ABN: 67 118 684 576

COBAR CONSOLIDATED RESOURCES LIMITED

Response to Cobar Shire Council Request for Additional Information Issued on 17 January 2011

for the

WONAWINTA SILVER PROJECT

March 2011

Prepared by:

R.W. CORKERY & CO. PTY. LIMITED

This page has intentionally been left blank

ABN: 67 118 684 576

COBAR CONSOLIDATED RESOURCES LIMITED

Response to Cobar Shire Council Request for Additional Information Issued on 17 January 2011

For the

WONAWINTA SILVER PROJECT

Prepared for:

Cobar Consolidated Resources Limited
ABN: 67 118 684 576
Level 4, 448 St Kilda Road
MELBOURNE VIC 3004

Telephone: (03) 9866 8613
Facsimile: (03) 9820 2586
Email: tshard@ccrlimited.com.au

Prepared by:

R.W. Corkery & Co. Pty. Limited
Geological & Environmental Consultants
ABN: 31 002 033 712

Brooklyn Office:
1st Floor, 12 Dangar Road
PO Box 239
BROOKLYN NSW 2083

Telephone: (02) 9985 8511
Facsimile: (02) 9985 8208
Email: brooklyn@rwcorkery.com

Orange Office:
62 Hill Street
ORANGE NSW 2800

Telephone: (02) 6362 5411
Facsimile: (02) 6361 3622
Email: orange@rwcorkery.com

Brisbane Office:
Level 19, 1 Eagle Street
BRISBANE QLD 4000

Telephone: (07) 3360 0217
Facsimile: (07) 3360 0222
Email: brisbane@rwcorkery.com

Ref No. 802/02a

March 2011

This Copyright is included for the protection of this document

CONTENTS

This page has intentionally been left blank

1. INTRODUCTION

A development application for the development and operation of the Wonawinta Silver Project ("the Project") was lodged with Cobar Shire Council (Council) by Cobar Consolidated Resources Limited (CCR) on 22 December 2010. Accompanying the development application was an Environmental Impact Statement (EIS) prepared by R.W. Corkery & Co. Pty Limited (RWC).

On 17 January 2011, Council issued a request for further information to CCR related to the following.

1. **Bush Fire Management.** The assessment of the potential impact of bushfire should be reviewed with reference to the most up to date legislation, guidelines and standards as relevant to the actual site.
2. **State Environmental Planning Policy No.33 - Hazardous and Offensive Development**. The SEPP 33 risk assessment (and potentially Preliminary Hazard Analysis) needs to be updated to include LPG.
3. **On-Site Sewage Management**. Further detail requested on proposed effluent management system design and operation.
4. **Water Supply Infrastructure**. Further information has been requested as to:
   - the potential statutory and other implications of traversing Bedooba State Conservation Area (SCA);
   - the operation and maintenance of a booster pump within the road easement of Cobar-Bedooba Road;
   - agreements with affected land owners;
   - consideration of alternate routes; and
   - status of discussion with Councils' Director of Engineering Services concerning options for approving and administering shared occupation of a Council road reserve.
5. **Kidman Way - Moomba-Sydney Gas Pipeline**. Further information has been requested on any proposed work to be undertaken to facilitate the proposed gas supply for the Project.
6. **Traffic and Transport**. Further information has been requested as to the extent of upgrading work and proposed maintenance associated with roads under the control of Cobar Shire Council requires further detailing in the EIS.

Sections 2 to 7 provide responses to these issues in full.

2. BUSH FIRE MANAGEMENT

Council wrote:

"Planning for Bushfire Protection 2001 and Australian Standard 3959-1999 have been superseded. Bushfire as a potential impact needs to be addressed by reference to recent legislation, guidelines and standards as relevant to the actual site. This section of the EIS should be reviewed."

Response

Annexure 1 provides a reviewed and updated version of EIS Section 4.12 (Bushfire Management) reflecting reference to:

- Cobar Local Government Area (LGA) bushfire prone land map;
- *Clause 29* of Cobar Local Environment Plan 2001;
- *Planning for Bushfire Protection 2006* (NSW RFS, 2006); and
- *Fact Sheet – Facilitating councils' assessing low risk and low impact development applications on bush fire prone land - s.79BA of the Environmental Planning and Assessment Act 1979 of the EIS has been reviewed and updated* (DoP, 2010).

The location of the Project outside bushfire prone land notwithstanding (negating the need to consider the specifications and requirements of NSW RFS [2006]), the revised bushfire management assessment (see **Annexure A**) indicates that the development and operation of the Project would comply with the objectives of both RFS (2006) and the Cobar LGA.

3. STATE ENVIRONMENTAL PLANNING POLICY NO.33 - HAZARDOUS AND OFFENSIVE DEVELOPMENT

Council wrote:

"The relevant sections of the EIS have not considered risks associated with the project in respect of transporting, storing or handling LPG. The EIS needs to be updated as relevant to SEPP 33 and associated guidelines."

Response

The SEPP 33 Risk Screening included as *Appendix 3* of the EIS did not consider the compressed natural gas (CNG) to be sourced from the Moomba-Sydney Natural Gas Pipeline, transported to the Project Site by truck, stored on the Project Site and used for power generation. The following provides a risk screening, in accordance with *Applying SEPP 33 – Consultation Draft* (DoP, 2008), for natural gas storage and transport.

Hazardous Material Classification

Hazardous materials are defined within DoP (2008) as substances falling within the classification of the *Australian Code for the Transportation of Dangerous Goods by Road and Rail* (Dangerous Goods Code) (Department of Infrastructure, Transport, Regional Development and Local Government, 2009). The CNG to be sourced from the Moomba-Sydney Natural Gas Pipeline is classified as Class 2.1: Flammable Gas.

Hazardous Material Management (Transport, Storage and Use)

Approximately 100t of CNG would be stored within the Processing Plant and Office Area of the Project Site. This would be transported to the site by B-Double Tankers with a net CNG load of 42t.

Based on power requirements for the Project, an average of two trucks would transport CNG to the Project Site each week.

Risk Screening

Figure 6 of DoP (2008), reproduced below, was used to assess whether the storage of CNG on the Project Site would classify as potentially hazardous industry.

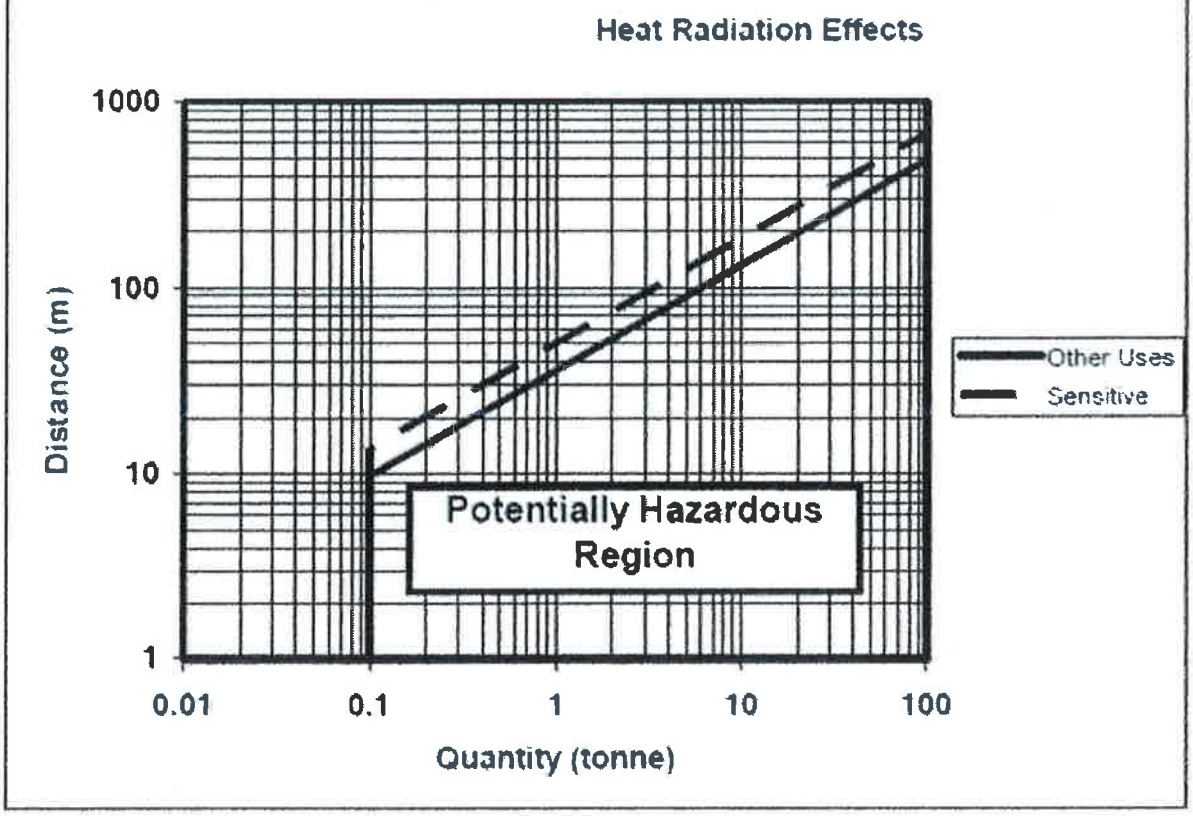

Figure 6 (of DoP, 2008)

CLASS 2.1 FLAMMABLE GASES PRESSURISED (EXCLUDING LPG)

On the basis that less than 100t of CNG would be stored in excess of 1 000m from surrounding land uses, this does not classify as Potentially Hazardous Industry and a Preliminary Hazard Analysis (PHA) is not required.

Table 2 of DoP (2008) was used to assess whether the transport of natural gas to the Project Site would classify as potentially hazardous industry. The threshold for Class 2.1 dangerous goods is 30 vehicle movements per week or 500 vehicle movement per year. On the basis that the proposed vehicle movements would not exceed 30 per week, the transport of CNG does not classify as Potentially Hazardous Industry and a Preliminary Hazard Analysis (PHA) is not required.

4. ON-SITE SEWAGE MANAGEMENT

Council wrote:

"Information about the proposed on-site sewage management to enable proper assessment of the potential impacts. Relevant details need to be included in the EIS."

Response

The NSW Health Department (Septic Tank and Collection Well Accreditation Guidelines, 2001) estimate that "Mine Workers" each produce 45L / day of wastewater (WC, urinal, basin and shower). For the purposes of considering effluent production on the Project Site, CCR advise that an average of 30 permanent staff each producing 50L / day effluent would generate 1 500L/day of wastewater.

The issue of providing specific sewage management for this equivalent volume of waste water was discussed at a meeting between representatives of CCR and Cobar Shire Council. It has been CCR's position to provide appropriate design detail for a sewage treatment system following determination of the development application. This approach is based on the importance of obtaining manufacturer input into the design of the system which requires consideration of not only volume and location but also soil type and the mechanical properties of the soil, e.g. porosity and permeability. It is not considered appropriate to engage a manufacturer to design such a system until such time as there is certainty over whether it is to be constructed, i.e. approval of the proposal. It is also the experience of the author of the EIS that this approach has been deemed acceptable for other mining and extractive industry proposals assessed under Part 3A and Part 4 of the EP&A Act.

This notwithstanding, CCR has now decided to install a packaged wastewater treatment plant as opposed to a septic system. A packaged wastewater treatment plant offers the user a pre-engineered and pre-fabricated method of treating wastewater with an aerobic process. There would be no discharge of effluent to seepage zones or soaks and the final effluent would be discharged into the Tailings Storage Facility with the water recovered via the decant and re-used through the processing plant, i.e. it would not be released to the environment. The plant would cater for at least 5 000L/day of waste water, with installation and maintenance to manufacturer specifications.

5. WATER SUPPLY INFRASTRUCTURE

Council wrote:

"The following items regarding the proposed water pipelines should be addressed:

i. The reservation of the former Bedooba State Forest No.888 as a state conservation area on 1st January 2011.

ii. Details of the proposed booster pump station to be installed in the "Cobar-Bedooba Road" reserve. Sufficient detail is required to enable the potential impacts on the operation of the road.

iii. Relevant documentation to demonstrate that the proposed easements are possible and likely to be obtained.

iv. Justification to support the final selection of the proposed pipeline routes.

v. Reporting on consultation with Councils' Director of Engineering Services concerning options for approving and administering your shared occupation of Council road reserve for the pipeline."

Response

Issue 1: Consideration of Bedooba State Conservation Area

Given the gazetting of Bedooba State Conservation Area (SCA) on 1 January 2011, the Applicant sought advice from the Department of Environment, Climate Change and Water (DECCW) as to any statutory impediment to the use of Bedooba SCA for the proposed purpose. Advice from DECCW was that the Minister has the discretion to approve activities such as the proposed pipeline, however, given that the activity may be contrary to the objectives of the *National Parks and Wildlife Act 1974*, DECCW's policy position with respect to SCA's and a Plan of Management for the Bedooba SCA (once prepared) other options should be considered. In the event that other options are unavailable, not feasible or potentially impacting on the viability of the proposal, demonstration that the environmental impact would be minimal is considered the minimum standard sought for such an activity to be approved.

The Applicant considered the potential realignment of the pipeline around Bedooba SCA (both to the north and south), however, several disadvantages were identified.

1. The realignment would add significantly to the length of pipeline required (2.6km for realignment to the north and 3km for realignment to the south). This would increase the capital cost associated with the pipeline infrastructure, as well as pumping and maintenance costs once operations commence.
2. An increase in pipeline length would also increase the total area of disturbance associated with the pipeline, as well as, increase the potential for environmental impacts resultant from a pipe leak or spill (by a factor directly related to the increase in pipeline length).

With a view to identifying an alignment through Bedooba SCA, which would result in minimal environmental impact, Mr Phillip Cameron (of OzArk Environment and Heritage Management ["Ozark"]), who conducted the ecological assessment of the Project Site and water pipeline routes, was consulted. Mr Cameron advised of a cleared and maintained road (which acts as a secondary to the homestead on the "Mirrabooka" property). **Figure A** identifies the original alignment of the Mirrabooka Water Pipeline Route through Bedooba SCA, and the alignment of the existing "Mirrabooka" homestead access road.

Given the occurrence, and requirement as a secondary access to Bedooba SCA and the "Mirrabooka" homestead, the Mirrabooka Water Pipeline Route would be realigned to use this road. To ensure that any impact is minimised, the pipeline would be placed immediately below the road surface with disturbance required in the placement of the pipeline confined to the existing cleared surface of the road.

Occasional access would be required by mine personnel, approximately monthly, to inspect the pipeline route for obstructions, unauthorised access and general maintenance issues. This access would be negotiated with DECCW and an appropriate management procedure prepared to ensure that this does not compromise the objectives of the Bedooba Plan of Management (once prepared). To reduce vehicular access to the SCA, the Applicant would require all other traffic between the Project Site and the proposed Mirrabooka borefield to use the Cobar-Bedooba Road and rather than the more direct route through Bedooba SCA.

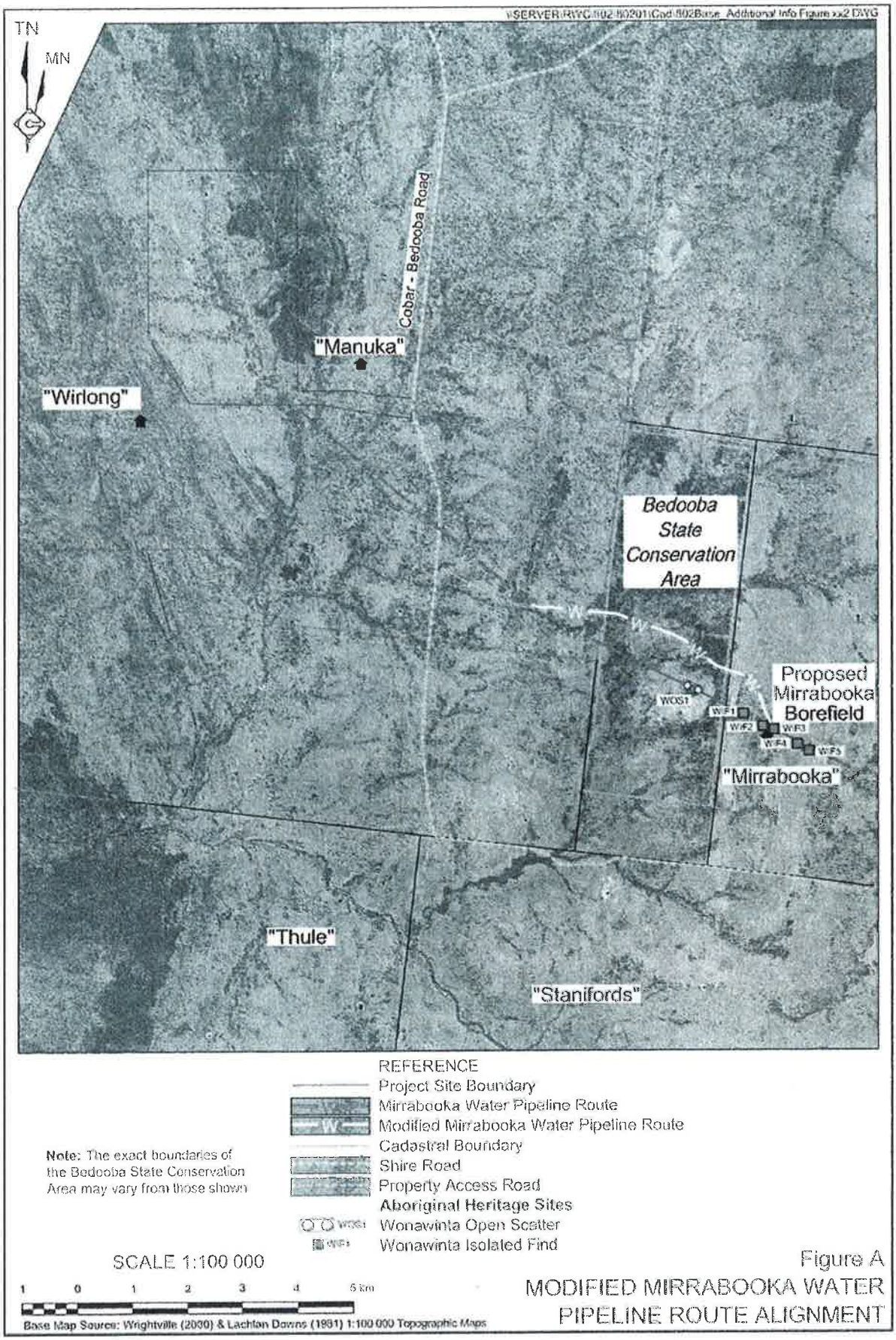

Figure A
MODIFIED MIRRABOOKA WATER PIPELINE ROUTE ALIGNMENT

Management of the water pipeline route within Bedooba SCA would be the same as nominated for all other sections of the pipeline route. The following describes the operational controls that would be implemented to safeguard against pollution of the environment by saline water (as a result of spillage or leakage).

- The pipeline would be buried within a channel approximately 0.6m below the ground. This would ensure that accidental damage by vehicles or surface equipment (or vandalism) is avoided.
- The Applicant would undertake an inspection of the entire length of the pipeline at least monthly. This requires the entire length of the pipeline to be visually inspected for signs of moisture which could indicate a leaking pipe. All inspections would be completed in accordance with an appropriate management procedure, developed in consultation with DECCW.
- At the time of installation, additional monitoring controls would be considered, e.g. flow meters linked by telemetry.
- Isolation (gate) valves would be installed along the pipeline at distances of no more than 1km apart. This would allow sections of the pipeline to be isolated and drained and ensure that the entire pipeline length does not need to be drained to facilitate maintenance.
- Should a leak be detected, pumping would be immediately ceased, and the section of pipe isolated, drained and repaired. The area affected by saline water would then be flushed with freshwater, using at least 10 times the volume of the leakage.

It is noted that recent advice from DECCW (dated 23 February 2011) is that concurrence for the alignment of the Mirrabooka Water Pipeline through Bedooba SCA cannot currently be provided given a Plan of Management for Bedooba SCA has yet to be prepared. CCR accepts this position of DECCW, however, requests that inclusion of the Mirrabooka Water Pipeline Route be retained within limits of the development consent (if granted) with operation subject to attainment of:

- appropriate licence and licence allocation for the extraction of water from the proposed Mirrabooka borefield from NSW Office of Water (NOW); and
- concurrence from the Parks and Wildlife Group (PWG) of DECCW for construction and operation of the Mirrabooka Water Pipeline as nominated.

In the event that appropriate licence and licence allocation was obtained from NOW, but concurrence was not granted by the PWG of DECCW, CCR would apply for modification to development consent to realign the Mirrabooka Water Pipeline around Bedooba SCA.

Issue 2: Assessment of the proposed booster pump within the Cobar-Bedooba Road easement

The proposed booster pump would incorporate a 50kW motor driven by a 75kVA diesel generator and a bunded diesel fuel tank. These facilities would be located within a 3m x 8m area, fenced by cyclone fencing with a secure and lockable gate. The diesel fuel tank would be placed within an impermeable bund, constructed to satisfy the requirements of Australian Standard 1940. The arrangement would have efficiency systems included in the design, e.g. turbo diesel motor, variable speed drive, silencer (e.g. 85dBA at 5m, inaudible at 500m), and remote monitoring and control. No residence is located within 7km of the proposed location.

The location of the booster pump would be approximately 300m to the south of Sandy Creek on Cobar-Bedooba Road. The booster pump compound would be located within the Cobar-Bedooba Road easement, adjacent to the boundary of the neighbouring property ("Lachlan Downs"). Prior to construction, the site would be surveyed to confirm the location is within the road easement. The exact placement of the booster pump compound would account for vegetation in the general proximity, i.e. it would be placed away from remnant trees and shrubs and would utilise existing clearing if available.

Access to the booster pump compound would be by light vehicle only. A graded entrance would be created from Cobar-Bedooba Road, similar to the style of access used by service providers such as Country Energy or Telstra when accessing power lines or telephone cable adjacent to rural roads. The location 300m south of Sandy Creek has been chosen as it provide sight distance in both direction of >150m. A small turning bay would be graded as well to ensure that vehicles are not required to back on to Cobar-Bedooba Road.

CCR would enter into an agreement with Council as to shared access over the road easement for the purposes of constructing and operating the booster pump compound.

Issue 3: Water pipeline access arrangements

Council has indicated that agreements with the affected Western Lands Lease holders are required before approval can be granted for the construction and operation of the water pipelines. This is contrary to the understanding of CCR who have proceeded on the basis that approval can be granted conditional on the Proponent acquiring or obtaining access to the land.

On 23 February CCR personnel (Brian Micke, Project Director, Trevor Shard, company Secretary) met with Sharon Hawke, Assistant Western Lands Commissioner, Shaun Barker, Group Leader, Property Services and Amanda Beetson of the Land and Property Management Authority (LMPA) at its offices in Dubbo.

During this meeting, the LMPA officers outlined the process to obtain the easements necessary to run the proposed water pipelines from the McKinnon's Mine bore field and the Mirrabooka bore field. The officers advised that landholder consents would ultimately be required for each of the properties over which the pipeline would traverse. Once landholder consent had been obtained it would be necessary to apply for the LMPA's consent to the registration of an easement. The officers advised that the Proponent should deal directly with the LMPA concerning the easements and, importantly, that this process could occur independently of Cobar Shire Council's consideration of the Development Application.

Further to the above advice provided by LPMA, reference is made to Division 2 of Schedule 1 of the *Mining Act 1992*.

> "***Division 2 Landowner consent not required where development consent required for mining***
>
> ***12 Application of Division***
>
> *This Division applies:*
>
> *(a) in relation to a mining lease for a mineral or minerals, to land for which development consent is required before the land may be used for the purpose of obtaining minerals, and*
>
> *(b) in relation to a mining lease for a mining purpose or mining purposes only, to land for which development consent is required before the land may be used for that purpose or those purposes.*

13 (Repealed)

14 Consent of landowner not necessary in application required by this Division

Any requirement of the Environmental Planning and Assessment Act 1979 that an application for development consent be accompanied by the consent of the owner of the land concerned, and any requirement of the regulations under that Act that an application for the modification of a development consent be accompanied by such a consent, does not apply to an application under this Division."

For mining developments, Clause 14 overcomes any requirement for owners consent provisions which would otherwise be imposed under clause 49(1) of the EP&A Act.

CCR are currently continuing negotiations with the affected lease holders and are likely to reach agreement over access and the establishment of easements with the LPMA over the next few weeks to months. CCR understand that development of the Project following determination would be conditional on obtaining the necessary agreements and registering the easements with LPMA.

Issue 4: Justification to support the final selection of the proposed pipeline routes

McKinnon's Water Pipeline Route

In identifying the optimum route for the proposed water pipeline route to the McKinnon's Mine borefield, the Applicant considered several factors.

- Length of pipeline. There is a direct correlation between the length of pipe, capital expenditure and operational costs. Therefore, in considering pipeline route options, reducing the total length was an important factor in considerations.
- Terrain / relief. The efficiency and cost of pumping water increases significantly with gradient. Therefore, potential pipeline routes with minimal changes in gradient were favoured.
- Directness. The efficiency of pumping is reduced, the more bends and deviations are present. A more direct route also reduces the total pipeline length (see above). More direct routes were therefore considered preferable to circuitous routes.
- Environmental Sensitivity. The installation of the pipeline would require some ground disturbance as a result of trench construction and the creation of access tracks. The type and condition of vegetation was therefore considered in the choice of pipeline routes. Other environmentally sensitive aspects of the environment, e.g. waterway crossings, were also considered.

From the proposed Raw Water Dam within the proposed Processing Plant and Office Area, the pipeline route is aligned to the north rather than east (which would minimise the distance to the Cobar-Bedooba Road). The rationale behind this was two-fold.

1. Alignment to the north offers the more direct route to the McKinnon's Mine borefield.
2. Alignment to the east would require the pipeline to traverse the southern section of the Jackermaroo Range (a north-south aligned range commencing on the "Manuka" property and continuing to Sandy Creek). This would incur additional operational operating costs (associated with pumping up gradient), however, more importantly this would require disturbance to remnant vegetation in better condition (due to reduced grazing pressure) than the surrounding areas.

The alignment of the pipeline route then continues within the valley between the Jackermaroo Range and the western Mulga Downs Group Range to where Cobar-Bedooba Road crosses Sandy Creek. Consideration was given to diverting the water pipeline to the east to join Cobar-Bedooba Road at a point closer to the Project Site, however, this was considered sub-optimal and not necessary for the following reasons.

1. This would have added several kilometres to the total pipeline length, as well as introduces at least two considerable bends in the pipeline.
2. The vegetation observed on the north-south ridgeline on the "Manuka" property continues to the north of "Manuka". Deviation to join Cobar-Bedooba Road closer to the Project Site would therefore result in disturbance to vegetation in better condition than that observed along the proposed pipeline route.
3. As noted in (2) above, the vegetation traversed between the Project Site and the Sandy Creek crossing has been grazed by sheep and goats, is subject to weed infestation (in particular Thistle) and is generally considered to be in poorer condition than the vegetation observed on the north-south aligned ridges between the Project Site and Sandy Creek.

The Sandy Creek crossing was chosen as the point at which the pipeline route joins Cobar-Bedooba Road as the co-location of disturbance to Sandy Creek, i.e. road crossing and pipeline crossing, was considered preferable to two separate locations of impact. The positioning of the Sandy Creek crossing adjacent to Cobar-Bedooba Road would also ensure that no new access tracks to the site of the crossing would be required which could also result in environmental damage to the waterway.

From Sandy Creek, the Applicant considered two primary routes (see **Figure B**).

- Route 1. A more direct route from Sandy Creek to the McKinnon's Mine borefield.
- Route 2. A less direct route that uses existing road easements of Cobar-Bedooba Road and the McKinnon's Mine borefield road.

The advantage of Route 1 was a 4km reduction in pipe length and reduction in the number of bends. This would provide for significant capital and operating cost savings, however, would require greater disturbance of remnant vegetation and greater access to privately owned land. Therefore, despite the capital and operating cost savings offered by Route 1, the Applicant has decided to utilise the route which would be more expensive to construct and operate but result in less environmental disturbance.

The above illustrates that the Applicant considered a combination of factors in deciding upon the route proposed and presented in the EIS. The proposed route is justified on the basis that it avoids or reduces impacts on the local environment wherever possible. Mitigation measures should a leak, or other environmental incident, occur are provided in the EIS.

Figure B
MCKINNON'S MINE PIPELINE ROUTE ASSESSMENT

Mirrabooka Water Pipeline Route

In identifying the optimum route for the proposed water pipeline route to the proposed Mirrabooka borefield, the Applicant considered the same factors as for the McKinnon's Water Pipeline Route.

It is noted that, with the exception of the modified alignment of the water pipeline through Bedooba State Conservation Area (SCA) (see **Figure A**), the alignment does not make use of the Cobar-Bedooba Road easement, or access road between Cobar-Bedooba Road and the "Mirrabooka" homestead. This is justified on the basis that the very small amount of vegetation to be disturbed, does not represent threatened or regionally significant vegetation. Therefore, there is little environmental gain to be made for the additional cost associated with the additional pipeline length and deviation required.

Importantly, however, by modifying the alignment of the proposed water pipeline through Bedooba SCA (to utilise an existing access road), impact to the vegetation of better condition (which is now to be conserved under the management of the Department of Environment, Climate Change and Water) would be avoided. Furthermore, by realigning the pipeline route through Bedooba SCA, Aboriginal site WOS1 would be avoided.

The Mirrabooka Pipeline Route (as modified) in its entirety is therefore justified as it avoids disturbance to the better condition (and now conserved) vegetation of Bedooba SCA, avoids disturbance to Aboriginal site WS01, and restricts disturbance to the poor to moderate condition vegetation of the pastoral properties either side of Bedooba SCA.

Issue 5: Shared occupation of Council road reserve for the pipeline

CCR discussed this issue with Council at a meeting convened on 3 March 2011. CCR acknowledge an agreement with Council for shared occupation of the road reserve is required and will abide by any reasonable requirements of Council.

CCR can confirm that the pipeline route within the road easement will be surveyed (to confirm the boundary of the road easement) and will place the pipeline the maximum distance from the road surface (whilst minimising disturbance to local flora).

6. KIDMAN WAY - MOOMBA-SYDNEY GAS PIPELINE

Council wrote:

"The EIS needs to detail any proposed work to be undertaken to facilitate the proposed gas supply for the project."

Response

The Australian Pipeline Trust (APA Group) has suggested that the most appropriate access point to the Moomba-Sydney Natural Gas Pipeline would be at an existing APA Group facility located at "Bulla Park", 115km west of Cobar and 500m south of the Barrier Highway has been identified (see **Figure C**). Should the CNG option be selected the Bulla Park Gas Pumping Station ("the Facility") is the proposed point of supply for CNG to be transported to, and used for power generation, on the Project Site.

The existing layout of the Facility is illustrated on **Figure C**. The Facility covers an area of approximately 160m by 75m (1.2ha). To supply CNG to CCR gas compression and load facilities will need to be installed at the Facility. CNG would then be trucked to the Project Site. Mr Paul Wheeldon of APA Group has indicated to Mr Mike Lauer of Project Consultancy Services Pty Ltd, acting on behalf of CCR, in February 2011 that the Facility has adequate space for this operation.

Traffic to and from the Facility would average 2 trucks (B-Double tankers) per week, each carrying 1 tera joule of CNG (42t, 26 000m^3).

The Facility is located on Lot 3 DP593788 within the "Bulla Park" property. Access to the Facility from Cobar is provided by the Barrier Highway (State Highway [SH] 8), Coomeratta Road (Shire Road [SR] 8) and a private access road. The transportation route between the Facility and the Project Site is as follows.

- Coomeratta Road (SR 8) (~500m).
- Barrier Highway (SH 8) (~115km).
- Kidman Way (MR 410) (~75km).
- Manuka-Yarranvale Road (SR 14) (~25km).
- Cobar-Bedooba Road (SR 13) (~6km).

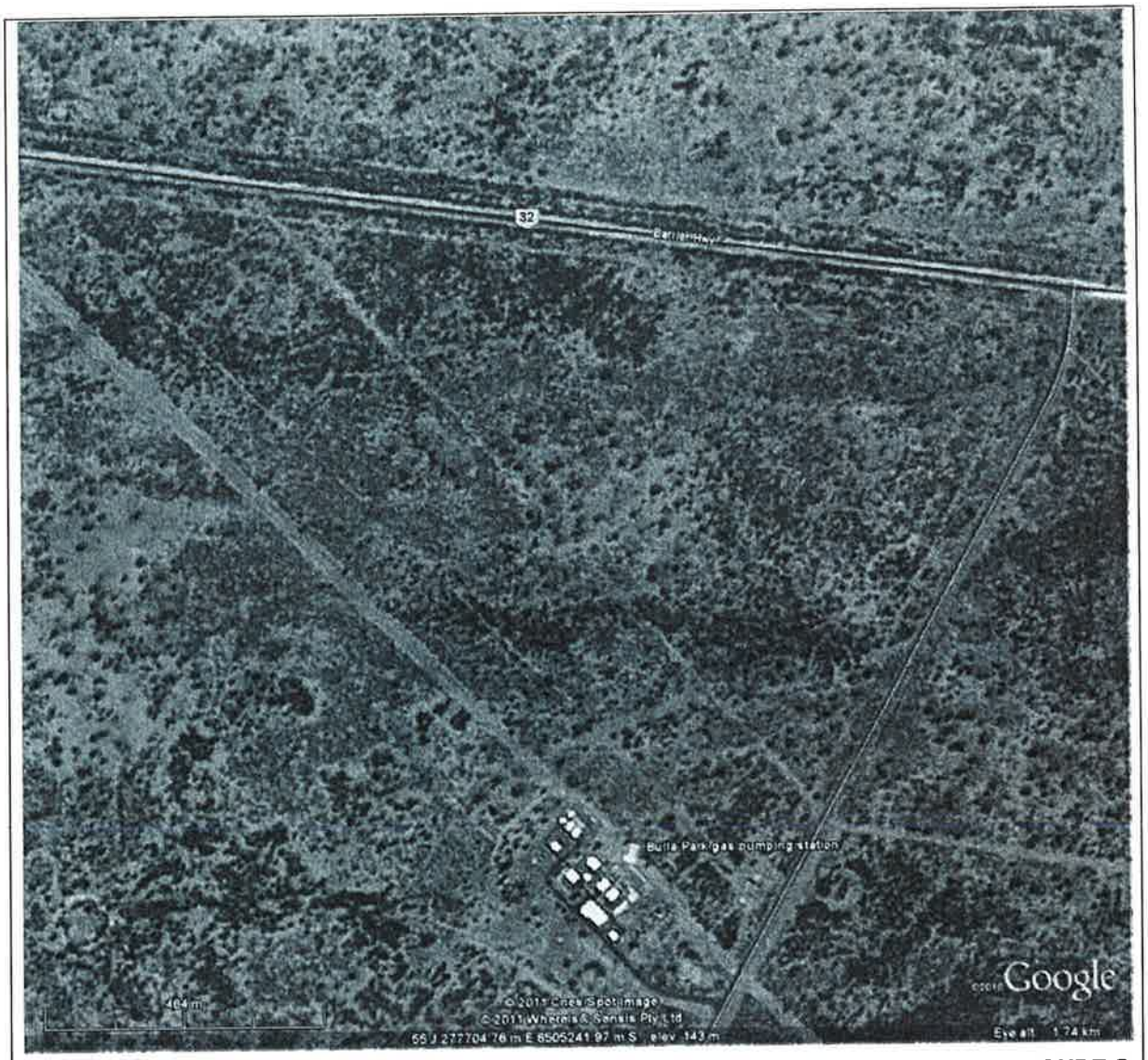

FIGURE C
BULLA PARK GAS PUMPING FACILITY

Details of the roads and intersections are as follows (details of those roads considered in the EIS are not repeated).

- Barrier Highway (SH 8). A sealed road with lane widths of between 3m and 4m and sealed shoulders of generally 0.5m on both sides of the road. Appropriate road side drainage is generally provided. Barrier Highway in its current form is considered suitable for the proposed traffic to be generated by the Project.

- Barrier Highway (SH 8) – Coomeratta Road (SR 8) intersection. The intersection appears to be constructed to BAL/BAR standard with a left turn lane provided on SH 8 for turning traffic. The intersection in its existing form is considered suitable for the proposed traffic to be generated by the Project.

- Coomeratta Road (SR 8). A sealed road with pavement width of between 6.5m and 7.5m (providing for lane widths of between 3m and 3.5m with a shoulder). Appropriate road side drainage is generally provided. Coomeratta Road in its current form is considered suitable for the proposed traffic to be generated by the Project.

- Coomeratta Road (SR 8) – Facility Private Access Road intersection. Both roads are sealed with the Facility Private Access Road's seal widened at the intersection to allow for the turning circle of larger vehicles from the Facility Private Access Road onto Coomeratta Road. The intersection in its existing form is considered suitable for the proposed traffic to be generated by the Project.

- Facility Private Access Road. A sealed, unmarked road with a pavement width of approximately 6m. The road is sealed from the intersection to the pump station adjacent to the pipeline (this is evident on **Figure A**). The Facility Private Access Road in its current form is considered suitable for the proposed traffic to be generated by the Project.

The Barrier Highway intersects with Kidman Way on the eastern side of Cobar. This intersection is well formed, currently carries heavy vehicle traffic and is suitable for the proposed traffic to be generated by the Project.

The remaining roads of the proposed route between the Barrier Highway and the Project Site (Kidman Way [MR 410], Manuka-Yarranvale Road [SR 14] and Cobar-Bedooba Road [SR 13]) were described and discussed in the EIS.

7. TRAFFIC AND TRANSPORT

Council wrote:

"The extent of upgrading work and proposed maintenance associated with roads under the control of Cobar Shire Council requires further detailing in the EIS. The applicant needs to consult with Councils' Director of Engineering Services in respect of this item."

Response

CCR discussed the issue of appropriate contribution to road upgrade and maintenance at length with Council officials. At the meeting, Council indicated CCR would be required to provide for 150mm gravel sheeting, compacted to 100mm, 8m wide for a length of 31km (from the Project Site to Kidman Way). CCR have calculated that excavation, transport, sheeting and compaction of gravel to satisfy this requirement would cost approximately $\$50/m^3$. Approximately 30 $000m^3$ of gravel would be required at a cost of $1.5M. This is beyond the financial capabilities of CCR and would potentially make the Project economically unviable.

The above notwithstanding, CCR understand that by introducing additional traffic to local roads, there is responsibility to contribute to the upgrade (if considered necessary) and maintenance of these roads. On this basis, CCR recommit to completing the following road upgrade and maintenance works.

Road Upgrades

- CCR commit to the design and construction of an intersection treatment at the intersection of the Manuka-Yarranvale Road and the Kidman Way as follows.
  - The left tum treatment on the Manuka-Yarranvale Road will comply with the type BAL (Basic Left Tum) treatment as shown in Figure 4.8.35 of the RTA Road Design Guide.
  - A right turn treatment of the type BAR (Basic Right Turn) will be constructed adjacent to the southbound lane of the Kidman Way as shown in Figure 4.8.23 Rural Conditions of the RTA Road Design Guide. The widened shoulder will be sealed.
  - The Manuka-Yarranvale Road will be sealed for a minimum of 30m from the edge of the northbound traffic lane of the Kidman Way. The levels of the Manuka-Yarranvale Road will match the levels of the Kidman Way.
- CCR has committed to the construction of concrete apron floodway's at the Sandy Creek and three tributary crossings of Shire Road 14 to reduce the likelihood of loss of access due to poor road conditions after rain events.
- CCR has committed to the construction of DN450 RCP culvert and headwalls at the intersection of the Main Access Road to the Project Site and Shire Road 13.
- CCR has committed to the construction of DN450 RCP culvert and headwalls where Shire Road 14 crosses the table drain on the eastern side of Shire Road 13.

The above reference to the flooding issues of SR 14 notwithstanding, CCR maintain that for the type and volume of traffic proposed, the formation and width of Shire Roads 13 and 14 is suitable. As noted on p. 4-127 of the EIS, *Map 1* of the RTA's Restricted Access Vehicle (RAV) Maps - NSW (RTA, 2010) identifies both SR 13 and SR14 as within the "All Access Approved Zone" for B-Doubles, Road Trains & 4.6m high vehicles.

However, CCR is committed to ensuring that the road continues to be maintained to a standard able to carry all classification of traffic and therefore, CCR makes the following commitment towards road upgrade.

- Should a section of either Shire Roads 13 or 14 deteriorate as a consequence of the increased traffic, CCR will provide for the application and compaction of gravel over the 8m width of the road and a distance of at least 50m either side of the area of deterioration.

Road Maintenance

CCR commit to the maintenance responsibility for the sections of SR 13 and 14 incorporated into the proposed transport routes (approximately 31km). This maintenance would include the following.

- The road upgrades noted above to be undertaken in response to road deterioration.
- Up to 12 grades of the road surface per year. The actual number of grades per year would be dependent on actual road condition, which would be a consequence of weather conditions, traffic levels, etc.

- Regular inspection, in particular following rainfall, and closure of the roads as required and until remedial maintenance or upgrade complete.

CCR recognises that the above ought to be incorporated into a maintenance agreement with Cobar Shire Council. CCR will incorporate any reasonable activity into the agreement, relevant to the roads in question and road usage.

Annexure 1

Revised EIS Section 4.12 Bushfire Management

(No. of pages including blank pages = 7)

This page has intentionally been left blank

4.12 BUSHFIRE MANAGEMENT

4.12.1 Introduction

The Director-General's requirements (DGRs) issued by the Department of Planning identify "*bushfire management*" as a key issue for assessment in the EIS. Based on the risk assessment undertaken for the Project (see **Appendix 4**), specific bushfire-related impacts that may result as a consequence of the Project (without the implementation of the safeguards, controls and mitigation measures presented in this section) include the following.

- Initiation of fire on the Project Site and spread to adjoining properties resulting in:
  - injury or health impacts on project personnel (high risk);
  - operational constraint posed by damaged equipment (high risk); or
  - destruction/damage of native vegetation and fauna habitat (moderate risk).

Following a review of the Cobar LGA bushfire prone land map, it has been confirmed that the Project Site (and proposed water pipeline route alignments) are not located within bushfire prone. As such, the specifications and requirements of "*Planning for Bushfire Protection 2006*" (PBP) by the NSW Rural Fire Service (RFS, 2006) are not required to be considered for the development.

The above notwithstanding, the objectives of RFS (2006) are considered in the following sections, with specific attention provided to the consideration of an appropriate Asset Protection Zone (APZ) for the buildings to be constructed on the Project Site. Reference is also made to Clause 29 of the Cobar Local Environment Plan 2001 "*Land subject to bushfire hazards*".

The Bushfire Assessment was prepared by R.W. Corkery & Co. Pty Ltd based, in part, on information provided in OzArk (2010a).

4.12.2 Bushfire Management Objectives

4.12.2.1 Planning for Bushfire Protection 2006

The objectives of RFS (2006), considered in this assessment of bushfire management of the Project, are to:

(i) afford occupants of any building adequate protection from exposure to a bushfire;

(ii) provide for a defendable space to be located around buildings;

(iii) provide appropriate separation between a hazard and buildings which, in combination with other measures, prevent direct flame contact and material ignition;

(iv) ensure that safe operational access and egress for emergency service personnel and residents is available;

(v) provide for ongoing management and maintenance of bushfire protection measures, including fuel loads in the asset protection zone (APZ); and

(vi) ensure that utility services are adequate to meet the needs of fire fighters (and others assisting in bush fire fighting).

4.12.2.2 Cobar Local Environment Plan

Clause 29 of the Cobar LEP 2001 requires that the consent authority consider the following bushfire management features of a proposal. Does the proposal provide:

(a) adequate provision is made for access for fire fighting vehicles, and

(b) adequate safeguards are adopted in the form of fire breaks, and

(c) adequate water supplies are available for fire fighting purposes.

4.12.3 Safeguards and Controls

4.12.3.1 Local Bushfire Event

Specific bushfire management measures to manage a local bushfire event would be provided within a Bushfire Management Plan (BMP) to be prepared and implemented should development consent be granted for the Project. The BMP would incorporate the following management measures and operational safeguards.

- An Asset Protection Zone (APZ) would be nominated and maintained round the buildings of the Processing Plant and Office Area (see Section 4.1.3.2). As defined by *Appendix 2* of RFS (2006) the APZ would provide for:
    - minimal separation for safe fire fighting (access to fire front);
    - reduced radiant heat;
    - reduced influence of convection driven winds;
    - reduced ember viability thereby limiting the impact of ember attack; and
    - dispersal of smoke which would otherwise severely impact on residents affected by reduced mobility or health issues.
- Fuel loads within the APZ would be monitored and reduced as required, i.e. no re-growth of shrub or tree vegetation would be allowed, grass growth would be monitored and cut back as necessary. Specialist advice would be sought, either from the NSW RFS or Council in relation to appropriate fuel load management within the APZ.
- The Mine Access Road would be regularly maintained to ensure safe access and egress from the Project Site in the event evacuation is called. An alternative Project Site egress route would be maintained (via the "Mannika" homestead) should the Mine Access Road be blocked or inaccessible for any reason.
- Water infrastructure on the Project Site, e.g. ponds, dams, sediment basins and the water pipelines, are located within the Processing Plant and Office Area and would be accessible for management of ember attack on the buildings of the Processing Plant and Office Area.
- Training would be provided to site personnel in relation to specific fire fighting tasks and procedures.
- Emergency and Evacuation Management Procedures would be developed and included within the BMP.

- In the event of a local bushfire event, all personnel would be required to assemble at the designated Emergency Assembly Area, the location of which would be defined in the BMP (although likely to be within the car park of the Processing Plant and Office Area). A head count would be undertaken to confirm all site personnel and visitors are accounted. At this time, instructions as to specific procedures to be followed, i.e. site protection or evacuation, would be provided in accordance with the Emergency and Evacuation Management Procedures and advice provided by the NSW RFS.

The preparation and implementation of the BMP notwithstanding, the Applicant would ensure that all personnel recognise the authority of the NSW RFS and other emergency services, e.g. NSW Police, and adhere to any and all instructions provided by these authorities. Furthermore, access to all Project Site facilities and water storages would be provided to the RFS and any reasonable assistance offered.

4.12.3.2 Management of an Appropriate Asset Protection Zone

4.12.3.2.1 Method

The method for determining an appropriate APZ for the Project Site buildings follows *Section A2.3* of RFS (2006).

4.12.3.2.2 Fire (Weather) Area

Table A2.3 of RFS (2006) nominates Cobar LGA as occurring within the Far Western (21) NSW Fire Area which has a Fire Danger Index (FDI).

4.12.3.2.3 Predominant Vegetation Class Formation

As identified in Section 4.4, the Project Site is covered by variations of the vegetation community: Poplar Box - Gum-barked Coolibah - White Cypress Pine shrubby woodland mainly in the Cobar Peneplain Bioregion (Benson 103). The landform varies from more densely wooded areas on the steeper slopes and ridges, to the largely cleared areas interspersed amongst the moderately wooded areas which follow the north-south oriented drainage feature. This vegetation is best described by the Semi-arid Woodlands (Low Woodlands) (grassy sub formation) class in *Table A2.1* of RFS (2006).

The vegetation of the landholdings surrounding the Project Site is dominated by the same vegetation formation class as found on the Project Site.

4.12.3.2.4 Effective Slope Classification

Within 100m of the Processing Plant and Office Area, the slopes are either upslope (assumed to be 0°) or less than 5° (Classes i and ii).

4.12.3.2.5 Minimum Specification for Asset Protection Zone

Reference to *Table A2.5* of RFS (2006) nominates an APZ of 10m to both upslope (Class i) and downslope (Class ii) vegetation.

Notably, all buildings would be at least 50m from the cleared hardstand surface of the Processing Plant and Office Area.

4.12.3.3 Management of Project Site Operations

Activities on the Project Site would have the potential to result in the outbreak of fire which could in turn result in the development of a bushfire. These activities, and the controls proposed to limit risk, are presented in **Table 4.26**.

Table 4.26
Bushfire Hazard – Activities and Controls

Activity	Possible Ignition Source	Safeguards and/or Controls
Refuelling	• Spilt fuel ignited by spark	• Refuelling undertaken within designated fuel bays or within cleared area of the Project Site. • Vehicles to be turned off during refuelling. • No smoking policy to be enforced in designated areas of the Project Site. • Fire extinguishers maintained within site vehicles and refuelling areas.
General Activities	• Cigarette • Rubbish, e.g. glass, metal.	• No smoking policy to be enforced in designated areas of the Project Site. • Focus on housekeeping to be maintained by mine management. • Water cart available to assist in extinguishing any fire ignited. • Site vehicles to carry a fire extinguisher.

Notably, all safeguards and controls would be formalised within the BMP to be prepared for the Project, should development consent be granted.

4.12.4 Assessment of Impact

4.12.4.1 Local Bushfire Event

Management against the objectives of RFS (2006) and the Cobar LGA is as follows.

Planning for Bushfire Protection 2006

Does the proposed bushfire management:

(i) afford occupants of any building adequate protection from exposure to a bushfire?

A more than adequate APZ would be provided around the buildings of the Processing Plant and Office Area. Furthermore, Emergency and Evacuation Management Procedures would be implemented in the event of notification of a local bushfire event requiring all site personnel and visitors to assemble at the nominated Emergency Assembly Area prior to receipt of further instructions. Furthermore, best management practices in relation to vehicle maintenance, refuelling, hydrocarbon management and site housekeeping would reduce the risk of fire initiation on the Project Site.

(ii) provide for a defendable space to be located around buildings?

An APZ greater than recommended by RFS (2006) would be maintained around the buildings of the Processing Plant and Office Area. Furthermore, the mining activities to the north, south and west of the Processing Plant and Office Area would provide an additional fire break to bushfire approaching from these directions.

(iii) provide appropriate separation between a hazard and buildings which, in combination with other measures, prevent direct flame contact and material ignition?

See management in response to (ii) above

(iv) ensure that safe operational access and egress for emergency service personnel and residents is available?

The Mine Access Road would be regularly maintained and of suitable standard to allow for safe access and egress to and from the Processing Plant and Office Area. A secondary egress route via the "Manuka" homestead would also be maintained.

(v) provide for ongoing management and maintenance of bushfire protection measures, including fuel loads in the asset protection zone (APZ)?

RFS (2006) recommends an APZ of 10m from buildings on the Project Site. Notably, all buildings would be at least 50m from the edge of the hardstand surface of the Processing Plant and Office Area. The fuel load of the APZ would therefore be minimal.

In the event of a local bushfire event, management measures and procedures as nominated in a BMP for the Project would be implemented.

(vi) ensure that utility services are adequate to meet the needs of fire fighters (and others assisting in bush fire fighting)?

Mobile phones on vehicles, and UHF radio communications would be available to fire fighters. Water would also be immediately available from the water storages (supplied by underground pipeline) within the Processing Plant and Office Area.

Cobar Local Environment Plan

Does the proposal provide:

(a) adequate provision is made for access for fire fighting vehicles?

The Mine Access Road would be regularly maintained and of suitable standard to allow for safe access and egress to and from the Processing Plant and Office Area. A secondary egress route via the "Manuka" homestead would also be maintained.

(b) adequate safeguards are adopted in the form of fire breaks?

An APZ greater than recommended by RFS (2006) would be maintained around the buildings of the Processing Plant and Office Area. Furthermore, the mining activities to the north, south and west of the Processing Plant and Office Area would provide an additional fire break to bushfire approaching from these directions.

(c) adequate water supplies are available for fire fighting purposes?

Water would be immediately available from the water storages (supplied by underground pipeline) within the Processing Plant and Office Area. Furthermore, a water cart would be available for fire fighting purposes as required.

4.12.4.2 Project Site Operations

The Project Site operations would increase the number and type of ignition sources in the local area. However, the proposed controls and safeguards (see **Table 4.26**), in conjunction with general clearing activities associated with the Project would ensure that the potential for fire initiation and spread on the Project Site is minimised.

This page has intentionally been left blank