



GRANTS LITHIUM PROJECT

Environmental Impact Statement

Supplement

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1 INTRODUCTION

1.1 Overview

On 3 May 2018, the Northern Territory Environment Protection Authority (NT EPA) published their decision that Core Exploration's¹ (Core) proposal to develop an open cut lithium mine at a site on the Cox Peninsula, approximately 25 km south of Darwin, requires assessment under the *Environmental Assessment Act* at the level of an Environmental Impact Statement (EIS). Core prepared a Draft EIS to address the Terms of Reference (ToR) released by the NT EPA. The Draft EIS was made available for comment for a period of six weeks from 3 November to 14 December 2018.

The NT EPA circulated the Draft EIS to NT government advisory bodies. To seek comment from the public and other organisations, the comment period was advertised in the Saturday NT News. The Draft EIS documents were made available online and hardcopies were provided for viewing at the NT EPA offices (Darwin), Department of Primary Industry and Resources offices (Darwin), NT Library (Darwin), Environment Centre (Darwin).

A total of 14 submissions were received by the NT EPA and forwarded to Core. In addition, comments were received from peer review of the draft Water Management Plan for the project, which was performed by independent third-party reviewers Mr Rohan Ash and Dr Bill Howcroft of Out-Task Environmental. This independent review was a requirement of section 4.2.1.4 of the EIS ToR. Complete un-edited Draft EIS submissions are provided for reference in Appendix A. Comments from the Water Management Plan review are provided in Appendix B, along with a tabulated summary of how each comment has been addressed.

In accordance with clause 12 of the *Environmental Assessment Administrative Procedures* (EAAP), the NT EPA have directed Core to provide a Supplement to the Draft EIS (the Supplement), responding to the comments received from NT advisory bodies, non-government organisations and members of the public. The NT EPA will use the information provided in both the Draft EIS and Supplement to inform their preparation of an assessment report about the proposal and subsequent recommendation to the Minister for Environment.

1.2 Scope and purpose of the Supplement

The Supplement provides additional information, project design updates and/or additional management measures/commitments that address each of the comments received on the Draft EIS. Where Core is of the view that a matter raised in a submission is outside the purview of the environmental impact assessment process administered by the NT EPA, the comment/issue has been noted and details provided in relation to the legislation, policy and guidelines under which the matter is governed. The additional information provided in the Supplement reflects the current state of project planning, which has progressed since submission of the Draft EIS in November 2018. The Draft EIS and Supplement combined, along with any additional information requested by the NT EPA, will collectively constitute the EIS for Grants Lithium Project.

1.3 Structure of the Supplement

The Supplement is structured as follows:

Section	Content
1 Introduction	Summary of the environmental assessment process to date. Scope, purpose and structure of the Supplement.
2 Project Design Updates	Summary of project design updates that have occurred subsequent to submission of the Draft EIS in November 2018.

¹ Note Core Exploration has recently changed its name to Core Lithium Ltd. The new company logo has been used on this document.

Section	Content
Section 3 Additional and/or Amended Information	Revisions and additions to the Draft EIS made in response to comments, and/or to document new information that has become available subsequent to submission of the Draft EIS.
Section 4 Summary of submissions received	Summary of submissions received on the Draft EIS, submitter details and the main issues/concerns that were raised in the comments provided.
Section 5 Response to submissions	Core's response to comments received.
Section 6 Updated commitments register	Updated register containing all commitments made in the Draft EIS and Supplement.
Section 7 References	Sources referenced in the Supplement

1.4 Associated documents

The following supplementary/amended reports and management plans are provided as appendices to the Supplement:

- Groundwater model addendum report (CloudGMS) (Appendix C)
- Preliminary mine site water balance supplementary report (EnviroConsult) (Appendix D)
- Supplementary report surface water modelling (EnviroConsult) (Appendix E)
- Water Management Plan (EcOz) (Appendix F) – *updated*
- Traffic Impact Statement (Flanagan Consulting Engineers) (Appendix G) - *updated*
- Preliminary design of TSF and water storages (GHD) (Appendix H)
- Grants pit sterilisation report (Innicon) (Appendix I)
- Material Safety Data Sheets for Ferrosilicon (Appendix J)
- Blast Management Framework (Core) (Appendix L)
- Mine Closure Plan (EcOz) (Appendix K) - *updated*
- Social Impact Management Plan (True North) (Appendix M) - *updated*
- Erosion and sediment control plan (EcOz) (Appendix N) - *updated*
- Journey Management Plan (QUBE) (Appendix O)
- Emergency Response Plan (Core) (Appendix P).

2 PROJECT DESIGN UPDATES

Following the submission of the Draft EIS in November 2018, Core has completed all exploration activities at the Grants deposit and has progressed into the more detailed feasibility analysis and design phase of the project. Results from exploration drill holes completed in late 2018, led to the announcement of an updated Mineral Resource Estimate for Grants deposit, from 1.8 million tonnes to 2.03 million tonnes. As a result of this increase, the life of mine has been extended by nine months and the site layout and footprint has been modified to accommodate a larger pit and waste rock dump. As the rate of mining will remain similar, the changes do not increase the project daily water demand, and therefore there are no changes proposed to the water supply infrastructure. There is also no change required to the TSF, which has sufficient capacity to accommodate the additional tailings volumes.

The sections below update the project details provided in Chapter 2 of the Draft EIS. Each section provides comment on whether or not the change is likely to increase the severity of the environmental and/or social impacts and risks identified and discussed in the Draft EIS. Core is not proposing to undertake any further exploration at the Grants Project and therefore the project footprint documented in this Supplement is well-advanced. Any future modifications will be relatively minor changes to the internal layout and operations, which would not be expected to increase the level of environmental and/or social impact associated with the proposal, and would be addressed through the mining authorisation process in place under the *Mining Management Act*.

2.1.1 Disturbance footprint and site layout

The information provided in this section updates the details of the disturbance footprint and site layout in Section 2.2 of the Draft EIS.

Summary of modifications

The surface area of the proposed pit has increased by 6.7 ha to 24.3 ha, and the depth of the pit by 20 m, to 200 m below ground level. This change has a flow-on effect to the mine site footprint and layout, as the increased pit size and depth, results in a corresponding increase in the volume of waste rock and requires a larger Waste Rock Dump (WRD). As a larger area will be cleared (and later rehabilitated), the area required for stockpiling of topsoil has increased. The length of the inundation bund has also increased to accommodate the expanded development envelope. The explosive storage area has been added to the site layout, with the required safe separation distance between the facility and the mine operations area. Table 2-1 documents the location and extent of each project component. The mine site development envelope has increased from 147 ha to 217 ha. The updated layout is shown in Figure 2-1.

The 70 ha increase in the mine site disturbance footprint is entirely within the area of Core's granted ML31726. The vegetation communities that occur within the footprint and surrounding areas of the ML are shown in Figure 2-2. The area of each community that will be cleared for construction of the mine site infrastructure is provided in Table 2-2. No new vegetation types will be affected by the increased disturbance footprint.

The majority of the increase in area cleared is in the open Eucalyptus woodland habitats, where an additional 51 ha of vegetation will be cleared to accommodate the larger WRD and topsoil stockpile. An additional 16 ha of mixed species low open woodland will be affected within the broad drainage area that runs through the centre-east of the ML, where the extended topsoil stockpile and explosive storage area will be located. An additional 2 ha of sparse shrub-land with low isolated trees, will be affected by the siting of the northern sediment basin.

No sensitive vegetation types will be directly affected; however, there are some small seasonal pools in the broad drainage area that are very close to the northern most edge of the disturbance footprint (see Figure 2-3). Once the site topographical survey is completed, the opportunity to reconfigure the infrastructure to increase the separation distance from these pools will be considered in the next iteration of the site layout.

The increased disturbance footprint, confined to the ML, is not expected to increase the severity of impacts to flora and fauna associated with the proposal, compared to that presented in the Draft EIS. The vegetation communities

that will be affected are common and widespread in the surrounding areas and the loss associated with the proposal equates to <1% of the extent mapped in the Greater Darwin region.

Table 2-1. Summary of the location and extent of infrastructure components

Component	Location	Approximate dimensions (l x w) and/or capacity	Extent (ha)
Mine Site Infrastructure			
Mine pit	ML31726	600m x 405m x 200m	217ha
Waste rock dump		1270m x 700m x 25m(h)	
Run of Mine (ROM) pad		250m x 160m	
Processing plant		140m x 100m	
Topsoil stockpile		2060m x 100m x 1.5m	
Flood bund		2500m x 30m	
Access roads		2900m x 30m	
Mine Operations Centre		175m x 130m	
Raw water dam		180m x 115m (4.6ML)	
Mine water dam 1		380m x 180m (240ML)	
Mine water dam 2		180m x 110m (60 ML)	
Water Supply Infrastructure (no change from Draft EIS)			
Mine Site dam	Dam wall located on ML31726 at 692200E 8599800N	Area of inundation: 930m x 230m Capacity (max. required) = 387 ML	19ha
Observation Hill dam	Dam wall located at approx. 695400E 8595600N	Area of inundation with wall lift: 700m x 570m; Capacity ~ 628ML	9ha ²
Water pipeline	Start 695400E, 8594700N. End 693300E, 8599400N.	6km (l) x 10 m (w)	6ha
Total area of disturbance			251ha

² 9ha is the additional area inundated by raising the spillway to 31.5mAHD. The entire inundation footprint of the Observation Hill dam is approximately 40ha.

Table 2-2. Area of each vegetation community within disturbance footprint

Vegetation description	Land unit	Area (ha)			Total (ha)
		Mine site	Off-site dams	Water pipeline	
Rises					
Woodland of <i>Eucalyptus miniata</i> , <i>E. tectifica</i> , <i>Corymbia foelscheana</i> over <i>Sorghum plumosum</i>	1b	-	2	1	3
Open woodland of <i>Eucalyptus miniata</i> , <i>E. tetradonta</i> and <i>Corymbia bleeseri</i> over <i>Livistona humilis</i> , <i>Xanthostemon paradoxus</i> and <i>Erythrophleum chlorostachys</i> over open tussock grassland <i>Heteropogon triticeus</i> , <i>Sorghum intrans</i> and <i>Eriachne obtusa</i>	2a1	173	9	2	184 ³
Drainage systems					
Low open woodland of <i>Grevillia pteridifolia</i> , <i>Melaleuca nervosa</i> +/- <i>Syzygium eucalyptoides</i> subsp. <i>Bleeseri</i> over open shrubland of <i>Petalostigma pubescens</i> , <i>Livistona humilis</i> , <i>Banksia dentata</i> over open tussock grassland of <i>Themeda triandra</i> , <i>Eriachne obtusa</i> and <i>Heteropogon triticeus</i>	6b	30	2	2	34 ⁴
Alluvial plains					
Low isolated trees of <i>Pandanus spiralis</i> , <i>Lophostemon lactifluus</i> , <i>Livistona humilis</i> over sparse shrubland of <i>Pandanus spiralis</i> , <i>Lophostemon lactifluus</i> , <i>Livistona humilis</i> over tussock grassland of <i>Sorghum stipoideum</i> , <i>Eriocaulon spectabile</i> , <i>Melaleuca nervosa</i>	5a	14	6	<1	21 ⁵
Woodland of <i>Eucalyptus alba</i> over a sparse shrubland of <i>Eucalyptus alba</i> , <i>Lophostemon lactifluus</i> , <i>Pandanus spiralis</i> over tussock grassland of <i>Sorghum plumosum</i> , <i>Germania grandifolia</i> , <i>Lophostemon lactifluus</i>		-	9	-	9
		217ha	28ha	6ha	251ha

³ 51 ha increase from figures presented in Draft EIS


⁴ 16 ha increase from figures presented in Draft EIS


⁵ 2 ha increase from figures presented in Draft EIS




Legend

- Mineral lease (application)
- Mine site footprint
- Water supply infrastructure
- Internal drainage





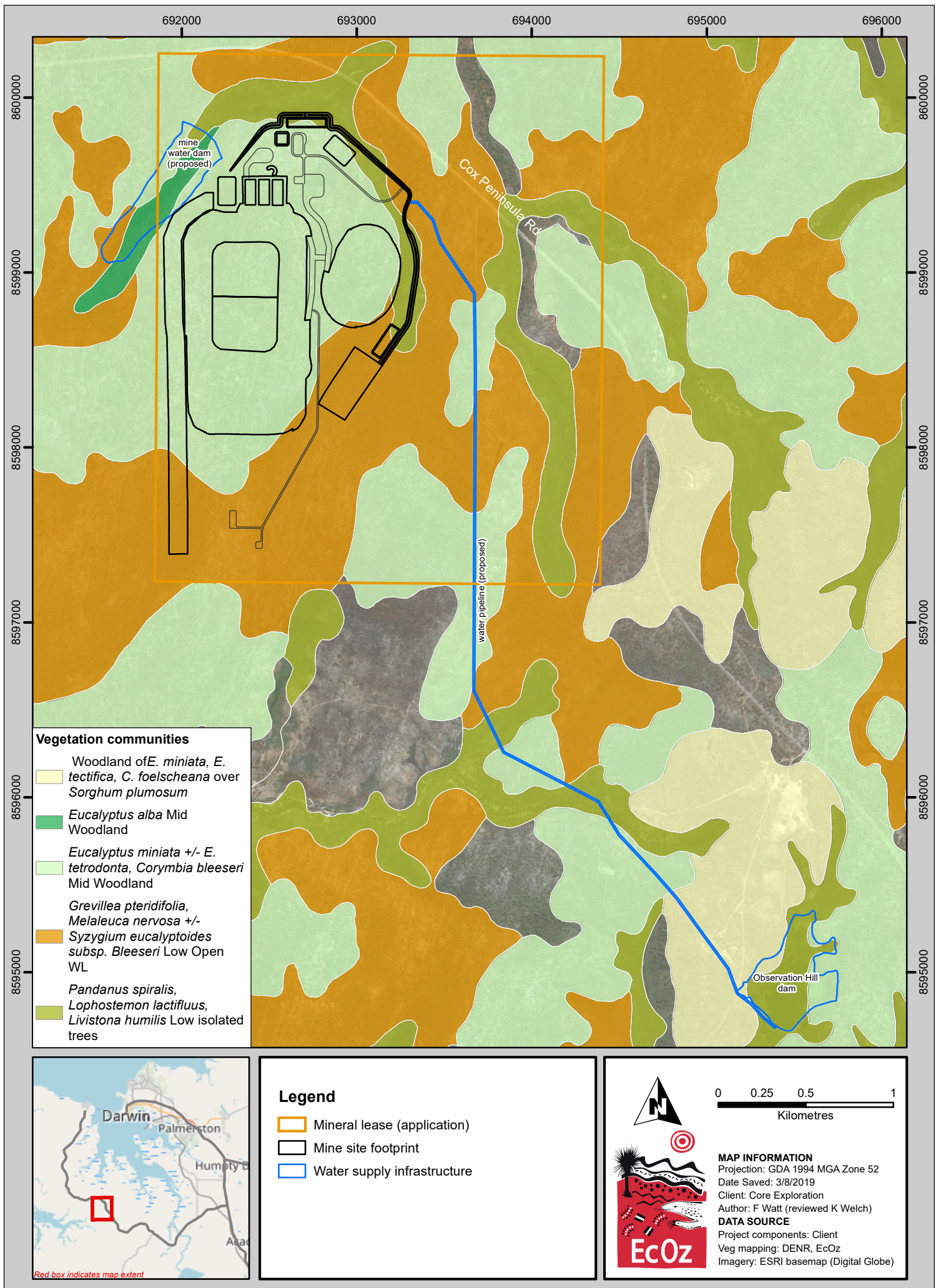
0 125 250 500
Metres



MAP INFORMATION
 Projection: GDA 1994 MGA Zone 52
 Date Saved: 3/15/2019
 Client: Core Exploration
 Author: F Watt (reviewed K Welch)

DATA SOURCE
 Project components: Client
 Imagery: ESRI basemap (Digital Globe)

Figure 2-1. Mine site footprint and layout



Path: Z:\01 EcOz_Documents\04 EcOz Vantage GIS\IEZ18086 - Grants Project - EIS\01 Project Files\Chapter 5 maps\Figure 5-1 Vegetation communities within the project area.mxd

Figure 2-2. Vegetation communities within the project area

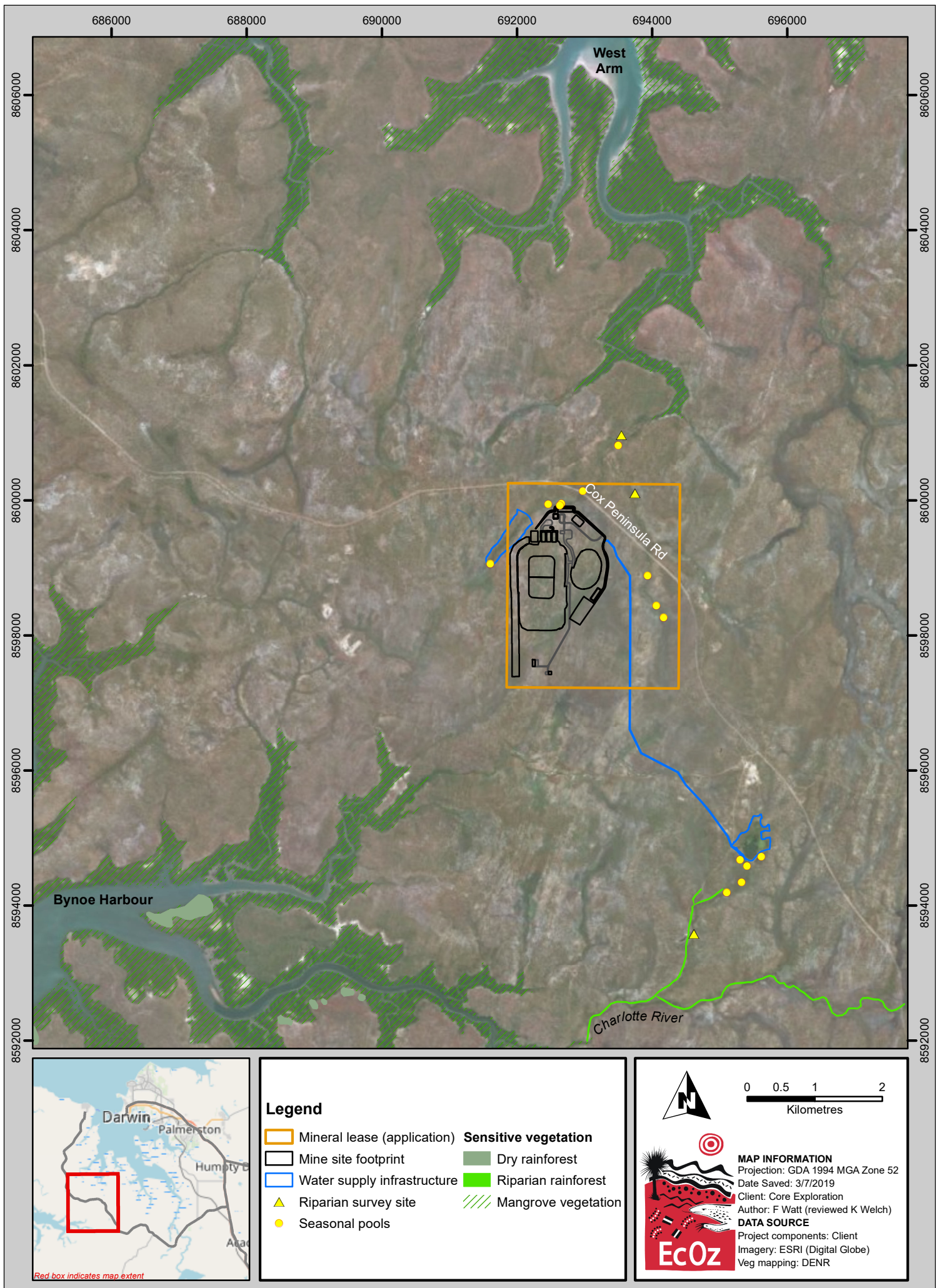


Figure 2-3. Sensitive vegetation communities near the project area

2.1.2 Schedule

The mine life associated with extraction of 2.03 Mt of ore is expected to be three years. The pit will be mined over a period of 29 months. Ore is expected to be intercepted around month five in the schedule and first ore will be shipped from Darwin Port around month six. Following completion of mining (around month 29), processing of stockpiles will continue for a further six months, with the last shipment from Darwin Port scheduled in month 35. Closure and rehabilitation works will commence on completion of mining and will continue for a number of months after the last shipment of ore. The indicative project phases are shown in Table 2-3. Subject to approvals, Core is targeting commencement of works in quarter three of 2019.

Table 2-3. Indicative project schedule

Year/Month	Months 1-5	Months 6-29	Month 30-35	Months 36-40	Months 41 onward
Phase	Pre-strip & construction	Mining and processing	Processing Only	Rehabilitation & Closure	Post-closure
Activities	Removal of oxide waste and oxidised pegmatite waste. Construction of site infrastructure and processing facilities.	Mining of the pegmatite ore body and adjacent 'fresh' waste, and processing/ transport of product to Darwin Port	Mining in open pit is complete. Continued processing and transport of product to Darwin Port	Rehabilitation and mine closure activities undertaken in accordance with Mine Closure Plan	On-going monitoring of the mine site until rehabilitation completion criteria are achieved and the site is relinquished.

2.1.3 Material volumes

The updated total quantity of waste and ore to be mined from the pit is shown in Table 2-4. The total material movements per month of the mining schedule is shown in Figure 2-4.

Table 2-4. Quantity of material to be mined over the life of mine

Material	Volume (bcm)	Wet metric tonnes
Waste mined	13,887,008	36,224,625
Ore mined	782,978	2,152,238
Total	14,669,986	39,171,158

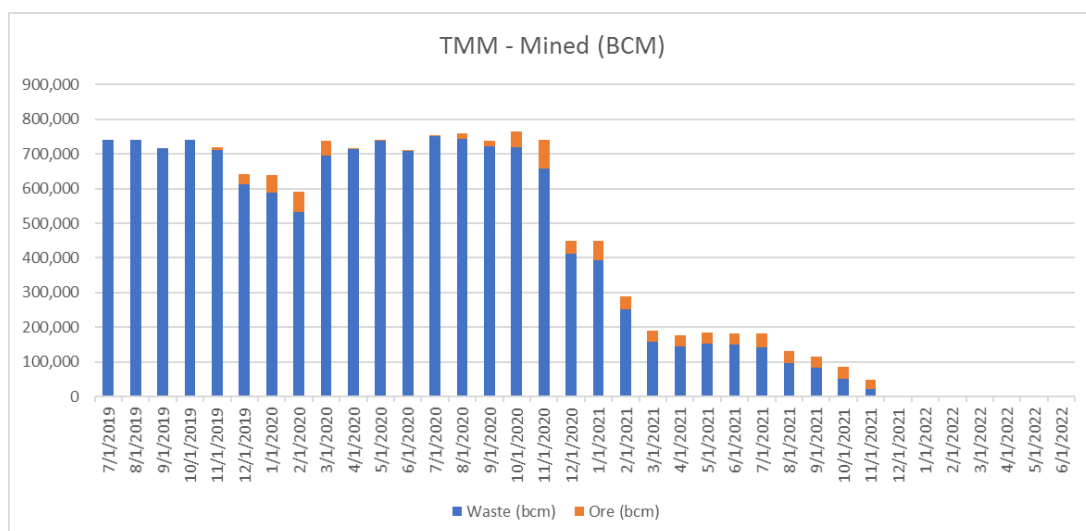


Figure 2-4. Graph of material movements (waste and ore) by month

3 ADDITIONAL AND/OR AMENDED INFORMATION

This section summarises additions and/or amendments to information that formed the basis of the impact assessment documented in the Draft EIS. The information mainly relates to the surface water and groundwater modelling outputs, which have changed since the models were re-run to account for the modifications to the site footprint and layout and mining schedule. The information also addresses comments received on the Draft EIS and from the independent review of the project Water Management Plan, which recommended some changes to the surface water model inputs used for rainfall. The responses to submissions documented in Section 5 of this Supplement, cross-reference the information provided in this section where relevant.

3.1 Water supply and storage

The predicted daily project water demand of 2,018 kl/day has not altered since the submission of the Draft EIS. Water sources for the mine will still comprise:

- Groundwater/rainfall in-flows to the pit, which will be dewatered to onsite storage
- Surface water pumped from off-site dams.

The information provided in this section updates the water information provided in section 2.12 of the Draft EIS.

The site groundwater model has been re-run to forecast the monthly inflows to the larger pit over the longer mine life. A supplementary report documenting the model inputs, methods and results is provided at Appendix C.

Monthly volumes of water entering the pit are shown in Figure 3-1. Pit inflows increase from the commencement of mining until peak inflow is reached in October 2020 (79 ML/month). Inflows then decline, significantly in April 2021 where inflows plateau around 50 – 60 ML per month. After a small increase in flows during the 2021-2022 Wet Season, inflows are forecast to decrease to about 45 ML per month at the end of operations.

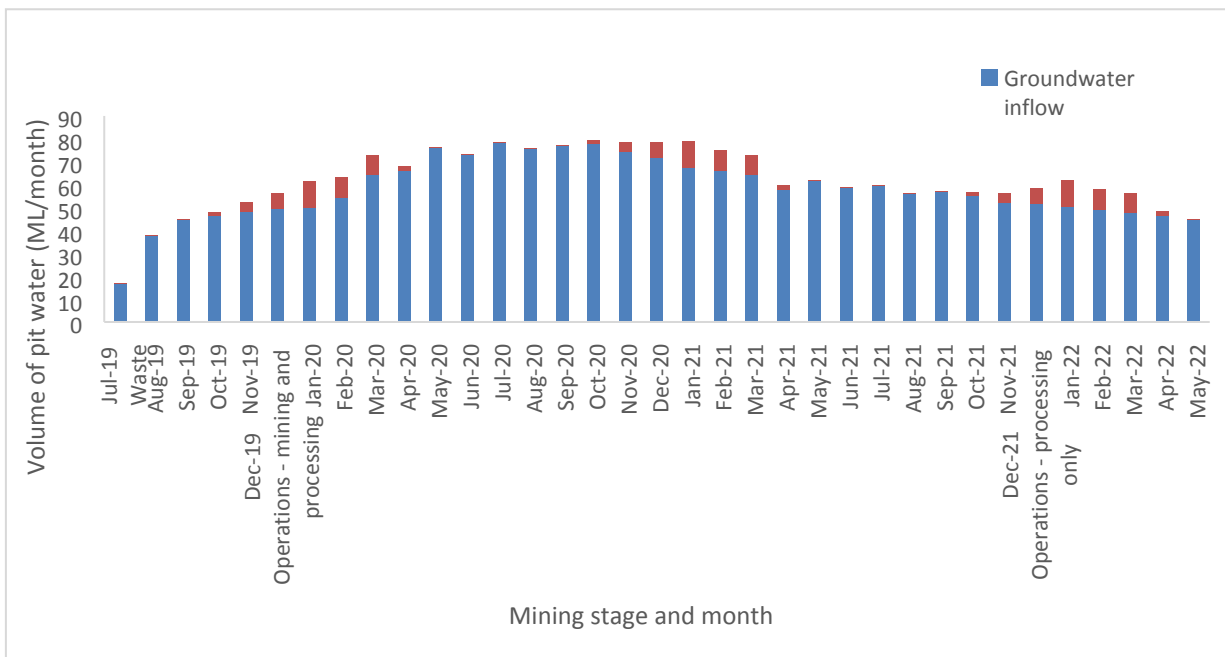


Figure 3-1. Graph showing volume of pit water (ML) to be extracted per month during the life of mine

It should be noted that, direct rainfall to the pit is significantly less in the updated model than the volumes documented in the Draft EIS. This change is due to the inclusion of a runoff coefficient applied to the rainfall, which in error was not applied in the original modelling. The runoff coefficient estimates the volume of rainfall which infiltrates the base of the pit. The applied runoff coefficient is 0.15, which is the Mineral Council of Australia’s Water Accounting Framework estimate for a disturbed catchment.

The overall groundwater inflows to the pit have increased in the updated modelling due to the deeper pit and extended mine life. This increase is offset to some extent in the wet season months, by the decreased surface water volumes entering the pit, as a result of the rainfall coefficient being applied to the model. Overall, there is a decrease in the volume of water that will require dewatering from the pit during the wet season, which will mean reduced volumes of off-site discharge. During the dry season, there is an increase in the water entering the pit, which will be contained in on-site storages and reused. The differences in volumes of water to be dewatered from the pit between the original and updated modelling are shown in Figure 3-2.



Figure 3-2. Differences in pit inflows between the original and updated modelling

3.2 Water balance model

A monthly water balance developed in accordance with the *Minerals Council of Australia Water Accounting Framework* was provided as part of the Draft EIS Appendix J. The model was used to determine the requirements of the water supply and storage system, and requirements for discharge of water during the wet season. The outputs from the water balance were summarised in Chapter 2 of the Draft EIS.

A supplementary water balance has been prepared to incorporate the revised mine site layout and mining schedule, updated groundwater and surface water model outputs and to address comments received from independent review of the Water Management Plan. The following aspects of the water balance model were updated:

- The input rainfall and evaporation data are updated using SILO climate data set.
- The ground water inflow data was updated for the larger pit and extended schedule.
- Two additional climate conditions (successive dry year and successive wet years) were assessed.
- The mine site flow chart and input parameters were adjusted to comply with the latest mine layout design and revised operation schedule.
- The water balance schedule was extended to 35 months to cover the updated life of mine.

The complete report is provided at Appendix D and key information is summarised below. A revised schematic of the site water balance model is shown in Figure 3-3. An updated water balance input-output statement for an average rainfall year is provided in Table 3-1. Schematics and input-output statements for average rainfall, successive wet and successive dry years and are provided in Appendix D.

3.2.1 Make-up water

Predicted make-up water volumes peak at 22 ML/month during the first month of mining when groundwater inflows are minimal. From the second month onwards, make up water is less than 4 ML per month. Make up water is not expected to be required during peak wet season months, based on there being large volumes of groundwater and surface water captured and re-used within the mine site. After month one, the average volume of make-up water required per month is 1.7 ML, an increase of 0.2ML compared to what was stated in the Draft EIS. There is sufficient contingency in the identified sources of supply (i.e. off-site dams) to provide for this increase, without increasing the size of the storages.

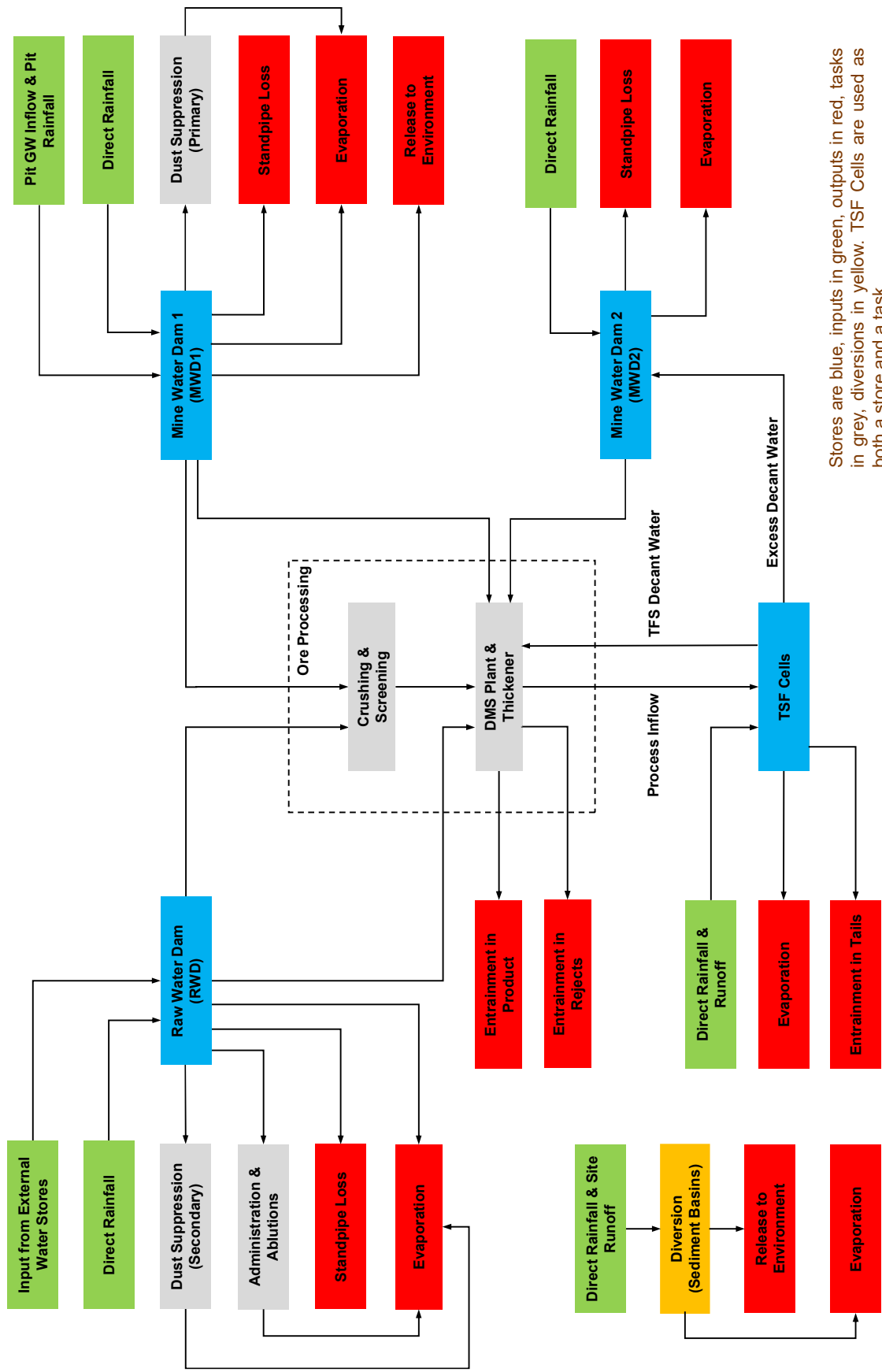
3.2.2 Discharges

The on-site storages have been designed with sufficient capacity to store water during the dry season. During the wet season months of November to March each year, there will be water excess to the mine requirements that will need to be discharged off-site. This information was presented in the Draft EIS; however, the timing and volumes of discharges have been updated in the revised model. Modelled monthly discharges for the optimised pit shell for an average rainfall year are detailed in Table 3-2.

Water will be discharged from the onsite storage referred to as MWD 1, which will contain only groundwater/rainfall dewatered from the pit. Section 7.4 of the Water Management Plan provides details of the predicted discharge water quality. The water is expected to be of suitable quality for discharge to the adjacent broad drainage area during the wet season, once sediment is removed using flocculants. Discharge water quality will aim to meet the Water Quality Objectives for the Darwin Harbour Region (NRETAS 2010) for most parameters, except for where the background surface water concentrations are already exceeding the objective (i.e. NO_x and aluminium) or when there is no objective (i.e. lithium and iron), when the aim will be to remain within the background range.

The relatively large discharge volumes in the early wet season months (November and December) are notably different to those presented in the Draft EIS, which were for the smaller pit. In these months, the discharge from the mine site will represent a larger percentage of the total streamflow than previously indicated (i.e. there will be less dilution in the receiving waters). As shown in Table 3-2, discharge volumes are expected to peak around November/December 2020, when they would comprise up to 58% of the total streamflow volume immediately downstream of the mine. The discharge is not expected to alter water quality in the downstream receiving waters as it is predicted that the groundwater inflows to the pit will be sufficiently diluted with rainfall in MWD1, for all parameters to be below water quality objectives.

Discharge requirements, management and monitoring are addressed in detail in the updated Water Management Plan provided at Appendix E. The discharge of water from the mine site will require a Waste Discharge Licence under the *Water Act*. The licence will prescribe the release criteria to be achieved, monitoring and reporting requirements against which the project activities will be regulated.



Stores are blue, inputs in green, outputs in red, tasks in grey, diversions in yellow. TSF Cells are used as both a store and a task.

Figure 3-3. Updated Water Balance Schematic

Table 3-1. Water balance input-output statement for average rainfall year

Inputs and Outputs for the reporting period (1st July 2019 to 31st May 2022)							
Input/ Output	Source/ Destination	Inputs/ Outputs	Water quality			Note	How were the flows obtained and what is the confidence level of them?
			Cat1 ⁶ (ML)	Cat2 ⁷ (ML)	Cat3 ⁸ (ML)		
Input	Surface Water	Precipitation and Runoff	394	548		1	Estimated/Low
		External Storages	80			2	Estimated/Low
	Groundwater	Aquifer interception		290		3	Simulated/Medium
		Aquifer interception		1739		4	Simulated/Medium
	Total Inputs		474	2576			
Output	Surface Water	Discharge	948			5	Estimated/Low
	Other	Evaporation	1517			6	Estimated/Medium
		Entrainment			492	7	Estimated/Medium
	Total Outputs		2465		492		
Diversions							
Input	Surface Water	Precipitation and Runoff	105	1073		8	Estimated/Low
	Total Inputs		105	1073			
Output	Surface Water	Discharge	1055				Estimated/Low
		Evaporation	124				Estimated/Low
	Total Outputs		1178				

Notes for Input-Output statement:

1. The precipitation and runoff were estimated using the equations in the water balance model report and 50th percentile SILO monthly rainfall data from Table 1.
2. The water extracted from external storages was estimated by balancing the whole water balance system.
3. The pit groundwater inflows (Table 2) are from the result of groundwater modelling conducted by CloudGMS.
4. This part of the groundwater inflows was estimated by linear interpolation. The method is described in section 5.1.1.
5. The water released from MWD1 was estimated by balancing the storage.
6. The evaporation from storage was estimated using the equation in Section 5.2.2 and 50th %ile SILO monthly pan evaporation data from Table 1.
7. The entrainment was estimated based on the entrainment rates in Section 5.2.1.
8. The site runoff was estimated by the equation in Section 5.3.1. A runoff/rainfall coefficient of 0.15 from the MCA WAF guidelines was adopted for the disturbed area.

⁶ Category 1: Water is of a high quality and may require minimal and inexpensive treatment (for example disinfection and pond settlement of solids) to raise the quality to appropriate standards.

⁷ Category 2: Water is of a medium quality with individual constituents encompassing a wide range of values. It would require moderate level of treatment such as disinfection, neutralisation, removal of solids and chemicals to meet appropriate standards.

⁸ Category 3: Water is of a low quality with individual constituents encompassing high values of total dissolved solids, elevated levels of dissolved metals or extreme levels of pH. It would require significant treatment to remove dissolved solids and metals, neutralise and disinfect to meet appropriate drinking water standards.

Table 3-2. Modelled discharge volumes and composition for average rainfall year over life of mine

Month	Discharge volume presented in Chapter 2 of the Draft EIS	Updated discharge volume (ML/month)
2019 Dry season	No discharge	No discharge
November 2019	No discharge	46.36
December 2019	No discharge	25.23
January 2020	61.72	38.49
February 2020	85.50	40.48
March 2020	66.18	47.12
2019 Wet Season Total	213.40	194.68
2020 Dry season	No discharge	No discharge
November 2020	3.07	129.60
December 2020	46.18	133.92
January 2021	79.99	89.52
February 2021	74.45	51.15
March 2021	58.62	45.58
2020 Wet Season Total	262.31	449.77
2021 Dry season	-	No discharge
November 2021	-	97.02
December 2021	-	46.18
January 2022	-	57.56
February 2022	-	51.74
March 2022	-	47.76
2021 Wet Season Total	-	300.26

3.3 Surface water modelling

As part of the Draft EIS, modelling was undertaken to understand the hydrology of the site and assess potential impacts to surface water flows from the proposal. In response to independent review comments received on the Water Management Plan and changes to the site layout, the hydrological modelling has been re-run using:

- Climate data consistent with the groundwater model
- Updated project layout and pit geometry
- Updated pit inflow figures from the groundwater model.

The complete supplementary report is provided at Appendix F. Of relevance to assessment of potential environmental impacts, are changes relating to the:

- Percentage reduction in stream flow downstream of disturbance areas
- Level of inundation that could be experienced at the mine site.

The sections below summarise these changes and provides comment on whether or not the change is likely to increase the severity of the environmental and/or social impacts and risks identified and discussed in the Draft EIS. The information provided in this section updates the information provided in Chapter 7, Section 7.3 of the Draft EIS.

Modelled changes to surface water flows downstream of the mine site

As indicated in the Draft EIS, there will be some alteration of surface water flows in the affected sub-catchments of West Arm due to changes in flow paths caused by the presence of the mine site infrastructure and construction/use of the Mine Site Dam for water supply. The updated modelling still assumes the maximum water use scenario (i.e. maximum pump rate from the dams of 2.02 ML/day). For the streams flows to West Arm, the modelling does not take into consideration the discharge of excess water that will occur during the wet season from sediment basins and MWD1 (refer section 3.2). As such, the reduction in flows presented here will be partially offset by discharges from the mine site. The modelled reduction in flows in the West Arm catchment downstream of the mine site, for an average rainfall year during mining, are shown in Table 3-3.

For ease of reference the table indicates where the updated model outputs vary from those presented in the Draft EIS. These changes to the model outputs have arisen mainly due to the use of SILO rainfall data, as recommended by the independent reviewer of the Water Management Plan. This dataset has similar annual rainfall totals to that used previously but different temporal variation. The increased disturbance footprint also affects the model outputs.

In the early dry season months between November and January, the modelled percentage reduction in flows for sites in the West Arm catchment, is expected to be similar to (i.e. within 2%) or less than originally forecast in the Draft EIS. Immediately downstream of the mine site (at site 2&5DS), flows will be reduced by around 30% in November, dropping to 20% or less for the remainder of the wet season. The ephemeral streams at this location do not support any notable environmental values that are likely to be affected by this level of reduction in flow. Further downstream at the point of discharge to the hinterland mangroves of West Arm, the early season reduction in flow is similar to originally predicted. At this point in the catchment, flows will be reduced by around 14-23% in November to January, which is not of a magnitude expected to have any impact on the ecological integrity of the mangrove environment or receiving waters habitats.

In the later wet season months between February and April, the percentage reduction in flows downstream is expected to be 5-12% greater than indicated in previous modelling. At the point of discharge to the hinterland mangroves of West Arm, flows will be reduced by around 12-15%. Water availability is not a limiting factor at that time of year and the level of flow reduction is unlikely to cause any measurable impact to the mangroves or receiving waters.

Following closure of the mine site and decommissioning of the Mine Site Dam, post-closure modelling indicates that at the point of discharge to the hinterland mangroves of West Arm, flows will be reduced by 13-14% over all wet season months. This reduction is due to the continued diversion of surface water flows around the mine site by the abandonment bund, which effectively reduces the surface area of the catchment. This level of ongoing reduction is unlikely to cause any measurable impact to the downstream receiving waters.

Table 3-3. Modelled monthly reduction in streamflow from mine site catchment (average rainfall year)

Green text indicates the modelled % reduction in flows has decreased from the figures presented in the Draft EIS.

Orange text indicates the modelled % reduction in flows has increased from the figures presented in the Draft EIS.

Outflow reference	Description	Model	Nov	Dec	Jan	Feb	Mar	Apr
2&5 DS	Confluence of stream flow from sub-catchments 2 and 5.	Updated	29.3%	20.3%	17.5%	15.3%	15.3%	21.4%
		Previous	43.7%	36.1%	27.5%	5.0%	2.5%	14.5%
DS 5	Approx. 2km downstream. Represents stream flow discharge to upper tidal limit of receiving waters.	Updated	23.1%	16.9%	14.1%	11.9%	12.0%	16.9%
		Previous	24.1%	21.6%	19.2%	3.7%	1.8%	9.9%
DS 4	Approx. 6 km downstream. Represents stream flow discharge into upper branches of West Arm.	Updated	14.5%	12.9%	9.1%	7.8%	7.9%	11.1%
		Previous	13.5%	10.9%	12.9%	2.6%	1.2%	6.4%

Modelled changes to surface water flows downstream of Observation Hill Dam

As the OHD already exists, the reduction in flow that results from the current spillway (current conditions) has been modelled, along with the reduction in stream flow that will occur when the dam wall is raised (by 1.5m) and water is pumped from the dam to supply the mine site. Table 3-4 shows the updated modelled monthly reduction in streamflow caused by OHD (with no extraction of water for mining) and the operational scenario (OHD wall raise and extraction). The updated model indicates that reduction in stream flow downstream of the OHD is likely to be greater than originally predicted. As there has been no change to the proposed operational water use from OHD, the increased impact on flows is entirely due to the use of the SILO rainfall data in the modelling (as recommended by the independent review of the Water Management Plan).

At the catchment outlet to Charlotte River, approximately 3 km downstream of the dam, flows are currently reduced by more than 50% in the early wet season, compared to the modelled natural conditions that would have existed prior to construction of the dam over 20 years ago. During the early wet season months of November and December, extraction of water from OHD, is not expected to reduce downstream flows any further than they are already reduced by the presence of the dam. From January to April, extraction of water from OHD is forecast to further reduce flows compared to the current conditions. Flows will be reduced by between 11% and 28% from natural conditions over these months, 5-15% of this reduction is directly attributed to use of OHD by the project.

The modelled reduction in flows during November and December are up to 20% greater than presented in the Draft EIS; however, none of this reduction is directly attributable to the project (i.e. flows are currently reduced by that amount and the project will not increase the impact). On this basis the changes to the model outputs do not alter the severity of impacts considered in Chapter 7 of the Draft EIS. It is possible that the riparian rainforest vegetation that occurs downstream of OHD could experience some changes in species composition and/or diversity; however, the community as a whole is expected to persist given it likely relies on groundwater to sustain it over the dry season and has persisted for over 20 years with the OHD in place.

Table 3-4. Modelled monthly reduction in streamflow from Observation Hill Dam catchment

Site Description	Conditions	Nov	Dec	Jan	Feb	Mar	Apr
Spillway	Current conditions	100%	100%	41.8%	12.2%	25.6%	43.9%
	Operational conditions	100%	100%	78.8%	32.4%	44.6%	100%
Approximately 3km downstream. Catchment outlet to Charlotte River.	Current conditions	58.3%	52.8%	11.4%	3.1%	6.1%	12.6%
	Operational conditions	58.3%	52.8%	27.1%	22.6%	11.0%	28.7%
Approximately 4.5 km downstream. Charlotte River outlet to Bynoe Harbour.	Current conditions	12.6%	9.4%	1.6%	0.4%	0.8%	1.7%
	Operational conditions	12.6%	9.4%	3.7%	2.9%	1.4%	3.9%

Inundation modelling

The flood inundation modelling was reassessed using an updated DEM based on the revised mine site layout. The modelled maximum water depths around the mine site during a 1%AEP rainfall event are shown in Figure 3-4. The results allowed the re-assessment of:

- Potential impact of inundation on mine infrastructure
- Potential for the mine site infrastructure to cause flooding of the Cox Peninsula Road.

Where the previous model indicated a small section of the mine site could be affected by flooding, the updated modelling indicates that the mine site is protected from flood risk by the inundation bund. Flood water around the mine site drains away through natural stream lines and under the Cox Peninsula Road culverts. Inundation of Cox Peninsula Road is also reduced in time, extent and depth in the post-mining condition compared to the pre-mining condition. This is due to the mine site development envelope effectively removing part of the catchment area and reducing stream discharges.

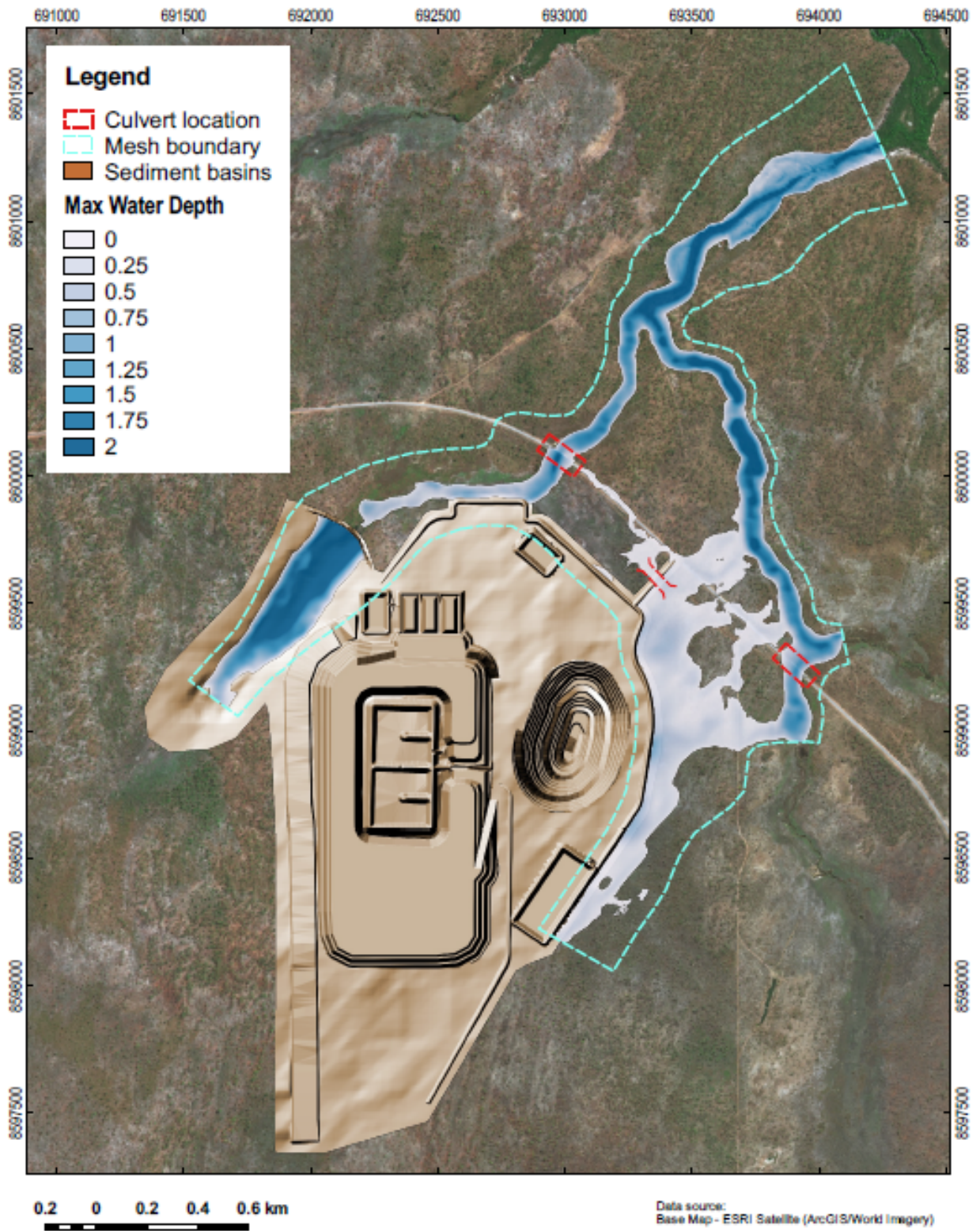


Figure 3-4. Post mine 1%AEP rainfall inundation extent (from EnviroConsult 2019)

3.4 Groundwater modelling

As part of the Draft EIS, modelling was undertaken to understand the groundwater aquifers and assess potential impacts to groundwater hydrology from the proposal. In response to independent review comments and changes to the site layout, the hydrological modelling has been re-run. Specifically, the model parameters were altered to account for the deeper pit and increased life of mine. The complete supplementary report documenting the changed model outputs is provided at Appendix C. The updated modelling did not change outputs related to:

- Post closure pit lake formation or water budget
- Pit lake salinity
- Pit lake classification.

Of relevance to assessment of potential environmental impacts, are changes relating to the:

- Predicted pit inflows during the life of mine (discussed previously in section 3.2)
- Modelled groundwater drawdown cones both during and post mining, which are discussed below.

The sections below summarise the changes and provide comment on whether or not the change is likely to increase the severity of the environmental and/or social impacts and risks identified and discussed in the Draft EIS.

Groundwater drawdown contours

The information provided in this section updates the information provided in Chapter 7, Section 7.3 of the Draft EIS. The updated forecast drawdown impacts at the end of the 29-month mining period are presented in Figure 3-5. The revised modelled drawdown is similar to the original model outputs presented in the Draft EIS. A noted difference is that whilst previously it was stated that drawdown would be limited to within the boundaries of the ML, the updated model shows the drawdown cone extending marginally across the western edge of the lease boundary. At this point the modelled drawdown is 0.1 m, which is not considered significant in terms of potential to cause impacts to environmental values that are reliant on groundwater.

The final post-closure drawdown contours are presented in Figure 3-6. This figure shows the drawdown surface after 70 years of recovery post mine-closure (year 2090). The pit lake operates as a groundwater sink and will result in 0.5 m drawdown with a radial extent of approximately 750 m around the pit lake. The change in watertable surface resulting from the mining activities and the pit lake extends marginally beyond the western boundary of the ML but is not predicted to change groundwater conditions beneath ephemeral drainage lines. This is comparable to the post-mining drawdown contours presented in the Draft EIS (Chapter 7) although there is a slight extension of the drawdown cone, particularly to the west.

Consistent with the conclusions drawn in section 7.6.3 of the Draft EIS, the modelled drawdown is not expected to impact environmental values or other users. The closest groundwater bores are more than 13 km from the mine site and will not be impacted. The modelled drawdown cone is not expected to impact on any surface water flows as discharge of groundwater to these drainage lines is expected to be small due to the low hydraulic conductivity of the aquifer.

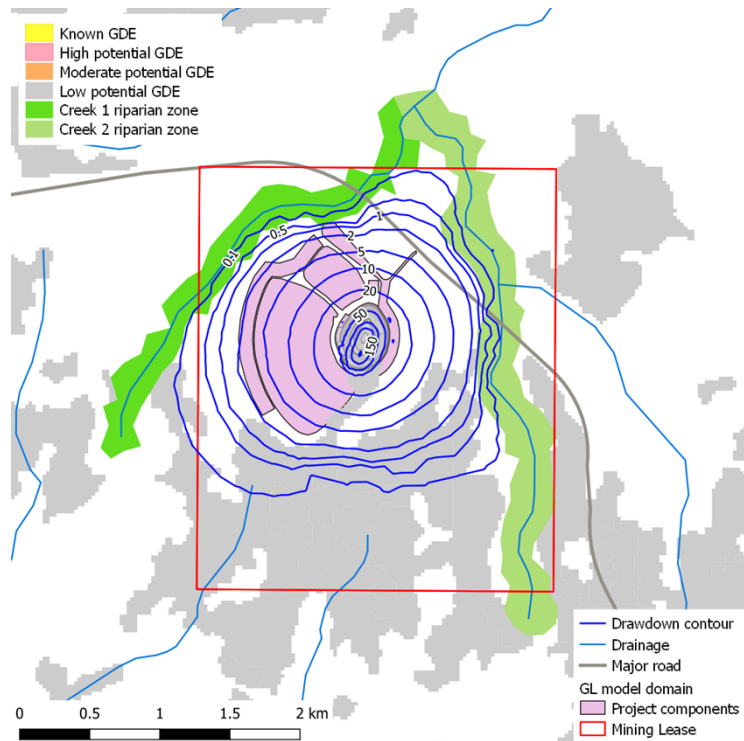


Figure 3-5. Drawdown contours after 29 months of mining (year 2021)

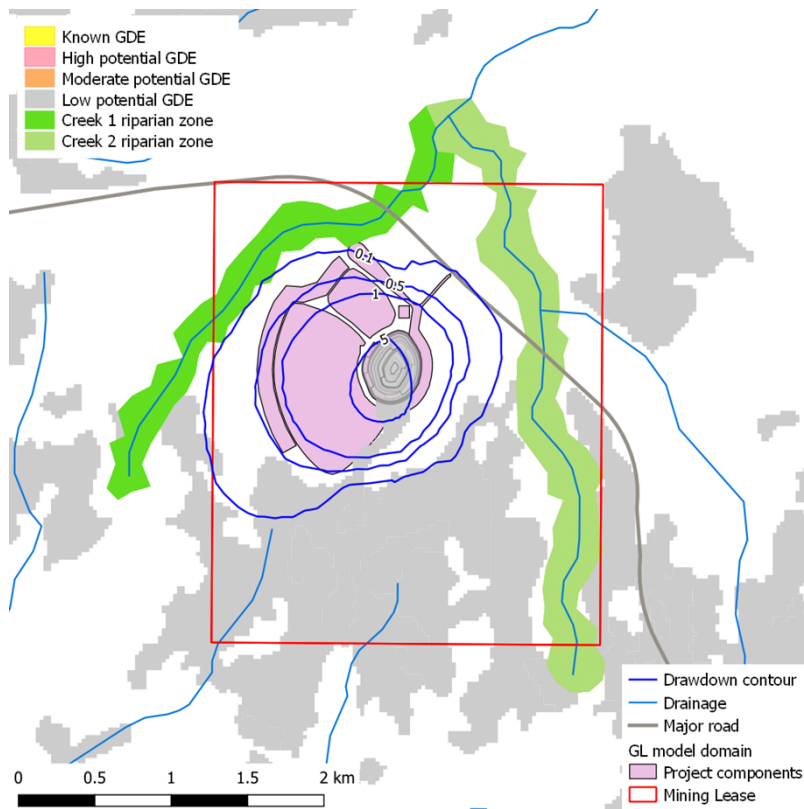


Figure 3-6. Post mining drawdown contours after 70-years of recovery (year 2090)

3.5 Water Management Plan

The Water Management Plan has been reviewed by independent third-party reviewers Mr Rohan Ash and Dr Bill Howcroft of Out-Task Environmental. This independent review was a requirement of section 4.2.1.4 of the EIS ToR. The plan has been updated to address the review comments and to incorporate the revised outputs from the updated surface water model, groundwater model and site water balance, as summarised above. The complete updated Water Management Plan is provided as Appendix F of this Supplement. A tabulated summary of the review comments and how each has been addressed in the updated document is provided at Appendix D of the plan.

3.6 Off-site dams

In response to comments received on the Draft EIS, the Mine Closure Plan has been revised to state Core's intent to decommission the Mine Site Dam when it is no longer required. Because Observation Hill Dam is an existing dam, Core intends to leave this dam in place. The dam has been in place for over 20 years and has been noted to have some value to the local community. The presence of the dam is consistent with future agricultural/grazing land-use, which is the future land-use assigned to the area in the *Darwin Regional Land-use Plan*.

The dams will require the following ongoing maintenance and monitoring for the duration that they remain in place:

- Surveillance inspections in accordance with Australia National Committee on Large Dams (ANCOLD).
- Regular removal of vegetation in spillway channels and on embankment batters.
- Remedial works as identified in surveillance inspections (for example erosion, longitudinal cracking etc.)
- Monitoring of installed instrumentation (piezometers and v-notch weirs), at a frequency in accordance with the ANCOLD Consequence Category, which for OHD is 'Low' and MSD is 'Significant' (GHD, 2019).

This maintenance and monitoring regime will be documented in Core's applications for a '*Permit to Construct or Alter a Watercourse*' under the *Water Act*.

The decommissioning process for the Mine Site Dam would involve:

- Drain the storage
- Remove embankment fill and sediment to return the landform to an ephemeral stream
- Redistribute material to a non-erodible area of the storage and re-seed with local vegetation
- Ensure valley floor and side walls are stable.

Prior to decommissioning, as a condition of the Mining Authorisation issued under the *Mining Management Act*, Core will be required to submit a detailed works plan to DPIR⁹.

Public comments provided on the Draft EIS indicate that Observation Hill Dam is utilised and valued by some members of the local community. Post-closure of the mining operations, Core proposes to leave the Observation Hill Dam in place. Responsibility for post-closure monitoring and maintenance of the dam will remain with Core until such time as the Ancillary Mineral Lease over the dam area is relinquished, at which time responsibility would be handed back to the landowner (Crown Lands – NT Government).

3.7 Haulage times

As stated in Chapter 2, section 2.11.3 of the Draft EIS, haul trucks will operate along the haul route 24 hours/day. The Social Impact Management Plan submitted as Appendix N of the Draft EIS, erroneously stated that haul trucks would operate during day time hours only. This error has been addressed in the revised SIMP provided as Appendix M to this Supplement.

⁹ DPIR approval is required for all works proposed on a ML.

4 SUMMARY OF SUBMISSIONS RECEIVED

A total of 16 submissions were received on the Draft EIS. The completed un-edited submissions are provided in Appendix A. Submissions generally contained multiple comments relating to either a single topic or multiple different topics. A total of 15 main topics were raised across the submissions. Table 4-1 provides details of each submitter and the topics covered in each submission. The topic raised most often was traffic/roads, followed by air quality/GHG, mine closure, water quality, weed management, environmental management and stakeholder engagement.

Table 4-1. Summary of topics raised in each submission

Stakeholder Group	Submitter	Project description	Stakeholder engagement	Social Impacts	Cumulative impacts	Economic rationale	Air quality / GHG	Environmental management	Traffic / Roads	Environmental quality	Flora and fauna	Weed management	Hydrological processes	Water quality	Mine closure	Emergency response	Other
NT EPA	Environment Division	X					X		X	X					X		
NT Government Advisory Bodies	Chief Minister			X			X		X	X				X			X
	Department of Environment & Natural Resources							X		X	X	X	X				X
	Health													X			X
	Infrastructure, Planning & Logistics								X								
	Tourism & Culture		X														
Community Groups	Wagait Shire Council								X								
	Berry Springs Primary School Council								X								
Non-Government Org	Environment Centre NT		X				X						X		X		
Community members	Diana Rickard & Greg Chapman					X			X				X			X	
	Jack Ellis							X	X			X			X		
	Alex Richmond						X	X	X		X	X		X	X		
	Pauline Cass		X		X	X	X		X			X	X		X		X
	Anonymous	X			X	X	X	X	X		X		X	X	X		X
	John Oakley	X	X	X	X	X	X		X	X							X
	Graham Drake			X					X								
TOTAL		3	4	3	3	4	7	4	12	4	3	4	5	4	6	1	6

5 RESPONSE TO SUBMISSIONS

This section documents the comments raised in each submission and provides Core’s response. As submissions often contained multiple comments relating to different topics, each identified comment has been addressed independently. The responses cross-reference the additional and/or amended information provided in Section 2 and Section 3 of this Supplement and/or the relevant chapter and section of the Draft EIS, where the information can be found.

5.1 Submissions from NT Government agencies

Submissions were received from the DENR Environment Division (advisors to the NT EPA) and six other Northern Territory government agencies. Comments from each agency are presented and responded to in the sections below.

5.1.1 Environment Division

Comment ID:	Environment Division 1	Topic:	Traffic/Roads	EIS Section:	2.14.3 Traffic Impact Statement
Comment					
<p>Chapter 2.14.3 notes that workers would travel to/from site for each shift. Based on the information provided in the Draft EIS, it is unclear if vehicle movements by staff travelling to/from the site have been considered in the Traffic Impact Statement.</p> <p>Please update the Traffic Impact Statement to include estimates of both the heavy and light vehicle movements generated by the Proposal. In addition, include discussion about mitigation measures considered to reduce proposal generated traffic along Cox Peninsula Road e.g. park and ride shuttle buses for staff, arranging staff rosters to avoid travelling along the Cox Peninsula Road during peak/school hours.</p>					
Response					
<p>The Traffic Impact Statement has been updated to include estimates of both the heavy and light vehicle movements and is provided at Appendix G. Park and ride shuttle buses will be provided for staff from designated locations, which are yet to be confirmed, but will most likely be a selection of those used for the Inpex site where there are adequate car parking spaces available.</p>					

Comment ID:	Environment Division 2	Topic:	Mine Closure	EIS Section:	Mine Closure Plan
Comment					
<p>The risk assessment and Mine Closure Plan assesses the short-medium term risks from water related infrastructure proposed to be left on the site at the completion of mining. As there is no proposal to decommission either the Observation Hill Dam or the Mine Water Dam, provide an assessment of the medium-long term risks on the environment with respect to ongoing changes to the hydrology downstream post-mining. Further detail should be provided outlining the proposed design life of water storage infrastructure and the fate of the infrastructure at the end of its design life. Also include details of the ongoing maintenance or monitoring of those structures post-closure and rehabilitation.</p>					
Response					
<p>The Mine Closure Plan has been revised to state Core’s intent to decommission the Mine Water Dam when it is no longer required. As Observation Hill Dam is an existing dam, Core’s intent is to leave the dam in place; however, pumping infrastructure will be removed. Preliminary designs for both dams have been prepared by GHD and are documented in the report provided at Appendix H. The dams have been designed according to the Australian National Committee on Large Dams (ANCOLD) guidelines, which are applicable for water or tailings dams with the potential to cause loss of life or significant environmental or physical damage through operation or failure. Although the Observation Hill Dam and Mine Site Dam do not qualify as large dams (which are normally at least 10 to 15m high), ANCOLD guidelines have been adopted as providing best-practice.</p> <p>It should be noted that dams do not have a design life as such – they are designed commensurate to their ‘Consequence Category’, which determines the spillway capacity (eg. TSF can pass a 1:1,000 event) and earthquake design event (e.g. 1:1000 for max design earthquake and 1:475 for operating basis earthquake). The Consequence Category also provides a framework for the level of monitoring and surveillance required. Details of the ongoing maintenance requirements are provided in section 3.5 of this Supplement.</p> <p>It should be noted that the Mine Water Dam referred to in the comment from the Environment Division, is an onsite water storage, not an in-stream dam. As stated in the Mine Closure Plan, all on-site water storages and sediment basins will be decommissioned.</p>					

Comment ID:	Environment Division 3	Topic:	Mine Closure	EIS Section:	2.15.5 Mine Closure Plan (9.2)
Comment					
<p>The Terms of Reference (TOR) required that the Draft EIS provide justification for the decision not to backfill the pit at the completion of mining. Chapter 9.2 of the Mine Closure Plan refers to estimates prepared by Innicon (2018) which suggests that backfilling of the pit may not achieve these outcomes due to the following:</p> <ul style="list-style-type: none"> • There is a materials deficit • The potential for sterilising the resource and the economic cost of requiring a decline to access the deposit • The timeframe required to backfill. <p>To inform the Environmental Impact Assessment (EIA) and provide justification for the Proponent's preference to not backfill post closure, it is requested that the Proponent provide the Innicon (2018) Report in the Supplement.</p>					
Response					
The referenced report has been updated to reflect the current state of mine planning. The report is provided as Appendix I.					

Comment ID:	Environment Division 4	Topic:	Project Description	EIS Section:	2.7, Table 2-4
Comment					
<p>Table 2-4 of the Draft EIS provides estimates of the waste rock volumes over the life of the mine. The proposed waste rock volume for year one (i.e. ~8Mbcm) appears high. Please verify that the proposed rates of mining in the first year are correct and that the rate of mining is accurate over the life of the mine (2-3 years).</p>					
Response					
<p>The material volume estimates for both waste rock and ore provided in the Draft EIS are based on the optimised pit shell and mining schedule published in the Grants Project Prefeasibility Study (Core, 2018). There is an error in Table 2-4 of the Draft EIS, in that while the table label states it is 'estimated waste rock volumes', the figures provided in the table are the estimated total volumes of material (waste rock and ore) to be mined over the life of mine. As with all mining projects, these estimates, and the mining schedule, are being refined as the project progresses through the detailed planning and design phases.</p> <p>In Section 2 of this Supplement we have provided an updated mining schedule (see section 2.1.2) and revised estimates of material movements over the life of mine (see section 2.1.3). Waste rock volumes mined in year one are expected to be ~8 Mbcm as stated in the Draft EIS; however, there will be an increase in waste rock mined over the remainder of the life of mine, due to the revised Mineral Resource Estimate and associated increase in the size of the pit required to mine the resource.</p>					

Comment ID:	Environment Division 5	Topic:	Air Quality/GHG	EIS Section:	2.8.4
Comment					
<p>The safety data sheet for Ferrosilicon notes that the material releases toxic/flammable gases when in contact with water. As the dense media separation process requires the use of water and ferrosilicon there is potential for gases to be released. 1https://www.elkem.com/globalassets/foundry/psi/inoculants-and-specialist-alloys-psi-english.pdf. In relation to section 2.13.1 please provide an update to outline the predicted quantity and type of gases that are expected to be released during processing of spodumene ore.</p>					
Response					
<p>The safety datasheet (MSDS) referenced in this comment, is for a ferrosilicon product used as an additive to liquid metal in metal casting applications. As the physical conditions experienced in metal casting applications differ profoundly from those associated with Dense Media Separation (DMS) processing, reference to this MSDS is not appropriate. Attached at Appendix J are two safety data sheets from suppliers of ferrosilicon powder for use in Dense Media Separation processes. Review of this information reveals that ferrosilicon, under the conditions of use proposed at Grants Project, is not expected to evolve toxic/flammable gases.</p> <p>The MSDS do indicate that ferrosilicon when mixed with water and stored under depleted oxygen conditions for prolonged periods, can evolve small quantities of hydrogen, which could pose an explosion hazard. For this reason, Core will ensure that equipment containing the slurry is well ventilated prior to maintenance work being conducted. Any residual risk of harm to personnel, plant or environment will be mitigated through storage and operating procedures that include good storage and handling procedures to minimise spillage and production of dust, and hot work permitting.</p>					

Comment ID:	Environment Division 6	Topic:	Environmental Quality	EIS Section	2.8.2
Comment					
<p>The Draft EIS notes that there are no toxic chemicals produced using dense media separation. The safety data sheet and further studies have identified that ferrosilicon can release cations/anions under a range of acidic/alkaline conditions. The Proponent noted in the Draft EIS that it is not expected that there will be a need to restrict percolation through the landform. In the Supplement outline the predicted fate of the ferrosilicon following its use in processing. In addition, provide further discussion in relation to the use of ferrosilicon and the potential for contaminants/metals to be released from the tailings storage facility and whether these are expected to eventually end up in the sediment dams.</p>					
Response					
<p>As indicated above, MSDS's sourced for the type of ferrosilicon product that will be used at Grants Project, states the material is an inorganic solid that is insoluble in water, does not persist in the environment and does not bio-accumulate. Following its use in processing, the ferrosilicon will leave the process circuit as a component of the tailings slurry, that will then be thickened and pumped to the TSF. The decant water from the TSF, is not expected to contain any contaminants arising from the use of ferrosilicon, as the material is insoluble in water and is not expected to react with the other tailings components, which will comprise water and fine sediments.</p> <p>In relation to the potential for release of contaminants from the TSF, the tailings produced at Grants Project (based on the material characterisation work undertaken to date) are not expected to contain any chemical contaminants. Because the tailings are benign, the TSF does not require an impervious liner. However, the design does incorporate a compacted clay foundation so that seepage rates are minimised and there is no localised mounding of groundwater. In the unlikely event that the operational conditions prove different than predicted, and there are contaminants in the tailings, these would be contained in the open TSF cells and the contaminants present in the decant water would be captured by the TSF under drainage system and retained within the processing circuit (i.e. there is no pathway for release to the environment).</p> <p>The only scenario under which water (contaminated or not) from the TSF could enter the sediment dams, is if the TSF overtopped. As the TSF's are engineered structures designed to accommodate extreme rainfall events, the likelihood of overtopping is very low. The TSF's have been designed by qualified engineers in accordance with the Australian National Committee on Large Dams Guidelines, which are the accepted national guidelines for this type of facility. The preliminary design report prepared by GHD (2019) is provided at Appendix H.</p> <p>Post-closure, it is not expected that there will be a need to restrict percolation through the WRD landform; however, to ensure long-term stability of the TSF, percolation through the tailings will be restricted by capping the TSF cells prior to closure. This approach further reduces the already low risk associated with contaminants leaching from the tailings.</p>					

Comment ID:	Environment Division 7	Topic:	Mine Closure	EIS Section	Appendix A of the Mine Closure Plan
Comment					
<p>The risk assessment in the Mine Closure Plan has information missing with respect to Risk 8 – Terrestrial Environmental Quality. In particular, the formatting for the row with the 'summary of controls' includes only part of the text. In the Supplement, provide the updated table that includes the information missing from the Draft EIS.</p>					
Response					
<p>Noted. The table has been reformatted so all of the text is included in the updated Mine Closure Plan. The updated Mine Closure Plan is provided at Appendix K.</p>					

Comment ID:	Environment Division 8	Topic:	Mine Closure	EIS Section	Appendix A of the Mine Closure Plan
Comment					
<p>Risk 40 in the Draft EIS relates to flooding from the dam wall failing. The risk assessment identified the initial risk as being very high with the residual risk as medium. It is unclear how or why the residual risk reduced. In the Supplement, provide further detail about the measures incorporated into design of the dam wall and how those measures contribute to reducing the residual risk to a 'medium' risk rating.</p>					
Response					
<p>The inherent risk rating of 'very high' is the likelihood and consequence of dam wall failure at the Mine Site Dam assuming no specific engineering controls. The inherent (unmitigated) likelihood of a dam wall failure was ranked as 'possible' and the consequence was ranked as 'severe' due to the location of the Cox Peninsula Road immediately downstream, which would be impacted in the event of a wall failure.</p> <p>Core engaged engineering firm GHD to prepare preliminary designs for the proposed dams and water storages. The following detail relevant to the Mine Site Dam is provided from the preliminary design report (GHD, 2019). Preliminary assessment of the Consequence Category for the Mine Site Dam was undertaken as per the ANCOLD Guidelines on Category Assessment (ANCOLD, 2012). The dam was assigned a Consequence Category of 'Significant'. Based on the ANCOLD recommendations for dams with a 'Significant' Consequence Category, the Mine Site Dam incorporates the following design features:</p> <ul style="list-style-type: none"> • Spillway is designed for a 0.1% Annual Exceedance Probability (AEP) flood event, which equates to a very large and rare flood event (i.e. a 1 in 1,000-year flood). 					

Comment ID:	Environment Division 8	Topic:	Mine Closure	EIS Section	Appendix A of the Mine Closure Plan
<ul style="list-style-type: none"> • Allowance for maximum earthquake loadings for the area and additional free-board to allow for wave run-up during cyclone and flood events. • An outlet structure, comprised of an anchored floating intake fed by gravity to a downstream control valve, allowing for pump back to the process plant or environmental release by gravity flow. <p>The preliminary design drawings document material types and erosion protection requirements that will ensure the integrity of the dam wall and spillway in the long-term. Preliminary designs are provided for information at Appendix H.</p> <p>Incorporation of the above controls into the design reduces the likelihood of a dam wall failure from 'Possible' to 'Rare'. The controls do not reduce the consequence, which will remain 'Major' – note that the risk table in the Mine Closure Plan has been updated to assign the inherent risk rating as Major, not Severe as the impact of a dam wall failure would be confined to the catchment areas immediately downstream. The combination of 'Rare' likelihood and 'Major' consequence results in a 'Moderate' risk ranking, based on the adopted risk criteria.</p>					

Comment ID:	Environment Division 9	Topic:	Mine Closure	EIS Section	Mine Closure Plan
Comment					
<p>The Draft EIS and Mine Closure Plan suggests that the Mine Water Dam and enlarged Observation Hill Dam would be left in-situ following closure and rehabilitation of the site. The Draft EIS identifies there is a risk of dam wall failure with the risk being mitigated by designing the structures in accordance with the ANCOLD Guidelines. The Draft EIS and Mine Closure Plan provides no discussion on the future maintenance or use of the dams once the site has been decommissioned and rehabilitation is complete. In the Supplement, provide further details about the future management or use of the Mine Water Dam and Observation Hill Dam and the design life of the water infrastructure.</p>					
Response					
<p>Details of the proposed future management and use of the Mine Water Dam and Observation Hill Dam and the design life of the water infrastructure are provided in section 3.5 of this Supplement.</p>					

Comment ID:	Environment Division 10	Topic:	Mine Closure	EIS Section	Mine Closure Plan (section 5.4)
Comment					
<p>The Draft EIS refers to the final land use objectives with completion criteria and performance indicators. Provide details of the final land use objectives and whether those objectives have been agreed to by the landowner.</p>					
Response					
<p>The ML and Ancillary ML's (under application) are located on Crown Land. The Crown Lands Branch has been contacted in relation to the completion criteria and performance indicators in the Mine Closure Plan. They have advised that the future land-use assigned to the area under the Darwin Regional Land-use Plan is agriculture/pastoral. The criteria and indicators provided in the Mine Closure Plan will provide for rehabilitation of the mine site, so that this future land-use is not constrained around the mine site post-closure.</p>					

Comment ID:	Environment Division 11	Topic:	Mine Closure	EIS Section	Appendix A of the Mine Closure Plan
Comment					
<p>Risks 3 and 4 identified in the risk assessment table (Mine Closure Plan) include risk management controls, which increase the risk from low to medium. Further to this, the certainty around the implementation of the controls is classed as 'high'. It is unclear why the residual risk increased from 'low' to 'medium' following the implementation of the identified controls. Please clarify how the inclusion of the identified 'management controls' have increased the residual risk from 'low' to 'medium'.</p>					
Response					
<p>The increase in residual risk rating from low to medium arose due to an error in the assigned consequence rating following the implementation of controls. The assigned consequence was incorrectly increased from '1' to '2'. Although the management controls do not reduce the likelihood or consequence of the risk, neither do they cause an increase in either rating. As such the consequence rating has been corrected (set as 1) – correcting the residual risk rating to low. The corrected risk is shown in the updated Mine Closure Plan provided at Appendix K.</p>					

5.1.2 Department of Health

Comment ID:	DoH 1	Topic:	Water Quality	EIS Section:	N/A
Comment					
<p>The Environmental Health Branch of the Department of Health has reviewed the Core Exploration Limited - Grants Lithium Project -Draft EIS and has the following comment: In regards to the mining operations centre and the provision of potable water and wastewater disposal, the proponent should refer to https://nt.gov.au/property/building-and-development/health-requirements-mining-construction-projects for details of the Health Department's requirements.</p>					
Response					
<p>Noted. The referenced guidelines will be used in finalising the plans for provision of potable water and wastewater disposal. Core will source potable water from Observation Hill Dam which will be treated through an onsite treatment plant. Wastewater will be managed using either a 'no release' or 'secondary treated' wastewater management system. Core has been liaising with both Department of Health and local suppliers in relation to choosing the best solution for the site. If a secondary treated system is adopted, a land capability assessment will be undertaken to select a suitable land disposal site. Core will apply for a wastewater design works approval will be applied for from Department of Health.</p>					

Comment ID:	DoH 2	Topic:	Other (biting insects)	EIS Section:	N/A
Comment					
<p>Generally, there are no major concerns as the project is in an isolated area, does not house workers on-site and is short term. However, it is still recommended that mine follows general guidelines to prevent the creation of mosquito breeding sites that could affect night workers, and leave a legacy that impacts the future uses of nearby land. Further information can be found in the Medical Entomology guideline 'Guidelines for preventing mosquito breeding sites associated with mining sites', available at https://digitallibrary.health.nt.gov.au/prodjspui/handle/10137/1029.</p> <p>Due to the presence of nearby wetlands, creek lines and tidal mangroves, the mine site is likely to be seasonally affected by pest and disease carrying mosquitoes. Night workers would mostly be at risk, with occasional day biting problems during the build-up and early wet season. Natural undeveloped areas usually have a higher risk, due to the generally higher prevalence of virus reservoir animals (e.g. wallabies, migratory water birds). Therefore, workers should be advised to prevent being bitten by mosquitoes. Further information can be found in the Medical Entomology personal protection handout, available at: https://digitallibrary.health.nt.gov.au/prodjspui/handle/10137/741</p>					
Response					
<p>Noted. Core will endeavour to prevent the creation of mosquito breeding habitat by reducing the instances of shallow pooling water around the site. The likelihood that the mine site will create a legacy issue for future land users by creation of mosquito breeding habitat is low. The site will be re-profiled following the completion of mining activities and the site revegetated. Activities will result in an increase in large bodies of standing water, through the creation of the open pit lake; however, this increase in surface water is not expected to be used as mosquito breeding habitat as the pit lake will be a deep water body with steep sides, which is unfavourable to mosquito breeding.</p> <p>With regard to informing workers of the risks of biting mosquitos and bite prevention, information will be provided in site inductions, which will be completed by all staff and contractors. Appropriate PPE will be required to be worn, which will help reduce exposure to mosquito bites.</p>					

5.1.3 Department of Infrastructure, Planning and Logistics

Comment ID:	DIPL 1	Topic:	Traffic/Roads	EIS Section:	Traffic Impact Statement
Comment					
<p>The Department has reviewed the document including the Traffic Impact Assessment provided and consider that the majority of traffic issues have been addressed with the exception of the following points which will require further consideration prior to any approvals granted by DIPL.</p> <ul style="list-style-type: none"> • Pavement Condition Report: While not necessary to include in the TIS, Grants Mine will be required to undertake a road condition survey of the portion of Cox Peninsula road for a suggested minimum of 2 km (based on road train turning and acceleration lengths) on either approach to the mine access. The survey should include photograph evidence of the existing carriageway and formation to be agreed with DIPL prior to commencement of operations. The pavement condition will be assessed regularly and any damage caused by mine operations and transport vehicles is to be repaired at the mines cost. • TIS should include installation of additional signage warning of heavy vehicle movements along the route to Stuart Highway, particularly at the mine access location and possibly also through the Berry Springs school and Tavern areas. • The TIS should include discussion around proposed road closures during surface blasting operations and how traffic will be managed. <p>The Corridor Management branch of Transport Civil Services has provided the above comments to the proponent directly.</p>					
Response					
<p>Core acknowledges the requirement to undertake a road condition survey. The survey will be undertaken and a Pavement Condition Report submitted to DIPL prior to commencement of works. Core commits to repairing any damage to the road pavement that is attributable to the project.</p> <p>A revised Traffic Impact Statement is provided at Appendix G. The revised document provides details of road signage requirements and management of road closures for blasting.</p> <p>Blasting that requires the Cox Peninsula Road to be closed for public safety reasons will only occur during daylight hours Monday-Friday; not on weekends and not on public holidays. In response to various comments received in relation to the proposed blasting operations and associated road closures, Core has prepared a Blast Management Framework (Appendix L). The Framework is an overarching document that documents the site blast management requirements and details of all the relevant management plans, processes and operational procedures that will be put in place to ensure public safety and minimise inconvenience to road users. Specifically, in relation to road closures and traffic management, Appendix 1 of the framework documents the proposed Road Closure Plan, key aspects of which include:</p> <ul style="list-style-type: none"> • Procedures for notification of affected parties, specifically the communities of Belyuen and Wagait Beach will be notified of road closure times, two days prior. • An authorised traffic management company will be contracted to manage each road closure in accordance with DIPL requirements, including placement of signage and traffic controllers. • A protocol for allowing the passage of emergency vehicles. 					

5.1.4 Department of Tourism and Culture

Comment ID:	DTC 1	Topic:	Stakeholder engagement	EIS Section:	Social Impact Assessment Traffic Impact Statement
Comment					
<p>Tourism NT has reviewed the EIS with a particular focus on the Social Impact Assessment, Consultation Reports and Traffic Impact Statement. It is noted that the proponent has engaged with AFANT regarding peak fishing times and minimising impacts to recreational fishing visitors from blast road closures/additional heavy vehicles on the Cox Peninsula Road and has identified key tourism operators in the area who may be impacted by the additional heavy vehicles on the road.</p> <p>Going forward, as was stated by the Department of Tourism and Culture in the stakeholder interview, it is vital that there is good communication between the proponent and impacted tourism stakeholders to ensure any negative project effects are minimised, and any safety or operational concerns around road closures or other matters can be raised and mitigated in a timely manner.</p> <p>It is strongly recommended that the NT Guided Fishing Industry Association (http://ntgfia.com.au/contact-us/) is consulted as part of the stakeholder engagement plan.</p>					
Response					
<p>Noted. The NT Guided Fishing Industry Association will be included as part of ongoing stakeholder engagement.</p>					

5.1.5 Department of Chief Minister

Comment ID:	DCM 1	Topic:	Social Impacts	EIS Section	Social Impact MP
Comment					
<p>The SIMP appears to be a guide for the proponent from the consultant. It recommends best-practice standards from the IAIA and other mitigation standards (e.g. sand blasting dust emissions management), however what is not clear is the commitment following the SIMP and its mitigations/enhancements from the proponent. It is recommended a column be added for Core to agree/add info regarding their business operations so it is clear they are committing to the content provided by the consultancy.</p> <p>Examples below include:</p> <ul style="list-style-type: none"> • The moderate positive impacts are all based on the proponent's potential commitment to these (such as recommendations in the SIMP to use local businesses, local employment and community sponsorship etc – it could be noted that the Territory Benefits Policy will be active in time for operationalisation of the project and have the proponent connect to DTBI for this). • The 'SIMP assumes' on p.6 monitoring and evaluation by the proponent – we would like this to be commitment from the proponent to ensure accountability and transparency of the project <p>Core have advised in SIMP they do not have plans to fill the pit – it is advised this be discussed as part of the mining management plan, particularly in relation to potential toxins leaking back into the environment. It is acknowledged that some stakeholders have raised concerns regarding this and it is recommended that options to rehabilitate the site be investigated by the proponent, especially if there are any potential health risks post closure.</p> <p>DCM feels the SIA and SIMP need to be well communicated with the proponent by the consultant, including highlighting the benefits to the business operations of each SIMP action. In order to see that the proponent is vested in the SIA/SIMP undertaken by the consultant, it is requested that the proponent respond to each mitigation or enhancement recommendation in the SIMP tables.</p> <p>DCM feels the SIA and SIMP need to be well communicated with the proponent by the consultant, including highlighting the benefits to the business operations of each SIMP action. In order to see that the proponent is vested in the SIA/SIMP undertaken by the consultant, it is requested that the proponent respond to each mitigation or enhancement recommendation in the SIMP tables.</p>					
Response					
<p>Core was involved in drafting the SIMP along-side our consultants True North Strategic Communications. All commitments made in the SIMP are those agreed to by Core. On review of the SIMP, we can appreciate that the language used may have given the impression that the mitigation measures were recommendations from our consultants, as opposed to commitments. Wording of the SIMP has been revised to read as a document outlining Core's social commitments and plans, as originally intended. The updated SIMP is provided at Appendix M.</p>					

Comment ID:	DCM 2	Topic:	Water Quality	EIS Section	Social Impact MP
Comment					
<p>Core have advised in SIMP they do not have plans to fill the pit – it is advised this be discussed as part of the mining management plan, particularly in relation to potential toxins leaking back into the environment. It is acknowledged that some stakeholders have raised concerns regarding this and it is recommended that options to rehabilitate the site be investigated by the proponent, especially if there are any potential health risks post closure.</p>					
Response					
<p>In relation to backfilling the pit, the decision not to backfill is a commercial decision by Core. The pit sterilisation assessment report prepared by our consultant Innicon (2019) is provided at Appendix I. Assessment and management of risks associated with the abandoned pit, are provided in the Mine Closure Plan, an updated version of which is provided as Appendix K.</p> <p>It is acknowledged that some stakeholders have concerns about the environmental impacts associated with contaminants leaking from the pit lake over time post-closure. The key potential source of contaminants in an open pit are the exposed rock faces. Certain rock types will oxidise when exposed to air, which can result in acidic drainage and/or high concentrations of dissolved metals. Laboratory analysis of rock samples from the Grants open pit has indicated low potential for acid or metalliferous drainage (refer Waste Characterisation Report provided as Appendix E to Draft EIS). Post-closure groundwater modelling indicates that Electrical Conductivity (EC), an indicator of salinity, could range between 25 µS/cm and 220 µS/cm, which is low. On this basis, the water in the open pit is not expected to contain contaminants of concern. Further, the groundwater modelling work undertaken by independent consultants CloudGMS (2018), indicates that the pit lake will act as a groundwater sink, meaning that water from the pit will not flow into the surrounding aquifer. This modelling was provided as Appendix I of the Draft EIS.</p> <p>The Mine Closure Plan referred to above includes detailed assessment and mitigation of risks to people and/or the environment associated with the pit lake that will remain on the site in perpetuity. As part of the Mining Authorisation process under the <i>Mining Management Act</i>, the Mine Closure Plan will be submitted with the Mining Management Plan for review and approval by DPIR. Core's plans for rehabilitation of the mine site will need to be acceptable to DPIR, for an authorisation to be issued.</p>					

Comment ID:	DCM 3	Topic:	Water quality	EIS Section	Draft EIS
Comment					
The Draft EIS notes that there is concern from the community that the waterways could be damaged, which could have a flow-on negative impact on tourism in the area.					
Response					
<p>The watercourses within, and adjacent to, the project area are minor ephemeral watercourses that flow into either Darwin Harbour (West Arm) or Bynoe Harbour during the wet season. The stakeholder engagement conducted for the Draft EIS indicated that some locals use the man-made Observation Hill Dam for recreation. It is also possible that local people go four-wheel driving on the various informal 'bush' tracks through the area, and access small wet season waterholes. The waterways within and downstream of the project area are not routinely accessed by tourists and therefore it is not expected that there would be any direct impact on tourism in the area. However, the Draft EIS (Chapter 7 & 8) did consider potential impacts to recreation and fishing activities in the Darwin and Bynoe Harbour due to changes in surface water flows and/or impacts to water quality from the proposed mining activities.</p> <p>To ensure that there is no significant impact on hydrological processes or water quality from the project, an independently peer reviewed Water Management Plan has been prepared, including a water monitoring program (see Appendix E). The Water Management Plan, will form part of the Mine Management Plan, submitted for approval under the <i>Mining Management Act</i>. The water monitoring program will regularly assess water quality and any changes in surface water at a number of locations downstream of the mine site. If any impacts are detected, the Water Management Plan documents remedial actions that will be implemented by Core.</p>					

Comment ID:	DCM 4	Topic:	Traffic/Roads	EIS Section	Draft EIS
Comment					
DCM notes the potential economic benefits of the project to the local area and minimal disruption to local business and tourism with increased traffic, based on the current assumptions. It is also noted that there is concern of potential negative impact to local school traffic. DCM suggests that the proponent commit to the actions in the Draft EIS and monitor these areas to ensure that negative impact and disruption is kept to the stated minimum.					
Response					
<p>Core acknowledge that residents of the Cox Peninsula and the Berry Springs Primary School Council have raised concerns regarding the impact of road-trains passing the school along Cox Peninsula Road. In particular, the following two points were raised in a submission on the Draft EIS from the school council:</p> <ul style="list-style-type: none"> • The dangers posed to the school from tyre blowouts and the request for the installation of a barrier along the road. • Request that road train movements be restricted to times outside of school drop of and pick up hours. <p>Core has engaged directly with the Principal of Berry Springs Primary School indicating that truck movements can be restricted past the school during drop-off and pick-up times (7:45 to 8:45 am and 2:30 to 3:30pm). In relation to the installation of a barrier along the roadside at the school, it is Core's understanding that DIPL have independently engaged a consultant to undertake a site investigation and risk assessment on concerns of student safety in the Berry Springs preschool area with the planned increase of road train along Cox Peninsula Road. Following completion of the assessment, Core will comply with any directions received from DIPL in relation to ensuring safety around the school.</p>					

Comment ID:	DCM 5	Topic:	Air quality/GHG	EIS Section:	Draft EIS
Comment					
In the EIS, Core Exploration noted that approximately 59 MtCO ₂ -e of GHG emissions are anticipated throughout the life of the project. As the short timeframe for the project (2.5 years) makes renewable energy unviable, in line with global concerns of the impacts of climate change (in particular keeping temperatures from rising more than 2°C) and in anticipation of an upcoming NT climate change policy, DCM suggests that the proponent consider options to offset these emissions. This should consider both development and rehabilitation of the site.					
Response					
To clarify, the project is expected to release 59,196 tCO ₂ -e of GHG emissions over the life of the project, not 59 Mt CO ₂ -e as indicated in the comment (differing by a factor of 1,000). The forecast annual GHG emissions of 28,414 tCO ₂ -e per year, equate to 0.4 % of the Northern Territory's annual emissions. Given the relatively small contribution to overall emissions, short life of mine and the absence of a formal instrument for the provision of offsets in the NT, our view is that offsets are not justified for this project.					

Comment ID:	DCM 6	Topic:	Other	EIS Section:	NA
Comment					
As part of its strategy in adapting to the impacts of climate change (in particular rising temperatures), DCM suggests that the proponent consider flexible working hours for outdoor workers in its environment management plan.					
Response					
The feasibility of the mining operation is based on 24 hour operations, as it is for most mine sites around the world. Core is very aware that heat related illness (e.g. heat stress) is an important consideration for outdoor workers in the Top End. National workplace health and safety laws prescribe the requirement for appropriate workforce management practices. Core is committed to complying with our legal obligations and ensuring we provide a safe working environment for our employees and contractors.					

5.1.6 Department of Environment and Natural Resources

Comment ID:	DENR 1	Topic:	Flora and Fauna	EIS Section:	Chapter 5
Comment					
The proponent undertook a targeted survey for the threatened trigger plant <i>Stylidium ensatum</i> at an appropriate time of year to detect the species. This was confirmed through the identification of the species at a known local location subject to similar recent climatic conditions. Potential habitat on the tenement was appropriately identified based on an analysis of satellite imagery to determine the presence of 'wet conditions' during the Dry season, existing land resources survey information to identify alluvial landforms as well as more detailed vegetation mapping available for the site.					
The Flora and Fauna Division considers that the total amount and intensity of survey effort within identified potential habitat is inadequate. The proportion of the area sampled appears low in relation to the total area of potential habitat and no information was provided to detail effective survey area on traversed transects. The proponent is encouraged to engage with the Flora and Fauna Division in the future to determine a more appropriate methodology and intensity of survey for candidate areas.					
Despite this, the Flora and Fauna Division agrees that the likelihood of occurrence is low given that surveys have targeted appropriate habitat and the detectability of the species at the time of survey is likely to be high. Therefore, the Flora and Fauna Division considers that the likelihood of a potential impact on the species is low to very low.					
Response					
Noted. Core engaged EcOz Environmental Consultants to undertake the surveys for <i>Stylidium ensatum</i> . EcOz have acknowledged the NT Herbarium's comment in relation to the adequacy of the survey effort and have indicated they would welcome review and endorsement of survey methods in future for species where there are no published survey guidelines.					

Comment ID:	DENR 2	Topic:	Flora and Fauna	EIS Section:	Chapter 5
Comment					
The Flora and Fauna Division has previously highlighted potential deficiencies in the methodology and intensity for detecting <i>Typhonium praetermissum</i> with a high level of precision in response to previous survey for <i>T. praetermissum</i> within the tenement. The proponent has consequently adopted a precautionary approach to assessing the potential for significant impact on an important population of the species in alignment with the Terms of Reference provided by the NT EPA. This approach assumes that the species is present within the disturbance footprint, although the species abundance is uncertain.					
This assessment suggests that even if present on the site, the area of potential habitat to be removed (37 ha) is unlikely to represent a significant impact on the species at the regional scale. Although the total area of habitat to be removed is a small proportion of the total potential habitat within the region, small areas of habitat have the potential to support important occurrences of the species based on the abundance of plants within an occurrence. This results in a degree of residual uncertainty regarding the relative importance of any occurrence on-site in the regional context.					
EMP31726 is located toward the western limit, but within the known extent, of occurrence for the species. The pattern of observed abundance in this part of the species distribution is recorded as being rare and sporadic. Additionally, the potential habitat located on the tenement is relatively isolated from other potential or occupied habitat in the local landscape and if occupied is likely to represent a distinct subpopulation of the species. The Flora and Fauna Division considers that it is unlikely that the proposed clearing would result in a significant impact on the population of the species at the regional scale given the low likelihood that an important population is present on the tenement.					
Response					
Noted. Whilst the surveys undertaken to date indicate that the habitats present within the disturbance footprint are not likely to support an important population of <i>Typhonium praetermissum</i> , Core appreciates there is some uncertainty in the absence of complete survey effort. As the project footprint has increased in size since submission of the Draft EIS, Core has engaged EcOz Environmental Consultants to survey areas within the ML where the <i>T. praetermissum</i> habitat modelling indicates a high likelihood of occurrence. The surveys were in progress at the time the Supplement was submitted; results will be documented in the Mine Management Plan submitted to DPIR.					

Comment ID:	DENR 3	Topic:	Flora and Fauna	EIS Section:	Chapter 5
Comment					
<p>Riparian habitats and wetlands have been identified on site. However, some of this vegetation or habitat has been excluded from the map of sensitive/significant vegetation provided at Figure 5-6 of the draft EIS. Site layout plans for the proposal indicate that infrastructure will be located within some of these identified habitats. Generally, clearing of these areas should be avoided and buffers of native vegetation retained in accordance with the values associated with the feature being excluded, however, the Flora and Fauna Division acknowledges that where the intended mineral resource overlaps with these habitats, avoidance may not be feasible. While the values of and risks to these sensitive/significant vegetation types are likely to be low, the opportunity to reconfigure infrastructure where practicable to avoid these vegetation types should be investigated.</p>					
Response					
<p>The vegetation communities that occur across the project area are shown in Figure 2-2. These were ground-truthed in the field by EcOz (refer Appendix P of Draft EIS submission). Within the ML there is one occurrence of riparian vegetation, which is along the central northern boundary of the ML outside of the disturbance footprint. The location of this patch is shown in Figure 5-6. The drainage line to the north-west of the mine site, that will be dammed to provide the project water supply, is ephemeral and does not support riparian vegetation. The area does; however, support some small seasonal pools (wetlands), the location of which is now shown in the updated map of sensitive vegetation provided in section 2.1.1 (Figure 2-3) of this Supplement.</p> <p>The northern and eastern side of the mine site footprint intersect a broad drainage area, the indicative boundaries of which are shown in Figure 2-2. There are no defined drainage lines/riparian vegetation in this area; however, during the wet season the ground is waterlogged or inundated for extended periods. This broad drainage area also supports some small seasonal pools (wetlands) during the wet season, the location of which are also shown in Figure 2-3.</p> <p>The <i>NT Land Clearing Guidelines</i> recommend broad drainage areas be buffered by 25 m from the outer edge of the seepage zone, but also acknowledge that in certain circumstances these buffers may not be feasible. As much as possible, the mine site infrastructure has been sited within the upland parts of the ML surrounding the Grants pit; however, the inundation bund around the outer edge of the site extends into the upland broad drainage area at some locations. On the eastern side of the project footprint that borders the pit, avoidance of the broad drainage area is not feasible as configuration of infrastructure in this area is constrained by the location of the ore resource. However, following completion of the detailed site topographical survey in March 2019, the opportunity to reconfigure the infrastructure to avoid the broad drainage area and wet season pools that occur on the north-eastern side of the footprint will be considered.</p>					

Comment ID:	DENR 4	Topic:	Hydrological processes	EIS Section:	Draft EIS
Comment					
<p>The proposed development does not indicate a requirement for groundwater extraction, other than dewatering of mine pits. Dewatering activities are regulated by the Department of Primary Industry and Resources under the Mining Management Act. However, the proponent should provide DENR detailed annual reports regarding water accounts for water resource management and planning purposes. The water accounts should be determined monthly and include information on the volume of water pumped from each pit, incident rainfall to the pit and evaporation. To accompany monthly water accounts, the proponent may consider preparing a depth and water volume relationship curve (and table) for each pit. The proponent should consider further groundwater monitoring sites in the north-western sector of the project area. Where the proponent determines not to monitor groundwater in this area, an explanation of the risks should be provided. Risks associated with local groundwater mounding that may discharge to the adjacent riparian zone should be discussed.</p>					
Response					
<p>As noted in the comment, dewatering activities are regulated by the DPIR under the <i>Mining Management Act</i>. As part of this regulation, DPIR sets the conditions of a mining authorisation. Core will comply with all reporting conditions associated with the mining authorisation for Grants Lithium Project.</p> <p>As part of the Draft EIS, monthly water accounts were developed and provided (refer Chapter 2 Section 2.12). These accounts were developed in accordance with the <i>Minerals Council of Australia Water Accounting Framework</i>. Updated water accounts, for the current iteration of the mine site layout and design, are summarised in Section 3.2 of this Supplement and the revised report is provided at Appendix D.</p> <p>Additional groundwater monitoring will be undertaken prior to, and throughout the life of the mine. The location and purpose of each bore, sampling frequency and parameters to be analysed are detailed in the Water Management Plan provided at Appendix E. Two sets of paired monitoring bores are proposed in the north-west sector of the project area, referred to as GWB13 and 14 (down-gradient of WRD/TSF to monitor seepage and mounding) and GWB15 and 16 (down-gradient of the entire mine site to monitor contamination from mine site operations). The final location and establishment of the monitoring bores will be subject to review by a qualified hydrogeologist based on the groundwater model developed for the project.</p> <p>Risks associated with localised mounding of groundwater were discussed in Chapter 7, Section 7.6.4 of the Draft EIS. For ease of reference, the text from that section is provided below.</p> <p><i>Extract from Draft EIS - Chapter 7, Section 7.6.4</i></p> <p>Leakage or seepage from the WRD, and particularly TSF cells, could result in recharge of groundwater under the WRD, and an associated localised mounding of groundwater (where groundwater levels are locally higher than the surrounding aquifer). Tailings will be thickened</p>					

Comment ID:	DENR 4	Topic:	Hydrological processes	EIS Section:	Draft EIS
<p>prior to disposal in the TSF, which reduces potential for large volumes of seepage, as water is removed at the thicker and returned back to the processing circuit.</p> <p>The majority of water from the tailings stored in the TSFs will be returned through the under-drainage system and will be used in operations. The TSFs will be constructed of low permeability material, limiting infiltration and subsequent groundwater recharge. Seepage is estimated to be 0.1 ML per month (GHD, 2019). During operations the flow of groundwater is towards the pit, and the WRD and TSF sit above the groundwater drawdown cone, indicating any seepage from the facility will flow towards the pit.</p> <p>Post-closure, once the tailings have desiccated, the TSFs will be capped with low permeable material, limiting retention of rainwater that could seep into the groundwater. The volume of water seeping from the final closed TSF to the groundwater is expected to be similar to or less than during operations, as the TSF will not be receiving water from pumped tailings. The final pit lake has been modelled as a groundwater sink, meaning that groundwater in the immediate vicinity, including under the WRD/TSF, will flow towards the pit.</p> <p>Given the small volume of seepage and the location of the WRD/TSF within the drawdown cone, it is not expected that there will be a significant mounding of groundwater during operations or closure. If mounding did occur, it would be highly localised and, given its location, would not be expected to influence regional groundwater flows. The groundwater monitoring program documented in the Water Management Plan (see Appendix E) will identify any changes in groundwater flows, during operations and post-closure.</p>					

Comment ID:	DENR 5	Topic:	Hydrological processes	EIS Section:	Draft EIS
Comment					
<p>There is a small section of the project area which is affected by both primary and secondary storm surge inundation or flooding. The projected 100-year and 1000-year Average Recurrence Interval inundation levels being approximately 5.15 to 5.30 m Australian Height Datum (AHD) and 6.90 to 7.10 m AHD respectively. The draft EIS should assess the associated risks and, where appropriate, discuss how these risks will be managed.</p>					
Response					
<p>To prevent inundation/flooding of the mine site, the project design incorporates an inundation bund around the eastern and northern perimeter of the site. Along the western and southern perimeter, the inundation bund joins up with the topsoil bund and WRD. These landforms will divert all surface water flows around the mine site. The design parameter for the flood diversion bund is 1% Annual Exceedance Probability (AEP).</p>					

Comment ID:	DENR 6	Topic:	Hydrological processes	EIS Section:	Draft EIS
Comment					
<p>Observation Hill Dam is constructed in a waterway (as defined in the <i>Water Act</i>) and is reported to have a catchment of approximately 110 ha and a storage volume of 346 ML. The draft EIS outlines a proposal to raise the dam wall by 1.5 m to increase its capacity to around 628 ML. Undertaking works of this nature will require a permit under the amended <i>Water Act</i>. A licence to take surface water from the dam will also be required under Part 5 of the <i>Water Act</i>.</p>					
Response					
<p>Noted. Core has met with Water Resources Branch of DENR on two occasions to date to discuss approvals requirements for Grants Lithium Project under the new <i>Water Act</i>. Core will apply for a permit prior to commencing any works on dam construction. A licence to extract surface water will be applied for once the dams are constructed. Core will work with the Water Resources Branch through the application and licencing processes.</p>					

Comment ID:	DENR 7	Topic:	Weed management	EIS Section:	Chapter 10
Comment					
<p>Chapter 10 - Environmental Management of the draft EIS makes the statement, "Source off-site materials from sites that have been declared weed-free." The following should be noted:</p> <ul style="list-style-type: none"> • this is a vendor self-declaration and is not affiliated with the Weeds Management Act • weeds are dynamic and any self-declaration is made for a certain point in time • weed seeds can be very difficult to find amongst materials such as soil • the Weeds Management Act still applies should the source of offsite materials be found to not be weed free in the future. <p>Weed management in the draft EIS has otherwise been addressed to the satisfaction of the Weed Management Branch.</p>					
Response					
<p>Core notes that this is a self-declaration and is not affiliated with the <i>Weeds Management Act</i> and that Core is still responsible for the management and control of weeds within the ML as per the Act.</p>					

Comment ID:	DENR 7	Topic:	Weed management	EIS Section:	Chapter 10
<p>The primary source of material for construction will be material excavated from site and so will not introduce new weeds to the disturbance area. The aim of the management provision to source off-site material from sites that have been declared weed free is to minimise the likelihood that weed material (seeds and/or vegetative material) will be transported to the ML. Although weed seeds can be difficult to find, obvious infestations can readily be detected and this material avoided. This acts as a first line of defence to transport of weed material.</p> <p>It should be noted that Core has committed to monthly weed surveys, focussing on high risk areas including areas that have soil, sand or gravel introduced from off-site. This monitoring will provide for early detection of the introduction of weed species and implementation of appropriate control techniques.</p>					

Comment ID:	DENR 8	Topic:	Environmental quality	EIS Section:	N/A
Comment					
<p>This submission has not been assessed by the Land Management Unit. With regard to erosion and sediment control, for all proposals involving earth-disturbing activities, DENR provides the following advice.</p> <p>To prevent soil loss from the site and deposition offsite, minimisation of associated risks to water quality and air quality, and to ensure satisfactory stabilisation of the site at completion of works, preparation and implementation of an Erosion and Sediment Control Plan (ESCP) is recommended. The ESCP should:</p> <ul style="list-style-type: none"> • Be prepared by a suitably qualified and experienced professional in erosion and sediment control planning; and be reviewed and approved by a Certified Professional in Erosion and Sediment Control (CPESC). • Be prepared in accordance with the IECA Best Practice Erosion and Sediment Control Guidelines 2008 (or higher standard). • Be the final environmental management plan to be prepared (as it relies on completion of final design) and be a stand-alone document which contains all necessary information to facilitate its implementation without requiring the user to reference other documents. • Be cross-referenced with other relevant environmental management plans to ensure consistency (e.g. plans relating to Water Management, Stormwater Management, Site Rehabilitation, etc.). • Include details of both temporary and permanent erosion and sediment control methods and treatments to be implemented for all stages of the project (pre, during and post works). • Comprise an over-arching strategic document outlining the principles, practices and methods to be implemented, as well as site-specific dimensioned plans identifying the location of works and prescribed controls; and be accompanied by relevant Standard Drawings and Construction Notes. <p>Include information regarding proposed timing and staging of works, site manager contact details, maintenance and monitoring requirements, and reporting procedures. Implementation of the CPESC-approved ESCP should be regularly monitored by a suitably qualified third party auditor, to the satisfaction of the Consent Authority.</p>					
Response					
<p>Noted. A Primary Erosion and Sediment Control Plan (ESCP) has been prepared by a Certified Practitioner in Erosion and Sediment Control (CPESC) who is familiar with Northern Australia conditions and was provided as Appendix F of the Draft EIS. An updated plan, for the current iteration of the site layout, is provided as Appendix N of this Supplement. A Secondary ESCP will be prepared to document controls in more detail prior to commencement of works. The Secondary ESCP will be a stand-alone document, suitable for construction, which includes site-specific dimensioned plans identifying the location of works and prescribed controls.</p>					

Comment ID:	DENR 9	Topic:	Other	EIS Section:	NA
Comment					
<p>The proponent is reminded that the minimum standard for a fire access trail is clear to a width of 4 m, mineral earth or slashed to a height of between 25 mm and 50 mm with the slashed material removed. Access trails are to be maintained on an annual basis by the proponent until such time as the property is sold or otherwise disposed of. The proponent is requested to dispose of any felled timber resulting from the clearing of fire access trails. The proponent is reminded that the property falls within the Northern Fire Protection Zone. No burning may take place without first obtaining a Permit to Burn.</p>					
Response					
<p>Noted. A fire access trail, minimum 4 m wide, will be cleared to mineral earth around the external perimeter of the mine site. The access track along the water pipeline will be cleared to mineral earth and will be 10 m wide. All trails will be maintained throughout the life of mine.</p> <p>All vegetation resulting from the clearing of the site will be managed in accordance with the Vegetation Clearing and Management Procedure provide as Appendix S of the Draft EIS. The below excerpt from the Vegetation Clearing and Management Procedure summarises the approach that will be used.</p>					

Comment ID:	DENR 9	Topic:	Other	EIS Section:	NA
<p>“Stack cleared vegetation into windrows within designated stockpiling locations inside the boundary of clearance area. This windrowed debris will be burnt as soon as practicable (with a permit) to minimise channelling and concentration of run-off. First response capacity will be onsite. Burning will not take place on a day of total fire ban.”</p> <p>Core acknowledges that the mine site falls within the Northern Fire Protection Zone. A Permit to Burn will be obtained prior to conducting any burns on the site.</p>					

5.2 Submissions from community groups

5.2.1 Wagait Shire Council

Comment ID:	Wagait Shire Council 1	Topic:	Traffic/Roads	EIS Section:	Social Impact Assessment
Comment					
<p>At the most recent meeting of the Wagait Shire Council it was decided to write to you to express the council’s concern in relation to the Grants Lithium Project (particularly with reference to the Social Impact Assessment-Appendix L). Since that meeting, our local Progress Association has organised a meeting with executives from Core to respond to community concerns re the project. However, regardless of any outcome of that meeting, council’s concern re the Social Impact Assessment remains. This relates to the statement that under Section 8.10.2 it underestimates the effect the project will have on the Wagait Beach and Belyuen communities (almost 700 residents and significantly more at holiday times). Cox Peninsula Road provides the sole road access/egress to the outside world for residents of these two communities. Many residents, particularly the older people from both communities, cannot utilise the ferry service because there is no disabled access at either terminal.</p> <p>The road access also is the only access for tradespeople, suppliers etc. to the community. These issues are particularly of concern during daylight hours. We are concerned that traffic delays caused by blasting will have a severe impact on users of this thoroughfare. It is difficult and costly to get tradespeople and services to the community at any time, but the delays and associated cost increases caused by blasting will have a severe impact.</p> <p>It is noted that the Social Impact Assessment downgraded the Traffic Delays from a high concern to a moderate one with ‘mitigation measures’ to be put in place. Our council is still of the opinion that the proposed ‘mitigation measures’ do not address the concern adequately and will not solve the aforementioned issues raised.</p>					
Response					
<p>Core would like to re-iterate to the community that the Cox Peninsula Road will remain open to traffic as usual, excepting for approximate 15-minute windows every two to four days when blasting requires a short section of the road to be closed for public safety reasons. Blasting that requires the Cox Peninsula Road to be closed will only occur during daylight hours Monday-Friday; not on weekends and not on public holidays. Nominal blasting times are 13:00pm to 13:15pm and 17:00 to 17:15pm.</p> <p>Core has prepared a Blast Management Framework (Appendix L) that documents the site blast management requirements and details of all the relevant management plans, processes and operational procedures that will be put in place to ensure public safety and minimise inconvenience to road users. In relation to road closures and traffic management, the framework details the proposed Road Closure Plan, which includes:</p> <ul style="list-style-type: none"> • Procedures for notification of affected parties, specifically the communities of Belyuen and Wagait Beach will be notified of road closure times, two days prior. • An authorised traffic management company will be contracted to manage each road closure in accordance with DIPL requirements, including placement of signage and traffic controllers. • A protocol for allowing the passage of emergency vehicles. <p>The above measures are expected to minimise disruption to road users as far as is practicable and always ensure that emergency access is maintained. We appreciate that the closures will inevitably impact a small number of road users. However, due to the short duration, designated closure windows and advanced notification procedures, we do not anticipate the project having a severe impact on the Wagait Beach and Belyuen communities.</p>					

5.2.2 Berry Springs Primary School Council

Comment ID:	Primary School 1	Topic:	Traffic/Roads	EIS Section	Traffic Impact Statement
Comment					
<p>On behalf of Berry Springs Primary School Council, I wish to comment on the Draft Environmental Impact Statement > Appendix G: Traffic Impact Statement, prepared by EcOz for the Grants Lithium Project proposal lodged by Core Exploration Limited. In particular, I wish to draw your attention to section 4.1.3 of the Traffic Impact Statement pertaining to Berry Springs Primary School.</p> <p>We as a School Council are very concerned by the fact that the Traffic Impact Statement failed to identify significant risks posed to students, teach and families attending Berry Springs Preschool, given the proximity of Cox Peninsular Road to the Preschool.</p> <p>Of greatest concern is the potential for a triple road train to experience a tyre blow out (or similar event out of the driver's control), causing it to leave Cox Peninsular Road and plough through the Preschool fence. Such an event has the potential to cause major structural damage, significant trauma, serious injury and even death.</p> <p>The grassed area of the Preschool grounds (between the Preschool building and the front fence) which is adjacent to Cox Peninsular Road, is a highly utilised outdoor area where young children play and learn on a daily basis. Given that this play area is only approximately 15 metres from Cox Peninsular Road, it is imperative that the Traffic Impact Statement include a recommendation to install some king of barrier (such as large boulders or concrete bollards) between Cox Peninsular Road and the Preschool fence, to reduce the impact the such an incident might cause.</p> <p>Furthermore, give the increase traffic that occurs in the school zone between 8am-9am and 2:30pm-3:30pm Monday to Friday, we also ask that the Traffic Impact Statement includes a recommendation to restrict the mine's road trains from travelling past the school during these windows of time.</p>					
Response					
<p>Core has engaged directly with the Principal of Berry Springs Primary School making a commitment that truck movements will be restricted past the school during drop-off and pick-up times (7:45 to 8:45 am and 2:30 to 3:30pm). Our haulage contractor QUBE, have drafted a Journey Management Plan (see Appendix O), which details risk mitigation strategies for every stage of the journey between the mine site and the port. The plan requires that extreme caution is taken through the Berry Springs township and School Precinct.</p> <p>QUBE trucks will be speed limited to 40km/hr through the school precinct (20km/hr below the signed speed limit). Truck speeds will be monitored through the use of In-vehicle Management Systems (IVMS) that track speed, fatigue and driver behaviour in real time. The school will be 'geofenced' in the IVMS to a restricted speed, which will result in automatic notification to QUBE headquarters if speed limits are exceeded. QUBE have made a commitment in their Journey Management Plan that bad drive behaviour will not be tolerated.</p> <p>In relation to the installation of a barrier along the roadside at the school, it is Core's understanding that DIPL have independently engaged a consultant to undertake a site investigation and risk assessment on concerns of student safety in the Berry Springs preschool area with the planned increase of road train along Cox Peninsula Road. Following completion of the assessment, Core will comply with any directions received from DIPL in relation to ensuring safety around the school.</p>					

5.3 Submissions from non-government organisations

5.3.1 Environment Centre Northern Territory (ECNT)

Comment ID:	ECNT 1	Topic:	Stakeholder engagement	EIS Section	None
Comment					
<p>We would firstly like to acknowledge the early and ongoing consultation that was undertaken by the proponent in respect to our organisation. We would encourage the proponent to continue the engagement with the local community to address issues as they arise and build social licence for the project.</p>					
Response					
<p>Noted. Core appreciates the comments and input provided by the Environmental Centre NT. Core has considered each comment received from our stakeholders and will continue to engage as we progress development of the Grants Lithium Project.</p>					

Comment ID:	ECNT 2	Topic:	Air quality/GHG	EIS Section	None
Comment					
<p>The project statement fails to show due consideration to power options for the mine site power requirements. Evaluation of options is appropriate, including cost comparatives. Given this is a new resource industry project to support renewable energy, consideration of this option is appropriate. It is also appropriate to consider use of the existing grid power. If the proponent is insistent on using high carbon emitting diesel fuel, we suggest it is appropriate to consider offsetting the GHG emissions from the entire project. This voluntary offset could go to supporting local rangers and/or supporting the installation of solar energy on local schools, community or health centres.</p>					
Response					
<p>Core has not prepared detailed cost comparatives for solar or grid connection, as for a two to three year mining operation with scheduled commencement in mid-2019, these options are unviable. The project is calculated to release 59,196 tCO₂-e or 28,414 tCO₂-e per year for two to three years. This is equivalent to 0.4 % of the Northern Territory's annual emissions, which are calculated at 16.5 MtCO₂-e (in 2016) (DoEE, 2018). As noted by the Department of Chief Minister, the Northern Territory Government does not current have a formal instrument for the provision of GHG offsets. In the absence of such a formal mechanism, and considering the short-term nature of the GHG emissions from the project, Core does not intend to pursue offsets at this point in time.</p>					

Comment ID:	ECNT 3	Topic:	Hydrological processes	EIS Section	None
Comment					
<p>ECNT contends that the Statement is weak regarding water demand. The Northern Territory (NT) water allocation planning framework states: "In the event that current and/ or projected consumptive use exceeds the threshold levels of 80 per cent of the consumptive pool for aquifers, or groundwater discharges to groundwater dependent ecosystems are impacted, new groundwater Licences will not be granted unless supported by directly related scientific research into groundwater dependent ecosystem/cultural requirements."</p> <p>We are repeatedly alerted in this Statement that the demands will violate the heuristic protecting groundwater dependent values: ie the 20%. In this project we are not offered any scientific research into GDE/cultural requirements. Instead we are offered rationalisation, arguing that the scope of impact is minor. It is peculiar that this proponent believes they can merely note their intent to operate outside the guidelines of the NT water allocation framework.</p> <p>This is particularly sensitive given the anticipated role of water allocation standards in contributing to effective protection of our precious finite groundwater resources in the face of the unprecedented industrial risks of eg fracking and ongoing risks from climate change. The proponent should address the framework, rather than note an intention to violate it.</p>					
Response					
<p>Core would like to clarify that the project is not proposing any consumptive use of groundwater. Water required for the mining operation will be sourced from the existing (augmented) Observation Hill Dam and the new proposed Mine Site Dam. Following changes to the <i>Water Act</i> to encompass mining activities in early 2018, Core will be required to apply for and obtain permits to construct the dams and also permits to extract surface water. This approval process would occur subsequent to completion of the EIS process. Core has commenced engagement with Water Resources Branch to identify the information they would need to see in these future applications, which we anticipate submitting in March 2019.</p> <p>None of the activities proposed by Core trigger the requirement for a groundwater licence. The groundwater modelling results presented in Chapter 7 of the Draft EIS, indicate that as a result of digging and dewatering the pit, groundwater drawdown of up to 10 m is likely to occur within a 1 km radius of the pit. There are no GDE's or other consumptive uses within the area of potential impact, which is entirely confined to the area of Core's Mineral Lease. On this basis, the Draft EIS concluded that the proposal is unlikely to have a significant impact on groundwater resources or any environmental/social/cultural values that are groundwater dependent.</p> <p>Chapter 7 of the Draft EIS does refer to the NT Water Allocation Planning Framework in relation to assessing potential impact to surface waters associated with construction of dams and pumping water from those dams for use in the mining operations. The framework is</p>					

Comment ID:	ECNT 3	Topic:	Hydrological processes	EIS Section	None
<p>sometimes referred to as the '80:20' Rule, meaning that as a guide 80% of flows in rivers at any time should be maintained as water for environmental and other public.</p> <p>The framework was adopted as a point of reference in the Draft EIS; however, it needs to be clarified that the 80:20 rule is intended to apply to rivers, where there are inherent environmental and cultural values that rely on surface water flows. The surface water courses that will be affected by the Grants Lithium Project activities are ephemeral watercourses in the upper reaches of small affected catchments. These watercourses do ultimately discharge to West Arm (Darwin Harbour) and the Charlotte River (Bynoe Harbour) and it is at these discharge locations where 80:20 rule is most relevant to assessing the potential impacts.</p> <p>The hydrological modelling results presented in Chapter 7 of the Draft EIS, have since been refined to account for changes to the site layout and to allow for wet season discharges of clean water from the sediment dams and onsite water storages. The revised modelled monthly reduction in streamflow discharges in both the West Arm and Charlotte River catchments is presented in Section 3.3 of this Supplement.</p>					

Comment ID:	ECNT 4	Topic:	Mine Closure	EIS Section	None
<p>Comment</p> <p>We continue to raise objections to the mine pit not being backfilled. It is a community expectation that that long term impacts from mining need to be minimised. Backfilling of mines is one way to achieve this.</p>					
<p>Response</p> <p>The decision not to backfill is a commercial decision by Core. The pit sterilisation assessment report prepared by our consultant Innicon (2019) is provided at Appendix I. The key factor that has influenced Core's decision not to backfill the pit is that it would make it unviable to develop a future underground mine targeting the already defined ore resource beneath the pit. If the pit is backfilled, the only way the resource can be accessed is from the surface, either by a surface decline or via a shaft. If a decline option is considered compared to a portal access from deep within the pit void, the additional cost to establish a twin decline would be \$22.2M, which in Core's view would make this is unviable. Core is committed to ensuring that post-closure of the mining operation, the pit is stable, safe and non-polluting. Assessment and management of risks associated with the abandoned pit, are provided in the Mine Closure Plan, an updated version of which is provided as Appendix K.</p>					

5.4 Submissions from members of the public

5.4.1 Diana Rickard and Greg Chapman

Comment ID:	Public 1-1	Topic:	Traffic/Roads	EIS Section:	NA
Comment					
<p>We live off Darwin River Road. The intersection has limited visibility to the north-west when accessing Cox Peninsula Road. We note from the proponents' discussion that the Venture partners believe Cox Peninsula Road and its intersections are up to Australian standards. We dispute this. There have been fatalities all along Cox Peninsula Road - and especially at its intersections: no adequate signage, no street lights, no adequate turning lanes available at Darwin River Road or any of the other intersections. Unless the proponents agree to widen Cox Peninsula Road as a precondition and provide - at their own expense - proper safety measures for local residents and the general public using the road, there is no social, economic or environmental reason for their project to go ahead. One of the fatalities was caused through a sand-truck turning into a (still) unmarked mining lease.</p> <p>Cox Peninsula Road is one of the main tourist roads as well as the main access road for residents of the communities of Mala Plains, Berry Springs, Southport, Tumbling Waters, Darwin River, Dundee, Belyuen and Wagait. It is our escape route in cyclones. There are thousands of people regularly accessing this road. The proponents agree that Berry Springs School will be greatly inconvenienced and that this can be somewhat remedied by warning signs at the school saying 'Look out for big trucks'. The proponents are either not aware or choose to ignore that school children stop the school bus outside properties and side roads all along Cox Peninsula Road. Parents and carers also park to drop-off and pick-up all along the road.</p> <p>Cox Peninsula Road cannot sustain twenty-four-hour road train movements. Already the military vehicles, sand trucks and cattle trucks have damaged the road and made it dangerous for other road users to drive in wet conditions. The rumble and vibration of heavy vehicles early in the morning keeps us awake even on our cul-de-sac road surrounded by bush blocks.</p> <p>The proponents acknowledge that Cox Peninsula Road would be closed when blasting occurs close to the road. It is obvious from the inherent arrogance of the proponents - and the NT Government - that highly-subsidised large-scale mining warrants all kinds of serious pollution and disruption to residents and their property thus putting our lives at risk by these dangerous ventures so close to our homes.</p>					
Response					
<p>Core is very aware of community concerns in relation to road safety, especially around intersections and the Berry Springs Primary School. We have been actively engaging with government and the school over the past year to ensure we understand these issues and can put appropriate risk mitigation measures in place. Below is a summary of the key actions we are taking to ensure a high standard of road safety and minimise disruption to other road users.</p> <p>We would like to clarify in the first instance that in relation to the Cox Peninsula Road being an escape route during cyclones, the use of the road for this purpose will not be affected by Cores operations. In the event of an impending cyclone, site operations will cease for the safety of our personnel and contractors. Similarly, our Blast Management Framework provided at Appendix L, provides procedures for ensuring emergency vehicle access is maintained along the Cox Peninsula Road at all times.</p> <p>We have been engaging directly with the Department of Infrastructure, Planning and Logistics (DIPL) to ensure we understand the requirements that will apply to our use of the Cox Peninsula Road as a haul route, including our obligations to install signage, upgrade intersections and contribute to maintenance of the road pavement. Since submission of the Draft EIS, our traffic consultant has revised the Traffic Impact Statement report to address issues raised by DIPL. The revised document is provided at Appendix G; the updated document provides details of road signage requirements, management of road closures for blasting and provisions for pavement condition inspections and corrective maintenance.</p> <p>Our haulage contractor QUBE, has drafted a Journey Management Plan (see Appendix O), which details risk mitigation strategies for every stage of the journey between the mine site and the port. The plan addresses the safety requirements that will be applied at every intersection along the route and through high traffic areas i.e. the Berry Springs school and township. Trucks will be speed limited to 80 km/hr through intersections and the Berry Springs township and further limited through the school area as detailed below.</p> <p>We have engaged directly with the Principal of Berry Springs Primary School making a commitment that truck movements will be restricted past the school during drop-off and pick-up times (7:45 to 8:45am and 2:30 to 3:30pm). QUBE trucks will be speed limited to 40km/hr through the school precinct (20km/hr below the signed speed limit). Truck speeds will be monitored through the use of In-vehicle Management Systems that track speed, fatigue and driver behaviour in real time. The school will be 'geofenced' in the IVMS to a restricted speed, which will result in automatic notification to QUBE headquarters if speed limits are exceeded. QUBE have made a commitment in their Journey Management Plan that bad drive behaviour will not be tolerated.</p>					

Comment ID:	Public 1-2	Topic:	Mine Closure	EIS Section:	NA
Comment					
<p>We'd like to see the colour of the proponents' money invested in this and other mining projects close to us. Do they have the money to rehabilitate should the venture close after too many 'accidents' occur or the price of lithium goes down? We note that lithium sales are 'softening' and 'battered on equity markets' across other areas of Australia (see p22 Weekend Australian 17-18 November 2018).</p>					
Response					
<p>Core stands by the economic feasibility of Grants Lithium Project. The Mine Closure Plan provided at Appendix K, outlines our plans for rehabilitation of the site post-mining. Post completion of the EIS process, this plan will be subject to further scrutiny by the Department of Primary Industry and Resources as part of the mining authorisation process under the <i>Mining Management Act</i>. The mining authorisation will require a mining security (bond) to be paid to the Northern Territory Government, which is based on the area of disturbance and will be provided for the purpose of rehabilitation of the site in the event that Core is unable to adequately rehabilitate the site. The mining security requirement provides greater certainty to the community that there will be finance for the rehabilitation of the disturbance area, even if the project turned out not to be economically viable.</p>					

Comment ID:	Public 1-3	Topic:	Emergency Response	EIS Section:	NA
Comment					
<p>We live just on the border of the Worst-case Scenario of Darwin River Dam bursting. We've been informed of this in the past but haven't been issued with an Emergency Plan should it happen. There are no emergency services down here to handle chemical spills or fires that will inevitably occur as the mining leases expand. This lease has the potential to significantly pollute Bynoe Harbour and Darwin Harbour as well. Shouldn't rural residents living close to the proposed (and present) lithium leases be directly told of the dangers they represent to them and their properties? Shouldn't all people using Cox Peninsula Road regularly also be directly informed?</p>					
Response					
<p>Core cannot provide comment on any emergency plan associated within the management of the Darwin River Dam; however, in relation to our proposed operations, a draft Emergency Response Plan is provided at Appendix P. The plan details emergency response procedures for all of the credible threats that could arise as a result of an emergency situation at the site.</p> <p>The Draft EIS assessed risks to flora and fauna, soils, water resources and people, associated with scenarios such as a dam wall failure, chemical spills and fire. The complete risk registers were provided as Appendix O to the Draft EIS. The risk assessment results indicate that there is generally a low risk of impacts to rural residents associated with the proposed activities on ML mainly due to the site being remote from residences (i.e. the closest residence is over 10 km south). At this distance there will be no impacts to residential amenity associated with noise and dust emissions from the site. Blasting may be periodically audible at the closest residence but would not pose any danger to people.</p> <p>The project does not involve the use of chemicals for processing and has low potential for acid mine drainage, and therefore there is a low risk of impacts to downstream water quality in Darwin Harbour or Bynoe Harbour associated with spills and/or contaminated drainage. The highest risk of bushfire will be during the initial site construction phase, when machinery is being used for land clearing. The Vegetation Clearing Procedure (provided as Appendix S to the Draft EIS) states that Core will establish a first response capacity on site and will obtain permits prior to undertaking any burns.</p> <p>Our risk assessments and stakeholder engagement have indicated that road use and blasting require targeted mitigation measures to ensure that risks are managed to an acceptable level. Core's proposed approach to managing road safety risks is detailed in the Traffic Impact Statement (Appendix G) and Journey Management Plan (Appendix O). Risks associated with blasting will be managed by establishing exclusion zones around the mine site during blasting, the procedures for which are detailed in the Blast Management Framework (Appendix L).</p> <p>Core is committed to ensuring the community is regularly informed about our proposed activities and we have actively engaged with many stakeholders during drafting of the EIS. As stated in our Blast Management Framework, the local community will be given advanced notice of proposed road closure windows. Core will also publicise email and phone contact details for the community to contact the mine management team in the event of any issues or concerns.</p>					

Comment ID:	Public 1-4	Topic:	Economic rationale	EIS Section:	
Comment					
<p>As CSIRO explains in a recent report 'Lithium battery recycling in Australia': https://www.csiro.au/en/News/News-releases/2018/Australia-to-lead-lithium-ion-battery-recycling-charge, Australia recycles 2% of the 3,000 tonnes of our lithium batteries annually. Australia's first lithium battery recycling plant opened in Victoria in April 2018: https://www.sustainability.vic.gov.au/About-Us/Latest-News/2018/04/26/04/57/Australias-first-lithium-battery-recycling-plant-opens. As stated, lithium batteries 'are fast-becoming the main source of power for mobile electronics and large storage batteries in homes and industry'. We use them as back-up for our renewable energy solar panels. We can't continue to blame 'the tyranny of distance' for not recycling our resources ethically. We can't have more people living here without adequate ways of recycling our wasted resources. The Grants Project annual report also states that lithium mining is only viable while the lithium price remains stable and the cost of fuel is low. The NT Government should be financing local recyclers to collect and process lithium batteries across the NT - not subsidising the excesses of mainly foreign mining investors - to export and process non-renewable raw materials. In essence, the inherent risks of large-scale mining and transporting lithium so close to the Greater Darwin Region</p>					

Comment ID:	Public 1-4	Topic:	Economic rationale	EIS Section:	
<p>are far greater than the economic benefits. In many jurisdictions across the Western world, recycling lithium batteries is in place and we in the Top End of tropical Australia can't afford to live in a unique, pristine tropical environment without recycling the products of our dwindling and precious non-renewable resources.</p>					
Response					
<p>Core stands by the economic feasibility of Grants Lithium Project. Lithium raw materials are the vital ingredient for lithium ion battery technology; as the desire for renewable energy supplies increases, demand for lithium is expected to continue. Compared to other lithium mines in Australia (which are primarily in WA), the proposed mine site is within easy trucking distance by sealed road to Darwin Port – Australia's nearest port to Asia – where the key demand for lithium raw products is expected to be driven by China. The site also has the advantage of being close to Darwin, a major population centre capable of providing labour and services without the need for fly-in-fly-out workers, and the associated costs of moving and accommodating those workers. The project is expected to provide benefits in the following areas:</p> <ul style="list-style-type: none"> • Jobs – Core expects to create between 100 and 150 direct employment jobs. • Export income – The Australian economy will benefit from over A\$300 million in export income. • Royalties – The NT government will benefit from royalties under the Mineral Royalty Act. • Develop new technology – A long-term lithium mining project in the NT could provide opportunities for further industry development, such as lithium battery factories. <p>In relation to promotion of lithium battery recycling, this is a matter for the Northern Territory Government.</p>					

5.4.2 Pauline Cass

Comment ID:	Public 2-1	Topic:	Cumulative impacts	EIS Section:	NA
Comment					
<p>One of the main issues with Core Exploration Limited's plans are the cumulative environmental and social impacts. Core have stated in their EIS that Grants is just the first of many projects they have planned for the region. If we include possible lithium mines on adjoining leases, we could see an estimated 800km2 impacted by lithium mining, stretching from Darwin Harbour, west to Bynoe Harbour, south into Litchfield National Park and east to Darwin River Dam. This will have a far greater impact on rural residents, tourists and the environment than just Grants alone and must be factored into the NT EPA and Minister's decision.</p>					
Response					
<p>Core has been open and honest about the potential for future expansion and/or extension of our mining activities across our lease held in the Finniss River region. Section 3 of the EIS ToR required an assessment of cumulative impacts associated with the proposal. Our address of this requirement is provided in Section 4.4 of the Draft EIS. We trust that this information will be considered by the NT EPA and Minister as part of the EIS assessment process. Any future expansion proposals will be the subject of a separate referral to the NT EPA. Core acknowledges that future referrals will need to identify and assess potential cumulative impacts.</p>					

Comment ID:	Public 2-2	Topic:	Community consultation	EIS Section:	NA
Comment					
<p>Many rural people have only recently become aware of the Grants Lithium Mine EIS. The only public consultations were a poorly advertised stall at Berry Springs market one Sunday, and an information night held 2 days before submissions were due (12/12/18) at Wagait Beach which was organised by Wagait Shire Council, Core Exploration, and True North Strategic Communications. When asked how people can be expected to write a submission within the 2 days, Jane Munday from True North said that the EPA wouldn't mind receiving late submissions. We were also told that Core would be consulting with Belyuen the following day – the day before submissions were due. This is not adequate or fair consultation.</p> <p>I first became aware of the proposed mine when posts from 'Stop Core Lithium' started popping up in my Facebook newsfeed. As a result of these Facebook posts, people started asking me, in my capacity of community advocate, about the mine. This led to me recognising a need for information and calling a community meeting at the Berry Springs Tavern on 23/11/2018 (in my capacity as CEO of Protect NT Inc). It was attended by over 40 people wanting to know about the mine. I explained that I was not involved with Core, nor an expert on lithium mining, but that I had read the EIS. I condensed the EIS into 2 information sheets (by copying and pasting directly from the EIS) which were distributed to the attendees. These sheets are attached to the end of this submission as Appendix 1 and Appendix 2. I also distributed a generic 'how to write a submission' guide (Appendix 3). I was interviewed on ABC radio about the public meeting on the morning of 23/11/18, where I stated that the meeting was neither for nor against the proposed mine, but an attempt to raise community awareness of the proposed mine and the need for EIS submissions. Core had been invited to speak as well but declined to be interviewed which was a shame. I had hoped that they would hear about the Berry Springs meeting and attend to answer people's questions, but sadly they didn't come. This is poor community engagement.</p>					
Response					
<p>Core acknowledges that some members of the community feel they have not been adequately informed or consulted in relation to our proposal. This situation is unfortunate, because as a company, our objective from the outset of our project planning has been to proactively engage with our stakeholders. To help us achieve this, in 2017 (prior to our initial referral to the NT EPA) we contracted local communications</p>					

Comment ID:	Public 2-2	Topic:	Community consultation	EIS Section:	NA
<p>company True North Strategic Communications to assist us identify who we should engage with and the best approach to use. Our Project Development Manager and True North staff have since met with many government agencies, local government, and non-government organisations during 2017 and 2018. Reports on our stakeholder engagement program undertaken in 2017 and 2018 were prepared by True North and submitted as Appendix K1 and K2 to the Draft EIS.</p> <p>Comments received during the Draft EIS comment period from government agencies, local government, and non-government organisations, generally indicated an adequate level of consultation with these groups; however, comments received from some individuals indicate that our approach to informing the broader community was not successful in reaching all interested parties. Our use of the Berry Springs market stall was an attempt to reach the local community more broadly and we also provided project information for inclusion in the Wagait Watch newsletter and in the Daly region newsletters distributed by the Member for Daly – Gary Higgins. The CEO Wagait Shire Council was briefed on the project and participated in interviews for the Social Impact Assessment. Engagement with Belyuen community was arranged through the Council, but had to be delayed for various reasons, including two deaths in the community around the time we originally sought to consult. A meeting did eventually go ahead at a time the community advised us was appropriate.</p> <p>We intend to continue updating the community in relation to our plans and on the basis of comments received through the Draft EIS process, we will re-evaluate our approach to engaging with the broader community so that future communications reach as many people as possible.</p>					

Comment ID:	Public 2-3	Topic:	Traffic/Roads	EIS Section:	
Comment					
<p>Blair Duncan, Core's General Manager - Project Development, said at the Wagait Beach meeting that tremors from the blast will be felt from 2-3 kilometres away and blasts will be heard for 10 kilometres. This will clearly impact residents in Blackmore Village.</p> <p>Closing the only access road to Belyuen, Wagait Beach and Bynoe Harbour for blasting is unacceptable. What if an emergency was to occur where someone urgently needed to get through the road closure? Also, if a car is forced to stop in the middle of the day for 15 minutes while blasting occurs, it could lead to vehicles over-heating or people (especially babies in car capsules) suffering from heat stroke.</p> <p>Will Core guarantee that blasting will not occur at school drop off or pick up times, or when school buses are picking up or dropping off students? Blair stated at the Wagait Beach community meeting that due to weather and other considerations, blast times would be variable, this would make it almost impossible for residents to plan their day's activities. Road users need to know blast times well in advance so that they can plan trips accordingly, though closing the road at any time will still be a huge impost. The best solution would be for Core to build a detour road around the mine area.</p>					
Response					
<p>On average, blasting will be required every two to four days. Noise from blasting activities will be audible along a section of Cox Peninsula Road near the project area; however, blasting is not expected to significantly impact amenity of any residences. The closest residential property is 10 km from the proposed mine site, at which distance each blast may be momentarily audible, but will not be intrusive. The blasting will not impact residential amenity at Blackmore Village, which is over 17 km away.</p> <p>With respect to closing Cox Peninsula Road, Core would like to re-iterate to the community that the road will remain open to traffic as usual, excepting for approximate 15-minute windows every two to four days when a short section of the road will be closed for public safety reasons. Blasting that requires the road to be closed will only occur during daylight hours Monday-Friday; not on weekends and not on public holidays. Nominal blasting times are 13:00pm to 13:15pm and 17:00 to 17:15pm, which are outside of peak traffic times.</p> <p>Using the 2018 peak hour traffic volumes estimated for the point on Cox Peninsula Road 500 m west of Fog Bay Road (calculated in the Traffic Impact Statement), road closure for 15 minutes could be expected to affect approximately 9 vehicles (based on the assumption that vehicle movements are evenly distributed through the hour). As the blasting will be done outside of peak times, the number of affected vehicles will be less. Qualified traffic controllers are required to man the road closures, and would provide assistance in the event that a vehicle experiences difficulties.</p> <p>Core has prepared a Blast Management Framework (Appendix L) that documents the site blast management requirements and details of all the relevant management plans, processes and operational procedures that will be put in place to ensure public safety and minimise inconvenience to road users. In relation to road closures and traffic management, the framework details the proposed Road Closure Plan, key aspects of which are:</p> <ul style="list-style-type: none"> • Procedures for notification of affected parties, specifically the communities of Belyuen and Wagait Beach will be notified of road closure times, two days prior. • An authorised traffic management company will be contracted to manage each road closure in accordance with DIPL requirements, including placement of signage and traffic controllers. • A protocol for allowing the passage of emergency vehicles. <p>The above measures are expected to minimise disruption to road users as far as is practicable and always ensure that emergency access is maintained. We appreciate that the closures will inevitably impact a small number of road users. However, due to the short duration, designated blasting times and advanced notification procedures, we do not anticipate the project having a severe impact on the local community to the extent that a detour is warranted.</p>					

Comment ID:	Public 2-4	Topic:	Traffic/Roads	EIS Section:	Chapter 1
Comment					
<p>The EIS states, "Up to 10 quad road train trips per day between mine site and port" (p. 1.5), but this only accounts for the ore trucks leaving, not the ore trucks returning or supply trucks bringing in Dense Media Separation chemicals or other mining supplies. This figure also does not account for all the worker's and contractor's vehicles travelling to and from the mine every day.</p> <p>Who will pay for the road repairs needed to maintain Cox Peninsula Road? Heavy ore and supply trucks will lead to road damage over time.</p> <p>How will Core reduce the risk of accidents/collisions between road users and mine vehicles along this 100km/h stretch of Cox Peninsula Rd? A solution would be Core building extended turning lanes in and out of the mine site road.</p> <p>Will motorists need to add an extra half hour to their travel times due to being stuck behind slow moving mine trucks? There is a real risk of an impatient/frustrated road user trying to overtake a slow-moving truck on the windy section of Cox Peninsular Rd and causing an accident. A solution would be for Core build over-taking lanes along Cox Peninsula Road between the mine and the Stuart Highway.</p> <p>Will the trucks be travelling along Cox Peninsular Road at school drop off or pick up times, or when school buses are picking up or dropping off students?</p>					
Response					
<p>The Traffic Impact Statement submitted as Appendix G of the Draft EIS did account for return road train movements; however, it did not account for other vehicle movements which had not been determined at the time the statement was prepared. The Traffic Impact Statement has since been update to account for all anticipated vehicle movements. The revised statement is provided at Appendix G.</p>					

Comment ID:	Public 2-5	Topic:	Mine Closure	EIS Section:	Mine Closure Plan
Comment					
<p>The Mine Closure Plan (MCP) states that, "Following closure, three constructed landforms will remain within Grants Lithium Project – the WRD with associated TSF, the pit void and flood diversion bund." (MCP p. 5.24). Leaving a 470m x 375m x 180m hole in the ground is not 'rehabilitation' (MCP p. 2.8). Rehabilitation is repairing a site back to its original condition, not leaving pits and mounds.</p>					
Response					
<p>Core's post-mining land-use objective is to rehabilitate the site to a stable non-polluting landform which supports self-sustaining native vegetation comprising local species. Our closure plan is based on leaving the pit void to fill with water over time to form a pit lake. The key factor that has influenced Core's decision not to backfill the pit is that it would make it unviable to develop a future underground mine targeting the already defined lithium ore resource beneath the pit. The diversion bund (a mound of dirt around the site) is required to remain in place around the pit post-closure as a safety measure. The WRD will be pushed in to encapsulate the tailings dams, creating an integrated landform that can then be revegetated with local species. Integrated landform construction is viewed as a leading practice approach to mine site rehabilitation that can be effective in ensuring environmental and community interests and concerns can be met (Australian Government, 2016).</p> <p>A further revision of our Mine Closure Plan is provided at Appendix K. This plan addresses minor issues raised by regulators through their review of the draft EIS. If our project proceeds through the EIS process, the Mine Closure Plan would then be subject to further scrutiny by the Department of Primary Industry and Resources (DPIR). Our closure concepts and plan will need to be acceptable to DPIR in order for a mining authorisation to be issued under the <i>Mining Management Act</i>.</p> <p>DPIR require proponents to demonstrate their operation can be closed in a manner that prevents or minimises any adverse long-term environmental and social impacts that may otherwise have resulted from the mining and/or processing operation. DPIR refer to the Western Australian "Guidelines for Preparing Mine Closure Plans – June 2011" (the guidelines) as providing an accepted approach to preparing an MCP. These Guidelines identify two principle closure objectives for post mining land use:</p> <ul style="list-style-type: none"> • To be physically safe to humans and animals, geo-technically stable, geo-chemically non-polluting/ non-contaminating and capable of sustaining an agreed post-mining land use. • To ensure that premises are decommissioned and rehabilitated in an ecologically sustainable manner. <p>Core has adopted these overarching objectives in our mine closure planning.</p>					

Comment ID:	Public 2-6	Topic:		EIS Section:	Chapter 9
Comment					
<p>“Loss of future land-use opportunities” was identified as a “Potential impacts associated with the rehabilitation and closure phase” (EIS p. 9.10). Core’s proposed 500 km² of lithium mines and lack of rehabilitation will leave the landscape pockmarked by large mine pits and waste heaps, making the land unsuitable for future development. This contradicts the Darwin Regional Land Use Plan 2015 which states:</p> <p>“The regional plan anticipates long term development for a range of urban purposes including residential and associated community facilities and services, and commercial and industrial uses on the northern half of Cox Peninsula” (p. 18).</p>					
Response					
<p>Post-closure, the immediate land area covered by the rehabilitated WRD, open pit and closure bund, will have restricted use. The assessment of environmental impacts documented in the draft EIS, indicates the mine is unlikely to produce Acid Mine Drainage (AMD) or any other contaminants that would affect surrounding land, soils or water quality, which means impacts to future land-use will be confined to the immediate mine site footprint. The site is located on vacant crown land surrounded by undeveloped land for 7-8 km in all direction and the Crown Land Estate branch have advised that the Darwin Regional Land Use Plan identifies agriculture/grazing as the likely long-term use of the locality. Effective implementation of the Mine Closure Plan is expected to ensure that constraints to this future land use are confined to the mine site footprint.</p> <p>Core acknowledges the Darwin Regional Land Use Plan <i>anticipates a range of urban purposes including residential and associated community facilities and services, and commercial and industrial uses on the northern half of Cox Peninsula</i> as stated in the comments. However, it should also be noted that the area identified as ‘<i>planned urban and peri-urban area</i>’ is confined to areas north of Belyuen community, well north of the proposed Grants Lithium Project. As the loss of future land use opportunities is confined to the mine site footprint, anticipated development of the Cox Peninsula, as outlined in the Darwin Regional Land Use Plan will not be impacted by the Project. Additionally, none of the exploration licences held by Core extend into this area and are predominately south of Cox Peninsula Road.</p>					

Comment ID:	Public 2-7	Topic:	Air quality/GHG	EIS Section:	NA
Comment					
<p>Grants will be powered by diesel generators which can be noisy, smelly, release greenhouse gases, and could impact residents several kilometres away. The mine should access and use power from the grid instead of generators, which will also increase revenue for Power and Water Corporation. Mostly using solar power would be a great opportunity for Core to reduce their carbon footprint.</p>					
Response					
<p>Core would like to assure the community that noise and/or exhaust emissions from diesel generators at the mine site will not impact amenity at any residential properties, the closest of which is 10 km away from the site. Core will publicise contact details for the community to contact the mine management team in the event of any issues or concerns.</p> <p>It is correct that burning of diesel will release greenhouse gas emissions. The draft EIS calculated the emissions as part of the project including the contribution of diesel burnt for electricity generation (stationary). The contribution of diesel burning for electricity was 3,280 t CO₂-e over the life of the project, or 5.5 % of total project emissions. The burning of diesel for power generation will contribute less than 0.02 % of the Northern Territory’s annual emissions for the period the mine is operational.</p> <p>Over the two-three-year mine life there will be a relatively high power demand to run the site. To reliably supply this power from the grid would require augmentation works with significant lead-in time and to supply from solar would require a solar setup of substantial size, plus diesel power generators for backup. These are not viable options for a two to three-year project with scheduled commencement in mid-2019. These options may become viable at some stage in the future if Core finds additional lithium resources that allow us to propose a longer term mining operation in the region.</p>					

Comment ID:	Public 2-8	Topic:	Hydrological processes	EIS Section:	Water Management Plan Chapter 7
Comment					
<p>The Water Management Plan (WMP) Appendix C says, “groundwater flows into the pit” ... “reaching a peak at about 2,000 kL/d in month nine” (WMP p. 1.12). This water will come from the Burrell Creek Formation (MCP p. 7.39), and means the mine will effectively act as a well. Will this groundwater ingress affect any water bores, which may be in the same underground stream or aquifer (there are several in the Berry Springs and Blackmore area)? This water extraction from the Burrell Creek Formation via the Grants pit should require a Water Extraction Licence from Water Resources at Department of Environment and Natural Resources (under the Water Amendment Bill and soon to be updated Water Act), as it is effectively removing, storing and using the groundwater from the pit to process the pegmatite ore. Only “39 % of water requirements comes from water reuse” (WMP p. 1.16).</p>					
Response					
<p>The extent of groundwater drawdown that will occur due to dewatering of the open pit was modelled by Core’s hydrogeological consultants, CloudGMS. The results are discussed in Chapter 7 of the draft EIS, which assesses the impacts and risks to hydrological processes (surface water and groundwater) associated with the proposal. Since submission of the draft EIS, the modelling has been updated to account for the</p>					

Comment ID:	Public 2-8	Topic:	Hydrological processes	EIS Section:	Water Management Plan Chapter 7
<p>increase in size of the open pit (refer section 2.1.1). The supplementary modelling report is provided as Appendix C and the results are summarised in section 3.4 of this Supplement.</p> <p>The results indicate that drawdown of groundwater due to pit dewatering will be confined to the extent of the Mineral Lease (ML), excepting at the western extent of the site where the drawdown cone extends marginally off the ML. The extent of drawdown at the boundary of the ML during operations is predicted to be 0.1 m. Post-closure the open pit will fill with water over time and will result in 0.5 m drawdown with a radial extent of approximately 750 m around the pit lake. Consistent with the conclusions drawn in section 7.6.3 of the Draft EIS, the modelled drawdown is not expected to impact environmental values or other users. The closest groundwater bores are more than 13 km from the mine site and will not be impacted. The modelled drawdown cone is not expected to impact on any surface water flows around the mine site as discharge of groundwater to these drainage lines is naturally limited due to the low hydraulic conductivity of the aquifer.</p> <p>None of the activities proposed by Core trigger the requirement for a groundwater licence.</p>					

Comment ID:	Public 2-9	Topic:	Hydrological processes	EIS Section:	Water Management Plan Chapter 7
Comment					
<p>Surface water flows will be affected by the proposed Grants mine, "The maximum reduction in flows occurs during the early Wet season (November), when modelled flows immediately below the mine footprint are reduced by 75.6%. This is primarily because the MSD is retaining water as it fills. ... In regards to the guideline of maintaining at least 80% of natural flows, this is breached during all Wet season months immediately downstream of the mine footprint, and breached (slightly) during December and January where the waterway meets Darwin Harbour. These reductions in flows would result in the ephemeral drainage lines downstream of the mine footprint remaining drier for longer during the early Wet season. Whilst the habitats along these drainage lines would be adapted to low/no-flow conditions, it is possible that the modelled reduction in early Wet season flow could alter the quality and/or species composition of the riparian zone" (WMP p. 1.38).</p> <p>I believe the EIS severely underestimates the impacts Core's dams, mine pit, roads, and other activities will have on the surface water flows in surrounding creeks and floodplains, and ultimately Darwin and Bynoe Harbours. This will impact aquifer recharge, fish, wildlife, and vegetation including mangroves. The 2016 mangrove die back in the Gulf of Carpentaria was found to be caused by a lack of fresh water flows. The WMP states, "the occurrence of GDE's dependant on such discharge is unlikely" (p. 1.34), yet the ghost gums and Corymbia spp found in the area are reliant on groundwater remaining within the root zone for much of the year.</p>					
Response					
<p>The potential impacts to surface water flows discussed in Chapter 7 of the Draft EIS and the Water Management Plan, are based on modelling undertaken by suitably qualified experts. The model outputs were subject to independent review as part of the Water Management Plan, the findings of which are provided at Appendix B of this Supplement. The models have since been revised to account for changes to the mine site layout and to address feedback received from the independent review. The updated results are documented in section 3.3 of this Supplement.</p> <p>Immediately downstream of the mine site (at site 2&5DS), flows will be reduced by around 30% in November, dropping to 20% or less for the remainder of the wet season. The ephemeral streams at this location do not support any notable environmental values that are likely to be affected by this level of reduction in flow. Further downstream at the point of discharge to the hinterland mangroves of West Arm, flows will be reduced by around 14-23% in November to January, which is not of a magnitude expected to have any impact on the ecological integrity of the mangrove environment or receiving waters habitats.</p> <p>In the later wet season months between February and April, at the point of discharge to the hinterland mangroves of West Arm, flows will be reduced by around 12-15%. Water availability is not a limiting factor at that time of year and the level of flow reduction is unlikely to cause any measurable impact to the mangroves or receiving waters.</p> <p>Following closure of the mine site and decommissioning of the Mine Site Dam, post-closure modelling indicates that at the point of discharge to the hinterland mangroves of West Arm, flows will be reduced by 13-14% over all wet season months. This reduction is due to the continued diversion of surface water flows around the mine site by the abandonment bund, which effectively reduces the surface area of the catchment. This level of ongoing reduction is unlikely to cause any measurable impact to the downstream receiving waters.</p> <p>In relation to the concern raised with respect to impacts on GDE's, the groundwater assessment and monitoring (referred to in response to comment 2-9 above) indicates there will be limited drawdown of groundwater (0.1 m) at the boundary of the ML. There are no known GDE's within the area of potential impact. The model outputs indicate that groundwater drawdown will be mined and therefore the vegetation along the ephemeral drainages, which include scattered Ghost Gums, are unlikely to be impacted.</p>					

Comment ID:	Public 2-10	Topic:	Hydrological processes	EIS Section:	Water Management Plan Chapter 7
Comment					
<p>What if we have several successive poor wet seasons and the Observation Hill Dam doesn't refill enough to replenish water taken by Core? If the Mine Site Dam (MSD) is also affected by successive poor wet seasons, where will Core get their water from then? What about the environmental impacts of Core's water extraction from Observation Hill Dam? While this dam is man-made it has become a vital part of the environment (just as Fogg Dam has). Observation Hill Dam is also used recreationally by locals. I also have grave concerns regarding the</p>					

Comment ID:	Public 2-10	Topic:	Hydrological processes	EIS Section:	Water Management Plan Chapter 7
<p>raising of the dam wall at Observation Hill Dam and the construction of the 2 MSDs, both due to their impacts on water flow and the large areas they will flood.</p>					
Response					
<p>The primary source of water for Grants Lithium Project, will be the groundwater and surface water inflows to the pit, which will be dewatered to onsite storages for re-use. This source will need to be supplemented during some dry season months from the Observation Hill Dam (OHD) and/or Mine Site Dam (MSD). The updated water balance modelling provided as Appendix D of this Supplement, considered scenarios of average rainfall, successive drier than average, and successive wetter than average years (Appendix D). Even under the scenario where wet season rainfall is consecutively 10 % of average, the majority of water for the project will be sourced from pit dewatering. The water balance indicates the OHD and MSD will contain sufficient make-up water in storage in all modelled scenarios, such that the mine will not run out of water.</p> <p>The proposal to raise the OHD wall by 1.5 m will result in an inundation of a further 9 ha of vegetation. Construction of the MSD will inundate 19 ha. The area of each vegetation type that will be impacted by the inundation footprint is provided in Table 2-2. None of the impacted vegetation types are rare/threatened and none are considered sensitive/significant vegetation according to the NT Land Clearing Guidelines. Loss of these habitats is expected to have a limited impact to fauna because the area is relatively small and the affected habitat types are well represented in the surrounding areas, with no other development in close proximity that would limit movement of fauna into these areas. Core's use of the OHD and MSD as a water source will not necessarily preclude continued use by birds and other; however, people will not be able to access the dams as they will be on operational ancillary ML's.</p> <p>The impact of both the MSD and OHD on surface water flows downstream to West Arm and Charlotte River respectively, is discussed in detail in Chapter 7 of the draft EIS and updated information is provided in section 3.3 of this Supplement. The modelled reduction in flows is not of a magnitude that is likely to cause impacts to the environmental values in those downstream waterways.</p>					

Comment ID:	Public 2-11	Topic:	Mine Closure	EIS Section	NA
Comment					
<p>Blair from Core said at the Wagait Beach meeting that the mine site will not be fully fenced. This is a concerning risk for any motorbikes, quadbikes, four-wheel drive enthusiasts, or other recreational users in the area who might enter the mine site from the sides or back of the mine, either unknowingly or out of curiosity.</p>					
Response					
<p>During operations, Grants Lithium Project will be staffed 24 hours a day, 7 days a week and the boundary of will be obvious to any users of the surrounding Vacant Crown Land. Once established, the operational area (open pit, internal haul roads and processing area) will be entirely surrounded by the inundation bund and topsoil stockpiles, which will be clearly visible and not easily traversed by vehicles. As such it is unlikely that people using the area could enter the mine site unknowingly. Anyone entering the mine site out of curiosity will be asked to leave the area immediately.</p> <p>Following mine closure, all infrastructure will be removed from the site. The open pit lake will be surrounded by the rehabilitated waste rock dump and an abandonment bund. Signage will be installed around the boundary warning of potential safety hazards. These measures are expected to ensure that no-one could unknowingly enter the site.</p>					

Comment ID:	Public 2-12	Topic:	Other	EIS Section	
Comment					
<p>The Kamfari is a popular annual event in the area with thousands of attendees. How will the mine impact the race?</p>					
Response					
<p>The Kamfari event holds an occupation licence over an area north of the Cox Peninsula Road. The proposed mining activities at Grants Project will not impact the race.</p>					

Comment ID:	Public 2-13	Topic:	Weed Management	EIS Section:	Mine Closure Plan
Comment					
<p>The area is free from gamba grass (MCP p. 7.59), meaning it is free from the hot gamba fires which kill so many wildlife and vegetation species elsewhere in the Top End. The weed management plan must be strictly enforced at Grants to prevent weed infestations.</p>					
Response					
<p>Core notes that the site appears to be free of gamba grass and largely free of other weed species. Further surveys will be conducted early in 2019 – when conditions are optimal for weed surveys – to map the location of weed infestations and provide a baseline for inclusion in the site Weed Management Plan. Core has committed to the management of weeds within the project boundary, as required under the <i>Weed Management Act</i>. Core also appreciates that gamba grass is less prevalent across the Cox Peninsula than other areas of the Top</p>					

Comment ID:	Public 2-13	Topic:	Weed Management	EIS Section:	Mine Closure Plan
<p>End, which requires particular emphasis on weed hygiene procedures within our Weed Management Plan to ensure the weed is not introduced to the area.</p> <p>The EMP submitted as Chapter 10 of the Draft EIS specifies the following management actions to be implemented to minimise the potential for introduction and spread of weeds:</p> <ul style="list-style-type: none"> • Source off-site materials from sites that have been declared weed-free • Survey disturbance area for weeds prior to commencement of construction and control/eradicate existing infestations • Clean, check and certify all earth moving equipment and vehicles as weed-free before entering site (during pre-strip and construction phase) • Install wash bay facilities and maintain wash-down logs • Make available information on potential weeds to assist staff with identification and response <p>Transport of product will occur from the mine site (free of gamba grass and managed for all weeds) along the sealed Cox Peninsula Road to the Stuart Highway and then to the Darwin Port. Trucks travelling along this route will not have opportunity to pick up weed seeds on tyres or other areas, and will thus be unlikely to spread weed seeds along the transport route.</p> <p>Additionally, monthly weed monitoring will be undertaken across disturbed areas, stockpiles, areas with introduced earth material access track and watercourses. The identified monitoring areas are those which are most likely to be invaded by weeds (i.e. disturbed and wet areas). The weed monitoring is designed to provide early detection of weed incursion and allow for appropriate control measures to be implemented. Appropriate control measures included the management of the identified outbreak and targeted survey to detected other incursions.</p> <p>Auditing of the weed management plan is the responsibility of DPIR through the mining authorisation. Core will work with DPIR through any auditing to ensure weed management measures are being implemented.</p>					

Comment ID:	Public 2-14	Topic:	Economic rationale	EIS Section	NA
Comment					
<p>The price of lithium has been consistently falling. "Morgan Stanley predicts a 45% fall in lithium prices by 2021" due to an international "supply glut facing the industry". "More evidence of softening lithium prices has emerged, with the operators of Western Australia's Mount Marion mine revealing they will be paid 13 per cent less for their product in the final three months of 2018 than in the previous quarter."</p> <p>According to 'Energy and Capital' investment news, hard rock lithium mining is "Expensive and potentially many deep drill holes must be punched into the ground" and "Hard rock mining is also environmentally dangerous". Whereas brine mining "is faster, and researchers at the Lappeenranta University of Technology in Finland found that lithium mined from brine extraction can reach purity of up to 99.9%, an almost impossible purity level in the traditional hard rock mining method". This will make it difficult for Grants' hard rock lithium to compete internationally with eg. Chile's brine lithium.</p> <p>Aluminium-ion batteries may replace lithium-ion batteries as "aluminium is the third most abundant element in the Earth's crust"; "aluminum-ion batteries have attracted extraordinary attention owing to their unique advantages, such as low cost, low flammability and high stability"; "rechargeable aluminium batteries offers an ideal opportunity to deliver cells with high energy-to-price ratios " and; aluminium "also has the one of the highest theoretical volumetric capacities on account of its multiple redox states".</p>					
Response					
<p>Core stands by the economic feasibility of Grants Lithium Project. Lithium raw materials are the vital ingredient for lithium ion battery technology; as the desire for renewable energy supplies increases, demand for lithium is expected to continue. Compared to other lithium mines in Australia (which are primarily in WA), the proposed mine site is within easy trucking distance by sealed road to Darwin Port – Australia's nearest port to Asia – where the key demand for lithium raw products is expected to be driven by China. The site also has the advantage of being close to Darwin, a major population centre capable of providing labour and services without the need for fly-in-fly-out workers, and the associated costs of moving and accommodating those workers.</p>					

5.4.3 Jack Ellis

Comment ID:	Public 3-1	Topic:	Traffic/Roads	EIS Section:	None
Comment					
<p>Cox Peninsula Road between the proposed mine site and Berry Springs could best be described as a narrow, winding, lightly paved surface with crumbling shoulders and little room to move off the road in an emergency.</p> <p>Large numbers of recreational fishos use it to get to Dundee, along with heavy and medium supply vehicles, tourists and residents. Once north of Fog Bay Road, traffic density drops considerably but the mix remains similar, including supply and service vehicles usually on a timeline to service Wagait Beach.</p>					

Comment ID:	Public 3-1	Topic:	Traffic/Roads	EIS Section:	None
<p>Adding up to five quad road-trains to the mix will have a significant impact on the existing traffic and the state of the pavement. There are large sand trucks using the road at present but the predicted 95 tonnes for the lithium operation is going to test both the pavement and other traffic mixing with these vehicles.</p> <p>The company has agreed to “maintain” the road but there are few places that could accommodate a decent size slip-lane. There are limited safe overtaking areas and steep or poorly maintained shoulders and adjacent areas that would allow for an “emergency exit”. All the above need to be addressed before project approval.</p>					
Response					
<p>Core has been engaging directly with the Department of Infrastructure, Planning and Logistics (DIPL) to ensure we understand the requirements that will apply to our use of the Cox Peninsula Road as a haul route, including our obligations to install signage, upgrade intersections and contribute to maintenance of the road pavement. A Traffic Impact Statement (TIS) was submitted as Appendix G of the Draft EIS. DIPL provide comment that the majority of traffic issues have been addressed with the exception of the following points which will require further consideration prior to any approvals granted by DIPL:</p> <ul style="list-style-type: none"> • Pavement Condition Report: While not necessary to include in the TIS, Grants Mine will be required to undertake a road condition survey of the portion of Cox Peninsula road for a suggested minimum of 2 km (based on road train turning and acceleration lengths) on either approach to the mine access. The survey should include photograph evidence of the existing carriageway and formation to be agreed with DIPL prior to commencement of operations. The pavement condition will be assessed regularly and any damage caused by mine operations and transport vehicles is to be repaired at the mines cost. • TIS should include installation of additional signage warning of heavy vehicle movements along the route to Stuart Highway, particularly at the mine access location and possibly also through the Berry Springs school and Tavern areas. • The TIS should include discussion around proposed road closures during surface blasting operations and how traffic will be managed. <p>Our consultant has updated the TIS to address the above matters, and to include details of all anticipated vehicle movements to/from the site. The revised document is provided as Appendix G and will now be subject to further review by DIPL. Core will comply with all directions from DIPL in relation to our safe use and maintenance of public roads.</p>					

Comment ID:	Public 3-2	Topic:	Traffic/Roads	EIS Section:	
Comment					
<p>Both Wagait and Belyuen people rely on the road for access to virtually anywhere. Plans for blasting appear to be well-developed except for a serious misjudgement of the number of people who may be affected. These include service/supply vehicles, tradespeople, shift workers, shoppers, emergency vehicles and more.</p> <p>Signage and text message advice providing 24 hours’ notice of exact blasting times should be available to prevent undue delays and inconvenience with extra advice of any changes. Most people do use the ferry, but there are many in both communities who are not able to access the ferry and rely on the road for access to all services.</p>					
Response					
<p>Core would like to re-iterate to the community that the Cox Peninsula Road will remain open to traffic as usual, excepting for approximate 15-minute windows every two to four days when blasting requires a short section of the road to be closed for public safety reasons. Blasting that requires the Cox Peninsula Road to be closed will only occur during daylight hours Monday-Friday; not on weekends and not on public holidays. Nominal blasting times are 13:00pm to 13:15pm and 17:00 to 17:15pm.</p> <p>Core has prepared a Blast Management Framework (Appendix L) that documents the site blast management requirements and details of all the relevant management plans, processes and operational procedures that will be put in place to ensure public safety and minimise inconvenience to road users. In relation to road closures and traffic management, the framework details the proposed Road Closure Plan, key aspects of which are:</p> <ul style="list-style-type: none"> • Procedures for notification of affected parties, specifically the communities of Belyuen and Wagait Beach will be notified of road closure times, two days prior. • An authorised traffic management company will be contracted to manage each road closure in accordance with DIPL requirements, including placement of signage and traffic controllers. • A protocol for allowing the passage of emergency vehicles. <p>The above measures are expected to minimise disruption to road users as far as is practicable and always ensure that emergency access is maintained. We appreciate that the closures will inevitably impact a small number of road users. Using the 2018 peak hour traffic volumes estimated for the point on Cox Peninsula Road 500 m west of Fog Bay Road (calculated in the Traffic Impact Statement), road closure for 15 minutes could be expected to affect approximately 9 vehicles (based on the assumption that vehicle movements are evenly distributed through the hour). As the blasting will be done outside of peak times, the number of affected vehicles will be less.</p> <p>Due to the short duration, designated blasting times and advanced notification procedures, we do not anticipate the project having a severe impact on the Wagait Beach and Belyuen communities. However, we have taken on-board the need to establish road closure windows and provide advanced notice to the community.</p>					

Comment ID:	Public 3-3	Topic:	Weed Management	EIS Section:	Chapter 5; EMP
Comment					
<p>The Cox Peninsula has remained remarkably free of weed infestations, particularly gamba grass, that has spread widely in the past 30 years. Both Berry Springs and Darwin River have substantial areas of gamba and a lesser pest in mission grass. Again the company has committed to controlling these weeds on its sites, but as we now know, this will not halt weed spread caused by seed being tracked on tyres or elsewhere on a vehicle. There needs to be constant monitoring of the entire length of Cox Peninsula Road and quick action to remove any weed outbreaks. Local people can assist in this monitoring but ultimately, those responsible for creating a problem that presently does not exist surely should be responsible for fixing it.</p>					
Response					
<p>Core notes that the site appears to be free of gamba grass and largely free of other weed species. Further surveys will be conducted early in 2019 – when conditions are optimal for weed surveys – to map the location of weed infestations and provide a baseline for inclusion in the site Weed Management Plan. In accordance with our legal obligations under the <i>Weed Management Act</i>, Core has committed to the management of weeds within our lease areas and ensuring that any weeds present on site are not transported to other areas. Core also appreciates that gamba grass is less prevalent across the Cox Peninsula than other areas of the Top End, which requires particular emphasis on weed hygiene procedures within our Weed Management Plan to ensure the weed is not introduced to the area.</p> <p>In relation to the risk of spreading weeds along the Cox Peninsula Road, there is a low risk of this occurring given the site is relatively weed free, will be subject to weed surveillance and control, and trucks/vehicles will be using formed access tracks within the site and the bitumen road from the site to Darwin.</p>					

Comment ID:	Public 3-4	Topic:	Mine Closure	EIS Section:	Mine Closure Plan
Comment					
<p>Core's plans for rehabilitation sound promising. A number of Wagait Beach people have small plant nurseries that grow mainly local species and may be able to assist in such a project, especially the smaller areas.</p> <p>Noting the multiple prospective areas, could each area be photographed before being disturbed to ensure that they are returned eventually to close to their original state. I acknowledge there has been a considerable amount of mining in the district so we would have to rely on the new "natural" but it would provide a base line with which to work. Again, I would draw the company's attention to at least three professional photographers at Wagait Beach who know the country. They also no doubt would put a far smaller dent in Core's coffers that contracting a Darwin-based service who would probably regard the area as the end of the world.</p>					
Response					
<p>Core has committed to rehabilitating the mine site post-closure in line with the land use objectives and completion criteria specified in the Mine Closure Plan. The rehabilitation will include revegetation of the area with local native species. It is anticipated that these species will be sourced from seed, but additional plantings of tube stock may be required in certain instances. Core has currently not sourced a supplier of seed (or tube stock) for revegetation, but would consider local providers in the first instance.</p> <p>Core will contract specialist consultants to establish our pre-development baseline for the purpose of measuring rehabilitation success. As part of developing a monitoring program, qualified ecologists will visit sites within the project footprint to record species diversity and community structure, including taking photographs of the communities for future reference. The photographs required for providing information of baseline vegetation communities and assessing rehabilitation do not generally require professional photography services. However, we note that local people may be interested in providing this service if it is required.</p>					

5.4.4 Alex Richmond

Comment ID:	Public 4-1	Topic:	Water Quality	EIS Section:	NA
Comment					
<p>Concerns about impacts of water and air quality from the mine: There seems no proper provisions for the impacts of seasonal flooding in the waste management plans. Blair Duncan suggested that the Ferrosilicon the will be used in processing on site is "like bean bag balls" [his words] that will 'naturally break down and be a consumable on the mine needing replacing.' [his words]. Brief research indicates that Ferrosilicon is an odourless, crystalline solid metal. It is flammable and can react explosively with oxidizing materials. In the presence of moisture or water it may emit toxic and explosive fumes. This does not sound benign. Given we live in the tropics where several months of the year record high rainfall and many more high humidity, where is the risk management and waste management plan about disposing of this so that it does not emit toxic and potentially explosive fumes? Mr Duncan reported it would, along with the lead 'be left in the pit to break down naturally' [his words]. This is not a waste management plan, it is a just dump and run plan.</p> <p>Given that the Ferrosilicon is being used in water [2 megalitres per day according to Mr Duncan] how will this contaminated water be kept out of aquifers and the local environment during flooding. What is the plan to mitigate the risks associated with the toxic fumes?</p>					

Response
<p>Ferrosilicon is an alloy of iron and silicon (FeSi) that is used for various different applications under a range of different product labels. The reference made to ferrosilicon being flammable and reacting explosively with oxidising materials relates to a ferrosilicon product used as an additive to liquid metal in metal casting applications. As the physical conditions experienced in metal casting applications differ profoundly from those associated with Dense Media Separation (DMS) processing, reference to this information is not relevant to the proposed use of ferrosilicon at Grants Lithium Project. Attached at Appendix J are two safety data sheets from suppliers of ferrosilicon powder for use in DMS processes.</p> <p>Review of the MSDS available for ferrosilicon products sold in Australia, indicates that the material is not considered a Dangerous Good under the criteria of the <i>Australian Dangerous Goods Code (ADG Code) for transport by Road and Rail</i>. The MSDS do indicate that ferrosilicon when mixed with water and stored under depleted oxygen conditions for prolonged periods, can evolve small quantities of hydrogen, which could pose an explosion hazard. The product is classified as a hazardous substance under <i>Work Health and Safety Regulations</i> and has specific requirements for storage and handling for protection of workplace health and safety. Detailed procedures for storage and handling of ferrosilicon will be provided in the Mine Safety Plan submitted to Worksafe NT for approval prior to commencement of operations. Control measures will include:</p> <ul style="list-style-type: none"> • Ferrosilicon will be stored in bulk bags in a covered bulk storage area. • Staff handling ferrosilicon will use Personnel Protective Equipment to protect against inhalation of dust. • Spillages of the DMS powder will be cleaned up immediately. • Equipment containing the ferrosilicon slurry will be well ventilated prior to maintenance work to release any hydrogen gas. • Hot work permitting will be in place to ensure fire and explosion risks are identified and mitigated prior to undertaking any works that could produce sparks. <p>In relation to management of ferrosilicon waste, as ferrosilicon contains iron, a portion of it will be collected from the processing water using a magnetic separator and reused through the processing circuit. The portion that is not collected will be contained in the tailings waste stream, which will be pumped to the tailings storage facility (TSF). Procedures for management of the tailings waste stream were outlined in the Draft EIS (Chapter 2, Section 2.9). Both as a component of the waste stream and as a raw product, ferrosilicon poses a low risk of environmental contamination because (as stated in the provided MSDS) it is insoluble in water, is not absorbed into soil or sediments, is not subject to biodegradation and has low bioaccumulation potential. As a further layer of protection against release to the environment, the TSF has been designed with a low permeability liner and under-drainage that allows for the water contained in the tailings to be recycled back into the processing circuit. At the completion of mining, the TSF will be capped and covered with waste rock to fully encapsulate the material.</p>

Comment ID:	Public 4-2	Topic:	Air quality/GHG	EIS Section:	NA
Comment					
<p>I also have great concern about the impacts of the blast fumes which are gases that may be generated during blasting. These can include nitric oxide and nitrogen dioxide, both of which can seriously affect people's health, so it is vital to manage them. What is the plan to manage them? When Mr Duncan was specifically asked about this he said that they wouldn't allow a toxic cloud to blow across the harbour to Darwin. When I asked 'what about allowing it to blow over Wagait beach?' He laughed. What are the assurances that toxic fumes won't be blowing through our homes? And our children's lungs? How will any risk mitigation strategy be enforced? By the contractors?</p>					
Response					
<p>Blasting is an inherently high risk activity on mine sites and for this reason it is a highly regulated activity that can only be performed by trained and licenced personnel. Production of blast fumes is one of many risks that needs to be managed during each blast event. Fumes can be generated by a non-ideal explosive reaction, the causes of which are many and variable. For this reason, each blast event is designed and managed by the site blast team taking into account current site and weather conditions. The objective of the blast planning is to design and implement the blast in a manner that prevents the production and release of blast fumes outside of the established blast exclusion zone that extends up to 500 m from the open pit.</p> <p>Blast management controls and monitoring practices that will be adopted at Grants Lithium Project are documented in the Draft Blast Management Framework provided at Appendix L. Because blast fumes typically disperse rapidly, site personnel are the people most at risk from exposure. Detailed analysis, mitigation and monitoring of these risks is addressed in the Risk Management Plan submitted to Worksafe NT as a legal requirement under the <i>Work Health and Safety (National Uniform Legislation) Act</i>. In the event that blast fume events do occur at the Grants Project area, these are very unlikely to be visible and/or cause acute health risk to the community due to the large separation distance from sensitive receptors. The Draft Blast Management Framework outlines how Core will monitor blast events to provide assurance to regulators and the community.</p>					

Comment ID:	Public 4-3	Topic:	Air quality/GHG	EIS Section:	2.1.3
Comment					
<p>The entire energy generation will come from diesel. Diesel is toxic and risks contamination of the earth, aquifers and air. What is the risk mitigation plan? How will it be policed and enforced? By the contractors?</p>					

Response
<p>Diesel powered generators will be used to supply the power requirements for Grants Lithium Project, and this diesel will be stored on-site. To minimise the risk of diesel contamination of surface water, groundwater or soil, the following controls are specified in the EMP submitted as Chapter 10 of the Draft EIS:</p> <ul style="list-style-type: none"> • Surround storage areas for fuels and oils with an impervious bund that contains 120 % of the largest container stored in the bund, as per the Australian Standards (AS1940) • Refuel vehicles within banded areas • Make available spill containment equipment kits at the works area that are adequately-sized to manage the volume of fuels that could be spilled <p>These measures are designed to both minimise the likelihood that a spill will occur and contain the extent of any spill that does occur, with the objective that there is no off-site release. Regular inspection of the site for signs of spills and weekly checks that spill containment equipment kits are in order will be undertaken by site staff. Surface water and groundwater monitoring for hydrocarbons will also be undertaken as detailed in the Water Management Plan provided at Appendix E.</p> <p>The Department of Primary Industry and Resources (DPIR), as the responsible authority, can audit the operations to ensure compliance with the authorised Management Plan (MMP). Core will submit evidence of compliance and water monitoring results to DPIR as part of the Annual Environmental Report for the mining operations.</p>

Comment ID:	Public 4-4	Topic:	Air quality/GHG	EIS Section:	NA
Comment					
<p>Dust mitigation plans do not seem very comprehensive and like other risk management plans require value judgements by the people employed to run the mine which is concerning as in the dry season fine bull dust generated by the blasting and by a hole in the earth the size of 3 MCGs will be considerable, and the dust will carry in the winds, again potentially impacting local residents. How will dust management, which may include mine shutdowns, be policed and enforced/ By the contractors themselves?</p>					
Response					
<p>Core acknowledges that dust is a key risk that will require ongoing control, monitoring and management. The two key strategies that will be employed to minimise dust emissions from the mine site are:</p> <ul style="list-style-type: none"> • Dust suppression using water carts • Stabilisation of cleared areas so that dust emissions are minimised. <p>Water requirements for dust suppression have been considered in detail as part of our project planning and have been factored into our water balance model provided at Appendix D. The Erosion and Sediment Control Plan (submitted as Appendix F of the Draft EIS) provides controls for stabilising cleared areas.</p> <p>The project EMP provided as Chapter 10 of the Draft EIS provides details of the management provisions, targets, monitoring and corrective actions (response) that will be implemented to ensure that the impact of dust emissions are minimised. These are summarised below for ease of reference. These procedures are expected to ensure that excessive dust emissions are identified and managed so that they do not impact on workers, Cox Peninsula Road and/or the natural environment. Irrespective of how effective dust mitigation is, dust will not impact local residents given the remoteness of the site from residential areas (i.e. the closest residence is 10 km away).</p> <p>Dust management provisions - from EMP</p> <p>Objective: To minimise generation of dust</p> <p>Management provisions:</p> <p>Undertake dust suppression using water carts and the application of polymer products</p> <p>Supply sufficient water for dust management</p> <p>Stabilise cleared areas as per ESCP</p> <p>Cover all vehicles transporting materials that may produce dust.</p> <p>Targets/performance indicators:</p> <p>No signs of project-related dust beyond Mining Lease (ML)</p> <p>Monitoring:</p> <p>Visual monitoring of dust leaving ML boundary</p> <p>Visual inspections along Cox Peninsula Road near mine site</p> <p>Monitoring of water supply for dust management</p> <p>Monitoring of stockpiles as per ESCP</p> <p>Feedback from stakeholders through contact with mine site management team.</p>					

Comment ID:	Public 4-4	Topic:	Air quality/GHG	EIS Section:	NA
Response:					
Investigate cause of impact and amend management procedures if necessary.					
Increase dust suppression.					
Ensure all loads are covered.					
Apply corrective management to stockpiles.					

Comment ID:	Public 4-5	Topic:	Environmental Management	EIS Section:	
Comment					
<p>The entire operation, other than the management which will remain based in Adelaide, will be subcontracted out. In a mining operation like this, for proper mitigation of risks, people need to be reading wind and weather conditions and sometimes making the call that blasting can't take place or that operations must stop because of conditions. Bigger operations [like BHP] do this all the time to manage risk. But in this proposed operation, the work will be performed by subcontractors who are more likely to be paid for what they are achieving rather than how long they are on the site. And if they're getting paid per blast, or per tonne processed or hauled, and management is miles away in Adelaide, and there is no environmental oversight what guarantees do we have that they will actually comply and stop work when conditions aren't favourable? Mr Duncan assured residents that they would use 'reputable contractors'. This is a fairly meaningless statement. In the NT, there is such a high turnover of staff that even reputable operators may have a few rogue cowboys in the mix. Some people whose income depends on output, will cut corners, especially if they're not around for a long time, their reputation, or the company they work for isn't of concern to them, their main concern is being paid the maximum amount they can. It will be against their own interests to maintain safeguards. Reliance on them to do so is itself an environmental risk. How is that risk being managed?</p>					
Response					
<p>Core would like to clarify that our contracting model has a high level of direct oversight by Core, including by Core staff who be based on-site. The responsibility for environmental management of the project will reside with the Mine Manager who will be a direct employee of Core. The mining authority will be applied for, and ultimately issued to Core, and thus Core will have ultimate responsibility for ensuring the conditions of authorisation and the management measures specified in the MMP are met.</p> <p>Core has awarded preferred contractors status for three key components of Grants Lithium Project to QUBE Bulk (transport), Lucas Total Contract Solutions (Mining Services) and PRIMERO Group (front end engineering design). These are well-established companies with significant industry experience, including experience in compliance with environmental requirements. Our contractor payments are based on performance indicators, which include compliance with all health, safety and environment legal obligations and conditions of approval.</p>					

Comment ID:	Public 4-6	Topic:	Weed Management	EIS Section:	Chapter 10
Comment					
<p>Lack of Weed Management Strategy in draft EIS. Given the Cox Peninsula is currently relatively weed free of invasive weeds such as Gamba, what is the plan to manage the risk of truck transporting weeds onto the site, but also into roads which other vehicles will pick up and spread through the peninsula? What responsibility are CORE taking for eradicating weeds brought to the peninsula as a result of their mine?</p>					
Response					
<p>Core notes that the site appears to be free of gamba grass and largely free of other weed species. Further surveys will be conducted early in 2019 – when conditions are optimal for weed surveys – to map the location of weed infestations and provide a baseline for inclusion in the site Weed Management Plan. Core has committed to the management of weeds within the project boundary, as required under the <i>Weed Management Act</i>. Core also appreciates that gamba grass is less prevalent across the Cox Peninsula than other areas of the Top End, which requires particular emphasis on weed hygiene procedures within our Weed Management Plan to ensure the weed is not introduced to the area.</p> <p>The EMP submitted as Chapter 10 of the Draft EIS specifies the following management actions to be implemented to minimise the potential for introduction and spread of weeds:</p> <ul style="list-style-type: none"> • Source off-site materials from sites that have been declared weed-free • Survey disturbance area for weeds prior to commencement of construction and control/eradicate existing infestations • Clean, check and certify all earth moving equipment and vehicles as weed-free before entering site (during pre-strip and construction phase) • Install wash bay facilities and maintain wash-down logs • Make available information on potential weeds to assist staff with identification and response <p>Transport of product will occur from the mine site (free of gamba grass and managed for all weeds) along the sealed Cox Peninsula Road to the Stuart Highway and then to the Darwin Port. Trucks travelling along this route will not have opportunity to pick up weed seeds on tyres or other areas, and will thus be unlikely to spread weed seeds along the transport route.</p>					

Comment ID:	Public 4-6	Topic:	Weed Management	EIS Section:	Chapter 10
<p>Additionally, monthly weed monitoring will be undertaken across disturbed areas, stockpiles, areas with introduced earth material access track and watercourses. The identified monitoring areas are those which are most likely to be invaded by weeds (i.e. disturbed and wet areas). The weed monitoring is designed to provide early detection of weed incursion and allow for appropriate control measures to be implemented. Appropriate control measures included the management of the identified outbreak and targeted survey to detected other incursions.</p> <p>Auditing of the weed management plan is the responsibility of DPIR through the mining authorisation. Core will work with DPIR through any auditing to ensure weed management measures are being implemented.</p>					

Comment ID:	Public 4-7	Topic:	Traffic/Roads	EIS Section:	
Comment					
<p>Their own reports recorded a high risk activities in the area of roads in the northern part of the peninsula. What are the details of these risks and how are they being mitigated?</p>					
Response					
<p>Core has been engaging directly with the Department of Infrastructure, Planning and Logistics (DIPL) to ensure we understand the requirements that will apply to our use of the Cox Peninsula Road as a haul route, including our obligations to install signage, upgrade intersections and contribute to maintenance of the road pavement. We submitted a Traffic Impact Statement (TIS) Appendix G to the Draft EIS. DIPL provide comment that the majority of traffic issues have been addressed with the exception of the following points which will require further consideration prior to any approvals granted by DIPL:</p> <ul style="list-style-type: none"> • Pavement Condition Report: While not necessary to include in the TIS, Grants Mine will be required to undertake a road condition survey of the portion of Cox Peninsula road for a suggested minimum of 2 km (based on road train turning and acceleration lengths) on either approach to the mine access. The survey should include photograph evidence of the existing carriageway and formation to be agreed with DIPL prior to commencement of operations. The pavement condition will be assessed regularly and any damage caused by mine operations and transport vehicles is to be repaired at the mines cost. • TIS should include installation of additional signage warning of heavy vehicle movements along the route to Stuart Highway, particularly at the mine access location and possibly also through the Berry Springs school and Tavern areas. • The TIS should include discussion around proposed road closures during surface blasting operations and how traffic will be managed. <p>Our consultant has updated the TIS to address the above matters, and to include details of all anticipated vehicle movements to/from the site. The revised document is provided as Appendix G and will now be subject to further review by DIPL. Core will comply with all directions from DIPL in relation to our safe use and maintenance of public roads.</p>					

Comment ID:	Public 4-8	Topic:	Flora and Fauna	EIS Section:	Chapter 5
Comment					
<p>What surveys into the native flora and fauna have been done? What plans are in place to protect species impacted by the mine, blasting and environmental toxins?</p>					
Response					
<p>Chapter 5 of the Draft EIS provides details of the ecological surveys undertaken and an assessment of potential impacts to flora and fauna. The vegetation and habitat types that occur in the areas that will be disturbed, were mapped and surveyed by qualified ecologists from EcOz Environmental Consultants. A complete survey report is provided as Appendix P of the Draft EIS. The vegetation communities that occur on the site are typical <i>Eucalyptus miniata</i> and <i>E tetradonta</i> open woodland, flanked by seasonally inundated broad drainage areas where species such as <i>Grevillea pteridifolia</i>, <i>Melaleuca nervosa</i>, <i>Pandanus spiralis</i>, <i>Lophostemon lactifluus</i> and <i>Livistona humilis</i> occur as low open woodlands.</p> <p>The information about the vegetation and habitats that occur on the site was used to inform an assessment of the likelihood of occurrence of threatened flora and fauna species. This assessment determined that two threatened plant species (<i>Typhonium praetermissum</i> and <i>Stylidium ensatum</i>) could occur based on their known distribution and the presence of potentially suitable habitat on the site. The assessment also concluded that the habitat types present at the site are unlikely to support any important populations of threatened native fauna species.</p> <p>The EIS ToR (section 4.1.1.3) required further assessment of potential impacts to <i>Typhonium praetermissum</i> and <i>Stylidium ensatum</i>, and further information in relation to the occurrence of sensitive vegetation (i.e. riparian and wetland areas) and the presence of weed species. The EIS ToR did not request any further information in relation to potential impacts on fauna, as the NT EPA were satisfied (based on the ecological surveys) that the project does not have potential to cause significant impact to fauna. On-ground surveys in July 2018 confirmed that that plant <i>Stylidium ensatum</i> does not occur, and a combination of desktop review and on-ground surveys indicated that <i>Typhonium praetermissum</i> is very unlikely to occur, and if it did, the extent of impact from the project activities would not be significant.</p> <p>The impact and risk assessment process undertaken for the Draft EIS considered potential impacts to flora and fauna that could result from clearing of vegetation, weed invasion, inundation, smothering or dust and/or direct mortality of fauna on the roads or by exposure to</p>					

Comment ID:	Public 4-8	Topic:	Flora and Fauna	EIS Section:	Chapter 5
contaminants. The EMP provided as Chapter 10 of the Draft EIS, documents the measures that will be implemented by Core to ensure each of these impacts are reduced to as low as reasonably practicable					

Comment ID:	Public 4-9	Topic:	Mine Closure	EIS Section:	Mine Closure Plan
Comment					
What are the site rehabilitation plans? There should be a comprehensive plan to restore the unique environment where the mine site is situated. Mr Duncan reported they would re-plant saplings around the 'donut of the mine', bury the waste and leave a 40m, 3 x MCG sized hole. Is this actually the plan?					
Response					
Core's post-mining land-use objective is to rehabilitate the site to a stable non-polluting landform which supports self-sustaining native vegetation comprising local species. Our draft Mine Closure Plan submitted as Appendix D of the Draft EIS provides details of how this will be achieved. Our closure plan is based on leaving the pit void to fill with water over time to form a pit lake ¹⁰ . The diversion bund (a mound of dirt around the site) is required to remain in place around the pit post-closure as a safety measure. The WRD will be pushed in to encapsulate the tailings dams, creating an integrated landform that can then be revegetated with local species. Integrated landform construction is viewed as a leading practice approach to mine site rehabilitation that can be effective in ensuring environmental and community interests and concerns can be met (Australian Government, 2016).					
A further revision of our Mine Closure Plan is provided at Appendix K. This plan addresses minor issues raised by regulators through their review of the draft EIS. If our project proceeds through the EIS process, the Mine Closure Plan would then be subject to further scrutiny by the Department of Primary Industry and Resources (DPIR). Our closure concepts and plan will need to be acceptable to DPIR in order for a mining authorisation to be issued under the <i>Mining Management Act</i> .					

Comment ID:	Public 4-10	Topic:	Environmental Management	EIS Section:	
Comment					
I have grave concerns about the ability of this very small outfit that will outsource responsibility for compliance to a range of contractors, to protect the unique environment they plan on mining. There seems considerable risks not properly addressed in the draft EIS which reflects the general disregard for the environment of the proponent. If lithium is such a precious resource, with a high value, why not wait for mining proponents who take environmental risks seriously and can afford to manage the considerable environmental risks associated with mining in at this site?					
Response					
As indicated in response to an earlier comment, Core's contracting model has a high level of direct oversight by Core, including by Core staff who be based on-site. The responsibility for environmental management of the project will reside with the Mine Manager who will be a direct employee of Core. The mining authority will be applied for, and ultimately issued to Core, and thus Core will have ultimate responsibility for ensuring the conditions of authorisation and the management measures specified in the MMP are met.					
Core does take environmental risks seriously and we have committed significant resources towards undertaking baseline studies and engaging specialist consultants to assist with identifying and addressing environmental risks. The Draft EIS addressed the requirements of the EIS ToR issued by the NT EPA. It is Core's view that environmental risks have been comprehensively assessed in the Draft EIS and that this assessment is based on an adequate level of baseline study and understanding of the environment that will be impacted. Where our consultants and/or stakeholders have identified information gaps or omissions in the Draft EIS, these are addressed in this Supplementary document.					

5.4.5 Anonymous

Comment ID:	Public 5-1	Topic:	Other	EIS Section:	
Comment					
Kamfari Racing is off Cox Peninsula rd, Charlotte- it attracts thousands of Territorians, businesses and Tourist that get involved. The race is on & through the whole proposed unfenced area.					
Response					
The Kamfari event holds an occupation licence over an area north of the Cox Peninsula Road. The proposed mining activities at Grants Project will not impact the race.					

¹⁰ The key factor that has influenced Core's decision not to backfill the pit is that it would make it unviable to develop a future underground mine targeting the already defined lithium ore resource beneath the pit.

Comment ID:	Public 5-2	Topic:	Cumulative impacts	EIS Section:	4.4
Comment					
<p>For the small amount of Lithium that will be extracted for 2-3 years, the damage to the environment and surrounding area will make it unusable for future developments and cause property value loss. With such a large area under exploration to mine, there is also the potential to jeopardise Darwin River Dam-Town Water supply, the natural flow of streams and groundwater system. Water quality will be compromised.</p>					
Response					
<p>Post-closure, the land area covered by the rehabilitated WRD, open pit and closure bund, will be sterilised from future land-use. The assessment of environmental impacts documented in the Draft EIS, indicates the mine is unlikely to produce Acid Mine Drainage (AMD) or any other contaminants that would affect surrounding land, soils or water quality, which means impacts to future land-use will be confined to the immediate mine site footprint. The site is located on vacant crown land surrounded by undeveloped land for 7-8 km in all direction and the Crown Land Estate branch have advised that the Darwin Regional Land Use Plan identifies agriculture/grazing as the likely long-term use of the locality. Effective implementation of the Mine Closure Plan (Appendix K) is expected to ensure that development is not constrained in the surrounding areas.</p> <p>Core has been open and honest about the potential for future expansion and/or extension of our mining activities across our leases held in the Finnis River region. Section 3 of the EIS ToR required an assessment of cumulative impacts associated with the proposal. Our address of this requirement is provided in Section 4.4 of the Draft EIS. In relation to the potential cumulative impact of Grants Project and future activities across our leases, on Darwin River Dam and town water supply, we have sufficient information in relation to the surface and groundwater systems to be confident that there will be no impact on these or any other water supplies.</p> <p>Detailed modelling of potential impacts to surface water and groundwater associated with Grants Lithium Project has been undertaken by qualified hydrologists and hydrogeologists with many years of experience studying these systems in the NT. The results are presented in Chapter 7 of the Draft EIS, which concludes there will be some localised drawdown of groundwater within one kilometre of the open pit and some reduction in early wet season flow volumes to ephemeral streams downstream of the water supply dams. The proposal is not expected to cause any measurable impact to environmental values in the receiving waters of West Arm (Darwin Harbour) and Charlotte River (Bynoe Harbour), and there are no other water users in proximity to the project area that will be affected.</p> <p>The water supply for Darwin River (the township) comes from groundwater bores drilled in the Berry Springs Dolostone aquifer. Located around 22 km east of the project area, there are current concerns regarding over-extraction from this aquifer, and water allocation is subject to the Berry Springs Water Allocation Plan 2016-2026 (DLRM, 2016). The BCF fractured rock aquifer beneath the project area, and the broader area of Core's Exploration Leases in the Finnis River region, have no connection to the Berry Springs Dolostone aquifer. This means that the mining activities associated with Grants Project and any future proposal Core's EL's have no potential to impact the Berry Springs Dolostone aquifer and associated users of that aquifer.</p> <p>Any future expansion proposals across Core's EL's will be the subject of separate referral/s to the NT EPA. Detailed assessment of potential impacts to surface water and groundwater will be undertaken as part of these referrals and the NT EPA will decide whether or not there is potential for significant impact to water resources. Core acknowledges that future referrals will also need to identify and assess potential cumulative impacts.</p>					

Comment ID:	Public 5-3	Topic:	Environmental Management	EIS Section:	NA
Comment					
Lithium on fire Can Not be put out with water; Foam only: what type of foam will be used?					
Response					
<p>The product that will be produced on site is a spodumene concentrate containing 5.5% lithium oxide (Li₂O). The product is non-flammable. Fire suppression systems on the site will utilise water.</p>					

Comment ID:	Public 5-4	Topic:	Cumulative impacts	EIS Section:	4.4
Comment					
<p>Core is actively exploring across 500 km². First lot of clearing is of 184Ha of woodland, creeks and floodplains. There are Applications to Mine 814 km² of rural land near Litchfield Park, creeks & the coasts.</p>					
Response					
<p>Core would like to clarify that we have not made any applications to mine areas outside of our ML granted for Grants Lithium Project. As indicated above, we have been open and honest about the potential for future expansion and/or extension of our mining activities across our leases held in the Finnis River region. Section 3 of the EIS ToR required an assessment of cumulative impacts associated with the proposal – including future mining proposals on our leases. Our address of this requirement is provided in Section 4.4 of the Draft EIS.</p> <p>Core considers that this comment relates to cumulative impacts of the project; an assessment of cumulative impacts was required by EIS ToR and was included in the Draft EIS.</p>					

Comment ID:	Public 5-5	Topic:	Project Description	EIS Section:	Chapter 2
Comment					
<p>Business Model Proposal was for Spodumene ore to export. The exploration licence is for lithium raw products. This proposal now states for the construction of a Crushing Plant, also a Beneficiation Plant: Dense Media Separation Plant, establishment of an Onsite Waste Rock Dump and co-located tailings waste storage facility. It is stated there is no onsite landfill proposed and No approval or licence is required.</p>					
Response					
<p>Core would like to clarify that the spodumene ore that will be mined at Grants is classified as a lithium raw product. The crushing, screening and Dense Media Separation processing activities proposed at the site are methods used to increase the concentration of Li₂O in the ore product, which increases the export value and decreases the volume of material that needs to be hauled to the Port.</p> <p>The Notice of Intent (NOI) submitted to the NT EPA by Core in November 2017 identified that both direct shipping ore (DSO) and beneficiation by water-based dense media separation were under consideration as part of the project. The NOI included the requirement for a waste rock dump (WRD) and co-located tailings storage facility (TSF), as these are a required component of either processing strategy. The NOI also outlined the DMS process, detailed the water requirements of DMS processing and showed the conceptual design of co-located TSF/WRD. As Core has progressed with project planning since submission of the NOI, water-based Dense Media Separation (DMS) to increase lithium concentration from around 1.5% to 5% has been identified as the only processing option for the project. Therefore, this processing option is the one assessed in the Draft EIS.</p> <p>With reference to the on-site landfill, it is true to say that there is no on-site landfill proposed (i.e. putrescible and construction waste will be removed from site by a contractor). A WRD/TSF is different to a landfill and does not require a separate approval or licence under the <i>Waste Management Pollution Control Act</i>. Instead, the design, construction, management and closure of the WRD/TSF will be addressed under the mining authorisation process administered by Department of Primary Industry and Resources (DPIR).</p>					

Comment ID:	Public 5-6	Topic:	Project Description	EIS Section:	Chapter 2
Comment					
<p>Dense Media Separation Plant requires many chemicals- Ferrosilicon, Benzene, Bromoform, Tetrabromoethane, Methylene Iodide & Clerici Solution are used, and huge amounts of water used - 2 gigalitres daily. Liquid for the Dense medium used in Industrial separations is a thick pulp, which behaves as a heavy liquid. Organic heavy liquids are Toxic and inhalation of fumes is extremely dangerous. It is very Invasive to the groundwater system, streams and surrounding land. The change of Plant should require a Separate EIS; Transparent and with better consultation.</p>					
Response					
<p>The proposed Dense Media Separation (DMS) process will require the use of ferrosilicon (an inorganic powder); however, the other additives detailed in the comment are not required in this operation. Material safety data sheets for potential ferrosilicon powder products are provided at Appendix J. The information provided by the manufacturers indicates the powders have a low level of toxicity. Under the proposed conditions of use, ferrosilicon poses a low risk of contamination to surrounding land and watercourses.</p> <p>In relation to water use, to clarify, the total volume of water required for operations is 2 ML (megalitres) daily (not gigalitres) and this includes the requirement for dust suppression, potable water and ablutions. The daily water requirement for the DMS processing is 950 kL per day (less than 1 ML).</p> <p>As indicated in response to earlier comments, the DMS plant has been proposed as an option from the outset of the environmental approvals process (i.e. it was detailed in the NOI submitted to the NT EPA in November 2017). The EIS ToR included the requirement to describe and evaluate alternative processing methods, which has been addressed in Section 2.8.6 of the Draft EIS.</p>					

Comment ID:	Public 5-7	Topic:	Hydrological processes	EIS Section:	Chapter 7
Comment					
<p>The existing dam in the proposal would require a 6mt wall around it. EIS states; To establish a reliable water supply for the mining operation, the proposal includes raising the dam wall of an old mining dam (Observation Hill dam), which will inundate a further nine hectares of land around the edge of the existing dam footprint. Wildlife use this water on a daily basis and Barramundi are present in the Observation Hill dam. There is potential for the walls to collapse and flooding will occur.</p>					
Response					
<p>The existing Observation Hill Dam (OHD) has a 5.5 m high wall. In order to establish a reliable water supply, this wall will be raised so that the spillway is 1.5 m higher than it is currently. This increased height will result in an inundation of 9 hectares of vegetation, the majority of which is described as <i>Pandanus spiralis</i>, <i>Lophostemon lactifluus</i>, <i>Livistona humilis</i> Low isolated trees; a smaller area of woodland vegetation communities comprising <i>Eucalyptus</i> species will also be inundated. Whilst Core will be pumping water from Observation Hill Dam, the activities will not necessarily preclude continued use of the dam by wildlife. As water levels are lowered throughout the dry season, the habitat may become unsuitable for some species that have colonised this constructed habitat since it is built.</p>					

Comment ID:	Public 5-7	Topic:	Hydrological processes	EIS Section:	Chapter 7
<p>The risk of dam wall collapse and flooding was considered in the Draft EIS. The establishment of surface water dams to supply the project's water requirements could pose a risk of downstream flooding if spillways are not properly engineered, constructed and maintained. To address this risk, Core engaged engineering firm GHD to prepare preliminary designs for the proposed dams and water storages. The designs and maintenance requirements for the dams are documented in the report provided at Appendix H (GHD, 2018). These were derived according to the dam consequence categories assessed in accordance with the <i>Australian National Committee on Large Dams Guidelines</i> (ANCOLD, 2012), which are the accepted national standard for dam construction and maintenance. Alignment with the ANCOLD Guidelines will ensure that dam wall failure is a very unlikely event.</p> <p>In the very unlikely event of a dam wall failure, the watercourses downstream would receive a sudden surge in flow. Any flood water impact would be over a short period of time and would either discharge to the receiving waters of West Arm and Charlotte River, or evaporate, and as a result is not expected to impact any environmental values. There are no residences or land-uses downstream of the dams that would be affected.</p>					

Comment ID:	Public 5-8	Topic:	Hydrological processes	EIS Section:	Chapter 7
Comment					
<p>Water-Limited groundwater resources in area-"groundwater not a primary contributor to site water balance." Will they be drilling their own bore. Where will Core first obtain water from? There are 2 GM Water bores on Cox Peninsula rd on this site. Will they have free access to these bores? This project requires 2 Gigalitres/2 million litres of water daily. The groundwater is at risk. This proposal is in the Water Control District.</p>					
Response					
<p>Core would like to clarify that the predicted daily water demand for the mine site is 2,018 kl/day which represents the greatest anticipated daily water requirement and is a conservative estimate in that dry season dust suppression volumes have been applied throughout the year. This volume is 1 million times less than the two gigalitres stated above.</p> <p>The water sources for the mine will comprise:</p> <ul style="list-style-type: none"> • Groundwater/rainfall in-flows to the pit, which will be dewatered to an onsite storage dam. • Surface water pumped from Observation Hill Dam and the (to be constructed) Mine Site Dam. <p>The only bores associated with the project are environmental monitoring bores installed by Core. There is no proposal to drill new or access existing groundwater bores for use as a project water supply. The risks to groundwater associated with dewatering of the open pit are discussed in Chapter 7 of the Draft EIS. The impact assessment concluded that there will be localised drawdown within 1 km of the pit, which will not impact any other water users or groundwater dependent environmental values as there are none of these within the area of impact.</p>					

Comment ID:	Public 5-9	Topic:	Hydrological processes	EIS Section:	Chapter 2
Comment					
<p>The EIS states clearing of six hectares will be required to install a pipeline to transport water to the mine site. Water pipeline Start 695400E, 8594700N. End 693300E, 8599400N. 6km (l) x 10 m (w) 6ha. Capacity of off-site supply requirements will be confirmed in the detailed planning phase. The off-site supply requirements should already be confirmed and available for this EIS.</p>					
Response					
<p>The Draft EIS has considered the project water requirements and undertaken detailed hydrological and hydrogeological modelling to assess the water availability as well as completed a water balance for project water use in accordance with the <i>Minerals Council of Australia Water Accounting Framework</i>. This was completed assuming a worst case scenario of water use – i.e. greater water use than is likely to be required. This is reflected in the complete footnote from which the above comment is referenced:</p> <p><i>Dam sizing is based on worst-case that off-site dams need to supply the entire project water requirements at some stage during the life of mine. Current modelling of pit inflows and TSF decant return indicates a significant portion of the project water could be supplied by re-use of water within the mine site. Capacity of off-site supply requirements will be confirmed in the detailed planning phase.</i></p> <p>As project planning has progressed since submission of the Draft EIS, the groundwater model and site water balance have been refined to account for updates to the site layout and to address comments received from NT Government regulators and the independent auditor who reviewed the Water Management Plan submitted with the Draft EIS. The revised reports are provided at Appendix C and Appendix D, and confirm the required capacity of the dams remains unchanged.</p>					

Comment ID:	Public 5-10	Topic:	Hydrological processes	EIS Section:	9.10
Comment					
New Dam expansion proposal by Flooding the woodlands near Observation Hill will destroy the existing habitat; beautiful floodplains, gum trees and more. The proposal states 'overflow', spillage of the dam. Downstream flooding caused by failure of Dam walls, may lead to loss of life or property- EIS 9.10. This Dam proposal is very large & would require its own EIS for the large expansion.					
Response					
<p>The proposal to raise the Observation Hill Dam wall by 1.5 m will result in an inundation of 9 hectares of vegetation, the majority of which is described as <i>Pandanus spiralis</i>, <i>Lophostemon lactifluus</i>, <i>Livistona humilis</i> <i>Low isolated trees</i>. A smaller area of woodland vegetation communities comprising <i>Eucalyptus</i> species will also be inundated. These communities are the most widespread land cover type in the Greater Darwin region (Hempel 2003). For each of the land units that occur within the disturbance footprint, the loss associated with the proposal equates to <1% of the extent mapped within the Greater Darwin region. Loss of these Eucalyptus woodland habitats is expected to have a limited impact to fauna because the area is relatively small and the affected habitat types are well represented in the surrounding areas, with no other industrial development in close proximity that would deter use of these habitats.</p> <p>In relation to the potential for dam wall failure to result in flooding and loss of life or property, as indicated above, the dams have been designed in accordance with the ANCOLD Guidelines, which are the accepted national standard. Alignment with the ANCOLD Guidelines will ensure that dam wall failure is a very unlikely event. There are no residences or land-uses downstream of the dams and therefore if a dam was to fail, loss of life or property is very unlikely.</p>					

Comment ID:	Public 5-11	Topic:	Water quality	EIS Section:	NA
Comment					
Waste Water - Requires safe Containment - potential to leeching into the Groundwater system and affect the area, groundwater and coasts.					
Response					
<p>The key wastewater streams produced at the site will be process water (contained in the tailings produced by the processing plant) and sewage from the onsite office facilities.</p> <p>As described in Chapter 2, section 2.9.2 of the Draft EIS, tailings (comprised of process water and fine sediments), will be thickened and pumped to the tailings storage facilities (TSF). Because the processing method does not require chemical additives and there is no indication of acid mine drainage issues associated with the rock types being mined, the tailings (comprising the process water) are expected to be geochemically stable (based on the waste rock characterisation sampling) and not contain any chemical contaminants. The TSF will be lined with low permeable material with underdrainage, which will capture the decant water and return back into the processing facility for reuse. The proposed approach to tailings disposal poses a low risk of groundwater contamination; detailed discussion of this risk is provided in Chapter 8, section 8.2.3 of the Draft EIS.</p> <p>As described in Chapter 2, Section 2.10.3 sewage will be treated through an onsite wastewater management system. The treatment system and disposal area will comply with the requirements of the <i>Code of Practice for Onsite Wastewater Management</i> (Department of Health, 2014). A Land Capability Assessment (LCA) will be conducted to identify an area suitable for disposal of waste water. The system requires a separate approval from Department of Health under the <i>Public Health Act</i>, to ensure it is appropriately sized and located to minimise potential for leaching of contaminants to groundwater. Core has been engaging with Department of Health for advice in relation to this aspect of our operations.</p>					

Comment ID:	Public 5-12	Topic:	Water quality	EIS Section:	NA
Comment					
Tailing Dams can be ineffective, with the plastic splitting and Chemicals leeching into the groundwater, animals mistake the waste pond dams, potential to spill and will end up in the Harbour. Silt and erosion will run off into Darwin Harbour, especially in the wet season. Darwin Harbour & Bynoe Harbour Coastlines will be put at risk.					
Response					
<p>Core acknowledges that tailings dams can have containment issues when they are not appropriately designed and managed. In the first instance, it needs to be clarified that the tailings produced at the Grants Project are expected to be geochemically stable (based on the waste rock characterisation sampling) and not contain any chemical contaminants. Therefore, the key contaminant of concern associated with the tailings is fine sediments, which will be contained in the TSF to prevent release to the environment. Preliminary designs for the TSF cells at Grants Project have been prepared by respected engineering firm GHD (refer Appendix H).</p> <p>Through the design process, risks to groundwater and surface water associated with leaching or release of contaminants from the TSF, have been considered and engineering controls put in place to reduce these risks to as low as reasonably practicable. The TSF cells are designed with sufficient capacity and freeboard to be able to contain the forecast tailings volumes, even in the event of extreme rainfall. As there is a low risk of chemical contaminants, no geo-membrane liner is required; however, the foundations of the cells will be lined with clay materials and compacted to limit seepage volumes so that groundwater mounding does not occur. Post-closure, once the tailings have dried out and consolidated, the cells will be capped and the surrounding waste rock dump will be pushed in to encapsulate the cells.</p>					

Comment ID:	Public 5-12	Topic:	Water quality	EIS Section:	NA
The approach to design, operation and closure of the TSF described in the Draft EIS, is expected to result in a low risk of contamination to surface water and/or groundwater.					

Comment ID:	Public 5-13	Topic:	Water Quality	EIS Section:	Chapter 7
Comment					
During the months of December to March there will be a requirement to discharge rainwater and groundwater dewatered from the pit off-site. Any discharge to water will require a Waste Discharge Licence under the Waste Management Pollution Control Act. This will be hard to control as unexpected amounts of rain falls. The chemicals from this project will end up in the environment.					
Response					
The project will need to discharge water from the mine footprint from January 2020 to February 2020 and from November 2020 to March 2021 (inclusive). This is typical of mine sites in the Top End of the NT, where the large volumes of wet season rainfall cannot be completely contained on site. The excess water at Grants Project will be a combination of groundwater that flows into the pit as it is excavated and wet season rainfall.					
The water that enters the pit will be kept separate from the waste water produced by the process plant; and as a result the potential sources of contamination will be limited to fine sediments, hydrocarbons from vehicle fuel/oil leaks and explosive residues. The water will be pumped into a designated onsite storage, referred to as Mine Water Dam 1 (MWD1), where the water will be treated with flocculants to remove sediments and then tested to ensure water quality criteria are achieved prior to release. If hydrocarbons or other contaminants are detected, the water will be further treated to remove these contaminants prior to release. To control the amount of discharge, MWD1 has been sized to provide sufficient storage capacity to contain water produced through the dry season and only release during the wet season, when the surrounding watercourses experience flows.					
Details of the expected discharge volumes and water quality are provided in the Water Management Plan submitted as Appendix C of the Draft EIS. In accordance with the EIS ToR, this plan has now been reviewed by an independent auditor, who provided comment in relation to information gaps and deficiencies in the proposed approach to onsite water management – including discharge of excess water. The Water Management Plan has since been revised to address these review comments and an updated version is provided at Appendix E, which includes a summary of how each review comment has been addressed.					
Core will apply for a Waste Discharge Licence, which will set conditions around the volume and timing of releases, and water quality criteria that must be met prior to release and at monitoring locations downstream of the mine site.					

Comment ID:	Public 5-14	Topic:	Flora and fauna	EIS Section:	Chapter 5
Comment					
Animals - There are two Commonwealth-listed threatened species, EIS states, habitats for the Black-footed Tree-rat and Partridge Pigeon were identified in the area. Evident and sighted in the area; Bandicoots, Frilled neck Lizards, an array of birds, lizards and more.					
Flora and Fauna - EIS states that No permit is required, but vegetation clearing procedures will need to be included in the Grants Lithium Project MMP. The Total area is 768 ha - this should not be cleared, it will change the look of the Territory and cause damage to the coastal areas, Eucalyptus woodland and open Eucalyptus woodland vegetation types, for the sake of the short term mine. The existing creeks and waterways help keep the land further away watered. Other areas will dry up & the land will suffer. ~Mangroves are at risk as they require the fresh water from land as a filter system for survival.					
Response					
The two Commonwealth listed species mentioned in the comment were assessed as part of the environmental assessment process. Both Black-footed Tree-rat and Partridge Pigeon were returned from initial examination of available threatened species search tools in the broader region surrounding the project area. A desktop assessment of species habitat requirements, known distribution and proximate records, was undertaken by qualified ecologists. In addition, a field assessment of habitat characteristics and quality within the disturbance area was undertaken and submitted as part of the Draft EIS (Appendix P of Draft EIS - Ecological assessment report). The assessment concluded that the disturbance footprint was unlikely to provide optimal habitat for the two aforementioned species, primarily due to the high fire frequency.					
None of the vegetation types which will be disturbed are considered rare or threatened. The majority of the disturbance will occur in land unit 2a1, which supports Eucalyptus woodland and open woodland vegetation communities. These communities are the most widespread land cover type in the Greater Darwin region (Hempel 2003). For each of the land units that occur within the disturbance footprint, the loss associated with the proposal equates to <1% of the extent mapped within the Greater Darwin region.					
Loss of these Eucalyptus woodland habitats is expected to have a limited impact to fauna because the area is relatively small and the affected habitat types are well represented in the surrounding areas, with no other industrial development in close proximity that would deter use of these habitats. Impacts to vegetation will be minimised through implementation of the measures described in the Vegetation Clearing Procedure provided as Appendix X of the draft EIS. This procedure will become part of the Mining Management Plan (MMP).					
In relation to potential impacts to mangrove communities, the percentage reduction in freshwater flows to the hinterland communities of West Arm have been modelled by a suitably qualified hydrologist (see Section 3.3 and Appendix E). Flows will be reduced by 14-23% in November to January, which is not of a magnitude expected to have any impact on the ecological integrity of the mangrove environment or					

Comment ID:	Public 5-14	Topic:	Flora and fauna	EIS Section:	Chapter 5
receiving waters habitats. In the later wet season months between February and April, flows will be reduced by around 12-15%. Water availability is not a limiting factor at that time of year and the level of flow reduction is unlikely to cause any measurable impact to the mangroves or receiving waters.					

Comment ID:	Public 5-15	Topic:	Project Description	EIS Section:	Chapter 2
Comment					
Pit size: The First Pit covers over 40acres - How many Pits will cover this area and will the Pit sizes increase?					
Response					
<p>The Draft EIS presents details of the indicative size and extent of the open pit proposed to mine the Grants deposit. As the resource at Grants has been subject to further exploration activity since the Draft EIS was submitted, an updated Mineral Resource Estimate has been announced and the pit size has been optimised to allow for mining of the identified resource. Details of the increase in the size of the pit at Grants are provided in section 2 of this Supplement. Exploration has now been finalised and there will be no further increase in the size of the Grants pit.</p> <p>As indicated in response to earlier comments, Core has been open and honest about the potential for future expansion and/or extension of our mining activities across our lease held in the Finniss River region. At this point in time, we have not defined any further mineral resources in sufficient detail to determine the location and size of future pits. Any future expansion proposals will be the subject of separate referral/s to the NT EPA.</p>					

Comment ID:	Public 5-16	Topic:	Air quality/GHG	EIS Section:	NA
Comment					
Blasting & effects- how often will this occur, will road users be safe. There is no documentation for the amount of pollution that will occur with Blasting. Documentation required.					
Response					
<p>On average, blasting will be required every two to four days. To ensure public safety, a short section of the Cox Peninsula Road near the mine site will be closed to traffic for approximately 15-minutes during each blast event. Road closures will be manned by licenced traffic controllers. There is no risk to road users outside of the manned exclusion zone.</p> <p>In relation to pollution, production of blast fumes (gases – mainly oxides of nitrogen) is one of many risks that needs to managed during each blast event. Fume can be generated by a non-ideal explosive reaction, the causes of which are many and variable. For this reason, each blast event is designed and managed by the site blast team taking into account current site and weather conditions. The objective of the blast planning is to design and implement the blast in a manner that prevents the production and release of blast fumes outside of the established blast exclusion zone that extends up to 500 m from the open pit.</p> <p>Blast management controls and monitoring practices that will be adopted at Grants Lithium Project are documented in the Draft Blast Management Framework provided at Appendix L. Because blast fumes typically disperse rapidly, site personnel are the people most at risk from exposure. Detailed analysis, mitigation and monitoring of these risks is addressed in the Risk Management Plan submitted to Worksafe NT as a legal requirement under the Work Health and Safety (National Uniform Legislation) Act. In the event that blast fume events do occur at the Grants Project area, these are very unlikely to be visible and/or cause acute health risk to the community due to the large separation distance from sensitive receptors. The Draft Blast Management Framework outlines how Core will monitor blast events to provide assurance to regulators and the community.</p>					

Comment ID:	Public 5-17	Topic:	Air Quality/GHG	EIS Section:	NA
Comment					
Diesel Generators -how many are going to be used. Fumes will be going into the area- how much smell in the rural area and including Palmerston and Belyuen. Diesel Pollution will add CO2 and Dust. Diesel Generators for this project will add greatly to CO2 emissions. What impacts will this have on the surrounding area. Air quality will be compromised. This also requires documentation.					
Response					
<p>Core would like to assure the community that exhaust emissions from diesel generators at the mine site will not impact amenity at any residential properties or communities, the closest of which is 10 km away from the site. Core will publicise contact details, so that the community can raise any issues or concerns about public amenity directly with the mine management team.</p> <p>Details of the greenhouse gas emissions from the project, including emissions associated with burning diesel, are provided in Chapter 2, section 2.13.1 of the Draft EIS. Burning of diesel fuel is expected to release 3,280 t CO₂-e over the life of the project, or 5.5 % of the total project emissions. The burning of diesel for power generation will contribute around 0.02 % of the NT's annual emissions for the period the mine is operational.</p>					

Comment ID:	Public 5-18	Topic:	Noise	EIS Section:	NA
Comment					
Night works are proposed - What times and how much Noise will be heard around the area on the still evenings in the rural area, including Palmerston, Belyuen & Wagait.					
Response					
There will be night time operations; however, noise from operations at the mine site is not expected to impact local residents given the remoteness of the site from residential properties (i.e. the closest residence is 10 km away). Blasting will occur during the day time only.					
The haulage of the concentrate from the project site to Darwin Port will see up to ten return road train trips along the haul route each day. Haulage will occur day and night, which means around 10 road train movements (five full and five empty) can be expected to occur at night. The haul route is along Cox Peninsula Road, Stuart Highway, Tiger Brennan Drive and Berrimah Road, to the East Arm Port. The Cox Peninsula portion of the haul route, is the only section that traverses close to residential properties. Properties along the road that currently hear road traffic, are likely to hear the road trains passing at night.					

Comment ID:	Public 5-19	Topic:	Traffic/Roads	EIS Section:	2.11
Comment					
Road Closure - When blasting, the roads will be closed. The Cox Peninsula road and Litchfield Road are used by locals and Tourists heading to Mandorah or Bynoe & Dundee for living, Fishing, crabbing and relaxing. Public access on these roads need to remain open for safety. Tourists may not heed Blasting times.					
Response					
To ensure public safety, a short section of the Cox Peninsula Road near the mine site will be closed to traffic for approximately 15-minutes during each blast event i.e. on average, every two to four days. Blasting that requires the Cox Peninsula Road to be closed will only occur during daylight hours Monday-Friday; not on weekends and not on public holidays. Nominal blasting times are 13:00pm to 13:15pm and 17:00 to 17:15pm. The road closures will be manned by licenced traffic controllers to ensure all road users, including tourists, remain at a safe distance from the blast exclusion zone.					
Access along the Cox Peninsula Road to Mandorah and Bynoe will be affected by road closures. The Litchfield Road will not be closed at any time by the operation. Similarly, access to Dundee will not be restricted as the road closures will not affect Fogg Bay Road.					

Comment ID:	Public 5-20	Topic:	Traffic/Roads	EIS Section:	2.11
Comment					
Transport -The EIS states that there will be up to 29 quad road train trips per day between mine site and port. Roads will need to be upgraded due to the many Heavy loads. Core should be made to pay for the upgrade. These roads are used for residential, local and tourists to access to Palmerston & Darwin. ~Traffic management to build and maintain this development requires an EIS.					
Response					
To clarify, there will be 20 road train trips (i.e. 10 return trips) between the mine site and Port each day (refer Draft EIS Chapter 2, section 2.11.3). Core has been engaging directly with the Department of Infrastructure, Planning and Logistics (DIPL) to ensure we understand the requirements that will apply to our use of the Cox Peninsula Road as a haul route, including our obligations to maintain the road pavement. DIPL have advised that Core is required to undertake a road condition survey of the portion of Cox Peninsula Road for a minimum of 2 km on either side of the approach to the mine access. The survey should include photographic evidence of the existing carriageway and formation to be agreed with DIPL prior to commencement of operations. The pavement condition will need to be assessed regularly and any damage caused by mine operations and transport vehicles is to be repaired at Core's cost.					

Comment ID:	Public 5-21	Topic:	Project Description	EIS Section:	Chapter 2
Comment					
For the purpose of the EIS, Core's lease area within Darwin Port is not considered part of the project footprint. Material stockpiling and ship loading activities of this nature are permitted at the port. The Port will be a part of the project and should be included with the project's footprint.					
Response					
For the purpose of the EIS, Core's lease area within Darwin Port is not considered part of the project footprint as the Darwin Port has existing environmental management procedures which permit material stockpiling and ship loading activities of this nature at the port. The Spodumene concentrate material that will be shipped does not have any specific hazardous characteristics or handling requirements, and environmental risks will be identified and managed in accordance with the Darwin Port Environmental Management System requirements. Core will provide all information requested by the Port in order to assess environmental risks and will comply with any environmental conditions included in lease agreements.					

Comment ID:	Public 5-22	Topic:	Mine Closure	EIS Section:	Mine Closure Plan
Comment					
Mine closure planning - Core Lithium EIS report is for land in the NT- It should be rehabilitated upon closure.					
Response					
<p>Core's post-mining land-use objective is to rehabilitate the site to a stable non-polluting landform which supports self-sustaining native vegetation comprising local species. Our draft Mine Closure Plan submitted as Appendix D of the Draft EIS provides details of how this will be achieved. Our closure plan is based on leaving the pit void to fill with water over time to form a pit lake¹¹. The diversion bund (a mound of dirt around the site) is required to remain in place around the pit post-closure as a safety measure. The WRD will be pushed in to encapsulate the tailings dams, creating an integrated landform that can then be revegetated with local species. Integrated landform construction is viewed as a leading practice approach to mine site rehabilitation that can be effective in ensuring environmental and community interests and concerns can be met (Australian Government, 2016).</p> <p>A further revision of our Mine Closure Plan is provided at Appendix K. This plan addresses minor issues raised by regulators through their review of the draft EIS. If our project proceeds through the EIS process, the Mine Closure Plan would then be subject to further scrutiny by the Department of Primary Industry and Resources (DPIR). Our closure concepts and plan will need to be acceptable to DPIR in order for a mining authorisation to be issued under the <i>Mining Management Act</i>. Core will be required to pay a bond to the NT Government prior to commencement of mining, which provides a guarantee that there will be finance for the rehabilitation of the disturbance area. The bond will only be released back to Core once the NT Government agrees that the site has been adequately rehabilitated (i.e. all completion criteria specified in the Mine Closure Plan have been achieved).</p>					

Comment ID:	Public 5-22	Topic:	Economic rationale	EIS Section:	NA
Comment					
<p>There is already enough lithium in the world. Lithium does not 'break down', it can be re-cycled. Victoria has a lithium recycling plant. NT could also adopt this alternative. WA have just opened a big lithium mine and has secured contracts overseas.</p> <p>Lithium prices are falling, since there are new Lithium Mine developments globally. If the company sells exports through Singapore, Royalties are not payable; NT will not gain from this project.</p>					
Response					
<p>Core stands by the economic feasibility of Grants Lithium Project. Lithium raw materials are the vital ingredient for lithium ion battery technology; as the desire for renewable energy supplies increases, demand for lithium is expected to continue. Compared to other lithium mines in Australia (which are primarily in WA), the proposed mine site is within easy trucking distance by sealed road to Darwin Port – Australia's nearest port to Asia – where the key demand for lithium raw products is expected to be driven by China. The site also has the advantage of being close to Darwin, a major population centre capable of providing labour and services without the need for fly-in-fly-out workers, and the associated costs of moving and accommodating those workers. The project is expected to provide benefits in the following areas:</p> <ul style="list-style-type: none"> • Jobs – Core expects to create between 100 and 150 direct employment jobs. • Export income – The Australian economy will benefit from over A\$300 million in export income. • Royalties – The NT government will benefit from royalties under the <i>Mineral Royalty Act</i>. • Develop new technology – A long-term lithium mining project in the NT could provide opportunities for further industry development, such as lithium battery factories. <p>In relation to promotion of lithium battery recycling, this is a matter for the Northern Territory Government.</p> <p>Whilst Core's current contracts are to China-based companies, Core is unclear why the submitter believes that by selling beneficiated product through Singapore, there wouldn't be a requirement for royalties to be paid to the NT Government. Royalties are payments made by Core to the Northern Territory Government (the Territory as the owner of the minerals), in return for a right granted to extract and remove minerals. Royalties are collected under the <i>Mineral Royalties Act (1992)</i> or Agreement Ratification Acts or Agreement Acts which are negotiated for individual projects. In some cases, the Agreement Ratification Acts and Agreement Acts contain specific royalty clauses while in other cases they refer to the <i>Mineral Royalties Act (1992)</i> with or without modification.</p>					

Comment ID:	Public 5-23	Topic:	Other	EIS Section:	NA
Comment					
This area should be a National Park, as it is a beautiful area and plenty to explore. Litchfield Loop is a popular Tourist destination and this project will change the area and impact any future development plans. The Litchfield Loop could be enhanced with added attractions for Territorians and tourists.					

¹¹ The key factor that has influenced Core's decision not to backfill the pit is that it would make it unviable to develop a future underground mine targeting the already defined lithium ore resource beneath the pit.

Response
The establishment and management of any National Park is the responsibility of the NT and Federal Governments. This is a matter for the NT EPA to consider when making their recommendations.

5.4.6 John Oakley

Comment ID:	Public 6-1	Topic:	Project description	EIS Section:	NA
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Comment
<p>EIS is misleading</p> <p>The EIS as presented by the proponents does not, in many ways, match the original Notice of Intent. This NOI as a primary source of the intentions of the proponents was then used by the EPA to inform the development of Terms of Reference by the EPA. Logic states that if the NOI was misleading or missing information, then the EPA's Terms of Reference is invalid as it does not reflect requirements to fully assess the project properly, and therefore the EIS is not being assessed against the proper regulatory framework. Furthermore, the disingenuous nature of the proponents in regards to gaining environmental approval can be exemplified on many other occasions, only some are detailed below.</p> <p>Scope Creep and the faulty NOI</p> <p>Since the release of the NOI, the proposal has undertaken significant scope creep. Some of the changes are massive and present important long term potential damage to the environment on the Cox Peninsula.</p> <p>These changes that are outside the Terms of Reference for the EIS to the proposal are:</p> <ul style="list-style-type: none"> • The raising of the Observation Hill Dam. Number of future scenarios for the proposal are presented in the EIS, but these should all be discounted. Any major structural and environmental change to Observation Dam must be clearly documented and an appraisal environment assessment must be carried out. • The inclusion of the new dam on the northern boundary of the proposed project area. This new dam extends beyond the proposed mineral lease. Furthermore, it is proposed that a significant floodplain environment be completely flooded. • This sub proposal alone should render this proposal invalid. <p>Just the fact that the proponents have sought to obfuscate these elements of their long range plans from the EIS and the Community are valid reasons for the EPA to reject this proposal, and send it back to the NOI stage of assessment.</p>

Response
<p>Chapter 1 of the draft EIS includes a table (Table 1-1) that transparently identifies all project changes that occurred over the nine-month period that elapsed between Core's submission of the NOI and the NT EPA releasing a final EIS ToR. The key project changes with implications for assessment of environmental impacts and risks, relate to water sourcing and discharges of water from the mine site during wet season. These are further discussed below.</p> <p>In the NOI, Core proposed that all water would be sourced from the existing Observation Hill Dam (OHD). However, further hydrological studies revealed that the dam may not hold sufficient volumes of water to supply all of the project needs, especially during successive drier than dry seasons. Running out of water mid-way through the project would pose an unacceptable level of project and environmental risk and therefore, hydrological studies were undertaken to identify alternative water supplies. Core made the decision to propose raising the existing dam wall at OHD and building a new dam on an ephemeral drainage line adjacent to the mine site. As required of section 2.3.1 of the EIS ToR, the draft EIS provides details of all water-related infrastructure i.e. it includes details of both the OHD and mine site dam, associated water pipelines and on-site water storages.</p> <p>In the NOI, Core proposed that the mine site would not need to discharge water. Further groundwater modelling revealed that as the open pit is excavated, the combined groundwater inflows to the pit and wet season rainfall, will exceed the project's water requirements. To minimise the discharge requirement, an additional onsite water storage has been included so that water from the open pit can be stored and reused in the dry season. However, at the peak of the wet season, the volumes will be too large to contain on site and so will need to be discharged in accordance with a Waste Discharge Licence under the <i>Water Act</i>. The water that will be discharged will not contain any chemical contaminants, but will be treated to remove sediments prior to discharging. As required of section 2.3.6 of the EIS ToR, the Draft EIS provides details of Wet season discharge options for excess water.</p> <p>The EIS ToR prepared for the project by the NT EPA, required that Core identify all the environmental risks and potential impacts from the project in the EIS, and address these (irrespective of whether or not they are expressly stated in the EIS ToR). Core believes the draft EIS and this Supplement, adequately identifies and addresses all environmental risks and impacts associated with the proposal.</p>

Comment ID:	Public 6-2	Topic:	Stakeholder engagement	EIS Section:	NA
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Comment
<p>Lack of Public Community Consultation</p> <p>The proponents have only carried out 2.5 lots of public community consultation during the course of the exploration over the last 2 years:</p>

Comment ID:	Public 6-2	Topic:	Stakeholder engagement	EIS Section:	NA
<ul style="list-style-type: none"> • A stall at Berry Springs market in August 2018. No attempt was made to engage with the community during this exercise. They had a banner and some pamphlets and couple of people who didn't want to converse, apart to say everything is in the single page fact sheets. Consequently, no one around the Berry Springs/Darwin River area was even aware of the of the project. • A hastily organised meeting at Wagait Beach, just a few days ago on December 12th, two days before the Closing for Comments on the EIS. How this can ever be called community consultation is laughable. They called a 'Community Briefing'. A briefing is not consultation. During the presentation the proponents really tried to make out this project is a 'fait accompli'. This presentation was highly flawed and did not cover many of the concerns outlined below. • The next day, the day before comment period closes they also gave a briefing to the Belyuen Council, but this was not a community consultation. <p>As of last week I am reliably informed by senior Indigenous leader and a main ranger for the Kenbi Rangers that they have never been approached by the proponents, have never been briefed, let alone consulted about the project. I myself only became aware of the project, through a Facebook page called Stop Core Lithium. This is also true for many in the Berry Springs, Darwin River and Belyuen Wagait Beach communities. A community group called Protect NT Inc called a community meeting a couple of weeks ago, which the proponents did not attend officially, but they some locals they have on the books to come and disrupt that meeting.</p> <p>Full URL is : https://www.facebook.com/StopCoreLithium</p> <p>I request the EPA to undertake a review of that Facebook page, and consider all posts, videos and content as commentary on this project. For disclosure the person who created this page was unable to continue for personal reasons, and I took over the admin of the page otherwise it would have been shut-down. This Facebook page, despite its shortcomings, still remains an important source of information about the proponent's plan for the local community and the environment. Myself and the previous admin/creator of that page have spent a huge amount of time researching, lithium, its global supply chains, battery technological development and the plans of Core Lithium Ltd.</p>					
Response					
<p>Core acknowledges that some members of the community feel they have not been adequately informed or consulted in relation to our proposal. This situation is unfortunate, because as a company, our objective from the outset of our project planning has been to proactively engage with our stakeholders. To help us achieve this, in 2017 (prior to our initial referral to the NT EPA) we contracted local communications company True North Strategic Communications to assist us identify who we should engage with and the best approach to use. Our Project Development Manager and True North staff have since met with many government agencies, local government, and non-government organisations during 2017 and 2018. Reports on our stakeholder engagement program undertaken in 2017 and 2018 were prepared by True North and submitted as Appendix K1 and K2 to the Draft EIS.</p> <p>Comments received during the Draft EIS comment period from government agencies, local government, and non-government organisations, generally indicated an adequate level of consultation with these groups; however, comments received from some individuals within the community indicate that our approach to informing the broader community was not successful in reaching all interested parties. Our use of the Berry Springs market stall was an attempt to reach the local community more broadly and we also provided project information for inclusion in the Wagait Watch newsletter and in the Daly region newsletters distributed by the Member for Daly – Gary Higgins. The CEO Wagait Shire Council was briefed on the project and participated in interviews for the Social Impact Assessment. Engagement with Belyuen community was arranged through the Council, but had to be delayed for various reasons, including two deaths in the community around the time we originally sought to consult. A meeting did eventually go ahead at a time the community advised us was appropriate.</p> <p>We intend to continue updating the community in relation to our plans and on the basis of comments received through the Draft EIS process, we will re-evaluate our approach to engaging with the broader community so that future communications reach as many people as possible.</p>					

Comment ID:	Public 6-3	Topic:	Stakeholder engagement	EIS Section:	
Comment					
<p>Stock Market Consultation</p> <p>The lack of community consultation can be starkly contrasted with the amount of stock market consultation and briefings to markets and mining conferences. In particular, I need to bring to the attention of the EPA's and the Minister, the actions of the anonymous ghost writers from the proponents on one of Australia's most prolific investor websites hotcopper.com.au. The forum that relates specifically to CXO is https://hotcopper.com.au/asx/cxo/. The EPA must analyse the actions, language and conduct of CXO's anonymous contributors in this forum, because this goes to the heart of the real motives of the proponents and the viability of this project. If time permits I will attach some quotes from various threads.</p>					
Response					
<p>As a publically listed company, Core has obligations regarding notifications to the Australian Stock Exchange (ASX). Core is unaware of the <i>anonymous contributors</i> to which the comment refers.</p>					

Comment ID:	Public 6-4	Topic:	Other	EIS Section:	
Comment					
Alternative Land Use					
<p>I put forward that given the environmental problems with this proposal that an alternate that actually brings long term benefit to the Great Darwin Region (and the NT generally) is for the government to undertake the following:</p> <ul style="list-style-type: none"> • Thank the proponents for their time • Revokes all mineral leases in the area • Declares the entire area a new National Park (I suggest Larrakia National Park) and places the entire area Reserved From Occupation. <p>Despite the fact the proponents of Grants like to characterise the area as previously disturbed and of little conservation value, in fact the very opposite of that is true.</p>					
Response					
This is a matter for the NT EPA to consider when making their recommendations.					

Comment ID:	Public 6-5	Topic:	Project description	EIS Section:	
Comment					
Character of the proponents					
<p>When I read what the proponents have written in their Notice Of Intent, then the greatly expanded EIS, much of the important information is understated. In handouts titled Factsheet August 2018 supplied to the Wagait Beach residents they make the statement: "The ore will be water and gravity to separate out the high quality ore. This process does not involve any chemicals". This is patently untrue because the EIS specifically mentions the use of Ferrosilicon for the DMS circuits.</p> <p>When asked about this definition of the word chemical, the Core rep refused to provide any details of the chemical, or even admit that ferrosilicon is a chemical at all. He would provide any information at all about the quantities required, how many road trains of ferrosilicon will travel through the rural area, the source of the ferrosilicon and other questions. He also tried to characterise ferrosilicon as being like "bean-bag beans" and that is completely harmless.</p> <p>When asked about the Flocculants the Core rep refused to answer any questions, so no details provided about the chemical was provided. In the EIS they state "Flocculants used in tailings thickeners are inorganic polymer additives that facilitate the agglomeration of tailings particles." Right here we have two chemicals that are not defined and yet the proponents continue to state there are no chemicals being used.</p> <p>The flocculants and the ferrosilicon will all end up in the TSF. No discussion of this was provided in EIS. in regards to what the environmental impacts would be if Core walked away from the mine and their rehabilitation responsibilities.</p>					
Response					
<p>As detailed in section 2.8.4 of the Draft EIS, the proposed Dense Media Separation (DMS) process will require the use of ferrosilicon, an alloy of iron and silicon to achieve separation of the ore product from the mined material. The Environment Division in their comments on the draft EIS, requested additional information in relation to ferrosilicon (see section 5.1.1 of this document). Material safety data sheets for ferrosilicon powder products used in DMS applications are provided at Appendix J of this Supplement. As indicated in these documents, the product that will be used at Grants Project is an inorganic solid that is insoluble in water, does not persist in the environment and does not bio-accumulate. Following its use in processing, the ferrosilicon will leave the process circuit as a component of the tailings slurry, that will then be thickened and pumped to the TSF. Seepage and decant water from the TSF, will not contain any contaminants arising from the use of ferrosilicon, because ferrosilicon is insoluble in water and therefore is not expected to react with the other tailings components, i.e. water and fine sediments. As an added control, the TSF design incorporates a low permeability foundation (compacted clay) to minimise seepage rates and the Mine Closure Plan provides details of how the cells will be capped to prevent water infiltration post-closure. As the tailings in the TSF dry out, the ferrosilicon solids will remain in place, mixed with the other tailings solids.</p> <p>Flocculants will be used to settle fine sediments from mine water in the sediment dams and also to thicken the tailings prior to disposal in the TSF. The use of flocculants is standard industry practice and is a mitigation measure used to reduce environmental risks. In the case of the sediment dams, flocculants are used to remove sediments from the water prior to off-site release. The use of flocculants to thicken the tailings, is considered a leading practice approach to tailings disposal. The Australian Government publication, <i>Leading Practice Sustainable Development Program for the Mining Industry - Tailings Management</i> (Australian Government, 2016) states:</p> <p>"The advantages of using thickened or paste tailings include:</p> <ul style="list-style-type: none"> • Improved water and process chemical recovery at the processing plant • Reduced seepage • A more stable landform. <p>These are key considerations for sustainable development and reflect community expectations."</p>					

Comment ID:	Public 6-5	Topic:	Project description	EIS Section:	
<p>The Water Management Plan provided as Appendix F to this Supplement, details the monitoring program that will be implemented to identify any changes in water quality due to project activities. This plan has been independently reviewed during the draft EIS public comment process, and the revised version provides details of how review comments have been addressed in the updated plan.</p> <p>In relation to the concern raised about environmental impacts associated with Core not meeting its rehabilitation responsibilities, these were identified and assessed as part of the closure risk assessment documented in the Mine Closure Plan, an updated version of which is provided as Appendix K of this Supplement. Key risks identified and assessed as part of the closure risk assessment are listed below:</p> <ul style="list-style-type: none"> • Wind-blown dust emissions from exposed WRD surface and TSF • Uncontrolled drainage from WRD • WRD landform, open TSF cells and infrastructure left on site pose a safety hazard to members of the public who enter the area 'unauthorised' • Release of tailings from open TSF cells • Fauna interaction with tailings in open TSF cells • Fuel storages leak hydrocarbons. <p>All risks were ranked as moderate to low, which is largely due to the absence of contaminants of concern in the tailings. The <i>Mining Management Act</i> requires that a security be paid prior to the commencement of activities, which would be used by the NT Government to make the site safe, stable and non-polluting in the event that Core is unable to satisfactorily implement the Mine Closure Plan.</p>					

Comment ID:	Public 6-6	Topic:	Economic rationale	EIS Section:	
Comment					
Financial capability of the proponents					
<p>I question the financial capability of the proponents to adequately bring this project to fruition. One important aspect is that the proponents are relying on a take-off and pre-payment agreement with Chinese partners RiuFu/MeiDu, a company that may well be linked to the Chinese government. As of this writing, and as far as I can garner, this pre-payment deal has not yet been inked.</p> <p>The proponents have a long road to go here, even if the NT government just rubber-stamps everything (as seems to be usual), all the approvals etc. RiuFu have been gifted equity in CXO during their recent AGM and through another capital raising recently. I understand that they have at least 10% of CXO shares, while they haven't signed up to any long term buying contracts. This seems to be an important thing to me. It's called "keeping a foot in both camps".</p>					
Response					
<p>Core stands by the economic feasibility of Grants Lithium Project. Core has signed a binding off-take and prepayment agreement with Sichuan Yahua Industrial Group Co. Ltd (\$20 million prepayment). Core has also signed a non-binding agreement with Meidu Energy subsidiary, Shandong Ruifu Lithium (\$47.3 million prepayment - \$US35 million). Sichuan Yahua Industrial Group Co. Ltd. and Shandong RuiFu, are two of China's largest lithium hydroxide and carbonate producers. Shandong Ruifu invested \$YS3 million in Core shares – for a 10 % stake in Core. This information is all transparently available to the public through ASX announcements.</p>					

Comment ID:	Public 6-7	Topic:	Economic rationale	EIS Section:	
Comment					
The future market for lithium					
<p>Currently there a lithium boom going on around the world. Lithium concentrate prices peaked in January 2018 and the trend is downwards in terms of price and upwards in terms of supply. Furthermore, there are 4 large lithium hydroxide plants being constructed in WA alone with others underway in Spain, Austria and carbonate from the Lithium Triangle. With the enormous resources in the Lithium Triangle of Chile, Bolivia and Argentina that are, or will be, coming online during the project's life, the market for Core's resources is not guaranteed. Most, if not all battery manufacturers in the world use 99.9% lithium hydroxide in their products. They don't actually buy lithium concentrate.</p> <p>The market for concentrate is with industrial chemical manufacturers in China who then manufacture lithium hydroxide. Given all the new hydroxide plants with mines attached to them coming online, the existing chemical processors will be needing a lot less good old Aussie 5% Li2O concentrate.</p>					
Response					
<p>Core is confident in securing buyers for all of the lithium concentrate from Grants Lithium Project over the three-year life of the mine. The current off-take agreements are for up to a total of 194,000 tonnes of lithium per year.</p>					

Comment ID:	Public 6-8	Topic:	Economic rationale	EIS Section:	
Comment					
Technology change and the lithium market					
Lithium only comprises about 2% of a Li-Ion battery's mass. There are several major problems with lithium batteries that many around the world are trying to overcome.					
<ul style="list-style-type: none"> • Energy Density • Low Cycle Life • Toxic and flammable electrolytes. 					
In the rush for new chemistries, lithium will probably lose out to aluminium or other cathode chemistries. Also the development of graphene based batteries, various solid state battery technologies, and the rise of super-capacitors will all accelerate over the next few years.					
It's not too difficult to see that the technological advancement of batteries will see global lithium demand fall over the coming decade. Long term viability of the project. Therefore, there exists a very real risk where the proponents might not be able to sell their product and will collapse financially. As the proponents are planning to make money on the stock market through their personal shareholdings, there will no real incentive for them to do otherwise. Therefore there is a clear and present risk to the environment of the NT should this lithium play by the proponents fails.					
Response					
Grants Lithium Project is a three-year project. As stated above, Core stands by the economic feasibility of the project. Given the short mine life and off-take agreements secured to date, the project will not be affected by medium to long-term changes to world-wide lithium demand.					

Comment ID:	Public 6-9	Topic:	Economic rationale	EIS Section:	
Comment					
Potential for no royalties to be paid - The proposal calls for an expensive clear and strip operation over the first year of operations. This aspect of the proposed operation and the structure of the NT Royalties scheme will make the payment of royalties to the NT government unlikely. This lack of royalties should also be seen through the potential of such things as transfer-pricing arrangements in 3rd party countries, and the use of global licensing arrangements.					
Response					
As stated in the Draft EIS Executive Summary Table 1, Core expects to pay at least \$26 million in royalties to the NT Government.					

Comment ID:	Public 6-10	Topic:	Social Impacts	EIS Section:	
Comment					
Loss of amenity to the Greater Darwin Area communities and other - The Cox Peninsula is a popular drive for day trippers, fishing people, tourists, campers and of the course the locals who rely on that road. Many, many people who come to Darwin for the first time and venture around the Top End in a vehicle take the drive to Mandorah and the wider Kenbi/Larrakia region. It is a spectacularly beautiful drive, with mostly pristine countryside characterised by old growth tropical savannah forests, amazing floodplains and hidden rainforest patches.					
My own view, one I know that is shared by most of the people who live on the Cox Peninsula and Bynoe Harbour regions, is that this is in fact one of the most beautiful country drives in the top end. The road is sealed and mostly good condition. It gets very little traffic. The scenery is spectacular. When driving north after Fog Bay Road turnoff, one drives over a medium sized jump-up. This jump-up is known as the Fast Charlotte Jump-up. On top one is greeted with a spectacular view that many locals take very seriously; the incredible view over the Cox Peninsula and Bynoe Harbour region. One then descends the other side of the jump-up across the equally spectacular, and environmentally worthy East Charlotte River. Driving from that point until Delissa/Belyuen there is little obvious human development. It's just lots and lots of very healthy floodplains and forests.					
Many people, about 270K a year drive to Litchfield Park. Many of them never go into a swimming hole, and many just go for the drive and the scenery. The Sunday drive. The day trip with the relatives. The get out of Darwin for a few hours drive. Tourism is an important economic driver for the top end economy, and the intra day tourism values of Cox Peninsula are just as worthy as those for Coomalie region and Litchfield Park.					
As it stands the proposal here would completely destroy the amenity of the Cox Peninsula Road, and the entire Bynoe/Cox/ Kenbi regional area. After driving over Fast Charlotte jump-up, tourist and locals would come upon a massive industrial development, located just 500 metres from the road. That industrial development will be surrounded 'exploration activities'. The impact of this cannot be understated.					
Response					
Grants Lithium Project infrastructure will be located 500 m off the road. The vegetation between the mine site and the road will not be cleared, but it is likely the site infrastructure and activities will be visible through the trees. People driving to Bynoe, Belyuen, Mandorah will see the mine site as they drive past. However, the site will not impact views or amenity across the Cox Peninsula more broadly. Both routes to Litchfield Park from Darwin do not pass the project area.					

Comment ID:	Public 6-11	Topic:	Social Impacts	EIS Section:	
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Comment

Diminished property values

This proposal, if allowed, will result in a massive devaluation of property prices across the Cox Peninsula. I myself have a vested interest here as a property owner in Wagait Beach.

Wagait Beach (aka Mandorah) is always portrayed by real estate agents, the local media as 'pristine', with 'amazing beaches', 'fantastic harbours', and 'another world away from Darwin'. The superlatives are endless. And, all of these things are very very true. Anyone who is looking to buy property here has probably driven here at least once. When they buy a property most people check out things like roads, access, services, travel times, potential problems in the future etc. Due diligence is thing you know.

When I purchased here, I had been coming here for 15 years. There was no bitumen road the first time I came here. Buying a property at Wagait has been a 15-year project for me personally. There are no real estate agents based in Wagait Beach. 3 years ago, we had to pick up our agent from the ferry to initially inspect the property. This was because we had a car 'on this side'. He just came on the ferry. We dropped him back off obviously. I doubt there has been a residential property sold in Mandorah where the agent picked up the prospective buyer from the ferry and taken them to inspect their future investment/home/lifestyle. The fact is, anyone buying property on the Cox Peninsula in the next 20 years will be driving here as part of the purchasing process.

If this proposal is approved by the EPA/Minister, then those Wagait prospective buyers will driving through a cluster-fork of quad road trains, light mining traffic, commuting workers, along with all the increasing local traffic. And that's before the possible buyers even get to Fog Bay Road turnoff. Then the buyers cross into the Bynoe region over the Charlotte jump-up, and be confronted with the rampant, short term, irresponsible industrial development of the proponents for the next 30 kms of their drive to possibly purchase their dream property. That 'pristine' Wagait Beach dream.

It is my contention that anyone who thinks property prices in the affected regions will increase due to this development is crazy. I call this the Bunnings factor. If you live here, and you need to go to Bunnings (wherever) and return large items or bulk supplies from supermarkets (whatever) you have to drive there. A fast Bunnings trip takes about 3 hours at best. It also requires fuel, and often requires a trailer. You can forget about having a sausage sandwich no matter what part of it has onions. The Bunnings factor is an essential part of life in Wagait. We cost it in time and money. Both of these costs will increase for everyone if this 24/7 mining operation is allowed.

This is unacceptable.

Response

It is noted that industrial development can have both negative and positive impacts on property prices. Core is not in a position to predict the potential impact of our three-year project on property values; however, we can make the following points:

- The impact on visual amenity will be confined to the site being visible from the Cox Peninsula Road as you drive past. The site is unlikely to be visible from other view points across the Cox Peninsula.
- Mine employees will either already be based in the Greater Darwin region, or will rent/purchase property – there is no onsite accommodation at the mine site.
- A detailed Traffic Impact Statement has been prepared to assess the impacts on road users. The updated statement is provided at Appendix G to this Supplement. It is acknowledged that the mine traffic and road closures for blasting will pose an inconvenience to some road users. Core has committed to a range of measures to minimise these impacts i.e. confining road closures to 15 minute windows within nominated closure windows 2-4 times/week, advanced notice to the residents of Belyuen and Waigait Beach, speed limiting of trucks near the school, no trucks past the school at drop-off and pick-up times and maintaining access for emergency vehicles. Core will comply with all directions from the Department of Infrastructure, Planning and Logistics in relation to ensuring safe use of the Cox Peninsula Road.

Comment ID:	Public 6-12	Topic:	Traffic / Roads	EIS Section:	
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Comment

Undocumented Extra Traffic

The proponents have heavily understated or completely omitted data about the true amount of traffic this project will generate right through its proposed life cycle. There is scant information about the traffic generated by the

- construction phase
- local worker movements
- contractors
- Fuel deliveries
- Ferrosilicon deliveries
- administration of the mine
- regulation (if any lol) of the mine
- decommission (if any lol) of the mine
- rehabilitation (if any lol) of the mine

Comment ID:	Public 6-12	Topic:	Traffic / Roads	EIS Section:	
When it comes to the documented traffic of the haul vehicles, this other traffic is equally important yet it is not accounted for in the documents provided to a satisfactory level.					
Response					
The Traffic Impact Statement has been updated to include estimates of both the heavy and light vehicle movements and is provided at Appendix G. The traffic movements are calculated for constructions and operations phases of the project. The TIS includes anticipated movements of the following traffic associated with the project:					
<ul style="list-style-type: none"> • Mine Staff (via bus) • Mine management • Explosive - consumables • Explosives – bulk • Fuels • Rubbish disposal • Tyres/maintenance vehicles. 					
Park and ride shuttle buses will be provided for staff from designated locations, which are yet to be confirmed, but will most likely be a selection of those used for the Inpex site where there are adequate car parking spaces available.					

Comment ID:	Public 6-13	Topic:	Air quality / GHG	EIS Section:	
Comment					
Upstream and Downstream Carbon Footprint					
Going forward environmental protection agencies need to be evaluating proposals like this from a global perspective. As a society we need to evaluate these ideas looking at the entire supply chain and the environmental costs across all aspects of the supply chains involved. The upstream carbon inputs of this project have not been documented. In particular:					
<ul style="list-style-type: none"> • The proposal plans to be powered exclusively by imported diesel fuel. The EIS estimates the carbon footprint. More below on the documented carbon footprint. • This diesel will be imported from Singapore. That importation is a carbon input that is not accounted for. • The amount of diesel required for this proposal is immense so the carbon required just to get the diesel onsite is enormous. • The proposal requires a large amount of ferrosilicon (much more below). This industrial chemical has its own massive carbon footprint in production, and most used in Australia is imported from developing nations. Then there is the carbon footprint of importing these quantities and then, transporting them to the proposal site. • Ferrosilicon has a massive carbon footprint for this proposal and it needs to be taken into account by regulatory authorities. • Given the lack of information provided by the proponents, and the fact they must know this critical information, and they have chosen not to disclose it to the EPA or the community, indicates that this proposal must be disallowed and the alternate Land Use documented above (or similar) be instigated. 					
Response					
In relation to carbon footprint, the EIS ToR required estimates of Scope 1 (direct) and Scope 2 (energy - indirect) Greenhouse Gas (GHG) emissions associated with the proposal. Scope 1 emissions will be produced by the combustion of diesel at the mine site by vehicles, plant and equipment, as well as those emitted as a result of land clearing. The project will generate its own power, so no Scope 2 emissions are included in this assessment.					
GHG emissions from diesel burning were calculated using the methodology in the <i>National Greenhouse Accounts Factors</i> , and the Full Carbon Accounting Model (FullCam) for land clearing. Details are provided in Chapter 2, section 2.13.1 of the draft EIS. The project is calculated to release 59,196 tCO ₂ -e or 28,414 tCO ₂ -e per year. This is equivalent to 0.4 % of the Northern Territory's annual emissions, which are calculated at 16.5 MtCO ₂ -e (in 2016) (DoEE, 2018).					
Core anticipates that the NT EPA will take this information into account when making their decision.					

Comment ID:	Public 6-14	Topic:	Economic Rationale	EIS Section:	
Comment					
Declining market for low grade lithium product (5% Li₂O concentrate)					
The proponents seek to sell Li ₂ O 5% concentrate on the global market. My research indicates that the 'booming global lithium market' is not quite what the proponents like you to think it is. Over 50% of the world's lithium concentrate market is currently supplied from WA. These global supply chain inputs come from 4 or 5 massive mines. Like the proposal most of the WA projects are hard rock lithium operations with mostly similar geology. In WA there are at least 4 massive lithium hydroxide plants with approval currently under construction.					

Comment ID:	Public 6-14	Topic:	Economic Rationale	EIS Section:	
<p>The NT EPA needs understand that the large lithium hydroxide (and lithium carbonate) buyers don't actually buy Li2O 5% concentrate. They (Tesla, Panasonic, Nissan, every battery manufacturer in the world) want to simplify their own global supply chains and just buy 99.9% pure lithium hydroxide. This is what the WA global lithium market providers do. They are the global lithium supply chain at the most senior levels. Global lithium giant Albemarle own 50% of the hydroxide plants and mines in WA.</p> <p>When a proposal like this exports Li2O 5% concentrate to China, what they do with that concentrate is subject it to an energy intensive operation and turn the 5% concentrate into 99.5% product suitable for making batteries. The impact of this on the proposal is fairly simple. Why on earth would a battery manufacturer buy from the current hydroxide processors in China when they can buy from Australia?</p> <p>The Chinese people have a well-documented policy of decarbonising their economy, reducing pollution, embracing renewable generation. Part of that strategy is to remove energy intensive industrial operations of the supply chain out to the source of the product. It makes far more sense for China to have the Australians use their energy and environmental capital to undertake the energy and pollution intensive path from 5% Li2O to 99.9% hydroxide.</p> <p>What China and Australia have achieved here is the total exporting of the carbon footprint of lithium hydroxide production from China to Australia.</p>					
Response					
As stated in response to earlier comments, Core stands by the economic viability of the proposal. As required of the EIS ToR, GHG emissions estimates have been calculated for the project and are provided in Chapter 2, section 2.13.1 of the draft EIS.					

Comment ID:	Public 6-15	Topic:	Cumulative Impacts	EIS Section:	
Comment					
Unannounced medium term plans of the proponents					
<p>The proponents do in fact have a very long term view of their transitory assets in their respective ELAs that cover a large amount of the Greater Darwin Area. This area runs from north of Cox Peninsula Road all the way down through Bynoe Harbour, Charlotte River, Kangaroo Flats and through to the boundary of Litchfield Park.</p> <p>The proponent has been drilling extensively through this entire area. The proponents recently (at the Wagait 'Briefing') did actually mention their preference to also start mining at BP 33 and Hang Gong? prospects as soon as possible.</p> <p>The CXO representative told that meeting this EIS would cover those later stages of the project. I believe this to be incorrect.</p>					
Response					
Core has been open and honest about the potential for future expansion and/or extension of our mining activities across our lease held in the Finnis River region. Section 3 of the EIS ToR required an assessment of cumulative impacts associated with the proposal. Our address of this requirement is provided in Section 4.4 of the Draft EIS. We trust that this information will be considered by the NT EPA and Minister as part of the EIS assessment process. Any future expansion proposals will be the subject of a separate referral to the NT EPA. Core acknowledges that future referrals will need to identify and assess potential cumulative impacts.					

Comment ID:	Public 6-16	Topic:	Environmental quality	EIS Section:	
Comment					
Naturally Occurring Radionuclides (NORM) understated					
<p>The EIS states "Background and materials to be extracted from the pit shell as waste rocks have low concentrations of NORM which do not warrant further investigation and assessment and/or management measures." This is again disingenuous. As far I can see, the proponents have not undertaken any analysis of the NORMs in the rock and ore to be processed.</p> <p>I would have thought that a prudent thing to investigate given the amount of NORMS found around the NT. Granite always has NORMs in my understanding. Radionuclides are not mentioned in NOI, and dismissed outright in the EIS. The reason that this is a problem, that Technologically Enhanced NORMS (TENORMS) are characterised by the increased release of radon and the accumulation/enrichment of NOERMs from the finely ground tailings.</p> <p>Consider this document for the Wodgina lithium mine which seems to feature similar mineralogy.</p> <p>https://www.der.wa.gov.au/images/documents/our-work/licencesand-works-approvals/Applications/10_Wodgina_Process_Streams_Geochemical_Assessment_FINAL_V2.pdf</p> <p>Why has an analysis of this depth not been undertaken by the proponents? A single one line statement with no data to backup that assertion is unacceptable.</p>					
Response					
The statement referred to in the comment, is a summary of the results of NORM testing, which is presented in detail in the Material Characterisation Report (Appendix E of the Draft EIS). NORM testing was undertaken on 82 samples from individual lithology and weathering profiles. The testing was undertaken using RadEye B20 – ER contamination meter (SN 32215 Calibration expiry 1/12/2018) by					

Comment ID:	Public 6-16	Topic:	Environmental quality	EIS Section:	
registered NT Radiation Advisor Accreditation Number 10/00054A. The NORM levels for the materials tested were equal to or below background levels and did not warrant any further radiological investigations					

Comment ID:	Public 6-17	Topic:	Economic rationale	EIS Section:	
Comment					
An alternate business plan for CXO that allows getting rich from lithium and green energy					
<p>Assuming the proponents can actually raise the A\$70 million needed for this venture, and also assuming the public accepted it ok for them to clear many hundreds of Ha, then they could actually make far more long term profits and provide a far better public land use strategy than currently proposed.</p> <p>Core Lithium has exploration license to occupy vacant crown land near Fog Bay Road and the power lines that feed the Dundee / Bynoe region. From a business and investment viewpoint a better business model would be for CXO to reinvent itself as a lithium energy company. Then invest 50 million into grid scale lithium batteries, and a distributed 25-35 MW solar farm. These resources could be deployed across the various subgrids of the rural area, Dundee, Bynoe, Mandorah/Belyuen etc. For example the project area, cleared of vegetation could support a 150 MW solar farm. CXO have other areas however that are suitable for a smaller solar 'mine'.</p> <p>A brief outline of the potential economics follows.</p> <p>A 30 MW solar plant, signed with a simple Power Purchase Agreement (PPA) to T-Gen, could expect to have similar to these drivers:</p> <p>Assuming the following conservative values</p> <ul style="list-style-type: none"> • \$80 MWh PPA price • 10 MWac plant • Average 7.5 hours/day solar activity • 300+ days operation pa <p>Such a plant can return a more than equitable ROI. Tesla PowerPacks (grid scale batteries) cost less than \$200 KWh and the price is falling dramatically and swiftly, along with the viability of CXO's proposed business model. If CXO were to invest A\$20 M in deploying Tesla PowerPacks across the wider Greater Darwin Region you would also enjoy a healthy income from operating this facilities.</p> <p>Yet this sort of forward thinking industrial development wont be seen from the stock market driven like of CXO, nor the gormless, ineffectual (and now without a mines minister) NT government.</p> <p>We need immediate and effective action on climate change from both government and business. This proposal represents anything but.</p>					
Response					
Core is an exploration and mining company. As a company we are confident that Grants Lithium Project is economically viable.					

5.4.7 Graham Drake

Comment ID:	Public 7-1	Topic:	Traffic / Roads	EIS Section:	Traffic Impact Statement
Comment					
Question 1: Appendix G Traffic Management Statement was compiled by Eco Oz in October 2018. The statement found that there was a high level of impact from the mine site to Fox Bay Road. It maintained the level was 'material' and warranted further investigation. What investigation, if any, has Core X done or intend to do?					
Response					
<p>In response to comments received from the Department of Infrastructure, Planning and Logistics (responsible for roads) (see section 5.1.3 of this document), the Traffic Impact Statement (TIS) for the project (prepared by Flanagan Consulting Group), has been revised and is provided as Appendix G. In section 4.1.1 of the TIS, an initial high level assessment of traffic increases associated with the project was documented to determine if/where increases are of a magnitude that warrants further investigation. Baseline traffic data were sourced from Annual Traffic Report 2015 and projected to 2021 when the haulage operations will conclude. The estimated development traffic was compared to this baseline traffic data to assess the relative increase in traffic. A threshold of 5% increase on the background traffic and/or background heavy vehicle traffic was adopted, as the measure by which increase in traffic volume triggers a "material impact" and warrants further analysis.</p> <p>The initial assessment found that traffic increase on Stuart Highway and Tiger Brennan Drive will have no material impact on these arterial road networks, which are designed to accommodate large traffic volumes and heavy vehicles. However, the traffic increases on Cox Peninsula Road were found to warrant further investigation. This investigation is subsequently documented in section 4.1.2 – 4.1.4 of the Traffic Impact Statement for intersections along Cox Peninsula Road, and for sections of road near the Berry Springs Primary School and Berry Springs Tavern.</p>					

Comment ID:	Public 7-1	Topic:	Traffic / Roads	EIS Section:	Traffic Impact Statement
<p>Impacts of the increased heavy vehicle traffic on the existing road network were assessed, taking into consideration the link and intersection capacity, safety and pavement impacts. The TIS concludes that the current road network will continue to operate safely and no upgrades were recommended, excepting for construction of slip lanes at the mine site intersection.</p> <p>Core acknowledges the requirement to undertake a road condition survey prior to commencement of activities. The survey will be undertaken and a Pavement Condition Report submitted to DIPL prior to commencement of works. Core commits to repairing any damage to the road pavement that is attributable to the project. The revised TIS also provides details of road signage requirements.</p>					

Comment ID:	Public 7-2	Topic:	Social Impacts	EIS Section:	
Comment					
<p>Question 2: Appendix L was compiled by True North in October 2018 and found a high level of social impact but reduced that to moderate due to 'Mitigation Measures'. Whilst the measures were listed briefly in the statement there was no specific information provided as to how the social impact would be reduced. Could a more detailed outline of the measures and a justification as to how the social impact will be reduced for Wagait Beach please be provided? By way of comment re the question 2 mitigation measures I would like to make the following observations:</p> <p>Continuing engagement with DIPL: How will this lessen the social impact unless DIPL commit to upgrading the infrastructure by providing overtaking lanes etc?</p> <p>Road signs advising delays etc: These provide information to commuter's/road users but do not affect the social impact from my perspective.</p> <p>Take Stakeholder Impact into Consideration: The only examples referred to in the statement concern groups such as Dundee Fishos, Berry Springs school, Emergency services and NT Bushfires. None of these (except emergency services) will have an effect on the social impact for Wagait Beach which relies heavily on the road for trade services, delivery of supplies as well as access to Darwin for non-ferry users and commuters.</p> <p>It is difficult enough for our community to get tradespeople to provide services to our community. The social impact from my perspective has much to do with the inconvenience caused to the groups outlined and also to the increased cost which will need to be borne by the Wagait Beach community. The impact upon our community does not appear to have been taken into consideration let alone reduced.</p> <p>Communication of Blasting times, truck movements and traffic delays: Once again this will only result in the community possibly being better informed but questions need to be asked re how info will be communicated, to whom will it be communicated, how effective will it be, how much notice will be given, how will tourists, the elderly and others who do not have internet or social media access be informed etc.? Notice also needs to be timely as visits by residents to hospital, doctor, appointments with tradespeople etc. need to be arranged well in advance. All these considerations need to be addressed before this 'mitigation measure' can be used to justify a downgrade from a high to moderate level of impact from my perspective.</p> <p>Traffic Management Plan: Please explain? Once again without a detailed explanation/outline re this, it is difficult to be able to form an opinion of how such a 'mitigation measure might operate and whether it in any way would reduce the social impact.</p>					
Response					
<p>Detail of how proposed mitigation measures reduce the likelihood and/or consequence of each identified social impact and opportunity, can be found in the social impact and opportunities assessment submitted as Appendix M of the draft EIS. The registers list each identified social impact and opportunity, provide an inherent (unmitigated likelihood and consequence rating), list the mitigation and management measures and provide a residual impact rating.</p> <p>True North has also prepared a Social Impact Management Plan (SIMP) that was submitted as Appendix N of the draft EIS. In response to comment from the Department of Chief Minister about the language used in the SIMP (see section 5.1.5 of this document), a revised version has been provided as Appendix M of this Supplement. The SIMP outlines key risks and opportunities identified in the SIA, mitigation and enhancement measures, indicators by which to measure and report and a list of Core commitments, including ongoing communication and engagement with the community.</p> <p>In relation to the specific observations made in this comment, we can offer the following further explanation of how impacts on the Wagait Beach community will be minimised as far as practicable:</p> <p>Continuing engagement with DIPL - DIPL's role is to ensure that public roads are operated and maintained in a safe manner. Compliance with DIPL's requirements will minimise the impacts of the operation to all road users.</p> <p>Road signs - The SIA considers impacts to health, wellbeing and safety. Increased road safety risk due to project traffic, was a key concern raised by stakeholders and has been subject to detailed assessment as part of the Traffic Impact Statement (TIS) prepared for the project (provided at Appendix G of this Supplement). Road signage is just one of a suite of measures used to maintain road safety. Other measures include speed limiting of trucks, restricting movements past Berry Springs Primary School during drop-off and pick-up times and minimising traffic volumes by using buses to transport the workforce to site.</p> <p>Wagait Beach stakeholder impact – Core would like to re-iterate to the community that the Cox Peninsula Road will remain open to traffic as usual, excepting for approximate 15-minute windows every two to four days when blasting requires a short section of the road to be closed for public safety reasons. Blasting that requires the Cox Peninsula Road to be closed will only occur during daylight hours Monday-Friday; not on weekends and not on public holidays. Nominal blasting times are 13:00pm to 13:15pm and 17:00 to 17:15pm. Core has prepared a Blast Management Framework (Appendix L) that documents the site blast management requirements and details of all the</p>					

Comment ID:	Public 7-2	Topic:	Social Impacts	EIS Section:	
<p>relevant management plans, processes and operational procedures that will be put in place to ensure public safety and minimise inconvenience to road users. In relation to road closures and traffic management, the framework details the proposed Road Closure Plan, which includes:</p>					
<ul style="list-style-type: none"> • Procedures for notification of affected parties, specifically the communities of Belyuen and Wagait Beach will be notified of road closure times, two days prior. • An authorised traffic management company will be contracted to manage each road closure in accordance with DIPL requirements, including placement of signage and traffic controllers. • A protocol for allowing the passage of emergency vehicles. 					
<p>Further engagement with Wagait Shire Council and Belyuen will be undertaken to determine the most appropriate method of communicating road closures to the community. The above measures are expected to minimise disruption to road users as far as is practicable and always ensure that emergency access is maintained. We appreciate that the closures will inevitably impact a small number of road users. However, due to the short duration, designated closure windows and advanced notification procedures, we do not anticipate the project having a severe impact on the Wagait Beach and Belyuen communities. Given the location of the mine site, tourist traffic volumes past the site are low and limited numbers of tourists will be affected.</p>					
<p>Traffic Management Plan – As stated in the TIS (Section 5), specific plans will be developed prior to commencement of construction and operation of the mine in accordance with DIPL’s regulatory requirements for use of the public road network. The plans will collate all of the mitigation measures that will be implemented to minimise impacts on other road users. The key documents that will inform these plans are the TIS (see Appendix G), Blast Management Framework (Road Closure Procedure) (see Appendix L) and Journey Management Plan (see Appendix O).</p>					

6 UPDATED COMMITMENTS REGISTER

Throughout the draft EIS and Supplement, Core has made commitments to:

- Undertaking further work to ensure all risks are adequately understood and effectively managed.
- Implementing all management provisions, monitoring, corrective actions and reporting requirements to ensure risks to the environment and community are as low as reasonably practicable.

The below Commitments Register was provided with the Draft EIS and has been updated to include specific commitments made in this Supplement. Where measures are included in the EMP (refer Chapter 10 of the Draft EIS), they are not listed separately in the commitments register. Where a commitment made in the Draft EIS has been fully or partially implemented, this is noted.

Table 6-1. Commitments Register

Compliance
In the event that the proposal is amended to the extent that the environmental significance of impacts may increase, Core will refer the proposed changes to NT EPA.
Core will apply for a mining authorisation pursuant to the <i>Mining Management Act</i> and will comply with all conditions of the authorisation.
The Mining Management Plan submitted for authorisation will include an updated environmental risk assessment that re-assesses risks to environmental values associated with the final mine site design and operational plans.
Core will obtain and comply with the conditions of all approvals, permits and licences required by the NT regulatory system.
Core will prepare the following management plans referred to in the EIS to the satisfaction of the relevant regulatory agencies: Mining Management Plan, Traffic Management Plan, Emergency Response Plan, mine Risk Management Plan and an Employee Code of Conduct.
Design
Geotechnical testing and investigation of proposed construction and cover materials will be undertaken, to confirm material characteristics, treatment requirements and final landform designs. Results of this testing will be provided in the MMP submitted to DPIR.
Dams and water storages will be designed and constructed in accordance with ANCOLD guidelines.
Core will apply for permits to construct the dams pursuant to the <i>Water Act</i> as required under the recent legislative changes.
A wastewater works design approval will be obtained from Department of Health for the onsite wastewater (sewerage) management system.
Materials characterisation
Geochemical classification and leachate testing of tailings will be undertaken from the next stage of the pilot plant, to confirm assumptions of negligible AMD risk.
On-going materials characterisation and monitoring of pit and decant water quality will be undertaken throughout operations to confirm assumptions of negligible AMD risk.
Water management
Water supply dams will be sized based on the minimum requirements to provide a reliable and sustainable supply of water for the project.
The site water management system will be designed to maximise water efficiency and reuse so that extraction of make-up water from off-site dams is minimised.
The Water Management Plan submitted with the EIS will be subject to independent review. The review findings and a summary of subsequent changes made to the plan will be made publically available with the supplementary EIS. COMPLETE – refer Appendix B of this Supplement

Core will apply for a Waste Discharge Licence pursuant to the <i>Water Act</i> and will comply with all licence conditions.
Additional groundwater monitoring bores will be installed around the mine site in April 2019, as detailed in the Water Management Plan.
Baseline monitoring of surface water and groundwater will continue over the 2018-2019 wet season and trigger values will be updated in the Water Management Plan submitted with the MMP.
A licence to extract surface water from dams will be applied for as required under the <i>Water Act</i> .
Greenhouse Gas Emissions
Core will maintain records to allow for calculation of Greenhouse Gas Emissions and will report year 1 emissions in accordance with the requirements of the <i>National Greenhouse and Energy Report Act</i> if the reporting trigger is exceeded.
Road-use and closures
Core will continue to engage with DIPL in relation to use and maintenance of the road and will apply for all requirements permits and approvals.
Core will comply with all conditions imposed to ensure safety and minimise inconvenience to other road users.
Core will undertake a road condition survey prior to commencement of activities and submit to DIPL.
Any damage caused by mine operations and transport vehicles is to be repaired at Core's cost.
Haul trucks will be speed limited to 40km/hr through the school precinct (20km/hr below the signed speed limit).
Truck movements will be restricted past the school during drop-off and pick-up times - 7:45 to 8:45 am and 2:30 to 3:30pm.
Trucks will be fitted with an In-Vehicle Management System, which will result in automatic notification to QUBE headquarters if speed limits are exceeded around the school or anywhere along the haul route.
Road closure for blasting will be confined to approximately 15 minute windows two to four times per week.
Core will continue to take stakeholder advice in relation to road closure windows for blasting that will minimise impacts to road users. Nominal closure times will be 13:00pm to 13:15pm and 17:00 to 17:15pm.
Core will further develop and implement the Blast Management Framework submitted with the EIS.
A protocol will be put in place to allow for passage of emergency vehicles during road closures.
An authorised traffic management company will be contracted to manage each road closure in accordance with DIPL requirements, including placement of signage and traffic controllers.
Flora and fauna
The opportunity to reconfigure the site infrastructure to increase the separation distance from temporary pools that occur on the north-western boundary of the mine site, will be considered in the next design iteration.
Sacred sites protection
Core will obtain an Authority Certificate under the <i>Aboriginal Sacred Sites Act</i> prior to commencing works on site and will comply with all conditions.
Community, local contracts and jobs
Core will continue to engage with stakeholders, in accordance with the procedures outlined in the Social Impact Management Plan, to ensure that negative impacts to the community are minimised and opportunities for employment and local contracts are maximised.
Core will publicise email and phone contact details for the community to contact the mine management team in the event of any issues or concerns.

Mine closure
Draft closure objectives identified in the Mine Closure Plan will be finalised based on stakeholder feedback from the EIS and MMP process.
The Mine Closure Plan will be updated with final landform and drainage designs. The final designs will be informed by geotechnical test work to demonstrate long-term geotechnical stability of the final landforms. Final designs will be to the satisfaction of DPIR.
Rehabilitation trials will be undertaken during operations to determine soil treatments and supplementary planting requirements to maximise rehabilitation outcomes.
Early unexpected closure
In the event of early unexpected closure, Core will notify the Department of Primary Industry and Resources and will comply with directions to ensure the mine site is safe and stable.
Other
Core will establish a bushfire first response capacity on site and will obtain permits prior to any burns.
Core will endeavour to prevent the creation of mosquito breeding habitat by reducing the instances of shallow pooling water around the site. With regard to informing workers of the risks of biting mosquitos and bite prevention, information will be provided in site inductions, which will be completed by all staff and contractors.

7 REFERENCES

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- EcOz (2019c) *Grants Lithium Project – Erosion and Sediment Control Plan*. Prepared for Core Lithium, March 2019.
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- GHD (21019) *Grants Lithium Project – Preliminary Design of TSF and Water Storages – Design Report*. Prepared for Core Lithium, March 2019.
- Innicon (2019) *Grant's Pit Sterilisation Report*. Prepared for Core Lithium Ltd. March 2019.
- QUBE (2019) *Grants Lithium Project – Journey Management Plan – Core Lithium Mine site to Darwin Port*. Prepared for Core Lithium, March 2019.

APPENDIX A SUBMISSIONS RECEIVED ON DRAFT EIS

APPENDIX B INDEPENDENT REVIEW OF WATER MANAGEMENT PLAN

APPENDIX C GROUNDWATER MODEL - SUPPLEMENTARY REPORT

The groundwater modelling report was originally submitted as Appendix I of the Draft EIS.
This document provides supplementary information that should be read in conjunction with the original report.

APPENDIX D PRELIMINARY MINE SITE WATER BALANCE (UPDATED)

The mine site water balance was originally submitted as Appendix J to the Draft EIS.

This document replaces all previous versions.

APPENDIX E SURFACE WATER MODELLING – SUPPLEMENTARY REPORT

The surface water modelling report was originally submitted as Appendix H of the Draft EIS. This document provides supplementary information that should be read in conjunction with the original report.

APPENDIX F WATER MANAGEMENT PLAN (UPDATED)

This document was originally submitted as Appendix C to the Draft EIS.

This document replaces all previous versions.

APPENDIX G TRAFFIC IMPACT STATEMENT (UPDATED)

This document was originally submitted as Appendix G of the Draft EIS.

This document replaces all previous versions.

APPENDIX H PRELIMINARY DESIGN OF TSF AND WATER STORAGES

APPENDIX I GRANTS PIT STERILISATION REPORT

APPENDIX J MATERIAL SAFETY DATA SHEETS - FERROSILICON

APPENDIX K MINE CLOSURE PLAN (UPDATED)

This document was originally submitted as Appendix D of the Draft EIS.

This document replaces all previous versions.

APPENDIX L BLAST MANAGEMENT FRAMEWORK

APPENDIX M SOCIAL IMPACT MANAGEMENT PLAN (UPDATED)

This document was originally submitted as Appendix N of the Draft EIS.

This document replaces all previous versions.

APPENDIX N EROSION AND SEDIMENT CONTROL PLAN (UPDATED)

This document was originally submitted as Appendix F to the Draft EIS.

This document replaces all previous versions.

APPENDIX O JOURNEY MANAGEMENT PLAN

APPENDIX P DRAFT EMERGENCY RESPONSE PLAN

