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Grace Murphy

Submission Opposing United Wambo Open Cut Coal Mine Project

PAC Hearing 8 February 2018

morning
Good afternoon members of the Commission, ladies and gentlemen

Thank you for this opportunity to speak publically on this proposal and it is appropriate that I follow on from Mr Wills who has detailed the merits of the project. For all of the reasons/advantages/merits listed there is a flip side and a human and environmental price to be paid. Mr Wills is no doubt qualified to speak in support of the project and I am not qualified to speak on the environmental risks but I hope others can. However, we are qualified to voice our opposition to this proposal and detail the human cost based on the impacts we are suffering through living in close proximity to the existing Wambo mine operations and consequently this proposed project.

We hear many references to the benefits of mining to the Community. That may well be for people who live up to 100Kms away from the mine site. We acknowledge the people who come to work on mine sites but who can go home and leave that environment behind them and enjoy whatever lifestyle they chose. However people, like us who live at the foot of Wambo mine have no such luxury and are forced to live in an industrial environment 24/7. The result is that the people who are impacted the most, gain the least.

To outline our position, we live just south of the village of Jerrys Plains in direct view of the current Wambo operations. We have lived here for 14 years on a 70 acre property breeding horses and cattle and operating a horse agistment business. This is a lifestyle we love and work hard to maintain it. We both have full time jobs in the area – not in mining.

I have no doubt that some of you have already dismissed us as whinging horse people or even seasonal or rent a crowd. I can assure you that we have invested and are invested in our property and the local area. I would challenge that any one of you would not defend your family and health, home and financial security against any threat.

The purpose of our presentation today is to explain to you the current environment in which we live, the issues we are experiencing and the relationship with the current Wambo mine operators. These issues are ongoing and will only increase in the extreme if this new project is granted approval.

Over the past 18 months we have had ongoing difficulties with Wambo Peabody due to their current operations. I would not have enough time to go into detail but wish to outline what we consider to be the most serious impacts. These reflect and have relevance to the project under consideration. It has been detailed that the existing Wambo operations will be modified and integrated into this new proposal under the heading of "Harmonisation Modification" where they will be surrendering existing consents. The Department's Assessment Report on this proposal makes several references to Wambo's current operations and approvals. We therefore believe this permits us to share the impacts we experience under the current operations and therefore our expectations that these impacts will intensify if the new proposal is approved.

The real impacts began 18 months ago when Wambo began work in the area of Montrose East. Mining operations had been progressing in that area but we were relatively sheltered by ridges. However as operations have expanded and come into full view, we now have no buffer. We find ourselves with front row seats to an industrial operation, 24/7.

We have complained about noise, dust and lighting impacts. We are suffering loss of sleep, amenity and quality of life. We have followed processes and over that time have met with several mine representatives. We have engaged with staff from the Compliance team in Singleton. While there have been acknowledgements of impacts and murmurs of sympathy, the standard response has

been that the mine is operating within its licence. This is a well-rehearsed response as I am sure others can attest to.

We were advised we could seek a Review under the terms of Wambo's consent, which we did. Wambo commissioned a consultant to undertake the review. The report was issued in early 2017 and did in fact acknowledge the impacts on us of the Wambo operations but conceded that no mitigation options were feasible at that point – any available options should have been implemented at least 10 years previously. The report concluded that Wambo should prioritise this area of work and rehabilitation and by the end of 2017 we would no longer experience impacts. (a copy of the report submitted) *ITEM A*

Effectively that left us with no recourse. We consoled ourselves that we had it in writing that the source of our suffering would be finalised by the end of 2017 and the montages produced indicated we would hardly know the difference in the landscape. So we sat it out during 2017 believing what had been written would actually happen. However, by the latter part of 2017 it became clear that the undertaking given in that report would not be honoured. Instead the operation ramped up and the areas of disturbance that were to be finalised and rehabilitated are still work zones. The response from Wambo has been that they 'have changed operations'.

So we are now in a worse position than we were 12 months ago. Along with the dust and noise and loss of amenity, a further problem we now deal with is sleep disturbance due to lighting. Excavators have been stripping out the ridges and lights from this machinery bounces around our bedroom at night. This has and continues to cause us a great deal of upset and has been ongoing for months. We have had nights where we are getting as little as 4 hours sleep. We follow the process and ring the community complaints number which is a paging service in Brisbane. As we found out in the middle of the night, this service does not have direct access to mine personnel on site. On numerous occasions despite requesting an immediate call back to deal with the issue, this does not happen. On one occasion during January, it took three calls to the call centre to elicit a response. At 2 am in the morning, Wambo's representative advised that he would 'try' to contact the site to resolve the problem. In an effort to try to alleviate the situation, we have rearranged our bedroom and removed pictures and mirrors from the walls.

We have received emails regarding what action has been taken to resolve the lighting issue however within a matter of days, we again had to ring and complain about the same problem. It has been suggested to us that Wambo "could" put a blind on our bedroom window.

We have at every turn been dismissed by Wambo and looked to the compliance team for guidance. Their advice has been for us to "engage" and explore options with Wambo. This meant once again allowing Wambo Coal personnel into our home – the latest being on 25 January. Again our complaints were dismissed, the problems trivialised, we have been insulted in our own home and it has been insinuated that we are looking to have Wambo Coal fund our move to the coast. As mentioned previously, we have livestock and a business and have no interest in moving to the coast.

They have suggested to us that we have the option to sell on the open market. Indeed this is something we have looked at simply due to the deterioration in the quality of our life. We have researched options and sought professional advice and to do this would be financial suicide on our part. Notwithstanding the fact that we have no wish to move, the price we would achieve for the property, given that it is mine affected, would not be sufficient for us to purchase a similar property elsewhere. One former member of the Compliance team helpfully suggested that a "speculator" might purchase the property.

More distressing, and what we have come to realise, is that this interaction with Wambo isolates people. They have made references about other people experiencing worse impacts than us and implying that we are therefore not deserving of direct mitigation measures.

That is a very brief summary of our dealings with Wambo Coal to date. We believe it is relevant to the current proposal as our experience demonstrates Wambo Coal's lack of consideration for its near neighbours and qualifies us to have valid objections to this proposal. Again, it is clearly stated that Wambo's current consents will be surrendered upon approval of the proposed United Wambo project.

So, on to the proposed United Wambo Open Cut project. We confirm we have also met with United/Glencore on a number of occasions in the past two years, and they have visited our property. The outcome has been a one page information sheet – a copy is provided for your information – This summarises their assessment of likely impacts on us. The mitigation measure proposed is, and I quote, "inspection and **if necessary**, cleaning of drinking water tanks every two years". All of the issues we had raised, which are based on our experiences with the current Wambo operations, have been ignored. *Item B*

We would specifically like to highlight the following matters, specific to this proposal;

- Wambo Coal has committed per their previous Management Plans to notify locals in the vicinity when air quality exceeds the 24 hr average PM10 50 micrograms per cubic metre – it is on record that this has occurred on at least 1 occasion each year over the past five years. We have never received specific notification when this has happened.
- In the assessment of Air Quality specific to our property, under the new project, this level is expected to be exceeded on three occasions per year.

New England Health (HNE Health) submitted their review of the EIS to the DPE. (copy provided). They make specific reference to their concerns regarding Air Quality and associated impacts on public health. HNE (Health) highlights the amended National Environment Protection Council standards with regards to PM10 50 micrograms per cubic metre. They state that the EIS should have taken these new standards into consideration. As mentioned there will be at least three exceedances at our property each year, yet the new NEPM has no allowable exceedances. HNE(Health) also suggests that there would be more impacts on residences in the vicinity than the modelling predicts. It is inconceivable that the DPE in its Assessment Report chooses to ignore these recommendations and allow this project to be assessed using old standards. We are not talking about retrospectively applying new standards, this project is still at the proposal stage. It is distressing that the air quality impacts by United/Wambo own predictions, will be below National Environment Protection Council standards. *Item c*

How Government departments can abdicate their duty of care for the protection of our health is unbelievable and flies in the face of their responsibility dictated by the Office of the High Commission for Human Rights under the Right to the Highest Attainable Standard of Health;

On the contrary, the drafting history and the express wording of article 12.2 acknowledge that the right to health embraces a wide range of socio-economic factors that promote conditions in which people can lead a healthy life, and extends to the underlying determinants of health, such as food and nutrition, housing, access to safe and potable water and adequate sanitation, safe and healthy working conditions, and a healthy environment.

We would expect Government to uphold that responsibility

(Extract attached) *Item D*

We attest to the deterioration of air quality in the area particularly over the past 4 months. Yes, we appreciate there are drought conditions, but the EPA monitor at Jerrys Plains shows some alarming trends. We believe the deterioration in air quality is the direct contribution made from the new Wambo operations since the latter part of 2017 which is evident to anyone travelling in the area. United Wambo will continue with this ridge removal exposing the community to further dust.

- Reference Newcastle Herald Report enclosed

ITEM E

We would like to address statements made in the DPE Assessment report drawn from the United Wambo EIS. It is stated that "mine owned properties provide a degree of separation between the impacts of mining and nearby communities. This is inaccurate. It is our property that is the buffer and shelter to the village of Jerrys Plains and at some points on Redmanvale Road. We have included photographs that demonstrate this. While we provide the buffer, we in turn have no shelter and are fully exposed to the 24/7 mining operations. We are not speculating on what might happen should the project proceed, we are already living with it day and night.

Item F

ITEM G

At this point also, we reference the current HVO operations, the proposed HVO South proposed project and the Carrington West Wing approval. All of which have impacts on us and already contribute to the cumulative noise, dust and amenity issues in the area.

And so, what do we ask of the Commission;

While we appreciate it is not within your brief to fully resolve the position we find ourselves in, we believe that under the terms of your reference, you can take into consideration the direct and significant impacts on us. And it is on this basis that we request the project be refused.

In support of this request, we ask that the Commission;

- Recommends that the project should be assessed using the new Ambient Air Quality Measure as put forward by HNE(Health)
- That the proponents retract their statements that mine owned properties provide a degree of separation between the current impacts of mining and nearby communities.
- That the proponents i.e., Wambo Coal stand over the commitment given to us in their mitigation report dated February 2017 whereby we would no longer be aware of mining operations from that area.

Thank you again for your attention.

Grace & Denis Murphy





VISUAL MITIGATION REPORT

Wambo Coal – Montrose East Pit

project no: **11651.5**
date: **FEBRUARY 2017**
revision: **A**



VISUAL MITIGATION REPORT

Wambo Mine – Montrose East Pit

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1 INTRODUCTION

Schedule 4, Condition 83 of Wambo Coal's Development Consent (DA 305-7-2003) requires that Wambo Coal must investigate ways to minimise the visual impact should a formal request be received from a landowner of any dwelling assessed in the EIS as having a high potential visual impact.

On 7th December 2016, Denis and Grace Murphy of Winston Lodge Thoroughbreds (Winston Lodge) located at 2339 Jerrys Plains Road, Jerry Plains emailed the Senior Compliance Officer of the NSW Department of Planning and Environment (DP&E) expressing their distress arising from the visual impact caused by mining activity related to Wambo Mine's Montrose East Pit arising since 5th November 2016 and requesting that action be taken in accordance of Condition 83.¹

On 20th December 2016, Wambo Coal formally engaged Terras Landscape Architects (Terras) having received confirmation from the DP&E that Terras's nominated director, Phillip Williams, was a suitably qualified person to undertake the assessment and reporting.

A site inspection was undertaken on 17th January 2017 with the following people in attendance:

- Grace Murphy Landowner, Winston Lodge Thoroughbreds
- Denis Murphy Landowner, Winston Lodge Thoroughbreds
- Steven Peart Manager: Environment and Community, Wambo Coal
- Phillip Williams Registered Landscape Architect, Terras Landscape Architects

The subject residence and the location of the Montrose East Pit of the Wambo Mine are shown on the following page [Figure 1.1].

¹ Refer Appendix A full wording of Condition 83



2 METHODOLOGY

The methodology adopted for this Visual Mitigation Report is as follows:

DESCRIPTION
<ol style="list-style-type: none">1. Undertake preliminary investigations to gain a better understanding of :<ul style="list-style-type: none">• the current and proposed mining operations that have been the catalyst of the complaint;• the before and after (both short and long term), landscape character of the visual catchment affected by the mining operations; and,• the proposed methods and timing of rehabilitation works to be undertaken by Wambo Coal.2. Meet with the property owners on site to discuss their concerns and to observe and record first-hand the impact of the current mining operations.3. Undertake a landscape character assessment of the visual catchment that contains both the property and the mine expansion.4. Prepare a report:<ul style="list-style-type: none">• documenting the investigations;• summarising the issues;• assessing the impact; and,• proposing recommendations.

3 CURRENT LANDSCAPE CHARACTER

Winston Lodge is located within the Jerrys Plains Landscape Unit as identified in Singleton Council's *Singleton Village Master Plans*². In a survey conducted as part of the preparation of the master plan for Jerrys Plains, the community identified the area's major assets as being its natural beauty and identified key features of the area as being its "open, river flat landscape, Great North Road, Hunter River, heritage buildings and Wollemi National Park": all items that relate to visual quality. The Montrose East Pit and other mine workings were excluded from the landscape unit although both this and Hunter Valley Operations are visible from within a number of visual catchments within the landscape unit including the Winston Lodge Visual Catchment (Figure 3.2).

Where mining operations are not visible, the scenic quality of the general landscape unit is high for the reasons noted above as rural and natural landscapes tend to be valued more highly than those landscapes where human intervention is obvious or perceived naturalness is diminished.

As Condition 83 refers specifically to an owner's dwelling and not the property overall, investigations were concentrated about the residence located on Winston Lodge. Figure 3.1 gives an indication of the view from the verandah of the residence³.

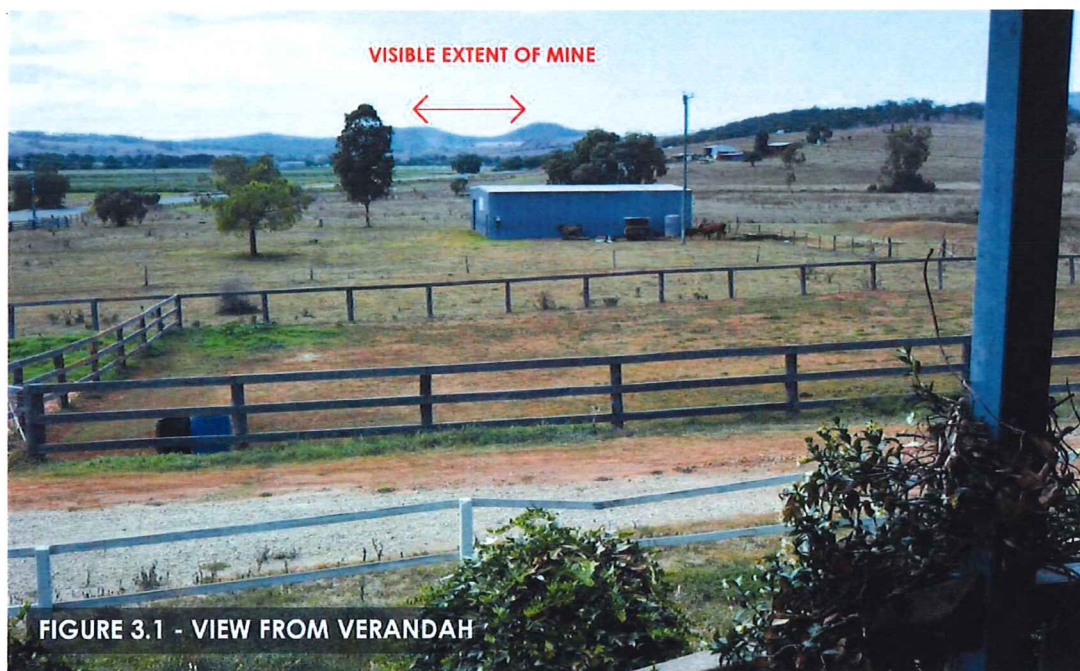


FIGURE 3.1 - VIEW FROM VERANDAH

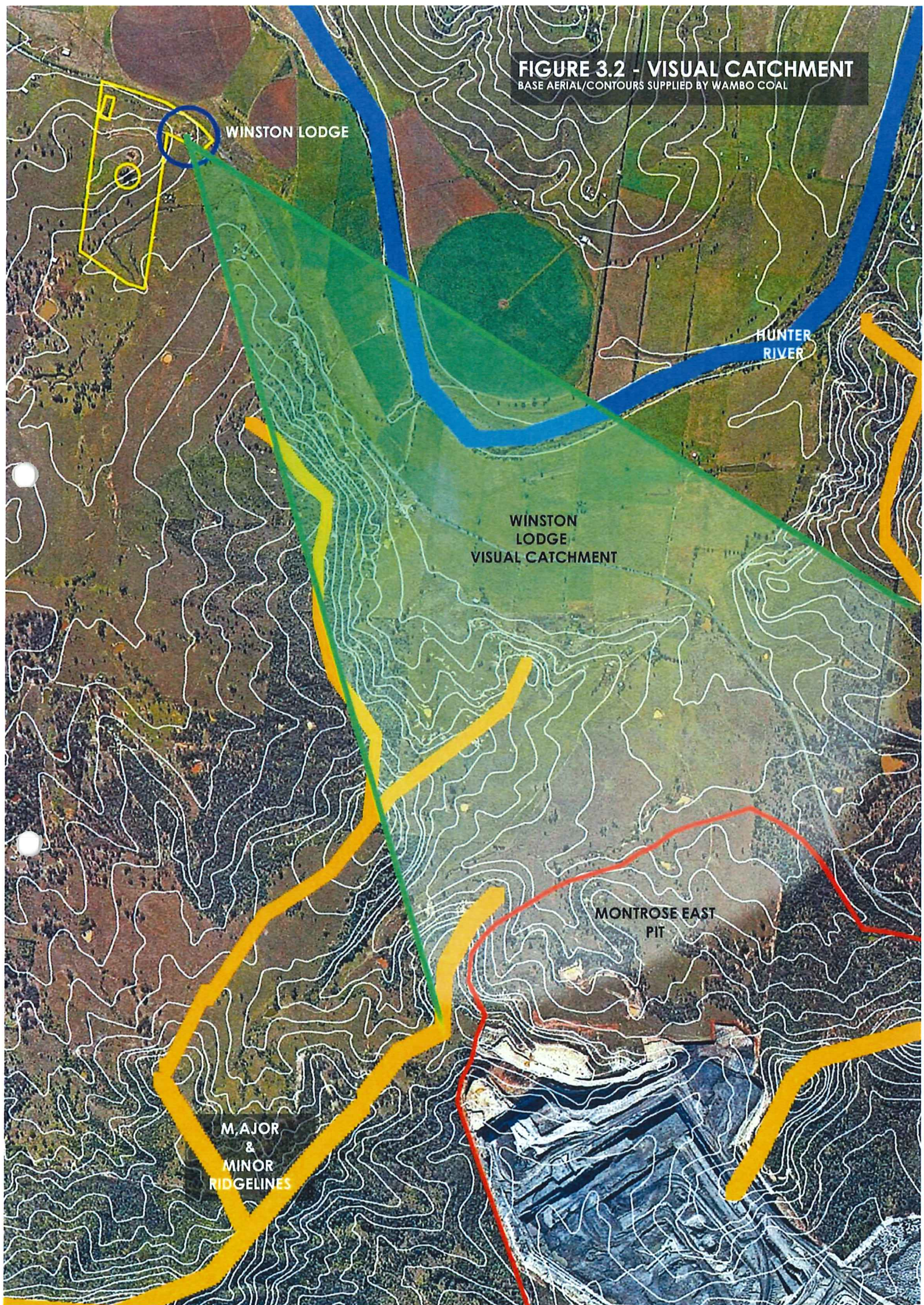
The upper batters of the stockpiles are clearly visible due to the contrasting colour of the overburden especially as it occurs in front of a well-vegetated ridgeline; however, the lower batters are mainly hidden behind an intermediate and lesser ridge. Although only a small component of the field of view is taken up by the mine, it is considered to be an intrusive element in a scene that is substantially rural. On occasions, airborne dust from heavy vehicles tends to add to the level of intrusion.

² Peter Andrews & Associates Pty Ltd *Singleton Village Master Plans*, Unpublished report commissioned by Singleton City Council, December 2015.

³ Image taken with Nikon D7100 having an equivalent 35mm focal length of 36mm which is moderately wide angle making the mine seem slightly further away.

FIGURE 3.2 - VISUAL CATCHMENT

BASE AERIAL/CONTOURS SUPPLIED BY WAMBO COAL



WINSTON LODGE

HUNTER RIVER

WINSTON LODGE
VISUAL CATCHMENT

MONTROSE EAST
PIT

MAJOR
&
MINOR
RIDGELINES

4 IMPACT ASSESSMENT

The following table is a summary of the key attributes that affect the visual quality of an area. The shaded boxes indicate the assessment rating as it applies to Winston Lodge with the orange shading showing impacts during mining operations and the green shading impacts after the revegetation works have grown in (i.e. 12 months after completion). The grey shading has been used to indicate when there is no change.

ELEMENT	LOW	MEDIUM	HIGH
Landform/Relief			
Contrast	Flat terrain dominant. Ridgelines not often seen.	Undulating terrain dominant. Little contrast or ruggedness. Ridgelines prominent in only half or less of landscape unit.	High hills in foreground and middleground. Presence of cliffs, rocks and other geological features. High relief (e.g. steep slopes rising from water or plain). Ridgelines prominent in most of landscape unit.
Vegetation			
Diversity and Changing Patterns	One or two vegetation types present in foreground. Uniformity along skyline.	Patterning in only one or two areas. 3 or 4 vegetation types in foreground. Few emergent or feature trees.	High degree of patterning in vegetation. 4 or more distinct vegetation types. Emergent trees prominent and distinctive to region. Stands of specimen or accent vegetation (e.g. palms, pines, etc).
Naturalness			
Correct Balance	Dominance of development within many parts of a landscape unit.	Some evidence of development, but not dominant. Traditional built character. Development in background and / or partially concealed.	Absence of development or minimal disturbance within landscape unit. Presence of parkland or other open space including beach, lakeside, etc.
Water			
Presence, Extent & Character	Little or no view of water. Water in background without prominence. Presence of polluted water or stagnant water.	Moderate extent of water. Presence of calm water. No islands, channels meandering water. Intermittent streams, lakes, rivers, etc.	Dominance of water in foreground and middleground. Presence of flowing water, turbulence and permanent water. Intricate shapes and river edges.
Development			
Form & Identity	Presence of commercial and industrial structures. Presence of large scale development (e.g.: mining, infrastructure, etc). Newer residential development prominent.	Presence of established residential development. Small scale industrial etc in middleground. Presence of sports and recreation facilities.	Presence of rural structures (e.g. farm buildings, fences, etc). Heritage buildings and other structures apparent. Isolated domestic scale structures.

TABLED DEVELOPED BY TERRAS LANDSCAPE ARCHITECTS AS A SUMMARY OF STANDARD VISUAL IMPACT PARAMETERS COMPILED FROM VARIOUS SOURCES.

Generally, the scenic quality of the visual catchment as viewed from Winston Lodge is high mainly resulting from: the diverse rural landscape; the proximity of the Wollemi National Park with its areas of undisturbed, native vegetation; and the occurrence of a varied topography. It can be seen from the above table that the presence of the mine does create a shift in the scenic quality of the area; however, once rehabilitation works are established, the scenic quality would return.

It is considered that the presence of the mine does produce a short-term impact, but it does not create a significant visual impact as the overall scenic quality is only slightly lessened for a limited period.

Rehabilitation Works

With respect to the revegetation works, Wambo Coal has advised that it has developed a rehabilitation plan of the five hectares of revegetation work required to restore the Montrose East area with top batters being treated as a priority.

The bulk shaping to the final grade commenced at the end of January (2017-01-24). Weather and operational constraints permitting, the prepared areas will be topsoiled by the end of February 2017. Seeding of the batters will commence by the end of March 2017 once the required drainage works have been completed. At that time of the year germination of the cover crop should occur within 2-3 weeks with a good cover occurring before the end of May 2017. At this stage the batters should blend into the surrounding countryside albeit being a slightly different shade of green. Given the design and progression of the waste rock dump, there may be minor areas still visible either side of the rehabilitation area; however, these works will be prioritised for completion once the dump progresses to the south east taking approximately six months.

The pasture grasses will begin to grow as the weather warms in Spring (i.e. late September) with a substantial cover occurring by the end of 2017 at which time some in-fill seeding may need to be undertaken. From here on, and having regard to the distances involved, **the owners of Winston Lodge should no longer be aware of any mining operations associated with the Montrose East Pit.**

5 DISCUSSION & RECOMMENDATIONS

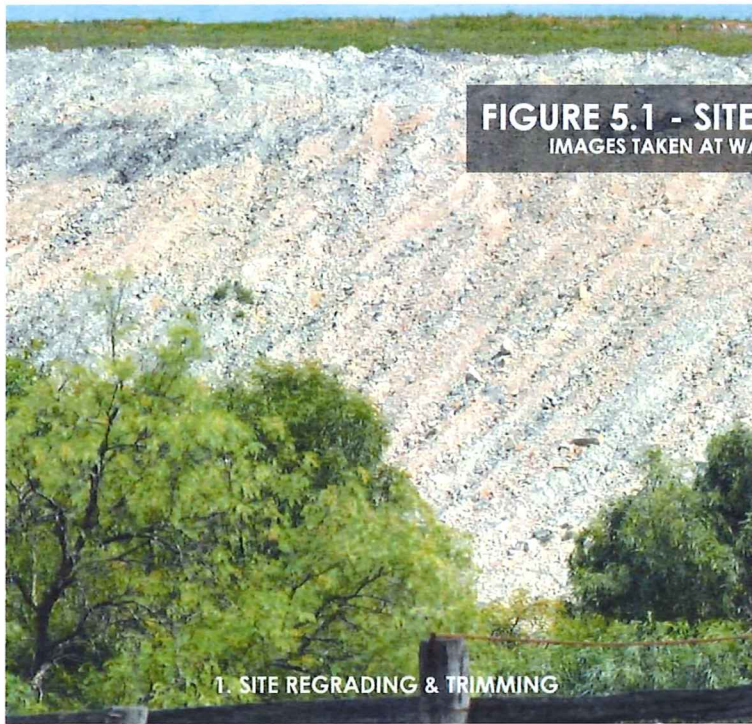
5.1 Discussion

- It is possible to see the mining workings associated with the Montrose East Pit from Winston Lodge. The height of the stockpiles extends above an intermediate ridge that lies between Winston Lodge and the mine expansion. (Refer Figure 3.2)
- The colour of the overburden, being an earthy tan, contrasts with the surrounding areas and therefore allows it to be readily noticeable. In addition, the movement of heavy vehicles creates airborne dust which at times, rises above the stockpiles further adding to the effect.
- Having regard to the size of the visual catchment and the distance from which the mine is viewed, approximately 3.75kms, it is considered that the extent of the impact is not significant. Further, when it is considered that the disturbance within the landscape will only last for approximately twelve months, the impact would be regarded as both minor and acceptable.
- These comments are in no way intended to disregard the distress the owners of Winston Lodge may experience when seeing the mine workings as it would no doubt be a reminder of the impact that other mine sites and associated activities have had on the region turning some areas of rural character, which is generally considered to be visually appealing, into large-scale industrial landscapes of very low visual appeal.
- In situations such as this one, it is common to erect visual screens. The use of landscaping (e.g. tree planting at the source or intermediate landscaping closer to the viewer location) is often the most cost effective and generally preferred method. Unfortunately this would take up to five years before any benefits would become apparent and even longer to effect full screening.
- Having regard to the shortness of time that views from Winston Lodge will be affected, it is considered that any form of visual screening would not warrant the effort.
- It is considered that increased communication between the parties and undertaking the mining operations in the most efficient manner including site rehabilitation works, would be the preferred approach.

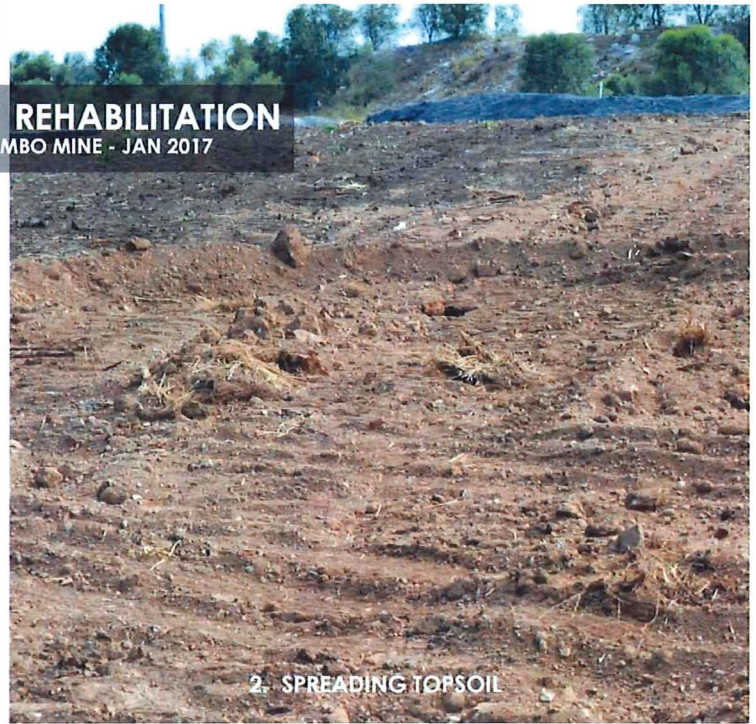
5.2 Recommendations

- That a liaison person be nominated from Wambo Mine who shall be a single point of contact for the owners of Winston Lodge.
- That a program of works be prepared that seeks to have the rehabilitation works undertaken in a manner that focuses on "greening" the upper batters of the regraded stockpiles in the shortest possible time so that the most visible portions of the stockpiles are treated first.
- That the program of works be explained to the owners of Winston Lodge giving an indication of what is to occur including timeframes and an explanation of what to expect over the next twelve months. (Figure 5.1 and 5.2 on the following pages may be useful in explaining the rehabilitation process.)

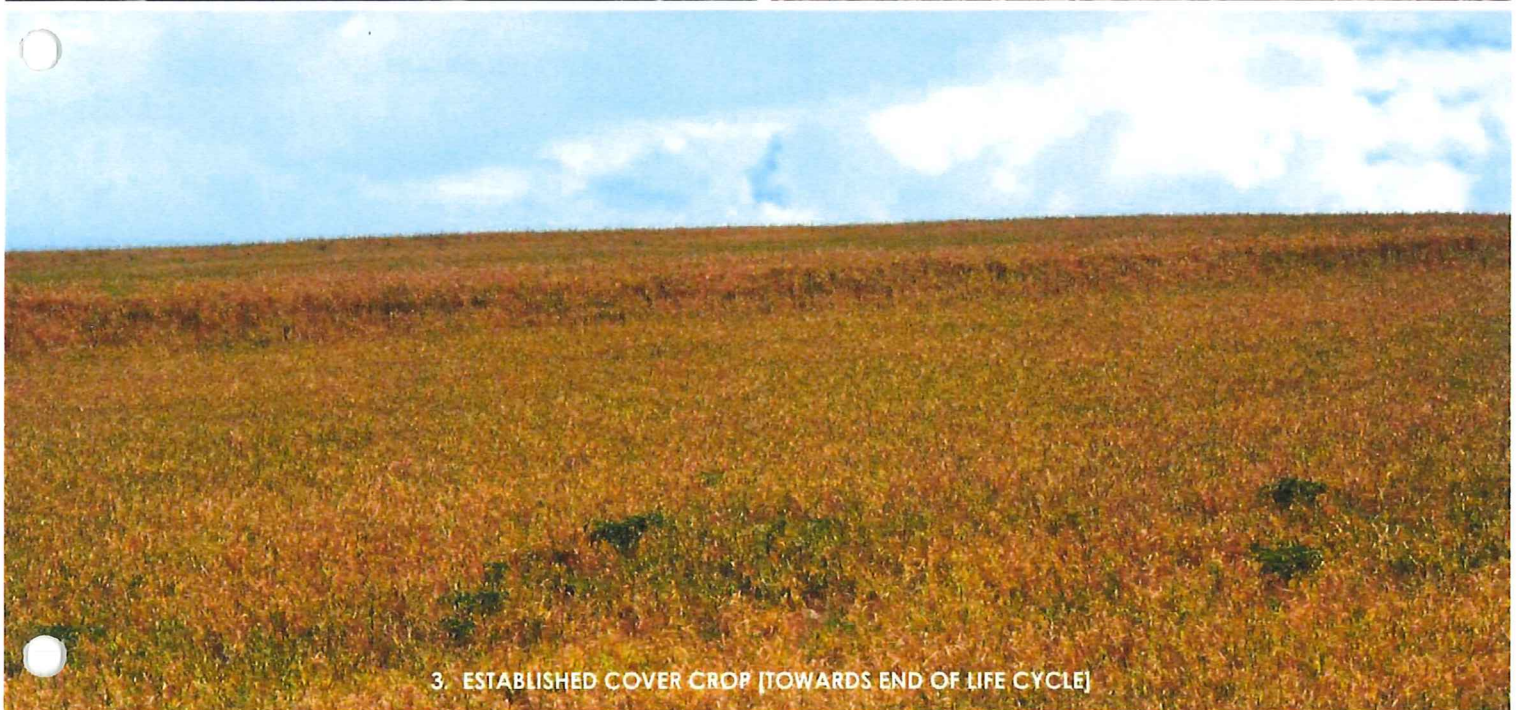
FIGURE 5.1 - SITE REHABILITATION
IMAGES TAKEN AT WAMBO MINE - JAN 2017



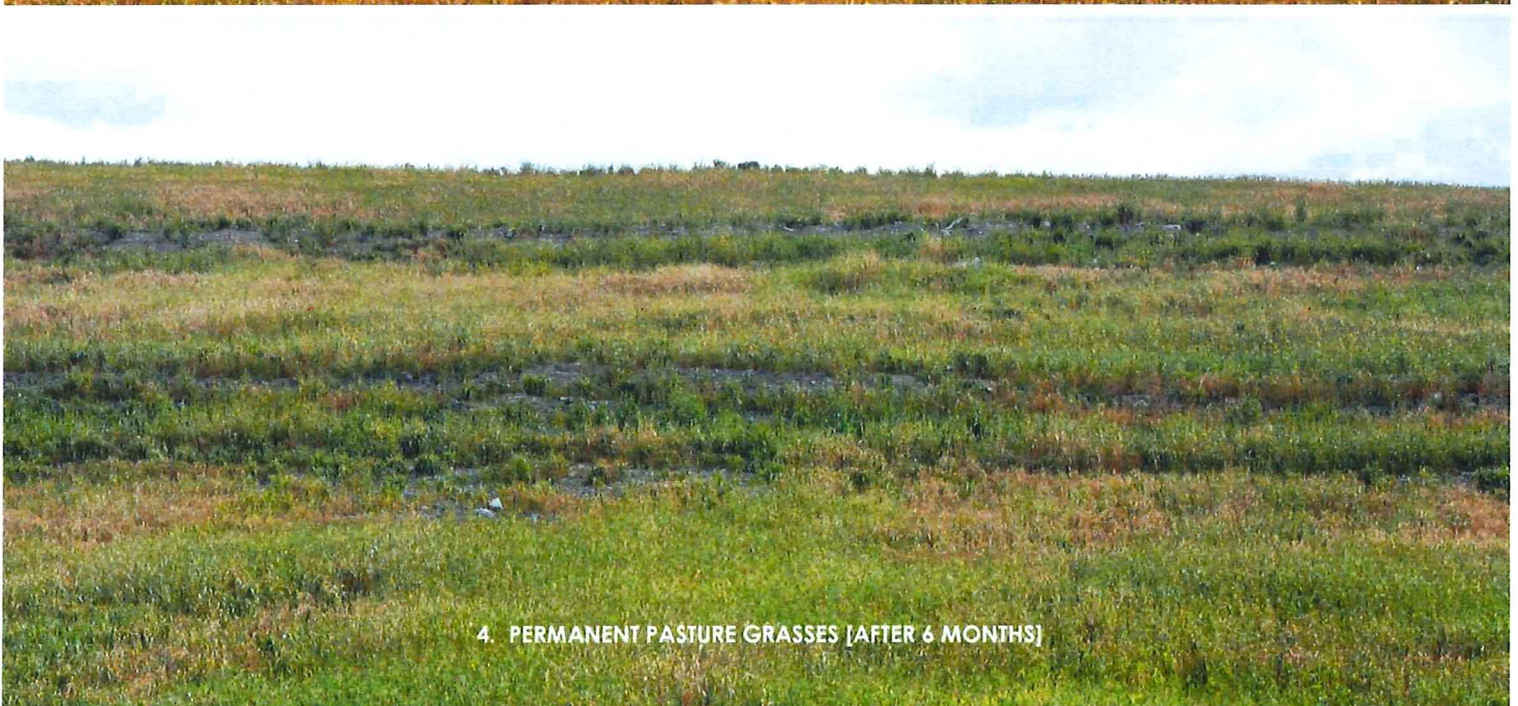
1. SITE REGRADING & TRIMMING



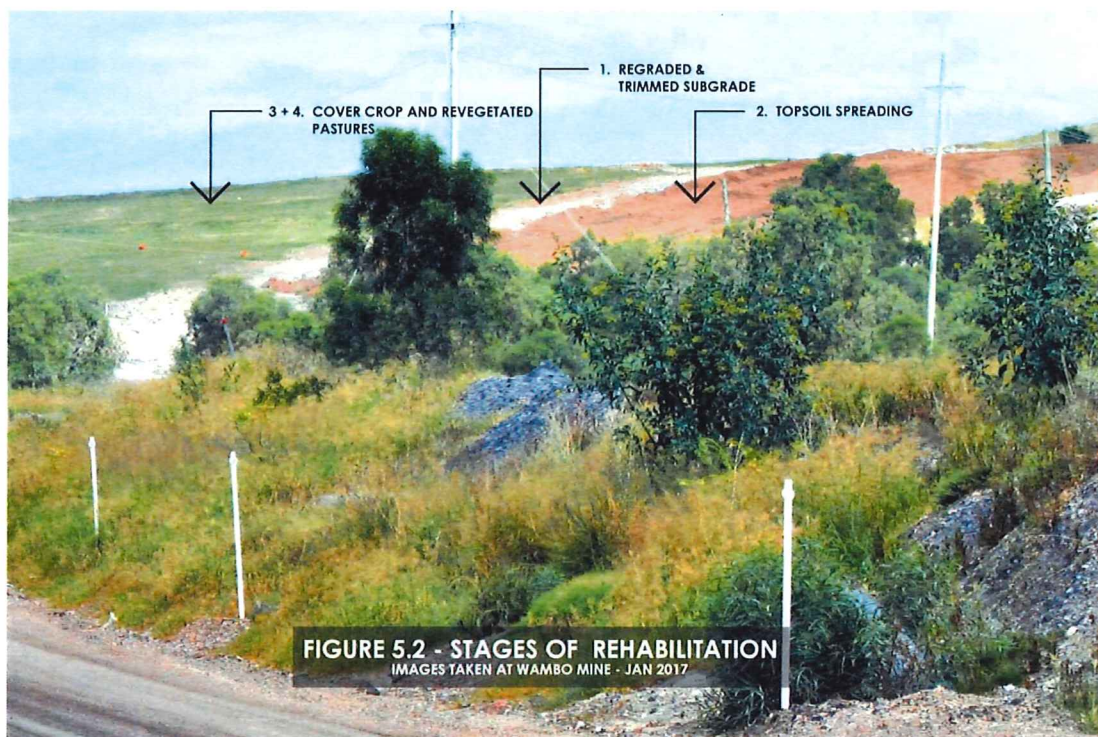
2. SPREADING TOPSOIL



3. ESTABLISHED COVER CROP [TOWARDS END OF LIFE CYCLE]



4. PERMANENT PASTURE GRASSES [AFTER 6 MONTHS]



6 APPENDIX A – CONDITION 83, DA 305-7-2003

The following is an extract from DA 305-7-2003).

83. *If a landowner of any dwelling assessed in the EIS as having a high potential visual impact requests the Applicant in writing to investigate ways to minimise the visual impact of the development on his/her dwelling, the Applicant shall: (a) within 28 days of receiving this request, commission a suitably qualified person whose appointment has been approved by the Secretary, to investigate ways to minimise the visual impacts of the development on the landowner's dwelling; and (b) give the landowner a copy of the visual impact mitigation report within 14 days of receiving this report. If both parties agree on the measures that should be implemented to minimise the visual impact of the development, then the Applicant shall implement these measures to the satisfaction of the Secretary. If the Applicant and the landowner disagree on the measures that should be implemented to minimise the visual impact of the development, then either party may refer the matter to the Secretary for resolution. If the matter cannot be resolved within 21 days, the Secretary shall refer the matter to an Independent Dispute Resolution Process (see Appendix 2).*

United Wambo Open Cut Coal Mine Project

INFORMATION SHEET

Property ID 44—Denis and Grace Murphy

Overview of the Environmental Studies

The Environmental Impact Statement (EIS) for the Project is being completed by environmental consultants Umwelt Australia. The EIS includes the Social Impact and Opportunities Assessment which incorporates outcomes of consultation with the community. The results of the technical studies are now complete and the EIS is currently being prepared for submission to the Department of Planning and Environment. We have included some information about key study outcomes as they relate specifically to your property and residence. These include air quality, noise and blasting.

Where to from here?

We will provide you a copy of the EIS once it is submitted to DPE and can arrange further meetings with you to discuss the environmental assessments and the future for your property.



Key Issues

Environmental Aspect	Property Specific Results	Mitigation and Management
Air Quality	<p>No predicted impacts from the Project above the Environment Protection Authority (EPA) air quality assessment criteria for PM₁₀, TSP, deposited dust and nitrogen dioxide (NO₂).</p> <p>Air quality at your property is predicted to exceed PM₁₀ 50µg/m³ 24hr average 3 times per year as a result of cumulative impacts, which is below the National Environment Protection Measure (NEPM) criteria of 5 days per year.</p>	<p>Mitigation measures proposed to be used include:</p> <ul style="list-style-type: none"> • Inspection and, as necessary, cleaning of drinking water tanks every 2 years • Maintaining haul road dust control efficiency of at least 85% • Modification of operations during adverse meteorological conditions • Proactive real-time monitoring with alarms to respond to elevated dust levels • Review of monitoring data and adaptive management
Noise	<p>Maximum modelled noise levels predicted to occur at your property are:</p> <ul style="list-style-type: none"> - Day: 38dB (Yr 16) - Criteria 41dB - Evening: 37dB (Yrs 6, 16) - Criteria 40dB - Night: 39dB (Yrs 2, 16) - Criteria 37dB <p>As the predicted noise levels have been modelled at 2dB over criteria, your property is predicted to fall within the Management Zone.</p> <p>A management strategy will be implemented including continued monitoring and a proactive and reactive noise control approach to confirm that impacts are no greater than predicted.</p>	<p>Mitigation measures proposed to be used include:</p> <ul style="list-style-type: none"> • Haul roads have been designed, where practicable, to be below natural surface and use of strategic noise bunds during operations • Modification of operations during adverse meteorological conditions • Continuous and attended monitoring • Review of monitoring data and adaptive management
Blasting	<p>No predicted impacts above assessment criteria of 5mm/s for vibration and 115dB for overpressure.</p>	<p>Mitigation measures proposed to be used include:</p> <ul style="list-style-type: none"> • Detailed design to be undertaken of each blast including consideration of meteorological conditions and appropriate charge mass • Continuous monitoring of all blasts to identify elevated levels

United Wambo Open Cut Coal Mine Project

INFORMATION SHEET

Property ID 44—Denis and Grace Murphy

Purpose of this Property Information Sheet

You will have received Community Newsletters relating to the United Wambo JV Project in November 2014, June 2015 and December 2015. A further Community Newsletter will be distributed in July 2016. This Property Information Sheet has been developed to provide you with an overview of the Project (right) and more detailed information on the potential impacts specifically for you and your property (over page).

Consultation

To date, meetings have been held with government and community stakeholders including over 40 local residents and landholders. The Project team is in the process of meeting again with local residents and landholders to discuss the results of the environmental studies.

We will be holding another Community Information Session at Jerrys Plains School of Arts Hall. You will also have an opportunity to lodge a formal submission on the Project if you wish during the Department of Planning and Environment's (DPE) public exhibition period.

Like More Information?

If you would like further information in relation to the content of this information sheet or would like to further discuss any aspects of the Project, please contact:

Aislinn Farnon

United Wambo Project Approvals Manager

T: (02) 6578 9506

M: 0429 306 208

E: Aislinn.Farnon@glencore.com.au

The United Wambo Open Cut Coal Mine Project



Legend

Project Area	Modified Wambo Open Cut
Approved Wambo Disturbance Area	Proposed Golden Highway Realignment
Conceptual Additional Disturbance Area	Proposed 66kV Realignment
Proposed United Open Cut	Proposed 330kV Realignment

The key features of the United Wambo Open Cut Coal Mine Project are shown in the figure (refer above) and include:

- An open cut mining operation integrating the existing and approved Wambo Open Cut under a modified mine plan and the development of the proposed United Open Cut;
- Extraction of up to 10Mt of ROM coal per year from Open Cut operations over an approximate mine life of 23 years;
- Glencore will operate the Project following approval. Wambo will continue to operate its underground operations, CHPP and rail facilities;
- Ongoing employment for the Wambo Open Cut workforce whilst adding up to approximately 250 operational positions at peak production (up to approximately 500 total operational positions);
- Relocation of the existing 330kV and 66kV powerlines and other ancillary infrastructure;
- Realignment of a 2 kilometre section of the Golden Highway and changes to the intersection of the Golden Highway and Comleroi Road;
- Ongoing use, expansion and upgrade of the Wambo Mining Infrastructure Area. Ongoing use of the United MIA until it is decommissioned later in the Project;
- Use of existing Wambo CHPP and train loading facility. Product coal transport rates proposed to increase from a maximum of six to eight trains per day. Average approved train movements per year remains unchanged;
- Use of existing Wambo open cut voids for tailings emplacement.

Steps in the Assessment Process



22 September 2016

Ms Megan Dawson
Planning Officer
Resource Assessments – Planning Services
Department of Planning & Environment
GPO Box 39
SYDNEY NSW 2001

Dear Ms Dawson

United Wambo Open Cut Coal Mine Project (SSD 7142, DA 305-7-2003 MOD 16 and DA 177-8-2004 MOD3)

I refer to the Environmental Impact Assessment (EIS) exhibited on the NSW Department of Planning & Infrastructure web site in relation to the United Wambo Open Cut Coal Mine Project (SSD 7142, DA 305-7-2003 MOD 16 and DA 177-8-2004 MOD3) (the Project).

The Project involves extending and combining the existing open cut coal mine at Wambo Coal Pty Ltd (Wambo) with a proposed new open cut coal mine at the neighbouring United Collieries Pty Ltd (United). This will result in extraction of an additional 150 million tonnes (Mt) of run-of-mine (ROM) coal over 23 years. Total production deliveries to the Wambo coal handling and preparation plant will be limited to the currently approved production rate of 14.7 million tonnes per annum (Mtpa) ROM coal, which will consist of up to 10 Mtpa of ROM coal from the Project along with coal deliveries from the existing Wambo underground coal mine.

In addition, the Project includes the ongoing use of the Wambo coal handling and preparation plant, mine infrastructure area and related facilities, and the Wambo train loading facility for the life of the Project, which extends beyond the current approval; ongoing use of, upgrades to and expansion of the existing Wambo and United mining infrastructure; and realignment of a 2km section of the Golden Highway, along with relocation of sections of transmission lines.

Mining operations will be undertaken 24 hours per day, 7 days per week. Blasting will be restricted to 9.00am to 5.00pm Monday to Saturday except where approved otherwise by the EPA.

Hunter New England Population Health (HNE Health) has reviewed the EIS report paying particular attention to the management of air quality, noise, water and issues which may

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have an impact on public health. The following points are discussed and should be considered in the approval process for this project.

Air Quality

There is no evidence of a threshold below which exposure to particulate matter (PM) is not associated with health effects. Therefore, it is important that all reasonable and feasible measures are taken to minimise human exposure to PM, even where assessment criteria are met.

On 15 December 2015, the National Environment Protection Council (NEPC) agreed to vary the National Environment Protection (Ambient Air Quality) Measure (NEPM). The amending instrument took effect on 4 February 2016. The new standards are as follows:

Pollutant	Averaging Period	Maximum concentration standard	Maximum allowable exceedances
Particles as PM ₁₀	1 day	50 µg/m ³	None
	1 year	25 µg/m ³	None
Particles as PM _{2.5}	1 day	25 µg/m ³	None
	1 year	8 µg/m ³	None

Reference: <https://www.legislation.gov.au/Details/F2016C00215>

The EIS explains that, at the time of preparation of the report, the Environment Protection Authority (EPA) had not yet prescribed changes to the air quality criteria for NSW following the amendment to the NEPM. However, it would be expected that the EPA will introduce the amended criteria within the foreseeable future, and the EIS should have taken this into account.

Particulate matter is identified in the EIS as an issue for this Project. The private residence R19, located 1km to the south east of the proposed United pit, and the only non-mine owned residence in Warkworth village, is predicted to experience substantial exceedances of both PM₁₀ and PM_{2.5} criteria. It is detailed in the EIS that this residence is already subject to acquisition rights under the existing Wambo mine, Wambo train loading facility and the Mount Thorley Warkworth development consents.

Private residence R28, approximately 2km northwest of the Wambo pit in the Moses Crossing area, is predicted to experience PM₁₀ above 50µg/m³ on 6 days in Year 2 of the Project, and 3 days in years 6, 11 and 16. Currently the criteria allows up to 5 days of exceedance per year. However, the new NEPM has no allowance for exceedances.

The EIS states that analysis of wind patterns from the Wambo meteorological station for the period 2011 to 2015 indicate that wind patterns are relatively consistent from year to year, and the most common winds are from the south-southeast, southeast and west-northwest. It would be expected that the particulate matter contours may follow this pattern. However, the contour lines for predicted annual average PM₁₀ and PM_{2.5} concentrations as shown in Figures 26 and 32, respectively, of *Appendix 7: Air Quality Impact Assessment* indicate the plume moving more in a northerly direction. If the PM was distributed and settled in accordance with the common wind patterns, it might be expected that there would be more of an impact on the residences to the northwest of the Project in the Moses Crossing area than these Figures predict. HNE Health would recommend expert analysis of these modelling results.

HNE Health notes that the proponents have committed to consult with the owners, and as appropriate the tenants of the mine owned residences, in Warkworth and other areas surrounding the Project that are expected to experience exceedances of air quality assessment criteria, to appropriately inform them about the predicted impacts of the Project on air quality over the life of the mine.

Noise and Blasting

Environmental noise can have negative impacts on human health and well-being and trigger ongoing community complaints about annoyance, sleep disturbance and stress. Evidence concerning the adverse health effects of environmental noise is detailed in a number of publications, for example, the *World Health Organization Night Noise Guidelines for Europe* (2009) and the *WHO Guidelines for Community Noise* (1999). To protect public health, it is prudent to take all reasonable and feasible measures to minimise public exposure to mine-related noise, irrespective of compliance with the relevant noise policies.

Data presented in *Appendix 4: Social Impact and Opportunities Analysis* indicate that 87% of all community complaints to Wambo between 2011 and 2014 related to noise (112/169) and blasting (35/169).

Under the *NSW Industrial Noise Policy* (EPA 2000), a development is considered to cause a noise impact if the predicted noise level at the receiver exceeds the project specific noise levels (PSNL) for the project. This Policy also details the response and mitigation measures required when noise trigger levels are met or exceeded.

The noise modelling in the EIS shows the potential for some significant exceedances. As stated in the EIS, the noise modelling found that after the application of reasonable and feasible noise controls, the Project is predicted to exceed the PSNL at a number of private residences. These include 7 residences with exceedances greater than 5 dB(A) (Noise Affection Zone), 18 residences with exceedances of 3-5 dB(A) (Active Noise Management Zone), and 13 residences with exceedances of 0-2 dB(A) (Noise Management Zone).

The residence that will be most impacted by increases in noise is R19, which is predicted to experience day time exceedances of the PSNL of up to 13 dB(A), and night time exceedances of up to 17 dB(A). This residence is also predicted to be the only private residence to experience exceedances of the sleep disturbance criteria. This is the same residence mentioned in the Air Quality section that has current acquisition rights from both Wambo and Mount Thorley Warkworth mining operations. It is advised that the proponent engage in clear and open consultation with the owner/occupier of this residence to ensure they are aware of the additional impacts and their options.

The other 6 residences in the Noise Affection Zone are located 1-2km to the northwest of the Wambo pit on the Golden Highway in an area known as Moses Crossing. The majority of residences in the Active Noise Management Zone are located approximately 1-3km to the west of the Wambo pit in the Redmanvale Road area. These are communities that are already experiencing significant impacts from noise, as evidenced by the number of complaints in relation to noise mentioned previously. As part of any approval, we would emphasise the need for effective community consultation throughout the project to facilitate public involvement and to allow for the community to participate in the mitigation selection process.

The current Wambo mine approval allows for up to 15 blasts per week and up to 3 blasts per day, with an allowance for additional blasts where there are low vibration blasts or misfires. The Project is planning to manage blasting practices within the limits of these existing blasting conditions. It is noted that in records since 2004, there have been four exceedances of the maximum airblast overpressure criteria. There have also been a further 12 exceedances of the recommended airblast overpressure criteria, though the number of exceedances totalled less than 5% and were therefore within the allowable number according to the relevant criteria. Although mostly compliant with relevant criteria, the current blasting practices are still resulting in a large number of complaints from residents. The EIS states there is potential for residence R19 to experience ground vibration exposure levels and airblast impacts in excess of relevant limits for human comfort. The EIS also states that any blasting impacts in excess of the criteria at R19 would be the subject of a negotiated agreement with the resident while it remains privately owned. As stated previously, it is advised that the proponent engage in clear and open consultation with the owner/occupier of this residence to ensure they are aware of the additional impacts and their options.

We emphasise the need to ensure strict control of blast conditions to protect the public from the impacts of vibration, overpressure and blast fume emissions.

Surface Water

There is a health risk from direct human exposure to contaminated surface water or if contaminated surface water enters a drinking water supply.

It is reported in the EIS that the majority of land adjacent to the creeks downstream of the Project is owned by mining operations. There are two small privately owned vacant lots downstream of the Project on Wollombi Brook with basic landholder rights for domestic and stock use. The EIS states that there are no adverse impacts predicted for downstream water users as a result of the Project.

Ground Water

The EIS reports 68 bores within 4km of the proposed extraction area. Of these, 16 are privately owned and currently in use, mostly for stock water supply, with some also used for irrigation and domestic use (gardens and toilets).

The EIS reports that the Project is not predicted to adversely affect groundwater quality within alluvial aquifers.

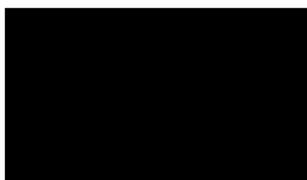
The modelling predicts one privately owned bore, that is not currently operable, will be impacted by drawdown, resulting in a reduced pumping capacity due to decline in the water level. This is unlikely to have any impact on human health.

Rainwater Tanks

It is noted that in the EIS the proponents have committed to providing for the inspection and, as necessary, cleaning of drinking water tanks every 2 years for all private residences and Joint Venture owned residences within 4 kilometres of the mining area for the Project. HNE Health would recommend including more frequent inspections and cleaning where necessary in response to residents' complaints.

If you require any further information please telephone Carolyn Herlihy, Environmental Health Officer on 4924 6477.

Yours Sincerely



Dr Tony Merritt
Acting Service Director – Health Protection
Hunter New England Population Health



**CESCR General Comment No. 14: The Right to the Highest Attainable
Standard of Health (Art. 12)**

*Adopted at the Twenty-second Session of the Committee on Economic,
Social and Cultural Rights, on 11 August 2000
(Contained in Document E/C.12/2000/4)*

1. Health is a fundamental human right indispensable for the exercise of other human rights. Every human being is entitled to the enjoyment of the highest attainable standard of health conducive to living a life in dignity. The realization of the right to health may be pursued through numerous, complementary approaches, such as the formulation of health policies, or the implementation of health programmes developed by the World Health Organization (WHO), or the adoption of specific legal instruments. Moreover, the right to health includes certain components which are legally enforceable.¹

2. The human right to health is recognized in numerous international instruments. Article 25.1 of the Universal Declaration of Human Rights affirms: "Everyone has the right to a standard of living adequate for the health of himself and of his family, including food, clothing, housing and medical care and necessary social services". The International Covenant on Economic, Social and Cultural Rights provides the most comprehensive article on the right to health in international human rights law. In accordance with article 12.1 of the Covenant, States parties recognize "the right of everyone to the enjoyment of the highest attainable standard of physical and mental health", while article 12.2 enumerates, by way of illustration, a number of "steps to be taken by the States parties ... to achieve the full realization of this right". Additionally, the right to health is recognized, inter alia, in article 5 (e) (iv) of the International Convention on the Elimination of All Forms of Racial Discrimination of 1965, in articles 11.1 (f) and 12 of the Convention on the Elimination of All Forms of Discrimination against Women of 1979 and in article 24 of the Convention on the Rights of the Child of 1989. Several regional human rights instruments also recognize the right to health, such as the European Social Charter of 1961 as revised (art. 11), the African Charter on Human and Peoples' Rights of 1981 (art. 16) and the Additional Protocol to the American Convention on Human Rights in the Area of Economic, Social and Cultural Rights of 1988 (art. 10). Similarly, the right to health has been proclaimed by the Commission on Human Rights,² as well as in the Vienna Declaration and Programme of Action of 1993 and other international instruments.³

¹ For example, the principle of non-discrimination in relation to health facilities, goods and services is legally enforceable in numerous national jurisdictions.

² In its resolution 1989/11.

³ The Principles for the Protection of Persons with Mental Illness and for the Improvement of Mental Health Care adopted by the United Nations General Assembly in 1991 (resolution 46/119) and the Committee's general comment No. 5 on persons with disabilities apply to persons with mental illness;



3. The right to health is closely related to and dependent upon the realization of other human rights, as contained in the International Bill of Rights, including the rights to food, housing, work, education, human dignity, life, non-discrimination, equality, the prohibition against torture, privacy, access to information, and the freedoms of association, assembly and movement. These and other rights and freedoms address integral components of the right to health.

4. In drafting article 12 of the Covenant, the Third Committee of the United Nations General Assembly did not adopt the definition of health contained in the preamble to the Constitution of WHO, which conceptualizes health as “a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity”. However, the reference in article 12.1 of the Covenant to “the highest attainable standard of physical and mental health” is not confined to the right to health care. On the contrary, the drafting history and the express wording of article 12.2 acknowledge that **the right to health** embraces a wide range of socio-economic factors that promote conditions in which people can lead a healthy life, and extends to the underlying determinants of health, such as food and nutrition, housing, access to safe and potable water and adequate sanitation, safe and healthy working conditions, and a **healthy environment**.

5. The Committee is aware that, for millions of people throughout the world, the full enjoyment of the right to health still remains a distant goal. Moreover, in many cases, especially for those living in poverty, this goal is becoming increasingly remote. The Committee recognizes the formidable structural and other obstacles resulting from international and other factors beyond the control of States that impede the full realization of article 12 in many States parties.

6. With a view to assisting States parties’ implementation of the Covenant and the fulfilment of their reporting obligations, this general comment focuses on the normative content of article 12 (Part I), States parties’ obligations (Part II), violations (Part III) and implementation at the national level (Part IV), while the obligations of actors other than States parties are addressed in Part V. The general comment is based on the Committee’s experience in examining States parties’ reports over many years.

1. Normative content of article 12

7. Article 12.1 provides a definition of the right to health, while article 12.2 enumerates illustrative, non-exhaustive examples of States parties’ obligations.

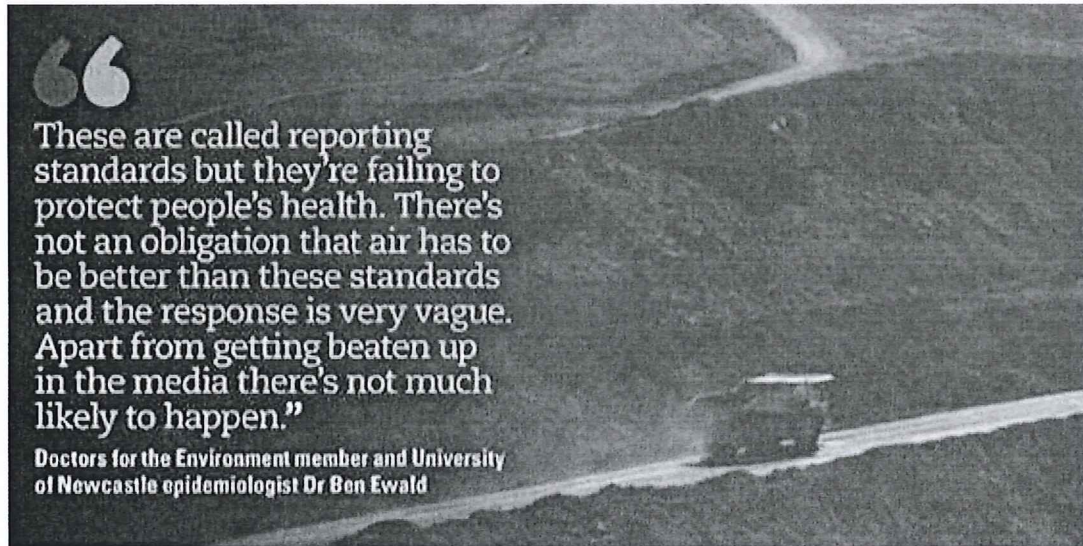
8. The right to health is not to be understood as a right to be *healthy*. The right to health contains both freedoms and entitlements. The freedoms include the right to

the Programme of Action of the International Conference on Population and Development held at Cairo in 1994, as well as the Declaration and Programme for Action of the Fourth World Conference on Women held in Beijing in 1995 contain definitions of reproductive health and women’s health, respectively.

JANUARY 23 2018 - 6:00AM

Windy weekend weather pushed dust levels in the Hunter above national exceedance levels

• Joanne McCarthy



DOCTORS have slammed the Hunter's air quality regime as “trivial”, “sloppy”, “inadequate”, “ineffective” and “failing to protect human health” after a weekend of national air quality standard exceedances linked to dust from coal mines.

Doctors for the Environment members said NSW Government assurances of rigorous conditions and monitoring of Hunter coal mines were exposed as empty words after hot, windy conditions left Jerrys Plains with coarse particle pollution figures that breached national 24-hour standards on Saturday.

This was despite Yancoal's nearby Mount Thorley Warkworth and Hunter Valley Operations mines shutting down dragline, excavator and truck operations for hours at a time because of strong winds pushing dust towards the village.

“What happens when there are air quality exceedances? Nothing,” said Doctors for the Environment member and University of Newcastle epidemiologist Dr Ben Ewald.

“These are called national reporting standards but they're failing to protect people's health. There's no obligation for air to be better than these standards and the response is very vague. Apart from getting beaten up in the media there's not much likely to happen.

“In Muswellbrook there have been fine particle exceedances ever since the national reporting standards were established, and that's the more serious health problem because of impacts on human health, but again, nothing happens when there's exceedances.”

He said a \$15,000 fine for BHP Billiton last week after a dust pollution incident at Muswellbrook's Mount Arthur coal mine in late 2017 was "trivial and shows a lack of serious intent on the part of the Environment Protection Authority".

Doctors for the Environment member, rheumatologist and University of Newcastle lecturer John Van Der Kaalen said the Hunter's weekend figures were worth noting because they weren't unusual, and showed that standard summer conditions regularly led to exceedances without consequences.

In Jerrys Plains on Saturday hourly air quality data showed strong winds from 5pm pushed air quality to poor after a day of fluctuating hourly figures, with an air pollution health alert for sensitive groups including the young, the elderly and asthmatics.

The EPA confirmed the daily average PM10 level peaked at 52.1 micrograms per metre cubed at Jerrys Plains. The National Environment Protection Measure standard is 50 micrograms per metre cubed.

When you look at how much land has been disturbed and the great piles of earth that's exposed you can see how strong, dry winds can have a terrible impact on air quality.

Doctors for the Environment member Dr John Van Der Kaalen

On Saturday evening hourly Jerrys Plains readings were over 100 micrograms per metre cubed.

"It is terrible. When you look at how much land has been disturbed and the great piles of earth that's exposed you can see how strong, dry winds can have a terrible impact on air quality," Dr Van Der Kaalen said.

"These huge mines are proposing to expand further. People argue and argue and argue about the cumulative impacts of all these mines and it is time for a proper health study. We haven't had one for over 10 years and it's begging to be done."

Dr Van Der Kaalen and Dr Ewald said inclusion of coal mining in the NSW load-based licensing scheme – where companies pay a fee per tonne for pollution generated – would be one of the quickest and most effective ways of quantifying the true cost of coal-related air pollution in the Hunter.

In a submission to the government's review of the scheme Doctors for the Environment said mining's exclusion from the existing scheme was the most glaring example of substantial polluters "getting away free" and "unfairly leaving other industries to pay for pollution". Mining is the biggest emitter of fine particle PM2.5 pollution and the dominant source of coarse particle PM10 pollution.

Public interest legal practice Environmental Justice Australia said there was no reason why coal mines should be exempted from the scheme. The group strongly criticised the EPA's \$15,000 fine for Mount Arthur after Muswellbrook mayor Martin Rush last week said current environmental laws did not protect Hunter communities.

"If Mount Arthur was to pay a fee based on their PM10 and other toxic emissions and the fee was based on health impacts, that would be a genuine deterrent," an Environmental Justice Australia spokesperson said.

Dr Ewald said the state's environmental regulatory system needed real penalties and mines "should be designed so that they don't encroach on where people are living and don't impact people to the point of threatening their health" but "that's not the system we have at the moment".

"We're told there are rigorous conditions and monitoring of mines but the system we have is very sloppy and prioritises mines rather than human health," Dr Ewald said.

Mount Thorley Warkworth and Hunter Valley Operations reports on weekend operations showed both mines repeatedly stopped operating major machinery because of high wind and dust conditions from as early as shortly after midnight on Saturday, with three draglines at Mount Thorley Warkworth "parked up" on and off for hours from 3.28pm.

At Hunter Valley Operations dust and wind stopped graders, excavators and loaders from operating from 3.30pm, with the first dragling "parked up" because of dust and wind at 6pm.

The EPA said it contacted a number of mines on Friday and Monday for information about "action taken to implement best practice dust emissions controls over last Friday and Saturday to review compliance against the licence conditions".

"The EPA and Office of Environment and Heritage recently completed a trial, in cooperation with Hunter Valley mines, of a dust risk forecasting model to identify periods of high dust risk," the EPA said.

"More accurate forecasting of the risk of high dust emissions from coal mining activities will provide another tool for mines to use to implement best practice dust mitigation."

The air quality monitoring network was not a regulatory tool but a scheme "to provide information to the local communities on air quality".

and Yancoal provided a further response which included an assessment of the combined 24-hour results associated with each project's respective impacts and background levels, overburden densities and the adoption of a uniform background PM_{2.5} level in response to a lack of localised background data.

Ramboll has reviewed this revised modelling and advised that all issues identified in its independent technical review had been adequately addressed, with the exception of the use of a fixed background PM_{2.5} level instead of deriving it from the ratio of ambient PM_{2.5} to PM₁₀. Nevertheless, Ramboll acknowledged that, even with derived PM_{2.5} levels, the ultimate conclusions of the cumulative assessment were unlikely to change. Consequently, Ramboll concluded that the revised modelling provides sufficient certainty to determine the PM₁₀ and PM_{2.5} impacts of each proposal.

Given that the combined worst-case annual average impacts are relatively consistent and somewhere between those predicted for each project in the two original AQIAs, the combined 24-hour impacts are also likely to result in levels similar to those originally predicted. Furthermore, as 24-hour impacts are largely influenced by local meteorological dispersion (particularly winds), it is unlikely that both proposals would simultaneously contribute significant particulate levels at the same receiver location. Consequently, Ramboll has advised that the project specific modelling undertaken in each of the original AQIAs is likely to provide an appropriate prediction of each project's individual impact at specific receivers.

The Department is satisfied that the residual issues raised in Ramboll's expert reviews have been addressed and that a conservative assessment of the Project's air quality impacts and application of the VLAMP can be undertaken.

6.1.2 Existing Air Quality Environment

The existing air quality environment around the Project area is influenced by a number of natural topographic factors and historical land use practices. Being situated along the southwest axis of the Hunter Valley, the Project site borders the elevated natural cliff-lines of the Wollemi National Park. These steep cliffs and dominant natural ridgelines throughout the area provide varying degrees of attenuation for dust impacts and, together with the dominant northwest-southeast wind axis that runs between Jerrys Plains and Warkworth Village, influence air quality dispersion patterns.

The area is also influenced by particulate emissions from existing mining operations, especially during the drier months when there is higher potential for wind erosion from exposed areas. As this area is located some distance from the regional centres of Singleton and Muswellbrook, it is also less prone to elevations in PM_{2.5} fine particulate levels during winter months, which have been identified in the CSIRO's *Upper Hunter Fine Particle Characterisation Study* as being more heavily influenced by the burning of wood heaters in townships, rather than any seasonal change in mining operations.

Given the long history of open cut mining in the area, extensive monitoring data is available to provide a detailed picture of the current air quality environment in the immediate vicinity of the Project site. This data is gathered by a range of high volume air samplers (HVAS), tapered element oscillating microbalance instruments (TEOMs) and dust deposition gauges associated with the air quality monitoring networks for the existing Wambo and HVO South coal mines, and is supplemented by OEH's Upper Hunter Air Quality Monitoring Network and monitors at other surrounding mining projects.

United's AQIA and responses to Ramboll's reviews have identified annual average PM₁₀ background levels in the area of up to 19.2 µg/m³, with daily levels known to approach and occasionally exceed the 24-hour PM₁₀ assessment criterion of 50 µg/m³ at mine-owned and private residences, particularly during drier months. Nevertheless, United has highlighted that the existing Wambo mine has generally complied with these limits at nearby private residences which are not already subject to acquisition rights. This compliance is due in part to the natural topographic ridgelines and buffer of mine-owned properties that surround the site and in part to the mine's existing pro-active and reactive management measures.

In considering the existing air quality environment, it is important to recognise that the existing Wambo mine is not the only contributor to cumulative air quality impacts in the region and that a number of nearby residences have been acquired by other mining companies due to air quality emissions from other mining operations in the vicinity (see **Figure 5**). Together these mine-owned

properties provide a degree of separation between the current impacts of mining and nearby communities.

6.1.3 Mitigation Measures

Peabody currently implements a range of dust mitigation measures at the Wambo mine that have been designed to meet the requirements of the conditions of consent, along with the EPA's EPL and Pollution Reduction Programs (PRPs), which aim to identify and further reduce dust emissions from the site. These existing mitigation measures also reflect consideration of the benchmarking study prepared by Katestone Environmental in 2011 for the control of dust emissions from coal mines in NSW, which has been generally adopted by the Department and the EPA as representing current best practice in the mining industry.

A number of these measures are reflected in Peabody's existing Wambo Air Quality and Greenhouse Gas Management Plan (AQGHGMP). Under the Project, United would continue to implement a range of best practice mitigation measures aimed at minimising dust emissions through:

- use of water carts and dust suppressants on unsealed haul roads;
- restrictions on dust-generating activities during adverse meteorological conditions, such as reducing vehicle speeds, delaying blast activities, minimising vehicle access to soil stockpiles, reducing dump heights and modifying equipment fleet locations;
- operation of real-time dust monitoring and automatic alarm systems, to inform the mine when dust levels are approaching the relevant criteria;
- managing mining operations to minimise dust generation at the source, including through the application of water sprays, dust skirts and/or curtains and shields for relevant equipment, during drilling, at ROM hopper bins and coal stockpile areas; and
- progressive site rehabilitation, focusing on timely revegetation of disturbed landforms.

United would build on the existing real-time meteorological and air quality monitoring network to help forecast meteorological conditions likely to increase the generation and dispersion of particulate emissions and blast fumes, and proactively alert and modify the operational equipment fleet to meet relevant air quality criteria. United has further stipulated a range of specific measures in its EIS that aim to assist in the effective management of emissions from the site, such as managing the length and number of concurrently used haul roads.

United has also argued that existing open cut coal mining projects in the Hunter Valley demonstrate that operations should be able to independently manage their 24-hour particulate matter and emission impacts on a daily basis, using a combination of these pro-active and reactive management systems.

The Department considers the dust mitigation, management and monitoring measures currently in place at Wambo and proposed for the Project to be reasonable and feasible and reflective of contemporary controls for dust emissions from open cut coal mines in NSW.

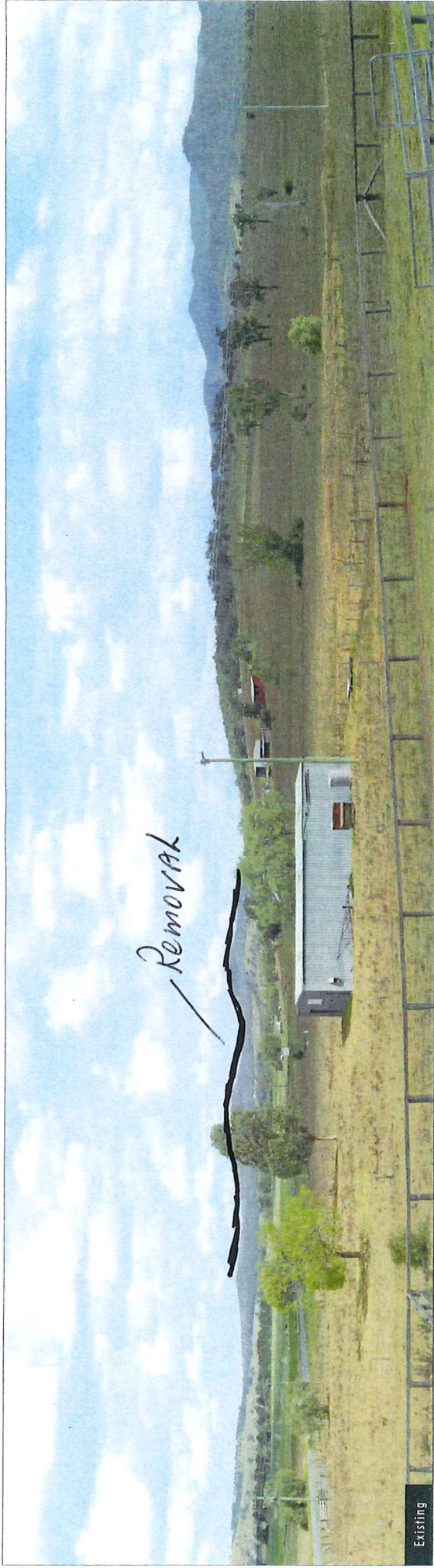
6.1.4 Air Quality Impacts

The likely sources of air quality emissions associated with the Project broadly reflect a continuation of the existing Wambo open cut operations, with some incremental intensification of operations associated with the increased equipment fleet and extraction of coal and overburden from two active mining areas

As the Wambo Pit would be operated at similar or lower extraction rates than currently approved and with a similar vehicle fleet and mining methods, the Project impacts to the northwest would be expected to be sustained at similar levels to those currently experienced, but over a longer period associated with the extended 20-year life of operations in this area.

By comparison, the development of a new mining area (the proposed United open cut) and the operation of additional haul roads, associated dumping activities and increased CHPP throughput, would result in a short-term increase in air quality impacts to the southeast of the Project, diminishing over time as mining progresses to the northwest away from Warkworth Village.

These general shifts in the emissions envelope of the Project are reflected in the Applicant's AQIA modelling and responses to the Ramboll expert reviews, which indicate that particulate levels at nearby private properties would change over the life of the Project in response to the proximity of mining activities. Overall, the Project would generate elevated PM₁₀ and PM_{2.5} levels in the immediate



Legend

- Agriculture
- Dam
- Infrastructure
- Riparian Vegetation
- Rock
- Woodland

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2016/208 11/33

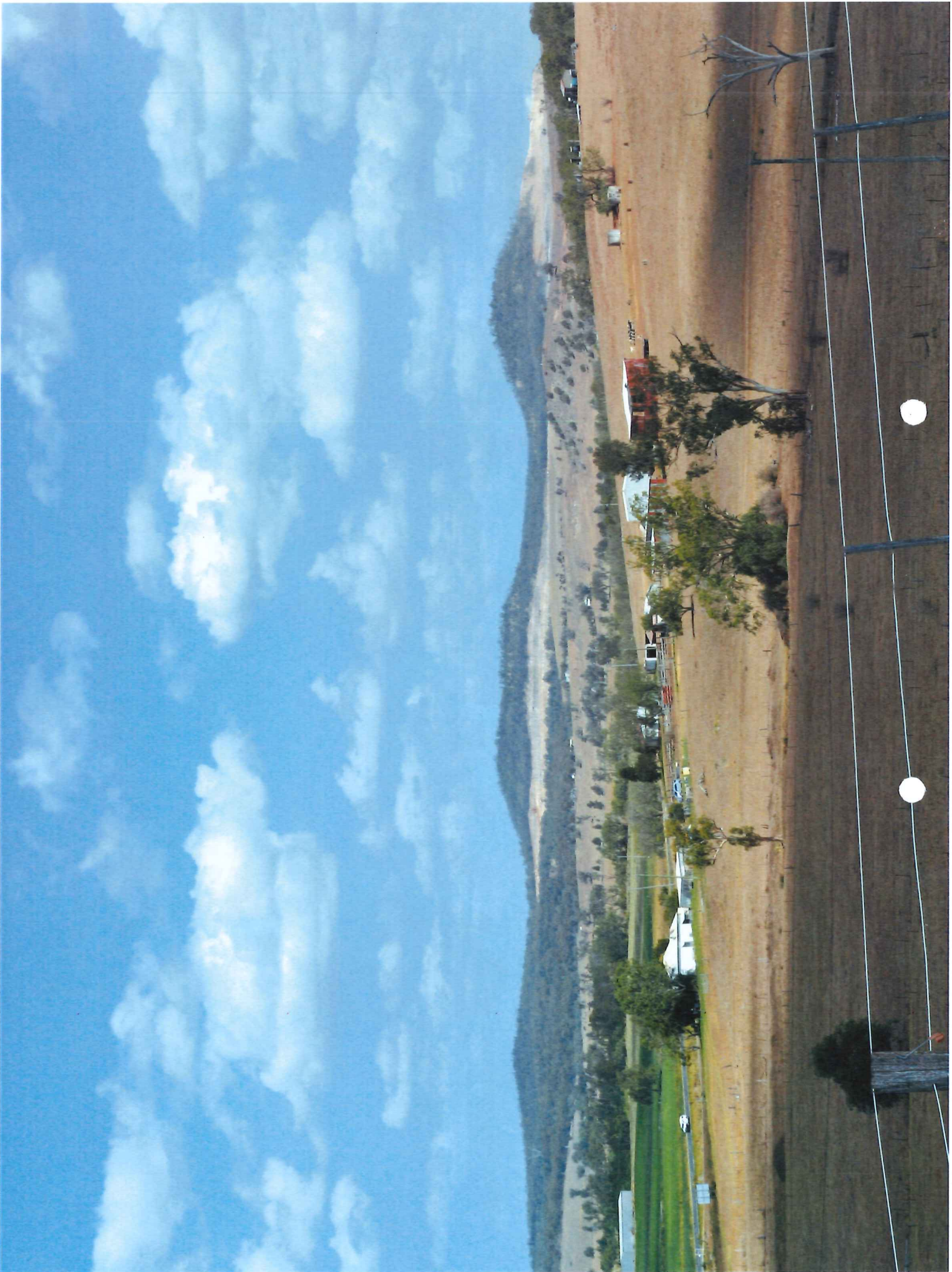
FIGURE 4

Visual Montage from View Point 4
Final Year

2039

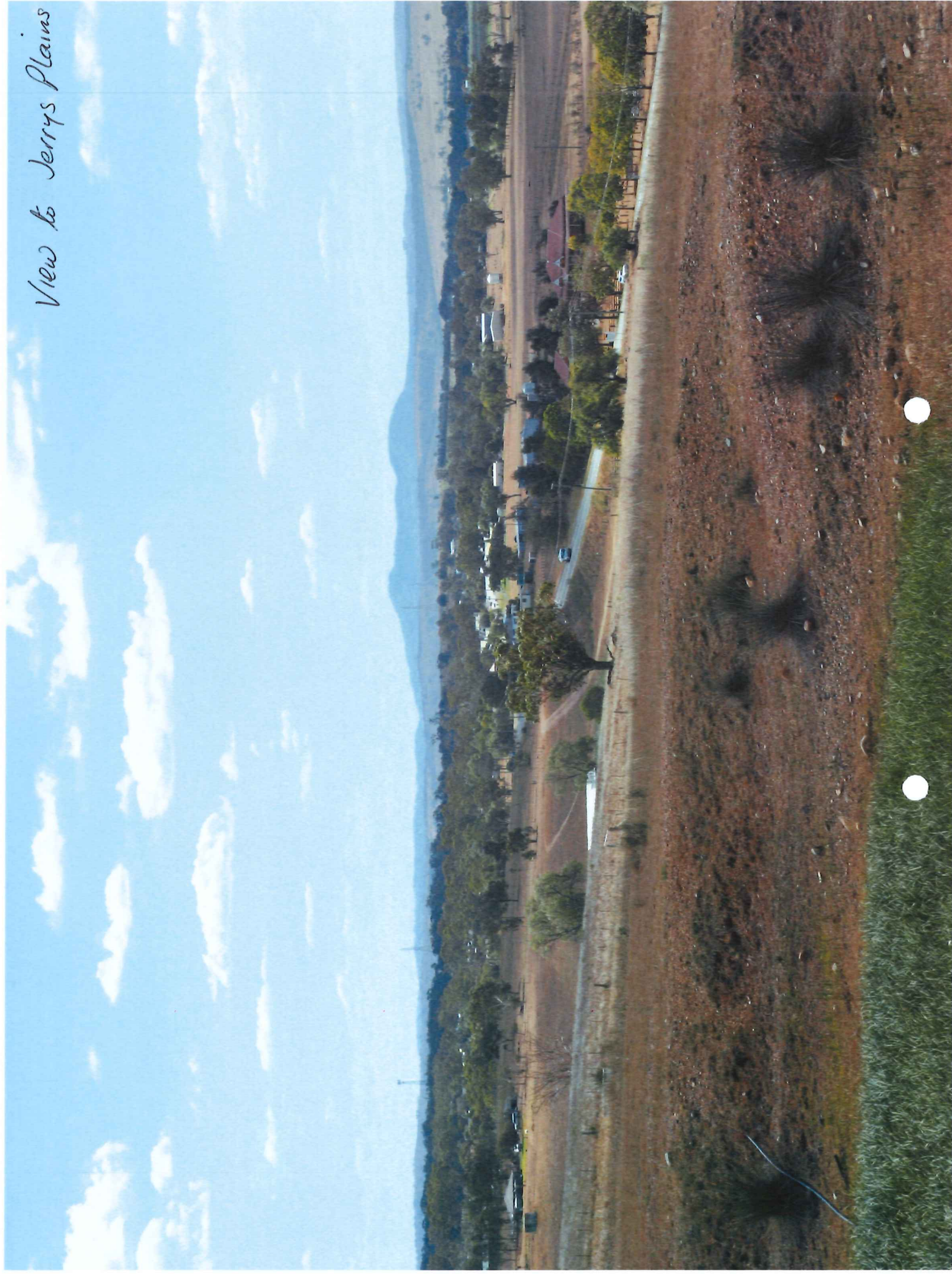


Murphy Property





View to Jerrys Plains



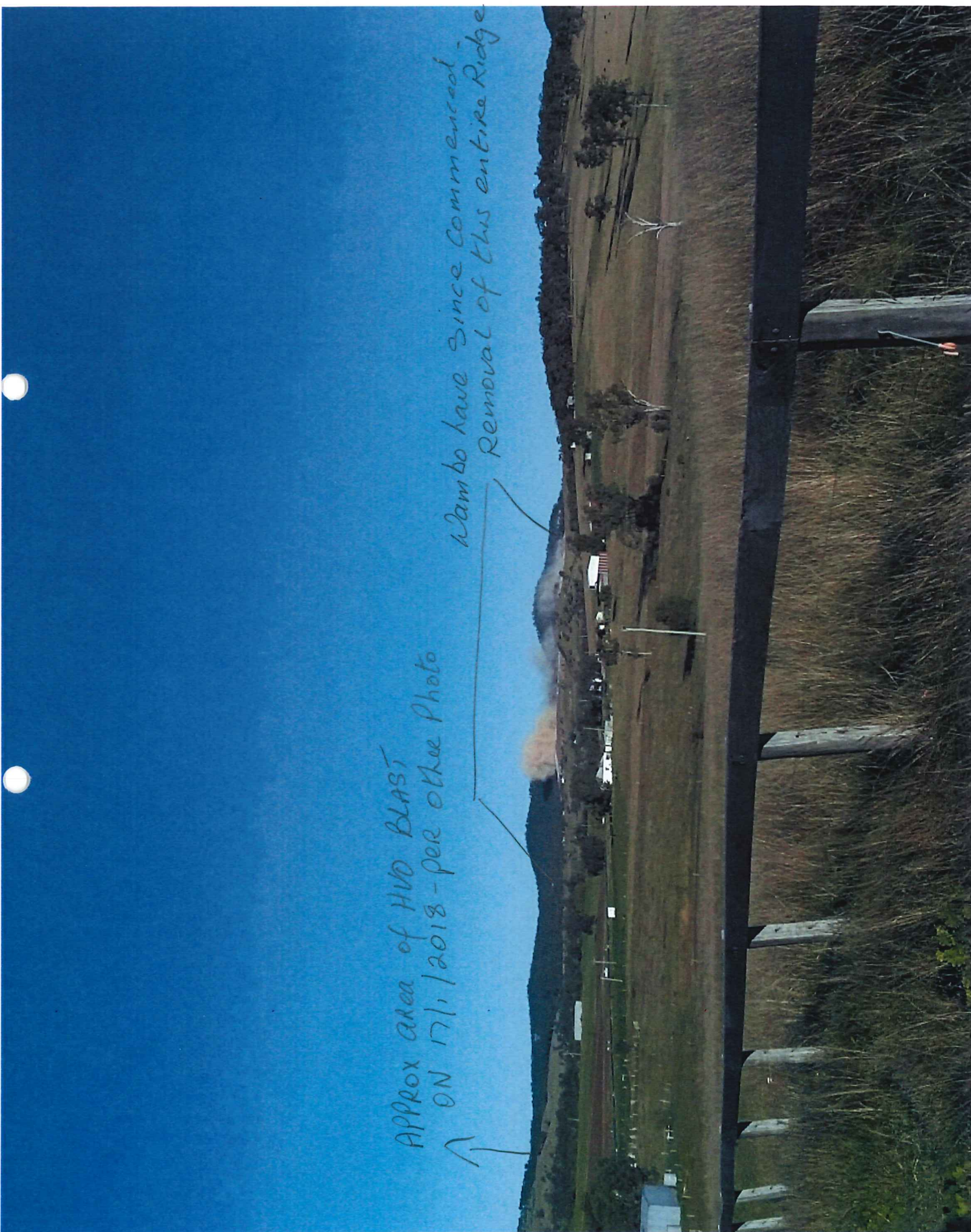






Murphy Property

WAmBO



↑
APPROX area of HVO BLAST
ON 17/1/2018 - per other Photo

Wambo have since commenced
Removal of this entire Ridge



