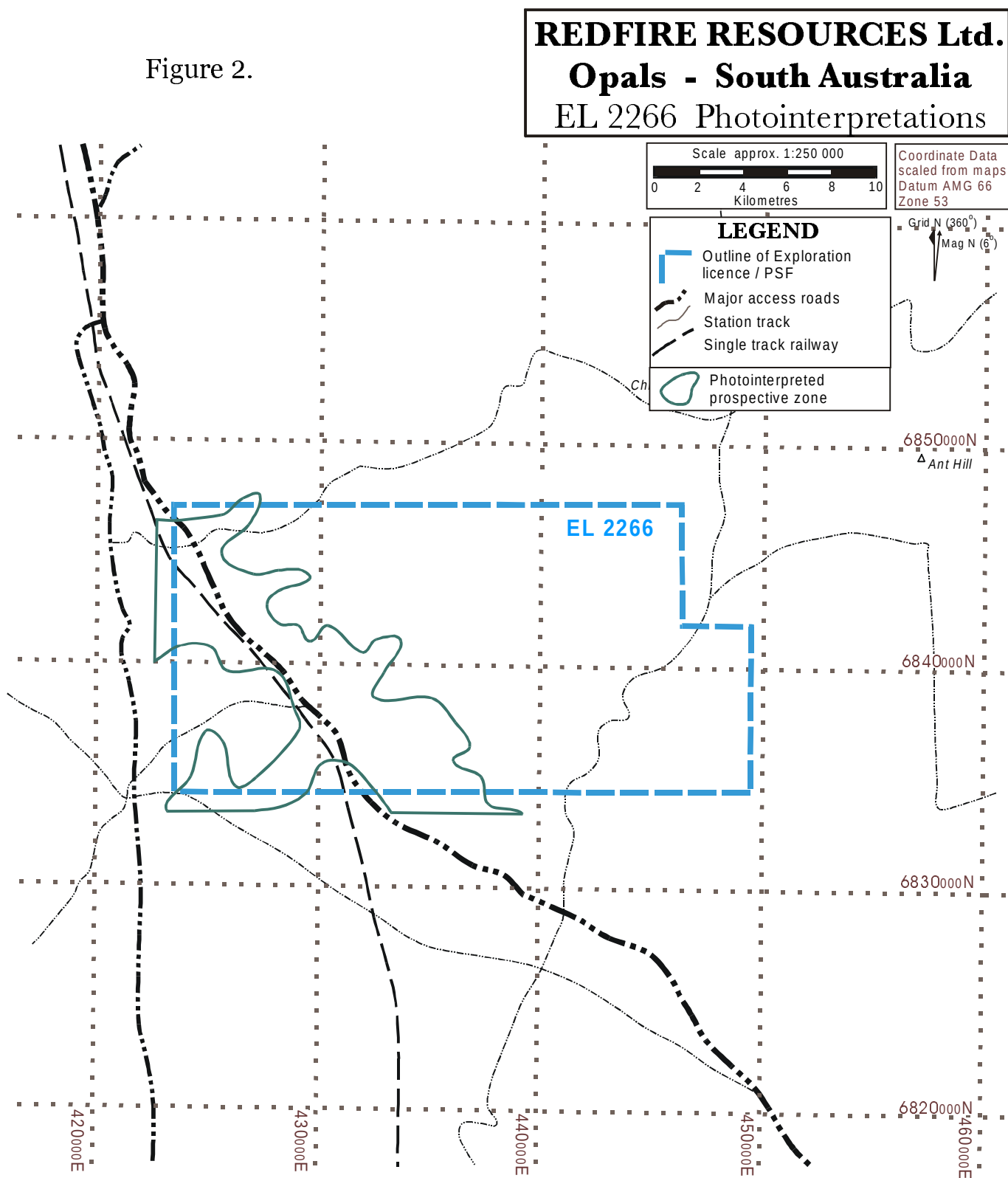
8 ENVIRONMENT

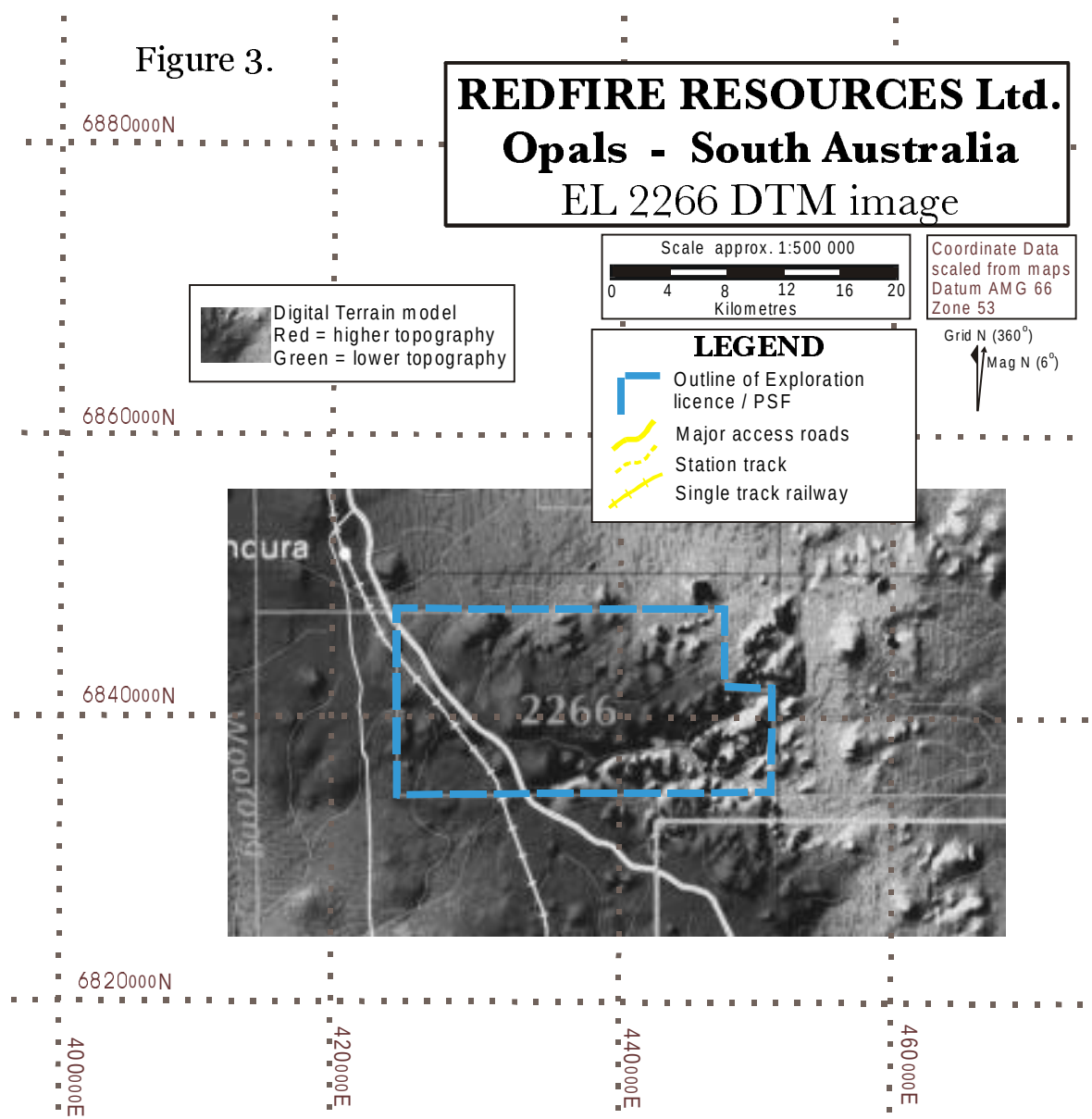
No ground disturbance exploratory operations have been undertaken within the project, and therefore no rehabilitation is required to be carried out.

9 ORE RESERVES AND RESOURCES

No opal ore reserves can be measured from the little on-ground exploratory work carried out.

Figure 2.





10 EXPENDITURE

Total expenditure for the licence over the last 12 months has been \$ 15,960 with a detailed expenditure statement given in Table 1. Cumulative expenditure for the licence at the end of this reporting period was \$ 110,117.

Table 1.

Expenditure statement for EL 2266 (opal)	
Communications, office services, postage	\$ 51
Data acquisition	\$ 8
Field living	\$ 156
Geological consultants	\$ 7,542
Motor Vehicles – repairs and maintenance	\$ 201
Motor Vehicles – hire	\$ 345
Native Title	\$ 2,678
Overheads	\$ 1,722
Tenement – rents, sundry fees	\$ 402
Personnel – wages geological	\$ 195
Administration and management	\$ 2,660
Total Expenditure	\$ 15,960

11 CONCLUSIONS

Photointerpretations, Digital Terrain Modelling, drill hole research and field reconnaissance of the licence area has identified similar geological relationships of depicted target zones to opal productive areas within the Coober Pedy Precious Stones Field.

Literature reviews, research and field activities have indicated that no opal workings exist within the licence area. Geological interpretations based on remote sensing, backed up by on-ground field observations predict that 'hidden' opal deposits may exist within the licence areas. These potential deposits have not been located by previous opal prospectors, as recent erosion has not dissected deeply to opalised horizons (within the target areas), and therefore opal '*floaters*' have not formed and been found. The location of these '*floaters*' is the primary source for the initiation of virtually all the opal fields in the state of South Australia.

Native Title proceedings have been initiated in order for ground disturbance exploration work to be carried out. As no high priority target zones exist within EL

2266, recent Aboriginal Heritage clearance surveys that were undertaken upon the adjacent EL 2252 did not extend to this licence.

The prospectivity of the licence area to host large-scale 'hidden' opal deposits remains high.

12 REFERENCES

- Barnes L.C., Townsend I.J., Robertson R.S. & Scott D.C. 1992; Opal: South Australia's gemstone, *South Australia department of Mines and Energy handbook no 5. (revised edition)*.
- Benbow M.C. 1982; Coober Pedy, South Australia. *Explanatory notes, 1:250 000 geological series*.
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- Pitt G.M. & Barnes L.C. 1976; Murloocoppie geological mapping sheet SH 53-2. *South Australian Geological atlas series*.
- Robertson R.S. & Scott D.C. 1990; Geology of the Coober Pedy precious stones field, *Report of investigations 56, Geological survey of South Australia*.
- Simpson C.A. 1999 (a); Ant Hill, EL's 2252 & 2266 (opal), *Annual report to 13 February 1999*.
- Simpson C.A. 1999 (b); Ant Hill, EL's 2252 & 2266 (opal), *Partial relinquishment report to 8 December 1998*.
- Simpson C.A. 2000; Ant Hill, EL's 2252 & 2266 (opal), *Annual report to 13 February 2000*.

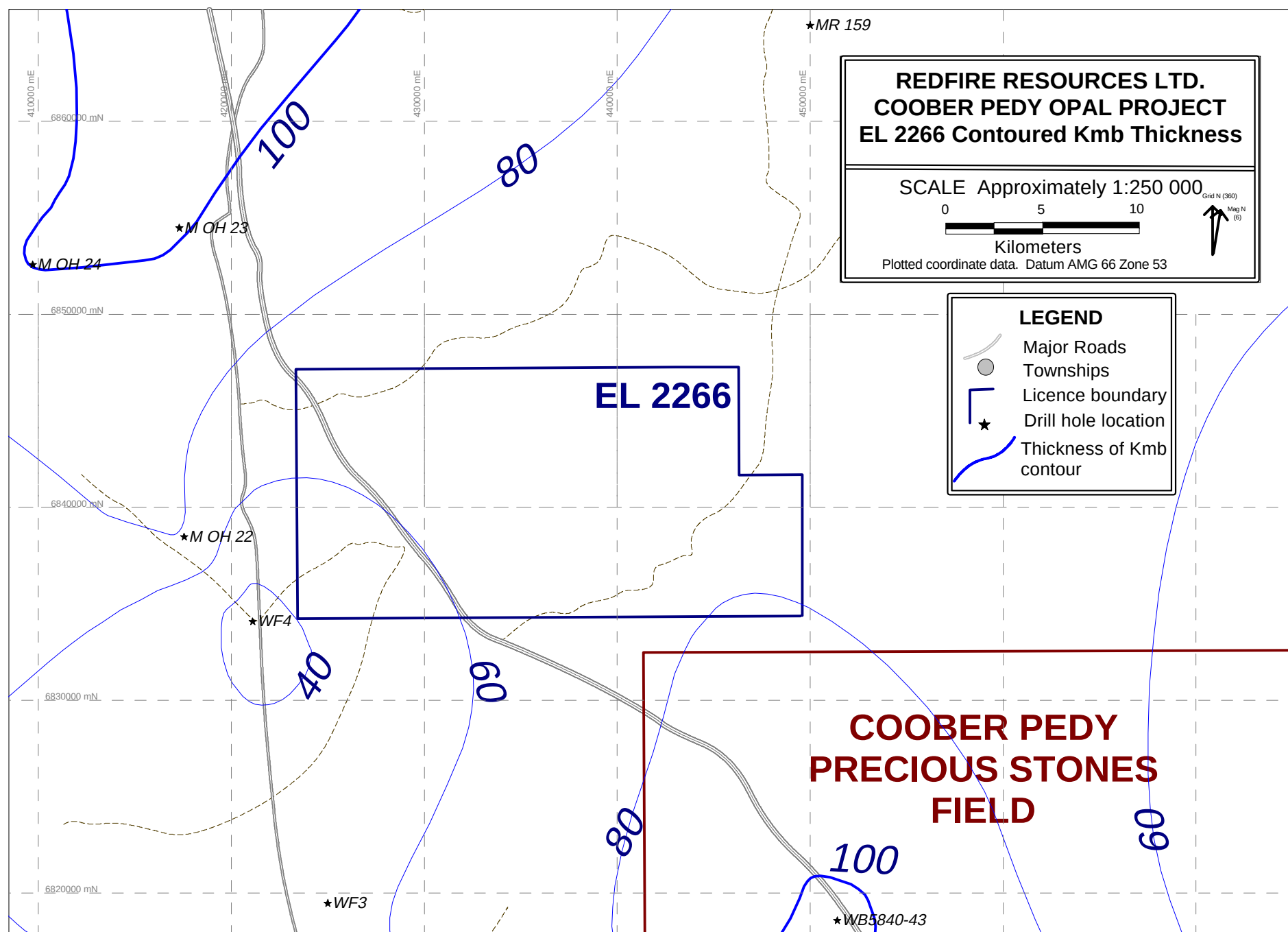
APPENDIX I

Results of drill hole research

Appendix I Results of drill hole research

Information of previous drill holes performed within the licence area was carried out by researching open file reports available through the Primary Industries and Resources of South Australia office. This has resulted in no drill holes being located within the licence area (excluding water bore data).

Using the available drill data (logs or summary logs) from the surrounding area, modelling of the thickness of the Bulldog Shale was carried out. The results of these interpretations indicate that the Bulldog Shale (target lithology for opal deposit exploration) is present throughout the licence area and is thinner in the south-west portion of the licence (towards the margin of the Eromanga Basin). This information is depicted in the following plan.



APPENDIX II

Results of field reconnaissance

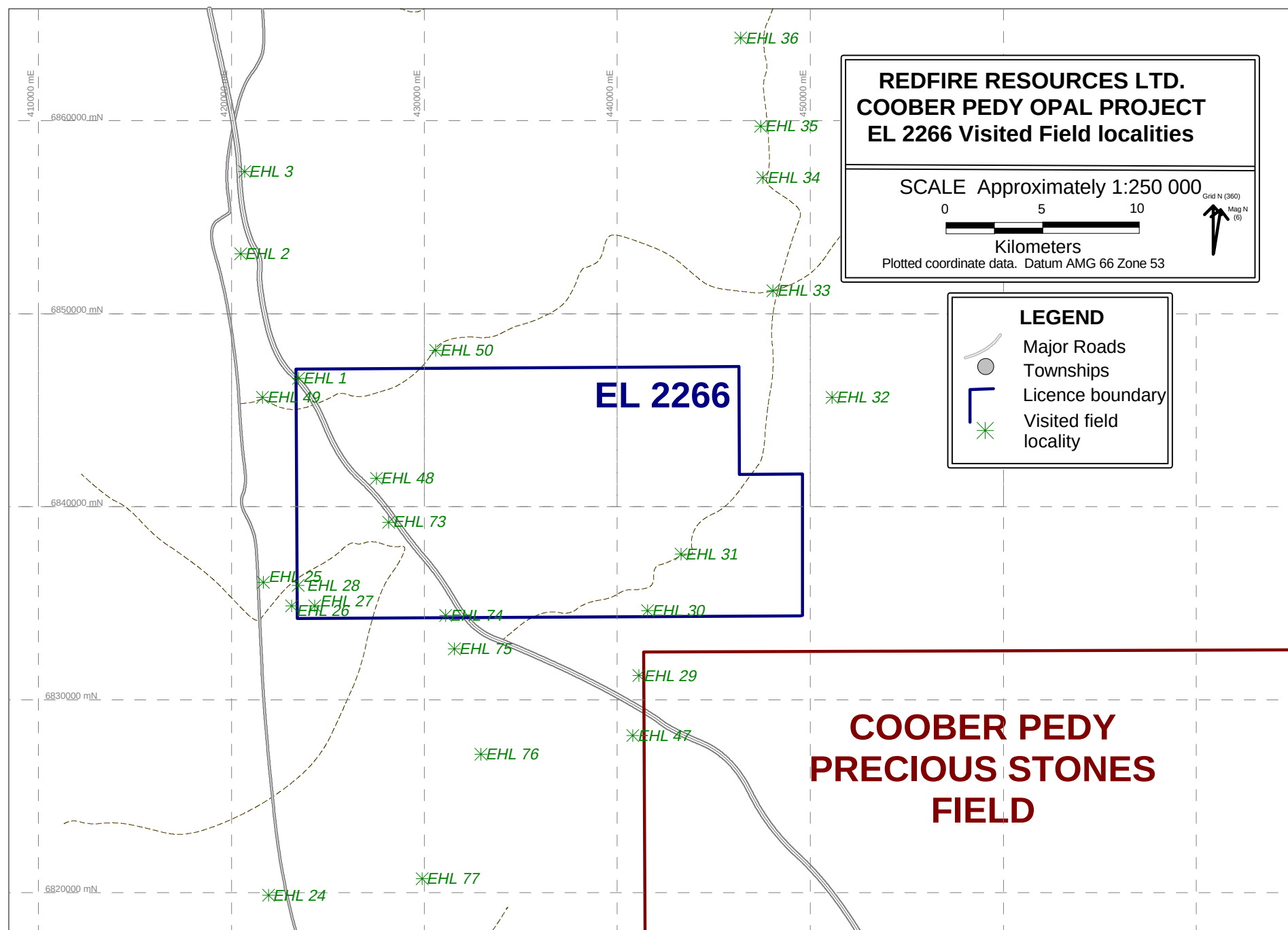
Appendix II Results of field reconnaissance

Field reconnaissance of the licence area has been carried out over the last few years via several short field excursions. Many of the target zones generated from remote geological interpretations have been briefly traversed, with observations noted and samples taken at indicative outcrops. Few samples have been collected away from the immediate areas surrounding existing opal workings, and no samples have been submitted for analysis. Brief field descriptions of sites visited within the licence area are given below and indicated on the following plan.

All sites were located in close proximity to existing access tracks, with locations positioned using a hand-held Garmin 12XL GPS. All coordinates are referenced to the Australian Metric Grid, Datum AGD 66.

REDFIRE RESOURCES LTD
FIELD DESCRIPTIONS OF SITES VISITED IN SURVEYS

Location Name	Date Visited	Location (GDA 66)		Site Description	Lithological Description	Opal Occurrences	Samples Taken	Photographs Taken	Priority of Area
		easting	northing						
EHL 1	8/05/98	423485	6846670	Murloocoppie area, creek with bridge crossing. Rabbit warrens and possible only hand holes in creek	Outcropping white porous CS, quite hard, low kaolin content. Upper 2 m silicified + broken (hard white) capped by thin (<1m) calcareous silts and 1-2m of grey silcrete	None observed	None	None	Low
EHL 25	7/12/99	421650	6836090	Russel Bore area, low escarpment	Gibber plains showing silcrete scree and some hard fgr CS scree. Surrounding hills show 'breakaways' of possible weathered CS	None observed	None	None	Very Low
EHL 26	7/12/99	423134	6834869	Russel Bore area, outcropping CS	Outcrop of poor hard white to purple fgr CS, minor grey silcrete float	None observed	None	None	Very Low
EHL 27	7/12/99	424330	6834870	Rabbit warrens atop small escarpment	Hard white altered CS capped by calcrete + grey and red conglomeritic silcrete float	None observed	None	None	Low
EHL 28	7/12/99	423475	6835940	Breakaways of CS with rabbit warrens exposing CS	More weathered, softer and kaolinitic CS kicked out of rabbit warrens. Softer CS to base of escarpment. Hills capped by grey + red SI	None observed	None	None	Low
EHL 29	8/12/99	441125	6831250	Upper Mosquito creek, low breakaways	Outcropping hard fgr white to mottled purple CS, softer and more kaolinitic to base. Capping of 1-2m grey silcrete up slope	None observed	None	None	Low
EHL 30	8/12/99	441570	6834620	Near Mosquito Creek, taller breakaways	Outcropping hard fgr siliceous CS, mottled clastic Fe-stained textures to CS (akin to near Copper Hills HS). Calcareous + ferruginous capping, very little developed silcrete.	None observed	Small sample taken of Fe-stained CS	None	Low
EHL 31	8/12/99	443290	6837540	Mosquito Creek, tall breakaways around creek (deep incision)	Outcropping poor hard white to purple fgr CS, some softer kaolinitic patches. Silcrete capping larger mesas in area.	None observed	None	None	Low
EHL 32	8/12/99	451125	6845675	Tea Pot Dam region	Multicoloured (predominantly orange, white and yellow) low rolling hills of hard fgr CS. Akin to near Copper Hills HS. Dam wall made of softer white gypsum rich CS (pushed out from depth)	None observed	None	2 photos of sedimentary levels within CS (camera was not winding on film)	Very Low
EHL 48	5/03/00	427520	6841475	Near Grouse Swamp Bore, shallowly dissected tableland	Outcrop of hard fgr white to purple mottled CS with grey silcrete scree overlying	None observed	None	None	Low - Moderate
EHL 49	5/03/00	421620	6845665	Murloocoppie rockholes, small chain of ponds in shallow creek	Outcropping hard fgr mottled purple to white CS ('blueground' at surface), upslope very little silcrete gravel scree overlying hard fgr CS	None observed	None	None	Very Low
EHL 50	5/03/00	430575	6848110	Towards Pannikan Dam, breakaways off tableland towards flat 'moon country'. Tableland vegetation similar to 'spooky ground'	Outcropping hard white fgr CS with minor softer and more mgr white kaolinitic CS closest to surface. Some hills capped by ~1m thick poorly developed grey silcrete	None observed	None	None	Low
EHL 73	8/03/00	428140	6839210	Railway line, good lookout to potential of this region	Observe from a distance breakaways of white CS capped by siliceous material	None observed	None	None	Low
EHL 74	8/03/00	431100	6834365	Railway crossing, minor shallow pit	Exposure of well developed platy calcrete + red silts >3m thick (Russo Beds), minor grey silcrete boulders. No exposed CS	None observed	None	None	Low
EHL 75	8/03/00	431565	6832645	Towards railway tower, low breakaways off from tableland, lower topography to SW	Outcrop of hard white fgr CS + grey silcrete scree. Minor hard to chippy CS exposed in warrens	None observed	None	None	Moderate - Low



APPENDIX III

Digital Terrain Modelling methodology

Appendix III Digital Terrain Modelling methodology

Digital Terrain Modelling (or DTM) is a pictorial presentation of the change in surface topography for a selected region. This information is used to more easily recognise higher topographic regions, which are areas most likely to have preserved thicker sequences of weathered Bulldog Shale. This weathered unit is the target lithology for opal exploration and is formed by deep weathering events occurring since the late Cretaceous. Field reconnaissance of these interpreted areas has confirmed that these depicted zones contain more intensely weathered claystone than surrounding areas. Abundant silcrete has also been mapped in the near surface environment throughout these topographically higher zones. The presence of this massive to bouldery silcrete has acted as a resistance to erosion of the underlying softer weathered shale units.

DTM plans were compiled by the PIRSA mapping branch from the readily available AUSLIG topographic data. This data is comprised of the available spot height and 50 metre contour data generated from compilation of the 1:250 000 topographical sheets for the region. A pixel size of 220 metres was used in generating the majority of the DTM images. Although this data is not as accurate as other methods available (ie. recent Digital Elevation Modelling (DEM) data recorded in conjunction with aeromagnetic/gravity surveys) the data is readily available and cheaply processed.

All grid coordinates on the DTM images are referenced to AGD 94. In some cases the overlying information is plotted in reference to AGD 66, and the underlying DTM image has been referenced to this coordinate system. All plans are annotated to the relevant coordinate system accordingly.

The DTM plans were generated at 1:500 000 and 1:250 000 scales for the project region. The pixel size was resampled to 100 metres from 220 metres for the smaller scale plan.

Plans are available in hard copy form only, with a scanned image for the Ant Hill project (at 1:500 000 scale) presented within the body of the report (Figure 3).

CONSOLIDATED BROKEN HILL Ltd.
ACN 009 423 858

ELY HILL EL 2252 (OPAL)
ANNUAL TECHNICAL REPORT
to 9 January 2002

Prepared for:
Consolidated Broken Hill Ltd.
Level 4, 12-14 O'Connell Street
Sydney, NSW, 2000

Prepared by:
C A Simpson (Consulting Geologist)
March 2002

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VOLUME 2 to EL2252 (opal) annual technical report

Copies of all 279 drill hole logs recorded (in the field) during the drilling operations.

SUBMISSION OF DIGITAL DATA

This report has been submitted digitally in the form of a .pdf (Adobe Portable Document Format) saved onto a labelled Compact Disk.

Label: Consolidated Broken Hill Ltd.
EL 2252 Annual report 2002
Digital submission of report

File name: EL2252_200203_01_Annual report

File size: approximately 600 Kilobytes

File Type: PDF (Adobe Portable Document Format)

Other files relevant to this report (tables and figures in appendices II & III, plus volume 2 – drill hole logs) are also saved onto this disk as outlined in the File verification listing. Digital format for these other files is in delimited ASCII, TIF or PDF as described in the file verification listing.

i SUMMARY OF ACTIVITIES

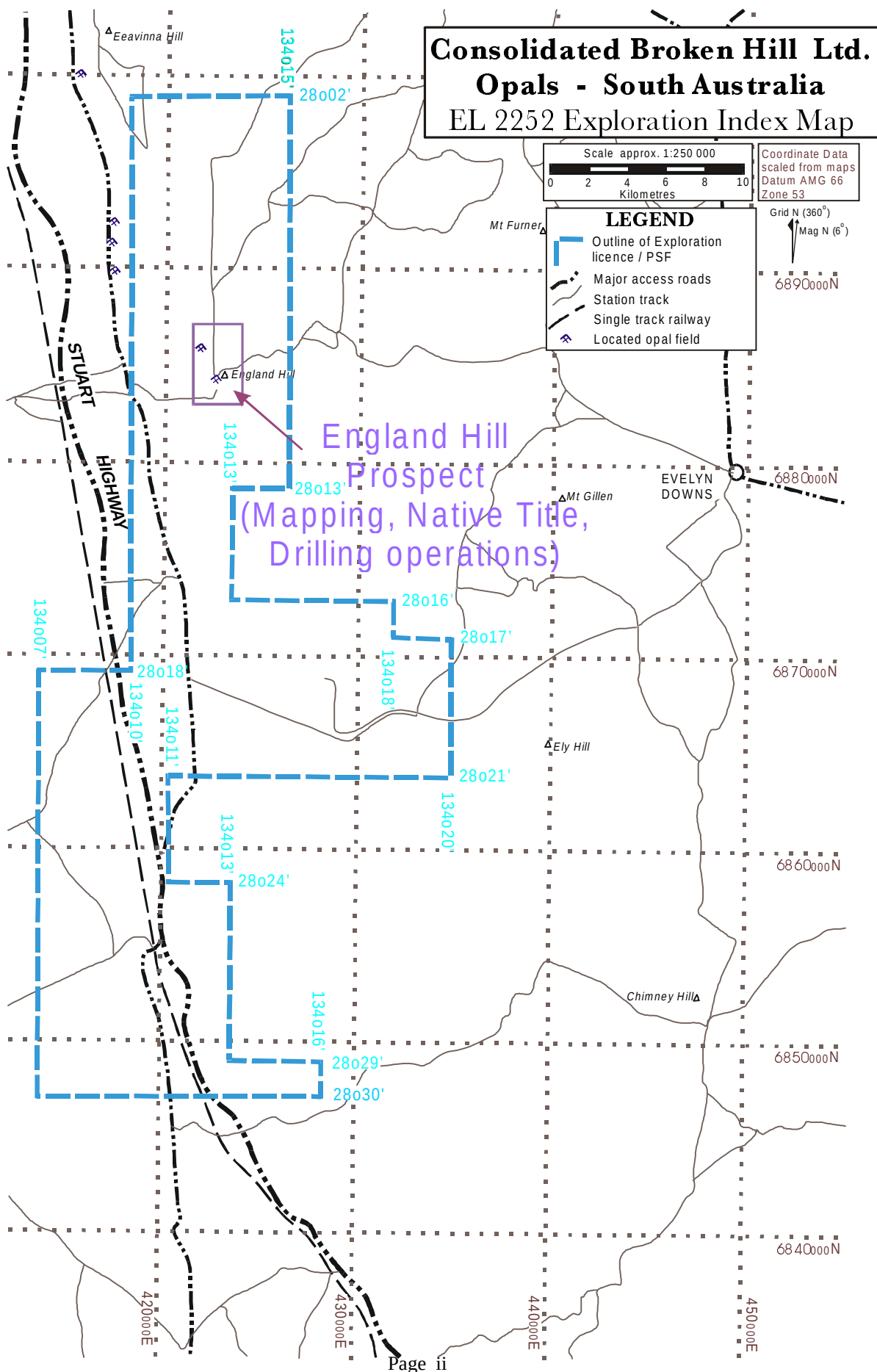
The Ely Hill project area is situated north-north-west of the township of Coober Pedy in the state of South Australia. Exploration activities are targeted at locating and developing large-scale opal deposits.

Activities carried out within the licence for the last 12 month period (10 January 2001 to 9 January 2002) include continued interpretation of all collected data, together with completion of a Native Title exploration agreement, and heritage clearance of a selected area. Exploration Work approval was given, and a first stage exploration drilling program has been carried out with positive results. Most of these activities were carried out upon the whole of the licence area, with Heritage clearances, drilling and mapping concentrated on the England Hill prospect (see Exploration Index Map).

ii KEYWORDS

Bulldog Shale, Cretaceous Aged, Digital Terrain Modelling, Drilling, Eromanga Basin, Field reconnaissance, Heritage clearances, Murloocoppie (SH 53-2 & 5741) mapsheets, Native Title, Opals, Photointerpretations, Remote sensing.

iii EXPLORATION INDEX MAP



1 INTRODUCTION, HISTORY AND EXPLORATION RATIONALE

Exploration licence 2252 is part of a project (including other exploration licences 2266, 2672 & 2787) targeted at locating and developing large-scale opal deposits within the Coober Pedy region of South Australia. This is the fifth and final annual report for this licence covering work carried out to 9 January 2002. A follow-on licence (ELA 113/01) is in the process of being granted over the same area as this licence, which will enable further work to be carried out.

Project work to date includes compilation of geological and opal occurrence data, aerial photograph geological interpretations, Digital Terrain Modelling and field reconnaissance of target areas. Native Title negotiations have been concluded, with an exploration agreement emplaced which enables ground disturbance operations over heritage cleared areas. Approved heritage clearances were carried out in February 2001 (see Appendix I for clearance report), with an Exploration Work approval granted in March 2001. These combined approvals enabled exploration operations to be carried out, however activities did not commence until October due to delays in obtaining a drilling contractor and Joint Venture partner.

A first-stage exploration drilling program for opals was carried during the term of this licence, results are given in the body of this report and in the appendices. Future exploration to mining work is planned for the follow-on licence.

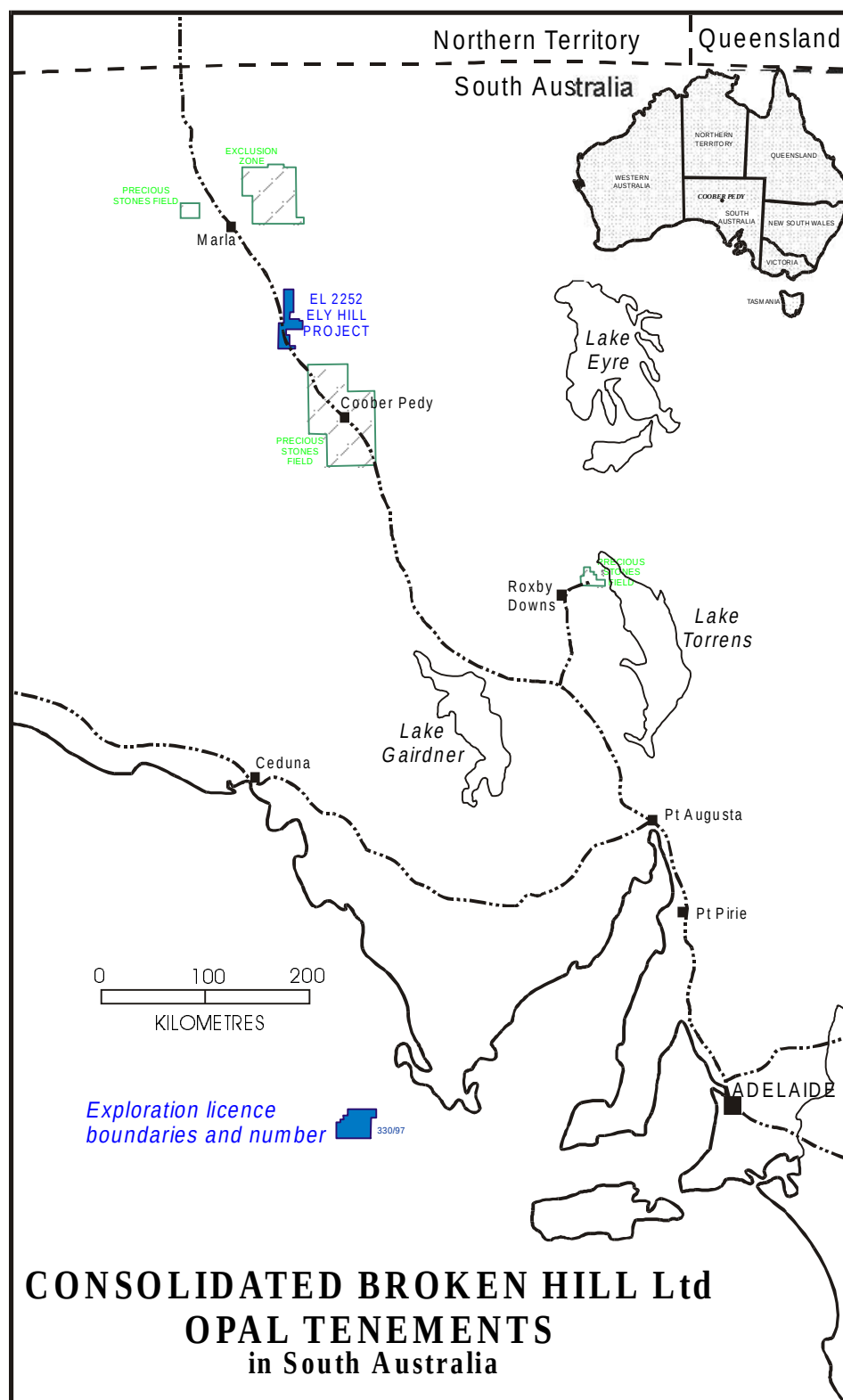
Exploration licence 2252 was granted to Rangeside Pty Ltd, a wholly owned subsidiary of Redfire Resources Ltd on the 10 January 1997, and has been renewed to its full term of 5 years over progressively reduced licence areas. The last licence reduction being within this reporting period (November 2001) where a 42% reduction in area was carried out, being 869 to 504 square kilometres (see *Simpson, 2002*). Due to a change in company focus during the year, the licence is now in ownership of Broken Hill operations Pty Ltd, a wholly owned subsidiary of Consolidated Broken Hill Ltd (same companies as previously mentioned with names changed). A joint venture agreement with Taipan X Pty Ltd to manage these licences is in the progress of being formalised. This company will earn an interest in the project by managing and funding exploration and mining operations.

The project area is situated in central South Australia, approximately 900 kilometres north-west of Adelaide (see Figure 1). Exploration Licence 2252 is fully contained within the Murloocoppie (SH 53-2) 1:250 000 and the Murloocoppie (5741) 1:100 000 sheets. The licence is centred approximately 95 kilometres north-north-west of the township of Coober Pedy. Access to the project area is via the sealed Stuart Highway and/or the old unsealed Stuart Highway that both traverse the western flank of the licence. Further access to the remainder of the licence area is via station tracks and fence lines traversing the region.

The area is situated in an arid zone typical of central Australia. Rainfall is very low, averaging 150 mm per year, with temperatures quite high in the summer months (mean average for January above 35 degrees Celsius). All creeks are ephemeral, and no permanent surface water exists (water holes in major creeks often hold water throughout the year, however can dry out in drought years). Vegetation is sparse upon the gently undulating gibber covered plains of the Stuart Range, being mostly grasses with few bushes and trees. The edge of the Stuart Range, characterised by

the 'breakaway' country, lies within the eastern portion of the licence. This is marked by an abrupt change in elevation (20 to 40 meters relative) over a short distance as numerous dissecting creeks drain eastwards off the escarpment. Cattle and sheep grazing are the main agricultural activities in the region, with the pastoral leases of Mt Willoughby and Evelyn Downs included within the licence area. These pastoralists were given renewed Notice of Entry forms within this reporting period, outlining details of the proposed exploration operations.

Figure 1.



Exploration licence 2252 is the first tenement to be granted for opal exploration over this area. Previously productive opal workings exist within the licence boundaries (England Hill region), however no records were kept for any opal mining or exploration activities (as opal mining legislation does not currently enforce record keeping). Some geological information on these workings has been recorded by the Department of Minerals and Energy from 1980 to 1992 (*Barnes et. al., 1992*). Previous exploration for other commodities has focussed on base metals and coal within the Coober Pedy region. Relevant information for this project area has been summarised in previous reports and will not be repeated here.

2 REGIONAL AND TENEMENT GEOLOGY

Regional and tenement geology, together with opal formation theories, has been outlined in detail within previous reports (*Simpson, 2001*) and will not be repeated here.

Within Exploration Licence 2252, extensive outcrops of Bulldog Shale (target lithology) have been mapped (*see Pitt and Barnes, 1976*), and is interpreted to exist below shallow cover throughout the licence area. Outcrops of intensely weathered shale have been mapped around previously productive opal workings within the England Hill zone (as described in previous reports, *see Simpson, 2001*). The locations of these workings were updated during this reporting period, and are outlined on the appended plans.

Drilling results indicate that the Bulldog Shale (various degrees of weathering and alteration) is present to depths of greater than 23 metres (no other underlying units encountered) throughout the England Hill region. Results of drilling and geological interpretations is given within the body and appendices of this report.

3 GEOPHYSICS

No geophysical surveys relevant to opal exploration have been carried out within the project.

4 REMOTE SENSING DATA

Photogeological interpretations and Digital Terrain Modelling (DTM) of the licence areas has interpreted prospective target zones with geological similarities to opal productive areas within the Coober Pedy Precious Stones Fields. Results of these interpretations have been given in previous reports and will not be repeated here.

5 SURFACE GEOCHEMISTRY

No geochemical surveys relevant to opal exploration have been carried out within the project.

6 DRILLING

Previous company and water bore drill holes (research) within the licence area has defined that the Bulldog Shale (target) lithology is present throughout the licence area and is substantially thick. Details of this drilling has been outlined in previous reports and will not be repeated here.

During this reporting period a total of 279 drill holes for 3,642 metres of Auger drilling was carried out by Taipan X Pty Ltd (the earning Joint Venture partners). These activities were carried out from 6 October to 14 December 2001 upon the England Hill prospect within EL 2252 (see exploration index map, and figure 2 for drill hole locations).

Drilling was performed using an Investigator Mk10A Auger drilling rig (designed for low cost and effective drilling within the opal industry) owned by Taipan X Pty Ltd. This drilling method is able to complete a small to medium diameter hole of approximately 10 inches in diameter (10 inch diameter drilling head with 9 inch diameter drill flights) to depths of 27.5 metres (90 feet). This relatively shallow drill depth is adequate to test the altered horizon of the Bulldog Shale (target lithology) in which opal deposits form. All holes were started and finished within the single day, with several holes per working day able to be drilled. Vertical drilling is the most practical declination for this method of drilling, and all holes upon the lease were performed in this manner. The drilling method automatically sieves the drilled material into 2 fractions (+ 6.4 mm and – 6.4 mm) as shown in Plate 1, with the coarse fraction (approximately 5 litres in size) geologically logged, and samples laid out on the surface for future reference. The fine fraction (conveyed out from beneath the rotating sieve) is used to back-fill the drill hole after being visually checked for opal mineralisation.

Plate 1.
Auger opal
exploration
Drilling rig
in operation

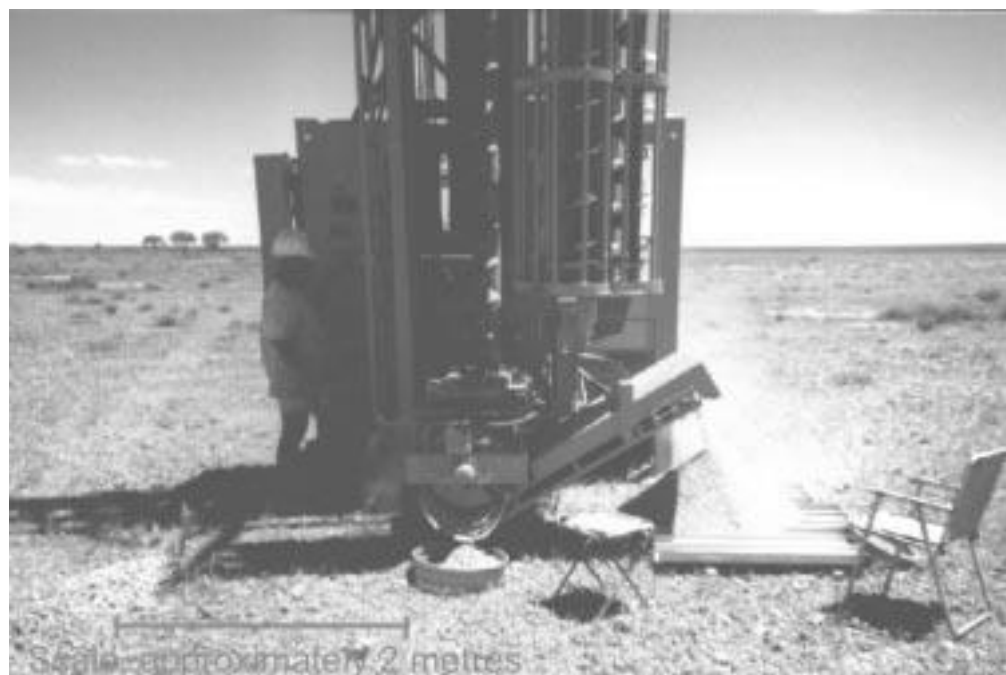
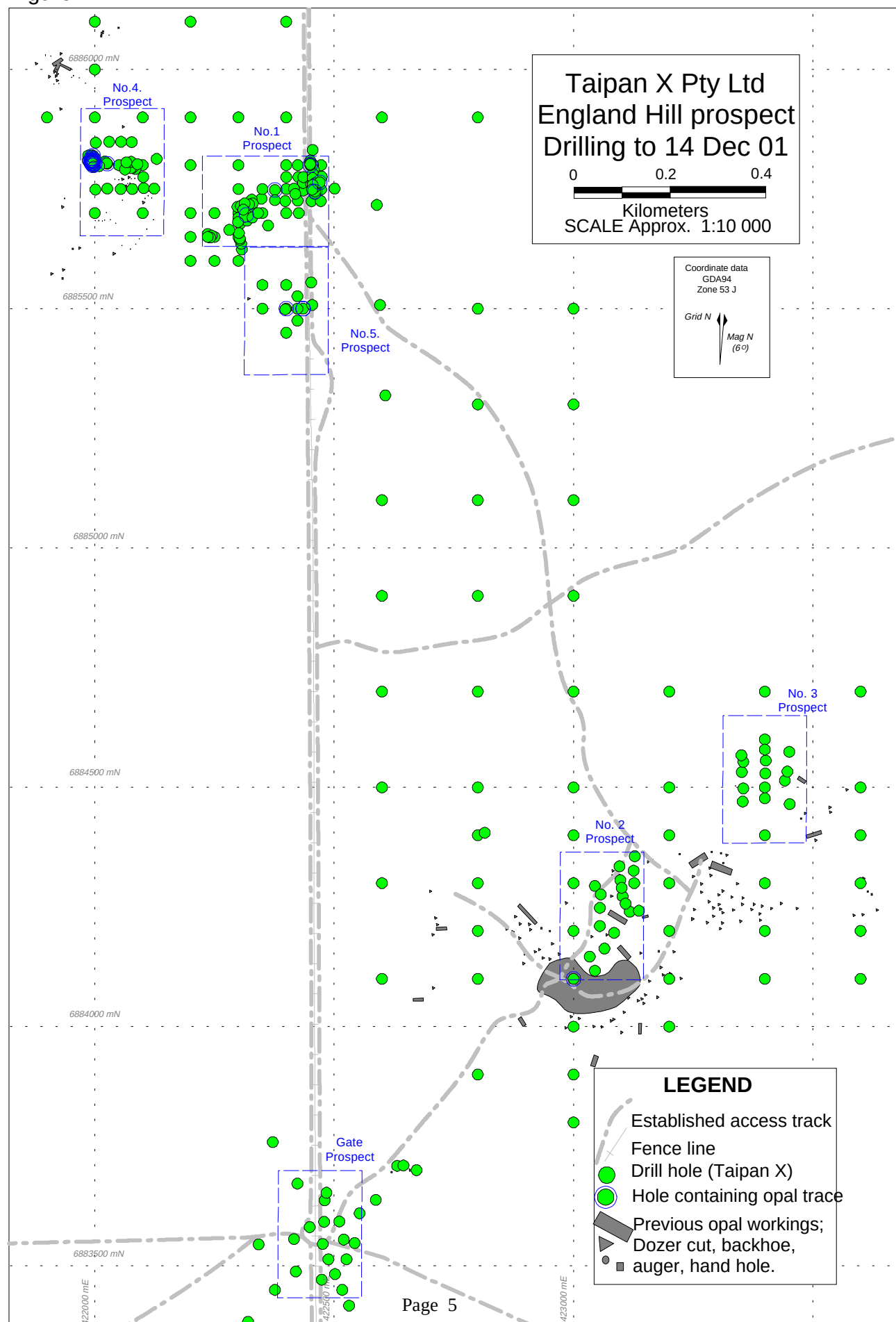


Figure 2.



The purpose of this drilling was in order to define geological based small-scale targets within the prospect area where economic opal deposits could be located and profitably mined. Broad spaced drilling (100 to 200 metre spaced drill holes on 200 metre spaced traverses) was initially carried out to define the broad geological controls for the prospect area. Infill drilling around sites of interest was then carried out (50 metre to 25 metre grid spacings), and further infill drilling was carried out where strong geological and opal mineralisation indicators were located. The collar location and other drill hole information for all holes is given in Appendix II. Drill hole logs are contained in Volume 2 of this report.

Geological indicators of opal potential were recognised in 6 small prospect areas within the England Hill region (as outlined in Figure 2), and infill drilling was performed to evaluate their potential. Results of these operations is given in section 9, with relevant prospect plans and interpretations given in Appendix III.

Samples of opal indicators (colour opal, patch, *bone*, *matrix*^{*1} etc.) were collected during drilling operations, and stored in labelled plastic bags for compilation purposes and future reference. Lists of holes containing opal indicators is given in section 9 (Table 1) and Appendix II. No geochemical analyses or petrology has been performed on the drill hole samples, as there is no developed method applicable to opal exploration enabling efficient ore deposit analysis. Similarly no down hole surveys were carried out for the same purpose.

Representative samples for the drilling have been collected and are stored at Coober Pedy for submission at the surrender of the licence.

No ground water was encountered in the drilling, and there are no recognised aquifers.

There has been no large diameter (Calweld) drilling carried out by the operators upon the licence to date.

*1 – These are 'miners terms' for opal indicators, *bone* being chalky opaline silica, and *matrix* being sandy opaline silica.

7 OTHER STUDIES OR WORK

All previous maps and plans generated throughout research upon this licence have been tied into a cohesive grid for mapping purposes (GDA 94), and all future operations will be in reference to this grid.

8 ENVIRONMENT

An exploration work approval was given in March 2001 to carry out ground disturbance operations within the England Hill region. This approval was given under accordance with strict environmental guidelines which have been adhered to throughout drilling operations. All drill holes performed in operations were back-filled to the surface upon completion of the hole, and top soil was scattered over any remaining cuttings so as to promote regrowth of vegetation (see plates 2 & 3 for representative before and after drill hole sites).

Plate 2.
Drill hole site
before drilling



Plate 3.
Drill hole site after
drilling and back-
filling (partially
naturally
rehabilitated)



Existing tracks were used to gain access to the majority of drill sites, and an existing camp area was used for the base of operations. No earthworks were carried out in preparing new tracks, camp areas or drill sites, and therefore no rehabilitation of these areas was required. In the circumstances where 'new' access tracks were made (by driving over the predominantly rocky surface) to other drill sites, effort was made to avoid any densely vegetated areas. These 'new tracks' are being naturally rehabilitated very effectively as there was minimal disturbance to the few grasses that exist in this area.

Due to excessively larger than normal rainfall for this region during the drilling operations, natural processes have been very effective at rehabilitating the ground disturbance work carried out in the England Hill region.

No other ground disturbance work was carried out in the remainder of the licence area.

9 ORE RESERVES AND RESOURCES

Infill drilling over defined targets within the England Hill prospects has outlined potential mineable areas for the recovery of saleable opal. Due to the sporadic nature of opal formation, ore reserves or resources can not be estimated until substantial bulk sampling has taken place. As such there are no reportable reserves or resources.

The infill drilling that was carried out has been able to delineate the extents of high potential areas for opal deposits to form (using geological observations for controls). These areas now require further 'second stage' targeted drilling along and across the strike of interpreted mineralisation, which will then be able to define the extent and grade of the 'potential opal resources'. Bulk sampling of selected areas within these defined zones will then be able to estimate an inferred opal resource.

Holes that recovered 'reasonable opal indicators' are given in Table 1 below, with locations for these and descriptions and maps showing results for each prospect area given in Appendices II and III.

Table 1.

Taipan X England Hill drilling prospect 2001
Drill hole locations with significant opal trace

Hole no	opal depth from	opal depth to	Opal trace	Comments
EHA011	6	7	P shell	Blue potch shell fragment
EHA019	12	13	P shell	White potch shell fragment
EHA029	2	4	P black	Black potch verticals (?) and light blue potch seam
EHA107	7	8	B	Poor white bone material
EHA107	10	11	P milky	Milky white potch vertical (?) fragment
EHA121	6	7	B	Poor white bone material with alunite
EHA164	9	10	P broken	Broken poor milky white potch in Gypsum veins
EHA180	5	6	P grey/angelstone	Porcelanite angelstone to poor grey potch
EHA222	3	5	P yellow	Poor yellow potch to very milky yellow silcrete
EHA235	8	9	P yellow	yellow stained translucent poor potch
EHA244	9	10	M	Dark grey hard porcelanite matrix
EHA252	2	3	P lead	Lead-grey to black potch small chips (verticals ?)
EHA254	2	3	P magpie	Mottled leady-grey to black potch large chips
EHA255	2	3	M	Small chip of dark grey matrix to potch
EHA258	2	3	P dkblue	Dark blue to black potch small chip
EHA259	2	3	P blk, C white	Black potch verticals (?) and white potch with weak red colour bars
EHA262	3	4	P magpie	Large chip of mottled leady-grey to black potch
EHA263	2	3	P lead, C white	Lead-grey potch chips and very thin white potch with green colour
EHA265	5	6	P blk pipe	Jet black coloured potch pipe (shell) portion
EHA269	2	3	P dkblue	Dark blue to black potch small chip
EHA273	3	4	M	Porcelanite angelstone to poor light brown matrix
EHA274	2	3	P lead	Lead-grey to light blue potch large chips on white matrix
EHA274	4	5	C lead	Lead-grey to milky white potch containing strong red to blue colour flashes
EHA276	3	4	P blue	Dark blue to leady-grey potch chip
EHA277	2	3	P lead	Lead-grey to milky blue potch large chip
EHA278	2	3	P lead	Lead-grey to milky blue potch chips and very weak blue-green colour

10 EXPENDITURE

Total expenditure for the licence over the last 12 months has been \$ 52,919 with a detailed expenditure statement given in Table 2. Cumulative expenditure for the licence at the end of this reporting period was \$ 164,964.

Table 2.

Expenditure statement for EL 2252 (opal)	
Program logistics (communications, office services, incidentals etc.)	\$ 1,054.34
Data acquisition	\$ 0.00
Field living	\$ 1,333.35
Field travel	\$ 2,123.99
Geological consultants	\$ 14,766.00
Native Title – consultants	\$ 3,822.00
Native Title – expenditures	\$ 2,125.00
Overheads	\$ 0.00
Drilling costs	\$ 17,779.47
Depreciation of equipment (drilling rig)	\$ 3,825.35
Tenement – rents, sundry fees	\$ 1221.00
Personnel – wages geological	\$ 58.00
Administration and management (10%)	\$ 4,810.85
Total Expenditure	\$ 52,919.35
Cumulative expenditure for EL2252	\$ 164,964.15

11 CONCLUSIONS

Previous research and interpretation of the licence area has depicted priority regional targets for the location of opal resources. A high priority area surrounding previously productive opal workings within the England Hill region was chosen as the site to commence operations. Native Title agreements and heritage clearances were completed within this reporting period. Together with the granting of an Exploration Work approval, ground disturbance activities were then able to be undertaken.

Exploration drilling operations were performed during October to December 2001 within the England Hill region using an Auger drilling rig. A total of 279 drill holes for 3,642 metres of drilling were completed during these activities. All holes were geologically logged, and samples of opal indicators collected during drilling operations.

Results of this first-stage drilling program indicate that there are many high potential areas where opal deposits could be located upon the England Hill prospect. Of the 6 smaller prospects (within the England Hill prospect) tested within this program (many more areas remain untested), 4 had the presence of moderate to strong opal indicators, with infill drilling in some areas recovering patch and colour opal (see Appendix III for results).

'Basins' of intensely altered (highly kaolinitic) claystone have been identified in many areas upon the England Hill prospect. In the observation of opal deposits within the Coober Pedy region, this is a major control on the formation of opal deposits (see *Simpson, 2000(a)*). Within these geologically depicted target areas, small-scale structures and lithological (+/- chemical) variations in the host-rock influence the formation of opal deposits. A comprehensive understanding of these small-scale 'opal forming' controls has not been made within the first-stage drilling program upon the England Hill prospect, and bulk-sampling analyses on sites of 'particular interest' is required in order to gather this information.

Further infill drilling and bulk sampling is planned within the forthcoming field season upon the follow-on licence, with the aim of delineating mineable opal deposits.

The prospectivity of the licence to host large-scale opal deposits (both within and outside the England Hill prospect) remains high.

12 REFERENCES

- Barnes L.C., Townsend I.J., Robertson R.S. & Scott D.C. 1992; Opal: South Australia's gemstone, *South Australia department of Mines and Energy handbook no 5. (revised edition)*.
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- Simpson C.A. 2002; EL's 2252, 2266, 2672 & 2787 (opal), *Partial relinquishment report to 2 November 2001*.
- Simpson C.A. 2001; Ely Hill, EL 2252 (opal), *Annual report to 9 January 2001*.
- Simpson C.A. 2000(a); Coober Pedy drilling program 2000, *unpublished report for the Coober Pedy Miners Association Inc, South Australian Opal Miners Association Inc, and Primary Industries and Resources South Australia*.
- Simpson C.A. 2000(b); Ant Hill, EL's 2252 & 2266 (opal), *Annual report to 13 February 2000*.
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APPENDIX I

Native Title Heritage clearance survey



Aboriginal Legal Rights Movement, Inc.

Native Title Unit

**WORK AREA CLEARANCE
OPALS - ENGLAND HILL REGION
(EL 2252)**

**REPORT
to
REDFIRE RESOURCES LTD**

Sandra Jarvis and Mike Harding

28 February 2001

1. Background

Redfire Resources Ltd wish to conduct exploratory drilling at three locations - designated Priority Areas 1 to 3 - in the England Hill region of Mt Willoughby and Evelyn Downs stations, to assess the viability of opal mining. These locations are situated on EL 2252 held by Redfire Resources Ltd. The Proponent intends to undertake broad spaced reconnaissance drilling (100 to 400 metre drill hole spacings) within their priority areas. See Attachment A for a more detailed explanation of the proponent's work activities, and Attachment B, a map of the area in question.

In accordance with Part 9 B of the *Mining Act SA 1971*, Redfire Resources Pty Ltd have initiated negotiations with the registered native Title Claimants, the Antakirinja (SC95/007). Consistent with these negotiations

Redfire Resources Ltd requested a one day Work Area Clearance of Priority Area 1. While Priority Area 1 was to be cleared in the first instance, there was an expectation that the others might also be cleared if there was time. A Work Area Clearance with Antakirinja Native Title claimants was conducted on Sunday 11 February 2001. The purpose of the Work Area Clearance was to consider whether Redfire Resources Ltd proposed work program would damage, disturb or interfere with any area of significance, as defined in the *Aboriginal Heritage Act (SA) 1988* or the *Aboriginal and Torres Strait Islander Heritage Protection Act 1984*.

2. Methodology

The clearance team comprised of four female participants and seven male participants, along with a female and male anthropologist (Sandra Jarvis, and Mike Harding). Prior to the commencement of the site visits, members of the clearance team, as well as members of Antakirinja Native Title claim group, met with Redfire Resources Ltd representatives on Thursday, 8 February 2001 in Coober Pedy to discuss the clearance requirements, as well as the scope of the proponents activities in the area.

The clearance team travelled to Mt Willoughby station on Sunday, 11 February to physically inspect the area. Redfire Resources Geologist Mr Clayton Simpson and consultant Mr David Genat also accompanied the clearance team to direct the clearance team to specific locations, and to provide technical advice when needed. The two men stayed well away from the clearance team while the claimants deliberated.

GPS coordinates of each of the four corner points of Priority Area 1 were taken for accuracy of location. Grid references were obtained by the male anthropologist in the field using a Trimble GeoExplorer portable GPS.

Female and male claimants considered Redfire Resources proposed work program at the identified locations in a culturally appropriate manner as separate gender groups in the field and there was unanimous agreement on the site clearance decision. This was relayed to the anthropologists in the

field, and at a subsequent meeting between the claimants and anthropologists in Coober Pedy to summarise the days activities.

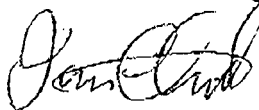
3. Summary of findings

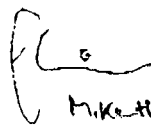
The Priority 1 site was cleared for exploratory drilling, as described in the work program, attached, by all members of the clearance team after physically traversing the outer perimeter of the area. Men on the clearance team also inspected the England Hill escarpment in the course of this site inspection.

The following grid references for each corner of the Priority 1 site were collected and are noted as follows:

South eastern corner:	423835.3 mE	6883519.8 mN
North eastern corner:	423775.4 mE	6887216.0 mN
South western corner:	421493.3 mE	6883501.5 mN
North western corner:	421494.3 mE	6887230.9 mN

Although the Priority Area 1 site was cleared, claimants have asked that all travel to the site be restricted to main formed roads. On no account is there to be any recreational or off-road travel in this area. Because of its distance from Coober Pedy and the difficult nature of the terrain to be traversed, the assessment of Priority Area 1 took the entire day allowed and there was no time to consider the other areas.

Ian Crombie



Mike Harding
28/2/01

Sandra Jarvis
28/2/01
Bill Lennors

ATTACHMENT A

PROPOSED EXPLORATION TO MINING WORK PROGRAMME

Clearances are to be carried out on defined areas as indicated on the following plans at 1:100 000 scale. There are two project regions located north (England Hill) and south (Teal Hole) of the Coober Pedy Township. The specified zones are areas where the explorer wishes to carry out mining exploration operations (MEO) within then next few years. Priorities of these areas (as indicated on the plans) are priorities for each region and likely reflect in which years MEO will be carried out on these zones (ie. priority 3 area implies will be explored within 3 years).

The size of these zones is approximately 5 square kilometres each, with access to these areas good via using existing well kept station tracks. These zones are located on gradual sloping hills away from any 'breakaway country' and any major stream courses, which we interpret will make the clearance processes able to be carried out quickly. It is expected that at least one priority zone per region can be cleared in one day, with a high preference that all 3 zones (per region) can be cleared in one day of surveying.

The explorer wishes to pay clearance costs of one day only for each project region, making a total of two days clearance for completing the survey within all of the exploration licences (ie. one day within the England Hill region and one day within the Teal Hole region). The lower priority zones and other yet to be defined zones will be cleared at a latter date only if the project is successful in locating economic opal deposits upon the initial exploration sites.

Following clearance of these areas, the explorer will undertake broad spaced (100 to 400 metre drill hole spacings) reconnaissance drilling within these defined zones. Native Title clearances are expected to be completed by early February 2001, with field activities expecting to be initiated as soon as practical after the clearance approvals.

Exploratory drilling will utilise small diameter (4 inch to 9 inch) drill holes within a broad spaced pattern, using existing tracks and roads as much as possible. Only one drilling rig will be used on site for this early stage of the programme, with field staff likely involving 1 driller, 1 geologist and 1 field operator (3 persons in total). All non-potential drill holes performed within the reconnaissance-drilling programme will be back-filled to surface level and remaining drill-spoil sufficiently scattered in order that vegetation will not suffer from these activities.

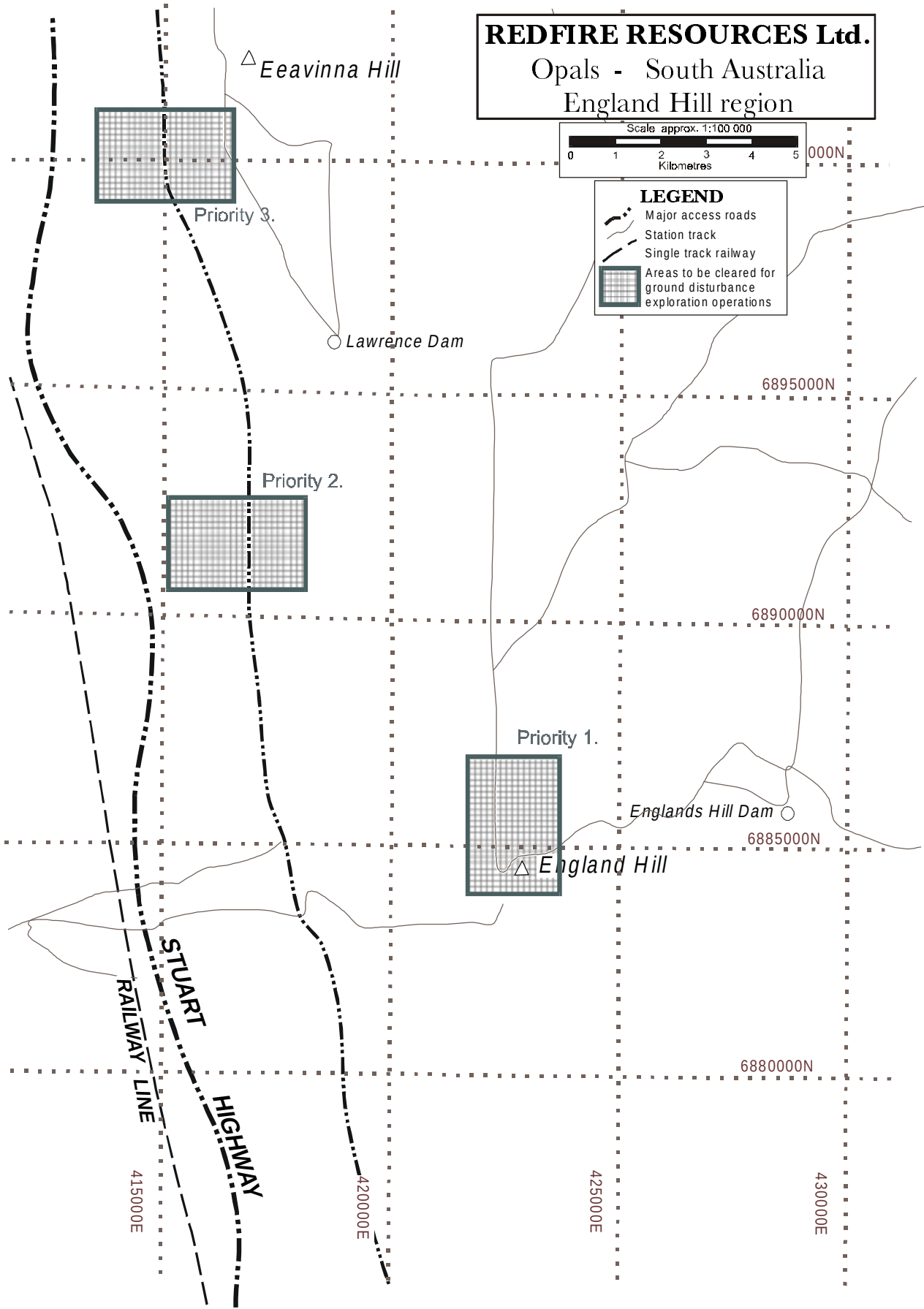
Defined potential zones within the initial programme (likely less than 0.5 square kilometres in size) will be further evaluated by closer spaced drilling before larger diameter drilling (1 metre sized holes utilising a Calweld drilling rig) will be used to evaluate the most potential sites. Field personnel on site for this entire exploration program is not expected to exceed 6 persons. Again all non-potential drill holes (including Calweld Holes) will be rehabilitated to the satisfaction of regulations outlined within enforced mining legislation.

If this exploration programme is successful in locating potentially economic opal deposits, testing of these deposits will be carried out utilising machinery similar to that used within the Coober Pedy Precious Stones Field (ie. Tunnelling Machines, Blowers, Excavators, Bulldozers). Predicted mining activities will likely involve less than 10 persons per production tenement, with activities extending for a minimum of a few months and potentially several years. Timing of these trial mining operations is dependent upon success of results, granting of production tenements, Native Title production agreement and work approvals. If operations run smoothly, trial mining could be initiated within the second half year of 2001.

This trial mining will be carried out under strict environmental guidelines as specified under regulations outlined within enforced mining legislation. Guidelines for this include backfilling of all mined areas to reflect as closely as possible the natural land surface.

It is imperative to convey that our predicted mining activities will not be akin to occurrences within the Coober Pedy Precious Stones Fields. As we are working outside of the Precious Stones Field we are enforced to work under strict environmental guidelines. In addition to this, our methods and procedures allow for only the most potential sites to have ground-disturbance operations carried out upon them. In this way we minimise the areas that will be disturbed in comparison to the willy-nilly mining that is sometimes observed within the Coober Pedy Precious Stones Field and other mining areas.

ATTACHMENT B



APPENDIX II

Drill hole information

Appendix II - Drill hole information

All holes upon the England Hill prospect were geologically logged by every 1 metre vertical interval for compilation, interpretation, reporting and future reference purposes. A total of 279 drill holes for 3,642 metres of Auger drilling was carried out by Taipan X Pty Ltd (the earning joint venture partners). Details of the drilling equipment used in operations is given within the body of this report.

Each individual drill log recorded within this program is contained as volume 2 of this report.

Header data and lithological information for all drill holes have been summarised into the following tables for purposes of ease of reference and geological modelling.

Collar locations for drill holes were taken using a Garmin 12XL hand-held GPS, with collar elevations also taken using this tool. The coordinate system is GDA94, using WGS84 as the datum, with all locations in zone 53 J. Levelling of anomalous altitudes was corrected using visual interpretations (easiest method as topographic variations are minor upon this relatively flat prospect). This levelling was required due to the fact of hand-held GPS's having an unreliable accuracy within the vertical plane. All coordinates taken have been plotted to the conventional Map Grid of Australia (MGA).

Drilling codes have been used throughout the logging and modelling activities for ease of recording. These are referenced in the following tables. The formation names used for stratigraphic correlations are taken from regional geological mapping of the area (*Pitt and Barnes, 1976*).

Opal indicators recorded include colour and patch opal, together with less strong opal indicators of *bone* (chalky opaline silica) and *matrix* (sandy opaline silica). Other opal indicators include *angelstone* (porcelain fine grained claystone with opaline lustre), and replacement of fossil tubules (cavities caused by burrowing insects or plant roots) by opaline material (usually *bone*). Mobilisation of opaline silica into the overlying Tertiary sediments is recognised by very opaline jasper which can be mistaken for brown or yellow patch (and are recorded as such to indicate their significance). Information on nature of indicators is noted in the geological logs contained in Volume 2 of this report.

There are abundant opal indicators within the drilling that has been recently carried out. There are also many more recognised geological trends throughout the prospects, which point towards the existence of rich saleable opal deposits within the England Hill prospect.

Taipan X England Hill drilling prospect 2001

DRILL HOLE LOGGING REFERENCE GUIDE

Colour

dk	dark colour
lt	light colour
bl	blue
bk	black
br	brown
cr	cream
gn	green
gy	grey
or	orange
pk	pink
pu	purple
rd	red
wh	white
ye	yellow

Rock Types

AL	Alluvium
CC	Calcrete
CH	Chert
CL	Clay
CO	Conglomerate
CS	Claystone
JA	Jasper
LI	Limestone
QZ	Quartz
SA	Sands
SH	Shale
SI	Silcrete (massive)
SL	Soil
SS	Sandstone
ST	Silt
SST	Siltstone

Minerals

Al	Alunite
Fe	Iron
Go	Goethite
Gy	Gypsum
Hm	Hematite
Lo	Limonite
Py	Pyrite
Mn	Manganese
Qtz	Quartz

Quantity of minerals / Opals

tr	Trace (<2%)
min	Minor (2-20%)
maj	Major (20-100%)

Opal Types

C	Colour (glassy silica - play of colours)
P	Potch (glassy silica - no colour)
M	Matrix (sandy opaline silica)
Mangel	Angelstone (porcelain claystone, with opaline lustre)
B	Bone (chalky opaline silica)
Br	Tubules or cavities replaced with chalky opaline silica
Si	chalcedonic silica (milky or translucent colouring)
Shell	Replacement of shell material with any variety of opal as mentioned above

Hardness

VH	Very hard, silicified / cemented
H	Hard, partially cemented
S	Soft, competent but easily broken
F	Friable, easily broken by hand
U/C	Unconsolidated

Sample Quality

G	Good
M	Moderate
P	Poor
WIND	Sample material extracted whilst augers being rotated before being raised
PULL	Sample material extracted whilst augers being raised

Shape of drill chips

AA	Angular
SA	Sub-angular
SR	Sub-rounded
RR	Rounded

Grainsize of lithologies

(Note: grainsize all in clay fraction unless otherwise noted, with variations depicting relative changes in recognised mineralogical textures)

v.fgr	very fine grained
fgr	fine grained
mgr	medium grained
cgr	coarse grained

Taipan X England Hill drilling prospect 2001

Symbol	Unit	Lithology	colouring
Qa	Soil/Alluvium	Recent soils and alluvium, mostly unconsolidated	varicoloured
Qs	Sands	Aeolian sands	varicoloured
Qsi	Silcrete	Massive greybilly silcrete	grey to red
Tli	Limestone	Mt Willoughby or Mangatitja Limestones. Soft silty to dense dolomitic limestone, pisolitic and concretionary in part	Pale coloured
Tdo	Doonbara Formation equivalent	Ferruginous and calcareous rocks incorporating reworked surfaces (silcretes, shales). Variably silicified to form red, brown and cream coloured jaspers	red-brown
Tmk	Mirackina Conglomerate	Fine to coarse conglomerate with rounded silcrete and quartz clasts. Matrix of sands, silts or shales. Upper parts heavily silicified and often ferruginised.	varicoloured
Tsi	Silcrete	Massive silicification of units or Jasper bands	grey-brown to red-brown
Klk	Coorakinna Sandstone member	Fine to coarse grained, kaolinitic, feldspathic, micaceous and glauconitic quartz sandstone. Interbeds of sandy siltstone and silty shale. Bioturbation and cross bedding in sandstones.	varicoloured
Kmb1	Bulldog Shale (chippy)	Silty or sandy claystone, intensely weathered, kaolin dominant, partially cemented by opal-CT to give a 'crisp' brittle texture.	white to varicoloured
Kmb2	Bulldog Shale (intermediate)	Silty or sandy claystone, intensely weathered, kaolin dominant, little to no cementation by opal-CT with an often inhomogeneous (broken) texture.	dull-white to varicoloured
Kmb3	Bulldog Shale (mud)	Silty or sandy claystone, less weathered, smectite more common, often more moist and plastic texture (when freshly drilled).	Mauve, grey to brown
Kmb4	Bulldog Shale (blueground)	Hard, brittle claystone (unweathered?), cemented by pervasive opaline silica. Sedimentary textures may be preserved.	varicoloured
Klc	Cadna-owie Formation	Fine to medium grained conglomeritic and feldspathic sandstones with clasts of porphyritic rhyolites and dacites, quartz and quartzites.	varicoloured
Jua	Algebuckina Sandstone	Fine to coarse grained cross-bedded kaolinitic sandstones to clays, conglomeritic in part. Minor siltstones and shales observed.	white to pale brown

Refer to file EL2252_200203_03_DHolelocations.txt

Taipan X England Hill drilling prospect 2001											
Summary of drill hole collar locations and down hole information											
Collar locations in coordinate system GDA94 (using WGS84 as datum) and in zone 53J											
HoleNo	MGA(E)	MGA(N)	CollarRL(N)	Azimuth	Dip	HoleDepth	Abd.Holes	OpalTrace	OpalDepth	OpalDepth	Prospect
EHA001	423200	6884000	315	0	90	9					Regional
EHA002	423200	6884100	316	0	90	9					Regional
EHA003	423200	6884200	319	0	90	13					Regional
EHA004	423200	6884300	323	0	90	14					Regional
EHA005	423200	6884400	325	0	90	18					Regional
EHA006	423200	6884500	324	0	90	14					Regional
EHA007	423200	6884700	324	0	90	17					Regional
EHA008	423000	6883800	311	0	90	8					Regional
EHA009	423000	6883900	313	0	90	6					Regional
EHA010	423000	6884000	315	0	90	6					Regional
EHA011	423000	6884100	317	0	90	9		P shell	6	7	Regional
EHA012	423000	6884200	323	0	90	14					Regional
EHA013	423000	6884300	325	0	90	3	Abd				Regional
EHA014	423000	6884400	325	0	90	15					Regional
EHA015	423000	6884500	327	0	90	18					Regional
EHA016	423000	6884700	327	0	90	23					Regional
EHA017	423000	6884900	328	0	90	18					Regional
EHA018	423000	6885100	325	0	90	15					Regional
EHA019	422400	6885500	324	0	90	15		P shell	12	13	Regional
EHA020	422400	6885700	324	0	90	17					Regional
EHA021	422400	6885900	324	0	90	14					Regional
EHA022	422300	6885900	322	0	90	14					Regional
EHA023	422200	6885900	320	0	90	18					Regional
EHA024	422100	6885900	316	0	90	14					Regional
EHA025	422000	6885900	313	0	90	13					Regional
EHA026	421900	6885900	315	0	90	9					Regional
EHA027	422000	6886100	311	0	90	6					Regional
EHA028	422000	6886000	312	0	90	10					Regional
EHA029	422000	6885803	313	0	90	9		P black	2	4	Regional
EHA030	422100	6885800	319	0	90	13		Br	2	4	Regional

1-EL2252_200203_03_DHolelocatio

HoleNo	MGA(E)	MGA(N)	CollarRL(N)	Azimuth	Dip	HoleDepth	Abd.Holes	OpalTrace	OpalDepth	OpalDepth	Prospect
EHA031	422000	6885700	314	0	90	9					Regional
EHA032	422100	6885700	317	0	90	9					Regional
EHA033	422200	6885700	320	0	90	11					Regional
EHA034	422300	6885700	322	0	90	12					Regional
EHA035	422200	6885800	322	0	90	17					Regional
EHA036	422400	6886100	318	0	90	9					Regional
EHA037	422200	6886100	315	0	90	10					Regional
EHA038	422300	6885600	321	0	90	9					Regional
EHA039	422300	6885800	324	0	90	10					Regional
EHA040	422476	6883546	305	0	90	18					Gate
EHA041	422511	6883593	304	0	90	14					Gate
EHA042	422632	6883709	299	0	90	9					Gate
EHA043	422645	6883710	299	0	90	8					Gate
EHA044	422672	6883700	299	0	90	11					Gate
EHA045	422420	6883488	305	0	90	15					Gate
EHA046	422376	6883450	307	0	90	15					Gate
EHA047	422320	6883383	308	0	90	11					Gate
EHA048	422449	6883581	305	0	90	15	Br		6	7	Gate
EHA049	422423	6883672	306	0	90	14					Gate
EHA050	422372	6883759	308	0	90	14					Gate
EHA051	422800	6883900	314	0	90	8					Regional
EHA052	422800	6884100	317	0	90	6					Regional
EHA053	422800	6884200	318	0	90	6					Regional
EHA054	422800	6884300	321	0	90	10					Regional
EHA055	422800	6884400	322	0	90	9					Regional
EHA056	422815	6884405	322	0	90	16	Br		6	7	Regional
EHA057	422800	6884500	323	0	90	9					Regional
EHA058	422800	6884700	324	0	90	14					Regional
EHA059	422800	6884900	326	0	90	12					Regional
EHA060	422800	6885100	326	0	90	17					Regional
EHA061	422800	6885300	327	0	90	22					Regional
EHA062	422607	6885319	327	0	90	15	Br		4	5	Regional
EHA063	422596	6885508	327	0	90	17					Regional
EHA064	422589	6885717	326	0	90	12	Br		3	4	Regional
EHA065	422600	6885900	325	0	90	15					Regional

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HoleNo	MGA(E)	MGA(N)	CollarRL(N)	Azimuth	Dip	HoleDepth	Abd.Holes	OpalTrace	OpalDepth	OpalDepth	Prospect
EHA066	422800	6885900	324	0	90	14					Regional
EHA067	422600	6885100	325	0	90	14		Br	3	4	Regional
EHA068	422600	6884900	323	0	90	11					Regional
EHA069	422600	6884700	321	0	90	12					Regional
EHA070	422600	6884500	320	0	90	11					Regional
EHA071	422600	6884300	319	0	90	12		Br	3	4	Regional
EHA072	422600	6884100	318	0	90	9					Regional
EHA073	423400	6884100	314	0	90	7					Regional
EHA074	423400	6884200	316	0	90	8					Regional
EHA075	423400	6884300	319	0	90	10					Regional
EHA076	423400	6884400	323	0	90	14					Regional
EHA077	423400	6884500	319	0	90	16					Regional
EHA078	423400	6884600	321	0	90	14					Regional
EHA079	423400	6884700	322	0	90	13					Regional
EHA080	423600	6884700	321	0	90	14		Br	3	4	Regional
EHA081	423600	6884500	321	0	90	14					Regional
EHA082	423600	6884400	319	0	90	14					Regional
EHA083	423600	6884300	317	0	90	14					Regional
EHA084	423600	6884200	316	0	90	19					Regional
EHA085	423600	6884100	314	0	90	8					Regional
EHA086	422800	6885500	325	0	90	18		P brown	5	8	Regional
EHA087	423000	6885500	326	0	90	15					Regional
EHA088	423000	6885300	327	0	90	11					Regional
EHA089	422488	6883514	305	0	90	15					Gate
EHA090	422350	6885700	323	0	90	18		M stony	7	10	No1.
EHA091	422300	6885750	324	0	90	14		Br	5	6	No1.
EHA092	422250	6885700	321	0	90	14					No1.
EHA093	422300	6885650	321	0	90	16		P green	6	7	No1.
EHA094	422318	6885684	322	0	90	14		P / Br	2	3	No1.
EHA095	422350	6885750	324	0	90	14		Br	8	9	No1.
EHA096	422348	6885730	324	0	90	14		Br	3	4	No1.
EHA097	422250	6885650	320	0	90	17		M stony	8	9	No1.
EHA098	422200	6885650	319	0	90	8		Br	2	3	No1.
EHA099	422200	6885600	318	0	90	13					No1.
EHA100	422250	6885600	319	0	90	12					No1.

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HoleNo	MGA(E)	MGA(N)	CollarRL(N)	Azimuth	Dip	HoleDepth	Abd.Holes	OpalTrace	OpalDepth	OpalDepth	Prospect
EHA101	422236	6885656	320	0	90	14					No1.
EHA102	422244	6885653	320	0	90	13		M stony	8	9	No1.
EHA103	422400	6885550	323	0	90	14		Br	4	5	No1.
EHA104	422350	6885550	321	0	90	14					No1.
EHA105	422350	6885500	322	0	90	14					No1.
EHA106	422400	6885450	323	0	90	22		Br	2	3	No1.
EHA107	422435	6885500	325	0	90	14		P milky	10	11	No1.
EHA108	422400	6885750	325	0	90	18		P green	9	11	No1.
EHA109	422241	6885649	320	0	90	17					No1.
EHA110	422236	6885650	320	0	90	17					No1.
EHA111	422307	6885624	322	0	90	18		B	2	3	No1.
EHA112	422306	6885636	322	0	90	13					No1.
EHA113	422303	6885644	321	0	90	9					No1.
EHA114	422303	6885647	321	0	90	14					No1.
EHA115	422301	6885658	321	0	90	14					No1.
EHA116	422303	6885677	322	0	90	17					No1.
EHA117	422300	6885690	322	0	90	14		Br	5	7	No1.
EHA118	422298	6885713	323	0	90	14					No1.
EHA119	422328	6885728	323	0	90	16					No1.
EHA120	422324	6885703	323	0	90	17		Br	7	8	No1.
EHA121	422317	6885696	322	0	90	14		B	6	7	No1.
EHA122	422313	6885692	322	0	90	14		P brown	7	8	No1.
EHA123	422299	6885681	322	0	90	17		Br	8	9	No1.
EHA124	422281	6885665	321	0	90	14					No1.
EHA125	422305	6885715	323	0	90	14		P brown	5	6	No1.
EHA126	422329	6885691	323	0	90	14					No1.
EHA127	422330	6885720	323	0	90	14		Br	3	4	No1.
EHA128	422322	6885718	323	0	90	14		Br	2	3	No1.
EHA129	422313	6885720	323	0	90	14		Br	2	3	No1.
EHA130	422310	6885707	323	0	90	14					No1.
EHA131	422341	6885700	323	0	90	14					No1.
EHA132	422400	6885800	325	0	90	14					No1.
EHA133	422362	6885674	323	0	90	14					No1.
EHA134	423034	6884146	322	0	90	11					No 2.
EHA135	423045	6884117	320	0	90	12					No 2.

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HoleNo	MGA(E)	MGA(N)	CollarRL(N)	Azimuth	Dip	HoleDepth	Abd.Holes	OpalTrace	OpalDepth	OpalDepth	Prospect
EHA136	423065	6884163	325	0	90	18					No 2.
EHA137	423085	6884196	325	0	90	16					No 2.
EHA138	423103	6884272	325	0	90	16					No 2.
EHA139	423118	6884240	323	0	90	12					No 2.
EHA140	423137	6884242	323	0	90	12		P brown	5	6	No 2.
EHA141	423098	6884306	326	0	90	17					No 2.
EHA142	423096	6884335	327	0	90	11					No 2.
EHA143	423045	6884294	326	0	90	14					No 2.
EHA144	423055	6884248	325	0	90	17					No 2.
EHA145	423055	6884210	325	0	90	14		Br	3	4	No 2.
EHA146	423057	6884276	324	0	90	14		Br	3	4	No 2.
EHA147	423401	6884529	317	0	90	14					No 2.
EHA148	423402	6884556	318	0	90	15		Br	2	3	No 3.
EHA149	423400	6884579	320	0	90	14		Br	2	3	No 3.
EHA150	423400	6884477	320	0	90	14		B	7	8	No 3.
EHA151	423452	6884465	320	0	90	14					No 3.
EHA152	423442	6884514	318	0	90	12					No 3.
EHA153	423447	6884533	317	0	90	12					No 3.
EHA154	423451	6884574	320	0	90	14					No 3.
EHA155	423354	6884470	321	0	90	18					No 3.
EHA156	423355	6884498	320	0	90	14					No 3.
EHA157	423352	6884532	318	0	90	12		Br	2	5	No 3.
EHA158	423355	6884553	317	0	90	14					No 3.
EHA159	423351	6884567	319	0	90	11					No 3.
EHA160	423127	6884300	326	0	90	14					No 2.
EHA161	423126	6884326	326	0	90	17					No 2.
EHA162	423128	6884356	327	0	90	18					No 2.
EHA163	423101	6884290	326	0	90	17					No 2.
EHA164	422450	6885800	325	0	90	16		P broken	9	10	No 1.
EHA165	422451	6885776	325	0	90	18					No 1.
EHA166	422450	6885753	325	0	90	18		M angelsto	10	11	No 1.
EHA167	422453	6885725	325	0	90	17		Br	4	5	No 1.
EHA168	422455	6885832	325	0	90	17					No 1.
EHA169	422400	6885775	325	0	90	14					No 1.
EHA170	422398	6885725	325	0	90	14					No 1.

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HoleNo	MGA(E)	MGA(N)	CollarRL(N)	Azimuth	Dip	HoleDepth	Abd.Holes	OpalTrace	OpalDepth	OpalDepth	Prospect
EHA171	422425	6885775	325	0	90	18					No 1.
EHA172	422425	6885750	325	0	90	18					No 1.
EHA173	422424	6885726	325	0	90	13		M angelsto	6	8	No 1.
EHA174	422426	6885700	325	0	90	13					No 1.
EHA175	422424	6885800	325	0	90	11					No 1.
EHA176	422435	6885747	325	0	90	18		M angelsto	8	9	No 1.
EHA177	422435	6885763	325	0	90	18		M angelsto	7	8	No 1.
EHA178	422436	6885775	325	0	90	17					No 1.
EHA179	422002	6885802	313	0	90	9					No 4.
EHA180	422026	6885803	314	0	90	12		P grey	5	6	No 4.
EHA181	422050	6885800	315	0	90	9					No 4.
EHA182	422075	6885798	317	0	90	9					No 4.
EHA183	422102	6885752	318	0	90	14					No 4.
EHA184	422078	6885750	316	0	90	9					No 4.
EHA185	422054	6885750	315	0	90	11					No 4.
EHA186	422026	6885751	314	0	90	9					No 4.
EHA187	422001	6885749	313	0	90	8		M angelsto	4	5	No 4.
EHA188	422002	6885847	313	0	90	9					No 4.
EHA189	422030	6885849	314	0	90	9					No 4.
EHA190	422055	6885849	315	0	90	14					No 4.
EHA191	422077	6885848	317	0	90	12		Br	2	3	No 4.
EHA192	422124	6885751	320	0	90	14					No 4.
EHA193	422101	6885775	319	0	90	12					No 4.
EHA194	422085	6885792	318	0	90	9					No 4.
EHA195	422079	6885795	318	0	90	9		Br	2	3	No 4.
EHA196	422075	6885794	317	0	90	9		M angelsto	3	4	No 4.
EHA197	422063	6885791	316	0	90	9					No 4.
EHA198	422076	6885807	317	0	90	14					No 4.
EHA199	422066	6885806	316	0	90	9					No 4.
EHA200	422089	6885802	318	0	90	9		Br	3	4	No 4.
EHA201	422129	6885813	321	0	90	14					No 4.
EHA202	422342	6883545	308	0	90	14					Gate
EHA203	422416	6883556	306	0	90	15					Gate
EHA204	422502	6883483	304	0	90	18					Gate
EHA205	422517	6883450	304	0	90	13					Gate

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HoleNo	MGA(E)	MGA(N)	CollarRL(N)	Azimuth	Dip	HoleDepth	Abd.Holes	OpalTrace	OpalDepth	OpalDepth	Prospect
EHA206	422531	6883417	303	0	90	14					Gate
EHA207	422587	6883638	301	0	90	12		Br	3	4	Gate
EHA208	422553	6883610	303	0	90	11					Gate
EHA209	422520	6883555	304	0	90	14		M angelsto	5	7	Gate
EHA210	422543	6883548	303	0	90	14					Gate
EHA211	422526	6883514	304	0	90	12					Gate
EHA212	422474	6883471	304	0	90	13		Br	3	5	Gate
EHA213	422479	6883592	304	0	90	16		Br	3	4	Gate
EHA214	422480	6883637	303	0	90	14					Gate
EHA215	422484	6883653	304	0	90	9					Gate
EHA216	422473	6885749	325	0	90	18					No 1.
EHA217	422474	6885776	325	0	90	18					No 1.
EHA218	422473	6885800	325	0	90	18		Br	6	7	No 1.
EHA219	422472	6885725	325	0	90	12					No 1.
EHA220	422501	6885751	325	0	90	14					No 1.
EHA221	422460	6885740	325	0	90	14		P brown	9	10	No 1.
EHA222	422460	6885745	325	0	90	16		P yellow	3	5	No 1.
EHA223	422460	6885754	325	0	90	18		M angelsto	7	8	No 1.
EHA224	422460	6885759	325	0	90	18					No 1.
EHA225	422452	6885760	325	0	90	18					No 1.
EHA226	422456	6885764	325	0	90	21					No 1.
EHA227	422450	6885810	325	0	90	14					No 1.
EHA228	422450	6885805	325	0	90	12					No 1.
EHA229	422450	6885802	325	0	90	22		M angelsto	14	15	No 1.
EHA230	422456	6885801	325	0	90	14					No 1.
EHA231	422457	6885791	325	0	90	18		P brown	10	11	No 1.
EHA232	422455	6885782	325	0	90	14					No 1.
EHA233	422455	6885773	325	0	90	14					No 1.
EHA234	422460	6885762	325	0	90	14					No 1.
EHA235	422470	6885764	325	0	90	14		P yellow	8	9	No 1.
EHA236	422455	6885759	325	0	90	14					No 1.
EHA237	422454	6885749	325	0	90	14		Br	4	5	No 1.
EHA238	422452	6885555	326	0	90	14					No 5.
EHA239	422454	6885508	325	0	90	14					No 5.
EHA240	423109	6884257	324	0	90	14		M angelsto	11	12	No 2.

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HoleNo	MGA(E)	MGA(N)	CollarRL(N)	Azimuth	Dip	HoleDepth	Abd.Holes	OpalTrace	OpalDepth	OpalDepth	Prospect
EHA241	422423	6885475	324	0	90	9	Abd				No 5.
EHA242	422423	6885500	324	0	90	17		Br	4	6	No 5.
EHA243	422423	6885526	324	0	90	16		Br	3	4	No 5.
EHA244	422376	6885748	324	0	90	14		M	9	10	No 1.
EHA245	422376	6885727	324	0	90	17					No 1.
EHA246	422416	6885751	325	0	90	14					No 1.
EHA247	422419	6885740	325	0	90	14					No 1.
EHA248	422398	6885499	315	0	90	14					No 5.
EHA249	422021	6885808	315	0	90	9					No 4.
EHA250	422025	6885804	315	0	90	9					No 4.
EHA251	422009	6885798	314	0	90	9					No 4.
EHA252	421996	6885802	313	0	90	9		P lead	2	3	No 4.
EHA253	421999	6885804	313	0	90	9					No 4.
EHA254	421996	6885804	313	0	90	9		P magpie	2	3	No 4.
EHA255	421993	6885804	313	0	90	9		M	2	3	No 4.
EHA256	421989	6885804	313	0	90	9		M angelsto	4	5	No 4.
EHA257	422001	6885809	313	0	90	9					No 4.
EHA258	421995	6885809	313	0	90	9		P dkblue	2	3	No 4.
EHA259	421992	6885809	313	0	90	9		P blk, C w	2	3	No 4.
EHA260	421985	6885810	313	0	90	9					No 4.
EHA261	422001	6885814	313	0	90	9					No 4.
EHA262	421995	6885814	313	0	90	9		P magpie	3	4	No 4.
EHA263	421992	6885814	313	0	90	9		P lead, C w	2	3	No 4.
EHA264	421988	6885814	313	0	90	9					No 4.
EHA265	421996	6885820	313	0	90	9		P blk pipe	5	6	No 4.
EHA266	421992	6885820	313	0	90	9					No 4.
EHA267	421986	6885820	313	0	90	9					No 4.
EHA268	422000	6885799	313	0	90	9					No 4.
EHA269	421996	6885799	313	0	90	9		P dkblue	2	3	No 4.
EHA270	421993	6885799	313	0	90	9					No 4.
EHA271	421994	6885803	313	0	90	9					No 4.
EHA272	421997	6885811	313	0	90	9					No 4.
EHA273	421995	6885811	313	0	90	9		M	3	4	No 4.
EHA274	421993	6885811	313	0	90	9		P, M angel	2	5	No 4.
EHA275	421989	6885811	313	0	90	9					No 4.

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HoleNo	MGA(E)	MGA(N)	CollarRL(N)	Azimuth	Dip	HoleDepth	Abd.Holes	OpalTrace	OpalDepth	OpalDepth	Prospect
EHA276	421997	6885807	313	0	90	9		P blue	3	4	No 4.
EHA277	421995	6885807	313	0	90	9		P blue	2	3	No 4.
EHA278	421992	6885807	313	0	90	9		P lead	2	3	No 4.
EHA279	421997	6885797	313	0	90	9					No 4.

Refer to file EL2252_200203_04_DHoleresults.txt

Taipan X England Hill drilling prospect 2001
Summary of drill hole locations with opal trace

Hole no	opal depth from	opal depth to	Opal trace
EHA011	6	7	P shell
EHA019	12	13	P shell
EHA029	2	4	P black
EHA030	2	4	Br
EHA048	6	7	Br
EHA056	6	7	Br
EHA062	4	5	Br
EHA064	3	4	Br
EHA067	3	4	Br
EHA071	3	4	Br
EHA080	3	4	Br
EHA086	5	8	P brown
EHA090	3	4	Br
EHA090	7	10	M stony
EHA091	5	6	Br
EHA093	6	7	P green
EHA094	2	3	P / Br
EHA095	8	9	Br
EHA096	3	4	Br
EHA097	8	9	M stony
EHA098	2	3	Br
EHA102	8	9	M stony
EHA103	4	5	Br
EHA106	2	3	Br
EHA107	7	8	B
EHA107	10	11	P milky
EHA108	8	9	B
EHA108	9	11	P green
EHA111	2	3	B
EHA117	5	7	Br
EHA120	7	8	Br
EHA121	6	7	B
EHA122	5	6	Br
EHA122	7	8	P brown
EHA123	8	9	Br
EHA125	5	6	P brown
EHA127	3	4	Br
EHA128	2	3	Br
EHA129	2	3	Br
EHA140	5	6	P brown
EHA145	3	4	Br
EHA146	3	4	Br
EHA148	2	3	Br
EHA149	2	3	Br
EHA150	4	7	Br
EHA150	7	3	B
EHA157	2	5	Br
EHA164	9	10	P broken
EHA166	1	2	Br
EHA166	10	11	M angelstone

Hole no	opal depth from	opal depth to	Opal trace
EHA167	4	5	Br
EHA173	6	8	M angelstone
EHA176	8	9	M angelstone
EHA177	7	8	M angelstone
EHA180	2	3	M angelstone
EHA180	5	6	P grey/angelstone
EHA187	4	5	M angelstone
EHA191	2	3	Br
EHA195	2	3	Br
EHA196	1	2	Br
EHA196	3	4	M angelstone
EHA200	3	4	Br
EHA207	3	4	Br
EHA209	5	7	M angelstone
EHA212	3	5	Br
EHA213	3	4	Br
EHA218	6	7	Br
EHA221	3	5	Br
EHA221	9	10	P brown
EHA222	3	5	P yellow
EHA223	7	8	M angelstone
EHA229	14	15	M angelstone
EHA231	10	11	P brown
EHA235	6	7	P brown
EHA235	8	9	P yellow
EHA237	4	5	Br
EHA240	11	12	M angelstone
EHA242	2	3	Br
EHA242	4	6	Br
EHA243	3	4	Br
EHA244	9	10	M
EHA252	2	3	P lead
EHA254	2	3	P magpie
EHA255	2	3	M
EHA256	4	5	M angelstone
EHA258	2	3	P dkblue
EHA259	2	3	P blk, C white
EHA262	3	4	P magpie
EHA263	2	3	P lead, C white
EHA265	5	6	P blk pipe
EHA269	2	3	P dkblue
EHA273	3	4	M
EHA274	2	3	P lead
EHA274	3	4	M angelstone
EHA274	4	5	C lead
EHA276	3	4	P blue
EHA277	2	3	P lead
EHA278	2	3	P lead

Refer to file EL2252_200203_05_DHolelithologies.txt

Taipan X England Hill 2001											
Lithological summary of drill holes.											
Hole no	From	To	Lithology	Kmb1 thickness	Abandoned holes & opal trace	Hole no	From	To	Lithology	Kmb1 thickness	Abandoned holes & opal trace
EHA001	0	2	Qa			EHA138	0	3	Tsi		
EHA001	2	7	Kmb2			EHA138	3	8	Tmk		
EHA001	7	9	Kmb3			EHA138	8	9	Kmb		
EHA002	0	2	Qa			EHA138	9	14	Kmb1	5	
EHA002	2	8	Kmb2			EHA138	14	16	Kmb2		
EHA002	8	9	Kmb3			EHA139	0	2	Tsi		
EHA003	0	1	Qa			EHA139	2	4	Tmk		
EHA003	1	5	Tmk			EHA139	4	5	Kmb4		
EHA003	5	6	Kmb			EHA139	5	12	Kmb2		
EHA003	6	9	Kmb4			EHA140	0	1	Tmk		
EHA003	9	11	Kmb2			EHA140	1	4	Kmb		
EHA003	11	13	Kmb3			EHA140	4	7	Kmb4		P brown
EHA004	0	1	Qa			EHA140	7	12	Kmb2		
EHA004	1	5	Tmk			EHA141	0	2	Tdo		
EHA004	5	8	Kmb			EHA141	2	6	Tmk		
EHA004	8	13	Kmb4			EHA141	6	9	Kmb		
EHA004	13	14	Kmb3			EHA141	9	11	Kmb1	2	
EHA005	0	5	Tdo			EHA141	11	15	Kmb2		
EHA005	5	7	Tmk			EHA141	15	17	Kmb3		
EHA005	7	8	Kmb			EHA142	0	2	Tdo		
EHA005	8	17	Kmb2			EHA142	2	7	Tmk		
EHA005	17	18	Kmb3			EHA142	7	10	Kmb4		
EHA006	0	4	Tdo			EHA142	10	11	Kmb2		
EHA006	4	9	Kmb4			EHA143	0	2	Tdo		
EHA006	9	14	Kmb2			EHA143	2	4	Tmk		
EHA007	0	1	Qa			EHA143	4	6	Kmb		
EHA007	1	3	Tdo			EHA143	6	8	Kmb2		
EHA007	3	12	Tmk			EHA143	8	10	Kmb1	2	
EHA007	12	16	Kmb2			EHA143	10	14	Kmb2		
EHA007	16	17	Kmb3			EHA144	0	1	Tdo		

Hole no	From	To	Lithology	Kmb1 thickness	Abandoned holes & opal trace	Hole no	From	To	Lithology	Kmb1 thickness	Abandoned holes & opal trace
EHA008	0	1	Qa			EHA144	1	4	Tmk		
EHA008	1	3	Tdo			EHA144	4	6	Kmb4		
EHA008	3	4	Kmb			EHA144	6	7	Kmb2		
EHA008	4	8	Kmb3			EHA144	7	9	Kmb1	2	
EHA009	0	2	Qa			EHA144	9	14	Kmb2		
EHA009	2	3	Tdo			EHA144	14	17	Kmb3		
EHA009	3	4	Kmb			EHA145	0	2	Tdo		
EHA009	4	6	Kmb3			EHA145	2	4	Tmk		Br
EHA010	0	1	Qa			EHA145	4	5	Kmb		
EHA010	1	2	Tdo			EHA145	5	9	Kmb1	4	
EHA010	2	4	Kmb			EHA145	9	14	Kmb2		
EHA010	4	6	Kmb3			EHA146	0	6	Tmk		Br
EHA011	0	2	Fill			EHA146	6	7	Kmb4		
EHA011	2	3	Kmb			EHA146	7	9	Kmb2		
EHA011	3	7	Kmb2		P shell	EHA146	9	10	Kmb1	1	
EHA011	7	9	Kmb3			EHA146	10	14	Kmb2		
EHA012	0	2	Tdo			EHA147	0	1	Kmb		
EHA012	2	3	Kmb4			EHA147	1	5	Kmb2		
EHA012	3	13	Kmb2			EHA147	5	6	Kmb1	1	
EHA012	13	14	Kmb3			EHA147	6	12	Kmb2		
EHA013	0	1	Tdo		Abandoned	EHA147	12	14	Kmb3		
EHA013	1	3	Tmk			EHA148	0	3	Tdo		Br
EHA014	0	1	Tdo			EHA148	3	6	Tmk		
EHA014	1	3	Tmk			EHA148	6	8	Kmb		
EHA014	3	9	Kmb4			EHA148	8	13	Kmb2		
EHA014	9	13	Kmb2			EHA148	13	15	Kmb3		
EHA014	13	15	Kmb3			EHA149	0	1	Qa		
EHA015	0	1	Tdo			EHA149	1	2	Tdo		
EHA015	1	4	Tmk			EHA149	2	6	Tmk		Br
EHA015	4	9	Kmb			EHA149	6	9	Kmb4		
EHA015	9	15	Kmb2			EHA149	9	14	Kmb2		
EHA015	15	17	Kmb1	2		EHA150	0	1	Qa		
EHA015	17	18	Kmb3			EHA150	1	3	Tdo		
EHA016	0	4	Tdo			EHA150	3	5	Tmk		Br

Hole no	From	To	Lithology	Kmb1 thickness	Abandoned holes & opal trace	Hole no	From	To	Lithology	Kmb1 thickness	Abandoned holes & opal trace
EHA016	4	7	Kmb			EHA150	5	14	Kmb2		M angelstone
EHA016	7	12	Kmb2			EHA151	0	2	Tdo		
EHA016	12	13	Kmb1	1		EHA151	2	6	Tmk		
EHA016	13	16	Kmb2			EHA151	6	14	Kmb2		
EHA016	16	23	Kmb3			EHA152	0	2	Kmb		
EHA017	0	1	Qa			EHA152	2	12	Kmb2		
EHA017	1	6	Tdo			EHA153	0	2	Kmb		
EHA017	6	9	Tmk			EHA153	2	5	Kmb2		
EHA017	9	16	Kmb2			EHA153	5	7	Kmb1	2	
EHA017	16	18	Kmb3			EHA153	7	11	Kmb2		
EHA018	0	1	Qa			EHA153	11	12	Kmb3		
EHA018	1	3	Tmk			EHA154	0	3	Tdo		
EHA018	3	8	Kmb4			EHA154	3	6	Tmk		
EHA018	8	10	Kmb2			EHA154	6	14	Kmb2		
EHA018	10	11	Kmb1	1		EHA155	0	2	Tdo		
EHA018	11	13	Kmb2			EHA155	2	6	Tmk		
EHA018	13	15	Kmb3			EHA155	6	11	Kmb2		
EHA019	0	1	Qa			EHA155	11	13	Kmb1	2	
EHA019	1	5	Kmb			EHA155	13	17	Kmb2		
EHA019	5	7	Kmb2			EHA155	17	18	Kmb3		
EHA019	7	9	Kmb1	2		EHA156	0	2	Tdo		
EHA019	9	12	Kmb2			EHA156	2	5	Tmk		
EHA019	12	15	Kmb3		P shell	EHA156	5	6	Kmb		
EHA020	0	2	Tdo			EHA156	6	7	Kmb2		
EHA020	2	3	Tmk			EHA156	7	8	Kmb1	1	
EHA020	3	6	Kmb4			EHA156	8	14	Kmb2		
EHA020	6	14	Kmb2			EHA157	0	3	Tdo		
EHA020	14	17	Kmb3			EHA157	3	4	Kmb		Br
EHA021	0	1	Qa			EHA157	4	6	Kmb2		
EHA021	1	3	Tdo			EHA157	6	9	Kmb1	3	
EHA021	3	5	Tmk			EHA157	9	11	Kmb2		
EHA021	5	7	Kmb			EHA157	11	12	Kmb3		
EHA021	7	12	Kmb2			EHA158	0	1	Qa		
EHA021	12	14	Kmb3			EHA158	1	2	Kmb		

Hole no	From	To	Lithology	Kmb1 thickness	Abandoned holes & opal trace	Hole no	From	To	Lithology	Kmb1 thickness	Abandoned holes & opal trace
EHA022	0	1	Qa			EHA158	2	13	Kmb2		
EHA022	1	2	Tdo			EHA158	13	14	Kmb3		
EHA022	2	8	Tmk			EHA159	0	1	Qa		
EHA022	8	9	Kmb			EHA159	1	4	Tmk		
EHA022	9	13	Kmb4			EHA159	4	8	Kmb4		
EHA022	13	14	Kmb2			EHA159	8	11	Kmb2		
EHA023	0	1	Qa			EHA160	0	2	Tsi		
EHA023	1	5	Tdo			EHA160	2	7	Tmk		
EHA023	5	7	Tmk			EHA160	7	9	Kmb4		
EHA023	7	9	Kmb			EHA160	9	14	Kmb2		
EHA023	9	12	Kmb1	3		EHA161	0	8	Tmk		
EHA023	10	17	Kmb2			EHA161	8	12	Kmb4		
EHA023	17	18	Kmb3			EHA161	12	17	Kmb2		
EHA024	0	1	Qa			EHA162	0	6	Tmk		
EHA024	1	4	Kmb			EHA162	6	11	Kmb4		
EHA024	4	14	Kmb2			EHA162	11	18	Kmb2		
EHA025	0	1	Kmb			EHA163	0	1	Tdo		
EHA025	1	4	Kmb2			EHA163	1	5	Tmk		
EHA025	4	6	Kmb1	2		EHA163	5	7	Kmb		
EHA025	6	9	Kmb2			EHA163	7	12	Kmb1	5	
EHA025	9	13	Kmb3			EHA163	12	16	Kmb2		
EHA026	0	1	Qa			EHA163	16	17	Kmb3		
EHA026	1	8	Kmb2			EHA164	0	2	Tdo		
EHA026	8	9	Kmb3			EHA164	2	5	Tmk		
EHA027	0	1	Qa			EHA164	5	7	Kmb		
EHA027	1	6	Kmb2			EHA164	7	9	Kmb2		
EHA028	0	1	Qa			EHA164	9	14	Kmb1	5	
EHA028	1	4	Kmb4			EHA164	14	16	Kmb2		
EHA028	4	8	Kmb2			EHA165	0	4	Tdo		
EHA028	8	10	Kmb3			EHA165	4	8	Tmk		
EHA029	0	1	Qa			EHA165	8	9	Kmb		
EHA029	1	3	Kmb			EHA165	9	13	Kmb1	4	
EHA029	3	4	Kmb2		P black	EHA165	13	18	Kmb2		
EHA029	4	7	Kmb1	3		EHA166	0	4	Tdo		Br

Hole no	From	To	Lithology	Kmb1 thickness	Abandoned holes & opal trace	Hole no	From	To	Lithology	Kmb1 thickness	Abandoned holes & opal trace
EHA029	6	9	Kmb2			EHA166	4	5	Tmk		
EHA030	0	1	Qa			EHA166	5	9	Kmb		
EHA030	1	4	Tmk		Br	EHA166	9	16	Kmb1	7	M angelstone
EHA030	4	6	Kmb4			EHA166	16	18	Kmb2		
EHA030	6	13	Kmb2			EHA167	0	1	Tdo		
EHA031	0	1	Qa			EHA167	1	4	Tmk		
EHA031	1	2	Kmb			EHA167	4	7	Kmb		Br
EHA031	2	4	Kmb2			EHA167	7	8	Kmb2		
EHA031	4	5	Kmb1	1		EHA167	8	10	Kmb1	2	
EHA031	5	7	Kmb2			EHA167	10	15	Kmb2		
EHA031	6	9	Kmb3			EHA167	15	17	Kmb3		
EHA032	0	1	Qa			EHA168	0	2	Tdo		
EHA032	1	5	Kmb4			EHA168	2	6	Tmk		
EHA032	5	9	Kmb2			EHA168	6	8	Kmb4		
EHA033	0	2	Qa			EHA168	8	15	Kmb2		
EHA033	2	3	Tdo			EHA168	15	17	Kmb3		
EHA033	3	4	Kmb2			EHA169	0	3	Tdo		
EHA033	4	7	Kmb1	3		EHA169	3	6	Tmk		
EHA033	7	11	Kmb2			EHA169	6	7	Kmb		
EHA034	0	1	Qa			EHA169	7	8	Kmb1	1	
EHA034	1	4	Tmk			EHA169	8	12	Kmb2		
EHA034	4	6	Kmb			EHA169	12	14	Kmb3		
EHA034	6	11	Kmb1	5		EHA170	0	2	Tdo		
EHA034	11	12	Kmb2			EHA170	2	5	Tmk		
EHA035	0	1	Tdo			EHA170	5	7	Kmb4		
EHA035	1	5	Tmk			EHA170	7	9	Kmb2		
EHA035	5	8	Kmb			EHA170	9	11	Kmb1	2	
EHA035	8	10	Kmb1	2		EHA170	11	14	Kmb2		
EHA035	10	15	Kmb2			EHA171	0	2	Tdo		
EHA035	15	17	Kmb3			EHA171	2	6	Tmk		
EHA036	0	1	Qa			EHA171	6	7	Kmb		
EHA036	1	3	Tdo			EHA171	7	14	Kmb1	7	
EHA036	3	4	Kmb			EHA171	14	17	Kmb2		
EHA036	4	8	Kmb4			EHA171	17	18	Kmb3		

Hole no	From	To	Lithology	Kmb1 thickness	Abandoned holes & opal trace	Hole no	From	To	Lithology	Kmb1 thickness	Abandoned holes & opal trace
EHA036	8	9	Kmb2			EHA172	0	3	Tdo		
EHA037	0	1	Qa			EHA172	3	5	Tmk		
EHA037	1	3	Kmb			EHA172	5	10	Kmb		
EHA037	3	9	Kmb2			EHA172	10	14	Kmb1	4	
EHA037	9	10	Kmb3			EHA172	14	17	Kmb2		
EHA038	0	2	Qa			EHA172	17	18	Kmb3		
EHA038	2	3	Tmk			EHA173	0	2	Tdo		
EHA038	3	8	Kmb4			EHA173	2	3	Tmk		
EHA038	8	9	Kmb2			EHA173	3	4	Kmb		
EHA039	0	1	Qa			EHA173	4	7	Kmb2		M angelstone
EHA039	1	2	Tdo			EHA173	7	11	Kmb1	4	
EHA039	2	8	Kmb			EHA173	11	13	Kmb2		
EHA039	8	10	Kmb2			EHA174	0	2	Tdo		
EHA040	0	1	Qa			EHA174	2	8	Tmk		
EHA040	1	4	Tdo			EHA174	8	10	Kmb		
EHA040	4	5	Kmb			EHA174	10	13	Kmb2		
EHA040	5	11	Kmb1	6		EHA175	0	2	Tdo		
EHA040	11	15	Kmb2			EHA175	2	6	Tmk		
EHA040	15	18	Kmb3			EHA175	6	9	Kmb		
EHA041	0	3	Tdo			EHA175	9	11	Kmb2		
EHA041	3	4	Kmb			EHA176	0	3	Tdo		
EHA041	4	8	Kmb1	4		EHA176	3	5	Tmk		
EHA041	8	11	Kmb2			EHA176	5	9	Kmb		M angelstone
EHA041	11	14	Kmb3			EHA176	9	15	Kmb1	6	
EHA042	0	1	Qa			EHA176	15	17	Kmb2		
EHA042	1	2	Kmb			EHA176	17	18	Kmb3		
EHA042	2	5	Kmb4			EHA177	0	5	Tdo		
EHA042	5	7	Kmb2			EHA177	5	7	Kmb		
EHA042	7	9	Kmb3			EHA177	7	15	Kmb1	8	M angelstone, P brown
EHA043	0	2	Qa			EHA177	15	18	Kmb2		
EHA043	2	4	Kmb4			EHA178	0	4	Tdo		
EHA043	4	7	Kmb2			EHA178	4	8	Kmb		
EHA043	7	8	Kmb3			EHA178	8	12	Kmb1	4	
EHA044	0	2	Qa			EHA178	12	16	Kmb2		

Hole no	From	To	Lithology	Kmb1 thickness	Abandoned holes & opal trace	Hole no	From	To	Lithology	Kmb1 thickness	Abandoned holes & opal trace
EHA044	2	4	Kmb2			EHA178	16	17	Kmb3		
EHA044	4	5	Kmb1	1		EHA179	0	1	Qa		
EHA044	5	8	Kmb2			EHA179	1	2	Kmb		
EHA044	8	11	Kmb3			EHA179	2	3	Kmb1	1	
EHA045	0	2	Tdo			EHA179	3	8	Kmb2		
EHA045	2	4	Kmb			EHA179	8	9	Kmb3		
EHA045	4	14	Kmb2			EHA180	0	1	Qa		
EHA045	14	15	Kmb3			EHA180	1	2	Kmb		
EHA046	0	2	Tdo			EHA180	2	3	Kmb1	1	M angelstone
EHA046	2	6	Tmk			EHA180	3	4	Kmb2		
EHA046	6	7	Kmb			EHA180	4	6	Kmb1	2	P grey
EHA046	7	11	Kmb2			EHA180	6	11	Kmb2		
EHA046	11	13	Kmb1	2		EHA180	11	12	Kmb3		
EHA046	13	15	Kmb3			EHA181	0	2	Kmb		
EHA047	0	2	Tdo			EHA181	2	3	Kmb2		
EHA047	2	3	Tmk			EHA181	3	5	Kmb1	2	
EHA047	3	5	Kmb			EHA181	5	9	Kmb2		
EHA047	5	7	Kmb2			EHA182	0	1	Qa		
EHA047	7	9	Kmb4			EHA182	1	2	Kmb		
EHA047	9	11	Kmb2			EHA182	2	3	Kmb2		
EHA048	0	3	Tdo			EHA182	3	6	Kmb1	3	
EHA048	3	5	Kmb			EHA182	6	9	Kmb2		
EHA048	5	10	Kmb1	5	Br	EHA183	0	1	Qa		
EHA048	10	13	Kmb2			EHA183	1	3	Kmb		
EHA048	13	15	Kmb3			EHA183	3	8	Kmb1	5	
EHA049	0	1	Tdo			EHA183	8	13	Kmb2		
EHA049	1	4	Kmb			EHA183	13	14	Kmb3		
EHA049	4	5	Kmb2			EHA184	0	3	Kmb		
EHA049	5	8	Kmb1	3		EHA184	3	4	Kmb1	1	
EHA049	8	11	Kmb2			EHA184	4	9	Kmb2		
EHA049	11	14	Kmb3			EHA184	0	1	Kmb		
EHA050	0	3	Tdo			EHA185	1	11	Kmb2		
EHA050	3	4	Kmb			EHA186	0	2	Qa		
EHA050	4	6	Kmb4			EHA186	2	3	Kmb		

Hole no	From	To	Lithology	Kmb1 thickness	Abandoned holes & opal trace	Hole no	From	To	Lithology	Kmb1 thickness	Abandoned holes & opal trace
EHA050	6	13	Kmb2			EHA186	3	5	Kmb1	2	
EHA050	13	14	Kmb3			EHA186	5	8	Kmb2		
EHA051	0	1	Qa			EHA186	8	9	Kmb3		
EHA051	1	3	Tdo			EHA187	0	1	Qa		
EHA051	3	4	Tmk			EHA187	1	2	Kmb		
EHA051	4	5	Kmb			EHA187	2	3	Kmb2		
EHA051	5	6	Kmb2			EHA187	3	4	Kmb1	1	
EHA051	6	8	Kmb3			EHA187	4	6	Kmb2		M angelstone
EHA052	0	1	Tdo			EHA187	6	8	Kmb3		
EHA052	1	3	Tmk			EHA188	0	2	Kmb		
EHA052	3	5	Kmb2			EHA188	2	9	Kmb2		
EHA052	5	6	Kmb3			EHA189	0	1	Qa		
EHA053	0	1	Qa			EHA189	1	2	Kmb		
EHA053	1	2	Tdo			EHA189	2	4	Kmb2		
EHA053	2	3	Kmb			EHA189	4	8	Kmb1	4	
EHA053	3	6	Kmb2			EHA189	8	9	Kmb2		
EHA054	0	2	Qa			EHA190	0	1	Kmb		
EHA054	2	3	Tdo			EHA190	1	3	Kmb1	2	
EHA054	3	4	Kmb			EHA190	3	5	Kmb2		
EHA054	4	7	Kmb1	3		EHA190	5	7	Kmb1	2	
EHA054	7	9	Kmb2			EHA190	7	14	Kmb2		
EHA054	9	10	Kmb3			EHA191	0	2	Kmb		
EHA055	0	1	Qa			EHA191	2	4	Kmb2		Br
EHA055	1	5	Tdo			EHA191	4	6	Kmb1	2	
EHA055	5	6	Tmk			EHA191	6	12	Kmb2		
EHA055	6	8	Kmb4			EHA192	0	5	Tmk		
EHA055	8	9	Kmb2			EHA192	5	7	Kmb4		
EHA056	0	1	Qa			EHA192	7	14	Kmb2		
EHA056	1	4	Tdo			EHA193	0	2	Kmb		
EHA056	4	5	Tmk			EHA193	2	10	Kmb2		
EHA056	5	9	Kmb4		Br	EHA193	10	12	Kmb3		
EHA056	9	14	Kmb2			EHA194	0	1	Qa		
EHA056	14	16	Kmb3			EHA194	1	2	Kmb		
EHA057	0	1	Qa			EHA194	2	4	Kmb1	2	

Hole no	From	To	Lithology	Kmb1 thickness	Abandoned holes & opal trace	Hole no	From	To	Lithology	Kmb1 thickness	Abandoned holes & opal trace
EHA057	1	4	Tdo			EHA194	4	8	Kmb2		
EHA057	4	6	Kmb			EHA194	8	9	Kmb3		
EHA057	6	9	Kmb2			EHA195	0	1	Qa		
EHA058	0	1	Qa			EHA195	1	2	Kmb		
EHA058	1	3	Tmk			EHA195	2	4	Kmb2		Br
EHA058	3	12	Kmb4			EHA195	4	8	Kmb1	4	
EHA058	12	14	Kmb2			EHA195	8	9	Kmb2		
EHA059	0	1	Qa			EHA196	0	1	Qa		
EHA059	1	9	Tmk			EHA196	1	2	Kmb		
EHA059	9	11	Kmb			EHA196	2	3	Kmb2		Br
EHA059	11	12	Kmb2			EHA196	3	6	Kmb1	3	M angelstone
EHA060	0	1	Qa			EHA196	6	9	Kmb2		
EHA060	1	7	Tmk			EHA197	0	2	Qa		
EHA060	7	8	Kmb			EHA197	2	9	Kmb2		
EHA060	8	12	Kmb1	4		EHA198	0	1	Qa		
EHA060	12	17	Kmb2			EHA198	1	2	Kmb		
EHA061	0	2	Tdo			EHA198	2	4	Kmb2		
EHA061	2	8	Tmk			EHA198	4	7	Kmb1	3	
EHA061	8	9	Kmb			EHA198	7	13	Kmb2		
EHA061	9	14	Kmb1	5		EHA198	13	14	Kmb3		
EHA061	14	22	Kmb2			EHA199	0	1	Qa		
EHA062	0	1	Qa			EHA199	1	2	Kmb		
EHA062	1	3	Tmk			EHA199	2	6	Kmb2		
EHA062	3	5	Kmb		Br	EHA199	6	7	Kmb1	1	
EHA062	5	7	Kmb2			EHA199	7	9	Kmb2		
EHA062	7	9	Kmb1	2		EHA200	0	1	Qa		
EHA062	9	15	Kmb2			EHA200	1	3	Kmb		
EHA063	0	1	Qa			EHA200	3	9	Kmb2		Br
EHA063	1	3	Tdo			EHA201	0	4	Tmk		
EHA063	3	9	Tmk			EHA201	4	7	Kmb4		
EHA063	9	12	Kmb			EHA201	7	14	Kmb2		
EHA063	12	16	Kmb2			EHA202	0	4	Tdo		
EHA063	16	17	Kmb3			EHA202	4	6	Tmk		
EHA064	0	1	Qa			EHA202	6	9	Kmb4		

Hole no	From	To	Lithology	Kmb1 thickness	Abandoned holes & opal trace	Hole no	From	To	Lithology	Kmb1 thickness	Abandoned holes & opal trace
EHA064	1	4	Tdo		Br	EHA202	9	14	Kmb2		
EHA064	4	8	Tmk			EHA203	0	2	Tdo		
EHA064	8	11	Kmb			EHA203	2	4	Tmk		
EHA064	11	12	Kmb2			EHA203	4	6	Kmb		
EHA065	0	2	Tdo			EHA203	6	9	Kmb2		
EHA065	2	8	Tmk			EHA203	9	12	Kmb1	3	
EHA065	8	12	Kmb			EHA203	12	13	Kmb2		
EHA065	12	15	Kmb2			EHA203	13	15	Kmb3		
EHA066	0	1	Qa			EHA204	0	2	Qa		
EHA066	1	7	Tdo			EHA204	2	4	Tdo		
EHA066	7	9	Kmb			EHA204	4	5	Tmk		
EHA066	9	14	Kmb2			EHA204	5	8	Kmb1	3	
EHA067	0	1	Qa			EHA204	8	15	Kmb2		
EHA067	1	3	Tdo			EHA204	15	18	Kmb3		
EHA067	3	5	Kmb			EHA205	0	1	Qa		
EHA067	5	6	Kmb2			EHA205	1	4	Tdo		
EHA067	6	7	Kmb1	1		EHA205	4	5	Tmk		
EHA067	7	12	Kmb2			EHA205	5	9	Kmb1	4	
EHA067	12	14	Kmb3			EHA205	9	10	Kmb2		
EHA068	0	1	Qa			EHA205	10	13	Kmb3		
EHA068	1	6	Tmk			EHA206	0	1	Qa		
EHA068	6	7	Kmb			EHA206	1	3	Tdo		
EHA068	7	9	Kmb4			EHA206	3	4	Tmk		
EHA068	9	11	Kmb2			EHA206	4	6	Kmb2		
EHA069	0	2	Tdo			EHA206	6	8	Kmb1	2	
EHA069	2	4	Kmb			EHA206	8	12	Kmb2		
EHA069	4	5	Kmb2			EHA206	12	14	Kmb3		
EHA069	5	9	Kmb1	4		EHA207	0	1	Qa		
EHA069	9	11	Kmb2			EHA207	1	2	Kmb		
EHA069	11	12	Kmb3			EHA207	2	3	Kmb2		
EHA070	0	2	Qa			EHA207	3	6	Kmb1	3	Br
EHA070	2	4	Tdo			EHA207	6	10	Kmb2		
EHA070	4	5	Tmk			EHA207	10	12	Kmb3		
EHA070	5	6	Kmb			EHA208	0	2	Qa		

Hole no	From	To	Lithology	Kmb1 thickness	Abandoned holes & opal trace	Hole no	From	To	Lithology	Kmb1 thickness	Abandoned holes & opal trace
EHA070	6	8	Kmb4			EHA208	2	3	Kmb		
EHA070	8	10	Kmb2			EHA208	3	6	Kmb1	3	
EHA070	10	11	Kmb3			EHA208	6	9	Kmb2		
EHA071	0	1	Qa			EHA208	9	11	Kmb3		
EHA071	1	4	Tdo		Br	EHA209	0	1	Qa		
EHA071	4	5	Kmb			EHA209	1	2	Tdo		
EHA071	5	11	Kmb2			EHA209	2	3	Tmk		
EHA071	11	12	Kmb3			EHA209	3	4	Kmb2		
EHA072	0	4	Tdo			EHA209	4	8	Kmb1	4	M angelstone
EHA072	4	6	Kmb			EHA209	8	12	Kmb2		
EHA072	6	9	Kmb2			EHA209	12	14	Kmb3		
EHA073	0	1	Qa			EHA210	0	1	Qa		
EHA073	1	2	Kmb			EHA210	1	3	Tdo		
EHA073	2	7	Kmb2			EHA210	3	4	Kmb		
EHA074	0	2	Kmb			EHA210	4	5	Kmb2		
EHA074	2	3	Kmb2			EHA210	5	7	Kmb1	2	
EHA074	3	5	Kmb1	2		EHA210	7	12	Kmb2		
EHA074	5	8	Kmb2			EHA210	12	14	Kmb3		
EHA075	0	1	Qa			EHA211	0	2	Qa		
EHA075	1	2	Kmb			EHA211	2	4	Tdo		
EHA075	2	4	Kmb4			EHA211	4	5	Tmk		
EHA075	4	10	Kmb2			EHA211	5	9	Kmb1	4	
EHA076	0	1	Qa			EHA211	9	10	Kmb2		
EHA076	1	4	Kmb			EHA211	10	12	Kmb3		
EHA076	4	9	Kmb4			EHA212	0	1	Qa		
EHA076	9	14	Kmb2			EHA212	1	3	Tdo		
EHA077	0	3	Tdo			EHA212	3	4	Tmk		Br
EHA077	3	4	Tmk			EHA212	4	6	Kmb		
EHA077	4	6	Kmb			EHA212	6	9	Kmb1	3	
EHA077	6	7	Kmb2			EHA212	9	12	Kmb2		
EHA077	7	11	Kmb1	4		EHA212	12	13	Kmb3		
EHA077	11	13	Kmb2			EHA213	0	2	Tdo		
EHA077	13	16	Kmb3			EHA213	2	3	Tmk		
EHA078	0	1	Qa			EHA213	3	4	Kmb		Br

Hole no	From	To	Lithology	Kmb1 thickness	Abandoned holes & opal trace	Hole no	From	To	Lithology	Kmb1 thickness	Abandoned holes & opal trace
EHA078	1	4	Tdo			EHA213	4	10	Kmb1	6	
EHA078	4	5	Kmb			EHA213	10	14	Kmb2		
EHA078	5	9	Kmb4			EHA213	14	16	Kmb3		
EHA078	9	14	Kmb2			EHA214	0	2	Qa		
EHA079	0	4	Tdo			EHA214	2	3	Tdo		
EHA079	4	7	Tmk			EHA214	3	4	Tmk		
EHA079	7	11	Kmb			EHA214	4	5	Kmb		
EHA079	11	13	Kmb2			EHA214	5	9	Kmb1	4	
EHA080	0	1	Qa			EHA214	9	12	Kmb2		
EHA080	1	6	Tmk		Br	EHA214	12	14	Kmb3		
EHA080	6	7	Kmb			EHA215	0	1	Tdo		
EHA080	7	12	Kmb2			EHA215	1	2	Tmk		
EHA080	12	14	Kmb1	2		EHA215	2	4	Kmb2		
EHA081	0	2	Qa			EHA215	4	6	Kmb1	2	
EHA081	2	4	Tmk			EHA215	6	9	Kmb2		
EHA081	4	5	Kmb			EHA216	0	3	Tdo		
EHA081	5	14	Kmb2			EHA216	3	6	Tmk		
EHA082	0	1	Qa			EHA216	6	9	Kmb		
EHA082	1	2	Kmb			EHA216	9	11	Kmb1	2	
EHA082	2	14	Kmb2			EHA216	11	18	Kmb2		
EHA083	0	2	Kmb			EHA217	0	6	Tdo		
EHA083	2	6	Kmb1	4		EHA217	6	9	Kmb		
EHA083	6	14	Kmb2			EHA217	9	12	Kmb1	3	
EHA084	0	2	Kmb			EHA217	12	18	Kmb2		
EHA084	2	9	Kmb2			EHA218	0	4	Tdo		
EHA085	0	2	Kmb			EHA218	4	6	Tmk		Br
EHA085	2	4	Kmb1	2		EHA218	6	10	Kmb		
EHA085	4	7	Kmb2			EHA218	10	11	Kmb1	1	
EHA085	7	8	Kmb3			EHA218	11	18	Kmb2		
EHA086	0	1	Qa			EHA219	0	3	Tdo		
EHA086	1	3	Tdo			EHA219	3	5	Tmk		
EHA086	3	7	Tmk		P brown	EHA219	5	8	Kmb4		
EHA086	7	9	Kmb			EHA219	8	12	Kmb2		
EHA086	9	12	Kmb1	3		EHA220	0	3	Tdo		

Hole no	From	To	Lithology	Kmb1 thickness	Abandoned holes & opal trace	Hole no	From	To	Lithology	Kmb1 thickness	Abandoned holes & opal trace
EHA086	12	18	Kmb2			EHA220	3	4	Tmk		
EHA087	0	4	Tdo			EHA220	4	11	Kmb		
EHA087	4	9	Tmk			EHA220	11	14	Kmb2		
EHA087	9	14	Kmb2			EHA221	0	4	Tdo		
EHA087	14	15	Kmb3			EHA221	4	5	Tmk		Br
EHA088	0	2	Tdo			EHA221	5	9	Kmb		
EHA088	2	9	Tmk			EHA221	9	12	Kmb1	3	P brown
EHA088	9	10	Kmb			EHA221	12	14	Kmb2		
EHA088	10	11	Kmb2			EHA222	0	3	Tdo		
EHA089	0	1	Qa			EHA222	3	5	Tmk		P yellow
EHA089	1	4	Tdo			EHA222	5	9	Kmb		
EHA089	4	5	Tmk			EHA222	9	12	Kmb1	3	
EHA089	5	9	Kmb1	4		EHA222	12	16	Kmb2		
EHA089	9	13	Kmb2			EHA223	0	3	Tdo		
EHA089	13	15	Kmb3			EHA223	3	5	Tmk		
EHA090	0	4	Tdo		Br	EHA223	5	9	Kmb		M angelstone
EHA090	4	6	Kmb			EHA223	9	13	Kmb1	4	
EHA090	6	8	Kmb2			EHA223	13	18	Kmb2		
EHA090	8	12	Kmb1	4	M stony	EHA224	0	3	Tdo		
EHA090	12	18	Kmb2			EHA224	3	5	Tmk		
EHA091	0	6	Tdo		Br	EHA224	5	8	Kmb		
EHA091	6	8	Kmb			EHA224	8	14	Kmb1	6	
EHA091	8	13	Kmb2			EHA224	14	18	Kmb2		
EHA091	13	14	Kmb3			EHA225	0	4	Tdo		
EHA092	0	4	Tdo			EHA225	4	6	Tmk		
EHA092	4	5	Kmb			EHA225	6	9	Kmb		
EHA092	5	8	Kmb4			EHA225	9	13	Kmb1	4	
EHA092	8	14	Kmb2			EHA225	13	18	Kmb2		
EHA093	0	1	Qa			EHA226	0	4	Tdo		
EHA093	1	3	Tdo			EHA226	4	6	Tmk		
EHA093	3	5	Tmk			EHA226	6	9	Kmb		
EHA093	5	6	Kmb			EHA226	9	14	Kmb1	5	
EHA093	6	10	Kmb1	4	P green	EHA226	14	19	Kmb2		
EHA093	10	14	Kmb2			EHA226	19	21	Kmb3		

Hole no	From	To	Lithology	Kmb1 thickness	Abandoned holes & opal trace	Hole no	From	To	Lithology	Kmb1 thickness	Abandoned holes & opal trace
EHA093	14	16	Kmb3			EHA227	0	2	Tdo		
EHA094	0	4	Tdo		P/Br	EHA227	2	5	Tmk		
EHA094	4	6	Kmb			EHA227	5	9	Kmb4		
EHA094	6	11	Kmb1	5		EHA227	9	13	Kmb2		
EHA094	11	14	Kmb2			EHA227	13	14	Kmb3		
EHA095	0	4	Tdo			EHA228	0	2	Tdo		
EHA095	4	6	Tmk			EHA228	2	5	Tmk		
EHA095	6	7	Kmb			EHA228	5	9	Kmb4		
EHA095	7	12	Kmb1	5	Br	EHA228	9	12	Kmb2		
EHA095	12	14	Kmb2			EHA229	0	2	Tdo		
EHA096	0	4	Tdo		Br	EHA229	2	7	Tmk		
EHA096	4	6	Kmb			EHA229	7	8	Kmb		
EHA096	6	9	Kmb2			EHA229	8	10	Kmb2		
EHA096	9	13	Kmb1	4		EHA229	10	15	Kmb1	5	M angelstone
EHA096	13	14	Kmb2			EHA229	15	20	Kmb2		
EHA097	0	2	Qa			EHA229	20	22	Kmb3		
EHA097	2	7	Tmk			EHA230	0	2	Tdo		
EHA097	7	8	Kmb			EHA230	2	5	Tmk		
EHA097	8	12	Kmb1	4	M stony	EHA230	5	7	Kmb		
EHA097	12	14	Kmb2			EHA230	7	13	Kmb1	6	
EHA097	14	17	Kmb3			EHA230	13	14	Kmb2		
EHA098	0	3	Tdo		Br	EHA231	0	3	Tdo		
EHA098	3	4	Kmb			EHA231	3	6	Tmk		
EHA098	4	6	Kmb2			EHA231	6	9	Kmb		
EHA098	6	8	Kmb3			EHA231	9	12	Kmb1	3	P brown
EHA099	0	2	Qa			EHA231	12	18	Kmb2		
EHA099	2	5	Tmk			EHA232	0	5	Tdo		
EHA099	5	7	Kmb			EHA232	5	7	Tmk		
EHA099	7	8	Kmb2			EHA232	7	10	Kmb		
EHA099	8	10	Kmb1	2		EHA232	10	13	Kmb1	3	
EHA099	10	13	Kmb2			EHA232	13	14	Kmb2		
EHA100	0	1	Qa			EHA233	0	3	Tdo		
EHA100	1	3	Tdo			EHA233	3	6	Tmk		
EHA100	3	6	Tmk			EHA233	6	9	Kmb		

Hole no	From	To	Lithology	Kmb1 thickness	Abandoned holes & opal trace	Hole no	From	To	Lithology	Kmb1 thickness	Abandoned holes & opal trace
EHA100	6	7	Kmb			EHA233	9	13	Kmb1	4	
EHA100	7	9	Kmb1	2		EHA233	13	14	Kmb2		
EHA100	9	12	Kmb2			EHA234	0	4	Tdo		
EHA101	0	3	Tdo			EHA234	4	6	Tmk		
EHA101	3	4	Tmk			EHA234	6	9	Kmb		
EHA101	4	6	Kmb4			EHA234	9	14	Kmb1	5	
EHA101	6	10	Kmb2			EHA235	0	3	Tdo		
EHA101	10	12	Kmb1	2		EHA235	3	5	Tmk		
EHA101	12	14	Kmb2			EHA235	5	9	Kmb		
EHA102	0	2	Tdo			EHA235	9	13	Kmb1	4	P brown, P yellow
EHA102	2	6	Tmk			EHA235	13	14	Kmb2		
EHA102	6	7	Kmb			EHA236	0	3	Tdo		
EHA102	7	11	Kmb1	4	B/M stony	EHA236	3	5	Tmk		
EHA102	11	13	Kmb2			EHA236	5	8	Kmb		
EHA103	0	1	Tdo			EHA236	8	14	Kmb1	6	
EHA103	1	4	Kmb			EHA237	0	3	Tdo		
EHA103	4	7	Kmb2		Br	EHA237	3	5	Tmk		Br
EHA103	7	10	Kmb1	3		EHA237	5	9	Kmb		
EHA103	10	14	Kmb2			EHA237	9	13	Kmb1	4	
EHA104	0	1	Qa			EHA237	13	14	Kmb2		
EHA104	1	3	Kmb4			EHA238	0	1	Tdo		
EHA104	3	7	Kmb2			EHA238	1	6	Tmk		
EHA104	7	10	Kmb1	3		EHA238	6	8	Kmb		
EHA104	10	14	Kmb2			EHA238	8	12	Kmb1	4	
EHA105	0	3	Tdo			EHA238	12	14	Kmb2		
EHA105	3	4	Tmk			EHA239	0	6	Tmk		
EHA105	4	5	Kmb			EHA239	6	8	Kmb		
EHA105	5	7	Kmb2			EHA239	8	14	Kmb2		
EHA105	7	10	Kmb4			EHA240	0	6	Tsi		
EHA105	10	14	Kmb2			EHA240	6	9	Tmk		
EHA106	0	1	Qa			EHA240	9	10	Kmb		
EHA106	1	3	Tdo			EHA240	10	11	Kmb1	1	M angelstone
EHA106	3	4	Kmb		Br	EHA240	11	14	Kmb2		
EHA106	4	7	Kmb2			EHA241	0	4	Tmk		

Hole no	From	To	Lithology	Kmb1 thickness	Abandoned holes & opal trace	Hole no	From	To	Lithology	Kmb1 thickness	Abandoned holes & opal trace
EHA106	7	9	Kmb1	2		EHA241	4	5	Kmb		
EHA106	9	12	Kmb2			EHA241	5	9	Kmb2		Abandoned
EHA106	12	15	Kmb1	3		EHA242	0	1	Qa		
EHA106	15	20	Kmb2			EHA242	1	4	Tmk		Br
EHA106	20	22	Kmb3			EHA242	4	9	Kmb2		Br
EHA107	0	1	Tdo			EHA242	9	11	Kmb1	2	
EHA107	1	5	Tmk			EHA242	11	15	Kmb2		
EHA107	5	7	Kmb		B/P	EHA242	15	17	Kmb3		
EHA107	7	13	Kmb2			EHA243	0	1	Qa		
EHA107	13	14	Kmb3			EHA243	1	6	Tmk		Br
EHA108	0	2	Tdo			EHA243	6	7	Kmb2		
EHA108	2	7	Tmk			EHA243	7	9	Kmb1	2	
EHA108	7	8	Kmb			EHA243	9	16	Kmb2		
EHA108	8	15	Kmb1	7	B/P green	EHA244	0	2	Tdo		
EHA108	15	17	Kmb2			EHA244	2	5	Tmk		
EHA108	17	18	Kmb3			EHA244	5	6	Kmb		
EHA109	0	1	Qa			EHA244	6	9	Kmb2		
EHA109	1	4	Tdo			EHA244	9	12	Kmb1	3	
EHA109	4	6	Tmk			EHA244	12	14	Kmb2		
EHA109	6	8	Kmb			EHA245	0	2	Tdo		
EHA109	8	15	Kmb1	7		EHA245	2	4	Tmk		
EHA109	15	16	Kmb2			EHA245	4	7	Kmb		
EHA109	16	17	Kmb3			EHA245	7	10	Kmb1	3	
EHA110	0	1	Qa			EHA245	10	17	Kmb2		
EHA110	1	3	Tdo			EHA246	0	2	Tdo		
EHA110	3	4	Kmb			EHA246	2	4	Tmk		
EHA110	4	8	Kmb2			EHA246	4	8	Kmb		
EHA110	8	16	Kmb1	8		EHA246	8	12	Kmb1	4	
EHA110	16	17	Kmb2			EHA246	12	14	Kmb2		
EHA111	0	1	Qa			EHA247	0	2	Tdo		
EHA111	1	3	Tdo		B seam	EHA247	2	4	Tmk		
EHA111	3	4	Tmk			EHA247	4	6	Kmb		
EHA111	4	6	Kmb4			EHA247	6	9	Kmb2		
EHA111	6	11	Kmb2			EHA247	9	12	Kmb1	3	

Hole no	From	To	Lithology	Kmb1 thickness	Abandoned holes & opal trace	Hole no	From	To	Lithology	Kmb1 thickness	Abandoned holes & opal trace
EHA111	11	12	Kmb1	1		EHA247	12	14	Kmb2		
EHA111	12	18	Kmb2			EHA248	0	1	Qa		
EHA112	0	2	Qa			EHA248	1	5	Tmk		
EHA112	2	4	Tdo			EHA248	5	6	Kmb		
EHA112	4	5	Kmb			EHA248	6	9	Kmb2		
EHA112	5	9	Kmb2			EHA248	9	12	Kmb1	3	
EHA112	9	11	Kmb1	2		EHA248	12	14	Kmb2		
EHA112	11	13	Kmb2			EHA249	0	1	Qa		
EHA113	0	2	Tdo			EHA249	1	9	Kmb		
EHA113	2	4	Kmb			EHA250	0	1	Qa		
EHA113	4	9	Kmb1	5		EHA250	1	4	Kmb2		
EHA114	0	2	Tdo			EHA250	4	8	Kmb1	4	
EHA114	2	4	Kmb			EHA250	8	9	Kmb2		
EHA114	4	8	Kmb2			EHA251	0	1	Qa		
EHA114	8	11	Kmb1	3		EHA251	1	3	Kmb		
EHA114	11	14	Kmb2			EHA251	3	5	Kmb2		
EHA115	0	1	Qa			EHA251	5	6	Kmb1	1	
EHA115	1	4	Tdo			EHA251	6	9	Kmb2		
EHA115	4	6	Kmb			EHA252	0	1	Qa		
EHA115	6	8	Kmb2			EHA252	1	2	Kmb		
EHA115	8	11	Kmb1	3		EHA252	2	4	Kmb2		P lead
EHA115	11	14	Kmb2			EHA252	4	8	Kmb1	4	
EHA116	0	1	Qa			EHA252	8	9	Kmb2		
EHA116	1	3	Tdo			EHA253	0	1	Qa		
EHA116	3	5	Tmk			EHA253	1	2	Kmb		
EHA116	5	6	Kmb			EHA253	2	9	Kmb2		
EHA116	6	15	Kmb1	9		EHA254	0	1	Qa		
EHA116	15	17	Kmb2			EHA254	1	2	Kmb		
EHA117	0	2	Tdo			EHA254	2	6	Kmb1	4	P magpie
EHA117	2	4	Tmk			EHA254	6	9	Kmb2		
EHA117	4	5	Kmb			EHA255	0	1	Qa		
EHA117	5	12	Kmb1	7	Br	EHA255	1	2	Kmb		
EHA117	12	14	Kmb2			EHA255	2	7	Kmb1	5	M
EHA118	0	3	Tdo			EHA255	7	9	Kmb2		

Hole no	From	To	Lithology	Kmb1 thickness	Abandoned holes & opal trace	Hole no	From	To	Lithology	Kmb1 thickness	Abandoned holes & opal trace
EHA118	3	5	Tmk			EHA256	0	1	Qa		
EHA118	5	6	Kmb			EHA256	1	2	Kmb		
EHA118	6	9	Kmb2			EHA256	2	7	Kmb1	5	M angelstone
EHA118	9	12	Kmb1	3		EHA256	7	9	Kmb2		
EHA118	12	14	Kmb2			EHA257	0	1	Qa		
EHA119	0	3	Tdo			EHA257	1	2	Kmb		
EHA119	3	4	Tmk			EHA257	2	9	Kmb2		
EHA119	4	5	Kmb			EHA258	0	1	Qa		
EHA119	5	9	Kmb2			EHA258	1	2	Kmb		
EHA119	9	14	Kmb1	5		EHA258	2	5	Kmb1	3	P dkblue
EHA119	14	16	Kmb2			EHA258	5	9	Kmb2		
EHA120	0	1	Qa			EHA259	0	1	Qa		
EHA120	1	3	Tdo			EHA259	1	2	Kmb		
EHA120	3	6	Tmk		Br	EHA259	2	8	Kmb1	6	P blk, C white
EHA120	6	8	Kmb		Br	EHA259	8	9	Kmb2		
EHA120	8	15	Kmb1	7		EHA260	0	1	Qa		
EHA120	15	17	Kmb2			EHA260	1	2	Kmb		
EHA121	0	4	Tdo			EHA260	2	4	Kmb1	2	
EHA121	4	6	Kmb			EHA260	4	9	Kmb2		
EHA121	6	13	Kmb1	7		EHA261	0	1	Qa		
EHA121	13	14	Kmb2			EHA261	1	2	Kmb		
EHA122	0	1	Qa			EHA261	2	9	Kmb2		
EHA122	1	6	Tdo		Br	EHA262	0	1	Qa		
EHA122	6	8	Kmb		P brown	EHA262	1	2	Kmb		
EHA122	8	13	Kmb1	5		EHA262	2	6	Kmb1	4	P magpie
EHA122	13	14	Kmb2			EHA262	6	9	Kmb2		
EHA123	0	3	Tdo			EHA263	0	1	Qa		
EHA123	3	5	Kmb			EHA263	1	2	Kmb		
EHA123	5	7	Tmk			EHA263	2	8	Kmb1	6	P lead, C white
EHA123	7	13	Kmb1	6	Br	EHA263	8	9	Kmb2		
EHA123	13	15	Kmb2			EHA264	0	1	Qa		
EHA123	15	17	Kmb3			EHA264	1	2	Kmb		
EHA124	0	1	Qa			EHA264	2	3	Kmb2		
EHA124	1	6	Tmk			EHA264	3	5	Kmb1	2	

Hole no	From	To	Lithology	Kmb1 thickness	Abandoned holes & opal trace	Hole no	From	To	Lithology	Kmb1 thickness	Abandoned holes & opal trace
EHA124	6	9	Kmb			EHA264	5	8	Kmb2		
EHA124	9	13	Kmb1	4		EHA264	8	9	Kmb3		
EHA124	13	14	Kmb2			EHA265	0	1	Qa		
EHA125	0	3	Tdo			EHA265	1	2	Kmb		
EHA125	3	6	Tmk		P brown	EHA265	2	6	Kmb1	4	P blk (pipe)
EHA125	6	8	Kmb			EHA265	6	9	Kmb2		
EHA125	8	9	Kmb2			EHA266	0	1	Qa		
EHA125	9	14	Kmb1	5		EHA266	1	2	Kmb		
EHA126	0	5	Tdo			EHA266	2	6	Kmb1	4	
EHA126	5	7	Kmb			EHA266	6	9	Kmb2		
EHA126	7	11	Kmb1	4		EHA267	0	1	Qa		
EHA126	11	14	Kmb2			EHA267	1	2	Kmb		
EHA127	0	1	Qa			EHA267	2	4	Kmb1	2	
EHA127	1	4	Tdo		Br	EHA267	4	8	Kmb2		
EHA127	4	5	Kmb			EHA267	8	9	Kmb3		
EHA127	5	8	Kmb2			EHA268	0	2	Qa		
EHA127	8	14	Kmb1	6		EHA268	2	3	Kmb		
EHA128	0	5	Tdo		Br	EHA268	3	7	Kmb1	4	
EHA128	5	8	Kmb2			EHA268	7	9	Kmb2		
EHA128	8	14	Kmb1	6		EHA269	0	1	Qa		
EHA129	0	4	Tdo		Br	EHA269	1	2	Kmb		
EHA129	4	5	Kmb			EHA269	2	7	Kmb1	5	P dkblue
EHA129	5	8	Kmb2			EHA269	7	9	Kmb2		
EHA129	8	14	Kmb1	6		EHA270	0	1	Qa		
EHA130	0	2	Tdo			EHA270	1	2	Kmb		
EHA130	2	4	Tmk			EHA270	2	6	Kmb1	4	
EHA130	4	5	Kmb			EHA270	6	9	Kmb2		
EHA130	5	7	Kmb2			EHA271	0	1	Qa		
EHA130	7	13	Kmb1	6		EHA271	1	2	Kmb		
EHA130	13	14	Kmb2			EHA271	2	7	Kmb1	5	
EHA131	0	1	Qa			EHA271	7	9	Kmb2		
EHA131	1	3	Tdo			EHA272	0	1	Qa		
EHA131	3	4	Tmk			EHA272	1	2	Kmb		
EHA131	4	6	Kmb4			EHA272	2	9	Kmb2		

Hole no	From	To	Lithology	Kmb1 thickness	Abandoned holes & opal trace	Hole no	From	To	Lithology	Kmb1 thickness	Abandoned holes & opal trace
EHA131	6	8	Kmb2			EHA273	0	1	Qa		
EHA131	8	12	Kmb1	4		EHA273	1	2	Kmb		
EHA131	12	14	Kmb2			EHA273	2	8	Kmb1	6	M
EHA132	0	4	Tdo			EHA273	8	9	Kmb2		
EHA132	4	8	Tmk			EHA274	0	1	Qa		
EHA132	8	11	Kmb			EHA274	1	2	Kmb		
EHA132	11	14	Kmb2			EHA274	2	5	Kmb1	3	P lead, M, C lead
EHA133	0	5	Tdo			EHA274	5	9	Kmb2		
EHA133	5	6	Kmb			EHA275	0	1	Qa		
EHA133	6	9	Kmb2			EHA275	1	2	Kmb		
EHA133	9	11	Kmb1	2		EHA275	2	8	Kmb1	6	
EHA133	11	14	Kmb2			EHA275	8	9	Kmb2		
EHA134	0	1	Qa			EHA276	0	1	Qa		
EHA134	1	3	Kmb4			EHA276	1	2	Kmb		
EHA134	3	11	Kmb2			EHA276	2	3	Kmb2		
EHA135	0	1	Kmb			EHA276	3	5	Kmb1	2	P blue
EHA135	1	12	Kmb2			EHA276	5	9	Kmb2		
EHA136	0	1	Qa			EHA277	0	1	Qa		
EHA136	1	5	Tsi			EHA277	1	2	Kmb		
EHA136	5	7	Tmk			EHA277	2	6	Kmb1	4	P lead
EHA136	7	14	Kmb2			EHA277	6	9	Kmb2		
EHA136	14	16	Kmb1	2		EHA278	0	1	Qa		
EHA136	16	18	Kmb2			EHA278	1	2	Kmb		
EHA137	0	3	Tsi			EHA278	2	7	Kmb1	5	P lead
EHA137	3	4	Tmk			EHA278	7	9	Kmb2		
EHA137	4	7	Kmb4			EHA279	0	1	Qa		
EHA137	7	10	Kmb2			EHA279	1	2	Kmb		
EHA137	10	11	Kmb1	1		EHA279	2	6	Kmb1	4	
EHA137	11	16	Kmb2			EHA279	6	9	Kmb2		

APPENDIX III

Interpretation of drilling results

Appendix III - Interpretation of drilling results

Broad spaced opal exploration drilling (100 to 200 metre spaced holes on 200 metre spaced traverses) over the England Hill prospect has defined many areas where there is reasonable potential to host mineable opal deposits. Results of this broad drilling were followed up with progressively closer spaced infill drilling (50 to 25 metre grid spacings) over sites of geological interest, with closer spaced drilling (to 5 metre spacings) over sites of 'particular interest'.

Sites of geological interest are areas where substantial consistent thicknesses of highly kaolinitic (altered) claystone are recognised. Modelling of collected geological information allows mapping out of these areas. As such the following plans indicate isopach maps depicting thickness of the Kmb1 unit (highly kaolinitic claystone). This allows interpretation of 'altered basins' of claystone where the likelihood of locating opal deposits is higher (see *Simpson, 2000(a)* for explanation of theories).

Particularly interesting sites are where there is a correlation between geological interesting sites and the location of opal indicators. These opal indicators vary from strong (colour and patch opal) to moderate (*bone* and *matrix* opal) as well as weaker indicators (ironstone indicating strong 'level' in claystone, *angelstone* intervals).

6 smaller prospect areas were depicted within the England Hill region using this method of systematic drilling and interpretations. Results and interpretations from these smaller prospects are outlined below.

The **No1 prospect** contains 77 drill holes (see following plans) and has a defined potential 'opal field' area of approximately 300 metres long by 70 metres wide. This is the largest outlined field area to date upon the England Hill prospect. Drilling upon this prospect has given many good geological indicators for potential of opal deposits (highly kaolinitic claystone, strong 'levels' and minor '*bone*' + '*matrix*' opal), however has not drilled strong opal indicators (patch and colour opal). This area still has good potential to produce a large opal field, comparative to present Coober Pedy type fields. More close spaced drilling is warranted and priority is moderate to high.

The **No2 prospect** contains 21 drill holes (see following plans) and has a defined potential field area of approximately 120 metres long by 60 metres wide. Few drill holes gave good geological indicators for potential of opal deposits, and the existence of a large opal field is predicted to be limited. The drilling in this area is also hard and slow due to massive silcrete near the surface. As this area is close to a region known to have produced rich opal, there is reasonable potential for opal deposits to be located, however further work is not warranted at this stage and drilling priority is low.

The **No3 prospect** contains 15 drill holes (see following plans) and has a defined potential field area of approximately 80 metres long by 20 metres wide. This area contains only moderate to poor geological indicators of opal potential and holds little potential for a large opal field. No further work is warranted at this stage and drilling priority is low.

The **No4 prospect** contains 60 drill holes (see following plans) and has several defined potential field areas (largest 80 metres long by 20 metres wide), with 1 defined potential opal resource (prospect 4b - see following section), where strong opal indicators (including patch and colour opal) have been recovered. This prospect is in close proximity to pre-existing productive opal workings and at present opal *floaters* (including colour opal) can still be found around the site. As this area is on the edge of the hill, much of the 'higher opal levels' have been eroded away, leaving the 'main opal level' at shallow depth, or as a remnant eluvial 'level' (which appears to have been mined in the exposed workings). The

potential for large opal deposits is lessened by the fact of this erosion, however the 'main level' appears to be preserved in many cases, as such there is high potential for many small deposits to be located. Further drilling and bulk sampling in this prospect area is highly recommended.

Prospect 4b is a potential opal resource (see following plans). 27 drill holes define the extents of this zone, which has geological indicators showing a potential opal resource area almost 30 metres long by and average of 10 metres wide. The immediate area to be bulk sample tested within this zone (area of potch and colour seam opal) measures approximately 13 metres long by 5 metres wide, with the opal indicators at 3 to 4 metres depth. Although this is a reasonable potential opal resource size, the quality of the opal indicators is not strong enough to warrant mining on its own. No further infill drilling is required for this prospect, the next stage is for the bulk sampling to be carried out.

The **No5 prospect** contains only 12 drill holes, predominantly at 25 metres or greater spacing. A poorly constrained potential opal field area (possible 2 separate zones) would measure 120 metres in diameter. Strong opal indicators (potch and shell opal) have been recovered from this area, however the geology is not consistent, and there appears to be low potential for a large opal field. Further drilling is recommended for this area in order to fully test the potential of the opal indicators, however priority is low.

The **Gate prospect** contains 25 drill holes, predominantly at 25 metres or greater drill spacings. There is a loosely defined potential field area of approximately 200 metres in diameter, with good geological indicators (highly kaolinitic claystone and strong 'levels'), however no strong opal indicators have been located in the drilling. This area has good potential to produce a large opal field, and more close spaced drilling is recommended in the future. Priority is moderate.

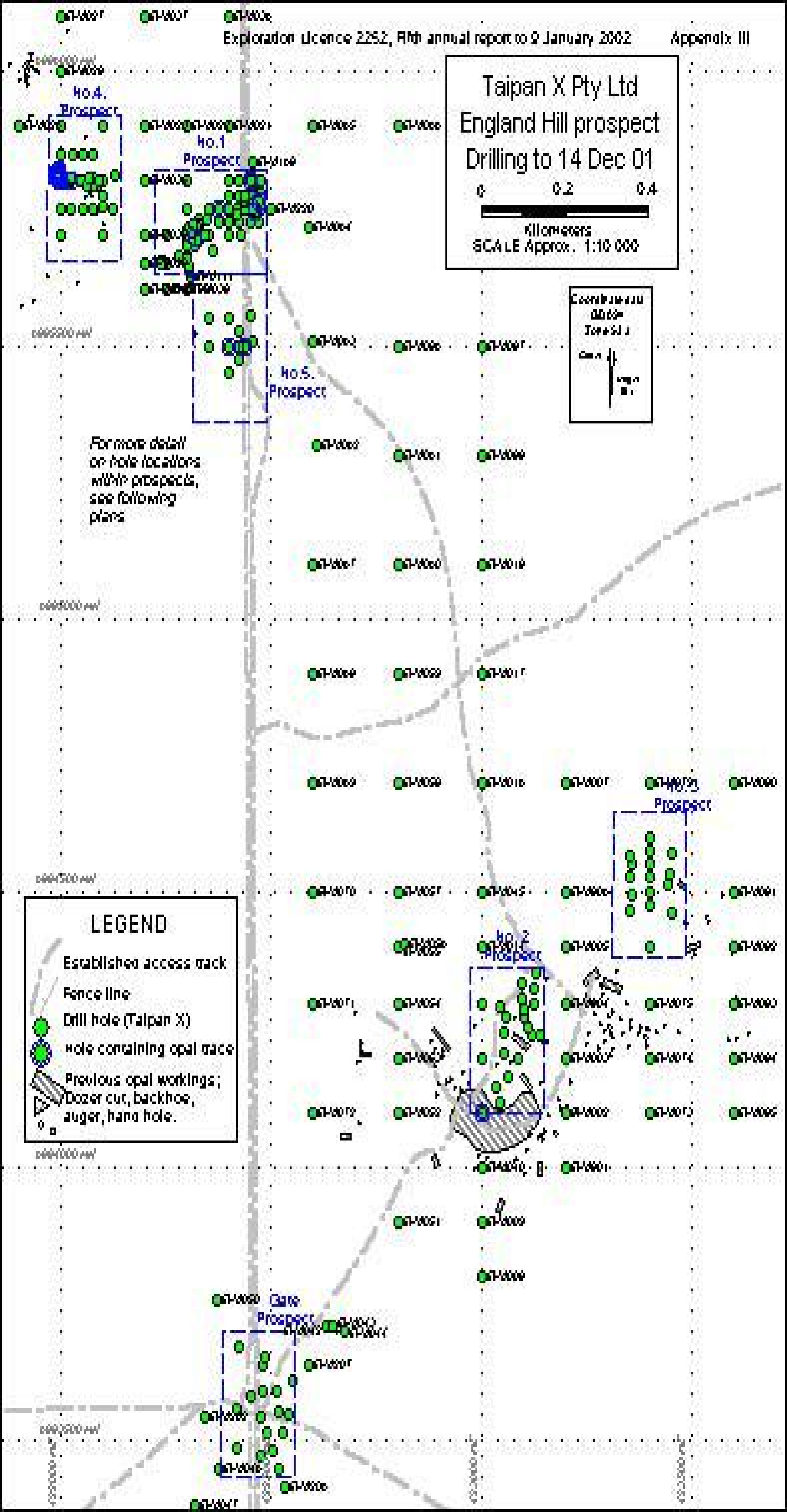
In all of the drilling performed to date, consistent geology has been observed in the majority of the higher potential zones (6 tested areas). This consists of 2 main altered (highly kaolinitic vertically stratified claystone horizons (interpreted to represent the change in weathering around a palaeo-water table). The majority of all opal indicators (strong 'levels', 'bone', 'matrix', potch & colour opal) are found around this geological change (within 2 metres vertically), which is defined at the 'main level'. In areas not on the higher elevation of the hill, this 'main level' is shallow (such as the No4 prospect), and in some areas has been exposed (older workings) which has resulted in abundant opal *floaters* (eroded opal fragments found at the surface). In sites such as the No1 and Gate prospects, this 'level' is approximately 10 to 12 metres deep (30 to 40 feet), with preserved highly altered claystone in some areas above this 'main level'. There is some evidence that opal potential exists in 'higher levels' stratigraphically above this 'main level' (evidenced by other strong 'levels', 'bone' + 'matrix' opal). However, in many places these 'higher levels' have been eroded away (such as the No4 prospect) or highly altered (regolithic) and cemented by other minerals (calcrete and silica) to form other rock types ('biscuit band' and silcrete boulders in altered claystone). In these areas there is lessened potential to host large opal deposits as there is only 1 productive 'opal level' rather than several potential levels (which is the case in rich Coober Pedy fields).

Alteration horizons for the England Hill region are understood with reasonable confidence, however the smaller-scale features which influence opal formation have not been directly observed in enough detail. Bulk sampling analyses on sites of 'particular interest' will enable observation of these features, and will assist with targeted drilling to be undertaken in subsequent exploration programs. Work for the forthcoming field programme will concentrate on the higher prospective target areas (No4, No1 and Gate prospects) in order to define mineable opal resources.

Refer to file

EL2252_200203_06_ProspectEnglandHilllocations.tif

& EL2252_200203_07_ProspectEnglandHillgeology.tif



Taipan X Pty Ltd
England Hill prospect
Drilling to 14 Dec 01

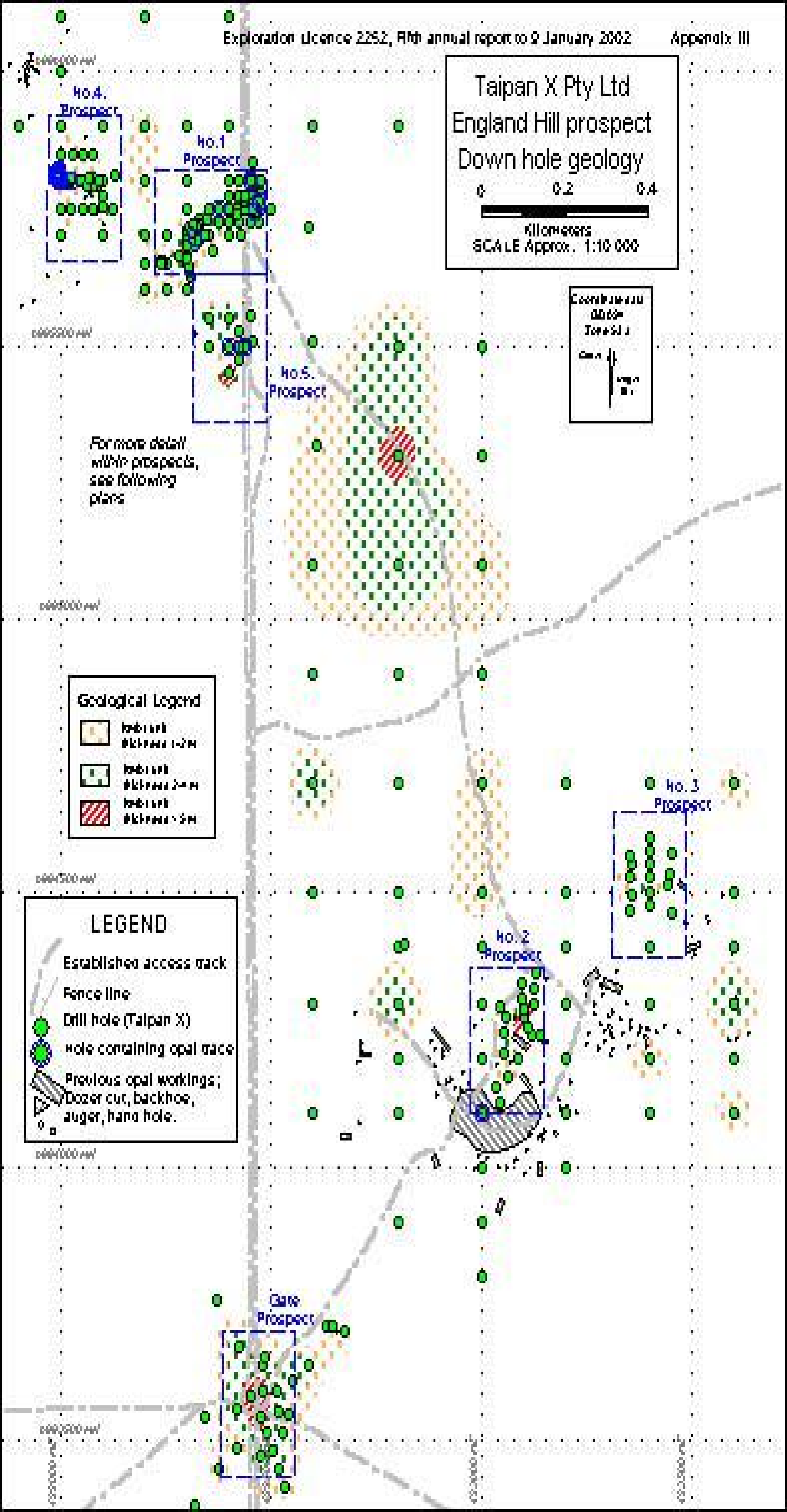
0 0.2 0.4
Kilometers
SCALE Approx. 1:10 000

Coordinate
000000
Tone 500
000000
000000

For more detail
on hole locations
within prospects,
see following
plans

LEGEND

- Established access track
- Fence line
- Drill hole (Taipan X)
- Hole containing opal trace
- Previous opal workings;
Dozer cut, backhoe,
auger, hand hole.



Refer to file EL2252_200203_08_Prospect1locations.tif
& EL2252_200203_09_Prospect1geology.tif

6885900 m N

EHA0030

EHA0132

EHA0175

EHA0227

EHA0228

EHA0229

EHA0230

EHA0164

EHA0218

EHA0231

EHA0232

EHA0165

EHA0217

EHA0233

EHA0177

EHA0226

EHA0235

EHA0235

EHA0234

EHA0224

EHA0236

EHA0223

EHA0166

EHA0237

EHA0216

EHA0222

EHA0221

EHA0162

EHA0171

EHA0178

EHA0108

EHA0246

EHA0172

EHA0176

EHA0247

EHA0170

EHA0173

EHA0167

EHA0219

EHA0244

EHA0245

EHA0035

EHA0036

EHA0119

EHA0123

EHA0127

EHA0128

EHA0125

EHA0118

EHA0130

EHA0120

EHA0131

EHA0030

EHA0034

EHA0121

EHA0117

EHA0122

EHA0126

EHA0034

EHA0123

EHA0116

EHA0133

EHA0124

EHA0116

EHA0033

EHA0114

EHA0113

EHA0112

EHA0101

EHA0102

EHA0110

EHA0037

EHA0103

422300 m E

422400 m E

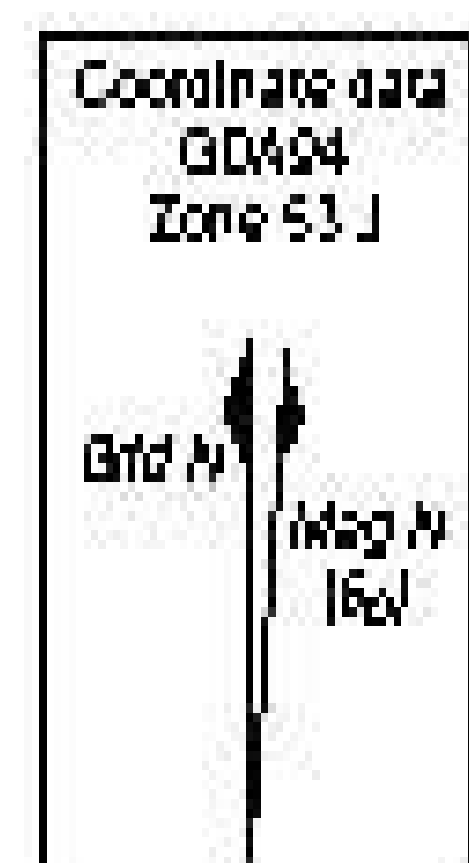
Taipan X Pty Ltd No. 1 prospect

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Metres

Scale 1:1000

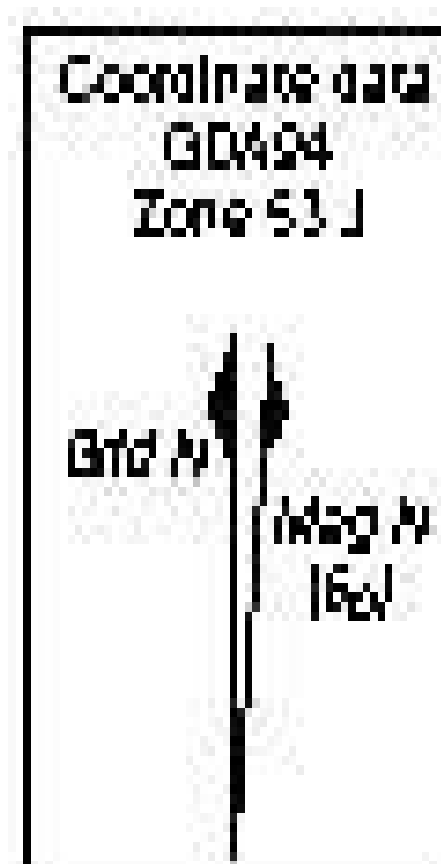
See England Hill
prospect plan
for Legends



6385800 m N

Taipan X Pty Ltd No. 1 prospect

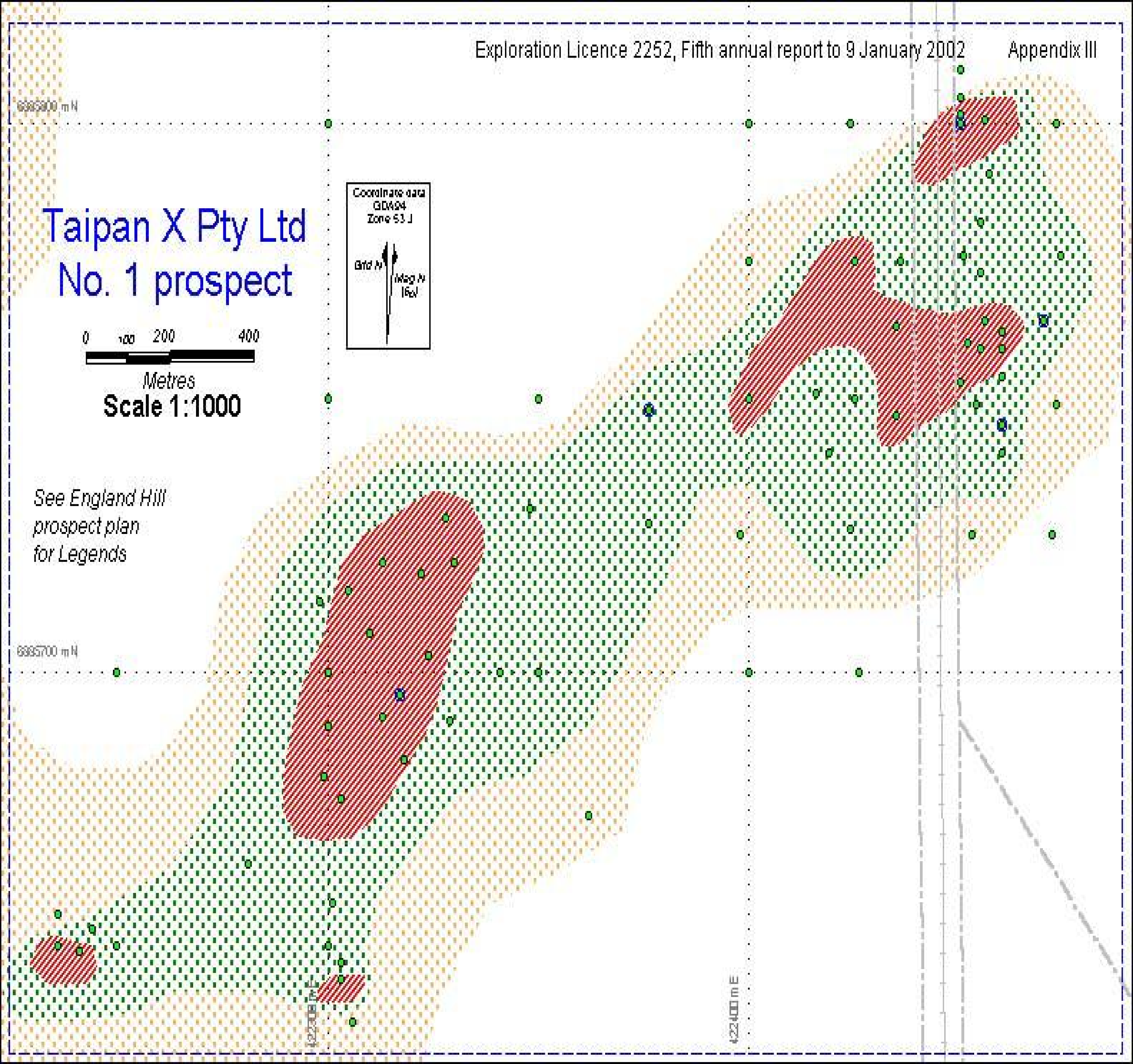
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Metres
Scale 1:1000



See England Hill
prospect plan
for Legends

6385700 m N

422400 m E

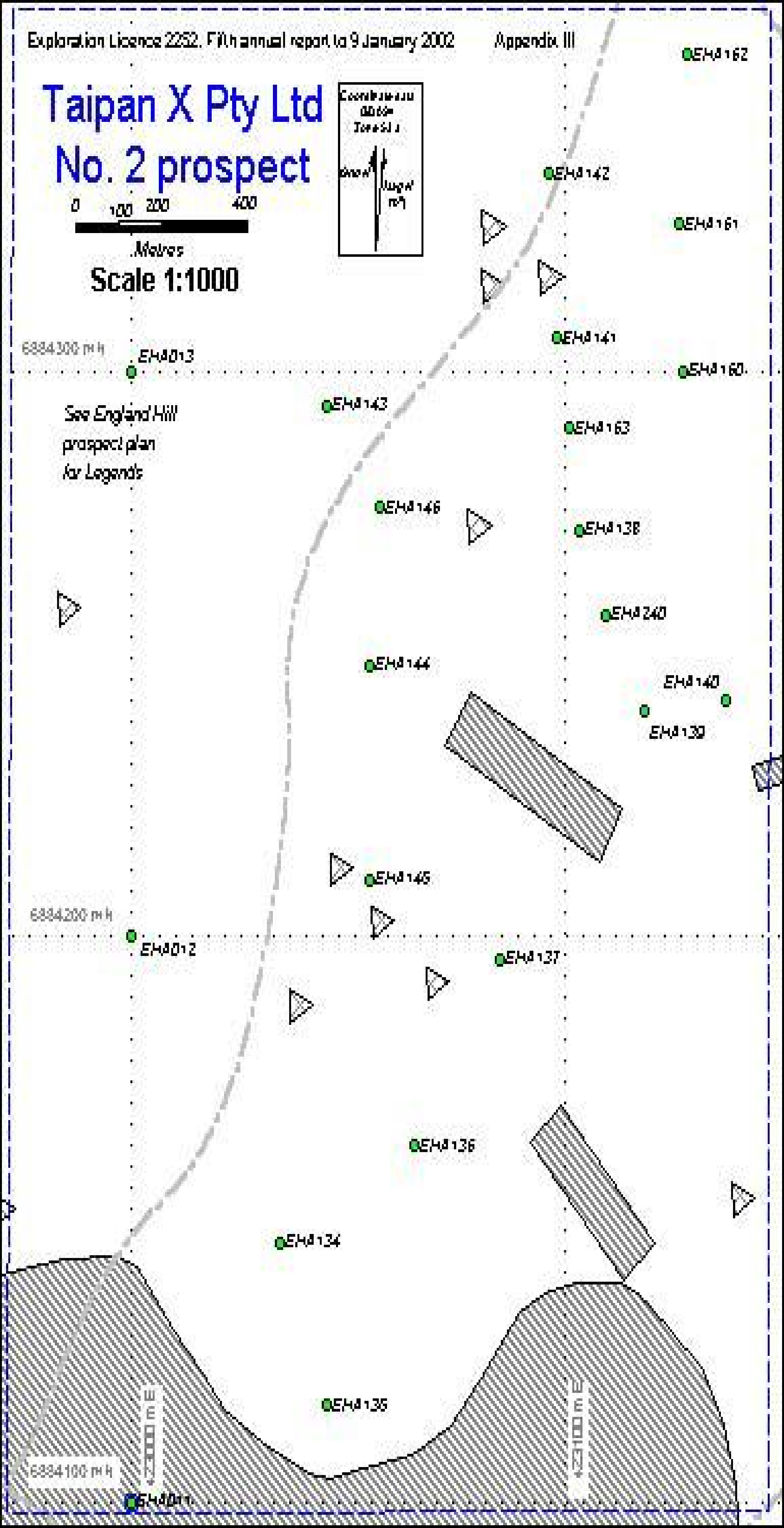
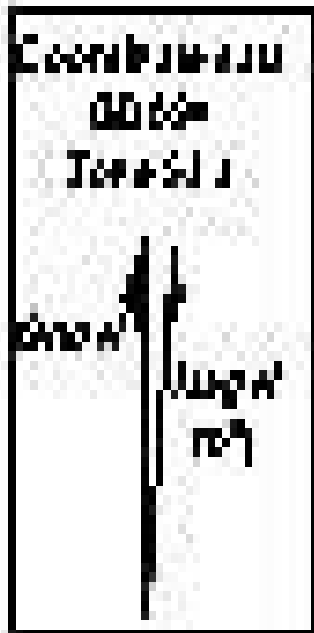


Refer to file EL2252_200203_10_Prospect2locations.tif
& EL2252_200203_11_Prospect2geology.tif

Taipan X Pty Ltd

No. 2 prospect

0 100 200 400
Metres
Scale 1:1000



Coordinate du
débouché
Toussaint

Scale 1:1000

See England Hill
prospect plan
for Legends

6994200 PH H

6294100 nm H

W E B DUBOIS

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Refer to file EL2252_200203_12_Prospect3locations.tif
& EL2252_200203_13_Prospect3geology.tif

Taipan X Pty Ltd

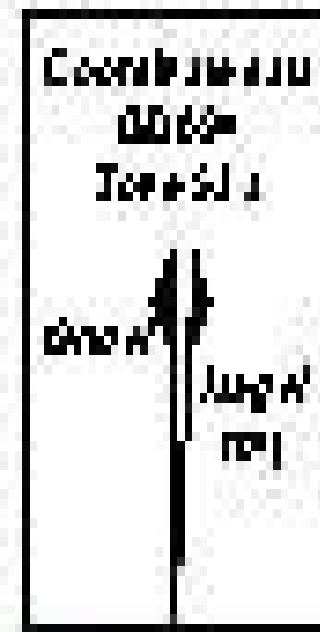
No. 3 prospect



Metres

Scale 1:1000

See England Hill
prospect plan
for Legend's



EH078

6334600 m M

EH079

EH080

EH081

EH082

EH083

EH084

EH085

EH086

EH087

EH088

EH089

6334500 m M

EH090

EH091

EH092

EH076

6334400 m M

23400 m E

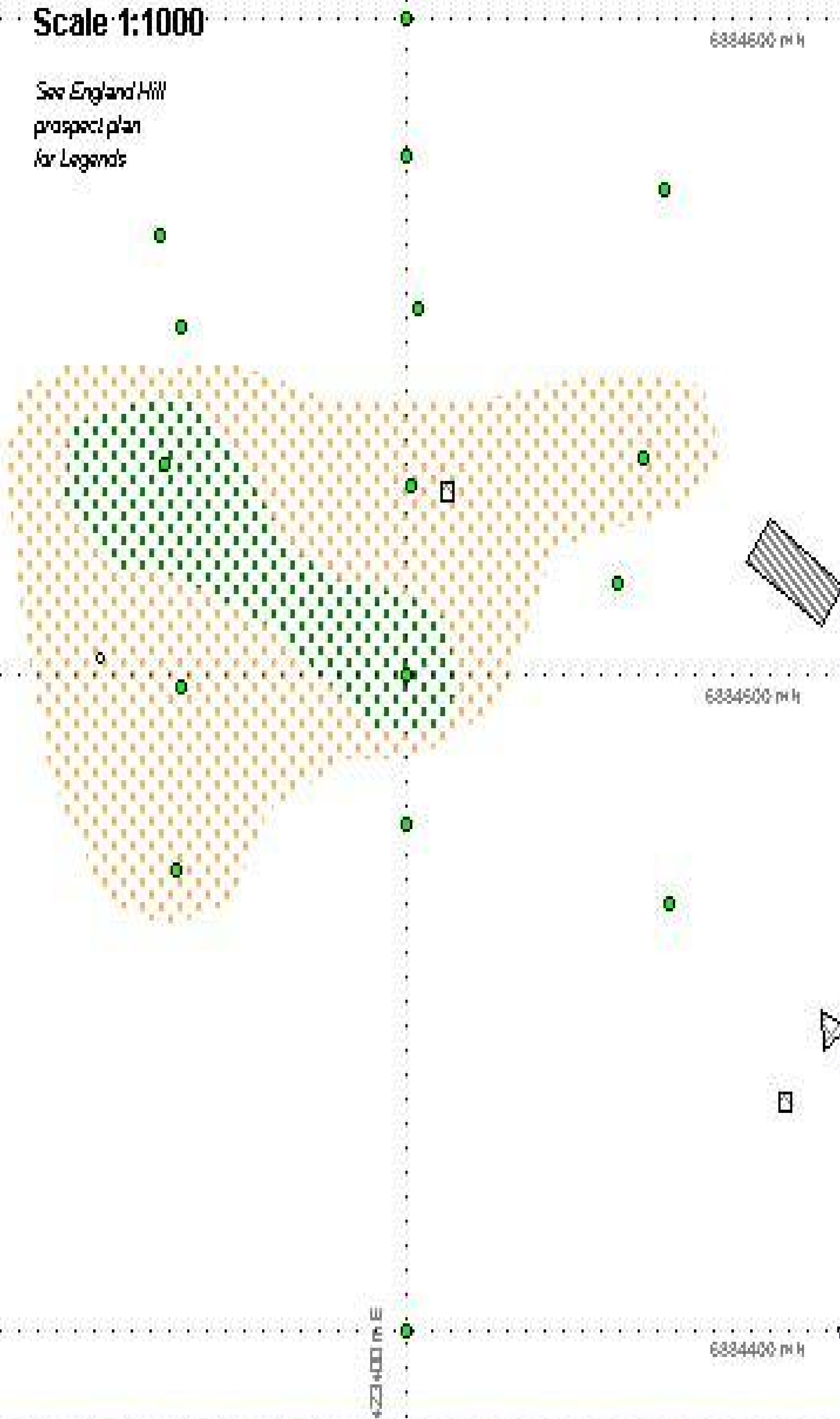
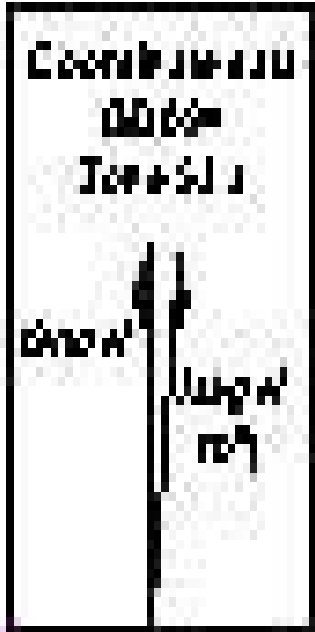
Taipan X Pty Ltd

No. 3 prospect



Scale 1:1000

See England Hill
prospect plan
for Legends



Refer to file EL2252_200203_14_Prospect4locations.tif
& EL2252_200203_15_Prospect4geology.tif

Taipan X Pty Ltd

No. 4 prospect



0 100 200 400

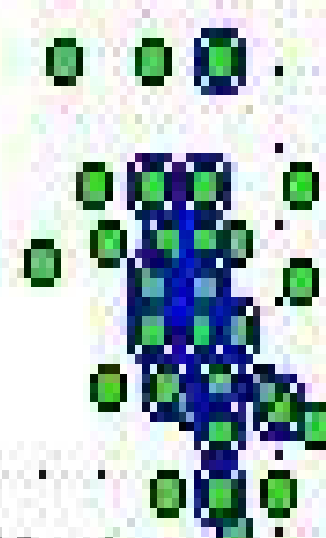
Metres

Scale 1:1000

See England Hill
prospect plan
for Legend's

4b prospect

For more detail
see following
plans



6385000 m E

EH0025

EH0024

EH0188

EH0189

EH0190

EH0191

EH0201

EH0240

EH0250

EH0180

EH0192

EH0181

EH0198

EH0200

EH0030

EH0196

EH0197

EH0182

EH0195

EH0194

0

EH0193

0

0

0

0

0

0

0

0

EH0187

EH0186

EH0185

EH0184

EH0183

EH0192

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6385700 m E

EH0031

EH0032

0

0

0

0

0

0

0

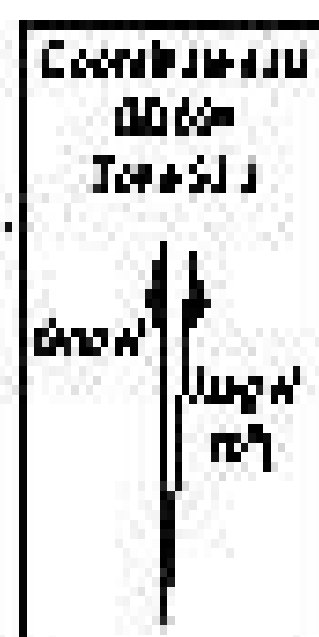
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6385000 m E

6386000 m E

Taipan X Pty Ltd

No. 4 prospect

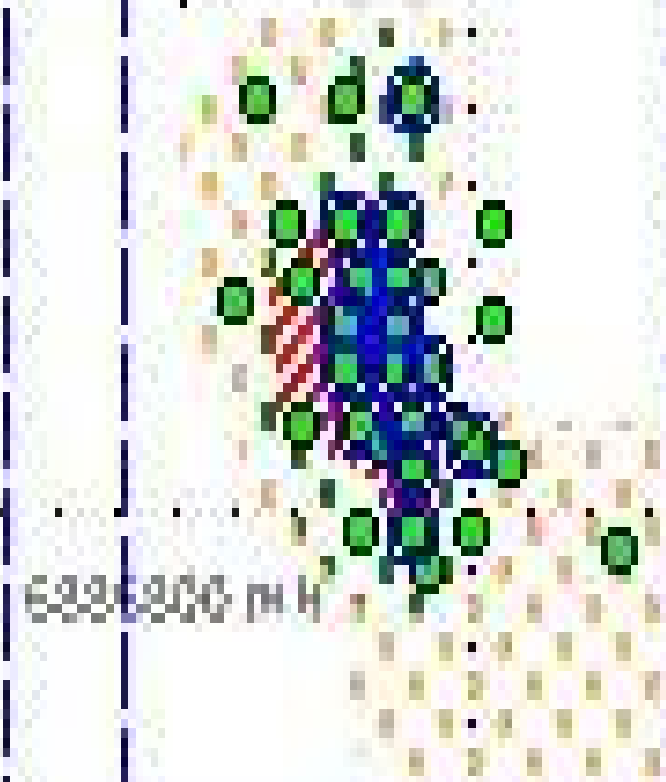


See England Hill
prospect plan
for Legend's

0 100 200 400
Metres
Scale 1:1000

4b prospect

For more detail
see following
plans



6386300 m N

6386700 m N

6386300 m E

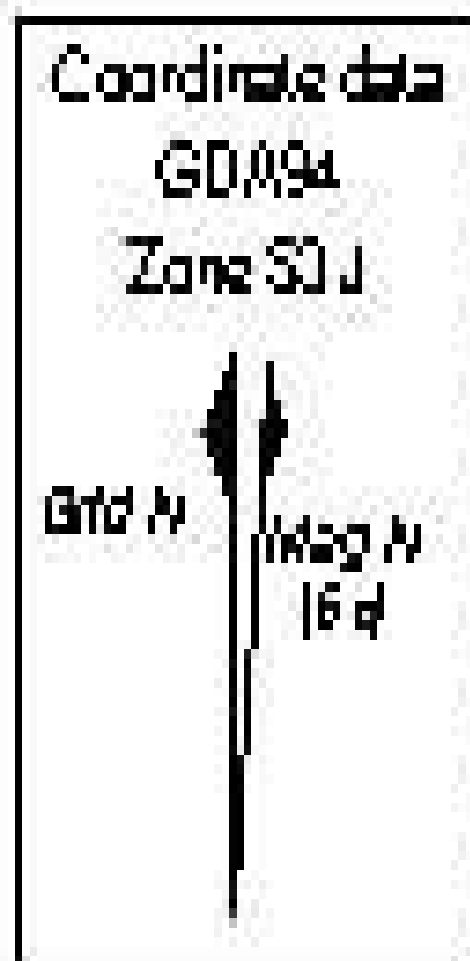
6386700 m E

Refer to file EL2252_200203_16_Prospect4blocations.tif
& EL2252_200203_17_Prospect4bgeology.tif

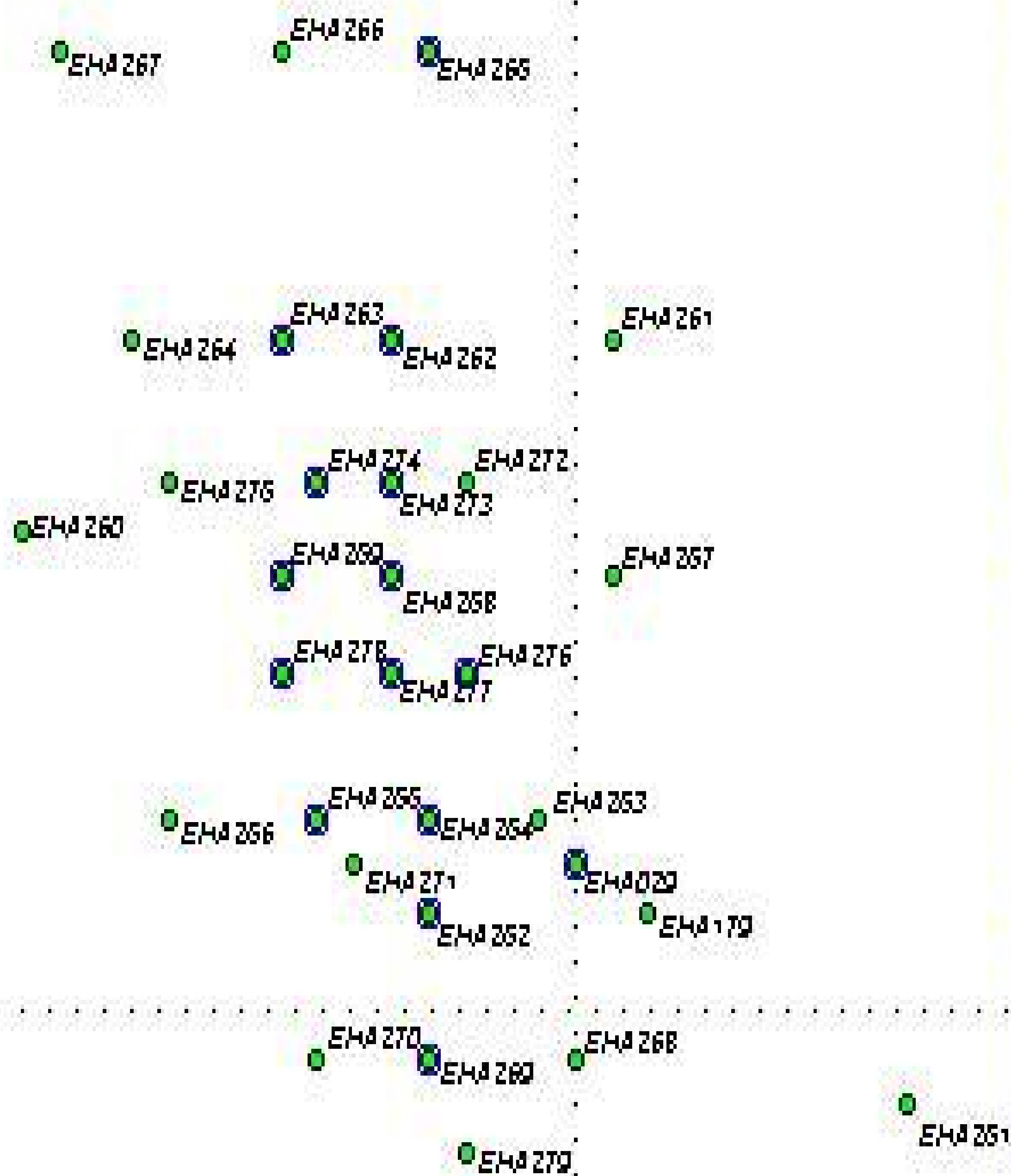
Taipan X Pty Ltd 4b prospect



Scale 1:200



See England Hill
prospect plan
for Legends



6835300 m N

423000 m E

Taipan X Pty Ltd 4b prospect

0 2.5 5 10



Metres

Scale 1:200

Coordinate data

GDA94

Zone 50 J

Grid N

Magn N

16 d

See England Hill
prospect plan
for Legends

6835300 m N

422000 m E

Refer to file EL2252_200203_18_Prospect5locations.tif
& EL2252_200203_19_Prospect5geology.tif

Taipan X Pty Ltd

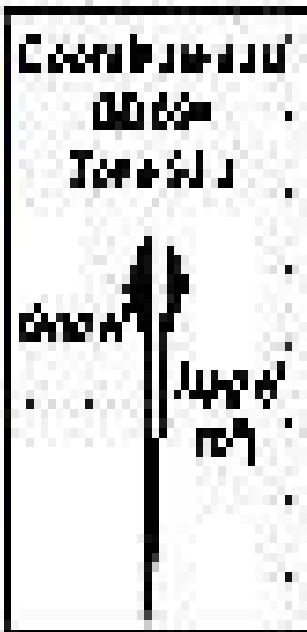
No. 5 prospect



Metres

Scale 1:1000

See England Hill
prospect plan
for Legend's



EH104

EH103

EH238

EH243

EH239

EH185

EH248

EH109

EH242

EH107

EH241

EH106

6885600 m N

6885600 m N

6885400 m N

122400 m E

Taipan X Pty Ltd

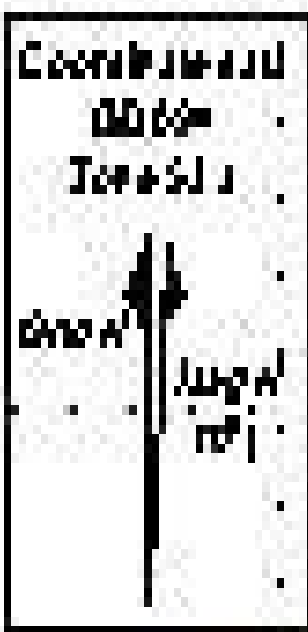
No. 5 prospect



Metres

Scale 1:1000

See England Hill
prospect plan
for Legend's

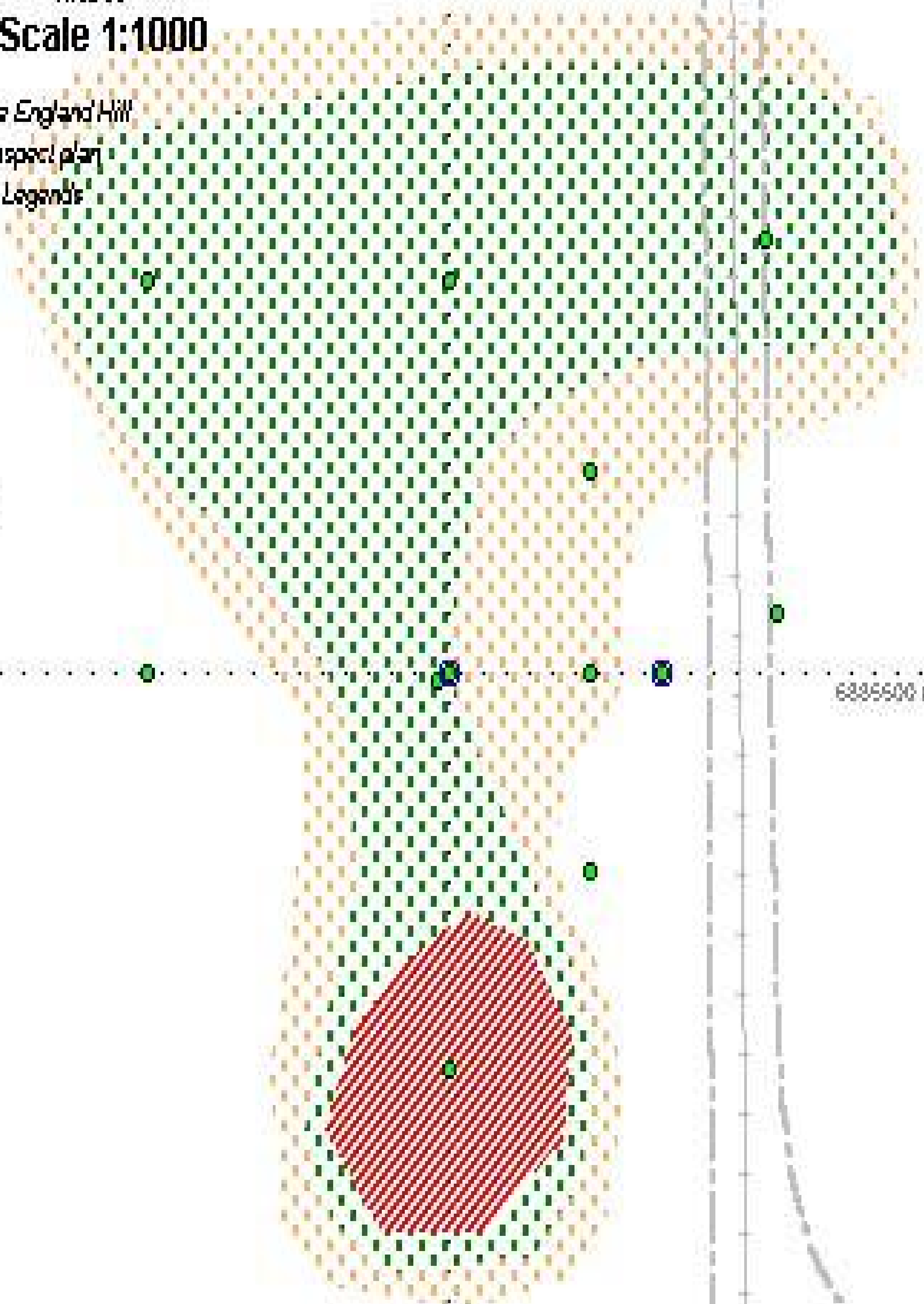


6885600 m N

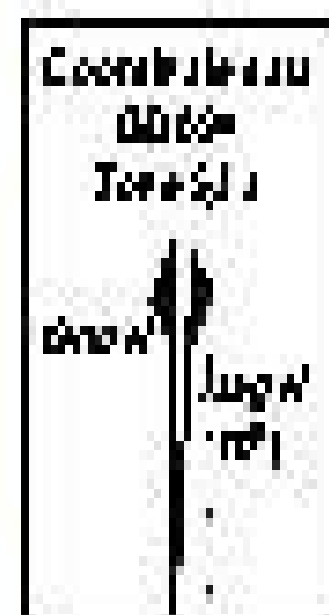
6885600 m N

6885400 m N

422400 m E



Refer to file EL2252_200203_20_ProspectGateLocaitons.tif
& EL2252_200203_21_ProspectGategeology.tif



Taipan X Pty Ltd Gate prospect

0 100 200 400
Metres
Scale 1:1000

See England Hill
prospect plan
for Legend's

6383600 m N

EH203

EH248

EH213

EH215

EH214

EH208

EH241

EH209

EH240

EH210

EH202

EH211

6383600 m N

EH245

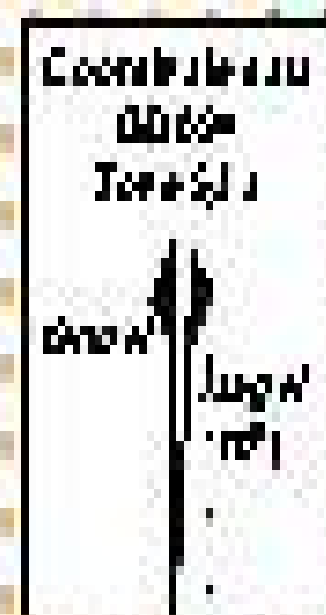
EH204

EH212

EH205

422400 m E

422500 m E



Taipan X Pty Ltd Gate prospect

0 100 200 400

Mètres

Scale 1:1000

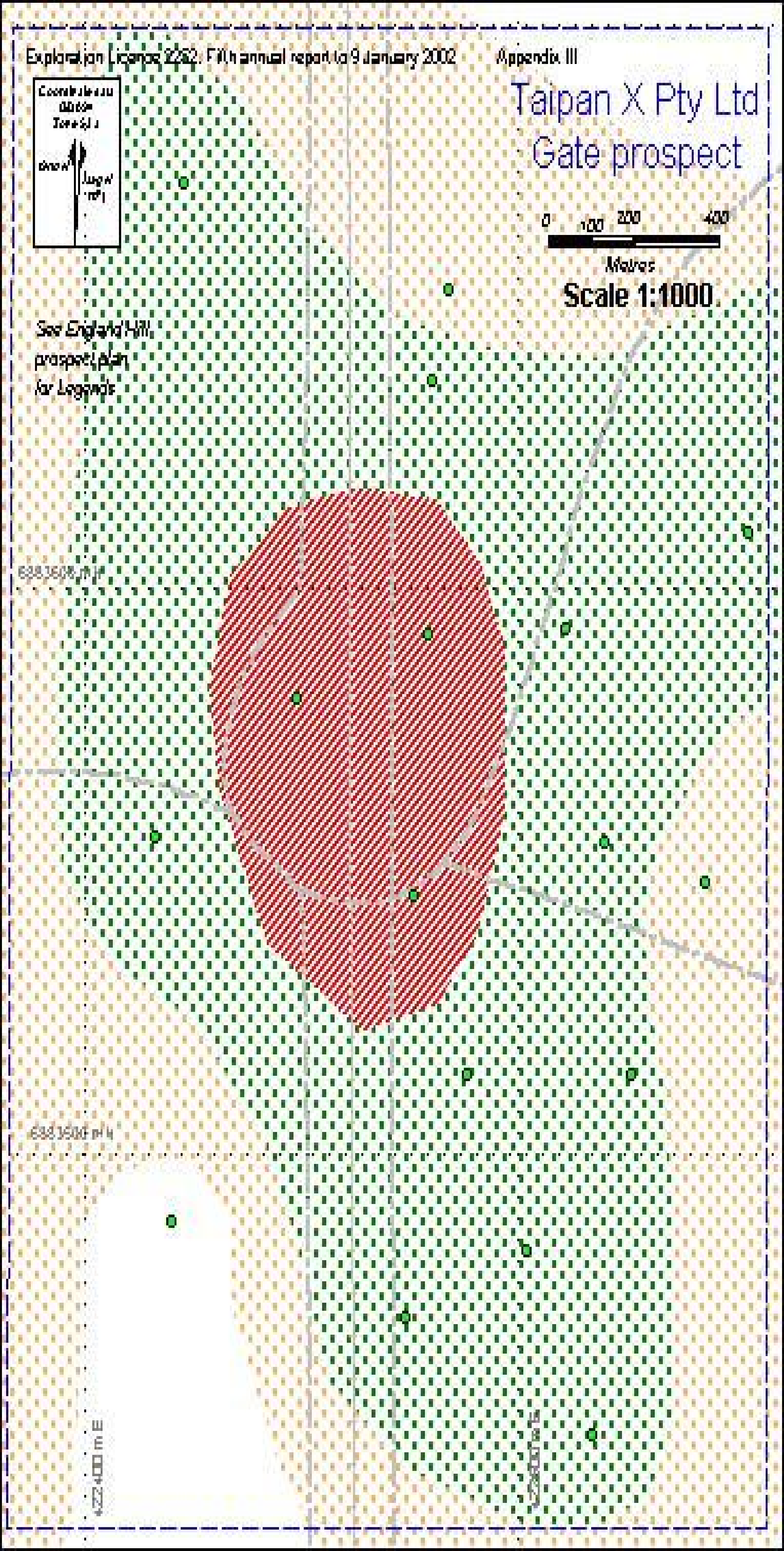
See England Hill
prospect plan
for Legend

638 1608 m N

638 1600 m N

422 400 m E

422 400 m E



CONSOLIDATED BROKEN HILL Ltd.
ACN 009 423 858

ELY HILL EL 2252 (OPAL)
ANNUAL TECHNICAL REPORT
to 9 January 2002

Volume 2
Drill hole logs

Prepared for:
Consolidated Broken Hill Ltd.
Level 4, 12-14 O'Connell Street
Sydney, NSW, 2000

Prepared by:
C A Simpson (Consulting Geologist)
March 2002

Outline to contents of Volume 2

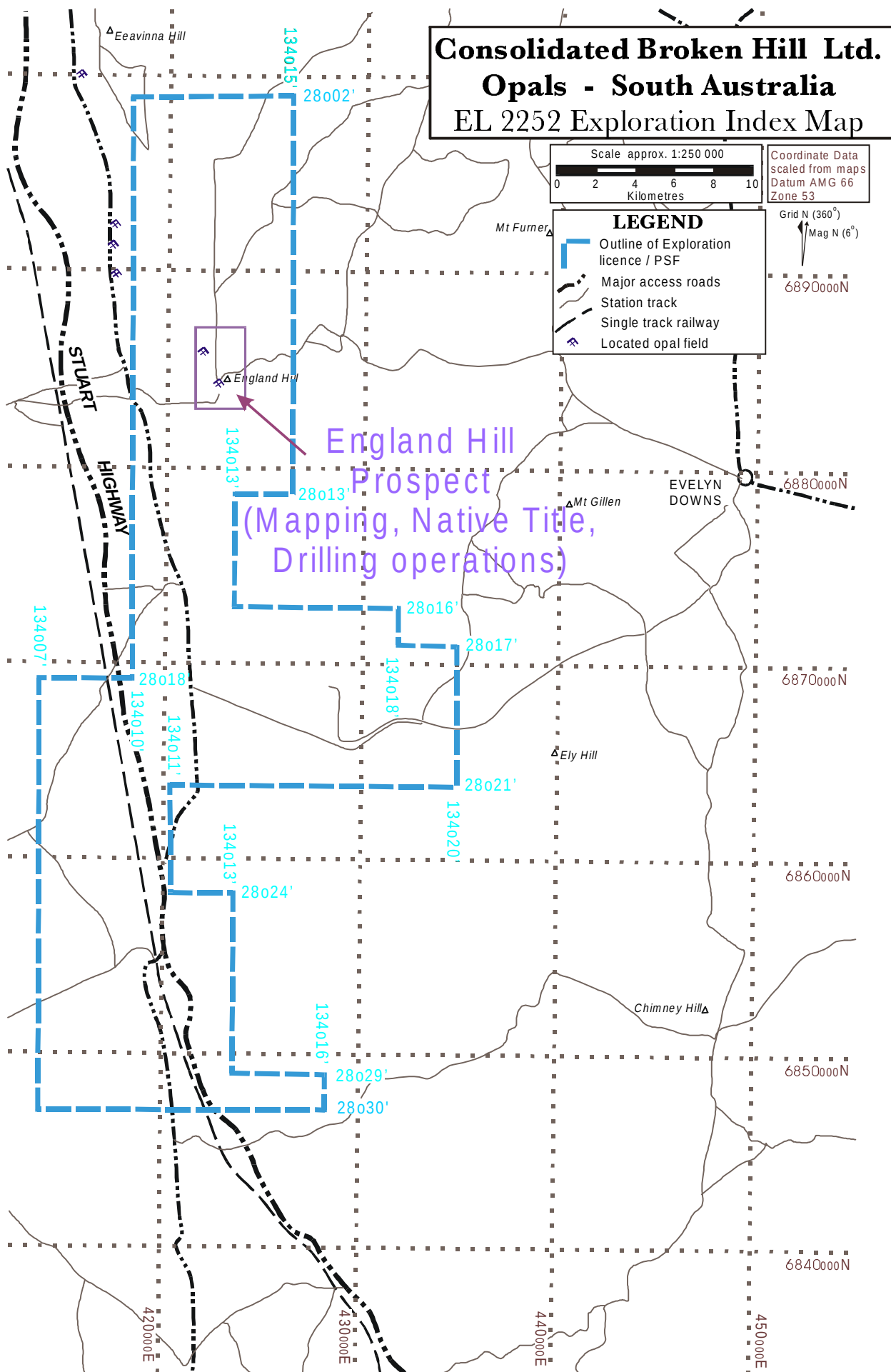
This volume to the Annual technical report for EL2252 (10 January 2002 to 9 January 2002) includes all drill hole logs recorded during drilling operations carried out within the reporting period.

A total of 279 drill holes for 3,642 metres of Auger drilling was carried out by Taipan X Pty Ltd (the earning Joint Venture partners). Operations were carried out from 6 October to 14 December 2001 upon the England Hill prospect within EL 2252 (see following exploration Index Map). All holes have been geologically logged for modelling purposes and future reference. These drill logs have been recorded in the field, predominantly carried out at the same time the hole was drilled (there were some instances where the geologist was not always on site).

Significant information observed whilst drilling and logging the holes is recorded on all drill logs. For ease of reference and geological modelling, the collar information, any mineralisation and stratigraphy have been summarised into tables (Volume 1 – Appendix II). Other relevant details for drilling method, results, summaries and interpretations are included within volume 1 of this report.

Drilling codes have been used throughout the logging activities for ease of recording. These are referenced in the following tables. The formation names used for stratigraphic correlations are taken from regional geological mapping of the area (*Pitt & Barnes, 1976*).

As there is a large number of drill hole logs, digital reporting of this volume is split into many smaller files (of 25 drill logs each) to enable quicker reference.



Taipan X England Hill drilling prospect 2001

DRILL HOLE LOGGING REFERENCE GUIDE

Colour

dk	dark colour
lt	light colour
bl	blue
bk	black
br	brown
cr	cream
gn	green
gy	grey
or	orange
pk	pink
pu	purple
rd	red
wh	white
ye	yellow

Rock Types

AL	Alluvium
CC	Calcrete
CH	Chert
CL	Clay
CO	Conglomerate
CS	Claystone
JA	Jasper
LI	Limestone
QZ	Quartz
SA	Sands
SH	Shale
SI	Silcrete (massive)
SL	Soil
SS	Sandstone
ST	Silt
SST	Siltstone

Minerals

Al	Alunite
Fe	Iron
Go	Goethite
Gy	Gypsum
Hm	Hematite
Lo	Limonite
Py	Pyrite
Mn	Manganese
Qtz	Quartz

Quantity of minerals / Opals

tr	Trace (<2%)
min	Minor (2-20%)
maj	Major (20-100%)

Opal Types

C	Colour (glassy silica - play of colours)
P	Potch (glassy silica - no colour)
M	Matrix (sandy opaline silica)
Mangel	Angelstone (porcelain claystone, with opaline lustre)
B	Bone (chalky opaline silica)
Br	Tubules or cavities replaced with chalky opaline silica
Si	chalcedonic silica (milky or translucent colouring)
Shell	Replacement of shell material with any variety of opal as mentioned above

Hardness

VH	Very hard, silicified / cemented
H	Hard, partially cemented
S	Soft, competent but easily broken
F	Friable, easily broken by hand
U/C	Unconsolidated

Sample Quality

G	Good
M	Moderate
P	Poor
WIND	Sample material extracted whilst augers being rotated before being raised
PULL	Sample material extracted whilst augers being raised

Shape of drill chips

AA	Angular
SA	Sub-angular
SR	Sub-rounded
RR	Rounded

Grainsize of lithologies

(Note: grainsize all in clay fraction unless otherwise noted, with variations depicting relative changes in recognised mineralogical textures)

v.fgr	very fine grained
fgr	fine grained
mgr	medium grained
cgr	coarse grained

Taipan X England Hill drilling prospect 2001

Symbol	Unit	Lithology	colouring
Qa	Soil/Alluvium	Recent soils and alluvium, mostly unconsolidated	varicoloured
Qs	Sands	Aeolian sands	varicoloured
Qsi	Silcrete	Massive greybilly silcrete	grey to red
Tli	Limestone	Mt Willoughby or Mangatitja Limestones. Soft silty to dense dolomitic limestone, pisolitic and concretionary in part	Pale coloured
Tdo	Doonbara Formation equivalent	Ferruginous and calcareous rocks incorporating reworked surfaces (silcretes, shales). Variably silicified to form red, brown and cream coloured jaspers	red-brown
Tmk	Mirackina Conglomerate	Fine to coarse conglomerate with rounded silcrete and quartz clasts. Matrix of sands, silts or shales. Upper parts heavily silicified and often ferruginised.	varicoloured
Tsi	Silcrete	Massive silicification of units or Jasper bands	grey-brown to red-brown
Klk	Coorakinna Sandstone member	Fine to coarse grained, kaolinitic, feldspathic, micaceous and glauconitic quartz sandstone. Interbeds of sandy siltstone and silty shale. Bioturbation and cross bedding in sandstones.	varicoloured
Kmb1	Bulldog Shale (chippy)	Silty or sandy claystone, intensely weathered, kaolin dominant, partially cemented by opal-CT to give a 'crisp' brittle texture.	white to varicoloured
Kmb2	Bulldog Shale (intermediate)	Silty or sandy claystone, intensely weathered, kaolin dominant, little to no cementation by opal-CT with an often inhomogeneous (broken) texture.	dull-white to varicoloured
Kmb3	Bulldog Shale (mud)	Silty or sandy claystone, less weathered, smectite more common, often more moist and plastic texture (when freshly drilled).	Mauve, grey to brown
Kmb4	Bulldog Shale (blueground)	Hard, brittle claystone (unweathered?), cemented by pervasive opaline silica. Sedimentary textures may be preserved.	varicoloured
Klc	Cadna-owie Formation	Fine to medium grained conglomeritic and feldspathic sandstones with clasts of porphyritic rhyolites and dacites, quartz and quartzites.	varicoloured
Jua	Algebuckina Sandstone	Fine to coarse grained cross-bedded kaolinitic sandstones to clays, conglomeritic in part. Minor siltstones and shales observed.	white to pale brown

VOLUME 2

Drill hole logs
EHA 001 - 024

Notes:

Thin duffing's clay peer CS into grey soft muds.

100m depth traverse E Hill main workings

Taipan X

England Hill drilling prospect 2001

Hole Number :	Licence number :	Prospect :	Date drilled :
EHA 001	EL 2252	England Hill	9/10 / 2001
	Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by :
			Clayton Simpson
Coordinates (AMG-WGS84 datum) :	42 3 200	E 688 4000 N	Hole diameter :
			9 INCH
			Drill method :
			AUGER

Hole depth	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	Dark	SL, SI					4/5	G		unconsolidated rt-brown silts + ex sil pebbles
6.6	2	br	SL, SI, CS, CC					S			interstratified slightly cc - csc layers
9.8	3	Dark grey	CS 'intermediate'			mm	ex	H			Hard to chip, rt-brown CS layers
13.1	4	Dark						S			Hard to chip, rt-brown CS layers
16.4	5							S			Softer to chip, rt-brown CS, greyish clay pebbles
19.7	6										
23.0	7					tr	GAH		WIND		
26.2	8	Dark grey	CS 'muddy'					F	PULL		Dark grey greasy CS + pebbles below
29.5	9										rt-brown clay + interbeds as dark grey muds
32.8	10	Dark grey									
36.1	11										
39.4	12										
42.7	13										
45.9	14										
49.2	15										
52.5	16										
55.8	17										
59.1	18										
62.3	19										
65.6	20										
68.9	21										
72.2	22										
75.5	23										
78.7	24										
82.0	25										

Notes:

thin alluvials above poorly bedded CS into calcareous hard muddy CS

Taipan X England Hill drilling prospect 2001

Hole Number: EHA 002	Licence number: EL 2252	Prospect: England Hill	Date drilled: 9/10 / 2001
	Drill rig type / contractor:	Investigator Mk10A / Taipan X	Logged by: Clayton Simpson
Coordinates (AMG-WGS84 datum): 42 3 200	E	688 4 100	N
			Hole diameter: 9 INCH
			Drill method: AUGER

Hole depth	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	Gla br-id	SL, SI, CS					4/5	G		uncorro. hard soils, slightly CC, with SI & CS
6.6	2	-	SL (SI, SI)					6			incorporating CS + SI
9.8	3	Kab2 grey-br	CS 'intermediate'			tr	bx	4			Had Gr ity CS, broken Fe-streak + greyish
13.1	4	-	-			min	bx	1			Microscopic veins
16.4	5	-	-			tr	bx				min powdered hard lumps
19.7	6	-	-								
23.0	7	pr-br	-						unl		soft to lit per log, hard for CS
26.2	8	-	-			tr	Al	5	Al		all parts in soft CS + greyish clays
29.5	9	Kab3 grey-br	CS 'muddyish'			min	Al/bx	5	6		fragr hard CS in grey fabric with Fe clays + greys
32.8	10	ECH soft	-								
36.1	11										
39.4	12										
42.7	13										
45.9	14										
49.2	15										
52.5	16										
55.8	17										
59.1	18										
62.3	19										
65.6	20										
68.9	21										
72.2	22										
75.5	23										
78.7	24										
82.0	25										

Notes:

7mm alluvials where bedrock is massive SL + pebbles to 'mud' CS + silt mud CS

Taipan X England Hill drilling prospect 2001

Hole Number : EHA 003	Licence number : EL 2252	Prospect : England Hill	Date drilled: 9/10/ / 2001
	Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG-WGS84 datum) :	42 3 20.4 E 688 42.0 N	Hole diameter : 9 INCH	Drill method : AUGER

Hole depth ft m	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3 1	J2	br	SL, SL					H	✓		pebbles to boulders of qz, SL in Lx w. s.s.
6.6 2	Trk	gr-br	SL, ST					VH	✓		Revised to SL + silt s.s. (hard cemented)
9.8 3								"			"
13.1 4								VH			less bulky qz SL
16.4 5			SL, CS, ST					H			less crystalline SL + marked qz, fcl, CS
19.7 6	Lab	pr-br	CS, SL								pr-br fcl CS + qz SL pebbles to boulders
23.0 7	Lab		CS (labr)								heavy for pr-br CS
26.2 8											mine mottled 'bluish' texture
29.5 9											
32.8 10	Lab	pr-gr	SL, mud						und		Salt, grey pr-gr CS
36.1 11			CS mud								
39.4 12	Lab	pr	CS mud s.s. h?					S	pr		grey pr to top CS + M ¹⁰⁰ pr-gr, pr clays
42.7 13											mm-LCS sand pr-gr clays at base
45.9 14	ACH		43 ft								
49.2 15											
52.5 16											
55.8 17											
59.1 18											
62.3 19											
65.6 20											
68.9 21											
72.2 22											
75.5 23											
78.7 24											
82.0 25											

the effect of pH on the above reactions + how they are related

100 m prospect traverse

[illegible]

Notes:

thick alundite qtz per liard CS & sc + muddy CS

100m prospect drill

Taipan X

England Hill drilling prospect 2001

Hole Number :	Licence number :	Prospect :	Date drilled:
EHA CCS	EL 2252	England Hill	G/C / 2001
Drill rig type / contractor :	Investigator Mk10A / Taipan X		
Coordinates (AMG- WGS84 datum) :	42 3200	E 688 4400	N
		Drill method :	AUGER

Hole depth	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	br	ST, gl, CS					H	C		Hard platy to massive br gl / ST / gl / ST + ST + CS (cf. 1)
6.6	2	-	ST, SI								more massive of ST + hard red br ST
9.8	3	-	-								
13.1	4	-	-	tr	gl						trace chalcedony quartz in gl + ST
18.4	5	-	ST, gl, CS								increasing gr of platy ST + hard gl, gl, CS
19.7	6	Trak	gl, CS, ST			tr	gl				gl + ST + hard with gl, CS + red-brownish with gl + ST + gl
23.0	7	-	gl, CS								increasing S
26.2	8	br	CS, gl								hard br to Hbr S + gr SI nodules
29.5	9	br	CS, gl, ST								br, hard gl, gl, CS + many SI nodules
32.8	10	-	-								more platy to ST + gl, CS
36.1	11	-	-								increasing hard gl, CS
39.4	12	-	-								
42.7	13	br	-			tr	gl				more hard with gl, CS
45.9	14	-	-			tr	gl, gl				soft CS including 17 br to 19 gl, CS
49.2	15	-	-			tr	gl				
52.5	16	-	-								soft Hbr CS granular to gl + gr, red
55.8	17	-	-			tr	gl				gr varies to more soft, red, gl, CS
59.1	18	br	CS, gl, ST			tr	gl				granular to soft, gl, CS
62.3	19	br	br								
65.6	20	-	-								
68.9	21	-	-								
72.2	22	-	-								
75.5	23	-	-								
78.7	24	-	-								
82.0	25	-	-								

Notes:

thick alluvials above marked bluish-grey into hard pieces & just looking into mudstones

100m

prospect traverse

Taipan X

England Hill drilling prospect 2001

Hole Number :	Licence number :	Prospect :	Date drilled:
EHA 006	EL 2252	England Hill	9/10/2001
Coordinates (AMG- WGS84 datum) :	Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by :
42 3200 E 688 4500 N			Clayton Simpson
			Hole diameter :
			9 INCH
			Drill method :
			AUGER

Hole depth	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	ldo	brn					H	G		Hard br silts & rd to pr sl pebbles
6.8	2										increasing silty pebbles
9.8	3										
13.1	4										
16.4	5	brn	grn					VH			massive ~~grey~~ ~~brn~~ ~~grn~~ sil dimen. br silts
19.7	6							H			safter CS in brn
23.0	7	ldo	grn			br	white				clim by hard grn to grcs + exd. silty clay
26.2	8										
29.5	9							VH			rd grn silts in m. flint black to grey
32.8	10	brn	gr					H	mm		Lo silty muds to safter grcs, m. in CS.
36.1	11										
39.4	12										
42.7	13							S			safter grcs & silty muds
45.9	14										Harder brn CS safter silty muds
49.2	15										more silty mud & grcs in CS at base
52.5	16										
55.8	17										
59.1	18										
62.3	19										
65.6	20										
68.9	21										
72.2	22										
75.5	23										
78.7	24										
82.0	25										

Notes: *Very thick alluvials above (channel), poor hard CS v greyy muddy CS.*

200m prospect

Taipan X England Hill drilling prospect 2001

Hole Number :	Licence number :	Prospect :	Date drilled:
EHA 007	EL 2252	England Hill	9/10/2001
Coordinates (AMG-WGS84 datum) :	Drill rig type / contractor :	Investigator	Logged by :
42 3 200	E 688	Mk10A / Taipan X	Clayton Simpson
			Hole diameter :
			9 INCH
			Drill method :
			AUGER

Hole depth	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	Qz	ST, SI					4/5	G		uncrushed rd. brnls + gy - rd SI pebbles
6.6	2	Talc	ST, SI					H			lt. br. silts + pr - rd SI / SR to RR pebbles
9.8	3	si	"					4			minor gy - gr SI + ironstone pebbles
13.1	4	Trk	SI, ST					4H			gy - gr SI pebbles, hard br. silts + ironstone pebbles
16.4	5	-	-								
19.7	6	-	SI, CS								gy - gr SI + hard for gy - gr CS (b. brnls)
23.0	7	pr	CS, ST, SI								clay + hard gy - gr CS, minor gy - gr SI + rd ST
26.2	8	gy - br	SI, CS								increase in SR nodules of gy - gr SI
29.5	9	-	-								
32.8	10	-	si								increase in SR nodules of gy - gr SI
36.1	11	-	-								still SR SI pebbles + ironstone (cr. & w. brnls)
39.4	12	pr	CS, SI					H			hard br. silts + pr - rd SI / SR to RR pebbles
42.7	13	pr	CS, ST, SI								silts to cherty gy - gr CS + ironstone pebbles
45.9	14	-	-								hard br. silts + pr - rd SI / SR to RR pebbles
49.2	15	-	-								Hard br. silts + pr - rd SI / SR to RR pebbles
52.5	16	-	-								Hard br. silts + pr - rd SI / SR to RR pebbles
55.8	17	pr	CS, ST, SI					S			gy - gr SI pebbles, hard br. silts + ironstone pebbles
59.1	18	pr	5/6								
62.3	19										
65.6	20										
68.9	21										
72.2	22										
75.5	23										
78.7	24										
82.0	25										

Notes: Thin alluvials above muddy cs.

Taipan X England Hill drilling prospect 2001

100m prospect traverse

Hole Number : EHA 008	Licence number : EL 2252	Prospect : England Hill	Date drilled: 10/10/2001
Drill rig type / contractor :		Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG- WGS84 datum) : 42 3 000 E 688 3 800 N		Hole diameter : 9 INCH	Drill method : AUGER

Hole depth		Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
ft	m				quantity	types	quantity	types				
3.3	1	Qc	br	ST, sl					U/C	Q		uncensored rdtg soils + ST pebbles
6.6	2	Qc	-	ST, sl					H	Q		hard sand br silt + grs pebbles
9.8	3	"	lt br	ST, sl, cs			tr	gr	5	Q		increased hard Mn CS chips + gr veins
13.1	4	Qc		cs, red, lt			mg	gr	5	Q		intergr ground silt, lt, gr CS
16.4	5	plm	plm	cs, muddy			mn	gr	5	Q		silt + gr or pvc CS
19.7	6	-	-	-			tr	gr	5	Q		minor hard clasts of p-gr CS + pvc in clays
23.0	7	-	-	-			tr	gr	5	Q		more pvc CS
26.2	8								5	Q		minor loss of CS at base
29.5	9	EON 25 ft										
32.8	10											
36.1	11											
39.4	12											
42.7	13											
45.9	14											
49.2	15											
52.5	16											
55.8	17											
59.1	18											
62.3	19											
65.6	20											
68.9	21											
72.2	22											
75.5	23											
78.7	24											
82.0	25											

Notes:

thin alluvials above maddy cs

Taipan X

England Hill drilling prospect 2001

100m prospect traverse

Hole Number : EHA 009	Licence number : EL 2252	Prospect : England Hill	Date drilled : 10/10 / 2001
Drill rig type / contractor :		Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG-WGS84 datum) : 42 3 000		E 688 3 900	Hole diameter : 9 INCH
			Drill method : AUGER

Hole depth ft m	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	Qz rdt	st si					4/1	B		loose rd soils + minor st pebbles
6.6	2	✓	—					H	G		harder st + traces st + si
9.8	3	etc br	—					H	G		Hard sandy br st + minor st + si pebbles
13.1	4	lt br	cs, st			min	st	S	⊕		grey br togy cs, st veins + br silt + Prouty pebbles
16.4	5	lt br	cs + mottled			tr	st	⊕	und		grey pebbles
19.7	6	✓	—					⊕	all		⊕
23.0	7	ECN 2047									
26.2	8										
29.5	9										
32.8	10										
36.1	11										
39.4	12										
42.7	13										
45.9	14										
49.2	15										
52.5	16										
55.8	17										
59.1	18										
62.3	19										
65.6	20										
68.9	21										
72.2	22										
75.5	23										
78.7	24										
82.0	25										

Notes:

near large at. Thin calc. nodules above mudst. cs.

Taipan X

England Hill drilling prospect 2001

Hole Number :	Licence number :	Prospect :	Date drilled:
EHA 010	EL 2252	England Hill	10/10 / 2001
Coordinates (AMG-WGS84 datum) :	Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by :
42 3000			Clayton Simpson
		E 688 4000	Hole diameter :
		N	9 INCH
			Drill method :
			AUGER

Hole depth		Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
ft	m				quantity	types	quantity	types				
3.3	1	Ga	br	ST, SI, CC					4/5	1		unconsolid br silts, slightly green x s/p pebbles
6.6	2	de	-	ST, SI, CS					4	1		Hard br silts, green x s/p pebbles, a hard silts
9.8	3	carb	C-br	CS, SI			min	xy	5	1		greenish silty br silts, minor green x s/p pebbles
13.1	4	Hab	-	"			-	-	1	1		increasing silty xy to wh CS
16.4	5	P.S.	wh	CS, mudstone			br	xy	1	unq		green x pi-br silty CS, minor green x s/p pebbles
19.7	6	"	-	-					1	unq		Fe staining to silty green x CS
23.0	7	PSH	20H									
26.2	8											
29.5	9											
32.8	10											
36.1	11											
39.4	12											
42.7	13											
45.9	14											
49.2	15											
52.5	16											
55.8	17											
59.1	18											
62.3	19											
65.6	20											
68.9	21											
72.2	22											
75.5	23											
78.7	24											
82.0	25											

Notes: In would expect

lamination of backfill ore - ~~CS~~ ^{poor} CS into greyish muds
true patch in mud level? ~~CS~~

Taipan X England Hill drilling prospect 2001

180m prospect traverse

Hole Number : EHA 011	Licence number : EL 2252	Prospect : England Hill	Date drilled: 10/10/2001
	Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG-WGS84 datum) : 42 3000	E 688 4100	N	Hole diameter : 9 INCH
			Drill method : AUGER

Hole depth		Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
ft	m				quantity	types	quantity	types				
3.3	1	Q1	chr	CS, ST					4/5	AA		Fill of mixed CS & silt in reef (backfill)
6.8	2	il	-	-					"			
9.8	3	low	prbr	"					5			mixed grey CS & backfill
13.1	4	low	prbr	CS mudstone					5			grey CS then mudstone
16.4	5	-	-	-								Harder grey CS in places
19.7	6	-	-	-								more chippy brecciated CS intervals in grey CS
23.0	7	-	-	-			fr	Psill		cur		Electric blue patch in muddy CS? more backfill CS
26.2	8	low	prbr	CS mudstone						prbr		More grey clayey CS - grey clay 'red mud'
29.5	9	-	-	-								CS stained in parts, grey CS
32.8	10	low	prbr	300ft								
36.1	11											
39.4	12											
42.7	13											
45.9	14											
49.2	15											
52.5	16											
55.8	17											
59.1	18											
62.3	19											
65.6	20											
68.9	21											
72.2	22											
75.5	23											
78.7	24											
82.0	25											

Notes:

then allowed to be ~~blasted~~ ^{to be} & packed into ~~the~~ ^{the} ~~hole~~ ^{hole}

100m prospect from S. side of hill

Taipan X England Hill drilling prospect 2001

Hole Number :	Licence number :	Prospect :	Date drilled:
EHA 012	EL 2252	England Hill	10/10/2001
	Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG- WGS84 datum) :	42 2000	E 688 42000	Hole diameter : 9 INCH
		N	Drill method : AUGER

Hole depth		Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
ft	m				quantity	types	quantity	types				
3.3	1	dc	br	ST, S1					H	G		hard br silts & pebbles to head of core S1
6.6	2								VH			pebbles hard for CS + S1 pebbles
9.8	3	dk grey		CS, silty, S1								interbedded hard grey & silty @ multi bedded CS
13.1	4											increasing bedded hard CS
16.4	5											hard bedded hard CS & hard grey CS, to 16.4m
19.7	6											more bedded hard CS - br CS
23.0	7	dk grey		CS, silty, S1								mn? staining (black & red) on some silty CS
26.2	8											increasing bedded hard CS
29.5	9											more bedded hard CS - br CS
32.8	10											silty grey CS
36.1	11											
39.4	12											
42.7	13	br										
45.9	14	br		CS, silty, S1								
49.2	15	br		CS, silty, S1								
52.5	16											
55.8	17											
59.1	18											
62.3	19											
65.6	20											
68.9	21											
72.2	22											
75.5	23											
78.7	24											
82.0	25											

Notes:

Hole abandoned in very hard bouldy

Taipan X

England Hill drilling prospect 2001

100m prospect traverse

Hole Number : EHA 013	Licence number : EL 2252	Prospect : England Hill	Date drilled: 10/10/2001
	Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG- WGS84 datum) :	42 3000	E 688 4300	Hole diameter : 9 INCH
		N	Drill method : AUGER

Hole depth		Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
ft	m				quantity	types	quantity	types				
3.3	1	Tide	br	ST sl					H	G		Hard sandy br siltst - gr sl pebbles to boulders
6.6	2	Trk	gn-br	Sl, st					UH			Boulders to massive gn-gr sl lined with br siltst
9.8	3								UH			massive gn-gr sl
13.1	4			Hole Abd. due to very hard drilling								
16.4	5											
19.7	6											
23.0	7											
26.2	8											
29.5	9											
32.8	10											
36.1	11											
39.4	12											
42.7	13											
45.9	14											
49.2	15											
52.5	16											
55.8	17											
59.1	18											
62.3	19											
65.6	20											
68.9	21											
72.2	22											
75.5	23											
78.7	24											
82.0	25											

Notes: Thin alluvials give hard ~~bluish~~ CS & dk hard CS in grey bed m.d.s

Taipan X England Hill drilling prospect 2001

100m prospect traverse

Hole Number :	Licence number :	Prospect :	Date drilled :
EHA 014	EL 2252	England Hill	10/10 / 2001
	Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by :
			Clayton Simpson
Coordinates (AMG-WGS84 datum) :	42 3 000	E 688 4600	Hole diameter :
		N	9 INCH
			Drill method :
			AUGER

Hole depth	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	lrd	ST, ST					H	G		grey Si pebbles in rd-br silt/s
6.6	2	gnbr	ST ST	fr	α			VH			massive & bedded grey-gy Si interbedded ST. Chalky Si
9.8	3	-	-	min	α			H			increasing white chalcidic Si
13.1	4	br	ST, ST			fr	ma	VH			fine siltstone on nod br ST & grey bedded ST (interbedded ST)
16.4	5	br	CS, bluish								fine siltstone massive br ST & very bluish br CS
19.7	6	br	-								continuing to some Si, minor ST & CS/mass ST
23.0	7	-	-	fr	α			H			fine qtz veins in fractured bed bluish
26.2	8	br	-								interbedded soft grey CS
29.5	9	-	-								
32.8	10	br	CS, white								Bands of soft hardenitic bluish & hard grey CS
36.1	11	-	-						mid		Some clay m. CS in beds in hard bluish grey CS
39.4	12	br	-						↓		more bedded & hard grey CS
42.7	13	-	-						↓		minor soft greenish grey CS
45.9	14	br	CS, reddish						↓		grey m. grey CS
49.2	15	-	-						↓		
52.5	16	br	ST, ST								
55.8	17	-	-								
59.1	18	-	-								
62.3	19	-	-								
65.6	20	-	-								
68.9	21	-	-								
72.2	22	-	-								
75.5	23	-	-								
78.7	24	-	-								
82.0	25	-	-								

Notes: Thin alluvial cone under SL in CS. No hard part. Some chipmunks & grass roots.

Taipan X England Hill drilling prospect 2001

100m prospect traverse

Hole Number: EHA 015	Licence number: EL 2252	Prospect: England Hill	Date drilled: 10/10/2001
	Drill rig type / contractor: Investigator Mk10A / Taipan X		Logged by: Clayton Simpson
Coordinates (AMG-WGS84 datum): 42 5350	E 688 4500	N	Hole diameter: 9 INCH
			Drill method: AUGER

Hole depth	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	Dark br	ST, CL, SI					H	10		Hard plastic silts & grey SI pebbles
6.6	2	Dark br	SI, ST, CL					VH	1		yellow SI & hard br silts, boulders to massive
9.8	3	"	"					H	G		SI lined with ss & silts. ~~detrital grey ss & br fragments~~
13.1	4	br	SI-CS			tr	mn				mn silty mudstone, yellow SI, ~~detrital pebbles to boulders~~
16.4	5	Dark grey br	CS, SI			"	"				detrital grey CS + red to yellow SI
19.7	6	"	"								detrital grey SI + hard red SI
23.0	7	"	"								hard grey SI + red SI + 17% SI as nodules in SI
26.2	8	"	"								nodules of 17% SI in calc. S + bands of red SI
29.5	9	"	"								
32.8	10	Dark	CS, yellow SI			tr	mn				Increasing intervals of interbedded layers
36.1	11	"	"								Hard to crush thin S + minor nodules of yellow SI
39.4	12	"	"								harder thin S less bedded
42.7	13	"	"								
45.9	14	"	"								minor grey granitic bedded bedded CS bands, minor grey S
49.2	15	"	"								interbedded of bedded clay and grey bedded grey CS
52.5	16	Dark	CS 'chipm'								clayey grey remnant thin S with soft grey silty muds
55.8	17	"	"								Re-staining on bedded grey soft & clayey
59.1	18	Dark	CS 'mudstone'			tr	gy				soft lgy CS, grey with purple clay & coarse
62.3	19	Dark	58 LT								
65.6	20										
68.9	21										
72.2	22										
75.5	23										
78.7	24										
82.0	25										

Notes: thick alluvials above soft hard CS into mudd.

Taipan X England Hill drilling prospect 2001

200m prospect traverse

Hole Number :	Licence number :	Prospect :	Date drilled :
EHA 017	EL 2252	England Hill	11/10 / 2001
	Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG-WGS84 datum) :	42 3000	E 688 4950 N	Hole diameter : 9 INCH
			Drill method : AUGER

Hole depth	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	Cl	id-br	SL, SI				4C	M		moist id-br sals + gr. si pebbles
6.6	2	do	brd	ST, SI				H	G		hard br-rd ST + grgy si pebbles
9.8	3	ph-br	SL, SI, CS								minor broken white br CS in beds
13.1	4	-	-								
16.4	5	-	-			tr	cy				trace cy veins + chalcedony si
19.7	6	-	-								large pebbles of grgy si
23.0	7	Tnk	qu-br	SL, ST							pebbles grgy si in hard br ST
26.2	8	-	-	SL, CS, ST	tr	cy					chalcedony si + hard alluvial CS
29.5	9	-	ph-br	-							in casing chipy tabed mgr Harker CS
32.8	10	ph-br	ph-br	CS + white 'st'							chipy tabed mgr Harker + minor grgy siltstones + phs siltstones
36.1	11	-	-	CS + white 'st'							more tabed siltstones
39.4	12	-	ph-gy	-							Hard br + grgy CS, little leadin
42.7	13	-	-	-							minor tabed chipy tabed mgr Harker CS
45.9	14	-	-	-							soft ph-gy + grgy vena br + grgy CS
49.2	15	-	-	-							Sandstone intervals
52.5	16	-	ph-gy	-							into sandy grgy br + grgy CS
55.8	17	ph-gy	ph-gy	CS + mottled							grgy br + grgy CS
59.1	18	-	-	-							grassy ph-gy CS + fuzzy clays
62.3	19	ph-gy	ph-gy	-							
65.8	20	-	-	-							
68.9	21	-	-	-							
72.2	22	-	-	-							
75.5	23	-	-	-							
78.7	24	-	-	-							
82.0	25	-	-	-							

Notes: thin clivels above h. d. slates w/ some chert & gneiss muds.

200m depth traverse

Taipan X

England Hill drilling prospect 2001

Hole Number :	Licence number :	Prospect :	Date drilled:
EHA 018	EL 2252	England Hill	11/10 / 2001
Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by :	Clayton Simpson
Coordinates (AMG-WGS84 datum) :	E 686 5100	Hole diameter :	9 INCH
	N	Drill method :	AUGER

Hole depth	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	Qa	tdbr					VL	M		Unconformity at base of section with ST & CS pebbles
6.6	2	tan	brgy					H	6		green silty shales & bedded in red-brown ST
9.8	3	tan	"					H			hardly massive grey ST & minor muds
13.1	4	tan	CS sh					VH			noted grey & brown layers
16.4	5	-	-					H			min staining of bluish CS. (clinky mud)
19.7	6	-	-					H			
23.0	7	-	-								mineral heads of silty tan HVR CS in bedded bluish CS.
26.2	8	-	-								
29.5	9	tan	CS sh								Harder tan slightly bedded HVR CS
32.8	10	-	-								mineral heads of tan clayey leaden HVR CS
36.1	11	tan	CS sh					S	und		Soft clayey HVR leaden CS
39.4	12	tan	CS sh								Harder tan grey CS with minor clayey HVR CS
42.7	13	tan	-								increasing greenish grey CS with leaden grey CS
45.9	14	tan	CS sh								greenish grey CS + grey clay
49.2	15	-	-								grey clay + tan CS
52.5	16	tan	CS sh								
55.8	17	-	-								
59.1	18	-	-								
62.3	19	-	-								
65.6	20	-	-								
68.9	21	-	-								
72.2	22	-	-								
75.5	23	-	-								
78.7	24	-	-								
82.0	25	-	-								

Notes: Thin effusion above nodules, G-rich of the Good clay is into grey mudstone. Potash shell at 42 ft.

Taipan X England Hill drilling prospect 2001

200m prospect traverse

Hole Number: EHA 019	Licence number: EL 2252	Prospect: England Hill	Date drilled: 14 / 10 / 2001
	Drill rig type / contractor:	Investigator Mk10A / Taipan X	Logged by: Clayton Simpson
Coordinates (AMG-WGS84 datum): 42 24 CC	E 688 55 CC	N	Hole diameter: 9 INCH
			Drill method: AUGER

Hole depth		Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
					quantity	types	quantity	types				
33	1	La	cr-br	SL, SI, CL					V/L	M		br-rd CL soils + CL lined gravelly pebbles
6.6	2	La	-	CS, SI					H	G		cemented hard mudstone (CL clay) + nodules of pebbles
9.8	3	-	-	-			tr	Ex				increasing soft for 14 hrs, broken + 14 hr fibres?
13.1	4	-	dr-br	-			tr	G				more cemented CL in ex-veined bed with CS
16.4	5	-	pk	-			tr	G				intensely G-veined hard whcs + 14 hr fibres/broken ground
19.7	6	La	-	CS, mudstone			tr	G				rosettes of G in soft 14 hr CS (Kauai to clippings)
23.0	7	-	-	-			tr	G				G-veined clay with mag-keratite CL
26.2	8	La	pk-br	CS, clay			tr	G				increasing soft grey, plus intervals
29.5	9	-	-	-			tr	G				less characteristic 14 hr fibres, grey 'mudstone'
32.8	10	La	pk	CS, mudstone			tr	G				more grey G-veined 14 hr CS
36.1	11	-	pk	CS, mudstone			tr	G				Al pods in G-veined soft 14 hr CS
39.4	12	La	-	CS, mudstone			tr	G				Muddy pk clays - more G-veined 14 hr CS, Potash shell
42.7	13	La	pk-br	CS, mudstone			tr	G				quite Alunite + G-veined in part pebbles
45.9	14	-	se-br	-			tr	G				soft to crumbly pebbles + Al pods
49.2	15	-	-	-								
52.5	16	-	-	-								
55.8	17	-	-	-								
59.1	18	-	-	-								
62.3	19	-	-	-								
65.6	20	-	-	-								
68.9	21	-	-	-								
72.2	22	-	-	-								
75.5	23	-	-	-								
78.7	24	-	-	-								
82.0	25	-	-	-								

Notes: Thin cellinials above hard bluish CS, hard CS with silty grey mud CS below.

100m prospect traverse
Taipan X England Hill drilling prospect 2001

Hole Number :	Licence number :	Prospect :	Date drilled:
EHA 020	EL 2252	England Hill	14/10/2001
Drill rig type / contractor :		Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG- WGS84 datum) :		Hole diameter :	Drill method :
42 2400 E 688 5 700 N		9 INCH	AUGER

Hole depth	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	br	ST, CC, SI					H	M		Hard br silts + gr SI pebbles
6.6	2							H	G		increasing gr SI
9.8	3	grey	CS, bluish, SI, ST					H			Hard mottled grey p. for CS bluish + grey SI pebbles in silts
13.1	4		CS, bluish					H			Hard carb. bluish CS
16.4	5							H			
19.7	6							H			increasing soft carb. grey CS
23.0	7	br	CS, white, SI					H			Hard silty CS + bands of VLT grey bluish SI pebbles
26.2	8							H			
29.5	9							H			softer grey CS in grey p. SI pebbles in bluish CS
32.6	10							H			some chips of carb. CS in grey CS + SI
38.1	11	br						H			
39.4	12		CS, white, SI					H			soft grey CS, minor grey CS in bluish CS
42.7	13							H			
45.9	14	br	CS, reddish					H			Hard grey CS, grey CS + minor Al
49.2	15	br	CS, reddish					H			soft grey CS, grey CS + Al
52.5	16							H			
55.8	17							H			soft grey CS + grey mud
59.1	18	br	56 R4					H			
62.3	19							H			
65.6	20							H			
68.9	21							H			
72.2	22							H			
75.5	23							H			
78.7	24							H			
82.0	25							H			

Notes: Thick alluvials above pear ... cs + greasy ... cs

Taipan X England Hill drilling prospect 2001

Hole Number: **EHA 020** Licence number: **EL 2252** Prospect: **England Hill** Date drilled: **14/10/2001**
 Drill rig type / contractor: **Investigator Mk10A / Taipan X** Logged by: **Clayton Simpson**
 Coordinates (AMG-WGS84 datum): **42 2 000 E 688 5900 N** Hole diameter: **9 INCH**
 Drill method: **AUGER**

Hole depth	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	Wt	hard	SL, SI				4	M		100% red-br sals + sp. SI pebbles
6.6	2	Talc	br	SL, SI, CL				H	E		11% CL brsils + grey SI pebbles
9.8	3										
13.1	4	Talc	grly	SI, CS, ST							9% - 12% SI pebbles + hard brsils + CC silt
16.4	5	"	"	"							
19.7	6	Wt	pl. br	CS, SI							detrital hard sand, CS + nodules of red br, SI
23.0	7	-	pl. br	-							more completely hard + bluish CS
26.2	8	Wt	-	CS, nodules		H	Gr				11% Gr with red br CS, some Gr veins, silty CS intervals
29.5	9	-	-	-		-	-				
32.8	10	-	Wt	-		-	-				
36.1	11	-	-	-		-	-				
39.4	12	-	pl. br	-		-	-				Gr veined hard br. Phos. R. in some Gr. by load of CS
42.7	13	Wt	pl. br	CS nodules		-	-				more grey - friable 1% CS at base
45.9	14	-	-	-		min	Gr				Greasy Gr. 1% to 2% CS + phos. nodules
49.2	15	Wt	pl. br	CS, ST							large Gr veins in 3m + 1% CS at base
52.5	16										
55.8	17										
59.1	18										
62.3	19										
65.6	20										
68.9	21										
72.2	22										
75.5	23										
78.7	24										
82.0	25										

Notes:

England Hill drilling prospect 2001

ice prospect traverse

Hole Number : EHA 022	Licence number : EL 2252	Prospect : England Hill	Date drilled: 14/10/2001
	Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG-WGS84 datum) : 42 3800	E 688	5950 N	Hole diameter : 9 INCH
			Drill method : AUGER

[illegible]

Notes: Thick alluvials above some good clippings + matrix within gravel + med.

Taipan X England Hill drilling prospect 2001

100m pegs traverse

Hole Number : EHA 023	Licence number : EL 2252	Prospect : England Hill	Date drilled: 14/10/2001
	Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG-WGS84 datum) : 42 2200	E 688 5900	N	Hole diameter : 9 INCH
			Drill method : AUGER

Hole depth	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	Gr	SL SI					4/5	M		red-brown silts + gr SL pebbles
6.6	2	Gr	ST, SI, CC					H	G		Hard br silts + coarse gr, SL pebbles
9.8	3	-	-								
13.1	4	-	-								
16.4	5	Gr	ST, CS, SI			tr	Gx				increasing hard w/ CS (broken + Gx) + w/ br ST
19.7	6	Gr	CS, SI, ST			-	-				broken + reg. br CS + gr SL pebbles (Gx) in ST
23.0	7	-	-			-	-				increasing hard br CS slightly harder CS
26.2	8	Gr	CS, SI								
29.5	9	Gr	-			tr	Al	S			3rd chippy w/ Hpx + nodules of m. gr. ST + Alpx
32.8	10	Gr	CS 'chippy'			tr	Al, Gx				gr chippy w/ to Hpx CS + Alpx + Gx veins
36.1	11	Gr	CS 'chippy'			-	-				more Gx, less harder Hpx CS + Alpx + Gx
39.4	12	-	-			-	-				
42.7	13	Gr	CS 'interbedded'			min	Al		und		for Hpx Gx harder CS
45.9	14	-	-			mg	Al				Highly chromite hard Gx CS
49.2	15	-	-			-	-		ml		Solite Gx harder Hpx CS
52.5	16	-	-			-	-				increasing most greenish + green CS
55.8	17	-	-			min	Al, Gx				Alpx + Gx veins in soft Hpx CS
59.1	18	Gr	CS 'muddish'			tr	Al, Gx				Finally to soft pebbles + green, pebbly pebbles
62.3	19	Gr	CS 'chippy'								
65.6	20	-	-								
68.9	21	-	-								
72.2	22	-	-								
75.5	23	-	-								
78.7	24	-	-								
82.0	25	-	-								

Notes:

thin alluvials above regolith & sandstone & claystone into solid bottom zone

Taipan X

England Hill drilling prospect 2001

Hole Number :	Licence number :	Prospect :	Date drilled:
EHA 024	EL 2252	England Hill	14/10/2001
Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by :	Clayton Simpson
Coordinates (AMG-WGS84 datum) :	42 2100	Hole diameter :	9 INCH
	E 688 5900	Drill method :	AUGER

Hole depth		Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
ft	m				quantity	types	quantity	types				
3.3	1	Qa	rd-br	SL, SI					4	M		1/2 coarse silty silt + qtz SI pebbles to boulders
6.6	2	Qab	lt-br	CS, SI					4	G		broken + regolithic (i.e. silty) brCS + qtz SI pebbles
9.8	3	-	-	CS regolithic			tr	FE		G		regolithic CS + ironstone veins
13.1	4	-	-	-								CS more competent, hard to grind, grey - blackish
18.4	5	Qc2	lt-br	CS intermediate								lt br 1/2 qtz, tanish brCS + regolithic pebbles
19.7	6	-	-	-								
23.0	7	-	CS/lt	-			tr	Gx				more kaolinitic bed, light grey, no opal
26.2	8	-	-	-			tr	Gx/H				
29.5	9	-	lt-br	-			-	-	5	V		Gx veined silt - lt br CS impression
32.8	10	-	lt-br	-			-	-	5	W		Gx veined lt br CS, grey in part
36.1	11	-	lt-br	-			-	-	5	W		Still slightly kaolinitic (greyish CS) grey clay
39.4	12	-	-	-			tr	Gx		M		lt br kaolinitic, more grey CS
42.7	13	-	lt-br	-			-	-	5	V		
45.9	14	-	-	-			-	-	5	V		more kaolinitic, grey CS intrusions + grey muds
49.2	15	-	-	-			-	-	5	V		
52.5	16	-	-	-			-	-	5	V		
55.8	17	-	-	-			-	-	5	V		
59.1	18	-	-	-			-	-	5	V		
62.3	19	-	-	-			-	-	5	V		
65.6	20	-	-	-			-	-	5	V		
68.9	21	-	-	-			-	-	5	V		
72.2	22	-	-	-			-	-	5	V		
75.5	23	-	-	-			-	-	5	V		
78.7	24	-	-	-			-	-	5	V		
82.0	25	-	-	-			-	-	5	V		

VOLUME 2

Drill hole logs
EHA 025 - 049

Notes: No affords above here, some Chapp CS also grey muds.
 * Adjacent to backhoe
 100m project traverse

Taipan X **England Hill drilling prospect 2001**

England Hill drilling prospect 2001

[illegible]

Notes: v. thin alternating  hard CS into middle sh CS.

Taipan X England Hill drilling prospect 2001

100m prospect traverse

Hole Number : EHA 026	Licence number : EL 2252	Prospect : England Hill	Date drilled: 15/10 / 2001
	Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG- WGS84 datum) :	42 1900	E 688 5 900	N
			Hole diameter : 9 INCH
			Drill method : AUGER

Hole depth	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	Gr	Gr					1/2	M		rd-b salts, mudstone + siliceous
6.6	2	wh	cr-wh					1/2	G		Hard white top siliceous mudstone
9.8	3	-	-								Gr
13.1	4	-	Gr								more pronounced band Gr CS
16.4	5	-	-					tr	Gr		less kaolinite for Hg CS + 6x lens to 1cm
19.7	6	-	Gr					5	D		Seal Gr for Hg CS, grey in place
23.0	7	-	-								
26.2	8	-	-								more grey Hg CS, v. little kaolinite
29.5	9	wh	Gr								lighter grey to be 6 grey CS + grey mudstone
32.8	10	Gr	Gr								
36.1	11										
39.4	12										
42.7	13										
45.9	14										
49.2	15										
52.5	16										
55.8	17										
59.1	18										
62.3	19										
65.6	20										
68.9	21										
72.2	22										
75.5	23										
78.7	24										
82.0	25										

Notes:

the drill hole above the level of the sea

100m prospect traverse

Taipan X

England Hill drilling prospect 2001

Hole Number:	Licence number:	Prospect:	Date drilled:
EHA 027	EL 2252	England Hill	15/10/2001
Coordinates (AMG-WGS84 datum):	Drill rig type / contractor:	Investigator Mk10A / Taipan X	Logged by:
42 2000 E 688 6 100 N			Clayton Simpson
			Hole diameter:
			9 INCH
			Drill method:
			AUGER

Hole depth	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	lt grey	SL, G, SI					4/5	M		loose hr. salts with c.s. & s.c. clasts
6.6	2	lt grey	CS, G, SI					4	G		Broken hard G: ab. broken GCS
9.8	3	pr. br	-								Hard leaden: ~~WNCST~~ hard G: pr. br.
13.1	4	-	-								Typical MCS
16.4	5	pr	-			hr	Gx		und		Hard G: pr. br., less leaden, more G: pr. br.
19.7	6	-	-						pr		Hard G: pr. br., quite grey & v. little leaden
23.0	7	pr. br	20 ft								
26.2	8										
29.5	9										
32.8	10										
36.1	11										
39.4	12										
42.7	13										
45.9	14										
49.2	15										
52.5	16										
55.8	17										
59.1	18										
62.3	19										
65.6	20										
68.9	21										
72.2	22										
75.5	23										
78.7	24										
82.0	25										

Notes: V. thin alternations above base of 'blues' CS into hard porous & grey mudstone
 * to East of X-cut workings
 (100m prospect horizon)
 Taipan X England Hill drilling prospect 2001
 (mostly level of c. 100m with some die to heavy ferruginization)

Hole Number : EHA 028	Licence number : EL 2252	Prospect : England Hill	Date drilled: 15/10/2001
Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by : Clayton Simpson	Hole diameter : 9 INCH
Coordinates (AMG-WGS84 datum) : 42 2 000 E 688 6 000 N	Drill method : AUGER		

Hole depth ft m	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3 1	Qz	rd br	SL SL					VL	M		locally scaly & speckles
6.6 2	fsst	brgy	cs bluish					VH	6		fsst br gy br cs, grey 'blues', Fe-lined cracks
9.8 3	-	gy br	-					6	1		CS appears white
13.1 4	-	-	-					6			mineralised kaolinitic CS layers
16.4 5	fsst	ph br	CS tuffaceous					H			
19.7 6	-	-	-					6			
23.0 7	-	rd br	-					6			increasingly white fsst, brgy & gy br & fsst
26.2 8	-	-	-					5	unq		Grey gy brish CS, little kaol, gy brish
29.5 9	fsst	ph	CS mudstone					5	unq		grey CS + minor maggy clasts
32.8 10	-	-	-					5	unq		heavy Fe FeO staining etc. shales (non-magnetizing) CS
36.1 11	fsst	ph	CS mudstone					5	unq		
39.4 12	fsst	ph	CS mudstone					5	unq		
42.7 13	-	-	-					5	unq		
45.9 14	-	-	-					5	unq		
49.2 15	-	-	-					5	unq		
52.5 16	-	-	-					5	unq		
55.8 17	-	-	-					5	unq		
59.1 18	-	-	-					5	unq		
62.3 19	-	-	-					5	unq		
65.6 20	-	-	-					5	unq		
68.9 21	-	-	-					5	unq		
72.2 22	-	-	-					5	unq		
75.5 23	-	-	-					5	unq		
78.7 24	-	-	-					5	unq		
82.0 25	-	-	-					5	unq		

Notes: 1. thin alternations above regular CS, ch CS some grey chippy CS in the grey, better CS. Black pitch trace 10-12 ft.

100m prospect traverse **Taipan X** **England Hill drilling prospect 2001**

Hole Number :	Licence number :	Prospect :	Date drilled:
EHA 029	EL 2252	England Hill	15/10/2001
Drill rig type / contractor :	Investigator	Mk10A / Taipan X	Logged by :
Coordinates (AMG- WGS84 datum) :	42 2000	E 688 5803	N
			Hole diameter : 9 INCH
			Drill method : AUGER

Hole depth	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	Gr. dr	SL, SLCS					4	M		red-brown soils + greyish white siliceous solids
6.6	2	brn. dk-br	CS nodules					4	G		
9.8	3	-	-	tr	P			1			Black on amorphous in nod for 1/2 CS
13.1	4	dk. C-br	CS intermediate	tr	P			1			Black pitch seam in nod for CS
16.4	5	dk	CS chippy					1			Solids - 1/2 in 6x veed CS, chippy in nod
19.7	6	dk	CS chippy			tr	ly	1			1/2 in 10x veed chippy, dark brown CS
23.0	7	dk	CS intermediate			tr	Al, ly	1	una		Al, red + greyish solid chippy CS, greyish ly CS
26.2	8	dk	CS intermediate					1	ml		Solids + more grey ly than 1/2 in 10x CS
29.5	9	dk	CS intermediate					1			Green for ly CS, minor 3-4% tone
32.8	10	dk	300+								
36.1	11										
39.4	12										
42.7	13										
45.9	14										
49.2	15										
52.5	16										
55.8	17										
59.1	18										
62.3	19										
65.6	20										
68.9	21										
72.2	22										
75.5	23										
78.7	24										
82.0	25										

Notes: boulder alluvials above now hard to bluish CS ~~blue~~ more grey CS

Taipan X

England Hill drilling prospect 2001

Base tree roots 9-12ft

100m proposed traverse

Hole Number	Licence number :	Prospect :	Date drilled:
EHA 030	EL 2252	England Hill	15/10/2001
Drill rig type / contractor :	Investigator Mk10A / Taipan X		Logged by : Clayton Simpson
Coordinates (AMG-WGS84 datum) :	42 2600	E 688 5800	Hole diameter : 9 INCH
		N	Drill method : AUGER

Hole depth		Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
ft	m				quantity	types	quantity	types				
3.3	1	Q	wh	SL, SL, CS					VC	M		loose red-b. soils with gr. SL + hard CS pellets, boulders
6.6	2	T	br	SL, CS, ST					VT	G		hard gr. SL + 14% CS in hard br. soils
9.8	3	~~Q~~	~~wh~~	~~SL, CS, ST~~	tr	Brilliant			C			Hard gr. up to 8% in hard br. soils, including carbonated tree root fragments - opalised bone?
13.1	4				"	replace			H			more 'thick CS'
16.4	5	~~Q~~	~~wh~~	~~SL, CS, ST~~								Soluble more opalised CS to base
19.7	6	~~Q~~	~~wh~~	~~SL, CS, ST~~								Hard gr. SL + 14% CS in hard br. soils
23.0	7	~~Q~~	~~wh~~	~~SL, CS, ST~~			tr	Fe				tree roots, resistant CS (thick?) in hard CS
26.2	8											
29.5	9		M-m							und		
32.8	10	~~Q~~	~~wh~~	~~SL, CS, ST~~								Hard gr. 14% CS, little carbon
36.1	11											more more resistant CS in soils
39.4	12											Hard gr. 14% CS, 19% in places
42.7	13											moderately soft grey CS in harder grey CS
45.9	14											
49.2	15											
52.5	16											
55.8	17											
59.1	18											
62.3	19											
65.6	20											
68.9	21											
72.2	22											
75.5	23											
78.7	24											
82.0	25											

Notes: V. Thin alluvial above standard CS, 10/10 g. 97 m. d. s. 3000m

100m prospect traverse

Taipan X

England Hill drilling prospect 2001

Hole Number :	Licence number :	Prospect :	Date drilled :
EHA 031	EL 2252	England Hill	15/10/2001
	Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG- WGS84 datum) :	42 2000	E 688 5700 N	Hole diameter : 9 INCH
			Drill method : AUGER

Hole depth	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	Qu	brnd					S	sh		Hard greyish + grey siliceous clasts
6.6	2	Ch	chr					H	6		Hard up to 1400 + siliceous
9.8	3	Ch	2			tr	ky				Hard grey + grey siliceous + minor green
13.1	4		brn								1100-1200 grey + minor green + clastic
16.4	5	W1	chr				ky				Soft, grey, siliceous + minor green
19.7	6	W2	chr			tr	ky				Soft + green, grey + green + greenish
23.0	7	W3	chr						und		Greyish grey + grey CS
26.2	8	W3	chr						und		Very greenish, soft CS
29.5	9										
32.8	10										
36.1	11										
39.4	12										
42.7	13										
45.9	14										
49.2	15										
52.5	16										
55.8	17										
59.1	18										
62.3	19										
65.6	20										
68.9	21										
72.2	22										
75.5	23										
78.7	24										
82.0	25										

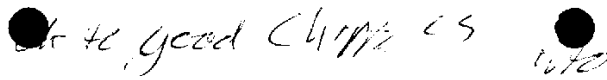
Notes: Within intervals above had ~~bluish~~ CS, some black CS & grey CS.

Taipan X England Hill drilling prospect 2001

100m prospect traverse

Hole Number: EHA 032	Licence number: EL 2252	Prospect: England Hill	Date drilled: 17/10/2001
	Drill rig type / contractor:	Investigator Mk10A / Taipan X	Logged by: Clayton Simpson
Coordinates (AMG- WGS84 datum):	42 2100 E 688 5760 N	Hole diameter: 9 INCH	Drill method: AUGER

Hole depth		Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
ft	m				quantity	types	quantity	types				
3.3	1	Qa	brn	SL, SL, CS					4/5	M		100% red to white CS + 90% SL particles in matrix
6.6	2	Qa	brn	CS 'bluish'					H	G		Hardly method part of CS, grey 'bluish'
9.8	3	-	-	-					1	1		clay had bluish
13.1	4	-	-	-								CS becoming softer & lgy colored
16.4	5	-	-	-								Hard lgy. quartz, light brown
19.7	6	Qa	brn	CS 'bluish'						M		more kaolinitic & soft CS
23.0	7	-	brn	-						M		
26.2	8	-	-	-						M		
29.5	9	-	brn	-					5			base of interval soft grey p-4 CS
32.8	10	Qa	brn	30%+								
36.1	11											
39.4	12											
42.7	13											
45.9	14											
49.2	15											
52.5	16											
55.8	17											
59.1	18											
62.3	19											
65.6	20											
68.9	21											
72.2	22											
75.5	23											
78.7	24											
82.0	25											

Notes: Thin alluvials above  OK to good chips CS into the bottom of hole.

100m prospect traverse

Taipan X England Hill drilling prospect 2001

Hole Number:	Licence number:	Prospect:	Date drilled:
EHA 033	EL 2252	England Hill	17/10/2001
Drill rig type / contractor:	Investigator	Hole diameter:	Logged by:
	Mk10A / Taipan X	9 INCH	Clayton Simpson
Coordinates (AMG- WGS84 datum):	42 2200	E 688 5700	Drill method:
		N	AUGER

Hole depth	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	Drk brick	SL, SI					C/L	M		Dark red-brown silts + grey silt pebbles
6.6	2	-	-					S	G		
9.8	3	Drk	Sticky, CS					H			Hard black CS silts + hard grey CS at base
13.1	4	Drk	CS interbedded			R	Gy				Hard grey fine-grained silts + grey veins
16.4	5	Drk	CS clay					S			Gy veined clayey silts + silts
19.7	6	Drk	-			Min	Gy				moderately indurated + grey clayey silts
23.0	7	Drk	CS interbedded								less regular silt + silts
26.2	8	Drk	CS interbedded								increasing silt + silts
29.5	9	Drk	-			R	Gy				more grey silt + silts
32.8	10	-	-								
36.1	11	-	-			R	Gy Al				Silt + silts + silts CS quite grey in places
39.4	12	Drk	Drk								
42.7	13	-	-								
45.9	14	-	-								
49.2	15	-	-								
52.5	16	-	-								
55.8	17	-	-								
59.1	18	-	-								
62.3	19	-	-								
65.6	20	-	-								
68.9	21	-	-								
72.2	22	-	-								
75.5	23	-	-								
78.7	24	-	-								
82.0	25	-	-								

Notes:

Thin alluvial above grey chippy deadend CS. a columnar pattern

Taipan X

England Hill drilling prospect 2001

100m prospect traverse

Hole Number :	Licence number :	Prospect :	Date drilled:
EHA 034	EL 2252	England Hill	17 / 10 / 2001
	Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by :
			Clayton Simpson
Coordinates (AMG- WGS84 datum) :			Hole diameter :
42 2300 E 688 5700 N			9 INCH
			Drill method :
			AUGER

Hole depth	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	Gr brown	Ss, ST, CS					4C	M		rd-br soils + gr ST pellets - hard ST - base
6.6	2	pink	Sr					H	G		pellets tabular ss of gr-st in bed ST
9.8	3	-	-								
13.1	4	-	ST, CS, ST								increasing content of hard gr-st to this S
16.4	5	Light pink	CS, gr-st, ST, CS			Gr	Gy	D			broken + covered hard gr-st to this CS + gr-st
19.7	6	-	-			min	Gy	S			increasing soft Gy verdance
23.0	7	light	CS, chippy								Gy verd. (good) chippy CS + white
26.2	8	-	-			fr	Gy				min. Le stained hard CS, interbedded 'level'
29.5	9	-	-			fr	Al				Al pale in chippy white top, more Gr
32.8	10	-	-								CS split to gr. kaolinite Gy to gr CS
36.1	11	-	-			fr	Gy, Al				more Gy staining in CS, gr-st thin CS
39.4	12	Reddish brown	Gy, intermedit			min	Al				Base of interbedded Gy-st to Al-st to this CS
42.7	13	Reddish brown	CS, chippy								
45.9	14	-	-								
49.2	15	-	-								
52.5	16	-	-								
55.8	17	-	-								
59.1	18	-	-								
62.3	19	-	-								
65.6	20	-	-								
68.9	21	-	-								
72.2	22	-	-								
75.5	23	-	-								
78.7	24	-	-								
82.0	25	-	-								

Notes: thin alternations above hard bluish CS - chc just above middle of section

200m proposed 4 reverse
Taipan X England Hill drilling prospect 2001

Hole Number : EHA 036	Licence number : EL 2252	Prospect : England Hill	Date drilled: 17/10/2001
	Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG-WGS84 datum) : 42 2400	E 688 6100	N	Hole diameter : 9 INCH
			Drill method : AUGER

Hole depth		Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
ft	m				quantity	types	quantity	types				
3.3	1	Qa	wh	SL SI					VLC	M		id. br soils + Gyr SI pebbles
6.6	2	Qc	br	ST SI					H	E		detrit br silts + minor SI
9.8	3	-	-	ST SLCS					↓	↓		increasing SI + CS
13.1	4	Kgh	pr br	CS SI					↓	↓		Hard Gr pebbles br silts + Lgn SI
16.4	5	Kht	-	CS bluish					VH	↓		Hard Gr pebbles CS, olive bluish
19.7	6	-	-	-					↓	↓		
23.0	7	-	pink	-			tr	Gy	↓	unc		
26.2	8	-	-	-					H	mil		minor Gy pebbles in silty CS
29.5	9	Kht	-	CS bluish					↓	↓		some OK chips CS pebbles in hard br silts + bluish pebbles
32.8	10	E014 2814										
36.1	11											
39.4	12											
42.7	13											
45.9	14											
49.2	15											
52.5	16											
55.8	17											
59.1	18											
62.3	19											
65.6	20											
68.9	21											
72.2	22											
75.5	23											
78.7	24											
82.0	25											

Notes:

Taipan X

200m Prospect

Hole Number :	Licence number :	Prospect :	Date drilled:
EHA 037	EL 2252	England Hill	17/10/2001
Drill rig type / contractor :	Investigator Mk10A / Taipan X		Logged by : Clayton Simpson
Coordinates (AMG- WGS84 datum) :	42 2200	E 688 6100 N	Hole diameter : 9 INCH
			Drill method : AUGER

[illegible]

Notes:

Thin alluvials above hard bluish CS & dk kaolinitic CS at base

Taipan X

England Hill drilling prospect 2001

100m prospect logs

Hole Number : EHA C38	Licence number : EL 2252	Prospect : England Hill	Date drilled: 17/10/2001
	Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG- WGS84 datum) : 42 2300	E 688 5600	N	Hole diameter : 9 INCH
			Drill method : AUGER

Hole depth		Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
					quantity	types	quantity	types				
3.3	1	Qz	rd br	SL, SI					VC	M		base to soft red clay, silty & gy SI pebbles
6.6	2	✓	✓	ST, SI					S	G		purple clay with hard CCST at base
9.8	3	Qz	gr br	SL, ST					H			gy to pur SI in hard br silty
13.1	4	kh	br	CS, bluish					HT			clay hard grey to pur bluish CS
16.4	5	-	dk gr	-					↓	↓		
19.7	6	-	-	-					↓	↓		
23.0	7	-	-	-					↓	↓		softer hard grey CS
26.2	8	-	-	-					↓	↓		shaly grey CS
29.5	9	wh	dk br	CS, bluish					↓	↓		hard br kaolinitic CS at base
32.8	10	BDH	dk br	soft								
36.1	11											
39.4	12											
42.7	13											
45.9	14											
49.2	15											
52.5	16											
55.8	17											
59.1	18											
62.3	19											
65.6	20											
68.9	21											
72.2	22											
75.5	23											
78.7	24											
82.0	25											

100 m prospect Transverse. **Taipa**

Taipan X England Hill drilling prospect 2001

[illegible]

Notes:

Thin alluvials above red cherty CS into salt bottom ground + py grey ss muds.
 & cflr grid
 Having a 1/2 inch square grate.

Taipan X

England Hill drilling prospect 2001

Hole Number :	Licence number :	Prospect :	Date drilled :
EHA <i>C40</i>	EL 2252	England Hill	18/10 / 2001
Drill rig type / contractor :	Investigator Mk10A / Taipan X	Hole diameter :	9 INCH
Coordinates (AMG-WGS84 datum) :	42 2476 E 688 3546 N	Drill method :	AUGER

Hole depth	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	ca	red					S	M		moist red-brown silts + grey silt/clay
6.6	2	td	br					H	G		Hard CC silts
9.8	3	-	-								
13.1	4	-	ST, CC			tr	Gy				increased silty clay & cherty lithics
16.4	5	td	phs								broken clay to bed near leadenite w/CS + br silts
19.7	6	td	phs					S			Greenish clay w/ leadenite w/CS, minor Fe-stained 'bed' d.
23.0	7	-	CS, ST								Cherty to bed leadenite w/CS, or CS 'bed'
26.2	8	-	CS, ST								softer more clay colored cherty to bed CS
29.5	9	-	-								light granular to bed in places to 14g to 1g w/ leadenite
32.8	10	-	-								tr Al pods in soft to cherty clay CS
36.1	11	-	-								
39.4	12	rd	CS 'bed'								softer br CS, less leadenite some grey mcs
42.7	13	pu	-								soft 14g to 1g CS, quite grey in places, granular to bed
45.9	14	-	-								Granular to bed to soft 14g CS
49.2	15	-	-								more grey mcs friable in places
52.5	16	rd	CS 'muddy'								grey mcs + friable mcs
55.8	17	-	-								more aluminous soft mcs + purer clay 26g to 10g
59.1	18	-	-								
62.3	19	EDH	GORT								
65.8	20	-	-								
68.9	21	-	-								
72.2	22	-	-								
75.5	23	-	-								
78.7	24	-	-								
82.0	25	-	-								

Notes: Thin alluvials above road to Ok Chippy CS into soft siltstone ground + grassy roads.

8th Grid

Transverse gale to Flwaters

Taipan X

England Hill drilling prospect 2001

Taipan X England Hill drilling prospect 2001

[illegible]

Notes: v. thin alluvials above 'hard' bluish CS into soft siltstone and grey muds
~~old~~ Grid
 Near where Platos Grid near workings.

Taipan X England Hill drilling prospect 2001

England Hill drilling prospect 2001

Hole Number :	Licence number :	Prospect :	Date drilled:
EHA <i>042</i>	EL 2252	England Hill	<i>18/10/</i> / 2001
Drill rig type / contractor :	Investigator Mk10A / Taipan X		Logged by :
Coordinates (AMG-WGS84 datum) :	<i>42 2 632 E 688 3709 N</i>		Clayton Simpson
			Hole diameter :
			9 INCH
			Drill method :
			AUGER

[illegible]

~~John~~ G. d

Notes: Thin afferents above **cor** hard CS (bluish) into **med** dish CS.
8 cell Grid

Taipan X

England Hill drilling prospect 2001

Closer to workings with Nodes + Ambli

Hole Number :	Licence number : EL 2252	Prospect : England Hill	Date drilled: 18/10/2001
EHA 043	Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG-WGS84 datum) :	42 2645	E 688 3710 N	Hole diameter : 9 INCH
			Drill method : AUGER

[illegible]

40 E of old workings

England Hill drilling prospect 2001

[illegible]

Notes: Thin alluvials above ~~por~~ to oke hard CS into granular texture of soft CS + greasy muds
 & collgial
 W. & G. L.

Taipan X England Hill drilling prospect 2001

Hole Number :	Licence number :	Prospect :	Date drilled :
EHA 045	EL 2252	England Hill	29/10/2001
Drill rig type / contractor :	Investigator Mk10A / Taipan X	Hole diameter :	9 INCH
Coordinates (AMG-WGS84 datum) :	42 2420 E 688 3488 N	Drill method :	AUGER

Hole depth		Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
ft	m				quantity	types	quantity	types				
3.3	1	db	br	ST, SI					4	m		broken hard slightly CC softs + grs samples
6.8	2	-	-	ST, CS, SI					1	G		increasing hard with depth
9.8	3	hmb	brnwh	CS, SI					1			broken hard with brcs, regular in part, + grs SI
13.1	4	-	-	-					1			less broken CS + smaller nodules of grs SI
16.4	5	hmb	cr-br	CS intermediate			tr	br	1			broken hard for longer headstone CS
19.7	6	-	-	-			-	-	1			CS becoming softer
23.0	7	-	-	-			-	-	1			or br stone CS (cr) + smaller CS becoming
26.2	8	-	br	-			tr	Al, br	1			Fe-stained broken CS with nodules + so grs pods
29.5	9	-	or-br	-			-	-	1			softer, brcs, CS, mainly grs + less headstone
32.8	10	-	-	-			-	-	1			poorly stained br CS, softer in places
36.1	11	-	br	-			-	-	5	mq		soft 1st to pvc, headstone in part
39.4	12	-	lpu	-			tr	Al, br	1	b		al pod 8 in soft pvc light granular to fine
42.7	13	-	-	-			-	-	1	pull		Granular textured soft to chippy pvc + grs strings + al pods
45.9	14	-	cr-pu	-			-	-	1			more greasy soft to chippy pvc
49.2	15	rh3	pu	CS 'muddish'			-	-	1	b		Fine pvc + pvc clay + more loss sand
52.5	16	-	-	-			-	-	1			
55.8	17	-	-	-			-	-	1			
59.1	18	-	-	-			-	-	1			
62.3	19	-	-	-			-	-	1			
65.6	20	-	-	-			-	-	1			
68.9	21	-	-	-			-	-	1			
72.2	22	-	-	-			-	-	1			
75.5	23	-	-	-			-	-	1			
78.7	24	-	-	-			-	-	1			
82.0	25	-	-	-			-	-	1			

Notes:

thick pebbles to boulders alluvials above OK to poor hard CS. Some chippies, into grey muds
 all good
 water gate

Taipan X

England Hill drilling prospect 2001

Hole Number : EHA 046	Licence number : EL 2252	Prospect : England Hill	Date drilled: 20/10/2001
	Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG-WGS84 datum) :	42 2376	E 688 3450	Hole diameter : 9 INCH
		N	Drill method : AUGER

Hole depth ft m	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3 1	Do	br	ST, CC, SI					H	G		Hard br CC silts + gr. SI pebbles - iron ore pebbles
6.6 2	-	-	-								increasing large iron-gr SI pebbles
9.8 3	Thin grey		SI, ST, CS								pebbles to boulders of iron-gr SI in hard br ST + hard br CS
13.1 4	-	-	-								increasing pebbles + hard br CS quite sandy SI
16.4 5	-	lt br	-								decreasing SI + more broken hard iron ore br ST
19.7 6	-	-	-								
23.0 7	thin		CS, ST								broken hard br iron ore br CS in rd ST
26.2 8	thick		CS, iron ore					S			broken medium iron ore CS + soft iron ore CS
29.5 9	-	orange	-					H			orange stained broken hard iron ore CS
32.8 10	-	-	-								harder iron ore CS, slightly kaolinitic
36.1 11	-	-	-			to	br		und		Chippy iron ore CS, iron ore CS in hard iron ore CS
39.4 12	lt	crp	CS 'chippy'			-	-	S			Soft to soft iron ore CS, more grey kaolinitic iron ore CS + some
42.7 13	-	-	-			-	-		put		soft iron ore CS, grey iron ore CS at base
45.9 14	thick	br	CS iron ore								soft to white grey pebbles
49.2 15	-	-	-								more iron ore CS + soft CS
52.5 16	DOH		LE 9 RT								
55.8 17	-	-	-								
59.1 18	-	-	-								
62.3 19	-	-	-								
65.6 20	-	-	-								
68.9 21	-	-	-								
72.2 22	-	-	-								
75.5 23	-	-	-								
78.7 24	-	-	-								
82.0 25	-	-	-								

Notes:
Full Grid

Arthur W. Gable

Thin alluvials above vegetation cover, but more or less a continuous

Taipan X

England Hill drilling prospect 2001

Hole Number :	Licence number :	Prospect :	Date drilled:
EHA 047	EL 2252	England Hill	22/10/2001
Drill rig type / contractor :	Investigator Mk10A / Taipan X		Logged by :
Coordinates (AMG-WGS84 datum) :	42 23 20 E 688 3 383 N		Clayton Simpson
			Hole diameter :
			9 INCH
			Drill method :
			AUGER

[illegible]

Notes:

old grid
NW of gate.

thin alluvials above UK to good chippy ls, we saw some yellow - yellow muds

Taipan X

England Hill drilling prospect 2001

Bar opal replacement
of solution pipes

Hole Number:	Licence number:	Prospect:	Date drilled:
EHA 048	EL 2252	England Hill	20/10/2001
	Drill rig type / contractor:	Investigator Mk10A / Taipan X	Logged by:
			Clayton Simpson
Coordinates (AMG-WGS84 datum):	42 2449	E 688 3581	Hole diameter:
			9 INCH
			Drill method:
			AUGER

Hole depth	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	Td0	Gr					14	M		Hard cc br silts & gr s pebbles.
6.6	2	-	-						G		
9.8	3	-	ST, CS								increasing catclat of hard w/cs
13.1	4	pink	chr								broken hard whicst for silts
16.4	5	tan	chr			tr	Gx	D			Hard whics with mineralised soft chippy w/cs + Gx veins
19.7	6	hbi	CS 'chippy'					S			Chippy behind near horizontal CS + pu Fe-stained pods.
23.0	7	-	chr	tr	Br						Mineralised gr sl in filling solution pipes in more for CS.
26.2	8	-	-			tr	Al				Al pods in chippy whics
29.5	9	-	chr								more for 14gr chippy to soft CS
32.8	10	-	-								and 14 stained CS 'level' in chippy 14gr veins
36.1	11	hbi	chr						un		Soft to chippy Rg have 5 less hard whics
38.4	12	-	-						b		minor or - stained hard Gx silts
42.7	13	-	pu						pull		Soft & green in part of CS
45.9	14	hbi	CS 'muddish'			tr	Gx				Soft to drable pvc + puggy clays - Gx stanger
49.2	15	-	-								
52.5	16	DOH SORT	-								
55.8	17	-	-								
59.1	18	-	-								
62.3	19	-	-								
65.6	20	-	-								
68.9	21	-	-								
72.2	22	-	-								
75.5	23	-	-								
78.7	24	-	-								
82.0	25	-	-								

Notes:

Grid

Further NW of gate

thin alluvials above hard nodular CS, some ore or clumpy CS, some mucky CS

Taipan X England Hill drilling prospect 2001

Hole Number :	Licence number :	Prospect :	Date drilled:
EHA 049	EL 2252	England Hill	20/10 / 2001
Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by :	Clayton Simpson
Coordinates (AMG- WGS84 datum) :	42 2423 E 688 3672 N	Hole diameter :	9 INCH
		Drill method :	AUGER

Hole depth	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	ld	br					lt	M		Hard brccsilitic & gy S (phos)
6.6	2	kn	cr						G		clinky hard br white pvcS in hard br ST
9.8	3	-	-								minor gy S nodules in hard br wics
13.1	4	-	-								more complete hard brccS
16.4	5	br	ph			tr	gy	↓			clinky hard br wics & minor nodular ST, more clumpy phos
19.7	6	br	ph			-	-	S			gy wmsd hard tech pvcS + or CS & clumpy CS nodules
23.0	7	br	ph								clumpy no lead nitric acid to or stained silt pvcS
26.2	8	-	-			tr	gy				granular texture to pvcS nodules, less lead nitric acid
29.5	9	br	ph			tr	gy				soft granular textured pvcS, much less clumpy
32.8	10	-	-			-	-		and		more brt & slightly grey CS
36.1	11	pu	-			tr	light	↓	all		br green pvcS
39.4	12	br	ph			tr	light	↓			soft to friable green pvcS + green clay
42.7	13	-	-					↓			
45.9	14	-	-					F	↓		Friable green pvcS + green clay
49.2	15	-	-								
52.5	16	-	-								
55.8	17	-	-								
59.1	18	-	-								
62.3	19	-	-								
65.6	20	-	-								
68.9	21	-	-								
72.2	22	-	-								
75.5	23	-	-								
78.7	24	-	-								
82.0	25	-	-								

VOLUME 2

Drill hole logs
EHA 050 - 074

Notes:

Taipan X

England Hill drilling prospect 2001

200 m proposed traverse

Hole Number : EHA 051	Licence number : EL 2252	Prospect : England Hill	Date drilled: 21/10/2001
Drill rig type / contractor :		Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG- WGS84 datum) : 42 2 800		E 688 2900 N	Hole diameter : 9 INCH
			Drill method : AUGER

[illegible]

Notes:

Thin alluvials above poor for CS into muddy bottom

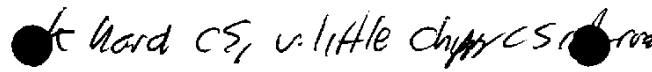
Taipan X

England Hill drilling prospect 2001

200m proposed traverse

Hole Number: EHA 052	Licence number: EL 2252	Prospect: England Hill	Date drilled: 21/10/2001
Drill rig type / contractor:		Investigator Mk10A / Taipan X	Logged by: Clayton Simpson
Coordinates (AMG- WGS84 datum): 42 2800 E 688 4100 N		Hole diameter: 9 INCH	Drill method: AUGER

Hole depth		Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
ft	m				quantity	types	quantity	types				
3.3	1	do	br	ST, cl, sl					4	M		Soft rd-br sands & gy sl pebbles becoming hard at bottom
6.6	2	do	br	SL, cl, ST					1	G		gy sl pebbles & hard gy-br sl in br ST
9.8	3		gy-br	cl, ST, gy			tr	gy	1			Hard br gy sand 14% CS, little hard in
13.1	4	do	br	cl, ST, gy					1			more pebbles br gy CS
16.4	5								1	4		Soft green br CS & 14% gy sl clays
19.7	6	do	br	cl, ST, gy					1			
23.0	7	do	br	cl, ST, gy					1			
26.2	8											
29.5	9											
32.8	10											
36.1	11											
39.4	12											
42.7	13											
45.9	14											
49.2	15											
52.5	16											
55.8	17											
59.1	18											
62.3	19											
65.6	20											
68.9	21											
72.2	22											
75.5	23											
78.7	24											
82.0	25											

Notes: thin alluvials above  Hard CS, v. little cherty CS, into greasy CS below

100 m profile traverse

Taipan X England Hill drilling prospect 2001

Hole Number	Licence number :	Prospect :	Date drilled:
EHA 053	EL 2252	England Hill	21/10/2001
Drill rig type / contractor :	Investigator Mk10A / Taipan X		Logged by :
Coordinates (AMG-WGS84 datum) :	42 2800	E 688 4200	N
			Hole diameter : 9 INCH
			Drill method : AUGER

Hole depth	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	lg rth	SL, SI					S	M		Soft rth br sals + g. SI pebbles
6.8	2	br	ST, CS					H	G		hard br slightly CS + broken hard wh CS
9.8	3	br	CS, ST								broken hard with cherty nodules CS + br ST
13.1	4	br	CS 'intermediate'			tr	by				interbedded br calcareous cherty CS + hard br gy. wh. CS
16.4	5					*	*	S	und		Softer cherty CS nodules in br hard CS
19.7	6	gr br							ml		greasy br ltgy CS, mgy clay at base
23.0	7	off	20 Pt.								
26.2	8										
29.5	9										
32.8	10										
36.1	11										
39.4	12										
42.7	13										
45.9	14										
49.2	15										
52.5	16										
55.8	17										
59.1	18										
62.3	19										
65.6	20										
68.9	21										
72.2	22										
75.5	23										
78.7	24										
82.0	25										

Notes: Thin alluvials above

Taipan X

England Hill drilling prospect 2001

100m postpat traverse

Hole Number : EHA 054	Licence number : EL 2252	Prospect : England Hill	Date drilled: 21/10/2001
	Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG- WGS84 datum) : 42 2800	E	688 4300	N
			Hole diameter : 9 INCH
			Drill method : AUGER

Hole depth	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	Qz	SL, SI					S	M		Soft red soils + gr S/m
8.6	2	br	SL, ST, SI					H	6		hard gr ST of sand dune
9.8	3	Qz	ST, CL, CS								Harder CL silts + broken lead w/CS, increases to 9.8
13.1	4	Qz	CS, ST								broken lead, w/ leaden m/CS + hard gr ST
16.4	5	Qz	CS, Chpy			tr	Gy	S			Chpy to hard m/CS, leaden w/CS + Gy
19.7	6	-	-			-	-				softer less chpy, gr leaden w/CS
23.0	7	-	-			-	-				increasing soft m/CS, Gy red level?
26.2	8	Qz	CS, Ande			df	Gy, M		med		less leaden m/CS, gr 14x w/CS, Gy red + m/CS
29.5	9	-	-			-	-		med		more grey, gr 14x CS
32.8	10	Qz	CS, m/CS			-	-		med		grey m/CS + grey clay + lead slag
36.1	11	Qz	SS, R4								
39.4	12										
42.7	13										
45.9	14										
49.2	15										
52.5	16										
55.8	17										
59.1	18										
62.3	19										
65.6	20										
68.9	21										
72.2	22										
75.5	23										
78.7	24										
82.0	25										

Notes: thick alluvials above hard 'bluish' CS into softer parts

100m prospect traverse Taipan X England Hill drilling prospect 2001

Hole Number :	Licence number :	Prospect :	Date drilled:
EHA 055	EL 2252	England Hill	21 / 10 / 2001
Drill rig type / contractor :	Investigator Mk10A / Taipan X	Hole diameter :	Clayton Simpson
Coordinates (AMG-WGS84 datum) :	42 2800	E 688 4400	9 INCH
		N	Drill method : AUGER

Hole depth	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	Qz	br					H	M		Hard broken br ST & rd Sols with gr SI pebbles & boulders.
6.6	2	rd	-						G		Hard br ST & rd gr hard SI pebbles & ironstone pebbles.
9.8	3	-	-								
13.1	4	-	-								min. milky gr SI or many Fe-stained sandy SI sandstones
16.4	5	-	-								
19.7	6	rd	CS, SI, gr								Hard broken (br) CS CS or gr SI (hardly in part) & br ST
23.0	7	rd	CS, SI, gr						mg		Hard Qz (Ngy) Fe-pv CS - some reddish brown, hard in part
26.2	8	-	-								
29.5	9	rd	CS, SI, gr								Soft gr gr CS, green in part.
32.8	10	-	-								
36.1	11	-	-								
39.4	12	-	-								
42.7	13	-	-								
45.9	14	-	-								
49.2	15	-	-								
52.5	16	-	-								
55.8	17	-	-								
59.1	18	-	-								
62.3	19	-	-								
65.8	20	-	-								
68.9	21	-	-								
72.2	22	-	-								
75.5	23	-	-								
78.7	24	-	-								
82.0	25	-	-								

Notes: thick alluvials above had blueschists into had bottom ground & grey muds.

* Redrill near 055 due to short drilling

Taipan X

England Hill drilling prospect 2001

* Bone opal infilling trace
not can pres?

Hole Number : EHA 056	Licence number : EL 2252	Prospect : England Hill	Date drilled: 21/10/2001
	Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG- WGS84 datum) :	42 2815	E 688 405 N	Hole diameter : 9 INCH
			Drill method : AUGER

Hole depth ft m	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3 1	Qa	br	ST, SI					H	M		Had bottom br ST + gr SI pebbles to bed dis
6.6 2	ido	-	-						G		Had br CCS units + sandy gr gr SI + 1 round pebble
9.8 3	-	-	-								
13.1 4	-	-	ST, CS, SI								Had CaranCS, + sandy gr gr SI in bed br ST
16.4 5	Trk br gy	-	CS, SI, ST								Had br 'brush' gr CS + gr gr SI in br ST
19.7 6	hky gr	-	CS, SI, ST								Clng had gr gr CS, broken in part + br ST
23.0 7	-	-	-								Trkly gr SI in contact 'blue' with good CS surrounding.
26.2 8	-	-	-								Marked by 10 gr had gr CS
29.5 9	-	phgy	-								minor Gy veining in slightly so br CS
32.8 10	52	-	CS, shale								Gx veins in hard gr gr CS
36.1 11	-	-	-								
39.4 12	-	gr br	-								Had Car gr CS, slight grey gr bed.
42.7 13	-	-	-								or br very bad 'peel' material.
45.9 14	-	phgy	-								more grey to soft gr gr CS
49.2 15	hky pi	-	CS, muddy								soft + grey gr gr CS + minor grey clay
52.5 16	-	-	-								minor bedded gr CS intervals in soft grey gr CS
55.8 17	-	-	-								
59.1 18	-	-	-								
62.3 19	-	-	-								
65.6 20	-	-	-								
68.9 21	-	-	-								
72.2 22	-	-	-								
75.5 23	-	-	-								
78.7 24	-	-	-								
82.0 25	-	-	-								

Notes: Thin alluvials above nodular CS into hard calc & muddish bottom

Taipan X England Hill drilling prospect 2001

100m prospect traverse

Hole Number : EHA 057	Licence number : EL 2252	Prospect : England Hill	Date drilled: 21/10/2001
	Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG-WGS84 datum) :	42 2800	E 688 46500	N
			Hole diameter : 9 INCH
			Drill method : AUGER

Hole depth	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	Qz br	SL, SL, ST						M		wooded SL, SL, SL with hard ST at base
6.6	2	Qz	ST, CC						G		Hard broken CC SL, SL
9.8	3	-	-								
13.1	4	-	ST, CC, ST								increasing calc at base of zone, with ST
16.4	5	Qz br	CC, SL, ST								with ST nodules in hard calc + ST
19.7	6	Qz br	-			tr	Gx				soft hard calc to cherty & intense nodules of ST with ST
23.0	7	Qz br	CC, SL, ST			-	-				Gx very hard for hard calc with CS
26.2	8	-	-			-	-				minor cherty for CS nodules in hard CS
29.5	9	Qz br	-			-	-				CS nodules (grey colored & green) on many clays of zone
32.8	10	Qz br	Qz, SL, ST								
36.1	11	Qz br	Qz, SL, ST								
39.4	12	Qz br	Qz, SL, ST								
42.7	13	Qz br	Qz, SL, ST								
45.9	14	Qz br	Qz, SL, ST								
49.2	15	Qz br	Qz, SL, ST								
52.5	16	Qz br	Qz, SL, ST								
55.8	17	Qz br	Qz, SL, ST								
59.1	18	Qz br	Qz, SL, ST								
62.3	19	Qz br	Qz, SL, ST								
65.6	20	Qz br	Qz, SL, ST								
68.9	21	Qz br	Qz, SL, ST								
72.2	22	Qz br	Qz, SL, ST								
75.5	23	Qz br	Qz, SL, ST								
78.7	24	Qz br	Qz, SL, ST								
82.0	25	Qz br	Qz, SL, ST								

Notes: Thin alluvials abt hard bluish CS into grey bottom.

Taipan X England Hill drilling prospect 2001

200m prospect traverse

Hole Number:	Licence number:	Prospect:	Date drilled:
EHA 058	EL 2252	England Hill	21/10/2001
	Drill rig type / contractor:	Investigator Mk10A / Taipan X	Logged by: Clayton Simpson
Coordinates (AMG- WGS84 datum):	42 2800	E 688 9700	Hole diameter: 9 INCH
		N	Drill method: AUGER

Hole depth	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	Qa rd-br	SL, SI					5	M		loose rd-br soils & gr SI pebbles to boulders
6.6	2	Trk gubn	SL, ST, CS					4	6		gn-gr SI pebbles in hard br ST & hard br SS
9.8	3	Trk	~~SL, ST, CS~~ SI, ST					4			bouldy gn-gr SI hard br ST
13.1	4	Trk gubn	CS bluish					5			more gr-br colored SL a minor LO staining (bluish matrix)
16.4	5	-	-					4			mottled pr to gr cherty bed br CS
19.7	6	-	-					5			CS becoming sabbler, more (hypocentred)
23.0	7	Trk	CS cherty					5			hard br ST CS minor sabbler bed cherty w/ore
26.2	8	-	-					4			
29.5	9	-	-					5			cherty bed br ST CS bluish gr CS nodules
32.8	10	-	-					5			
36.1	11	-	-					5			very hard gr CS, v. l. cherty
39.4	12	-	-					5			
42.7	13	Trk	CS cherty					5			hard gr pr CS, quartz in pr
45.9	14	-	-					5			
49.2	15	EDH cherty	-					5			
52.5	16	-	-								
55.8	17	-	-								
59.1	18	-	-								
62.3	19	-	-								
65.6	20	-	-								
68.9	21	-	-								
72.2	22	-	-								
75.5	23	-	-								
78.7	24	-	-								
82.0	25	-	-								

Notes: Very thick boulders & alluvials above nodular & also greasy bottom ground.

Taipan X England Hill drilling prospect 2001

200m prospect fence

hole Number :	Licence number :	Prospect :	Date drilled :
EHA 059	EL 2252	England Hill	22/10/2001
	Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by :
			Clayton Simpson
			Hole diameter :
			9 INCH
			Drill method :
			AUGER
Coordinates (AMG-WGS84 datum) :			
	42 2800	E 688 4900	N

hole depth	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	Qz band	SL, SI					H	M		Hard br soils + gr SI pebbles & boulders
6.8	2	pink gub	SI, ST					UH	G		boulder gr SI in bed of ST
9.8	3	-	-					VH			boulder gr SI with sandy gr grains in matrix
13.1	4	-	ST, gr CS					UH			minor hard br white S
16.4	5	-	-								
19.7	6	brgy	-								minor rd SI & in area sug broken bedrock, minor white br SI
23.0	7	brgy	ST, CS, SI					H			milky gub br hard SI lined with bedrock
26.2	8	-	-								cracked gub br hard SI
29.5	9	-	-						und		
32.8	10	kb dk br	CS, SI								hard gr white CS + milky gub br SI nodules
36.1	11	-	-						mil		soft dk harder dk br to white CS + gr SI nodules, little con
39.4	12	kb dk br	CS, white dk								hard for 1 kg slightly green CS, soft at base
42.7	13	CONC LEAD	-								
45.9	14										
49.2	15										
52.5	16										
55.8	17										
59.1	18										
62.3	19										
65.6	20										
68.9	21										
72.2	22										
75.5	23										
78.7	24										
82.0	25										

Notes:

v. thick alluvials above OK to good chpy CS, soft yellow ground - a number of grey CS.

200m prospect traverse

Taipan X

England Hill drilling prospect 2001

Hole Number : EHA 060	Licence number : EL 2252	Prospect : England Hill	Date drilled: 22/10/2001
	Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG- WGS84 datum) :	422800	E 688 5100	Hole diameter : 9 INCH
		N	Drill method : AUGER

Hole depth	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	Wd rd br	SL, SI					4	M		Red rd br sals + gr SI pebbles
6.6	2	Wd br	ST, SI					4	G		pebbles to boulders of grey SI in bed br gr
9.8	3	-	SL, ST					4			boulders grey SL with some gr ST
13.1	4	-						4			fine SR pebbles gr-gr SI
16.4	5	-		mn	SI						large veins of chalcedony silica in boulders grey SL
19.7	6	-		-	-						more milky SI or large chalcedony silica
23.0	7	-	gr, SL, ST	-	-	tr	br	4			cr. no hard brCS being broken + gr veins
26.2	8	Wd br	CS, SI	tr	SI	mn	br	5			heavy br veined + broken SR to bed of brCS, kaolinite
29.5	9	Wd br	CS, ~~SL, ST~~ 'chpy'			tr	br, H				soft br chpy gr kaolinite CS, see chpy mg veins in bed
32.8	10	-				tr	br, H				Al pods in chpy gr kaolinite gr kaolinite CS
36.1	11	Wd br	~~CS, SL, ST~~ 'chpy'			-	-				soft Wd br to br gr kaolinite CS, less chpy; more Al pods
39.4	12	-				-	-		und		crisp kaolinite brCS, becoming less kaolinite
42.7	13	Wd br	CS (interbed)			tr	H				soft to crisp br-gr brCS, more greenish
45.9	14	-				-	-				
49.2	15	-				tr	br, H				br stamp + Al pods in soft br-gr CS kaolinite in part
52.5	16	-				-	-				grey gr to gr to brCS, little kaolinite
55.8	17	-				mn	H				major Al pods in soft grey CS
59.1	18	Wd br	SS, SL								
62.3	19										
65.6	20										
68.9	21										
72.2	22										
75.5	23										
78.7	24										
82.0	25										

Notes: Thick alluvials down ~~into~~ ok chippy CS into dr ~~at~~ had laminae (chippy in part) a grey balling ground

200m prospect traverse

Taipan X

England Hill drilling prospect 2001

Ben 2400

Hole Number :	Licence number :	Prospect :	Date drilled:
EHA 061	EL 2252	England Hill	22/10/2001
	Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by :
			Clayton Simpson
Coordinates (AMG-WGS84 datum) :	42 2 800	E 688 53 00	Hole diameter :
		N	9 INCH
			Drill method :
			AUGER

Hole depth	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	br	ST, CL, SI					H	m		Hard br silts, slightly CC + or SI pebbles
6.6	2	-	-						G		
9.8	3	wh	SI, ST								gr- or SI pebbles to boulders in hard br ST
13.1	4	-	-								
16.4	5	-	-								
19.7	6	br	SI, CS, ST			tr	Gy				increasing content of chippy hard br pieces + red silty br ST
23.0	7	-	-								weathered rd sil in silty brs + hard br ST
26.2	8	-	SI, CS								major chippy wh mass between nodules rd sil
29.5	9	wh	CS, ST								Soft to chippy br grey hard laminae CS + red nodules
32.8	10	wh	CS, ST								chippy to hard br laminae
36.1	11	ph	CS, ST			tr	Gy				Soft br grey to wh laminae CS more grey to base
39.4	12	-	-		B	tr	tr				Base opal on Gy vein? in soft br laminae CS
42.7	13	-	-			tr	tr, Gy				Alph in laminae br CS, chippy in part
45.9	14	-	-								Some crisp to chippy CS intervals
49.2	15	wh	CS, ST						und		br laminae br CS
52.5	16	-	-								
55.8	17	-	-								Sober + mac Gy veined glauconitic br laminae CS
59.1	18	-	-						pill		
62.3	19	-	-								soft br CS, laminae in br Gy veins + Alph
65.6	20	-	-								Still some crisp CS in pillared brs
68.9	21	cr	-								increasing grey chippy br CS intervals
72.2	22	wh	-								minor grey clay set base of interval
75.5	23	wh	-								
78.7	24	-	-								
82.0	25	-	-								

Notes:

Besting delg'd on drier ground after rain

Taipan X

England Hill drilling prospect 2001

* Bare replacement of suction pipe
at 15 ft

Hole Number : **EHA 062**

Link sold

Notes: Very thick boulder alluvials above hard nodules, w/ old kaolinitic CS + grey bottom

Taipan X England Hill drilling prospect 2001

200m prospect traverse

Hole Number : EHA 063	Licence number : EL 2252	Prospect : England Hill	Date drilled: 24/10 / 2001
Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by : Clayton Simpson	Hole diameter : 9 INCH
Coordinates (AMG- WGS84 datum) : 42 2596	E 688 5508	N	Drill method : AUGER

RL 321m

Hole depth ft m	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3 1	Qca	dk br	SL, SI					OK	M		100% rd br salts + gr SI pebbles
6.6 2	Edo	br	ST, SI					H	6		Hard slightly CC br salts + minor gr SI pebbles
9.8 3	-	-	-					b			increasing gr-gr SI pebbles
13.1 4	Trk	gn br	SI, gr			4	br	WH			pebbles to boulders of ST to RA gr-gr SI in bed br ST
16.4 5	-	-	-			-	-	-			more bouldy SI
19.7 6	-	dk br	-			-	-	b			
23.0 7	-	-	SL, ST, CS			-	-	H			Very sandy textured gr-gr SI pebbles to boulder + minor fine Hgr CS
26.2 8	-	-	-			-	-				more angular + saltier gr-gr SI clumps
29.5 9	-	-	-			-	-				
32.8 10	Qca	-	CS, SI			-	-				Red Qca Hgr CS + lessening sandy gr-gr SI pebbles
36.1 11	-	-	-			-	-				increasing salt for Hgr kaolinitic CS
39.4 12	-	-	-			-	-	b	und		
42.7 13	H2	grey	CS + feldite			-	-	S	b		salt slightly kaolinitic lt gr CS + minor gr-gr SI nodules
45.9 14	-	-	-			-	-		pull		Some chippy mg w/ h CS intervals in salt kaolinitic Hgr CS
49.2 15	-	-	-			-	-				
52.5 16	ph-pu	-	-			-	-				more for less kaolinitic dk gr hgr CS, grey in part
55.8 17	ph3	pu	CS + mudstone			-	-				grey for dk gr CS + purgr clays to bed
59.1 18	Edo	56 RT	-			-	-				
62.3 19	-	-	-			-	-				
65.6 20	-	-	-			-	-				
68.9 21	-	-	-			-	-				
72.2 22	-	-	-			-	-				
75.5 23	-	-	-			-	-				
78.7 24	-	-	-			-	-				
82.0 25	-	-	-			-	-				

Notes: very thick alluvial above soft CS with 160g bands into grey soft ground.

200m prospect frame

Taipan X

England Hill drilling prospect 2001

* Re opal replacing solution pipes at 12m

Hole Number : EHA 064	Licence number : EL 2252	Prospect : England Hill	Date drilled: 24/10/2001
	Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG- WGS84 datum) : 42 2 589 E 688 5717 N			Hole diameter : 9 INCH
			Drill method : AUGER

RL 325m

Hole depth ft m	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3 1	Qa	rd-br	SL SL					V/C	M		loose rd-br soils + gr SL pebbles
6.6 2	Td0	br	ST, CG SL					H	G		Hard br SL, 4% CCSILS + minor gr SL pebbles
9.8 3	-	-	-								
13.1 4	-	-	-	fr	B						Pure? replacing solution pipes in hard br ST
16.4 5	Trk	Cr-br	ST, CS, SL								hard broken gr to br CS in br ST + rd SL
19.7 6	-	-	SL, CS, SL								mottled rd to gr SL (clotted gr, mid) + hard br SL
23.0 7	-	rd-br	-					VH			continued br opal replacing solution pipes increasing rd to gr SL
26.2 8	-	-	-								
29.5 9	leb	ph-m	CS, SL					H			hard kaolinite for 14% CS + banded ph-m
32.8 10	-	-	-			fr	Al				massive bands of gr to rd SL + hard br kaolinite CS
36.1 11	-	-	-			fr	Al, br				increasing soft kaolinite 14% CS to br, mix gr SL, tr br veng.
39.4 12	Alb	ph-m	CS, SL			-	-	S			gr to br gr CS, lessening SL clots + ph-m clay at base
42.7 13	FOUR	FOUR	FOUR								
45.9 14	FOUR	FOUR	FOUR								
49.2 15											
52.5 16											
55.8 17											
59.1 18											
62.3 19											
65.6 20											
68.9 21											
72.2 22											
75.5 23											
78.7 24											
82.0 25											

Notes: 1/2" thick boulders alluvial above hard wh nodular CS, 10" soft grey bottom mud.

Taipan X England Hill drilling prospect 2001

Hole Number:	Licence number:	Prospect:	Date drilled:
EHA 005	EL 2252	England Hill	24/10/2001
Coordinates (AMG-WGS84 datum):	Drill rig type / contractor:	Investigator Mk10A / Taipan X	Logged by:
42 2600 E 688 5900 N			Clayton Simpson
			Hole diameter:
			9 INCH
			Drill method:
			AUGER

Hole depth		Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
ft	m				quantity	types	quantity	types				
3.3	1	do	br	ST, SI					H	M		Hard br ST, slightly CC + gr SI nodules
6.6	2									G		increasing pebbles to boulders of sandy gr SI
9.8	3	crk	ymbr	SI, ST					VH			boulders to massive grey sand, SI lined with br ST
13.1	4								VH			
16.4	5						tr	br	VH			
19.7	6								VH			more SR smaller boulders of gr SI
23.0	7											more gr colored hard boulders SI
26.2	8			SI, CS, ST								minor hard br wh CS in boulders of SI, ST lines features
29.5	9	crk	crbr	CS, SI					H			hard boulders with CS with gr SI nodules (boulder size)
32.8	10		ph br									clinky hard br wh CS + gr SI (sandy features)
36.1	11									und		
39.4	12		br							J		clinky hard br wh CS, less sandy gr SI + minor soft br ST (Gutrie Rd)
42.7	13	br	brgy	CS / breccia					S	pull		Soft br gr CS minor grey features - hard gr CS elsewhere
45.9	14		ph pu									more greasy CS
49.2	15											minor puggy clays at base
52.5	16	bot		SORT								
55.8	17											
59.1	18											
62.3	19											
65.6	20											
68.9	21											
72.2	22											
75.5	23											
78.7	24											
82.0	25											

Notes:

thick alluvials abn. poor broken aluminous & greenish, also ~~aluminous~~ carbon mud

Taipan X

England Hill drilling prospect 2001

200m prospect traverse

Hole Number : EHA 066	Licence number : EL 2252	Prospect : England Hill	Date drilled: 24/10/2001
Drill rig type / contractor :	Investigator Mk10A / Taipan X	Hole diameter : 9 INCH	Logged by : Clayton Simpson
Coordinates (AMG-WGS84 datum) : 42 2800	E 688 5900	N	Drill method : AUGER

Hole depth ft m	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3 1	Qla	rd-br	SL, SI					VL	M		loose rd br soils + gr SI pebbles
6.6 2	Tdo	br	ST, cl, SI					H	G		Hard cl breccias + gr SI pebbles
9.8 3	-	-	-								hard cemented br soils, almost like red SI
13.1 4	-	-	ST, cl, SI			tr	Gr				increasing hard broken breccias minor br veining
16.4 5	-	-	-								
19.7 6	-	-	-								thicker Gr rd-br ST, more like soft rd SI
23.0 7	-	cl-br	-								increasing content of hard thin br breccias
26.2 8	Tab	-	CS, ST			mn	Gr, Al				broken hard br ST, green + some pebbles, in bed 6-8
29.5 9	-	br	-					S			minor green soft brs, broken stained with ST
32.8 10	Tab	-	CS, cl, br, ST			mn	Al		und		quite aluminous soft green brs, tr br veining
36.1 11	-	crn	-								minor LOSTANGE soft br aluminous CS, soft broken in ST
39.4 12	Tab	-	CS, intermediate			mn	Al, br		pul		CS becoming more compact, 1 kg + green, dark + br stage
42.7 13	-	crn	CS, intermediate			mg	Al				major al as pebbles in matrix soft 1 kg CS
45.9 14	-	crn	-			mn	Al				more greenish grey CS
49.2 15	Tab	-	CS, ST								
52.5 16	-	-	-								
55.8 17	-	-	-								
59.1 18	-	-	-								
62.3 19	-	-	-								
65.6 20	-	-	-								
68.9 21	-	-	-								
72.2 22	-	-	-								
75.5 23	-	-	-								
78.7 24	-	-	-								
82.0 25	-	-	-								

Notes: Thin alternates grey argillitic CS, some cherty into the soft CS or grey muds

200m post traverse

Taipan X England Hill drilling prospect 2001

Hole Number :	Licence number :	Prospect :	Date drilled:
EHA 067	EL 2252	England Hill	24/10 / 2001
Drill rig type / contractor :	Investigator Mk10A / Taipan X	Hole diameter :	Clayton Simpson
Coordinates (AMG-WGS84 datum) :	42 2600	E 688 5100	9 INCH
		N	Drill method : AUGER

Hole depth	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	Qy	rd br	SL	SI			4	M		rd br scales + gr SL pebbles + lead br ST dross
6.8	2	Qy	br	ST	CS	SI		4	B		Hard CS w/ SI & gr gr SI pebbles
9.8	3	---	---	ST	CS	SI		1			Lead br ST & broken lead br gr 'bluish' CS
13.1	4	knk	cr br	CS	ST			1			broken lead br gr CS lined with br ST, tr Br fragments
16.4	5	---	ph br	---	---			1			more compact hard HbCS, gr veins in part
19.7	6	knk	---	CS	lith	rd		1			Had for HbCS, quite kaolinitic soft muds to base
23.0	7	hbl	crpk	CS	chpy			1			chpy to hard dark kaolinitic CS, harder infers to base
26.2	8	hbl	---	CS	lith	rd		1			Had for HbCS + chpy to CS muds tr 'angel skin' beds
29.5	9	---	ph br	---	---			1			Softer kaolinitic HbCS, more HbCS dross
32.8	10	---	---	---	---			1			minor crisp CS muds in soft HbCS
36.1	11	---	---	---	---			1			Softer + slightly greasy Agr gr CS, less kaolinitic
39.4	12	---	Hb	---	---			1			soft + greasy gr CS
42.7	13	hbl	PU	CS	mud			1			little kaolinitic to far grey gr CS + minor grey dross
45.9	14	---	---	---	---			1			more grey CS + minor grey dross
49.2	15	---	---	---	---			1			
52.5	16	---	---	---	---			1			
55.8	17	---	---	---	---			1			
59.1	18	---	---	---	---			1			
62.3	19	---	---	---	---			1			
65.6	20	---	---	---	---			1			
68.9	21	---	---	---	---			1			
72.2	22	---	---	---	---			1			
75.5	23	---	---	---	---			1			
78.7	24	---	---	---	---			1			
82.0	25	---	---	---	---			1			

Notes:

thick alluvials above poor hard bluish CS into grey botting sand

Taipan X

England Hill drilling prospect 2001

200m prospect traverse

Hole Number :	Licence number :	Prospect :	Date drilled :
EHA 068	EL 2252	England Hill	25/10/2001
Drill rig type / contractor :	Investigator Mk10A / Taipan X	Hole diameter :	9 INCH
Coordinates (AMG-WGS84 datum) :	42 2 606	E 688 4900	N
		Drill method :	AUGER

Hole depth		Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
ft	m				quantity	types	quantity	types				
3.3	1	Qa	gr-br	SL, SL					4/5	M		pebbles to boulders of grey SL in loose hard sand
6.6	2	~~Qa~~	~~gr-br~~	SL, ST					4/5	G		boulders gr-gr SL (sandy, kaoln) hard with br silt
9.8	3	~~Qa~~	~~gr-br~~	SL, ST					4/5			
13.1	4	-	br-gr	SL, CS, ST					4/5			mineral hard wh CS within boulders grey SL
16.4	5	-	-	-					4/5			decreasing boulders SL, more silt and pebbles in ST
19.7	6	-	-	-					4/5			increasing hard wh br CS towards base of interval
23.0	7	lab	br-gr	CS, SL					4/5			hard (gr wh to br CS (almost pure) + grey SL pebbles
26.2	8	lab	br-gr	CS, SL, br-gr					4/5			clinky hard br gr to pure CS
29.5	9	-	-	-					4/5			CS becoming softer
32.8	10	lab	br-gr	CS, SL, br-gr					4/5			softer - slightly harder than the gr to pure CS + grey in part
36.1	11	-	-	-					4/5			soft br grey CS + br veining
39.4	12	EDH	3704						4/5			
42.7	13								4/5			
45.9	14								4/5			
49.2	15								4/5			
52.5	16								4/5			
55.8	17								4/5			
59.1	18								4/5			
62.3	19								4/5			
65.6	20								4/5			
68.9	21								4/5			
72.2	22								4/5			
75.5	23								4/5			
78.7	24								4/5			
82.0	25								4/5			

Notes: thin alluvials above vegetation into good Chippies ~~solid~~ greeny muds.

Taipan X

England Hill drilling prospect 2001

Hole Number : EHA 069	Licence number : EL 2252	Prospect : England Hill	Date drilled : 25/10/2001
Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by : Clayton Simpson	Hole diameter : 9 INCH
Coordinates (AMG-WGS84 datum) : 42 2600	E 688 4700	N	Drill method : AUGER

Hole depth ft m	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3 1	Td0	br	ST, SI					H	M		Hard br platy silts + grey pebbles.
6.6 2	-	br	ST, CS, SI						B		hard br whcs in br ST
9.8 3	h6	-	CS, SI								Chin hard br whcs, kadenbe, in br ST
13.1 4	-	-	-								Resolving ST
16.4 5	R2	crph	CS 'bedded'								hard br, kadenbe, whcs, becoming more chippy
19.7 6	L51	-	CS 'chippy'			br	gy				Chippy to hard br, whcs, grey kadenbe, becoming more chippy
23.0 7	-	-	-			-	-	S			Minor 'angelstone' CS levels + LO tanig & br whcs in grey
26.2 8	-	-	-			-	-				more or stand CS 'beds' in soft br chippy br CS
29.5 9	-	-	-			-	-		ung		more grey colored soft to less chippy CS
32.8 10	L42	phph	CS 'bedded'			-	-		B		Soft grey br CS, much less kadenbe, more br whcs
36.1 11	-	ru	-						M		grey br gy CS, friable in places
39.4 12	L53	ru	CS 'reddish'						B		soft to friable grey gy CS & grey clay
42.7 13	L61	ru	CS 'bedded'								
45.9 14											
49.2 15											
52.5 16											
55.8 17											
59.1 18											
62.3 19											
65.6 20											
68.9 21											
72.2 22											
75.5 23											
78.7 24											
82.0 25											

Notes:

thick alluvials are hard 'bluish' CS like poor near bottom ground

Taipan X

England Hill drilling prospect 2001

200m prospect traverse

Hole Number :	Licence number :	Prospect :	Date drilled:
EHA 070	EL 2252	England Hill	25/10/2001
Drill rig type / contractor :	Investigator	Hole diameter :	Logged by :
	Mk10A / Taipan X	9 INCH	Clayton Simpson
Coordinates (AMG-WGS84 datum) :	Drill method :		
42 2 600 E 688 500 N	AUGER		

Hole depth	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	Qa rd-br	SL, SI					u/c	M		loose rd br soils + gy S / pebbles
6.6	2	-	-					5	6		less SI pebbles, more compact SL, but still there
9.8	3	rd br	ST, CL, SI					H			hard, slightly CC br ST & minor gy S
13.1	4	-	-								in creasing broken & re-consolidated gy S / clasts
16.4	5	rd br	ST, CS, SI								broken had br gy CS in hard br ST & minor gy S
19.7	6	rd br	CS, ST								broken had br 'bluish' CS lined with br ST
23.0	7	rd br	CS 'bluish'								hard for gy S / br CS v. little granular sandstone
26.2	8	-	-						und		minor soft kaolinite (H ₂ O) CS inclusions in hard br 'bluish' CS
29.5	9	rd br	CS / kaolinite			kr	gy				gy veining in soft, slightly hard more gy CS + hard br CS inclusions
32.8	10	-	-								soft for gy CS, granular in places, more polished to base
36.1	11	rd br	CS 'muddish'								gy S / br CS + minor clay S
39.4	12	rd br	35 RY								
42.7	13										
45.9	14										
49.2	15										
52.5	16										
55.8	17										
59.1	18										
62.3	19										
65.6	20										
68.9	21										
72.2	22										
75.5	23										
78.7	24										
82.0	25										

Notes: thick alluvial silt over detrital & grey mudst. & grey mudst. CS.

200m prospect traverse Taipan X England Hill drilling prospect 2001 Base opal replacing solution cavity at 12m.

Hole Number : EHA 071	Licence number : EL 2252	Prospect : England Hill	Date drilled: 25/10/2001
	Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG- WGS84 datum) :	42 2600	E 688 4300	Hole diameter : 9 INCH
		N	Drill method : AUGER

Hole depth ft m	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	lt br	SL, SI					4/5	M		lt. Si salt + gy SI nodules
6.8	2	lt br	ST, SI					4	G		hard br ST + gy SI nodules broken CS clasts
9.8	3	-	-								increasing broken hard mudst. CS
13.1	4	-	-								Base opal replacing solution cavity
16.4	5	lt br	CS, ST								Broken mudst. (lt. CS) in br ST
19.7	6	lt br	CS, mudst.			fr	gy	4			gy veins in hard br. gy mudst. & lessening ST in br. CS
23.0	7	-	-			mm	gy	5			salt br. lt. gy CS, intense gy veins in part
26.2	8	lt br	-			-	gy, M				salt lt. gy to lt. br. Gypsum CS + Al pods
29.5	9	cr-pu	-			-	-				increasing Al pods in br. slightly kaolinitic lt. mudst.
32.8	10	-	-			-	-				
36.1	11	-	-			fr	gy, M				minor green, pu CS in salt gy CS, little lead in
39.4	12	lt br	CS, mudst.					4			salt to fine gr. gy pu CS + mggy clasts
42.7	13	lt br	lt br								
45.9	14	-	-								
49.2	15	-	-								
52.5	16	-	-								
55.8	17	-	-								
59.1	18	-	-								
62.3	19	-	-								
65.6	20	-	-								
68.9	21	-	-								
72.2	22	-	-								
75.5	23	-	-								
78.7	24	-	-								
82.0	25	-	-								

Notes: thick alluvials above polytomic hard CS into polytomic bottom ground.

200m prospect traverse

Taipan X

England Hill drilling prospect 2001

Hole Number :	Licence number :	Prospect :	Date drilled:
EHA 072	EL 2252	England Hill	25/10/2001
Drill rig type / contractor :	Investigator Mk10A / Taipan X		Logged by :
Coordinates (AMG- WGS84 datum) :	42 2600	E 688 4100	Clayton Simpson
		N	Hole diameter : 9 INCH
			Drill method : AUGER

Hole depth		Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
ft	m				quantity	types	quantity	types				
3.3	1	260	br	ST, CL, SI					H	3		Hard br CCS clts & gr S pebbles
6.6	2											
9.8	3											
13.1	4			ST, CS			Gr					increasing hard br of low CS clots in hard br ST
16.4	5	265	ph	CS, ST								Hard broken gr to white S in hard br ST
19.7	6											
23.0	7	262	ph-pv	CS (hard)			Al, Fe			und		Al peds in soft grey CS, minor LO staining + br 'hard'
26.2	8											Soft - dk pv alumite + grey red CS, iron stain + br 'hard'
29.5	9											Soft + grey dk pv CS + some grey clots
32.8	10	200	30R									
36.1	11											
39.4	12											
42.7	13											
45.9	14											
49.2	15											
52.5	16											
55.8	17											
59.1	18											
62.3	19											
65.6	20											
68.9	21											
72.2	22											
75.5	23											
78.7	24											
82.0	25											

Notes: V_t thin alluvials. above ϕ to put hard CS into ^{OK} green CS bottom gnd.

100m prospect traverse

Taipan X

England Hill drilling prospect 2001

Hole Number : EHA 073	Licence number : EL 2252	Prospect : England Hill	Date drilled : 25/10/2001
Drill rig type / contractor :	Investigator Mk10A / Taipan X		Logged by : Clayton Simpson
Coordinates (AMG- WGS84 datum) : 42 3500	E 688 4100	N	Hole diameter : 9 INCH
			Drill method : AUGER

[illegible]

Volume 2

Plates around drill hole (E11 & E13) Taipan X
100m north from

Hole Number : EHA 374	Licence number : EL 2252	Prospect : England Hill	Date drilled: 25/10/2001
	Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG-WGS84 datum) : 42 3400 E 688 4200 N			Hole diameter : 9 INCH
			Drill method : AUGER

[illegible]

VOLUME 2

Drill hole logs
EHA 075 - 099

Notes: v. thin alluvials above hard bluish to poor CS into grey bottom ground.

Taipan X England Hill drilling prospect 2001

100m prospect traverse

Hole Number : EHA 075	Licence number : EL 2252	Prospect : England Hill	Date drilled: 25/10/ / 2001
	Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG- WGS84 datum) :	42 3 2400	E 688 4300	Hole diameter : 9 INCH
		N	Drill method : AUGER

Hole depth		Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
ft	m				quantity	types	quantity	types				
3.3	1	Qz	rd br	SL, SL					MC	M		loose rd br sals + gr SL pebbles
6.6	2	rd br	rd br	CS, ST					H	G		broken hard gr rd br to CS in br ST
8.8	3	rd br	rd br	CS, bluish								hard gr rd br to bluish CS (sals/ve)
13.1	4											CS very rd br towards top
16.4	5	rd br	rd br	CS, rd br			tr	Gr				hard gr rd br, slightly kaolinitic + Gyveins
19.7	6											hard gr rd br, little kaol
23.0	7											less kaolinitic gr rd br
25.2	8								S	und		softer slightly greyish gr CS
29.5	9		mu							M		greasy gr rd br
32.8	10											minor purple clays sandy grey gr CS
36.1	11											
39.4	12											
42.7	13											
45.9	14											
49.2	15											
52.5	16											
55.8	17											
59.1	18											
62.3	19											
65.6	20											
68.9	21											
72.2	22											
75.5	23											
78.7	24											
82.0	25											

Notes: *thin alluvials also nodular + alternates w hard 'bl' CS, see chert chips at base*

Taipan X

England Hill drilling prospect 2001

Hole Number : EHA 076	Licence number : EL 2252	Prospect : England Hill	Date drilled: 27/10/2001
	Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG-WGS84 datum) :	42 3400	E 688 4400 N	Hole diameter : 9 INCH
		RL 322m	Drill method : AUGER

Hole depth ft m	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3 1	Qz	brnd	ST, SI, CS					H	M		gr grs / pebbles to boulders + hard wucs in red dr scills
5.6 2	brs	phbr	CS, SI						G		very nodular (pebbles to boulders) of quartz / in hard wucs
9.8 3	-	-	-								same texture in dr boulders / thin CS + nodular quartz
13.1 4	-	br ph	-								increasing hard dr reddish phbr 'bl' CS + coarse
16.4 5	br ph	-	CS / phbr								hard dr gr-gr topu 'bl' CS reddish phbr
19.7 6	-	-	-								
23.0 7	-	-	-								
26.2 8	brs	-	CS / phbr								clinky hard dr thinish CS, reddish gr-gr topu
29.5 9	-	-	-								softer 1st to reddish phbr CS
32.8 10	br ph	phgr	CS / phbr						ind		hard dr Hgr CS, v little brnd
36.1 11	+	-	-						b		minor soft reaction in wucs in hard dr phbr
39.4 12	-	phbr	-						phbr		increasing ground chipping wucs + boulders of hard dr CS
42.7 13	-	-	-								minor dr phbr / hard CS 'brnd' in 1st dr boulders CS
45.9 14	-	phbr	-								dr phbr / rounded pebbles in chippu to soft wucs, hard dr CS
49.2 15	brs	CS / phbr	-								
52.5 16	-	-	-								
55.8 17	-	-	-								
59.1 18	-	-	-								
62.3 19	-	-	-								
65.6 20	-	-	-								
68.9 21	-	-	-								
72.2 22	-	-	-								
75.5 23	-	-	-								
78.7 24	-	-	-								
82.0 25	-	-	-								

Notes: thick alluvials above m. lac CS & chippy CS, no dense silt CS + grey muds

100m project transfer.

Taipan X England Hill drilling prospect 2001

Hole Number:	Licence number:	Prospect:	Date drilled:
EHA 077	EL 2252	England Hill	27/10/2001
	Drill rig type / contractor:	Investigator Mk10A / Taipan X	Logged by:
			Clayton Simpson
Coordinates (AMG-WGS84 datum):	42 5400	E 688 4500	Hole diameter:
			9 INCH
			Drill method:
			AUGER

Hole depth	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	Gr	ST, CL, SI					4	M		Hard br CC silt + minor opal silt pebbles
8.8	2	-	-						6		
9.8	3	-	Hor								
13.1	4	-	SI, ST								milky gy SI in broken hard cr-br ST
16.4	5	-	SI, CS, gy								milky gy SI + broken hard hor CS in ST
19.7	6	-	CS, gy			tr	gy				Hard cr-br kaolinite CS + less gy milky gy SI pebbles
23.0	7	-	CS 'Whale'			tr	Al				Hard cr-br kaolinite CS, silt + chippy in place
26.2	8	-	CS 'chippy'			tr	Al				Chippy toward gr kaolinite CS, Fe-lining tubes + H-pods
29.5	9	-	-								minor 1 for pebbles + greenish in chippy hor CS
32.8	10	-	CS 'pebble'								Harder more gr hor CS, less kaolinite. Al pods increasing
36.1	11	-	-								more chippy, CS, gy, br white hor CS
39.4	12	-	CS 'Whale'			tr	Al				Salt hor (gy CS, little kaolinite, grey in place. Al pods many)
42.7	13	-	-								yellow Al pods in silt gy-br silt gy-br CS
45.9	14	-	CS 'mud'								silt grey, phry CS + major clay
49.2	15	-	-								LO3 forming in silt grey pLS
52.5	16	-	-								
55.8	17	-	FOIF 52A								
59.1	18	-	-								
62.3	19	-	-								
65.6	20	-	-								
68.9	21	-	-								
72.2	22	-	-								
75.5	23	-	-								
78.7	24	-	-								
82.0	25	-	-								

Notes: thick alluvials above hard 'bluish' CS + poor GCS

100m proposed traverse

Taipan X

England Hill drilling prospect 2001

Hole Number:	Licence number:	Prospect:	Date drilled:
EHA 078	EL 2252	England Hill	27/10 / 2001
Drill rig type / contractor:	Investigator	Hole diameter:	Logged by:
	Mk10A / Taipan X	9 INCH	Clayton Simpson
Coordinates (AMG-WGS84 datum):	Drill method:		
42 3400 E 688 4600 N	AUGER		

Hole depth	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	Dr	SL, SI					UK	M		large idiosyncratic + grey hard SI pebbles
6.8	2	Dr	ST, SI					H	G		hard br, slightly CC, silty + minor grey SI pebbles
9.8	3	-	ST, SI, CS								increasing grey SI pebbles + broken HPCS
13.1	4	-	-								
16.4	5	knobby	CS, SI, ST								broken hard br 'bluish' CS + grey SI in br ST
19.7	6	knobby	CS, ST			tr	mn				iron grains staining on broken hard br 'bluish' mottled grey
23.0	7	-	-			-	-				clinky hard br grey poor CS
26.2	8	-	-			-	-				
29.5	9	-	-			-	-				
32.8	10	blz	CS + white						und		sooty br, slightly kaolinitic CS + hard grey CS
36.1	11	-	-			tr	br				v. little kaolin in hard HPCS + grey veining
39.4	12	-	-			-	-				pu stained CS patches in hard grey CS
42.7	13	-	-			-	-				
45.9	14	Blz	CS + white					S			more grey hard br. pu CS
49.2	15	Blz	CS + white								
52.5	16										
55.8	17										
59.1	18										
62.3	19										
65.6	20										
68.9	21										
72.2	22										
75.5	23										
78.7	24										
82.0	25										

Notes: ✓ Thick alluvials above boulder nodules into soft grey CS

Taipan X England Hill drilling prospect 2001

Hole Number : EHA 079	Licence number : EL 2252	Prospect : England Hill	Date drilled: 27/10/2001
Coordinates (AMG-WGS84 datum) : 42 3400 E 688 4700 N	Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
		Hole diameter : 9 INCH	Drill method : AUGER

Hole depth ft m	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3 1	10	br-rd	ST, G, SI					4	M		Hard ec br ST + minor grey Si nodules and sands
6.8 2	-	br	-					1	G		Hard m ec br ST
9.8 3	-	-	-					1			
13.1 4	-	-	-					1			increasing grey Si content
16.4 5	10	br-rd	SI, ST, CS					4			pebbles to boulders sandy br-ec grey SI + hard grey CS with ST
19.7 6	-	-	-					1			increasing mottled grey rd SI + hard grey CS
23.0 7	-	-	-					1			pebbles to boulders of mottled grey rd SI in hard ST + CS
26.2 8	10	br-rd	SI, CS					1			mottled grey rd SI in hard ST + CS (boulder nodules)
29.5 9	-	-	-					1			
32.8 10	-	bleach	-			hr	G, H	1	W		increasing soft unchippy CS, G & v. R. pods
38.1 11	-	-	CS, SI			-	-	1	W		more chippy CS nodules - less pub G & SI nodules
39.4 12	10	br-rd	CS, white			-	-	1	M		Soft & greasy chippy CS
42.7 13	-	br	-					1			more greasy chippy CS + minor pub G & CS
45.9 14	10	br-rd	43 ft								
49.2 15											
52.5 16											
55.8 17											
59.1 18											
62.3 19											
65.6 20											
68.9 21											
72.2 22											
75.5 23											
78.7 24											
82.0 25											

Notes:

Thick alluvials above ● poor hard CS, some ● S with cherty CS at base
(late glacial due to run-off)

Taipan X

England Hill drilling prospect 2001

Hole Number: EHA <i>C980</i>	Licence number: EL 2252	Prospect: England Hill	Date drilled: 28/10 / 2001
	Drill rig type / contractor:	Investigator Mk10A / Taipan X	Logged by: Clayton Simpson
Coordinates (AMG- WGS84 datum): 42 3600	E 688 4700	N	Hole diameter: 9 INCH
			Drill method: AUGER

Hole depth ft m	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3 1		la brnd	SL, SI					S	✓		gy SI, pebbles in rd-br ss, hard at base
6.6 2		frnk brgy	SI, ST, CC	fr	SC			H	G		Chalcidom, silica in hard (br) site pebbles & chert
9.8 3		-	-	fr	Bdfr			H			hardly ggy st (Sandy, br) in hard br CS site
13.1 4		-	-	fr	Bdfr			H			minor nodules of Bc? rhyolite chert - conchoidal
16.4 5		-	ST, CS, ST					H			less bouldy, ggy st + minor nodules
19.7 6		-	-			fr	min				increasing hard w/CS to base - ggy st & nodules
23.0 7		frnk plstr	CS, SI								Hard br, slightly nodular (HSC) nodules
26.2 8		frnk plstr	lat/bouldle			fr	H	H			hard br ggy CS, some nodules - a little br
29.5 9		-	-					S	✓		ggy st, br ggy CS + some nodules
32.8 10		-	-			fr	GryH	H	und		gy st in larger ggy CS + nodules (Sandy)
36.1 11		-	-						✓		CS ss, minor K adolite + cherty nodules
39.4 12		frnk	-					H	und		increasing cherty CS nodules in hard br (H) CS + nodules
42.7 13		frnk	CS cherty			fr	Gry	H	und		OK for longer K adolite w/CS granular br (H) CS + nodules
45.9 14		-	-					H	und		nodules + cherty br, minor w/CS
49.2 15		frnk	CS cherty								
52.5 16											
55.8 17											
59.1 18											
62.3 19											
65.6 20											
68.9 21											
72.2 22											
75.5 23											
78.7 24											
82.0 25											

Notes:

Taipan X

Q. You won't have it

Hole Number :	Licence number :	Prospect :	Date drilled:
EHA 081	EL 2252	England Hill	27/10/2001
Drill rig type / contractor :		Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG-WGS84 datum) :		42 3 600 E 688 4 500 N	Hole diameter : 9 INCH
			Drill method : AUGER

[illegible]

Notes: *thin siltyls above* *new hard Gneiss*

Taipan X England Hill drilling prospect 2001

1000 m prospect traverse

Hole Number: EHA 082	Licence number: EL 2252	Prospect: England Hill	Date drilled: <i>27/10/</i> / 2001
Drill rig type / contractor:		Investigator Mk10A / Taipan X	Logged by: Clayton Simpson
Coordinates (AMG-WGS84 datum): 42 <i>800</i>		E 688 <i>4400</i>	Hole diameter: 9 INCH
		N	Drill method: AUGER

Hole depth ft m	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3 1	<i>Qz</i>	<i>hard</i>	<i>SL, SI, CS</i>					<i>H</i>	<i>m</i>		<i>red br soils + milky gr. SI + hard Gneiss clasts</i>
6.6 2	<i>Kfs</i>		<i>CS, SI</i>						<i>b</i>		<i>Hard, with Gneiss CS + milky gr. SI</i>
9.8 3	<i>Kfs</i>	<i>phr</i>	<i>CS + minor</i>						<i>G</i>		<i>Hard Gneiss CS + minor bands of milky gr. SI</i>
13.1 4											<i>climbed Gneiss little kaolin</i>
16.4 5											
19.7 6											<i>minor preserved patches in silty + kaolinitic intervals</i>
23.0 7		<i>crn</i>				<i>Gr</i>					<i>Fe-Ha, minor bands in hard w. CS</i>
26.2 8											<i>hard Gneiss, increasing silty kaolinitic intervals</i>
29.5 9									<i>b</i>		
32.8 10		<i>phr</i>							<i>und</i>		<i>silty, more kaolinitic. Hard CS, Fe-Ha, Actinolite</i>
36.1 11									<i>b</i>		<i>hard</i>
39.4 12		<i>phr</i>				<i>Al</i>			<i>ml</i>		<i>Harder, more Gneiss kaolinitic layers. minor soapstone</i>
42.7 13											<i>more grey Gneiss hard Gneiss</i>
45.9 14									<i>b</i>		
49.2 15		<i>Boh</i>	<i>4.5 RT</i>								
52.5 16											
55.8 17											
59.1 18											
62.3 19											
65.6 20											
68.9 21											
72.2 22											
75.5 23											
78.7 24											
82.0 25											

Notes: No alluvial zone below and CS some chippies & rcs the hard bottom grade more green CS

Taipan X England Hill drilling prospect 2001

100m prospect traverse

Hole Number :	Licence number :	Prospect :	Date drilled:
EHA 083	EL 2252	England Hill	28/10/2001
Drill rig type / contractor :	Investigator	Mk10A / Taipan X	Logged by :
Coordinates (AMG-WGS84 datum) :	42 3600	E 688 4300	Clayton Simpson
		N	Hole diameter :
			9 INCH
			Drill method :
			AUGER

Hole depth	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	br	CS, SL, SI					5	m		broken hard w/ rcs in br seals + SI rubble
6.8	2	-	CS, SL					4	b		
9.8	3	br	CS, SL			tr	Gr		G		more kaolinite hard Gr. Gr. veins, w/ CS
13.1	4	br	CS, SL			-	-				quite kaolinitic hard kaolinite, Gr. Gr. veins = 4% (H. 100%)
16.4	5	-	-			-	-				more Gr. quite kaolinitic w/ CS
19.7	6	-	-			tr	Gr, Al				Gr. veins, Al. veins in soft Gr. w/ rcs, chippies in places + kaolinite
23.0	7	br	CS, SL			-	-				hard Gr. + br + p. CS. 7% kaolinite in places, Al. veins in soft
26.2	8	-	-			tr	Gr				less kaolinitic hard Gr. p. CS. + Al. veins in soft
29.5	9	-	-			-	-				Ch. & r. Gr. p. CS + Gr. strings in p. CS
32.8	10	-	-			tr	Gr				
36.1	11	cr-pu	-			-	-				more hard Gr. less kaolinitic p. CS
39.4	12	-	-			-	-				
42.7	13	pu	-			-	-				soft Gr. more Gr. + slightly green p. CS
45.9	14	-	-			-	-				soft green p. CS + minor L. staining
49.2	15	br	CS, SL								
52.5	16	-	-								
55.8	17	-	-								
59.1	18	-	-								
62.3	19	-	-								
65.8	20	-	-								
68.9	21	-	-								
72.2	22	-	-								
75.5	23	-	-								
78.7	24	-	-								
82.0	25	-	-								

100 m project - traverse.

England Hill drilling prospect 2001

[illegible]

Notes:

Taipan X

100m prospect traverse

Hole Number : EHA 085	Licence number : EL 2252	Prospect : England Hill	Date drilled: 28/10 / 2001
	Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG- WGS84 datum) :	42 3600 E 688 4100 N		Hole diameter : 9 INCH
			Drill method : AUGER

[illegible]

Notes: thick alluvials are not ^{CS}. some ok chippy CS in soft bottom ground. with some grey CS & Aluminic base.

200m prospect.

Taipan X

England Hill drilling prospect 2001

Brown pouch 16-25 Rv

Hole Number :	Licence number :	Prospect :	Date drilled :
EHA 086	EL 2252	England Hill	28/10/2001
	Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by :
			Clayton Simpson
Coordinates (AMG-WGS84 datum) :			Hole diameter :
42 2800 E 688 5500 N			9 INCH
			Drill method :
			AUGER

Hole depth	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	Ga sand	SL, SL, ST					H	12		large siliceous & Si pebbles, interbed by soft clay
6.6	2	do br	ST, SL					G	6		hard br, slightly CS - 195 1 sh-ty Si pebbles
9.8	3	-	-								minor ironstone pebbles in pebbly boulders, SL + ST
13.1	4	thk brgy	SL, ST			Lr	Gy	UH			boulders grey & minor SL + boulders ST + minor Gy & ironstone
16.4	5	-	-			mm	Gy				
19.7	6	-	SL, CS, ST	Lr	p Brn	-	-	D			modified red gy SL boulders + very mly br SL (brown poly?)
23.0	7	-	-	u	"			P			modified red gy SL pebbles + minor chippy CS surrounding clst
26.2	8	rbk drkr	CS, SL	"	"	Lr	Gy				contains mly br SL + Gy & red dot chippy CS + mly SL pebbles
29.5	9	-	-								nodules of modified mly SL in chippy SL surfaces, nodules of br
32.8	10	rbk crpy	CS chippy					D			red to chippy Gy to mly mly harden CS + Gy veining
36.1	11	-	-					S			mly br - 14% coloured crisp, harden CS
39.4	12	do crpy	crystalline								soft + ~~grey~~ places 14% CS, ^{SL} ~~hard~~ ^{hard} ~~crisp~~
42.7	13	brk pu	crystalline			Lr	Gy/H		und		soft 14% tail-pv CS, grey in place?
45.9	14	-	-								Al pebbles - br siliceous in soft CS - grey harden
49.2	15	-	-								are pr gy - blend of grey CS, increasing Al pebbles
52.5	16	-	crpy			Lr	H				grey br pr CS + Al pebbles
55.8	17	-	-			mm	H				Al pebbles to 3cm in soft pr CS
59.1	18	-	-								yellow Al pebbles
62.3	19	rbk crpy	rbk crpy								
65.6	20	-	-								
68.9	21	-	-								
72.2	22	-	-								
75.5	23	-	-								
78.7	24	-	-								
82.0	25	-	-								

Notes:

very thick silty ss has poor hard ss into grey ss muds.

200m prospect traverse

Taipan X

England Hill drilling prospect 2001

Hole Number : EHA 087	Licence number : EL 2252	Prospect : England Hill	Date drilled: 28/10/2001
	Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG-WGS84 datum) : 42 3 000	E 688 5500	N	Hole diameter : 9 INCH
			Drill method : AUGER

RL 330m

Hole depth ft m	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3 1	tdo	br	ST, CL, SI					H	M		Hard slight brown br silt + blk grey pebbles
6.6 2									G		
9.8 3											
13.1 4		rub		tr	Si			D			Imp chertaceous ST in hard br ST, chertaceous + calcareous pebbles
16.4 5	rub		ST, CL, SI					VF			red top ST pebbles in hard br ST + CC nodules
19.7 6			ST, CL, SI								Scarcely ST + hard br ST pebbles in br ST
23.0 7											Increasing content of hard br ST or 'blue' ST pebbles
26.2 8											broken hard br ST - br grey ST pebbles in br ST
29.5 9		grey	CL, ST					H			(in clastic) compact hard br ST pebbles
32.8 10	br	br	ST, CL, SI			tr	Gr				Harder br ST, little chert
36.1 11		pink							und		
39.4 12											Solider br ST pebbles, more grey pebbles
42.7 13		dark				tr	Gr	S	und		Gr. V. hard br ST pebbles, more grey pebbles
45.9 14		br									Soft grey pebbles
49.2 15	203		CL, ST								ST to dark grey pebbles - grey pebbles
52.5 16	204		CL, ST								
55.8 17											
59.1 18											
62.3 19											
65.6 20											
68.9 21											
72.2 22											
75.5 23											
78.7 24											
82.0 25											

Notes: very thick off-roads at one poor regolith CS x all greasy CS

200m prospect traverse
Taipan X **England Hill drilling prospect 2001**

Hole Number:	Licence number:	Prospect:	Date drilled:
EHA 088	EL 2252	England Hill	28/05/2001
Drill rig type / contractor:	Investigator	Hole diameter:	Logged by:
	Mk10A / Taipan X	9 INCH	Clayton Simpson
Coordinates (AMG-WGS84 datum):	Drill method:		
42 3000 E 688 5200 N	AUGER		

Hole depth		Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
ft	m				quantity	types	quantity	types				
3.3	1	do	or	ST, CS					H	M		had for 50 s/s in var of 50 p/s
6.6	2									G		
9.8	3	type	or	ST, ST								had for 50 s/s in var of 50 p/s
13.1	4											
16.4	5			ST, ST								had for 50 s/s in var of 50 p/s
19.7	6											
23.0	7											
26.2	8											
29.5	9		phr	ST, CS								had for 50 s/s in var of 50 p/s
32.8	10	phr		CS, ST			tr	tr				had for 50 s/s in var of 50 p/s
36.1	11	phr										had for 50 s/s in var of 50 p/s
39.4	12	phr										had for 50 s/s in var of 50 p/s
42.7	13											
45.9	14											
49.2	15											
52.5	16											
55.8	17											
59.1	18											
62.3	19											
65.6	20											
68.9	21											
72.2	22											
75.5	23											
78.7	24											
82.0	25											

Notes: - check all minerals above nodules hardwires, some detrital clays S chert soft flinty bottom

Taipan X

England Hill drilling prospect 2001 & Notes 100's from 25103 to 25107

50m well drill

Hole Number : EHA 090	Licence number : EL 2252	Prospect : England Hill	Date drilled: 29/10/2001
Drill rig type / contractor :	Investigator Mk10A / Taipan X	Hole diameter : 9 INCH	Logged by : Clayton Simpson
Coordinates (AMG- WGS84 datum) : 422550	E 688 5700	N	Drill method : AUGER

Hole depth		Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
ft	m				quantity	types	quantity	types				
3.3	1			ST CLS					H	M		Hard br, slight cc siliceous & speckles
6.6	2											
9.8	3											
13.1	4			ST CLS	tr	Boyle						increasingly hard br siliceous
16.4	5			CS SL, ST								hard br siliceous, br sil + millerite siliceous
19.7	6											more compact with harder CS
23.0	7			ST CLS								Hard br siliceous, hard br sil + millerite siliceous
26.2	8				tr	M						more br sil + millerite siliceous
29.5	9			CS CLS	tr	M						clayey, detrital, harder CS, ^{small} nodules, millerite siliceous
32.8	10											very red granular chert siliceous
36.1	11											more br siliceous, CS siliceous
39.4	12											clayey, more br siliceous, CS siliceous
42.7	13			CS CLS			tr	Al				harder CS, gr sil + millerite siliceous + (tr) siliceous
45.9	14						tr	Al				major Al sil + millerite siliceous, harder CS
49.2	15											
52.5	16											major Al in soft br siliceous, siliceous
55.8	17											more detrital siliceous + gr siliceous
59.1	18											
62.3	19											
65.6	20											
68.9	21											
72.2	22											
75.5	23											
78.7	24											
82.0	25											

Notes:

thick alluvial cover
 very hard, almost 'blue' CS
 grey CS below

Taipan X

England Hill drilling prospect 2001

Hole Number : EHA 091	Licence number : EL 2252	Prospect : England Hill	Date drilled: 22-1-2001 / 2001
	Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG- WGS84 datum) : 42 23 00	E 688 5750	N	Hole diameter : 9 INCH
			Drill method : AUGER

Hole depth		Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
ft	m				quantity	types	quantity	types				
3.3	1	thick	✓	ST, CL, SI					H	M		hard br (CS) + ST - 1st sample
6.6	2	-	✓						H	G		
9.8	3	-	✓						H			
13.1	4	-	✓						H			more massive red-brown (grey CS) and br ST
16.4	5	-	✓	ST, SL, CS					H			increasing CS in hard grey CS
19.7	6	-	✓	CS, ST		Bone			H			climby hard grey CS + red-brown ST in br ST
23.0	7	-	✓	CS, ST				Mn	H			increasing hard grey CS, Mn staining CS
26.2	8	-	✓					CS, Mn	H			climby hard grey CS, v. little staining
29.5	9	-	✓					CS	H			softer grey CS, more milky grey CS
32.8	10	-	✓						H			hard grey CS, v. little staining
36.1	11	-	✓						H			softer, slightly more granular grey CS
39.4	12	-	✓						H			soft & slightly granular grey CS
42.7	13	-	✓						H			soft grey CS, minor staining
45.9	14	-	✓						H			
49.2	15	-	✓						H			
52.5	16	-	✓						H			
55.8	17	-	✓						H			
59.1	18	-	✓						H			
62.3	19	-	✓						H			
65.6	20	-	✓						H			
68.9	21	-	✓						H			
72.2	22	-	✓						H			
75.5	23	-	✓						H			
78.7	24	-	✓						H			
82.0	25	-	✓						H			

Notes:

- check off-roads above hard bluish CS, into dark hard CS

Taipan X

England Hill drilling prospect 2001

50m drill

Hole Number : EHA 042	Licence number : EL 2252	Prospect : England Hill	Date drilled: 27/10/2001
Drill rig type / contractor :	Investigator Mk10A / Taipan X	Hole diameter : 9 INCH	Logged by : Clayton Simpson
Coordinates (AMG-WGS84 datum) : 42 2250	E 688 5700	Drill method : AUGER	

Hole depth		Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
ft	m				quantity	types	quantity	types				
3.3	1	100	br	ST, a, si					H	M		Hard greenish grey siltstone
6.8	2									G		
9.8	3											
13.1	4			ST, CS, SL								increasingly calcareous, dark grey CS
16.4	5			CS, ST								light grey CS, bluish CS, or ST
19.7	6			CS, ST								CS, ST, and a little ST, ST, ST, ST, ST, ST
23.0	7											
26.2	8											Soil, more calcareous, grey CS
29.5	9			CS, ST								Still very hard, grey CS, ST, ST, ST, ST, ST, ST
32.8	10											Soil, slightly grey CS
36.1	11											
39.4	12											Soil, grey CS, little calcareous, grey CS
42.7	13											
45.9	14											Soil, grey CS, little calcareous, grey CS
49.2	15											Soil, grey CS, little calcareous, grey CS
52.5	16											
55.8	17											
59.1	18											
62.3	19											
65.6	20											
68.9	21											
72.2	22											
75.5	23											
78.7	24											
82.0	25											

50m m2/1

9 mil, yr. 1961 2367

Hole Number :	Licence number : EL 2252	Prospect : England Hill	Date drilled : 29/10/2001
EHA 083	Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG- WGS84 datum) :	42 23 00	E 688 56 50 N	Hole diameter : 9 INCH
			Drill method : AUGER

Hole depth		Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
ft	m				quantity	types	quantity	types				
3.3	1	red	brnd	SS, ST					4	15		red-brown ss + grey siliceous
6.6	2	red	br	ST, SS					4	16		grey ss siliceous in bed channels
9.8	3	-	-	-					4	17		
13.1	4	red	cr-br	ST, CS, ST			N	Cr	4	18		SR siliceous grey ST + darker brown siliceous ST
16.4	5	-	-	-			-	-	4	19		in siliceous in dark brownish siliceous
19.7	6	red	-	CS, ST			mm	Cr	4	20		medium hard siliceous, white, in rounded siliceous + ST
23.0	7	red	pln	CS, chpy	10	Spec	-	-	4	21		in siliceous chpy mgt with hard siliceous, with grey siliceous
26.2	8	-	pln	-			-	-	4	22		dark chpy, grey siliceous, grey siliceous + other siliceous, dark
29.5	9	-	-	-			-	-	4	23		dark siliceous, dark siliceous, dark siliceous
32.8	10	-	cr	-			mm	Cr	4	24		other siliceous in grey siliceous, dark siliceous
36.1	11	red	-	coloured			mm	Cr	4	25		grey + dark in siliceous, dark siliceous
39.4	12	-	pln	-			mm	Cr	4	26		dark siliceous, dark siliceous, dark siliceous
42.7	13	-	-	-			mm	Cr	4	27		dark siliceous + in siliceous in grey siliceous, dark siliceous
45.9	14	-	-	-			mm	Cr	4	28		less siliceous in grey siliceous, dark siliceous
49.2	15	red	pln	CS, reddish			-	-	4	29		dark + grey, dark siliceous + some grey siliceous
52.5	16	-	-	-			-	-	4	30		
55.8	17	-	red	SS, ST			-	-	4	31		
59.1	18	-	-	-			-	-	4	32		
62.3	19	-	-	-			-	-	4	33		
65.6	20	-	-	-			-	-	4	34		
68.9	21	-	-	-			-	-	4	35		
72.2	22	-	-	-			-	-	4	36		
75.5	23	-	-	-			-	-	4	37		
78.7	24	-	-	-			-	-	4	38		
82.0	25	-	-	-			-	-	4	39		

Notes:

7.5 m intervals above ● equidistance CS + 0.5 m gravel ● hippo CS + columnar botryoidal
 200m grid
 200m between holes

Taipan X

England Hill drilling prospect 2001

by P. Kelly + B. Simpson

Hole Number :	Licence number :	Prospect :	Date drilled:
EHA 014	EL 2252	England Hill	23/12/2001
Coordinates (AMG-WGS84 datum) :	Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by :
42 2348			Clayton Simpson
		E 688 5684 N	Hole diameter :
			9 INCH
			Drill method :
			AUGER

Hole depth		Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
ft	m				quantity	types	quantity	types				
3.3	1	160	br	ST, G, SI					4	M		red br CS silts + minor op - not in place
6.6	2	-	-	-						G		
9.8	3	-	-	-	4	BP						red br red silts + 14 bands
13.1	4	-	-	-								
16.4	5	165	br	ST, G, SI								green br silts in CS + minor silts + ST
19.7	6	-	white	CS, ST								green br silts in CS + minor silts + ST
23.0	7	171	br	CS, ST					5			soft silts in CS + minor silts + ST
26.2	8	-	-	-								more complete CS + ST silts + 14 bands
29.5	9	-	crp	-								more complete CS + ST silts + 14 bands
32.8	10	-	-	-								more complete CS + ST silts + 14 bands
36.1	11	-	br	-								more complete CS + ST silts + 14 bands
39.4	12	172	br	CS, ST								more complete CS + ST silts + 14 bands
42.7	13	-	-	-								more complete CS + ST silts + 14 bands
45.9	14	-	-	-								more complete CS + ST silts + 14 bands
49.2	15	173	br	CS, ST								more complete CS + ST silts + 14 bands
52.5	16	-	-	-								
55.8	17	-	-	-								
59.1	18	-	-	-								
62.3	19	-	-	-								
65.6	20	-	-	-								
68.9	21	-	-	-								
72.2	22	-	-	-								
75.5	23	-	-	-								
78.7	24	-	-	-								
82.0	25	-	-	-								

with accounts also On hard copy copy, signed & dated 12/10/00, page 85

Donnell

[illegible]

• flowers above soil cliffs (MICH. 5
CHINA
TIBET) • grey cottonwood.

England Hill drilling prospect 2001

Hole Number : EHA 0076	Licence number : EL 2252	Prospect : England Hill	Date drilled : 5/2/12 / 2001
	Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG- WGS84 datum) : 42 3 34 S E 688 5730 N			Hole diameter : 9 INCH
			Drill method : AUGER

[illegible]

Notes:

1. Thick alluvials above good chippy ss like H. white section good ~~ss~~ and ss.

Taipan X England Hill drilling prospect 2001

Hole Number:	Licence number:	Prospect:	Date drilled:
EHA 947	EL 2252	England Hill	30/10 / 2001
Coordinates (AMG- WGS84 datum):	Drill rig type / contractor:	Investigator	Logged by:
42 2250 E 688 5650 N	Mk10A / Taipan X	Mk10A / Taipan X	Clayton Simpson
		Hole diameter:	Drill method:
		9 INCH	AUGER

Hole depth	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	Red	brnd					4	1		pebbles to bank top Si in clastic ss
6.8	2								6		harder st joint with Sph. fl. in ss
9.8	3	Dark	br								Sph. fl. in ss. pebbles in bank top
13.1	4										
16.4	5										
19.7	6										increasing content in bank top (gr. fl. in ss)
23.0	7	Red	br								chip. pebbles clastic in bank top
26.2	8	Red	br								chip. pebbles in bank top
29.5	9	Red	br								Good chip. pebbles in bank top
32.8	10										Good chip. pebbles in bank top
36.1	11										chip. pebbles in bank top
39.4	12										chip. pebbles in bank top
42.7	13										chip. pebbles in bank top
45.9	14										chip. pebbles in bank top
49.2	15										chip. pebbles in bank top
52.5	16										chip. pebbles in bank top
55.8	17										chip. pebbles in bank top
59.1	18										chip. pebbles in bank top
62.3	19										chip. pebbles in bank top
65.6	20										chip. pebbles in bank top
68.9	21										chip. pebbles in bank top
72.2	22										chip. pebbles in bank top
75.5	23										chip. pebbles in bank top
78.7	24										chip. pebbles in bank top
82.0	25										chip. pebbles in bank top

Notes:

main alluvials thin poor sand is into green muds

Taipan X

England Hill drilling prospect 2001

Hole Number : EHA 1778	Licence number : EL 2252	Prospect : England Hill	Date drilled: 22/10 / 2001
	Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG-WGS84 datum) : 42 2200	E 688 5650	N	Hole diameter : 9 INCH
			Drill method : AUGER

Hole depth	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	br	ST, CS, SI					H	M		Hard br ss - 40-50% Si, 5-10% CS
6.6	2	-	-								
9.8	3	-	CS, SI	1	Before						major minerals - m. br ss, 10-20% CS, 10-20% SI
13.1	4	br	CS, SI			m	Gr				very hard br ss - 40-50% Si, 10-20% CS, 10-20% SI
16.4	5	br	CS, SI					S			soft grey CS, greenish br ss, 10-20% CS, 10-20% SI
19.7	6	br	CS, SI								grey br ss - 40-50% Si, 10-20% CS, 10-20% SI
23.0	7	br	CS, SI								grey br ss - 40-50% Si, 10-20% CS, 10-20% SI
26.2	8	-	-								
29.5	9	-	-								
32.8	10	-	-								
36.1	11	-	-								
39.4	12	-	-								
42.7	13	-	-								
45.9	14	-	-								
49.2	15	-	-								
52.5	16	-	-								
55.8	17	-	-								
59.1	18	-	-								
62.3	19	-	-								
65.6	20	-	-								
68.9	21	-	-								
72.2	22	-	-								
75.5	23	-	-								
78.7	24	-	-								
82.0	25	-	-								

Notes: - 1st hole drilled at 10.15, some debris in hole. 2nd hole drilled at 10.30, some debris in hole.

Taipan X England Hill drilling prospect 2001

Hole Number : EHA 099	Licence number : EL 2252	Prospect : England Hill	Date drilled: 30/10/2001
Drill rig type / contractor :	Investigator Mk10A / Taipan X	Hole diameter : 9 INCH	Logged by : Clayton Simpson
Coordinates (AMG- WGS84 datum) : 42 2200 E 688 5800 N	Drill method : AUGER		

Hole depth		Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
ft	m				quantity	types	quantity	types				
3.3	1	Un	rd-bw	SL, ST					14	14		SL & ST in 1st hole, some debris in hole
6.6	2								14	14		SL & ST in 2nd hole, some debris in hole
9.8	3	Un	rd-bw	SL, ST					14	14		SL & ST in 3rd hole, some debris in hole
13.1	4								14	14		SL & ST in 4th hole, some debris in hole
16.4	5			SL, ST, ST					14	14		SL & ST in 5th hole, some debris in hole
19.7	6	Un	rd-bw	SL, ST, ST					14	14		SL & ST in 6th hole, some debris in hole
23.0	7								14	14		SL & ST in 7th hole, some debris in hole
26.2	8	Un	rd-bw	SL, ST, ST					14	14		SL & ST in 8th hole, some debris in hole
29.5	9	Un	rd-bw	SL, ST, ST					14	14		SL & ST in 9th hole, some debris in hole
32.8	10								14	14		SL & ST in 10th hole, some debris in hole
36.1	11	Un	rd-bw	SL, ST, ST					14	14		SL & ST in 11th hole, some debris in hole
39.4	12								14	14		SL & ST in 12th hole, some debris in hole
42.7	13	Un	rd-bw	SL, ST, ST					14	14		SL & ST in 13th hole, some debris in hole
45.9	14								14	14		SL & ST in 14th hole, some debris in hole
49.2	15								14	14		SL & ST in 15th hole, some debris in hole
52.5	16								14	14		SL & ST in 16th hole, some debris in hole
55.8	17								14	14		SL & ST in 17th hole, some debris in hole
59.1	18								14	14		SL & ST in 18th hole, some debris in hole
62.3	19								14	14		SL & ST in 19th hole, some debris in hole
65.6	20								14	14		SL & ST in 20th hole, some debris in hole
68.9	21								14	14		SL & ST in 21st hole, some debris in hole
72.2	22								14	14		SL & ST in 22nd hole, some debris in hole
75.5	23								14	14		SL & ST in 23rd hole, some debris in hole
78.7	24								14	14		SL & ST in 24th hole, some debris in hole
82.0	25								14	14		SL & ST in 25th hole, some debris in hole

VOLUME 2

Drill hole logs
EHA 100 - 124

Notes: Thick sands above some Onclipp ... dense bitumen

Taipan X

England Hill drilling prospect 2001

Hole Number : EHA 100	Licence number : EL 2252	Prospect : England Hill	Date drilled: 20/10 / 2001
	Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG-WGS84 datum) :	42 2250 E 688 5000 N	Hole diameter : 9 INCH	Drill method : AUGER

Hole depth ft m	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3 1	QAC	light	SL, SL					4/2	M		very fine pebbles, bitumen, ...
6.6 2	TDO	"	SL, SL					4	G		bounded by slightly ...
9.8 3	"	"	"								...
13.1 4	Tak	grey	"								...
16.4 5	"	"	"								...
19.7 6	"	"	"								...
23.0 7	tenb	"	"					2			...
26.2 8	tenb	"	"					3			...
29.5 9	"	"	"					4			...
32.8 10	tenb	"	"					4			...
36.1 11	"	"	"					4			...
39.4 12	"	"	"					4			...
42.7 13	"	"	"								...
45.9 14	"	"	"								...
49.2 15	"	"	"								...
52.5 16	"	"	"								...
55.8 17	"	"	"								...
59.1 18	"	"	"								...
62.3 19	"	"	"								...
65.6 20	"	"	"								...
68.9 21	"	"	"								...
72.2 22	"	"	"								...
75.5 23	"	"	"								...
78.7 24	"	"	"								...
82.0 25	"	"	"								...

Notes: *Track all faults above head of bluffs & use pair of 5000 m. 30' thick section of possible strike of 30 ft*

Taipan X **England Hill drilling prospect 2001**

England Hill drilling prospect 2001

Hole Number :	Licence number :	Prospect :	Date drilled :
EHA 101	EL 2252	England Hill	30/10/2001
	Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
			Hole diameter : 9 INCH
Coordinates (AMG- WGS84 datum) :	42 230	E 688 56 36 N	Drill method : AUGER

[illegible]

Notes:

Black animals above clay as in figure 1 - from ground.

1. 100g
1. 100g
1. 100g

Taipan X

England Hill drilling prospect 2001

Bone chip 35ft.

Hole Number :	Licence number :	Prospect :	Date drilled :
EHA 102	EL 2252	England Hill	20/10/2001
Coordinates (AMG- WGS84 datum) :	Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
42 2244	E 688 5653	N	Hole diameter : 9 INCH
			Drill method : AUGER

Hole depth	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	ldo br	ST, CC, SI					4	M		Hard br, slightly calcified - gangue in place
6.6	2							4	M		pebbles in bedrock clayey st
9.8	3	dark grey	SL, ST					4	G		Dark grey SL in gangue ST
13.1	4							4			in vesicular calc - of hard calc
16.4	5	dark						4			Recessed gangue ST - covered bedrock ST
19.7	6							4			gangue in bedrock - more with calc in place
23.0	7	dark	CS, SI					4			Hard chip, myrmecites + calc in place
26.2	8	dark	CS chip					4			not complete, bedrock chip, myrmecites, calc in place
29.5	9							4			more calc in ST chip, bedrock + myrmecites
32.8	10							4			more calc in ST chip, bedrock + myrmecites
36.1	11							4			Bone chip, incisor myrmecites, minor vesicular levels
39.4	12							4			more calc in ST chip, bedrock + myrmecites
42.7	13							4			more calc in ST chip, bedrock + myrmecites
45.9	14							4			more calc in ST chip, bedrock + myrmecites
49.2	15							4			
52.5	16							4			
55.8	17							4			
59.1	18							4			
62.3	19							4			
65.6	20							4			
68.9	21							4			
72.2	22							4			
75.5	23							4			
78.7	24							4			
82.0	25							4			

Notes:

Taipan X

England Hill drilling prospect 2001

Hole Number :

EHA 103

Licence number :

EL 2252

Prospect :

England Hill

Date drilled:

/ 2001

Logged by :

Clayton Simpson

Drill rig type / contractor :

Investigator Mk10A / Taipan X

Hole diameter :

9 INCH

Coordinates (AMG-WGS84 datum) :

42 2400

E 688 5550

N

Drill method :

AUGER

[illegible]

Notes: 1. In alternate blue grey CS, no powder CS, some black CS, some white CS, some yellow CS.

Taipan X England Hill drilling prospect 2001

Hole Number: **EHA 104** Licence number: **EL 2252** Prospect: **England Hill** Date drilled: **31/10/2001**
 Drill rig type / contractor: **Investigator Mk10A / Taipan X** Logged by: **Clayton Simpson**
 Coordinates (AMG-WGS84 datum): **42 2 350 E 688 5550 N** Hole diameter: **9 INCH**
 Drill method: **AUGER**

Hole depth	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	blue	hard					4/5	M		blue CS - 1st sample
6.6	2	blue	hard					4/5	G		blue CS - 2nd sample
9.8	3	blue	hard					4/5			blue CS - 3rd sample
13.1	4	blue	hard					4/5			blue CS - 4th sample
16.4	5	blue	hard					4/5			blue CS - 5th sample
19.7	6	blue	hard					4/5			blue CS - 6th sample
23.0	7	blue	hard					4/5			blue CS - 7th sample
26.2	8	blue	hard					4/5			blue CS - 8th sample
29.5	9	blue	hard					4/5			blue CS - 9th sample
32.8	10	blue	hard					4/5			blue CS - 10th sample
36.1	11	blue	hard					4/5			blue CS - 11th sample
39.4	12	blue	hard					4/5			blue CS - 12th sample
42.7	13	blue	hard					4/5			blue CS - 13th sample
45.9	14	blue	hard					4/5			blue CS - 14th sample
49.2	15	blue	hard					4/5			blue CS - 15th sample
52.5	16	blue	hard					4/5			blue CS - 16th sample
55.8	17	blue	hard					4/5			blue CS - 17th sample
59.1	18	blue	hard					4/5			blue CS - 18th sample
62.3	19	blue	hard					4/5			blue CS - 19th sample
65.6	20	blue	hard					4/5			blue CS - 20th sample
68.9	21	blue	hard					4/5			blue CS - 21st sample
72.2	22	blue	hard					4/5			blue CS - 22nd sample
75.5	23	blue	hard					4/5			blue CS - 23rd sample
78.7	24	blue	hard					4/5			blue CS - 24th sample
82.0	25	blue	hard					4/5			blue CS - 25th sample

Notes: - thick all single stone per hard to glass CS

Taipan X England Hill drilling prospect 2001

Hole Number : EHA 105	Licence number : EL 2252	Prospect : England Hill	Date drilled: 31/10/2001
	Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG-WGS84 datum) :	42 2 350	E 688 5500	Hole diameter : 9 INCH
		N	Drill method : AUGER

Hole depth ft in	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	TL	ST, C, ST					H	M		Hard Gr - CS, ST, ST, ST, ST, ST
6.8	2										
9.8	3		ST, ST, CS								Hard Gr - CS, ST, ST, ST, ST, ST
13.1	4	TL	CS, ST, ST								Hard Gr - CS, ST, ST, ST, ST, ST
16.4	5	TL	CS, ST								Hard Gr - CS, ST, ST, ST, ST, ST
19.7	6	TL	CS, ST								Hard Gr - CS, ST, ST, ST, ST, ST
23.0	7										
26.2	8	TL	CS, ST								Hard Gr - CS, ST, ST, ST, ST, ST
29.5	9	TL									
32.8	10										
36.1	11	TL	CS, ST								Hard Gr - CS, ST, ST, ST, ST, ST
39.4	12										
42.7	13										
45.9	14										
49.2	15	TL	CS, ST								Hard Gr - CS, ST, ST, ST, ST, ST
52.5	16										
55.8	17										
59.1	18										
62.3	19										
65.6	20										
68.9	21										
72.2	22										
75.5	23										
78.7	24										
82.0	25										

Notes:

England Hill drilling prospect 2001

Hole Number : EHA 106	Licence number : EL 2252	Prospect : England Hill	Date drilled: 31/10/2001
	Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG- WGS84 datum) : 42 2 400	E 688 5450	N	Hole diameter : 9 INCH
			Drill method : AUGER

Hole depth		Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
ft	m				quantity	types	quantity	types				
3.3	1	Pa	brnd	SL, SI					6	M		Rebates in boulders, etc. 2nd in red-brown soils
6.6	2	Pa	br	ST, SI						C		Blackish with streaks of red, clayey, and white
9.8	3	Pa	grey	ST, SI		5.4%						Increasingly calc. & banded sandy calc. etc.
13.1	4	Pa		ST			W	by				Dark brown with abundant mica - 6.5-10% quartz
16.4	5	Pa		ST banded			mm	G				Q, mud, hard, black, brown CS
19.7	6								10			Intense, brownish black CS - micaceous, 5-10% quartz
23.0	7		grey									Dark brown, calc. 18% quartz, some calc. CS, mica's
26.2	8	Krb1	grey	ST, clayey				mm				Grey calc. banded, banded CS, some Aipeds
29.5	9		grey									Dark grey CS, calc. 18% quartz
32.8	10	Krb2		ST banded								Dark grey, calc. banded CS, some calc. banded
36.1	11											Dark grey, calc. banded CS, some calc. banded
39.4	12											Dark grey, calc. banded CS, some calc. banded
42.7	13	Krb1										Dark grey, calc. banded CS, some calc. banded
45.9	14											Dark grey, calc. banded CS, some calc. banded
49.2	15											Dark grey, calc. banded CS, some calc. banded
52.5	16	Krb2	grey	red			mm	AI				Dark grey, calc. banded CS, some calc. banded
55.8	17											Dark grey, calc. banded CS, some calc. banded
59.1	18											Dark grey, calc. banded CS, some calc. banded
62.3	19											Dark grey, calc. banded CS, some calc. banded
65.6	20											Dark grey, calc. banded CS, some calc. banded
68.9	21	Pa	grey	ST, red								Dark grey, calc. banded CS, some calc. banded
72.2	22											Dark grey, calc. banded CS, some calc. banded
75.5	23											Dark grey, calc. banded CS, some calc. banded
78.7	24											Dark grey, calc. banded CS, some calc. banded
82.0	25											Dark grey, calc. banded CS, some calc. banded

Notes:

Taipan X

England Hill drilling prospect 2001

Bore / Hinge / Core 25ft
Dm. 4 / Chisel / 35ftCoring hole
Location map

Hole Number :	Licence number :	Prospect :	Date drilled :
EHA 107	EL 2252	England Hill	15 / 12 / 2001
Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by :	Clayton Simpson
Coordinates (AMG-WGS84 datum) :	42 2435	Hole diameter :	9 INCH
	E 688 5500	Drill method :	AUGER
	N		

Hole depth	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	Do	SI					H	N		hard calc. to 10 ft
6.8	2	Tank	SI, ST					HA	G		white & grey calc. to 10 ft
9.8	3							H			claystone SI in hardy part 45 ft
13.1	4		SI, ST					H			white & grey calc. to 10 ft
16.4	5		SI, ST					H			white & grey calc. to 10 ft
19.7	6	Komb						H			major Gypsum & calc. to 10 ft
23.0	7							H			major Gypsum & calc. to 10 ft
26.2	8	Komb	SI, ST					H			major Gypsum & calc. to 10 ft
29.5	9							H			major Gypsum & calc. to 10 ft
32.8	10							H			major Gypsum & calc. to 10 ft
36.1	11							H			major Gypsum & calc. to 10 ft
39.4	12							H			major Gypsum & calc. to 10 ft
42.7	13							H			major Gypsum & calc. to 10 ft
45.9	14	Komb	SI, ST					H			major Gypsum & calc. to 10 ft
49.2	15							H			major Gypsum & calc. to 10 ft
52.5	16							H			major Gypsum & calc. to 10 ft
55.8	17							H			major Gypsum & calc. to 10 ft
59.1	18							H			major Gypsum & calc. to 10 ft
62.3	19							H			major Gypsum & calc. to 10 ft
65.6	20							H			major Gypsum & calc. to 10 ft
68.9	21							H			major Gypsum & calc. to 10 ft
72.2	22							H			major Gypsum & calc. to 10 ft
75.5	23							H			major Gypsum & calc. to 10 ft
78.7	24							H			major Gypsum & calc. to 10 ft
82.0	25							H			major Gypsum & calc. to 10 ft

Notes: Thick alluvials above good chippy CS, into soft bottom ground & greasy muds

50m infill

Taipan X

England Hill drilling prospect 2001

* Bone chip in good CS 30ft
* green patch 30-35ft

Hole Number : EHA 108	Licence number : EL 2252	Prospect : England Hill	Date drilled: 3/10 / 2001
	Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG- WGS84 datum) : 42 2400	E 688 5750	N	Hole diameter : 9 INCH
			Drill method : AUGER

Hole depth ft m	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3 1	Td	br	STCL, SI					H	M		Hard 6-8 CS - good ST & CS
6.6 2								VH	G		harder than 1st, good ST & CS
9.8 3	Trk	pk-br	SI, CS, ST								2nd-3rd in holes - hard ST & CS
13.1 4											
16.4 5											sandy & hard ST & CS
19.7 6											
23.0 7						tr Gx					nodes of milky CS in hard CS, chippy CS are common
26.2 8	Trk	pk-br	CS, SI					H			chippy CS - mostly small ST & CS
29.5 9	Trk	cr-pk	CS 'chippy'	tr	B?			S			Good ST & CS - chippy CS - ST & CS
32.8 10				tr	P _{green}						very crisp ST & CS - ST & CS
38.1 11											more ST & CS - ST & CS
39.4 12											Good crisp ST & CS
42.7 13											
45.9 14		pk-pu									Softer 14g - harder ST & CS - ST & CS
49.2 15											Good ST & CS - ST & CS
52.5 16	Trk	cr-pu	CS 'intermediate'			tr A/Gx					14br ST & CS - ST & CS
55.8 17											Iron stone levels - increased ST & CS in soft ST & CS
59.1 18	Trk	pu	CS 'muddish'								ST & CS - ST & CS
62.3 19											
65.6 20											
68.9 21											
72.2 22											
75.5 23											
78.7 24											
82.0 25											

Notes:

thick pebble, alluvial above ok chippy whcs into greasy bottom ground.

Taipan X

England Hill drilling prospect 2001

Infill, Ore laid out, logged later

Hole Number :	Licence number :	Prospect :	Date drilled :
EHA 109	EL 2252	England Hill	24/11 / 2001
	Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by :
			Clayton Simpson
			Hole diameter :
			9 INCH
Coordinates (AMG-WGS84 datum) :	42 2241	E 688 5649 N	Drill method :
			AUGER

Hole depth		Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
					quantity	types	quantity	types				
3.3	1	Qa	brnd	SL, SI					H	M		rdk sils + gy SI pebbles
6.6	2	edo	bl	ST, cl, SI						G		Hard br cc silts + gy + gn sandy SI pebbles
9.8	3											
13.1	4											
16.4	5	Trmk	gr br	CS, SI, ST								Hard Gr wh to chippy mer wh CS + gy SI in br ST
19.7	6											
23.0	7	frb	wh br	CS, ST			fr	gy	S			Hard Gr wh leadenite CS, brdon Gy veins + br ST
26.2	8											increasing comp lit CS + more Gy veins, more chippy
29.5	9	tbl	crph	CS 'chippy'								chippy Gr wh CS + hard Gr CS intervals
32.8	10											
36.1	11											quite crisp - leadenite CS intervals + or br lead
39.4	12						fr	Gr H		und		yellow sil pods + gy + trigs in crisp 14 pvc
42.7	13											increasing H pods + Gy veins + 20m
45.9	14											
49.2	15											less leadenite but crisp Gr 14 pvc
52.5	16	tbl	pr	CS 'wh dte'								LO level in sil + pr CS, less leadenite, more grey wh
55.8	17	tbl		CS 'mdal sh'								quay pvc is 18 pvc clay
59.1	18											
62.3	19											
65.6	20											
68.9	21											
72.2	22											
75.5	23											
78.7	24											
82.0	25											

Notes: Thick alluvials above paved es, into the chippy es & pt to grassy bottom ground.

Infill Drill, Core Card out. **Taipan X** logged later

England Hill drilling prospect 2001

Hole Number : EHA 110	Licence number : EL 2252	Prospect : England Hill	Date drilled: 4/11 / 2001
Drill rig type / contractor :		Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG-WGS84 datum) : 42 2236		E 688 5650 N	Hole diameter : 9 INCH
			Drill method : AUGER

Hole depth		Strat.	Colour	Lithology	Opal content	Other minerals	Hardness	Sample quality	Sample number	Summarised Remarks
ft	m				quantity	types	quantity	types		
3.3	1	Gla	b-rod	SL, SI					M	loose rd br sals & gr sl pebbles, hard str at base
6.8	2	do	br	SI, SCS					S	hard br silts broken bluish CS + gr SL clasts
9.8	3	-	-	-					-	increasing CS darkly
13.1	4	kab	brown	CS, ST		fr Gx			-	broken hard fr bluish CS n br st
16.4	5	giz	cram	cs "bandite"		fr Mn			-	broken hard Gr wh CS, slightly kaolinitic, 'blond' mpt
19.7	6	-	-	-		-			-	minor manganese staining to CS
23.0	7	-	-	-		-			-	-
26.2	8	-	-	-		fr Gx			-	increasing soft to more kaolinitic nodules
29.5	9	Hsl	crk	CS chippy		fr Gx Fe		S	-	LO staining & Fe levels in ground crisp fr kaolinitic CS
32.8	10	-	-	-		-			-	-
36.1	11	-	-	-		-			B	more broken + chippy kaolinitic wh CS
38.4	12	-	pym	-		-			wad	crisp Gr longer Hpv CS
42.7	13	-	-	-		fr Gx			-	softer mac Gr Hpv CS
45.9	14	-	-	-		-			O	-
49.2	15	-	-	-		-			putt	less crisp for Hpv CS & Gx stringer
52.5	16	-	-	-		-			I	-
55.8	17	Hgz	Hpu	CS bandite		-			I	soft Gr Hpv CS, greasy in part
59.1	18	BOH	-	SHM		-			-	-
62.3	19	-	-	-		-			-	-
65.6	20	-	-	-		-			-	-
68.9	21	-	-	-		-			-	-
72.2	22	-	-	-		-			-	-
75.5	23	-	-	-		-			-	-
78.7	24	-	-	-		-			-	-
82.0	25	-	-	-		-			-	-

Notes: thick alluvials above poor hard CS, some ok chipp & info crisp to greasy & tangled.

Infill drill, Dore laid at, logged later **Taipan X** England Hill drilling prospect 2001

Hole Number : EHA 112	Licence number : EL 2252	Prospect : England Hill	Date drilled: 5/11 / 2001
	Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG- WGS84 datum) :	42 2306	E 688 5636	Hole diameter : 9 INCH
		N	Drill method : AUGER

Hole depth ft m	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3 1	Qla	rd br	SL SL					S	M		loose rd. silts & gr. silt pebbles
6.6 2	-	-	-					st	G		hard br silts all over
9.8 3	cd	br	ST, CS SL					st			Harder ST, broken bed with CS & gr. silt pebbles
13.1 4	-	-	-								
16.4 5	tbls	brwn	CS, ST								broken hard Cgr with top of CS, brecciated layers
19.7 6	tbls	brwn	CS brecciated								
23.0 7	-	-	-								more brecciated hard with CS, minor broken intervals
26.2 8	-	crn	-								
29.5 9	-	-	-								
32.8 10	Hbl	crp	CS 'chipp'					S	nd		minor crisp with CS intervals in hard Cgr with CS
36.1 11	-	-	-								
39.4 12	tbls	crp	CS brecciated								minor grey CS intervals & lessening crisp brecciated CS
42.7 13	-	-	-								minor puggy clays in increasing grey CS & some chipp
45.8 14	FOH	4/1 st	-								
49.2 15	-	-	-								
52.5 16	-	-	-								
55.8 17	-	-	-								
59.1 18	-	-	-								
62.3 19	-	-	-								
65.6 20	-	-	-								
68.9 21	-	-	-								
72.2 22	-	-	-								
75.5 23	-	-	-								
78.7 24	-	-	-								
82.0 25	-	-	-								

Notes: Thin alternals above broken kaolinite CS + Gyve ind dr chym CS.

Taipan X England Hill drilling prospect 2001
 In Bill drill, Dave laid out, logged & later

Hole Number : EHA 113	Licence number : EL 2252	Prospect : England Hill	Date drilled : 5/11 / 2001
	Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG- WGS84 datum) : 42 2303 E 688 5644 N			Hole diameter : 9 INCH
			Drill method : AUGER

Hole depth	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	td	br					H	M		Harder CS/Hst + minor ST pebbles
6.6	2								G		increasing content of hard br whcs
9.8	3	hb	brn								broken hardwh CS, kaolinite m part, + br ST
13.1	4					dr	Gy	3			chippy Gyr whcs, hard m part with minor Gyvening
16.4	5	fb	chr								increased Gyvening minor Fe staining in 'beds'
19.7	6					dr	Gy, Fe				
23.0	7								und		Strong Fe + Lo staining (beds?) + Gyvening to conspicuous
26.2	8								ml		
29.5	9										
32.8	10										
36.1	11										
39.4	12										
42.7	13										
45.9	14										
49.2	15										
52.5	16										
55.8	17										
59.1	18										
62.3	19										
65.6	20										
68.9	21										
72.2	22										
75.5	23										
78.7	24										
82.0	25										

Notes: Thin alluvials above per hard CS, no some ok cherty CS & grey bottom mud

Infill drill, One laid out, logged later **Taipan X** England Hill drilling prospect 2001

Hole Number :	Licence number :	Prospect :	Date drilled :
EHA 114	EL 2252	England Hill	5/11 / 2001
Drill rig type / contractor :		Investigator Mk10A / Taipan X	Logged by :
Coordinates (AMG- WGS84 datum) :		E 688 5647 N	Clayton Simpson
			Hole diameter :
			9 INCH
			Drill method :
			AUGER

Hole depth	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	red br	ST, CL, SI					H	M		Had br cc silts + grey CS pebbles
6.6	2	—	ST, CS, ST CL						G		broken had cc silts + had wh CS blocks
9.8	3	lob brown	CS, ST								broken had wh CS, had some 14 part, br silts
13.1	4	lobz green	caliche			mm	Gy				moderately Gy veined had some hard wh CS, quite hard
16.4	5	lobz	CS, had wh								more completely Gy veined had wh CS
19.7	6	—	—			mm	Gy				increased Gy veining in soft had wh CS
23.0	7	dk-br	—								
26.2	8	lobz	CS, cherty			mm	Gy				increased cherty wh CS in hard Gy veined CS
29.5	9	lobz	CS, cherty					S	D		cherty wh had wh CS, Gy veined + lost some 'veg'
32.6	10	dk-pv	—			kr	Gv		und		cherty 14 part had wh CS
36.1	11	—	—								less had wh CS, 14 part
39.4	12	lobz pv	CS, 'bleached'					H	mil		Had Gyr, slightly had wh CS
42.7	13	—	—					S			Soft grey cherty wh CS, in part
45.9	14	—	—								more grey soft CS
49.2	15	lobz	CS, 14								
52.5	16										
55.8	17										
59.1	18										
62.3	19										
65.6	20										
68.9	21										
72.2	22										
75.5	23										
78.7	24										
82.0	25										

Notes: Thick alluvials above when hard CS, some chippy CS, into Alunite bottom ground.

Infill drill, One laid out, logged later

Taipan X

England Hill drilling prospect 2001

Hole Number :	Licence number :	Prospect :	Date drilled :
EHA 115	EL 2252	England Hill	6/11 / 2001
	Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by :
			Clayton Simpson
			Hole diameter :
			9 INCH
Coordinates (AMG-WGS84 datum) :			Drill method :
42 23 01	E 688 56 58	N	AUGER

Hole depth	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	Qa	brnd					H	m		pebbles of 9x40x5 in loose rd br sand.
6.6	2	rd	br						G		broken hard wh CS + 9x51 pebbles in hard cc br ST
9.8	3	-	-								
13.1	4	-	-								
16.4	5	lwb	brwn								broken hard wh CS in br ST
19.7	6	-	-								increasing kaolinite wh CS
23.0	7	ltz	crfite			tr	Gr				Hard Gr wh kaolinite CS + 14x6 br phyllos/broken quartz
26.2	8	-	-								increasing softer 40 chippy kaolinite CS
29.5	9	FSI	-					S			crisp for longer run CS, quite chippy in part
32.8	10	-	-						und		
36.1	11	ltz	crfite			tr	Al, Gr		6		Alunite crisp kaolinite wh CS, 14x6 chippy
39.4	12	ltz	crfite						und		less crisp for pvc, more glauconite, less kaolinite
42.7	13	-	crse			min	Al				Alunite soft kaolinite wh CS
45.8	14	-	-								
49.2	15	-	LOB								
52.5	16										
55.8	17										
59.1	18										
62.3	19										
65.6	20										
68.9	21										
72.2	22										
75.5	23										
78.7	24										
82.0	25										

Notes: Thick alluvials above good chippy CS into greasy bottom ground.

Taipan X
 Drill drill, Doreland at, logged later

England Hill drilling prospect 2001

* Stay within 25ft

Hole Number : EHA 116	Licence number : EL 2252	Prospect : England Hill	Date drilled: 6/11 / 2001
	Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG- WGS84 datum) :	42 2303	E 688 5677	Hole diameter : 9 INCH
		N	Drill method : AUGER

Hole depth		Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
ft	m				quantity	types	quantity	types				
3.3	1	Qa	brnd	Sl, SL					H	M		yet q sl pebbles in loose br soils
6.8	2	Qd	brgr	ST, SL						G		pebbles of q sl in hard br ST
9.8	3	-	-	-								
13.1	4	Trh	-	SL, CS, ST								70-90% sl pebbles + hard wh CS in br ST
16.4	5	-	-	-								increasing leaden br wh CS calc
19.7	6	hbr	brnch	CS, ST			tr	Gr	8			broken chippy wh CS in br ST
23.0	7	hbr	crp	cal chippy			-	-				chippy wh mgr CS + minor broken br ST interbeds
26.2	8	-	-	-			-	-				quite crisp chippy wh CS
29.5	9	-	-	-			-	-				Gr veined ground chippy mgr CS
32.8	10	-	-	-	to	Ambr	tr	Gr, Fe				LO stained + Gr veined brls - Stony Matrix in good crisp CS
36.1	11	-	-	-			-	-				
39.4	12	-	-	-			-	-		und		Very crisp chippy wh CS, broken + Gr veined interbeds
42.7	13	-	-	-			-	-		G		
45.9	14	-	hgr	-			tr	Gr		all		more 14% calcined crisp Gr CS + broken Gr veined interbeds
49.2	15	-	-	-			-	-				
52.5	16	hbr	hgr	CS interbedded			-	-				less stony matrix, slightly more Gr mgr CS
55.8	17	-	-	-			-	-				increasing chpy greasy CS
59.1	18	BOH	-	55ft			-	-				
62.3	19	-	-	-								
65.6	20	-	-	-								
68.9	21	-	-	-								
72.2	22	-	-	-								
75.5	23	-	-	-								
78.7	24	-	-	-								
82.0	25	-	-	-								

Notes: Thick alluvials above old hard CS, some cherty CS, 10' Alunite bottom ground

Infill Drill, Dave laid out, logged later
Taipan X England Hill drilling prospect 2001

Hole Number : EHA 118	Licence number : EL 2252	Prospect : England Hill	Date drilled: 6/11 / 2001
	Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG-WGS84 datum) :	42 2298	E 688 5713	Hole diameter : 9 INCH
		N	Drill method : AUGER

Hole depth ft m	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3 1	Gr	brnd	ST, CS, SI					H	S		Hard br CS + minor SI pebbles
6.6 2		br	-						G		
9.8 3		-	-								
13.1 4	Int	phr	ST, CS, SI								broken hard CS + gr SI pebbles in bed br ST
16.4 5											increasing hard ST CS + mlt br SI
19.7 6	Int	phr	CS, ST			tr	G				broken hard wh. ST CS + mlt mlt br SI (like Br) in br ST
23.0 7	Br		CS 'whndite'			-	-				hard ST, slight br hard wh. CS + br ST
26.2 8		crph	-			mm	G				Gr. and br ST wh. CS, mlt br ST
29.5 9						-	-	S			mlt br ST, soft br ST, + 1% br broken and soft
32.8 10	Int	-	CS 'chippy'			tr	G		mg		crisp chippy ST CS, quite hard wh. Gr. and br ST
36.1 11						-	-				quite crisp ST CS
39.4 12		phr	-			tr	Al, G		ml		increasing Al in crisp ST CS
42.7 13	Gr	crph	CS 'whndite'			mm	Al, G				Alunite crisp ST CS
45.9 14						-	-				softer ST CS + increasing Al
48.2 15			END 46 ft.								
52.5 16											
55.8 17											
59.1 18											
62.3 19											
65.6 20											
68.9 21											
72.2 22											
75.5 23											
78.7 24											
82.0 25											

Notes:

Taipan X
Zuill Drill, Doe laid out, logged later

Hole Number :	Licence number :	Prospect :	Date drilled:
EHA 119	EL 2252	England Hill	6/11 / 2001
Drill rig type / contractor :		Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG- WGS84 datum) :	42 23 28	E 688 5728	Hole diameter : 9 INCH
			Drill method : AUGER

[illegible]

Notes: Thick alluvials abt mid resistances, some ok chiprock into grey better mud.

Infill drill, Dae laid out, logged later

Taipan X

England Hill drilling prospect 2001

Hole Number :	Licence number :	Prospect :	Date drilled :
EHA 120	EL 2252	England Hill	7/11 / 2001
	Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG- WGS84 datum) :	42 2324	E 688 5703	Hole diameter : 9 INCH
		N	Drill method : AUGER

Hole depth	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	Qz	br rd					H	M		gy to ye SI pebbles in rd-br sands
6.6	2	rd	br						G		Mod br, slightly cc silts + g-gr SI pebbles
9.8	3	-	-								increasing SI
13.1	4	rd	lt br								g-gr SR SI pebbles + hard whcs clasts in br ST
16.4	5	-	-	tr	Brpne						
19.7	6	-	-								mainly gy silt increasing hard wh whcs
23.0	7	rd	br								lt br whcs + sand g-gr SI pebbles with SI in br ST
26.2	8	-	-	tr	Brpne						less broken - softer whcs + mlt gy silt pebbles / Brpne
29.5	9	lt	gr					S			crisp chunky Br whcs, quite hard
32.8	10	-	-								quite crisp chunky gy to ye whcs
36.1	11	-	-								
39.4	12	-	-						und		more Br Hpr to wh crisp CS + Fe-stained ls
42.7	13	-	phym								increased Fe-staining to crisp Hprcs
45.9	14	-	-			tr	Gr				gy strings in crisp Hprcs + Fe/LO ls
49.2	15	-	lt pr								increasing soft less chunky Hprcs
52.5	16	lt	pr								soft Br prcs, grey foam
55.8	17	-	-								more over cgs to gy cs
59.1	18	-	EOH 56N								
62.3	19										
65.6	20										
68.9	21										
72.2	22										
75.5	23										
78.7	24										
82.0	25										

Notes: Thick alluvials above c. Chpms into soft siltstone

Taipan X England Hill drilling prospect 2001
 I drill drill, Dave land at, logged later

Hole Number :	Licence number :	Prospect :	Date drilled:
EHA 121	EL 2252	England Hill	7/11 / 2001
Drill rig type / contractor :		Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG-WGS84 datum) :		Hole diameter :	9 INCH
42 2317 E 688 5696 N		Drill method :	AUGER

Hole depth ft m	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	do	br					7	M		Hard br slightly CC silt + SR pebbles of grs
6.6	2							10	G		Si-cemented hard br ST - silt pebbles - minor CC
9.8	3		lt br								
13.1	4										milky gr-br SI + bdr had a mcs in matrix. To base
16.4	5	lt	pk br			Ir	Gr				Hard Gr mcs, slightly kaolinite + hard br ST
19.7	6										CS becoming soft - see kaolinite
23.0	7	H1	dr-wh		IF B			5			crisp dr. kaolinite whcs + feldspar + Gr very + R. s.
26.2	8										more kaolinite dr CS, quite bland in places
29.5	9		crpt								more crisp - chp. Gr mcs, minor CO ₂ stained whcs
32.8	10										Gr strings + orthoclase in crisp IF dr Gr CS
36.1	11										quite crisp dr. Gr mcs
39.4	12										
42.7	13		lt br								soft - less crisp IF mcs
45.9	14	H2									soft, slightly grass mcs, clasts in crisp IF mcs
49.2	15		CS 'windle'								
			LOH 45 R								
52.5	16										
55.8	17										
59.1	18										
62.3	19										
65.6	20										
68.9	21										
72.2	22										
75.5	23										
78.7	24										
82.0	25										

Taipan X		England Hill drilling prospect 2001		* Mully Brum Pct, modules	
- Drill drill, One land wt, logged 1 dr		Date drilled:	7/1	/2001	

[illegible]

Notes: thick alluvials above rd ncs, some obscs, into alunitic button sand + grey mds.

Infill drill, Dave land out logged later

Taipan X

England Hill drilling prospect 2001

Hole Number :	Licence number :	Prospect :	Date drilled:
EHA 123	EL 2252	England Hill	7/11 / 2001
	Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by :
			Clayton Simpson
Coordinates (AMG-WGS84 datum) :	42 2 299	E 688 5681	Hole diameter :
			9 INCH
			Drill method :
			AUGER

Hole depth	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	br	Si, GSI					H	M		Hard br, slightly cc silts + minor xprd si pebbles
6.6	2							H	G		
9.8	3	lt br	Si, G, CS					VI			Si-cemented rd silts (al mix of si) + bands dr whcs + GSI
13.1	4	lt br	Si, CS, ST								increasing CS fragments
16.4	5										
19.7	6	lt br	CS, Si, ST					H			Hard Gyr br CS + increased hard whcs bands
23.0	7	lt br	CS, ST					H			Hard Gyr whcs + milky GSI nodules
26.2	8	lt br	CS, chippy					H			increasing saltier + chippy CS
29.5	9	lt br	CS, chippy	dr	Bapt	tr	Gy	S			Crisp Gyr whcs + pe-stone bands + very milky ST to Bapt
32.8	10										quite broken crisp whcs + pe-stone pebbles + cr-br si
36.1	11										pe-stained patches in crisp whcs
39.4	12	lt br							und		pe-stained pebbles in crisp whcs + lt br silts in hole, grey
42.7	13										
45.9	14	lt br	CS, lt br			tr	Al, G				alunitic crisp whcs + GSI types varying
49.2	15										Saltier + some green pe CS in bands
52.5	16	lt br	CS, lt br								soft & green peCS + minor mag. clays
55.8	17										increasing mag. clays
59.1	18	lt br	SS, lt br								
62.3	19										
65.6	20										
68.9	21										
72.2	22										
75.5	23										
78.7	24										
82.0	25										

Notes: Thick boulder alluvials above hard nodular CS into some crisp CS + slightly grey bottom ground.

Taipan X England Hill drilling prospect 2001

Hole Number :	Licence number :	Prospect :	Date drilled:
EHA 124	EL 2252	England Hill	7/11 / 2001
Drill rig type / contractor :	Investigator Mk10A / Taipan X		Logged by :
Coordinates (AMG-WGS84 datum) :	42 2281	E 688 5665	N
			Hole diameter :
			Drill method :
			9 INCH
			AUGER

Hole depth		Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
ft	m				quantity	types	quantity	types				
3.3	1	Qa	brgy	SI, SL					H	M		pebbles to boulders of SI in br soils
6.6	2	Tmk	gy-br	SI, ST					LN	G		Boulder Sand, textured qtz in hard br ST
9.8	3								CHT			
13.1	4								CHT			very bouldy grey SI lined with br ST
16.4	5		lthr	SI, ST, CS			br	br	vit			minor sulfur & vena of CS in bouldy SI
18.7	6								H			increasing SS + minor with ex SI inverts
23.0	7	Lb2	ph-br	CS, SI								hard br slightly nodular with SR pebbles of grey SI
26.2	8											increasing more caprolat with CS & vena + pe-tails
29.5	9											broken hard to chipp br with nodules of CS + SI pebbles
32.8	10	Lb1	crph	CS 'chipp'						und		crisp boulder with nodules + broken thin silts & SI interstices
36.1	11											hard br CS intervals in crisp grey CS
39.4	12									mil		
42.7	13		shp									br slugs in filler H in crisp CS
45.9	14	Lb2	lthr	CS 'white'								soft, slightly grey CS + crisp H in CS intervals
49.2	15		POF	CS R.								
52.5	16											
55.8	17											
59.1	18											
62.3	19											
65.6	20											
68.9	21											
72.2	22											
75.5	23											
78.7	24											
82.0	25											

VOLUME 2

Drill hole logs
EHA 125 - 149

Notes: V. Thick alluvials above and CS (bluish nodules) into chippy CS

In drill drill, Dave laid out, logged later

Taipan X

England Hill drilling prospect 2001

Hole Number :	Licence number :	Prospect :	Date drilled:
EHA 125	EL 2252	England Hill	7/11 / 2001
	Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by :
			Clayton Simpson
Coordinates (AMG-WGS84 datum) :		Hole diameter :	
42 2305 E 688 5715 N		9 INCH	
		Drill method :	
		AUGER	

Hole depth	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	tdo	br					4	M		Hard br CCS, it's a gr hard S1 pebbles
6.8	2	-	-					6	G		
9.8	3	-	1st					6	I		broken hard wh cst + m. h. g. s1 in br ST
13.1	4	2nd	dark					6	I		broken hard wh cst + clasts of m. h. g. s1 in br ST
16.4	5	-	-					6	I		
19.7	6	-	-	tr	Phan	tr	Gr	4	I		in many clasts of hard Gr wh cst, Gr veined in phan. m. h. g. s1
23.0	7	2nd	dk					4	I		cl. h. g. hard wh cst + nodules of bluish gr type S1 + Gr veins
28.2	8	-	-					4	I		
29.5	9	h. h.	phn					4	I		Gr veined solid grey H. h. clays + hard wh cst + lessing S1
32.8	10	h. h.	cr-ph					5	und		chippy Gr wh cst + phn Gr veins + ortho S1
36.1	11	-	-					5	b		
39.4	12	-	-					5	und		
42.7	13	-	phn					5	und		quite crisp + radiating phn + Gr strings
45.9	14	-	-					5	und		Gr strings + veing to crisp cst
49.2	15	-	-					5	und		sober crisp Gr phn, hae solid grey cst interst
52.5	16	-	-								
55.8	17	-	-								
59.1	18	-	-								
62.3	19	-	-								
65.6	20	-	-								
68.9	21	-	-								
72.2	22	-	-								
75.5	23	-	-								
78.7	24	-	-								
82.0	25	-	-								

Notes: thick alluvials above hard regoliths, some old 'banded' CS into hard bottom ground

In Coll drill, One land art, logged later

Taipan X

England Hill drilling prospect 2001

Hole Number :	Licence number :	Prospect :	Date drilled:
EHA 126	EL 2252	England Hill	8/1 / 2001
Coordinates (AMG- WGS84 datum) :	Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by :
42 2329		E 6885691 N	Clayton Simpson
			Hole diameter :
			9 INCH
			Drill method :
			AUGER

Hole depth	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	tdo	br					H	M		Hard br, slightly CC silts + grey SI pebbles
6.6	2	-	-						G		quite hard Si-cemented to CC-coated ST + Sand SI pebbles
9.8	3	-	-								
13.1	4	lt br	-								
16.4	5	-	ST, SI, CS			kr	Gr				med br ST + broken hard wh CS or more milky SI
19.7	6	lt br	phr			-	-				broken hard wh CS, Gr, undrilled + hard ST
23.0	7	-	-			-	-				CS becoming more compact + harder
26.2	8	lt br	cap					S			chippy to hard Gr wh kaolinitic CS + lt br silts in bed of gnd
29.5	9	-	-								more chippy wh 'banded' CS.
32.8	10	-	-								
36.1	11	phr	-			kr	Gr, Al				quite crisp Gr, wh CS, minor Al + Gr silts
39.4	12	lt br	phr			-	-	H	M		Hard Gr wh CS, less kaolinitic, no clay Al pebbles
42.7	13	-	-			-	-				
45.9	14	-	-								kaolinitic Gr wh CS, broken R-stained leads
49.2	15	-	Foot 45 ft								
52.5	16	-	-								
55.8	17	-	-								
59.1	18	-	-								
62.3	19	-	-								
65.6	20	-	-								
68.9	21	-	-								
72.2	22	-	-								
75.5	23	-	-								
78.7	24	-	-								
82.0	25	-	-								

Notes:

Irish Oil, Deer land at, logged (der

England Hill drilling prospect 2001

Hole Number :	Licence number :	Prospect :	Date drilled:
EHA 127	EL 2252	England Hill	8/11 / 2001
Drill rig type / contractor :		Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG-WGS84 datum) :		42 2330 E 688 5720 N	Hole diameter : 9 INCH
			Drill method : AUGER

[illegible]

Notes: thick alluvials above hard CS, into ok chippy CS & some aluminous crisp CS bottom

JR Drill Drill, Done (aidant, logged later)

Taipan X

England Hill drilling prospect 2001

Hole Number :	Licence number :	Prospect :	Date drilled:
EHA 128	EL 2252	England Hill	8/11 / 2001
Drill rig type / contractor :	Investigator	Mk10A / Taipan X	Logged by :
Coordinates (AMG- WGS84 datum) :	42 ~~2328~~ 2322	E 688 ~~5718~~ 5718	N
			Hole diameter :
			9 INCH
			Drill method :
			AUGER

Hole depth	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	rd	br					H	3		Hard br slightly CCS silts
6.8	2	-	-					VH	6		
9.8	3	-	-	tr	Bq						Bope replacing roots? in bed for ST
13.1	4	lth	ST, sil, CS								Bope mels bed w/ CS + gn-gr sil pebbles in hard ST
16.4	5	-	-								increasing CS content
19.7	6	hbr	crbr					H			bed for 1st for lower lined with br ST
23.0	7	-	ph br								clin b hard for 1st for lower CS, little harder
26.2	8	-	-								increasing silty CS + some chippy CS, silty
29.5	9	hbr	crph								chippy bed for lower CS
32.8	10	-	-								re-staining in contrast to staining to chippy CS
36.1	11	-	-								crisp chippy w/ br CS
39.4	12	ph	-			tr	Gx				softer, crisp ~~1st~~ br CS, some or br ST, silty
42.7	13	ph	-			tr	H, Gx				H beds + governing to crisp H beds
45.9	14	-	-			-	-				increasing H beds in softer H beds
49.2	15	br	CS, br								
52.5	16										
55.8	17										
59.1	18										
62.3	19										
65.6	20										
68.9	21										
72.2	22										
75.5	23										
78.7	24										
82.0	25										

Notes: thick alluvials above rd CS, into chippy CS & more columnar crsps CS bottom

Taipan X England Hill drilling prospect 2001
Infill Drill, Dave laid out, logged later

Hole Number :	Licence number :	Prospect :	Date drilled:
EHA 129	EL 2252	England Hill	8/01 / 2001
Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by :	Clayton Simpson
Coordinates (AMG- WGS84 datum) :	42 2 313	E 688 5720	N
		Hole diameter :	9 INCH
		Drill method :	AUGER

Hole depth	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	rd	br					H	3		Hard br silts, slightly CS, + SR gr to rd si pebbles
6.8	2	-	-						6		
9.8	3	-	-								B-re replacing the roots in hard br ST
13.1	4	lt br	ST, CS, SI			lt	Gr				Hard br ST + broken hard whc shagwals (Gyveind) minor slip
16.4	5	lt br	CS, ST								broken hard CS whcs, Gyveind in place + br ST
19.7	6	lt br	CS 'whale'			cm	Gr				increasingly Gy veind hard whcs
23.0	7	-	-			mg	Gr				Intense Gy veind to soft CS
26.2	8	-	-			mg	Gr				crisp Gy veind in bed of Gy veind CS
29.5	9	lt br	CS 'chippy'			lt	Gr	S			chippy to hard Gy veind whc whc CS
32.8	10	-	-						md		increasingly more crsps CS + br ST in bed
36.1	11	-	-								Quite crisp br 1 ft to 4 ft
39.4	12	-	-						md		crisp br - hard whc CS
42.7	13	phn	-			lt	Gr, H				Gy silts + fl pebbles in crisp lt br Gy veind CS
45.9	14	-	-								increasing fl pebbles + less crsps CS
49.2	15	lt br	CS RT.								
52.5	16										
55.8	17										
59.1	18										
62.3	19										
65.6	20										
68.9	21										
72.2	22										
75.5	23										
78.7	24										
82.0	25										

Notes: Thick alluvial above hard CS, some ok chippies into columnar broken ground.

Infill Drill, Dave Gird at, logged later

Taipan X

England Hill drilling prospect 2001

Hole Number :	Licence number :	Prospect :	Date drilled:
EHA 130	EL 2252	England Hill	9/1 / 2001
	Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by :
			Clayton Simpson
Coordinates (AMG-WGS84 datum) :	42 2 310	E 688 5707	Hole diameter :
		N	9 INCH
			Drill method :
			AUGER

Hole depth	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	ldo br	ST, SI					H	M		Hard br ST & gn-gr SI pebbles
6.6	2	-	-						6		increasing ST content
9.8	3	ch gr	ST, ST, CS								Sandy gn-gr SI & broken boulders in br ST
13.1	4	-	-								increasing CS & more boulders SI
16.4	5	fb brwh	CS, ST, SI								Hard brwh CS & gn-gr SI nodules in br ST
19.7	6	fb2 cr-wh	CS 'intermediate'								more complete & harder nodules & less SI
23.0	7	-	-			H	Gr	3			Harder to chip CS intervals in hard brwhs
26.2	8	fb1 cr-pk	CS 'chippy'			-	-	3			Crisp brachyite whcs, Gr veined in part
29.5	9	-	-			-	-				quite crisp brachyite & on br ST
32.8	10	-	-			-	-				more Gr, less crisp brachyite
36.1	11	-	-			-	-				Gr veining to crisp brachyite
39.4	12	-	-			H	Gr, A				increased Gr veining & Al peaks in crisp brachyite
42.7	13	-	-			-	-				
45.9	14	fb2 mgye	CS 'intermediate'			min	H, Gr				Aluminous CS brachyite & broken ground with other silts
49.2	15	-	-								
52.5	16	-	-								
55.8	17	-	-								
59.1	18	-	-								
62.3	19	-	-								
65.6	20	-	-								
68.9	21	-	-								
72.2	22	-	-								
75.5	23	-	-								
78.7	24	-	-								
82.0	25	-	-								

Notes: Thide alluvials above h^o bluish to poor CS, some ok c^omy CS into slightly grey bottom.

In Gill drill, Dave laid out, logged later **Taipan X** England Hill drilling prospect 2001

Hole Number :	Licence number :	Prospect :	Date drilled:
EHA 131	EL 2252	England Hill	9/11 / 2001
Drill rig type / contractor :		Investigator Mk10A / Taipan X	Logged by :
Coordinates (AMG- WGS84 datum) :		E 688 5700 N	Clayton Simpson
			Hole diameter :
			9 INCH
			Drill method :
			AUGER

Hole depth		Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
ft	m				quantity	types	quantity	types				
3.3	1	Qa	brd	SL, SL					H	M		SR gr to rd sl pebbles in loose rd-br soils.
6.6	2	Qb	bray	SL, SL					H	G		gray SL pebbles in hard br slightly ce soils
9.8	3	-	-	-								increasing SL content
13.1	4	Qc	lbr	CS, SL, ST					H			brky hard 'bluish' CST gr to rd SL in br ST
16.4	5	Qd	prbr	CS 'bluish'					VH			clnky hard matted gr to rd br CS + br ST
19.7	6	-	-	-					H			CS becoming softer, more lbr coloured.
23.0	7	Qe	ph-br	CS 'intermediate'					H			Had Crn CS, more granular in br
26.2	8	-	-	-					H			increasing chpyr CS content to br
29.5	9	Qf	crph	CS 'chpyr'					S			chpyr to hard Cr gradient to wks
32.8	10	-	-	-						und		Crsp br wh to lbr CS.
36.1	11	-	-	-								
39.4	12	-	-	-						M		CS becoming softer & more granular
42.7	13	Qg	ph-br	CS 'intermediate'					H			soft Cr (br br CS, green in part
45.9	14	-	-	-					H			
49.2	15	-	-	-								
52.5	16	-	-	-								
55.8	17	-	-	-								
59.1	18	-	-	-								
62.3	19	-	-	-								
65.6	20	-	-	-								
68.9	21	-	-	-								
72.2	22	-	-	-								
75.5	23	-	-	-								
78.7	24	-	-	-								
82.0	25	-	-	-								

Notes: very thick boulders alluvial above nodular CS & hard broken gravel into soft grey CS.

50-m prospect, Dae landat, logged later

Taipan X

England Hill drilling prospect 2001

Hole Number : EHA 132	Licence number : EL 2252	Prospect : England Hill	Date drilled: 10/11/2001
	Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG-WGS84 datum) :	42 24 00	E 688 5 800 N	Hole diameter : 9 INCH
			Drill method : AUGER

Hole depth	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	ldo	hr					1H	M		boulder silts, slightly cct + SR grey SI pebbles
6.6	2								G		
9.8	3		145r								clasts of hard w4cs + grey SI in hard b. ST
13.1	4										
16.4	5	tan	grey								pebbles of sandy grey SI + more hard w4cs in b. ST
19.7	6										Boulder grey SI lined with ST
23.0	7		145r								pebbles to boulders of grey SI lined with w4cs + b. ST
26.2	8										
29.5	9	kb						H			hard w4cs with nodules of only br SI + grey SI pebbles
32.8	10								wd		decreasing SI nodules
38.1	11										increasing inverts of cherty CS.
38.4	12	h20pk	caliche						my		hard grey CS, kaolinite imp.
42.7	13	tan					Al				increasing of pebbles in hard w4cs.
45.9	14										greasy pebbles grey CS + Al pebbles.
49.2	15	Red	CSH								
52.5	16										
55.8	17										
59.1	18										
62.3	19										
65.6	20										
68.9	21										
72.2	22										
75.5	23										
78.7	24										
82.0	25										

Notes:

Taipan X

Trill drill, Dave laid out

Hole Number :	Licence number :	Prospect :	Date drilled:
EHA 133	EL 2252	England Hill	10/11/2001
Drill rig type / contractor :		Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG- WGS84 datum) :		42 23 62 E 688 5 674 N	Hole diameter : 9 INCH
			Drill method : AUGER

[illegible]

Notes: v. thin alluvials above hard bluish to pear CS, some crisp hard CS into grey bottom.

Infill prospect, one land out, logged later

Taipan X

England Hill drilling prospect 2001

Hole Number :	Licence number :	Prospect :	Date drilled :
EHA 134	EL 2252	England Hill	11/11/2001
Drill rig type / contractor :	Investigator	Hole diameter :	Logged by :
	Mk10A / Taipan X	9 INCH	Clayton Simpson
Coordinates (AMG-WGS84 datum) :	Drill method :		
42 3034 E 688 4146 N	AUGER		

Hole depth		Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
ft	m				quantity	types	quantity	types				
3.3	1	Ga	br	SI, ST					H	M		gr SI pebbles to boulders in br ST
6.6	2	hst	pr-br	CS 'bluish'					vt	G		clinky hard for parts of CS
9.8	3	-	-	-					h	1		
13.1	4	hst	lfpm	CS 'bluish'			tr	Al	H			Softer Gr wht opals, slightly trachytic + gr Al pebbles (scaphite)
16.4	5						-	-				increasingly softer & trachytic CS infill
19.7	6		cr-wh									clinky hard for parts of CS, less trachytic
23.0	7											minor mottled py aluminous CS pebbles in hard white CS
26.2	8		ph-wh									increasingly more trachytic CS infill
29.5	9		ph-pr							und		hard crisp for wh trachytic CS, Hpm clotted infill
32.8	10								3	full		
36.1	11		pr						S	h		clinky clotted green CS at base of infill
39.4	12		EOH	37A4								
42.7	13											
45.9	14											
49.2	15											
52.5	16											
55.8	17											
59.1	18											
62.3	19											
65.6	20											
68.9	21											
72.2	22											
75.5	23											
78.7	24											
82.0	25											

RL 329m

Notes:

No alluvials above pool to the hard CS.
 & adjust to inhibited cuts.

Taipan X

England Hill drilling prospect 2001

Hole Number : EHA 135	Licence number : EL 2252	Prospect : England Hill	Date drilled: 11/11/2001
Drill rig type / contractor :		Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG- WGS84 datum) : 42 3045 E 688 4117 N		Hole diameter : 9 INCH	Drill method : AUGER

Hole depth		Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
ft	m				quantity	types	quantity	types				
3.3	1	10b	cr-br	CS, ST					H	M		Graben hard wh CS & br silts
6.6	2	10c	cr-wh	CS 'Wendite'						G		Hard wh br CS, slightly kaolinitic
9.8	3											Clinch hard br wh CS, more kaolinitic
13.1	4											
16.4	5											Hard crisp wh kaolinitic CS, more kaolinitic
19.7	6		clay									more clay colored hard CS
23.0	7											Very bland hard wh CS
26.2	8											
29.5	9											Saltier more kaolinitic hard wh CS
32.8	10											
36.1	11		10p									hard wh br CS - some crisp in bands
39.4	12											CS saltier, more micaceous - slightly grey / blue
42.7	13											
45.9	14											
49.2	15											
52.5	16											
55.8	17											
59.1	18											
62.3	19											
65.6	20											
68.9	21											
72.2	22											
75.5	23											
78.7	24											
82.0	25											

RL 330m

Notes:

thick boulder to mass $\bullet$ SI above poor to ok hard CS $\bullet$ some chippy CS - hard bottom ground
 still above rubble cts.

Taipan X

England Hill drilling prospect 2001

In Oil prospect

Hole Number :	Licence number :	Prospect :	Date drilled:
EHA 136	EL 2252	England Hill	11/11/2001
Drill rig type / contractor :	Investigator Mk10A / Taipan X	Hole diameter :	9 INCH
Coordinates (AMG- WGS84 datum) :	42 3065 E 688 4163 N	Drill method :	AUGER

Hole depth	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	Ua	gy br					H	M		pebbles to boulders of gy SI in brd silts
6.6	2	Tsi	-					UH	G		boulder to massive sandy gy-gy SI
9.8	3	-	-					UH			
13.1	4	-	-								SA gtz grains in massive to bouldy gy-gy SI
16.4	5	-	-								
19.7	6	Trk	brgy					UH			gy to ye SI boulders coated with hard wh to pr CS + br ST
23.0	7	-	-					UH			in creasy pr to gy CS
26.2	8	H2	H2								Hard br wh to pr CS, bradentk in pr
29.5	9	-	-								
32.8	10	-	cr-wh								increasing silt to bradentk CS
36.1	11	-	cr								Hard br 'bland' bradentk CS
39.4	12	-	-								increasing silt to crisp bradentk wh CS in pr
42.7	13	-	ph-wh						und		hard crisp bradentk wh CS
45.9	14	-	-						b		
49.2	15	h51						S	pr		Chippy to hard br bradentk CS, quite 'bland'
52.5	16	h52	br								
55.8	17	h52	br					H			Hard br 14 pr bradentk CS
59.1	18	-	-								
62.3	19	-	EOH GCH								
65.6	20	-	-								
68.9	21	-	-								
72.2	22	-	-								
75.5	23	-	-								
78.7	24	-	-								
82.0	25	-	-								

RL 333M

Notes: Thick bulky alluvials above had 'bluish' to purplish, more cherty & into gray below on
 Inland side of SFT in rock.
 Taipan X England Hill drilling prospect 2001
 EnGill prospect.

England Hill drilling prospect 2001

Hole Number : EHA 137A	Licence number : EL 2252	Prospect : England Hill	Date drilled: 11/11/2001
	Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG-WGS84 datum) :	42 3085 E 688 4196 N	Hole diameter : 9 INCH	Drill method : AUGER

[illegible]

Notes: ^{to massive} thick boulder alluvials have OK 'bland' chippy CS, 10' hard to go any further ground.

Infill prospect

Taipan X England Hill drilling prospect 2001

~~3001~~

Hole Number:	Licence number:	Prospect:	Date drilled:
EHA P38	EL 2252	England Hill	12/11/2001
Coordinates (AMG-WGS84 datum):	Drill rig type / contractor:	Investigator	Logged by:
42 5103		Mk10A / Taipan X	Clayton Simpson
		E 688 4272 N	Hole diameter:
			9 INCH
			Drill method:
			AUGER

Hole depth		Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
ft	m				quantity	types	quantity	types				
3.3	1	CS	gy br	SI, ST					H	m		Had boulder massive sandy bedded gy-br SI / lined with bi-st.
6.6	2	-	-	-					6			massive to boulder SI
9.8	3	dk gy	-	-								
13.1	4	Trnk	-	SI, CS, ST					H			SR boulders to pebbled gy-br SI + broken hard wh CS - minor, esp 1/6 in
16.4	5	-	-	-								increasing with gy-br CS and aggr. gy-br SI
19.7	6	-	gy br	-								intermixed gy-br SI clasts + pebbles + milky br SI - e-sand SI hard
23.0	7	-	-	-								
26.2	8	-	dk br	-								no milky br to gy SI + increasing wh CS clasts
29.5	9	rb	-	CS, SI								hard to chippy hard wh CS + pebbles & milky br gy SI
32.8	10	hsl	crk	CS 'chippy'								chippy bed and many boulders wh CS, some milky SI clasts
36.1	11	-	-	-								good size mainly boulders wh CS, quite 'bland'
39.4	12	-	-	-								Some chippy in harder wh CS
42.7	13	-	dk br	-								increasing harder wh CS for 1/4 in wh CS + re-stone 'hard'
45.9	14	-	dk br	-								pr-stained CS pebbles in wh CS 'bland' wh CS, boulders
49.2	15	hsl	pr	CS 'boulders'								hard for wh CS + wh SI pods, much less boulders
52.5	16	-	-	-								hard for wh CS, grey in places
55.8	17	-	-	-								
59.1	18	-	-	-								
62.3	19	-	-	-								
65.6	20	-	-	-								
68.9	21	-	-	-								
72.2	22	-	-	-								
75.5	23	-	-	-								
78.7	24	-	-	-								
82.0	25	-	-	-								

EDH 52H

Notes: Thick boulder alluvial above 'bluish' to poor CS

Infill prospect.

Taipan X England Hill drilling prospect 2001

Hole Number : EHA 139	Licence number : EL 2252	Prospect : England Hill	Date drilled: 12/11/2001
	Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG- WGS84 datum) :	42 3 11 8	E 688 4240	Hole diameter : 9 INCH
		N	Drill method : AUGER

AK 325m

Hole depth ft m	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3 1	Si	rd-br	SI, ST					M	M		Hard rd SI + minor gr SI pebbles lined with br ST
6.8 2	-	-	-					G	G		broken rd SI supplying clasts of gr SI lined with br ST
9.8 3	Tsk	-	SI, ST, CS								increasing br ST supplying mottled rd to gr SI + minor hard br CS
13.1 4	-	pr-br	SI, CS, ST					D			rd to gr SI + hard gr 'bluish' CS
16.4 5	hby	-	CS 'Gygn'					H			broken hard Grgy to pr 'bluish' CS
19.7 6	hby	ctr	CS 'interbedded'								climby hard Grgy to pr CS + hard Grgy 'bluish' pebbles
23.0 7	-	-	-								increasing content of hard Grgy wh CS
28.2 8	-	pr-br	-						D		pr-stained patches of hard CS in hard rd brown slaty hardish CS
29.5 9	-	14 pr	-						hard		hard pr to br CS + patches of cherty wh CS
32.8 10	-	-	-								hard 14 pr to pr CS, little hardy.
38.1 11	-	-	-						M		Hard Grgy boulders in 14 pr CS + hard pr-stained patches
39.4 12	-	-	-						D		Soapstone pads in sandy pr CS, greyy to base
42.7 13	Boat	40 H									
45.9 14											
49.2 15											
52.5 16											
55.8 17											
59.1 18											
62.3 19											
65.6 20											
68.9 21											
72.2 22											
75.5 23											
78.7 24											
82.0 25											

Notes: Thin natural's clay hard nodules, into bluish CS + poor hard CS

Infill prospect

Taipan X England Hill drilling prospect 2001 & P Brown at 1901 (not/eq)

Hole Number :	Licence number :	Prospect :	Date drilled :
EHA 140	EL 2252	England Hill	12/11/2001
Drill rig type / contractor :		Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG-WGS84 datum) :		Hole diameter : 9 INCH	Drill method : AUGER
42 3 1 37		E 688 4242	N

Hole depth		Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
ft	m				quantity	types	quantity	types				
3.3	1	Trk	br	SI, ST, CS					H	M		broken gr base + id SI nodules to boulders in br ST
6.6	2	hob	cbr	CS, SI								hard wh br CS + 2 x S pebbles, + mlt gr-br SI nodules
9.8	3	-	dk br	-						G		mlt gr SI nodules in hard kaolinitic an CS + pr SIBS
13.1	4	-	pr wh	-								pr-slender hard gr. bluish CS + 91 nodules in hard wh CS
18.4	5	hob	pr-br	CS, wh					H			clay hard gr pr-br bluish CS
19.7	6	-	lt pr	-	Pr	Pr						lt pr bluish CS nodules & v. mlt wh SI (no pr)
23.0	7	-	-	-					H			increasingly siltier lt br CS (slightly kaolinitic) pebbles
26.2	8	hob	-	CS, kaolinitic								hard gr wh kaolinitic, slightly kaolinitic CS + pr and hard pebbles
29.5	9	-	-	-						wd		
32.8	10	-	-	-								more kaolinitic gr it pr CS + hard pr pebbles of CS
36.1	11	-	pr	-					S	mt		siltier & grayer CS, v. little kaolinitic
38.4	12	-	-	-								minor prgy clay with gray CS
42.7	13	hob	-	lt pr								
45.9	14	-	-	-								
49.2	15	-	-	-								
52.5	16	-	-	-								
55.8	17	-	-	-								
59.1	18	-	-	-								
62.3	19	-	-	-								
65.6	20	-	-	-								
68.9	21	-	-	-								
72.2	22	-	-	-								
75.5	23	-	-	-								
78.7	24	-	-	-								
82.0	25	-	-	-								

Notes: thick bedded alluvials of nodular CS, some decipines into grey barren sand + muds

In Gill prospect.

Taipan X England Hill drilling prospect 2001

~~Examination of section from test 55 ft~~

Hole Number :	Licence number :	Prospect :	Date drilled:
EHA 141	EL 2252	England Hill	12 / 11 / 2001
	Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG-WGS84 datum) :	42 3 098	E 688 4 306	Hole diameter : 9 INCH
		N	Drill method : AUGER

Hole depth	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	tdo	br					H	M		Hard cchbrst + gn-gr SI pebbles
6.6	2	-	-					D	6		
9.8	3	late cchbr	58/4/51					H			bed in hard whcst + m. l. br rwp. CS in bed 5-57
13.1	4	-	-					H			in rwp. eng m. l. gr. bed SI + hard whcst.
16.4	5	-	-					D			
19.7	6	-	-					H			increasing chipp whcst clasts + nodular m. l. br SI in mottled purp. g.
23.0	7	ls	pu-wh					D			chipp whcst + pebbles of m. l. g. to red SI + m. l. whcst
26.2	8	-	-					D			
29.5	9	-	-					D			decreasing SI nodules in grey chipp m. l. whcst
32.8	10	ls	phym			lt	gr				good cchbrst + Fe gr beds + S l. cementation
36.1	11	ls	phym			lt	gr				harder m. l. whcst, quite com. by veins + Al. nod.
39.4	12	ls	phym			mn	lt, gr				increased Al. nod. + Al. nodules in soft lt. purp. whcst.
42.7	13	-	-			-	-				Soft + grey siliceous chipp whcst, Fe gr veins + lt. beds
45.9	14	-	-			lt	lt, gr				
49.2	15	-	-			-	-				ironstone beds in soft grey CS.
52.5	16	ls	phym								soft to brittle grey whcst + minor purp. clays.
55.8	17	-	-								some opal? in red bed whcst, m. l. purp. clays.
59.1	18	ls	phym								
62.3	19	-	-								
65.6	20	-	-								
68.9	21	-	-								
72.2	22	-	-								
75.5	23	-	-								
78.7	24	-	-								
82.0	25	-	-								

Notes: V. Thick boulder alluvials have poor hard 'bluish' CS 1000 soft greasy CS

Infill prospect.

Taipan X England Hill drilling prospect 2001

Hole Number :	Licence number :	Prospect :	Date drilled:
EHA 142	EL 2252	England Hill	12/11/2001
Drill rig type / contractor :	Investigator Mk10A / Taipan X	Hole diameter :	9 INCH
Coordinates (AMG- WGS84 datum) :	42 3096	E 688 4335	Drill method : AUGER

Hole depth	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	br	ST, SI					H	M		Hard br ST + gr to rd SI pebbles
6.6	2	-	-	~~tr~~	~~tr~~			HA	G		Bone opal in veins within hard brCS. Increasing grey SI pebbles
9.8	3	tan gy-br	SI, ST	~~tr~~	~~tr~~			b			more SR grey SI pebbles to boulders in hard br ST
13.1	4	-	-					b			bouldy gn - grey or minor hard brCS with ST
16.4	5	-	-			tr	mn	H			tr mn staining to hard br 'bluish' CS
19.7	6	-	-			-	-				small br hard gn - grey SI + hard pink 'bluish' CS lined with br ST
23.0	7	-	-			-	-				more with br SI + hard pink 'bluish' CS
26.2	8	light	CS 'bluish'					SA			Clumpy hard grey with minor brCS
29.5	9	-	-								very milky br - grey SI + hard br grey 'bluish' CS (quite hard)
32.8	10	-	-								
36.1	11	light	CS 'bluish'					S			Soft grey CS pebbles above
39.4	12	DOH	3.2.14								
42.7	13										
45.9	14										
49.2	15										
52.5	16										
55.8	17										
59.1	18										
62.3	19										
65.6	20										
68.9	21										
72.2	22										
75.5	23										
78.7	24										
82.0	25										

Notes:

Taipan X England Hill drilling prospect 2001

Hole Number : EHA 115	Licence number : EL 2252	Prospect : England Hill	Date drilled: 13/12/2001
Drill rig type / contractor :		Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG-WGS84 datum) : 42 3045 E 688 4294 N		Hole diameter : 9 INCH	Drill method : AUGER

[illegible]

Notes:

Taipan X

Hole Number :	Licence number :	Prospect :	Date drilled:
EHA 144	EL 2252	England Hill	13/11/2001
Drill rig type / contractor :		Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG-WGS84 datum) :		42 3055 E 688 4248 N	Hole diameter : 9 INCH
			Drill method : AUGER

[illegible]

Notes: Thide alluvials above good cherty CS, into Kadamba with H + SI + mag grey bottom

Isall prospect

Taipan X England Hill drilling prospect 2001

Hole Number :	Licence number :	Prospect :	Date drilled:
EHA 145	EL 2252	England Hill	13/11 / 2001
	Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by :
			Clayton Simpson
Coordinates (AMG- WGS84 datum) :	42 3055 E 688 4210 N	Hole diameter :	9 INCH
		Drill method :	AUGER

Hole depth	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	Red	ST, SI					H	M		broken hard br ST, ~~fine~~
6.6	2	-	-			W	gn		0		mm strong to hard CS
9.8	3	Trk mbr	Si, ST, SI			-	-		6		broken hard pvcst + pr br ST + SI in br ST
13.1	4		CS, ST, SI	W	Brn	-	-	0			fine opal + clay. (no roots in broken hard cherty CS)
16.4	5	gk mbr	CS, SI					S			increasing calc. cherty in CS + gk mbr SI nodules in br ST
19.7	6	Kmbi	CS 'cherty'			W	Al				Good mbr cherty w/CS, minor SI nodules, minor Sargassum
23.0	7										Good crisp mbr w/CS, Sargassum nodules broken 1/4 inch
26.2	8	-	-								nodules of mbr gk SI in cherty w/CS + broken leads
29.5	9										
32.8	10	h/2	CS 'cherty', SI			mm	Al		und		Alumina 1/4 inch down ~~off~~ pvcst + gk SI nodules
36.1	11	-	-								moderate Al. nodules in CS, minor w/CS + mbr gk SI
39.4	12	-	-						pul		broken gnd + Fe-stone leads in crisp Alumina CS
42.7	13	-	CS 'intertide'								moderate Sargassum comp broken 1/4 inch CS, some gk CS
45.9	14	-	-								greeny pvcst + Al. nodules
49.2	15	LOH	LOH								
52.5	16										
55.8	17										
59.1	18										
62.3	19										
65.6	20										
68.9	21										
72.2	22										
75.5	23										
78.7	24										
82.0	25										

Notes: Thick alluvials above blue to hard pan CS, minor chert into sand in alluvial ground.

Taipan X England Hill drilling prospect 2001

Drill prospect.

Hole Number :	Licence number :	Prospect :	Date drilled:
EHA 146	EL 2252	England Hill	13 / 11 / 2001
Drill rig type / contractor :	Investigator	Mk10A / Taipan X	Logged by :
Coordinates (AMG-WGS84 datum) :	E 688 427 6	N	Clayton Simpson
	42 3 05 7		Hole diameter :
			9 INCH
			Drill method :
			AUGER

Hole depth	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	Tk	9x SI					H	M		9x SI pebbles to boulders in br ST
6.6	2	-	-					VH			
9.8	3	-	SI, ST, CS	tr	Si						more hard pr. SiCS in sand, bedded 9x-9x SI + hard br ST. Clastic
13.1	4	-	-	tr	Bright						By no replacing wood? in hard br ST + 9x to 1x SI + hard br ST
16.4	5	-	CS, SI, ST								broken hard pr. br ST 9x SI pebbles to br ST
19.7	6	-	-								increasing hard brish CS
23.0	7	light	CS, gran								Clay to d. matrix pr. to 9x-9x br CS + br ST intens
26.2	8	br	CS (hard)								hard br. brachidontid brachidontid + brachidontid CS matrix
29.5	9	-	br								increasing cherty br CS
32.8	10	br	CS (cherty)					S	und		cherty bedded brachidontid to brachidontid, minor brachidontid brachidontid
36.1	11	br	CS (hard)			tr	AI	H	b		hard br. brachidontid brachidontid + brachidontid CS
39.4	12	-	-						pr		AI pods in hard brachidontid brachidontid
42.7	13	-	-								increasing brachidontid brachidontid
45.9	14	-	-					S			gray soft CS in hard brachidontid
49.2	15	-	EOH 49.2								
52.5	16										
55.8	17										
59.1	18										
62.3	19										
65.6	20										
68.9	21										
72.2	22										
75.5	23										
78.7	24										
82.0	25										

Notes: No alluvials here hard calc. micr. chips + no softer spcs + goasy bottom ground.

Taipan X England Hill drilling prospect 2001

Infill prospect.

Hole Number : EHA 147	Licence number : EL 2252	Prospect : England Hill	Date drilled: 14/11/2001
	Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG- WGS84 datum) :	42 3401	E 688 4529	Hole diameter : 9 INCH
		N	Drill method : AUGER

Hole depth	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	lt br	CS, ST, SI					H	M		broken hard & calcitic wh:cs + br st + gys (pables)
6.6	2	lt br	CS, ST, SI					H	G		broken hard wh & calcitic wh:cs + br st in matrix
9.8	3	-	-					H			
13.1	4	-	-					H			increasing hardness & calcitic wh:cs, some chips in matrix
16.4	5	lt br	-					H			Fe-stained breccia in hard & calcitic wh:cs
19.7	6	lt br	CS, ST, SI					H			soft & calcitic wh:cs, some chips in matrix
23.0	7	lt br	CS, ST, SI			tr	Gr	H			tr & Gr, some in matrix & br st, some calcitic wh:cs
26.2	8	lt br	-			tr	Gr, H	H			minor & calcitic wh:cs in hard & calcitic wh:cs, some chips in matrix
29.5	9	-	-			-	-	H			soft & calcitic wh:cs, broken in matrix & br st + Gr, some chips
32.8	10	lt br	-			-	-	und			some chips in soft & calcitic wh:cs, some chips in matrix
36.1	11	lt br	-			br	H, Gr	H			soft & calcitic wh:cs, slight green + Gr, some chips
39.4	12	-	-			tr	H, Gr	H			soft & calcitic wh:cs + some chips in matrix
42.7	13	lt br	CS, ST, SI			-	-	H			quite goasy soft to hard wh:cs + some chips
45.9	14	-	-					H			
49.2	15	lt br	CS, ST, SI					H			
52.5	16	-	-					H			
55.8	17	-	-					H			
59.1	18	-	-					H			
62.3	19	-	-					H			
65.6	20	-	-					H			
68.9	21	-	-					H			
72.2	22	-	-					H			
75.5	23	-	-					H			
78.7	24	-	-					H			
82.0	25	-	-					H			

Notes:

thick alluvials above 100m CS + SI pebbles some opals into alluvial & gravelly bottom ground & rocks

Taipan X England Hill drilling prospect 2001

Initial prospect

Hole Number : EHA 148	Licence number : EL 2252	Prospect : England Hill	Date drilled: 14/1/2001
	Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG-WGS84 datum) : 42 3402	E 688 4556	N	Hole diameter : 9 INCH
			Drill method : AUGER

Hole depth	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	TDW	br					H	M		light br, silty cc silts = gy hard SI pebbles
6.6	2	-	-					UH	G		Si - cemented hard br ST & Gags of gy SI
9.8	3	-	-	1	Byrne						Byrne m. grey, roots
13.1	4	chk	color								broken hard wh CS = m. h. br to gy SI in hard br ST
16.4	5	-	gy br								hardly to see any gy SI lined with CS = ST
19.7	6	-	phgy								increasing content of gy & m. ph wh CS b/w SI beds
23.0	7	hwb									crisp wh CS - Gy lined m. ph + m. ph of gy SI
26.2	8	-	ph wh								soft & slightly m. ph wh SI pebbles
29.5	9	hgy	phgy								hard to chip wh CS, m. soft & clayey, roots
32.8	10	hgy	phgy								Al pebbles in crisp wh wh CS & Gy in m. wh ST
36.1	11	hgy	phgy								more alluvial br crisp wh wh CS less rounded
39.4	12	-	-								softer m. grey wh CS = soft crisp wh CS m. ph
42.7	13	-	-								gy stringer st wh Al pebbles in slightly grey m. ph wh CS
45.9	14	hgy	phgy								Soft to brittle grey wh CS + m. ph wh clay
49.2	15	-	-								very pyggy m. ph clay & base
52.5	16	DOIT	SOOT								
55.8	17										
59.1	18										
62.3	19										
65.6	20										
68.9	21										
72.2	22										
75.5	23										
78.7	24										
82.0	25										

Notes: Thick alluvial stone bed below the sandpans • Softer near bottom ground.

Taipan X England Hill drilling prospect 2001

Incl. prospect.

Hole Number :	Licence number :	Prospect :	Date drilled:
EHA 144	EL 2252	England Hill	14/11 / 2001
	Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG- WGS84 datum) :	42 34 00	E 688 579	Hole diameter : 9 INCH
		N	Drill method : AUGER

Hole depth	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	br	Si, ST, SL					S	M		gr. bed Si pebbles & boulders in br soils below ST
6.6	2	br	ST, CL, SI					H	G		hard c. br ST & SA pebbles/boulders of id 40 gr ST
9.8	3	br	Si, ST, CL	fr	Brpks			VH			increasing boulders & gr. ST
13.1	4	-	-								many - r - stony sand below gr. ST boulders.
16.4	5	-	ST, CL, ST								more hard granitic boulders in sand.
19.7	6	-	CL, ST					H			clayey hard gr. ST, boulders & SR gr. ST pebbles
23.0	7	br	CL, ST								clayey hard in bed of top boulders
26.2	8	-	-								
29.5	9	-	-								CL becoming softer & more
32.8	10	br	CL, ST								br. clayey hard gr. ST, more granitic boulders
36.1	11	-	-								Slightly harder gr. ST & boulders & pebbles
39.4	12	-	-								now hard gr. ST & pebbles & boulders
42.7	13	br	-								increasing softer gr. ST, gr. ST in bed
45.9	14	-	-								Softer gr. ST, 10-15 mm. rounded boulders & pebbles
49.2	15	br	CL, ST								
52.5	16	-	-								
55.8	17	-	-								
59.1	18	-	-								
62.3	19	-	-								
65.6	20	-	-								
68.9	21	-	-								
72.2	22	-	-								
75.5	23	-	-								
78.7	24	-	-								
82.0	25	-	-								

VOLUME 2

Drill hole logs
EHA 150 - 174

Notes: thick alluvials above. ~~thick~~ which with some residue ~~which~~ winds - 200m to 300m ground.

Incl prospect.
Taipan X England Hill drilling prospect 2001

Hole Number : EHA 150	Licence number : EL 2252	Prospect : England Hill	Date drilled: 14/11/2001
	Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG- WGS84 datum) : 423400	E 688 4477	N	Hole diameter : 9 INCH
			Drill method : AUGER

Hole depth ft m	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3 1	Qa	br-red	SL, ST					4	M		SR to RR of + red SL patches w/ boulders in br ST
6.6 2	Td	-	ST, SL						D		Hard br ST + 2% hard SL patches - boulders
9.8 3	-	br	-						G		
13.1 4	Td	br	CS SL, ST								broken hard p. br. SL, ST + CS, SL patches in br ST
16.4 5	-	br	~~SL, ST~~ br								hard br ST + 2% hard SL patches - boulders
19.7 6	-	-	CS, black								hard br ST + 2% hard SL patches - boulders
23.0 7	-	-	-								hard br ST + 2% hard SL patches - boulders
26.2 8	-	-	-								hard br ST + 2% hard SL patches - boulders
29.5 9	-	br	-								hard br ST + 2% hard SL patches - boulders
32.8 10	-	br	-								hard br ST + 2% hard SL patches - boulders
36.1 11	-	br	-								hard br ST + 2% hard SL patches - boulders
39.4 12	-	-	-								hard br ST + 2% hard SL patches - boulders
42.7 13	-	-	-								hard br ST + 2% hard SL patches - boulders
45.9 14	-	-	-								hard br ST + 2% hard SL patches - boulders
49.2 15	-	-	-								hard br ST + 2% hard SL patches - boulders
52.5 16	-	-	-								hard br ST + 2% hard SL patches - boulders
55.8 17	-	-	-								hard br ST + 2% hard SL patches - boulders
59.1 18	-	-	-								hard br ST + 2% hard SL patches - boulders
62.3 19	-	-	-								hard br ST + 2% hard SL patches - boulders
65.6 20	-	-	-								hard br ST + 2% hard SL patches - boulders
68.9 21	-	-	-								hard br ST + 2% hard SL patches - boulders
72.2 22	-	-	-								hard br ST + 2% hard SL patches - boulders
75.5 23	-	-	-								hard br ST + 2% hard SL patches - boulders
78.7 24	-	-	-								hard br ST + 2% hard SL patches - boulders
82.0 25	-	-	-								hard br ST + 2% hard SL patches - boulders

Notes:

Thick alluvial above pure hard CS.

Taipan X

England Hill drilling prospect 2001

Hole Number :	Licence number :	Prospect :	Date drilled:
EHA 151	EL 2252	England Hill	18/11/2001
Coordinates (AMG-WGS84 datum) :	Drill rig type / contractor :	Investigator	Logged by :
42 3452 E 688 4465 N		Mk10A / Taipan X	Clayton Simpson
			Hole diameter :
			9 INCH
			Drill method :
			AUGER

Hole depth	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	Dark brown	ST, SL, CC					4	3		Hard CS, silty, greyish, silty, silty
6.6	2	Grey						4	6		Hard CS, silty, greyish, silty, silty
9.8	3	Dark	ST, CS, SL			10	6/	4			Hard CS, silty, greyish, silty, silty
13.1	4							4			Hard CS, silty, greyish, silty, silty
16.4	5	Dark	ST, SL, ST					4			Hard CS, silty, greyish, silty, silty
19.7	6							4			Hard CS, silty, greyish, silty, silty
23.0	7	Dark	CS, SL, SL					4			Hard CS, silty, greyish, silty, silty
26.2	8	Dark						4			Hard CS, silty, greyish, silty, silty
29.5	9							4			Hard CS, silty, greyish, silty, silty
32.8	10	Dark						4			Hard CS, silty, greyish, silty, silty
36.1	11							4			Hard CS, silty, greyish, silty, silty
39.4	12							4			Hard CS, silty, greyish, silty, silty
42.7	13							4			Hard CS, silty, greyish, silty, silty
45.9	14							4			Hard CS, silty, greyish, silty, silty
49.2	15		ST, SL, SL					4			Hard CS, silty, greyish, silty, silty
52.5	16							4			Hard CS, silty, greyish, silty, silty
55.8	17							4			Hard CS, silty, greyish, silty, silty
59.1	18							4			Hard CS, silty, greyish, silty, silty
62.3	19							4			Hard CS, silty, greyish, silty, silty
65.6	20							4			Hard CS, silty, greyish, silty, silty
68.9	21							4			Hard CS, silty, greyish, silty, silty
72.2	22							4			Hard CS, silty, greyish, silty, silty
75.5	23							4			Hard CS, silty, greyish, silty, silty
78.7	24							4			Hard CS, silty, greyish, silty, silty
82.0	25							4			Hard CS, silty, greyish, silty, silty

Notes:

No alluvials above poor hard CS into Solter grey CS.

Taipan X

England Hill drilling prospect 2001

Twinn prospect

Hole Number :	Licence number :	Prospect :	Date drilled :
EHA 152	EL 2252	England Hill	17/11 / 2001
Drill rig type / contractor :	Investigator Mk10A / Taipan X	Hole diameter :	9 INCH
Coordinates (AMG-WGS84 datum) :	42 3449 E 688 4514 N	Drill method :	AUGER

AL 320m

Hole depth	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	br	SS ST C 6					H	6		broken hard white CS in c.c. br ST
6.6	2	-	-					H	1		more compact & top of br ST + minor SS pebbles
9.8	3	sh	CS (shale) 'interbedded'					6	1		clayey hard grey top CS + br ST + minor SS
13.1	4	-	-					H			broken hard grey top CS, slightly kaolinitic CS + br ST interbedded
16.4	5	-	-								Some clayey shales, minor CS interbeds on hard grey top CS
19.7	6	-	-								Fe-shale, sandy 'pebbles' in hard grey top CS, slightly kaolinitic CS
23.0	7	-	-								Hard thin grey top CS + Fe-shale pebbles
26.2	8	-	-								
29.5	9	-	-								soft grey CS
32.8	10	-	-								soft, slightly kaolinitic grey CS + minor hard grey CS pebbles
36.1	11	-	-								CS shale + minor grey CS
39.4	12	-	-								grey CS, slightly kaolinitic
42.7	13	-	-								
45.9	14	-	-								
49.2	15	-	-								
52.5	16	-	-								
55.8	17	-	-								
59.1	18	-	-								
62.3	19	-	-								
65.6	20	-	-								
68.9	21	-	-								
72.2	22	-	-								
75.5	23	-	-								
78.7	24	-	-								
82.0	25	-	-								

Notes: No alluvials above hard some ok cspcs, no d. to bottom + green mud.

Infill prospect

Taipan X England Hill drilling prospect 2001

Hole Number :	Licence number :	Prospect :	Date drilled:
EHA 153	EL 2252	England Hill	17/11/2001
Drill rig type / contractor :		Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG-WGS84 datum) :		42 3447 E 688 4533 N	Hole diameter : 9 INCH
			Drill method : AUGER

Hole depth		Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
ft	m				quantity	types	quantity	types				
3.3	1	1/15	hr	CS, ST, g					H	M		broken hard wh CS in hr ST + minor red hr ST
6.6	2	-	cr-br	-	hr	Si				G		much calcine Si in br wh CS
9.8	3	1/12	dr-br	cs, hard, ve, si	-	-						more complete hard hr wh broken wh CS + Hr ST + minor red hr ST
13.1	4	-	-	-								increasing milky gr Si calc in chippy wh broken hr CS
16.4	5	-	-	-					S			decreasing Si + more chippy wh CS, intercs
19.7	6	1/11	crp-br	calc chpy			hr	Al, Fe				sdcr cusp dr wh CS, quite volumetric minor SI intercs
23.0	7	-	-	-			mn	Al				hr Al, dr Fe-stn leads in cusp to hard dr wh CS
26.2	8	1/12	-	cs, white, si								less cusp hr wh CS + gr Si nodules, quite volumetric
29.5	9	-	dr-br	-			-	-		med		Aluminiferous soft hr wh CS
32.8	10	-	-	-			-	-				soft - slightly greasy volumetric purgr CS
36.1	11	-	dr	-			hr	Al		med		more greasy dr wh CS
39.4	12	1/11	dr-br	cs, muddish			-	-				greasy sd dr wh CS + purgr mass + clays
42.7	13	-	dr-br	EOM 39R								
45.9	14											
49.2	15											
52.5	16											
55.8	17											
59.1	18											
62.3	19											
65.6	20											
68.9	21											
72.2	22											
75.5	23											
78.7	24											
82.0	25											

Notes:

thick alluvials above hard porcs, no sandstones in some places + gassy bottom

Taipan X

England Hill drilling prospect 2001

Infill prospect

Hole Number :	Licence number :	Prospect :	Date drilled:
EHA 154	EL 2252	England Hill	17/11/2001
Drill rig type / contractor :	Investigator Mk10A / Taipan X	Hole diameter :	9 INCH
Coordinates (AMG-WGS84 datum) :	42 3451 E 688 4574 N	Drill method :	AUGER

RL 318m

Hole depth	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	br	ST, CG, SI					H	m		Hard br ST + minor red clay SI pebbles
6.6	2	-	-					VT	G		Harder br ST
9.8	3	-	-								increasing SI pebbles
13.1	4	tan grey	SI, ST, CS			tr	gy	H			gy - grey hard SI pebbles broken hard white CS in br ST
16.4	5	-	-								increasing broken hard grey CS + minor white br ST
19.7	6	-	CS, ST, ST								Hard CS 146 to 150 CS + gy SI pebbles + broken ST
23.0	7	br	CS + white								little hard CS gy pebbles + broken ST + CS pebbles
26.2	8	-	-								increasing softer harder CS + LO-sand intervals
29.5	9	-	-								increased gy pebbles in soft harder CS + broken ST
32.8	10	-	-			tr	gy, AI	S	nd		Gy pebbles + AI pebbles in soft harder CS + broken ST
36.1	11	-	-								increasing softer + more harder CS
39.4	12	-	-								
42.7	13	tan	-								gassy deep to 150 gy CS, little harder
45.9	14	tan	-								
49.2	15	LOA 4574	-								
52.5	16										
55.8	17										
59.1	18										
62.3	19										
65.6	20										
68.9	21										
72.2	22										
75.5	23										
78.7	24										
82.0	25										

Notes: Thick alluvials above Gyveined CS, some ^{cr} crisp CS also salt with ground muds.

Infill prospect

Taipan X England Hill drilling prospect 2001

Hole Number :	Licence number :	Prospect :	Date drilled:
EHA 155	EL 2252	England Hill	17/11/2001
Drill rig type / contractor :	Investigator Mk10A / Taipan X	Hole diameter :	9 INCH
Coordinates (AMG-WGS84 datum) :	42 235.57	E 688 4470	Drill method : AUGER

RL 323m

Hole depth	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	tdk	br					H	M		Hard br st minor gr + tid s/petables
6.6	2	-	-						G		
9.8	3	dk cr br	CS, ST, ST								broken hard w/c CS + s/c gr + br st in hard br ST
13.1	4	-	-	tr	Si						more complete cc all hard w/c S. "chalcocite" Si veins
16.4	5	-	-								Si + CC coated broken w/c S + rd to gr st
19.7	6	-	-			tr	Gy				more saltier than lower CS which + Gyveing
23.0	7	Kaz2 br pu	cs + chalc								broken hard Gy H/C S, slightly less hard, hard w/c CS + br st
26.2	8	-	-			min	Gy				increased Gyveing in softer Gy + br st H/C S + br st
29.5	9	-	-					S			more complete CS + br st in Gyveing for H/C S
32.8	10	-	-			tr	Gy				soft Gyveined pur br CS + minor crisp CS intervals
36.1	11	-	-								broken and crisp chym w/c S + H/C S, broken and Gyve
39.4	12	hbl	cs + chym								more complete crisp whist Gyveined broken and
42.7	13	-	-			tr	H/C		und		Al pbs + Gyveining to "blond" white br CS
45.9	14	hiz	cs + white								less crisp br-gy/red d Gy CS, some grey veins
49.2	15	-	-						und		minor crisp w/c S intervals in soft Gy H/C S
52.5	16	pk-p	-						und		
55.8	17	-	-								increasingly soft + grey Gy H/C S, little br st
59.1	18	h3 ok pu	cs + mudd								gray dk br for CS + fine purgy p/c lvs
62.3	19	BOH	604								
65.6	20										
68.9	21										
72.2	22										
75.5	23										
78.7	24										
82.0	25										

Notes: Thick alluvials above Okard CS, some chippy CS, 1000' of bottom gravel & Atlantic base

Infill prospect

Taipan X England Hill drilling prospect 2001

Hole Number :	Licence number :	Prospect :	Date drilled:
EHA 156	EL 2252	England Hill	11/11/2001
Drill rig type / contractor :	Investigator Mk10A / Taipan X		Logged by :
Coordinates (AMG-WGS84 datum) :	42 3355	E 688 4498	Clayton Simpson
		N	Hole diameter :
			9 INCH
			Drill method :
			AUGER

Hole depth	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	red	br					H	2		Hard br silts + orangey SI pebbles
6.6	2	-	-					1	6		increasing SI content
9.8	3	pink	br-gr					VH	1		broken hard white ST gr + red speckles in br ST
13.1	4	-	-					1	1		grey to hard grey SI + hard HBGS
16.4	5	-	cr-br					H	1		increasing leaden hardness in SI + cc coated ST
19.7	6	dark	br-wh					1	1		broken hard white leaden CS + grey br silts, pebbles
23.0	7	h22	br-br			H	Gr	1	1		Hard to crop by grain leaden CS + hard pure CS pebbles
26.2	8	h21	dk-br			-	-	S	1		soft Hptmbr leaden CS, some crisp materials + Gyrans
29.5	9	h22	-			-	-	1	1		soft to grey br Hptmbr, less leaden
32.8	10	-	type			-	-	1	und		Gyransed soft to crop pebbles + Hptmbr (broken grain)
36.1	11	-	-			-	-	1	1		Crop bottom grain br pebbles
39.4	12	-	-			-	-	1	mt		Gyransed soft pure CS, little leaden
42.7	13	-	pure			H	G.H	1	1		fluffy broken pure CS + Fe-line 'veils'
45.9	14	-	-			-	-	1	1		fluffy chpy slightly grey Gyr CS
49.2	15	-	2004 USST								
52.5	16										
55.8	17										
59.1	18										
62.3	19										
65.6	20										
68.9	21										
72.2	22										
75.5	23										
78.7	24										
82.0	25										

Notes: Thin alternials show ~~cr~~ crinoids, some clippings to soft greasy bottom ground

Infill prospect

Taipan X England Hill drilling prospect 2001

Hole Number : EHA 157	Licence number : EL 2252	Prospect : England Hill	Date drilled: 17/11/2001
	Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG- WGS84 datum) :	42 3 352	E 688 4532 N	Hole diameter : 9 INCH
		RL 321m	Drill method : AUGER

Hole depth		Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
ft	m				quantity	types	quantity	types				
3.3	1	h10	br	ST, CS, SI					4	M		Red Gr cc silt & broken hard white CS or silt pebbles
6.8	2	-	dk br	ST, CS					1	B		broken hard white CS in Grd br ST
9.8	3	-	-	-	fr	Brphn			1	G		increasing CS silt & increases of grey SI - Br phn r
13.1	4	h10	-	CS, ST	fr	"			1			broken hard white calcareous & br ST
16.4	5	h12	cr br	CS (white)			fr	Gr	2			Gr sand hard Gr calcareous CS, br ST in Gr calcareous CS
19.7	6	-	-	-			-	-	5			soft calcareous silty HACS + minor calcareous silt & sand
23.0	7	h11	crp	CS (clay)			fr	Al, Gr	1			Alps + Gr in crp Gr calcareous CS + H10 broken hard silt
26.2	8	-	dk br	-			-	-	1			crisp H10 Gr calcareous CS, Alps + Gr in crp H10 ST
29.5	9	-	-	-			-	-	1	med		Gr calcareous CS + moderate Alps + H10 + Gr
32.8	10	h12	-	CS (white)			fr	Al	1	B		less crisp Gr calcareous CS + Alps + less broken hard ST
36.1	11	-	-	-			-	-	1	M		more calcareous in soft pur grey CS
39.4	12	h13	pu	CS (muddy)					1	B		grey clay Gr calcareous CS
42.7	13	-	-	-								
45.9	14	-	-	-								
49.2	15	-	-	-								
52.5	16	-	-	-								
55.8	17	-	-	-								
59.1	18	-	-	-								
62.3	19	-	-	-								
65.6	20	-	-	-								
68.9	21	-	-	-								
72.2	22	-	-	-								
75.5	23	-	-	-								
78.7	24	-	-	-								
82.0	25	-	-	-								

Notes:

v. thin alluvials above on hard CS, some interbedded c.p.s. & grey ss with thin gravel.

Taipan X England Hill drilling prospect 2001

Infill prospect.

Hole Number :	Licence number :	Prospect :	Date drilled:
EHA 158	EL 2252	England Hill	18 / 11 / 2001
Drill rig type / contractor :	Investigator	Mk10A / Taipan X	Logged by :
Coordinates (AMG- WGS84 datum) :	42 3 355	E 688 4553	N
			Hole diameter :
			9 INCH
			Drill method :
			AUGER

Hole depth	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	la	brd					S	M		broken hard white + s.p. RR 92 + rd s.p. shells in loose br ss
6.6	2	brk	phs					H			broken hard white + br ss v. many s.p. shells
9.8	3	brk	-								broken hard white + m. s.p. shells
13.1	4	-	-								
16.4	5	-	-								decreasing st with more crisp granules.
19.7	6	-	-								crisp granules + gr. br ss nodules
23.0	7	-	-								
28.2	8	-	-								increasing crisp granules on hard br / k.p. ss (nodular)
29.5	9	-	-								harder more gr. less nodular k.p. ss + crisp ss nodules
32.8	10	-	-								have to pick in more gr. less nodular k.p. ss
36.1	11	-	-								increasing fl. calc. + more green ss.
39.4	12	-	-								gr. sh. frags in soft k.p. ss, quite crisp in places
42.7	13	-	-								more fine-gr. (sh. less crisp) slightly green ss.
45.9	14	brk	phs								gray, duller ss most nodular
49.2	15	-	-								
52.5	16	-	-								
55.8	17	-	-								
59.1	18	-	-								
62.3	19	-	-								
65.6	20	-	-								
68.9	21	-	-								
72.2	22	-	-								
75.5	23	-	-								
78.7	24	-	-								
82.0	25	-	-								

Notes:

Thick alluvials above and bluish grey CS + soft porous bottom

Taipan X

England Hill drilling prospect 2001

Irill prospect.

Hole Number :	Licence number :	Prospect :	Date drilled:
EHA 159	EL 2252	England Hill	18/11/2001
	Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by :
			Clayton Simpson
Coordinates (AMG-WGS84 datum) :	42 3 351	E 688 4 567	Hole diameter :
			9 INCH
			Drill method :
			AUGER

RL 319m

Hole depth	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	Dark	hard					14	M		SR to RR gy hard sl pebbles-boulders in rd-bk ST
8.8	2	Dark	br					14	6		SR gy sl pebbles-boulders in hard br ST + hard CS clay
9.8	3	Dark	pr					14	6		Si-concrete pebbles-boulders of grey sl + hard pr
13.1	4	-	CS sl ST					6	1		Increasing red to hard Gr pure blues + SR grey sl
16.4	5	Dark	pr					14	1		Clinty hard broken pr blues + Si-concrete ST
19.7	6	-	-					6	1		
23.0	7	-	-					14	1		Clinty hard Gr pure CS + minor soft slightly kaolinitic places
28.2	8	-	-					14	1		
29.5	9	Dark	pr					14	1		1ft Gr gy CS, slightly kaolinitic in places
32.8	10	-	-					14	1		
38.1	11	Dark	pr					14	1		Soft + slightly green Gr / HCS
39.4	12	Dark	pr					14	1		
42.7	13	-	-					14	1		
45.9	14	-	-					14	1		
49.2	15	-	-					14	1		
52.5	16	-	-					14	1		
55.8	17	-	-					14	1		
59.1	18	-	-					14	1		
62.3	19	-	-					14	1		
65.6	20	-	-					14	1		
68.9	21	-	-					14	1		
72.2	22	-	-					14	1		
75.5	23	-	-					14	1		
78.7	24	-	-					14	1		
82.0	25	-	-					14	1		

Thick boulder alluvial above poor dolomite bed c.

Trill prospect.

Hole Number : EHA 160		Licence number : EL 2252	Prospect : England Hill		Date drilled: 18/11/01 / 2001
Drill rig type / contractor :		Investigator Mk10A / Taipan X		Logged by : Clayton Simpson	Hole diameter : 9 INCH
Coordinates (AMG-WGS84 datum) : 42 3127		E 688 4300	N	Drill method : AUGER	

Hole depth		Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
ft	m				quantity	types	quantity	types				
3.3	1	Tsi	grey	SI, ST					VH	M		boulders to massive fine gr - gr SI with br ST in places
6.6	2	-	-	-					VH	G		
9.8	3	Tsk	-	SI, ST, CS					VH			finely gr - gr SI (some br) + broken band in CS in band br ST
13.1	4	-	crbr	-			tr mn					increasing broken br in CS + mn sand brecciated SI
16.4	5	-	-	-			-					
19.7	6	Tsk	-	CS, SI			-					climby band Gr + br kink CS + mlt br SI nodules - polished glass
23.0	7	-	-	-			-					intermixed band Gr + CS, br SI + gr - gr ST mn staining in places
28.2	8	hardly ph-pv	-	CS + br + gr			-		H			climby band Gr + br + CS + mlt br SI, mn staining in places
29.5	9	-	-	-			-					CS becoming saltier to base, minor broken CS and S
32.8	10	br	-	CS + br + gr			-					hard Gr + br + CS, little br in, + br + CS nodules
36.1	11	-	-	-			-					climby band Gr + br + CS
39.4	12	-	lt pr	-			-					slender Gr + CS, little br in
42.7	13	-	-	-			-					
45.9	14	-	-	-			-					saltier Gr + green pr + CS in places at base
49.2	15	-	-	-			-					
52.5	16	-	-	-			-					
55.8	17	-	-	-			-					
59.1	18	-	-	-			-					
62.3	19	-	-	-			-					
65.6	20	-	-	-			-					
68.9	21	-	-	-			-					
72.2	22	-	-	-			-					
75.5	23	-	-	-			-					
78.7	24	-	-	-			-					
82.0	25	-	-	-			-					

Very thick Boulder alluvials above poor hard 'bluffs', also poor hard CS & some softer bottom gravel.

Taipan X

England Hill drilling prospect 2001

Hole Number :	Licence number :	Prospect :	Date drilled:
EHA 161	EL 2252	England Hill	18/11 / 2001
Drill rig type / contractor :	Investigator Mk10A / Taipan X		Logged by : Clayton Simpson
Coordinates (AMG- WGS84 datum) :	42 3126	E 688 4326 N	Hole diameter : 9 INCH
			Drill method : AUGER

Hole depth		Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
ft	m				quantity	types	quantity	types				
3.3	1	Grk	Li-gr	Sl, ST					H	M		gr-gr Sl pebbles to boulders in hard Gr ST
6.8	2	-	-	-					VH	G		SR gr-gr hard Sl pebbles in hard Gr ST
9.8	3	-	gy-gr	-					VH			bouldy to massive gr-gr Sl in soft center hard Gr ST
13.1	4	-	-	-					6			
18.4	5	-	-	-					VH			Sandy textured gr-gr Sl lined with Hb ST, more SR pebbles
19.7	6	-	-	-		tr Mn						mineral-stained hard Gr ST in sandy textured gr-gr Sl
23.0	7	-	gr-gr	Sl, CS, ST		-						much for sponges in hard th CS within bouldy gr-gr Sl
26.2	8	-	pr-gr	CS, Sl		-						hard Gr below pr-gr CS + sandy textured gr-gr Sl pebbles
29.5	9	Hbl	-	CS, light		-			D			clay hard Gr gr-gr CS + minor sand bedded gr-gr Sl pebbles
32.8	10	-	blue-grey	-		-			H			soft pr-gr CS intervals in clay hard Gr CS
36.1	11	-	-	-		-				↓		hard pr-gr CS w/ vit. pr-gr pebbles
39.4	12	-	-	-		-				wid		
42.7	13	HbZ	-	CS interbedded		-				↓		hard Gr pr-gr CS + soft tr. banded HbZ to pr-gr CS intervals
45.9	14	-	Hpr	-		-				mid		soft pr-gr CS intervals, hard banded HbZ CS
49.2	15	-	pr	-		-				↓		hard Gr pr-gr CS or min soft banded HbZ pr-gr CS
52.5	16	-	-	-		-				↓		Soft Gr pr-gr CS, little grain
55.8	17	-	-	-		-				↓		minor greenish Gr pr-gr CS increasing to base
59.1	18	DOB	-	54R		-				↓		
62.3	19	-	-	-		-				↓		
65.6	20	-	-	-		-				↓		
68.9	21	-	-	-		-				↓		
72.2	22	-	-	-		-				↓		
75.5	23	-	-	-		-				↓		
78.7	24	-	-	-		-				↓		
82.0	25	-	-	-		-				↓		

Notes: Thick alluvials down poor hard 'bluish' CS + poor hard cottony ground into greasy CS.

Taipan X England Hill drilling prospect 2001

Infill prospect

Hole Number : EHA 162	Licence number : EL 2252	Prospect : England Hill	Date drilled: 18/11/2001
Drill rig type / contractor :		Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG- WGS84 datum) : 42 5128		E 688 43526 N	Hole diameter : 9 INCH
			Drill method : AUGER

Hole depth ft m	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3 1	162	br-gr	SI, ST					VH	4		gr-gr SI pebbles to boulders in br ST
6.6 2	-	-	-					0	6		SR gr-gr to rd SI pebbles + boulders in hard br ST
9.8 3	-	gr-br	-					VH	1		glassy lustre to gr-gr SI boulders + pebbles in hard br ST
13.1 4	-	-	-					0			sandy br-br gr-gr SI boulders + pebbles
16.4 5	-	-	SI, CS, ST			hr	Mn	VH			boulders gr-gr SI + hard br ST with Mn staining, lined with br ST
19.7 6	-	br-pv	CS, SI			-	-				Mn stained br-Si 'bluish' CS + gr-gr SI pebbles
23.0 7	162	br-br	CS 'bluish'			-	-				Mn stained clinky hard gr-pv br CS + minor br-br ST nodules
26.2 8	-	-	-	hr	Si						minor chalcocite Si in clinky hard br CS
29.5 9	-	br-gr	-	-	-						increase hard dk br CS in br CS
32.8 10	-	-	-								hard dk br CS + br dk br CS
36.1 11	162	-	-					0			
39.4 12	162	br-br	CS, br-br					H	0		hard gr-gr CS, slightly kaolinitic + clinky hard br CS pebbles
42.7 13	-	-	-						ind		increasingly kaolinitic gr-pv br CS + pv pebbles
45.9 14	-	-	-						0		
49.2 15	-	-	-						0		clinky hard gr-pv br CS + hard pv-stained pebbles
52.5 16	-	br-pv	-						0		Slightly more kaolinitic + softer br-pv CS
55.8 17	-	br	-						0		softer br-pv CS, greasy in places
59.1 18	-	-	-					S	0		soft gr-pv br greasy CS
62.3 19	162	br-br	-								
65.8 20	-	-	-								
68.9 21	-	-	-								
72.2 22	-	-	-								
75.5 23	-	-	-								
78.7 24	-	-	-								
82.0 25	-	-	-								

Notes: Thick all vials done regolith CS, OK Chippy CS 100% salt bottom + greasy muds.

Infill prospect

Taipan X England Hill drilling prospect 2001

~~18/11/2001~~

Hole Number:	Licence number:	Prospect:	Date drilled:
EHA 163	EL 2252	England Hill	18/11/2001
Drill rig type / contractor:	Investigator	Hole diameter:	Logged by:
	Mk10A / Taipan X	9 INCH	Clayton Simpson
Coordinates (AMG- WGS84 datum):	Drill method:		
42 3106 E 688 4290 N	AUGER		

RL 329m

Hole depth	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	ld	gr					H	m		Hard gr + clat of gr - gr st
6.6	2	Trk	gy bi					VH	6		boundary gr + st + broken hard wrcs with st
9.8	3	-	brn			hr	G.	6			increasing hard Gr + brn to brn CS + mly brn st nodules
13.1	4	brn	-					H			broken hard wrcs + clatcs of mly brn st + gr + st (dominant)
16.4	5	-	brn								broken hard wrcs increasing brn
19.7	6	brn	-								broken pr brn gr hard CS + mly brn to gr st nodules / patches
23.0	7	-	-								decreasing st + more brn to gr st to chippy gr + brn CS
26.2	8	bb1	ph pr	hr	Brn	hr	Al	S			crisp brn to mly wh brn CS + brn pr CS patches
29.5	9	-	-								several sample pods in good crisp wrcs
32.8	10	-	cr br								crisp to hard brn (brn CS + increasing sample)
38.1	11	-	-								
39.4	12	-	-								
42.7	13	brn	-						yd		Al pods + brn st in crisp brn brn CS
45.9	14	-	ph pr						pr		more columbic salt + brn CS, less brn + not chippy
49.2	15	-	-								minor crisp brn CS intervals in hard brn (brn CS (little brn))
52.5	16	ph	-								Al pods + sample in brn salt pr brn CS
55.8	17	ph	-								soft pr brn CS, greasy in places
59.1	18	EOH	-								greasy pr brn CS + minor prgy clays
62.3	19										
65.6	20										
68.9	21										
72.2	22										
75.5	23										
78.7	24										
82.0	25										

Notes:

Taipan X

England Hill drilling prospect 2001

* poor patch in Gr land 32 ft

Hole Number :	Licence number :	Prospect :	Date drilled:
EHA 164	EL 2252	England Hill	19/11/2001
Drill rig type / contractor :		Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG- WGS84 datum) :		42 24 50 E 688 5800 N	Hole diameter : 9 INCH
			Drill method : AUGER

[illegible]

Notes: *v. thick alluvials above nodular CS. Some quite good chunky CS, in Aluminite bottom ground.*

Indil prospect.

Taipan X England Hill drilling prospect 2001

Hole Number : EHA 165	Licence number : EL 2252	Prospect : England Hill	Date drilled: 19/11 / 2001
	Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG- WGS84 datum) :	42 2451	E 688 5776 N	Hole diameter : 9 INCH
			Drill method : AUGER

Hole depth ft m	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3 1	rd	br	ST, CC, SI					H	m		lt br dr. Slightly CC silts + grey to rd SI pebbles.
6.6 2	-	-	-					MT	6		SI - coated hard br ST + minor SI pebbles
9.8 3	-	-	-								
13.1 4	-	-	-								increasing ST content
18.4 5	chk	br-gh	ST, CC, SI					H			Hard SI - coated br ST + hard grey CS or hard SI pebbles
19.7 6	-	pk br	CS, SI, ST			H	Gv	H			Coarse med br to hard grey CS or mottled milky rd to grey SI or br ST
23.0 7	-	pk br	SI, CC, ST			-	-	VH			pebbles to boulders mottled rd to grey SI. Hard br CS or br ST
26.2 8	-	gy br	-								with grey SI
29.5 9	hbk	-	CS, SI			H	Gv	H			good chunky SI + milky grey CS nodules (major). Fe silts 14C.
32.8 10	hbk	crp	CS (crp)			-	-	S			Good chunky SI + (CS + Al) pebbles. Fe silts 14C.
36.1 11	-	-	-			-	-				Ground good crp sp wh CS. Change to crp (Fe) CS at 65.
39.4 12	-	ltm	-			H	Gv/Al				Crp crp 14C SI, Coarse med Al pebbles
42.7 13	-	-	-			-	-				quite crsp. aluminite br CS + Fe-Stann 'beels
45.9 14	H2	-	CS infusible			mn	Al				quite aluminite, less crsp. Crp pebbles
49.2 15	1	crpe	-			mg	Al				Highly aluminite crsp (due to Al) 14C to 2 CS
52.5 16	-	-	-			-	-				Major Al pebbles
55.8 17	-	-	-			-	-				major Al pebbles + aluminite grains, Crp pebbles (+ some crp)
59.1 18	-	-	-			-	-				
62.3 19	Bottom good										
65.8 20											
68.9 21											
72.2 22											
75.5 23											
78.7 24											
82.0 25											

Notes: Thick alluvials above nodular CS, into gossa ~~Stibic~~ calcite crisp CS + greeny bottom.

Infill prospect.

Taipan X England Hill drilling prospect 2001

* Bone replaced 5 ft
Angelstone? 35 ft

Hole Number : EHA 166	Licence number : EL 2252	Prospect : England Hill	Date drilled: 19/11/2001
	Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG-WGS84 datum) :	42 2450	E 688 5753	Hole diameter : 9 INCH
		N	Drill method : AUGER

Hole depth		Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
ft	m				quantity	types	quantity	types				
3.3	1	Top	br	ST, CC					H	m		Hard br, slightly cc silts
6.6	2	-	-	-	tr	Br/trace			VH	G		harder sil-scented brcc + mmw gr s/pebbles
9.8	3	-	-	-					b			
13.1	4	-	br/lt	-								
16.4	5	Trm	lt br	ST, C, SI			tr	Gy	H			hard brst + clots of brcc + CS + SR gr s/pebbles
19.7	6	lt br	lt br	CS, SI					S			detached soft brcc + only clots of SI modules
23.0	7	-	-	-								milky gr hard SI in clumps w/c s
26.2	8	-	-	st, CS								large pebbles to boulders of milky SI + mmw br SI in clumps w/c s
29.5	9	-	lt br	-								increasing good clumpy w/c s
32.8	10	lt br	lt br	CS (clumpy)			tr	Gy				good clumpy CS + Fe-stained CS (clots) clt + fclts
36.1	11	-	-	-	tr	MA/trace	tr	Gy				quite 'bluish' good clumpy w/c s, Angular clots + oncs s
39.4	12	-	-	-			tr	G, Al				mmw Al pods in clumpy to bluish lumps
42.7	13	-	lt br	-			mm	Al, Gy		und		Blocky Gr 14 pu crisp CS + Al + Fe-stained 'leaky'
45.9	14	-	-	-								quite glumy crisp Gr 14 pu CS, less bluish
49.2	15	-	-	-			mm	Al		mil		CS becoming less crisp + more glumy
52.5	16	lt br	lt br	-								crisp to soft Gr 14 pu CS
55.8	17	lt br	lt br	CS intermediate			tr	Al, Gy				soft pu glumy CS, more grey, 14 pu s
59.1	18	-	-	-								increasingly soft to greasy CS
62.3	19	lt br	lt br	60 ft								
65.6	20	-	-	-								
68.9	21	-	-	-								
72.2	22	-	-	-								
75.5	23	-	-	-								
78.7	24	-	-	-								
82.0	25	-	-	-								

Notes: Thick alluvials above regolith CS, into G₂ vein part of CS & greasy bottom + muds.

Taipan X England Hill drilling prospect 2001

Infill prospect.

Hole Number :	Licence number :	Prospect :	Date drilled:
EHA 167	EL 2252	England Hill	19/11/2001
Drill rig type / contractor :	Investigator Mk10A / Taipan X	Hole diameter :	9 INCH
Coordinates (AMG-WGS84 datum) :	42 245 9 E 688 572 5 N	Drill method :	AUGER

RL 32.8m

Hole depth		Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
ft	m				quantity	types	quantity	types				
3.3	1	Td	br	ST, CC, SI					H	M		Hard brcc silts + gr silt pebbles
6.6	2	Td	brgy	SI, ST, CS					VH	B		grgy silt pebbles + hard pvc CS in hard br ST
9.8	3	-	-	-					H	G		increasing brcc on level H ₂ CS + mottled pvc CS
13.1	4	-	pbcr	ST, CC, SI					H			detrital hard br-pvc CS + H ₂ ST + grgy SI
16.4	5	H ₂	br-pu	CS, SI	tr	Brpvc	tr	Gx				increasing pvc hard pvc intervals + less SI
18.7	6	-	-	-								detrital pvc CS + grgy SI intervals + increasing soft CS + brcc
23.0	7	-	pu-br	-								hard br H ₂ CS, more kaolinite + soft pvc + brcc
26.2	8	H ₂	br-pu	CS 'mudstone'								increasing brcc to soft to clayey br for H ₂ CS + m ₂ gr
29.5	9	H ₂	-	CS 'clayey'								br veined soft H ₂ CS + increasing clayey pvc + less SI
32.8	10	-	-	-								br veined soft CS, minor pvc CS + Fe-stk levels
36.1	11	H ₂	-	CS 'mudstone'								pr-stnd soft silty kaolinite CS & Fe-stnd intervals
39.4	12	-	pu	-								increasing more grgy pvc + minor kaolinite CS
42.7	13	-	-	-								soft to greasy br pvc + br veining, minor clayey
45.9	14	-	-	-								
49.2	15	-	-	-								
52.5	16	H ₃	br-pu	CS 'mudstone'								soft to drab/greasy pvc + minor pvc clay
55.8	17	-	-	-								Very pvcy mud clay + greasy CS
59.1	18	-	-	-								
62.3	19	-	-	-								
65.6	20	-	-	-								
68.9	21	-	-	-								
72.2	22	-	-	-								
75.5	23	-	-	-								
78.7	24	-	-	-								
82.0	25	-	-	-								

thick boulder alluvials ● bare hard bluish to pear c/s, so ● pear crisp c/s w/ greasy bottom
ground & rocks.

In all cases.

RL 333

[illegible]

Notes:

Thick alluvials above siltstone thin cherty CS, into sandstones + greenish muds

Taipan X

England Hill drilling prospect 2001

Taipan prospect.

Hole Number :	Licence number :	Prospect :	Date drilled:
EHA 169	EL 2252	Not prospect England Hill	20/11/2001
Coordinates (AMG- WGS84 datum) :	Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
42 2400		E 688 5 735 N	Hole diameter : 9 INCH
			Drill method : AUGER

Hole depth	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	ldc	br					H	M		Harder slight CC silts + qz hard SR SI pebbles
6.6	2										increasing qz SI pebbles
9.8	3	- br qv	ST, SI, CC					4	6		CC cemented qz-sil pebbles + hard ST
13.1	4	pink qz-sr	SI, CS, ST								broken hard pebbles + qz SI pebbles in CC br ST
16.4	5	- br	CS, SI, ST								clinky hard pebbles + detrital muds + qz to br SI pebbles
19.7	6	-	-					H			
23.0	7	lt br	CS, SI			tr	Gr				broken hardish brachyons + magnesian + small rd + qz SI
26.2	8	lt br	CS clay			-	-	S			chippy hard brachyons + magnesian + small rd + qz SI
29.5	9	lt br	CS clay			mn	Gr				intense brachyons + magnesian + small rd + qz SI
32.8	10	-	-			-	-				small brachyons + magnesian + small rd + qz SI
36.1	11	-	-			tr	Gr				less brachyons + magnesian + small rd + qz SI
39.4	12	-	-			-	-				poor for magnesian + small rd + qz SI
42.7	13	lt br	CS clay			-	-				greenish brachyons + magnesian + small rd + qz SI
45.9	14	-	-			-	-				poor for magnesian + small rd + qz SI
49.2	15	-	-			-	-				poor for magnesian + small rd + qz SI
52.5	16	-	-			-	-				
55.8	17	-	-			-	-				
59.1	18	-	-			-	-				
62.3	19	-	-			-	-				
65.6	20	-	-			-	-				
68.9	21	-	-			-	-				
72.2	22	-	-			-	-				
75.5	23	-	-			-	-				
78.7	24	-	-			-	-				
82.0	25	-	-			-	-				

Notes: thick alluvial base hard bluish to purcs, some crop into soft bottom ground + greasy ~~CS~~ CS

Infill prospect

Taipan X England Hill drilling prospect 2001

Hole Number:	Licence number:	Prospect:	Date drilled:
EHA 170	EL 2252	<i>Not prospect</i> England Hill	20/11/2001
Drill rig type / contractor:	Investigator	Hole diameter:	Logged by:
	Mk10A / Taipan X	9 INCH	Clayton Simpson
Coordinates (AMG-WGS84 datum):	E 688 5725	Drill method:	
42 2398	N	AUGER	

Hole depth	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	Red br	ST, G, SI					H	M		Hard cc br ST + minor gr SI pebbles
6.6	2	- brgy	-					H	D		In crease, sandy ST, centell
9.8	3	dk grey	SI, ST					VH	6		gr-gr sandy bedded ST + hard to ST
13.1	4	- br-pu	SI, G, ST								gr-gr SI + broken gr-gr CS (debris) in hard to ST
16.4	5	-	CS, SI, ST			tr	mn				clay-lined gr-pv CS, + br SI nodules + gr-gr SI pebbles
19.7	6	Hlt mbr	CS, brgy, ST			-	-				broken chunky bed' b/bed' CS + de knotted bed gres + minor SI
23.0	7	-	-			-	-	H			
26.2	8	H2 pt-pu	CS, brgy, ST								softer H2 to brgy Gres, slightly harder + br in ground bed brs
29.5	9	-	-								increasingly more chunky CS pebbles
32.8	10	H3 pt-pu	CS, chunky			tr	Gv	S	und		chunky bedded br to marls CS, dk to food CS pebbles
36.1	11	-	-			-	-				quite blocky, br to touch CS, less crop to br
39.4	12	H3 pt-pu	CS, chunky			-	-				softer (H3 to H4) brs, less knotted br, (annular) mbr. Br.
42.7	13	-	-			-	-				soft to crop, mbrs + greasy to base
45.9	14	H4 pt-pu	CS, chunky								soft + greasy puttygres, minor crop CS, + minor clars
49.2	15	-	-								
52.5	16	-	-								
55.8	17	-	-								
59.1	18	-	-								
62.3	19	-	-								
65.6	20	-	-								
68.9	21	-	-								
72.2	22	-	-								
75.5	23	-	-								
78.7	24	-	-								
82.0	25	-	-								

Notes: Thick alluvials above good chippy to blocky CS, 100m. Hentic bottom ground + greasy mud.

Taipan X England Hill drilling prospect 2001

Infill prospect

Hole Number :	Licence number :	Prospect :	Date drilled :
EHA 171	EL 2252	No 1 prospect England Hill	20/11 / 2001
Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by :	Clayton Simpson
Coordinates (AMG-WGS84 datum) :	42 242 5	Hole diameter :	9 INCH
	E 688 577 5	Drill method :	AUGER

Hole depth		Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
ft	m				quantity	types	quantity	types				
3.3	1	cd	br	St, CL, SI					H	m		Hard br silty CC salts + minor silty clays
6.6	2		dk br						H	6		increased with gr silty clays
9.8	3	cd		SI, CS, ST					H			gr to br silty clays + detrital hard br CS w/ ST
13.1	4		br fm						H			Sandy textured grey silty clays + mottled grey CS w/ ST
16.4	5		lt						H			interbedded gr silty + gr-gr silty detrital hard br CS
19.7	6								H			in creasing calc detrital br CS
23.0	7	cd	dk br	CS, SI			tr	Gy	H			chippy whiter CS (quite dry) + broken br ST + mottled grey
26.2	8	cd	cd	CS 'chippy'			lt		H			Good mottled chippy to blocky CS + broken br ST
29.5	9								H			Good blocky mottled CS + Gy veins + broken hard ST
32.8	10								H			Good Crisp mottled CS + Gy veins + chippy CS
36.1	11								H			Fe-Stone ball in good chippy CS
39.4	12		dk br				tr	H, br	H			less chippy mottled CS + 1/4 br silty + Gy veins
42.7	13								H			more aluminous + silty crisp 1/4 br CS, w/ H, br
45.9	14								H			crisp aluminous 1/4 br CS + 1/4 br 'broken ground'
49.2	15	cd	dk br	CS 'interbedded'			mu	H	H			Quite aluminous 1/4 br to br crisp CS, less chippy, mottled
52.5	16		cd						H			thentic for 1/4 br to br CS, more crisp interbedded
55.8	17								H			minor crisp alluvials in silty aluminous mottled CS, grey CS to br
59.1	18	cd	br	CS 'muddish'			tr	H	H			silty to br mottled grey CS + mottled chippy CS
62.3	19		cd	SS, R.					H			
65.6	20								H			
68.9	21								H			
72.2	22								H			
75.5	23								H			
78.7	24								H			
82.0	25								H			

Notes: Thick alluvials above ^{very} nodules into good chippy ^{very} calcitic bottom ground + greasy mids.

Taipan X England Hill drilling prospect 2001

Hole Number : EHA 172	Licence number : EL 2252	Prospect : England Hill	Date drilled: 20/11/2001
Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by : Clayton Simpson	Hole diameter : 9 INCH
Coordinates (AMG- WGS84 datum) : 42 2425 E 688 575 D N	Drill method : AUGER		

Hole depth		Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
ft	m				quantity	types	quantity	types				
3.3	1	cd	br	St, cl, sl					H	3		lt grey cc sl + 9x spongy
6.6	2	-	br-ph	-					H	6		quite cc broken hard br st + pebbles of quartz
9.8	3	~~cd~~	-	~~St, cl, sl~~					UH	1		hard br st + (sl concretion) spongy
13.1	4	~~cd~~	-	St, cl, sl					H			qz to br sl pebbles + broken hard br st in cl br st
16.4	5	-	cr-br	CS, gr, st					H			broken hard to chippy (st) + milky gr sl
19.7	6	cd	ph-br	CS, sl					S			broken chippy whcs + 1/2 br st + hard si-concreted nodules
23.0	7	-	-	-	hr	ph			H			hard to chippy whcs + st milky gr hard sl nodules
26.2	8	-	ph-br	St, CS, ST	-	-	hr	ph	H			very milky br sl (ph) + milky gr hard st + concretion + (br) st
29.5	9	-	cr-br	-	-	-	-	-	H			very milky br sl (dominant) + Hpe's in br concretion + (br) st
32.8	10	-	ph-br	CS, sl			hr	ph	S			increasing chippy concretion + cr br st (broken)
36.1	11	ph	ph-br	CS, chippy			hr	ph	S			very crisp br to ph whcs + br concretion + minor cr br st
39.4	12	-	-	-			hr	ph	S			Good crisp br to ph whcs + minor br concretion
42.7	13	-	-	-			hr	ph	S			Softer crisp br to ph whcs, minor br concretion
45.9	14	-	-	-			min	ph	S			increasing br concretion, calcitic, whcs, crisp (br) st
49.2	15	ph	ph-br	CS, nodular			hr	ph	S			softer br to ph whcs, less crisp + nodular, br concretion
52.5	16	-	-	-			-	-	H			soft + slightly greasy br whcs
55.8	17	-	ph	-			-	-	H			increasing br concretion, more greasy, br concretion
59.1	18	ph	ph	CS, nodular			-	-	F			soft to fragile greasy, br concretion + ph whcs
62.3	19	ph	ph	58R								
65.6	20											
68.9	21											
72.2	22											
75.5	23											
78.7	24											
82.0	25											

I will prospect.

2. $\log 100 = 2$ 25A

Hole Number : EHA 173	Licence number : EL 2252	Prospect : K1 prospect England Hill	Date drilled: 21/11/2001
Drill rig type / contractor :		Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG- WGS84 datum) : 42 2424		E 688 5726 N	Hole diameter : 9 INCH
			Drill method : AUGER

[illegible]

Notes:

Taipan X

England Hill drilling prospect 2001

Hole Number :

Licence number :

Prospect :

100

Date drilled:

/ 2001

EHA

EL 2252

England Hill

Logged by :

Clayton Simpson

Drill rig type / contractor :

Investigator Mk10A / Taiwan X

Hole diameter :

9 INCH

Coordinates (AMG- WGS84 datum) :

42 2426

E 688 5701

N

Drill method :

AUGER

[illegible]

VOLUME 2

Drill hole logs
EHA 175 - 199

Notes: thick alluvials above hor. bluish cs + poor hard cs + grey bottom

England prospect

Taipan X England Hill drilling prospect 2001

Hole Number : EHA 175	Licence number : EL 2252	Prospect : No 1 prospect England Hill	Date drilled: 21/11/2001
Drill rig type / contractor :	Investigator Mk10A / Taipan X	Hole diameter : 9 INCH	Logged by : Clayton Simpson
Coordinates (AMG- WGS84 datum) : 42 2424 E 688 5800 N	Drill method : AUGER		

Hole depth		Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
ft	m				quantity	types	quantity	types				
3.3	1	170	br	ST, CL, SI					H	6		Hard br cc ST & qtz si pebbles
6.6	2	-	-	-								
9.8	3	24	grey	ST, ST, CS	4	si						pebbles to boulders of qtz si in hard br ST
13.1	4	-	-	SI, ST, CS								increasing concn of broken br ST which is br ST
16.4	5	-	U-br	CS, SI, ST								clinky hard Cor 1 Br CS Lg qtz si pebbles in br ST
19.7	6	-	br m	-								broken hard br ST & qtz si pebbles in br ST
23.0	7	164	br m	cs bluish								matted parting qtz hard Cor CS
26.2	8	-	-	-								CS soft to 500 minor br si nodules
29.5	9	-	17m	-								clinky hard qtz to mcs, slightly harder to 500
32.8	10	152	-	cs interbedded								Hard Cor 14 m to br CS, slightly harder
36.1	11	-	17m	-					S			Soft br + greenish pu-qtz CS + mgs clay of 500
39.4	12	-	-	-								
42.7	13	-	-	-								
45.9	14	-	-	-								
49.2	15	-	-	-								
52.5	16	-	-	-								
55.8	17	-	-	-								
59.1	18	-	-	-								
62.3	19	-	-	-								
65.6	20	-	-	-								
68.9	21	-	-	-								
72.2	22	-	-	-								
75.5	23	-	-	-								
78.7	24	-	-	-								
82.0	25	-	-	-								

Notes: thick alluvials above nodules (silicified) + good to chippy CS, no alunitic + grassy
bottom ground + muds.

27/11

Taipan X England Hill drilling prospect 2001

Hole Number : EHA 176	Licence number : EL 2252	Prospect : England Hill	Date drilled: 27/11 / 2001
	Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG-WGS84 datum) : 42 24 35 E 688 5747 N			Hole diameter : 9 INCH
			Drill method : AUGER

RL 332m

Hole depth ft m	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3 1	Th	br	ST, AFI					H	M		Hard br, slightly cc silt + gr to rd silt
6.6 2	-	-	-					H	G		v hard br ST + minor rd to gr SI
9.8 3	-	-	-					H			
13.1 4	ch	cr-br	ST, SI					H			Gravelly w/ de rounded CS + gr SI in hard br ST
16.4 5	-	br-m	CS, SI, ST			H	Mn	H			mn stained hard pure CS + hard MnCS + br ST
19.7 6	hs	plm	CS, SI, ST					S			plm to gr br SI in chippy wh CS + 1/2 br 'bragued' ST
23.0 7	-	-	CS, ST								v good chippy wh br CS + mottled pur to gr SI nodules
26.2 8	-	-	-			H	Gr				large nodules of rd to gr SI (quite rd) in chippy CS
29.5 9	-	-	-	H	Mn						hard Gr wh CS + Mn + plm in chippy wh CS + br ST
32.8 10	hs	cr-m	CS (chippy)								Good chippy MnCS + 1/2 br CS + minor SI
36.1 11	-	-	-								Gravelly good chippy wh CS + minor MnCS
39.4 12	-	-	-								Fe-stained leeks for br ST in chippy wh CS
42.7 13	-	br	-			H	Mn				alunitic soft Mn br CS
45.9 14	-	-	-								Fe-stained leeks in chippy wh CS + minor MnCS
49.2 15	hs	-	CS (chippy)								less chippy soft MnCS with br CS + MnCS, soft +
52.5 16	hs	pur	CS (chippy)			Mn	H				dark alunitic soft Mn to gr br CS, less MnCS
55.8 17	-	br	-			H	Mn				soft to gr wh CS + decreasing MnCS
59.1 18	hs	-	CS (chippy)								soft to chippy wh CS + pur gr clays
62.3 19	-	-	-								
65.6 20	-	-	-								
68.9 21	-	-	-								
72.2 22	-	-	-								
75.5 23	-	-	-								
78.7 24	-	-	-								
82.0 25	-	-	-								

Notes: Thick 'biscuit' above hard nodalities, into good blocky chippy CS levels calcareous to greasy bottom ground.
 Infill
 Taipan X England Hill drilling prospect 2001
 # Aug 25th

Hole Number : EHA 177	Licence number : EL 2252	Prospect : England Hill	Date drilled: 22/11/2001
	Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG- WGS84 datum) :	42 2435	E 688 5763	Hole diameter : 9 INCH
		N	Drill method : AUGER

Hole depth ft m	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3 1	- do	br	ST, CC, SI					H	M		Hard br slightly CC silts - qtz SI pebbles
6.8 2	-	-	-					VH	G		Si - cemented br ST + some SI pebbles
9.8 3	-	cr	-								
13.1 4	-	-	ST, CC, SI								broken hard br ST + qtz SI pebbles in Si - cemented ST
16.4 5	-	-	CS, SI, ST								very hard / calcareous / chippy / hard CS
19.7 6	LS	br	CS, SI			N	Gr				Hard to chippy Gr uncs + hard CS pebbles + qtz SI pebbles
23.0 7	LS	br	CS, SI								Good chippy uncs (to be used) + br calc good ST
26.2 8	LS	br	CS, chippy	hr	Maunth			S			Good bluey hard to chippy uncs + hard br CS pebbles
29.5 9	-	-	-	hr	Phen						Very bluey good chippy CS + mly br SI (Phen.) of the gr Hls
32.8 10	-	-	-								Very bluey good chippy CS + Gr uncs 'loos'
36.1 11	-	-	-								Loos 'loos' in chippy uncs
39.4 12	-	br	-								softer crisp than tough br uncs + only ST pebbles
42.7 13	-	-	-								crisp br to mly uncs + Gr S - uncs
45.9 14	-	-	-			hr	Gr, H				softer + more Gr - crisp CS + br uncs in Hls
49.2 15	-	br	-								crisp br to mly uncs + br uncs - Gr uncs
52.5 16	hr	-	CS, uncs			hr	Al, Gr				less crisp calcareous than br uncs
55.8 17	-	-	-			hr	H, Gr				softer, more greasy br uncs
59.1 18	-	br	-								greasy br uncs + mly br uncs of size
62.3 19	LS	br	600t								
65.8 20	-	-	-								
68.9 21	-	-	-								
72.2 22	-	-	-								
75.5 23	-	-	-								
78.7 24	-	-	-								
82.0 25	-	-	-								

Notes: thick alluvials above nodular cherty CS, some good cherty CS, no Aluminic bottom ground + greasy mud.

Taipan X England Hill drilling prospect 2001

Infill

Hole Number : EHA 178	Licence number : EL 2252	Prospect : England Hill	Date drilled: 21/11/2001
Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by : Clayton Simpson	Hole diameter : 9 INCH
Coordinates (AMG-WGS84 datum) : 42 2436	E 688 5775	Drill method : AUGER	

Hole depth	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	tdo	br					4	6		Hard br slightly cr silty + gr siltstone
6.6	2	-	-					4	6		Si-cemented hard br st - minor gr silt
9.8	3	-	cr			tr	Gr	4			increasing silt content near bottom hard br CS
13.1	4	-	-			tr	Gr	4			broken hard whcs + milky gr SI in br ST
16.4	5	dark ph br	CS, silt, ST			tr	Gr	4			Grained silt to cherty HCS or br ST
19.7	6	-	ph m			tr	Gr	4			cherty to soft whcs + red SI pebbles to sandstone
23.0	7	-	ph m			-	-	4			matrix silty, silt minor milky br SI in cr silty sand (in part K)
26.2	8	-	ph m			-	-	4			broken very crisp whcs + milky gr SI matrix of red silt
29.5	9	hb 1	cr ph			-	-				cr cherty whcs + br veins + br ST + loose SI
32.8	10	-	-			-	-				Good cherty whcs minor grey silty intervals
36.1	11	-	ph m			-	-				very crisp matrix to br HCS + loose silty brs, silt to br ST
39.4	12	-	-			tr	Al, Gr				crisp aluminic HCS + Gr siltstone
42.7	13	hb 2	1 ph m			tr	Al, Gr				Aluminic crisp HCS, more br silty sandstone HCS
45.9	14	-	cr wh			tr	Al				major Al pebbles in soft br mcs
49.2	15	-	-			tr	Al				
52.5	16	-	1 ph m			tr	Al				decreasing Al in quartz mcs
55.8	17	hb 3	ph m			tr	Al				Soft + greasy mcs + porous clays above
59.1	18	-	-								
62.3	19	-	-								
65.6	20	-	-								
68.9	21	-	-								
72.2	22	-	-								
75.5	23	-	-								
78.7	24	-	-								
82.0	25	-	-								

Notes: *No record 029 - 421997 6985803*
v. thin alluvials above some crisp CS into hard & greasy bottom

In Coll prospect.

Taipan X

England Hill drilling prospect 2001

Hole Number : EHA 179	Licence number : EL 2252	Prospect : No 4 England Hill	Date drilled: 22/11/2001
Drill rig type / contractor :	Investigator Mk10A / Taipan X		Logged by : Clayton Simpson
Coordinates (AMG- WGS84 datum) : 42 2 00.2 E 688 80.2 N		Hole diameter : 9 INCH	Drill method : AUGER

Hole depth		Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
ft	m				quantity	types	quantity	types				
3.3	1	G1	reddish	SL, SI					4	M		Loose reddish scales & SR & SI pebbles
6.6	2	G2	plut	CS, SI					4	G		broken chippy blend (HSC) in br ST
9.8	3	H2	-	CS chippy					5	g		chippy to hard Gr white to CS & more SI
13.1	4	H2	1+pr	CS & sandstone					H			hard to chip Gr 11 pr CS quite bland
16.4	5											hard turning Gr 11 pr CS & hard pr-SL red CS pebbles
19.7	6											softer more pr CS
23.0	7						tr	AlG	5	pr		soft Gr slightly to hard 11 pr CS + pr patches - AlG
26.2	8		pr							pr		soft slightly green pr CS
29.5	9	H3	-	CS & sandstone								soft green Gr pr CS + prgy clastic base
32.8	10		SOFT	SOFT								
36.1	11											
39.4	12											
42.7	13											
45.9	14											
49.2	15											
52.5	16											
55.8	17											
59.1	18											
62.3	19											
65.6	20											
68.9	21											
72.2	22											
75.5	23											
78.7	24											
82.0	25											

Notes:

Thin alluvials are regolith CS & dk clastics into grey softening mud

Incl prospect.

Taipan X

England Hill drilling prospect 2001

Hole Number :	Licence number :	Prospect :	Date drilled:
EHA 180	EL 2252	England Hill	22/11/2001
Drill rig type / contractor :	Investigator	Hole diameter :	Logged by :
	Mk10A / Taipan X	9 INCH	Clayton Simpson
Coordinates (AMG- WGS84 datum) :	Drill method :		
42 2 02 6 E 688 5803 N	AUGER		

RL 314m

Hole depth	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	rd-br	SL SI					UC	M		purple rd-br scaled pebbles to boulders of ss
6.6	2	brn	CS, ST					S	6		brn clayey mcs in br st
9.8	3	brn	CS, clay	tr	Magdite			S			clayey mcs to CS + mcs had mcs (crystalline)
13.1	4	brn	CS, mudstone					H			hard gr mcs, kaolinitic in places with gr SI nodules
16.4	5	brn	CS, clay					S			crisp kaolinitic CS + mcs + gr - glau pebbles in veins to base
19.7	6	brn	CS, mudstone	tr	Pgms	tr	Gx				crisp kaolinitic to mcs + kaolinitic pebbles in veins!
23.0	7	brn	CS, mudstone								Greenish soft kaolinitic to mcs + kaolinitic, grey to base
26.2	8										
29.5	9										
32.8	10										
36.1	11										
39.4	12	brn	CS, mudstone								crisp for 1/2 gr, mcs kaolinitic + interbedded grey CS
42.7	13	brn	CS, mudstone								CS mcs soft + grey, laminated upst
45.9	14										grey mcs + on br st to 'mud bed'
49.2	15										Very grey gr mcs + purple clay st to base
52.5	16										
55.8	17										
59.1	18										
62.3	19										
65.6	20										
68.9	21										
72.2	22										
75.5	23										
78.7	24										
82.0	25										

Notes: NO alluvials, into regolith, crisp to hard CS, some OK crisp - do hard CS bottom ✓
 & unlike CS 6930.

Drill prospect

Taipan X England Hill drilling prospect 2001

Hole Number : EHA 181	Licence number : EL 2252	Prospect : England Hill	Date drilled: 22/1/2001
Drill rig type / contractor :		Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG-WGS84 datum) : 42 2050 E 688 5800 N		Drill method : AUGER	

Hole depth	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	lt br	CS, ST, CC					S	M		broken chips, lot of CS in br ST
6.6	2	-	-					H	Q		more compact CCC compact here to crisp w/CS
9.8	3	lt br	CS 'altered'					S	Q		hard CS, lot of fractures - hard to sample, more CS to 50.
13.1	4	lt br	CS 'chips'					S	Q		crisp lot of CS, lot of fractures, br ST in the ground
16.4	5	-	-					S	Q		crisp lot of CS, lot of fractures, lot of CS in the ground
19.7	6	lt br	CS 'altered'			fr	Gr	H	Q		hard CS, lot of fractures, lot of CS in the ground
23.0	7	-	-			fr	Gr, A	H	Q		Hard CS in hard Gr, lot of fractures, lot of CS in the ground
26.2	8	-	-			-	-	H	Q		softer CS, lot of fractures
29.5	9	-	-			fr	A/G/S	H	Q		fr - stand CS in aluminous soil to 100m
32.8	10	lt br	lt br								
36.1	11										
39.4	12										
42.7	13										
45.9	14										
49.2	15										
52.5	16										
55.8	17										
59.1	18										
62.3	19										
65.8	20										
68.9	21										
72.2	22										
75.5	23										
78.7	24										
82.0	25										

Notes: thin alluvials above gravelly hardcs into ok crsps & calcite bottom ground

In all prospect

Taipan X

England Hill drilling prospect 2001

Hole Number :	Licence number :	Prospect :	Date drilled:
EHA 182	EL 2252	England Hill	22/11/2001
Drill rig type / contractor :		Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG-WGS84 datum) :		42 2075 E 688 5798 N	Hole diameter : 9 INCH
			Drill method : AUGER

[illegible]

Notes:

v. thin alternals abn • nodular CS into good crsps • white bottom + gray clays.

Full prospect

Taipan X

England Hill drilling prospect 2001

Hole Number : EHA 183	Licence number : EL 2252	Prospect : England Hill	Date drilled: <u>22/11/2001</u>
	Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG-WGS84 datum) :	42 ~~1102~~ <u>2102</u>	E 688 ~~5752~~ <u>5752</u> N	Hole diameter : 9 INCH
			Drill method : AUGER

Hole depth ft m	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3 1	Qm	nd-br	SL, SI					S	M		100% red-br, scales & gr. SI, scales
6.6 2	hls	br-br	CS, SL, ST			tr	Gv		6		broken hard white CS, scales in br ST - milky ex SI
9.8 3	-	-	CS, SI			mn	Gv				Gv, red crsps w/CS + milky ex to br - milky ex to Gv
13.1 4	hls	-	CS, clays			-	-				Gv, red crsps w/CS + milky ex to br - milky ex to Gv
16.4 5	-	crk	-			-	-				Gv, red crsps w/CS + milky ex to br - milky ex to Gv
19.7 6	-	-	-			-	-				Gv, red crsps w/CS + milky ex to br - milky ex to Gv
23.0 7	-	phbr	-			tr	Gv				Gv, red crsps w/CS + milky ex to br - milky ex to Gv
26.2 8	-	-	-			-	Gv				Gv, red crsps w/CS + milky ex to br - milky ex to Gv
29.5 9	hls	phbr	CS, scales			-	Gv				Gv, red crsps w/CS + milky ex to br - milky ex to Gv
32.8 10	-	-	-			-	-				Gv, red crsps w/CS + milky ex to br - milky ex to Gv
36.1 11	-	-	-			-	-				Gv, red crsps w/CS + milky ex to br - milky ex to Gv
39.4 12	-	crk	-			mn	Al				Gv, red crsps w/CS + milky ex to br - milky ex to Gv
42.7 13	-	-	-			-	-				Gv, red crsps w/CS + milky ex to br - milky ex to Gv
45.9 14	hls	mv	CS, scales			tr	Al				Gv, red crsps w/CS + milky ex to br - milky ex to Gv
49.2 15	hls	crk	CS, scales			-	-				Gv, red crsps w/CS + milky ex to br - milky ex to Gv
52.5 16	-	-	-			-	-				Gv, red crsps w/CS + milky ex to br - milky ex to Gv
55.8 17	-	-	-			-	-				Gv, red crsps w/CS + milky ex to br - milky ex to Gv
59.1 18	-	-	-			-	-				Gv, red crsps w/CS + milky ex to br - milky ex to Gv
62.3 19	-	-	-			-	-				Gv, red crsps w/CS + milky ex to br - milky ex to Gv
65.6 20	-	-	-			-	-				Gv, red crsps w/CS + milky ex to br - milky ex to Gv
68.9 21	-	-	-			-	-				Gv, red crsps w/CS + milky ex to br - milky ex to Gv
72.2 22	-	-	-			-	-				Gv, red crsps w/CS + milky ex to br - milky ex to Gv
75.5 23	-	-	-			-	-				Gv, red crsps w/CS + milky ex to br - milky ex to Gv
78.7 24	-	-	-			-	-				Gv, red crsps w/CS + milky ex to br - milky ex to Gv
82.0 25	-	-	-			-	-				Gv, red crsps w/CS + milky ex to br - milky ex to Gv

In all prospect

Taipan X

England Hill drilling prospect 2001

Hole Number :

EHA 184

Licence number :

EL 2252

Prospect :

England Hill

Date drilled:

22/1/2001

Logged by :

Clayton Simpson

Drill rig type / contractor :

Investigator Mk10A / Taipan X

Hole diameter :

9 INCH

Drill method :

AUGER

Coordinates (AMG- WGS84 datum) :

427278

E 688 5750

N

RL 3213

Notes: Calvee regularities above ok to poor hard CS & greasy bottom

Taipan X England Hill drilling prospect 2001

Idol project

Hole Number : EHA 185	Licence number : EL 2252	Prospect : England Hill	Date drilled: 23/11/2001
	Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG- WGS84 datum) : 42 2054 E 688 5760 N			Hole diameter : 9 INCH
			Drill method : AUGER

Hole depth		Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
ft	m				quantity	types	quantity	types				
3.3	1	AB	cr. br	CS, sp. cl								Had 4 or 5 m. CC. cl. CS
6.6	2	K2	cr. br	CS, W. cl								had 4 or 5 m. CC. cl. CS
9.8	3											had 4 or 5 m. CC. cl. CS
13.1	4											had 4 or 5 m. CC. cl. CS
16.4	5											had 4 or 5 m. CC. cl. CS
19.7	6											had 4 or 5 m. CC. cl. CS
23.0	7		ph. br									had 4 or 5 m. CC. cl. CS
26.2	8		ph. br									had 4 or 5 m. CC. cl. CS
29.5	9											had 4 or 5 m. CC. cl. CS
32.8	10											had 4 or 5 m. CC. cl. CS
36.1	11											had 4 or 5 m. CC. cl. CS
39.4	12											had 4 or 5 m. CC. cl. CS
42.7	13											had 4 or 5 m. CC. cl. CS
45.9	14											had 4 or 5 m. CC. cl. CS
49.2	15											had 4 or 5 m. CC. cl. CS
52.5	16											had 4 or 5 m. CC. cl. CS
55.8	17											had 4 or 5 m. CC. cl. CS
59.1	18											had 4 or 5 m. CC. cl. CS
62.3	19											had 4 or 5 m. CC. cl. CS
65.6	20											had 4 or 5 m. CC. cl. CS
68.9	21											had 4 or 5 m. CC. cl. CS
72.2	22											had 4 or 5 m. CC. cl. CS
75.5	23											had 4 or 5 m. CC. cl. CS
78.7	24											had 4 or 5 m. CC. cl. CS
82.0	25											had 4 or 5 m. CC. cl. CS

Notes: thin alluvials above some OK crsps, into soft grey bottom ground.

Talul prospect

Taipan X England Hill drilling prospect 2001

Hole Number :	Licence number :	Prospect :	Date drilled :
EHA 176	EL 2252	England Hill	23/11/2001
Drill rig type / contractor :		Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG-WGS84 datum) :		E 688 5751 N	Hole diameter : 9 INCH
			Drill method : AUGER

Hole depth		Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
ft	m				quantity	types	quantity	types				
3.3	1	Qla	rd-br	SL, SI					S	M		loose rd-br soils + gx SI pebbles
6.6	2		br	ST, CS, SI			tr	G	4	6		soils at top with hard ssr broken west only of ST loose
9.8	3	hls	cr-br	CS, ST			mn	G	4			Gy sand broken crsps + minor ssr ST
13.1	4	hls	phm	CS (chmp)			-	-	S			increasingly more crsps crsps crsps + intensify Gy sand rd-br
18.4	5						-	-				on-burst in crsps Hbr CS, less hard crsps
19.7	6	hls	l-pm	CS (mudst)			tr	G, H				soft, muddy, broken (Hbr CS, Gy sand + Hbr)
23.0	7		ph				-	-		nd		soft grey mudst
26.2	8						-	-		nd		more grey crsps + puggy clay below
29.5	9	hls		CS (mudst)			-	-		nd		Very grey soft ssr mudst + puggy clay
32.8	10		soft	soft								
36.1	11											
39.4	12											
42.7	13											
45.9	14											
49.2	15											
52.5	16											
55.8	17											
59.1	18											
62.3	19											
65.6	20											
68.9	21											
72.2	22											
75.5	23											
78.7	24											
82.0	25											

Notes: ✓ thin alluvials + regolith onto hard CS, some of c. 1/4" or greater bottom ground founds.

Infill prospect

Taipan X England Hill drilling prospect 2001

Hole Number :	Licence number :	Prospect :	Date drilled:
EHA 187	EL 2252	England Hill	23/11/2001
Drill rig type / contractor :	Investigator Mk10A / Taipan X	Hole diameter :	9 INCH
Coordinates (AMG- WGS84 datum) :	42 2001 E 688 5749 N	Drill method :	AUGER

Hole depth	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	Qa	hard					5	M		broken hard wh CS + minor sl pebbles in rd for Sols.
6.6	2	h6	crs			tr	Gr	14	G		broken hard wh CS in tr ST, more crisp to 50 20
9.8	3	h52	phs			mm	Gr	6			Gr whd hard hardish wh CS, more crisp to 50 20
13.1	4	h51	-			tr	Gr	5			Crisp 140 to 200 Gr CS + Gr whd whishish Sols to base
16.4	5	h52	phs	tr	Marble	-	-				hard Gr whishish CS (crisp) in 200 Gr CS + Gr whishish CS + Gr whishish CS
19.7	6	-	ph			-	-		wd		soft + grey Gr whishish CS + some crisp 140 Gr whishish CS
23.0	7	h52	phs			-	-		mul		soft + greyish whishish CS + some crisp 140 Gr whishish CS
26.2	8	-	-						b		pusy clays = soft + greyish CS
29.5	9	POH 2504									
32.8	10										
36.1	11										
39.4	12										
42.7	13										
45.9	14										
49.2	15										
52.5	16										
55.8	17										
59.1	18										
62.3	19										
65.6	20										
68.9	21										
72.2	22										
75.5	23										
78.7	24										
82.0	25										

Notes: Regolith cs above  poor soft cs into  bottom ground

Taipan X England Hill drilling prospect 2001

Indell pers. pd.

Hole Number :	Licence number :	Prospect :	Date drilled :
EHA 188	EL 2252	England Hill	23/11 / 2001
	Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG- WGS84 datum) :	422002	E 688 5847 N	Hole diameter : 9 INCH
			Drill method : AUGER

Hole depth	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	hby	crbl					17	m		broken hard G. GCS in cc brst
6.6	2							1	6		more capble dipper w/ly GCS in brst
9.8	3	hby	crbl					5			hard G. slightly harder than GCS - Fe. ind Cracks
13.1	4										soft but more leaden than 14br to GCS + GCS, more capble
16.4	5										soft slightly harder than 14br CS, grey to black
19.7	6										soft + greasy pubes, fa mixed in pt.
23.0	7										Harder + G. in soft pubes
26.2	8										
29.5	9										increasingly more greasy + less leaden pubes
32.8	10		EO 30R4								
36.1	11										
39.4	12										
42.7	13										
45.9	14										
49.2	15										
52.5	16										
55.8	17										
59.1	18										
62.3	19										
65.6	20										
68.9	21										
72.2	22										
75.5	23										
78.7	24										
82.0	25										

Notes: *thin alluvials & regular CS are hard CS are decrased most to bottom.*

I will prospect.

Taipan X England Hill drilling prospect 2001

Hole Number : EHA 189	Licence number : EL 2252	Prospect : England Hill	Date drilled: <i>23/11</i> / 2001
Drill rig type / contractor :	Investigator Mk10A / Taipan X		Logged by : Clayton Simpson
Coordinates (AMG- WGS84 datum) :	422030	E 688 5849 N	Hole diameter : 9 INCH
			Drill method : AUGER

Hole depth ft m	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3 1	Qa	cbr	SI, CS, ST					H	M		SK gr Si pebbles & broken hard w/c 3 in br ST
6.6 2	Hb	phbr	CS, ST					S	G		broken hard w/c by leaden CS + minor br ST
9.8 3	HbD	phbr	CS & ~~phbr~~					S	G		crystal hard Gr w/c leaden CS + hard Gr gr CS & lead
13.1 4		phgr						H	I		hard Gr gr CS, ~~shard~~ leaden CS + ~~SK~~ CS w/c CS
16.4 5	Hb1		Cst chn					S	I		Crisp Gr fragments becoming harder to see
19.7 6		phbr				Gr	HG		I		crystal hard Gr w/c CS, Gr w/c ST, minor H pebbles, w/c
23.0 7	Hb2	phbr	Cst chn						I		minor only gr 'lewis' in less crisp Gr gr till CS, grey in
26.2 8	Hb3	phbr	Cst chn						I		H pebbles Gr w/c in less p Gr w/c CS + soft Gr w/c CS
28.5 9	Hb4	phbr	CS & ~~phbr~~						I		more Gr, less leaden H pebbles, crystal
32.8 10			30RT								
36.1 11											
39.4 12											
42.7 13											
45.9 14											
49.2 15											
52.5 16											
55.8 17											
59.1 18											
62.3 19											
65.6 20											
68.9 21											
72.2 22											
75.5 23											
78.7 24											
82.0 25											

Notes: regular + chunky CS (ep) in Gypsens rich interval + more green CS + Aluminic to greasy bottom ground

Taipan X England Hill drilling prospect 2001

Tail prospect

Hole Number : EHA 190	Licence number : EL 2252	Prospect : England Hill	Date drilled: 23/11/2001
Drill rig type / contractor :		Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG-WGS84 datum) : 42 20.55		E 688 984.9	Hole diameter : 9 INCH
		N	Drill method : AUGER

RL 312m

Hole depth	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	wh	CS, STCC					H	M		Broken hard whCS in CC br ST
6.6	2	wh	CS 'chunky' SI					S	B		Crisp wh for CS + milky SI in br ST
9.8	3	—	—			hr	Gy		G		more chunky crisp Gy whCS + milky SI nodules (small)
13.1	4	wh	CS 'nodular'			mg	Gy				intensity Gy + nodular CS indicates bands of chunky CS
16.4	5	—	—			—	—				less chunky Gy + more nodular CS
19.7	6	wh	CS 'chunky'			hr	Gy				crisp whCS for br ST + more Gy + nodular
23.0	7	—	—			—	—				Gy + nodular good crisp Gy whCS, more thickened to base
26.2	8	wh	CS 'nodular'			mg	Al				increasing x-Al + nodular in crisp Gy whCS. less chunky
29.5	9	—	—			mg	Al				quite aluminic for Gy whCS, less nodular
32.8	10	—	—			—	—				
36.1	11	—	—			—	—				Very aluminic Gy whCS
39.4	12	—	—			—	—				
42.7	13	—	—			mg	Al				less aluminic soft to crisp Gy whCS + more green CS
45.9	14	—	—			hr	Al				increasingly greenish soft CS + more
49.2	15	—	—			—	—				
52.5	16	—	—			—	—				
55.8	17	—	—			—	—				
59.1	18	—	—			—	—				
62.3	19	—	—			—	—				
65.6	20	—	—			—	—				
68.9	21	—	—			—	—				
72.2	22	—	—			—	—				
75.5	23	—	—			—	—				
78.7	24	—	—			—	—				
82.0	25	—	—			—	—				

Notes: regolith:cs above and cs, some decraps to calcitic bottom ground.

Full prospect.

Taipan X England Hill drilling prospect 2001

Hole Number :	Licence number :	Prospect :	Date drilled:
EHA 191	EL 2252	England Hill	23/11/2001
Drill rig type / contractor :		Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG- WGS84 datum) :		Hole diameter :	Drill method :
42 2077		9 INCH	AUGER
		E 688 5848	
		N	

Hole depth	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	lt br	CS, ST, SI					H	M		End of had whcs + grst pebbles in 4.5 to 5.7
6.6	2	lt br	-						G		more compact crinoid frags with grst + br ST
9.8	3	lt br	cs (dark)	tr	Br						Some replays are in crinoid to hard gr whcs
13.1	4	-	-								Had to drop quite 'blocky' for white itags + 18 br ST
16.4	5	lt br	cs (light)			tr	G, H	S			crinoid frags with interbedded chert wh marcs
19.7	6	lt br	-								crinoid frags for 18 br ST
23.0	7	lt br	cs (light)			tr	G				more or less leaden itags + more crinoid frags
26.2	8	-	-			tr	G, H				Salt for Hartley CS, laminated in part + white pebbles for
29.5	9	lt br	-			tr	H, G				crinoid frags for Hartley CS, salt, slightly greyish in CS 14 br ST
32.8	10	lt br	-								increasing white itags
36.1	11	lt br	-			tr	H				very dense salt to crinoid itags
39.4	12	lt br	-								major salt itags - more for less itags in crinoid
42.7	13	lt br	-								
45.9	14	lt br	-								
49.2	15	lt br	-								
52.5	16	lt br	-								
55.8	17	lt br	-								
59.1	18	lt br	-								
62.3	19	lt br	-								
65.6	20	lt br	-								
68.9	21	lt br	-								
72.2	22	lt br	-								
75.5	23	lt br	-								
78.7	24	lt br	-								
82.0	25	lt br	-								

Notes: Check alluvials above hole 'bluish' to porous, into sand greasy bottom ground

Infill prospect

Taipan X

England Hill drilling prospect 2001

Hole Number :	Licence number :	Prospect :	Date drilled :
EHA 192	EL 2252	Nb4 England Hill	24/11/2001
Drill rig type / contractor :		Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG- WGS84 datum) :		42 2124 E 688 5751 N	Hole diameter : 9 INCH
			Drill method : AUGER

Hole depth	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	Dark rd-br	SL, ST					H	M		pebbles to boulders of gy SL in rd-br ST
6.6	2	- brgy							6		Sandy to silty gy-gy SL + broken bedded clay CS in br ST
9.8	3	-	SL, CS, ST								increasing broken bedded clay CS in ST
13.1	4	- ph-w	CS, SL, ST								CS gy to bedded clay CS + broken clay CS in ST + gy-gy SL in ST
16.4	5	- br-pv	-								CS in ST + br SL in ST + br CS in ST + br CS in ST
19.7	6	br-pv	CS 'bluish'								clay bedded gy-pv CS 'red bluish' L mud br ST + gy SL
23.0	7	-									increasing clay bedded ST + br CS (slightly bedded) to br
26.2	8	H2 gy-pv	CS 'bluish'								bedded gy-pv - slightly bedded CS + br pv CS which is
29.5	9	-				H	H				more sample includes in sand br bedded clay CS, more clay CS
32.8	10	-				-	-				soft clay H-pv CS, greasy impure + H-pv
36.1	11	-				-	-				increasing sand + greasy CS, Fe-lining fractures
39.4	12	-				-	-				
42.7	13	-				-	-				soft + greasy H-pv to gy CS + H-pv
45.9	14	-				-	-				Quite greasy, PVC + minor purple clay at base
49.2	15	-	both 45W								
52.5	16										
55.8	17										
59.1	18										
62.3	19										
65.6	20										
68.9	21										
72.2	22										
75.5	23										
78.7	24										
82.0	25										

Notes: regolith CS above poor salt by cement CS with some pore into green muds.

Infill prospect.

Taipan X England Hill drilling prospect 2001

Hole Number :	Licence number :	Prospect :	Date drilled:
EHA 193	EL 2252	England Hill	29/11 / 2001
Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by :	Clayton Simpson
Coordinates (AMG-WGS84 datum) :	42 2101	Hole diameter :	9 INCH
	E 688 4775 N	Drill method :	AUGER

RL 326m

Hole depth ft m	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3 1	h6	wh	CS, sl, st					14	h		Broken hard wh Grvst + mlt gr sl in br st
6.8 2	-	wh						6	6		increasingly more compact hard to crush with gr sl
9.8 3	h6	wh	CS 'inbedded'			hr	Gr	6			Grvst in broken hard to crush wh Grvst + mlt gr sl
13.1 4	-	wh				hr	Gr	5			soft + some in crisp Grvst + Grvst (mixed up CS)
16.4 5	-	wh				mn	Gr				Grvst + some in crisp Grvst
19.7 6	-	wh									in pure Grvst in bed + some sample in CS + wh
23.0 7	-					hr	Gr				lessening Grvst + some in crisp Grvst + wh
26.2 8	-										Grvst + some in crisp Grvst + wh
29.5 9	-	wh				hr	Gr				soft + slightly green Grvst
32.8 10	-										increasingly more green Grvst + some in CS
36.1 11	h3	-	CS 'inbedded'					6	6		Green Grvst + some in CS + some in CS
39.4 12	-	wh									soft to hard green Grvst + some in CS
42.7 13											
45.9 14											
49.2 15											
52.5 16											
55.8 17											
59.1 18											
62.3 19											
65.6 20											
68.9 21											
72.2 22											
75.5 23											
78.7 24											
82.0 25											

Notes: v. thin alluvials above regular to crisp argcs into clay bottom ground.

Infill

Taipan X England Hill drilling prospect 2001

Hole Number :	Licence number :	Prospect :	Date drilled:
EHA 194	EL 2252	England Hill	28/11/2001
Drill rig type / contractor :		Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG-WGS84 datum) :		42 2085 E 688 5792 N	Hole diameter : 9 INCH
			Drill method : AUGER

Hole depth		Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
ft	m				quantity	types	quantity	types				
3.3	1	Qu	br	Gr. CS ST					4	M		br. calc. ind. CS + gr. sl. pebbles in br. C. ST
6.8	2	mb	cr-br	CS, EC, ST					5	6		cc. calc. br. calc. CS + gr. ST. see clayey C.
9.8	3	br	-	CS (clayey)			tr	gr	5			in clayey m. clay. gr. CS + minor ind. br. ST
13.1	4	br	ph-br	CS (clayey)								crisp. br. calc. CS
16.4	5	br	ph-br	CS 'white' calc.			tr	H. gr				soft. less crisp. br. ST. top CS, & H. pebbles.
19.7	6		ph-br									slightly grey CS. br. calc.
23.0	7		ph									increasingly more grey CS. br. calc. in part.
26.2	8		ph	CS (clayey)								Fe-stained fractures in grey CS. br. calc. + or br. ST. level.
29.5	9	ph	ph	CS (clayey)								grey soft to crumbly. ph. CS + ph. clay. - by veins
32.8	10		ph	30 RT								
36.1	11											
39.4	12											
42.7	13											
45.9	14											
49.2	15											
52.5	16											
55.8	17											
59.1	18											
62.3	19											
65.6	20											
68.9	21											
72.2	22											
75.5	23											
78.7	24											
82.0	25											

Notes: v. thin alluvials above regolithic gyneinics & crsp GrCS almost to bottom

Infill

Taipan X England Hill drilling prospect 2001

Hole Number :	Licence number :	Prospect :	Date drilled:
EHA 195	EL 2252	England Hill	26/11/2001
Drill rig type / contractor :	Investigator Mk10A / Taipan X		Logged by :
Coordinates (AMG-WGS84 datum) :	42 2079	E 688 5795	Clayton Simpson
		N	Hole diameter :
			9 INCH
			Drill method :
			AUGER

Hole depth		Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
ft	m				quantity	types	quantity	types				
3.3	1	Qa	br	SI, CS, ST					H	m		gy SI pebbles to boulders + broken w/CS in w/ST
6.8	2	h2	crbr	CS, ST			mn	Gr	↓	6		broken crsp w/CS + Gyveus in Gr ST
9.8	3	h2	br-gr	CS 'whudle'	hr	Brpm	mn	Gr	↓			intensity ground crsp w/CS
13.1	4	h2	br-gr	CS 'chgy'			mn	Gr	↓			less Gyveus crsp Gr H/CS + 1/4 hr st 'leds'
16.4	5	h2	-	CS 'chym'			-	-	↓			crsp Gr H/CS large headw/CS 1/4 hr st 'boulders'
19.7	6	-	-	-			hr	Gr	↓			more pr colored broken grana crsp GrCS
23.0	7	-	lt pr	-			hr	Gr, H	↓			crsp Gr H/CS + 1/4 hr st + minor H/CS
26.2	8	-	-	-			-	-	↓			quite crsp Gr H/CS + 'boulders' 1/4 hr st + minor H/CS
29.5	9	h2	-	CS 'boulders'					↓	6		less crsp Gr H/CS, less calcite + Fe-lined cracks, 1/4 hr st
32.8	10			Both 29.5								
36.1	11											
39.4	12											
42.7	13											
45.9	14											
49.2	15											
52.5	16											
55.8	17											
59.1	18											
62.3	19											
65.6	20											
68.9	21											
72.2	22											
75.5	23											
78.7	24											
82.0	25											

Notes: v. thin alluvials above ~~polymic~~ ~~grichcs~~, some dr ~~mpcs~~, w/ ~~thun~~ ~~when~~ ground.

Taipan X England Hill drilling prospect 2001

INGH

Hole Number : EHA 196	Licence number : EL 2252	Prospect : England Hill	Date drilled: 26/11/2001
	Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG-WGS84 datum) : 42 2078	E	688 5793	N
			Hole diameter : 9 INCH
			Drill method : AUGER

RL 328m

Hole depth	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	Qd	51. C.S. ST					4	M		Gravelly to pebbles of quartz in brown CS in 6-57
6.6	2	tan	C.S. ST	tr	3-4mm	tr	6/	5	G		broken quite chipping whics in 6-57
9.8	3	h2	CS impure			mag	6/				in lower gravelled cisp whics
13.1	4	Hol	CS 'chpy'	tr	max 1mm		6/				quite broken + G. v. end cisp HPCS + 18-37 'bela. gnd'
18.4	5					H	H.G.				thunty cisp. Qr HPCS + G. v. end + H.Pds
19.7	6					H	H.G.				thunty cisp. Qr HPCS + G. v. end + H.Pds
23.0	7		CS impure			mm	H.G.				quite thunty cisp HPCS + G. v. end
28.2	8										more rounded cisp HPCS + 'bela. gnd' H.P. ST
29.5	9					tr	H.G.				Salt more Qr HPCS. glassy towards base
32.8	10										
38.1	11										
39.4	12										
42.7	13										
45.9	14										
49.2	15										
52.5	16										
55.8	17										
59.1	18										
62.3	19										
65.6	20										
68.9	21										
72.2	22										
75.5	23										
78.7	24										
82.0	25										

Notes: thin alluvial above powder to 'bluish' CS, no soft greasy bottom ground

IGill

Taipan X

England Hill drilling prospect 2001

Hole Number :	Licence number :	Prospect :	Date drilled:
EHA 197	EL 2252	England Hill	26/11/2001
Drill rig type / contractor :		Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG-WGS84 datum) :		E 688 5791 N	Hole diameter : 9 INCH
			Drill method : AUGER

RL 322m

Hole depth		Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
ft	m				quantity	types	quantity	types				
3.3	1	Qa	red-b	ST, CS					5	M		broken hard CS + grey ST, no soft greasy bottom
6.6	2								6	6		increasing CS to base
9.8	3	h2	brn	CS (hard)					6	1		hard CS to top, then CS + 14% ST
13.1	4		brn									hard CS to top, then CS, little ST + hard CS pebbles
16.4	5											hard CS to top, then CS + hard CS pebbles
19.7	6											soft CS to base
23.0	7						tr	Gr	0	und		hard CS to top, then CS + 14% ST
26.2	8								5	und		soft CS to top, then CS, greasy in part
29.5	9		brn				tr	Hg	6	6		Scrapstone run 14% ST in soft greasy CS
32.8	10											
36.1	11											
39.4	12											
42.7	13											
45.9	14											
49.2	15											
52.5	16											
55.8	17											
59.1	18											
62.3	19											
65.6	20											
68.9	21											
72.2	22											
75.5	23											
78.7	24											
82.0	25											

Notes: v. thin alternals above Gyved crisp CS, into crisp Grcs & similar bottom ground. a grey mids

Infill

Taipan X England Hill drilling prospect 2001

Hole Number :	Licence number :	Prospect :	Date drilled:
EHA 198	EL 2252	England Hill	26/11/2001
Drill rig type / contractor :	Investigator Mk10A / Taipan X		Logged by :
Coordinates (AMG-WGS84 datum) :	42 2076	E 688 5807 N	Clayton Simpson
			Hole diameter :
			9 INCH
			Drill method :
			AUGER

Hole depth		Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
ft	m				quantity	types	quantity	types				
3.3	1	Qa	br	SI, ST, CS					B	M		9x SI pebbles + broken w/c CS in br ST
6.6	2	h2	c-br	CS, ST			H	Gr		G		broken hadam Gyved CS in br ST + mainly Grcs
9.8	3	h2	pk-br	CS (w/white)			mg	Gr				intense Gyved crisp CS into ST + 1/16 ST
13.1	4											increasing fine Grcs
16.4	5	h3	c-pn	CS (clay)			fm	Gr				Gyved crisp Gr (p/c) + 1/16 br/gnd ST + Redline
19.7	6						kr	Gr/H				slightly white Crp Gr (p/c)
23.0	7		dk-pn									14 coarse Al p/c in gnd broken Crp (p/c) Crp
26.2	8	h2		CS (w/white)			mm	Al, Gr				soft less Crp Gr (p/c) Crp CS 6 slightly Al p/c
29.5	9											less Crp Gr (p/c), decreasing Redline
32.8	10		14-pn				mm	Al		und		
36.1	11						mg	Al				quite Al in Crp p/c
39.4	12						mm	Al		ml		more grey Crp p/c
42.7	13		pn				kr	Al				grey Crp p/c to near pure clay
45.9	14	h3	dk-pn	CS (moderate)								soft to Crp grey p/c pure clay
49.2	15		20-pn	CS (moderate)								
52.5	16											
55.8	17											
59.1	18											
62.3	19											
65.6	20											
68.9	21											
72.2	22											
75.5	23											
78.7	24											
82.0	25											

RL 318m

Eqn

Taipan X

England Hill drilling prospect 2001

Hole Number :	Licence number :	Prospect :	Date drilled:
EHA 199	EL 2252	England Hill	26/11/2001
Drill rig type / contractor :		Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG- WGS84 datum) :		42 2.066 E 688 5806 N	Hole diameter : 9 INCH
			Drill method : AUGER

[illegible]

VOLUME 2

Drill hole logs
EHA 200 - 224

Notes: v. thin alluvials above regolithic CS - powder (to 54') CS + salt gassy bottom ground.

Infill

Taipan X England Hill drilling prospect 2001

Hole Number : EHA 200	Licence number : EL 2252	Prospect : England Hill	Date drilled: 26/11/2001
	Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG- WGS84 datum) :	42 2089	E 688 5802 N	Hole diameter : 9 INCH
			Drill method : AUGER

Hole depth ft m	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3 1	Qa	br	Sl, ST, CS					H	M		broken hardw/CS + gr SI pebbles in br ST
6.6 2	Lb	18br	CS, ST						G		broken hardw/ to 100% CS, hard br ST
9.8 3	-	-	-								mfly gr SI pebbles in hard broken w/CS
13.1 4	182	18br	CS, sandst	11	Brgh						Hard gr 18% CS + broken ground 18% ST - hard pe 18% CS pebbles
16.4 5	-	-	-								
19.7 6	-	18br	-					5			solid dark brown CS - hard w/CS pebbles
23.0 7	-	-	-			br	Gr				Salt less granular Gr 18% CS, Fe-lind. Gabbro, stony
26.2 8	-	18br	-			-	-				Salt + quartz Gr 18% to 100% CS, Fe-stained
29.5 9	182	18br	CS, sandst			-	-				greenish Gr w/CS, Fe-lind. Gabbro + Fe-stained
32.8 10	-	-	-								
36.1 11											
39.4 12											
42.7 13											
45.9 14											
49.2 15											
52.5 16											
55.8 17											
59.1 18											
62.3 19											
65.6 20											
68.9 21											
72.2 22											
75.5 23											
78.7 24											
82.0 25											

Notes: Thick alternals above poor hard 'plum' to poor & greasy bottom.

Taipan X England Hill drilling prospect 2001

Infill

Hole Number :	Licence number :	Prospect :	Date drilled:
EHA 201	EL 2252	England Hill	26/11/2001
Drill rig type / contractor :		Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG- WGS84 datum) :		42 2129 E 688 5813 N	Hole diameter : 9 INCH
			Drill method : AUGER

Hole depth		Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
ft	m				quantity	types	quantity	types				
3.3	1	Top	br	Sl, CS, ST					1	M		broken hard calcst + grey siltst in CC brst
6.6	2		brgy						1	6		increasing calcst hard gr pto of brst + gr to red sl
9.8	3		brgy						1			clay hard gr pto of brst + br to grey v red st
13.1	4			CS, Sl, ST					1			clay hard mottled gr to pu. Grs v 'broken' hard brst
16.4	5		brgy	CS, Sl, ST					1			very clayey gr grs, less 'bluish' textured.
19.7	6								1			less clayey gr grs
23.0	7								1			Slightly kaolinitic hard gr grs
26.2	8			CS, 'white'					1			
29.5	9								1			
32.8	10		clay						1			hard gr slightly kaolinitic brst + hard pto of brst
36.1	11								1			
39.4	12		itm						1			more kaolinitic v softer gr cs intervals
42.7	13								1			S
45.9	14		pu						1			Soft gr greasy pto
49.2	15		pu						1			
52.5	16											
55.8	17											
59.1	18											
62.3	19											
65.6	20											
68.9	21											
72.2	22											
75.5	23											
78.7	24											
82.0	25											

Notes: Thick alternals above bed 'bluish' CS into dk to poor ss & minor crsps intervals

Taipan X England Hill drilling prospect 2001

wildcat

Hole Number : EHA 202	Licence number : EL 2252	Prospect : <i>Gate pegged</i> England Hill	Date drilled: <i>28/11</i> / 2001
Drill rig type / contractor :	Investigator Mk10A / Taipan X		Logged by : Clayton Simpson
Coordinates (AMG- WGS84 datum) : 42 <i>2342</i> E 688 <i>3545</i> N	Drill method : AUGER		Hole diameter : 9 INCH

RL 309m

Hole depth ft m	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3 1	<i>tdo</i>	<i>br</i>	<i>ST, cc, si</i>					<i>lt</i>	<i>m</i>		<i>Hard br, slightly cc silts & ex hard st pebbles</i>
6.6 2	<i>t</i>	<i>f</i>	<i>-</i>					<i>lt</i>	<i>6</i>		<i>Very hard si & cc cemented br & mly by silty silts</i>
9.8 3											
13.1 4											
16.4 5	<i>trk</i>	<i>col</i>	<i>CS, si, st</i>					<i>lt</i>			<i>clasts of broken hard greyish ss & st pebbles in mudst</i>
19.7 6											<i>increasing clasts of hard grey 'bluish' CS</i>
23.0 7	<i>ht</i>	<i>br</i>	<i>CS, grey</i>								<i>clasts of br matted ex to pu bluish CS + 14br st</i>
26.2 8		<i>br</i>									<i>real 'blueground' had br matted CS & minor 14br st</i>
29.5 9						<i>tr</i>	<i>gr</i>				<i>softer matted putty bluish CS minor by veins</i>
32.8 10	<i>ht</i>	<i>pu</i>	<i>CS mudstone</i>			<i>tr</i>	<i>gr</i>	<i>3</i>	<i>med</i>		<i>hard gr ex, slightly fossiliferous CS, + hard bluish CS in clasts</i>
36.1 11											<i>soft gr 14br to pu CS, little fine, grey to base</i>
39.4 12		<i>grey</i>							<i>med</i>		<i>softer slightly grey mcs + intervals of crisp 14br CS</i>
42.7 13											<i>LO stoned CS relatively in crisp gr tones with 14br</i>
45.9 14											<i>or-br stained CS in crisp 14br CS + minor grey 14br CS intervals</i>
49.2 15			<i>SOFT mudst</i>								
52.5 16											
55.8 17											
59.1 18											
62.3 19											
65.6 20											
68.9 21											
72.2 22											
75.5 23											
78.7 24											
82.0 25											

Notes: thick alluvials above Good chippy CS + weak beds into Alunite bottom ground + greasy CS

Taipan X England Hill drilling prospect 2001

Hole Number : EHA 204	Licence number : EL 2252	Prospect : Gate prospect England Hill	Date drilled: 27/11 / 2001
	Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG- WGS84 datum) :	42 2502	E 688 3483 N	Hole diameter : 9 INCH
			Drill method : AUGER

Hole depth	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	Qa	rd br	SL	SI			U/L	M		Soft rd br soil + qy hard SR S pebbles
6.8	2	-	br	SL	SI			S	6		soft soils d top w/ly hard, cc br soil base
9.8	3	Qd	-	ST	SL			H			hard br, slightly cc silt + qy to rd s pebbles
13.1	4	-	-	SL	SI						increasing content of br plumbard G. m. s. + SR q. s. pebbles in rd ST
16.4	5	Qm	cr br	CS	SI						broken bed to chippy G. m. s. + pu q. s. pebbles in br ST
19.7	6	Hb	rd br	CS	'chippy'		Ir	G	S		Good m. chippy to blacky m. s. + Lo sand broken CS in chippy
23.0	7	-	cr br				thin	Al, G			G. m. s. + good m. chippy + minor br granular textures
26.2	8	-	cr br				thin	Al, G			Alunite crsp l. m. G. m. s.
29.5	9	hr	-	CS	'interbedded'		min	Al			Quite aluminic soft br m. s. + loss crsp + granular
32.8	10	-	cr br				min	Al, G			aluminic crsp l. m. G. m. s. + G. s. textures
36.1	11	-	cr br								
39.4	12	-	-					Al			minor Fe-Ld sand CS in chippy aluminic G. m. s. + br textures
42.7	13	-	-						und		more br + slightly grey G. m. s. + Al pebbles
45.9	14	-	-								greasy chippy G. m. s. + minor aluminic textures
49.2	15	-	cr br				tr	Al			greasy m. s. + minor Al pebbles
52.5	16	Hb	pu	CS	'mddish'						Soft to crable quite grey m. s. + minor clay m. s.
55.8	17	-	cr br								clasts of crsp granular textures in greasy m. s.
59.1	18	-	cr br								minor crsp + very m. s. + br textures
62.3	19	-	cr br								
65.6	20	-	-								
68.9	21	-	-								
72.2	22	-	-								
75.5	23	-	-								
78.7	24	-	-								
82.0	25	-	-								

Notes: thick alluvials above. Ok chippy CS + 'leeds' into greyish brown mud + muds.

Infill

Taipan X England Hill drilling prospect 2001

Hole Number : EHA 205	Licence number : EL 2252	Prospect : Gate prospect England Hill	Date drilled: 27/10/2001
	Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG-WGS84 datum) :	42 2517	E 688 3458 N	Hole diameter : 9 INCH
			Drill method : AUGER

Hole depth		Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
ft	m				quantity	types	quantity	types				
3.3	1	Qg	rd-br	SL, SI					4/5	M		loose rd-br scals + gy to rd SI pebbles
6.6	2	Qd	br	ST, CL, SI					4/5	6		hard rd-br ST or m/m rd SL
9.8	3											
13.1	4		Entbr	ST, CS, SI								increasing amt of broken hard wht CS + m/m, prob 80 pebbles
16.4	5	Entbr		CS, SI, ST			4	Gy	5			broken hard wht calcite CS + prob SI in br ST + LO stained in
19.7	6	Lb1	phsp	CS 'chippy'			m/m	Gy	5			chippy m/m wht to ph granitic bedded CS + m/m grey CS +
23.0	7						hr	Gy				Re-stained CS 'leeds' in chippy m/m wht to ph CS
26.2	8		Hpu									more fractured solid Hpu wht Gy CS
29.5	9											more Qgr (Hpu) coarse CS, smaller pebbles
32.8	10	H2	pu	CS 'whoddy'								coarse solid Gy m/m CS + more grey CS includes m/m, prob
36.1	11	H3		CS 'muddish'								quite greasy Qgr rd br CS + m/m, prob CS +
39.4	12											greasy m-gy CS + m/m, prob CS + LO stained intervals
42.7	13											
45.9	14											
49.2	15											
52.5	16											
55.8	17											
59.1	18											
62.3	19											
65.6	20											
68.9	21											
72.2	22											
75.5	23											
78.7	24											
82.0	25											

Notes: Thick alluvials above hard mcs, some crinoids into grey bottom ground + mcs.

Taipan X England Hill drilling prospect 2001

In Gill

Hole Number :	Licence number :	Prospect :	Date drilled:
EHA 206	EL 2252	Gold prospect. England Hill	27/11/2001
Drill rig type / contractor :	Investigator Mk10A / Taipan X		Logged by : Clayton Simpson
Coordinates (AMG-WGS84 datum) :	42 2531	E 688 3417	Hole diameter : 9 INCH
		N	Drill method : AUGER

Hole depth	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	red-br	SL, SI					S	M		Soft red-br seals + grey red SI pebbles
6.6	2	red	ST, SI					4	6		Hard br, slightly CC ST + grey hard SI pebbles
9.8	3	-	ST, CS, SI					1			increasing clays. D. when had growths in lower ST
13.1	4	dark blue	CS, SI, ST					1			broken clays had green CS + SP in white pebbles in br ST
16.4	5	blue	CS + white					1			clay had green CS + minor brownish CS in white
19.7	6	blue	-			tr	6/	5			Softer for more hardness with CS + hard green CS pebbles + some grey
23.0	7	blue	CS + grey			-	-	1			Hard to crimp green mcs + hard green CS pebbles
26.2	8	-	-			-	-	1			Low sand in white beds in crimp green hard CS or for ST
29.5	9	blue	CS + white			-	-	1			less crimp more green CS + minor green CS white
32.8	10	-	-			-	-	1			green CS + Fe-rich in white beds
36.1	11	-	-			-	-	1			minor crimp in green CS in white green CS
39.4	12	-	-			-	-	1			more green CS + Fe-rich in white beds, more clay above
42.7	13	blue	CS + reddish			-	-	1			very green CS + Fe-rich in white beds
45.9	14	-	-			-	-	1			
49.2	15	-	BOH clay			-	-	1			
52.5	16	-	-			-	-	1			
55.8	17	-	-			-	-	1			
59.1	18	-	-			-	-	1			
62.3	19	-	-			-	-	1			
65.8	20	-	-			-	-	1			
68.9	21	-	-			-	-	1			
72.2	22	-	-			-	-	1			
75.5	23	-	-			-	-	1			
78.7	24	-	-			-	-	1			
82.0	25	-	-			-	-	1			

RL 303m

Notes: v. thin alluvials above hard ~~regolith~~ cs to OK to good cr. cs levels 'w/ greeny bottom gravel + muds'

Infill

Taipan X England Hill drilling prospect 2001

Hole Number : EHA 207	Licence number : EL 2252	Prospect : England Hill	Date drilled: 27/11/2001
	Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG- WGS84 datum) :	42 2587	E 688 3638	Hole diameter : 9 INCH
		N PL 306m	Drill method : AUGER

Hole depth	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	Qa	Grnd					S	M		Grnd hard wh. Cryst + grnd 81 m br ST
6.6	2	Grnd	Grnd					H	6		Grnd Cr to mer head br whcs + br ST
9.8	3	Grnd	Grnd					S			Crystalline wh. Cryst + br whcs + br ST
13.1	4	Grnd	Grnd					S			Cryst wh. Cryst + br whcs + br ST
16.4	5	Grnd	Grnd					S			Good Cryst (Hv) mer CS + Br-whcs 'leaves'
19.7	6	Grnd	Grnd					S			Less Cryst mer predom Cryst + Grains v. all parts
23.0	7	Grnd	Grnd					S			Solomon predom less Cryst + mer Cryst whcs
26.2	8	Grnd	Grnd					S			So Cryst Cr. Cryst + Grains
29.5	9	Grnd	Grnd					S			Increasingly more green Cr. Cryst
32.8	10	Grnd	Grnd					S			green Cr. Cryst + mer Cryst + mer Cryst
36.1	11	Grnd	Grnd					S			Very green Cr. Cryst + Cryst + Cryst + Cryst
39.4	12	Grnd	Grnd					S			
42.7	13	Grnd	Grnd					S			
45.9	14	Grnd	Grnd					S			
49.2	15	Grnd	Grnd					S			
52.5	16	Grnd	Grnd					S			
55.8	17	Grnd	Grnd					S			
59.1	18	Grnd	Grnd					S			
62.3	19	Grnd	Grnd					S			
65.6	20	Grnd	Grnd					S			
68.9	21	Grnd	Grnd					S			
72.2	22	Grnd	Grnd					S			
75.5	23	Grnd	Grnd					S			
78.7	24	Grnd	Grnd					S			
82.0	25	Grnd	Grnd					S			

Notes: Thin alluvials above regolith CS, some are crisp CS + 'buds' w/ gear bottom ground.

Infill

Taipan X England Hill drilling prospect 2001

Hole Number : EHA 208	Licence number : EL 2252	Prospect : Gate prospect England Hill	Date drilled: 27/11/2001
Drill rig type / contractor :	Investigator Mk10A / Taipan X		Logged by : Clayton Simpson
Coordinates (AMG- WGS84 datum) :	42 2553	E 688 3610 N	Hole diameter : 9 INCH
			Drill method : AUGER

RL 308m

Hole depth		Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
ft	m				quantity	types	quantity	types				
3.3	1	Qa	redd	SL, SI, CS					5	M		bedded wh CS + grey CS + pebbles in red-brown SL
6.6	2		brn						6	G		increasing CS content
9.8	3	sub Cbr		CS, ST, SI					PT			hard (Hb) brn GCS + grey SI pebbles in br ST
13.1	4	sub Cbr		CS (clumpy)					S			Good microporous wh CS + Gyrans - hard CS clumps
16.4	5											wh Al-poor Gyrans in comp. wh CS + Fe-rich 'beds'
19.7	6		dk brn									Crisp Gyrans - 14pucst - H-poor Gyrans
23.0	7	H2	lt brn	CS (wh) -								more Gyrans - slight green Gyrans - CS + comp CS + wh CS
26.2	8											increasingly more green Gyrans to base
29.5	9											interbedded Gyrans - Gyrans - 14pucst - comp Gyrans
32.8	10	H3	lt brn	CS (mudstn)								quite greenish - soft to brittle pucst - more Gyrans
36.1	11											
39.4	12											
42.7	13											
45.9	14											
49.2	15											
52.5	16											
55.8	17											
59.1	18											
62.3	19											
65.6	20											
68.9	21											
72.2	22											
75.5	23											
78.7	24											
82.0	25											

Notes:

Thin alluvials above have which are good blocks of ~~deposits~~ gravel & muds.

Taipan X

England Hill drilling prospect 2001

Infil

Hole Number : EHA 209	Licence number : EL 2252	Prospect : Gate prospect England Hill	Date drilled: 27/11/2001
	Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG-WGS84 datum) :	42 25 20	E 688 3555	Hole diameter : 9 INCH
		N	Drill method : AUGER

RL 304m

Hole depth	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	Red	SL, SI					5	M		loose red-salts & grey hard SI pebbles
6.6	2	br	SL, CS					5	G		hard br, slightly CC silts & red SI pebbles
9.8	3	wh	CS, SL, SI								broken lumpy br-CS in v. hard whst & grey hard SI
13.1	4	br	CS 'white'								very blocky hard for lower tractant CS, silts to base
16.4	5	br	CS 'chippy'								chippy to hard blocky CS + calcite CS + Re sand above
19.7	6	br	CS					5			very blocky chippy narrow CS + hard CS + calcite CS
23.0	7	br	CS								loose blocky good chippy wh to 10 ft CS + trace Gr
26.2	8	br	CS								crisp br CS + chippy wh CS + calcite
29.5	9	br	CS 'white'								soft + green br CS + minor chippy CS
32.8	10	br	CS								grey pss + Re-rich (bels) + or br st
36.1	11	br	CS								green br pss, greens to 20 ft
39.4	12	br	CS								grey soft pss + grey chippy at base
42.7	13	br	CS 'medium'								grey green soft to 10 ft pss + grey chippy
45.9	14	br	CS								very pss chippy + grey pss
49.2	15	br	CS								
52.5	16										
55.8	17										
59.1	18										
62.3	19										
65.6	20										
68.9	21										
72.2	22										
75.5	23										
78.7	24										
82.0	25										

Notes: Thin alternates above hard. ~~gold~~ CS & some old Bader's into grey to tan sand & muds

In Gull

Taipan X England Hill drilling prospect 2001

Hole Number :	Licence number :	Prospect :	Date drilled:
EHA 210	EL 2252	<i>late prospect</i> England Hill	<i>27/11/</i> /2001
Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by :	Clayton Simpson
Coordinates (AMG- WGS84 datum) :	42 2 543	Hole diameter :	9 INCH
	E 688 3548	Drill method :	AUGER

Hole depth	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	Qa	brnd	SL 31				S	M		loose rd br salts & gr to rd s/mud
6.6	2	Qa	br	ST, CCS1				H	G		had br slightly CCS, low sl, red 50s
9.8	3	-	-	ST, CCS1							increasing content of br to rd s/mud?
13.1	4	ky	chr	CS, ST							br to rd w/ CCS in brndst CS increasing below
16.4	5	h2	chr	CS 'white'							Had gr to rd w/ CCS? quite brndst w/ minor ST
19.7	6	h1	chr	CS 'chr'				S			quite brndst chr to brndst w/ CCS
23.0	7	-	-	-							Blocky to brndst w/ CCS & gr to rd soft minerals
26.2	8	h2	chr	CS 'white'							soft 11m to 10m CS & minor chr to rd minerals
29.5	9	-	-	-							Gr to rd soft & grey gr to rd
32.8	10	-	-	-							Soft & grey gr to rd CS & gr to rd
36.1	11	-	-	-							
39.4	12	h2	-	CS 'chr'							increasing w/ grey gr to rd
42.7	13	h2	-	CS 'chr'							Soft brndst grey gr to rd
45.9	14	-	-	-							ver purp chr & grey gr to rd
49.2	15	-	-	-							
52.5	16	-	-	-							
55.8	17	-	-	-							
59.1	18	-	-	-							
62.3	19	-	-	-							
65.6	20	-	-	-							
68.9	21	-	-	-							
72.2	22	-	-	-							
75.5	23	-	-	-							
78.7	24	-	-	-							
82.0	25	-	-	-							

Notes: *Indicatives above good cherty CS into greyish ground mass*

Taipan X England Hill drilling prospect 2001

In Bill

Hole Number : EHA 211	Licence number : EL 2252	Prospect : <i>Gold prospect</i> England Hill	Date drilled: <i>27/11</i> / 2001
Drill rig type / contractor :		Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG-WGS84 datum) : 42 <i>2526</i> E 688 <i>3514</i> N		Hole diameter : 9 INCH	Drill method : AUGER

RL 302m

Hole depth		Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
ft	m				quantity	types	quantity	types				
3.3	1	Qa	rd br	SL, SPS					S	M		Soft rd br sandst gy hard SPS in rd br CS clasts
6.6	2								H	G		hard br st at base of interval.
9.8	3	2b	br	ST, CS, SI	tr	Si						hard br slightly cc ST & br st + CS clasts
13.1	4											increasing hard H br st matrix gy to SPS in hard br st
16.4	5	2c	phr	CS, SPS, T								hard to cherty wh & lost br st gy to SPS in br st
19.7	6	h3		CS cherty					S			good mat cherty wh & lost br st + lost sand into
23.0	7		crk									cherty to hard mgr hard br CS + strong Fe-stn local
26.2	8											Good mat cherty
29.5	9		phr									increasing sandy wh to (H) br st
32.8	10	h2	pu	CS 'wedge'			tr	gy				Sandy slightly grey gy to (H) br st + minor Crispish CS
36.1	11	h3	dkn	CS 'muddy'								Soft grey, or purer grey clays
39.4	12											very grey, soft to brittle pur CS + pur grey clays
42.7	13	h2	phr	40 RT								
45.9	14											
49.2	15											
52.5	16											
55.8	17											
59.1	18											
62.3	19											
65.6	20											
68.9	21											
72.2	22											
75.5	23											
78.7	24											
82.0	25											

Notes: Thick alluvials above regolith c.s. into chippy c.s. & alluvial to greasy bottom ground.

Taipan X England Hill drilling prospect 2001

Infill

Hole Number : EHA 212	Licence number : EL 2252	Prospect : Gate prospect England Hill	Date drilled: 28/11/2001
	Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
			Hole diameter : 9 INCH
Coordinates (AMG-WGS84 datum) :	42 2474	E 688 3471 N	Drill method : AUGER

RL 301m

Hole depth ft m	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3 1	Qa	br	ST, SI					H	M		loose red br soils + hard br ST in top 1m. SI pebbles
6.6 2	Qa	-	-					H	G		Harder, slightly cc silts + greyed SI pebbles
9.8 3	-	-	-					H			lessening SI clasts
13.1 4	Qa	wh	SS, ST, SI	H	Brn			H			increasing cased & broken hard wh brs & more red SI in br ST
16.4 5	Qa	-	CS, ST, SI	-	-			S			brn chippy m. gr. w. CS + minor SI pebbles. br ST
19.7 6	-	-	-			H	G				minor m. gr. ST in chippy CS + minor ST
23.0 7	Qa	onbr	CS 'chippy'			-	-				on br ST in chippy CS + G. v. brs
26.2 8	-	crp	-			-	-				G. v. br ST in chippy CS + G. v. brs
29.5 9	-	chp	-			-	-				less crisp bottom 1m CS, more G. v. + minor chippy
32.8 10	Qa	2	CS 'whitish'			H	AlG				br chp 1m CS + wh. pebbles minor grey CS to base
36.1 11	-	-	-			ma	H				Aluvial G. v. brs, increasing grey CS intervals
39.4 12	-	-	-			H	AlG				G. v. br ST in chippy CS + wh. pebbles minor grey CS to base
42.7 13	Qa	wh	CS 'reddish'			-	-				quite grey chippy CS cased into Al clasts. minor chp
45.9 14	-	-	-								
49.2 15	-	-	-								
52.5 16	-	-	-								
55.8 17	-	-	-								
59.1 18	-	-	-								
62.3 19	-	-	-								
65.6 20	-	-	-								
68.9 21	-	-	-								
72.2 22	-	-	-								
75.5 23	-	-	-								
78.7 24	-	-	-								
82.0 25	-	-	-								

Notes: thick alluvials above regolith & good cherty Glauconite (+ levels) into grey bottom mud + muds

Taipan X England Hill drilling prospect 2001

Hole Number : EHA 224	Licence number : EL 2252	Prospect : Gate prospect England Hill	Date drilled: 28/11/2001
	Drill rig type / contractor : 80	Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG- WGS84 datum) : 42 21 58	E 688 3637	N	Hole diameter : 9 INCH
			Drill method : AUGER

Hole depth ft m	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3 1	Qla	rd-b	st, SI					5	M		Soft red-b soils + pebbles of rd SI
6.6 2	-	-	Sh st, SI					4	6		harder, slightly cc for st to base
9.8 3	Td	hr	st, ES								bedded whc sm cc for st + mlt gr SI
13.1 4	Trk	ccbr	CS, SI, ST								clinky bed of whcst + mm mlt gr SI in harder st
16.4 5	Jab	brbr	CS, ST			tr	Gr				bedded hard for cherty mlt whcst for st + mlt low Fe-sheds
19.7 6	hbl	ccph	CS (cherty)			-	-	5			Good mlt cherty whcst, blue in places, + LO shed mlt whcst
23.0 7	-	brbr	-			-	-				Good mlt cherty whcst + Fe-LO shed mlt whcst + Fe-sheds
26.2 8	-	brbr	-			-	-				crisp thin mlt whcst + Fe veins
29.5 9	-	brbr	-			-	-				less crisp for thin whcst + mlt cherty whcst
32.8 10	h2	pr	CS (harder)			tr	Gr				soft + greasy for whcst + lessening crisp whcst in whcst
36.1 11	-	-	-			-	-				increasing mlt greasy whcst + Fe-rich whcst (beds)
39.4 12	-	-	-			tr	Gr				LO rich whcst leads in greasy whcst, increasing greasy above
42.7 13	h3	brbr	CS (mudstone)								soft to friable greasy whcst + Fe-rich whcst
45.9 14	-	-	-								very mlt whcst + greasy whcst
49.2 15	-	-	-								
52.5 16	-	-	-								
55.8 17	-	-	-								
59.1 18	-	-	-								
62.3 19	-	-	-								
65.6 20	-	-	-								
68.9 21	-	-	-								
72.2 22	-	-	-								
75.5 23	-	-	-								
78.7 24	-	-	-								
82.0 25	-	-	-								

Notes: thin alluvials above hole which is ok chippies & a little greasy bottom ground

In all

Taipan X England Hill drilling prospect 2001

Hole Number : EHA 245	Licence number : EL 2252	Prospect : Cade prospect. England Hill	Date drilled: 28/11/2001
Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by : Clayton Simpson	Hole diameter : 9 INCH
Coordinates (AMG- WGS84 datum) : 422484	E 6883653	N	Drill method : AUGER

Hole depth ft m	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3 1	Dr	Gr	ST, CC, SI					H	m		Hard Gr CC, SI, US & gr for 281 p.c.c.s
6.6 2	Dark phx		ST, CC, SI						6		Gravel hard whic 28 gr for 281 in hard brcc ST
9.8 3	Dark phx		CS, 'intermediate'								broken clumpy hard Gr for 281 p.c.c.s + some C/S gr whic
13.1 4	-	Dark	-								Hard Gr 14 p.c.c.s + some C/S gr whic
16.4 5	Dark	-	CS 'chips'								chippy to hard more for 281 p.c.c.s
19.7 6	-	-	-			Gr	Gr				Black chippy to hard more for 281 p.c.c.s + some C/S gr whic
23.0 7	Dark	Dark	CS, 'intermediate'			Gr	Gr				CS gr for 281 p.c.c.s + some C/S gr whic
26.2 8	/	Dark	-			Min	Min				Gravel for 281 p.c.c.s + some C/S gr whic
29.5 9	-	-	-			Min	Min				Major H p.c.c.s in gr gravel for 281 p.c.c.s + some C/S gr whic
32.8 10	Dark	Dark	CS, 'intermediate'								
36.1 11											
39.4 12											
42.7 13											
45.9 14											
49.2 15											
52.5 16											
55.8 17											
59.1 18											
62.3 19											
65.6 20											
68.9 21											
72.2 22											
75.5 23											
78.7 24											
82.0 25											

Notes:

Taipan X

England Hill drilling prospect 2001

Hole Number : EHA 277	Licence number : EL 2252	Prospect : 102 prospect England Hill	Date drilled: 28/11/2001
	Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG- WGS84 datum) :	42478	E 688 5776 N	Hole diameter : 9 INCH
			Drill method : AUGER

[illegible]

Notes: thick alluvials above nodules, minor cspcs, into then the bottom ground

Table 1

Taipan X England Hill drilling prospect 2001

Hole Number :	Licence number :	Prospect :	Date drilled :
EHA 218	EL 2252	England Hill	29/11/2001
Drill rig type / contractor :	Investigator Mk10A / Taipan X		
Coordinates (AMG- WGS84 datum) :	42 2473	E 688 5802	N
Drill method :			AUGER

Hole depth	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	rd	hr					H	M		Interbedded ss, clst + minor sp. sl. pebbles
6.6	2	-	-					vt	G		very hard xi-cemented Gr. ST
9.8	3	-	-	hr	Si			d			Chert-like Si clasts in hard ST
13.1	4	-	rd					H			hard bedded ss in hard Gr. ST
16.4	5	rd	hr	hr	Br. sp.						Gr. bedded ss & rhyolite in hard Gr. ST
19.7	6	-	-	hr	Br. sp.						increasing silt to clay Gr. (hrst) rd to ss. siltstone
23.0	7	hr	rd	hr	Br. sp.	hr	G				crystalline ss + pebbles in hard Gr. ST
26.2	8	-	-					vt			major rd to ss. siltstone crystalline
29.5	9	-	-								
32.8	10	-	-					H			Increasingly more clayey crystalline ss + rhyolite + clst
36.1	11	hr	rd			hr	Al	S			clst. crsp. Gr. (hrst) + minor ss. pebbles
39.4	12	hr	rd			min	Al				soft Gr. (hrst) with Al pebbles + minor cspcs
42.7	13	-	-			-	-		und		Comp. calc. mbr. hrst + minor ss. pebbles
45.9	14	-	-			mg	Al				Calc. calc. mbr. hard Gr. (hrst)
49.2	15	mg	rd			-	-		ml		very calc. mbr. Gr. pebbles
52.5	16	rd	hr			-	-				
55.8	17	-	-			-	-				
59.1	18	-	-			-	-				
62.3	19	rd	hr								
65.6	20	-	-								
68.9	21	-	-								
72.2	22	-	-								
75.5	23	-	-								
78.7	24	-	-								
82.0	25	-	-								

Notes: Thick alluvials above and 'bluish' to poor CS - seller 'light' greasy bottom

Taipan X England Hill drilling prospect 2001

England

Hole Number : EHA 219	Licence number : EL 2252	Prospect : No 2 England Hill	Date drilled: 29/11/2001
Drill rig type / contractor :	Investigator Mk10A / Taipan X		Logged by : Clayton Simpson
Coordinates (AMG- WGS84 datum) :	42 2472	E 688 5725 N	Hole diameter : 9 INCH
			Drill method : AUGER

RL 318m

Hole depth ft m	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3 1	10	br	ST, CC, SI					4	M		hard br ST, slightly CC & minor gr to rd SI
6.6 2	-	-	-					4	6		very hard ST & CC cemented to ST & milky gr to SI
9.8 3	-	-	-					6			increasing SI content
13.1 4	Trk	bray	SI, ST, CS	tr	Si			4			mottled gr to rd SI & hard 14 to 16 gr SI in br ST
16.4 5	-	gr to br	-					1			increasing content of 'blue gr' mottled gr to pur CS & SI
19.7 6	64	gr to br	CS, 'bluish'			tr	mn	1			hard broken 'bluish' CS & minor rd to pur CS
23.0 7	-	-	-			-	-	1			clinky hard gr to pur CS
26.2 8	-	-	-			-	-	1			seller CS to coarse
29.5 9	62	pk to gr	CS 'mottled'					1	und		slightly coarser to hard gr CS & hard pk 'bluish' CS
32.8 10	-	-	-					1			minor CRISP 14 gr CS & 16 to 18 in hard for gr CS & Re - gr
36.1 11	-	-	-					1	M		increasing soft CRISP mottled to 14 to 16 CS - hard gr CS to coarse
39.4 12	-	pk to br	-					5			soft & greasy for gr CS & minor CRISP CS
42.7 13	-	BOF 39N	-								
45.9 14	-	~~BOF 39N~~	-								
49.2 15	-	-	-								
52.5 16	-	-	-								
55.8 17	-	-	-								
59.1 18	-	-	-								
62.3 19	-	-	-								
65.6 20	-	-	-								
68.9 21	-	-	-								
72.2 22	-	-	-								
75.5 23	-	-	-								
78.7 24	-	-	-								
82.0 25	-	-	-								

July 11

Taipan X

England Hill drilling prospect 2001

Hole Number : EHA 220	Licence number : EL 2252	Prospect : 101 England Hill	Date drilled: 29/11/2001
	Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG-WGS84 datum) :	422501	E 688 9751 N	Hole diameter : 9 INCH
			Drill method : AUGER

[illegible]

Notes:

Taipan X

England Hill drilling prospect 2001

Hole Number :
EHA 221

Hole Number :
EHA 221

[illegible]

Notes: Thick alluvials above very no. wharves into Good chymys a grey & brown bottom ground

Taipan X England Hill drilling prospect 2001

Infill

Hole Number :	Licence number :	Prospect :	Date drilled :
EHA 222	EL 2252	England Hill	29/11/2001
	Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG-WGS84 datum) :	42 24 60	E 688 57 45	Hole diameter : 9 INCH
		N	Drill method : AUGER

Hole depth	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	blo	br					H	m		Hard br, slightly cc sils - grey hard SI pebbles
6.6	2	—	—					VH	6		Hard br SI & minor rd SI pebbles
9.8	3	—	br					H			increasing content of grey hard SI & hard whcs in br
13.1	4	—	br					H			brn milt. dr to ybr SI & hard whcs in br + yellow sc top
16.4	5	—	—					H			increased grey veined self packing whcs + v. milt. SI
19.7	6	br	br					H			broken hard wh chymys & milt. milt. grey hard SI
23.0	7	—	br					H			pebbles to boulders of grey hard SI lined with grey whcs
26.2	8	—	—					H			
29.5	9	—	br					H			decreasing SI & more crisp near whcs
32.8	10	br	br					H			Good chym near whcs + 145' broken rd SI & minor SI
36.1	11	—	br					H			(7 br tubules & br vein boulders) in good chym near
39.4	12	—	—					H			good crisp for temp wh whcs + grey veined
42.7	13	br	br					H			less crisp for 145' to wh br veined SI & minor grey whcs
45.9	14	—	br					H			moderate Al pods in soft to grey 145' poor whcs
49.2	15	—	br					H			major ye Al pods + carbonyls in for whcs
52.5	16	—	br					H			decreasing Al in soft + grey whcs
55.8	17	—	br					H			
59.1	18	—	br					H			
62.3	19	—	br					H			
65.6	20	—	br					H			
68.9	21	—	br					H			
72.2	22	—	br					H			
75.5	23	—	br					H			
78.7	24	—	br					H			
82.0	25	—	br					H			

Notes: Thick alluvials above very nodular CS, good cherty black CS + Alunite bottom ground

Taipan X England Hill drilling prospect 2001

Angle 25 RT

Hole Number : EHA 223	Licence number : EL 2252	Prospect : England Hill	Date drilled: 29/11/2001
	Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG- WGS84 datum) : 42 24 60 E 688 57 54 N			Hole diameter : 9 INCH
			Drill method : AUGER

Hole depth ft m	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3 1	Tolo	br	ST, CS, SI					H	M		Hard br, slightly CC silts + minor ex hard SI
6.6 2	-	-	-					UH	G		SI = CC centric hard br ST + minor SI
9.8 3	-	-	-								
13.1 4	Tak	cr/br	ST, CS, SI	Lr	Si			H			Increasing content of br in hard br + minor ex hard SI
16.4 5	-	-	CS, SI, ST					H			more milky ex SI in hard br + minor br + minor ex hard br ST
19.7 6	h/br	pk-pu	CS, SI								mottled milky milky ex SI + minor br SI in hard br + minor CS
23.0 7	-	-	-								reddish SI + hard br CS with milky ex SI nodules
26.2 8	-	-	-								hard br + milky ex SI in cherty nodules + nodular ex SI + minor ex
29.5 9	-	-	-								hard br + milky ex SI nodules + reddish ex SI
32.8 10	h/br	cr/br	CS 'cherty' SI								Good milky cherty to hard br CS + lessening SI
36.1 11	-	-	cr 'cherty'			tr	Gr	S			Cherty to blackish CS + Gr veins in H br ST + minor SI
39.4 12	-	pk-pu	-			-	-				more Gr = H br colored blackish CS
42.7 13	-	pk-pu	-			-	-				Good crisy br + H br, less crisy to base
45.9 14	h/br	pk-pu	CS 'washed'			mn	Gr				wh Al pods in soft Gr + H br CS + lessening crisy CS
49.2 15	-	pk-pu	-			mn	H				dyke Alunite soft to crisy H br CS
52.5 16	-	pk-pu	-			-	-				decreasing Al in soft + slightly green H br CS
55.8 17	-	-	-			tr	H				Alunite soft green H br
59.1 18	-	pk-pu	-			tr	H				Green cherty Gr CS + minor Al
62.3 19	-	pk-pu	-								
65.8 20	-	-	-								
68.9 21	-	-	-								
72.2 22	-	-	-								
75.5 23	-	-	-								
78.7 24	-	-	-								
82.0 25	-	-	-								

Notes: Thick alternates above nodules into good chips to Black & Alunite bottom grad.

Taipan X England Hill drilling prospect 2001

Hole Number : EHA 724	Licence number : EL 2252	Prospect : England Hill	Date drilled : 2/12/2001
Coordinates (AMG-WGS84 datum) : 42 2 60	Drill rig type / contractor : Investigator Mk10A / Taipan X	E 688 5769 N	Logged by : Clayton Simpson
			Hole diameter : 9 INCH
			Drill method : AUGER

Hole depth ft m	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3 1	Fls	gr	ST, CL, SI					H	M		Had br ST, S, black cc + minor gr SI / pellets
6.6 2								vt	6		si + cl coated br ST
9.8 3											
13.1 4	Trk	crbr	ST, CS, SI			tr	gr	H			broken hard (trk) fairly gr veins + gr SI in hard ST
16.4 5			CS, SI, ST								increasing CS + SI (partly gr hard)
19.7 6	Trk	phyn	CS, SI								Chips to hard mgr whcs + mgr modified gr hard SI
23.0 7											more with gr SI
26.2 8											very crisp gr druse + decreasing SI
29.5 9	hbl	crph	CS chips, SI								Good mgr chips whcs + (trk) tubular lessening with gr SI
32.8 10			CS chips								Good mgr chips to Black whcs, mgr (trk) tubular
36.1 11						tr	gr				mgr for good Black CS + minor fine gr veins
39.4 12											looking less crisp mgr for
42.7 13		phyn									crisp to hard gr wh to trps
45.9 14						tr	tr, G				Alps in crisp mgr (tr) to whcs
49.2 15	H2	ye pr	CS 'whcs'			mgr	tr				quite albic soft to crisp trps + wh to trps
52.5 16		chrc				mgr	tr				mgr albic soft trps + mgr crisp whcs
55.8 17		crn									major lge Alps in hard gr trps
59.1 18											
62.3 19											
65.6 20											
68.9 21											
72.2 22											
75.5 23											
78.7 24											
82.0 25											

VOLUME 2

Drill hole logs
EHA 225 - 249

Notes: thick alluvials are nodular CS into good cherty CS & dense bottom ground.

Taipan X England Hill drilling prospect 2001

Drill

Hole Number :	Licence number :	Prospect :	Date drilled :
EHA 225	EL 2252	England Hill	2/12 / 2001
Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by :	Clayton Simpson
Coordinates (AMG- WGS84 datum) :	42 2452 E 688 5700 N	Hole diameter :	9 INCH
		Drill method :	AUGER

Hole depth	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	br	8% CC, SI					H	M		Hard br, slightly CC salts minor opal nodules
6.6	2							UH	G		50% CC coated hard br ST
9.8	3										
13.1	4										
16.4	5	Trk	crbr	ST, SI, CS				H			broken hard opal fragments opal SI in hard br ST
19.7	6										increasing calc of salts
23.0	7	ph	ph	CS, SI							crisp br w/ CS & matted opal to opal SI + 1/4 br 'broken ground' ST
26.2	8										more milk SI
29.5	9										ironstone 'veils' in br CS & more cherty CS in opal
32.8	10	ph	crk	CS 'cherty' SI				S			Good mottled cherty SI on w/ milk opal to opal SI
36.1	11			CS 'cherty'							Good mottled cherty SI to opal SI - minor 1/4 br ST 'broken ground'
39.4	12										more opal good crisp w/ br CS
42.7	13	ph	ph								minor ye Al pods in crisp opal CS
45.9	14	ph	ph	CS 'nodular'							thick ye Al pods in crisp opal CS
49.2	15	cr	cr								more ye Al pods in soft to crisp opal CS
52.5	16										very flinty CS
55.8	17										
59.1	18	my	20ft	60%							more polished br CS & decaying SI
62.3	19										
65.6	20										
68.9	21										
72.2	22										
75.5	23										
78.7	24										
82.0	25										

Notes: thick alluvials above bluish CS, no poor hard CS - grey softening muds.

Full

Taipan X England Hill drilling prospect 2001

Hole Number : EHA 227	Licence number : EL 2252	Prospect : England Hill	Date drilled: 3/12/2001
	Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG-WGS84 datum) :	42 24 56	E 688 5810 N	Hole diameter : 9 INCH
			Drill method : AUGER

Hole depth ft m	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3 1	rd	br	ST, CL, SI					H	G		Hard br, slightly CS silts + minor s.s. particles
6.6 2	-	br	-						M		increasing gr. of s.s. content
9.8 3	rd	-	ST, SL, CS								gr. of s.s. particles broken down by CS in br ST
13.1 4	-	-	-								
16.4 5	-	br	-								increasing content of pt. in br CS + minor s.s.
19.7 6	br	-	CS, bluish 'SI								hard pt. in br CS + minor s.s. modules
23.0 7	-	-	-								
26.2 8	br	br	CS, bluish 'SI								cl. bluish gr. of top. CS + minor s.s. particles
29.5 9	-	-	-								salter gr. CS + coarse s.s. particles
32.8 10	br	-	CS, bluish 'SI								hard gr. of top. CS, slightly harder than, than pt. bluish 'SI
36.1 11	-	-	-								CS becoming softer
39.4 12	-	-	-								Gr. of top. CS + minor s.s. particles
42.7 13	-	-	-								moderate salt to grey gr. of top. CS
45.9 14	br	br	CS, bluish 'SI								soft gr. of top. CS + minor s.s. particles
49.2 15	-	-	-								
52.5 16	-	-	-								
55.8 17	-	-	-								
59.1 18	-	-	-								
62.3 19	-	-	-								
65.6 20	-	-	-								
68.9 21	-	-	-								
72.2 22	-	-	-								
75.5 23	-	-	-								
78.7 24	-	-	-								
82.0 25	-	-	-								

Notes: thick alluvials above hard 'bluish' CS to sand grey bottom gravel.

Taipan X England Hill drilling prospect 2001

FuGill

Hole Number : EHA 228	Licence number : EL 2252	Prospect : England Hill	Date drilled: 3/12/2001
	Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG- WGS84 datum) : 42 2450	E 688 5805	N	Hole diameter : 9 INCH
			Drill method : AUGER

pc 321m

Hole depth		Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
ft	m				quantity	types	quantity	types				
3.3	1	Edo	Sr	ST, CL, SI					4	M		Used for ge o minor SI
6.6	2		hgy							G		
9.8	3	Take	gnbr	CS, ST, SI								broken hard wh CS + grey SI pebbles in br ST
13.1	4											in wh grey CS + more br SI
16.4	5		hgy									broken br CS + grey SI + hard wh 'bluish' CS
19.7	6	hgy	br gy	CS, hgy, W								clay hard wh grey CS + br SI
23.0	7											
26.2	8											in ceasing salt for gy CS rocks
29.5	9									mod		clay hard wh grey CS + more br SI
32.8	10	hgy	br	CS, hgy, W								Hard gy wh br CS + more br SI
36.1	11						hr	G/L	S	mod		in ceasing br CS for salt rocks
39.4	12		br									salt regressive br gy CS
42.7	13			COH 39W								
45.9	14											
49.2	15											
52.5	16											
55.8	17											
59.1	18											
62.3	19											
65.6	20											
68.9	21											
72.2	22											
75.5	23											
78.7	24											
82.0	25											

Notes: thick alluvials above pond and CS, into dk to good crisp CS & gray below gravel + muds

Infill Done bagged Augers for 5 hrs.

Taipan X

England Hill drilling prospect 2001

Hole Number:	Licence number:	Prospect:	Date drilled:
EHA 229	EL 2252	England Hill	3/12/2001
	Drill rig type / contractor:	Investigator Mk10A / Taipan X	Logged by:
			Clayton Simpson
Coordinates (AMG-WGS84 datum):	42 2450	E 688 5802 N	Hole diameter:
			9 INCH
			Drill method:
			AUGER

Hole depth		Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
ft	m				quantity	types	quantity	types				
3.3	1	TDU	br	Si, G, SI					H	M		Hard br, slightly CC soils & grey SI pebbles
6.6	2	-	br	-						G		pebbles to boulders of grey SI & broken hard whcs in br ST
9.8	3	ch	gr-br	Si, G, CS								
13.1	4	-	-	-								
16.4	5	-	-	-								increasing hard whcs & minor milky br SI pebbles
19.7	6	-	-	-			tr	br				gray SI pebbles + hard br CS & minor ST
23.0	7	-	gr-br	Si, CS			-	-				gray SI pebbles + hard br whcs 'bluish' CS & br cemented br CS
26.2	8	hs	pr-gr	CS, SI			-	-				hard br, grey br, silty br, br CS + hard br CS + minor SI
29.5	9	hs 2	ph-gr	CS, whcs			-	-				hard br + grey whcs + hard br CS pebbles
32.8	10	-	-	-								increasingly more brish to crisp CS
36.1	11	hs 1	cr-br	CS, clay					S			crisp to hard br whcs + Fe-shale 'clay'
39.4	12	-	-	-			tr	br				more (1) brish to crisp br CS
42.7	13	-	ph-br	-			-	-				Good crisp br (1) brish to br CS + brish
45.9	14	-	-	-			-	-				Good crisp br (1) brish to br CS + Fe-shale 'clay'
49.2	15	-	-	-	tr	mod	-	-				increasingly more soft & brish (1) brish to br CS + hard br whcs 'clay'
52.5	16	hs 2	ll-br	CS, whcs			-	-				Softer br (1) brish to br CS + Fe-shale 'clay'
55.8	17	-	-	-			-	-				increasingly more soft to gray br CS
59.1	18	-	pr	-			tr	Al, G				Gray br pr CS + minor crisp brish & whcs
62.3	19	-	-	-			-	-				LO clay CS & whcs
65.6	20	-	-	-			-	-				
68.9	21	hs 3	cl-br	CS, muds								Soft & gray br pr CS + prish br CS
72.2	22	-	-	-								major prish br CS
75.5	23	-	-	-								
78.7	24	-	-	-								
82.0	25	-	-	-								

Notes:

thick alluvials are ~~poor~~ hard CS do OK crsps & ~~at~~ soft on ground.

Taipan X

England Hill drilling prospect 2001

Hole Number : EHA 230	Licence number : EL 2252	Prospect : England Hill	Date drilled : 3/12 / 2001
	Drill rig type / contractor : 42 2456	Investigator Mk10A / Taipan X E 688 5801 N	Logged by : Clayton Simpson
Coordinates (AMG- WGS84 datum) :		Drill method : AUGER	Hole diameter : 9 INCH

Hole depth		Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
ft	m				quantity	types	quantity	types				
3.3	1	do	br	ST, CL, SI					H	M		Had br. Staph. c.c. slts + some ST pebbles
6.6	2		brgy	ST, CS, SI						G		Gr. hard whcs + gy-grst in hard brst
9.8	3	etc	wh	ST, CS, SI								
13.1	4											
16.4	5		brgy	CS, ST, ST			tr	gy				increasing broken hard wh topucs + decaying ST
19.7	6	As		CS, SI								broken hard wh topucs, Gy-rend in part from gy st
23.0	7		dk br									increasing more compact c.s
26.2	8	As	phgy	cs (chips)								Gy-rend broken crisp Gy-rend wh topucs + As
29.5	9											For shell 'beds' in bottom crisp (As) topucs + 18hr for
32.8	10											Gy-rend crisp (As) topucs
36.1	11											less broken good crisp (As) topucs
39.4	12											more (As) colored crisp Gy-rend
42.7	13											less crispes to base
45.9	14	As	14w	CS (wh) + ST			tr	As, G				4e As (As) Gy-rend, in soft Gy, staph. gy, c.s + some c.s
49.2	15											
52.5	16											
55.8	17											
59.1	18											
62.3	19											
65.6	20											
68.9	21											
72.2	22											
75.5	23											
78.7	24											
82.0	25											

Inc 11

Taipan X

Hole Number : EHA 231	Licence number : EL 2252	Prospect : England Hill	Date drilled : 4/12/2001
	Drill rig type / contractor :		Logged by : Clayton Simpson
			Investigator Mk10A / Taipan X
Coordinates (AMG-WGS84 datum) : 42 24 57 E 688 579 N		Drill method : AUGER	

[illegible]

Notes: thick alternates above nodules, some of crisp CS into soft better ground.

Initial

Taipan X England Hill drilling prospect 2001

Hole Number:	Licence number:	Prospect:	Date drilled:
EHA 232	EL 2252	England Hill	4/12/2001
	Drill rig type / contractor:	Investigator Mk10A / Taipan X	Logged by: Clayton Simpson
Coordinates (AMG-WGS84 datum):	42 24.55	E 688 5782 N	Hole diameter: 9 INCH
			Drill method: AUGER

Hole depth		Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
ft	m				quantity	types	quantity	types				
3.3	1	td	br	SECS, SI					H	M		Hard br slightly CC salts & minor SI
6.6	2	—	—	—					VH	G		SI + CC cemented hard br ST
9.8	3	—	—	—								
13.1	4	—	—	—								Hard br ST & minor rd SI
16.4	5											
18.7	6	Dark br-gr		ST, CS, SI	N	Si			H			Hard br ST & minor broken ltr hard CS & rd SI
23.0	7	—	—	ST, CS, ST								in v. many, not hard rd to g SI + hard br ST
26.2	8	th	pink	SI, CS								crisp rd ltr ST & minor salt br CS lining SI
29.5	9	—	—	—								in v. many, more milky SI + crisp ltr w/ CS
32.8	10			CS, SI			N	G				milky ST to rd SI in v. many w/ CS
36.1	11	lt	lt	CS 'chry' SI					S			crisp ltr ltr CS + minor milky ltr CS
39.4	12	—	—	—								Good crisp ltr ltr CS + minor milky ltr CS
42.7	13	—	—	—			N	G				soft ltr CS + minor rd ltr CS, slightly
45.9	14	lt	lt	CS 'chry' SI								soft + slightly green prospect ltr CS + minor CS
49.2	15			lt CS								
52.5	16											
55.8	17											
59.1	18											
62.3	19											
65.6	20											
68.9	21											
72.2	22											
75.5	23											
78.7	24											
82.0	25											

Notes:

Thick alluvials above dolerites, no OK to good dikes. Siderite in bottom ground.

Taipan X

England Hill drilling prospect 2001

ING11

Hole Number :	Licence number :	Prospect :	Date drilled:
EHA 233	EL 2252	England Hill	4/12/2001
Drill rig type / contractor :	Investigator Mk10A / Taipan X		
Coordinates (AMG-WGS84 datum) :	42 2 455	E 688 57 73	N
			Drill method : AUGER

Hole depth	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	ldo br	ST, CC, SI					H	Y		Hard br, slightly cc silts + minor SI
6.6	2	—	—					VH	G		so + cc cemented hard br ST
9.8	3	—	—								
13.1	4	dark grey	ST, SI, CS								increasing content of grey siltstones
16.4	5	pink	—			tr	G	H			grey siltstones + bed of ST in hard br ST
19.7	6	—	CS, SI, ST			—	—				smaller quartzites + grey siltstones in br ST
23.0	7	rub	CS, SI			—	—				crisp greenish S + mottled grey to red 8-10 mm m. l. g. S / nodules
26.2	8	—	—			—	—	S			Good cherty nodules + LO sand nodules + m. l. g. top SI + STs
29.5	9	—	—			—	—				fine 'beads' in cherty nodules + m. l. g. S / nodules
32.8	10	Hr	CS (cherty) SI			—	—		md		Good cherty to blocky cherty nodules + lossy SI
36.1	11	—	CS (cherty)			—	—		+		Fe-Si nodules in cherty G. l. nodules + or br ST
39.4	12	—	—			tr	H, G		md		smaller more br crisp white br ST Fe-Si / beads + m. l. g. S / nodules
42.7	13	thick purple	CS (interbedded)			—	—				increasing Al pods in less crystalline CS
45.9	14	Hr 2	CS (interbedded)			md	H, G				se Al pods + greenish silt nodules + minor cup CS
49.2	15	Red	CS								
52.5	16										
55.8	17										
59.1	18										
62.3	19										
65.6	20										
68.9	21										
72.2	22										
75.5	23										
78.7	24										
82.0	25										

Notes: Thick alluvials above nodules into dr to good c. sp CS, less comp bottom

Drill

Taipan X

England Hill drilling prospect 2001

Hole Number : EHA 234	Licence number : EL 2252	Prospect : England Hill	Date drilled: 4/12/2001
	Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG-WGS84 datum) : 42 2460 E 688 5262 N			Hole diameter : 9 INCH
			Drill method : AUGER

Hole depth ft m	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3 1	rd	br	ST, CL, SI					6	M		harder, slightly cc sub grs 1, 10 grs
6.6 2	-	-						6			
9.8 3	-	-						6			
13.1 4	-	-						6			
16.4 5	rd	br	ST, CL, SI			br	Gr	6			increasing calc of hard brcs.
19.7 6	-	-				-	-	6			Grays in soft br 10 grs + rd to grs
23.0 7	br	pu br	CS, SI			-	-	6			hard to chipy grs + mottled of foids, another brs and SI
26.2 8	-	-						6			increasing calc of foid SI
29.5 9	br	pu br	CS, chipy SI			br	Gr	6			Good chipy mottled grs + 10 clay + mottled grs
32.8 10	br	pu br	CS, chipy SI			br	Gr	6			Good mottled grs + 10 clay + mottled grs
36.1 11	-	-				-	-	6			more calc chipy br white foids
39.4 12	-	-				br	Gr, Al	6			more calc chipy br white foids
42.7 13	-	-				-	-	6			more calc chipy br white foids
45.9 14	-	-				-	-	6			more calc chipy br white foids
49.2 15	-	-				-	-	6			more calc chipy br white foids
52.5 16	-	-				-	-	6			more calc chipy br white foids
55.8 17	-	-				-	-	6			more calc chipy br white foids
59.1 18	-	-				-	-	6			more calc chipy br white foids
62.3 19	-	-				-	-	6			more calc chipy br white foids
65.6 20	-	-				-	-	6			more calc chipy br white foids
68.9 21	-	-				-	-	6			more calc chipy br white foids
72.2 22	-	-				-	-	6			more calc chipy br white foids
75.5 23	-	-				-	-	6			more calc chipy br white foids
78.7 24	-	-				-	-	6			more calc chipy br white foids
82.0 25	-	-				-	-	6			more calc chipy br white foids

Notes:

chide alluvials are nodular, no deto good dip CS & into chert background.

Taipan X England Hill drilling prospect 2001

Ja Bell

Hole Number :	Licence number :	Prospect :	Date drilled:
EHA 285	EL 2252	No 1 England Hill	5/12/2001
Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by :	Clayton Simpson
Coordinates (AMG- WGS84 datum) :	42 2470	Hole diameter :	9 INCH
	E 688 5784	Drill method :	AUGER

RL 319m

Hole depth	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	br	Si, CL, SI					H	M		Had Si, slightly CC silica + mm gr SI pebbles
6.6	2	-	-					VH	G		Si: CC cemented nod br ST + SP pebbles of gang SI
9.8	3	-	-	tr	Si			b			increasing calc of red SI + mm band wh CS
13.1	4	br	Si, SI, CS					H			pebbles to nodules of gang SI + band of wh CS in band br ST
16.4	5	clhr	CS, SI, ST								brky hard wh CS in every section pebbles of gang SI in br ST
19.7	6	phtr	CS, SI			tr	by				soft to crisp wh CS pebbles to nodules of red SI + mm gr SI
23.0	7	ph-mv	-	tr	Phen	-	-				chippy wh CS by mm gr of red SI + nodules of mm br SI (Phen)
26.2	8	-	-								
29.5	9	-	-	tr	Phen						increasing more crisp wh CS, ve whnd phtr (or Si - CS?)
32.8	10	ASI	calc chyp' SI					S	und		Good chyp' wh CS + less mm gr of red SI + (Phen) to br SI
36.1	11	clhr	CS chyp'								Good magneto wh CS, quite blue, under lab use
39.4	12	Phen	-			tr	Al, by		ml		good crisp for Altracs + wh Altracs + mm gr SI
42.7	13	-	-								increasing Altracs in the crisp wh CS, more brky to red wh CS
45.9	14	AS 2 phre	calc whnd			mm	Al		b		nodules of Altracs in soft to crisp wh CS (partly in part + some Fe - X)
49.2	15	ROK	CS chyp'								
52.5	16										
55.8	17										
59.1	18										
62.3	19										
65.6	20										
68.9	21										
72.2	22										
75.5	23										
78.7	24										
82.0	25										

Notes:

Taqui

Hole Number : EHA 236	Licence number : EL 2252	Prospect : No 1 England Hill	Date drilled: 5/12/2001
Drill rig type / contractor :		Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG- WGS84 datum) : 42 2455		E 688 5759 N	Hole diameter : 9 INCH
			Drill method : AUGER

[illegible]

Notes: - thick alluvials above water CS into OK to good chert CS a soft alluvial bottom ground.

Infill

Taipan X England Hill drilling prospect 2001

Hole Number :	Licence number :	Prospect :	Date drilled:
EHA 237	EL 2252	England Hill	5/12/2001
Drill rig type / contractor :	Investigator Mk10A / Taipan X	Hole diameter :	9 INCH
Coordinates (AMG-WGS84 datum) :	42 2454 E 688 5749 N	Drill method :	AUGER

Hole depth	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	rd	br					H	m		Hard br, slightly cc silts & minor SI
6.6	2	-	-					UH	6		SI & cc conch had br ST & minor SI
9.8	3	-	brgy	tr	Si						increasing content of gangy silts & minor hard br CS
13.1	4	-	br								broken up wh CS & gangy SI & minor SI in hard br ST
16.4	5	-	ph br	tr	Br/Am	tr	G	H			increasing br/Am br wh CS & minor hard br ST
19.7	6	hb	-								broken hard br/Am br wh CS & minor hard br ST
23.0	7	-	ph br								large pebbles of hard br/Am ST lined with cc wh ST & br wh CS
26.2	8	-	-								in CS & ST more cc wh CS & br ST
29.5	9	-	-					S			Good chert & wh CS & SI pebbles & br ST
32.8	10	LA1	ch						ma		Good chert & wh CS & SI pebbles & br ST
36.1	11	-	-								more br/Am good chert CS, blue in part. & br ST
39.4	12	-	ph br						ml		more br/Am good chert CS & br ST
42.7	13	-	-			tr	H, G				br ST & wh CS in chert (ph) br CS, less br/Am
45.9	14	LA2	ph								soft br/Am br CS, slightly br/Am, & minor ST
49.2	15		LA2								
52.5	16										
55.8	17										
59.1	18										
62.3	19										
65.6	20										
68.9	21										
72.2	22										
75.5	23										
78.7	24										
82.0	25										

Notes: Thick alluvials gone reg. the CS into the crisp CS + salt, slightly Alumin bottom ground.

Taipan X England Hill drilling prospect 2001

Taipan prospect

Hole Number :	Licence number :	Prospect :	Date drilled :
EHA 238	EL 2252	105 England Hill	5/12/2001
Drill rig type / contractor :	Investigator	Hole diameter :	Logged by :
	Mk10A / Taipan X	9 INCH	Clayton Simpson
Coordinates (AMG-WGS84 datum) :	E 688 5555	Drill method :	
42 2 52	N	AUGER	

Hole depth		Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
ft	m				quantity	types	quantity	types				
3.3	1	th	br	ST, CC, SI					14	M		Drift by, slightly CC, SI, then grey ST, pebbles
6.6	2	th	grey	SI, ST, CC					14	6		pebbles to boulders of grey ST in bed of ST
9.8	3	th	grey	SI, ST, CC					14			boulders to massive grey ST + 6 ST + minor bed of CC
13.1	4	-	-	SI, CC					14			massive to bouldy grey ST + increasing CC
16.4	5	-	-	-					14			increasing bed of hard wh topics
19.7	6	-	pu	CC, SI					14			bed of, slightly, bouldy CC + bed of pebbles + pebbles of grey ST
23.0	7	th	grey	-					14			increasing bed of bouldy CC + bed of pebbles + minor grey ST
26.2	8	-	-	-			fr	6/	14			minor grey ST in bed of bouldy CC + bed of pebbles + minor grey ST
29.5	9	th	pu	CC, 'Chapin'			-	-	14			crisp bed of grey wh bed of bouldy CC
32.8	10	-	-	-			-	-	14			by bed good crisp grey ST + pebble level
36.1	11	-	-	-			-	-	14			bed of, more grey + (1) grey colored CC
39.4	12	-	lim	-			-	-	14			crisp bed of bouldy grey ST + bed of bouldy ST
42.7	13	th	grey	CC, 'washed'			fr	6/	14			bed of grey ST + bed of pebbles, minor grey ST + minor grey ST
45.9	14	-	pu	-			fr	6/	14			increasing pebbles + pebble bed in bed of pebbles
49.2	15	-	-	-								
52.5	16	-	-	-								
55.8	17	-	-	-								
59.1	18	-	-	-								
62.3	19	-	-	-								
65.6	20	-	-	-								
68.9	21	-	-	-								
72.2	22	-	-	-								
75.5	23	-	-	-								
78.7	24	-	-	-								
82.0	25	-	-	-								

Notes: -nick Gadery alluvia above poor hard CS in to old greasy bottom ground
Ind. (Note Abd A 321)

Index Plate Abd A 321.

Indel project

Taipan X

England Hill drilling prospect 2001

Hole Number : EHA 239A	Licence number : EL 2252	Prospect : 105 England Hill	Date drilled: 5/12 / 2001
Drill rig type / contractor :		Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG- WGS84 datum) : 42 2454		E 688 5808 N	Hole diameter : 9 INCH
			Drill method : AUGER

[illegible]

Notes: Thick massive siliceous boulder alluvials, some chips to surface slightly
grey soft mud

Taipan X England Hill drilling prospect 2001

Infill

Hole Number : EHA 240	Licence number : EL 2252	Prospect : 102 England Hill	Date drilled : 6/12/2001
Drill rig type / contractor :		Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG- WGS84 datum) : 42 3109		E 688 4257 N	Hole diameter : 9 INCH
			Drill method : AUGER

Hole depth		Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
ft	m				quantity	types	quantity	types				
3.3	1	CS	gn-gr	SI, ST					VH	M		boulder to massive grey SI / mud with brst
6.6	2								VH	G		
9.8	3											sandy to bed massive to boulder grey SI - minor thin SI
13.1	4		br-gy					br	min			massive brgy SI + grey SI pebbles (d mud CS?)
16.4	5											
19.7	6		band									thinly bedded brgy SI (blue 'bluish' CS) / minor red SI
23.0	7	CS	rd	SI, CS, ST					VH			boulder to massive rd jasper + chn bed brgy SI - minor brcs
26.2	8								H			increasing brgy CS content
29.5	9		pld	CS, ST					S			chpy mgt wh CS, interbeds of rd jasper
32.8	10		rd	CS, SI					S			
36.1	11	CS	br-pv	CS, chpy								crisp to chpy mgt brcs + minor thin brcs before
39.4	12	br-gy		CS, chpy								hard brgy CS (Angled) / chpy mgt brcs + br-pv grey CS after
42.7	13		lt-pv									soft lt-pv to dk-pv br CS + minor grey CS
45.9	14											more greasy soft brcs
49.2	15		lt-pv	CS, ST								
52.5	16											
55.8	17											
59.1	18											
62.3	19											
65.6	20											
68.9	21											
72.2	22											
75.5	23											
78.7	24											
82.0	25											

Notes:

Thick boulders alluvial above poor hard CS.

Taipan X

England Hill drilling prospect 2001

Tull prospect.

Hole Number :	Licence number :	Prospect :	Date drilled:
EHA 241	EL 2252	no 5 England Hill	8/12/2001
Drill rig type / contractor :		Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG- WGS84 datum) :		E 6885475 N	Hole diameter : 9 INCH
			Drill method : AUGER

Hole depth		Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
ft	m				quantity	types	quantity	types				
3.3	1	thick	br-red	Sl, ST,					vit	M		pebbles to boulders of grey ST hard with rd-br ST
6.6	2	-	gr-br	-					vit	G		boulder to massive grey ST & minor br ST
9.8	3	-	-	Sl, CG, ST					vit	I		more boulders hard grey ST & minor br ST
13.1	4	-	lt-br	CG, ST, ST	tr	ST			4			more grey ST & minor br ST
16.4	5	lt-br	-	CG, ST								broken hard grey ST
19.7	6	lt-br	lt-br	CG, ST			tr	Gr				Colter, slightly harder than typical CG & minor br ST
23.0	7	-	-	-								Increasingly more harder - i.e. typical CG & minor br ST
26.2	8	-	-	-								
29.5	9	-	-	-			mm	Gr	5			Slightly grey soft typical CG & minor br ST
32.8	10		lt-br	lt-br at 30ft, v. cracked hole								
36.1	11											no wind as had to use chain to extract
39.4	12											
42.7	13											
45.9	14											
49.2	15											
52.5	16											
55.8	17											
59.1	18											
62.3	19											
65.6	20											
68.9	21											
72.2	22											
75.5	23											
78.7	24											
82.0	25											

Notes: Thick alternates above ~~poor~~ slight kaolinitic CS, some ~~resp~~ CS, no green ss from ground + muds.

Tail prospect

Taipan X England Hill drilling prospect 2001

Hole Number :	Licence number :	Prospect :	Date drilled:
EHA 242	EL 2252	165 England Hill	8/12/2001
Drill rig type / contractor :	Investigator Mk10A / Taipan X		Logged by : Clayton Simpson
Coordinates (AMG- WGS84 datum) :	42 2423	E 688 5500 N	Hole diameter : 9 INCH
			Drill method : AUGER

Hole depth		Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
ft	m				quantity	types	quantity	types				
3.3	1	Qa	brd	Sl, ST					4	2		pebbles to boulders of grey sl in brd ST
6.6	2	Qk	-	-					1	6		3-2 pebbles of grey sl in brd ST, slv brcc
9.8	3	-	-	Sl, CS, ST	4	Brn			0	1		increasing calc of broken hard wics
13.1	4	-	br	CS, sl, ST					4	1		increasing siltier mottled kaolinitic w/ depics + mottled sp
16.4	5	h2	br	CS, mottled	4	Brn			1	1		more opal? surrounding degraded kaolinite in brd top. siltier
19.7	6	-	-	-					0	1		brn Gr, slightly kaolinitic 14 pvc
23.0	7	-	-	-			4	Gr	5	1		Siltier Gr. 14 pvc, slightly kaolinitic CS
26.2	8	-	-	-			-	-	-	1		increasing mottled kaolinitic 14 pvc
29.5	9	-	-	-			-	-	-	1		Crisp mottled 14 pvc / w/ depics in silt kaolinitic 14 pvc to 14 pvc
32.8	10	h1	br	CS, clumpy			-	-	-	1		Crisp Gr kaolinitic 14 pvc to 14 pvc. Less kaolinitic to 14 pvc
36.1	11	-	-	-			-	-	-	1		less siltier Gr. 14 pvc. 14 pvc. quite 'blend'
39.4	12	h2	br	CS, 'mottled'			-	-	-	1		blend Gr. 14 pvc. CS + minor Fe-silica + grey clumpy CS
42.7	13	-	br	-			-	-	-	1		Silt + grey Gr. 14 pvc. + Fe-silica / mottled kaolinitic w/
45.9	14	-	-	-			4	Gr, Al	1	1		with pebbles + Gr. Siltier sh grey Gr. 14 pvc + Fe-silica CS
49.2	15	-	-	-			-	-	-	1		Silt + grey Gr. 14 pvc + minor Crisp 14 pvc.
52.5	16	h1	-	CS, 'mottled'			-	-	-	1		quite grey Gr. depics + minor grey clays at base
55.8	17	-	-	-					0	1		increasing to more grey CS + minor grey clays
59.1	18	204	-	550								
62.3	19											
65.6	20											
68.9	21											
72.2	22											
75.5	23											
78.7	24											
82.0	25											

Notes: thick banded alternates of hard bedrocks, some dehydrates, w/ salt + grey, bottom ground + minor chloride.

In all prospect

Taipan X England Hill drilling prospect 2001

Hole Number :	Licence number :	Prospect :	Date drilled :
EHA 243	EL 2252	W5 England Hill	8/12/2001
Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by :	Clayton Simpson
Coordinates (AMG-WGS84 datum) :	42 2423 E 688 5526 N	Hole diameter :	9 INCH
		Drill method :	AUGER

Hole depth		Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
ft	m				quantity	types	quantity	types				
3.3	1	Qa	br-qr	SI, ST					H	M		gangy SI pebbles to 5m depth in base of ST
6.6	2	Qa	gr	SI, ST					VH	G		beddy gangy + hard bedrocks lined with ST
9.8	3	-	ur-gr	CS, SI, ST	hr	sc			H			very lustrous chalcocite in broken bedrocks + gangy SI pebbles
13.1	4	-	-	CS, SI	hr	Brgn						broken hard w/ bedrocks CS + milky SI - Plowing red, pebbles
16.4	5	-	ltsr	CS, ST, SI			hr	Gy				Gy red bedrocks bedrocks + br kopy milky SI - br ST
19.7	6	-	-	-								had 'beddy' ST + Gy red CS + br SI pebbles
23.0	7	Qa	ph-br	CS, bedrocks			hr	Gy				Gy red bedrocks + bedrocks + normally gy. bedrocks with ST
26.2	8	Qa	crph	CS, clumpy			hr	Gy				Gy red clumpy to flry Gy whcs + br bedrocks
29.5	9	-	-	-								more Hg bedrocks - br clumpy bedrocks
32.8	10	Qa	ltsr	CS, bedrocks								clumpy br kopy ST, + clumpy bedrocks
36.1	11	-	-	-								slightly gangy Gy gy CS, laminated in part
39.4	12	-	pu	-								increasing more gangy Gy gy CS
42.7	13	-	-	-			hr	Gy, Hg				min. white pebbles + Gy shales in gangy Gy bedrocks - Fe for 'L
45.9	14	Qa	ltsr	-			ma	Hg, Gy				increasing Hg bedrocks in Gy bedrocks + Hg bedrocks, in part
49.2	15	-	-	-								more clumpy Gy gangy ST bedrocks Hg
52.5	16	-	pu	-			hr	Hg, Gy				Green dr for Gy CS + minor Hg Gy
55.8	17	-	LOK	SZK								
59.1	18	-	-	-								
62.3	19	-	-	-								
65.6	20	-	-	-								
68.9	21	-	-	-								
72.2	22	-	-	-								
75.5	23	-	-	-								
78.7	24	-	-	-								
82.0	25	-	-	-								

RL 324m

In Oil prospect **Taipan X** **England Hill drilling prospect 2001** *& Free Mater ~ 30 RT.*

[illegible]

Notes:

Ir All prospect.

Hole Number : EHA 245	Licence number : EL 2252	Prospect : No 2 England Hill	Date drilled: 8/12/2001
Drill rig type / contractor :		Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG- WGS84 datum) : 42 23 76 E 688 5727 N		Hole diameter : 9 INCH	Drill method : AUGER

Hole depth		Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
ft	m				quantity	types	quantity	types				
3.3	1	Edo	br	ST, CC, SI					H	m		Hard brst & slightly cc & more SI
6.6	2	"	cbr						H	6		increasing ~~brst~~ red & slightly in very cc br ST
9.8	3	Tsh	-	SI, CC, ST					VH			rat to cc SI, red & brst in cc & ST
13.1	4	-	brnd	-					H			bulky red SI & hard wh & minor cc & ST in hard br CC & ST
16.4	5	Krb	pk-br	SI, CC					H			more bulky red & hard wh & minor cc & ST in hard br CC & ST
19.7	6	-	-	-					H			increasing cc & ST in hard br CC & ST
23.0	7	-	-	CC, SI					H			hard br CC & ST in hard br CC & ST
26.2	8	Hs1	pk-br	CC, ST, SI					H			hard br CC & ST in hard br CC & ST
29.5	9	-	-	CC, ST, SI					H			hard br CC & ST in hard br CC & ST
32.8	10	-	-	-					H			hard br CC & ST in hard br CC & ST
36.1	11	Hs2	pk-br	CC, ST, SI					H			hard br CC & ST in hard br CC & ST
39.4	12	-	-	-					H			hard br CC & ST in hard br CC & ST
42.7	13	-	pk-br	-					H			hard br CC & ST in hard br CC & ST
45.9	14	-	pk-br	-					H			hard br CC & ST in hard br CC & ST
49.2	15	-	pk-br	-					H			hard br CC & ST in hard br CC & ST
52.5	16	-	pk-br	-					H			hard br CC & ST in hard br CC & ST
55.8	17	-	pk-br	-					H			hard br CC & ST in hard br CC & ST
59.1	18	Edo	br	ST, CC, SI					H			hard br CC & ST in hard br CC & ST
62.3	19	-	-	-					H			hard br CC & ST in hard br CC & ST
65.6	20	-	-	-					H			hard br CC & ST in hard br CC & ST
68.9	21	-	-	-					H			hard br CC & ST in hard br CC & ST
72.2	22	-	-	-					H			hard br CC & ST in hard br CC & ST
75.5	23	-	-	-					H			hard br CC & ST in hard br CC & ST
78.7	24	-	-	-					H			hard br CC & ST in hard br CC & ST
82.0	25	-	-	-					H			hard br CC & ST in hard br CC & ST

Notes: thick alternates above by sand + nodules, some coarse chert to chert CS, to chert in bottom ground.

Taipan X England Hill drilling prospect 2001

Inch

Hole Number : EHA 246	Licence number : EL 2252	Prospect : England Hill	Date drilled: 8/12/2001
Drill rig type / contractor :	Investigator Mk10A / Taipan X	Hole diameter : 9 INCH	Logged by : Clayton Simpson
Coordinates (AMG-WGS84 datum) : 42 2 416	E 688 5751	N	Drill method : AUGER

Hole depth ft m	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3 1	1d0	br	80% SI					H	M		Hard cc br st amine SI
6.8 2	-	1Hr	-					I	G		
9.8 3	ink	-	CS, SI, ST			L	G	0			broken hard ye br CS, Gp round in pit, + br gy SI pellets
13.1 4	-	-	-			-	-	0			increasing Gy round in soil, slightly tabular (Hr CS)
16.4 5	tbl	ph-br	CS, SI			min	br	6			in large Gp round Hr round CS + min gy SI nodules
19.7 6	-	-	-			min	G				
23.0 7	-	-	-			min	G				
26.2 8	-	ph	-			hr	G				large rd to gy SI pellets in CS with G nodules
29.5 9	AI	-	CS 'chry' SI			-	-				thin complete comp CS + milky gy SI + rd SI + 1Hr 'bubbles'!
32.8 10	-	crph	CS 'chry'			-	-				Good comp G nodules CS + lossing milky Gy SI nodules
36.1 11	-	-	-			-	-				LO stucco + Fe-stc 'bubbles' chry br hr round CS
39.4 12	-	-	-			-	-				more br good chry nodules, LO stucco + Fe-stucco + Gy nodules
42.7 13	h2	ph	CS 'atmole'			hr	br, H				strong Fe-rich CS lute in more br (G) nodules
45.9 14	-	ph	-			min	H				soil comp to quartz (G) + wh Al pss + Fe-rich stucco
49.2 15	Rock	-	LS St.								moderate Al pss in soil to comp (G) CS
52.5 16											
55.8 17											
59.1 18											
62.3 19											
65.6 20											
68.9 21											
72.2 22											
75.5 23											
78.7 24											
82.0 25											

Notes: Thick alternations of green hard CS, some old crisp CS + 'beds' into green soft CS ground.

In Gill

Taipan X England Hill drilling prospect 2001

Hole Number : EHA 247	Licence number : EL 2252	Prospect : England Hill	Date drilled: 8/12 / 2001
Drill rig type / contractor :	Investigator Mk10A / Taipan X	Hole diameter : 9 INCH	Logged by : Clayton Simpson
Coordinates (AMG-WGS84 datum) : 42 2419	E 688 5740	Drill method : AUGER	

Hole depth		Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
ft	m				quantity	types	quantity	types				
3.3	1	old	Sr	ST, CS, 9'					4	M		Hard brcc silt + minor opal beds (pebbles)
6.6	2	-	HSR	-						6		
9.8	3	old	HSR	SI, ST, CS			tr	gy				gy + Sr SI pebbles + broken hard brcc in hard brcc ST
13.1	4	-	ph-bk	CS, SI, ST			minor	gy				gy veined hard brcc + gy SI pebbles in hard brcc ST
16.4	5	HSR	-	CS, SI			major	gy				intensely greenish soft CS + gy SI pebbles
19.7	6	-	-	-			minor	gy				decreasing gy + more red gy SI pebbles
23.0	7	HSR	ph-pu	CS 'bedlike'			-	-	5			hard brcc bedlike HSR to white CS, more crisp beds +
26.2	8	-	pu	-			tr	gy				crisp to hard brcc + minor CS + 'broken' ground brcc ST
29.5	9	HSR	-	caliche			-	-				crisp brcc to HSR to brcc greenish CS
32.8	10	HSR	-	CS 'clayey'			-	-				increasingly more crisp CS + lessening gy +
36.1	11	-	HSR	-			-	-				crisp brcc to HSR to HSR CS soft to pu + minor brcc
39.4	12	-	-	-			-	-				Fe-rich CS beds - to sandstone in crisp brcc to HSR
42.7	13	HSR	pu	CS 'bedlike'			-	-				more brcc, less hard brcc + slightly green CS to brcc
45.9	14	-	-	-			-	-				increasingly more green brcc to pu CS
49.2	15	-	-	soft CS bed								
52.5	16											
55.8	17											
59.1	18											
62.3	19											
65.6	20											
68.9	21											
72.2	22											
75.5	23											
78.7	24											
82.0	25											

Notes:

Taipan X

England Hill drilling prospect 2001

Hole Number :	Licence number :	Prospect :	Date drilled:
EHA 248	EL 2252	No 5 England Hill	18/12 / 2001
Drill rig type / contractor :		Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG- WGS84 datum) :		42 23 48 E 688 5 493 N	Hole diameter : 9 INCH
			Drill method : AUGER

[illegible]

Ta. 6011

Taipan X

Hole Number : EHA 249	Licence number : EL 2252	Prospect : R04 England Hill	Date drilled: 10/12/2001
	Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG- WGS84 datum) :	42 2031	E 688 5800 N	Hole diameter : 9 INCH
			Drill method : AUGER

[illegible]

VOLUME 2

Drill hole logs
EHA 250 - 279

Notes:

v. thin alternates above and CS, also crisp Crs & S → crisp to greasy butter sand.

InGill

Taipan X

England Hill drilling prospect 2001

Hole Number :	Licence number :	Prospect :	Date drilled:
EHA 250	EL 2252	England Hill	10/12 / 2001
Drill rig type / contractor :		Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG- WGS84 datum) :		42 2025 E 688 5804 N	Hole diameter : 9 INCH
			Drill method : AUGER

Hole depth	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	Qa rd-br	SL, S1, CS					B	M		Loose rd-br soils + SR grey hard S pebbles + minor CS
6.6	2	h2 purbr	CS 'whudve'					H	G		Hard Cr purbr with slightly harder than CS + minor brST
9.8	3	-	-			K	Fe	↓	↓		Increasingly more kaolinitic CS + hard Fe-rich CS inclusions
13.1	4	-	-					↓	↓		Hard to crisp 15% CS + hard pure CS inclusions
16.4	5	h51 purv	CS 'chypv'			K	G	S	↓		Crisp to hard Cr Hpr kaolinitic + minor hard pure S pebbles
19.7	6	-	-					↓	↓		Less crisp Hpr to Hpr CS
23.0	7	-	-					↓	und		Crisp uncs inclusions in soft Hpr CS
26.2	8	-	-					↓	met		more mag Cr to soft CS + slightly grey Cr pure CS
29.5	9	h32 Crv	CS 'whudve'					↓	↓		crisp Cr uncs inclusions in soft purgr slightly grey CS
32.8	10	LOOT soft									
36.1	11										
39.4	12										
42.7	13										
45.9	14										
49.2	15										
52.5	16										
55.8	17										
59.1	18										
62.3	19										
65.6	20										
68.9	21										
72.2	22										
75.5	23										
78.7	24										
82.0	25										

Notes:

v. thin alluvials above hard regolith: ccs & slightly dolomitic ccs, some crisp ccs, into greasy bottom ground.

Taipan X England Hill drilling prospect 2001

Infill

Hole Number :	Licence number :	Prospect :	Date drilled:
EHA 251	EL 2252	<i>No 4</i> England Hill	<i>10/12</i> / 2001
Drill rig type / contractor :		Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG- WGS84 datum) :		42 2009 E 688 5798 N	Hole diameter : 9 INCH
			Drill method : AUGER

Hole depth	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	Qu	brnd	SL, SL, CS				S	M		large red soils + SP gr. silt pebbles in brnd ccs
6.8	2	kab	gy-br	CS, ST				H	G		Hard broken gy-br ccs + 18% ST
9.8	3										broken hard gy-br ccs + increasing calc & hard wks
13.1	4	hy	l/pv	cs + wdk							hard kaolinite wdk + ccs + hard gy-br ccs
18.4	5										increasingly more kaolinite forming gy-br ccs
19.7	6	hst	crn	cs + chyp		kr	Gr	S			crisp salt gran to 10% ccs + minor br ccs + wdk
23.0	7	hst	hpr	cs + wdk					und		minor crisp wdk ccs in salt + br slightly green ccs
26.2	8		pu			kr	Gr, H		pull		green gr pu ccs + ga-sapst pods
29.5	9										more green gr chyp ccs
32.8	10			20% salt							
36.1	11										
39.4	12										
42.7	13										
45.9	14										
49.2	15										
52.5	16										
55.8	17										
59.1	18										
62.3	19										
65.6	20										
68.9	21										
72.2	22										
75.5	23										
78.7	24										
82.0	25										

Notes: V. thin alluvials above regolith to hard kaolinitic CS, some dk cisp CS, no salt at bottom of hole.

Id 11

Taipan X England Hill drilling prospect 2001 * grey patch at 7.4.

Hole Number :	Licence number :	Prospect :	Date drilled :
EHA 252	EL 2252	England Hill	10/12/2001
Drill rig type / contractor :	Investigator	Hole diameter :	Logged by :
	Mk10A / Taipan X	9 INCH	Clayton Simpson
Coordinates (AMG- WGS84 datum) :	Drill method :		
42 1996 E 688 5802 N	AUGER		

Hole depth		Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
					quantity	types	quantity	types				
3.3	1	Da	brnd	sl, sh CS					5	M		Loose rubber salts + br white s. clays. 1 pebbles
6.6	2	h2	lbr	CS, ST					4	G		Broken hard to touch GREEN had br, slightly c. s. s.
9.8	3	h2	phbr	CS (white)	tr	P	tr	G	5			hard patch in cisp to hard w. CS + G. veins in intervals
13.1	4						min	G	5			G. veins hard to touch kaolinitic w. CS
16.4	5	h2	crk	CS (chmp)					5			Cmp (g. long) w. CS + in hard G. veins in intervals (1st 5m + 10)
19.7	6						tr	G	5			good cisp to touch w. CS + G. veins in intervals (1st 5m + 10)
23.0	7		phm						5			So (1st 5m) (1st 5m) cisp. Br. s.
26.2	8		h2				tr	G	5			cisp to salt for (1st 5m) + G. veins + Fe + LO sand w. CS
29.5	9	h2	ph	CS (white)			tr	G	5			So (1st 5m) (1st 5m) cisp. Br. s.
32.8	10								5			So (1st 5m) (1st 5m) cisp. Br. s.
38.1	11								5			
39.4	12								5			
42.7	13								5			
45.9	14								5			
49.2	15								5			
52.5	16								5			
55.8	17								5			
59.1	18								5			
62.3	19								5			
65.6	20								5			
68.9	21								5			
72.2	22								5			
75.5	23								5			
78.7	24								5			
82.0	25								5			

Notes: v. thin alluvial & fine regolith & hard CS into softer leadenite to pearcs

Infill

Taipan X England Hill drilling prospect 2001

Hole Number :	Licence number :	Prospect :	Date drilled:
EHA 253	EL 2252	Mk10A / Taipan X England Hill	10/12 / 2001
Coordinates (AMG-WGS84 datum) :	Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
42 1999	E 688 5804	N	Hole diameter : 9 INCH
			Drill method : AUGER

Hole depth		Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
ft	m				quantity	types	quantity	types				
3.3	1	Qa	br	St, CS, SI					S	m		Soft red-br soils + hard br CS clasts, minor SI
5.6	2	LB	lbr	CS, ST					H	G		broken Pe-stained hard 14prCS, slightly leadenitic + br
9.8	3	142	lbr	CS 'washed'								clayey hard br 14pr st Pe-stained leadenite
13.1	4											more leadenitic & softer in part + hard 14prCS
16.4	5											minor Pe-rich alluvials in hard 14pr br CS
19.7	6		pu				fr	br	S			Softer 14pr br 14pr CS, more leadenitic
23.0	7						fr	G, Al		med		more an Al podst & G veins in soft pe-br leadenitic CS
26.2	8									med		Softer + slightly grey gr-pv CS + minor orange st
29.5	9									med		in veins Al podst in soft gr-pv leadenitic CS
32.8	10			Soft 3004								
36.1	11											
39.4	12											
42.7	13											
45.9	14											
49.2	15											
52.5	16											
55.8	17											
59.1	18											
62.3	19											
65.6	20											
68.9	21											
72.2	22											
75.5	23											
78.7	24											
82.0	25											

Notes: v. thin alluvials abt reg. 14m CS to decr. sp. Gravel CS & siltier bottom ground.

Irrel

Taipan X

England Hill drilling prospect 2001

large magne. patch ^{clay} ZRF

Hole Number :	Licence number :	Prospect :	Date drilled :
EHA 254	EL 2252	England Hill	/ 2001
Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by :	Clayton Simpson
Coordinates (AMG-WGS84 datum) :	42 1996 E 688 5804 N	Hole diameter :	9 INCH
		Drill method :	AUGER

Hole depth		Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
ft	m				quantity	types	quantity	types				
3.3	1	On	red	SL ES					5	M		soft rd-b. silt + minor br. CS clots
6.8	2	hs	br	LS SL					4	G		broken hard cl. br. ES + rd-b. silt
9.8	3	hs1	phr	CS 'chry'	tr	P	tr	br	5			magne. patch in broken cr. sp. wh. CS + Fe-sta 'level' x minor br. st
13.1	4		crp				mm	br				Gravel cr. sp. wh. CS
16.4	5		phr				tr	br				decreasing br. in cr. sp. wh. to 16m
19.7	6		phr				mm	br				increasing Gravel contents in cr. sp. wh. to 16m + Fe-sta
23.0	7	hs2	ph	CS 'wh. wh.'			tr	br. H		nd		softer / less cr. sp. wh. Gravel 16m to 23m + on 4.5' bed
26.2	8									ml		Soil - slightly greasy 16m CS + white ph. br. silt
28.5	9											in areas with calc. ph. colored slightly greasy c.s.
32.8	10			304 ZRF								
36.1	11											
39.4	12											
42.7	13											
45.9	14											
49.2	15											
52.5	16											
55.8	17											
59.1	18											
62.3	19											
65.6	20											
68.9	21											
72.2	22											
75.5	23											
78.7	24											
82.0	25											

Notes: J. thin alluvials above recent CS, w/ 04 crisp Gyne CS into softer bottom grade

Incl 1

Taipan X

England Hill drilling prospect 2001

matrix ~ 9 ft.

Hole Number :	Licence number :	Prospect :	Date drilled:
EHA 255	EL 2252	NO 4 England Hill	10/12 / 2001
	Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG-WGS84 datum) :	42 1993	E 688 5804 N	Hole diameter : 9 INCH
			Drill method : AUGER

Hole depth		Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
ft	m				quantity	types	quantity	types				
3.3	1	Qa	rd br	S4, S1, CS					S	M		soft rd br siltst + gr S1, rd br siltst + wh c S
6.6	2	hls	br	CS, SL						G		mod br silty sand br CS + decreasing rd br
9.8	3	hsl	dk br	CS 'chpy'	tr	M	L	G				Matrix spilt in crisp wh c S + Gneiss + 'bed' 'bed'
13.1	4	-	-	-			mm	G				Gy road crisp wh c S + 'bed' 'bed' (H.S.T)
16.4	5	-	pt-pu	-								crisp (H.S.T) + less Gneiss + crisp br CS + rd br
19.7	6	-	-	-			L	G				more (H.S.T) + crisp br CS + Gneiss
23.0	7	-	-	-			L	G		und		wh Al peaks in crisp (H.S.T) + Gneiss + 'bed' 'bed' / H.S.
26.2	8	hsl	dk br	CS 'chpy'						und		less crisp + Gneiss + (H.S.T) + (H.S.T) + (H.S.T) + (H.S.T)
29.5	9	-	-	-								Lo sand silty in soft to crisp gr-pv br CS, more grey to br
32.8	10			ROA 3004								+ 10-12 ft
36.1	11											
39.4	12											
42.7	13											
45.9	14											
49.2	15											
52.5	16											
55.8	17											
59.1	18											
62.3	19											
65.6	20											
68.9	21											
72.2	22											
75.5	23											
78.7	24											
82.0	25											

Notes: v. thin alluvials above relictive & of crisp CS, no salt. Slightly grey silted sand.

Taipan X England Hill drilling prospect 2001

Hole Number : EHA 256	Licence number : EL 2252	Prospect : Kelp England Hill	Date drilled: 10/12/2001
	Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG- WGS84 datum) :	42 1989	E 688 5804	Hole diameter : 9 INCH
		N	Drill method : AUGER

Hole depth		Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
ft	m				quantity	types	quantity	types				
3.3	1	Ua	rdbr	SL, S1, CS					5	M		Wore out seals + clogged br EST, S1
6.6	2	126	br	CS, ST						6		Brickhead br, CC covered CS a by ST
9.8	3	121	phsr	CS' clayey			fr	Gr				Fe grey levels in CS with irregular GrCS + G, v. var
13.1	4						mm	G				Gravelly CS in 10/14 m depth S
16.4	5				fr	mm	fr	G				Red Gr. Apatite CS in CS up to 10/14 m. + or br ST, v. var
18.7	6		br									Fe-rich CS 'lakes' in CS up to 10/14 m
23.0	7									un		Gravelly 1cm in CS up to salt progress, more by to base
26.2	8	122	br	CS 'Wendell'			fr	G, H		pull		with Haps in salt mcs, less shaly, minor CS, BrCS
29.5	9											Green gr clay CS + Fe-lake Gravel
32.8	10			20% salt								
38.1	11											
39.4	12											
42.7	13											
45.9	14											
49.2	15											
52.5	16											
55.8	17											
59.1	18											
62.3	19											
65.6	20											
68.9	21											
72.2	22											
75.5	23											
78.7	24											
82.0	25											

T4211

Taipan X

England Hill drilling prospect 2001

Hole Number :

EHA 257

Licence number :

EL 2252

Prospect :

No 4.
England Hill

Date drilled:

11/12/2001

Logged by :

Clayton Simpson

Drill rig type / contractor :

Investigator Mk10A / Taiwan X

Hole diameter :

9 INCH

Coordinates (AMG- WGS84 datum) :

42 Zähl

E 688 5809

N

Drill method :

AUGER

[illegible]

Notes:

England Hill drilling prospect 2001

Handwritten: ϕ putch not 80%

Hole Number : EHA 258	Licence number : EL 2252	Prospect : 104 England Hill	Date drilled : 11/12 / 2001
Drill rig type / contractor :		Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG- WGS84 datum) : 42 1995		E 688 5809 N	Hole diameter : 9 INCH
			Drill method : AUGER

[illegible]

Notes: *1. The alluvials are negative for good crop to black CS into softer slightly greasy CS.*

Infill

Taipan X England Hill drilling prospect 2001

As per (blank) 500g + 100mg white poly chip

Hole Number : EHA 259	Licence number : EL 2252	Prospect : 104 England Hill	Date drilled: 11/12 / 2001
Drill rig type / contractor :		Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG-WGS84 datum) : 42 1992		E 688 5809 N	Hole diameter : 9 INCH
			Drill method : AUGER

Hole depth ft m	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3 1	Qa	rd-br	SL, SI					S	N		rd br sands + c kists of hard br CS
6.6 2	h4	br	CS, ST					H	G		broken hard in CS, hard br ST
9.8 3	h51	mg	CS 'chip', ST	fr	P, L, Ir	Gy		S			black + white patch (100g) + Fe-stain 'leaf' in exp whic S
13.1 4		cr/lt	CS 'chip', ST								Good crop of green CS + Gy + Fe rich CS (Sps)
16.4 5											Good chip to black op whic CS
19.7 6											CS becoming more br + less black to base
23.0 7						to	Al, Gy		und		broken + ground whic lot of Gy + 100 ST + minor Al pds
26.2 8		pl-gy							red		good crop of 100 pds + Gy + minor Al pds
29.5 9	h52	pu	CS 'medial' b'						B		more br, less kaolinite pds, grey, black + 200 pds
32.8 10			200f 300f								
36.1 11											
39.4 12											
42.7 13											
45.9 14											
49.2 15											
52.5 16											
55.8 17											
59.1 18											
62.3 19											
65.6 20											
68.9 21											
72.2 22											
75.5 23											
78.7 24											
82.0 25											

Notes:

Taipan X

England Hill drilling prospect 2001

Hole Number :	Licence number :	Prospect :	Date drilled:
EHA 260	EL 2252	No 4 England Hill	11/12 / 2001
Drill rig type / contractor :		Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG- WGS84 datum) :		42 1985 E 688 5810 N	Hole diameter : 9 INCH
			Drill method : AUGER

[illegible]

Notes: v thin alluvials above reph. (MCS) band slightly leaden (Sd + due CS + solifer
Slightly greenish bottom gravel.

Drill

Taipan X England Hill drilling prospect 2001

Hole Number : EHA 261	Licence number : EL 2252	Prospect : NOL England Hill	Date drilled: 11/12/2001
Coordinates (AMG-WGS84 datum) : 42 2001	Drill rig type / contractor : Investigator Mk10A / Taipan X	Hole diameter : 9 INCH	Logged by : Clayton Simpson
	E 688 5814	Drill method : AUGER	

Hole depth ft m	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3 1	Qa	br-red	SL CS					5	m		rd-gr soil & hard auc sedacts.
6.6 2	h2	br	CS, S, sl					4	G		open narrow vcs + dr stipules in cc brst.
9.6 3	h2	br	CS (wide)					1			Hard Gr slightly leadenitic (hard) vcs
13.1 4		tr	-								Hard Gr slightly leadenitic 'salt blue' CS Hard pvc particles
16.4 5			-			hr	Gy				CS becoming solifer
19.7 6			-								no Hbr colour & laminated in part, loss leadenitic Gr & S
23.0 7			-						hard		Hard Gr Hbr to Hbrs + hard pvc in vcs + some csp cs
26.2 8		tan	-					5	hard		Sd Gr pvc brcs, v. little harder than Gr vcs
29.5 9			-								Fe (and) dractans in soil, slightly green, Gr pvc
32.8 10			ROT 300L								
36.1 11											
39.4 12											
42.7 13											
45.9 14											
49.2 15											
52.5 16											
55.6 17											
59.1 18											
62.3 19											
65.6 20											
68.9 21											
72.2 22											
75.5 23											
78.7 24											
82.0 25											

0.4mm alluvials above negative CS = OK to good cases into grey bottom ground.

In all

& Park at 12th

[illegible]

Notes: v. thin alluvials above regolith CS is good crop to Bluffs & slightly greasy bottom grades

Iuhell

Taipan X

England Hill drilling prospect 2001

& ^{red}rich 8RL + colour (Faint) on clayey CS.

Hole Number :	Licence number :	Prospect :	Date drilled:
EHA 263	EL 2252	^{No 4} England Hill	11/12/2001
Drill rig type / contractor :		Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG-WGS84 datum) :		42 1992 E 688 5814 N	Hole diameter : 9 INCH
			Drill method : AUGER

Hole depth		Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
ft	m				quantity	types	quantity	types				
3.3	1	Qa	red	SL CS					S	M		Lower red-Sr soilst and wh CS clasts
6.6	2	Rb	br	CS, ST					G	G		broken hard red tonnes in calc ST + good crop of calc
9.8	3	hsl	colour	CS (Ch ppy)	kr	PL	kr	G	S			broken calc. CS + Gypsum, some red soilst + Mn sandstone
13.1	4		th. m									Good crop of wh CS + G. veins in calc. CS
16.4	5											Good crop of wh CS, no Mn sandstone
19.7	6		cr. m									Good crop white thin layers, black in places
23.0	7									m		Blocky good crop of wh CS + G. stages
26.2	8									m		Good crop of wh CS + G. stages
29.5	9	hsl	br	CS (wh. m)			kr	ti, G				Solid G. m. CS, quartz, impure + x. l. wh. m. CS + G. stages
32.8	10			FOR 300L								
36.1	11											
39.4	12											
42.7	13											
45.9	14											
49.2	15											
52.5	16											
55.8	17											
59.1	18											
62.3	19											
65.6	20											
68.9	21											
72.2	22											
75.5	23											
78.7	24											
82.0	25											

Notes: within alluvials are regolith & hard Gyver CS, minor chert CS, no greasy bottom ground.

In G11

Taipan X England Hill drilling prospect 2001

Hole Number : EHA 264	Licence number : EL 2252	Prospect : England Hill	Date drilled : 16/12/2001
	Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG-WGS84 datum) :	42 1988	E 688 5814	Hole diameter : 9 INCH
		N	Drill method : AUGER

Hole depth ft m	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	cln	brd					S	M		Loose red sandstone & mudstone clasts
6.6	2	h/b	br					H	6		Gravelled with Opal CS hard br ST & minor SL
9.8	3	h/b	br			mn	G	S	1		Gyver CS large clasts to 10cm, minor chert CS & minor SL
13.1	4	h/b	br			tr	G	S			Good sized Gyver CS & Gyver & minor hard CS (minor) & minor SL
16.4	5	-	h/b			tr	G	S			Fe-stained mudstone & L. forming in soft br Gyver CS & minor SL
19.7	6	h/b	-			-	-	-	1		Fe-stained mudstone & L. forming in soft br Gyver CS & minor SL
23.0	7	-	-			-	-	-	1		Gyver CS mudstone & L. forming in soft br Gyver CS & minor SL
26.2	8	-	-			-	-	-	1		Gyver CS mudstone & L. forming in soft br Gyver CS & minor SL
29.5	9	h/b	cln			-	-	-	1		Alphids & minor Gyver CS in greenish Gyver CS
32.8	10	-	cln			-	-	-	1		Fe-rich 'cln' in greenish Gyver CS
36.1	11										
39.4	12										
42.7	13										
45.9	14										
49.2	15										
52.5	16										
55.8	17										
59.1	18										
62.3	19										
65.6	20										
68.9	21										
72.2	22										
75.5	23										
78.7	24										
82.0	25										

Notes: v. thin alternals above regular CS* Old crisp CS, into bed bottom ground + grey CS.

In Gell

Taipan X

England Hill drilling prospect 2001 & Black patch pipe 18 ft

Hole Number :	Licence number :	Prospect :	Date drilled :
EHA 265	EL 2252	England Hill	11/12/2001
Drill rig type / contractor :	Investigator Mk10A / Taipan X	Hole diameter :	9 INCH
Coordinates (AMG-WGS84 datum) :	42 1996 E 688 5820 N	Drill method :	AUGER

Hole depth		Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
ft	m				quantity	types	quantity	types				
3.3	1	Qa	brd	SL 5% CS					5	M		broken hard to comp Q. (P)CS + cc br ST
6.6	2	br	br	CS, ST, ST						G		hard to comp in 4 basalite CS + hard br ST
9.8	3	br	br	CS, ST, ST								crisp to hard Car. it's very Q. CS. Black SKIPS.
13.1	4			CS, clay			14	Gy				quite clay. hard to comp G. (P) CS + Gyrous
16.4	5											black patch pipe in hard to comp G. (P) CS, reasonably hard
19.7	6											hard bland. Hard to Mbr CS, less to hard
23.0	7											hard to comp Car. p. g. ST hard in CS spots
26.2	8											Solid to comp, Car. show to p. g. CS.
29.5	9											
32.8	10											
36.1	11											
39.4	12											
42.7	13											
45.9	14											
49.2	15											
52.5	16											
55.8	17											
59.1	18											
62.3	19											
65.6	20											
68.9	21											
72.2	22											
75.5	23											
78.7	24											
82.0	25											

Notes: v. thin diatomals above reg line. de crisp to hardcs into soft, slightly green to tan mud.

InGill

Taipan X England Hill drilling prospect 2001

Hole Number:	Licence number:	Prospect:	Date drilled:
EHA 266	EL 2252	104 England Hill	11/12 / 2001
Drill rig type / contractor:	Investigator Mk10A / Taipan X		Logged by:
Coordinates (AMG-WGS84 datum):	42 1992	E 688 5820	Clayton Simpson
		N	Hole diameter:
			9 INCH
			Drill method:
			AUGER

Hole depth	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	Qa	brnd					5	7		brnd brnd wh CS + wh ST in rd 4 ST
6.6	2	hly	br					1+	6		brnd brnd wh CS in brnd br slightly CC ST
9.8	3	hly	crs			W	G	5	1		crisp wh brd Gr wh CS + minor ST
13.1	4	—	phbr			—	—	4	1		Blury SA chps of hard crisp wh CS + brnd wh CS + Fe brnd
16.4	5	—	—			—	—	4	1		Blury brnd Gr wh CS + less wh CS + Fe brnd
19.7	6	—	—			—	—	5	1		Soft grey wh CS + Fe brnd wh CS + Fe brnd
23.0	7	hly	brnd			—	—	1	und		Soft crisp Gr wh CS + minor wh CS + Fe brnd
26.2	8	—	—			—	—	1	und		Soft brnd Gr wh CS + minor wh CS + Fe brnd
29.5	9	—	—			—	—	1	und		Soft + greasy wh brnd CS + wh brnd
32.8	10	—	—			—	—	1	und		
36.1	11	—	—			—	—	1	und		
39.4	12	—	—			—	—	1	und		
42.7	13	—	—			—	—	1	und		
45.9	14	—	—			—	—	1	und		
49.2	15	—	—			—	—	1	und		
52.5	16	—	—			—	—	1	und		
55.8	17	—	—			—	—	1	und		
59.1	18	—	—			—	—	1	und		
62.3	19	—	—			—	—	1	und		
65.6	20	—	—			—	—	1	und		
68.9	21	—	—			—	—	1	und		
72.2	22	—	—			—	—	1	und		
75.5	23	—	—			—	—	1	und		
78.7	24	—	—			—	—	1	und		
82.0	25	—	—			—	—	1	und		

Notes: v. thin alluvials above ~~adhesive~~ CS, some ch. crisp CS, ~~at~~ ~~sort~~ to slightly aluminous ~~with~~ ~~argued~~ & muddish CS.

Taipan X England Hill drilling prospect 2001

In 8/11

Hole Number : EHA 267	Licence number : EL 2252	Prospect : N04 England Hill	Date drilled: 11/12/2001
	Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG-WGS84 datum) :	42 1986	E 688 5820	Hole diameter : 9 INCH
		N	Drill method : AUGER

Hole depth		Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
					quantity	types	quantity	types				
3.3	1	Ch	Gr rd	SL CS, ST					5	3		broken hard w/ CS & ST in red-bk sl
6.6	2	hcs	br	CS, ST					5	6		broken crisp CS in br ST + Fe-st ~~hard~~
9.8	3	hst	ph br	CS 'chry' sl			hr	gy				had large gy, w/ 4 CS & small brgy sl nodules
13.1	4		ph br	CS 'chry' sl								decamp gr Harder dense CS + Gy veins w/ Fe-lnd Rnd
16.4	5	hst	ph br	CS 'mudstone'								soft gr pur br CS, less hardwky, greyer in part
19.7	6		pu				hr	gy, H				unlike st Gy veins w/ br ST in soft grey pur-br CS
23.0	7		ph				ma	H		und		in crossy Al pods in soft for 12 ft pur CS
26.2	8									und		aluminic soft 11 ft to Hst minor crisp CS, grey, Fe-lnd
29.5	9	hst	pu	CS 'muddish'			hr	H				Soft grey gr pur br ST minor purgy clay st base
32.8	10			EOT SORT.								
36.1	11											
39.4	12											
42.7	13											
45.9	14											
49.2	15											
52.5	16											
55.8	17											
59.1	18											
62.3	19											
65.6	20											
68.9	21											
72.2	22											
75.5	23											
78.7	24											
82.0	25											

Notes: Thin alternals above bed in CS, base of comp CS soft: slightly green to golden green.

In R11

Taipan X England Hill drilling prospect 2001

Hole Number :	Licence number :	Prospect :	Date drilled:
EHA 268	EL 2252	Nolt England Hill	12/12 / 2001
Drill rig type / contractor :		Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG- WGS84 datum) :		42 2000 E 688 5749 N	Hole diameter : 9 INCH
			Drill method : AUGER

Hole depth		Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
ft	m				quantity	types	quantity	types				
3.3	1	Qa	brnd	SL, CS, ST					5	M		broken hard whcs in coarse rd br ST + much lost ST
6.6	2									6		increasing hard br ST + whcs
9.8	3	h2	brnd	CS, ST			br	br				broken hard whcs in coarse rd br ST + much lost ST
13.1	4	h2	brnd	CS, ST								Good comp. Crystals
16.4	5		brnd									more brnd hard whcs + br ST + br ST
19.7	6											Softer + less comp. Crystals
23.0	7						br	br, Al				good comp. br ST + br ST + br ST
26.2	8	h2	brnd	CS, ST								Softer + less comp. Crystals + more brnd whcs
29.5	9											Softer + less comp. Crystals + more brnd whcs
32.8	10											Softer + less comp. Crystals + more brnd whcs
36.1	11											
39.4	12											
42.7	13											
45.9	14											
49.2	15											
52.5	16											
55.8	17											
59.1	18											
62.3	19											
65.6	20											
68.9	21											
72.2	22											
75.5	23											
78.7	24											
82.0	25											

Notes: within cellinials are regular CS into good crisp CS • color aluminic bottom ground

In Gill

Taipan X

England Hill drilling prospect 2001

^{circle} Patch Gravel FRL

Hole Number :	Licence number :	Prospect :	Date drilled:
EHA 269	EL 2252	^{no 4} England Hill	12/12/2001
Drill rig type / contractor :	Investigator	Hole diameter :	Logged by :
	Mk10A / Taipan X	9 INCH	Clayton Simpson
Coordinates (AMG-WGS84 datum) :	Drill method :		
42 1996 E 688 5799 N	AUGER		

Hole depth		Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
ft	m				quantity	types	quantity	types				
3.3	1	Qa	brnd	SL, SLBS					5	M		Loose rd-br ss + clasts, p. white CS + gr. S. p. ss.
6.6	2	h ₅	br	CS, SL						6		both hard to crush + hard br ss
9.8	3	h ₅ 1	pink	CS, clay	tr	P	tr	Gr				the grey patch (cracked with Fe) in crisp Gr. white CS + Gr. ss.
13.1	4		crp									Good crisp to black Gr. white CS + Gr. ss. 1/4" ss
16.4	5		crp									Soft + more 1/4" rounded crisp Gr. CS
19.7	6											Good crisp Gr. white to 1/4" CS + Gr. ss.
23.0	7		ltm				tr	Gr, Al		und		Soft + less crisp than to 4, Gr. CS + 1/4" ss.
26.2	8	h ₅ 2		CS, white						und		Soft Gr. p. Gr. CS, little l. ss. + 1/4" ss.
29.5	9		mye				my	Al				Soft + slightly grey Gr. CS + 1/4" ss.
32.8	10			20130R+								
36.1	11											
39.4	12											
42.7	13											
45.9	14											
49.2	15											
52.5	16											
55.8	17											
59.1	18											
62.3	19											
65.6	20											
68.9	21											
72.2	22											
75.5	23											
78.7	24											
82.0	25											

Notes: V. thin alluvials above ~~g~~olitic CS & old craps into clastic bottom ground

Infill

Taipan X England Hill drilling prospect 2001

Hole Number :	Licence number :	Prospect :	Date drilled:
EHA 270	EL 2252	104. England Hill	12/12 / 2001
Drill rig type / contractor :	Investigator Mk10A / Taipan X		Logged by : Clayton Simpson
Coordinates (AMG- WGS84 datum) :	42 1993	E 688 5799	Hole diameter : 9 INCH
		N	Drill method : AUGER

Hole depth	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	Qz	brnd	SL, CS, SI				5	m		loose red br scale + qz SI pebbles + white CS clasts.
6.8	2	W	W	CS, ST					6		beige bedded + CC br ST + minor SL + Fe-stain. Fragments.
9.8	3	W	W	CS, ST							crisp bedded Gr clastic CS + G. vein? + minor Fe-stain
13.1	4										OK crop Gr white/ltm CS + minor 'bedding' H. ST
16.4	5										less crop Gr pebbles + white H. ST
19.7	6										soft clastic H. ST Gr CS, less bedded
23.0	7										clastic bedded to crop Gr H. ST + minor clastic Gr CS
26.2	8										soft clastic H. ST + white H. ST. Fd k. Gr grey CS +
29.5	9										soft v. br CS, grey, foliate + white H. ST
32.8	10										
36.1	11										
39.4	12										
42.7	13										
45.9	14										
49.2	15										
52.5	16										
55.8	17										
59.1	18										
62.3	19										
65.6	20										
68.9	21										
72.2	22										
75.5	23										
78.7	24										
82.0	25										

Notes: V. fine alluvial sandstone red to brown CS & by rounded good spCS into aluminite bottom and

Infill

Taipan X England Hill drilling prospect 2001

Hole Number :	Licence number :	Prospect :	Date drilled:
EHA 271	EL 2252	England Hill	12/12 / 2001
Drill rig type / contractor :		Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG-WGS84 datum) :		42 1994 E 688 5803 N	Hole diameter : 9 INCH
			Drill method : AUGER

Hole depth		Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
ft	m				quantity	types	quantity	types				
3.3	1	Qa	brnd	S4 S1, CS					S	M		loose red-brown st minor spCS in thin layers
6.6	2	Qa	br	S4 CS ST					H	G		broken hard CS in thin layers
9.8	3	Qa	phbr	CS/C			Gr	Gr	S			crisp to hard Gr white Hpn Gr red CS minor Fe-stained
13.1	4											Fe-stained in crisp Gr HpnCS + minor Gr red st
16.4	5		crph									Gr very crisp Gr white HpnCS
19.7	6											less Gr very good crisp Gr white HpnCS
23.0	7		phbr				Gr	Gr, H		und		more Gr less red-brown CS in thin layers
26.2	8	Qa	pure	CS in white			Gr	H		und		soft Gr purest - increase in white HpnCS
29.5	9		pu				Gr	41, Gr				soft - slightly grey purest & lessening white HpnCS
32.8	10			Red st								
36.1	11											
39.4	12											
42.7	13											
45.9	14											
49.2	15											
52.5	16											
55.8	17											
59.1	18											
62.3	19											
65.6	20											
68.9	21											
72.2	22											
75.5	23											
78.7	24											
82.0	25											

Notes: v. thin alternating micritic + hard 'soft ble' CS w/ slightly greasy bottom ground

Infill

Taipan X England Hill drilling prospect 2001

Hole Number :	Licence number :	Prospect :	Date drilled:
EHA 272	EL 2252	England Hill	12/12/2001
Drill rig type / contractor :		Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG- WGS84 datum) :		42 1997 E 688 584 N	Hole diameter : 9 INCH
			Drill method : AUGER

Hole depth	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	oa	brnd					9	M		brndy micritic CS w/ 31% thin layer calc. 2.7
6.6	2	lb	br					4	G		brnd. hard micritic. in hard brcc ST.
9.8	3	WZ	phbr								Crisp micritic. Opal w/ CS + hard micritic. pebbles
13.1	4	-	phbr								increasingly soft + more micritic pebbles
16.4	5	-	phbr								clinky band for phbr 'soft ble' CS, slightly micritic (w/ calc)
19.7	6	-	phbr					S			soft v. for slightly calcareous micritic (BCCS) + brnd micritic
23.0	7	-	-			fr	G		and		more crisp G micritic. in soft v. G. phbr micritic
26.2	8	-	ph			fr	G, H		and		soft + slightly greasy for phbr CS + w/ H pebbles to 6 cm
29.5	9	-	-								
32.8	10	-	soft 3.0 ft								
36.1	11	-	-								
39.4	12	-	-								
42.7	13	-	-								
45.9	14	-	-								
49.2	15	-	-								
52.5	16	-	-								
55.8	17	-	-								
59.1	18	-	-								
62.3	19	-	-								
65.6	20	-	-								
68.9	21	-	-								
72.2	22	-	-								
75.5	23	-	-								
78.7	24	-	-								
82.0	25	-	-								

Notes: v. thin alternals above regolith CS & dk to good CS, no great barren ground

In Gill

Taipan X

England Hill drilling prospect 2001 & return 11 Oct.

Hole Number : EHA 273	Licence number : EL 2252	Prospect : Nolt England Hill	Date drilled: 12/12/2001
Drill rig type / contractor :		Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG- WGS84 datum) : 42 1995		E 688 5811 N	Hole diameter : 9 INCH
			Drill method : AUGER

Hole depth ft m	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3 1	Qm	brnd	SL, CS, ST					5	M		lower reds - soils, brndish CS + brnd ST
6.6 2	ms	phbr	CS, ST						G		brnd hardwrest, brnd ST - minor S/P/SS - brnd Fe
9.8 3	ssl	phbr	CS, ST	tr	m	tr	tr				Gr. sand crop to brnd Gr. w/ brndish CS
13.1 4		phbr									Matrix in s. color Gr. Hpr with brndish CS + Gr. v. m.
16.4 5		phbr									less crop Gr. Hpr CS + Gr. v. m. minor good gr. w/ brnd CS
19.7 6											Gr. v. m. soft brndish Hpr CS + tr. brndish CS w/ gr. w/ brnd CS
23.0 7						tr	tr		und		Good crop Hpr w/ brndish Gr. CS + Gr. v. m. minor Hpr CS. brndish
26.2 8											Good crop Hpr w/ brndish Gr. CS + soft brndish CS
29.5 9	h2 m		CS 'w/ brndish'								soft brndish Gr. w/ brndish CS + minor Al. brndish Gr. v. m.
32.8 10			BOH 30FT.								
36.1 11											
39.4 12											
42.7 13											
45.9 14											
49.2 15											
52.5 16											
55.8 17											
59.1 18											
62.3 19											
65.6 20											
68.9 21											
72.2 22											
75.5 23											
78.7 24											
82.0 25											

Notes: v. thin alluvial above regolith CS, & ok crisp CS into soft, slightly greasy bottom ground.

Taipan X

Taipan X

England Hill drilling prospect 2001

& blue patch 70% colour & clay patch

Hole Number : EHA 217H	Licence number : EL 2252	Prospect : w4 England Hill	Date drilled: 12/12 / 2001
	Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG- WGS84 datum) :	42 1993	E 688 581	Hole diameter : 9 INCH
		N	Drill method : AUGER

Hole depth		Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
ft	m				quantity	types	quantity	types				
3.3	1	Red	brn	SLy gr CS					5	M		base of b-seals & b-rep by ST v. inc S.
6.6	2	Red	br	CS, gr						6		broken up ST hard cc by ST a minor red br SL
9.8	3	Red	chr	CS 'chm'	hr	P	hr	Gy				Crisp (grainy) b-layers in 14gr ST (broken) & more Fe-stained
13.1	4		chr		hr	Mach						Crisp br 14gr touch b-layers, br CS & b-layers & b-layers
16.4	5		chr		hr	C						Colour shell? fragment in crisp 14gr touch br CS
19.7	6	Red	pu	CS 'intermediate'			hr	GyH				Soft Gr pr CS, minor greyish inter S, pur H pools
23.0	7									und		Soft pr CS + minor crisp H pr CS, a Fe-bud br CS
26.2	8									pu		minor L-shaped CS inter S in soft pur br CS + Al pods
29.5	9											Increase Al pods in soft & greasy v. hr pr br CS
32.8	10			FOOT SORT.								
36.1	11											
39.4	12											
42.7	13											
45.9	14											
49.2	15											
52.5	16											
55.8	17											
59.1	18											
62.3	19											
65.6	20											
68.9	21											
72.2	22											
75.5	23											
78.7	24											
82.0	25											

Notes:

Thin alluvials above go the CS into or to good top of ground.

Taipan X

England Hill drilling prospect 2001

Hole Number: **EHA 275**
 Licence number: **EL 2252**
 Prospect: **England Hill**
 Date drilled: **12/12/2001**
 Logged by: **Clayton Simpson**
 Drill rig type / contractor: **Investigator Mk10A / Taipan X**
 Hole diameter: **9 INCH**
 Coordinates (AMG-WGS84 datum): **42 1989 E 688 5811 N**
 Drill method: **AUGER**

Hole depth		Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
ft	m				quantity	types	quantity	types				
3.3	1	Qa	brnd	SL CS ST					S	3		brn wh CS & ST in loose SL
6.6	2	hls	br	CS ST					H	6		brn csp. wh CS in loose SL
9.8	3	hls	br	CS chips			lr	Gr	S	1		Grained gold csp. pyrite & 14% ST
13.1	4	—	—	—			—	—	—	—		more csp. csp. to blacky br wh CS
18.4	5	—	—	—			—	—	—	—		Clegg Cr 10% CS & Gr veins & subbands dense wh CS
19.7	6	—	—	—			lr	Gr H	—	—		Solvent csp. Hpr brn Gr CS & Gr veins & minor Hpr brn CS
23.0	7	—	—	—			lr	Gr H	—	—		Good csp. Gr Hpr brn brn CS & minor Hpr brn CS
26.2	8	—	—	—			—	—	—	—		increasing Hpr brn in csp. Gr 10% CS, less brn wh CS
29.5	9	h2	pu	CS woodch			—	—	—	—		soft pu br wh CS, a little brn wh CS, minor csp. Hpr CS
32.8	10			BOH 30T								
38.1	11											
39.4	12											
42.7	13											
45.9	14											
49.2	15											
52.5	16											
55.8	17											
59.1	18											
62.3	19											
65.6	20											
68.9	21											
72.2	22											
75.5	23											
78.7	24											
82.0	25											

Notes: V. thin alternals above veg. line & hard cr, some dr comp ss (to almost grey) bottom quad.

Infill

Taipan X England Hill drilling prospect 2001 & data p. 100.

Hole Number :	Licence number :	Prospect :	Date drilled:
EHA 276	EL 2252	North England Hill	12/12 / 2001
Drill rig type / contractor :		Investigator Mk10A / Taipan X	Logged by : Clayton Simpson
Coordinates (AMG- WGS84 datum) :		42 1997 E 688 5807 N	Hole diameter : 9 INCH
			Drill method : AUGER

Hole depth		Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
ft	m				quantity	types	quantity	types				
3.3	1	Qu	brnd	SL, CS, SI					5	M		loose rd 4 soil/s, gr ST pellets + hard wh CS
6.6	2	As	br	CS, ST					6	6		gradual hard to comp. wh CS + CC br ST. minor Fe-stone
9.8	3	42	ndr	CS, woodst			hr	Gr				hard to comp Gr. Hardly any radiolite CS
13.1	4	41	pk-bv	CS, bluish	hr	P						crisp foliated Gr which may comp to bone, slight pdr
16.4	5		pk-pur									comp to black green Gr wh little pdr, still some
19.7	6	42	pk-br	CS, woodst			hr	Gr, H				solid pdr CS, little blacken + ye fl pdr S + minor comp wh CS
23.0	7		pk-ye									minor suspension solid, 3-4 ye, grey pdr S + wh fl pdr S
26.2	8		pk									ye suspension in solid + slight, grey pdr S
29.5	9											solid + greenish v. Gr pdr S + fl pdr S + Haze
32.8	10			solid solid								
36.1	11											
39.4	12											
42.7	13											
45.9	14											
49.2	15											
52.5	16											
55.8	17											
59.1	18											
62.3	19											
65.6	20											
68.9	21											
72.2	22											
75.5	23											
78.7	24											
82.0	25											

Notes: v thin alluvial above regolith CS. OK crisp CS in easy bottom ground.

Infill

Taipan X England Hill drilling prospect 2001 ~~large~~ ^{large} ~~elaborate~~ ^{large} patch RPT

Hole Number :	Licence number :	Prospect :	Date drilled :
EHA 277	EL 2252	England Hill	12/12 / 2001
Drill rig type / contractor :		Investigator	Logged by :
		Mk10A / Taipan X	Clayton Simpson
Coordinates (AMG- WGS84 datum) :		E 688 5807	Hole diameter :
42 1995		N	9 INCH
			Drill method :
			AUGER

Hole depth		Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
ft	m				quantity	types	quantity	types				
3.3	1	Qm	brd	slt STCS					5	M		lower rd br salts + broken mcs + br ST
6.6	2	sub	br	CS ST					1	6		broken hard to comp mcs + hard calc ST + mcs SL
9.8	3	BSL	pkbr	CS clupr	fr	P	tr	Gr				elaborate patch in (br ST within good crisp Grubbs
13.1	4		crp									crisp br white (tr pvc ST + Grvms
16.4	5		pkbr									salter more (tr pvc) colored crisp CS
19.7	6											crisp br (tr pvc) as near to 'broken' (tr ST
23.0	7	hr	m	ost under			tr	Gr, H		und		lost ground (tr pvc) in salter, br crisp pvc ST + H pvc
26.2	8											soft + grey, v br mcs + white H pvc
29.5	9											grey br dr pvc
32.8	10			RPT 30RPT								
36.1	11											
39.4	12											
42.7	13											
45.9	14											
49.2	15											
52.5	16											
55.8	17											
59.1	18											
62.3	19											
65.6	20											
68.9	21											
72.2	22											
75.5	23											
78.7	24											
82.0	25											

Notes:

v. thin alluvials above gelitic CS & Okecrops CS in olivine bottom ground.

Infill

Taipan X

England Hill drilling prospect 2001

** potly, basalt 8 ft.*

Hole Number :	Licence number :	Prospect :	Date drilled:
EHA 278	EL 2252	<i>1</i> England Hill	<i>12/12/2001</i>
Drill rig type / contractor :	Investigator Mk10A / Taipan X		
Coordinates (AMG-WGS84 datum) :	42 1 99 Z	E 688 5 80 Z	N
		Hole diameter :	9 INCH
		Drill method :	AUGER

Hole depth	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	Qa brd	SL CS					5	7		loose rd-4 zst whcs clasts
6.8	2	hly br	CS, ST, SL					1	6		broken hard to chry, whst hard ST & minor SL
9.8	3	asl phbr	CS chry ST	1	P	1	Gr	1	1		partly brownish Gr and chry whst + 1/2 ST
13.1	4	—	CS chry					1	1		increasingly more compact chry whst
18.4	5	—	—					1	1		Gr and chry whst + small Gr whst to base
19.7	6	—	—			1	Gr	1	1		chry whst, minor whst pods, 'broken' 1/2 ST
23.0	7	—	—					1	1		Okecrops whst & smaller less than previous + 1/2
26.2	8	hly phbr	CS chry whst					1	1		small olivine pods / whst + yellow whst pods & minor chry whst
29.5	9	—	—					1	1		soft to chry whst Gr whst
32.8	10	—	Basalt zst								
36.1	11										
39.4	12										
42.7	13										
45.9	14										
49.2	15										
52.5	16										
55.8	17										
59.1	18										
62.3	19										
65.6	20										
68.9	21										
72.2	22										
75.5	23										
78.7	24										
82.0	25										

Notes: v. thin alluvials above regolith CS. decr CS + greasy bottom ground.

Infill

Taipan X England Hill drilling prospect 2001

Hole Number :	Licence number :	Prospect :	Date drilled:
EHA 279	EL 2252	ND4 England Hill	12/12 / 2001
Drill rig type / contractor :	Investigator Mk10A / Taipan X	Logged by :	Clayton Simpson
Coordinates (AMG-WGS84 datum) :	42 1997	Hole diameter :	9 INCH
	E 688 5797	Drill method :	AUGER

Hole depth	Strat.	Colour	Lithology	Opal content		Other minerals		Hardness	Sample quality	Sample number	Summarised Remarks
				quantity	types	quantity	types				
3.3	1	Qa	brnd					5	3		loose red br soils + gr. SI pebbles
6.6	2	Lb	br						6		broken hardwax + CC br ST or near SL + broken Perseus
9.8	3	wh	crp			hr	Gr				OK crp Gr wh to ApwCS + Gy veins.
13.1	4	-	dkm			-	-				softer Gr crp ApwCS
16.4	5	-	dkm			-	-				crisp Gr (4) + waxes + minor 'broken' HWST
18.7	6	-	-			hr	Gy Al		1		near LO wh CS. Indis in soft br to gr crp ApwCS + Apw
23.0	7	dkm	crp			hr	Al, Gy		und		wh + ye Apw in soft br to gr crp ApwCS + Apw
26.2	8	-	-			-	-		pull		softer + slightly greasy pur-grCS + wh ApwCS + Lo sand CS.
28.5	9	-	-			-	-		1		in ves. sample more greasy dk purCS
32.8	10		ACT 3024								
36.1	11										
39.4	12										
42.7	13										
45.9	14										
49.2	15										
52.5	16										
55.8	17										
59.1	18										
62.3	19										
65.6	20										
68.9	21										
72.2	22										
75.5	23										
78.7	24										
82.0	25										

CONSOLIDATED BROKEN HILL Ltd.
ACN 009 423 858

ANT HILL EL 2266 (OPAL)
ANNUAL TECHNICAL REPORT
to 13 February 2002

Prepared for:
Consolidated Broken Hill Ltd.
Level 4, 12-14 O'Connell Street
Sydney, NSW, 2000

Prepared by:
C A Simpson (Consulting Geologist)
March 2002

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SUBMISSION OF DIGITAL DATA

This report has been submitted digitally in the form of a .pdf (Adobe Portable Document Format) saved onto a labelled 1.44 Mb floppy diskette.

Label: Consolidated Broken Hill Ltd.
EL 2266 Annual report 2002
Digital submission of report

File name: EL2266_200203_01_Annual report

File size: approximately 180 Kilobytes

File Type: PDF (Adobe Portable Document Format)

i SUMMARY OF ACTIVITIES

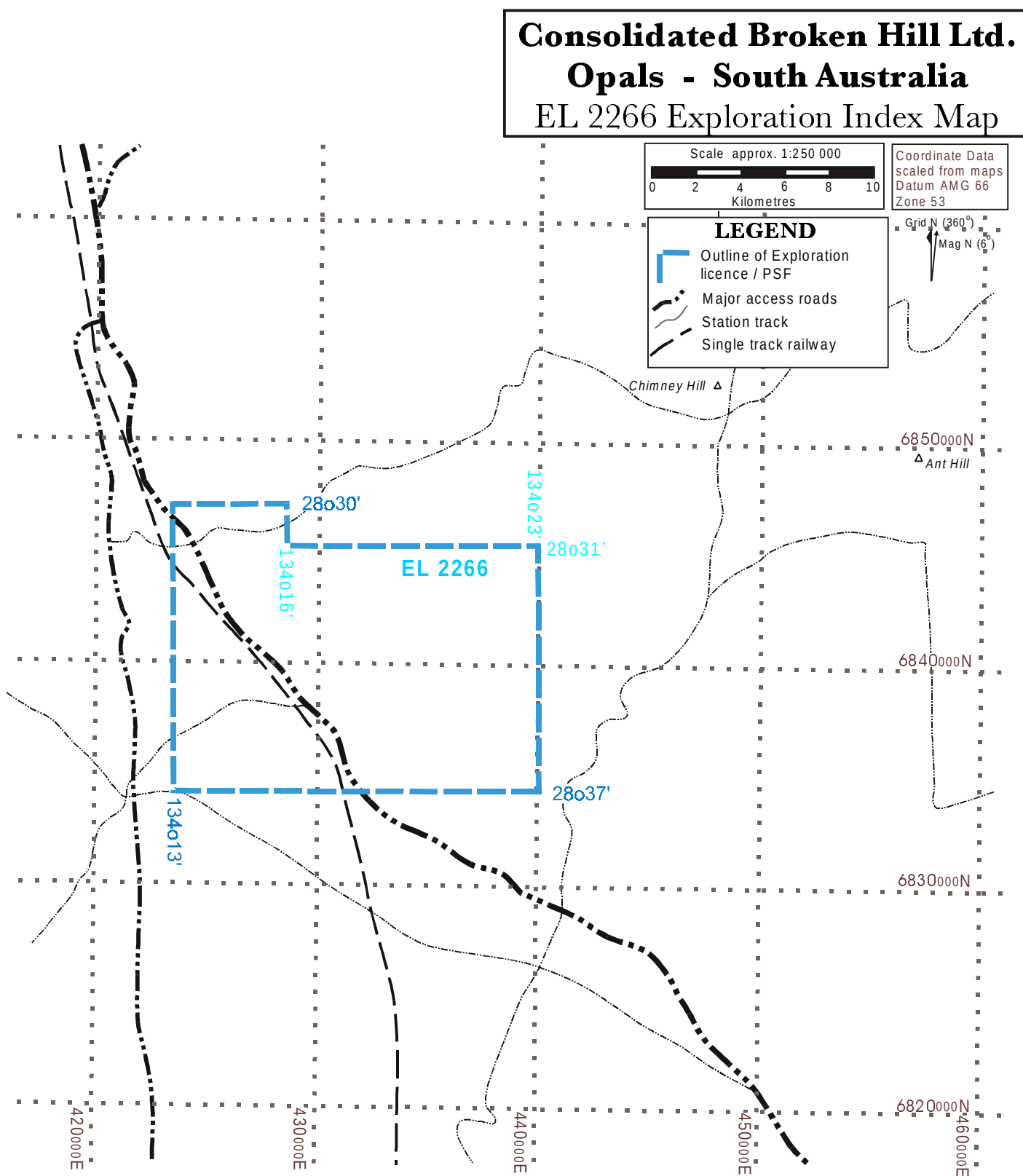
The Ant Hill project area is situated north-north-west of the township of Coober Pedy in the state of South Australia. Exploration activities are targeted at locating and developing large-scale opal deposits.

Activities carried out within the licence for the last 12 month period (14 February 2001 to 13 February 2002) include continued interpretation of all collected data, together with completion of a Native Title exploration agreement, and the giving of renewed Notice of entries to pastoralists. All of these activities were carried out upon the whole of the licence area (see Exploration Index Map).

ii KEYWORDS

Bulldog Shale, Cretaceous Aged, Eromanga Basin, Field reconnaissance, Murloocoppie (SH 53-2) & Mabel Creek (5740) mapsheets, Native Title, Opals, Remote sensing.

iii EXPLORATION INDEX MAP



1 INTRODUCTION, HISTORY AND EXPLORATION RATIONALE

Exploration licence 2266 is part of a project (including other exploration licences 2252, 2672 & 2787) targeted at locating and developing large-scale opal deposits within the Coober Pedy region of South Australia. This is the fifth and final annual report for this licence covering work carried out to 13 February 2002. A Follow-on licence (ELA 112/01) is in the process of being granted over the same areas as this licence, which will enable further work to be carried out.

Project work to date includes compilation of geological and opal occurrence data, aerial photograph geological interpretations, Digital Terrain Modelling and field reconnaissance of target areas. Native Title negotiations have been concluded with an exploration agreement emplaced which enables ground disturbance exploration operations over heritage cleared areas. No heritage area clearances have been undertaken within the licence as no high priority target areas have been defined to date.

Exploration licence 2266 was granted to Rangeside Pty Ltd, a wholly owned subsidiary of Redfire Resources Ltd on the 14 February 1997, and has been renewed to its full term of 5 years over progressively reduced licence areas. The last licence reduction being within this reporting period (November 2001) where a 40% reduction in area was carried out, being 319 to 190 square kilometres (see *Simpson, 2002*). Due to a change in company focus during the year, the licence is now in ownership of Broken Hill operations Pty Ltd, a wholly owned subsidiary of Consolidated Broken Hill Ltd (same companies as previously mentioned with names changed). A joint venture agreement with Taipan X Pty Ltd to manage the licences within the Cooper Pedy Opal project is in the progress of being formalised. This company will earn an interest in the project by managing and funding exploration and mining operations.

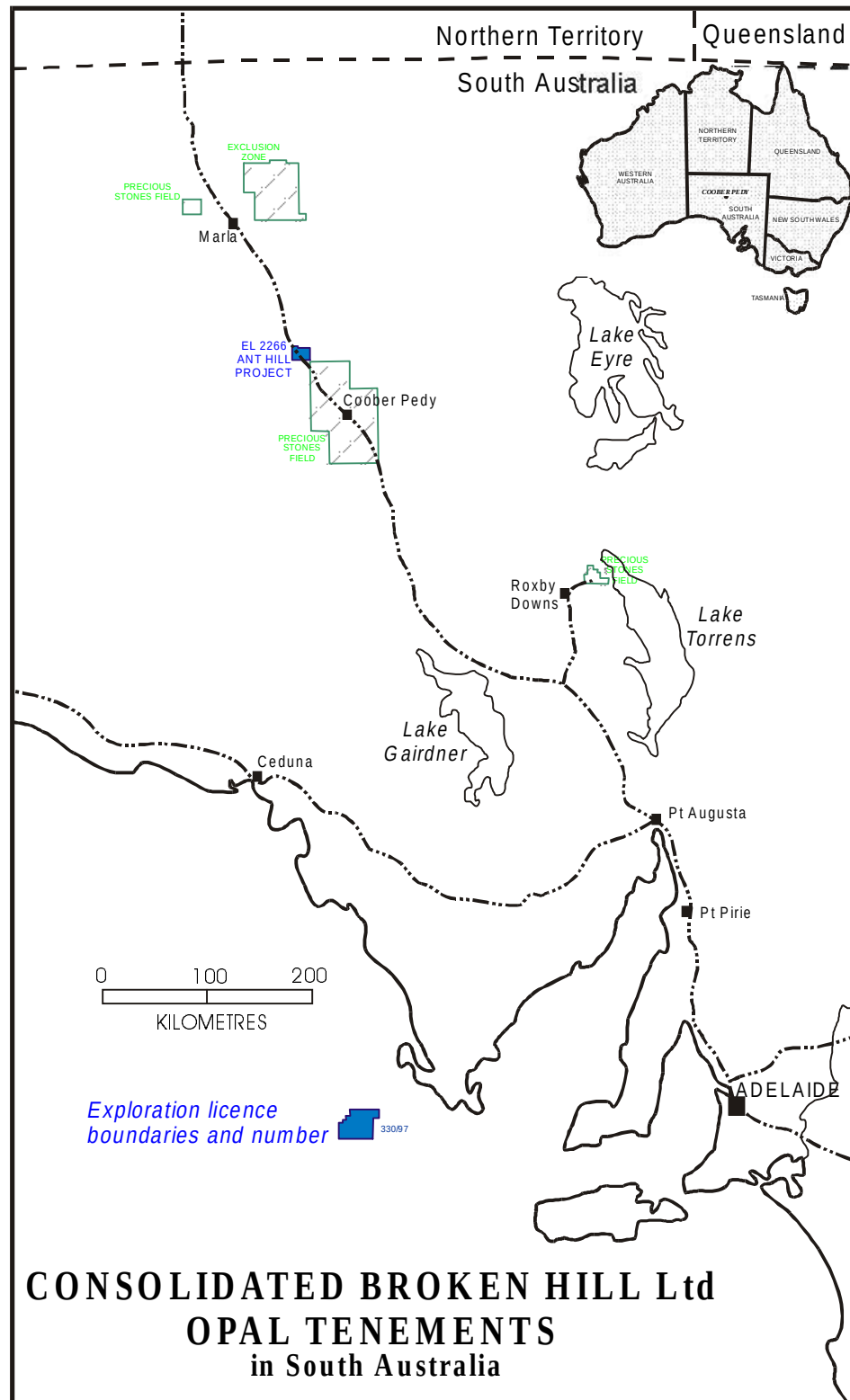
The project area is situated in central South Australia, approximately 900 kilometres north-west of Adelaide (see Figure 1). Exploration Licence 2266 is fully contained within the Murloocoppie (SH 53-2) 1:250 000 and the Mabel Creek (5740) 1:100 000 sheets. The licence is centred approximately 65 kilometres north-north-west of the township of Coober Pedy. Access to the project area is via the sealed Stuart Highway and/or the old unsealed Stuart Highway that both traverse the western flank of the licence area. Further access to the remainder of the licence area is via station tracks and fence lines traversing the region.

The area is situated in an arid zone typical of central Australia. Rainfall is very low, averaging 150 mm per year, with temperatures quite high in the summer months (mean average for January above 35 degrees Celsius). All creeks are ephemeral, and no permanent surface water exists (water holes in major creeks often hold water throughout the year, however can dry out in drought years). Vegetation is sparse upon the gently undulating gibber covered plains of the Stuart Range, being mostly grasses with few bushes and trees. The edge of the Stuart Range, characterised by the 'breakaway' country, lies near the eastern portion of the licence. This is marked by an abrupt change in elevation (20 to 40 meters relative) over a short distance as numerous dissecting creeks drain eastwards off the escarpment. Cattle and sheep grazing are the main agricultural activities in the region, with Mt Willoughby station being the sole pastoral lease covering the licence area. These pastoralists were

given renewed Notice of Entry forms within this reporting period, outlining details of our proposed exploration operations.

Exploration licence 2266 is the first tenement to be granted for opal exploration over this area and as such there are no records for opal prospecting or mining. Previous exploration for other commodities has focussed on base metals and coal within the Coober Pedy region, with no company drill holes located within the licence boundaries.

Figure 1.



2 REGIONAL AND TENEMENT GEOLOGY

Regional and tenement geology, together with opal formation theories, has been outlined in detail within previous reports (*Simpson, 2001*), and will not be repeated here.

Within Exploration Licence 2266, extensive outcrops of Bulldog Shale (target lithology) have been mapped (see *Pitt & Barnes, 1976*), and is interpreted to exist below shallow cover throughout the licence area. Outcrops of highly altered shale have been noted in many localities throughout the licence area (as outlined in previous reports), which confirms the potential of opal deposits to be located within the licence area. No workings for opal have been observed within the licence boundaries to date.

3 GEOPHYSICS

No geophysical surveys relevant to opal exploration have been carried out within the project.

4 REMOTE SENSING DATA

Photogeological interpretations and Digital Terrain Modelling (DTM) of the licence areas has interpreted prospective target zones with geological similarities to opal productive areas within the Coober Pedy Precious Stones Fields. Results of these interpretations have been given in previous reports and will not be repeated here..

5 SURFACE GEOCHEMISTRY

No geochemical surveys relevant to opal exploration have been carried out within the project.

6 DRILLING

No drilling has been carried out within the project area by Consolidated Broken Hill Ltd to date. Research has indicated that no reported company drill holes exist within the licence area, although previous interpretations (see *Simpson, 2001*) of regional drill holes indicates that the Bulldog Shale lithology is extensive and thick throughout the licence area.

7 OTHER STUDIES OR WORK

No other studies or work relevant to opal exploration have been undertaken within the project.

8 ENVIRONMENT

No ground disturbance exploratory operations have been undertaken within the project, and therefore no rehabilitation is required to be carried out.

9 ORE RESERVES AND RESOURCES

No opal ore reserves can be measured from the little on-ground exploratory work carried out.

10 EXPENDITURE

Total expenditure for the licence over the last 12 months has been \$ 13,756 with a detailed expenditure statement given in Table 1. Cumulative expenditure for the licence at the end of this reporting period was \$ 123,923.

Table 1.

Expenditure statement for EL 2266 (opal)	
Communications, office services, postage	\$ 221.19
Data acquisition	\$ 0.00
Field living	\$ 240.99
Field travel	\$ 797.49
Geological consultants	\$ 4,318.50
Native Title – consultants	\$ 3,526.00
Native Title – expenditures	\$ 2,125.00
Overheads	\$ 0.00
Tenement – rents, sundry fees	\$ 1,218.0
Personnel – wages geological	\$ 58.00
Administration and management	\$ 1,250.52
Total Expenditure	\$ 13,755.69
Cumulative Expenditure for EL 2266	\$ 123,922.58

11 CONCLUSIONS

Previous research and interpretation of the licence area has depicted priority regional targets for the location of opal resources. Field reconnaissance has been carried out throughout the term of this licence in order to locate high priority areas to commence ground disturbance exploration operations.

Native Title proceedings have been completed in order for ground disturbance exploration work to be carried out over heritage cleared areas. As no high priority target zones exist within EL 2266 (to date), recent Aboriginal Heritage clearance surveys that were undertaken upon the adjacent EL 2252 did not extend to this licence.

The prospectivity of the licence area to host large-scale 'hidden' opal deposits remains high.

12 REFERENCES

- Barnes L.C., Townsend I.J., Robertson R.S. & Scott D.C. 1992; Opal: South Australia's gemstone, *South Australia department of Mines and Energy handbook no 5. (revised edition)*.
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- Martin N.H. 1998; Ant Hill opal project, South Australia. *First annual report for EL's 2252 & 2266*.
- Pitt G.M. & Barnes L.C. 1976; Murloocoppie geological mapping sheet SH 53-2. *South Australian Geological atlas series*.
- Robertson R.S. & Scott D.C. 1990; Geology of the Coober Pedy precious stones field, *Report of investigations 56, Geological survey of South Australia*.
- Simpson C.A. 1999; Ant Hill, EL's 2252 & 2266 (opal), *Annual report to 13 February 1999*.
- Simpson C.A. 2000; Ant Hill, EL's 2252 & 2266 (opal), *Annual report to 13 February 2000*.
- Simpson C.A. 2001; Ant Hill, EL 2266 (opal), *Annual report to 13 February 2001*.
- Simpson C.A. 2002; EL's 2252, 2266, 2672 & 2787 (opal), *Partial relinquishment report to 2 November 2001*.

TAIPAN X PTY LTD
ACN 008 285 292

ANT HILL EL 2914 & 2915 (OPAL)
ANNUAL TECHNICAL REPORT
to 10 April 2003

Prepared for:
Taipan X Pty Ltd
PO Box 3216 Rundle Mall
ADELAIDE, South Australia 5000

Prepared by:
C A Simpson (Project Geologist)
June 2003

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None

LIST OF APPENDICES

None

SUBMISSION OF DIGITAL DATA

This report has been submitted digitally in the form of a .pdf (Adobe Portable Document Format) saved onto a labelled 1.4 Mb Floppy Disk.

Label: Taipan X Pty Ltd
EL 2914&2915 Annual report 2003
Digital submission of report

File name: EL2914_200306_01_Annual report

File size: approximately 275 Kilobytes

File Type: PDF (Adobe Portable Document Format)

i SUMMARY OF ACTIVITIES

This is the first annual report for these two adjacent opal exploration licences. Both licences are areas covered to target large-scale economical opal deposits, using geoscientific techniques. These licences are follow-on licences from EL's 2266 & 2252 (now EL 2914 & 2915 respectively), which expired at the end of their 5-year term.

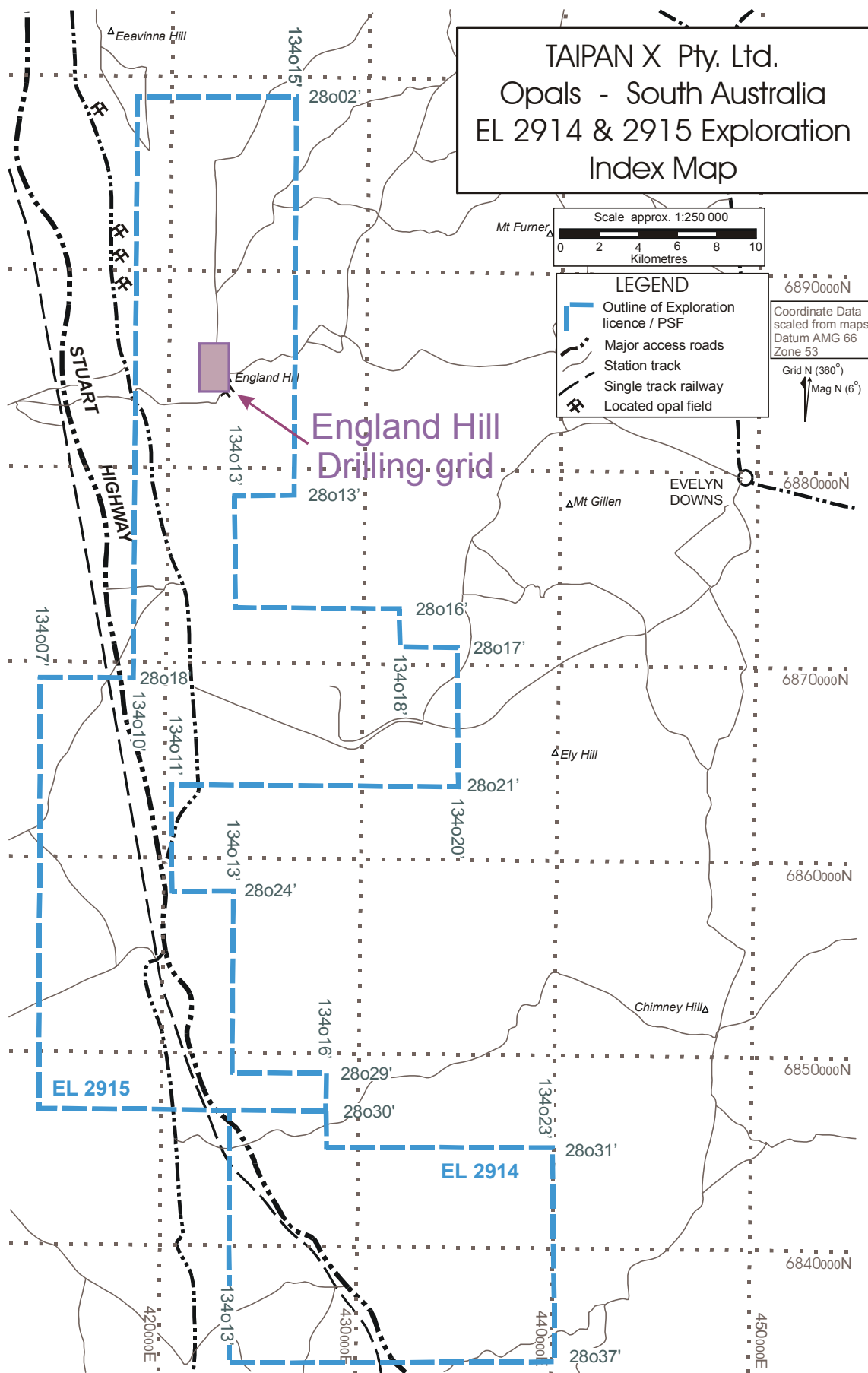
This project area is situated north-north-west of the township of Coober Pedy in the state of South Australia. Activities carried out within the licence for the last 12 month period (11 April 2002 to 10 April 2003) include continued interpretation of all collected data (including drilling results), together with research on more efficient exploration methods. No field work was carried out for the period, although a bulk-sampling program is being planned for areas showing positive results from the previous auger drilling activities.

All compilation and research was carried out on the whole of the licence, with interpretation of drilling results concentrated around the England Hill prospect (see Exploration Index map).

ii KEYWORDS

Bulldog Shale, Cretaceous Aged, Digital Terrain Modelling, Drilling, Eromanga Basin, Field reconnaissance, Heritage clearances, Murloocoppie (SH 53-2 & 5741) mapsheets, Native Title, Opals, Photointerpretations, Remote sensing.

iii EXPLORATION INDEX MAP



1 INTRODUCTION, HISTORY AND EXPLORATION RATIONALE

Exploration licences 2914 & 2915 are part of a project (including other exploration licences 2672, 2787 & 2985) targeted at locating and developing large-scale opal deposits within the Coober Pedy region of South Australia. This is the first annual report for these licences covering work carried out to 10 April 2003. These licences are follow-on licences from EL's 2266 & 2252 (now EL's 2914 & 2915 respectively).

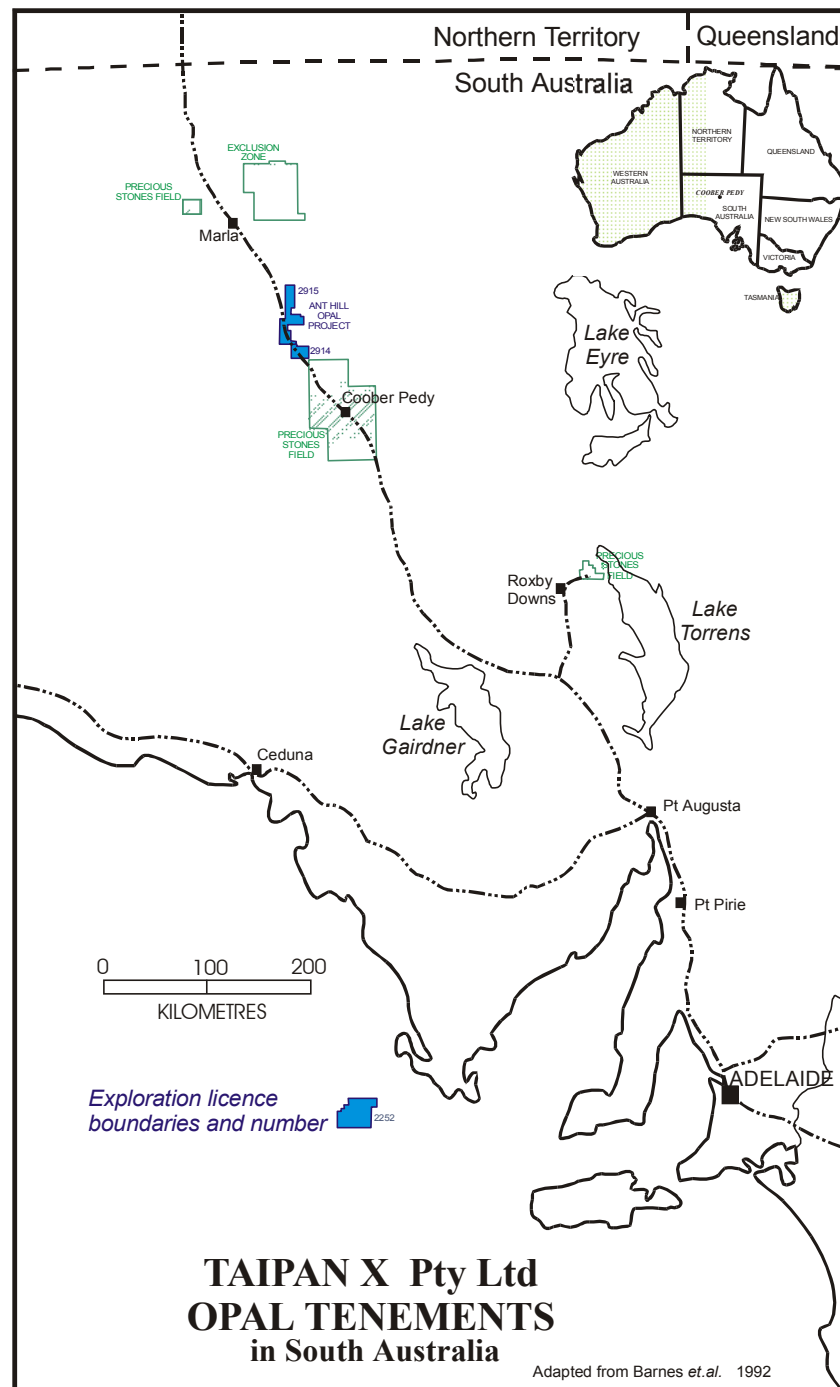
Project work to date includes research and compilation of geological and opal occurrence data, aerial photograph geological interpretations, Digital Terrain Modelling, field reconnaissance of target areas and a first stage auger drilling programme over selected areas. A Native Title exploration agreement has been concluded and registered, allowing ground disturbance activity over areas that have been Heritage cleared (only one area within the licence areas cleared to date).

Taipan X Pty Ltd are now Joint venture partners and operators of these licences, earning an interest in the project by managing and funding exploration to mining operations. The licences are held by Broken Hill Operations Pty Ltd (a wholly owned subsidiary of Consolidated Broken Hill Ltd), having been granted on 11 April 2002.

The project area is situated in central South Australia, approximately 900 kilometres north-west of Adelaide (see Figure 1). Exploration Licences 2914 & 2915 are fully contained within the Murloocoppie (SH 53-2) 1:250 000 and the Murloocoppie (5741) 1:100 000 sheets. The licences are centred approximately 80 kilometres north-north-west of the township of Coober Pedy. Access to the project area is via the sealed Stuart Highway and/or the old unsealed Stuart Highway that both traverse the western flank of the licence. Further access to the remainder of the licence area is via station tracks and fence lines traversing the region.

The area is situated in an arid zone typical of central Australia. Rainfall is very low, averaging 150 mm per year, with temperatures quite high in the summer months (mean average for January above 35 degrees Celsius). All creeks are ephemeral, and no permanent surface water exists (water holes in major creeks often hold water throughout the year, however can dry out in drought years). Vegetation is sparse upon the gently undulating gibber covered plains of the Stuart Range, being mostly grasses with few bushes and trees. The edge of the Stuart Range, characterised by the 'breakaway' country, lies within the eastern portion of the licences. This is marked by an abrupt change in elevation (20 to 40 meters relative) over a short distance as numerous dissecting creeks drain eastwards off the escarpment. Cattle and sheep grazing are the main agricultural activities in the region, with the pastoral leases of Mt Willoughby and Evelyn Downs included within the licence areas.

Figure 1.



Exploration licences 2914 & 2915 (follow-on licences) are the first tenements to be granted for opal exploration over this area. Previously productive opal workings exist within the licence boundaries (England Hill region), however no records were kept for any opal mining or exploration activities (as opal mining legislation does not currently enforce record keeping). Some geological information on these workings has been recorded by the Department of Minerals and Energy from 1980 to 1992 (*Barnes et al., 1992*). Previous exploration for other commodities has focussed on base metals and coal within the Cooper Pedy region. Relevant information for this project area has been summarised in previous reports and will not be repeated here.

2 REGIONAL AND TENEMENT GEOLOGY

Regional and tenement geology, together with opal formation theories, has been outlined in detail within previous reports (*Simpson, 2001*) and will not be repeated here.

Within the Exploration Licences, extensive outcrops of Bulldog Shale (target lithology) have been mapped (*see Pitt and Barnes, 1976*), and are interpreted to exist below shallow cover throughout the licence area. Outcrops of intensely weathered shale have been mapped around previously productive opal workings within the England Hill zone (as described in previous reports, *see Simpson, 2001*).

Interpretations of drilling results indicate that the Bulldog Shale (various degrees of weathering and alteration) is present to depths of greater than 23 metres (no other underlying units encountered) throughout the England Hill region.

3 GEOPHYSICS

No geophysical surveys relevant to opal exploration have been carried out within the project.

4 REMOTE SENSING DATA

Photogeological interpretations and Digital Terrain Modelling (DTM) of the licence areas has interpreted prospective target zones with geological similarities to opal productive areas within the Coober Pedy Precious Stones Fields. Results of these interpretations have been given in previous reports and will not be repeated here (*see Simpson, 2001 & Martin, 1998*)

5 SURFACE GEOCHEMISTRY

No geochemical surveys relevant to opal exploration have been carried out within the project.

6 DRILLING

Previous recorded company and water bore drill holes within the licence areas have not targeted but have intersected opal target lithologies. Interpretations have shown that the weathered Bulldog Shale (target lithology) is extensive throughout the licence areas (*see Simpson, 2001*). During the previous reporting period (EL 2252) a total of 279 drill holes for 3,642 metres of auger drilling were carried out on the England Hill prospect. For detailed results see *Simpson, 2002*.

Positive results from this drilling, by way of colour opal, potch, bone and matrix ^{*1} were collected from many holes during drilling activities and are stored for future reference. No geochemical analyses or petrology has been performed on the samples as there is no method as yet developed applicable to opal exploration enabling efficient ore deposit analysis.

A bulk sampling (large diameter drilling and/or costeaning) is planned to evaluate the positive results encountered in the auger drilling operations.

^{*1} – These are ‘miners terms’ for opal indicators, *bone* being chalky opaline silica, and *matrix* being sandy opaline silica.

7 OTHER STUDIES OR WORK

No other studies or work relevant to opal exploration has been carried out upon the licence areas.

8 ENVIRONMENT

Ground disturbance in the way of exploration drilling in the England Hill region has been rehabilitated by back-filling holes to the surface and spreading topsoil over any remaining cuttings so as to promote regrowth of vegetation (see *Simpson, 2002* for full details).

No other ground disturbance work was carried out in the remainder of the licence area.

9 ORE RESERVES AND RESOURCES

Infill drilling over some of the defined targets within the England Hill prospects has outlined potential mineable areas for the recovery of saleable opal. Due to the sporadic nature of opal formation, ore reserves or resources cannot be estimated until substantial bulk sampling has taken place. As such there are no reportable reserves or resources.

For full details of results and potential areas see *Simpson, 2002*.

10 EXPENDITURE

Total expenditure over the last 12 months for EL 2914 has been \$ 11,672 and for EL 2915 has been \$ 13,302 with detailed expenditure statements given in Table 1 & 2. Cumulative expenditure (including expenditure for EL’s 2266 & 2252) for EL 2914 has been \$ 135,595 and for EL 2915 has been \$ 178,266.

Table 1.

Expenditure statement for EL 2914 (opal) 11 April 2002 to 10 April 2003	
Program logistics (communications, office services, incidentals etc.)	\$ 349.20
Data acquisition	\$ 145.99
Field living	\$ 0.00
Field travel	\$ 0.00
Geological consultants	\$ 8,070.00
Legal – consultants	\$ 1,150.00
Native Title – expenditures	\$ 0.00
Overheads	\$ 0.00
Tenement – rents, sundry fees	\$ 896.12
Administration and management (10%)	\$ 1,061.13
Total Expenditure	\$ 11,672.44
Cumulative expenditure for EL2914 (including EL2266)	\$ 135,595.02

Table 2.

Expenditure statement for EL 2915 (opal) 11 April 2002 to 10 April 2003	
Program logistics (communications, office services, incidentals etc.)	\$ 349.20
Data acquisition	\$ 145.99
Field living	\$ 0.00
Field travel	\$ 0.00
Geological consultants	\$ 8,070.00
Legal – consultants	\$ 1,150.00
Native Title – expenditures	\$ 0.00
Overheads	\$ 0.00
Tenement – rents, sundry fees	\$ 2,377.08
Administration and management (10%)	\$ 1,209.23
Total Expenditure	\$ 13,301.50
Cumulative expenditure for EL2915 (including EL2252)	\$ 178,265.65

11 CONCLUSIONS

Previous research and interpretation of the licence area has depicted priority regional targets for the location of opal resources. A high priority area surrounding previously productive opal workings within the England Hill region was chosen as the site to commence drilling operations.

A total of 279 drill holes for 3,642 metres of auger drilling were completed over an area approximately 4.5 square kilometres in size. Positive results by way of colour opal, potch bone and matrix were recovered from many holes (see *Simpson, 2002* for results). A bulk-sampling program is planned to utilise large diameter drilling and/or costeaning to evaluate certain sites outlined from the drilling program. Approvals and funding are currently being organised for the bulk sampling activities.

The prospectivity of the licence to host large-scale opal deposits (both within and outside the England Hill prospect) remains high.

12 REFERENCES

- Barnes L.C., Townsend I.J., Robertson R.S. & Scott D.C. 1992; Opal: South Australia's gemstone, *South Australia department of Mines and Energy handbook no 5. (revised edition)*.
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- Pitt G.M. & Barnes L.C. 1976; Murloocoppie geological mapping sheet SH 53-2. *South Australian Geological atlas series*.
- Simpson C.A. 2002; Ely Hill, EL 2252 (opal), *Annual report to 9 January 2002*.
- Simpson C.A. 2002; Ant Hill, EL 2266 (opal), *Annual report to 13 February 2002*.
- Simpson C.A. 2001; Ely Hill, EL 2252 (opal), *Annual report to 9 January 2001*.
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- Simpson C.A. 1999; Ant Hill, EL's 2252 & 2266 (opal), *Annual report to 13 February 1999*.



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25 June 2003

Manager Mineral Tenements
Mineral Resources Division,
Primary Industries & Resources SA,
GPO Box 1672,
ADELAIDE SA 5001

Dear Sir/Madam,

**Re: Partial Relinquishment and surrender of Opal Exploration Licences
2672, 2787, 2914 & 2915 - Coober Pedy North Project.**

I would like to inform you of our intention to rationalize our Opal Exploration licence holding within the Coober Pedy region. Completed Form 20 notifications are currently being processed by our office and will be forwarded to you at the earliest possible time.

Taipan X Pty Ltd are now Joint Venture partners with Consolidated Broken Hill Ltd (lease holders) and are operators of the Opal Project licences. Taipan X are earning an interest in the project by managing and funding all exploration to mining operations upon the licences.

I choose to give notification prior to your office receiving the Form 20's due to the fact that lease rentals are currently due on EL's 2914 & 2915. (21 days notice from your letter dated 4 June regarding these licences). As we will be surrendering EL 2914 you can begin processing this licence, however EL2915 will be partially surrendered, and therefore we ask for an extension on payments until such time as we receive notification from you as to the new (partially relinquished) lease rentals.

Reports on information pertaining to the surrendered areas will be forwarded to your office within the near future.

Any further queries please contact me in Adelaide on the details as outlined below.

Yours Sincerely,

Clayton Simpson
Project Geologist for Taipan X Pty Ltd
Phone: 0419 031 397
E-mail: csimpson@picknowl.com.au



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10 March 2004

Via E-mail: pirsa.tenements@saugov.sa.gov.au
CC: kwitco.george@saugov.sa.gov.au

Tenement manager
Mineral Resources Group
Primary Industries and Resources SA
GPO Box 1671
ADELAIDE SA 5001

Dear Sir / Madam,

RE: renewal of Exploration Licence 2915 – Ely Hill

Taipan X has negotiated a Joint Venture agreement with Broken Hill Operations Pty Ltd (sister company of Consolidated Broken Hill Ltd), the holder of these exploration licences and has become the operators of all activities upon the licences. Taipan X is continuing to be operators of the licence until further notice.

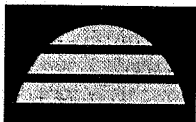
We wish to renew EL 2915 for a further period of 12 months (currently expiring 10/4/04). Project work over the last 12 months has included continued interpretation of drilling results carried out over an area within EL 2915, joint venture partners or financiers are being sought in order to continue recommended further work.

No field operations were carried out during this period. Expenditure for operations have been forwarded in 6-monthly reports submitted to your department.

Interpretations indicate that the licences hold good potential for large-scale opal deposits, and as such further exploratory work, together with bulk sampling and mine assessment activities are planned for the forthcoming field season.

Projected expenditure for the licence is:

Continuing research of available data	\$ 10,000
Landsat and radiometric interpretation studies	\$ 5,000
Field reconnaissance of licence areas	\$ 5,000
Native Title negotiations for work area and heritage clearances (other areas than that granted)	\$ 25,000
Exploratory exploration drilling (auger)	\$ 30,000
Bulk sampling of 'discovered' areas	\$ 30,000
Interpretation of sampling results	\$ 10,000
Management and Administration	\$ 10,000
TOTALS	\$ 125,000



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17 December 2004

Ms Sue Watson
Deputy Mining Registrar
Mineral Tenements
Primary Industries and Resources, SA
GPO Box 1671
ADELAIDE SA 5001

Dear Sue,

Re: Exploration Licence 2915

Please find enclosed our payment of \$2,092.20 for outstanding fees on the above Exploration Licence, as advised in your letter of 8 December 2004.

We advise that we hereby surrender Exploration Licence 2915 and await your advice on the pro-rata rent outstanding.

Yours sincerely,
CBH Resources Limited


Robert E. Besley
Managing Director

30 DEC 2004