# Wonarah Phosphate Project

**Table of Environmental Commitments** 

## **Table of Commitments**

ID	Section	Commitments	Performance Indicators	Timeframe
Air Qu	ıality			
1	EIS 6.2.6	No decrease in air quality or visual amenity at the Wunara community due to dust emissions outside of the Mineral Lease as measured by dust deposition and reasonable complaint respectively.	Compliance with annual average dust deposition rate does not exceed 2 g/m²/month above baseline deposition rate of 2.6 g/m²/month outside of the Mineral Lease.  Complaints register to show no reasonable complaint unaddressed.	Construction/ operations
2	EIS 6.2.6	No decrease in air quality or visual amenity for motorists travelling along the section of the Barkly Highway adjoining the Mineral Lease due to dust emissions generated within the Mineral Lease as measured by dust deposition and reasonable complaint respectively.	Measurements of fugitive dust not to exceed levels that may affect visibility (5 g/m²/month).  Complaints register to show no reasonable complaint unaddressed.	Construction/ operations
3	EIS 6.2.6	No decrease in air quality due to dust emissions from project related heavy vehicles along the ore transport route as measured by reasonable complaint.	Complaints register to show no reasonable complaint unaddressed.	Operations
4	EIS 6.2.6	No decrease in air quality due to combustion emissions outside of the Mineral Lease as measured by maintenance records.	Maintenance records show regular servicing of vehicles and plant.	Operations
5	EIS 6.2.6	No decrease in air quality due to odour outside of the Mineral Lease as measured by reasonable complaint.	Complaints register to show no reasonable complaint addressed.	Operations
Green	house Gas Em	issions		I.
6	EIS 6.3.3	Minemakers will consider offsets for greenhouse gas emissions as it relates to the emissions trading scheme commencing 1 July 2011 under the carbon pollution reduction scheme (CPRS) as measured by investigation records.	Records to show that offsets were considered in relation to the CPRS.	Operations
7	Supplement 4.2.1	Minemakers will further investigate the extent to which solar and biodiesel energy production can be incorporated into the development of the project as measured by investigation records.	Records to show investigation of feasibility of incorporation of solar and biodiesel energy.	Pre- construction / construction

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Noise	and Vibration			
8	EIS 6.4.6	No disturbance to sensitive receptors from noise and vibration at the mine as measured by reasonable complaints.	Complaints register to show no reasonable complaint unaddressed.	Construction / operations
9	EIS 6.4.6	No significant increase in traffic related noise at sensitive receptors along the ore transport route as measured by reasonable complaints.	Complaints register to show no reasonable complaint unaddressed.	Construction / operations
Land	form, Geology a	and Soils		
10	EIS 5.5	During the mining process temporary bunds will be placed at a distance of at least 5 m from the edge of the pits.	Annual audit of infrastructure.	Operations
11	EIS 5.6	Waste rock storages will be contoured into a low hill, no greater than 20 m above natural ground level with final batter slopes of no more than 18°. The final landform will be covered using stockpiled topsoil, and will be ripped and seeded.	Closure audit shows that waste rock storage formation is within required dimensions.	Operations / closure
12	EIS 5.6	Combined vegetation and topsoil stockpiles will be constructed in designated zones at the edge of disturbance areas at a height of no more than 2 m.	Annual audit shows that stockpile placement is within designated zones and meets height restrictions.	Construction / Operations
13	EIS 6.5.6	Minemakers will ensure that a stable landform is maintained.	Slopes within the Mineral Lease are stable with drainage patterns consistent with the pre-mine landform.  Slopes of waste rock storages and stockpiles do not exceed 18°.	Construction / operations / closure
14	EIS 6.5.6	No significant reduction in soil quality as measured by verification testing of soils.	Verification testing of soils contaminated as a result of mining activities show remediation has been successful.  Compacted areas no longer required for mining activities have	Closure
			been ripped and revegetated.  No visible gully erosion.	

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Land	Use			
15	EIS 6.6.3	Minemakers will compensate the Traditional Owners and the Central Land Council (CLC) for the immediate loss of land used for traditional hunting and gathering.	To be formalised as part of Mining Agreement between parties.	Pre- construction
16	EIS 6.6.3	Minemakers will develop alternative access routes to sacred sites in consultation with Traditional Owners as measured by complaints register.	Complaints register to show no reasonable complaint unaddressed.	Pre- construction
17	EIS 6.6.6	No significant reduction in land for potential and actual pastoral use as measured by complaints register.	Complaints register to show no reasonable complaint unaddressed.	Closure
Flora	l			
18	EIS 6.7.3	Minemakers will consider developing a biodiversity offset plan for the project.	To be included in the Mining Management Plan for the second year of operation of the project.	Operations
19	EIS 6.7.5	Minemakers will ensure that all vehicles and plant brought to the mine or transferred between properties are visually inspected to check they are free of mud, seeds and other plant material as measured by inspection register.	Register of vehicle inspection.	Construction / operations
20	EIS 6.7.6	Disturbance to vegetation is restricted to areas permitted within the Mineral Lease conditions as measured by annual flora surveys.	Annual audit of records show native vegetation clearance is in accordance with the Mineral Lease conditions.  Annual flora surveys (including photo monitoring) at all flora monitoring sites to show no unexpected change in abundance, composition or condition of flora species from baseline conditions.	Construction / operations
21	EIS 6.7.6	The health of remaining vegetation does not alter significantly over the life of the project as measured by annual flora surveys.	Annual flora surveys (including photo monitoring) at all flora monitoring sites to show no unexpected change in abundance, composition or condition of flora species from baseline conditions.  Compliance with annual average dust deposition rate does not exceed 2 g/m²/month above baseline dust deposition rate of 2.6 g/m²/month outside of the	Construction / operations

ID	Section	Commitments	Performance Indicators	Timeframe
22	EIS 6.7.6	No weed species are encouraged or introduced due to the project construction and operations as measured by comparison with baseline data.	No increase in weed density/distribution and no new establishment of declared weeds, compared with control sites or baseline data.	Construction / operations
Faun	a			
23	EIS 6.8.6	Disturbance to vegetation (as fauna habitat) is restricted to areas permitted within the Mineral Lease conditions as	Annual audit of records show native vegetation clearance is in accordance with the Mineral Lease conditions.	Construction / operations
		measured by annual audit.	Regular surveying (as per the monitoring program for fauna) indicates no changes in abundance, composition or condition of fauna species from baseline conditions.	
24	EIS 6.8.6	No introduced fauna species are encouraged or introduced due to the project construction and operations as measured by comparison with baseline data.	A reduction in abundance of pest (feral) species from baseline monitoring records.	Operations / closure
Grou	ndwater	l		1
25	EIS 6.9.3	Minemakers will deepen existing bores or provide a suitable alternative water supply for users of third party bores if a reduction in water supply occurs as a result of Minemakers' extraction activities.	Monitoring of nearby third party bores (identified in Table 6.26 of the EIS document) shows no decrease in groundwater level depth directly attributable to groundwater extraction for the project.	Operations / closure
26	EIS 6.9.6	Minemakers will ensure that groundwater supply from third party bores (identified in Table 6.26 of the EIS) do not decrease due to the project's construction and operations.	Monitoring of nearby third party bores (identified in Table 6.26 of the EIS document) shows no decrease in groundwater level depth directly attributable to groundwater extraction for the project.	Construction / operations
27	EIS 6.9.6	Groundwater quality is not reduced due to the Project construction or operations as measured by monitoring data.	Monitoring of production bores reveal no change to groundwater quality.	Construction / operations
28	Supplement 4.7.1	Minemakers, where possible, will reuse treated effluent to reduce its groundwater extraction demands.	Water balance shows that where practical treated effluent has been reused.	Construction / operations
Surfa	ce Water			
29	EIS 5.8.1	Minemakers will ensure that mine infrastructure is located to minimise deviation of natural surface water flow paths.	Design plans.	Pre- construction

ID	Section	Commitments	Performance Indicators	Timeframe
30	EIS 5.8.1	Flood protection measures will be designed for a 1 in 100 year average recurrence interval (ARI) runoff event and will be located at the Arruwurra mining area.	Design plans.	Pre- construction
31	EIS 5.8.1	Diversion ditches will be designed for a 1 in 10 year ARI runoff event.	Design plans.	Pre- construction
32	EIS 5.8.1	Minemakers will ensure that all sedimentation ponds are designed for a 1 in 10 year ARI runoff event and will have emergency spillways installed.	Design plans.	Pre- construction / construction
33	EIS 6.10.6	No adverse effect on downstream fauna and habitats due to the generation of fugitive sediment as a result of mining activities.	Annual flora surveys (including photo monitoring) at all flora monitoring sites to show no unexpected change in abundance, composition or condition of flora species form baseline conditions.	Construction / Operations / Closure
34	EIS 6.10.6	No adverse effects on downstream fauna and riparian vegetation due to altered flow regimes as a result of mining activities.	Annual flora surveys (including photo monitoring) at all flora monitoring sites to show no unexpected change in abundance, composition or condition of flora species form baseline conditions.  Fauna monitoring indicates no changes in abundance, composition or condition of fauna	Construction / Operations / Closure
35	EIS 6.10.6	No adverse effects on fauna, riparian vegetation and groundwater users due to surface water contamination as a result of mining activities	species from baseline conditions.  Following rainfall events where there is runoff of water from the site, upstream and downstream monitoring to show no statistically significant impact of the project on surface water quality (including major anions and cations, total and dissolved metals and pH, TDS, EC and total petroleum hydrocarbons).	Construction / operations / closure
Soci	o-economic			
36	EIS 3.1.3	Minemakers will develop the project with a culture of transparency with the Traditional Owners of the land and in a manner that maximises community support and participation as measured by the consultation register.	Community consultation register shows regular consultation with the Traditional Owners.	Construction / operations
37	EIS 3.3.1	Minemakers will preferentially source labour from Wunara and Tennant Creek.	Employment records.	Construction / operations

ID	Section	Commitments	Performance Indicators	Timeframe
38	EIS 3.3.1	Minemakers will contribute financially to local sporting communities and clubs, community based training providers and service groups.	Register of local sponsorship and financial contributions.	Operations
39	EIS 5.14	Minemakers will sign a Mining Agreement with the Traditional Owners that will include a framework for the training of Traditional Owners to allow them to take up permanent employment positions within the operation.	Mining Agreement and Training Framework for training of Traditional Owners.	Pre- construction
40	EIS 6.11.3	Minemakers will develop and implement an Industry Participation Plan in accordance with the requirements of the Northern Territory Government for major projects.	Industry Participation Plan	Pre- construction
41	EIS 6.11.3	Minemakers will work with existing training providers to ensure that programs they deliver will give previously unskilled people the necessary skills to gain employment with the project.	Documentation to show reasonable level of consultation between parties has taken place.	Operations
42	EIS 6.11.3	Minemakers (as members of the Northern Territory MCA) will participate in the recently announced initiative to improve Indigenous employment opportunities in the mining industry.	Documentation (e.g. consultation register) shows Minemakers' active participation with training providers and Indigenous employment.	Operations
43	EIS 6.11.6	No negative change in social cohesion in Wunara or Tennant Creek as a result of the project as measured by complaints register.	Annual audit of complaints register indicates no incidence of community complaint regarding changes in social cohesion due to project.	Operations
44	EIS 6.11.6	Minimise adverse social impact due to increase in competition for skilled labour as measured by consultation register.	Consultation register shows liaison with existing training providers and local communities regarding training and employment.	Operations
45	EIS 6.11.6	Project does not place additional pressure on existing services as measured by consultation register.	Consultation register shows liaison with emergency services providers.	Construction / operations
46	EIS 6.11.6	No unexpected demand placed on infrastructure or services as a result of the Project as measured by consultation register.	Consultation register shows liaison with relevant stakeholders.	Construction / operations

ID	Section	Commitments	Performance Indicators	Timeframe
47	EIS 6.11.6	Community awareness of project and its progress is maintained so potential impacts are taken into consideration for any planning as measured by consultation register.	Consultation register shows liaison with government, shire council and Traditional Owners.	Construction / operations
48	EIS 6.11.6	Successful management of drugs and alcohol on mine site as measured by complaints register.	Annual audit of complains register indicates no incidence of community complaint regarding drug or alcohol issues associated with the workforce.	Construction / operations
			Drug and alcohol testing records demonstrate testing conducted and results acted on.	
49	EIS 6.11.6	Positive socio-economic benefits are maximised as measured by procurement records and workforce	Annual audit of procurement records show supply of goods and services have been sourced locally.	Construction / operations
		statistics.	Workforce statistics indicate workforce composition includes local and Northern Territory people are employed at the project.	
Indige	nous and Non-	Indigenous Cultural Heritage		
50	EIS 6.12.6	No disturbance to Indigenous cultural exclusion zones as measured by disturbance reports.	Annual audits show that all staff are inducted, and as such have been made aware of exclusion ones, commitments under relevant legislation and cultural heritage management plan.  Annual audits show no disturbance to site.	Construction / operations
51	EIS 6.12.6	No disturbance to identified archaeological site of significance as measured by disturbance reports as measured by disturbance reports.	Annual audits show that all staff are inducted, and as such have been made aware of site locations, commitments under relevant legislation and cultural heritage management plan.  Annual audits show no disturbance to site.	Construction / operations
52	EIS 6.12.6	Disturbance to identified sites of low significance is restricted to that permitted by granted consent to disturb under the <i>Heritage</i> Conservation Act, i.e., within mineral lease as measured by disturbance reports.	Annual audits show that all staff are inducted, and as such have been made aware of commitments under relevant legislation and cultural heritage management plan.  Annual audits show not unauthorised disturbance to sites.	Construction / operations

ID	Section	Commitments	Performance Indicators	Timeframe
53	EIS 6.12.6	Disturbance to identified sites of archaeological significance is restricted to that permitted by granted consent to disturb under the <i>Heritage Conservation Act</i> , i.e., within mineral lease and within 30 m of silcrete outcroppings as measured by disturbance reports.	Annual audits show that all staff are inducted, and as such have been made aware of commitments under relevant legislation and cultural heritage management plan.  Annual audits show not unauthorised disturbance to sites.	Construction / operations
Traffi	c and Transport	t of Ore		
54	EIS 6.13.2	Minemakers will consult with FreightLink to ensure that upgrades to existing rail infrastructure will be in place prior to the project commencing transport of ore.	Consultation register shows consultation between parties has taken place.	Pre- Construction / construction
55	EIS 6.13.3	Minemakers will review the road conditions of two traffic accident hotspots on the Barkly Highway (as identified in Section 6.13 of the EIS) and determine if specific traffic management measures are required at these locations.	Records to show investigation of road conditions.	Pre- construction / construction
56	EIS 6.13.5	No adverse effects on safety due to increased road traffic.	Complaints register shows all reasonable complaints are investigated.  Vehicular incident register shows no project-related incidents/near misses. Should incidents occur they will be investigated to determine causes and actions will be implemented to address causes and ensure incident does not repeat.	Construction / operations
57	Supplement 4.10.1	Minemakers will deliver a traffic awareness program to Traditional Owners and members of Indigenous communities along the Barkly Highway.	Documentation (e.g. consultation register) to show reasonable level of consultation between parties has taken place.	Construction / operations
Waste	Management			
58	EIS 5.13.1	Putrescible and domestic waste will be collected and disposed of in a designated waste landfill that is fenced and covered with waste rock weekly.	Post construction audit against EPA landfill guidelines shows compliance.	Construction / operations
Hazar	d and Risks to	Humans and Facilities		

ID	Section	Commitments	Performance Indicators	Timeframe
59	EIS 7	Minemakers will develop and implement emergency response plans (including spill response) and procedures for accidents and hazardous events.	Emergency response plan.	Pre- construction
60	EIS 7	Minemakers will develop and implement corporate and operational risk management plans.	Corporate and operational risk management plans.	Pre- construction
61	EIS 7	Minemakers will conduct training and periodic refresher training for all employees and contractors on all aspects of safety and site-specific regulations concerning safety.	Documentation to show training program has been developed.  Audits show that all staff receive periodic training on all aspects of safety.  Register of attendees to be maintained.	Construction / operations
62	EIS 7.3.1	A project-specific Traffic Management Plan will be developed to set procedures targeted at limiting the potential for vehicle accidents.	Traffic Management Plan	Pre- construction
63	EIS 7.3.2	All mobile mining equipment will be fitted with appropriate warning equipment as measured by the maintenance register.	Register to be maintained.	Construction / operations / closure
64	EIS 7.3.2	All vehicle operators will be trained and licensed where appropriate for the machinery they are operating, and will be inducted to ensure they are aware of site traffic procedures as measured by the training register.	Training register.	Construction / operations / closure
65	EIS 7.3.2	All site vehicles will be restricted to formed roads and access tracks unless prior clearance and appropriate driver training has been provided.	Training register.	Construction / operations / closure
66	EIS 7.3.3	The on-site aerodrome will be designed and constructed to comply with all Civil Aviation and Safety Authority standards.	Post-construction audit by suitably qualified personnel.	Pre- construction / construction
67	EIS 7.3.4	All fuel handling and refuelling operations will be conducted in accordance with standard operating procedures (SOP).	SOP document.	Construction / operations

ID	Section	Commitments	Performance Indicators	Timeframe
68	EIS 7.3.4	All storage tanks will be designed and bunded to Australian Standard 1940-2005, 'The storage and handling of flammable and combustible liquids'	Post-installation audit by suitably qualified personnel.	Pre- construction / construction
69	EIS 7.3.5	All materials with explosive potential will be stored in accordance with appropriate Northern Territory and Australian standards and guidelines.	Annual audit by suitably qualified personnel.	Pre- construction / construction
70	EIS 7.3.6	Minemakers will develop a SOP for working in a confined space.	SOP document	Pre- construction
71	EIS 7.3.7	Minemakers will install signage and fence any areas where the operation of mining machinery or other equipment poses a risk to the general public.	Visual audit.	Pre- construction
72	EIS 7.3.7	Minemakers will install a security checkpoint at the main site access road.	Register of visitors to Mineral Lease area.	Construction
73	EIS 7.3.8	Minemakers will develop formal access agreements with the Traditional Owners.	Audit to show documentation in relation to access agreement.  Register of visitors to Mineral Lease area.	Pre- construction
74	Supplement 4.1.2	Minemakers will develop specific workplace health and safety measures that comply with the Northern Territory's Workplace health and Safety Act.	Audits to show development and revision of safety measures that comply with relevant legislation.	Pre- construction / operations
Mine	Closure and Re	habilitation		
75	EIS 5.5	If Stage 2 of the Wonarah development does not occur, non-DSO material generated during mining will be shaped into a stable landform, spread with topsoil and revegetated.	Audit of domain against final closure plan to confirm non-DSO landform meets requirements.	Closure
76	EIS 8.1	Mine infrastructure will be preferentially provided to Traditional Owners to improve the infrastructure in the Wunara community as measured by consultation documentation.	Documentation (e.g. consultation register) to show reasonable level of consultation between parties has taken place.	Closure
77	EIS 8.3.2	Minemakers will conduct an ongoing closure consultation process with stakeholders as measured by consultation documentation.	Documentation (e.g. consultation register) to show reasonable level of consultation between parties has taken place.	Operations / closure

ID	Section	Commitments	Performance Indicators	Timeframe
78	EIS 8.4	Minemakers will remove all site infrastructure from the Wonarah site, unless required for end land use or requested and agreed between Minemakers with Traditional Owners.	Audit of domain against final closure plan to confirm site infrastructure, other than that requested to remain by Traditional Owners, does not remain on site.	Closure
79	EIS 8.5	Upon mine closure Minemakers will ensure that the community and future generations are not left with residual liability for site rehabilitation or maintenance.	Government acceptance of mine completion report which demonstrates achievement of all completion criteria.	Closure
80	EIS 8.5	Upon mine closure, public health and safety is not endangered.	Audit shows any remaining mining infrastructure is left in a safe and secure manner, and discourages public access.	Closure
81	EIS 8.5	Landscape function and vegetation is resilient, self-sustaining and comparable to the surrounding areas.	Landscape and vegetation assessment undertaken and reported to show function is resilient, self-sustaining and comparable to the surrounding areas.	Closure
82	EIS 8.5	No increase in contamination levels above baseline conditions.	Site contamination survey (conducted to Australian Standards) demonstrates no elevated levels of selected contaminants.	Closure
83	EIS 8.5	Full awareness in community regarding mine closure concept and training as indicated by stakeholder engagement records.	Stakeholder engagement records show ongoing consultation and engagement in closure planning process.	Operations / closure
84	EIS 8.5	No adverse change to ecological condition of the borefields.	Field surveys show no increase in numbers of grazing animals above baseline conditions and consequent impacts from this.	Closure
85	EIS 8.5	Borefields will be decommissioned as per final closure plan.	Audit of domain against final closure plan shows only borefields required remain in use, and those not required are capped in accordance with Northern Territory Government guidelines.	Closure
86	EIS 8.5	Upon closure the landscape function and vegetation of borrow pits will be resilient, self-sustaining and comparable to surrounding area. Left with no risk of becoming a trap for people.	Landscape and vegetation assessment undertaken and reported to show function is resilient, self-sustaining and comparable to the surrounding areas.	Closure

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87	EIS 8.5	Upon closure Minemakers will ensure that water quality in open pit voids is suitable and does not lower surrounding water quality or impact fauna that may use them, e.g. birds and amphibians.	Monitoring post closure demonstrates that pit water is of suitable quality. No creation of long-term mosquito breeding habitat.	Closure
88	EIS 8.5	No impact on water quantity or quality available to existing groundwater users due to pit inflow as measured by monitoring.	Monitoring post closure of site bores demonstrates there is no change from baseline in terms of quality or quantity and audit shows that recharge is as per predictions.	Closure
89	EIS 8.5	No injuries or deaths resulting from pit stability or ease of access to pit.	Abandonment bund constructed around the pit perimeter to restrict inadvertent access to the pit void, with the location of the bund to be determined by a geotechnical specialist.	Closure
			Pit ramps blocked to prevent inadvertent access.	
			Geotechnical assessment of pit at closure demonstrates stability is acceptable.	
90	EIS 8.5	Surface water storage areas rehabilitated to provide habitat for wetland bird species.	Vegetation and fauna assessment undertaken and reported to show areas function as habitat for wetland bird species.	Closure
			No creation of long-term mosquito breeding habitat.	
			Audit shows that where possible and necessary water structures are rehabilitated to provide polishing wetlands.	
91	EIS 8.5	All surface water structures remaining in place are physically stable and safe to fauna and humans.	Audit of structures to confirm stability and safety acceptable.	Closure
92	EIS 8.5	Waste rock storages are physically and chemically stable as per monitoring and geotechnical assessment.	Geotechnical assessment shows that waste rock storages are physically stable.	Closure
			Monitoring to demonstrate no adverse impact to the quality and quantity of surface or groundwater caused by waste rock storages to water-dependent ecosystems.	

ID	Section	Commitments	Performance Indicators	Timeframe
93	EIS 8.5	Exploration structures such as drillholes, pads, sumps and access tracks will be rehabilitated so ecosystem and landscape function is resilient and self-sustaining and comparable to surrounding area.	Audit shows all exploration drill holes capped and drill pads rehabilitated in accordance with Northern Territory Government guidelines.	Closure
			Audit shows all costeans and sumps backfilled or battered and rehabilitated in accordance with Northern Territory Government guidelines.	
			Audit shows all access tracks, grid lines and drill pads are rehabilitated as per Northern Territory Government guidelines.	
94	EIS 8.5	All access and haul roads to be rehabilitated unless required for end land use by Traditional Owners.	Audit shows all access and haul road infrastructure no longer required is decommissioned.	Closure
95	EIS 8.7.2	Upon closure, Minemakers will continue maintenance of the site until all lease conditions and completion criteria have been met.	Audit and government acceptance of mine completion report shows that all lease conditions and completion criteria have been met.	Closure
Misc	ellaneous			
96	EIS 1.5.2	Minemakers will ensure that the environmental permitting process of the project meets the requirements of Section 46 of the Aboriginal Land Rights (Northern Territory) Act.	Attachment 2 of the EIS.	Pre-construction
97	EIS 2.2.5	Minemakers will obtain licences for storage or transportation of dangerous goods defined under the Dangerous Goods Act.	Licences	Construction/ operations
98	Supplement 4.4.1	Minemakers will employ an on site environmental officer when the mine becomes operational.	Employment records.	Operations
99	EIS 5.13.1	Minemakers will actively promote the waste minimisation priorities of avoid, reuse, reduce, recycle, treat and dispose in all aspects of its activities.	Audit shows that all practical means of waste minimisation have been implemented.	Construction / operations