Report and recommendations of the Environmental Protection Authority

Windarling Range W3/5 Deposit Deepening

Cliffs Asia Pacific Iron Ore Pty Ltd

Report 1433

March 2012

Assessment on Proponent Information
Environmental Impact Assessment Process Timelines

Date	Progress stages	Time (weeks)
21/02/11	Level of assessment set	
25/03/11	Scoping guideline issued by EPA	5
25/11/11	Proponent's Final API document received by EPA	35
20/01/12	Provision of further information to EPA	8
12/03/12	Publication of EPA report (3 days after report to Minister)	7
26/03/12	Close of appeals period	2

Timelines for an assessment may vary according to the complexity of the project and are usually agreed with the proponent soon after the level of assessment is determined.

In this case, the Environmental Protection Authority did not meet its timeline objective for the completion of the assessment and provision of a report to the Minister due to extended consultation on conditions.

Dr Paul Vogel
Chairman

8 March 2012

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1. Introduction and background

This report provides the Environmental Protection Authority's (EPA's) advice and recommendations to the Minister for Environment on the proposal to deepen the mining of the Windarling Range W3/5 Deposit to below the watertable by Cliffs Australia Pacific Iron Ore Pty Ltd (Cliffs).

Section 44 of the *Environmental Protection Act 1986* (EP Act) requires the EPA to report to the Minister for Environment on the outcome of its assessment of a proposal. The report must set out:

- the key environmental factors identified in the course of the assessment; and
- the EPA's recommendations as to whether or not the proposal may be implemented, and, if the EPA recommends that implementation be allowed, the conditions and procedures to which implementation should be subject.

The EPA may include in the report any other advice and recommendations as it sees fit.

The proponent has submitted an Assessment on Proponent Information (API) document setting out the details of the proposal, potential environmental impacts and proposed commitments to manage those impacts.

The EPA considers that the proposal, as described, can be managed to meet the EPA's environmental objectives, subject to the EPA's recommended conditions being made legally binding.

This report provides the EPA's advice and recommendations in accordance with Section 44 of the EP Act.

2. The proposal

The existing Windarling Range W3/5 mine is situated on Mining Leases M77/999 and M77/1000 approximately 130 kilometres (km) north of Southern Cross, in the Shire of Yilgarn (Figures 1 and 2). The existing mine is approved under Ministerial Statement 627. The extent of the mining area is also approved under Statement 627.

This proposal is to deepen the mining of the Windarling Range W3/5 Deposit below the watertable from 400 metres Australian Height Datum (mAHD) to 315 mAHD (nominally). The proposal would involve the disposal of waste rock from the deepening to the existing waste rock landform, or other approved area, and the dewatering of the pit. Mining would continue to be undertaken by standard open-cut mining methods of blasting and excavation.

Waste rock has been classified as predominantly non-saline and non-acid forming (Soil Water Consultants 2011a). There is capacity in the existing approved footprint of the waste rock landform to accommodate the additional material without increasing the height of the landform. Rehabilitation of the landform is required under the existing Statement 627.

Groundwater at W3/5 is saline and the watertable lies at approximately 400 mAHD (greater than 70 m below ground level). An estimated 0.3 to 0.5 gigalitres per year (GL/y) of groundwater dewatering would be required (Rockwater 2011). Water from the dewatering would be stored in existing storage dams and used for dust suppression or other approved uses. The existing storage dams have a storage capacity of approximately 0.03 GL which the proponent estimates would store 1.5 – 2 weeks of dewatering water, if both W2 and W3/5 pits are dewatered at the same time. As a contingency, groundwater abstraction rates can be varied depending on the remaining capacity in the storage dams. The estimated groundwater dewatering cone of depression would be predominantly contained within Cliffs' tenements. Groundwater levels are expected to recover post-mining and stabilise in the post-mining pit at 375 mAHD.

The proposal does not include any expansion of the approved mining area or waste rock landform, any native vegetation clearing or any additional infrastructure. The proposal does, however, describe a conceptual abandonment bund around the pit which, if implemented, would require the clearing of vegetation (see Sections 4.1 and 4.2 of this report).

The proposal would extend the life of the W3/5 mine for six years until approximately 2017. This would prolong the environmental impacts of operations in the area beyond the initial anticipated decommissioning date of 2015.

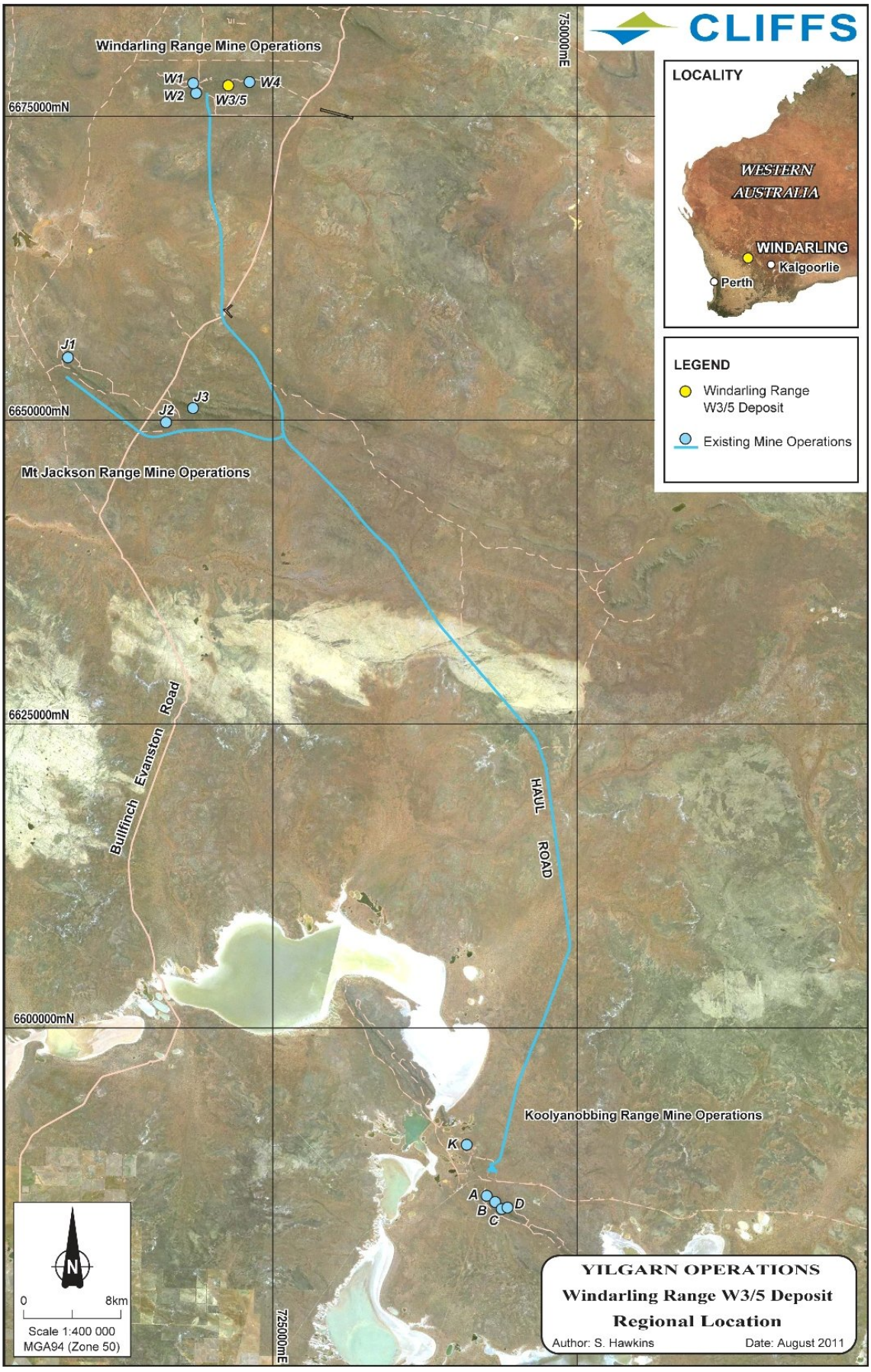

Figure 1 Location of Cliffs' Yilgarn (Koolyanobbing) Operations

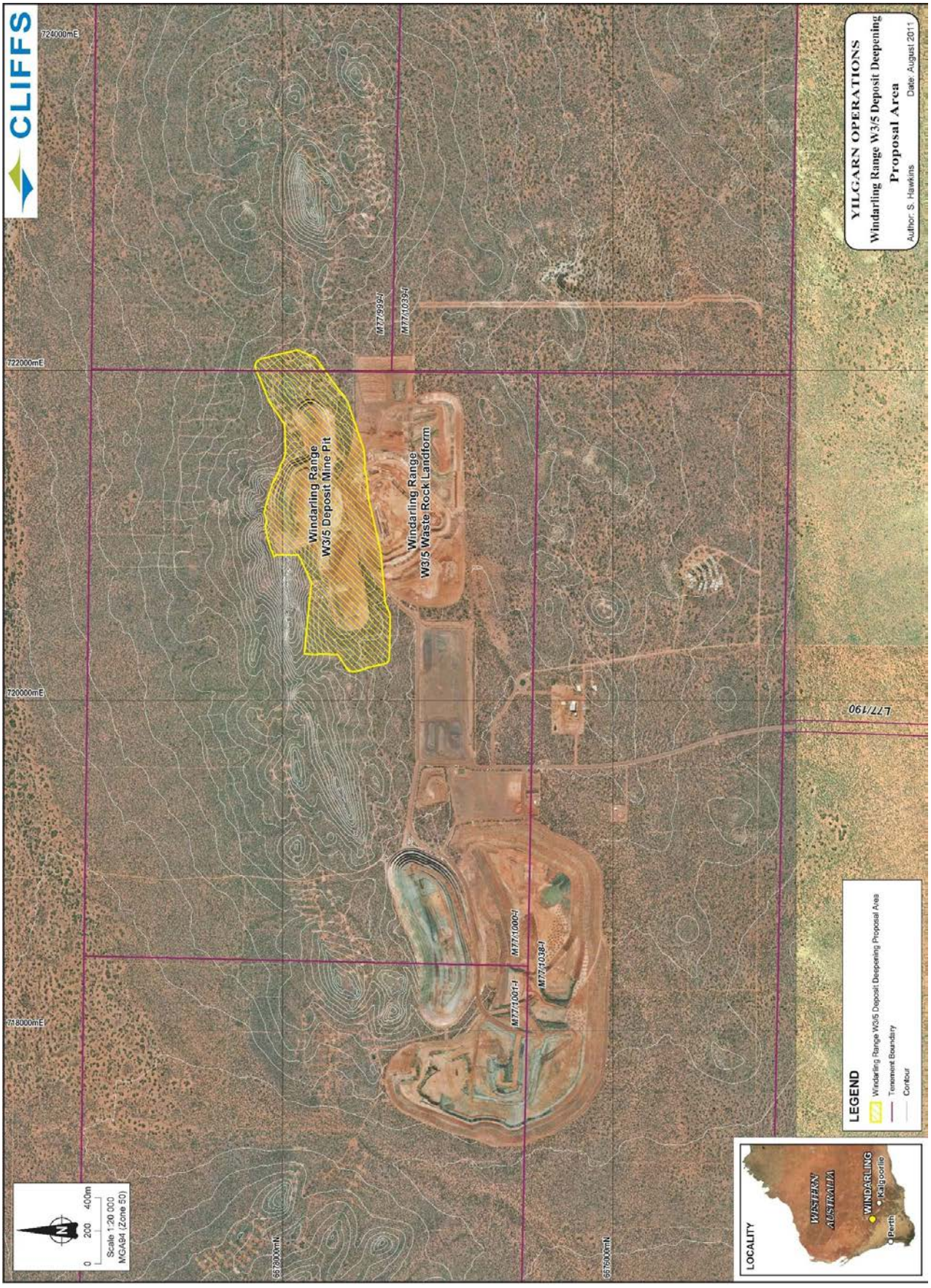

Figure 2 Location of the Windarling W3/5 Deposit Deepening Proposal Area

The main characteristics of the proposal are summarised in the table below.

Table 1: Summary of key proposal characteristics

Element	Description
Mine	Mining of iron ore below the groundwater table in the portion of the W3/5 Deposit at Windarling Range as shown in Figure 2 and defined in Schedule 2
Mine pit depth	Nominally between 400 mAHD and 315 mAHD
Mining method	Open cut
Disposal of dewatering water	Storage in approved dams, used for dust suppression, and/or other mine uses

The potential impacts of the proposal are discussed by the proponent in the Assessment on Proponent Information document (Cliffs 2011).

3. Consultation

During the preparation of the API, the proponent has undertaken consultation with government agencies and key stakeholders. The agencies, groups and organisations consulted, the comments received and the proponent's response are detailed in the Proponent's referral document (Cliffs 2011).

A number of environmental issues were raised by the stakeholders during the consultation. Table 2 summarises the main issues raised and details the proponent's responses.

Table 2: Summary of main issues raised during stakeholder consultation

Stakeholder	Issue raised	Response
Department of Mines and Petroleum (DMP)	More information is required as to whether any expansions (footprint or height) to the W3/5 Waste Rock Landform are required to accommodate the additional 9.3 Mt of waste material	The proposal involves a lateral expansion of the Windarling Range W3/5 Deposit Waste Rock Landform within an already approved area, with no increase to the previously approved height.
Department of Mines and Petroleum	There is little information on the physical characteristics of the waste material. In order to adequately assess the potential environmental issues associated with the W3/5 Deepening Proposal, further information is required. This issue can be adequately addressed within the Mining Proposal to be submitted to DMP under the *Mining Act 1978*.	Any further information requirements from DMP for this matter can be addressed in the Mining Proposal to be submitted by Cliffs to DMP in accordance with the *Mining Act 1978* (WA).

Department of Environment and Conservation (DEC)	The DEC does not support a water filled void (and associated liabilities) post-closure. The most desirable option is for the pit void to be backfilled.	Cliffs' Mine Closure Plan assessed the potential post-mining risks at mine closure, including safety, contamination, water quality, fauna and long-term management. No legacy issues or additional post-mining management actions are expected as a result of post-mining permanent surface water within the Windarling Range W3/5 Deposit Mine Pit. No amendment to the EIA-API document is necessary to address this comment.
Department of Environment and Conservation	The DEC recommends that the proponent provides advice on the potential impact of management and disposal of groundwater on the environment, in particular the potential indirect impacts (e.g. mounding, salt accumulation, rehabilitation success) on vegetation and flora species of conservation significance.	Significant indirect impact to vegetation or flora species is not expected at mine operations where both the application of groundwater is controlled, and where the design of roads and open areas has been subject to engineering design accounting for drainage; both of which apply to Cliffs' existing Windarling Range mine operations. No amendment to the EIA-API document is necessary to address this comment.
Department of Environment and Conservation	The DEC recommends that kinetic testing of waste rock materials and geochemical modelling of the evolution of water quality in the mine void lake should be undertaken to determine whether water quality in the mine void lake is likely to pose a long-term risk to wildlife in the region as geochemical testing of waste rock materials at the mine site has been very limited and has been focused on assessing whether these materials contain significant pyritic sulphur and the ability to generate acidity on oxidation.	Cliffs sought specialist advice from Soil Water Consultants (SWC). The advice received from SWC (2011c) concluded that kinetic testing was not considered necessary as the testing undertaken had identified that the waste rock material does not have the geological or chemical characteristics that would indicate a risk of acid or metalliferous drainage. No amendment to the EIA-API document is necessary to address this comment
Department of Water (DoW)	DoW is satisfied with the document and has no comment.	Cliffs notes that DoW was satisfied with the Cliffs' EIA-API document (Cliffs 2011d, Revision C).
Community Reference Group		The Community Reference Group did not identify any significant environmental concerns when consulted on the proposal,
Wildflower Society of Western Australia		The Wildflower Society did not identify any significant environmental concerns when consulted on the proposal,

The EPA considers that the consultation process has been appropriate and that reasonable steps have been taken to inform the community and stakeholders on the proposed development.

4. Key environmental factors

It is the EPA's opinion that the following key environmental factors relevant to the proposal require evaluation in this report:

(a) Vegetation and flora; and
(b) Rehabilitation and mine closure.

The key environmental factors are discussed in Sections 4.1 and 4.2. The description of each factor shows why it is relevant to the proposal and how it will be affected by the proposal. The assessment of each factor is where the EPA decides whether or not a proposal meets the environmental objective set for that factor.

A number of other factors may be relevant to the proposal but have either been considered in earlier assessments of the Koolyanobbing Iron Ore project or are not considered to be key environmental factors. Fauna have been considered in the assessment of the *Koolyanobbing Iron Ore Expansion* (EPA Report 1082) and Statement 627 contains a condition relating to a Malleefowl Conservation Plan. The EPA has recommended that the condition apply to this proposal (recommended condition 7).

The potential for stygofauna was considered in the proposal *Koolyanobbing Iron Ore – W2 pit – mining below the groundwater table* (Portman Iron Ore, 2008) in a study by Wetland Research and Management (Wetland Research and Management, 2008). No stygofauna were recorded from any samples during this study, which included samples outside of the W2 area. Therefore, it has been concluded that stygofauna is unlikely to be a key environmental factor.

Groundwater quantity is not considered a key factor as groundwater is saline and currently has no other uses. There is no significant natural surface water near the proposal.

4.1 Vegetation and flora

Description

Two Threatened flora, *Tetratheca paynterae* subsp. *paynterae* (*Environment Protection and Biodiversity Conservation Act 1999 (*EPBC Act), Endangered, WA *Wildlife Conservation Act 1950*, Threatened flora) and *Ricinocarpos brevis* R.J.F.Hend. & Mollemans (EPBC Act*,* Endangered, listed in August 2010, WA Wildlife Conservation Act, Threatened flora) occur in close proximity to the Windarling W3/5 pit (Figure 3). In addition, there are four restricted and endemic vegetation communities (Figure 4) and two Priority flora species in proximity to the pit. A further three Priority flora species occur near the waste rock landform.

Vegetation clearing

The pit would be deepened within the existing approved area, therefore, there would be no additional vegetation clearing for the deepening proposal. However, construction of the conceptual abandonment bund as described in the API

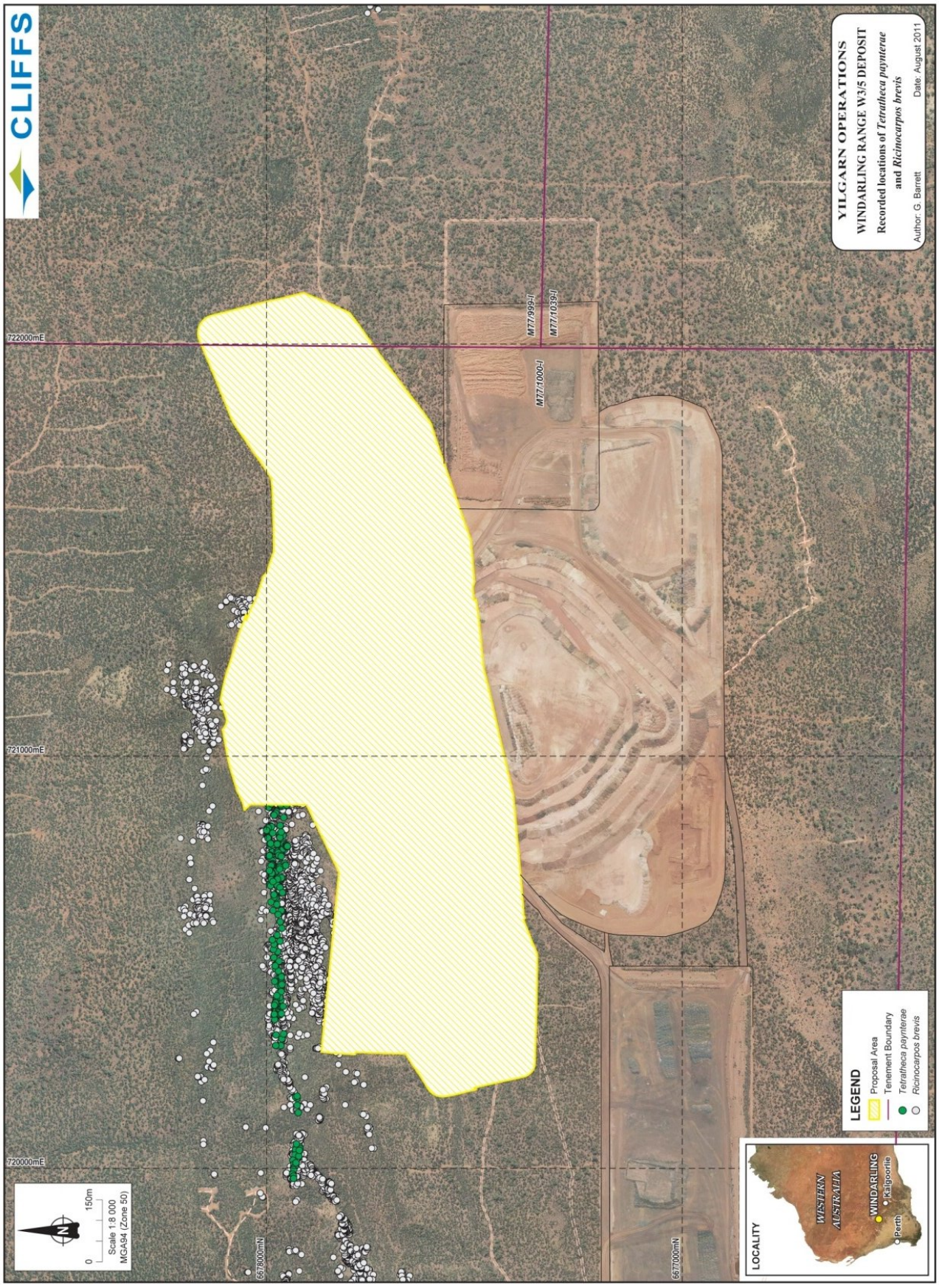

Figure 3 Location of* Tetratheca paynterae *ssp.* paynterae *and* Ricinocarpos brevis *adjacent to the Windarling Range W3/5 Deposit

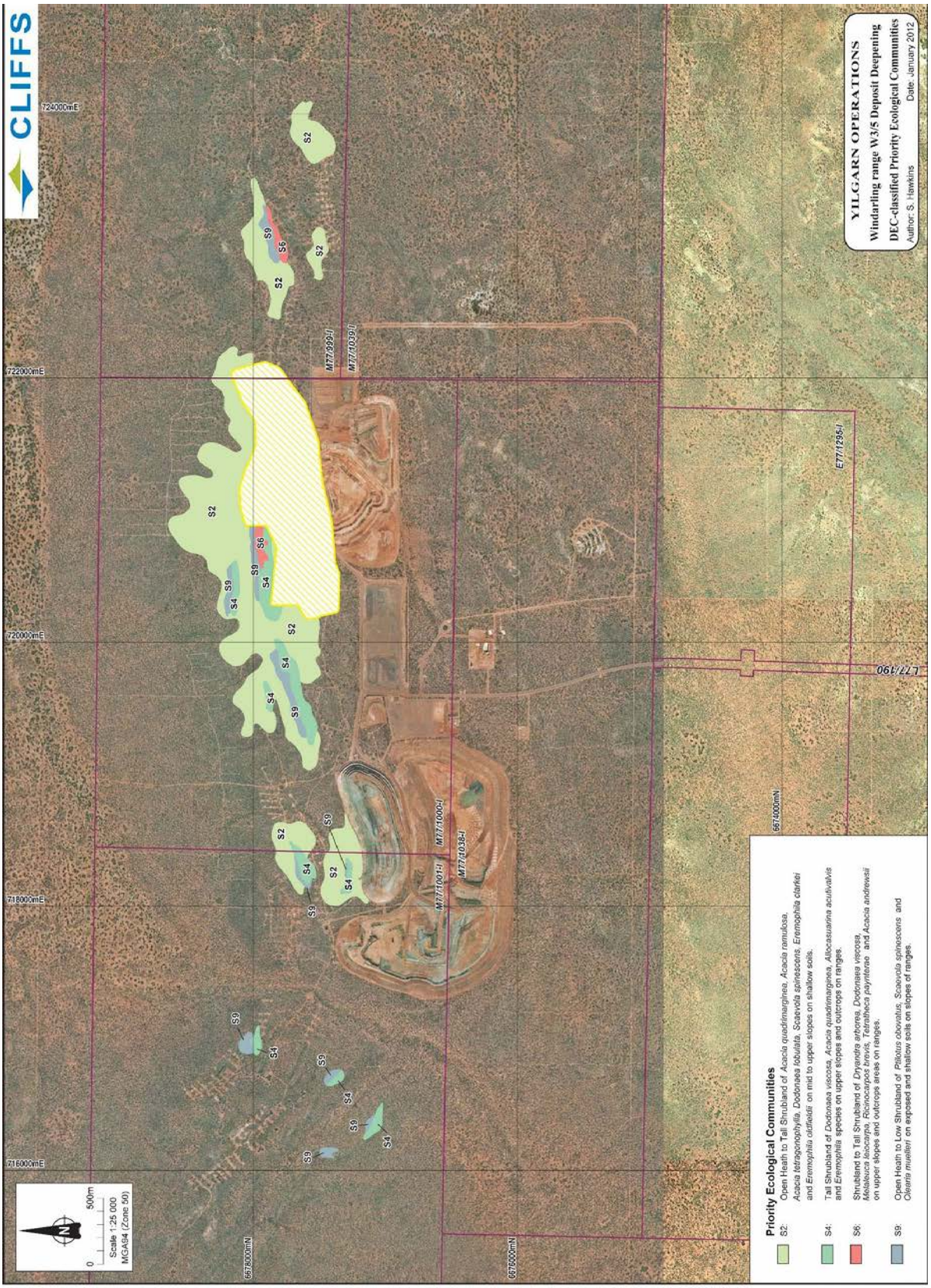

Figure 4 Location of priority ecological communities

document would require the clearing of approximately four hectares (ha) in a 2.7 kilometre long and 15 m wide area.

The proposal may result in indirect impacts to vegetation and flora from dust, saline water overspray, dewatering, pit wall collapse and feral animals.

Dust
Western Botanical (Western Botanical 2010) monitored *T. paynterae* from 2003 to 2009 and have concluded that temporal patterns indicate that rainfall is the main factor affecting plant condition and mortality. Western Botanical concluded that mine-generated dust has had minimal impact to the Windarling *T. paynterae* population from 2004 to 2009. In 2010 there was a decline in the health of *T. paynterae* which correlated with below average rainfall in 2009 and 2010. An improvement in plant health in 2011 corresponded with average rainfall being received.

The proponent expects the potential for dust generation from this proposal to be lower than from previous mining within the Windarling Range W3/5 Deposit Mine Pit as the material to be mined from below the groundwater table would have increased soil moisture content. The potential for dust impact to flora would also be lower as there would be greater vertical and horizontal separation from the flora adjacent to the edge of the mine pit.

Dust is controlled by spraying of saline groundwater on dust sources. The proponent considers that there should be no significant indirect impact to vegetation or flora species as the application of groundwater is controlled and the roads and open areas designed to account for drainage.

Dewatering
The depth to groundwater in the area surrounding the Windarling Range W3/5 Deposit Deepening proposal is approximately 70 m to 170 m below ground level. The Windarling Range W3/5 Deposit Deepening proposal is surrounded by vegetation dominated by an overstorey of Acacia and Eucalyptus species (Western Botanical 2010a, cited in Cliffs 2011). The proponent considers that it is unlikely that the Acacia and Eucalyptus species would have roots extending 70 m to the groundwater and if they did, groundwater uptake would be restricted by salinity. Therefore, the dominant flora surrounding the Windarling Range W3/5 Deposit Deepening proposal are not expected to be groundwater dependent. The smaller flora species of the understorey would have less potential for roots deep enough to access the groundwater.

These conclusions are supported by the fact that there has not been any decline in health of the flora surrounding the Windarling Range W2 Deposit Mine Pit to date where groundwater dewatering commenced in 2009.

Post closure impacts
Threatened flora are located within approximately 20 m of the pit and may be impacted by a collapse of the pit wall. A geotechnical assessment (O'Bryan 2011) has been undertaken to determine if the deepening of the pit is likely to decrease the stability of the pit walls. The assessment concluded that the

proposed deepening of the pit would not cause a significant increase in potential for wall instability. Therefore, deepening the pit is unlikely to result in an increased risk to threatened flora immediately adjacent to the pit. Some batter scale instability is expected.

After closure, the proposal would result in a pit void which would fill with groundwater to 375 m, unless the pit is backfilled. The groundwater currently has a salinity of 12 000 parts per million, which may increase through evaporation over time. The presence of water in the void may attract feral fauna which could graze or trample native vegetation at the site. This is considered further in section 4.2.

Management
Dust would be managed through a Dust Management Plan that applies to the existing operations The currently approved version of the Dust Management Plan is that of May 2009. Management actions include dampening of dust sources with water, progressive rehabilitation, blasting controls and monitoring of dust and of flora health within 200 m of mine operations and adjacent to the haul road.

Vegetation health around new groundwater abstraction sites would be photographically monitored monthly for six months under the Groundwater Management Plan and quarterly thereafter.

Assessment

The EPA's environmental objective for this factor is to maintain the abundance, diversity, geographic distribution and productivity of flora at species and ecosystem levels through the avoidance or management of adverse impacts and improvement in knowledge.

Vegetation
The EPA notes that there is no direct clearing of vegetation for the deepening proposal or for waste dumps and nor would the footprint of the proposal increase as a result of implementing this proposal. Schedule 2 of the recommended condition statement contains the coordinates of the approved mining area for the W3/5 deposit.

Dust
The EPA notes Western Botanical's conclusion that rainfall is the main factor affecting plant condition and mortality. Nevertheless, dust from mining activities may be a contributing factor to health decline. Rainfall also has the function of removing dust from plants. The proposal would prolong the impact of dust from mining activities with the residual risk to the survival of *T. paynterae* and *R. brevis*. remaining for the duration of the proposal.

The conditions of the existing approval would apply to this deepening proposal. This includes the requirement for a Dust Management Plan. The EPA notes that the Dust Management Plan has been updated to include this proposal. The revisions include amending the distance for the monitoring of Declared Rare Flora from 200 m to 100 m from mine operations. The updated Dust

Management Plan is subject to review by the Office of the EPA and the Department of Environment and Conservation.

Dewatering
The EPA considers it is unlikely that groundwater drawdown would affect vegetation. The EPA notes that the monitoring of vegetation health around production bores would be undertaken through the Groundwater Management Plan.

The EPA considers storage and use of groundwater should not have significant impacts to vegetation provided that storage and use is adequately managed. The EPA notes that in its Triennial Performance Review of September 2010, Cliffs had several spills of saline groundwater that were reported to the DEC at the time of the spill. The EPA further notes that Cliffs is implementing measures to improve saline groundwater management by improving training, improving design of water truck filling points and turkey nest dams and including saline groundwater spillages training for the Emergency Response Team. Cliffs is also conducting ongoing investigations into mine pit water quality, dewatering rates, operational demand (i.e. for dust suppression) and optimisation of the disposal of excess mine pit water over its operations. The objectives of these investigations are:

1. to better understand and manage mine pit dewatering, and
2. to improve the beneficial use and/or disposal of mine pit water over the life of the mine.

These initiatives are supported.

Post closure impacts
The EPA notes the conclusion of the geotechnical assessment that deepening the pit is unlikely to result in an increased risk to threatened flora immediately adjacent to the pit.

Summary
The EPA considers the issue of vegetation and flora has been adequately addressed and the proposal can meet the EPA's objectives for this factor provided that the pit deepening occurs in the existing approved mining area and the conditions of Statement 627 apply to this proposal.

4.2 Rehabilitation and mine closure

Description
The mine closure plan for the W3/5 pit comprises building an abandonment bund. There would be no infilling of the pit and no rehabilitation of the pit.

The construction of the conceptual abandonment bund shown in the API would impact approximately 4 ha of vegetation. This vegetation could include the restricted and endemic vegetation community S2 and could encroach on the Area B where no ground disturbing activities may be undertaken without approval. The conceptual bund is not continuous but would connect to the

elevated topography of the Windarling Range and the elevated sections of the Windarling Range W3/5 Deposit Waste Rock Landform.

The pit void is predicted to fill with water to 375 mAHD (approximately 25 m below current groundwater level) which would gradually become more saline. It is predicted that the void would be a groundwater sink and, therefore, no water would flow out of the pit into the groundwater. As geochemical characterisation of waste has identified negligible material with the potential for the formation of acid or metalliferous drainage (SWC 2011a), with similar material expected within the pit, acid and metalliferous drainage is not expected.

The proponent does not expect feral fauna to be attracted to the pit or become established around the pit as the depth and steep sides of the decommissioned pit would make the permanent surface water inaccessible to fauna. In addition the salinity of the post-mining permanent surface water within the pit is expected to increase over time as a result of infiltration of saline groundwater and evaporation of fresh water. The proponent's view is that permanent surface water would be unpalatable for most fauna species due to its salinity. If feral fauna were attracted and able to access the water, the water is unlikely to sustain a feral fauna population.

Assessment

The EPA's environmental objectives for this factor are to:

- maintain landscape and landform integrity, ecological functions and environmental values;
- ensure that closure and rehabilitation achieves stable, non polluting and functioning landforms which are consistent with the surrounding landscape and other environmental values; and
- ensure that self-sustaining native vegetation communities are returned after mining, which, in species composition and ecological function are close as possible to naturally occurring analogue sites.

The EPA and the Department of Mines and Petroleum (DMP) have recently published new Guidelines for Preparing Mine Closure Plans, including rehabilitation (DMP, EPA 2011). While there is an existing Ministerial condition for closure planning under Statement 627, the EPA would expect that a Mine Closure Plan is prepared consistent with the contemporary guidelines and the requirements of the *Mining Act 1978.*

As the pit is located in an area that will be managed in the long term for conservation purposes and has Threatened flora, Priority flora and priority vegetation communities in close proximity to it, it is the EPA's preference that the pit be backfilled to at least the watertable. If this is not practicable, the EPA requires that any pit lake created by the proposal should not result in an adverse impact to vertebrate native fauna or native vegetation. The creation of a pit lake should not impose any future management liability on the State.

The proponent has undertaken geochemical testing of waste rock materials at the mine site to assess whether these materials contain significant pyritic

sulphur and their ability to generate acidity on oxidation. Although this is an important mechanism for assessing the potential for acid and metalliferous drainage from mine sites, the EPA noted that metalliferous drainage can be generated under neutral to alkaline conditions by processes other than sulphide oxidation. Therefore, the EPA recommends that prior to the preparation of the Final Closure Plan further kinetic geochemical testing is undertake to predict the long-term quality of the water in the pit lake. In addition, the water quality would change over time with surface and groundwater in-flows and evaporation and this should also be taken into account in the prediction of long-term water quality. Ideally, the EPA would like to set water criteria for the pit lake that would ensure that no vertebrate native fauna, e.g. birds and reptiles, which ingest the water suffer long-term or lethal impacts. However, information is lacking on the tolerance levels of fauna to contaminated water. In the absence of this information the EPA recommends that the Final Closure Plan addresses the monitoring of the pit and its surrounds for fauna deaths for at least seven years post-closure.

The EPA is also concerned that fauna, native or feral, may be attracted to the W3/5 pit lake as a water source and may trample or graze the conservation significant vegetation surrounding the pit. The EPA, therefore, recommends that the Final Closure Plan addresses the monitoring of the condition of native vegetation surrounding the pit for at least seven years post-closure.

In summary, the EPA makes the following recommendations for matters to be addressed by the proponent in preparing the mine closure plan and for the DMP when assessing the plan:

- that the DEC is consulted in the preparation and approval of the mine closure plan for mining operations at Mt Jackson and Windarling Ranges in consideration of the DEC's role as the future land managers for the proposed Conservation and Mining Reserve in which this and the related proposals are situated;
- the abandonment bund has the potential to impact important flora and vegetation. The implementation of the Mine Closure Plan should not cause any impact to flora and vegetation communities of conservation significance additional to that approved under Statement 627, unless otherwise approved by the Minister for Environment on advice of the EPA and the DEC. In particular, the placement of abandonment bunds must not cause impacts to important flora or vegetation; and
- the proponent must demonstrate that it has properly examined and exhausted opportunities for backfilling the pit above the watertable taking account of the environmental implications of leaving pit lakes in an area that has important conservation values and any long-term liabilities that may result from the management of the pit lake by the land manager.

In the event that the Windarling W3/5 pit is not backfilled to a level that prevents the formation of permanent post-mining surface water, the EPA recommends that:

- the proponent should undertake the following investigations, prior to preparing the Final Closure Plan:

i. geochemical kinetic testing to determine the quality of leachate that may discharge to the pit lake and how this would affect the water quality in the pit lake in the long-term; and

ii. geochemical modelling to determine how evaporative concentration and water rock reactions may change salinity, metal and metalloid concentrations over time;

- the following information should be included in the Final Closure Plan:

  i. management measures for ensuring the site is inaccessible to fauna identified as being at risk of impact and for protecting the surrounding native vegetation from potential adverse impacts. The management measures are to be practicable and in accordance with best practice mine closure safety and environmental standards; and

  ii. a monitoring plan for the pit lake for a minimum of seven years duration including monitoring of the water quality in the pit lake, of native vegetation surrounding the pit and of the pit lake and surrounds for dead vertebrate native fauna;

- should the monitoring show that the pit lake is having an unpredicted, adverse impact, the proponent should consult with the DEC and implement any practicable mitigation measures.

Summary

The EPA considers the issue of Mine Closure can be adequately addressed in the Final Closure Plan and the proposal can meet the EPA's objectives for this factor provided that the recommended conditions and recommendations are implemented.

5. Recommended conditions

Having considered the information provided in this report, the EPA has developed a set of conditions that the EPA recommends be imposed if the proposal by Cliffs Australia Pacific Iron Ore Pty Ltd to deepen mining of the Windarling Range W3/5 Deposit to below the watertable is approved for implementation. These conditions are presented in Appendix 2.

The issuing of a new statement for the deepening of mining at W3/5 Deposit should not extinguish or allow the lapsing of the conditions pertaining to mining on the Windarling Range contained in the original approval. Therefore, the EPA considers that the conditions contained in Statement 627 should continue to apply to this proposal except where new recommended conditions are at variance with the conditions of Statement 627. The recommended conditions at variance with Statement 627 are standard conditions 1- 6, which have been updated since the issuing of Statement 627. The EPA recommends that, if a new statement is issued by the Minister for the implementation of this proposal, it should be reconciled with Statement 627 into one statement in the near future.

6. Other advice

The EPA recommends that the DMP notes its advice regarding the closure plan for the mine site.

7. Conclusions

The EPA has considered the proposal by Cliffs Australia Pacific Iron Ore Pty Ltd to deepen mining of the Windarling Range W3/5 Deposit to below the watertable.

The EPA notes that:

- no vegetation would be directly impacted by the proposal;
- the exiting Ministerial Conditions of Statement 627 for the Windarling Range W3/5 deposit should be applied to the proposal and potential impacts to the environment from the proposal should be managed under existing management plans prepared under Statement 627;
- a desk-top audit of the proponent's 2010 compliance report concluded that the proponent is in compliance with the conditions of Statement 627, with the proviso that further information is required to verify compliance for one condition. The EPA notes that there are a number of changes to management plans awaiting approval; and
- a mine closure plan applying to the entire mining area would be required under the *Mining Act 1978* and it is expected it would be consistent with Guidelines for Preparing Mine Closure Plans prepared by the EPA and the DMP. It is expected that the DMP would take into account the EPA's recommendations regarding the closure plan provided in this report.

The EPA has therefore concluded that the proposal can be managed to meet the EPA's environmental objectives, provided there is satisfactory implementation by the proponent of the recommended conditions set out in Appendix 2.

8. Recommendations

The EPA submits the following recommendations to the Minister for Environment:

1. that the Minister notes that the proposal being assessed is the deepening of mining of the Windarling Range W3/5 Deposit to below the watertable;
2. that the Minister considers the report on the key environmental factors as set out in Section 4;
3. that the Minister notes that the EPA has concluded that the proposal can be managed to meet the EPA's environmental objectives, provided there is satisfactory implementation by the proponent of the recommended conditions set out in Appendix 2; and

4. that the Minister imposes the conditions and procedures recommended in Appendix 2 of this report.

Appendix 1

References

Cliffs Asia Pacific Iron Ore Pty Ltd, 2011, *Yilgarn Operations Windarling Range W3/5 Deposit Deepening Environmental Impact Assessment (Assessment on Proponent Information) Revision D*, prepared for Cliffs Asia Pacific Iron Ore Pty Ltd by Globe Environments Australia Pty Ltd, November 2011.

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Western Australian Minister for the Environment and Heritage (2003) Statement 627: *Koolyanobbing Iron Ore Expansion, Windarling Range and Mt Jackson, Shire of Yilgarn*, published by the Minister for the Environment and Heritage, 3 June 2003.

Appendix 2

Identified Decision-making Authorities
and
Recommended Environmental Conditions

Identified Decision-making Authorities

Section 44(2) of the *Environmental Protection Act 1986* (EP Act) specifies that the EPA's report must set out (if it recommends that implementation be allowed) the conditions and procedures, if any, to which implementation should be subject. This Appendix contains the EPA's recommended conditions and procedures.

Section 45(1) requires the Minister for Environment to consult with decision-making authorities, and if possible, agree on whether or not the proposal may be implemented, and if so, to what conditions and procedures, if any, that implementation should be subject.

The following decision-making authorities have been identified for this consultation:

Decision-making Authority	Approval
1. Minister for Water	Water extraction licence
2. Minister for Mines	*Mining Act 1978* approvals

Statement No.

RECOMMENDED ENVIRONMENTAL CONDITIONS

STATEMENT THAT A PROPOSAL MAY BE IMPLEMENTED
(PURSUANT TO THE PROVISIONS OF THE
ENVIRONMENTAL PROTECTION ACT 1986)

WINDARLING RANGE W3/5 DEPOSIT DEEPENING
SHIRE OF YILGARN

Proposal: The proposal is situated on Mining Leases M77/999 and M77/1000, approximately 130 kilometres north of Southern Cross in the Shire of Yilgarn (Figure 1). The proposal is to mine iron ore by open cut mining below the groundwater table in the portion of the W3/5 Deposit at Windarling Range as shown in Figure 2 and defined in Schedule 2. The depth of the open-cut mine will increase from nominally 400 metres Australian Height Datum (AHD) to nominally 315 metres AHD.

The proposal is further documented in schedule 1 of this statement.

Proponent: Cliffs Asia Pacific Iron Ore Pty Ltd

Proponent Address: Level 12, The Quadrant, 1 William Street
PERTH WA 6000

Assessment Number: 1871

Previous Assessment Number: 1374

Report of the Environmental Protection Authority: Report 1433

Previous Report of the Environmental Protection Authority: Report 1082

Related Statement Number: 627 (Published on 3 June 2003)

The proposal referred to in the above report of the Environmental Protection Authority may be implemented. The implementation of that proposal is subject to the following conditions and procedures:

1 Proposal Implementation

1-1 The proponent shall implement the proposal as documented and described in schedule 1 of this statement subject to the conditions and procedures of this statement.

2 Proponent Nomination and Contact Details

2-1 The proponent for the time being nominated by the Minister for Environment under sections 38(6) or 38(7) of the *Environmental Protection Act 1986* is responsible for the implementation of the proposal.

2-2 The proponent shall notify the Chief Executive Officer of the Office of the Environmental Protection Authority (CEO) of any change of the name and address of the proponent for the serving of notices or other correspondence within 30 days of such change.

3 Time Limit of Authorisation

3-1 The authorisation to implement the proposal provided for in this statement shall lapse and be void five years after the date of this statement if the proposal to which this statement relates is not substantially commenced.

3-2 The proponent shall provide the CEO with written evidence which demonstrates that the proposal has substantially commenced on or before the expiration of five years from the date of this statement.

4 Compliance Reporting

4-1 The proponent shall prepare and maintain a compliance assessment plan to the satisfaction of the CEO.

4-2 The proponent shall submit to the CEO the compliance assessment plan required by condition 4-1 at least six months prior to the first compliance report required by condition 4-6, or prior to implementation, whichever is sooner.

The compliance assessment plan shall indicate:

1 the frequency of compliance reporting;

2 the approach and timing of compliance assessments;

3 the retention of compliance assessments;

4 the method of reporting of potential non-compliances and corrective actions taken;

5 the table of contents of compliance assessment reports; and

6 public availability of compliance assessment reports.

4-3 The proponent shall assess compliance with conditions in accordance with the compliance assessment plan required by condition 4-1.

4-4 The proponent shall retain reports of all compliance assessments described in the compliance assessment plan required by condition 4-1 and shall make those reports available when requested by the CEO.

4-5 The proponent shall advise the CEO of any potential non-compliance within seven days of that non-compliance being known.

4-6 The proponent shall submit to the CEO an annual compliance assessment report by 30 April each year for the preceding calendar year.

The compliance assessment report shall:

1 be endorsed by the proponent's Managing Director / General Manager / Chief Executive Officer or a person delegated to sign on the Managing Director's / General Manager's / Chief Executive Officer's behalf;

2 include a statement as to whether the proponent has complied with the conditions;

3 identify all potential non-compliances and describe corrective and preventative actions taken;

4 be made publicly available in accordance with the approved compliance assessment plan; and

5 indicate any proposed changes to the compliance assessment plan required by condition 4-1.

5 Performance Review and Reporting

5-1 The proponent shall extend the performance review report required by condition 4-2 of Statement 627 to include performance review of mining the Windarling W3/5 pit below 400m AHD.

5-2 The proponent shall make the Performance Review Reports required by condition 5-1 publicly available in a manner approved by the CEO.

6 Public Availability of Data

6-1 Subject to condition 6-2, within a reasonable time period approved by the CEO of the issue of this Statement and for the remainder of the life of the proposal the proponent shall make publicly available, in a manner approved by the CEO, all validated environmental data (including sampling design, sampling methodologies, empirical data and derived information products

(e.g. maps)) relevant to the assessment of this proposal and implementation of this Statement.

6-2 If any data referred to in condition 6-1 contains particulars of:

i. A secret formula or process; or
ii. Confidential commercially sensitive information

The proponent may submit a request for approval from the CEO to not make this data publically available. In making such a request the Proponent shall provide the CEO with an explanation and reasons why the data should not be made publically available.

7. Conditions of statement 627 apply

7-1 The conditions of statement 627 apply to this proposal to the extent that they are not at variance with the conditions of this statement. Where conditions of statement 627 are at variance with conditions in this statement, the conditions in this statement prevail.

7-2 No re-approval of reports, documents, agreements or management plans prepared under statement 627, which have been or are hereafter satisfactorily completed and approved under statement 627, is required under this statement.

Notes

1. The Office of the Environmental Protection Authority may seek advice from other agencies or organisations, as required, in order to provide its advice to the Minister for Environment.
2. The Minister for Environment will determine any dispute between the proponent and the Office of the Environmental Protection Authority over the fulfilment of the requirements of the conditions.

Schedule 1

The Proposal (Assessment No. 1871)

The proposal is to mine iron ore below the groundwater table in the portion of the W3/5 Deposit at Windarling Range as shown in Figure 2 and defined in Schedule 2. The approved project (Statement 627, 3 June 2003) at the same location is for mining above the watertable. The depth of the open-cut mine will increase from nominally 400 metres Australian Height Datum (AHD) to nominally 315 metres AHD. The project will have a life span of approximately six years.

The proposal also includes dewatering and dewater disposal, the continued disposal of waste rock to the existing W3/5 waste rock landform, or other approved areas, and the continued use of existing infrastructure and facilities.

The proposal and potential impacts are described in the document, Cliffs Asia Pacific Iron Ore Pty Ltd (2011) *Yilgarn Operations Windarling Range W3/5 Deposit Deepening Environmental Impact Assessment (Assessment on Proponent Information) Revision D*, Cliffs Asia Pacific Iron Ore Pty Ltd, November 2011. This document should be read in conjunction with the EPA Report 1433, *Windarling Range W3/5 Deposit Deepening,* published by the Environmental Protection Authority in March 2012.

Summary Description

A summary of the key proposal characteristics is presented in Table 1.

Table 1: Summary of Key Proposal Characteristics

Element	Description
Mine	Mining of iron ore below the groundwater table in the portion of the W3/5 Deposit at Windarling Range as shown in Figure 2 and defined in Schedule 2
Mine pit depth	Nominally between 400 mAHD and 315 mAHD
Mining method	Open cut
Disposal of dewatering water	Storage in approved dams, used for dust suppression, and/or other mine uses

Figures (attached)

Figure 1 Location of Cliffs' Yilgarn (Koolyanobbing) Operations
Figure 2 Location of the Windarling W3/5 Deposit Deepening Proposal Area

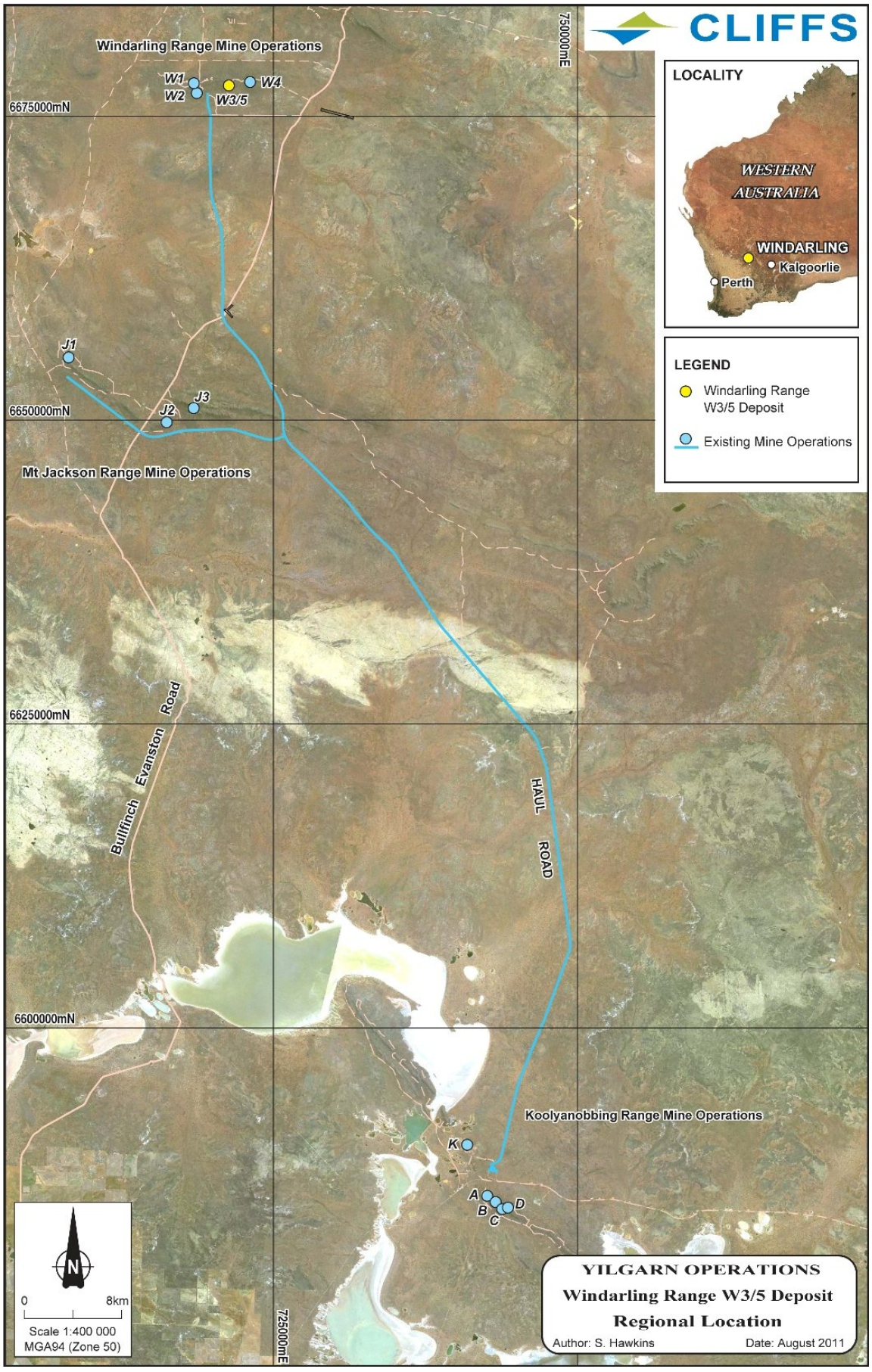

Figure 1 Location of all Cliffs' Yilgarn (Koolyanobbing) Operations

Figure 2 **Location of the Windarling W3/5 Deposit Deepening Proposal Area**

Schedule 2

AMG coordinates of Windarling W3/5 pit footprint

Co-ordinates defining the Proposal Area are prescribed below, noting that the correct recreation of the boundary requires the sequential connection of the co-ordinates as per its co-ordinate number.
All co-ordinates are listed in Map Grid of Australia Zone 50 (MGA Zone 50), datum of Geodetic Datum of Australia 1994 (GDA94).

Co-ordinate Number	Easting	Northing
1	722087.82	6678059.74
2	722087.91	6678059.39
3	722087.95	6678059.29
4	722089.07	6678054.99
5	722090.30	6678050.25
6	722090.77	6678048.18
7	722091.09	6678046.88
8	722092.88	6678040.06
9	722094.46	6678033.95
10	722095.77	6678029.09
11	722096.48	6678026.57
12	722098.06	6678020.56
13	722099.33	6678015.32
14	722100.36	6678010.94
15	722101.87	6678004.52
16	722102.47	6678001.92
17	722102.87	6678000.14
18	722104.59	6677992.65
19	722105.30	6677989.40
20	722106.16	6677985.45
21	722107.08	6677981.37
22	722109.58	6677969.86
23	722110.33	6677966.58
24	722112.67	6677956.46
25	722112.87	6677955.54
26	722113.10	6677954.53
27	722114.56	6677948.33
28	722115.50	6677944.23
29	722117.86	6677934.48
30	722117.91	6677934.24
31	722117.96	6677934.07
32	722118.24	6677932.97
33	722121.56	6677919.99
34	722123.93	6677910.73
35	722123.41	6677909.50
36	722121.45	6677904.81
37	722120.15	6677901.68
38	722118.70	6677898.18
39	722115.76	6677891.12
40	722114.61	6677888.33
41	722110.17	6677877.61
42	722105.26	6677865.66
43	722104.98	6677865.00
44	722104.74	6677864.40
45	722104.56	6677864.00
46	722104.17	6677863.05
47	722100.37	6677854.00
48	722098.63	6677849.85
49	722098.63	6677849.85
50	722098.63	6677849.85
51	722094.07	6677839.46
52	722092.00	6677834.90
53	722090.46	6677831.62
54	722086.04	6677822.32
55	722082.00	6677813.82
56	722080.53	6677810.70
57	722080.01	6677809.59
58	722076.65	6677802.23
59	722075.83	6677800.43
60	722069.72	6677795.70
61	722067.99	6677794.37
62	722063.89	6677791.26
63	722058.81	6677787.51
64	722057.29	6677786.40
65	722050.25	6677781.27
66	722035.59	6677770.64
67	722034.41	6677769.80
68	722031.92	6677768.01
69	722031.22	6677767.50
70	722030.98	6677767.33
71	722030.89	6677767.27
72	722012.28	6677754.24
73	722009.84	6677752.54
74	722006.96	6677750.52
75	721997.72	6677744.07
76	721995.26	6677742.40

77	721994.97	6677742.20	123	721759.86	6677589.22
78	721985.03	6677735.39	124	721758.20	6677588.68
79	721981.96	6677733.29	125	721757.57	6677588.48
80	721978.63	6677730.83	126	721750.71	6677586.30
81	721976.17	6677729.01	127	721749.42	6677585.89
82	721975.28	6677728.36	128	721743.90	6677584.13
83	721973.43	6677727.08	129	721743.16	6677583.90
84	721966.53	6677722.06	130	721740.22	6677582.96
85	721962.93	6677719.45	131	721734.03	6677580.91
86	721959.89	6677717.20	132	721732.40	6677580.34
87	721958.29	6677716.02	133	721718.40	6677575.46
88	721950.24	6677710.10	134	721712.83	6677573.45
89	721944.40	6677705.86	135	721712.47	6677573.32
90	721936.62	6677699.99	136	721705.88	6677570.96
91	721930.34	6677695.34	137	721703.07	6677569.95
92	721925.10	6677691.43	138	721693.25	6677566.51
93	721922.08	6677689.21	139	721678.14	6677561.33
94	721919.06	6677686.98	140	721676.40	6677560.72
95	721907.15	6677678.27	141	721670.82	6677558.87
96	721898.89	6677672.30	142	721666.89	6677557.55
97	721894.15	6677668.87	143	721661.06	6677555.61
98	721893.33	6677668.25	144	721653.41	6677553.06
99	721885.77	6677662.53	145	721648.98	6677551.58
100	721884.90	6677661.87	146	721637.51	6677547.65
101	721882.30	6677659.87	147	721621.20	6677542.08
102	721880.42	6677658.40	148	721616.62	6677540.52
103	721877.81	6677656.39	149	721609.73	6677538.17
104	721867.29	6677648.24	150	721605.71	6677536.80
105	721859.97	6677642.66	151	721594.84	6677533.02
106	721852.45	6677636.93	152	721592.17	6677532.07
107	721851.77	6677636.42	153	721575.58	6677526.39
108	721851.58	6677636.28	154	721571.80	6677525.10
109	721850.01	6677635.11	155	721571.75	6677525.08
110	721844.28	6677630.85	156	721571.63	6677525.04
111	721842.99	6677629.91	157	721534.91	6677512.13
112	721834.63	6677623.78	158	721531.43	6677510.93
113	721821.07	6677613.87	159	721526.95	6677509.39
114	721815.62	6677609.88	160	721526.28	6677509.16
115	721812.31	6677607.43	161	721521.21	6677508.63
116	721809.81	6677605.65	162	721502.60	6677506.69
117	721809.27	6677605.27	163	721497.53	6677506.12
118	721803.69	6677603.40	164	721493.87	6677505.74
119	721796.13	6677601.00	165	721489.64	6677505.38
120	721791.32	6677599.48	166	721482.11	6677504.77
121	721783.01	6677596.85	167	721477.98	6677504.45
122	721763.68	6677590.49	168	721476.17	6677504.31

169	721474.20	6677504.15	215	721237.25	6677480.00
170	721461.21	6677503.14	216	721235.52	6677479.82
171	721448.68	6677502.16	217	721234.76	6677479.74
172	721447.23	6677502.04	218	721214.42	6677477.69
173	721446.66	6677501.99	219	721202.80	6677474.98
174	721446.28	6677501.96	220	721194.54	6677473.05
175	721436.76	6677501.25	221	721193.26	6677472.75
176	721433.57	6677500.96	222	721189.39	6677471.80
177	721433.02	6677500.91	223	721178.82	6677469.20
178	721427.25	6677500.40	224	721172.81	6677467.73
179	721421.38	6677499.90	225	721172.45	6677467.64
180	721414.99	6677502.21	226	721166.11	6677466.12
181	721410.50	6677503.84	227	721165.78	6677466.04
182	721401.94	6677503.12	228	721145.80	6677461.47
183	721392.95	6677502.34	229	721145.36	6677461.37
184	721389.88	6677502.09	230	721145.24	6677461.34
185	721389.52	6677502.06	231	721137.87	6677459.59
186	721388.72	6677501.95	232	721128.90	6677457.54
187	721385.12	6677501.45	233	721117.06	6677454.84
188	721382.34	6677501.18	234	721089.17	6677448.57
189	721379.86	6677500.80	235	721084.92	6677447.61
190	721379.77	6677499.76	236	721080.93	6677446.71
191	721379.42	6677495.73	237	721065.04	6677443.12
192	721376.76	6677495.33	238	721056.19	6677441.13
193	721371.23	6677494.51	239	721043.04	6677438.22
194	721370.57	6677494.41	240	721040.93	6677437.75
195	721367.95	6677494.03	241	721036.07	6677436.67
196	721358.39	6677492.61	242	721034.39	6677436.30
197	721348.85	6677491.46	243	721033.19	6677436.02
198	721345.06	6677491.01	244	721023.03	6677433.66
199	721339.73	6677490.39	245	720998.45	6677427.84
200	721335.20	6677489.86	246	720997.03	6677427.51
201	721326.60	6677488.88	247	720984.16	6677424.45
202	721325.96	6677488.80	248	720978.52	6677423.12
203	721325.60	6677488.76	249	720974.25	6677422.15
204	721310.19	6677487.12	250	720956.92	6677418.21
205	721308.66	6677486.95	251	720953.65	6677417.46
206	721300.93	6677486.16	252	720953.11	6677417.33
207	721300.79	6677486.15	253	720952.62	6677417.22
208	721294.06	6677485.49	254	720945.69	6677415.56
209	721273.39	6677483.49	255	720926.20	6677411.10
210	721264.87	6677482.65	256	720925.63	6677411.11
211	721256.46	6677481.89	257	720922.52	6677410.90
212	721253.99	6677481.66	258	720917.79	6677409.11
213	721250.80	6677481.37	259	720915.02	6677408.44
214	721247.26	6677481.05	260	720907.13	6677406.52

261	720906.89	6677406.46	307	720596.00	6677379.11
262	720906.60	6677406.44	308	720588.64	6677376.23
263	720890.39	6677404.88	309	720575.30	6677371.01
264	720869.85	6677402.90	310	720571.25	6677369.44
265	720867.79	6677402.70	311	720569.52	6677368.77
266	720867.37	6677402.66	312	720567.16	6677367.86
267	720855.41	6677401.65	313	720556.07	6677363.59
268	720853.49	6677401.49	314	720542.16	6677358.09
269	720851.94	6677401.35	315	720540.42	6677357.35
270	720846.33	6677400.88	316	720537.55	6677356.12
271	720845.88	6677400.84	317	720536.08	6677355.55
272	720843.85	6677400.66	318	720519.90	6677348.70
273	720838.13	6677400.17	319	720519.50	6677348.69
274	720836.24	6677400.02	320	720512.03	6677348.66
275	720831.43	6677399.62	321	720510.29	6677348.65
276	720830.28	6677399.54	322	720504.40	6677348.68
277	720829.59	6677399.48	323	720496.44	6677348.70
278	720806.28	6677397.44	324	720491.94	6677348.74
279	720804.41	6677397.27	325	720474.86	6677348.97
280	720800.70	6677396.95	326	720471.01	6677349.02
281	720800.43	6677396.92	327	720469.99	6677349.04
282	720800.11	6677396.89	328	720465.35	6677349.13
283	720757.19	6677392.87	329	720463.45	6677349.16
284	720753.81	6677392.56	330	720452.68	6677349.38
285	720750.11	6677392.21	331	720432.62	6677349.76
286	720731.20	6677390.50	332	720425.51	6677349.90
287	720724.89	6677389.97	333	720424.59	6677349.92
288	720708.08	6677388.55	334	720419.96	6677349.98
289	720704.43	6677388.24	335	720405.17	6677350.17
290	720704.29	6677388.23	336	720396.06	6677350.32
291	720681.35	6677386.20	337	720384.78	6677350.51
292	720675.36	6677385.67	338	720381.04	6677350.55
293	720667.58	6677385.06	339	720380.58	6677350.56
294	720662.12	6677384.61	340	720375.14	6677350.67
295	720658.96	6677384.34	341	720373.69	6677350.70
296	720655.87	6677384.08	342	720364.75	6677350.97
297	720652.45	6677383.79	343	720361.62	6677351.06
298	720649.55	6677383.53	344	720356.42	6677351.26
299	720641.91	6677382.99	345	720343.58	6677351.72
300	720628.32	6677382.10	346	720336.57	6677351.92
301	720615.16	6677381.19	347	720326.40	6677352.21
302	720614.91	6677381.17	348	720325.95	6677352.23
303	720606.96	6677378.09	349	720325.22	6677352.26
304	720606.09	6677378.82	350	720303.31	6677353.02
305	720602.66	6677381.71	351	720300.92	6677353.11
306	720598.07	6677379.92	352	720298.19	6677353.20

353	720293.24	6677353.41	399	720201.85	6677472.11
354	720292.11	6677353.42	400	720200.68	6677477.58
355	720289.29	6677353.47	401	720198.44	6677487.37
356	720281.69	6677353.65	402	720196.92	6677493.92
357	720276.70	6677353.77	403	720196.75	6677494.63
358	720268.27	6677353.99	404	720196.21	6677496.96
359	720263.26	6677354.12	405	720195.24	6677501.18
360	720260.61	6677354.16	406	720194.62	6677500.17
361	720254.80	6677354.26	407	720191.40	6677494.86
362	720253.80	6677354.35	408	720189.89	6677501.40
363	720250.57	6677354.64	409	720187.98	6677509.68
364	720246.72	6677355.58	410	720187.25	6677512.79
365	720245.56	6677355.86	411	720186.25	6677517.08
366	720244.45	6677356.31	412	720185.33	6677520.82
367	720240.77	6677357.82	413	720184.47	6677524.26
368	720238.21	6677359.34	414	720183.38	6677528.49
369	720237.35	6677359.86	415	720182.93	6677530.25
370	720236.80	6677360.18	416	720182.27	6677532.86
371	720236.33	6677360.47	417	720181.74	6677535.00
372	720233.95	6677362.42	418	720178.95	6677546.04
373	720233.22	6677362.99	419	720178.93	6677546.08
374	720232.31	6677363.72	420	720178.92	6677546.15
375	720231.53	6677364.56	421	720177.91	6677550.98
376	720228.76	6677367.52	422	720177.32	6677554.12
377	720226.44	6677370.93	423	720176.05	6677561.08
378	720225.83	6677371.82	424	720175.12	6677566.20
379	720225.37	6677372.78	425	720174.90	6677567.33
380	720223.57	6677376.54	426	720174.43	6677571.19
381	720223.54	6677376.60	427	720174.37	6677571.61
382	720222.57	6677379.85	428	720174.30	6677572.16
383	720222.32	6677380.68	429	720174.30	6677573.41
384	720219.61	6677392.96	430	720174.29	6677574.15
385	720217.33	6677403.12	431	720174.30	6677576.71
386	720216.39	6677407.19	432	720174.26	6677578.22
387	720215.35	6677411.70	433	720174.41	6677579.51
388	720214.89	6677413.76	434	720174.91	6677584.01
389	720213.53	6677420.10	435	720174.94	6677584.25
390	720213.37	6677420.82	436	720175.20	6677585.23
391	720211.44	6677429.66	437	720175.29	6677585.61
392	720210.33	6677434.39	438	720175.76	6677587.42
393	720208.69	6677442.16	439	720176.47	6677590.14
394	720207.27	6677448.77	440	720177.05	6677591.51
395	720206.89	6677450.45	441	720178.85	6677595.75
396	720206.10	6677453.88	442	720179.64	6677597.05
397	720205.25	6677457.64	443	720182.01	6677600.96
398	720205.11	6677458.26	444	720182.98	6677602.13

445	720183.70	6677603.00	491	720279.46	6677725.02
446	720184.33	6677603.73	492	720279.61	6677727.08
447	720184.94	6677604.39	493	720279.67	6677729.08
448	720185.98	6677605.59	494	720279.87	6677733.13
449	720187.15	6677606.60	495	720280.06	6677736.76
450	720189.53	6677608.72	496	720280.10	6677738.04
451	720190.53	6677609.61	497	720280.20	6677742.78
452	720191.39	6677610.18	498	720280.30	6677744.90
453	720194.58	6677612.32	499	720280.42	6677750.63
454	720199.35	6677615.05	500	720280.42	6677750.68
455	720200.20	6677615.54	501	720280.46	6677751.37
456	720204.82	6677618.35	502	720280.47	6677751.89
457	720217.63	6677626.31	503	720280.67	6677758.37
458	720219.78	6677627.61	504	720280.71	6677759.59
459	720223.47	6677629.81	505	720280.73	6677760.14
460	720224.99	6677630.80	506	720280.86	6677765.19
461	720229.06	6677633.45	507	720281.01	6677768.32
462	720230.98	6677634.72	508	720281.18	6677773.11
463	720235.62	6677637.78	509	720281.25	6677776.25
464	720239.98	6677640.77	510	720281.34	6677779.57
465	720244.11	6677643.66	511	720281.33	6677784.02
466	720250.66	6677648.02	512	720281.34	6677784.74
467	720256.72	6677652.06	513	720281.37	6677785.91
468	720259.40	6677653.86	514	720281.39	6677786.29
469	720260.31	6677654.47	515	720280.41	6677786.44
470	720262.74	6677656.04	516	720276.44	6677787.00
471	720264.16	6677656.95	517	720276.55	6677789.68
472	720271.66	6677661.76	518	720276.63	6677792.64
473	720275.09	6677663.89	519	720276.66	6677793.73
474	720275.81	6677664.31	520	720276.71	6677795.86
475	720277.02	6677665.03	521	720276.74	6677796.17
476	720278.20	6677665.75	522	720276.95	6677798.83
477	720278.26	6677670.82	523	720277.10	6677800.43
478	720278.28	6677673.42	524	720277.28	6677802.54
479	720278.29	6677675.32	525	720277.49	6677805.00
480	720278.31	6677676.22	526	720277.96	6677810.79
481	720278.33	6677680.02	527	720277.96	6677810.82
482	720278.37	6677685.94	528	720277.96	6677810.83
483	720278.40	6677692.91	529	720278.00	6677814.28
484	720278.41	6677694.93	530	720278.13	6677817.79
485	720278.40	6677698.58	531	720278.19	6677818.54
486	720278.42	6677705.56	532	720278.22	6677818.93
487	720278.44	6677705.93	533	720278.74	6677824.80
488	720278.70	6677710.32	534	720278.79	6677827.89
489	720279.02	6677716.46	535	720278.85	6677828.68
490	720279.18	6677719.72	536	720278.94	6677829.71

537	720279.38	6677834.80	583	721004.25	6678094.93
538	720279.45	6677837.63	584	721006.03	6678095.28
539	720279.59	6677839.18	585	721009.14	6678095.84
540	720279.67	6677840.81	586	721010.55	6678096.07
541	720279.86	6677843.22	587	721013.04	6678096.65
542	720279.92	6677843.77	588	721014.19	6678096.79
543	720279.98	6677844.50	589	721014.92	6678096.93
544	720282.67	6677868.24	590	721017.50	6678097.41
545	720718.21	6677825.57	591	721018.87	6678097.63
546	720881.62	6677903.35	592	721021.88	6678098.16
547	720882.63	6678039.14	593	721023.29	6678098.39
548	720868.75	6678053.48	594	721026.25	6678098.88
549	720877.68	6678055.09	595	721027.07	6678099.01
550	720882.83	6678055.99	596	721027.42	6678099.07
551	720883.60	6678056.27	597	721030.26	6678099.61
552	720886.09	6678057.29	598	721031.46	6678099.82
553	720893.02	6678060.11	599	721033.86	6678100.27
554	720898.62	6678062.29	600	721035.55	6678100.58
555	720899.60	6678062.70	601	721037.67	6678101.00
556	720903.47	6678064.32	602	721038.75	6678101.18
557	720903.48	6678064.33	603	721039.50	6678101.30
558	720903.49	6678064.33	604	721040.93	6678101.54
559	720904.03	6678064.57	605	721042.99	6678101.86
560	720915.89	6678071.27	606	721046.41	6678102.45
561	720921.89	6678072.70	607	721046.71	6678102.51
562	720923.56	6678073.10	608	721047.03	6678102.55
563	720924.01	6678073.20	609	721051.97	6678103.67
564	720924.85	6678073.40	610	721054.74	6678104.15
565	720937.44	6678077.21	611	721055.81	6678104.35
566	720938.67	6678077.59	612	721058.96	6678104.83
567	720960.38	6678084.42	613	721059.25	6678104.89
568	720960.59	6678084.49	614	721060.63	6678105.15
569	720960.81	6678084.55	615	721062.87	6678105.71
570	720967.22	6678086.56	616	721063.07	6678105.76
571	720967.88	6678086.72	617	721063.45	6678105.85
572	720968.47	6678086.86	618	721064.33	6678106.08
573	720974.17	6678088.29	619	721064.75	6678105.63
574	720977.97	6678089.21	620	721065.30	6678105.20
575	720983.67	6678090.70	621	721068.31	6678103.05
576	720988.03	6678091.73	622	721070.58	6678101.35
577	720992.77	6678092.86	623	721075.19	6678098.95
578	720994.42	6678093.18	624	721077.88	6678097.51
579	720995.13	6678093.33	625	721078.85	6678097.29
580	720996.12	6678093.50	626	721079.75	6678097.21
581	720999.84	6678094.17	627	721087.50	6678096.01
582	721002.52	6678094.65	628	721088.63	6678095.85

629	721090.55	6678096.51	675	721292.21	6678067.72
630	721091.56	6678096.87	676	721296.31	6678066.20
631	721099.52	6678099.38	677	721301.19	6678064.53
632	721104.57	6678100.90	678	721304.63	6678063.47
633	721111.19	6678103.05	679	721305.89	6678063.10
634	721116.88	6678104.95	680	721307.55	6678062.64
635	721120.73	6678106.08	681	721308.10	6678062.42
636	721124.51	6678106.41	682	721309.15	6678062.02
637	721131.23	6678109.81	683	721314.52	6678060.09
638	721132.30	6678110.33	684	721316.48	6678059.23
639	721132.67	6678110.65	685	721318.58	6678058.41
640	721133.75	6678111.18	686	721320.56	6678057.61
641	721135.89	6678110.98	687	721323.68	6678056.43
642	721137.65	6678110.59	688	721326.60	6678055.25
643	721143.57	6678109.36	689	721326.76	6678055.19
644	721143.67	6678109.35	690	721327.76	6678054.88
645	721143.72	6678109.33	691	721328.67	6678054.63
646	721148.66	6678108.54	692	721337.24	6678052.23
647	721149.23	6678108.44	693	721338.02	6678052.07
648	721154.73	6678107.43	694	721338.65	6678051.88
649	721155.00	6678107.37	695	721339.27	6678051.63
650	721155.57	6678107.26	696	721342.88	6678050.43
651	721161.08	6678106.24	697	721344.82	6678049.66
652	721164.73	6678105.52	698	721341.48	6678048.77
653	721172.30	6678103.66	699	721340.46	6678048.49
654	721172.44	6678103.63	700	721338.82	6678048.33
655	721181.94	6678101.53	701	721328.15	6678049.02
656	721187.88	6678100.23	702	721327.80	6678049.08
657	721193.54	6678098.64	703	721328.08	6678049.00
658	721201.48	6678096.41	704	721331.70	6678047.89
659	721207.46	6678094.52	705	721336.36	6678046.47
660	721208.16	6678094.31	706	721340.32	6678044.96
661	721233.83	6678086.11	707	721340.96	6678044.75
662	721237.45	6678084.94	708	721341.28	6678044.41
663	721244.09	6678082.80	709	721341.54	6678044.04
664	721247.53	6678081.76	710	721346.18	6678042.37
665	721250.47	6678080.84	711	721347.63	6678041.81
666	721261.87	6678077.27	712	721349.26	6678041.21
667	721266.41	6678075.84	713	721352.49	6678039.90
668	721269.41	6678074.96	714	721357.83	6678038.02
669	721270.26	6678074.73	715	721358.58	6678037.66
670	721275.62	6678073.14	716	721359.10	6678037.40
671	721284.31	6678070.58	717	721361.01	6678036.39
672	721289.12	6678068.88	718	721363.07	6678035.39
673	721290.03	6678068.60	719	721363.91	6678035.01
674	721291.05	6678068.21	720	721364.38	6678034.75

721	721364.74	6678034.57	767	721506.15	6677982.43
722	721366.46	6678033.73	768	721508.26	6677982.47
723	721366.82	6678033.56	769	721517.59	6677982.57
724	721368.89	6678032.47	770	721520.39	6677982.61
725	721369.04	6678032.39	771	721525.05	6677982.70
726	721370.06	6678031.56	772	721533.12	6677982.80
727	721370.15	6678031.50	773	721538.92	6677982.94
728	721371.98	6678030.45	774	721540.28	6677982.97
729	721372.03	6678030.39	775	721548.98	6677983.17
730	721373.69	6678029.39	776	721558.34	6677983.33
731	721374.64	6678028.53	777	721561.75	6677983.38
732	721374.66	6678028.53	778	721562.34	6677983.40
733	721374.73	6678028.49	779	721564.19	6677983.43
734	721374.77	6678028.43	780	721579.34	6677983.84
735	721376.73	6678027.37	781	721580.85	6677983.89
736	721380.07	6678026.03	782	721583.92	6677984.02
737	721382.98	6678025.08	783	721587.89	6677984.19
738	721392.21	6678022.01	784	721595.05	6677984.50
739	721392.53	6678021.91	785	721606.46	6677984.89
740	721395.31	6678020.99	786	721607.31	6677984.91
741	721399.30	6678019.69	787	721609.38	6677984.96
742	721402.00	6678018.86	788	721614.10	6677985.06
743	721402.23	6678018.79	789	721619.31	6677985.18
744	721402.79	6678018.60	790	721621.31	6677985.20
745	721403.90	6678018.24	791	721634.47	6677985.52
746	721407.62	6678017.00	792	721635.67	6677985.57
747	721414.34	6678014.83	793	721636.85	6677985.63
748	721416.99	6678013.98	794	721637.53	6677985.67
749	721428.35	6678010.44	795	721641.05	6677986.00
750	721433.20	6678008.87	796	721649.59	6677986.76
751	721437.32	6678007.55	797	721652.48	6677986.99
752	721437.47	6678007.38	798	721656.57	6677987.32
753	721440.73	6678004.16	799	721669.99	6677988.45
754	721443.88	6678001.07	800	721674.87	6677988.72
755	721444.75	6678000.22	801	721677.20	6677990.30
756	721448.23	6677999.03	802	721689.26	6677998.49
757	721457.66	6677995.81	803	721689.89	6677998.93
758	721462.96	6677993.99	804	721690.55	6677999.36
759	721469.72	6677991.75	805	721695.54	6678002.66
760	721472.39	6677990.84	806	721701.66	6678006.70
761	721479.40	6677988.46	807	721705.29	6678009.09
762	721493.29	6677983.73	808	721713.46	6678014.39
763	721494.74	6677983.24	809	721714.41	6678015.01
764	721495.62	6677982.95	810	721716.74	6678016.55
765	721497.46	6677982.34	811	721718.38	6678017.61
766	721506.07	6677982.43	812	721726.62	6678023.08

813	721734.93	6678029.00	859	721991.79	6678154.46
814	721737.43	6678030.71	860	721999.06	6678157.54
815	721737.70	6678030.89	861	722003.00	6678159.11
816	721741.98	6678033.87	862	722006.11	6678160.32
817	721746.20	6678036.78	863	722009.22	6678161.51
818	721748.29	6678038.27	864	722011.71	6678162.46
819	721748.49	6678038.41	865	722012.32	6678162.69
820	721752.34	6678041.19	866	722014.56	6678163.31
821	721756.85	6678044.26	867	722018.24	6678164.31
822	721761.77	6678047.64	868	722018.82	6678164.47
823	721764.26	6678049.42	869	722019.55	6678164.53
824	721772.81	6678055.30	870	722027.13	6678165.14
825	721773.66	6678055.89	871	722027.69	6678165.09
826	721787.57	6678065.49	872	722034.74	6678164.35
827	721791.96	6678068.48	873	722035.40	6678164.29
828	721794.81	6678070.32	874	722036.90	6678163.83
829	721799.21	6678073.20	875	722039.25	6678163.11
830	721802.72	6678075.52	876	722042.98	6678161.95
831	721809.86	6678080.23	877	722043.30	6678161.85
832	721811.80	6678081.54	878	722043.59	6678161.70
833	721816.20	6678083.32	879	722050.62	6678158.00
834	721820.72	6678085.14	880	722056.92	6678153.00
835	721828.66	6678088.34	881	722057.07	6678152.89
836	721843.62	6678094.37	882	722057.20	6678152.74
837	721856.74	6678099.54	883	722057.67	6678152.20
838	721859.31	6678100.56	884	722062.48	6678146.68
839	721868.29	6678104.09	885	722066.19	6678140.36
840	721878.50	6678108.23	886	722066.52	6678139.81
841	721883.80	6678110.38	887	722066.66	6678139.58
842	721885.13	6678110.91	888	722066.75	6678139.38
843	721892.97	6678114.00	889	722068.97	6678133.32
844	721898.08	6678116.02	890	722069.01	6678133.18
845	721904.78	6678118.66	891	722069.34	6678131.89
846	721923.33	6678126.08	892	722073.10	6678117.51
847	721924.62	6678126.60	893	722075.00	6678109.72
848	721924.97	6678126.73	894	722076.39	6678104.06
849	721935.70	6678131.17	895	722077.65	6678099.01
850	721937.48	6678131.91	896	722078.51	6678095.55
851	721939.33	6678132.67	897	722078.79	6678094.45
852	721959.30	6678140.91	898	722079.09	6678093.24
853	721960.69	6678141.50	899	722080.43	6678088.09
854	721972.55	6678146.54	900	722082.71	6678079.26
855	721976.04	6678147.99	901	722083.44	6678076.25
856	721980.31	6678149.75	902	722087.73	6678060.07
857	721980.40	6678149.79	903	722087.82	6678059.74
858	721989.76	6678153.65			

Appendix 3

Proponent’s API documentation