#	Who	Section	Issue Raised	SEIS or DEIS Reference
14	NLC	2.3 Overburden and Waste Materials Management	commit to and plan for in-pit burial of all PAF material;	SEIS 5.2.2
31	NLC	3.6 Acid Mine Drainage (AMD) Potential	provide greater detail in respect to how PAF materials will be segregated and managed	SEIS 5.2.3 and 4.1.1
52	NLC	6.1 Surface Water	provide a detailed baseline assessment and develop a monitoring and management plan that assures protection of the natural values of the billabong system immediately to the north of Area F pits 1 and 2	SEIS 5.2.6
53	NLC	6.1 Surface Water	agree trigger values for chemical species that will serve for monitoring of surface water and groundwater quality and as indicators of the presence (or otherwise) of AMD	SEIS 5.2.6 and 4.1.2
54	NLC	6.1 Surface Water	provide information about the toxicity and potential impacts on human health of chemical species that might enter the environment as a result of AMD	SEIS 5.2.6 and 4.1.2
55	NLC	6.2 Hydrogeology and Groundwater	how AMD contaminated groundwater will be treated	SEIS 5.2.6 and 4.1.4
67	NLC	8.2 Stakeholder Consultation	provide an assessment of TEK that exists for the area impacted by the mine, haul road and port facility and include this information in a cultural heritage management plan (CHMP)	SEIS 5.2.8
68	NLC	8.2 Stakeholder Consultation	Develop local business, employment and training schemes that utilize traditional land management practices and TEK and integrate these into all aspects of the mine from development through to post-closure maintenance.	SEIS 5.2.8 and DEIS 11.1.3
69	NLC	8.2 Stakeholder Consultation	seek to modify their approach to consultation so that transfer of knowledge in both directions improves and can be demonstrated to be effective	SEIS 5.2.8

#	Who	Section	Issue Raised	SEIS or DEIS Reference
105	NRETAS	1.9 Project Alternatives	The proponent should explain how the long-term economic sustainability of the region will be assisted with investment of funding if economic development in the region is limited to mining to sustain the community. The positive aspects of not proceeding with the proposal include the maintenance of the environment in its current condition and avoidance of the potential legacy issues created by mining. Also, mining activities have the potential to create an economic bubble with subsequent depressed conditions following mine closure. Mining projects also have the potential to lead to unforeseen negative social impacts. These potential consequences should be acknowledged and discussed.	SEIS 5.2.1 and Appendix H2 of the DEIS
106	NRETAS	1.9 Project Alternatives	In consideration of the options for mine development, and given that the river diversion represents a significant environmental impact, what is the economic consequence of removing the exploitation of ore resources from Pit 3 Area F on the overall Direct Shipping Ore (DSO) project viability?	SEIS 5.2.1
107	NRETAS	1.9 Project Alternatives	In proposing a private haul road of some 165 km from the mine site to Bing Bong the option of using the existing public road was rejected (PPI-27 and 2-21). Given the significant cost and disturbance footprint of a new road, further social, economic and environmental reasons should be provided to inform this decision. Provide suggested post-closure uses for the haul-road. Explain the reasons why the proposed haul road corridor must be cleared up to 50m wide.	SEIS 5.2.1
108	NRETAS	1.9 Project Alternatives	If water from the anticipated pit dewatering is to be used for mining related water use, and a significant proportion of the ore and waste rock extracted is potentially acid-forming (PAF), explain how water quality will be maintained to ensure that problems with acid water are minimised	SEIS 5.2.1 and 4.1.4
109	NRETAS	1.9 Project Alternatives	Explain '... potentially some minor other processes' with respect to energy use requirements. Discuss the possibility of solar power at the workers camp.	SEIS 5.2.1

#	Who	Section	Issue Raised	SEIS or DEIS Reference
110	NRETAS	1.9 Project Alternatives	Rehabilitation alternatives should include consideration of seed collection from species that will be cleared (to retain local diversity) and establishment of a nursery to ensure viability of species. This could contribute to social outcomes if a local workforce is involved. Initial indications are that top soil retention during clearing will be minimal but any top soil should be appropriately stored to maintain a viable seed bank in view of a lengthy duration of storage. Options should be discussed.	SEIS 5.2.1
112	NRETAS	2.1 Project Planning	An annual shutdown of 40 days is anticipated due to regional rains, flooding and road closures. Management of this shutdown should be discussed with respect to on-going maintenance and monitoring regimes.	SEIS 5.2.2
113	NRETAS	2.2 Mining	Is stated that the Area E stage 1 pit and Area F pit 4 are planned for use as potential water storages during the early stages of the project. At Table 2-4 summary statistics of the pit dimensions are provided for Area F and Area E and Figure 2-1 provides a general plan view of the proposed pits. Clarification is required on whether pits I and 2 of Area F are proposed as separate pits, or are contiguous. The Supplement should also clarify whether the Area E, East pit is to be mined in stages as implied or is to be mined at 10 metres per month uniformly as stated. Dimensions and ore/waste data for each pit (as per pit 4 dimensions at Table 2-17 page 2-68) and waste rock dump should be presented individually given that-three waste rock dumps are proposed (Figure 2-1).	SEIS 5.2.2
114	NRETAS	2.2 Mining	Mine pit dewatering - depending on the reactivity of the mine pit walls and the potential for deterioration in pit water quality, discuss the potential impacts of using this water for dust suppression and how such impacts might be managed. Clarify whether water from crushing and screening would be reused/recycled	SEIS 5.2.2 and 4.1.4
115	NRETAS	2.3 Overburden and Waste Materials Management	The low grade ore storage facility has the potential to retain material for eight or more years' The proposed facility design, inclusive of erosion and sediment control mitigations, should be provided particularly if large quantities of mined ore fall under the specified DSO iron concentrations. Discuss the potential for this to be a source of acid and metalliferous mine drainage (AMD).	SEIS 5.2.2 and 4.1.3

#	Who	Section	Issue Raised	SEIS or DEIS Reference
116	NRETAS	2.3 Overburden and Waste Materials Management	Top soil should be managed to ensure seed banks are maintained in view of the time lag expected between stripping, mining and backfilling of pits (eight+ years taking into account BFO quantities in pits, etc.). See 1.9.8 above.	SEIS 5.2.2 (links with Comment #110)
117	NRETAS	2.3 Overburden and Waste Materials Management	It is proposed to use Area F pit 3 as a diversion buffer against downstream velocity extremes (minimising afflux). Consideration needs to be given to the low-flow situations (the pit would have to fill first before the river will flow) and the changed hydrologic regime and fish passage constraints potentially generated. What could this mean for water quality in the river, particularly if there are AMD issues with pit 3? What happens to pit 3 on decommissioning? Discuss the requirements for long term legacy monitoring and management.	SEIS 5.2.2
121	NRETAS	2.6 Haul Road	The EIS Guidelines state: “Provide details on the impacts of road construction, including the haul road, on creeks and river crossings: “including "construction and management of any proposed creek diversions". The DEIS lacks an adequate level of detail, particularly for haul road waterway crossings and areas of sensitive riparian vegetation, as the exact route of the haul road and all associated works are not finalised. Therefore, a final assessment of biodiversity-related issues has not been provided. It is expected that appropriate detail will be provided in the Supplement. The construction of the 165 km haul road over an anticipated five month period represents a significant and strategic component of the project proposal. It also represents a significant, if temporary, environmental impact from the construction process, especially at waterway crossings. The DEIS provides extensive commentary on this component at S 2.6.1 - S 2.6.14. Access to overburden from the mine site will not be available for much of the road alignment. Some mention (page 2-29) is made of a 5km exclusion zone from the Savannah Way intersection for gravel resources and also the need for some rock blasting of rocky ridges near the Limmen Bight and Cox Rivers. There is an impression given that the bulk of fill material will be available at site from the table drain cuts but it is not unreasonable to anticipate that, given the low-lying nature of much of the traversed length, additional fill material will be required. Some indication of the net requirement (if any - note comment at page 2-26) for additional material to that sourced from the cut and fill construction process, and where this material might be sourced, is required (other than the 676,000m' for 20km as specified in Table 2-5). The process to gain access to the material (whether all may be within the mining-tenured road corridor) and the rehabilitation protocols for any borrow pits should be provided. Discuss whether this will represent a significant additional disturbance footprint to the overall project	SEIS 5.2.2 and Appendix D-10 of the DEIS (Also links to Comment #317)

#	Who	Section	Issue Raised	SEIS or DEIS Reference
122	NRETAS	2.6 Haul Road	Further information on the number of camps and their location is required inclusive of their potable water requirements and means of access to this water and the disposal mode of wastewaters.	SEIS 5.2.2 and Sections 2.6.11, 2.9.2, 2.9.5, 2.9.4 and 2.10 of the DEIS
125	NRETAS	2.9 Water	Softening filters remove 'hardness' (Ca & Mg ions), not carbonates. These systems require regular recharging with a consequent backwash of brackish water discuss how this waste stream will be compatible with the proposed waste water treatment system. Other than the schematic at Figure 2-23, there is no indication of where the raw water darn (RWD) is positioned on site nor how water will be transferred from the pit water store (PWS -pit 4) nor how sediment basin waters will be transferred to supplement the site water requirements. Taking into account the above, provide further information with respect to the availability and management of water resources to sustain the mining operation for the duration of the mine life	SEIS 5.2.2
126	NRETAS	2.9 Water	Discharge to the RWD and use of treated wastewater for dust suppression and wash-down (Figure 2-23) needs to be endorsed by the Department of Health as an appropriate use for secondary treated wastewater. Spray aerosols can allow for pathogenic virus particles to be dispersed and to generate a potential human health hazard.	SEIS 5.2.2 and Section 2.10.2 of the DEIS
129	NRETAS	2.12 Decommissioning and Closure	Is unclear whether 'Pit F West' refers to pit 3 or pit 4 (PWS). It is clear that pit 3 is to be retained as a flow through pit as part of the modified flow hydrology of the Towns River. Clarification should be given on the intended fate of pit 4. Further information is required on how pit 3 will be rehabilitated and stabilised from its mining phase configuration, including how and when the initial bunding is to be removed when it is incorporated as a flow through lake early in the proposed DSO mining campaign.	SEIS Section 5.2.2
130	NRETAS	2.13 Towns River Realignment	Is unclear, other than from Table 2-25, whether the WRDs are within the 5, 20 & 50 year ARI flood levels. It would be helpful to include an overlay of the flood modelling contours, together with the proposed sites for all the WRDs as per Appendix N2 Figure 8, for all other key mine site infrastructure. Please discuss why a 100 ARI contour was not graphically presented and whether some of the proposed WRDs footprints will remain within these flood contours.	SEIS Section 5.2.2

#	Who	Section	Issue Raised	SEIS or DEIS Reference
137	NRETAS	3.6 Acid Mine Drainage (AMD) Potential	Is unclear how many samples for detailed assessment were taken from the proposed target locations at Area E and F. Tables 3-7 and 3-8 provide useful summary information on sulphide spatial distribution in the pits based on extrapolated lithologies. Figures 3-14 to 3-16 are likewise helpful in presenting cross sectional representations of the analysed rock cores. Discuss the uncertainties generated by this reliance on extrapolation to inform the amount of PAF and potential risk of acid formation. The DEIS-recommended additional and on-ground assessment work is supported. Please provide any updated/interim results of kinetic testing and/or further analysis in the Supplement.	SEIS Sections 5.2.3, 4.1.1 and 4.1.5

#	Who	Section	Issue Raised	SEIS or DEIS Reference
141	NRETAS	4.1 Introduction	The DEIS states that “the MLA areas fall within the boundary of the recently declared Limmen National Park". This is not correct and needs to be amended. Fish survey data are presented in Appendix D S 4.6. Please discuss how this baseline information and any further monitoring might best inform whether the proposed mining activity and river realignment has impacted on fish diversity and fish passage in the mining lease over the proposed life of the mine. The assessment of potential impacts and mitigation measures for significant terrestrial vertebrate fauna is generally sound. However, the DEIS identifies the Carpentarian Grasswren as a significant species likely to occur along the haul route (Table 4.7, page 4-54), but does not refer to this species in the Risk Chapter. Given the high significance of any populations of this species that may persist in the area of the haul route please discuss what further survey work in potential habitat might be undertaken for the species. Appropriate mitigation measures should be proposed, in particular to ensure that the haul road development does not contribute to deleterious fire regimes that would have high impact on the species distribution. Flora and fauna survey effort and methodology was generally considered to be sufficient. However, the following requires further survey work: 1. Habitat and vegetation description surveys at the Bing Bong port facility due to change in stockyard location since the original surveys in February 2012 (note that the facility proposed in the DEIS is current.) The original fauna survey sites are still considered representative because the stockyard falls within the same vegetation communities. One fauna site falls within the area proposed for disturbance; 2. Flora surveys within the mangrove patch adjacent to the conveyer and barge loading facility at the Bing Bong port. These should focus on determining patch condition and also allow for a species account of the small mangrove community; and 3. Flora and fauna surveys on the western side of the ridge crossing near Limmen Bight River. It is understood that habitat surveys of this site were undertaken on 18 July 2012, which will be followed by a fauna survey.	SEIS Section 5.2.4. Also see Sections 4.5.2, 3.3 and 3.4

#	Who	Section	Issue Raised	SEIS or DEIS Reference
143	NRETAS	4.3 Existing Environment	The DEIS states that the flora along the haul route was assessed by "... determining the dominant flora species and vegetation type boundaries from the air [helicopter]" and "Riparian surveys recorded data on patch width. .. Vegetation structural descriptions with the percentage cover and average height recorded for the dominant species. ..". No detailed methodology for the flora survey along the haul route is provided, nor does the DEIS (or its appendices) provide the results of any floral inventories. Based on this, it appears that no on-ground surveys were conducted for flora along the proposed haul route corridor. The EIS Guidelines state that the EIS should: “Present flora and fauna surveys of the Project area, including the haul road route. Identify flora and fauna species of conservation significance". In addition, the EIS guidelines note that vegetation surveys should follow the 'Northern Territory Guidelines and Field Methodology for Vegetation Survey and Mapping'(Brocklehurst et a1. 2007). Given that existing information on flora within the vicinity of the haul route is sparse, the assessment in the DEIS of the potential impact on significant species is not adequate. On-ground flora surveys with a focus on threatened species likely to occur in the area should be conducted, and an assessment of potential impacts on significant flora should be reported in the Supplement.	SEIS Section 5.2.4 and Appendix D of the DEIS
144	NRETAS	4.3 Existing Environment	Based on discussions with consultants EcOz (5/7/2012), the proponent has provided an undertaking to conduct additional flora surveys at areas to be affected by infrastructure works at the Bing Bong Port facility. It is expected that these results and associated mitigation measures will be reported in the Supplement.	SEIS Section 5.2.4 and Section 3.3
146	NRETAS	4.5 Threats and Impacts	The Supplement should explicitly state that no weed-prone species will be used in any amenity planting at the mining camp	SEIS Section 5.2.4

#	Who	Section	Issue Raised	SEIS or DEIS Reference
149	NRETAS	**Existing Environment – Marine Environment**	The DEIS provides a desktop review of the status of EPBC Act-listed species within the NT Gulf of Carpentaria and acknowledges that this area is important for coastal dolphins, dugong, marine turtles and sawfish. However, the DEIS does not provide any site-specific baseline information to inform the assessment of potential impacts from the proposed development. The DEIS acknowledges that marine habitats are important for these species but does not provide information on the distribution of these habitats for those listed species or other marine fauna in the area. Given that the port facility has been established and operational for an extended period, there is an expectation that information is available relating to habitat distribution for marine species, together with information on the frequency and intensity of their use. Please provide data/information that is currently available for site specific baseline information on local marine habitats and the use of these areas as recruitment or feeding grounds by various species inclusive of EPBC Act listed species. This baseline information should be used to inform discussion on the level of risk from the proposal to the marine environment. Discuss the adequacy of this baseline information and where information gaps may be to inform the development of an on-going marine health condition assessment program relating to port usage. The intention of WDRL to expand on the marine ecological monitoring program developed by Xstrata to demonstrate that the project will not cause adverse environmental impacts is supported. Discuss what additional baseline work and ongoing monitoring might be required to address a marine condition assessment program scaled to address the environmental risks from the port operations. This may include, but not necessarily be limited to, some of the following: I. Marine habitat data and maps (detail similar to those presented for terrestrial environments, including the extent and seasonal variability of significant habitats): a) showing the locations and spatial extent of the different marine benthic habitat types and parameters such as percentage cover for each dominant taxon; and b) recording the abundance and health of benthic taxa observed within indicator communities; 2. Marine fauna surveys for EPBC Act listed species (dolphin, dugong, turtles, and sawfish), consistent with EPBC Guidelines, including: a) spatial distribution for dolphin, dugong, turtles, sawfish and estimates of population sizes and distribution; and b) assessment of potential impacts and mitigation measures.	SEIS Section 5.2.5 and Chapter 5 of the DEIS

#	Who	Section	Issue Raised	SEIS or DEIS Reference
150	NRETAS	**Existing Environment – Marine Environment**	Acoustic disturbance (marine) - page 5-42 The development and subsequent use of the proposed new wharf facilities will create additional underwater noise in various forms and intensity above current ambient levels within marine waters near Bing Bong. The sources of noise relevant to the project include pile driving, dredging and shipping noise. Cetaceans, dugongs and marine turtles may be impacted by increased noise in the underwater environment. The DEIS has identified that noise from pile driving and boat traffic will have an effect on EPBC Act listed species. The DEIS states that "Within the waters of the Port and access channel, noise is expected to be attenuated significantly within tens of metres due to the shallow depths, soft substrates and expected high ambient noise levels. For example, noise from a 200dB source is estimated to drop to approximately 770dB within 700m". However no data were provided to support these statements. It is recommended that further information is provided in regards to: I. an assessment of noise propagation within the Port facility and surrounding marine environment; 2. determination of impact zones; and 3. detailed monitoring and mitigation measures associated with impacts from underwater noise.	SEIS Section 5.2.5
151	NRETAS	**Existing Environment – Marine Environment**	Boat strike - page 5-48 Boat strike to dolphins, marine turtles and dugongs is identified as a significant risk associated with the development, particularly where extensive seagrass habitats exist, which are used by these fauna as foraging areas. The DEIS identifies that boat traffic will increase, but does not provide an assessment of the extent of this increase. The mitigation actions described in the DEIS are limited and rely solely on boat speed restrictions within the Port facility, but do not address management of vessel speeds outside the Port. It is recommended that further information is provided in relation to: I. an assessment of increase in boat activity; 2. an assessment of how vessel traffic effects habitat use by EPBC Act Listed marine species; and 3. effective monitoring and mitigation measures.	SEIS Section 5.2.5 and Section 5.3 of the DEIS
162	NRETAS	6.2 Hydrogeology and Groundwater	Further information should be provided on the potential of the proposed development on the small spring (potential groundwater dependent ecosystem) located in the south-eastern corner of the project area.	SEIS Section 5.2.6, Also see Appendix D and Section 6.2.6 of the DEIS

#	Who	Section	Issue Raised	SEIS or DEIS Reference
163	NRETAS	6.2 Hydrogeology and Groundwater	Given that the proposal includes flooding of pits 3 and 4 in Area F, discuss the potential for seepage from these flooded pits to interact with the local groundwater systems. Discuss whether additional monitoring bores should be located in proximity to these pits.	SEIS Section 5.2.6
164	NRETAS	6.3 Towns River: Realigned Section	Please detail proposed measures to re-vegetate the riparian zone of the realigned Towns River inclusive of the perimeter of the proposed pit 3 diversion.	SEIS Section 5.2.6
169	NRETAS	7.4 Noise	The DEIS states: “The noise propagation modelling results, considering a conservative number of road train movements, indicate full compliance with the Queensland Environmental Protection (Noise) Policy 2008 (EPP [Noise]) criteria for the camping ground. Consequently, the haul road noise emissions are unlikely to cause nuisance to the people using the Limmen River camp ground in the proposed Limmen National Park. “This statement raises concerns that the potential degradation of the natural bush experience at the Limmen River Camp has been underplayed in the DEIS. Firstly, the modelling was based on "a conservative number of road train movements.” What is this number? Secondly, the DEIS shows road trains will be heard at the campground (noise increases from 24 to 29dB) and this will be every I8 minutes initially rising to every nine minutes on a 24/7 basis. The DEIS claims that this is "unlikely to cause nuisance. The issue of noise at the campground should be clarified and the aim should be to ensure no increase in noise at the campground.	SEIS Sections 5.2.7 and 2.1.4
186	NRETAS	9.8 Other Risks	In dealing with the risk minimisation of bushfire to impact on people and infrastructure, the need to control fuel loads should be included. Any burning for mitigation purposes should be planned in accordance with advice from Bushfires NT and Bushfire Council regional committees, taking into account fire danger periods and fire ban days.	SEIS 5.2.9
194	NRETAS	**Offsets**	The DEIS presents a positive approach to addressing issues of Indigenous disadvantage through benefits the project will bring. The overall approach taken by WDRL is supported, however due to its emphasis on local community issues rather than the effect of the project on the biophysical environment, the proposed offsets would be better suited to the Community Benefits Package (CBP) which the responsible Minister may request through provisions in the Mining Management Act. The proponent therefore is requested to review its proposed environmental offsets provided to align their proposal with the draft NT Environmental Offset Policy. The proponent is encouraged to discuss its proposed offsets with the Department. The relevant contact is Dr Tony Griffiths, who may be contacted bytelephone on 8995 5004. The policy	SEIS Section 5.2.11

#	Who	Section	Issue Raised	SEIS or DEIS Reference
			may be accessed at:www.greeningnt.nt.gov.au/climate/environmental_offset.html In summary: The focus on employment opportunities for local communities to assist addressing environmental impacts is recognised and encouraged; The chapter focuses on people and has an employment centred approach. Whilst this is largely positive from a social perspective, further consideration will need to be given to environmental measures through the draft Offsets Policy; The chapter outlines a range of ambitious and commendable actions in relation to maximising employment opportunities. Whilst this direction is seen as positive, the actions which are not directly related to biophysical environmental issues are better suited to the CBP; Due to considerations of additionally, items should not be duplicated between the CBP and environmental offsets; It is understood there may be additional actions being included in relation to native title negotiations. In order to understand the cumulative effect of three separate plans, duplication should be avoided and all plans shared so that the scope of total commitment, gaps and overlaps can be better understood; and Actions related to social impacts should recognise the current broader Working Future policy and consider positive ways to interact with mutual outcomes. The chapter states that the package is designed to fulfil both the Australian Government's and Northern Territory Government's offset requirements but it does not provide details to substantiate the statement. Please discuss how offsets have been assessed against the Draft Policy Statement. 'Use of environmental offsets under the Environment Protection and Biodiversity Conservation Act 7999, available at; http://www.environment.gov.au/epbc/publications/draft-environmental-offsets.html. also see http://www.environment.gov.au/epbc/publications/pubs/epbc-reform-overview.pdf and http://www.environment.gov.au/epbc/publications/consultation-draft-environmental-offsets-policy.html	
202	NRETAS	Appendix D	A reference is cited as follows: The lower, more estuarine reaches of the Towns River were judged to be likely habitat for freshwater sawfish (Dave Wilson pers comm. 2070. Please discuss the proximity of likely habitat for the freshwater sawfish in relation to the location of the mine. Discuss potential for the mine to impact on sawfish habitat.	SEIS Section 5.2.13 and sections 4.5.4, 9.2 and 9.3.2 of the DEIS

#	Who	Section	Issue Raised	SEIS or DEIS Reference
203	NRETAS	Appendix K	Please provide details on the relevant guidelines or standards which were used to develop the Acid Mine Drainage Plan. Potential acid forming minerals have been identified in the target resource and careful management of ores and waste rock is identified as a requirement to mitigate environmental effects. Development of a 'refined' block model and kinetic testing has been identified to better manage this risk. Continuous and detailed geochemical characterisation of waste/ore material is recommended in the Appendix as a means to inform on-going management of this issue. Given the limited number of drill cores and samples analysed for sulphide, discuss the availability of opportunities prior to operational activity to get improved definition of the spatial distribution and reactivity of the PAF material in those areas to be mined. It is not clear how many samples were taken from the location of proposed pit 4 or what testing of those samples indicated. Given that this pit is proposed for use as water storage (PWS) discuss the potential for acidification of this pit and propose mitigation measures that can be implemented both during the mining campaign and over the longer term.	SEIS Sections 5.2.13, 4.1.5 and 4.1.6
204	NRETAS	Appendix L	The Catchment Plan for Haul Road Package N0 2 (Drawing N003) should include the road and sub-catchment boundaries.	SEIS Section 5.2.13
205	NRETAS	Appendix N	Discuss how pit 4 Area F (Pit Water Store - PWS) will be developed and incorporated into the overall water management of the site. Also discuss how this pit will accrue (pit sumps, pit seepage, pit runoff as schematically depicted at Figure 2-23) and hold water. Likewise discuss how water would then be transferred from this PWS (other than schematically) to the RWD as proposed at 2.9.3 - Mining Operations. Given the potential water deficit at the mine site, especially groundwater, discuss the option to harvest run-off overflow from the Towns River to the PWS. Clarify whether this pit is to be back-filled at the point of site rehabilitation or connected to the hydrologic regime of the river. The location of the RWD should be indicated on a map overlay and an explanation provided as to how stormwater will be transferred from sedimentation basins to the RWD. Pit 3 is proposed to be mined out in the first year Dry season campaign and then incorporated into the Towns River flow path as Option C discussed at Section 5.0. Although a number of drawings are provided at sub-appendix D to Appendix N, detail is	SEIS Section 5.2.13

#	Who	Section	Issue Raised	SEIS or DEIS Reference
			lacking on how the outflow from the proposed Pit 3 Area F will articulate into the proposed Towns River diversion channel. Currently there does not appear to be any detail regarding the inlet to the Area F Pit 3 from the upper section of the Towns River. This should be provided in the Supplement. In addition discuss how the bunds established around Pit 3 during its resource extraction will be subsequently managed to bring the pit into play as part of the river diversion. An improved graphical display of this proposal and further commentary should be provided to assist in visualising and assessing this proposal. Option C would result in two significant pit water bodies being established at the mines ite, one of some 0.9GL capacity and some 45m depth (87m X 645m) and the other of 4.4GL capacity (dimensions?) and a similar depth. This would change the regional water resource context in terms of permanent surface water and significant habitat for aquatic species. A description of the existing billabongs, ox-bow lakes or similar and their permanency or otherwise should be provided as context as to how this option would change the regional setting and possible (aquatic) biodiversity impacts. Some of this information is provided at Appendix D S 4.6 Table I3 as part of the fish survey. The proposed Area F pit 3 will fill and spill quickly during wet years and major flood events. In a below average rainfall year with lower stream flows and following high evaporation during the preceding Dry season, provide an explanation of how low flows in subsequent years would carry through from upper reaches to downstream reaches of the Towns River if the pit is buffering these flows, and any consequential ecological impacts from such delays. The risk assessment does not appear to address the possibility of lower or delayed flows as a result of Area F pit 3 buffering Towns River flows in drier-than-average wet seasons. This could impact downstream vegetation communities and the persistence of dry season pools. This risk should be considered and the consequences discussed.	

#	Who	Section	Issue Raised	SEIS or DEIS Reference
206	NRETAS	Appendix N	The sub-appendix E - Geotechnical investigation - is also incomplete and has undertaken test-pitting on an alignment that is no longer proposed. This is important to establish the erodibility or otherwise of the proposed/preferred diversion channel. Include the results of relevant test pit studies in the Supplement. The sinuosity of the designed channel is indicated to be similar to the existing channel sinuosity; however, the diagrammatic representation of the engineered channel appears to contain lengthy straight stretches. Account for this apparent discrepancy and discuss the potential impacts that could arise from a lack of sinuosity. The sinuosity of the designed channel is indicated to be similar to the existing channel sinuosity; however, the diagrammatic representation of the engineered channel appears to contain lengthy straight stretches. Account for this apparent discrepancy and discuss the potential impacts that could arise from a lack of sinuosity.	SEIS Section 5.2.13
207	NRETAS	Appendix P	Reinstatement of the Towns River channel including backfilling of Area F pit 3 should be considered as an option for mine closure.	SEIS Section 5.2.13 and 4.1.7 (Also links to Comment #694)
208	NRETAS	Appendix R	This plan lacks important elements. There is no indication of where the RWD is to be established, how water will be transferred from sedimentation basins (five depicted in Appendix L) and from pit 4 Area F, nor how water from the RWD will be cycled to the process plant. Given that a preliminary water balance for the site indicates an annual net water deficit and that further groundwater resources are yet to be identified to redress this deficit, a more transparent water budget and how it will be managed should be presented.	SEIS Section 5.2.13 (links to comment #205)

#	Who	Section	Issue Raised	SEIS or DEIS Reference
210	Environmental Recyclers NT	**Introduction**	We are seriously and emphatically opposed to this short-term venture. An EIS for the WDR Roper Bar Ore Project should seriously consider the ecological sustainability of having this mine. Large-scale, short-term mining ventures such as this are wars against the environment. Military words such as 'sustainment' and 'collateral damage' apply rather than 'sustainability'. The proposal for a long distance private road in itself will have an extremely significant detrimental effect on the pristine environment of a national park and beyond. To approve this, The NT Government will disregard the future health of the people and environment of the Northern Territory for generations to come. As another long-term resident of the NT said to us recently, 'Why do these mines have to be dug up this year rather than leaving something for the future? If there are not enough people here to service these mines or NT communities, we should wait until we have the people - by natural process - not by Fly-in, Fly-out. This is madness!' We agree. We are equally seriously concerned for the health of our environment. The narrow form of economic growth entailed in this mining venture is NOT ecologically sustainable. Any amount of mouthing words like 'sustainable mining' will not change the fact that haul roads, pits and waterway diversions will have a permanent destructive impact that will significantly alter the natural landscape forever. We should have leaders who care - not who are greedy for capital gain over social/cultural and environmental integrity. Without this integrity, we lose our sense of place and respect for beauty and healthy, peaceful amenity. We become machines, not human beings	SEIS Section 5.2.14

#	Who	Section	Issue Raised	SEIS or DEIS Reference
317	AFANT	2.6 Haul Road	AFANT needs to be certain that the proposed haul road allows for existing water flows and passages in the rivers, streams, wetlands and flood out areas that it crosses. As acknowledged in the EIS, the road will cross many significant rivers and streams and interact with an n umber of wetlands and possible flood out areas. Upstream movement of fish and aquatic life through the road alignment can only be provided for if river and stream crossings do not become restriction points because they are not wide enough or do not provide for sufficient flow volumes. They can also become restriction points if the longitudinal in-stream profile of areas under bridges and in culverts and pipes is built up higher than the existing stream profile forming barriers which fish have to find a way over if they are to maintain their natural movement. Similarly, the fish movement impact from the various catch drains, check dams, diversion channels, sediment fences and so on needs careful consideration. We note and welcome the assurance given tin the EIS that “In all cases the precautionary principle will be applied by assuming that fish and aquatic habitat exists and the appropriate river crossing will be used to ensure that fish passage will not be impeded” but the same principle needs to be applied to all water crossings unless it is certain that they are not used by fish and other aquatic animals for movement up and downstream. The same consideration should be applied during the road construction process. We note that the construction methods proposed for bridges and culvers involve significant stream flow interruptions but, lack of detailed information on individual crossing construction and timing make it difficult to form an opinion on possible impacts on normal fish movement. More detailed plans need to be developed and fully considered in terms of fish and aquatic life impacts before this project is approved. Water crossings, particularly in areas where flooding occurs, should be sufficiently large to allow water to flow under the road without forming dams on the upstream side that could retain water for any length of time. Inadvertent damming of water in these circumstances could impact on water quality. Another issue with the haul road design is the considerable areas of land that will be cleared during its construction and maintained during its operation. Runoff from these areas during rain and flooding events could be considerable and there is potential for high sediment loads to be transported into rivers and streams flowing into the Gulf of Carpentaria. If such large areas are needed to be cleared for the haul road then considerable planning, careful construction and ongoing maintenance will be necessary to ensure downstream water quality.	SEIS Section 5.2.2 and Appendix L3 of the DEIS

#	Who	Section	Issue Raised	SEIS or DEIS Reference
318	AFANT	2.6 Haul Road	The issue of ore spills either along the haul road, during barge loading or during transshipment in the Gulf of Carpentaria is a concern. If, as appears to be possible, the ore being transported is potentially acid forming, then ensuring transport spillages and dust retention through all phases of transportation will need to be a priority. We note that ore will be hauled in covered trailers but this does not indicate to us that they will be sealed in any way so that ore spillages and ore dust will not spread along the haul road. Given the sensitive nature of some of the areas to be traversed by the haul road including important rivers and streams we believe that an effective system of sealing the trailers should be employed. We are also concerned to ensure that plans are in place to effectively deal with any major ore spills resulting from trucking accidents. We were unable to locate details of such plans in the EIS. Plans should include the emergency containment of any ore spilled in accidents, the rapid removal of such ore from the accident site and any necessary measures to clean and rehabilitate areas impacted by such accidents.	SEIS Section 5.2.2
319	AFANT	2.7 Bing Bong Load Out Facility	Ore spill prevention and dust suppression at the Bing Bong stockyard, overland conveyor and barge loader should also be addressed as significant risk areas. We note that the barge loading process will not utilise a closed loading system and it will therefore be necessary to carefully mange ore moisture content and loading procedures to ensure dust is not generated that can spread in the Bing Bong Port and adjacent coastal environment. Finally, we believe that the proposal for barge to bulk carrier transshipment at sea in the Gulf of Carpentaria using a floating crane system poses too great a risk of ore spills and the spread of dust in the loading area. We believe that a closed or covered loader system should be utilised given that this is an area of open sea prone to wave movement and winds. With such large ore quantities proposed for transshipment, even minor spills and dust escapes will quickly accumulate in the marine environment. We note the loading facilities, barge design and transshipping processes utilised by McArthur River Mining and we believe that they should be established as a “minimum standard” for such processes in the western Gulf of Carpentaria.	SEIS Section 5.2.2
325	AFANT	2.13 Towns River Realignment	AFANT needs to be certain that the proposed diversion and associated activities will not become a vector for contamination and/or sediments flowing downstream in the Towns River and that they will not restrict the upstream and downstream passage of fish and other aquatic life. Plans for the river diversion appear to have sufficient meandering remnants of the original river channel to provide for reasonable fish passage. New channel sections should, as far as possible, be constructed to duplicate the profile and bottom structure	SEIS Section 5.2.2 (Also refer to comment #317)

#	Who	Section	Issue Raised	SEIS or DEIS Reference
			(rocks of variable sizes, sand sections and so) of the existing river in the area. In addition, plans should include revegetation of the banks of any new channels to duplicate vegetation along the original stream. AFANT does not have the expertise to determine whether or not the incorporation of a mined pit into the river channel will impact on fish movement but it is very different to existing channel conditions in the area. The issue of fish movement in the Towns River and its realignment through the mine site should be studied and, if necessary, plans modified to accommodate it. This should be detailed in the Supplementary EIS. The latest diversion proposal has the river flowing through a pit which is to be mined before other diversion and mining work commences. Because potentially acid forming (PAF) characteristics of the material that will remain in the pit walls post-mining has not been fully determined and because the water level in the pit will fluctuate significantly during wet and dry cycles we believe there is a potential for acidification and subsequent heavy metal contamination downstream from this pit. There is also the question of the quality of retained water in the pit and its possible impact on fish, other aquatic life and wildlife in the area. If this pit is to be used as part of the new watercourse of the Towns River it will be necessary to ensure water quality of a standard that will not have adverse impacts. We are not comfortable that the use of the mined pit as part of the Towns River realignment is the best option given our concerns that it could be a possible source of downstream contamination, the uncertainty of retained water quality in the pit and its impact on fish movement. Other options should be reconsidered. Although the remaining diversion channels and the retained bed sections in the diversion appear to be slightly upslope of the other proposed mine pits they are in very close proximity to them. Any potential for flood events overflowing mine pits into the diversion needs to be carefully considered. The diversion channel, mine pits and separation bunds must be designed and constructed to eliminate the potential for cross contamination. If not, the mine's plan that any contaminated water is to be retained on site and that a waste discharge licence will not be required may be compromised. In addition, there will be a need to ensure that bunds and any other rock material in the flood zone of the river diversion are not potentially acid forming. The current uncertainty about the PAF characteristics of the ore and rock in the mine area make it very difficult to be confident that the current river diversion and mining plans will not result in acid mine drainage from the mine site into the Towns River. Detailed studies of the PAF characteristics of all rock and ore in the mine area where run off and drainage channels enter the Towns River and the diversion need to be completed before the Supplementary EIS is developed. Mining and river diversions plans should, if necessary, be modified to ensure no contamination can occur.	

#	Who	Section	Issue Raised	SEIS or DEIS Reference
409	The Environment Centre	2.6 Haul Road	The Draft informs us of infrastructure for numerous stream crossings, and a further 60 locations may also require culverts to ensure adequate cross-drainage. ECNT recognise this as a significant feature, and welcome design criteria related to water quality, flow and fish passage. The Statement should include detail about monitoring the performance of this important component.	SEIS Section 5.2.2 (Also refer to comment #317)
416	The Environment Centre	2.13 Towns River Realignment	It is therefore of some concern that a further (albeit less radical) diversion of a significant stream in the same region is being proposed some years later in the absence of any progress towards filling this identified policy gap. The Statement should include more detail on the merits and detriments of all relevant rehabilitation options, including fully reverting the stream to its former course, and scenarios for flooding events that may include irregular (extreme events) or seasonal flooding from the realignment to the former channel	SEIS Section 5.2.2
417	The Environment Centre	2.13 Towns River Realignment	concerns are not explored in relation to the design plan to divert the stream to flow through pit 3 of area f.	SEIS Section 5.2.2
418	The Environment Centre	2.13 Towns River Realignment	The argument that reverting the stream: "would most likely occur during closure, rather than during the operational phase, meaning that there would be fewer resources available to monitor and manage the channel post operations." Is insufficient justification for dismissing this alternative? Clearly, if this alternative is found to represent the best rehabilitation outcome, then whatever monitoring and management resources may be required must be provided for. Some more detail on this option might make the decision clearer.	SEIS Section 5.2.2

#	Who	Section	Issue Raised	SEIS or DEIS Reference
425	The Environment Centre	3.6 Acid Mine Drainage (AMD) Potential	ECNT remain unconvinced that Acid Mine Drainage will not be an issue on this project. While the acid potential is lower, and associated metal species softer and less toxic, than some other mines, the prevalence of sulphur means that appropriate management of PAF hazards is essential. The work so far on characterisation of a couple of hundred drill core samples is a welcome start, and ongoing characterisation will be essential to ensure wastes are managed appropriately. However given that little more than half the samples were reliably identified as non-acid forming, there remains clear risk that AMD estimates may blow out. It's appropriate that characterisation of materials be continuously undertaken, however at the outset we require more detail about contingency plans and designs for the eventuality of encountering higher volumes or PAF materials, or materials of higher acid forming potential, during operation. It is not immediately clear from Section 3.6.7 how the contingency design in fig 3.18 might be realised at likely stages during operation. The proponent should describe likely scenarios, based on the pit schedule that quantifies uncertainty at each stage to demonstrate that the required infrastructure may be readily arranged if indeed higher volumes or concentrations of PAF material are encountered. While reference is made to the implications for staged rehabilitation, it would be helpful to have likely scenarios spelled out, to describe what the staged rehabilitation rollout may look like in the eventuality of uncovering higher than anticipated levels of PAF material, or lower than expected volumes of ANC material. In the absence of this detail it remains unclear just what staged rehabilitation we will actually see. This detail may also inform a discussion of the merits of alternatives for lining the waste rock dump. We are assured of "a detailed PAF Management Plan, to be developed by WDRL and approved by the regulating authorities prior to commencement of mining". ECNT see no reason for environmental assessment to proceed ahead of this essential component. While it is expected that management plans referenced by the MMP will be publicly accessible, we believe that such a plan should inform environmental assessment.	SEIS Section 5.2.3 and 4.1.6

#	Who	Section	Issue Raised	SEIS or DEIS Reference
455	The Environment Centre	7.6 Air Quality	We maintain that the existing regime at Bing Bong is inadequate. It is therefore unsatisfactory for WDR to address their (smaller) contribution to the growing burden through that inadequate regime While dust suppression, containment and trapping infrastructure are described, the proponent should be required to provide more detail on monitoring, management, thresholds and contingencies for dust and other impacts at Bing Bong. The assessment should be informed by a fuller picture of the current environment, including soil and fluvial sediment data - which may or may not be available via XStrata	SEIS Section 5.2.7 (and Comment #319)
460	The Environment Centre	8.3 Cultural, spiritual, historic and other values	Media reports, personal communications with Traditional Owners, and feedback in past community consultation by the Independent Monitor, have identified community concerns regarding the reduction in bush tucker (including wallaby and lizard) due to XStrata's activities at Bing Bong. Although XStrata prepared a report (EMS (2010g) Bing Bong Macropod Assessment) which discounted the view that operations at the port were responsible for the loss of local bush tucker resources, it is curious that the social impact assessment did not identify this as a risk. In fact, Section 2.7 assures us that: "as these areas are within the existing facility and off limits to public access, they will not impact on public access and activities currently undertaken in the Bing Bong area" Furthermore, we're told (in Section 8.3) that: "Mention of generic types of landscapes that provide productive hunting and gathering and related activities did occur but no potential impact to these sites was identified." ECNT considers it unusual that previous concerns that had been expressed repeatedly and strongly regarding the degradation of hunting capacity around Bing Bong were not aired in social impact consultations for this project that will pose an increased burden on the area. At the very least, the generic landscapes mentioned could be mapped to assure all stakeholders that these local cultural values will be maintained. In a similar vein, it is curious to note that community consultation and social impact assessment makes no mention of the diversion of a segment of the Towns River. The consultation report notes that: "Previous mining projects are perceived to have environmental concerns, resulting in a general distrust of mining projects in relation to environmental impacts." but no further context is offered. Given the considerable, protracted controversy over XStrata's "realignment" of a segment of the McArthur River for their Stage 2 expansion, which went to cultural impacts of this very action, it is perhaps surprising that no issues are identified with a similar (albeit smaller) assault on the Towns River.	SEIS Section 5.2.8

#	Who	Section	Issue Raised	SEIS or DEIS Reference
469	The Environment Centre	9.7 Cumulative Impacts	ECNT are very concerned at the cumulative impacts of mining pressures in this region. We've described in the past how piecemeal assessment risks significant considerations falling through the cracks between each specific assessment process. The EPBC process specifically inquires as to whether a proposal should be assessed as a component of a larger action, and memoranda describe limited circumstances in which staged assessment may be appropriate. Unfortunately, NT legislation does not allow for the kind of Strategic Environmental Assessment, that may be applied in other jurisdictions, to consider the cumulative risks and impacts presented by successive development or land management programs, such as the emergence of iron ore in the Roper, and the increasing pressures at Bing Bong. ECNT are particularly concerned that approval for the Roper Bar Iron Ore proposal before us risks loading a subsequent proposal for exploiting the BFO resource in the project area with the weight of inevitability. We've witnessed previous projects where poor performance in early stages is presented as an argument in favour of further expansion, to fund necessary waste management and rehabilitation works. ECNT are concerned to see that appropriate environmental performance is recognised by all parties as an essential pre-requisite for any further applications. Noting the likelihood of further applications, and related activity in the region, ECNT urge that assessment should maintain the perspective of a likely expansion to beneficiation, and the need to set an appropriate standard for the potential exploitation of the large exploration areas so sensitively avoided by the new Limmen boundaries. To aid this perspective, the proponent could offer some helpful discussion that more clearly describes the likelihood of impacting on the long-term management of PAF materials	SEIS Section 5.2.9
470	The Environment Centre	9.7 Cumulative Impacts	ECNT are particularly concerned about the implications of increased activities at Bing Bong. The Draft appears to some extent to hide behind the shadow cast by XStrata's operations. However ECNT have already had to express dissatisfaction with the McArthur River Mine's management of impacts at the port. ECNT calls upon all parties to recognise this new proposal as another important opportunity to take a closer look at the mounting burdens being presented around Bing Bong, and to work towards improved understanding and management of those burdens.	SEIS Section 5.2.9 and Chapter 5 of the DEIS (Also refer to Comment #149)

#	Who	Section	Issue Raised	SEIS or DEIS Reference
471	The Environment Centre	9.7 Cumulative Impacts	As described above, ECNT are concerned as to the cumulative impacts of a likely subsequent expansion into the BFO resource. Although the description makes it clear that this project is headed towards a much larger BFO operation, which will be subject to further assessment, it is not at all clear what the loading configuration for BFO slurry may be, or if in fact this will have any component at Bing Bong. If indeed this is to present even further burden to Bing Bong, it would have been preferable to take this opportunity to begin to get a better picture of the cumulative impacts of two expanding mining operations at the port.	SEIS Section 5.2.9
480	The Environment Centre	**Offsets**	ECNT welcome the detailed emphasis on socio-cultural benefits of offsets, but the paucity of substance on environmental offsets is unacceptable. The draft merely acknowledges that both federal and NT governments have offset requirements. ECNT call for carbon neutrality in any development or management proposal in the NT, in order to make a fair contribution to the NT's commitment to play our challenging responsibility to meet national carbon emissions reduction targets. The proponent's lack of commitment to any target, let alone parity, is entirely unsatisfactory. ECNT calls upon WDR to offset 100% of their greenhouse gas burden. The draft is similarly lacking in detail to address the requirement for biodiversity offsets. Again, it is regrettable that this proposal is being assessed in the absence of progress towards an identified need for government policy on stream diversions that includes guidelines for biodiversity offsets for this practice. NT policy does describe the objective to "deliver real conservation benefits that exceed the magnitude of the development impacts", however the draft doesn't even recognise this vague objective, let alone describe any targets or actions. Although government policy gives no further direction, other jurisdictions, such as the NSW Biodiversity Banking and Offsets Scheme ('BioBank') calculate the offset ratio at around ten-for-one (although in certain instances, the ratio has been as low as 4:1, and as high as 50:1) by applying an associated Assessment Methodology. The Federal Department ??? applies similar offset ratios for revegetation. The Environment Centre considers that this standard should be the absolute minimum for the NT. Responding to previous proposals in this region, ECNT have recommended a 10:1 biodiversity offset. The proponent should be required to quantify the anticipated impact on habitat and other biodiversity values, and propose appropriate actions to attain an acceptable offset ratio	SEIS Section 5.2.11, 5.2.9 (Also see comments #194 and #554 –to #557)

#	Who	Section	Issue Raised	SEIS or DEIS Reference
554	Department of Business & Employment	8.4 Socioeconomic Impacts	**Contribution to the NT and Australian Economy** Estimated total project value/revenue for the planned project duration (to provide the economic scale of the project) Expected project duration Value of any value-adding in the NT and Australia Estimated overall tax and royalty payments, showing the NT proportion, if available Expected value of exports and any imports Estimated capital expenditure for the whole project, identifying construction cap ex Expected annual operational expenditure, showing the proportion in the NT Impacts if any of neighbouring businesses or projects (costs and benefits) Any overall direct and indirect economic impact data if available	SEIS Section 5.2.8
555	Department of Business & Employment	8.4 Socioeconomic Impacts	**Contribution to Business Development** Expected value of NT/Australian business supply and service participation during construction and operations Contribution through an agreed industry participation plan if required (usually required for all projects over $5m in value which receive 'substantial' NT government assistance).	SEIS Section 5.2.8
556	Department of Business & Employment	8.4 Socioeconomic Impacts	**Contribution to Employment and Training** Expected direct and indirect project employment during construction and operations Estimated workforce/contractor numbers by occupational classification if available Overall employment training proposed during commencement, construction and operations Planned Indigenous employment, training and other project participation Expected level of overseas recruitment	SEIS Section 5.2.8
557	Department of Business & Employment	8.4 Socioeconomic Impacts	**Contribution to Regional Development** Value of the any proposed Community Benefit arrangements Estimated overall regional economic benefits Other contributions to local communities, including Indigenous traditional owners Community value of any residuals infrastructure, such as roads, camps, lakes, etc.	SEIS Section 5.2.8

#	Who	Section	Issue Raised	SEIS or DEIS Reference
558	Department of Business & Employment	8.4 Socioeconomic Impacts	**If full economic appraisals, such as computable general equilibrium (CGE) modelling, have been undertaken, the following is an alternative approach:** Both direct and the flow-on (indirect) impacts of a development project should be provided For large projects with multi-year construction phase (>$100 million), the value of economic benefits should be provided for both construction and the operational phases separately Benefits to Northern Territory and Australia should be Identified separately: Net annual contribution to GSP/GDP (value-added)i. e. after accounting for any negative impacts such as crowding out impacts on other industry sectors and the Gregory effects ('Dutch disease' effects). Total contribution to GSP/GDP over the economic life of the project. Net contribution to domestic consumption. Total investment value of the development project Total annual value of exports and imports. Total and annual value of tax and royalty payments.	SEIS Section 5.2.8
585	Department of Resources	1.2 The Project	FIGURE 1.3 More information on the disturbance footprint for each of the infrastructure shown on the map is required Clearing within the mining tenements will total approximately 450 hectares - A breakdown of this disturbance size is required. The airstrip extends beyond the northern boundary of the MLA. The MLA should be extended, or another MLA should be proposed, to cover the whole airstrip	SEIS Section 5.2.1
591	Department of Resources	1.8 Relevant Legislation and Policy	The Mining Management Act does not look at any health and safety aspects (apart from those that may subsequently impact on the environment). These are all covered under the *Workplace Health and Safety (National Uniform Legislations) Act 2011*	SEIS Section 5.2.1

#	Who	Section	Issue Raised	SEIS or DEIS Reference
592	Department of Resources	1.9 Project Alternatives	*The use of public roads between the mine site and the Port of Bing Bong was not considered due to the poor state of the road, public safety, the indirect length of the Savannah way and the likely level of disturbance to the wider community. Therefore a separate private haul road was suggested*. The reasons put forward here don't justify why the use of the Nathan River Road isn't considered. Firstly, the condition of the Nathan River road is going to be better than starting with no road at all. As it is an existing road it is likely to already avoid all cultural heritage areas. Finally, the use of a public road would mean fewer trespassers on the private road which WDR may find difficult to police, especially during the wet season when the Nathan River road becomes inaccessible. It seems that joint use of the public road, in conjunction with an adequate traffic management plan, would make economic and environmental conservation sense	SEIS Section 5.2.1 (Also see Comment #107)
593	Department of Resources	1.9 Project Alternatives	Further information is required on the volume of water expected to be drawn from the existing bore for the camp and how will this impact on groundwater supplies in the area Further information is also required on the volume of water that is anticipated to be drawn from bores along the haul road	SEIS Section 5.2.1 (Also see Comment #122)
595	Department of Resources	2.1 Project Planning	Early preparation works utilising overburden, as stated in Section 2.3.3, will need to be approved in the MMP before works can commence. This timeline is unrealistic, considering the EIS has not yet been approved and the MMP still needs to be prepared and submitted to DOR for approval once the EIS process is complete	SEIS Section 5.2.2
596	Department of Resources	2.1 Project Planning	*The haul road will be 165 km long with a cleared width of 50m* Section 26.1 states ... haul road will be approximately 12 m wide with 7.5 m shoulders, and be positioned in a cleared area of approximately 50 m width Clarification and justification required as to the large area to be cleared for the haul road	SEIS Section 5.2.2
598	Department of Resources	2.3 Overburden and Waste Materials Management	Management of Non Acid Forming (NAF)/Potentially Acid Forming (PAF) material has not been adequately addressed here. Further information is required on how will PAF material be managed during the wet season	SEIS Section 5.2.2 and 4.1.1

#	Who	Section	Issue Raised	SEIS or DEIS Reference
599	Department of Resources	2.3 Overburden and Waste Materials Management	Will there be enough benign/ oxide overburden material suitable for PAF encapsulation after approx. 4 million in' has been used in the construction of various infrastructure? The priority for appropriate material on site should be adequate encapsulation of PAF material rather than the camp pad and haul roads etc. What criteria does waste rock have to meet to be determined as being appropriate for PAF encapsulation material? Geochemistry, particle size, hydraulic conductivity etc.?	SEIS Section 5.2.2, 4.1.6 and 4.1.1
602	Department of Resources	2.6 Haul Road	The figures contained in this section are illegible (too small) and contain no keys as to what lines, colours etc. mean Further information and clarification is required on the proposed construction methods for the haul road. Specifically on the spray seal method, anticipated maintenance requirements for the haul road and timeframes for the haul road to be completely bituminised Should the road remain unsealed then it is highly likely there will be impacts from dust to vegetation and water quality. In their experience, departmental officers have observed significant impacts to water quality in surrounding water bodies and vegetation some distance from the road, particularly downwind of prevailing winds	SEIS Section 5.2.2
603	Department of Resources	2.6 Haul Road	*.. waste water will be retained for appropriate disposal* Further information is required on what is considered appropriate disposal	SEIS Section 5.2.2 and Sections 2.9.4 and 2.10.2 of the DEIS
606	Department of Resources	2.9 Water	Chlorination can affect certain RO membranes How will RO waste water be disposed of? Further investigation into the use of secondary treated effluent for dust suppression. High nutrient loads, salinity and biological contaminants may make it unacceptable to be sprayed around the site	SEIS Section 5.2.2 and Sections 2.9.4 and 2.10.2 of the DEIS

#	Who	Section	Issue Raised	SEIS or DEIS Reference
609	Department of Resources	2.12 Decommissioning and Closure	Waste Rock Dumps (WRD) should be designed with natural existing landforms in mind. Justification is required on how the proposed 30m high WRD with 2:1 slopes fit in with the surrounding topography It is better to have an appropriately designed WRD prior to operations rather than leaving it until it's too late. I. e. spend money on appropriate design now rather than spending money trying to rectify poor design **Haul Road Rehabilitation**: The term "natural seeding" requires clarification. It is likely that, due to the significant disturbance associated with the haul road, direct seeding may be required **Environmental Issues:** The mine site is currently weed free. .. no soils will be able to be imported to site, including soil for seedlings propagated for revegetation purposes. It is recommended that Western Desert Resources investigate sources of treated, weed free certified soils that can be used in rehabilitation **Post Closure Land Tenure and Use**: *Parts of this area will be repatriated into the park. .* This statement should be verified with Parks and Wildlife	SEIS Section 5.2.2
610	Department of Resources	2.13 Towns River Realignment	The Exclusion Zone has not been highlighted in Figure 2-25	SEIS Section 5.2.2
613	Department of Resources	3.2 Topography and Geomorphology	*The Little Towns River flows north of the Project Area, however, no mining or infrastructure will be developed in this catchment* The airstrip appears to fall within the catchment of the Little Towns River. Impacts from run off from the airstrip should be considered later in the EIS	SEIS Section 5.2.3
617	Department of Resources	3.6 Acid Mine Drainage (AMD) Potential	Due to the reported high acid neutralising capacity of the waste rock, the potential of neutral or alkaline drainage that may be high in dissolved metals should be addressed Ongoing testing should be conducted to ensure that the neutralising capacity is available at the same time as acid generation. Particularly if it is going to be used for rehabilitation or management of PAF material	SEIS Section 5.2.3 and 4.11

#	Who	Section	Issue Raised	SEIS or DEIS Reference
620	Department of Resources	**Existing Environment – Terrestrial and Aquatic Biodiversity**	An assessment of the potential for short range endemic species to be significantly impacted has not been sufficiently addressed Appendix D discusses survey results for vertebrate fauna species, but invertebrate species were not addressed. In addition, the potential for subterranean fauna species to be impacted has not been assessed The Western Australian Environmental Protection Authority has guidance statements that provide useful information on sampling methodology and survey considerations, including - 20. Sampling of Short Range Endemic Invertebrate Fauna for Environmental Impact Assessment in Western Australia, and - 54. Consideration of subterranean fauna in groundwater and caves during Environmental Impact Assessment in Western Australia	SEIS Section 5.2.4
637	Department of Resources	**Existing Environment – Surface and Groundwater**	**Table 6-6 and 6-7 Monitoring Bore Construction** Groundwater monitoring bores have extremely large screen lengths that appear to cross two or three water strikes, potentially interconnecting different fractures There is concern that water samples will not be representative of a target aquifer and may be interconnecting separate fractures and aquifers, perhaps even draining aquifers	SEIS Section 5.2.6
638	Department of Resources	**Existing Environment – Surface and Groundwater**	**FIGURE 6-9** There do not appear to be enough groundwater monitoring bores to establish a baseline, flow directions or monitor for impacts around the proposed waste rock dumps and Area F pits Bore locations need to be both up gradient and in multiple down gradient locations to identify impacts and track contaminants Bores should circle waste rock dumps to ensure all directions are covered as flow direction may be influenced by ground water mounding beneath the dumps Area F pits, in particular pit 4 that will be used for water storage should have bores surrounding the pit to ensure seepage is monitored. There should be multiple down gradient bores to track contaminants. Focused attention should be paid to the area between pit 4 and the meandering section of the Towns River Groundwater bores should be installed around the Bing Bong facility to establish any impacts from seepage of sediment ponds	SEIS Section 5.2.6
639	Department of Resources	6.1 Surface Water	The EIS should state the number of macro invertebrate studies that were completed to form the baseline. Including the time of year that the studies were undertaken e. g. wet or dry season	SEIS Section 5.2.6 and Section 6.1.5 of the DEIS

#	Who	Section	Issue Raised	SEIS or DEIS Reference
640	Department of Resources	6.1 Surface Water	m AHD should be used for elevations	SEIS Section 5.2.6
641	Department of Resources	6.1 Surface Water	*turbidity is affected by fine colloidal material dissolved in the water column* Experience with turbidity caused by dissolved colloids has shown that it is very difficult to manage i. e. sediment traps are ineffective at reducing turbidity Western Desert Resources should investigate how mining will affect turbidity caused by colloidal material dissolved in the water column and investigate management techniques	SEIS Section 5.2.6
642	Department of Resources	6.1 Surface Water	Sampling only from the wet season does not allow us to understand water quality during the dry season and water quality during first flush events. This is important data as it enables monitoring to identify impacts during the dry season and what extremes in water quality flora and fauna experience It is recommended that the proponent undertake dry season and first flush sampling	SEIS Section 5.2.6 and 6.1.2 of the DEIS
643	Department of Resources	6.1 Surface Water	A complete suite of metals should have been analysed as part of the baseline. Iron should be included at a minimum. Metals analysis should be for total and dissolved metals	SEIS Section 5.2.6
644	Department of Resources	6.1 Surface Water	Results should be shown for each monitoring event, not averaged	SEIS Section 5.2.6
645	Department of Resources	6.1 Surface Water	FIGURE 6.6 If the piper plot was based on averaged data then it should be redrawn and replaced with a piper plot for each monitoring event	SEIS Section 5.2.6
646	Department of Resources	6.1 Surface Water	Hardness modified trigger values will not be based on averaged hardness data but on the hardness for that particular sample It will be expected that when presenting monitoring data, the 95% trigger value be shown in conjunction with any modified trigger value Hence each time series graph would show the variable line of analytical data, the variable line of hardness modified trigger value and the constant line of the ANZECC 95% trigger value	SEIS Section 5.2.6

#	Who	Section	Issue Raised	SEIS or DEIS Reference
647	Department of Resources	6.1 Surface Water	Surface water sampling locations should be increased near pits, particularly in the meandering section near the Area F Pit 4. If this pit is used to store water then seepage may enter this meandering section of the Towns River. Isolated water bodies closest to the pits may be impacted by seepage, hence additional monitoring locations need to be situated at locations where pools remain during the dry season. These additional sample locations also require baseline sampling and analysis Additional downstream locations are required between RBSW, 4 and RBSW13 and RBSW05 to cover both the Towns and Magaranyi Rivers before they join near RBSW14. RBSWIO needs to be moved downstream of the confluence of the water bodies shown in figure 6-4 Up and down stream locations of haul road crossings should be undertaken daily for in situ monitoring of pH, SEC, Dissolved Oxygen, Turbidity and Temperature. Laboratory Analysis should be undertaken weekly up and down stream of haul road crossings during construction and then monthly once road traffic begins to operate on the haul road. The upstream location should be far enough upstream of the crossing to ensure no impact from dust. Analysis should include at a minimum: major ions, TDS, TSS, total and dissolved metals (As, B, Cd, Co, Cu, Fe, Mn, Ni, Pb, Zn) Baseline sampling events at these monitoring locations should be undertaken before the construction begins. Water within pits should also be regularly sampled and analysed This should include water from dewatering Surface water monitoring should be undertaken at the Bing Bong facility including at a minimum, sediments ponds, local surface water and immediately off the coast	SEIS Section 5.2.6
648	Department of Resources	6.2 Hydrogeology and Groundwater	Western Desert Resources should initiate investigations into the location of additional bores to monitor the impacts of mining on regional groundwater. Justification is required of how the current groundwater monitoring program addresses this information gap. No consideration has been given as to how draw down from water extraction will affect PAF material in-situ. Given the *relatively slow recovery of water levels after pumping* consideration should be given to further investigation into the sustainability of using groundwater at the camp site	SEIS Section 5.2.6
649	Department of Resources	6.2 Hydrogeology and Groundwater	A complete suite of all metals should have been undertaken as part of the baseline. This should still be completed before mining commences Sampling should be undertaken across the different seasons to understand variability Details of the number of sampling events should be provided	SEIS Section 5.2.6

#	Who	Section	Issue Raised	SEIS or DEIS Reference
650	Department of Resources	6.2 Hydrogeology and Groundwater	Groundwater monitoring should include total and dissolved metals Metals should include barium (Ba) considering the naturally elevated background concentrations	SEIS Section 5.2.6
651	Department of Resources	6.3 Towns River: Realigned Section	There is no detail of the realignment in this section to put the description in context with what is proposed	SEIS Section 5.2.6
667	Department of Resources	9.2 Surface and Groundwater	The risk assessment does not seem to consider the locations of the Waste Rock Dumps No justification is given to the current layout of the site and how this will minimise risks to surface and groundwater Comparison to other layout options should also be provided	SEIS Section 5.2.9
670	Department of Resources	9.5 Rehabilitation and Mine Closure	Mine closure planning should be treated as an essential part of mine development planning. Western Desert Resources should be aware that final approval from DOR will not be signed off until a closure plan demonstrating that ecologically sustainable closure can be achieved As the NTG Mine Closure Guidelines are still in development, it is recommended that the WA guidelines be referred to in the preparation of this document	SEIS Section 5.2.9
673	Department of Resources	9.8 Other Risks	9.8.1 Bushfires: Bushfires NT conduct Nationally Accredited courses - Basic Wildfire Awareness Course, and a Fire Fighter NT Course	SEIS Section 5.2.9
689	Department of Resources	**Appendix K**	There are only single drill holes identified for PAF assessment in Area F pit 4 and the western end of pit 3. Additionally Area F pit 1 and pit 2 have considerably less drill holes than Area E or the eastern end of Area F pit 3. This appears to be too few to give confidence in the PAF assessment. No justification is provided for the low number of drill holes used at these locations	SEIS Section 5.2.13 and 4.1.5
690	Department of Resources	**Appendix L**	Table 3.1 is difficult to understand and assess without further explanation As stated earlier, turbidity associated with dissolved colloidal material has not been addressed	SEIS Section 5.2.13 (links to comment #641)
691	Department of Resources	**Appendix N2 3.2 Design Standard**	Design allows for a 20 year ARI and is considered by the author to be commensurate of the life of the mine Phase 1 is targeting DSO and expected to have a life of 8 - 10 years' This does not consider the possible continuation to target BFO in later years, Therefore designs should allow for at least a 100 year ARI	SEIS Section 5.2.13

#	Who	Section	Issue Raised	SEIS or DEIS Reference
692	Department of Resources	**Appendix N2 5.3 Estimated Downstream Volume Changes - First Fill of Pit Void**	There are concerns about downstream volume changes and water quality The data provided in Table 9 gives the impression that the pit will refill with a flood. Those wet seasons that begin with lighter rainfall will result in much greater times to fill the pit and hence provide connectivity up and down stream. This should be reflected in the report How has the proponent concluded that water quality will not be impacted by the inclusion of the pit in the flow path of the Towns River? Oxidised PAF, groundwater influx, evapo-concentration and sediments and contaminants from the pit excavation may impact on water quality, at least in the short term	SEIS Section 5.2.13
693	Department of Resources	**Appendix N2 Option C design**	There is concern that aquatic species reliant on shelter and shallow water will find the deep, vegetated pit void a barrier Have surveys identified species present that would find the pit void a barrier?	SEIS Section 5.2.13
694	Department of Resources	**Appendix P - 2.3.2 Rehabilitation Zones**	If Pit F West is planned to be the first site rehabilitated and closed out, engineered designs must be provided prior to commencing any mining *infill of first available pit* The EIS states that some pits will be backfilled, however it gives no indication on which pit. Mine planning needs to identify which pits are candidates to be backfilled and which of these candidates are likely to be backfilled	SEIS Section 5.2.13 and 4.1.7
695	Department of Resources	**Appendix P - 2.3.3 Rehabilitation Methods**	Backfilled Pits: Further detail is required on the backfill methodology, including but not limited to; . the use of reactive material in the backfill, . encapsulation of reactive material, . volumes of PAF and NAF material to be used and, . sources of top up material(i. e. material to replace ore and other materials removed for construction or other purposes) Further Rehabilitation Approaches: Constructed landforms should be sited away from natural drains/ gullies/ valleys/ creeks etc. to avoid directing water through the landform	SEIS Section 5.2.13 and 4.1.7 (links to Comment #694)

#	Who	Section	Issue Raised	SEIS or DEIS Reference
696	Department of Resources	**Appendix P - 2.3.3 Rehabilitation Methods**	Waste Rock Dumps (WRD) There is a lack of critical information regarding the construction of the waste rock dumps **Issues that need to be addressed** . WRD need proper designs. These need to be developed prior to mining to ensure that suitable materials are available for construction . Designs must meet closure objectives. What are the closure objectives for the WRD? . Designs must also take into account the climate and surrounding landscape. Justification is required on how the final design takes this information into account. I. e. how is proposed design suitable for climate? What is justification for 30m height and 2:1 slopes? . Alternative designs need to be presented and justification provided as to why they are inappropriate . QAIQC for the construction of the WRD to ensure that it is built as designed Regarding the bunding at the top of the dump. Further detail is required on how the top of the dump is constructed to prevent ponding and infiltration from water captured by the bunds Alternatives such as water shedding designs should be discussed	SEIS Section 5.2.13
697	Department of Resources	**Appendix P - 2.4.3 Monitoring and Maintenance**	Western Desert Resources will need to develop and implement an appropriate monitoring and maintenance plan to ensure that the waste rock dumps are performing as per design	SEIS Section 5.2.13 and 4.1.8
698	Department of Resources	**Appendix T - Draft Haul Road and Traffic Management Plan**	Has Western Desert Resources considered minimising the risk to native (and introduced) fauna with the increase in traffic? Have wildlife crossings been considered at selected points along the haul road in addition to the bridges and culverts required for creek crossings. Box culverts, large arch culverts, wildlife over crossings and fencing can all contribute to encouraging wildlife to cross points reducing the risk of road kill. Traditional Owners may be able to provide specific input into where these animals' crossings could be placed	SEIS Section 5.2.13
699	Department of Resources	**General**	The naming of the pits throughout the document is inconsistent. Is it F West Pit or F Pit 3?	SEIS Section 5.2.14

#	Who	Section	Issue Raised	SEIS or DEIS Reference
700	Department of Resources	**General**	This EIS only considers aspects proposed in the "DSO" phase. The proponent indicates that the backfilling of pits may be delayed or not undertaken to prevent resource sterilisation and there appears to be an undertone of certainty that following phases will target "BFO" and will require beneficiation Any activities targeting BFO are likely to mine deeper, encounter additional PAF material and produce more waste rock. This along with the processing of BFO and the transportation of an extremely fine product will create significantly more environmental impacts than the currently proposed phase With the expansion into processing the BFO a near certainty, provide justification on the layout of the site and discuss the modifications that may be required to minimise impacts prior to mining the BFO reserves	SEIS Section 5.2.14
807	DLP / Road Network Division	2.5 Ancillary Infrastructure	The future management of any airstrip following closure of the mining operation will need further discussion with the NT Government.	SEIS Section 5.2.2
808	DLP / Road Network Division	2.6 Haul Road	It is a must that public traffic on public roads (e.g. Nathan River Road) will have priority at intersections over private traffic on the haul route	SEIS Section 5.2.2 and Appendix T of the DEIS
809	DLP / Road Network Division	2.6 Haul Road	The issue of public safety in terms of any public road crossing (e.g. Nathan River Road) shall not be jeopardised by any aspect of this mine proposal.	SEIS Section 5.2.2
810	DLP / Road Network Division	2.6 Haul Road	The standard of the proposed Nathan River Road (Savannah Way) intersection/crossing (including road signage and any infrastructure to address road safety issues) has to be submitted to DLP for approval and construction permits.	SEIS Section 5.2.2
811	DLP / Road Network Division	2.6 Haul Road	The modification of the Bing Bong Port facility intersection will need to be to DLP standards and will need to be submitted to DLP for approval and construction permits.	SEIS Section 5.2.2
812	DLP / Road Network Division	2.6 Haul Road	Ongoing maintenance of the haul road will be the responsibility of WDR. However, there will need to be an arrangement set in place with the NT Government for the maintenance of the haul road/Nathan River Road and the haul road/Bing Bong Road intersections as these are in remote locations and are likely to require regular maintenance due to the nature of the bulk material transport task.	SEIS Section 5.2.2

#	Who	Section	Issue Raised	SEIS or DEIS Reference
813	DLP / Road Network Division	2.6 Haul Road	The type of vehicles crossing the public road may be an issue if WDR is to use innovative vehicles. Special permits are likely to be required. The costs of maintaining the road intersections due to heavy vehicle usage will be borne by WDR.	SEIS Section 5.2.2
819	DLP / Road Network Division	2.12 Decommissioning and Closure	It is noted that WDRL states that at the cessation of the project they will "look to the NT Government for advice as to their preferences regarding decommissioning". Road Network Division advises that, at this time, this haul road provides little advantage to it in terms of its strategic location once the mining operation ceases. The pressure on RND to maintain the road infrastructure in this remote location is already a challenge. Any additional roads in this area would need to be supported by an appropriate budget for ongoing maintenance.	SEIS Section 5.2.2