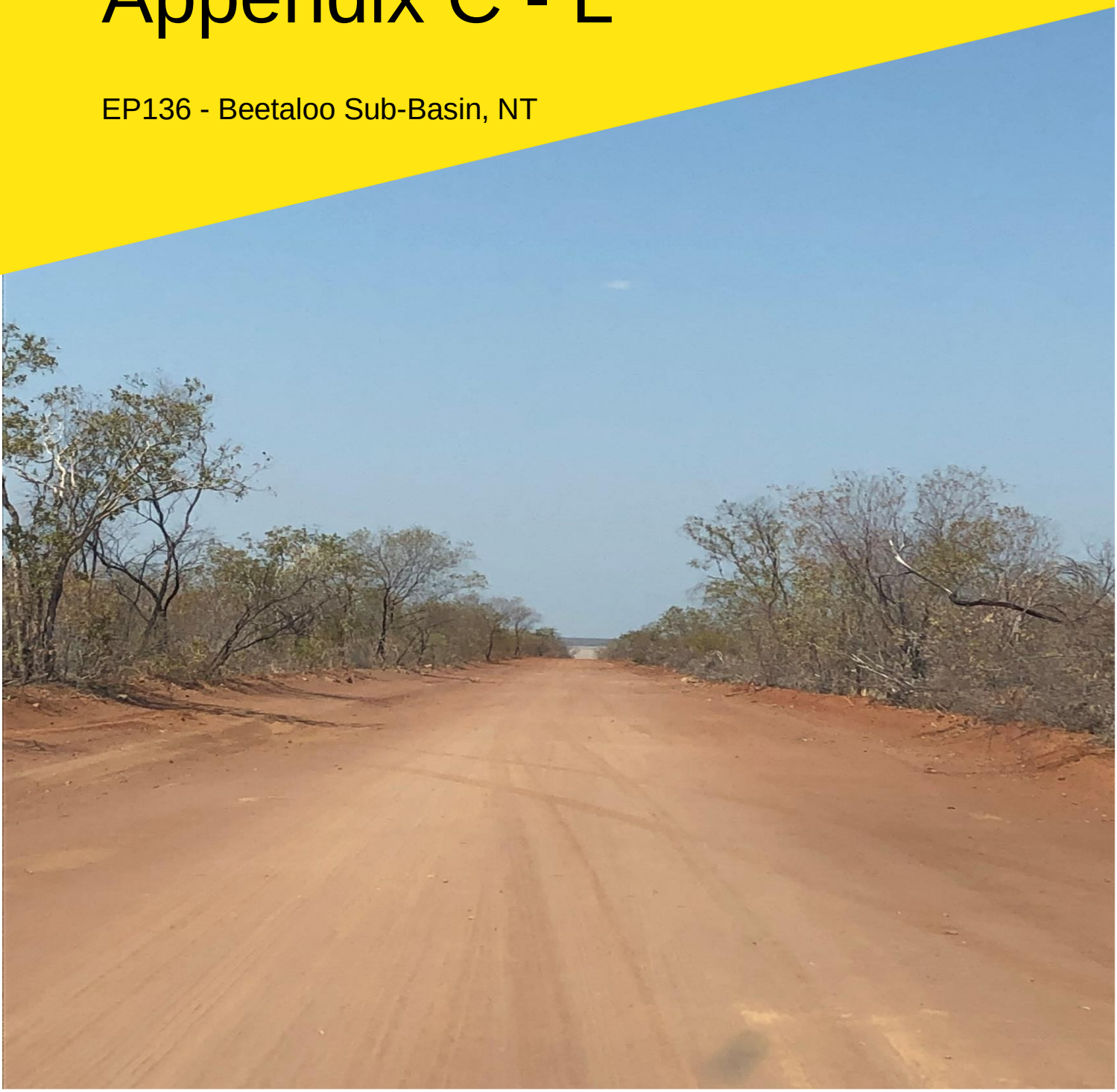
Seismic Exploration Program
Sweetpea Petroleum Pty Ltd
24-Sep-2020

Unique Reference No. SWP1-04

Seismic Environment Management Plan Appendix C - L

EP136 - Beetaloo Sub-Basin, NT



Seismic Environment Management Plan

Appendix C - L

EP136 - Beetaloo Sub-Basin, NT

Client: Sweetpea Petroleum Pty Ltd

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24-Sep-2020

Job No.: 60611666

DENR Unique Reference No.: SWP1-04

AECOM in Australia and New Zealand is certified to ISO9001, ISO14001 AS/NZS4801 and OHSAS18001.

Cover Photo: Southwards view of Line 10 from its intersection of Line 3, Beetaloo Station, November 2019

Quality Information

Document	Seismic Environment Management Plan Appendix C - L
Ref	60611666 DENR Unique Reference No.: SWP1-04
Date	24-Sep-2020
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Reviewed by	Abe Francis, Alana Court

Revision History

Rev	Revision Date	Details	Authorised	
			Name/Position	Signature
A	04-Dec-2019	For internal review	Abe Francis Principal Environmental Scientist	
0	24-Feb-2020	Pre-acceptance Submission	Alana Court Associate Director - Environment	
1	06-Aug-2020	Final EMP for Submission	Alana Court Associate Director - Environment	
2	01-Sep-2020	Final EMP for Submission	Alana Court Associate Director - Environment	

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Appendix C

Seismic Exploration Program Risk Assessment

Appendix C Seismic Exploration Program Risk Assessment

Appendix C Environmental Risk Assessment

Risk #	Activity Description	Aspect	Impact	Inherent Risk Assessment							Mitigation Measures (Note preliminary mitigation summary, full mitigation required are presented in Section 7.0 of the EMP and associated Appendices))	Residual Risk Assessment							ALARP Discussion (Hierarchy of Controls)
				Environment and Community			Law, Regs and Civil Action			Risk		Environment and Community			Law, Regs and Civil Action			Risk	
				Consequen	Likelihood	Risk Level	Consequen	Likelihood	Risk Level			Consequen	Likelihood	Risk Level	Consequen	Likelihood	Risk Level		
LAND																			
1	Existing access track, seismic line preparation and camp establishment, seismic acquisition and water bore drilling.	Management of Land - Soil and Erosion	Soil erosion and sedimentation resulting from ground disturbance activities. **Description** • Erosion susceptibility varies throughout the Sweetpea project area, dependent upon the soil types, slope and extent of ground disturbance. Apart from the erosive impact of climatic conditions, soil erosion is influenced mainly by the inherent properties of the soils and the processes which occurred during the formation of the landscapes. • Progressive rehabilitation of new tracks will occur as soon as data recording is completed to reduce exposed soils and minimise runoff from first flush events (within 5 days of completing activities along seismic line).	2	3	M	2	3	M	M	• Use existing road and tracks where practicable and ensure suit intended purpose and volume of traffic required for the seismic survey activities and water bore activities. • Seismic survey and water bore drilling timing to be conducted during Quarter 4 2020 and wet weather contingencies implemented from the commencement (refer Section 8.4). • Site environmental inductions for all site personnel and contractors in relation to land management tasks. • Undertake selective clearing (only clearing areas that are necessary for surveying lines and only where an alternative route is unavoidable), using lighter machinery such as graders or smaller bulldozers, taking care not to overwork tracks. Overworking the site can lead to the loss of topsoil, compaction, formation of windrows and wheel rutting. Refer Section 4.1.1 ESC Treatment Options for specific situations in Appendix J. • Disturbed areas will be stabilised in accordance with the Rehabilitation Plan with exception of section of Line 8 (2.43 km) and Line 9 (2.28 km). • The sections of seismic line 8 and seismic line 9 will be formed as a class 5 pastoral 1 (type c) unsealed track in accordance with NTG standard drawing CS3003 Typical of cross sections for urban and rural environments (2017) and will be implemented in accordance with ESCP (Appendix J6). • Ground surface to be stabilised before the onset of the monsoon (November to March). • Undertake progressive rehabilitation of disturbed areas as soon as practicable following completion of data recording in accordance with Section 9.0 and Appendix F to reduce exposed soils and minimise runoff from first flush events. • Progressive rehabilitation to commence within 5 days of the activities being completed on any part of the site, and disturbed areas are to be restored and/or rehabilitated. • Previously removed vegetation and topsoil will be uniformly re-spread over disturbed area to assist	2	2	L	-	-	-	L	**Elim** • Avoid clearing vegetation by using existing pastoral tracks and disturbance areas (camp location). • Further reduce clearing requirements wherever practicable, or minimise the complete removal of the vegetation, with vehicles to traverse over or around the vegetation instead, leaving as much intact as possible. • Avoid clearing of riparian vegetation along waterways. **Sub** • 90 to 95% of the undisturbed areas will be traversed as a blade up exercise. • If the 7-day forecast indicates greater than 40% chance of rain, the seismic contractor will stabilise the current work areas and go into standby mode until such time they can assess the track condition after an event to recommence activities. **Eng** • ESCP typical treatments for water bore lease pad and access tracks. • Progressive rehabilitation to commence within 5 days of the activities being completed on any part of the site, and disturbed areas are to be restored and/or rehabilitated.

Risk #	Activity Description	Aspect	Impact	Inherent Risk Assessment							Mitigation Measures (Note preliminary mitigation summary, full mitigation required are presented in Section 7.0 of the EMP and associated Appendices))	Residual Risk Assessment							ALARP Discussion (Hierarchy of Controls)
				Environment and Community			Law, Regs and Civil Action			Risk		Environment and Community			Law, Regs and Civil Action			Risk	
				Consequen	Likelihood	Risk Level	Consequen	Likelihood	Risk Level			Consequen	Likelihood	Risk Level	Consequen	Likelihood	Risk Level		
											with rehabilitation process through agencies of increased infiltration and return of seed-bearing topsoil. If required, additional native seed mix from the area could be respread to speed up rehabilitation process. This will be confirmed during rehabilitation monitoring activities. • Windrows to be removed as soon as practicable and all debris will be moved away from the fence line at least 5 m.								**Adm** • Site environmental inductions. • Daily toolbox • Monitoring and Auditing (refer Section 8.4 and 8.5), including Photo Monitoring. • Spatial data before and after to confirm stayed within survey parameters.
3	Existing access track, seismic line preparation and camp establishment, seismic acquisition and water bore drilling.	Management of Land – Soil and Erosion	Dust impacts on built-up areas (camp site), Carpentaria Highway or other public roads, vegetation and amenity as a result of exploration activities. **Description** • Vehicles traversing across the site and access tracks have the potential to cause dust impacts on surrounding environment. • Bull dust generation may be an issue on areas of disturbed soil, primarily the grassland areas.	2	3	M	1	2	L	M	• Use existing road and tracks where practicable and ensure suit intended purpose and volume of traffic required for the seismic survey activities and water bore activities. • Restrict vehicle movement to existing tracks and seismic survey area as detailed in Table 4 and Table 5. • Site environmental inductions for all site personnel and contractors in relation to land management tasks. • Minimise impact to vegetation and soils within the 200 m native vegetation buffers along pastoral property boundaries and 50 m buffer for land adjoining NTG road reserves. • All vegetation clearing must be in accordance with the Federal, Territory and local government vegetation clearing requirements and IECA Table 4.4.7 Best practice land clearing and rehabilitation requirements (refer Appendix J4 of the Primary ESCP (Appendix J). • Best practice erosion control measures will be implemented in accordance with the Primary ESCP following line preparation and site stabilised prior to anticipated rainfall. • Disturbed areas will be stabilised in accordance with the Rehabilitation Plan with exception of section of Line 8 (2.43 km) and Line 9 (2.28 km). • Vehicle speed restrictions apply when travelling in permit (60 km/hr on unsealed roads in proximity (<200 m) to sensitive receptors) or drive to condition. • Use water truck where applicable to manage dust emissions from vehicle movement on the site.	2	1	L	1	1	L	L	**Hierarchy of controls as per Risk Reference 1.** Erosion is considered a short-term impact confined to the project area. With successful implementation of an ESCP by a certified professional the likelihood of erosion impacts will be decreased.

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				Environment and Community			Law, Regs and Civil Action			Risk		Environment and Community			Law, Regs and Civil Action			Risk	
				Consequen	Likelihood	Risk Level	Consequen	Likelihood	Risk Level			Consequen	Likelihood	Risk Level	Consequen	Likelihood	Risk Level		
4	Existing access track, seismic line preparation and camp establishment, seismic acquisition and water bore drilling.	Management of Land - Soil and Erosion	Loss of topsoil and land suitability/capability **Description** • Loss of topsoil could impact on successful outcomes of rehabilitation.	2	3	M	-	-	-	M	• Allow enough area to stockpile materials alongside seismic lines to be used for rehabilitation at completion of activities on site (i.e. topsoil, scrub and vegetation). • Topsoil and vegetation to be placed alongside seismic line within the 5 m corridor. • Stockpiles are to be removed at completion of activity as part of the rehabilitation plan (Appendix F).	2	2	L	-	-	-	L	**Hierarchy of controls as per Risk Reference 1.** Seismic lines have been selected where possible to cover areas of existing access tracks and disturbance to minimise disturbance from the project. Effective storage and management of topsoil stockpiles and subsequent successful rehabilitation will decrease the likelihood and extent of environmental impacts, making the risk profile for this impact low.
5	Existing access track, seismic line preparation and camp establishment, seismic acquisition and water bore drilling.	Management of Land - Soil and Erosion	Soil compaction as a result of seismic line preparation and acquisition and water bore lease pad and access tracks. **Description** • Vehicle movement across the site has potential to cause soil compaction which will require remediation.	2	3	M	-	-	-	M	• Sufficient tracks and turning points will be created within the camp area to minimise soil compaction due to vehicle movement. • Environmental inductions on site for site personnel and contractors will include the issue of soil compaction, erosion and sedimentation, and protective measures to control erosion and sediment discharge into waterways and drainage systems. • After completion of a specific phase of activity, such as the first week of exploration, the camp site and seismic operations will be inspected for early signs of compaction, erosion and soil degradation (generation of bulldust). • All compacted areas will be ripped and scarified to promote regeneration of vegetation.	2	1	L	-	-	-	L	**Hierarchy of controls as per Risk Reference 1.** The seismic exploration program is planned to occur over a period of one month, therefore impacts from soil compaction are likely to be minor and short-term. Implementing progressive rehabilitation (Appendix F) and the Erosion and Sediment Control Plan (Appendix J) will minimise impact from compaction.
39	Rehabilitation	Visual Amenity	Scars on the landscape created by seismic exploration **Description** • As soon as data recording is completed, progressive rehabilitation will be implemented to reduce exposed soils and minimise runoff from first flush events.	2	3	M	3	4	M	M	• Undertake progressive rehabilitation of disturbed areas as soon as practicable following completion of data recording in accordance with Section 9.0 and Appendix F to reduce exposed soils and minimise runoff from first flush events. • Progressive rehabilitation to commence within 5 days of the activities being completed on any part of the site, and disturbed areas are to be restored and/or rehabilitated. • All compacted areas will be ripped and scarified to promote regeneration of vegetation. • All disturbed areas will be allowed to naturally regenerate or be revegetated on completion of use. • At completion of activities, establish vegetation to the standard of that registered in the pre-	1	2	L	1	2	L	L	**Hierarchy of controls as per Risk Reference 1.** Effective rehabilitation of the project area, as outlined in the EMP, will reduce the extent of environmental impacts as well as the likelihood of significant environmental impacts. This in turn will reduce the likelihood of negative perceptions from stakeholders and the likelihood of legal or regulatory punishment Security bond will not be released until such time as regulator is satisfied that the project area is rehabilitated to the agreed state.

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				Consequen	Likelihood	Risk Level	Consequen	Likelihood	Risk Level			Consequen	Likelihood	Risk Level	Consequen	Likelihood	Risk Level		
											assessment, or better. • All disturbed areas identified as very low, low, medium or high erosion risk must be suitably stabilised prior to anticipated rainfall, from the day that soil disturbances on the area have been finalised as per the requirements of IECA Table 4.4.7 (Appendix J4). • Stabilise disturbed areas quickly to reduce the potential for erosion. • Previously removed vegetation and topsoil will be uniformly re-spread over disturbed area to assist with rehabilitation process through agencies of increased infiltration and return of seed-bearing topsoil. If required, additional native seed mix from the area could be respread to speed up rehabilitation process. This will be confirmed during rehabilitation monitoring activities. • Windrows to be removed as soon as practicable and all debris will be moved away from the fence line at least 5 m. • The type of ground cover applied to completed earthworks is compatible with the anticipated long-term land use, environmental risk, and site rehabilitation measures. • Implement the rehabilitation monitoring program as detailed in Appendix F.							
40	All Activities	Wet Weather	Timing of survey - loss of soil and land stability, damage to existing road and track infrastructure and damage to waters ways from early onset of wet season (BOM, 2020). **Description** • Due to the forecasted early onset of the wet season in inland Australia (BoM, 2020) there is potential for rainfall events that prevent works from occurring safely resulting in rutting out of tracks and bogging of vehicles. • Ground conditions deteriorate quickly following rainfall event	2	4	M	2	4	M	M	• Due to the timing of the survey being scheduled close to the onset of the wet season (BOM, 2012), wet weather contingencies have been identified in the ESCP (Appendix J) and Section 7.1.3 Land Management Tasks in Seismic EMP. • Due to the known ground conditions following rainfall events can make access impossible. The primary mitigation will be to monitor 7-day forecasts leading up to mobilising and daily during the program. • Where rainfall forecast indicates a rainfall event that has potential to limit access, the subcontractor will stabilise the current work areas and go into standby mode until such time can assess the track conditions to recommence activities. • If the conditions do not allow the survey to resume in the current schedule, the decision will be made to either curtail the program or resume the survey in the 2021 dry season.	2	1	L	2	1	L	L	**Hierarchy of controls as per Risk Reference 1.** Monitoring of BOM 7-day forecast will allow measures to be in place prior to a rainfall event. In event of rainfall works will cease, area stabilised. If conditions don't improve the program will be curtailed for resumption in 2021 dry season. It is noted that *Section 4.3.2.4 Timing and staging of works* in the Land Clearing Guideline identifies vegetation clearing in the NT usually occurs either start of the wet season after the first intense storms have ceased and before the monsoon arrives; or at the end of the wet season, after the monsoon has passed. Our program has considered this and

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			making access difficult.																believe the controls implemented will minimise risk to loss of soil and stability.
LAND – WATERWAYS																			
6	Seismic line preparation and seismic acquisition	Management of Water - Surface Water	Damage to creek bed at crossing points. Earthmoving equipment altering natural drainage lines. **Description** • Vehicles used for seismic exploration may alter the surface flow hydrology the waterways in the project area. • No new waterway crossings required for water bore drilling.	2	2	L	-	-	-	L	• Minimise disturbance in the riparian buffers in accordance with the stream order of the encountered drainage line in accordance with the buffers (LCG, 2019). • No additional material will be required for the seismic data recording to cross over the creek crossing. Existing crossings will not be altered. • No new creek crossings will be made for the water bore drilling activities. • The activities be completed in a manner that does not cause a: - material change to the shape of a waterway, - material change to the volume, speed or direction of flow or likely flow of water in or into a waterway, or - alteration to the stability of the bed or banks of a waterway, including by removal of vegetation. • Ongoing monitoring of creek and drainage crossing condition prior to, during and at completion of rehabilitation will be required, including photo monitoring. • Reinstate the original topography of the creek or drainage bed following seismic acquisition.	1	1	L	-	-	-	L	**Hierarchy of controls as per Risk Reference 1.** A total of 41 ephemeral creeks and drainage lines (also referred to as intermittent streams) will be crossed in the northern exploration area. Of these crossings, 20 occur on existing pastoral access tracks and those crossing shall be used for this program. The remaining 21 (on Tanumbirini Station) will be new crossings. No construction works are to be undertaken to disturb either the creek bank or bed. A total of five ephemeral creeks and drainages lines will be crossed along the southern exploration area. All creek crossings are proposed along existing fence lines, tracks and roadways ab require minimal disturbance to acquire seismic data. Photo points and rehabilitation monitoring will be used to monitoring success.
7	Water bore Drilling Lease Pad Establishment	Management of Water - Surface Water	Access tracks and lease pad altering natural surface water flow, creating ponding and or erosion. **Description** • Sheet flow is likely to occur across the sites during monsoon rain events which could increase flow around installed infrastructure (i.e. erosion beside access track and water bore pad if Erosion and Sediment Control Plan not effectively implemented)	2	3	M	1	3	L	M	• The actual location of each water bore pad may vary within ~100 m to accommodate localised on-ground factors when the bore pads are being constructed. • Access to the water bores requires some sections of the seismic lines on Tanumbirini Station to be retained and formed as a class 5 pastoral 1 (type c) unsealed track in accordance with NTG standard drawing CS3003 Typical of cross sections for urban and rural environments (2017) and will be implemented under the primary ESCP. • Water bore pad and access track for monitoring to be in accordance with best practice erosion control measures. • At completion of the water bore pad and access tracks use, the disturbed areas are to be restored and/or rehabilitated to original pre-disturbed condition consistent with surrounding land use.	2	2	L	1	2	L	L	**Hierarchy of controls as per Risk Reference 1.** **Eng** • ESCP typical treatments for water bore lease pad and access tracks. • Progressive rehabilitation to commence within 5 days of the activities being completed on any part of the site, and disturbed areas are to be restored and/or rehabilitated.

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LAND – POLLUTION																			
2	Existing access track, seismic line preparation and camp establishment, seismic acquisition and water bore drilling.	Management of Land - Soil and Erosion	Soil contamination as a result of exploration activities. **Description** • General camp and seismic operations have potential to contaminate surrounding soils if storage and handling of hazardous materials and wastewater are not managed appropriately.	2	3	M	1	3	M	M	• Ensure the Emergency Response Plan (Appendix L) summarises spill response actions and follow-up actions. • Plan logistics to minimise the quantity of fuel stored on site. • Plan for designated waste storage and handling areas located away from creeks or flammable vegetation. • Hydraulic fluid and fuel drums are to be stored within portable bunding (portable storage bunds create permanent or temporary relocatable watertight bunds that we can manufacture to size required and meet Australian Standards) (refer Section 3.3.5). • Plan for removal and disposal of hazardous wastes to be in accordance with NT hazardous waste disposal requirements. • Include provisions for fuel management, spill response equipment and waste disposal in contracts. • Ensure procurement and transport of spill response equipment is provided for. • Ensure tankers have all safety and response equipment in place. • Ensure the availability of spill clean-up equipment for operations. • All loading, unloading, transfer and refuelling operations are to be undertaken in designated areas, with portable bunding and away from any sensitive receptors. • Ensure internal tracks used for transporting fuel are adequate and safe. All transport of fuel to be carried out during daylight hours. • Ensure that personnel are familiar with this spill prevention and response plan and site environmental inductions cover transport, storage, refuelling, response and clean-up activities. • Regular assessment of unsealed road undertaken to ensure the quality of the road is suitable for transport during wet season.	2	1	L	1	2	L	L	**Eng** • Hydraulic fluid and fuel facilities/tanks are to be stored within portable bunding and placed away from any drainage lines or sensitive receptors (refer Section 3.3.5). • All loading, unloading, transfer and refuelling operations are to be undertaken in designated areas, with portable bunding and away from any sensitive receptors. • Spill response kits appropriate for types of spill at each facility and within each vehicle (PPE). **Adm** • Minimise the quantity of fuel and hydraulic oils stored on site to what is necessary to conduct activities. • SDS available for each chemical/fuel onsite and in vehicles (as required). • Personnel familiar with this spill prevention and response plan and site environmental inductions cover transport, storage, refuelling, response and clean-up activities. • Assess road and weather conditions prior to mobilising. • Emergency response plan in event of spill event (refer Section 7.5.4 and Appendix L). • Monitoring and Auditing (refer Section 8.4 and 8.5), including Photo

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																			Monitoring.
WATER – POLLUTION																			
8	Camp Operations	Management of Water - Surface Water	Contamination or pollution of surface waters through waste or wastewater impact **Description** • Inappropriate management of ablution and camp kitchen waste could impact on Site personnel and environment from contamination concerns and odours.	2	3	M	2	3	M	M	• Designated waste storage and handling area to be planned for and provided onsite at the construction camp. • The site assessment criteria provided in the DoH Code of Practice (2014) (Section 7.2) will be followed when planning and constructing effluent disposal systems (refer to DoH Environmental Health – Guidelines for Land Capability Assessment for On-site Waste Management (2014). • Detergents are to be biodegradable, environmentally sensitive for washing and cleaning	2	2	L	1	1	L	L	**Eng**: • Wastewater tank and irrigation field placed away from any drainage lines or sensitive receptors. **Adm**: • Emergency response plan in event of spill event (refer Section 7.5.4 and Appendix L). • Monitoring and Auditing (refer Section 8.4 and 8.5), including Photo Monitoring The proposed sewerage system is a chemical wastewater treatment system (2 x OzziKleen SK10 Sewerage Processing Unit (SPU) and 20,000 L Water Tank Skid) in accordance with Part 4 of the DoH Code of Practice for Small On-site Sewage and Sullage Treatment Systems and the Disposal or Reuse of Sewage Effluent 2014. For chemical systems, the contents are proposed to be irrigated. An application for irrigation of recycled water sourced from an approved recycled water system will be submitted to the DoH Environmental Health unit prior to commencing on site The Camp setup is temporary <65 days at each location.
9	Exploration operations - refuelling and equipment maintenance	Management of Water - Surface Water	Impacts associated with spills and leaks from refuelling and maintenance activities. **Description** • Refuelling and maintenance activities could cause contamination. Higher risk if conducted in water courses	2	1	L	-	-	-	L	A Spill Management Plan (SMP) (Section 7.5) has been developed for the project that outlines procedures for spill prevention, spill response and spill clean-up. The SMP includes the following spill mitigation methods: **Spill prevention:** • A designated hazardous materials storage area will be provided onsite. • Hydraulic fluid, oil and fuel drums will be stored within portable bunding.	1	1	L	-	-	-	L	**Hierarchy of controls as per Risk Reference 8.**

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				Environment and Community			Law, Regs and Civil Action			Risk		Environment and Community			Law, Regs and Civil Action			Risk	
				Consequen	Likelihood	Risk Level	Consequen	Likelihood	Risk Level			Consequen	Likelihood	Risk Level	Consequen	Likelihood	Risk Level		
											• Loading and unloading operations of hazardous liquids will be undertaken in designated areas with bunding, **Spill response:** • Spill clean-up material will be readily available at each work site and on all mobile service vehicles where hydrocarbons and chemicals are stored and / or used. • The SMP outlines various spill clean-up and disposal methods and equipment to be used for different types of spills.								
WATER – GROUNDWATER USE																			
10	Existing access track, seismic line preparation and camp establishment, seismic acquisition and water bore drilling.	Groundwater	Contamination or pollution of groundwater through waste or wastewater impact (e.g. ablution facility operations, refuelling, chemical storage etc.) **Description** • Spills or leaks from activities impacting on the potable and stock water supply. • Groundwater is the primary water source for the Barkly Region.	2	1	L	3	1	L	L	• A Spill Management Plan (SMP) (Section 7.5) has been developed for the project that outlines procedures for spill prevention, spill response and spill clean-up. The SMP includes the following spill mitigation methods.	2	1	L	2	1	L	L	As per Risk Reference 9 and **Hierarchy of controls as per Risk Reference 8.**
11	Existing access track, seismic line preparation and camp establishment, seismic acquisition and water bore drilling.	Groundwater	Extraction of groundwater for the use during camp operations impacting on groundwater supply for exploration operations and the wider area. **Description** • Pastoral groundwater bores suffer reduced groundwater yields. • Groundwater is the primary water source for the Barkly Region.	2	1	L	3	1	L	L	• Water extraction will be metered to ensure target use is not exceeded. • Recycle of the treated effluent for dust suppression may be considered and will be based on water quality.	2	1	L	1	1	L	L	A groundwater supply bore will be required to conduct activities. The cumulative impact of groundwater extraction for the related activity under this EMP, assuming 2 bores at each water bore pad will be 1.4 ML (7 locations; assumed 28 bores) and the seismic program 0.325 ML. Water is proposed to be extracted under a general exemption made in Gazette S109 of 20 December 2018 which allows up to 5 ML per year to be taken (from either the nearby pastoral or government bore.
Noise Vibration and Lighting																			
12	Existing access track, seismic line preparation and camp	Noise, Vibrations and Lighting	Impacts to surrounding communities **Description** • Noise and vibration	1	1	L	1	1	L	L	• Ensure operating hours for the seismic line clearance and seismic operations are established and communicated to personnel and contractors. The operating hours proposed for the seismic	1	1	L	1	1	L	L	**Eli** • Remote location. **Eng** • Vehicles, machinery and equipment is maintained in

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	establishment, seismic acquisition and water bore drilling.		generated by construction and exploration activities are a potential nuisance to towns and communities.								activities are over 12-hours during daylight hours. • Consult with pastoral leaseholders prior to scheduling of activities to take into consideration stock movements. • Provide at least two weeks notification to households and businesses if operations are to be conducted within 10 km of their premises. • All nuisance-related complaints from sensitive receptors investigated and reported upon. • Ensure site environmental inductions for all site personnel and contractors include noise, vibration and light emissions requirements. • Ensure vehicles, machinery and equipment is maintained in good working order. • Slow down vehicles when passing cattle and other wildlife. • Daily and ongoing consultation with station managers and station personnel.								good working order. **Adm** • Operating hours of 12-hours during daylight hours. • Monitoring and Auditing (refer Section 8.4 and 8.5), including Photo Monitoring. • Notice to pastoral lease holders and immediate response to nuisance-related complaints. • Daily and ongoing consultation with station managers and station personnel.
13	Existing access track, seismic line preparation and camp establishment, seismic acquisition and water bore drilling.	Noise, Vibrations and Lighting	Impacts to native fauna **Description** • Disrupting or altering fauna feeding, breeding or other activities through noise, vibration and lighting from use of mechanical equipment.	1	1	L	1	1	L	L		1	1	L	1	1	L	L	**Hierarchy of controls as per Risk Reference 12.**
14	Existing access track, seismic line preparation and camp establishment, seismic acquisition and water bore drilling.	Noise, Vibrations and Lighting	Impacts to stock **Description** • Interference with pastoral activities if noise, vibration and lighting affects behaviour of stock.	1	1	L	-	-	-	L		1	1	L	-	-	-	L	**Hierarchy of controls as per Risk Reference 12.** Over 5 decades of seismic operations in pastoral Australia, there has been no reported impacts on cattle being stressed as result of the activity (*pers comms.* John Hughes).
WASTE MANAGEMENT																			
15	Existing access track, seismic line preparation and camp establishment, seismic acquisition and water bore drilling.	Waste	Contamination of soil or water through generation of or use of hazardous materials, domestic chemicals (detergents), industrial wastes and sewage. **Description:** • release of detergents into natural systems which may negatively affect some fauna	2	2	L	1	2	L	L	• Controls detailed in Section 7.4 of the EMP for waste management include the following information: • A characterisation of the anticipated wastewater streams • The proposed method and location of water and wastewater storage, transportation, treatment, disposal and re-use • Strategies to minimise or reduce the volume of wastewater that will be disposed of off-site	2	1	L	1	1	L	L	**Hierarchy of controls as per Risk Reference 8.** The WWMP (Section 7.5) and SPRP (Section 7.6) are effectively implemented to ensure contamination impact from hazardous wastes are minor. The short timeframe for seismic exploration activities (65 days) also makes

Risk #	Activity Description	Aspect	Impact	Inherent Risk Assessment							Mitigation Measures (Note preliminary mitigation summary, full mitigation required are presented in Section 7.0 of the EMP and associated Appendices))	Residual Risk Assessment							ALARP Discussion (Hierarchy of Controls)
				Environment and Community			Law, Regs and Civil Action			Risk		Environment and Community			Law, Regs and Civil Action			Risk	
				Consequen	Likelihood	Risk Level	Consequen	Likelihood	Risk Level			Consequen	Likelihood	Risk Level	Consequen	Likelihood	Risk Level		
			• pollution of water through release of wastewater into nearby creeks • contamination of soil through inappropriate waste management.								•Waste disposal records (tracking and disposal certificates) to be kept. • The controls detailed in the Spill Management Plan will prevent spills of hazardous materials and respond to and clean up any spills that do occur (refer to Risk reference 2). • All Sweetpea staff and contractors are to be informed about the WWMP and SPRP as part of their site induction. • All detergents to be used for camp operation must be biodegradable.								the risk profile for contamination from hazardous substances low. Sweetpea require seismic contractors to adhere to the DoH and WorkSafe requirements for all operations.
16	Camp Operations	Waste	Encouragement of pest species to waste receptacles on the camp site. **Description** • Incorrectly managing waste on site could potentially attract pest species.	1	3	M	1	2	L	M	• All waste contaminant will be covered or contained within dedicated waste disposal bins that be tampered with or opened by fauna, to reduce attraction of the site from feral animal and pest species.	1	1	L	1	1	L	L	**Hierarchy of controls as per Risk Reference 8.** If wastes are stored and disposed of in an appropriate manner as planned the likelihood of pest species being attracted to camp is highly unlikely. If pest species are attracted to camp by wastes the impacts will be minor and short-term.
AIR QUALITY																			
17	Existing access track, seismic line preparation and camp establishment, seismic acquisition and water bore drilling.	Air Quality and Emissions	Potential for an increase in dust during site preparation (clearing of access tracks, seismic lines and camp areas) and resulting from vehicular traffic **Description** • The road network within the permit area is almost entirely unsealed and dust is generated as a result of vehicle movements upon these roads during the dry season. Dust generation also occurs on other areas of the permits where vehicles are used off the existing road system, such as on internal tracks, firebreaks and fence lines.	1	5	M	1	1	L	M	• Ensure dust minimisation and suppression requirements are communicated to personnel including contractors. • Ensure site environmental inductions for all site personnel and contractors include protective measures to minimise dust evolution. • All vehicles and equipment used on site will be well maintained to minimise emissions. • If dust levels are high, particularly in the vicinity of public areas (e.g. Carpentaria Highway), use a water truck to manage dust emissions. • Minimise vehicle movements to those necessary in the camp area. • Implement controls as detailed in the Land Management Plan (refer Section 7.1) • Rehabilitate the ground surface as soon as practicable following disturbance. • Uniformly re-spread previously removed vegetation and topsoil over disturbed area to assist with rehabilitation process through agencies of increased infiltration and return of seed-bearing topsoil.	1	3	L	1	1	L	L	**Eng** • Implement dust control measures including use of water cart. • Retain vegetation as much as possible and commence progressive rehabilitation within 5 days of activities online have been completed. • Vehicles to travel over groundcover. • Stay within seismic line boundaries and to designated speed limits. **Adm** • Site environmental inductions, including protective measures to minimise dust evolution. • Monitoring and Auditing (refer Section 8.4 and 8.5). Impacts from the generation of dust on access roads will be limited to the vegetation in the immediate vicinity of

Risk #	Activity Description	Aspect	Impact	Inherent Risk Assessment							Mitigation Measures (Note preliminary mitigation summary, full mitigation required are presented in Section 7.0 of the EMP and associated Appendices))	Residual Risk Assessment							ALARP Discussion (Hierarchy of Controls)
				Environment and Community			Law, Regs and Civil Action			Risk		Environment and Community			Law, Regs and Civil Action			Risk	
				Consequen	Likelihood	Risk Level	Consequen	Likelihood	Risk Level			Consequen	Likelihood	Risk Level	Consequen	Likelihood	Risk Level		
																			roads and will be limited to the duration of exploration activities. If a water truck is used on site, then the likelihood of impacts from dust emissions are reduced from highly likely to possible. Impacts will remain minor and short-term.
18	Existing access track, seismic line preparation and camp establishment, seismic acquisition and water bore drilling.	Air Quality and Emissions	Potential for an increase in exhaust emissions from contractors' vehicles and generators resulting in localised effect on air quality and global contribution to greenhouse gases. **Description** • Vehicle exhaust emissions are a current occurrence in the region, from users of the national highways and pastoral machinery. Portable diesel or petrol fuel generators may be used during the exploration phase and a larger diesel generator may be the only source of power and lighting for camp facilities.	1	1	L	1	1	L	L		1	1	L	1	1	L	L	**Hierarchy of controls as per Risk Reference 17.** Impacts from vehicle emissions will be minor and short-term.
19	Existing access track, seismic line preparation and camp establishment, seismic acquisition and water bore drilling.	Air Quality and Emissions	Potential for dust generated to impact on health and functioning of the surrounding vegetation. **Description** • Excessive dust deposited onto plant foliage can reduce the photosynthetic performance (photosynthesis, stomata conductance, transpiration etc.), thus reducing overall health and plant growth (Hirano 1995) although the type and severity of impacts is largely unknown. On the drill site, the extended dry season could result in	1	5	M	1	1	L	M		1	3	L	1	1	L	L	**Hierarchy of controls as per Risk Reference 17.** The use of a water truck during exploration activities will reduce the likelihood of vegetation being impacted by dust. Effective mitigation will ensure that dust impact to vegetation will be minor and short-term.

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				Environment and Community			Law, Regs and Civil Action			Risk		Environment and Community			Law, Regs and Civil Action			Risk	
				Consequen	Likelihood	Risk Level	Consequen	Likelihood	Risk Level			Consequen	Likelihood	Risk Level	Consequen	Likelihood	Risk Level		
			high levels of dust generation by vehicular movement unless dust suppression methods are undertaken.																
FLORA, FAUNA, VEGETATION AND HABITAT																			
20	Existing access track, seismic line preparation and camp establishment, seismic acquisition and water bore drilling.	Natural Environment - Vegetation and Flora	Disturbance to native vegetation and flora and potential to change of vegetation structure **Description** • Direct impact to vegetation and flora species will occur during clearing for the seismic lines, access tracks and camp site. • Temporary impact with progressive rehabilitation as soon as data recording is completed. • Slow growth of some vegetation, such as Lancewood/Bullwaddy.	2	5	M	1	1	L	M	• Minimise vegetation clearance by using existing access tracks as much as possible. • Where practicable, align access tracks and seismic lines to avoid mature trees and Lancewood / Bullwaddy areas which require longer to regenerate follow rehabilitation. • Ensure site environmental inductions for all site personnel and contractors include the management of onsite vegetation and flora, including site personnel to stay within designated access roads and work areas. • 3 m above the ground must be avoided during clearing for seismic lines and access tracks. • Minimise disturbance in the riparian buffers in accordance with the stream order of the encountered drainage line in accordance with Appendix J ESCP. • Strip and stockpile topsoil and surface material at camp area for use in regeneration or revegetation if possible. • Minimise vehicle movements during dawn and dusk to minimise risk of fauna strikes. • Restrict vehicle movement to existing tracks and seismic survey area as detailed in Table 4 and Table 5. • Vehicle speed restrictions apply when travelling in permit (60 km/hr on unsealed roads in proximity (<200 m) to sensitive receptors) or drive to condition. • Retain topsoil, scrub and vegetation cleared to facilitate rehabilitation. • Rehabilitate the ground surface to near-natural condition. • Uniformly re-spread previously removed vegetation and topsoil over disturbed area to assist with rehabilitation process through agencies of increased infiltration and return of seed-bearing topsoil. • Refer to Section 9.0 and Appendix F.	2	3	L	1	1	L	L	**Elimination** • Minimise vegetation clearance by using existing access tracks and disturbed areas as much as possible. **Eng** • Align access tracks and seismic lines to avoid mature trees and Lancewood / Bullwaddy areas which require longer to regenerate follow rehabilitation. • Strip and stockpile topsoil and surface material at camp area for use in regeneration or revegetation if possible. • Ongoing maintenance of access tacks and lease pads. **Adm** • Implement Rehabilitation Plan (Appendix F). • Site environmental inductions for all site personnel and contractors include the management of onsite vegetation and flora, including site personnel to stay within designated access roads and work areas. • Speed restrictions (60 km/hr on seismic lines) • Monitoring and Auditing (refer Section 8.4 and 8.5).
21	Existing access track, seismic line preparation and camp	Natural Environment - Vegetation and Flora	Impact to listed threatened flora habitat	2	1	L	1	1	L	L		2	1	L	1	1	L	L	**Hierarchy of controls as per Risk Reference 20.** A desktop review of the project area revealed that threatened Commonwealth

Risk #	Activity Description	Aspect	Impact	Inherent Risk Assessment							Mitigation Measures (Note preliminary mitigation summary, full mitigation required are presented in Section 7.0 of the EMP and associated Appendices))	Residual Risk Assessment							ALARP Discussion (Hierarchy of Controls)
				Environment and Community			Law, Regs and Civil Action			Risk		Environment and Community			Law, Regs and Civil Action			Risk	
				Consequen	Likelihood	Risk Level	Consequen	Likelihood	Risk Level			Consequen	Likelihood	Risk Level	Consequen	Likelihood	Risk Level		
	establishment, seismic acquisition and water bore drilling.																		or NT listed flora species are unlikely be significantly impacted by activities. On Beetaloo Station pre-existing access tracks will be used for exploration, minimising impacts from the project.
22	Access track, Existing access track, seismic line preparation and camp establishment, seismic acquisition and water bore drilling.	Natural Environment - Fauna	Injury or death of native fauna and cattle **Description** • Impacts to fauna within the vicinity of seismic exploration activities, through the physical presence of machinery and people, are likely to occur. • Injury or death to native fauna and livestock.	2	5	M	1	1	L	M	• Site inductions will ensure that all personnel are aware of their obligations and know the correct procedures for fauna encounters. • Access tracks will avoid sensitive areas of fauna habitat, such as Lancewood-Bullwaddy communities • Common terrain or vegetation types will be favoured for access tracks because they will generally have lower habitat significance. • Vehicle movement will be restricted to existing access tracks within permit to 60 km /hr. • Driving on site will be restricted to daytime hours only.	2	3	L	1	1	L	L	**Hierarchy of controls as per Risk Reference 20.** Seismic exploration activities may cause some disturbance but is unlikely to cause fauna mortality and impacts will be minor and short-term. The risk profile to native fauna is therefore low. It is not expected spotter/catchers will reduce risk further during the line preparation due to the methods employed during survey to avoid wherever possible the removal of larger trees (including Corymbia and Eucalypt species) with a trunk diameter greater than 25 cm at 1.3 m and the slow speed (40 – 60 km/hr) during the survey.
23	Existing access track, seismic line preparation and camp establishment, seismic acquisition and water bore drilling.	Natural Environment - Fauna	Loss of habitat **Description** • Disturbance to and loss of habitat, particularly through seismic line preparation and water bore drilling pad establishment. • Bushfire	2	5	M	1	1	L	M		2	3	L	1	1	L	L	**Hierarchy of controls as per Risk Reference 20 and 34 (Bushfire).** The extent of native vegetation clearing for the project will be minor at a landscape scale. The use of existing access tracks on Beetaloo Station reduces the need for additional vegetation clearance. Provided sensitive habitats are avoided the consequence of clearing native vegetation will be minor.
24	Existing access track, seismic line preparation and camp establishment, seismic acquisition and water bore drilling.	Natural Environment - Fauna	Loss or endangerment of Threatened fauna species **Description** • Seismic exploration and the civil construction activities may impact the habitat of listed Threatened fauna species.	2	4	M	1	1	L	M		2	3	L	1	1	L	L	**Hierarchy of controls as per Risk Reference 20.** A desktop assessment of the project area revealed that five threatened fauna species may occur. The project area is highly unlikely to hold a Nationally significant population of any of these species, therefore the consequence of impacts to native fauna is reduced. If mitigation measures are effectively

Risk #	Activity Description	Aspect	Impact	Inherent Risk Assessment							Mitigation Measures (Note preliminary mitigation summary, full mitigation required are presented in Section 7.0 of the EMP and associated Appendices))	Residual Risk Assessment							ALARP Discussion (Hierarchy of Controls)
				Environment and Community			Law, Regs and Civil Action			Risk		Environment and Community			Law, Regs and Civil Action			Risk	
				Consequen	Likelihood	Risk Level	Consequen	Likelihood	Risk Level			Consequen	Likelihood	Risk Level	Consequen	Likelihood	Risk Level		
																			implemented the risk profile will remain low.
25	Existing access track, seismic line preparation and camp establishment, seismic acquisition and water bore drilling.	Natural Environment - Fauna	Fauna injury or mortality - Vehicle Strike **Description** • Fauna injury or mortality from road collisions is a high-risk factor for fauna. The risk is more pronounced at night-time when nocturnal wildlife often gathers on roads.	2	4	M	1	1	L	M	• Vehicle movement will be restricted to existing access tracks and seismic lines. • Speed limit of 60 km /hr whilst on permit area. • Driving on site will be restricted to daytime hours only, wherever possible. • Ensure site environmental inductions for all site personnel and contractors include the management of onsite vegetation and flora, including site personnel to stay within designated access roads and work areas.	2	3	L	1	1	L	L	**Hierarchy of controls as per Risk Reference 20.** Fauna mortality due to vehicle collision is a common occurrence on Australian roads and it is hard to avoid, especially when driving at night. Of the five threatened species identified as potentially occurring within the project area only the Plains Death Adder (*Acanthopsis hawkei*) would possibly be struck by a vehicle at night. Threatened bird species are unlikely to be struck by vehicles during seismic survey due to the speed at which data acquisition occurs (20-40 km/hr). The implementation of suitable speed limits (maximum 60 km/hr on permit area) and restricting night-time driving will reduce the likelihood of impacts occurring.
WEEDS																			
26	Existing access track, seismic line preparation and camp establishment, seismic acquisition and water bore drilling.	Natural Environment - Introduction and Spread of Weeds	Transport of weeds **Description** • Transport of weeds or other exotic species and plant diseases between regions through Transport operations that may compromise ecological integrity and impact pastoral and cultural activities in the area.	3	4	M	1	4	M	M	• A Weed Management Plan (WMP) (Appendix I) has been developed for the project that includes the following information: • Baseline weed assessments prior to regulated activities being undertaken • Ongoing weed monitoring • Weed prevention methods • Weed treatment • Provision of a dedicated weed officer. • Source machinery locally if available. • Ensure contractual requirements specify vehicle hygiene requirements, specifically that all equipment is cleaned and to have valid weed hygiene declaration prior to accessing pastoral properties. • Allow enough time and budget for weed survey, monitoring and control activities during and post seismic survey. • All staff to be trained in weed identification and reporting. • Weed surveys are to be conducted in all activity areas to establish a baseline, inform weed control activities and compare post-activity vegetation with the baseline (refer Appendix A and Appendix	2	1	L	1	1	L	L	**Eli** • A patch of Hyptis was recorded within a creek line intersecting the eastern end of seismic line 7 in the northern survey area. This section of the seismic line has been removed from the exploration program to prevent Hyptis from spreading outside the creek line. • Corrective action initiated immediately where weed outbreaks are reported. **Sub** • Source machinery locally if available to avoid importation of exotic weeds. **Eng** • All plant and machine operators to monitoring for weeds while conducting line preparation, including routine checks along each
27	Existing access track, seismic line preparation and camp establishment, seismic acquisition and water bore drilling.	Natural Environment - Introduction and Spread of Weeds	Degradation of the existing environment – introduction of weeds **Description** • Weeds can have a range of deleterious impacts to the landscape ecosystem, such as altering fire regimes.	2	3	M	1	1	L	M		2	2	L	1	1	L	L	
28	Existing access track, seismic line preparation and camp	Natural Environment - Introduction and Spread	Harmful effects of certain weed species on livestock or native fauna **Description**	1	1	L	1	3	L	L		1	1	L	1	1	L	L	

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				Environment and Community			Law, Regs and Civil Action			Risk		Environment and Community			Law, Regs and Civil Action			Risk	
				Consequen	Likelihood	Risk Level	Consequen	Likelihood	Risk Level			Consequen	Likelihood	Risk Level	Consequen	Likelihood	Risk Level		
	establishment, seismic acquisition and water bore drilling.	of Weeds	• Some weed species are harmful to livestock and native fauna. The weeds could be poisonous or potentially compete with the pasture within the properties.								l). • Ensure machinery is clean and free from mud and plant material prior to entering or leaving the exploration area. Site inductions are to ensure that all personnel are aware of vehicle weed hygiene requirements and staying on designated seismic lines and existing access tracks. • The most appropriate and applicable cleaning procedure is visual inspection and dry removal. This will reveal vegetative material caught in the underbody, moving parts of machinery or any other part of the vehicle or machine and the materials located could be manually removed or removed with the assistance of compressed air. With this method, there is no requirement to be able to distinguish between weed and native species, as all vegetative matter will be removed. • If an outbreak of a declared weed occurs during exploration activities weed treatment is to be undertaken as soon as possible to control and eradicate the infestation, with treatment undertaken according to guidelines on the DENR website. The Northern Territory Weed Control Handbook (DENR, 2018) will also serve as a reference (DENR, 2018) (refer Appendix I). • All plant and machine operators to monitoring for weeds while conducting line preparation, including routine checks along each seismic line and change in vegetation community. • All vehicles, plant and equipment to be checked and cleaned prior to demobilisation from exploration area to avoid the spread of weeds off the EP. • Ongoing monitoring of rehabilitated areas in accordance with the rehabilitation approach to ensure declared weed species become established interfering with the rehabilitation success (refer Section 9.0 and Appendix F), including photo monitoring. • A post-exploration weed control program is to be undertaken within the exploration area if NT Weed Management Act declared weed is identified.								seismic line and change in vegetation community. **Adm**: • Site environmental inductions, including trained in weed identification and reporting. • Monitoring and Auditing (refer Section 8.4 and 8.5), including Photo Monitoring. • Spatial data before and after to confirm stayed within survey parameters. If weed prevention, monitoring and treatment mitigation measures (as per the Appendix I) are effectively implemented the likelihood and consequence of weed impacts will be reduced.
FERAL ANIMAL AND PEST SPECIES																			
29	Existing access track, seismic	Natural Environment	Introduction of feral animals and pest species - impacts to	1	1	L	1	1	L	L	• No domestic animals are to be brought to site • All rubbish, including food packaging, is to be	1	1	L	1	1	L	L	**Eng**: • Ensure waste is managed

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				Environment and Community			Law, Regs and Civil Action			Risk		Environment and Community			Law, Regs and Civil Action			Risk	
				Consequen	Likelihood	Risk Level	Consequen	Likelihood	Risk Level			Consequen	Likelihood	Risk Level	Consequen	Likelihood	Risk Level		
	line preparation and camp establishment, seismic acquisition and water bore drilling.	- Feral Animals and Other Pest Species	native fauna **Description** • Introduced predators can impact native such as reptiles, and ground-dwelling birds. • Pest species could be attracted to the camp site, potentially increasing their abundance in the landscape.								discarded into appropriate sealed waste container as soon as possible, to be transported off site and later disposed • Solid domestic waste storage areas will have lids and protective barriers installed that restrict access to pest species • Waste is to be removed from site as soon as reasonably practicable.								correctly to prevent attracting pest fauna. • Rehabilitation efforts post data recording can be hindered by feral animal and pest species accessing the lines. **Adm** • Monitoring and Auditing (refer Section 8.4 and 8.5), including Photo Monitoring. • Records of observed presence, with identification of pest if possible, will be maintained within Sweetpea's GIS and if required provided to DENR. The seismic exploration program is scheduled to occur over 65 days, therefore any increase in feral animals and pest species will be minor and short-term. If waste is managed and disposed of in an appropriate manner, as specified in the Section 7.5 Wastewater Management Plan (WWMP) the risk profile of feral animal impacts to native fauna will remain low.
31	Existing access track, seismic line preparation and camp establishment, seismic acquisition and water bore drilling.	Natural Environment - Feral Animals and Other Pest Species	Introduction of diseases associated with feral and pest species may impact upon existing habitats, vegetation, native fauna and livestock. **Description** • Feral cats and dogs spread diseases that affect livestock and wildlife. Diseases can cause abortions in livestock which reduces farmers' productivity and create scar tissue in livestock meat which reduces farmers' incomes.	1	1	L	1	1	L	L		1	1	L	1	1	L	L	
32	Existing access track, seismic line preparation and camp establishment, seismic acquisition and water bore drilling.	Natural Environment - Feral Animals and Other Pest Species	Damage of vegetation or natural habitat through feral animal activity **Description** • Hard-hoofed feral animals such as camels, horses and donkeys have a major effect on native vegetation by damaging soil and overgrazing on native herbs, grasses, shrubs and trees.	1	1	L	1	1	L	L		1	1	L	1	1	L	L	
33	Existing access track, seismic line preparation and camp establishment, seismic	Natural Environment - Feral Animals and Other Pest Species	Feral animal nuisance around campsites and domestic waste material **Description** • Feral animals can be attracted to campsites by	1	1	L	1	1	L	L		1	1	L	1	1	L	L	

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				Environment and Community			Law, Regs and Civil Action			Risk		Environment and Community			Law, Regs and Civil Action			Risk	
				Consequen	Likelihood	Risk Level	Consequen	Likelihood	Risk Level			Consequen	Likelihood	Risk Level	Consequen	Likelihood	Risk Level		
	acquisition and water bore drilling.		the smell of food and rubbish. They may find and scatter rubbish and hang around the camp.																
LAND – BUSHFIRE																			
34	Existing access track, seismic line preparation and camp establishment, seismic acquisition and water bore drilling.	Bushfire	The exploration program may increase the risk of accidental bushfires and change the fire regime **Description** • Increased incidence and intensity of bushfires can lead to vegetation degradation and habitat modification. • Bullwaddy and Lancewood communities are fire sensitive. Inappropriate fire regimes may result in a community succession from Bullwaddy through Lancewood to a Eucalypt dominated open woodland (PWCNT, 2005).	1	1	L				L	• A Bushfire Management Plan (BMP) (Appendix E) has been developed that includes the following information: • Analysis of baseline fire information (at least 10 years) • Analysis of impacts of the proposed activities on the existing fire management regime • Coordination with the landholder and other land users and consistency with the landholder's fire management obligations and strategies • No hot works are permitted on total fire ban days without written approval from a fire control officer or fire warden • Implementation of the interest holder's appropriate fire mitigation measures such as: -Monitoring of seasonal conditions and fuel loads -Maintenance of fire access trails and fire breaks around infrastructure -Controlled burns -Communication system for monitoring bushfire alerts in the area • Annual fire mapping to monitor changes to fire frequency in the relevant area • Monitor the NAFI website and adhere to total fire ban days. Updates provided at daily toolbox meetings. • Fire extinguishers fitted to all vehicles • All personnel and contractors will be informed about the key features of the BMP as part of their induction • Clean out vehicle engine bay regularly, with special attention paid on red alert days, to prevent grass igniting on the hot vehicle components • Smoking only allowed in designated smoking areas. The Bushfire Management Plan and the specific controls incorporated into the plan have considered previous industry experience for similar activities in the Beetaloo Basin (Imperial Energy Incident Report available on DENR Recordable incident report	1	1	L	1	1	L	L	**Eli** • Hot works not permitted on total Fire Ban Days. • Line preparation in grassed areas will be flattened to reduce the build-up of fuel within the vehicle's engine bays. • Regular inspections of vehicle's engine bay and remove any build-up of vegetated matter. **Sub** • Not applicable. **Eng** • 4 m fire access trail around camp site and water bore lease pad. • Monitor NAFI to identify any severe, extreme and catastrophic Fire Danger Index (FDI) days and assess risk of conducting activities on such days and if additional controls are required to conduct the day's activities. • Water cart to be within **100 m of line preparation.** **Adm** • Bushfire Management Plan (Appendix E), including engaging with Bushfires NT and pastoral leaseholders in the area. • Site environmental inductions, including trained on emergency response procedure (Appendix L) in event of fire. • Monitoring and Auditing (refer Section 8.4 and 8.5).
35-1	Existing access track, seismic line preparation and camp establishment, seismic acquisition and water bore drilling.	Bush Fire	The exploration program may increase the risk of accidental bushfires and change the fire regime in the **northern survey area at time of survey.**	3	2	M				M		3	1	L	1	1	L	L	
35-2		Bush Fire	The **southern survey area** is grasslands which during line preparation have high potential risk if there is sufficient heat and ignition source at the time of survey. The exploration program may increase the risk of accidental bushfires and change the fire regime.	4	4	H				H		4	1	L	1	1	L	M	
36	Existing access track, seismic line preparation and camp establishment,	Bush Fire	The exploration program may increase the risk of accidental bushfires and change the fire regime **Description**	1	1	L				L		1	1	L	1	1	L	L	

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				Environment and Community			Law, Regs and Civil Action			Risk		Environment and Community			Law, Regs and Civil Action			Risk	
				Consequen	Likelihood	Risk Level	Consequen	Likelihood	Risk Level			Consequen	Likelihood	Risk Level	Consequen	Likelihood	Risk Level		
	seismic acquisition and water bore drilling.		• Fire could cause damage to culturally significant sites.								website).								**PPE** • Fire extinguishers to be fitted to all vehicles. • Water cart to be available at all times during seismic line preparation.
Cultural Heritage and Sacred Sites																			
37	Existing access track, seismic line preparation and camp establishment, seismic acquisition and water bore drilling.	Social Environment - Cultural Heritage and Sacred Sites	Damage to or loss of culturally significant artefacts, areas or species **Description** • Personnel are more likely to cause damage if they remain unaware of culturally significant artefacts, areas or species that occur within the project area.	2	2	L	2	2	L	L	• AAPA clearance certificates, consultation with Northern land Council and Indigenous Traditional Owners and an archaeology and heritage survey will identify culturally sensitive areas and artefacts prior to seismic exploration activities. Personnel will be made aware of culturally sensitive areas and artefacts within the project area as part of their site inductions. • Sweetpea will engage two Cultural Monitors, facilitated by the NLC, on location for the duration of the seismic surveys to ensure activities are conducted to avoid areas of cultural significance. • A Code of Conduct will be developed and implemented as part of site inductions for all personnel. This code will aim to prevent anti-social behaviour, such as a zero-alcohol tolerance for those working on site, using a vehicle, or travelling to or from work, that may impact local residents • Daily toolbox meetings will occur before work begins for the day, allowing the platform to provide updates on works and any cultural or heritage updates. • This is good corporate policy and has many advantages including: • Maintaining good relationships with local people • Assisting in averting possible conflict with local people • Ensuring appropriate behaviours outside of work hours.	1	1	L	1	1	L	L	**Eli** • Avoid areas of cultural heritage and significance (i.e. Restricted Work Areas detailed in AAPA certificate). **Adm** • Unexpected Finds Procedures (Appendix B). • Two cultural monitors, facilitated by the NLC, to be on location for the duration of the seismic surveys. • Site inductions are to ensure that all personnel are aware of cultural awareness obligations. • Monitoring and Auditing (refer Section 8.4 and Section 8.5). Non-Indigenous workers unfamiliar with the Aboriginal traditions, lifestyle, customs and cultural values will be more likely to cause damage to culturally significant artefacts, areas or species. Implementation of the Code of Conduct will reduce the likelihood of culturally insensitive behaviour.
38	Existing access track, seismic line preparation and camp establishment, seismic acquisition and water bore drilling.	Social Environment - Cultural Heritage and Sacred Sites	Inappropriate access to sacred sites or culturally significant places. **Description** • Personnel are more likely to cause damage if they remain unaware of culturally significant artefacts, areas or species that occur within	2	1	L	3	1	L	L		1	1	L	1	1	L	L	**Hierarchy of controls as per Risk Reference 37.** Seismic exploration won't occur within, or close to, RWAs making it highly unlikely that these areas will be impacted. Site inductions will aim to make personnel aware of their responsibilities regarding RWAs and cultural heritage in general.

Risk #	Activity Description	Aspect	Impact	Inherent Risk Assessment							Mitigation Measures (Note preliminary mitigation summary, full mitigation required are presented in Section 7.0 of the EMP and associated Appendices))	Residual Risk Assessment							ALARP Discussion (Hierarchy of Controls)
				Environment and Community			Law, Regs and Civil Action			Risk		Environment and Community			Law, Regs and Civil Action			Risk	
				Consequen	Likelihood	Risk Level	Consequen	Likelihood	Risk Level			Consequen	Likelihood	Risk Level	Consequen	Likelihood	Risk Level		
			the project area.																This will reduce the extent of impacts to cultural heritage within the project area.
PEOPLE AND COMMUNITY																			
41	All Activities	People and Community	Restrict access to area and/or interfere with pastoral operations and Traditional Owners activities during exploration activity.	2	3	M	2	3	M	M	• Site inductions are to ensure that all personnel are aware of and understand social constraints of working with in the permit area, including conditions specified in the Land Access Agreement with the host pastoral leaseholder. • All workers will be required to attend cultural awareness training and Sweetpea's code of conduct. • Work instruction to be issued to all contractors relating to access constraints (Work Instruction – Access). • NLC is consulted through the ministerial office and agreements in place. • Consult with other relevant land users and public interest groups, such as pastoral leaseholders, Aboriginal communities, natural resource managers, conservation groups, tourism operators and other affected parties, to exchange information and facilitate good working relationships as required. • Seek advice from the NLC on appropriate persons to fulfil the role of Aboriginal Liaison Officer, who can speak for certain areas and on behalf of certain groups. • Provide a Work Program for each year's proposed activities to the NLC and other regulatory bodies, which includes site-specific environmental and cultural issues, likely impacts and their mitigation (conducted August 2020). • Prior to commencement onsite, communicate with pastoral leaseholders for access permission. Provide detail of the time and dates proposed to be on site, and the location, in advance of works commencing according to the regulations, including detailed maps showing pastoral infrastructure (i.e. bore runners/paddock maps). • LACA to be in place with each station prior to commencement of the regulated activity in the permit area. • Daily engagement with station manager and station personnel during activities to monitor potential disturbances to cattle and jointly arrive at reasonable solutions to mitigate any observed effects.	2	2	L	2	2	L	L	**Adm** • Land Access Agreements • Native Title Exploration Agreement • Site inductions are to ensure that all personnel are aware of and understand social constraints of working with in the permit area, including conditions specified in the Land Access Agreement with the host pastoral leaseholder, as well as Cultural constraints (refer Section 7.11). • Daily engagement with station manager and station personnel during activities to monitor potential disturbances to cattle and jointly arrive at reasonable solutions to mitigate any observed effects. • Monitoring and Auditing (refer Section 8.4 and Section 8.5).
42	All Activities	People and Community	Lack of consultation with stakeholders resulting in adverse community perception.	3	3	M	-	-	-	M		3	1	L	-	-	-	L	
43	All Activities	People and Community	Increase traffic on public roads due to exploration activities.	2	2	L	-	-	-	L		2	1	L	-	-	-	L	
44	All Activities	People and Community	Facilitation of unwanted access to lease area through the creation and improvement or use of access tracks.	1	1	L	-	-	-	L		1	1	L	-	-	-	L	

Risk #	Activity Description	Aspect	Impact	Inherent Risk Assessment							Mitigation Measures (Note preliminary mitigation summary, full mitigation required are presented in Section 7.0 of the EMP and associated Appendices))	Residual Risk Assessment							ALARP Discussion (Hierarchy of Controls)
				Environment and Community			Law, Regs and Civil Action			Risk		Environment and Community			Law, Regs and Civil Action			Risk	
				Consequen	Likelihood	Risk Level	Consequen	Likelihood	Risk Level			Consequen	Likelihood	Risk Level	Consequen	Likelihood	Risk Level		
											• Local businesses to be assessed and utilised where possible to deliver the exploration program. • A community contact number will be provided in communications correspondence. • On completion of data recording rehabilitation of seismic lines will commence in accordance with the Rehabilitation Plan and monitoring instigated to ensure successful restoration of the activity areas (Section 9.0). • Engage with pastoral leaseholders on the rehabilitation areas to determine potential interaction with pastoral operations with the rehabilitation success.								

Appendix D

Seismic Exploration Ground Condition Classification

Appendix D Seismic Exploration Ground Condition Classification

An interactive supervised classification method was used to assess the seismic line disturbance area. This assigned the ground type (i.e. Bare Earth, Dry Grass, Grass, Shrubs and Trees) that would be encountered along the seismic line alignment from satellite imagery captured on August 2019.

The Satellite imagery was analysed to determine the proportion of bare earth within 1 ha grid squares across the study area. Table 32 shows that the majority of the survey area has a proportion of bare ground cover of 0%-20%, indicating general healthy vegetation cover.

Table 32 Ground Condition Description of Seismic Lines

Line	Ground Condition Description (Ha)				
	Bare Earth	Dry Grass	Grass	Shrub	Tree
Northern Seismic Survey Area					
Line 1	7.55	0.67	1.84	0.13	1.26
Line 2	11.98	1.70	1.94	0.65	4.27
Line 3	11.75	0.42	1.15	0.13	3.21
Line 4	14.23	0.12	0.79	0.01	2.51
Line 5	9.33	2.37	2.00	1.58	2.65
Line 6	1.05	3.56	4.28	1.84	4.52
Line 7	1.45	3.37	2.77	2.54	3.53
Line 8	1.78	2.07	2.31	1.26	4.44
Line 9	2.30	2.08	2.72	2.72	4.13
Line 10	10.79	2.56	3.50	1.71	3.26
Line 11	9.98	1.93	3.07	2.15	4.73
Line 12	10.21	2.09	3.80	0.62	4.08
Line 13	10.03	1.86	3.00	1.06	4.82
Line 14	12.93	0.71	0.75	0.28	1.17
Total	**115.36**	**25.51**	**33.92**	**16.68**	**48.58**
Southern Seismic Survey Area					
Line 1	9.68	3.78	0.90	0.74	0.00
Line 10	7.13	10.43	0.82	0.66	0.38
Total	**16.81**	**14.22**	**1.72**	**1.39**	**0.38**

The ground condition classifications were groundtruthed during the field surveys in November 2019 and May 2020 and informed the land condition summary outcome presented in Section 4.2.7.

437260 442260 447260 452260 457260 462260 467260 472260 477260 482260

8183349 8178349 8173349 8168349 8163349 8158349 8153349 8148349 8143349 8138349 8133349 8128349

Carpentaria Hwy

Line 9 Line 8 Line 7 Line 6 Line 5 Line 4 Line 3 Line 2 Line 1

A1 A2 A3 B1 B2 B3 C1 C2

Line 10 Line 11 Line 12 Line 13 Line 14

AECOM
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N

Projection: GDA 1994 MGA Zone 53

5 2.5 0 5 km

1:166,597 (when printed at A3)

Seismic Lines
Mapsheet
Open - Dry
Bare

Classification

Trees
Open - Wet

DARWIN
EP136

Sweetpea Petroleum Pty Ltd, Environmental Management Plan

Northern Vegetation Mapping Overview

PROJECT ID	N/A
CREATED BY	sam.schroder
LAST MODIFIED	16-Jul-2020
VERSION	1

Figure 1

Filename: T:\Projects\2019\Sweetpea_GIS\02_MXD\Land_Condition_Assessment\06\AppendixD\A1_Vegetation_Assessment_Overview_20200715.mxd

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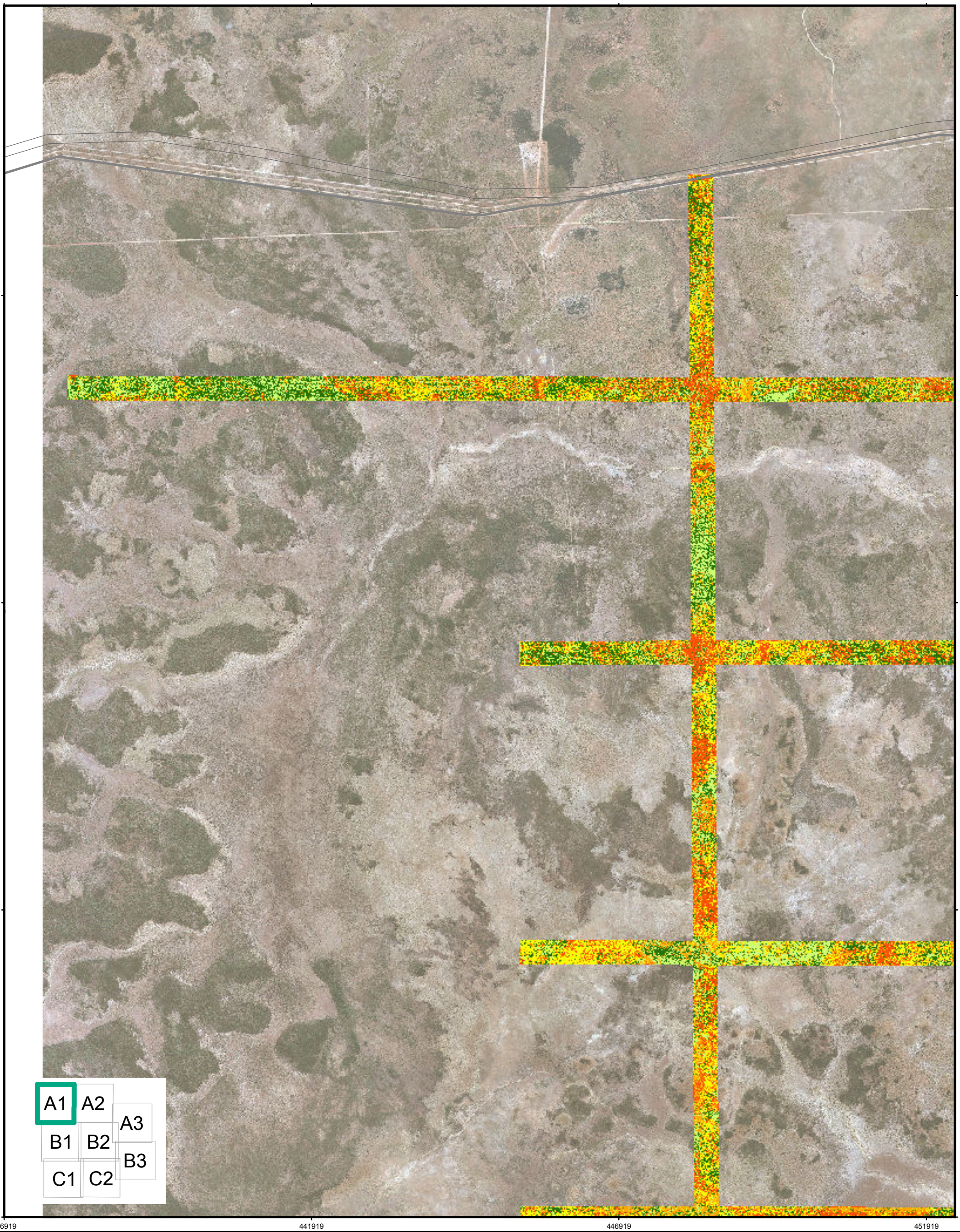

AECOM
www.aecom.com

N

Projection: GDA 1994 MGA Zone 53

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1:56,370 (when printed at A3)

- Bare Earth
- Grassland
- Shrubland
- Trees
- Dry Grassland

Sweetpea Petroleum Pty Ltd, Environmental Management Plan

Northern Vegetation Mapping

PROJECT ID	N/A
CREATED BY	sam.schroder
LAST MODIFIED	16-Jul-2020
VERSION	1

Figure A1

Filename: T:\Projects\2019\Sweetpea_GIS\02_MXD\Land_Condition_Assessment\06\AppendixD\A1_Vegetation_Assessment_DDP_20200226.mxd

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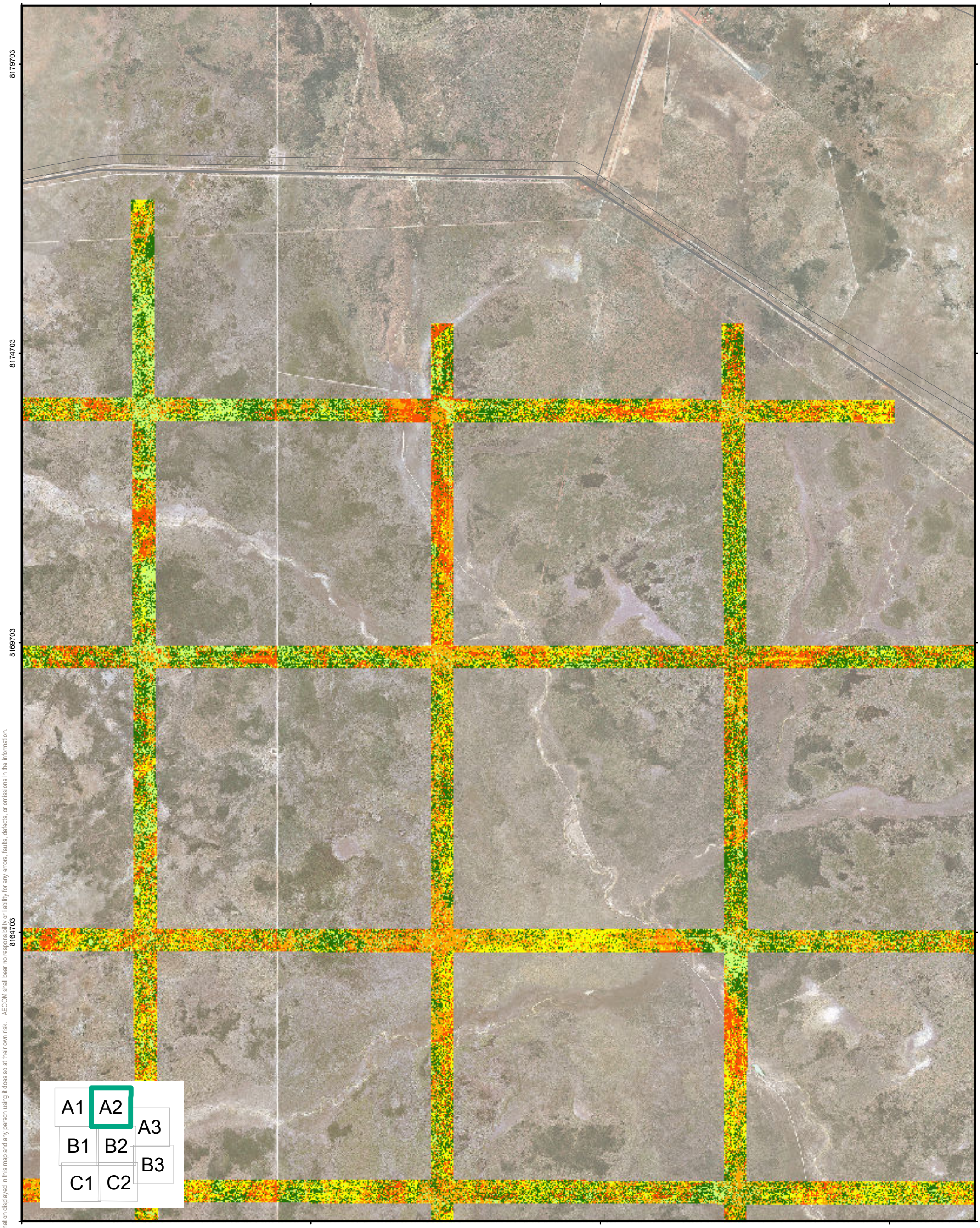

AECOM
www.aecom.com

N

Projection: GDA 1994 MGA Zone 53

1 0.5 0 1 km

1:60,060 (when printed at A3)

- Bare Earth
- Grassland
- Shrubland
- Trees
- Dry Grassland

Sweetpea Petroleum Pty Ltd, Environmental Management Plan

Northern Vegetation Mapping

PROJECT ID	N/A
CREATED BY	sam.schroder
LAST MODIFIED	16-Jul-2020
VERSION	1

Figure A2

A3 size

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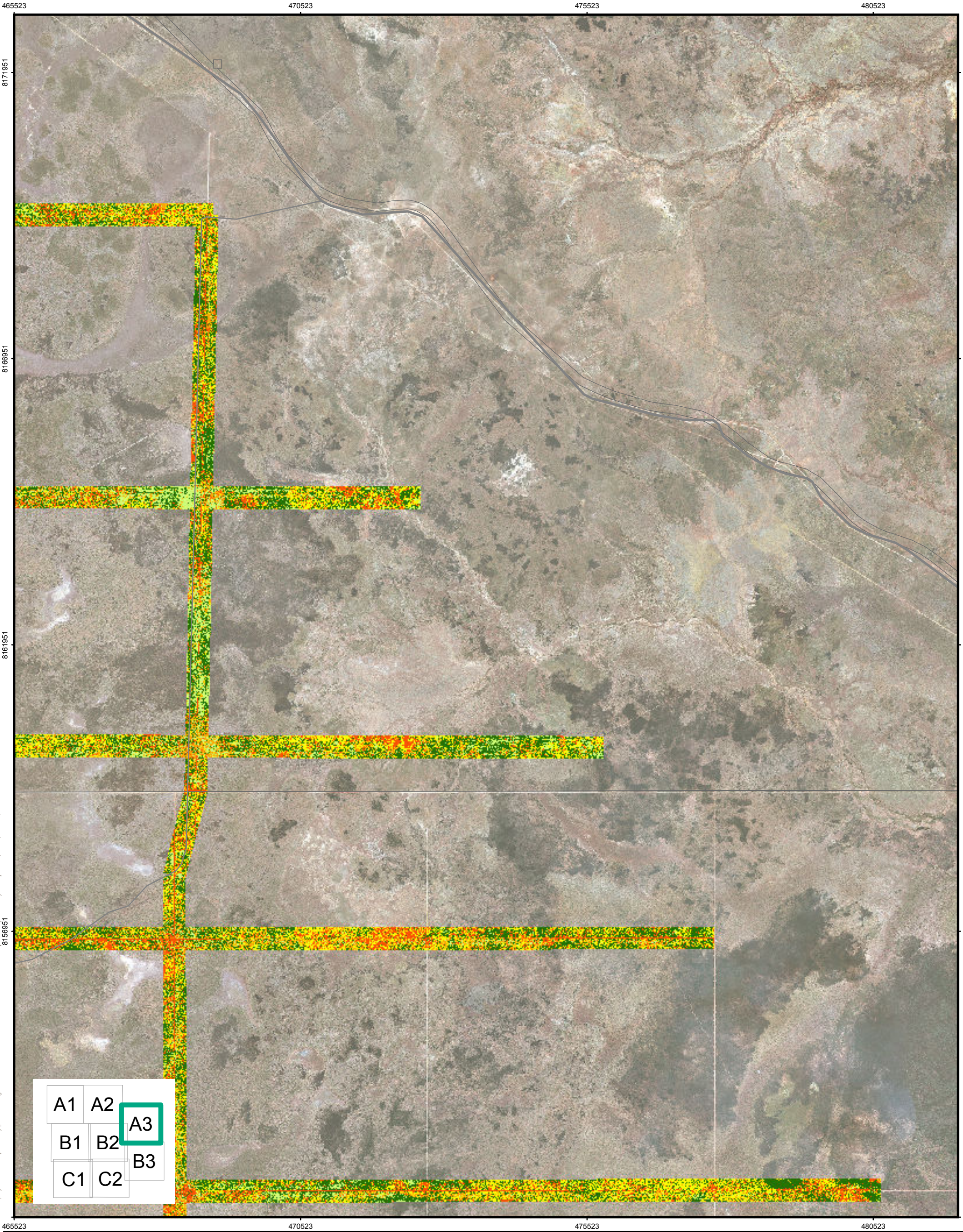

AECOM
www.aecom.com

N

Projection: GDA 1994 MGA Zone 53

1 0.5 0 1 km

1:60,060 (when printed at A3)

- Bare Earth
- Grassland
- Shrubland
- Trees
- Dry Grassland

Sweetpea Petroleum Pty Ltd, Environmental Management Plan

Northern Vegetation Mapping

PROJECT ID	N/A
CREATED BY	sam.schroder
LAST MODIFIED	16-Jul-2020
VERSION	1

Figure A3

Filename: T:\Projects\2019\Sweetpea_GIS\02_MXD\Land_Condition_Assessment\06\AppendixD\A1_Vegetation_Assessment_DDP_20200226.mxd

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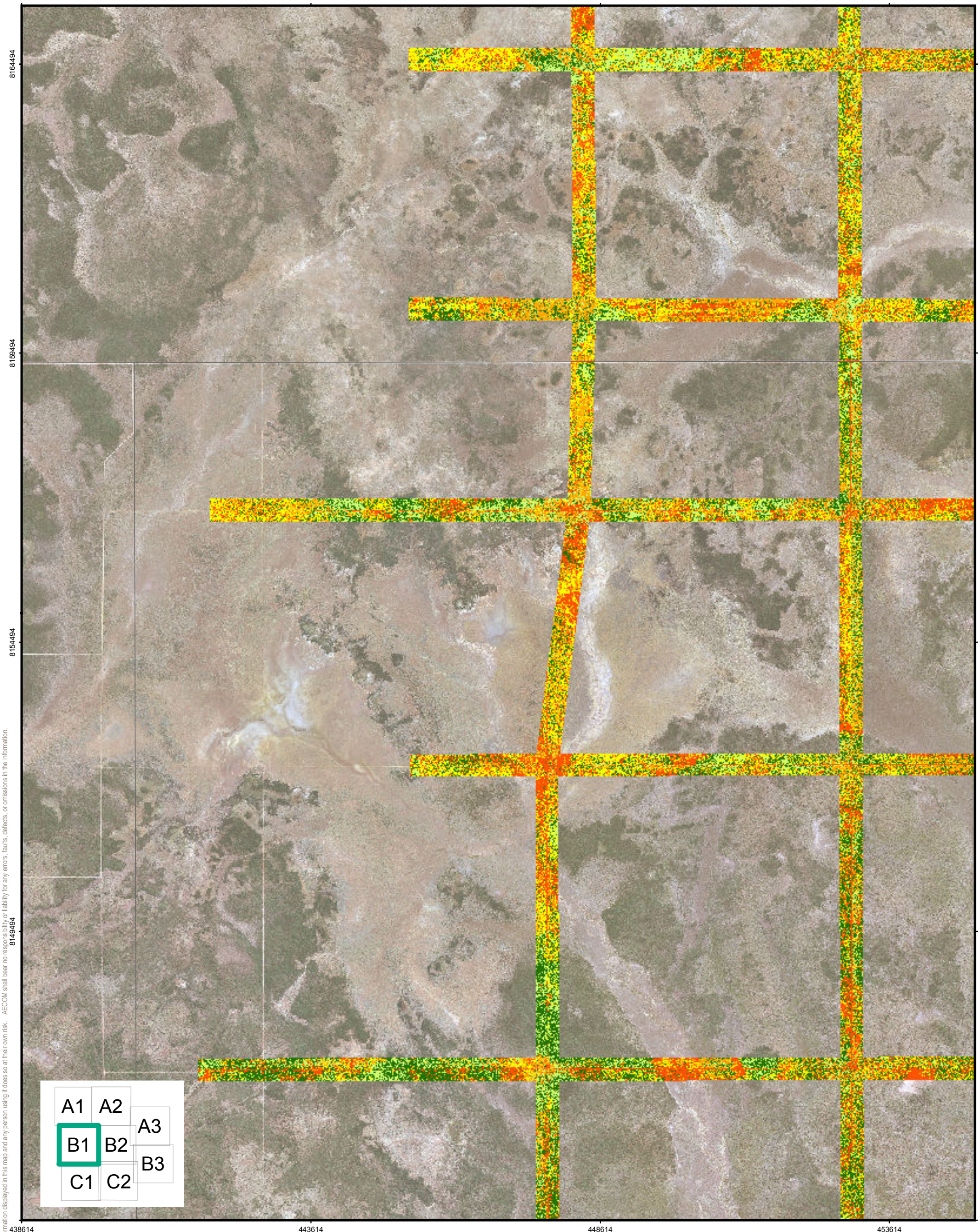

AECOM
www.aecom.com

N

Projection: GDA 1994 MGA Zone 53

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1:60,060 (when printed at A3)

- Bare Earth
- Grassland
- Shrubland
- Trees
- Dry Grassland

Sweetpea Petroleum Pty Ltd, Environmental Management Plan

Northern Vegetation Mapping

PROJECT ID	N/A
CREATED BY	sam.schroder
LAST MODIFIED	16-Jul-2020
VERSION	1

Figure B1

Filename: T:\Projects\2019\Sweetpea_GIS\02_MXD\Land_Condition_Assessment\06\AppendixD\A1_Vegetation_Assessment_DDP_20200226.mxd

A3 size

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Projection: GDA 1994 MGA Zone 53

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1:60,060 (when printed at A3)

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- Bare Earth
- Grassland
- Shrubland
- Trees
- Dry Grassland

Sweetpea Petroleum Pty Ltd, Environmental Management Plan

Northern Vegetation Mapping

PROJECT ID	N/A
CREATED BY	sam.schroder
LAST MODIFIED	16-Jul-2020
VERSION	1

Figure B2

Filename: T:\Projects\2019\Sweetpea_GIS\02_MXD\Land_Condition_Assessment\06\AppendixD\A1_Vegetation_Assessment_DDP_20200226.mxd

A3 size

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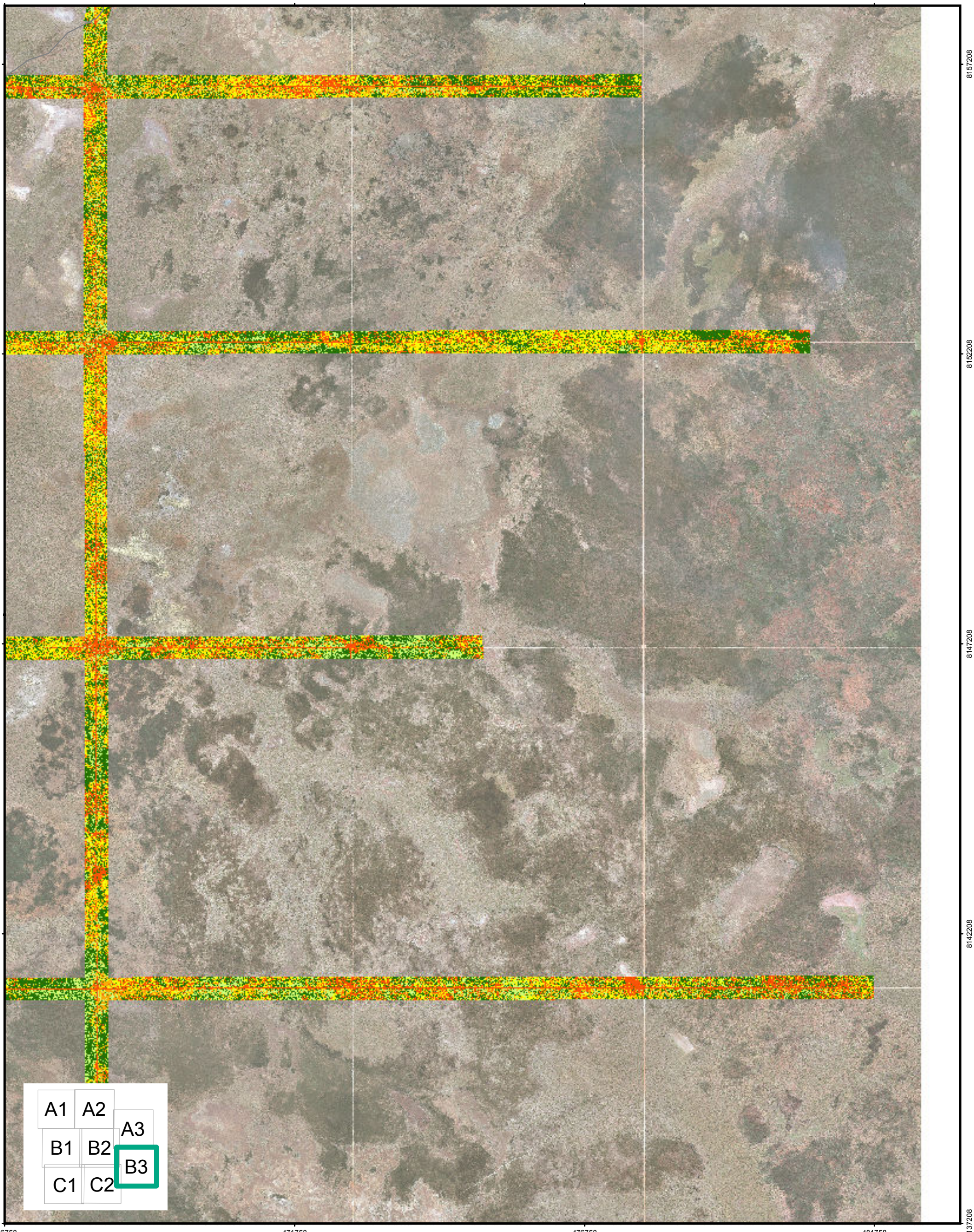

AECOM
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N

Projection: GDA 1994 MGA Zone 53

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1:60,060 (when printed at A3)

- Bare Earth
- Grassland
- Shrubland
- Trees
- Dry Grassland

Sweetpea Petroleum Pty Ltd, Environmental Management Plan

Northern Vegetation Mapping

PROJECT ID	N/A
CREATED BY	sam.schroder
LAST MODIFIED	16-Jul-2020
VERSION	1

Figure B3

Filename: T:\Projects\2019\Sweetpea_GIS\02_MXD\Land_Condition_Assessment\06\AppendixD\A1_Vegetation_Assessment_DDP_20200226.mxd

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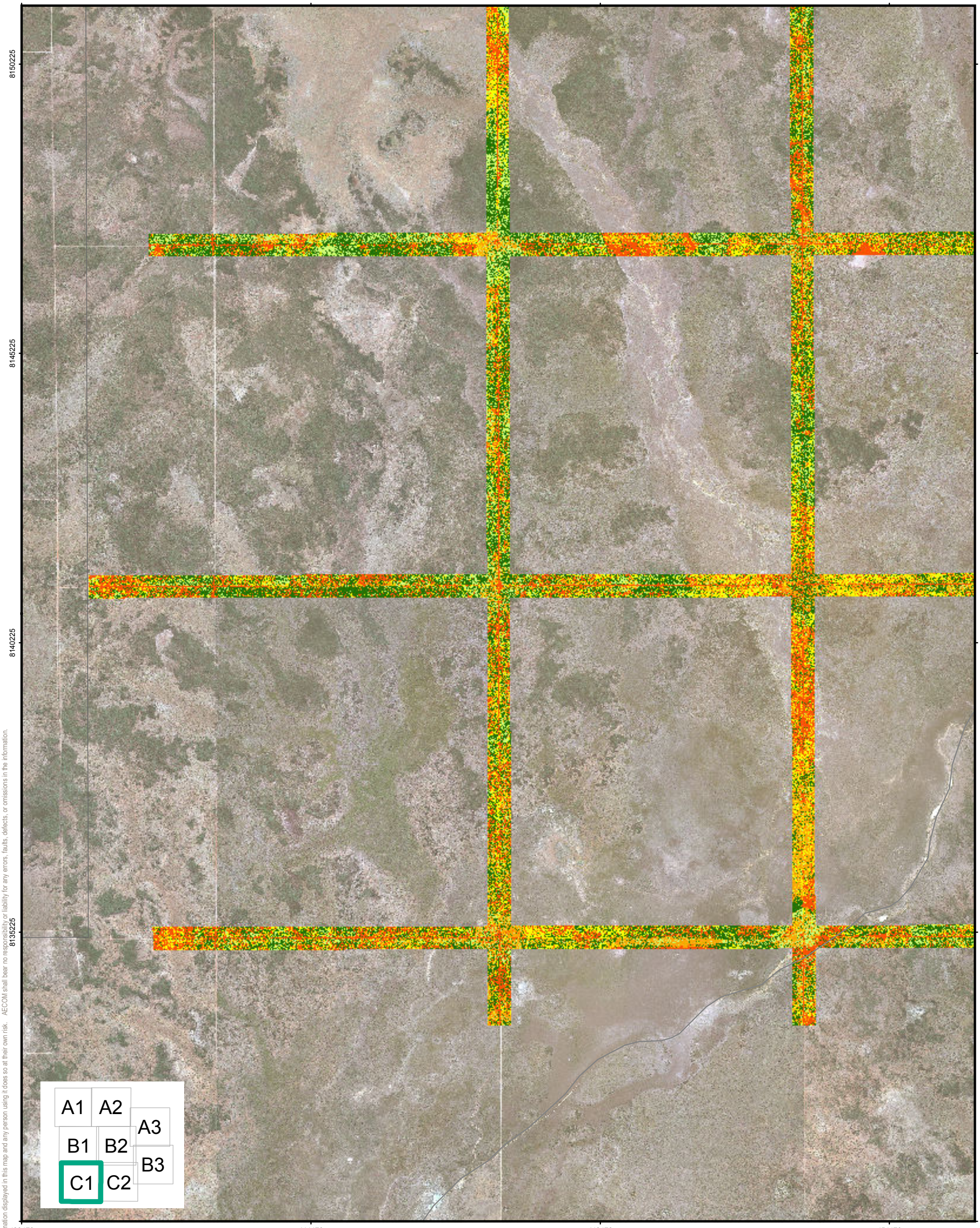

AECOM
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N

Projection: GDA 1994 MGA Zone 53

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1:60,060 (when printed at A3)

- Bare Earth
- Grassland
- Shrubland
- Trees
- Dry Grassland

Sweetpea Petroleum Pty Ltd, Environmental Management Plan

Northern Vegetation Mapping

PROJECT ID	N/A
CREATED BY	sam.schroder
LAST MODIFIED	16-Jul-2020
VERSION	1

Figure C1

Filename: T:\Projects\2019\Sweetpea_GIS\02_MXD\Land_Condition_Assessment\06\AppendixD\A1_Vegetation_Assessment_DDP_20200226.mxd

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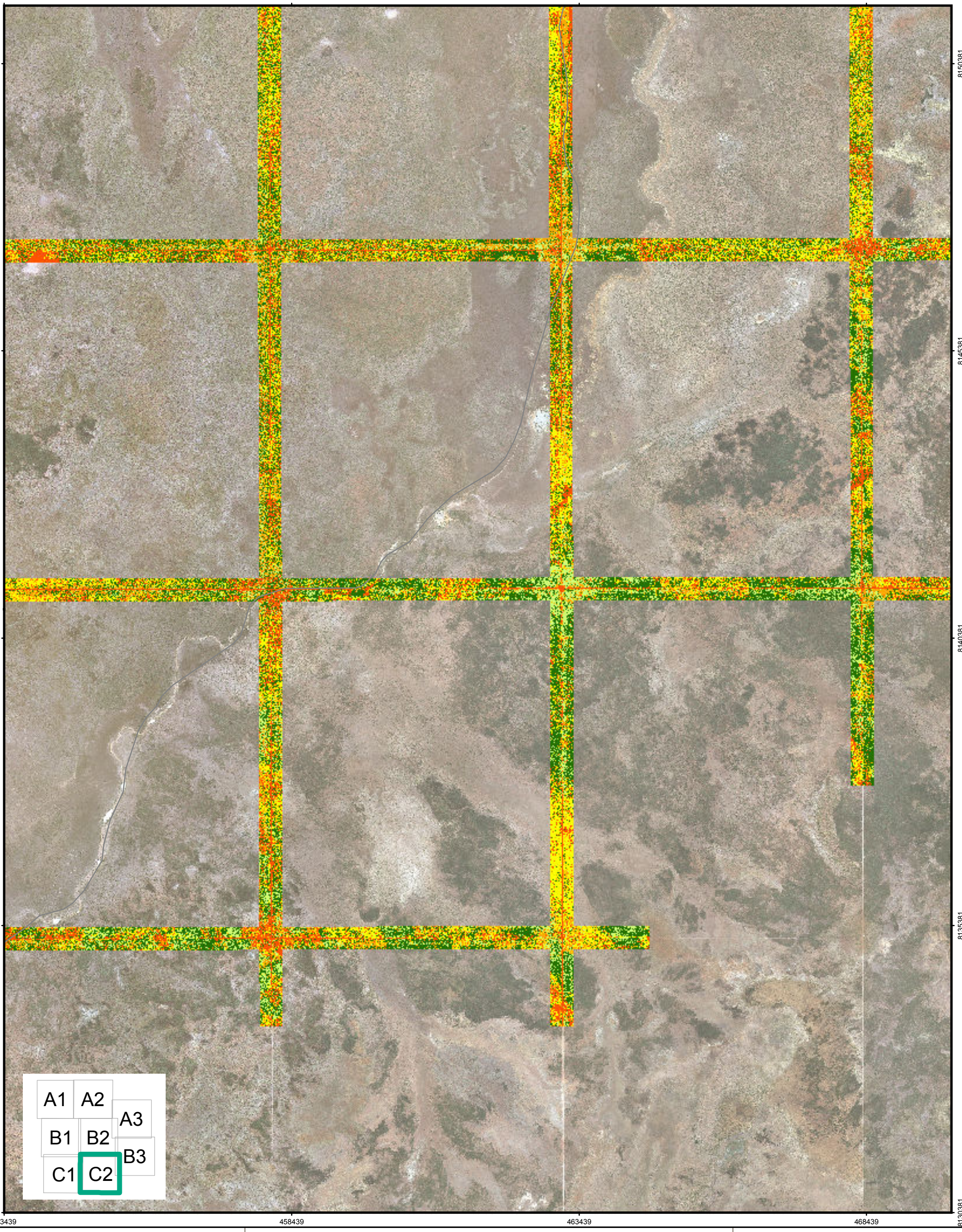

AECOM
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N

Projection: GDA 1994 MGA Zone 53

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1:60,060 (when printed at A3)

- Bare Earth
- Grassland
- Shrubland
- Trees
- Dry Grassland

Sweetpea Petroleum Pty Ltd, Environmental Management Plan

Northern Vegetation Mapping

PROJECT ID	N/A
CREATED BY	sam.schroder
LAST MODIFIED	16-Jul-2020
VERSION	1

Figure C2

Filename: T:\Projects\2019\Sweetpea_GIS\02_MXD\Land_Condition_Assessment\06\AppendixD\A1_Vegetation_Assessment_DDP_20200226.mxd

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1

2

3

4

Barkly Stock Route

Line 10

Line 1

AECOM
www.aecom.com

N

Projection: GDA 1994 MGA Zone 53

10.50 1 km

1:164,000 (when printed at A3)

Seismic Lines

- Vegetation Clearance Required
- Unsealed Road/ Existing Pastoral Track
- Mapsheet

Classification

- Tree
- Shrubland
- Grassland
- Dry Grassland
- Bare Earth

DARWIN

EP136

Sweetpea Petroleum Pty Ltd, Environmental Management Plan

Southern Vegetation Mapping Overview

PROJECT ID	N/A
CREATED BY	sam.schroder
LAST MODIFIED	17-Jul-2020
VERSION	1

Figure 2

Filename: T:\Projects\2019\Sweetpea_GIS\02_MXD\Land_Condition_Assessment\06\AppendixD\D2_Vegetation_Assessment_Sth_overview_20200226.mxd

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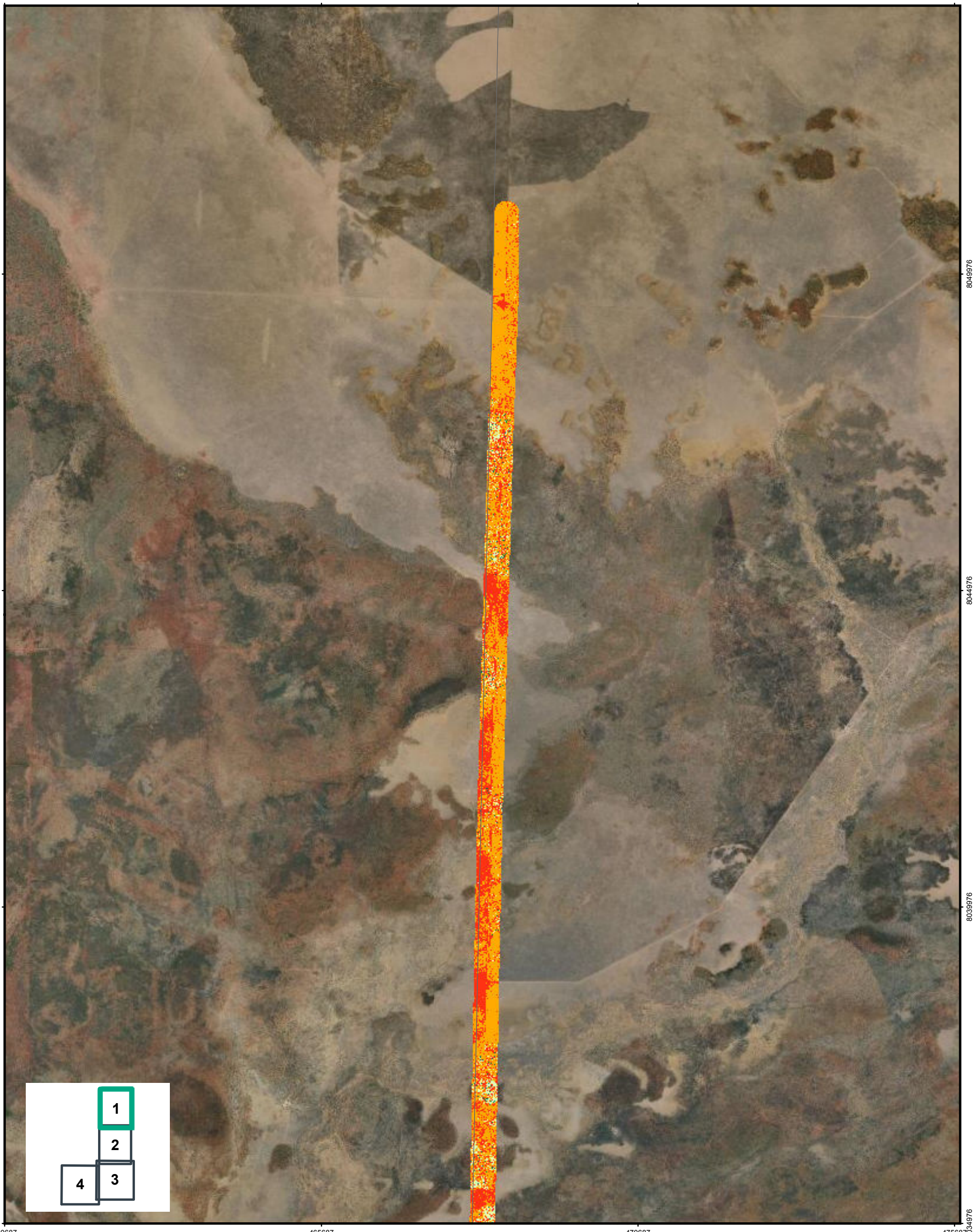

AECOM
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N

Projection: GDA 1994 MGA Zone 53

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1:55,000 (when printed at A3)

Classification

- Tree
- Shrubland
- Grassland
- Dry Grassland
- Bare Earth

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Sweetpea Petroleum Pty Ltd, Environmental Management Plan

Southern Vegetation Mapping

PROJECT ID	N/A
CREATED BY	sam.schroder
LAST MODIFIED	17-Jul-2020
VERSION	1

Figure 2-1

A3 size

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N

Projection: GDA 1994 MGA Zone 53

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1:55,000 (when printed at A3)

Classification

- Tree
- Shrubland
- Grassland
- Dry Grassland
- Bare Earth

Sweetpea Petroleum Pty Ltd, Environmental Management Plan

Southern Vegetation Mapping

PROJECT ID	N/A
CREATED BY	sam.schroder
LAST MODIFIED	17-Jul-2020
VERSION	1

Figure 2-2

Filename: T:\Projects\2019\Sweetpea_GIS\02_MXD\Land_Condition_Assessment\06\AppendixD\D2_Vegetation_Assessment_Sth_DDP_20200226.mxd

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AECOM
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N

Projection: GDA 1994 MGA Zone 53

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Classification

- Tree
- Shrubland
- Grassland
- Dry Grassland
- Bare Earth

DARWIN
EP136

Sweetpea Petroleum Pty Ltd, Environmental Management Plan

Southern Vegetation Mapping

PROJECT ID	N/A
CREATED BY	sam.schroder
LAST MODIFIED	17-Jul-2020
VERSION	1

Figure 2-3

A3 size

Filename: T:\Projects\2019\Sweetpea_GIS\02_MXD\Land_Condition_Assessment\06\AppendixD\D2_Vegetation_Assessment_Sth_DDP_20200226.mxd

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8018701 8013701 8008701 8003701

AECOM
www.aecom.com

N

Projection: GDA 1994 MGA Zone 53

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1:64,650 (when printed at A3)

Classification

- Tree
- Shrubland
- Grassland
- Dry Grassland
- Bare Earth

DARWIN
EP136

Sweetpea Petroleum Pty Ltd, Environmental Management Plan

Southern Vegetation Mapping

PROJECT ID	N/A
CREATED BY	sam.schroder
LAST MODIFIED	17-Jul-2020
VERSION	1

Figure 2-4

Filename: T:\Projects\2019\Sweetpea_GIS\02_MXD\Land_Condition_Assessment\06\AppendixD\D2_Vegetation_Assessment_Sth_DDP_20200226.mxd

A3 size

Appendix E

Site-Specific Bushfire Management Plan

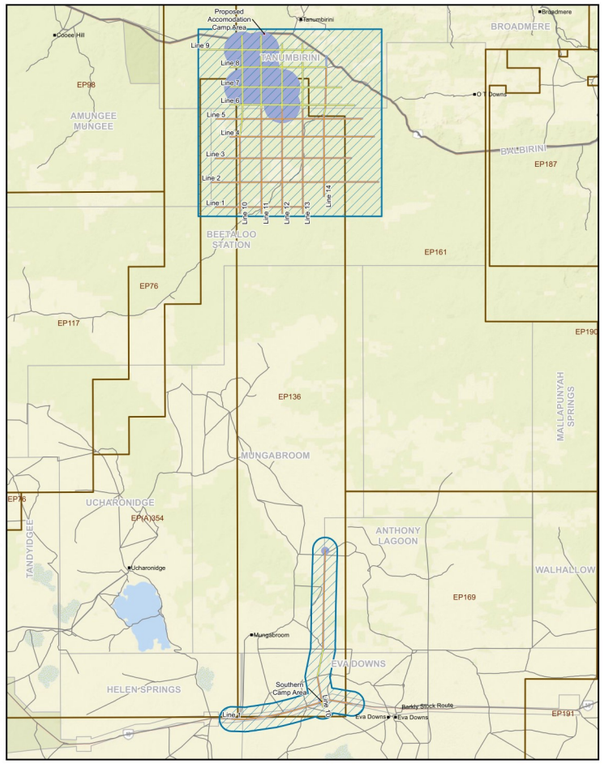
Appendix E Site-Specific Bushfire Management Plan

Exploration Permit 136

Bushfire Management Plan 2020/21

Beetaloo Station, Tanumbirini Stations, Eva Downs and Anthony Lagoon Station

Location of EP136—Northern and Southern Survey Area	
Property land uses	Gas exploration and cattle grazing
Site fire management aim	To reduce the occurrence of, and minimise the impact of bushfires, thereby reducing the threat to life, property, cultural values and the environment.
Site fire management objectives	Mitigate the potential impact of unplanned fires on Sweetpea's people, assets and operations and neighbouring land uses.



Bushfire Officer	Contact Details	Name
	AECOM Australia Pty Ltd [redacted]	[redacted]

Properties	Contact Details	Name
Amungee Mungee Station	[redacted]	
Tanumbirini Station		
Beetaloo Station		
Anthony Lagoon and Eva Downs Stations		

Offsite Stakeholders	Contact Details	Name
National Response Centre	1800 076 251	24/7 contract line
Emergency	000 or 112 mobile	
Bushfire NT Katherine office (Savanna)	(08) 8973 8876	
Bushfire NT Alice Springs office (Barkly)	(08) 8952 3066	
NAFI North	https://www.firenorth.org.au/nafi3/	
Secure NT (Fire Bans)	https://securent.nt.gov.au/alerts	
Fire incident map	https://www.pfes.nt.gov.au/incidentmap/	

Sweetpea Seismic Program Fire Management Zones—Bushfire Management Actions

Camp area	• Remove all vegetation within the camp area and implement erosion and sediment control plan. • Treat emerging vegetation with herbicide. • Hot works are not permitted on total fire ban days without written approval from a fire control officer or fire warden.
Fire management break	• Create and maintain a 10 m wide bare earth loop road around the camp area and any laydown areas.
Asset Protection Zone (APZ)	• Site Manager to assess fuel load prior to camp establishment and again at end of wet season if infrastructure is still in place. • Establish a 40 m low fuel zone around camp area. • Monitor for grassy weeds and control where appropriate. • Ensure 4 m wide fire access trail around the perimeter of the asset protection zone is trafficable by fire fighting appliances.
Fire access trails	• Create and maintain 4 m wide access trail around the perimeter of the proposed Camp area by grading or spraying.
Seismic Acquisition	• Adequate fire protection equipment to be provided to prevent fires, the spread of fire, injury to personnel, and to ensure local bushfire and other fire regulations are observed. • Fire extinguishers to be fitted to all vehicles and key locations at camp.
Neighbouring Property Fire Management Zone	• Fire management planning meeting with neighbouring properties prior to commencing exploration activities, and reviewed annually. • Neighbour to advise proponent of planned burns.

Fire Management Risks

- Ignitions (humans and lightening) on or off site resulting in harm to workers and loss of equipment.
- Fire scar mapping indicates the exploration area burns approximately every 2 years.
- Bullwaddy and Lancewood vegetation communities occur in areas across the permit and are fire sensitive. Hot fires have the ability to reduce habitat quality for both flora and fauna species which utilise these vegetation communities.
- Spread of high fuel load grassy weeds could increase fire intensity, e.g. gamba, grader and buffel grass, adjacent infrastructure areas and access tracks.

This Site Specific Bushfire Management Plan has been prepared for Sweetpea and its Contractors to manage the risk from bushfire the planned seismic exploration activities. This Plan should be read in conjunction with the Overarching *Environmental Management Plan and Emergency Response Plans* for Sweetpea's operations in the Beetaloo Basin.

APPENDIX E Bushfire Management Plan | Version 3 | 01 August 2020

Bushfire Preparedness

Preparedness Planning

Mandatory for all Severe, Extreme and Catastrophic FDI days
The following must be reviewed daily. If fire alerts are active or presenting with a know risk (fire in the area), personnel must execute their contingency plans which need to encompass the following:

- ☐ Procedure on identifying and notifying of a bushfire.
- ☐ Critical equipment to be removed / isolated/ shut down.
- ☐ Safe evacuation routes from site and muster points.
- ☐ Communication methods:
  - ✓ Team channels and / or phone numbers
  - ✓ Area channels and/or phone numbers
- ☐ Closest 'Safe Havens' .

Monitoring

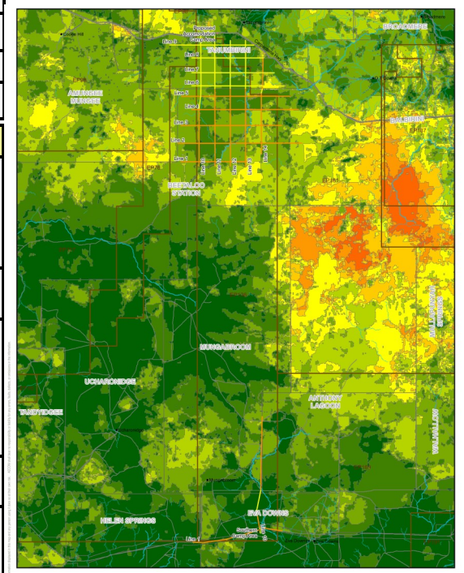
- ☐ Provide timely advice on changes in level of fire risk as available.
- ☐ Monitor team and area common channels for bushfire early warning.
- ☐ Update changes in work location.

Bushfire First Responder Checklist

The following sequence must be followed by the first person responding to a fire:

1. Danger – Remove yourself and others from danger is safe to do so.

2. Alarm – Raise the alarm either on common radio channel or other agreed process.



3. Gather Information –

- ☐ **Location** – Direction from known reference points, (e.g. roads and Sweetpea infrastructure such as camp location).
- ☐ **Impacts (actual and potential)** – Life, property and the environment.
- ☐ **Fire Characteristics** – Grass or woodlands, flame height, fire front and direction of travel.
- ☐ **Weather** – Wind strength and direction.
- ☐ **Response in Progress** – What response is underway and by who (Sweetpea Contractors, Pastoralist or Emergency Services).
- ☐ **Response required** – Sweetpea Contractors and / or Pastoralist and / or Emergency Services.
- ☐ **Access** – Safe access and egress routes.

4. Notify Sweetpea – Fire Officer/Supervisor

5. Notify Pastoralists – Refer to Property Contacts.

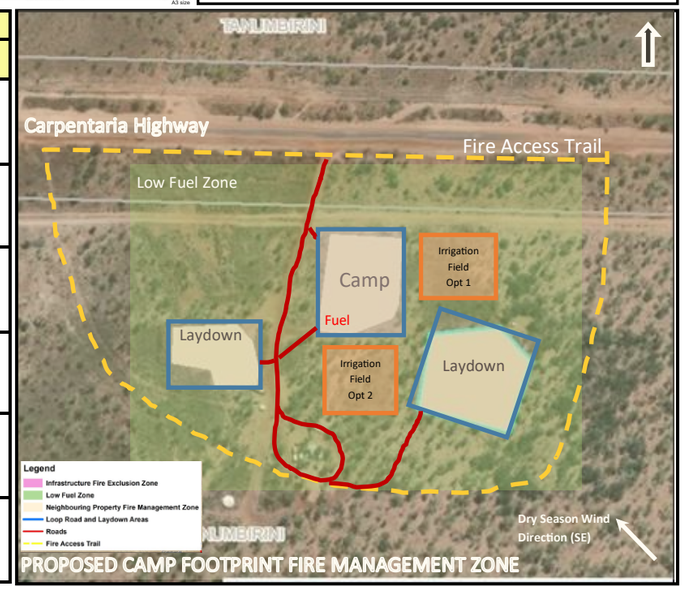
6. Notify Emergency Services – Call "000" or "112" (for mobiles) if Sweetpea and Pastoralist unable to manage situation

7. Respond – If safe to do so in consultation with Pastoralists.

8. Handover – To the Pastoralist / Emergency Services on arrival.

Annual Works Calendar

Month	Bushfire Risk	Action	Month	Bushfire Risk	Action
Jan	Low	• No fire management activity	July	High	• Monitor NAFI and visual scan horizon for smoke • Liaise with neighbour regarding bushfires • Review the preparedness planning requirements
Feb	Low	• No fire management activity	Aug	High	• Monitor NAFI and visual scan horizon for smoke • Liaise with neighbour regarding bushfires • Review the preparedness planning requirements
Mar	Low	• Weed survey • Planning meeting with neighbour	Sept	High	• Monitor NAFI and visual scan horizon for smoke • Liaise with neighbour regarding bushfires • Review the preparedness planning requirements
Apr	Low	• No fire management activity	Oct	High	• Monitor NAFI and visual scan horizon for smoke • Liaise with neighbour regarding bushfires • Review the preparedness planning requirements
May	Low	• No fire management activity	Nov	Medium	• Monitor NAFI and visual scan horizon for smoke • Liaise with neighbour regarding bushfires • Review the preparedness planning requirements
June	Medium	• Manage vegetation onsite including weeds • Manage fire break and fire access trail • Monitor NAFI • Liaise with neighbour regarding bushfires	Dec	Low	• No fire management activity.



Appendix F

Site-Specific Rehabilitation Plan

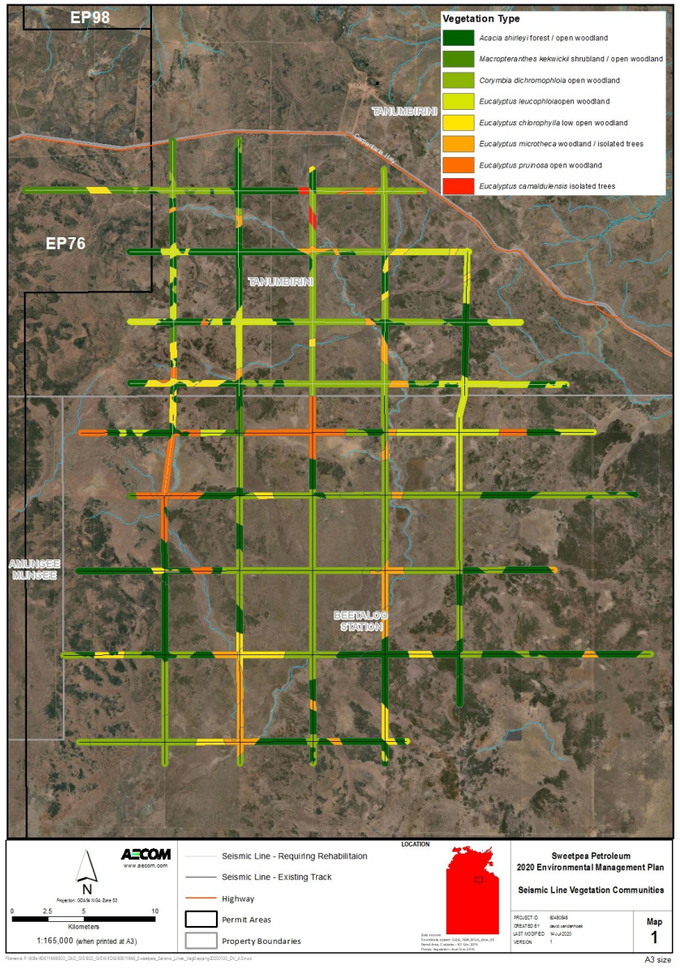
Appendix F Site-Specific Rehabilitation Plan

Northern Exploration Area — EP136

Rehabilitation Plan 2020/21

Located: Beetaloo & Tanumbirini Stations

Location of EP136—Beetaloo & Tanumbirini Stations	
Property land uses	Gas exploration and cattle grazing
Site fire management aim	To reduce the occurrence of, and minimise the impact of bushfires, thereby reducing the threat to life, property, cultural values and the environment.
Site fire management objectives	Mitigate the potential impact of unplanned fires on Sweetpea's people, assets and operations and neighbouring land uses.



Post Activity Rehabilitation Aim and Objectives	
Site management aim	The aim is to rehabilitate any part of the land affected by the regulated petroleum activity to a safe condition consistent with industry standards Existing tracks utilised for seismic surveys on Beetaloo Station are to be reinstated to a safe trafficable condition.
Rehabilitation objectives	The rehabilitation objective is to provide a stable land form, which supports a resilient self-sustaining vegetation community that can withstand impacts including fire and cattle grazing and is safe to humans and wildlife, whilst utilising appropriate site infrastructure for ongoing pastoral activities (i.e. access tracks, water bores, fencing and laydown areas).

This Site Specific Rehabilitation Plan has been prepared for Sweetpea and its Contractors to remediate and rehabilitate following completion of the planned seismic exploration activities. This Plan should be read in conjunction with the Overarching *Environmental Management Plan and Emergency Response Plans* for Sweetpea's operations in the Beetaloo Basin.

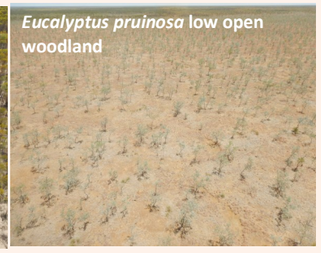
Rehabilitation Officer	Contact Details	Name
	AECOM Australia Pty Ltd [redacted]	[redacted]

Site Environmental Summary

Vegetation community	Survey sites	Descriptions	Canopy cover (%)	Ground cover (%)
Eucalyptus pruinosa low open woodland	1, 4	*Eucalyptus pruinosa* low open woodland over *Dichanthium* sp. (mixed) low open tussock grassland.	5-20	5-10
Eucalyptus microtheca low woodland	11, 15	*Eucalyptus microtheca* low woodland +- *Eucalyptus camaldulensis* var *obtusa* (near creek lines) over *Dichanthium fecundum*, *Chrysopogon fallax* (mixed) low open tussock grassland.	5-20	5-30
Eucalyptus chlorophylla low open woodland	3, 9	*Eucalyptus chlorophylla* low open woodland over +- *Melaleuca* sp. shrubs over *Dichanthium* sp and *Chrysopogon fallax* tussock grassland.	5-20	5-30
Eucalyptus leucophloia low open woodland	5, 18	*Eucalyptus leucophloia* subsp. *euroa* low open woodland with *Acacia* sp. (mixed) open shrubland over *Triodia pungens* hummock grassland	5-20	5-40
Acacia shirleyi open forest	8, 16	*Acacia shirleyi* open forest with *A. shirleyi* and *Macropteranthes kekwickii* open shrubland over *Chrysopogon fallax* (mixed) low open tussock grassland	50-80	5
Macropteranthes kekwickii tall shrubland	7, 13	*Macropteranthes kekwickii* tall shrubland with mixed open shrubland over *Chrysopogon fallax* and *Dichanthium fecundum* low open tussock grassland.	10-70	5-30
Corymbia terminalis (mixed) open woodland	6, 10	*Corymbia terminalia* (mixed) open woodland with mixed open shrubland over *Triodia* sp. hummock and mixed tussock grassland.	5-20	10-20
Corymbia dichromophloia (mixed) open woodland	2, 14, 17, 19	*Corymbia dichromophloia* (mixed) open woodland with *Terminalia canescens* mixed open shrubland over *Triodia sp.* low open hummock grassland and mixed tussock grassland.	5-20	5-30
Eucalyptus camaldulensis open woodland	20	*Eucalyptus camaldulensis* var. *obtusa* low open woodland with *Atalaya hemiglauca* open shrubland over *Dichanthium* sp. tussock and *Triodia* sp. hummock low open tussock grassland.	5	10-20

Rehabilitation Strategy (refer Appendix J ESCP)

Parameters	Methods	Objective
Vegetation	• Implement progressive rehabilitation of seismic lines as soon as data recording is completed to reduce exposed soils and minimise runoff from first flush events. • Implement rehabilitation of field camp upon cessation of use. • Disturbed areas to be allowed to naturally regenerate or revegetate on completion of regulated activity. • All compacted areas to be ripped and scarified to promote regeneration of vegetation, this may require assistance through spread of native seed stock. Where possible, native seed stock would be supplied by local Indigenous suppliers.	• Establish vegetation similar to adjacent vegetation (species richness, structure and cover). • The type of ground cover applied to completed earthworks to be compatible with the anticipated long-term land use, environmental risk, and site rehabilitation measures.
Ground cover	• Previously removed vegetation and topsoil will be uniformly respread over disturbed area to assist with rehabilitation process through agencies of increased infiltration and return of seed-bearing topsoil, as well as reducing erosion. • If required, additional native seed mix from the area could be respread to speed up rehabilitation process.	
Landform stability	• All windrows and whoa boys are to be removed as soon as practicable after line stabilisation.	



Rehabilitation Risks

Key Risks	Controls
Drought — impacting the establishment of rehabilitated vegetation	• Time rehabilitation actions to coincide with the beginning of the wet season, to ensure access to the site and maximise the establishment period of vegetation over the wet season • Re-spread topsoil across the site to utilise the local seed bank • Ongoing monitoring to identify if further seed inputs are required • Collection of seed from the local area to ensure seed stock is suited to the climatic conditions of the site
Fire—impacting revegetation	• Establish a mix of perennial and annual grass species • Establish a mix of re-sprouter (e.g. *Eucalypt spp*. and *Corymbia spp.*) and re-seeder species (e.g. *Acacia spp*.) • Ongoing monitoring to determine fire impacts on revegetation. • Ongoing monitoring to determine if further seed inputs are required
Grazing —impacting revegetation	• Establish a mix of perennial and annual grass species • Re-spread timber with top soil • Ongoing monitoring to determine grazing impacts on revegetation. • Ongoing monitoring to determine if further seed inputs are required • Ongoing monitoring to determine if fencing is required
Exposed Ground — leading to an increase in weed establishment and/or erosion	• Remove windrows and topsoils • Respread of topsoil and vegetated matter across the site • Annual weed surveys of rehabilitated area once rehabilitation is established • Control of any weed incursions

Final Success Criteria

Canopy Cover (%)	• A minimum of 10-20% canopy cover for open woodland community • It is noted that Eucalypt woodlands will recover faster than the Lancewood/Bullwaddy community, however should have signs of regrowth following rehabilitation and within 12-18 months after rainfall
Ground Cover (%)	• Minimum 20% ground cover using locally available material including reserved topsoil/ cleared vegetation before the onset of the first wet season • A minimum of 20% ground foliage cover and 30% diversity to be achieved within the first 12 months and maintained for at least 3 years following rehabilitation. Success will be dependent on minimised cattle movements and rainfall
Creek Crossings	• All crossings are reinstated to the original topography of the bed following seismic survey
Erosion	• Less than 5 % erosion should be evident after the first 12 months and no subsidence or erosion should be evident for at least 5 years after completion
Weeds	• No establishment of weed species declared under the Northern Territory Weeds Management Act
Hazardous materials and waste	• All hazardous material and waste removed from site upon completion of works to licensed landfill facilities or recycling facilities.
Safety for humans and wildlife	• Rehabilitation of disturbance areas should be similar in landform to the surrounding area. No steep slopes or barriers to remain on site that endanger either wildlife or humans • Water bores and exploration wells to be sealed and isolated • Removal of all surface facilities including fencing (star pickets/fencing wire) • Remediation and backfilling of all sumps/ponds

Monitoring Program and Schedule

Rehabilitation Stage	Timing	Method	Measurable attributes
Progressive Rehabilitation (following data recording)	Within 5 days of activities being completed on any part of the site	• Topsoil and cleared vegetation will be stockpiled to be respread following the works. • Refer to detail in Appendix J Erosion and Sediment Control Plan	• All disturbed areas must be suitably stabilised - IECA Table 4.4.7 in Appendix J4 of Appendix J ESCP.
Preliminary Assessment	6 to 9 Months post rehabilitation, end of wet season survey (February to June).	• Establish 14 permanent 100m x 4m woody species transects (one per hectare), with photo monitoring point/s, include 2 analogue sites in nearby undisturbed vegetation community. • Collect 1 x 1 m ground cover quadrats every 10 m along transect. • Transects to be randomly selected with start and end marked with star picket. • Edge effects (i.e. impacts from haul roads) minimised through reducing plot margins to <20 m.	Measurable attributes compared with analogue sites. • Indication of seed germination and plant establishment rates. • Vegetation cover (dominant species and abundance). • Land condition (e.g. erosion, canopy cover, ground cover, habitat quality). • Weed presence/absence (species and density). • Disturbance (fire frequency and intensity, evidence of feral animal/cattle) • Incidental observations from surrounding area.
Early Rehabilitation	Years 1, 2 and 3 post rehabilitation, end of wet season survey (February to June).	• Monitoring to be undertaken using permanent transects. • Collect data as per preliminary methods. • Compare results from previous assessment to determine if require additional management inputs (i.e. seeding, stabilisation). • Review success criteria.	• Early assessment of rehabilitation will determine attributes of woody plants in each 100 m x 4 m transect. • Including assessment of species, Diameter at Breast Height (DBH) (>1.5 cm) and height (>2 m), in addition to parameters described within the preliminary assessment.
Long-Term Rehabilitation	Annually until final success criteria has been met, end of wet season survey (February to June).	• Monitoring to be undertaken using permanent transects. • Collect data as per preliminary methods. • Compare results from previous assessment to determine if require additional management inputs (i.e. seeding, stabilisation). • Review success criteria.	• Long-term assessment will determine establishment, recruitment and growth rate attributes of plant species, in addition to parameters described during Early Rehabilitation stage.

Southern Exploration Area — EP136

Rehabilitation Plan 2020/21

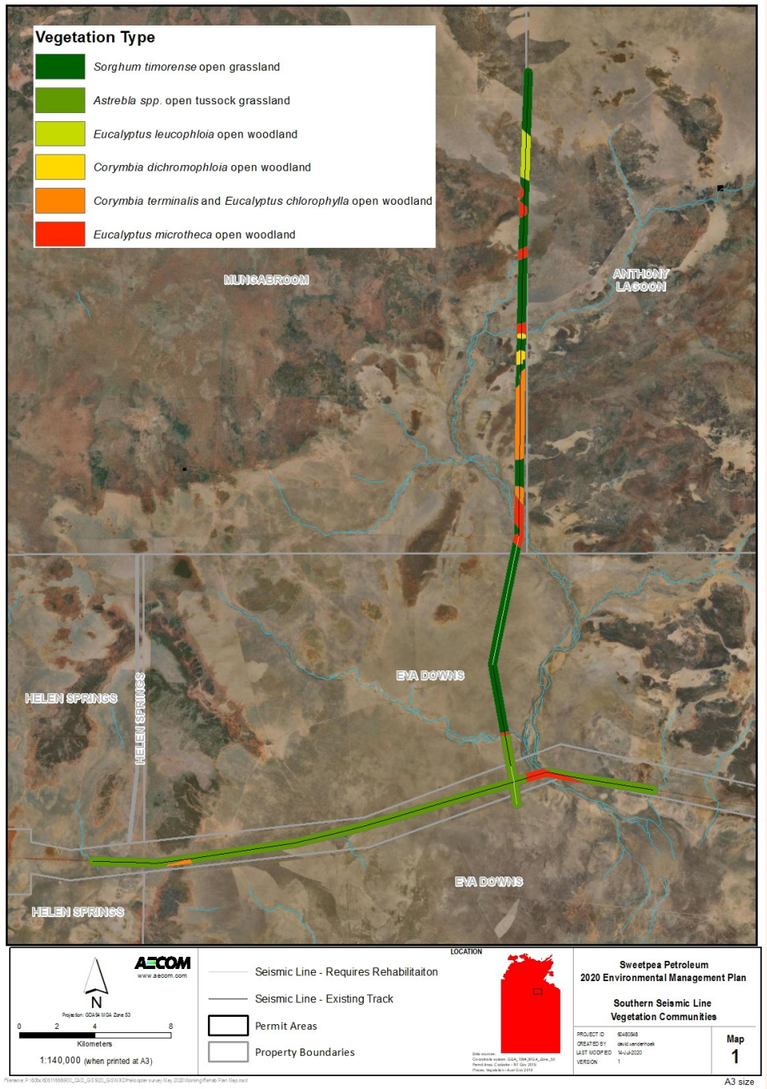
Located: Anthony Lagoon/Eva Downs

Rehabilitation Officer	Contact Details	Name
	AECOM Australia Pty Ltd [redacted]	[redacted]

Location of EP136 — Anthony Lagoon/Eva Downs Stations and Barkly Stock Route (Southern Survey Area)	
Property land uses	Gas exploration and cattle grazing
Site fire management aim	To reduce the occurrence of, and minimise the impact of bushfires, thereby reducing the threat to life, property, cultural values and the environment.
Site fire management objectives	Mitigate the potential impact of unplanned fires on Sweetpea's people, assets and operations and neighbouring land uses.

Environmental Summary of Rehabilitation Areas

Vegetation community	Descriptions	Canopy cover (%)	Ground cover (%)
Sorghum timorense open grassland	*Sorghum timorensis* and *Iseilema vaginiflorum* mid high open grassland	0	30
Astrebla spp. open tussock grassland	*Astrebla spp.* mid high open tussock grassland	0	15



Post Activity Rehabilitation Aim and Objectives

Site management aim	The aim is to rehabilitate any part of the land affected by the regulated petroleum activity to a safe condition consistent with industry standards. Existing tracks utilised for seismic surveys on Anthony Lagoon and Eva Downs Stations are to be reinstated to a safe trafficable condition.
Rehabilitation objectives	The rehabilitation objective is to provide a stable land form, which supports a resilient self-sustaining vegetation community that can withstand impacts including fire and cattle grazing and is safe to humans and wildlife, whilst utilising appropriate site infrastructure for ongoing pastoral activities (i.e. existing access tracks, water bores, fencing and laydown areas).

Rehabilitation Strategy (refer Appendix J ESCP)

Parameters	Methods	Objective
Vegetation	• Implement progressive rehabilitation of seismic lines as soon as data recording is completed to reduce exposed soils and minimise runoff from first flush events. • Implement rehabilitation of field camp upon cessation of use. • Disturbed areas to be allowed to naturally regenerate or revegetate on completion of regulated activity. • All compacted areas to be ripped and scarified to promote regeneration of vegetation, this may require assistance through spread of native seed stock. Where possible, native seed stock would be supplied by local Indigenous suppliers.	• Establish vegetation to be consistent to adjacent vegetation (species richness, cover and structure). • The type of ground cover applied to completed earthworks to be compatible with the anticipated long-term land use, environmental risk, and site rehabilitation measures.
Ground cover	• Previously removed vegetation and topsoil will be uniformly re-spread over disturbed area to assist with rehabilitation process through agencies of increased infiltration and return of seed-bearing topsoil, as well as reducing erosion. • If required, additional native seed mix from the area could be respread to speed up rehabilitation process.	
Landform stability	• All windrows and whoa boys are to be removed as soon as practicable after line stabilisation.	

This Site Specific Rehabilitation Plan has been prepared for Sweetpea and its Contractors to remediate and rehabilitate following completion of the planned seismic exploration activities. This Plan should be read in conjunction with the Overarching *Environmental Management Plan and Emergency Response Plans* for Sweetpea's operations in the Beetaloo Basin.

Rehabilitation Risks

Key Risks	Controls
Drought — impacting the establishment of rehabilitated vegetation	• Time rehabilitation actions to coincide with the beginning of the wet season, to ensure access to the site and maximise the establishment period of vegetation over the wet season • Re-spread topsoil across the site to utilise the local seed bank • Ongoing monitoring to identify if further seed inputs are required • Collection of seed from the local area to ensure seed stock is suited to the climatic conditions of the site
Fire—impacting revegetation	• Establish a mix of perennial and annual grass species • Ongoing monitoring to determine fire impacts on revegetation. • Ongoing monitoring to determine if further seed inputs are required
Grazing —impacting revegetation	• Establish a mix of perennial and annual grass species • Ongoing monitoring to determine grazing impacts on revegetation. • Ongoing monitoring to determine if further seed inputs are required • Ongoing monitoring to determine if fencing is required
Exposed Ground — leading to an increase in weed establishment and/or erosion	• Remove windrows and topsoils • Respread of topsoil and vegetated matter across the site • Annual weed surveys of rehabilitated area once rehabilitation is established • Control of any weed incursions

Final Success Criteria

Canopy Cover (%)	• No canopy cover recorded within areas of open grassland
Ground Cover (%)	• Minimum 15% ground cover using locally available material including reserved topsoil/ cleared vegetation before the onset of the first wet season. • A minimum of 15% ground foliage cover and 30% diversity to be achieved within the first 12 months and maintained for at least 3 years following rehabilitation. Success will be dependent on minimised cattle movements and rainfall events.
Creek Crossings	• All crossings are reinstated to the original topography of the bed following seismic survey
Erosion	• Less than 5 % erosion should be evident after the first 12 months and no subsidence or erosion should be evident for at least 5 years after completion.
Weeds	• No establishment of weed species declared under the Northern Territory Weeds Management Act.
Hazardous materials and waste	• All hazardous material and waste removed from site upon completion of works to licensed landfill facilities or recycling facilities.
Safety for humans and wildlife	• Rehabilitation of disturbance areas should be similar in landform to the surrounding area. No steep slopes or barriers to remain on site that endanger either wildlife or humans • Water bores and exploration wells to be sealed and isolated • Removal of all surface facilities including fencing (star pickets/fencing wire) • Remediation and backfilling of all sumps/ponds.

Monitoring Program and Schedule

Rehabilitation Stage	Timing	Method	Measurable attributes
Progressive Rehabilitation (following data recording)	Within 5 days of activities being completed on any part of the site	• Topsoil and cleared vegetation will be stockpiled to be respread following the works. • Refer to detail in Appendix J Erosion and Sediment Control Plan.	• All disturbed areas must be suitably stabilised - IECA Table 4.4.7 in Appendix J4 of Appendix J ESCP.
Preliminary Assessment	6 to 9 Months post rehabilitation, end of wet season survey (February to June).	• Establish 6 permanent 100 m x 4 m woody species transects, with photo monitoring point/s, include 2 analogue sites in nearby undisturbed vegetation community. • Collect 1 x 1 m ground cover quadrats every 10 m along transect. • Transects to be randomly selected with start and end marked with star picket.	Measurable attributes compared with analogue sites for: • Indication of seed germination and plant establishment rates. • Vegetation cover (dominant species and abundance). • Land condition (e.g. erosion, canopy cover, ground cover, habitat quality). • Weed presence/absence (species and density). • Disturbance (fire frequency and intensity, evidence of feral animal/cattle) • Incidental observations from surrounding area.
Early Rehabilitation	Years 1, 2 and 3 post rehabilitation, end of wet season survey (February to June).	• Monitoring to be undertaken using permanent transects. • Collect data as per preliminary methods. • Compare results from previous assessment to determine if require additional management inputs (i.e. seeding, stabilisation). • Review success criteria.	• Early assessment of rehabilitation will determine the composition and cover of grasses in each 100 m x 4 m transect.
Long-Term Rehabilitation	Annually until final success criteria has been met, end of wet season survey (February to June).	• Monitoring to be undertaken using permanent transects. • Collect data as per preliminary methods. • Compare results from previous assessment to determine if require additional management inputs (i.e. seeding, stabilisation). • Review success criteria.	• Long-term assessment will determine establishment, recruitment and growth rate attributes of plant species, in addition to parameters described during Early Rehabilitation stage.

Appendix G

Stakeholder Engagement

Appendix G Stakeholder Engagement

Sweetpea Petroleum Pty Ltd Communication Log Updated 01 September 2020							
Date	**Contact**	**Company**	**Information Provided**	**Correspondence Type**	**Objections**	**Discussion/Assessment of Objections**	**Outcome/Responses**
Tanumbirini Station Communication Log							
	Andrew Logan	Sweetpea Petroleum	Introductory Phone Call	Phone Call	-	Requesting a meeting with Tanumbirini Owners in London.	Meeting Scheduled for 9 August 2019
9/08/2019	[redacted] Andrew Logan	Insight Investment Sweetpea Petroleum	Sweetpea Petroleum	Face-to-Face Meeting	No	Meeting with [redacted], owner of Tanumbirini Station in London to provide an outline of the work program and timelines of exploration activities over next two years (environmental studies, seismic surveys, drilling and testing) and to obtain feedback on proposed activities. [redacted]advised that he was planning to install watering infrastructure on Tanumbirini Station in the area proposed for the seismic survey, including access tracks, water bores and tanks.	Postive engagement with [redacted].
9/08/2019	[redacted]	Insight Investment	Sweetpea Petroleum	Follow up email to Andrew Logan	No	Thanked Andrew for explaining plans in person for gas exploration on Tanumbirini Station. Provided email for benefit of [redacted] (legal counsel) and outlined understanding of the stages of exploration - environmental study, seismic study, drilling activities. Advised Andrew to contact [redacted] Group Station Manager when next in the area.	
12/08/2019	Andrew Logan	Sweetpea Petroleum	Sweetpea Petroleum	Email response to [redacted]	-	Provided additional background and context into the EP136. Detailed outline of proposed works and when they are scheduled to occur. 1. Site-based environmental and archeological assessments for Seismic EMP (October 2019) 2. Weed survey (January/February 2020) 3. Seismic survey (May/June/July 2020) 4. Site-based assessments for Drilling Civils and Water Wells EMP; and Drilling EMP (September/October) 5. Drilling one Exploration Well (June/July/August 2021). Arrange meeting with [redacted]. Station Manager in September 2019.	
14/08/2019	[redacted]	Insight Investment	Sweetpea Petroleum	Email response to Andrew Logan	No	[redacted] advised he would await formal application for access to undertake the no 1 and no 2 activities.	
12/09/2019	[redacted] Andrew Logan [redacted]	Tanumbirini Station Sweetpea AECOM	Sweetpea Visit	Face-to-Face Meeting	No	Provided overview of Sweetpeas exploration activities for next two years and intention to conduct seismic exploration in 2020. Requested access to conduct baseline survey (helicopter base) and any specific measures required. Utilise the existing air strip to base the helicopter survey for refuelling. Identified locations for potential camp sites, gate access etc. Opportunity for field crew to stay at Station during scouting, although depends on timing and what Tanumbirini operations are at the time. Advised to inspect Santos Camp and see if able to accomodate there. Noted fuel for the helicopter was based at Santos Camp. Weeds are big concern and asked to sign Weed Declaration prior to conducting some high level scouting while on site.	Positive engagement with Tanumbirini Station Manager on all aspects of proposed activities. [redacted] suggested a specific location for the seismic camp which had existing water bore and was already disturbed. This area had previously been used by DIPL Road Crews upgrading the Carpentaria Highway. From this advice Sweetpea confirmed its locations as suitable for the seismic activities.
13/09/2019	Andrew Logan	Sweetpea Petroleum	Sweetpea Visit	Follow up email to [redacted]	-	Thanked [redacted] for meeting with Andrew and [redacted]. Thanked for advice in relation to seismic camp location and sought any advice on gas pipeline weight bearing limits. Advised that will be in touch to arrange helicopter base survey.	
14/10/2019	Andrew Logan	Sweetpea Petroleum	Sweetpea Seismic line scouting Saturday 19th October	Email to [redacted]	-	Request to access Tanumbirini Station for seismic line scouting with a seismic contractor to assess conditions. Advised also plan to scout Beetaloo Station and to obtain onsite knowledge.	Follow up phone call confirmed ok to proceed.
15/10/2019	[redacted]	Insight Investment	FW: Tanumbirini Station and EP136	Email respone to Andrew Logan	No	Thanks for the heads up on Field scouting. Requested all correspondence have cc [redacted]Insight legal counsel) and [redacted] (Insight farmland management) and would suggest keeping the group in cc of future communications. I will have [redacted] provide our standard agreements for this purpose so that we can get this underway.	
16/10/2019	Andrew Logan	Sweetpea Petroleum	RE: Tanumbirini Station and EP136	Email response to [redacted]	-	Andrew advising about the government guidelines for land access notices and agreements and advised the 14 days notice required to undertake aerial reconnaissance work. Confirmed that the email provides such notice for activities 4-8 November. Attached - Petroleum - Stakeholder guideline-land-access-agreements	
18/10/2019	[redacted]	Insight Investment	RE: Tanumbirini Station and EP136	Email respone to Andrew Logan	No	Yes correct – there is no need for a formal land access agreement in this case for reconnaissance activities. Happy for you to engage direct with [redacted] in relation to the visit, and it would be requested that your activities comply at all times with the Petroleum Act (NT), the Petroleum Regulations (NT), the Petroleum (Environment) Regulations (NT) and the Stakeholder Engagement Guidelines Land Access that you have sent. Please come back to me if any questions.	
30/10/2019	Andrew Logan	Sweetpea Petroleum	Sweetpea helicopter baseline survey 4-8 November	Email to [redacted]	-	Confirmation of the dates of the helicopter reconnaissance survey 4 November to 8 November. Request to stay at the station for 5 persons, including pilot. Requested price to stay at Station.	
1/11/2019	[redacted]	Tanumbirini Station	RE: Sweetpea helicopter baseline survey 4-8 November	Email respones to Andrew Logan	No	'No we won't have any beds Available Santos might'	
1/11/2019	[redacted]	AECOM	RE: Sweetpea helicopter baseline survey 4-8 November	Email to [redacted]	-	Advised [redacted] that will look at option of stay Hi-Way Inn and flying in and out each day. Checking whether fuel drums are on the Tanumbirini airstrip.	
2/11/2019	[redacted]	Santos	Tanumbirini Camp	Email to [redacted]	-	Confirmation that field crew can stay at the Santos camp. Information required for the individuals. Information provided for accessing the camp.	
2/11/2019	Andrew Logan	Sweetpea Petroleum	Tanumbirini Camp	Email to Santos	-	Brief introduction to the authority of the survey.	Santos require acknowledgement from Sweetpea and AECOM that they are not responsible for any injuries/incidents.
4/11/2019	[redacted]	AECOM	Tanumbirini Camp	Email to Santos	-	Provision of details required by Santos. Attachments include: - 60611666_Ltr_Tanumbirini1CAmp_20191104.pdf	
4/11/2019	[redacted]	AECOM	AECOM Scouting 4 to 8 November	Email to [redacted]	-	AECOM team are mobilising to Tanumbirini Station. Confirmation that they will be staying at the Santos Camp. Request for the helicopter to remain on the Tanumbirini airstrip for duration of works. Brief outline of day-to-day works. Confirming that the work vehicle was able to access the Santos camp and airfield, with Weed Declaration paperwork to be filled out at the station. Included list and contact details of all involved. Attachments include: - Figure15_Stakeholder.pdf	Phone call to [redacted] acknowledged commencement of scouting activities.
5/11/2019	[redacted]	AECOM	AECOM Scouting 4 to 8 November	Email to [redacted]	-	Email communication over duration of field program commencing morning of 5/11/2019 through to 7/11/2019. Alerted Station Manager start time and finish time.	
6/11/2019	[redacted]	Tanumbirini Station	AECOM Scouting 4 to 8 November	Email to [redacted]	-	Advised field crew that Tanumbirini Station will have chopper in and out today just letting you know.	Field safety communications regarding another helicopter in area.

Sweetpea Petroleum Pty Ltd Communication Log Updated 01 September 2020							
Date	**Contact**	**Company**	**Information Provided**	**Correspondence Type**	**Objections**	**Discussion/Assessment of Objections**	**Outcome/Responses**
21/02/2020	Andrew Logan	Sweetpea Petroleum	Sweetpea update	Email to [redacted]	-	Advised that will be in UK for a couple of weeks and wondered if you were available to meet so I could update you on our exploration activities and planning on our permit EP136 overlapping Tanumbirini Station. I plan to be in London Thursday and Friday next week.	
21/02/2020	[redacted]	Insight Investment	Re:Sweetpea update	Email respones to Andrew Logan	-	Not available. I will be around Monday to Wednesday next week, and Monday/Tuesday the following week if that helps. We will be sending a notice in the near future regarding the divestment if Tanumbirini. It has been sold and we expect completion around mid March. I don't think you will have any issues with the new owners, they appear to be very accepting of the gas exploration. Maybe a call next week if we can't catch up?	Confirmed to meet face to face on 26 February 2020.
26/02/2020	Andrew Logan [redacted]n	Sweetpea Petroleum Insight Investment	Meeting with Tanumbirini Station Owners	Face-to-Face Meeting	No	Andrew Logan met with station owners in London. Advised that the Station is being sold, new owners [redacted]. understood that the new owners are friendly towards oil and gas, location of waterbores to be provided by owners. Were advised that it is possible the new owners may like to keep all cleared seismic lines to implement similar water system as that seen on Beetaloo Station.	
3/03/2020	Andrew Logan	Sweetpea Petroleum	Sweetpea EP136 scouting and basline surveys in March	Email to [redacted]	-	Providing notice of a seismic contractor scout visit to the proposed project area. Provide scout contact details. Notice of two other planned field visits. Request consent to use the airstrip at Tanumbirini Station for the helicopter and fixed-wing landings. Further info of the light craft flight will be provided in due course. Attachments include: - Tanumbirini Station Notice of draft EMP for Seismic Survey 20200302.pdf - Sweetpea_SeismicEMP_FinalDRAFT_0_20200226_NoAttach.pdf	
3/03/2020	[redacted]	Insight Investment	Re: Reciprocal contacts	Email to Andrew Logan and [redacted]	-	Email from [redacted] introducing Andrew Logan (Sweetpea CEO) to [redacted] (Rallen Australia) regarding sale of Tanumbirini Station. Noted Rallen Australia is based in Sydney. Settlement date likely mid-late March. Informing [redacted] of Sweetpeas reconnaissance survey on 16 March 2020.	
4/03/2020	Andrew Logan	Sweetpea Petroleum	Sweetpea - EP136 Field Scouting	Email to [redacted]	-	Request acknowledgment of planned scouting by seismic contrator between 7-9 March 2020. Asked any station activiites that need to be aware of. Noted survey is via vehicle and will be weed and seed certified.	
4/03/2020	[redacted]	Tanumbirini Station	RE:Sweetpea - EP136 Field Scouting	Response to Andrew Logan	No	All good to go ahead.	
5/03/2020	Andrew Logan	Sweetpea Petroleum	RE: Sweetpea - update on planned reconnaissance field work in March	Email to [redacted] and cc[redacted]	-	Email from Andrew advising following: 1.We have postponed the field scouting by siesmic contractor this week due to inaccessibility for vehicles on Beetaloo Station due to the wets, as advised by [redacted], Station manager at Beetaloo. 2.The weed survey and land condition assessment by AECOM is still planned for w/o 16th March. This is helicopter supported with provisionally 3 persons plus pilot in the party. The provisional dates are 17th to 21st March. AECOM also plan to have 2 LV's in the field to support. 3.The scouting of 7 drilling well pads and access roads on Tanumbirini Station by Civils & Drilling Engineering Consultants of Sweetpea, is still planned for 21st March. This is a day scouting trip ex-Darwin by light fixed-wing aircraft to Tanumbirini Station. This is a party of 6 persons with pilot, including myself and [redacted]of AECOM. We will provide flight plan and manifest in due course. Please could we have written permissions to land a light aircraft at Tanumbirini Airstrip on 21st March and for Helicopter operations out of the airstrip w/o 16th March, in order to firm plans and make aircraft bookings. Would there be any accommodation available at Tanumbirini Station for the AECOM party of 4 persons provisionally 17th to 21st March? Alternatively we will try the Santos Camp. The fallback will be Daly Waters.	
5/03/2020	[redacted]	Insight Investment	FW: Sweetpea - update on planned reconnaissance field work in March	Forwarded Andrews email to [redacted] and WardKeller	No		
13/03/2020	Andrew Logan	Sweetpea Petroleum	Reconnaissance work next week	Email to [redacted]	-	Notifying[redacted]of further environmental baseline studies on EP136, and scouting potential drill pad sites and access roads. Information for the scouting.	
16/03/2020	[redacted]	Tanumbirini Station	Reconnaissance work next week	Email response to Andrew Logan	No	Yes all ok. What day do you want to land the plane? We have no accommodation because of COVID-19 company policy.	
16/03/2020	Andrew Logan	Sweetpea Petroleum	Reconnaissance work next week	Email response to [redacted]	-	Requested advice on current conditions on the ground including: Are tracks accessible south of the Carpentaria Highway on your property and if creeks flooded.	[redacted] replies to email with 'just normally wet season' conditions.
20/03/2020	[redacted]	AECOM	EP136 Fied Scouting Saturday 21st March	Email to [redacted]	-	Advising that field scouting of well pad locations and access roads on EP136 will occur on Saturday 21 March. Details of charter flight and contact details. Advised will call evening to check in.	Note trip cancelled following email due to COVID-19 constraints.
20/03/2020	[redacted]	AzTech	EP136 Fied Scouting Saturday 21st March	Email to Andrew and AECOM	-	One of the proposed scouting party was on a flight that had a passenger test positive to COVID-19. Needed to go into self quarantine, therefore trip cancelled.	Andrew supports the decision
20/03/2020	[redacted]	AECOM	EP136 Fied Scouting Saturday 21st March	Phone call to [redacted]	-	Advised that just had a call and needing to cancel planned scout due to COVID-19.	[redacted]acknowledged delay.
30/03/2020	[redacted]	WardKeller	Sweetpea - Notice of Sale - Tanumbirini - Matter: 20192748	Email to Andrew Logan	-	As you are aware, we act for Thames Pastoral Company Pty Ltd (TPC). TPC has sold Tanumbirini to Rallen Australia Pty Ltd. The sale was completed today, 30 March 20. Please note that the solicitor for Rallen Australia is [redacted]of Hunt and Hunt in Darwin. [redacted]can be contacted at[redacted] and is copied in on this email.	
1/04/2020	[redacted]	Hunt&Hunt	CORO: Sweetpea - Notice of Sale - Tanumbirini - Matter: 20192748 (HH 190378)	Email to Andrew Logan	-	Advised client will liaise with you directly in relation to planned reconnaissance field work on Tanumbirini Station. Contact details as follows: [redacted]	

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Date	Contact	Company	Information Provided	Correspondence Type	Objections	Discussion/Assessment of Objections	Outcome/Responses
27/04/2020	Andrew Logan	Sweetpea Petroleum	Tanumbirini Station Sweetpea Petroleum Exploration Permit 136	Email to [redacted]	-	Andrew Logan confirm to [redacted] that Sweetpea Petroleum Pty Ltd is now the registered holder of a 100% interest in EP136 following the purchase of 50% interest from [redacted]. Requested registered business address for Rallen Australia Pty Ltd in order to send formal correspondence. Advised that wished to provide some information and updates on our proposed activities for 2020 and how we are managing these under COVID-19 conditions. Requested to meet in Sydney when the current restrictions are lifted.	
27/04/2020	[redacted]	Rallen Australia	RE: Tanumbirini Station - Sweetpea Petroleum Exploration Permit 136	Response to Andrew Logan	-	Provided registered address: [redacted] Confirmed happy to meet.	
8/05/2020	Andrew Logan	Sweetpea Petroleum	Sweetpea Petroleum EP136 and Tanumbirini Station	Email to Rallen Australia (new owners - [redacted])	-	Introduction and provision of formal letter regarding Sweetpea's exploration activities on Tanumbirini Station and provide summary of the impact of COVID-19 on activities. Advise of baseline studies w/o 18 May. Provided copy of EMP for consultation, review and feedback. Attachments include: - Sweetpea letter to Tanumbirini Station_20200508_reduced.pdf - Sweetpea_EP136 SeismicEMP_FinalDRAFT_20200226.pdf - Appendix !_EP136 SeismicEMP_Land Condition Assessment_reduced/pdf - Appendix F_EP136 SeismicEMP_DraftHSEP.pdf - AppendixE_EP136 SeismicEMP_Rehab Plan.pdf	
9/05/2020	Andrew Logan	Sweetpea Petroleum	Sweetpea EP136 - Tanumbirini Station Letter Part II drat EMP appendices	Email to Rallen Australia (new owners - [redacted])	-	More details for the proposed works. Attachments include: - Proposed Yaroo Creek 2D Seismic Survey-Concept M-Final-10th Feb.kml - Appendix B_EP136 Seismic EMP_Heritage Assessment.pdf - Appendix G_EP136 SeismicEMP_Weed Management Plan_reduced.pdf - Appendix D_SeismicEMP_Ground Classification_reduced.pdf - Appendix C_SeismicEMP_Risk Assessment.pdf	
13/05/2020	[redacted]	Rallen Australia	[EXTERNAL] RE: Sweetpea EP136 - Tanumbirini Station Letter Part II draft EMP appendices	Email to Andrew Logan	Yes	Rallen Australia Pty Ltd are new owners of Tanumbirini Stations and Forest Hill. Advised Sweetpea that all previous agreements and arrangements no longer applicable. Require a new Land Access Agreement to be agreed by both parties. Details the legislative requirements that need to have in place.	Sweetpea to draft Land Access Agreement with Rallen Australia.
15/05/2020	Andrew Logan	Sweetpea Petroleum	Sweetpea EP136 - Tanumbirini Station	Email response to [redacted]	-	Thanked [redacted] for notification of new ownership. Responded to the issue regarding LACA. Advising [redacted] that the law requiring a LACA has not yet commenced. The work proposed by Sweetpea is low impact environmental and heritage studies. Sweetpea is committed to seek to agree a LACA with Tanumbirini Station, shall provide a draft in the near future.	
21/05/2020	Andrew Logan	Sweetpea Petroleum	Sweetpea EP136 - Tanumbirini Station	Email to [redacted] and cc[redacted]	-	Provided Travel and Operational Plans for the baseline survey (helicopter based). Confirmed permission from Santos to access their site to get Fuel supply for helicopter. Advised on the measures in place for COVID-19. Attachments include: - Sweetpea Reconnaissance Activities 25th to 30th May 2020-Operational Plan & Map.pdf - jet fuel 2.jpg - Sweetpea COVID-19 Management Plan April 2020.pdf	
21/05/2020	Andrew Logan	Sweetpea Petroleum	[EXTERNAL] Sweetpea EP136 - Tanumbirini Station	Follow up email to [redacted]	-	Notification of resumption of reconnaissance activities. Confirm that baseline surveys planned next week will fully inform draft Seismic EMP. Request feedback on the provided summary and draft EMP so can capture. Identified meeting in Sydney now COVID-19 restriction being eased. Attachments include: Petroleum Act 1984 (NT) - s81.pdf; Proposed Yaroo Creek 2D Seismic Survey - Concept M - Final - 10th Feb.kml; Northern EP136 - Proposed Yaroo Creek 2D Seismic Survey - Simplified - With 7 Proposed Well Pads - V2.pdf	
22/05/2020	Andrew Logan	Sweetpea Petroleum	EP136: Authority to access Tanumbirini Station 26th-30th May for reconnaissance activities	Email to [redacted]	-	Request authority to access EP136/Tanumbirini Station to carry out helicopter-based reconnaissance surveys. Request commuication protocols. Attachments included - Sweetpea Reconaissance Activities 25th to 30th May 2020 - Operational Plan & Map.pdf	
25/05/2020	Andrew Logan	Sweetpea Petroleum	Sweetpea Reconnaissance Activities 26th-30th May	Follow up email to [redacted]	-	Comfirmation baseline baseline surveys and field scouting by AECOM starting on 26th May (following day). Noted similar activity that was planned mid-March but postponed due to COVID-19 impacts. AECOM to liaise furhter. Noted Santos permitted access to have helicopter access fuel drums. Confirm if no issues from Tanumbirini Station.	Andrew Logan phoned [redacted], who advised no issues. Advised Andrew - South west mustering on southern edge of highway. Noted the follow channels for Pilot: [redacted]
25/05/2020	[redacted]	AECOM	Sweetpea Reconnaissance Activities 26th-30th May	Follow up email to [redacted]	-	Reiteration of proposed activities. Team list and contact details. Brief details of the plan. Explanation as to why the survey is required. Request confirmation of whether mustering will be occurring in the area. Attachments include: - Sweetpea Reconnaissance Activities 25th to 30th May 3030-Operational Plan & Map.pdf	[redacted] response 'Yes' on 26 May 2020
26/05/2020	[redacted]	AECOM	Sweetpea scouting survey	Email to [redacted]	-	Email communication over duration of field program commencing morning of 26/5/2020 through to 31/5/2020. Alerted Station Manager start time and finish time.	Alerting to the cessation of the day. Will be in contact with mustering crews.
22/06/2020	[redacted]	Marylou Potts Pty Ltd	84.6.1 Rallen: Tanumbirini: Sweetpea	Email to Andrew Logan	-	Correspondence for Andrew Logan's attention. Letter dated 22 June referred to letter dated 8 May 2020 in relation to draft EMP. Marylou Potts Pty Ltd on behalf of Rallen Australia requested additional information: (i) a copy of the updated EP136 grant and terms and any variation, extension and or suspension instrument, (ii) a copy of the map of the permit area on Tanumbirini station preferably with public roads and rivers marked to assist us in orienting the location of the EP on Tanumbirini; and (iii) confirmation that the current work commitments for 2020 referred to in your letter on Tanumbirini pastoral lease are a seismic acquisition and a ground gravity program. Advised that with these documents in hand we can consider the draft EMP documents which we do wish to comment on before Sweetpea's application is made to the Department of Primary Industries and Resources	Andrew Logan to respond to RFI.

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Date	**Contact**	**Company**	**Information Provided**	**Correspondence Type**	**Objections**	**Discussion/Assessment of Objections**	**Outcome/Responses**
22/06/2020	Andrew Logan	Sweetpea Petroleum	RE: 84.6.1 Rallen: Tanumbirini: Sweetpea	Email response to [redacted]	-	Andrew address the requests from Marylou Potts Pty Ltd as follows: 1.attached current Instrument for EP136 (Variation, Suspension of Permit Conditions and Extension of Term) dated 30 August 2019. 2.attached a high resolution pdf satellite/topography composite map showing the proposed seismic survey; permit and cattle station boundaries; and cadastral information including roads, tracks, and water courses. 3.Referred to letter 8 May 2020 and the current Instrument (attached). Describe '2020 Work Program'. Provided detailed explanation of what activities proposing in 2020 to avoid any doubt about what is being planned, and describe how these map into our Exploration Agreement and Permit Instrument. Indicated that looked forward to feedback on the Draft Seismic EMP. Noted that intending to submit a final EMP at the end of this week to DENR, so please send me your comments as soon as you can so we can address these in the final version.	
24/06/2020	[redacted]	Marylou Potts Pty Ltd	Fwd: 84.6.1 Rallen: Tanumbirini: Sweetpea: Please provide a copy of EP136	Email to Andrew Logan	-	Noted to Sweetpea that did not attach a copy of EP136 and any instrument of change of title holders. Noted intention to lodge the draft EMP for the seismic survey this Friday 26 June 2020, and request that you defer lodging your application until we have had an opportunity to review and make comments in relation to the work proposed on Tanumbirini Station. For cost and efficiency reasons, with the exception of your letter dated 8 May 2020, we have not begun that review and cannot properly undertake that review until we have all the documents, most importantly the foundation document EP136. We would be grateful if you emailed us a copy of EP136, any instrument of change of title holders and its map, at your earliest convenience.	Andrew to email copies of requested documents.
24/06/2020	Andrew Logan	Sweetpea Petroleum	RE: 84.6.1 Rallen: Tanumbirini: Sweetpea: Please provide a copy of EP136	Email respones to [redacted]	-	Referred her to a letter dated 8th May 2020 with copy of the draft Seismic EMP and Appendices for comment and feedback. Attached the original Grant Instrument. Sweetpea has been "on title" since grant in 2013. There have been several Instruments of S&E in the intervening years and each supersedes the previous. I attach again the current Instrument approved in August 2019. Sweetpea recently purchased 50% interest in EP136 from Paltar Petroleum (in Liquidation) and attached the approval and registration (letter from the DPIR) of dealing and transfer. Sweetpea is 100% interest holder in EP136. I'll speak to the NT Department of Natural Resources and Environment tomorrow and relay your request for delay in submission of our Seismic EMP for approval to allow further time for your feedback and comments on the draft EMP. In the meantime if there are any particular areas in the draft EMP which you have concerns about or questions or queries or clarifications on, please do not hesitate to call me on 0413151052 to discuss. Maybe we can address these quickly or provide some further information.	
29/06/2020	[redacted]	Marylou Potts Pty Ltd	84.6.1 Rallen Australia Pty Ltd: Sweetpea Petroleum Pty Ltd – General comments	Letter to Andrew Logan	**Yes**	Letter response provided to Sweetpea following review of proposed Work Program and draft EMP.	Sweetpea preparing response to comments on EMP
6/07/2020	[redacted]	WardKeller	RE: Tanumbirini Station Sweetpea EMP EP138	Letter Response to [redacted]	-	Letter Response provided to Sweetpea following review of Ms Pott's letter response to the proposed Work Program and draft EMP.	Refer Section 5.3 Assessment of Merit for Response in EMP.
13/07/2020	Andrew Logan	Sweetpea Petroleum	RE: Tanumbirini Station Sweetpea EMP EP136	Email to [redacted]	-	Requesting opportunity to meet.	
20/07/2020	[redacted]	Rallen Australia	RE: Tanumbirini Station Sweetpea EMP EP137	Letter Response to [redacted]	-	Response to meeting request. Advised currently in NT but has been delayed returning Sydney due to NT declaring Sydney a Hot Spot. Planning another two weeks in NT.	
3/08/2020	[redacted]	Tamboran Resources/Sweetpea Petroleum Rallen Australia	Proposed exploration activities on EP136 over next 3-7 years	Face-to-Face Meeting	-	Meeting with Pierre Langenhoven, owners of Tanumbirini Station, to discuss ways to work in collaboration on Tanumbirini Station in the future. As follow-up, suggested to host a working group meeting in the coming weeks to provide a forum for sharing and getting Station feedback on Sweetpea/Tamboran's proposed near term and longer term work plans on EP 136. Once Station has chance to review planned activities, Sweetpea/Tamboran keen to capture Station feedback and input to align on key elements of EP136 work plan. Sweetpea would like to engage further with Rallen on the formalised Land Access and Compensation Agreement.	Positive engagement, and planning to hold follow-up meeting first week of September.
Beetaloo Station Communication Log							
6/09/2019	Andrew Logan	Sweetpea Petroleum	Visit to Beetaloo Station	Email to [redacted]	-	Sweetpea has a petroleum exploration permit that is partially over Tanumbirini Station and Beetaloo Station. Next week on Thursday 12th September, [redacted] and myself will be visiting Tanumbirini Station and meeting [redacted] to talk about some activities that we are proposing in due course. While in the area, we would like to take the opportunity to come and say hello and introduce ourselves. We would also like to seek some guidance on making an approach, in due course, to talk about such activities being proposed. If it is convenient, we could visit either Thursday 12th late afternoon or early Friday 13th morning. We are overnighting in Daly Waters Thursday and returning to Darwin Friday.	Initial correspondence not responded too.
25/09/2019	Andrew Logan	Sweetpea Petroleum	Beetaloo Station	Email to [redacted] BBRC) (note based in New York)	-	Beetaloo Station in the Barkley Region of the Northern Territory covers part of the Exploration Permit 136 (EP136) which is held by Sweetpea Petroleum. We are proposing to undertake an exploration activity in the form of a seismic survey in 2020 in the northern part of EP136. To carry out such activity we need to have an approved Environmental Management Plan (EMP) and this in turn requires baseline environmental and archaeological surveys to be carried out, which we would like to undertake in October or November this year. We would like to discuss these survey activities with the Station Manager at Beetaloo, and we would be grateful if you could facilitate such a meeting.	
14/10/2019	Andrew Logan	Sweetpea Petroleum	Beetaloo Station access to conduct scout fieldwork and baseline survey	Email to BB Barkly Pty Limited c/o- [redacted]	-	Letter to the Beetaloo Station manager to notify of intent to visit and establish a line of communication to discuss proposals over EP136. Notification of intent to do some scouting fieldwork on the station. Attachments include: - Northern EP136-Proposed Yaroo Creek 2D Seismic Survey-Concept J-8th Oct2019.pdf - Beetaloo station letter.pdf	Following from a phone call with [redacted] in mid-October 2019

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15/10/2019	[redacted]	BBRC	Re:Beetaloo Station	Email respone to Andrew Logan	-	I apologise for not responding back to you. I have forwarded your emails and letter to [redacted], our equity partner on Beetaloo. As it is a matter specific to Beetaloo, it is more appropriate to liaise through [redacted]egarding the survey activities	
15/10/2019	Andrew Logan	Sweetpea Petroleum	RE: Beetaloo Station	Email response to [redacted]	-	Thank you for your email and for forwarding my emails and letter to [redacted]. Is [redacted] the Station Manager as well as your Equity Partner? I had sent a copy of my letter to [redacted]and indeed had sent emails to her on prior occasions, but I had not received any response. I am wondering whether I have her correct email address. Please could you confirm her email at: [redacted] Please could you also confirm that we have the correct address for BB Barkly Pty Limited and Yarabala Pty Ltd and BB Retail Capital Pty Limited as: [redacted] Please could you advise who I should be contacting (and their contact details) regarding: 1.Land Access Agreement 2.Notice of Entry onto Beetaloo Station (I am presuming this may be [redacted]).	
16/10/2019	[redacted]	BBRC	RE: Beetaloo Station	Email response to Andrew Logan	-	Confirmed [redacted] as Station Manager and Equity Partner. Address is correct and BBRC forward emails to[redacted]. Noted that if not received response by Friday, he will follow up.	
16/10/2019	Andrew Logan	Sweetpea Petroleum	Meet and greet at Beetaloo Station Homestead	Email to [redacted]	-	Request a meeting at Beetaloo Station. Advised of travel plans.	Left voice messages for [redacted] in mid-October 2019. Phone calls to Homestead number and messages left on answering machine. [redacted]responded to Andrew Logan that will meet at Homestead on 18 October 2019.
18/10/2019	[redacted] Andrew Logan	Beetaloo Station Sweetpea AECOM	Meeting at Beetaloo Station Homestead	Face-to-Face Meeting	-	Sweetpea presented exploration activities over the next two years. During the meeting Sweetpea discussed provisional seismic program aiming to minimise impacts to Beetaloo Station by using the existing Pastoral Tracks for seismic lines. [redacted] provided copy of the infrastructure in the survey area. Including Stations Water Points, Roads/Tracks and Fences. Confirmed at this time that Sweetpea could access the intended exploration area on 19 October 2019 with a proposed Seismic Contractor to inform ground conditions. The meeting also confirmed the communication and access protocols for the planned Environmental and Heritage Scouting activities, scheduled for early November. [redacted]advised minimise impacts on Cattle during the helicopter survey. Noted that controls will be in place where large number of cattle congregated (particularly around the water points). The area is used by Beetaloo Station for Breeding.	[redacted] provided paper copy of Station Infrastructure. The map of their station pastoral tracks and roads were used by Sweetpea to fully inform the alignment of the seismic lines.
19/10/2019	Andrew Logan	Sweetpea Petroleum	Re: Scout trip	Email to [redacted]	-	Email advising that were on Beetaloo Station at 8:30am and off at 12:30pm. Also advised that noticed a tank C5 was indicating empty.	
20/10/2019	[redacted]	Beetaloo Station	Re: Scout trip	Response Email to Andrew Logan	-	Responded 'Ok thanks Andrew for letting me know'.	
20/10/2019	Andrew Logan	Sweetpea Petroleum	Re:Scout Trip	Follow up email to [redacted]	-	Provided photo of Tank C5 indicating empty. Also 2 photos of Tank G8 and nearby dead cow.[redacted]	
21/10/2019	[redacted]	Beetaloo Station	Re:Scout Trip	Response Email to Andrew Logan	-	Responded 'Thankyou for that Andrew'	
4/11/2019	[redacted]	AECOM	AECOM Scouting 4 to 8 November	Email to [redacted]	-	Informing [redacted], Beetaloo Station Manager, of upcoming scouting. Names and contacts of field crew are provided with confirmation of communications that they will provide while they are there.	
4/11/2019	[redacted]	Beetaloo Station	RE:AECOM Scouting 4 to 8 November	Email response to [redacted]	-	Queried how many people would be involved in the scouting.	
4/11/2019	[redacted]	AECOM	RE:AECOM Scouting 4 to 8 November	Email response to [redacted]	-	Confirmed three team members (Ecologist, Heritage Consultant and Soil Scientist), plus helicopter pilot (4 in total).	
4/11/2019	[redacted]	Beetaloo Station	RE:AECOM Scouting 4 to 8 November	Email response to [redacted]	-	Thanked [redacted] for the additional detail.	
5/11/2019	[redacted]	AECOM	AECOM Scouting 4 to 8 November	Emails to [redacted]during scouting field works.	-	AECOM's correspondence with Beetaloo Station during 4 to 7 November 2019 field scouting works that were in accordance with the communication protocols determined at the meeting on 18 October. Email correspondence was provided before and after days activities.	
3/03/2020	Andrew Logan	Sweetpea Petroleum	Sweetpea EP136 2020 Seismic and Gravity Survey	Email to [redacted]	-	Provides an update letter with a summary of proposed activities on Beetaloo Staiton. Included a copy of the draft EMP to [redacted]for the proposed 2020 exploration activities. In addition requested access by seismic contractor to scout area to help inform proposal. Attached to this email included: - Beetaloo Station Notice of draft EMP for Seismic Survey 20200302.pdf – Re: Sweetpea Petroleum proposed 2020 exploration activity on Beetaloo Station letter dated 2 March 2020. This letter provided a description of Sweetpeas 2020 Work Program which consisted of a seismic acquisition and ground gravity program. Also included future plans for well pads, access road and monitoring bores, plus 2021 proposed drilling and hydraulic fracture stimulation of 2 horizontal wells (noting that these will be subject to separate EMPs). The letter also provided commentary of the environmental management and indicated need to do a follow up weed survey in March and April 2020. This letter also indicated seeking a Land Access Agreement with Beetaloo Station. - Sweetpea_SeismicEMP_FinalDRAFT_0_20200226_NoAttach.pdf Sweetpea provided a copy of the draft EMP to Beetaloo for comments following submission to NT EPA/DENR for pre-acceptance review by Government Departments.	
4/03/2020	Andrew Logan	Sweetpea Petroleum	Seismic Contractors' Itinerary	Email to [redacted]	-	Follow up email from Andrew Logan to [redacted] on 4 March 2020 in relation to seismic contractor gaining access to Beetaloo Station on 7-9 March 2020.	
4/03/2020	[redacted]	Beetaloo Station	Seismic Contractors' Itinerary	Response Email to Andrew Logan	**Yes**	"There will be no access to Beetaloo at this time and especially that top end . This country is inaccessible to vehicles due to the wet season".	From this correspondence Sweetpea delayed Seismic Contractor.

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5/03/2020	Andrew Logan	Sweetpea Petroleum	RE: EP136 Sweetpea Reconnaissance Field Scouting	Email response to [redacted]	-	Advising [redacted]hat have determined to postponed trip. Noted that AECOM still planned provisionally for 17-21 March for weed survey and additional LCA. Requested access consent to proceed (via helicopter).	
7/03/2020	[redacted]	Beetaloo Station	Beetaloo Letter	Email to Andrew Logan with letter from Beetaloo Station	-	Letter in response to Sweetpea's email on 3 March 2020. Identified that understood that Sweetpea wish to complete actions including but not limited to fracking wells acess and the like onto Beetaloo for EP136. Indicated that before actions are commenced reqiure Land Access Agreement (LAA) be agreed by both parties. Indicated that intend to approach all negotiations regarding LAA as if the Bill has been enacted (noting passing through NT Parliment in March 2020. Advised that going forward Beetaloo have retained Emanate Legal and other consultants to assist with our understanding of impact of the EP on Beetaloo. Indicated that Beetaloo must not be out of pocket as result of Sweetpea' impacts. Require Sweetpea' confirm to fund and or reimburse for investigations, reports, advices leading to execution of LAA. Costs include: - Valuer - Groundwater - Environmental - Legal **Estimate $150,000 - $200,000 plus GST.** Also advised communication protocols and records required by Beetaloo and that all future communications, contact (including emails) in the first instance are directed to Emanate Legal - [redacted]. Attached - Letter - SWEETPEA 2020.pdf	
13/03/2020	Andrew Logan	Sweetpea Petroleum	Helicopter baseline survey on EP136	Email to [redacted]	-	Advising that planning for baseline studies via helicopter for following week. Dates for the plan 17-21 March. Asking for helicopter access to Beetaloo station. Queried the ground conditions in the area.	
25/03/2020	[redacted]	Emanate Legal	Yarabala Pty Ltd ACN 001 832 944 ATF : Sweetpea Petroleum Pty Ltd ABN 42 074 750 879	Email to Andrew Logan	-	Email to Andrew Logan regarding future communications, land, exploration permit (EP) 136, Current Status, the Scientific Inquiry into Hydraulic Fracturing in the Northern Territory Recommendations / Petroleum Legislation Miscellaneous Amendments Bill 2019 and Land Access Agreement. Attached included [redacted]' Letter - Correspondence to Sweetpea dated 7 March 2020.pdf, 200324 1309 -Beetaloo Mungabroom - EP136.pdf and MediaRelease_NTCA_LandAccessLegislation_24032020.pdf.	
25/03/2020	Andrew Logan	Sweetpea Petroleum	Sweetpea Petroleum Proposed 2020 Work Program on EP136	Email response to Emanate Legal with attached letter	-	Email from Andrew with attached letter directed to Emanate Legal regarding Sweetpea Petroleum proposed 2020 work program on EP136 in relation to Beetaloo Station, which references the recent letter from Yarabala Pty Ltd and BB Barkly Pty Limited, and the email from Emanate Legal of even date. The Sweetpea Letter dated 25 March 2020 clarifies the 2020 Work Program proposed and identified that they have provided substantial amount of information describing the work program on Beetaloo Station. It identified that the Beetaloo Letter does not reflect the actual proposed work program Sweetpea have described and does not provide any commentary on the work program or information as requested that would assist Sweetpea in managing activities on Beetaloo Station. It only discusses Land Access and the changes in Legislation. Advised that a draft LAA will be prepared in due course and look forward to progressing this. Again requested if there were any substantive concerns Beetaloo Station may have in regard to the proposed 2020 work program. Attached - Letter to Emanate Legal_Beetaloo Station re Sweetpea EP136 2020 Work Programme 25 03 20.pdf	
25/03/2020	[redacted]	Emanate Legal	RE: Sweetpea Petroleum Proposed 2020 Work Program on EP136	Email response to Andrew Logan		Advised that Emanate will obtain instructions and revert by COB Thursday 26/3. Confirmed if wish to discuss the foregoing please do not hesitate to contact [redacted]	
11/05/2020	Andrew Logan	Sweetpea Petroleum	Sweetpea Petroleum EP136 - Beetaloo Station	Email to Emanate Legal [redacted]	-	Email providing letter from Sweetpea Petroleum directed to Emanate Legal. Including the proposed EP136 2020 reconnaissance and exploration activity, Impact of COVID-19 on Sweetpea activities and Notice of baseline survey for week of 18 May 2020. Provided copy of draft Seismic EMP and spatial data for their records. Attachments inclue: Proposed Yaroo Creek 2D Seismic Survey-Concept M-Final-10th Feb.kml - Sweetpea letter to Beetaloo Station (200511)-reduced.pdf - Sweetpea_EP136 SeismicEMP_FinalDRAFT_20200226.pdf - Appendix A_EP136 SeismicEMP_Land Condition Assessment_reduced.pdf - Appendix G_EP136 SeismicEMP_Weed Management Plan_reduced.pdf - Appendix H_EP136 SeismicEMP_Bushfire Management Plan_reduced.pdf	
11/05/2020	Andrew Logan	Sweetpea Petroleum	Sweetpea Petroleum EP136 - Beetaloo Station	2nd email to Emanate Legal [redacted]	-	Remaining Appendices of EMP - Appendix D_SeismicEMP_Ground Condition Classification_reduced.pdf; Appendix C_SeismicEMP_Risk Assessment.pdf; Appendix B_EP136 Seismic EMP_Heritage Assessment.pdf; Appendix F_EP136 SeismicEMP_DraftHSEP.pdf; AppendixE_EP136 SeismicEMP_Rehab Plan.pdf	
12/05/2020	[redacted]	Emanate Legal	[200134] Yarabala : Sweetpea	Email to Andrew Logan	-	Confirmation of receipt of correspondence, they will provide a copy to Yarabala for review and comment, will seek instructions in relationship to stakeholder engagement, will seek instructions in regards to Sweetpea's proposed access to the land to undertake exploration activities.	
14/05/2020	Andrew Logan	Sweetpea Petroleum	Postponement of environmental & heritage surveys over EP136 - Beetaloo Station to w/o 25th May	Email to Emanate Legal [redacted]	-	Notifying Emanate of the postponement of baseline weed, environment and heritage reconaissance surveys over Beetaloo station to ensure they have the requisite COVID-19 Essential Worker Permits from the NT Health Department. Proposed rescheduled to 25 May 2020. Requested Beetaloo Station Manager advised. Also requested daily comm protocols during survey.	
21/05/2020	Andrew Logan	Sweetpea Petroleum	EP136 - Sweetpea baseline and scouting surveys w/o 25th May	Email to Emanate Legal [redacted]	-	Scouting is going ahead with the implementation of a COVID-19 plan, starting with the helicopter survey. Reinforcing that only seismic and ground gravity surveys are proposed over Beetaloo Station in the 2020 Work Program. Details of COVID-19 Management Plan. Ask for the provision of field comunication protocols. Attachments include: - Petroleum Act 1984 (NT)-s81.pdf - Sweetpea COVID-19 Management Plan April 2020.pdf - Swwtpea Reconaissance Activities 25th to 30th May 2020-Operational Plan & Map.pdf	

Sweetpea Petroleum Pty Ltd Communication Log Updated 01 September 2020							
Date	**Contact**	**Company**	**Information Provided**	**Correspondence Type**	**Objections**	**Discussion/Assessment of Objections**	**Outcome/Responses**
22/05/2020	Andrew Logan	Sweetpea Petroleum	EP136: Authority to access Beetaloo Statoin 26th-30th May for reconnaissance activities	Follow up email to Emanate Legal [redacted]	-	Follow up email requesting helicopter access and communication protocols with Beetaloo station. Provided detailed schedule of survey with maps.	
22/05/2020	[redacted]	Emanate Legal	Yarabala Pty Ltd [redacted] : Sweetpea Petroleum Pty Ltd [redacted]	Response Email to Andrew Logan	**Yes**	Emanate Legal, on behalf of Beetaloo, require more information before they will grant access for the helicopter reconnaissance. Would you please confirm Sweetpea's intention in regards to the Helicopter Survey's, including: · The height at which Sweetpea will remain when flying over the Land; and · Do Sweetpea intend to Land at any of the sites as proposed in correspondence of even date. Emanate note that Sweetpea has provided the specific notice of their proposed access at 6pm on 21 May 2020, we consider less than three (3) business days' notice of Sweetpea's proposed activities completely unreasonable.	
22/05/2020	Andrew Logan	Sweetpea Petroleum	Yarabala Pty Ltd [redacted] : Sweetpea Petroleum Pty Ltd [redacted]	Response email to [redacted]	-	Reiteration of previously provided information of the helicopter survey methods, as well as ground survey methods and access request on 11 May and 14 May. Responded to questions as follows: - The survey height of the helicopter will be 75m above ground level (250feet) at a speed of 93km/hr or 50knots. This aerial survey along seismic lines is planned to be carried on Tuesday 26th May between the hours of 0800 and 1400. - All the sites marked 31 to 50 on the attached map are planned to be ground-truthed/inspected. The planned timing of these site landings is the afternoons of Tuesday 26th May and Friday 29th May. Confirmed that the field party have been briefed to minimise disturbance of cattle in the area and that the helicopter is to fly high over any water points and not to land near any of those points. Contact details of all field crew was also provided. Attachment included: - Sweetpea Reconnaissance Activities 25th to 30th May 2020 - Operational Plan & Map.pdf	
25/05/2020	Andrew Logan	Sweetpea Petroleum	EP136: Sweetpea - AECOM reconnaissance acitivities 26th-30th May	Email to [redacted] (onground Operations)	-	Email identifying AECOM will commence final baseline environmental and heritage baseline surveys. Noted that this was the delayed field work from COVID-19 Impacts in March. Advised that AECOM would be in touch regarding specific details. Attachments include: - Sweetpea Reconnaissance Activities 25th to 30th May-Operational Plan & Map.pdf	
25/05/2020	[redacted]	AECOM	EP136: Sweetpea - AECOM reconnaissance acitivities 26th-30th May	Follow up email to [redacted]	-	AECOM follow up email from Andrew detailing planned activities. Included contacts and communication protocols. Questions if mustering will be done in the vicinity of the survey in the time it will be conducted. Attachments include: - Sweetpea Reconnaissance Activities 25th to 30th May 2020-Operational Plan & Map.pdf	
26/05/2020	[redacted]	AECOM	Sweetpea scouting survey	Phone call to Beetaloo Station [redacted]	No	AECOM PM phone call to Beetaloo Station on 26 May 2020 and discussed field program with [redacted] husband) regarding activities. Confirmed Mustering was occurring and provided UHF channels for pilots to maintain comms.	
26/05/2020	[redacted]	Beetaloo Station	Sweetpea scouting survey	Returned Phone Call	No	Follow up call with [redacted] at approximately 11 am on 26 May 2020 raising concerns that they are mustering, and AECOM advised that they will maintain comms with the mustering crew and where getting too close to operations will modify scouting works to minimise interactions.	No incidents reported by Station following completion of Survey. Noted that where field team encountered mustering activities, survey in area ceased and started elsewhere. Returned to sites once mustering completed in area.
26/05/2020	[redacted]	AECOM	Sweetpea scouting survey	Email to Beetaloo Station during survey	No	AECOM's correspondence with Beetaloo Station during 26 to 30 May 2020 field scouting works that were in accordance with the communication protocols determined at the meeting on 18 October. Email correspondence was provided before and after days activities.	
27/05/2020	[redacted]	AECOM	Sweetpea scouting survey	Email to [redacted]	No	[redacted] gave the station manager a brief overview of the works carried out the previous day, as well as proposed plans for the day. Acknowledge measures taken by team to modify activities. Specifically noted that team modified data collection along Line 13 and Line 14 during survey to avoid mustering. Attachments include: - 26May_AreaCovered.jpg	
25/06/2020	Andrew Logan	Sweetpea Petroleum	Sweetpea EP136 Draft Seismic EMP	Email to [redacted] (Emanate)	-	Notified the planned submission date for Seismic EMP as 1 July 2020. Following up with any comments, concerns, questions or clarifications to allow time to address comments for final version EMP.	
25/06/2020	[redacted]	Emanate Legal	Sweetpea EP136 Draft Seismic EMP	Response to Andrew Logan	**Yes**	Advised Andrew to include [redacted] in any correspondence related to the EMP. Informs that Sweetpea has not correctly proceeded with and or correctly engaged with stakeholder engagement procedure in the relevant legislation. Informs that Beetaloo objects to the given timefram due to COVID-19 restrictions.	
30/06/2020	[redacted]	Emanate Legal	Yarabala : Sweetpea	Response to Andrew Logan on EMP review	**Yes**	Extensive outline of information legally required from Sweetpea before any activity can be approved or undergone on Beetaloo Station. Incuding increased stakeholder engagment, documentation that describes anticipated environmental impacts and risks, proposed environmental outcomes, possible consequences to Beetaloo of the proposed activities. Attachment included - J0123 Sweetpea_Beetaloo_EMP Review290620.pdf (Beetaloo independent consultant comments on EMP).	
23/07/2020	[redacted]	WardKeller	Stakeholder Engagement	Letter Response to Emanate Legal	**-**	Letter from WardKellar to Emanate Legal outling the level of stakeholder communication that has gone on between Sweetpea and Beetaloo Station.	
28/08/2020	Andrew Logan	Sweetpea Petroleum	WardKellar Letter To Beetaloo	Sweetpea's Response to Emanate	**-**	Letter Response to Emanate Legal's letter review of the draft EMP addressing any issues that Emanate identified with the draft EMP	
Eva Downs and Anthony Lagoon Station Communication Log							
12/05/2020	Andrew Logan	Sweetpea Petroleum	Sweetpea Petroleum EP136-Anthony Lagoon & Eva Downs Station	Email to [redacted] (AACO contact)	-	Sweetpea's initial contact with AACO detailing the proposed exploration acitivites on Anthony Lagoons and Eva Downs Stations. It includes a summary of the impact of COVID-19 and proposed work program. Attachments included: - A letter from Sweatpea to Anthony Lagoon and Eva Downs Stations with the proposed exploration activities - Impact of COVID-19 on acitivites - Notice of baseline environment and heritage survey.	
13/05/2020	[redacted]	AACO	Sweetpea Petroleum EP136-Anthony Lagoon & Eva Downs Station	Response Email to Andrew Logan	-	[redacted] required more information in the form of a PDF copy of Figure 1 EP 136 proposed 2020 exploration activites, to understand the impacted area. He also required a COVID-19 management plan	The information was sent on behalf of AECOM and Sweetpea by Andrew Logan on 13/05/2020

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13/05/2020	Andrew Logan	Sweetpea Petroleum	Sweetpea Petroleum EP136- Anthony Lagoon & Eva Downs Station	Response to [redacted] email	-	Sweetpea provided to AACO - Sweetpea COVID-19 Response Management Plan - April 2020 - AECOM COVID-19 Resopnse Management Plan - Schedule of activities - April 2020 - PDF map pf propsed activities - April 2020 - Spatial kmz files of proposed activities on AL and ED Stations Noted that Sweetpea intend to update COVID-19 Response Management Plan. Identified potential change to alignment for his information.	
13/05/2020	Andrew Logan	Sweetpea Petroleum	Sweetpea Petroleum EP136- Anthony Lagoon & Eva Downs Station	Response to [redacted] email	-	Andrew required confirmation from [redacted] that Sweetpea could arrange the supply of aviation fuel drums, required for the reconaissance survey the following week, to be dropped at Eva Downs airstrip for Jeyrow Helicopters.	[redacted] approved moving forward with this, provided no physical contact was made with people or equipment during the delivery process (COVID-19 requirement). Contact was to be made with the station manager [redacted] to organise the timing of delivery. It was also requested that drums be removed post survey.
13/05/2020	[redacted]	AACO	Sweetpea Petroleum EP136- Anthony Lagoon & Eva Downs Station	Email to Andrew Logan	-	Due to the COVID-19 situation, AACO general counsel required an official letter from Sweetpea on why the work needed to be completed at that time. Without the letter no access to AACO Stations would be granted.	Andrew said the letter would be provided the following day
14/05/2020	[redacted]	AECOM	Sweetpea Petroleum EP136- Anthony Lagoon & Eva Downs Station	Email to [redacted] (AACO contact)	-	Clarification on how best to arrange the fuel drop.	
14/05/2020	[redacted]	AACO	Sweetpea Petroleum EP136- Anthony Lagoon & Eva Downs Station	Email to Andrew Logan	-	Additional request from AACO for copies of exploration permit/approvals for exploration EP136 from Sweetpea.	Andrew requested clarification on the which document was required (grant of exploration permit/approval (with the NT Government) or Exploration Agreement (with NLC and Native Title Parties))
14/05/2020	[redacted]	AACO	Sweetpea Petroleum EP136- Anthony Lagoon & Eva Downs Station	Email to Andrew Logan	-	It was clarified that AACO required the Grant of exploration permit/approval from Sweetpea.	
14/05/2020	Andrew Logan	Sweetpea Petroleum	Sweetpea Petroleum EP136- Anthony Lagoon & Eva Downs Station	Email to [redacted]	-	The reconnaissance baseline weed, environment and heritage surveys were postponed until the 25th May, to ensure all COVID-19 Essential Workers Permits were in place for the field party. Explanation of why the surveys had to happen at that time of year was given, with promise of the letter required by the ACCO general counsel, to be written and sent. Attachments included: - Ministerial approval letters for Grant of EP136 and 2019 instrumentation of variation, suspension and extension of the conditions of the Grant	[redacted] thanked Andrew for the information
14/05/2020	[redacted]	AACO	Sweetpea Petroleum EP136- Anthony Lagoon & Eva Downs Station	Response email to [redacted] and Andrew Logan	-	No access will be granted to the AACo stations without rationale for the access at the current time in view of COVID-19 and associated risks to their staff and local communities, as well as Sweetpea's detailed management and perational plans doe managing risk that appropriately addresses COVID-19 and other risks to AACO staff and local communities. Once received it will be reviewed and referred to relevant government authorities to confirm the scope and legitimacy of any statutory rights that Sweetpea may have in the current enviornment at the current time	Responded to by Andrew Logan on 19/05/2020
14/05/2020	Andrew Logan	Sweetpea Petroleum	RE: Sweetpea Petroleum EP136 - Anthony Lagoon & Eva Downs Stations	Email to [redacted]	-	Identified that have postponed the reconnaissance baseline weed, environment and heritage surveys until week of 25th May to ensure we have the requisite COVID-19 Essential Worker Permits in place for the field party enter the Barkley Biosecurity Zone from NT Health Department. This is the latest time (this year) we can conduct the weed survey as it is a requirement of the Environment Regulations and DENR that this is carried out at the end of the wet season. I will provide a letter the AACo General Counsel, as requested, regarding the timing imperative of this weed survey. Please find attached the Ministerial approval letters for Grant of EP136 and 2019 instrument of variation, suspension and extension of the conditions of the Grant	
19/05/2020	Andrew Logan	Sweetpea Petroleum	Sweetpea Letter to ACCo Board	Email to [redacted]	-	Detailed breakdown of the day-to-day activities to be undertaken during the reconnaissance surveys, including timings, surveys required, and travel plans. Request for communication protocols the field party should use to notify their entry and exit to/from the stations, and to identify their whereabouts at any particular time if required (associated with Station Operations). Attachments include: - Requested letter addressed to the AACO Board - Copy of section 81 *Petroleum Act* - Detailed Description of Activity - Sweetpea's COVID-19 Management Plan - KML of proposed Line 10 seismic line alignment - PDF Map of EP136 2020 2D Seismic Survey (NatMap Background).	[redacted] forwarded email to interal AACO for review.
20/05/2020	[redacted]	AACO	Sweetpea Letter to ACCo Board	Response email to Andrew Logan	-	Acknowledgement email and advised forwarded to his team for review.	
22/05/2020	Andrew Logan	Sweetpea Petroleum	EP136: Authority to access Anthony Lagoon and Eva Downs Stations 29th May for reconnaissance activities	Email to [redacted]	-	Requests for authority to access Anthony Lagoons and Eva Downs Stations to carry out helicopter-based reconnaissance surveys. Requests for the approval for jet fuel drums to be delivered to Eva Downs airstrip on behalf of Jayrow Helicopters. Request for landing permission. Request for field communication protocols. Attachments include: - Sweetpea Reconnaissance Activities 25th to 30th May 2020 - Operational Plan & Map - Sweetpea Vegmapping May 2020 - Picture of Jet Fuel Drums	[redacted] responded approving authority to access
23/05/2020	[redacted]	AACO	EP136: Authority to access Anthony Lagoon and Eva Downs Stations 29th May for reconnaissance activities	Email response to Andrew Logan	No	Advising AACO are happy to proceed with reconnaissance, passes over to [redacted] to provide contact information	
24/05/2020	[redacted]	AECOM	EP136: Authority to access Anthony Lagoon and Eva Downs Stations 29th May for reconnaissance activities	Email to [redacted]	-	Organising arrival day. Requesting contact information from [redacted], as well as best fuel drop location/requirements. Protocols for contact by team upon arrival and departure.	[redacted] responded with contact information

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25/05/2020	[redacted]	AACO	EP136: Authority to access Anthony Lagoon and Eva Downs Stations 29th May for reconnaissance activities	Email response to [redacted]	-	Details provided for contact details of Station Manager.	
25/05/2020	[redacted]	AECOM	EP136: Authority to access Anthony Lagoon and Eva Downs Stations 29th May for reconnaissance activities	Email to [redacted]	No	Field team members from AECOM and contractors information provided to [redacted], with note regarding change of pilot. Reiteration of the arrival and departure communications of field team.	
25/05/2020	Andrew Logan	Sweetpea Petroleum	EP136: Authority to access Anthony Lagoon and Eva Downs Stations 29th May for reconnaissance activities	Email to [redacted]	No	Thanked [redacted] for providing approval for recon survey. Alerted [redacted] of teh additional aerial survey of line 1 on Friday 29 May. Attachments include: - updated Operational Plan - Nat Map image showing proposed scouting	
26/05/2020	[redacted]	AACO	EP136: Authority to access Anthony Lagoon and Eva Downs Stations 29th May for reconnaissance activities	Response to Andrew Logan	-	[redacted] replied the following day advising that [redacted] will advise team of any opertational requirements for proposed work on 29th May.	
28/05/2020	[redacted]	AECOM	Sweetpea Scounting Survey on Anthony Lagoon and Eva Downs - Friday 29 May	Email to [redacted] and [redacted]	-	Communicated with [redacted] in relation to commencement of survey. Advised on refuelling opearations. Communications including arrival and departure from stations.	
23/06/2020	Andrew Logan	Sweetpea Petroleum	Sweetpea EP136 Draft Seismic EMP	Email to [redacted]	-	Survey results are informing the final Seismic EMP, to be submitted to DENR for approval. Andrew requests any comments from [redacted] on the draft Seismic EMP so they can be addressed in the final submission. Informing of an additional seimic line proposal which was included in the survey. Provisional scheduling of the seismic survey for September or October, with an update to provided in mid-July. Attachments include: - Southern EP136-Proposed Shandon Downs Seismic Survey-Satellite Natmap Composite-15th June 2020.pdf - Proposed Shandon Downs Seismic Survey.shx - Proposed Shandon Downs Seismic Survey.shp - Proposed Shandon Downs Seismic Survey.prj - Proposed Shandon Downs Seismic Survey.dbf - Proposed Shandon Downs Seismic Survey.kml	[redacted] responds the following day
24/06/2020	[redacted]	AACO	Sweetpea EP136 Draft Seismic EMP	Email response to Andrew Logan	No	Questions and limitations to the work are stipulated. These include the disposal and location of debris, how clearing is to be done to reduce fire danger, the use of fence lines and implementation of gates by Sweetpea if they need to cross fencelines and questioning the rehabilitaiton methods proposed for waterways	Andrew responded to each of the questions/concerns/stipulations
25/06/2020	Andrew Logan	Sweetpea Petroleum	Sweetpea EP136 Draft Seismic EMP	Email response to [redacted]	No	Informed [redacted] that they will be sent a full copy with appendices of the final EMP. Andrew addresses all of the questions/concerns/stipulations that [redacted] had, including a management plan for any creek crossings. Attachments include: - Appendix B_EP136 Seismic EMP_Heritage Assessment.pdf - Appendix D_SeismicEMP_Ground Conditions Calssification_reduced.pdf - Appendix F_EP136 SeismicEMP_DraftHSEP.pdf - Appendix G_EP136 SeismicEMP_Weed Management Plan_reduced.pdf	
						AACO Comments and Questions	**Sweetpea Response to Comments:**
						Line 10 on Southern EP136 follows close proximity to Boundary Fence which is partially cleared for routine maintenance so your proposed 5m will not hinder operations	*This is duly noted*
						We stipulate that any clearing does not leave debris or large windrows around the base of fence, eg debris to be 5m off fence line	*This is duly noted. Windrows are identified as a risk factor and the control measure is that on completion of line clearance work all debris will be moved away from the fence line at least 5m. All lines will be rehabilitated to their original state at the end of the seismic survey.*
						Line 10 indicates that you propose to do slashing on open country, this is of major concern due the chance of a spark form stone that could cause Bushfires, particularly in September or October. *Please provide guidelines of how this will be prevented, we would suggest line be cleared with Grader.*	*We are developing a specific bush fire management plan for the southern survey area. All the southern survey lines will be cleared with a Grader.*
						Any fence lines that are crossed must not be cut , access is to be through nearest property gates.	*We will install gates where seismic lines cross fence lines and these are to be AACo specification gateway at Sweetpea cost for material and labour.*
						If you do require a gateway installed these are to be AACo specification gateway at Sweetpea cost for material and labour. (Spec can be supplied if needed)	

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						Please provide clarification on how creeks, channels cross will be rehabilitated to prevent erosion.	*Line 1 has 1 creek crossing and Line 10 has 4 creek crossings. From the baseline field survey all these creek crossings appear to be trafficable in the dry season. At the time of the seismic survey, it is anticipated that the creeks and drainage lines will be dry. However if the creek crossings are found at the time of line clearance not to be trafficable, then the following controls will be implemented:* *where it is necessary to make a crossing, detours will need to be made to find the least sensitive crossing point (up to 50 m diversion)* *where constraints imposed by creeks and drainage lines (e.g.: deep gullies, indigenous heritage sites and trees) may make it necessary to terminate some lines on one side of a creek and to find an alternative route to the opposite side, where the line will re-commence* *all large shrubs and trees will be avoided along creeks and drainage lines.* *where ramps are required for safe crossing, they will need to be aligned perpendicular to creek bed or drainage line, as much as possible* *the ramps will be temporarily constructed from clean rocks (minimal fine material) that are equivalent to the natural bed material at the crossing* *at completion of the seismic acquisition, the surface will be left rough and not over compacted (e.g.: track-rolled finish or rougher)* *the lowest point of the bed level crossing will be installed at the level of the lowest point of the natural stream bed (preconstruction), within the footprint of the proposed crossing* *there must be a height difference of at least 100 mm up to or equal to 300 mm from the lowest point of the crossing to the edges of the low flow section of the crossing* *the retention of vegetation buffers (as outlined in the NTG Land Clearing Guidelines 2019) as they relate to stream order will need to be considered for the siting of crossing points* *The controls to be implemented will focus on minimising the disturbance to the creek and drainage line where possible and stabilising crossing back to original state as soon as activities are completed.*
						Please note the stock route was incorporated into Eva Downs PPL lease in 2016 so any activity conducted we request the above guidelines applied.	*This is duly noted and we will ensure the guidance and control measures described above will be applied. We have updated our cadastral GIS maps accordingly.*
1/09/2020	Andrew Logan	Sweetpea	Update on EP136 2020 Exploration Work Program	Email to [redacted]	-	Update email to AACO on Sweetpea's current planning on Eva Downs and Anthony Lagoon. Advised that the current operational schedule has us completing the survey in a 10-day period early December, following 50-55 days of operations in the northern part of the permit. There is 12 days of wet weather contingency in the overall program with the forecast of early onset of the wet season. Requested input into Station Pastoral Lease Infrastructure Map on Eva Downs and Anthony Lagoon Station. Attachment Fig 3 Pastoral Lease INfrastructure Anthony Lagoon.pdf	
OSD Pipeline Communication Log							
13/07/2020	TAMS	Telstra	DBYD JOB: 19870785 SEQ: 99624925 - Carpenteria Highway, Daly Water NT 0582	Auto-email response	-	Information request from Telstra via DBYD reply. Details the necessary next steps to accessing information.	
13/07/2020	[redacted]	AECOM	DBYD JOB: 19870785 SEQ: 99624925 - Carpenteria Highway, Daly Water NT 0582	Email reply to Telstra	-	Informing telstra that it is known that there are no known telstra assests in the area. The DBYD was primarily for the purpose of the known Gas Pipeline. No further requirement from Telstra.	
13/07/2020	OSD Pipelines	OSD Pipelines	DBYD Response - Jon No.: 19870785, Sequence No.: 99624926 - Carpentatira Highway, Daly Water, NT, 0852	Auto-email response	-	Referral Notification. Attachments include: - PWC Disclaimer 99624926.pdf - PWC Cover Sheet 99624926.pdf - PWC Works Request Form 99624926.pdf	
13/07/2020	airsbydrreply	PowerWater	PowerWater - DBYD Sequence No 99624927; Job No 19870785 - Carpenteria Highway Daly Waters	Auto-email response	-	Communication in response to Dial before you Dig enquiry Attachment include: - Coversheet - No Assets.pdf	
14/07/2020	[redacted]	OSD Pipelines	DBYD Sequence #99624926	Email request to [redacted]	-	More information is required to assess the potential impact to the gas pipeline. Complete and return the Works Request form. Do not proceed with any works until written approval is provided.	
14/07/2020	[redacted]	AECOM	DBYD Sequence #99624927	Email response to OSD Pipelines	-	Experts from the EMP provided to detail the extent of the seismic program Attachments include: - Gas Pipeline Crossing.kmz - Seismic Program 2020 Northern.kmz - Sweetpea Response_99624926-Works Request Form.pdf	
14/07/2020	[redacted]	AECOM	DBYD Sequence #99624928	Follow up email to OSD	-	In addition to previous correspondence, the heaviest vehicle tht will cross the pipeline and it's dimensions are introduced.	[redacted]alerts [redacted] to the fact that the request has been passed on for technical review, and to allow at least 5 working days to respond.

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17/07/2020	[redacted]	OSD Pipelines	DBYD Sequence #99624929	Email approving Works	-	Works approval in relation to the works being carried outfor the DBYD Request Number ID 99624926, vehilcle crossing on Tanumbirini Station and Beetaloo Station, Carpentaria Highway. Review, sign and return.OSD technician required to mobilise to the site and will be paid for by Sweetpea.	
17/07/2020	[redacted]	AECOM	DBYD Sequence #99624930	Email advice to OSD	-	Highlighting the potential for contractors, and therefore vehicle weights, to change. Timing is not concrete yet. AECOM and Sweetpea will maintain contact and update when more information becomes apparent.	[redacted]s fine with that, would just like to be kept updated.
26/08/2020	[redacted]	AECOM	DBYD Sequence #99624926	Email to OSD	-	Request for clarification on Ownership of MRM pipeline following comment on EMP. The comment queried if we had consulted with MRM in relation to the crossing of the pipeline as they are the owners. I wanted to confirm if this is required and if you provide advise to MRM as the pipeline operator?	
26/08/2020	[redacted]	OSD Pipelines	DBYD Sequence #99624926	Email response to [redacted]	-	The pipeline is owned by Power Water Corporation (PWC) not MRM. There is a commercial agreement between PWC and MRM. OSD operate the pipeline on behalf of PWC. So consulting with us is consulting with the owner. When we provide an approval letter it will be signed by PWC as the owner/licensee.	
NLC							
1/07/2019	[redacted]	WardKeller	EP136 and EP143 Sweetpea Petroleum and Paltar Pertroleum - Matter: 20181126	Email to [redacted]	-	Sweetpea Petroleum and [redacted] are the holders of EP 136 and EP 143. [redacted] has been the operator of the permits and was charged with dealing with the NLC and native title holders. Given [redacted] Sweetpea is proposing to acquire [redacted] interest and is keen to re-engage with the NLC to deal with outstanding issues and to set the scene for positive future engagement. Andrew Logan of Sweetpea is in town until Thursday this week and if at all possible Andrew and I would like to meet with yourself (or whoever you advise it would be appropriate for us to meet) so as to introduce Andrew and to update the NLC (and native title holders) on the situation. It is not intended that the meeting would be long, but rather to establish points of contact and identify issues to be dealt with going forward.	
3/07/2019	[redacted]	NLC	EP136 and EP143 Sweetpea Petroleum and Paltar Pertroleum - Matter: 20181126	Email to [redacted]	-	I understand you have spoken with [redacted] from my office who has set aside 30-minutes for a meeting at 3pm this afternoon. I'm available and would be glad to meet with yourself and Andrew at this time. Would you be amenable to holding the meeting at the NLC office? [redacted] is acting Mining Officer for the Borroloola-Barkly region so I have invited her to join us. [redacted], NLC's dedicated Minerals and Energy lawyer, is on leave this week so it will only be myself and [redacted] from the NLC at this meeting.	
3/07/2019	Andrew Logan	Sweetpea Petroleum	Introductory Meeting	Face-to-Face Meeting	-	[redacted] Initial meet and greet between NLC and Sweetpea. Introduce Sweetpea CEO and update NLC on the acquisition of [redacted] interest on the permits. Re-engage with NLC.	
25/07/2019	Andrew Logan	Sweetpea Petroleum	Follow up Meeting	Face-to-Face Meeting	-	[redacted] Follow-up catch up to discuss processes going forward for intended 2020 work program.	
25/07/2019	Andrew Logan	Sweetpea Petroleum	Sweetpea Petroleum Environment & Heritage Assessments for EMP on EP136	Email to [redacted]r	-	Notice of intention to undertake seismic surveys in 2020 in EP136. Request for support of the NLC staff during site-based assessments, in the form of Cultural Monitors and any other relevant NLC staff for the duration of the field work, and to provide a Cultural Heritage Assessment and Report to AAPA to obtain a clearance certificate Brief outline of site assessment.	No formal response to email
29/08/2019	[redacted]	AECOM	Land Condition and Heritage (Archaeological and Anthropological) (AECOM/NLC) Assessment	Email to [redacted]	-	Notice that AECOM would like to progress with the field works for land condition and heritage assessments for the Sweetpea Seismic program. Request to check that the proposed fieldwork timings fir with NLC resource constraints.	
30/08/2019	[redacted]	NLC	Land Condition and Heritage (Archaeological and Anthropological) (AECOM/NLC) Assessment	Response to [redacted] and Andrew Logan	-	No works are able to be facilitated by the NLC where there are outstanding monies owed, therefore cannot make any firm commitments for fieldwork. Sweetpea will also need to submit a work program, as well as hold a work program meeting prior to any onground work. NLC requires confirmation of ownership of land, payment against outstanding debts, and submission of work program.	
3/09/2019	Andrew Logan	Sweetpea Petroleum	Land Condition and Heritage (Archaeological and Anthropological) (AECOM/NLC) Assessment	Response to [redacted]	-	Thanked [redacted] for outline sequence of events. Queried the requirement to have work program meetings before survey. Request [redacted] to pencil in dates for work program meeting and costs for said meeting to be budgeted for.	
10/10/2019	Andrew Logan	Sweetpea Petroleum	Coffee meeting Monday morning	Email to [redacted]	-	Request meeting with [redacted]. Plan to conduct baseline survey for the EMP w/o 4th November.	
10/10/2019	[redacted]	NLC	Coffee meeting Monday morning	Response to Andrew Logan	-	Seeking further guidance and advice in relationship to the requirements under the agreement, and the transfer deed requirements, better to catch up after information is at hand. Request update on the transfer deed with the NLC. Important to consider the social operating licence. Sweetpea need to engage and provide information with Native Title Parties to have a social licence to operate.	
10/10/2019	Andrew Logan	Sweetpea Petroleum	NLC and Sweetpea	Response to [redacted]	-	Acknowledges need to engage and share information with Native Title Parties. Requested assistance with baseline surveys to inform the EMP, in the form of cultural monitors and an Anthropologist. Conditions required before NLC could formally provide help with this. Outstanding payments from the previous operator had been made, Sweetpea awaiting acknowledgment from NLC of receipt. Deed of Assignment and Assumption to be ready to sign shortly. Requested a copy of a Service Agreement to be signed and a cost estimate for holding a work program meeting. Request for meeting in person. Meeting with some of the cattle station managers to share information of plans.	

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10/10/2019	[redacted]	WardKellar	Sweetpea Petroleum - EP 136 and EP 143	Response to [redacted]	-	Following up for confirmation of payments received. *Sweetpea is also seeking to co-ordinate with the NLC on its initial baseline environmental studies planned to be undertaken in the first week of November 2019. These initial baseline environmental studies do not constitute "Exploration" as defined in the Exploration Agreement for EP 136 and EP 143 and are not the subject of the Sacred Site Avoidance Survey or Work Program provisions contained in clause 5 of the Exploration Agreement. These non-invasive, low impact baseline environmental studies are to be undertaken to prepare a Work Program for in-ground exploration that does constitute "Exploration" under the Exploration Agreement and which Exploration Program will be presented to the NLC and native title holders in accordance with clause 5 of the Exploration Agreement to undergo the Sacred Sites Avoidance Survey and Work Program process.* Sweetpea wishing to coordinate with NLC on baseline surveys.	
7/11/2020	Andrew Logan [redacted]	Sweetpea Petroleum	Follow up discussion on EP136 Work Program	Face-to-Face Meeting	-	Meeting between Sweetpea/Ward Kellar and NLC representatives ([redacted] (NLC lawyer)) to discuss EP136 work program and exploration agreement.	
21/01/2020	Andrew Logan	Sweetpea Petroleum	Subject: Meeting this week	Email to [redacted]	-	Advising coming back to Darwin and would like to discuss several matters: 1.Deed of Assumption EP 136 and 143 Exploration Agreement executed by Sweetpea and Paltar (in liquidation) but yet to be executed and returned by the Northern Land Council – which is the assumption by Sweetpea of its obligations under the Exploration Agreement when it re-acquired 50% of EP 136 (and EP 143) from Paltar. This is becoming a rather urgent CP as we expect approval from the Minister for the Transfer in the next week and we need the fully executed DoA to complete on the transaction; 2.Receipt and updated Statement of Account in respect of the 2019 Administration and Royalty Fees paid by Sweetpea/Longview for EP136 and EP143 in August 2019; 3.Submission of a Work Program etc. as required under the Exploration Agreement EP136 and 143 dated 18 July 2012 ("Exploration Agreement") – which is the relevant native title agreement covering EP136 and EP143; 4.Work Program meeting for EP136 and EP143 – scheduling, cost estimate, materials/content, 5.Update on our activity plans and preparedness for 2020 on EP136 and EP143 – draft EMP for seismic, AAPA application for sacred site clearance 6.EP(A) 197 re-submission process update	[redacted]responded with timing.
23/01/2020	Andrew Logan [redacted]	Sweetpea Petroleum	Subject: Meeting this week	Face-to-Face Meeting	-	Catch up meeting between Andrew Logan and [redacted] in relation to the matters identified in email 21/01/2020. Updated NLC on activity plans and requested Statement of Account be provided, Signing of Deed of Assumption and advice on Work Program.	
6/02/2020	Andrew Logan	Sweetpea Petroleum	Letter EP136 2020 Work Program	Email to [redacted]	-	Letter detailing 2020 work program. Request scheduling of on-country meeting to discuss the program with TO's. Close to finalising a draft EMP for 2020 activities, final draft copy will be sent. Request for meeting. Attachments include: - NLC letter 2020 Work Program (20200206).pdf	
9/03/2020	Andrew Logan	Sweetpea Petroleum	Sweetpea EP136 2020 Exploration Work Program	Email to [redacted]	-	Sweetpea has submitted a draft EMP to DENR for the EP136 2020 Work Program of a proposed seismic and gravity survey. Copy sent along with updated shape files and kmz files and maps of seismic survey program. Submitted an application to AAPA for sacred site clearance and avoidance certificates. Letters of notice of the draft seismic survey EMP sent to Tanumbirini and Beetaloo Stations. Request for confirmation that on-country work program meeting has been scheduled.	
12/03/2020	[redacted]	NLC	RE: Sweetpea EP136 2020 Exploration Work Program	Email to Andrew Logan	-	The NLC has tentative date for on-country consolations for EP 136 & 143 pencilled in for the week commencing 20 April 2020. Attached is a copy of the NLC's Service Level Agreement which will need to be signed by authorised people from Sweetpea Petroleum and returned to the NLC as soon as possible. In parallel to this the NLC will prepare a cost estimate for the on-country consultations, which NLC will send to you for approval. Once the estimate is approved, the NLC will issue an invoice. The invoice will need to be paid 100% in advance a minimum of two weeks before the date of the meeting. From the NLC side of things on country consolation meetings progress as follows: •Tentative – Week commencing allocated in NLC Regional Calendar to proponent •Scheduled – NLC issue invoice •Confirmed – NLC invoice paid by proponent.	
24/03/2020	[redacted]	NLC	COVID-19 Potential Impacts	Email to Andrew Logan	-	Request for information as to how Sweetpea is managing the risk of COVID-19 transmission in the NLC's regions	
27/03/2020	Andrew Logan	Sweetpea Petroleum	COVID-19 Potential Impacts	Response to [redacted]	-	Letter addressing the questions from NLC in regards to COVID-19. Attachments include: - Letter to NLC on COVID-19 response 2020-03-27.pdf	
15/05/2020	Andrew Logan	Sweetpea Petroleum	COVID-19 Response - Sweetpea activities on EP136 and EP143	Follow up with [redacted]	-	Activities remain temporarily suspended due to COVID-19. Sweetpea has developed COVID-19 Response Management Plan. Sweetpea plan to resume reconnaissance activities on EP136 as governed by the plan. Request for time of rescheduled on-country meetings. Attachments include: - Letter to NLC on COVID-19 response 2020-02-27.pdf	
29/05/2020	Andrew Logan	Sweetpea Petroleum	Update on Work Program	Video Meeting	-	Video conference with Sweetpea and NLC ([redacted]) for update on Work Program.	
29/05/2020	[redacted]	NLC	RE: Catch-up call	Phone Call	-	It was good to meet you today and discuss Sweetpea's operations within the Northern Territory. I wanted to confirm that the information you have provided to the NLC, AAPA, and DPIR is consistent, if this is not the case not this could result in delays to the project. Please send me a copy of your latest submission to AAPA and DPIR, including all spatial files so that we can cross-reference the information against our records. To reiterate, the information provided within the Work Program, as required under the agreement, must be consistent with what has been provided to AAPA. The Work program must also align with the requirements of the agreement and relevant legislation. I have also been informed that the NLC and AAPA work closely together and will continue to do so to ensure the most efficient process for operators. Discussions are ongoing regarding streamlining processes between the two entities.	

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4/06/2020	Andrew Logan	Sweetpea Petroleum	Phone Call	Phone Call	-	Catch up call between Andrew Logan and [redacted].	
4/06/2020	[redacted]	NLC	2020 work program	Email to Andrew Logan	-	Thanks for the discussion the other day. I wanted to create a record of the conversation and provide an outline of what was discussed. Sweetpea is planning on engaging with adjacent land/lease owners and exploration permit holders regarding the work proposed on their land or leases. The NLC would like to see any agreement between Sweetpea and adjacent land/lease owners prior to any meetings. You noted there are changes to the Work Program you provided to include more seismic lines further south within EP 136. The preferred contractors have confirmed that the latest date they could commence is the 1st of September for a 45 day Work Program (ending in mid-October). The 45-day period accounts for the recent changes to the Work Program. You were to meet with AAPA on Tuesday afternoon and provide a summary of what was discussed and an updated Work Program to	
10/06/2020	Andrew Logan	Sweetpea Petroleum	Sweetpea Petroleum EP136 2020 Work Program	Email to [redacted]	-	Details the Sweetpea's 2020 Work Program. Included a range of attachments for [redacted]'s information. Attachments include: - Sweetpea letter to NLC-2020 Work Program (200610).pdf - Proposed Anthony Lagoon SCH-1 (stratigraphic corehole).dbf - Proposed Anthony Lagoon SCH-1 (stratigraphic corehole).KML - Proposed Anthony Lagoon SCH-1 (stratigraphic corehole).prj - Proposed Anthony Lagoon SCH-1 (stratigraphic corehole).shp - Proposed Anthony Lagoon SCH-1 (stratigraphic corehole).shx - Proposed Eva Downs SCH-1 (stratigraphic corehole).dbf - Proposed Eva Downs SCH-1 (stratigraphic corehole).kml - Proposed Eva Downs SCH-1 (stratigraphic corehole).prj - Proposed Eva Downs SCH-1 (stratigraphic corehole).shp - Proposed Eva Downs SCH-1 (stratigraphic corehole).shx - Proposed Shandon Downs Seismic Survey.dbf - Proposed Shandon Downs Seismic Survey.kml - Proposed Shandon Downs Seismic Survey.prj - Proposed Shandon Downs Seismic Survey.shp - Proposed Shandon Downs Seismic Survey.shx - Proposed Well Pads.dbf - Proposed Well Pads.kml - Proposed Well Pads.prj - Proposed Well Pads.shp - Proposed Well Pads.shx - Proposed Yaroo Creek Seismic Survey.dbf - Proposed Yaroo Creek Seismic Survey.kml - Proposed Yaroo Creek Seismic Survey.prj - Proposed Yaroo Creek Seismic Survey.shp - Proposed Yaroo Creek Seismic Survey.shx - EP136-NatMap Topography-Showing Sweetpea's Proposed Seismic, Well Pads and Coreholes-4th June 2020.pdf	
18/06/2020	Andrew Logan	Sweetpea Petroleum	Sweetpea Work Program Notice & Meetings	Email to [redacted]	-	Enquire into the residual restrictions to enter the Barkly region. Request for update of scheduling of Sweetpea on-country Work Program meetings. Asking for any feedback, questions or clarification regarding the draft seismic EMP for EP136.	
19/06/2020	[redacted]	NLC	Sweetpea Work Program Notice & Meetings	Email to Andrew Logan	-	Highlight importance of a source-pathway-receptor assessment for both environmental and cultural impacts. Need to manage the risk of the potential that work undertaken in approved areas could impact on culturally significant areas through existing or created pathways. Work Program meeting secured for 10th August.	Noted and responded to on 24/06/2020
19/06/2020	Andrew Logan	Sweetpea Petroleum	[EXTERNAL] FW: Sweetpea Work Program Notice & Meetings	Email to [redacted]	-	The 10th August is a very agreeable date for the Work Programme Meeting. This dovetails well with AAPA sacred site avoidance survey work. They are doing some preliminary field work next week and looking at formal consultations around mid-July.	
22/06/2020	[redacted]	NLC	Sweetpea Work Program Notice & Meetings	Email to Andrew Logan	-	I would like to clarify something from my previous email, my understanding of the site clearance was incorrect and linkages between proposed works and culturally significant areas is included in the site clearance assessment. I also wanted to clarify a few things relating to the recent Work Program and EMP you provided. I noted faint grey lines that appear to be seismic lines in Figure 4 of the Work Program, however, these have not been included in the figure legend or in the GIS data provided. Can you please clarify what the grey lines are and what they relate to? Also on a related note, can you please direct me to the section of the EMP that covers the southern portion of the lease?	Noted and responded on 22/06/2020
22/06/2020	Andrew Logan	Sweetpea Petroleum	RE: Sweetpea Work Program Notice & Meetings	Response email to [redacted]	-	Thank you for clarifying the query on sacred site clearance and pathways, however AECOM are preparing a response to your previous email for avoidance of any doubt on this important issue. The entire proposed Shandon Downs seismic program is shown in Figure 4 of the Work Program (grey lines), but only Line 1 and Line 10 (black colour) will be acquired in the 2020 Work Program. See attached map. The rest of the seismic program (grey lines) are dependent on the outcome of the 2020 Work Program and if they were to be acquired, probably not until the 2022 dry season. The draft seismic EMP does not specifically address the part of the Work Program in the south of EP136, as this these work program elements were added after the draft EMP was prepared and submitted. However the EMP is currently being updated to include these additional elements, informed by the recent baseline surveys of weed, environment and heritage over this southern area. The final EMP will be submitted at the end of this week to DENR.	
22/06/2020	[redacted]	NLC	RE: Sweetpea Work Program Notice & Meetings	Email to Andrew Logan	-	The comments within the previous email regarding source, pathway and receptor considerations remain valid. My understanding of what the clearance covered was incorrect. Thanks for clarifying what the grey lines represent. The site clearance undertaken for this Work Program will only cover the area depicted by the GIS data, just so you are aware. I would recommend ensuring that figures within the Work Program and the GIS data provided are kept consistent to prevent confusion. I will keep an eye out for the final EMP. I am working on a cost estimate to send you for the Work Program meeting. As we are on a tight timeframe payment will need to be prompt to ensure the meeting date can be retained.	

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24/06/2020	Andrew Logan	Sweetpea Petroleum	RE: Sweetpea Work Program Notice & Meetings	Response to [redacted]	-	I provide the following response from our environment and heritage consultants AECOM, Principal Heritage Specialist, regarding a source-pathway-receptor assessment: I note that the LCA and Heritage Assessment do provide this and are attached as an appendix to the EMP. We also note the following: 1)Connections have been considered and noted based on publicly available information of which there is very little beyond what AAPA have provided to date and the Ethnographic Survey conduct by NLC in 2012. 2)We can't comment on the specifics of connections beyond noting them, only Aboriginal people can advise re will these works impacts intangible heritage connections. This is currently underway through the AAPA application and the NLC Work Program meetings that are currently being scheduled. 3)Based on my experience, use of existing track and creation of temporary new tracks for seismic investigations (that will over time be regenerated) will have limited potential for impact on dreaming pathways and the environment beyond what has already occurred. We will be relying on the outcome of the AAPA consultation that will inform final EMP and management of both environmental and cultural impacts. It is also noted that we have had commentary back from DENR on the draft EMP and we are in the process of ensuring it is updated to meeting the requirements of the Petroleum Regs. Regarding Work Program Notice and Meetings, [redacted]and I had always linked EP136 and EP143 as per our Exploration Agreement and the meetings were always considered as combined on-country consultations for both EP 136 & 143. For avoidance of doubt, please could you confirm that the Work Program Meeting scheduled for 10th August will cover both permits. If required, I can provide formal notice of proposed 2020 Work Program for EP143, but basically it is a proposed Geological Field Study to be carried out by honours students at Adelaide University. Thank you for the suggestions about synchronisation of maps and spatial data. We will issue an updated map and spatial files which only relates to the work program proposed.	
25/06/2020	[redacted]	NLC	RE: Sweetpea Work Program Notice & Meetings	Response to Andrew Logan	-	Thanks for the email, regarding the potential for conducting a meeting for both EP136 and 143 together I cannot offer any certainty that this can be achieved. The ability to deliver on this relies on the availability of staff in other NLC branches and the timely provision of a satisfactory Work Program for EP143. The response from AECOM is appreciated. I believe it is focussed on cultural connections and environmental connections (i.e. the transmissivity of groundwater, dust migration from cleared areas, hydrological flow) need to be discussed. I will review the informed and if there is any more information required in the Work Program I will let you know.	
9/07/2020	[redacted]	NLC	RE: Sweetpea Work Program Notice & Meetings	Follow up email to Andrew Logan	-	Following up on my previous email I wanted to clarify the PPE/induction and other company requirements for individuals conducting site clearances on EP136. Is it your intension that Sweetpea will be providing PPE for site clearances? Please be aware it is likely that different individuals will need to be involved in clearances for different areas of EP136, we won't have the details of how many or who until they are nominated (this usually occurs during the work program meeting). The number of individuals involved in the site clearance work will be included in the cost estimate, however, it is likely that the value estimated will not be entirely accurate given we cannot know how many people might attend until after the Work Program meetings. There is the potential to stagger the site clearances so that the individuals that represent the northern works area can undertake clearances while the work program meetings are conducted for the individuals that represent the southern portion. Again I am unable to provide any certainty of this at this stage and need to confirm this is possible.	
9/07/2020	Andrew Logan	Sweetpea Petroleum	[EXTERNAL] FW: On-country Work Program Meeting EP136 10th August	Email to [redacted]	-	Identifying that Sweetpea would like to start planning and preparations for meeting and requested the following: 1.Confirm the meeting is on 10th August and one day only. 2.Where the meeting will take place? 3.Approximately how many participants will there likely to be? 4.What will be the format of the meeting? 5.What type of materials is best to facilitate and illustrate the presentation? 6.Apart from the work program itself I presume we will need to be prepared to address related topics such as ground and surface water, vegetation, soils, streams and waterways, cultural heritage, sacred sites, noise? 7.What the logistical arrangements will be? Also requested budget to get a rough idea of costs for planning purposes.	
09/07/220	[redacted]	NLC	[EXTERNAL] FW: On-country Work Program Meeting EP136 10th August	Email to Andrew Logan	-	I am working through some of the questions you asked below and reconciling the NLC's new COVID safe meeting plan against the Work Program meeting. Previously the NLC has brought people together for a single group meeting, usually 1 or 2 days, during/after this individuals have been elected to participate in site clearances. The new approach is a road show type process, where we conduct meetings closer to where people live. This will involve travelling to a central hub and conducting multiple smaller meetings over many days. The logistics team within the NLC is still working to determine some of the details. We are looking at leaving Darwin on the 8th and returning on the 18th of August at this stage and travelling to Mataranka , Minyeri, Elliott, Borroloola, Katherine, and Tennant Creek, however this has not been finalised yet, The Work Program should be used as a basis of what you need to communicate. Regarding the EMP, detailed information included in the EMP should be used to address questions only when necessary, it might be worthwhile taking a few printed copies for reference if required. Some of the questions might related to the level of engagement (past, present and future), the work area and the measures the company will take to protect the environment. The estimate is still going through the approval process and I will provide you the details as soon as I can. In the meantime can you please sign and return the attached Service Agreement, ideally before Monday next week.	
9/07/2020	Andrew Logan	Sweetpea Petroleum	[EXTERNAL] FW: On-country Work Program Meeting EP136 10th August	Email response to [redacted]	-	Identified that Sweetpea don't have time to spend on a 10-day road show style series of meetings. We suggest one consolidated meeting, as we were previously discussing, where all the TO's hear the same things at the same time and one decision/discussion process, is a more appropriate approach. This will also be more cost efficient. We understand and support the need to conduct any such meeting in a COVID-19 safe manner and we should consider the precautions and procedures advised by the NT Public Health Department, in addition to the NLC COVID-safe meeting guidelines.	

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10/07/2020	[redacted]	NLC	[EXTERNAL] FW: On-country Work Program Meeting EP136 10th August	Response to Andrew Logan	-	Need to think about this and see what is possible to facilitate the meeting while meeting everyone's needs. I am out of the office today but will call on Monday if that works for you.	
14/07/2020	[redacted]	NLC	[EXTERNAL] FW: Standard Work Program meeting agenda	Email to Andrew Logan	-	Provided a generic meeting agenda for Work Programs. Included some generic questions that might arise during the meeting. •What is the current project timeline (maybe phrased in a different way) •What training opportunities are there for the locals •Where are project updates and changes posted •Environmental (including cultural) management and potential implication of the project (potentially specific questions for rehabilitation)	
15/07/2020	[redacted]	NLC	Call to discuss EP136 WP [redacted]	Email to Andrew Logan	-	Requested if the latest round of NT coronavirus restrictions will impact on the Sweetpea Work Program progressing? Please feel free to call me and discuss.	Andrew Logan phone call on 20 July 2020.
17/07/2020	Andrew Logan	Sweetpea Petroleum	NLC Service Agreement- On-country Work Program Meeting EP136 10th August	Email to [redacted]	-	Andrew advising that the Service Agreement provided by the NLC had been reviewed Andrew summarises why the Costs Agreement is not appropriate to cover the on-country consultations scheduled.	
23/07/2020	[redacted]	NLC	EP136 2020 August Work Program and Cultural Monitor cost estimates	Email to Andrew Logan	-	[redacted] sends Andrew cost estimates for the proposed Work Program meetings and Cultural Monitor requirements for EP136. Comments on how estimates were developed included. Site survey costs not included. Requires written acceptance from Andrew to move forward.	
29/07/2020	[redacted]	NLC	Work Program Meetings EP136	Email to Andrew Logan	-	[redacted] advising Andrew of a death in the [redacted] community which may delay the Work Program Meetings due to the cancellation of meetings on funeral days out of respect for the community.	
29/07/2020	Andrew Logan	Sweetpea Petroleum	Work Program Meetings EP136	Email to [redacted]	-	Andrew sends his condolences. Requests information about the meetings and introduces those that will be present. Informs that no Sweetpea staff can attend due to COVID-19 restrictions.	[redacted]
31/07/2020	Andrew Logan	Sweetpea Petroleum	Work Program Meetings EP136	Email to [redacted]	-	Thank you for the update. Please could you clarify the current schedule/dates of meetings and locations. I noticed on the budget you have allocated cost to the production of AO maps and other northern and southern area maps at A4 and A3. In order not to duplicate effort and cost, please could you indicate what information will be on these maps, as we are also planning to bring maps. We are thinking the following large-scale AO maps and posters: 1.Location map showing permit area, towns, roads, rail, and other cadastral information, Native Title determinations, Community areas and locations. 2.Pictorial story board of proposed exploration activities over next 3 years: seismic and gravity exploration – water monitoring program - drilling of explorations wells – testing of exploration wells 3.Environment and Heritage poster showing types of flora & fauna, vegetation distribution, creeks & stream systems, sacred sites and other culturally sensitive areas, aquifers, etc. Please could you also provide information as to what audio/visual/internet facilities will be at each location.	
6/08/2020	[redacted]	NLC	EP136 meeting information	Email to Andrew Logan	-	Unable to provide information about previous Work Programs and meeting notes/attendance without legal advice. Suggest to contact DIPR and see if they are willing to provide it. Team's meeting scheduled with NLC employees.	
10/08/2020 to 14/08/2020	NLC/Tos and other Aboriginal Community Members and Sweetpea Representatives	NLC/TO/Sweetpea Representatives	Oncountry Work Program Meetings	Presentation to Native Title Representatives and Tos	-	The work program meetings were recently held over a weeklong road show between 10 August and 14 August 2020. Meetings were held in Tennant Creek, Elliott and Mataranka with Sweetpea presenting the planned seismic surveys and temporary camp locations. The NLC hosted the work program meetings and arrange for the affected parties to attend. The following provides a summary of the work program meetings: •Background and objectives: -Four (4) work program meetings were held with Native Title Parties in three community locations. -Representatives of all Native Title Parties attended the meetings ~ 60 Traditional Owners present over the three days of meetings. -Meeting objective was to provide information, listen, consult, engage and answer any questions the Native Title Parties and Individuals may have on the proposed 2020 seismic survey activities and future activities. •What was presented: -History of Sweetpea and introduction of Tamboran and the vision and future exploration activities. -2020 work program of seismic surveys and water monitoring bore installation. -Overview of 2021 plans of exploration drilling and testing. -Environmental management and protection plans and rehabilitation plans. -Sacred site and cultural heritage management and protection. -Employment and contracting opportunities. •Key issues, concerns and outcomes: -Disturbance of land, animals and birds; contamination (gas) of water (aquifers) via cracks from drilling/testing, earthquakes; rehabilitation/restoring the land and wildlife; working in the wet season; soil and sediment erosion; and creek crossings. -Sweetpea was well received, "with good clear honest information", appreciation of video-link to company management and experts. NLC advised Sweetpea that the meetings were good meetings given COVID-19 restrictions. -The Traditional Owners want job opportunities. -The NLC received several nominations for cultural monitors and cultural inductions for the seismic surveys.	Refer Oncountry Work Program Meeting Presentation.
27/08/2020	Andrew Logan	Sweetpea Petroleum	Sweetpea EP136 2020 Schedule of Operations	Email to [redacted]	-	Further to our conversation today, please find attached our current operational schedule to assist in planning of Cultural Monitors.	

Sweetpea Petroleum Pty Ltd Communication Log Updated 01 September 2020							
Date	**Contact**	**Company**	**Information Provided**	**Correspondence Type**	**Objections**	**Discussion/Assessment of Objections**	**Outcome/Responses**
28/08/2020	[redacted]	NLC	Sweetpea EP136 2020 Schedule of Operations	Email to Andrew Logan	-	Cultural Monitors are employed by the NLC and as such the NLC is responsible for ensuring the appropriate individuals are engaged. The primary objectives of the program, as I understand them, are to: 1. ensure the protection of areas of high cultural and environmental significance during on Country works; 2. assist with environmental and cultural heritage management issues including surveys; and 3. deliver onsite cultural competence training to the Proponent's employees participating in on Country works. The use of reference documentation, global position systems and other resources will be supplied by the NLC where necessary and is intended to be used only by the Cultural Monitors. While the information obtained through site surveys can be used to guide operational planning, Cultural Monitors employed by the NLC will provide an opportunity to guide on country management and are selected by the NLC based on their knowledge of country.	
28/08/2020	Andrew Logan	Sweetpea Petroleum	Input required from NLC to address comments from DENR on the EMP	Email to [redacted]	-	Further to our telephone call yesterday about the identification of TO's and Native Title Parties that were present or represented at the Work Program Meetings, we have provided a draft response to the feedback comment from DENR on our EMP, below. Draft reponse provided to ascertain whether it is appropriate and reflects the NLC reponse.	
28/08/2020	[redacted]	NLC	Input required from NLC to address comments from DENR on the EMP	Email to Andrew Logan	-	The NLC cannot amend information provided by Sweetpea, can provide feedback.	
NTG Agency Correspondence							
Weeds Branch							
22/05/2020	[redacted]	AECOM	Sweetpea Helicopter Survey May 2020	Email to [redacted]	-	Provided survey tracks and points for Sweetpea May 2020 survey	
25/05/2020	[redacted]	DENR - Onshore Petroleum Weed Officer	[EXTERNAL] Sweetpea Helicopter Survey May 2020	Email to [redacted]	-	Confirmed receipt and asked for November 2019 files. Tried to arrange attendance with AECOM for baseline survey, although conflicting issues.	
25/05/2020	[redacted]	DENR - Onshore Petroleum Weed Officer	[EXTERNAL] OP Annual weed monitoring and reporting	Email to [redacted]	-	Attached a guide for annual weed monitoring and reporting.	
12/06/2020	[redacted]	AECOM	Sweetpea weeds data submission November 2019 and May 2020 EP136 surveys	Email to [redacted]	-	Details of the outcome of air and ground weed surveys of the site. Attachments include: - Sweetpea-November 2019 Weed Surveys Track.kml - Sweetpea_May2020_Field_Weed_Records.kml - Sweetpea_May2020Final_All_Field_Collected_Tracks.shp.kml - Final_all_tracks_for _survey.shp.kml - Sweetpea Weed Data May 2020.xlsx	[redacted] from Weed Management Branch is pleased with the results of the survey, as well as with the suggestions made to the client.
18/06/2020	[redacted]	DENR - Onshore Petroleum Weed Officer	[EXTERNAL] RE: Sweetpea weeds data submission November 2019 and May 2020 EP136 surveys	Email response to [redacted]	-	Appreciative of data provided. Glad only Hyptis and rubber bush and confirmed agreed with plan to cut line sort before hitting patch of hyptis. No further info required at this stage.	
DIPL - Transport and Civil Services							
10/07/2020	[redacted]	AECOM	Sweetpea Petroleum Traffic Management Plan Requirements	Email to [redacted]	-	Looking to set up a meeting with DIPL to discuss the Traffic Management Plan requirements for the Sweetpea Petroleum Project. Brief overview of the project.	
10/07/2020	[redacted]	DIPL - Transport and Civil Services	Sweetpea Petroleum Traffic Management Plan Requirements	Response to [redacted]	-	Depending on the location/type of work, you will need both Road Agency Approval (RAA) and Permit to Work (PW) with a road reserve. We would like to know more information and abut the project and impact on NTG road network. Could you please send me a meeting invitation next week so I can book a meeting room in Highway house Level 3. I can also invite	
10/07/2020	[redacted]	AECOM	RE: Sweetpea Petroleum Traffic Management Plan Requirements	Email to [redacted]	-	[redacted] providing a summary map of the Seismic investigations' activities and locations. Brief summary of the location and undertakings of the investigations. Brief summary of the access points of the works.	
20/07/2020	[redacted]	AECOM DIPL - Transport and Civil Services	Sweetpea petroleum traffic management plan requirements follow up	Face-to-Face Meeting	No.	Meeting to discuss Sweetpea's Traffic Management activities for regulated works near Carpentaria Highway and what would be required.	
21/07/2020	[redacted]	AECOM	Sweetpea petroleum traffic management plan requirements follow up	Email to [redacted]		Thank you for your time yesterday in relation to the Sweetpea petroleum project. As discussed AECOM is assisting with the preparation of the EMP for this project. The phases we are currently working through are the seismic survey followed by the exploration drilling. We discussed the processes for approval of traffic management activities for these phases. As agreed AECOM will: 1.Prepare a Traffic Impact Statement for the seismic survey phase. AECOM will forward a copy of this plan to you directly. 2.Review the TIS for the subsequent exploration drilling phase and prepare resultant designs / plans identified in the TIS 3.Provide DIPL with the location of the proposed camp on the Carpentaria Hwy to confirm location of the camp – road reserve or pastoral property.	

Sweetpea Petroleum Pty Ltd Communication Log Updated 01 September 2020							
Date	**Contact**	**Company**	**Information Provided**	**Correspondence Type**	**Objections**	**Discussion/Assessment of Objections**	**Outcome/Responses**
21/07/2020	[redacted]	DIPL - Transport and Civil Services	[EXTERNAL] RE: Sweetpea petroleum traffic management plan requirements follow up	Email response to [redacted]	-	Thank you. We'll wait for your first submission prior to start seismic surveys.	
29/07/2020	[redacted]	AECOM	Sweetpea Petroleum Beetaloo Basin Seismic Survey Traffic Impact Statement	Email to [redacted]	-	Further to our meeting recently on the proposed seismic survey investigations planned to be undertaken by Sweetpea Petroleum in the Beetaloo Basin, please find attached the Traffic Impact Statement document for the project. Note this is for the seismic survey component only. A separate statement and TMP will be prepared and submitted for the exploration activities. This Traffic Impact Statement is being submitted today as part of the overarching EMP for the seismic survey. In relation to the proposed location of the camp for the seismic survey activities, details are provided below. Entry located at 16 deg 28 min 50 sec E, 134 deg 34 min E Camp approx. 16 deg 28 min 52 sec E, 134 deg 33 min 57 sec E	
24/08/2020	[redacted]	DIPL - Transport and Civil Services	RE: Sweetpea Petroleum Beetaloo Basin Seismic Survey Traffic Impact	Reply to [redacted]	-	Nim providing a detailed response to the TIS and traffic related matters	[redacted]: Thanks for the comments. I would like to have a quick catch up to make sure I have addressed things correctly. I just tried your phone, but you were not around. Would you be able to call me on [redacted] when you have time.
27/08/2020	[redacted]	DIPL - Transport and Civil Services	RE: Sweetpea Petroleum Beetaloo Basin Seismic Survey Traffic Impact	Reply to [redacted]	-	As per our discussion this morning comments are provided below. Please let me know if further information is required. The updates to the TIS are being made and will be resubmitted as part of the amended EIS when other review comments have been addressed. The TMP will be formally submitted by the contractor, once a contractor has been appointed. For clarity we will remove it from the resubmitted EIS and make note in the formal comments back to DENR.	
DENR - Water Resource Division							
16/07/2020	[redacted]	AECOM	Sweetpea Petroleum Pty Ltd - DENR Unique SWP1-001	Email to [redacted]	-	Follow up after phone call to obtain advice on licence for water extraction as part of the seismic program. Identified estimated water use and timing. In addition provided number of bore options in the area, including pastoral and/or DIPL roadside bores.	
16/07/2020	[redacted]	AECOM	RE: Sweetpea Petroleum Pty Ltd - DENR Unique SWP1-001	Email to [redacted]additional information)	-	Second email with the current survey area footprint. Attached: Southern AAPA application buffer.shp.kml and AAPAFinalSearchBuffer.kml	
22/07/2020	[redacted]	AECOM	RE: Sweetpea Petroleum Pty Ltd - DENR Unique SWP1-001	Email to [redacted], follow up	-	Chasing catchup in relation to request.	
22/07/2020	[redacted]	DENR - Water Services	[EXTERNAL] RE: Sweetpea Petroleum Pty Ltd - DENR Unique SWP1-001	Email response to [redacted] -	-	Apologies for the delay getting back to Sweetpea. Aims to provide advice I will call to discuss.	Received phone call from [redacted] to go through requirements.
30/07/2020	[redacted]	DENR - Water Services	RE: Sweetpea Petroleum Pty Ltd - DENR Unique SWP1-001	Email [redacted]	-	Based on review of proposed water extraction being less than 5 ML p.a. At this stage of development Sweetpea are exempt from requiring a water extraction licence. However indicated my choose to continue with application process to secure a licence. Noted bores proposed are not owned by Sweetpea and there fore will need to obtain permission from each bore. Advised if bore owned by NTG permission will also be required from Controller of Water Resouces (S. 81(2) Water Act 1992. Also advised to obtain permission from owners within 1 km of bore.	

Sweetpea Petroleum Pty Ltd Communication Log Updated 01 September 2020							
Date	**Contact**	**Company**	**Information Provided**	**Correspondence Type**	**Objections**	**Discussion/Assessment of Objections**	**Outcome/Responses**
30/07/2020	[redacted]	DENR - Water Services	[EXTERNAL] RE: Sweetpea Petroleum Pty Ltd - DENR Unique SWP1-001	Follow up Email response to [redacted]	-	Provided summary on the following: Bore Work Permits Applications for a bore work permit generally take up to 10 business days to determine. Further information and the application form is available at the following link - www.nt.gov.au/BWPs. When submitting an application please include a map showing the proposed bore locations. If you intend to sign the application on behalf of the proponent, please ensure you provide evidence of your authority to sign on their behalf. Groundwater Extraction Licences An application or a groundwater extraction licence generally takes 4 months to determine, this includes a 30 day public comment period. I understand you may seek to apply for a licence prior to drilling the water extraction bores. In this instance you must identify the target aquifer for the groundwater extraction licence application. Adding bores down the take can be done quickly; however, bores can only be added when they target the aquifer listed on the licence. Additionally, you will need to consider separation distances between the water extraction points and the bores of other groundwater users (Section 60A of the Water Act 1992). Further information and the application form is available at the following link - https://nt.gov.au/water-extraction-licence. I also draw your attention to the checklist at the back of the application form; this is a useful guide on what supporting information is required to complete the application. Permission to use a NTG bore There is application form for this process. Accordingly, permission may be sought via a letter or email. This correspondence should include the following: •The registered number of each bore being requested for use; •Evidence of permission from the bore owner (NTG department); •Detail on the proposed purpose of the water extraction; •Justification for use of an NTG bore (why is this bore the most viable option for water supply); •If the purpose of the water is related to HFI or works which are ancillary, detail on other bores within a 1km radius of the extraction point and evidence on bore owner permission. Submission It is recommended that all application and requests are submitted via email to water.licesning@nt.gov.au.	
31/07/2020	[redacted]	DENR - Water Services	[EXTERNAL] RE: Sweetpea Petroleum Pty Ltd - DENR Unique SWP1-001	Follow up Email to [redacted]	-	Thanked for the advice. Noted EMP updated to provide specific details for intended water use for seismic survey program. Indicated considered future use in cumulative impact area. Provided extract from EMP regarding Water Supply for Seisimc Program.	Hannah had received EMP through DENR Petorleum Ops and were providing formal comments. Noted that main change were referencing specific section of Water Act that were vague or missing.
DPIR - Energy Devision							
17/06/2020	Andrew Logan	Sweetpea Petroleum	Sweetpea EP136 application for access authority for seismic surveys	Email to [redacted]	-	Email in relation to Sweetpea's application for Access Authority to conduct 2 siesmic surveys in and adjacent to EP136. Letter and signed application form attached, with shape and KML files for spatial reference. Includes location and extent of surveys, as well as proposed survey times. Access has been requested from adjacent permit holders.	
17/06/2020	[redacted]	DPIR - Energy Division	Sweetpea EP136 application for access authority for seismic surveys	Email response to Andrew Logan	-	Application and invoice fee to be raised. Access Authority (AA) would be subject to the Native Title Act. The AA would need to be notified under section 29 of the NTA and Sweetpea would need to enter into the Right to Negotieate process.	
19/06/2020	[redacted]	DPIR - Energy Division	Sweetpea EP136 application for access authority for seismic surveys	Email response to Andrew Logan, in addition to [redacted] email	-	Request approval from adjacent permit holders when received. Cannot suspend and extend work program if only issue is inability to obtain access authority in time. Notes that [redacted] has had discussions with Andrew over the last couple of months about applying for a S&E for other reasons.	
23/06/2020	Andrew Logan	Sweetpea Petroleum	Sweetpea EP136 Access Authority Application Update	Email to [redacted]	-	Provided copies of email approval received from Santos and Origin in relation to ingress seismic survey into their EPs. Confirmed no response to date from Pangaea. Attachments: Email correspondence from Origin and Santos.	
19/08/2020	Andrew Logan	Sweetpea Petroleum	Sweetpea EP136 Access Authority Application Update	Email to [redacted]	-	Updated Access Authority application attached to include ground sensitivity survey in the form of transects along some of the seismic lines in the northern survey area. Describes the camp on the application form in addition to the location identification on the maps.	
1/09/2020	[redacted]	DPIR - Energy Division	Application for an Access Authority - AA9- Sweetpea Petroleum Pty Ltd	Email to Andrew Logan and [redacted]	-	Follow up on Native Title requirements for the grant of your Access Authority. [redacted] spoke to [redacted] 19th June 2020 about preparing request/opinion detailing how the Native Title requirements could be met in a more efficient way. Discussed also with Andrew on 10th August 2020, and was advised Andrew and [redacted] had met with the NLC and TO's to discuss the Sweetpea work program and the more appropriate way to progress Access Authority. Wanted to confirm if in a position to progress this matter. Concern that s29 of the *Nattive Title Act 1993* requires 4 month notification process, Sweetpea are seeking approval for one month work commencement.	
2/09/2020	[redacted]	WardKellar	Application for an Access Authority - AA9- Sweetpea Petroleum Pty Ltd	Email reponse to [redacted]	-	Work Program meetings were conducted by Sweetpea with the NLC and native title holders during August 2020. The camp and extension of seismic lines outside of EP136 were part of the discussion. Sweetpea propsed to the NLC that they enter into an ancillary agreement in relation to the Access Authorities under section 57A of the *Petroleum Act*. Requests that DPIR process to advertise the proposed grant of the Access Authorities for the camp and seismic lines as soon as possible under the right to negotiate process. Once the ancillary agreements are entered into, it will allow the grant of the Access Authorities from the date of the agreement. Not proposed	
2/09/2020	[redacted]	DPIR - Energy Division	Application for an Access Authority - AA9- Sweetpea Petroleum Pty Ltd	Email response to [redacted]	-	Queried if Sweetpea had been in touch with Pangaea yet regarding access to the Pangaea EP (EP169)	

Sweetpea Petroleum Pty Ltd Communication Log Updated 01 September 2020							
Date	**Contact**	**Company**	**Information Provided**	**Correspondence Type**	**Objections**	**Discussion/Assessment of Objections**	**Outcome/Responses**
2/09/2020	[redacted]	WardKellar	Application for an Access Authority - AA9- Sweetpea Petroleum Pty Ltd	Email reponse to [redacted]	-	[redacted]advised that was unsure about Pangaea, will leave question for Andrew to respond to. Also requested confirmation from [redacted] that only one Access Authority will exist Access Authority 9, and that it is possible to be provided with a map of AA9.	
2/09/2020	Andrew Logan	Sweetpea	Application for an	Email reponse to	-	No response from Pangaea to date. Will send formal written request to their registered office in Sydney.	[redacted]thanks Andrew
Neighbouring Permit Operators (Origin, Santos, and Pangaea)							
Santos							
12/06/2020	Andrew Logan	Sweetpea Petroleum	Sweetpea EP136 Seismic Survey	Email to [redacted]	-	Seeking ingress authority into Santos permit area EP161 and EP(A)354. Confirming if request is through [redacted]	
12/06/2020	[redacted]	Santos	Sweetpea EP136 Seismic Survey	Email reponse to Andrew Logan	-	Andrew can send request to [redacted] Will an offer be sent of the data acquired over the ingress permits?	
15/06/2020	Andrew Logan	Sweetpea Petroleum	Sweetpea Seismic Survey on EP136 and ingress on EP161 and EP(A)354	Email to [redacted]	-	Sweetpea seeking access authorisation for neighbouring permits, in order to conduct seismic surveys. Provides the location and distances that the siesmic lines will ingress into EP161 and EP(A)354. Sweetpea offers final SEG-Y copies of lines to be acquired. Attachments include shape and KML files. Concurrently seeking access authorisation from the DPIR as required under the *Pertroleum ACT* - Section 57A.	
15/06/2020	[redacted]	Santos	RE: Sweetpea Seismic Survey on EP136 and ingress on EP161 and EP(A)354	Email to [redacted]	-	Advised Sweetpea that have approval to ingress with conditions detailed and that all approvals and landholder agreements are reached prior to activity commencing. Also request advice closer to time when activity will likely commence and schedule forecast to ensure Santos personnel are aware of activities.	
Origin							
13/06/2020	Andrew Logan	Sweetpea Petroleum	Sweetpea Seismic Survey on EP136 and ingress on EP76	Email to[redacted]	-	Sweetpea seeking access authorisation for neighbouring permits, in order to conduct seismic surveys. Provides the location and distances that the siesmic lines will ingress into EP76. Sweetpea offers final SEG-Y copies of lines to be acquired. Attachments include shape and KML files. Concurrently seeking access authorisation from the DPIR as required under the *Pertroleum ACT* - Section 57A.	
16/06/2020	[redacted]	Origin	Sweetpea Seismic Survey on EP136 and ingress on EP76	Email response to Andrew Logan	-	Origin approves Sweetpea's ingress request, and would like to open further conversations about sharing certain data that might benefit both parties. Alex Cote named as the contact for information sharing, request contact at Sweetpea for information sharing.	
Pangaea							
13/06/2020	Andrew Logan	Sweetpea Petroleum	Sweetpea Seismic Survey ingress to EP169	Email to [redacted]	-	Sweetpea seeking access authorisation for neighbouring permits, in order to conduct seismic surveys. Provides the location and distances that the siesmic lines will ingress into EP169. Sweetpea offers final SEG-Y copies of lines to be acquired. Attachments include shape and KML files.	
2/09/2020	Andrew Logan	Sweetpea Petroleum	Sweetpea seismic survey in EP136 and ingress into Pangaea EP169, Northern Territory	Letter to Pangaea registered address	-	Letter dispatched to Pangeae Resources to ingress into EP169 expressed post. Sweetpea have not received any correspondence from Pangaea todate.	

Appendix H

Sweetpea HSEMP

Appendix H Sweetpea HSEMP

PROJECT HEALTH, SAFETY AND ENVIRONMENT MANAGEMENT PLAN

for the

EP 136 SEISMIC SURVEY

TAMBORAN RESOURCES INTEGRATED MANAGEMENT SYSTEM		
DOCUMENT TITLE:	Seismic Survey Project Health, Safety & Environment Management Plan	
DOCUMENT NO:	TRL-HSE-PL-02	REVISION NO: B
DOCUMENT CUSTODIAN:	Project Manager	REVISION DATE: 04/09/2020

REVISION

Revision No.	Revised By	Revision Justification	Revision Date
A	Nick Merdith	Draft issued for review	02/09/2020
B	Nick Merdith	Draft issued for review	04/09/2020
0			

DOCUMENT APPROVAL

APPROVALS	Responsibility	Signed
Approved	Ensure this document is consistent with the Project objectives, compliant with regulation and provides a clear overview of the management systems and processes under which the Project will be executed.	_____ Mark Jenkins Well Project Manager
CONCURRENCE	**Responsibility**	**Signed**
Accepted	As the ultimate owner of the Project and this Project Health, Safety and Environment Management Plan.	_____ Erik Vik VP Operations & Engineering

DOCUMENT CONTROL

This is a "Controlled Document". The Well Project Manager is the Custodian of this document and is responsible for the control of this original document as well as any revisions. The master copy of this document is held by the Custodian at the following location:

Attention: Mark Jenkins
Level 3, 1138 Hay Street
West Perth 6005
Email: mjenkins@aztechwc.com.au

This document will be revised:

- when there is a significant change to the Project scope that impacts the execution plan and it is not reasonably captured within the existing document;
- when there is a significant change to the applicable Legislation;
- when there is a significant change in the systems and processes under which operations are conducted;
- if it becomes technically out-dated;
- if it is unable to provide the level of assurance required to safeguard the safety and health of personnel including employees, contractors or visitors, or sound environmental practices;
- every two years where the project is ongoing or if no revision for other reason occurs prior.

Should any recipient become aware of any required change or correction, please photocopy this page, the relevant page(s) requiring changes, note corrections, scan and e-mail them to the document Custodian at

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Issued To	Organisation
Project Library (Document Control)	Tamboran (Sweetpea Petroleum)
VP Operations and Engineering / Seismic Project Manager	Tamboran (Sweetpea Petroleum)
Seismic Operations Supervisor	Tamboran (Sweetpea Petroleum)
Field Representative	Tamboran (Sweetpea Petroleum)
Well Project Manager	Tamboran (Sweetpea Petroleum)
Velseis Project Manager	Velseis

ABBREVIATIONS AND DEFINITIONS

Acronym / Word	Meaning
Activity	The 2D seismic survey and associated operational activities to be conducted in EP 136
ALARP	As low as reasonably practicable. Broadly synonymous with so far as is reasonably practicable
EMP	Environment Management Plan
ERCL	Emergency Response Contact List
ERIP	Emergency Response Interface Plan
ERP	Emergency Response Plan
HAZID	Hazard identification [workshop]
HSEMP	Health, safety and environment management plan
HSEMS	Health, safety and environment management system
Lead Contractor	The contractor whose HSEMS will be in force at the Project Site for the Activity, in this case Velseis with overall responsibility for the Seismic Survey operations.
MAE	Major accident event
Project	The planning, preparation, execution and close out of exploration Activities for EP136 in the Beetaloo Sub-Basin
Project Team	All personnel, whether TRL/SPP or their contractors and consultants, involved in the delivery of the Project.
Site	Location(s) at which the Project operations are being undertaken.
TRL	Tamboran Resources Limited (parent company of Sweetpea Petroleum)

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1. INTRODUCTION

1.1. Project Overview

Sweetpea Petroleum Pty Ltd (Sweetpea), a wholly owned subsidiary of Tamboran Resources Limited (TRL), plans to conduct two 2D seismic surveys and a ground gravity survey (the Activity) to define the petroleum prospectivity of EP136 in the Beetaloo Sub-basin, Northern Territory.

Sweetpea have contracted Velseis Pty Ltd to conduct the 481 km Yaroo Creek Seismic Survey in the northern part of EP136, and the 69 km Shandon Downs Seismic Survey in the southern part of the permit.

The northern section of EP136, and proposed future well sites, is approximately 730 km by road southeast of Darwin. The nearest town is Daly Waters, 150 km by road.

Environmental aspects will be managed under the approved Seismic Environment Management Plan EP136 - Beetaloo Sub-Basin, NT.

1.2. Objectives

This HSE Management Plan (HSEMP) describes the project-specific implementation of TRL's HSE Management System (HSEMS) for the Activity.

This HSEMP and the approved Environment Management Plan are the overarching HSE documents for the Project.

1.3. Scope

This HSEMP applies to all activities associated with the 2D seismic survey and ground gravity survey.

1.4. Key HSE Documents

The key project HSE documents for the Activity are:

- This HSEMP
- Seismic Environment Management Plan (EMP) and associated Spill Management Plan
- Project ERIP
- Velseis Quality Health Safety Environment Management Plan
- Velseis Site-specific ERP
- Velseis Bushfire Management Plan

2. TRL HSE MANAGEMENT SYSTEM

2.1. Elements

The HSEMS format is based on the requirements of AS/NZS ISO 45001:2018 *Occupational health and safety management systems – Requirements with guidance for use* and is built around 6 elements and 20 sub-elements (Figure 1).

Figure 1. HSEMS Elements

2.2. HSE Document Hierarchy

Policies are written by senior management and define the general direction and aims of the HSEMS.

The **HSEMS Manual** describes the scope of the HSEMS, the elements, and the intent, the performance requirements and supporting documentation for each element.

Standards describe the mandatory requirements that apply across all of TRL's activities.

Procedures describe key processes and how they are applied. Procedures must be followed unless an alternative procedure is agreed to in a project specific plan.

Forms, registers, records and templates support the elements and procedures, including providing documented evidence of compliance.

Project specific plans describe the implementation of the HSEMS at a project level.

3. LIFE SAVING RULES

TRL apply the IOGP Life Saving Rules (Figure 2) as non-negotiable conditions of work.

Work must not start unless the Rules can be followed.

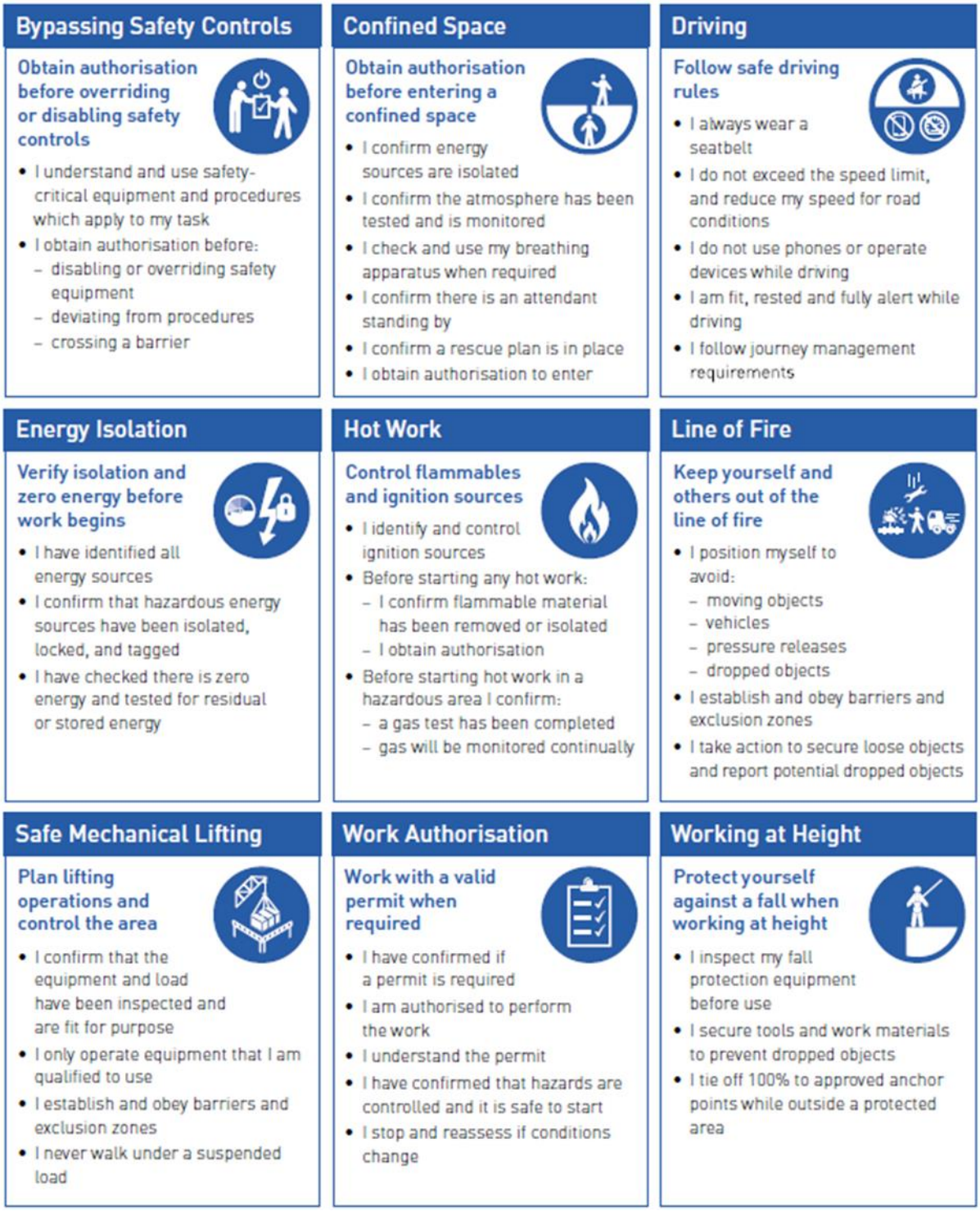

Figure 2. Life Saving Rules

4. PROJECT HSE OBJECTIVES AND KPIS

The Project has the following objectives:

- Everybody returns home safe
- The impact to the environment of our activities is minimised
- Senior management demonstrate proactive HSE leadership and commitment which supports a strong safety culture
- All personnel, by means of their actions and attitudes, demonstrate safety leadership
- All HSE risks are reduced to as low as reasonably practicable and the effectiveness of controls is monitored
- Effective consultation and communication takes place with contractors and other interested parties
- Resources are available to ensure that work is carried out safely
- All incidents and near misses are reported

To achieve these objectives the following KPIs (Table1) are to be implemented.

Table 1. Project KPIs

Performance Indicator	Measure	Target
Personnel on Site to undergo Project and Site Inductions	Induction Records	100%
Corrective actions closed out by due date	Due date	90%
Incidents reported in timely manner and in accordance with Section 22 of this HSEMP	Incident Reports	100%
Weekly Safety Meetings are held over course of Activity	Minutes of meetings held and attendance register	100%
Emergency Response Drills	Records of drills performed	100%
HSE Performance is tracked over course of Activity	Weekly HSE Scorecard issued to Project Team by HSE Advisor	100%

5. HSE ORGANISATION

The Project Activity organisation chart (Figure 3) details the HSE lines of communication within the Project Team and with Velseis.

HSE responsibilities of key project positions are described in Table 2.

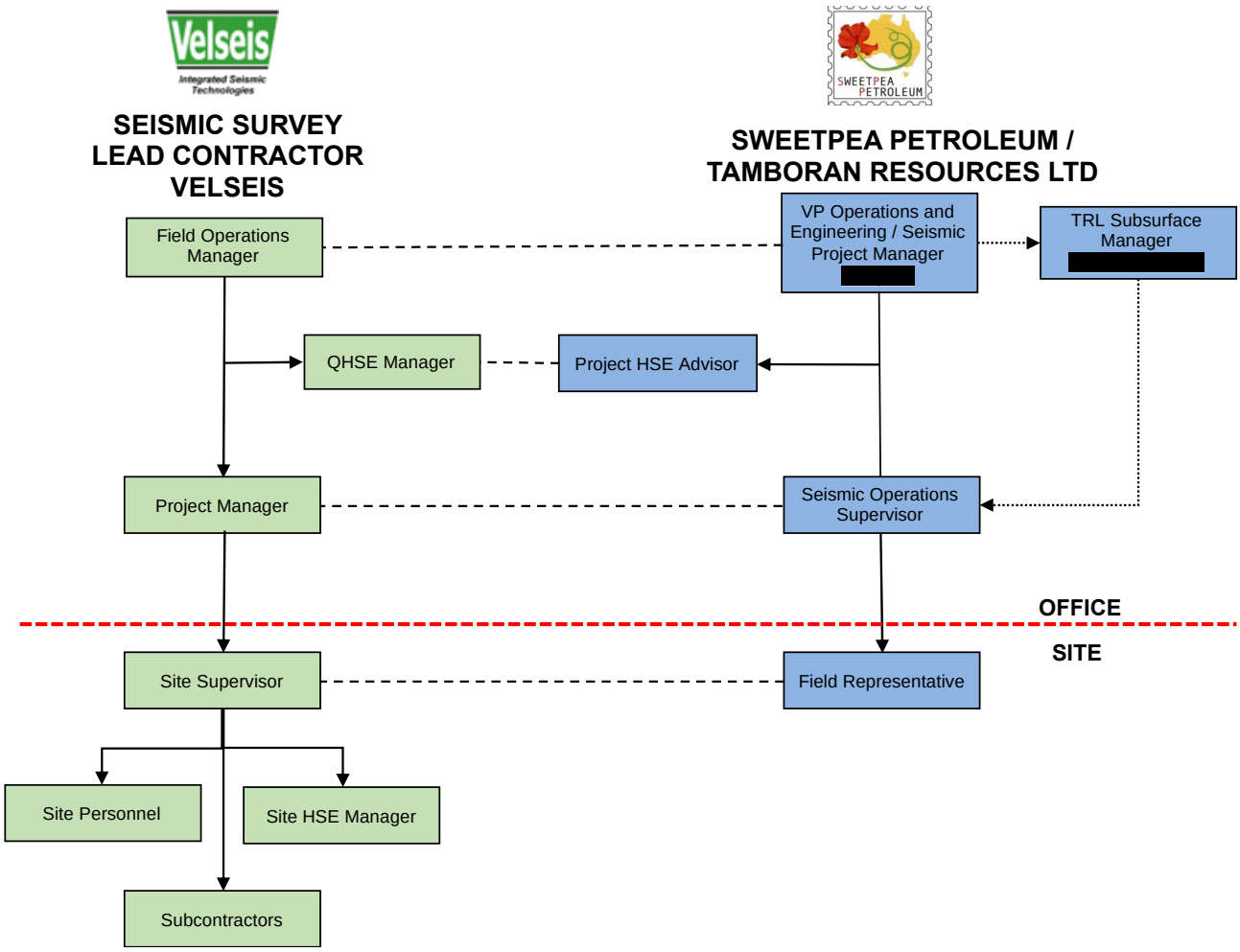

Figure 3. Activity Organisation Chart

Table 2. Project Team HSE Roles and Responsibilities

Roles	HSE Responsibilities
Seismic Project Manager	• Demonstrate HSE leadership and support continual improvement in HSE performance. • Ensure appropriate HSE management systems are in place to meet regulatory requirements and TRL standards. • Ensure there is a hazard identification and risk assessment for each Activity • Review all risks ranked as high • Ensure all actions identified to reduce risks to ALARP are implemented. • Ensure the required regulatory approvals for HSE management are obtained prior to commencement of the Activity. • Approve Project Plans • Ensure adequate resources are available to manage the work in accordance with this HSEMP • Contracting suitable service providers • Planning and scheduling activities
Seismic Operations Supervisor	• Ensure the effective implementation of this HSEMP and the EMP during the Activity • Ensure the conduct of effective emergency planning and preparedness at the Site through drills and performance reviews • Monitor and assess HSE performance of contractors • Ensure that appropriate communications are in place between TRL and local stakeholders, keeping them informed of Project issues and developments that may affect their activities
Project HSE Advisor	• Develop and maintain this HSEMP • Develop and maintain the Emergency Response Interface Plan • Review contractor HSE acceptance criteria • Conduct HSE audits • Facilitate HAZID Workshop and maintain Hazard Register • Manage Project Inductions • Manage Corrective Action Register • Manage Commitments Register • Provide HSE support to the Project Manager and Project Team members • Provide support for incident investigations as required • Monitor and report on HSE performance

Roles	HSE Responsibilities
Field Representative	• Provide TRL interface with Velseis at Site • Monitor effective implementation of the Site-specific management plans • Maintain communications between Site and the TRL office • Provide reports and daily updates on HSE performance • Ensure environmental procedures as described in the approved Environment Management Plan are applied through all aspects of the Activity • Support effective management of incidents on Site and report all incidents to TRL management

6. RISK MANAGEMENT

6.1. HAZID Workshops

A HAZID workshop will be conducted prior to operations for each Activity.

The HAZID workshop will be attended by representatives of the TRL Project Team, the Lead Contractor's management team, key third party contractors and members of the workforce. Records of attendance for each will workshop will be maintained. Note that, due to COVID-19 travel restrictions, the HAZID may be conducted as an online virtual workshop.

The HAZID Workshop will be conducted in accordance with the TRL Risk Management Procedure and will also include the risks identified by Velseis as significant (medium and higher), with the remaining project activity and operational risks managed under the Velseis Risk Register.

6.2. Hazard Register

The output of the HAZID workshops will be recorded in the Hazard Register which will remain a live document throughout the project.

6.3. Risk Matrix

The Risk Matrix (Table 3) defines the consequence and likelihood categories, provides a qualitative risk ranking to guide management decisions and a means to prioritise ongoing risk management activities.

The likelihood categories are based on continuous similar operations conducted by TRL.

The risk decision table (Table 4) describes the action required based on the level of assessed risk.

Table 3. Risk Matrix

						LIKELIHOOD				
						Highly Unlikely	**Unlikely**	**Possible**	**Likely**	**Highly likely**
						May occur in extreme cases	Has occurred a few times in the industry	Has occurred many times in the industry but not in the company	Has occurred a few times in the company	Has occurred frequently in the company
		Health & Safety	**Environment**	**Reputation / Socioeconomic**	**Equipment/Operations**	1000+ years	100+ years	10+ years	years	Months[1]
CONSEQUENCES	**Negligible**	Minor health or injury effect requiring first aid	Localised[2] temporary[3] change to one or more ecosystems or individual species' / local populations. Alteration / disturbance within the limits of natural variability.	Little internal or external attention	Minor equipment damage or operational delay					
	Minor	Medical treatment or restricted duties	Widespread[4] temporary change to one or more ecosystems or individual species' / local populations. Localised short-term[5] impact to one or more listed[6] ecosystems or species' populations.	Workforce concern. Minor internal disruption. Limited community impact or interest. Reportable to Regulatory Authorities.	Damage to equipment requiring minor remedial repair. Minor loss of function / production					
	Moderate	Lost time injury Reportable accident/ dangerous occurrence	Localised long-term[7] impact to one or more listed ecosystems or species' populations. Widespread short-term impact to one or more listed ecosystems or species' populations.	Internal disruption that could require outside help to manage. Local community discussion. Adverse local or financial publicity.	Localised damage to equipment requiring extensive repair. Significant loss of function / production. Reportable well kick. Damaged safety critical equipment					
	Major	Single fatality Severe permanent disability	Widespread long-term impact to one or more listed ecosystems or species' populations. Recovery period measured in years decades.	Serious internal disruption adversely affecting ongoing business and requiring external help to manage. National media interest. Adverse shareholder and broker reaction – lawsuits possible	Damage to equipment resulting in operations / production shutdown. Significant production loss					
	Catastrophic	Multiple fatalities MAE	Regional scale[8] impact, Irreversible alteration to one or more listed ecosystems or species' population.	Very serious business disruption and impact on company operations. International public concern and adverse attention in international media, Adverse publicity and heavy selling pressure. Litigation almost certain.	Damage to equipment resulting in operations / production being suspended for significant period / terminated. Well blowout					

[1] Based on similar continuous activity

[2] Localised = "onsite" within the boundary of the facility

[3] Temporary = a number of days, recovery expected to be a standard activity and effective

[4] Widespread = "offsite" or an impact expected to occur outside of the immediate worksite

[5] Short-term = Months to <2 years

[6] Listed = A species or ecosystem specifically listed as a priority or threated species under state and commonwealth legislation

[7] Long-term = >2 years but is recoverable or expected to recover in the long term

[8] Regional scale = An impact that is expected for the full extent of an ecosystem or species range

Table 4. Risk Decision

Residual Risk Rank	Action
Extreme	Work cannot proceed under any circumstances
High	May only proceed after management review and with approval of General Manager It must be demonstrated that this level of risk is ALARP
Moderate	Work can progress where the risk is demonstrated as ALARP
Low	Generally managed through continual improvement

6.4. MAEs

Major Accident Events (MAEs) are events that may result in multiple fatalities or would otherwise be identified as having catastrophic consequences on the risk matrix, regardless of the assessed likelihood, and are identified at the HAZID stage. Table 5 describes the MAEs and key controls.

6.5. ALARP Assessment

Each MAE is assessed further to ensure appropriate controls are in place to reduce the risk to ALARP (see Appendix D).

The ALARP assessment will be generally based on good practice according to the following project context:

- Type of activity
    - Well understood
    - Nothing new or unusual
    - Good practice is well defined
- Risk and uncertainty
    - Risks are well understood
    - Uncertainty is minimal
- Stakeholder influence
    - No conflict with company values
    - No significant media interest

Table 5. Major Accident Events

No.	MAE	Description	Controls (assumes standard mitigation controls such as ERP processes, 1st aid, RFDS)
MAE-01	Motor vehicle accident	An accident involving a light vehicle (car, ute or 4WDs) on public roads or access roads. Assumption is that vehicle is carrying passengers or accident involves other road users.	Daily pre-start BAC test JMP - rest breaks every 2 hours Daylight driving only Headlight on Drivers to hold current Australian driver's licence – no provisional licences No mobile phone use while driving IVMS in project vehicles Drive to conditions Pre-start visual checks Project vehicles serviced per manufacturer's guidelines Rental vehicles provided with completed checklist
MAE-02	Dropped load during transit causing vehicle accident	A load (equipment and/or freight) is lost on a public road resulting in an accident involving other road users.	Training in load restraint Australian Load Restraint Guide Frequent stops to check the load and ensure adequate load restraint taking road conditions into account Use fit for purpose restraint equipment
MAE-03	Bushfire - people	A bushfire traps personnel on site or on road.	Bushfire Management Plan Fire break around site and camp Radios/Sat phones in vehicles Bushfire alerts and warnings monitored Fire break around camp and laydown area 40 m low fuel zone around camp area Limit fuel sources through good housekeeping and waste management Field Induction Training includes actions if caught in vehicle in bushfire Shelter in place if no safe route out Fire extinguishers
MAE-04	Bushfire – environment	An operation associated with the project provides an ignition source for a bushfire.	Bushfire Management Plan Hot works are not permitted on total fire ban days without written approval from a fire control officer Asset Protection Zone (APZ) - Fire break around well site and camp and 40 m low fuel zone around camp area

			Limit fuel sources through good housekeeping and waste management Designated smoking areas Line preparation in grassed areas will be flattened to reduce the build-up of fuel within the vehicle's engine bays Driving through long dry grass is to be avoided Vehicles and equipment are fitted with spark arrestors Fire extinguishers to be fitted to all vehicles and mobile plant Tyre changing or tyre pressure adjustment only by authorised persons Hazardous area diagram displayed for vibroseis and communicated at induction Tested and tagged equipment Electrical register Inspection before use Smoke detectors in rooms Fire extinguishers Fire management planning meeting with neighbouring properties prior to commencing exploration activities

7. MANAGEMENT OF CHANGE

Changes to regulatory approved programs will be managed under the TRL Management of Change Procedure.

For changes to Site equipment or procedures the Velseis management of change procedure applies.

8. CONTRACTOR HSE MANAGEMENT

The TRL Contractor HSE Management Procedure describes the process for selecting and managing contractors.

As a key part of implementing the contractor management process, the Velseis HSEMP for the EP 136 Seismic Survey has been subject to documented review by TRL with feedback and changes as relevant implemented by Velseis.

9. CONSULTATION AND COMMUNICATION

Consultation on HSE issues and communication of HSE information is essential to the safe execution of the project. The following will be used to ensure effective consultation and communication:

- HAZID Workshop – attendance by project team and representatives of contractor management and workforce
- After action reviews
- Project and site inductions

- Management visits
- Morning calls during operations– HSE issues will be the first agenda item
- Pre-tour and tool-box meeting
- JSAs
- Weekly HSE Meetings
- Safety Committee (where applicable)
- Safety noticeboards (on site in smoko shacks, etc)

10. TRAINING AND COMPETENCY

All Project Team members and contractors will be trained and competent to the level required to carry out tasks in accordance with their HSE responsibilities and to expected standards of performance.

Contractors and sub-contractors must provide a copy or their training matrix and records of training to TRL on request.

11. INDUCTION

11.1. Project Induction

All project personnel will receive a project induction which will include:

- Project outline
- Project HSE expectations
- Life Saving Rules
- Major HSE risks
- Stop work authority
- Fitness for work
- Journey management
- Summary of Environment Management Plan and commitments

11.2. Site Induction

Velseis as the Lead Contractor will be responsible for providing a site induction for all personnel and visitors. This induction will include:

- Compliance with safety, emergency response and environmental plans and procedures
- Site specific hazards/risks
- Incident and hazard reporting
- Facilities and amenities
- Emergency assembly point and emergency response procedures

In accordance with Clause 206 of the Schedule of Onshore Petroleum Exploration and Production Requirements, all personnel will sign an acknowledgement that they have received and understood the inductions with records of the induction being maintained for 5 years.

11.3. Induction Records

Records will be maintained of all attendees at both Project and Site inductions.

12. STOP WORK AUTHORITY

All personnel have the authority to stop if they believe it is unsafe to proceed. The stop work will be reported to and recorded by the supervisor. Work can only resume when all involved parties have assessed the situation and identified appropriate controls to a level that is both acceptable and ALARP.

13. FITNESS FOR WORK

13.1. Medical Fitness

All personnel working on Site must be fit to work in a remote location where hospital care may be several hours away. Personnel must hold a current OGUK Medical Certificate, a Queensland Coal Board Medical Certificate or an equivalent fitness for work medical assessment.

All prescription medication should be reported to the site paramedic. Prescription or over the counter medication that might adversely impact work performance must be reported to the individual's supervisor.

13.2. EpiPen

Individuals who carry an EpiPen must notify their supervisor and the site paramedic, and ensure they bring back-up / spare EpiPens to Site.

13.3. Fatigue

To minimise the effects of fatigue the following minimum standards will apply during the project:

- Site based personnel usually work a 12 hour shift. In exceptional circumstances, personnel may be asked to work in excess of 12 hours but not for more than 3 consecutive days.
- The absolute maximum hours that can be worked is 16 hours in a day.
- A least 8 hours of rest must be provided between shifts.

13.4. Drugs and Alcohol

TRL has a zero tolerance of personnel either using or being under the influence of alcohol and illicit drugs at work. All persons should be aware that random or with cause drug and alcohol testing may be occur (see Appendix 3).

Drug and alcohol procedures will be implemented by Velseis on Site.

14. HEALTH AND WELLBEING

It is important that a healthy workplace is maintained. This includes providing nutritious food options, making sure the workforce remains well hydrated and understands the dangers of heat stress, ensuring there are appropriate rest and recreation facilities, controlling health hazards so that the risk is ALARP.

Everyone on Site will be encouraged to check-in on work mates and speak to somebody if they need help.

15. JOURNEY MANAGEMENT

A Journey Management Plan (JMP) will be required for travel by light vehicles (cars, utes and 4WDs) outside of the permit area. Where an individual's employer does not have a JMP procedure, the TRL JMP will be used.

All road travel, other than commercial transport, must be completed during daylight hours.

A rest break of at least 15 minutes must be taken for every 2 hours of continuous driving.

Satellite phones will be carried for all travel under a JMP.

16. COVID-19

Velseis as the Lead Contractor will have a COVID-19 Management Plan in place for the Activity. This Plan will comply with the Northern Territory Government COVID-19 guidance on interstate arrivals and quarantine and the travel restrictions from hotspots.

17. OPERATIONAL CONTROL

17.1. HSEMS in Force

The Velseis HSEMS will be in-force on Site from commencement of operations until departure of Velseis personnel.

17.2. Person in Charge

The Velseis Senior Supervisor at Site will assume the role of person in charge (PIC) during normal operations and emergencies. The PIC's name will be posted on site as per requirement 208 of the Schedule of Onshore Petroleum Exploration and Production Requirements.

18. HAZARDOUS SUBSTANCES

Hazardous substances will be stored and handled on Site in accordance with the Code of Practice – Managing risk of hazardous chemicals in the workplace.

All hazardous substances must be supplied with an SDS which will be readily available to workers.

A register of hazardous substance will be maintained on Site.

When handling hazardous substances PPE will be in accordance with the SDS.

Where there is a spill risk, substances must be stored in a bunded area, on a bunded pallet or in a self-bunded/double skinned container. The capacity of the bunding must be 110% of the largest container or 25% of the total stored, whichever is the greatest (AS 1940:2017 The storage and handling of flammable and combustible liquids).

ERPs will take into account the hazardous substance inventory on Site.

19. WASTE MANAGEMENT

A detailed Waste Management Plan is included in the Environment Management Plan.

Grey water and treated sewage effluent will be disposed of through an approved irrigation system on Site.

All other waste will be appropriately segregated, collected by a licensed waste contractor and disposed of at a licensed disposal centre. No incineration of wastes will be carried out on Site.

20. SPILL MANAGEMENT

A detailed Spill Management Plan is included in the Environment Management Plan.

All spills must be reported.

If it is safe to do so:

1. Control the spill at the source
2. Contain the spill
3. Clean-up using the appropriate recovery method and PPE

21. AUDIT AND INSPECTIONS

An audit and inspection plan will be developed prior to commencing the Activity.

22. INCIDENT REPORTING AND INVESTIGATION

22.1. Notification

The TRL incident notification process is described in Table 6. To ensure timely notification all incidents of an actual/potential level of minor/moderate must be reported by the Velseis Site Supervisor to the Field Representative as soon as possible. The Field Representative is responsible for notifications from Site to the Seismic Operations Supervisor.

Table 6. Incident Notification

Consequences		Notification		
Actual	**Potential**	**To who**	**Timeframe**	**Method**
Negligible	Minor	-	-	Recorded on HSE Scorecard
Minor	Moderate	Velseis Senior Site Supervisor (PIC)	ASAP	Verbally Recorded on Daily Report
		Seismic Operations Supervisor	By end of shift	Verbally or email
Moderate	Major	Seismic Operations Supervisor	ASAP	Verbally
		Regulator	See Table 7	
Major	Catastrophic	Seismic Project Manager	ASAP	Verbally
Catastrophic		CEO	ASAP	Verbally
Note: there may be a requirement to notify the office based EMT in the case of an emergency situation – see ERIP.				

22.2. Regulatory Reporting

The following regulatory reporting requirements are described in detail in Table 7:

- Notifiable safety incidents will be reported to NT WorkSafe by Velseis as the Lead Contractor.
- As well as the requirement above, significant safety incidents, emergencies, high potential incidents and significant damage are to be reported to the Department of Primary Industry and Resources by TRL.
- Reportable environmental incidents on site are reported to the Department of Environment and Natural Resources by TRL.
- Reportable environmental incidents offsite are reported to the Northern Territory Environment Protection Agency.

Table 7. Reportable Incidents

Notifiable Incidents - NT WorkSafe	

• Death
• Serious injury or illness
  • Immediate treatment as an in-patient in a hospital
  • Immediate treatment for the amputation of any part of the body
  • Immediate treatment for a serious head injury
  • Immediate treatment for a serious eye injury
  • Immediate treatment for a serious burn
  • Immediate treatment for the separation of skin from an underlying tissue (such as de-gloving or scalping)
  • Immediate treatment for a spinal injury
  • Immediate treatment for the loss of a bodily function
  • Immediate treatment for serious lacerations
  • Medical treatment within 48 hours of exposure to a substance
• Dangerous incidents
  • an uncontrolled escape, spillage or leakage of a substance
  • an uncontrolled implosion, explosion or fire
  • an uncontrolled escape of gas or steam
  • an uncontrolled escape of a pressurised substance
  • electric shock:
  ○ examples of electrical shock that **are not** notifiable
  ▪ shock due to static electricity
  ▪ 'extra low voltage' shock (i.e. arising from electrical equipment less than or equal to 50V AC and less than or equal to 120V DC)
  ▪ defibrillators are used deliberately to shock a person for first aid or medical reasons
  ○ examples of electrical shocks that **are** notifiable
  ▪ minor shock resulting from direct contact with exposed live electrical parts (other than 'extra low voltage') including shock from capacitive discharge
  • the fall or release from a height of any plant, substance or thing
  • the collapse, overturning, failure or malfunction of, or damage to, any plant that is required to be design or item registered under the Work Health and Safety Regulations, for example a collapsing crane
  • the collapse or partial collapse of a structure
  • the collapse or failure of an excavation or of any shoring supporting an excavation
	Velseis (as the Lead Contractor) will notify NT WorkSafe immediately after becoming aware of a 'notifiable incident'
	
	1800 019 115
	or
	ntworksafe@nt.gov.au
	
	Complete the
	Incident Notification Form
	
	An incident site must not be disturbed, other than the immediate response to assist injured people, recover a body or make the area safe, until an inspector arrives at the site or directs otherwise (whichever is earlier)

For further details see https://worksafe.nt.gov.au/forms-and-resources/bulletins/work-health-and-safety-incident-notification	

Safety and System Integrity Reporting - Department of Primary Industry and Resources	
• Death and serious injury • Serious damage other than environmental harm - >$50,000 • Potentially hazardous event • An event occurs which is not in the normal or ordinary course of a particular operation and which is professionally considered to have been likely to cause injury to a person or serious damage to property • Damage to property occurs which is not serious damage to property but which results in a significant loss of structural integrity or load bearing capacity in the property damaged or results in some other significant unsafe condition • Any Emergency	**TRL** to notify verbally or in writing within 2 hours of the interest holder becoming aware of the reportable incident. ***NT DPIR Petroleum Operations Team – afterhours*** ***1300 935 250***
For further details see *Schedule of Onshore Petroleum Exploration and Production Requirements*	
Environmental reporting - Department of Environment and Natural Resources	
Reportable incident - an incident, arising from a regulated activity, that has caused or has the potential to cause material environmental harm or serious environmental harm	**TRL** to notify verbally or in writing within 2 hours of the interest holder becoming aware of the reportable incident. ***DENR Onshore gas non-compliance hotline - 1800 413 567*** ***NT EPA Pollution Hotline - 1800 064 567*** If notice is verbal, a written report is required within 24 hours. Initial report submitted in 3 days. Final report no later than 30 days after the clean up or rehabilitation completed.
Recordable incident – a breach of an Environmental Objective or Environmental Performance Standard as outlined in this EMP	Recordable incidents are reported within 15 days after the end of each 90 day reporting period
For detailed instruction see the approved Environment Management Plan	

22.3. Investigation

The level of the investigation and investigation team make-up will be determined by the actual and potential consequences of the incident (Table 8)

Table 8. Investigation Levels

Consequences		Investigation Level	Investigation
Actual	Potential		
Negligible	Minor	None	Not routinely investigated but may be, at management discretion, where the value outweighs the cost
Minor	Moderate	1	5 Why or similar Conducted by Lead Contractor
Moderate	Major	2	Formal investigation (Taproot, ICAM or similar) Conducted by Lead Contractor, may have TRL input
Major/ Catastrophic	Catastrophic	3	Formal investigation (Taproot, ICAM or similar) Conducted by Lead Contractor with active TRL participation Must have trained and experienced investigation facilitator Should include a team member with an understanding of human and organisational factors TRL may conduct independent investigation

23. CORRECTIVE ACTION REGISTER

A project Corrective Action Register (CAR) will be maintained to record and track actions arising from:

- HAZID Workshops
- HSE Audits
- TRL led investigations
- Non-Conformance Reports

24. EMERGENCY RESPONSE

The Site-based emergency response will be under the control of the PIC applying the Velseis Emergency Response Plan.

TRL will develop an Emergency Response Interface Plan (ERIP) for each Activity. The ERIP identifies:

- The interfaces between the Activity Lead Contractor's Site Emergency Response Plan and TRL's emergency response systems
- The operation of the TRL office-based Emergency Management Team

A Project Emergency Response Contact List (ERCL) will be developed and maintained through each Activity. The ERCL will be distributed to key Site and office based TRL, Lead Contractor and third party contractor personnel and will be updated as required to ensure a comprehensive and readily available contact listing is available for an emergency response situation.

25. BUSHFIRE MANAGEMENT

A copy of the Bushfire Management Plan, which is included in the approved Environment Management Plan, will be posted on Site.

26. HSE PERFORMANCE MONITORING

An HSE Scorecard will be developed for each Activity. This will record both lead and lagging indicators. For the Seismic Survey Velseis will provide weekly HSE statistics for tracking and review by TRL.

27. PROJECT REVIEW AND LESSONS LEARNED

The Project will be closed out with a report from the HSE Advisor on HSE performance and lessons learned in relation to HSE performance. This will include review of the Project Corrective Action Register and consider where the lessons learned should be carried forward into modifications of the various Project documents, including the TRL HSE Management System and this HSEMP. Actions arising from the review will be assigned and tracked to closure by the TRL Seismic Project Manager.

APPENDIX A. TRL HEALTH AND SAFETY POLICY

tamboran
RESOURCES

Health and Safety Policy

Tamboran Resources is committed to a high standard of health and safety performance for our employees, contractors, service providers, visitors, and affected communities involved in, or impacted by, our operations and work activities. To achieve this Tamboran Resources will eliminate hazards in the workplace, or if that is not reasonably practicable, minimise the risks so far as is reasonably practicable to provide a safe and healthy workplace.

To meet these commitments Tamboran Resources will:

- Create, implement, and maintain a Health, Safety and Environment Management System.
- Ensure continuous improvement of the Health, Safety and Environment Management System through the auditing process, learning from incidents and consultation with our employees.
- Seek every reasonable means and required resources to provide a safe work environment for all workers.
- Use practices and procedures that meet or exceed relevant health and safety statutory and regulatory requirements as well as recognized industry standards.
- Encourage the active participation and support of its employees in promoting and implementing an effective safety program.
- Commit management and supervisory personnel to have a direct responsibility for ensuring that these objectives are met.
- Create a culture of work where it is understood that no task is too important that time cannot be taken to ensure the task is performed safely.
- Require all contractors and service providers to have and manage their health and safety with standards and practices in-line with this Policy.

The implementation and effectiveness of this Health and Safety Policy is the responsibility of all Tamboran Resources employees.

Tamboran Resources senior leadership are accountable for ensuring this Health and Safety Policy is reviewed at least every two years and implemented accordingly.

Policy authorised by

CEO
[Date]

Joel Riddle
Managing Director
07 / 17 / 2020

APPENDIX B. TRL ENVIRONMENTAL POLICY

tamboran
RESOURCES

Environmental Policy

Tamboran Resources is committed to developing resources in an environmentally responsible manner and shall conduct all activities and operations in a manner consistent with the principles of Ecologically Sustainable Development.

Activities shall be planned and implemented in a sustainable way to ensure impacts to the environment are either avoided or minimised to an acceptable level.

To meet these commitments Tamboran Resources will:

- Comply with applicable environmental legislation, industry standards, and its own policies.
- Make environmental considerations an integral part of its planning process.
- Seek and implement reasonable means to minimize water, fuel usage, and disturbance to soil, flora, and fauna.
- Promptly provide relevant information to all stakeholders affected by its operations and to be responsive and sensitive to legitimate stakeholder concerns.
- Identify and mitigate the adverse impacts of its operations on the environment in keeping with good environmental and business practices.
- Respond to environmental emergencies in a prompt and efficient manner.
- Ensure that its employees, contractors, service providers, and site visitors are fully informed of their responsibilities to comply with Tamboran Resources environmental management plans to protect the environment while performing their duties.

The implementation and effectiveness of this Policy is the responsibility of all Tamboran Resources employees.

Tamboran Resources senior leadership are accountable for ensuring this Policy is reviewed at least every two years and implemented accordingly.

Policy authorised by

CEO

[Date] Joel Riddle
Managing Director

07 / 17 / 2020

APPENDIX C. TRL DRUG AND ALCOHOL POLICY

tamboran
RESOURCES

Drug and Alcohol Policy

Tamboran Resources is committed to maintaining a safe and healthy work environment for all workers and the public at large. Alcohol and drug abuse is recognized by the Company as a safety, health, and security problem. All workers and management are expected to maintain a safe work environment that is free of illegal drugs and alcohol.

Tamboran Resources recognizes that persons working under the influence of drugs or alcohol present a risk to the safety of themselves and other workers.

This policy applies to all Tamboran Resources personnel, including employees, contractors, sub-contractors and visitors, at all sites under the control of Tamboran Resources.

The following are mandatory requirements:

- Personnel on Tamboran Resources operational worksites must have a zero blood alcohol concentration at all times.
- Personnel on all Tamboran Resources managed or controlled worksites must not commence or undertake work if they are under the influence of illicit or non-prescribed drugs.
- Controlled substances taken under the direction of a medical physician that may affect the person's ability to carry out their work safely must be reported to a supervisor. Where practicable, allowance for appropriate measures or restrictions are to be considered.
- Completion of a Tamboran Resources Site Induction is acknowledgement that Tamboran Resources or its contracted representative has the right to conduct unannounced general inspections, searches, and random or with cause tests for drugs and/or alcohol at operational worksites.
- Personnel and contractors will cooperate with application of the Drug and Alcohol Policy. Refusal, without an acceptable reason, will be a refusal to comply with a reasonable direction.
- Drug testing and acceptable concentration limits will be in accordance with AS/NZS 4308:2008
- Alcohol may be consumed at authorised functions and approved locations providing it is consumed responsibly.
- Authorised functions and approved locations must have provision for the responsible provision of alcohol.

The implementation and effectiveness of this Policy is the responsibility of all Tamboran Resources employees.

Tamboran Resources senior leadership are accountable for ensuring this Policy is reviewed at least every two years and implemented accordingly.

Policy authorised by

CEO

Joel Riddle
Managing Director
07 / 17 / 2020

APPENDIX D. ALARP ASSESSMENT

Note: ALARP assessment to be finalized after HAZID Workshop

ALARP Demonstration			
MAE	Motor vehicle accident	**Ref**	MAE-01
Hazard	Light vehicle transport		
Assumptions	An accident involving a light vehicle (car, ute or 4WDs) on public roads or access roads. Assumption is that vehicle is carrying passengers or accident involves other road users.		

Cause	**Control**[1]	**Effectiveness**[2]
Driver under the influence of alcohol or drugs	Daily pre-start BAC test (for travel from site to Darwin. No test for Darwin to site travel)	Excellent
	Road safety laws	
Driver fatigue	JMP - rest breaks	
	Daylight driving only	
Driver distraction	No mobile phone use while driving	
Wildlife / livestock	Daylight driving only	
Speeding	IVMS in project vehicles	
	Drive to conditions	
Adverse driving conditions	Daylight driving only	
	Drive to conditions	
Mechanical failure	Pre-start visual checks	
	Project vehicles serviced per manufacturer's guidelines	
	Rental vehicles provided with completed checklist	
Human error	Drivers to hold current Australian driver's licence - no P plates	
Other road users	Headlights on	
	Daylight driving only	
Consequence	**Control**[1]	**Effectiveness**[2]
Multiple fatalities	Vehicles travelling under a JMP to carry a satellite phone	
	Short term rental vehicles must have 5 star ANCAP rating	

Rejected additional controls and reason
1. Rental vehicles for travel between Darwin and site can be requested to be fitted with IVMS but not always available and unless fitted with satellite phone enabled system will not offer alert in case of accident. Without a system to download and analyse post travel IVMS does not offer significant risk reduction

Consequence	5	**Likelihood**	2	**Risk**	High

ALARP Summary

Other than the short access track at site all travel outside of the site will be on sealed highways. The risk is well understood and controls are based on good practice. The level of residual risk is similar and maybe less than that for non-work related travel along the same roads. The risk is therefore assessed as ALARP.
[1] Identify critical controls with (CC) [2] Adequate/Strong/Excellent

ALARP Demonstration			
MAE	Dropped load during transit causing vehicle accident	**Ref**	MAE-02
Hazard	Road transport of freight or equipment		
Assumptions	A load (equipment and/or freight) is lost on a public road resulting in an accident involving other road users		

Cause	**Control**[1]	**Effectiveness**[2]
Incorrectly restrained load	Training in load restraint	
	Australian Load Restraint Guide	
	Frequent stops to check the load and ensure adequate load restraint taking road conditions into account	
Failed restraint	Australian Load Restraint Guide	
	Frequent stops to check the load and ensure adequate load restraint taking road conditions into account	
	Use fit for purpose restraint equipment	
Road conditions	Frequent stops to check the load and ensure adequate load restraint taking road conditions into account	
Consequence	**Control**[1]	**Effectiveness**[2]
Multiple fatalities	*No project specific controls*	

Rejected additional controls and reason
1.

Consequence		**Likelihood**		**Risk**	

ALARP Summary

[1] Identify critical controls with (CC)

[2] Adequate/Strong/Excellent

ALARP Demonstration			
MAE	Bushfire - people	**Ref**	MAE-03
Hazard	Surrounding bush during dry season		
Assumptions	A bushfire traps personnel on site or on road.		

Cause	**Control**[1]	**Effectiveness**[2]
Bush fire in surrounding environment with potential to trap people on location	Velseis and Sweetpea Bushfire Management Plan	
	40 m low fuel zone around camp area (APZ)	
	Radios/Sat phones in vehicles	
	Bushfire alerts and warnings monitored - monitor Northern Australian Fire Information (NAFI)	
	Regular visual scan horizon for smoke	
	Neighbours to advise of planned burns	
	Site induction includes bushfire awareness and emergency response procedures	
	On severe, Extreme and Catastrophic FDI days bushfire preparedness will be reviewed daily	
	Radio comms with all vehicles	
Consequence	**Control**[1]	**Effectiveness**[2]
Multiple fatalities	Fire break around well site and camp	
	40 m low fuel zone around camp area (APZ)	
	Limit fuel sources through good housekeeping and waste management	
	Field Induction Training includes actions if caught in vehicle in bushfire	
	Shelter in place if no safe route out	
	Fire extinguishers	

Rejected additional controls and reason
1.

Consequence		**Likelihood**		**Risk**	

ALARP Summary

[1] Identify critical controls with (CC)

[2] Adequate/Strong/Excellent

ALARP Demonstration			
MAE	Bushfire – environment/property	**Ref**	MAE-04
Hazard	Surrounding bush during dry season		
Assumptions	Project activities provide an ignition source and start a bushfire Activities take place in dry season with higher bushfire risk		

Cause	**Control**[1]	**Effectiveness**[2]
Hot work	Velseis and Sweetpea Bushfire Management Plan	
	Hot works are not permitted on total fire ban days without written approval from a fire control officer	
	40 m low fuel zone around camp area (APZ)	
	Fire break around well site and camp	
	Limit fuel sources through good housekeeping and waste management	
Smoking	Designated smoking areas	
Vehicles and plant	Line preparation in grassed areas will be flattened to reduce the build-up of fuel within the vehicle's engine bays	
	Driving through long dry grass is to be avoided	
	Vehicles and equipment are fitted with spark arrestors Fire extinguishers to be fitted to all vehicles and mobile plant	
	Tyre changing or tyre pressure adjustment only by authorised persons	
	Hazardous area diagram displayed for vibroseis and communicated at induction	
Electrical fault	Tested and tagged equipment	
	Electrical register	
	Inspection before use	
Building/equipment fire	Smoke detectors in rooms	
Consequence	**Control**[1]	**Effectiveness**[2]
Environmental/ property damage	Fire extinguishers	
	Fire management planning meeting with neighbouring properties prior to commencing exploration activities	

Rejected additional controls and reason
1.

Consequence		**Likelihood**		**Risk**	
ALARP Summary					

[1] Identify critical controls with (CC) [2] Adequate/Strong/Excellent

Appendix I

Weed Management Plan

Appendix I Weed Management Plan

Sweetpea Seismic Exploration
Sweetpea Petroleum Pty Ltd
24-Sep-2020

DENR Unique Reference No. SWP1-04

Weed Management Plan

EP136 - Beetaloo Sub-Basin, NT

Weed Management Plan

EP136 - Beetaloo Sub-Basin, NT

Client: Sweetpea Petroleum Pty Ltd

ABN: 42074750879

Prepared by

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01-Sep-2020

Job No.: 60611666

DENR Unique Reference No.: SWP1-04

AECOM in Australia and New Zealand is certified to ISO9001, ISO14001 AS/NZS4801 and OHSAS18001.

Cover Photo: Existing Access Track on Beetaloo Station, November 2019

Quality Information

Document	Weed Management Plan
Ref	60611666 DENR Unique Reference No.: SWP1-04
Date	01-Sep-2020
Prepared by	William Riddell
Reviewed by	Alana Court

Revision History

Rev	Revision Date	Details	Authorised	
			Name/Position	Signature
0	18-Sep-2019	EMP Subplan	Alana Court Associate Director - Environment	
1	15-Jul-2020	Update from May 2020 Survey	Alana Court Associate Director - Environment	
2	01-Sep-2020	Appendix I Final for EMP submission	Alana Court Associate Director - Environment	

Table of Contents

1.0 Introduction

1.1 Background

Weed control is a significant land management issue in the Northern Territory. This Weed Management Plan (WMP) forms a core component of Sweetpea's overarching environmental management strategy and supports the project Environmental Management Plan (EMP).

The movement of rigs, vehicles, machinery and other materials to, from and within the exploration permit area may result in weeds being moved around the pastoral lease, into the lease from surrounding areas or interstate, depending on where the vehicles and materials are sourced from or returned to.

The focus of this WMP is therefore to ensure that infestations are eradicated, or at the very least that existing weed infestations are controlled such that no further weed species colonise the permit area as a result of Sweetpea's activities.

This document is based upon the *Weed Management Planning Guide - Onshore Shale Gas Development Projects* produced by the Department of Environment and Natural Resources (2018).

1.2 Objectives

This Weed Management Plan (WMP) has been developed to ensure that the risk of weed introduction and spread, resulting from activities associated with Sweetpea's seismic exploration activities, are mitigated to protect the economic, community, industry and environmental interests of the Northern territory.

The plan provides an overview of:

- The project context (Section 1.3)
- Legal requirements in relation to weed management (Section 3.0)
- The appointment of a Dedicated Weed Officer (Section 3.0)
- Identified risks and proposed mitigation measures and management objectives (Section 5.1 and 5.3)
- The weed species that are considered likely or known to occur within the Permit Area (Section 4.3)
- Control options for species likely to occur within the Permit Area (Section 5.3)
- The monitoring, notification, recording and reporting requirements for the WMP (Section 6.0).

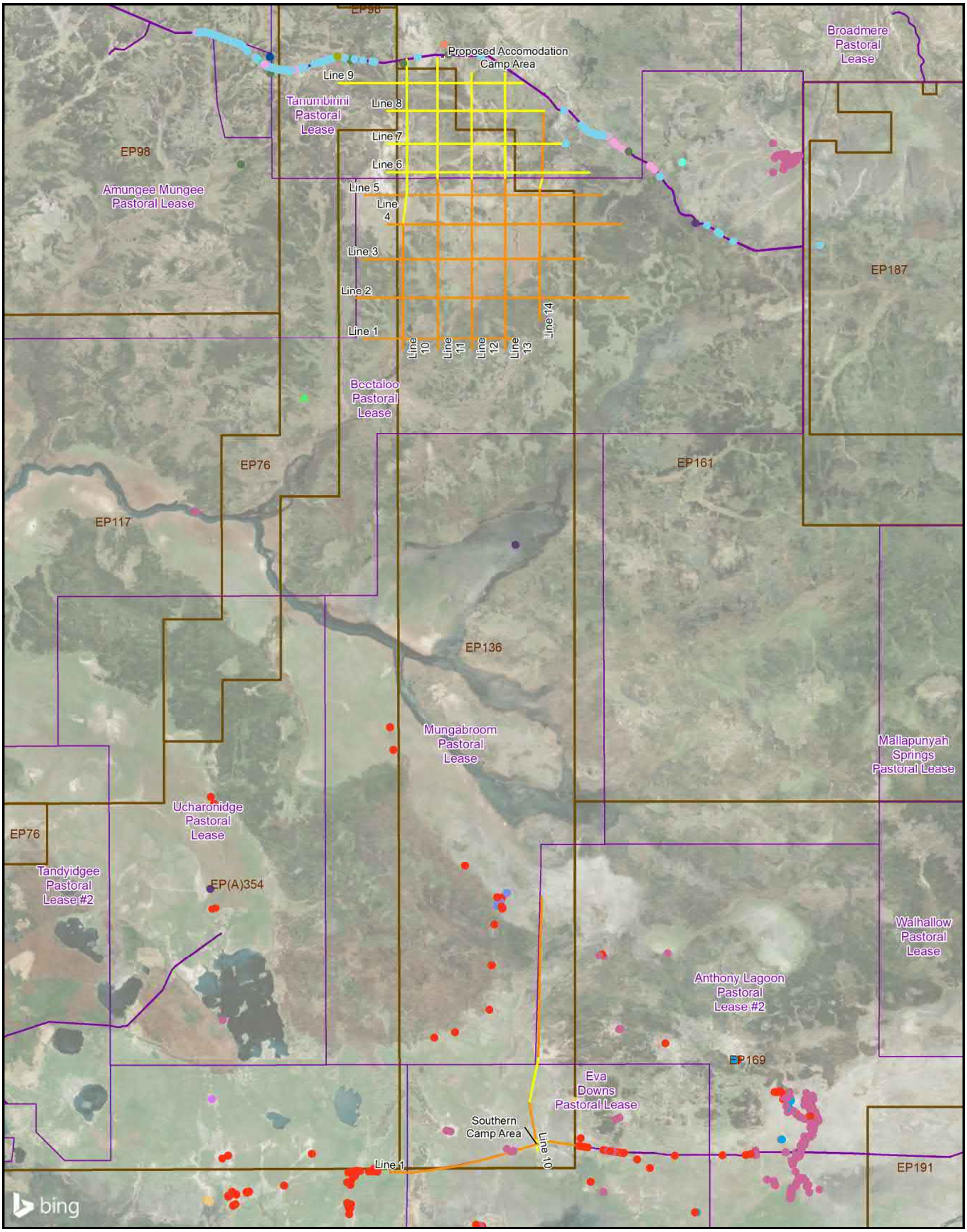
This plan is supported by Appendices that provide guidance on how to identify weed species in the field and collect the necessary data to support the monitoring and reporting requirements of this WMP.

1.3 Project Context

This plan covers all seismic exploration, civil construction, water bore drilling, rehabilitation and routine maintenance/monitoring activities undertaken by Sweetpea within permit EP136 on Beetaloo and Tanumbirini Stations. The primary activities subject to this WMP are:

- Access track construction, use and maintenance
- Camp construction and operation
- Seismic exploration activities
- Routine access, maintenance and monitoring of all exploration areas subject to this plan.

The location of the exploration activities is presented in Figure 1.



N

Projection: GDA 1994 MGA Zone 53

5 2.5 0 5 km

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Weed Name

- Unknown
- Barnyard grass - colona
- Buffel grass
- Burr - Noogoora
- Gamba grass
- Hyptis
- Lovegrass - amabilis
- Merrimia - dissecta
- Mesquite
- Mission grass - annual
- Parkinsonia
- Prickly acacia
- Rubber bush
- Sesame
- Sida - Spiny head
- Stylo - caribbean
- Urochloa - Sabi grass

Seismic Lines

- Vegetation Clearing Required
- Existing Track/Gravel Road
- Petroleum Exploration Permit
- Proposed Accomodation Camp Area

Data sources:
Co-ordinate system: GDA_1994_MGA_Zone_53
Permit Area, Cadastre - NT Gov 2019.
Places, Vegetation - Aust Gov 2019

Sweetpea Petroleum Pty Ltd, Environmental Management Plan

Regional Weed Data for EP136

PROJECT ID	60611666
CREATED BY	prachi.kulkarni1
LAST MODIFIED	15-Jul-2020
VERSION	1

Figure 1

Filename: \\aumel1fp003.au.aecomnet.com\GIS\Projects\2019\Sweetpea_GIS\02_MXD\Land_Condition_Assessment\06\Figure12_Regional_Weeds.mxd

A3 size

2.0 Legislation

2.1.1 Northern Territory Petroleum (Environment) Regulations

Petroleum Act 2016, Petroleum (Environment) Regulations 2016 and Code of Practice for Petroleum Activities with in the Northern Territory

The Petroleum Act 2016 provides legal framework within which persons are encouraged to undertake effective exploration for petroleum and to develop petroleum production so that the optimum value of the resource is returned to the Territory. It regulates the exploration for, and production of petroleum, including environmental protection measures which should be employed during exploration and production activities, including protection of parks and reserves and rehabilitation.

In addition, the Act is supported by the *Petroleum (Environment) Regulations 2016*.

The *Petroleum (Environment) Regulations 2016* requires that regulated activities are carried out in a manner consistent with the principles of ecologically sustainable development, and by which the environmental impacts and environmental risks of the activities are identified and reduced to an acceptable level.

The Code of Practice for Petroleum Activities in the Northern Territory is a mandatory code of practice for the petroleum industry to ensure that petroleum activities in the Northern Territory are managed according to minimum acceptable standards to ensure that risks to the environment can be managed to a level that is as low as reasonably practical (ALARP) and acceptable.

Under these regulations Sweetpea is required to submit an EMP prior to any petroleum exploration or production activity. EMPs must include:

- potential environmental risks or impacts (in this instance relating to the introduction and spread of weeds)
- appropriate environmental outcomes, environmental performance standards and measurement criteria
- appropriate implementation strategy and monitoring, recording and reporting arrangements and
- demonstrate that there has been an appropriate level of engagement with directly affected stakeholders in developing the plan.

This WMP is designed to support and implement the requirements of Sweetpea's Project Specific Environmental Management Plans.

2.1.2 *Weed Management Act 2001* (NT)

The management of weeds in the Northern Territory is predominantly covered by the *Weed Management Act 2001*. The Act allows for the declaration of weeds into classifications for the purposes of preventing a plant entering into, or managing the plant in, the Territory or a part of the Territory. The Act provides for statutory weed management plans, which prescribe management actions for high priority weeds. The Act also gives powers to authorised officers, including the power to order certain activities in relation to declared weeds (DENR, 2018).

Under the *Weed Management Act 2001* a declared weed is a plant species which has been identified for control, eradication, or prevention of entry into all or part of the Northern Territory. A weed may be declared as:

- Class A - To be eradicated
- Class B - Growth and spread to be controlled
- Class C - Not to be introduced to the Territory

All Class A and Class B weeds are also considered Class C weeds.

There are currently statutory management plans for 10 high priority weed species in the Northern Territory.

The WMP must address weeds in accordance with their declaration status and the statutory requirements of any relevant weed management plans.

2.1.3 Regional Weed Management Plans

Regional Weed Management Plans (RWMP) have been developed for specific areas of the NT, with the Barkly RWMP overlapping Sweetpea's exploration tenure. The aim of these regional plans is to assist in prioritising weed management by:

- identifying the region's priority weeds and associated pathways of spread to inform management priorities
- identifying landscapes that may need prioritised protection from weed impacts like river corridors or sacred Aboriginal sites
- containing information on alert weeds that are not yet found in the region, but could become major issues if they establish

2.1.4 Environment Protection and Biodiversity Conservation (EPBC) Act

The objectives of the *Environment Protection and Biodiversity Conservation (EPBC) Act 1999* are, among other things:

- provide for the protection of the environment, especially those aspects of the environment that are matters of national environmental significance; and
- promote ecologically sustainable development through the conservation and ecologically sustainable use of natural resources; and
- promote the conservation of biodiversity; and
- promote a co-operative approach to the protection and management of the environment involving governments, the community, land holders and indigenous peoples; and
- assist in the co-operative implementation of Australia's international environmental responsibilities.

The EPBC Act provides for the identification and listing of key threatening processes. A threatening process is defined as a key threatening process if it threatens or may threaten the survival, abundance or evolutionary development of a native species or ecological community. Key threatening processes include invasive species, such as weeds, which have a major impact on Australia's environment, threatening our unique biodiversity and reducing overall species abundance and diversity (DEE, 2018).

2.1.5 Weeds of National significance

Thirty-two Weeds of National Significance (WONS) have been agreed by Australian Governments to be given priority for eradication based on their invasiveness, potential for spread and environmental, social and economic impact. A list of 20 weeds were endorsed in 1999 and a further 12 were added in 2012 (DE, 2019b).

Landowners and land managers are responsible for managing WONS, while State and Territory governments are responsible for their legislation and regulation. A strategic plan has been developed for all WONS that defines responsibilities and outlines strategies and actions to control weed species (DE, 2019b).

3.0 Dedicated Weed Officer

As per recommendation 8.3 of the Scientific Inquiry into Hydraulic Fracturing Stimulation there must be a dedicated Weed Officer for each gas field.

The Weed Officer must have relevant skills and experience and availability to successfully manage weed related issues for the project, including:

- Knowledge of the biology/ecology of local weeds.
- Knowledge of relevant weed management frameworks including Northern Territory legislation and plans, the EPBC Act.
- Understanding of existing weed management arrangements being undertaken by landholders.

The Weed Officer is responsible and accountable for delivery of all weed related requirements of the project in accordance with the WMP and the overarching Environmental Management Plan, including:

- Planning and execution of weed monitoring requirements, including baseline weed assessments and ongoing monitoring both during periods of gas related activities as well as during the target identification period of February to May.
- Facilitate training all workers (including contractors) in weed management requirements, with support from the Northern Territory Government Regional Weed Officer - Onshore Shale Gas Development.
- Oversight of implementation of weed control mechanisms including but not limited to wash-downs and proactive weed control programs.
- Ensuring all reporting requirements are met.
- Act as the designated point of contact for and rapidly responding to any weed related complaints and incidents in accordance with the pre-determined strategies in this WMP and additional strategies as required developed in consultation with the Regional Weed Officer - Onshore Shale Gas Development and affected landholders.
- Review and update of WMP's to remain effective in communication with relevant landholders and Regional Weed Officer - Onshore Shale Gas Development in consideration of monitoring results and emerging weed issues for both gas and pastoral operations.

Sweetpea has appointed AECOM Australia Pty Ltd to ensure the activities meet with the planning and execution of this weed management plan. Primary contact is provided below:

Alana Court
Associate Director – Environment

[redacted]
Alana.Court@aecom.com

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Level 3, 9 Cavenagh Street, Darwin, NT NT 0800
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4.0 Existing Environment

4.1 Bioregion

The northern and southern exploration areas are located across a number of bioregions. The northern exploration area falls mainly within the Sturt Plateau bioregion with small areas extending into the Gulf Falls and Uplands bioregion. The southern exploration area falling within the Gulf Fall and Uplands and the Mitchell Grass Downs bioregions.

The Sturt Plateau Bioregion comprises undulating plains on sandstone, with predominantly neutral sandy red and yellow earth soils. Dominant vegetation is eucalypt woodland (dominated by variable-barked bloodwood *Eucalyptus dichromophloia*) with spinifex understorey, as well as extensive areas of Lancewood (*Acacia shirleyi*) - Bullwaddy (*Macropteranthes kekwickii*) vegetation association and associated fauna, including the Spectacled Hare-Wallaby (*Lagorchestes conspicillatus*).

The Gulf Fall and Uplands comprises of undulating terrain with scattered, low, steep hills and gorges, water holes and dissected sandstone plateaus. Soils are mostly skeletal or shallow sands. The most extensive vegetation is woodland dominated by Darwin Stringybark (*Eucalyptus tetrodonta*) and Variable-barked bloodwood (*Corymbia dichromophloia*) with spinifex understorey, and woodland dominated by Northern Box (*Eucalyptus tectifica*) with tussock grass understorey.

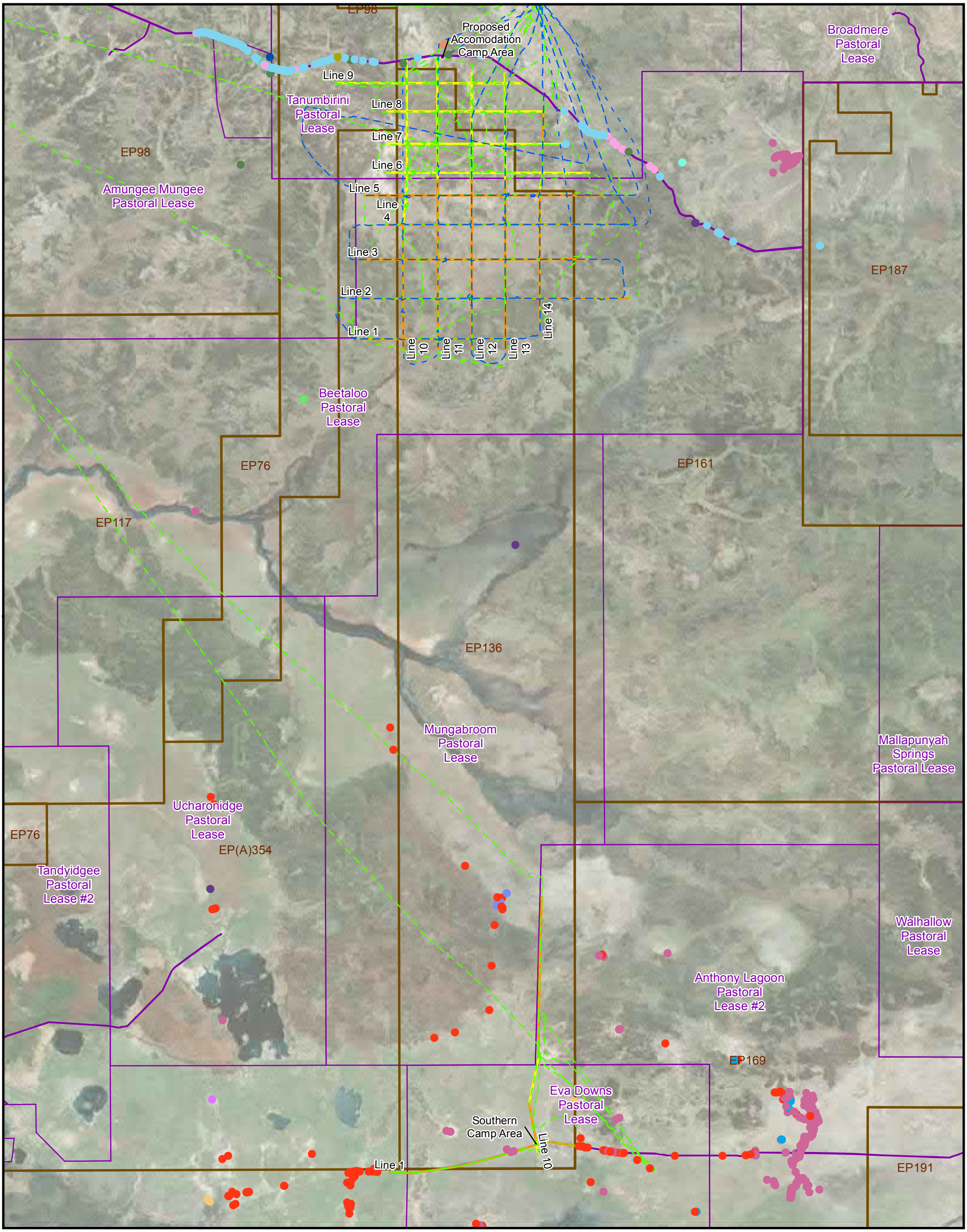
Mitchell Grass Downs lies over the Georgina and Dunmurra Basins containing sedimentary rocks of Cretaceous, Tertiary and Cambrian ages. Soils within this bioregion are predominantly cracking clays. Vegetation consists mostly of *Eucalyptus microtheca* low open woodland with Bluebush (*Chenopodium auricomum*) sparse shrubland understorey, and Mitchell Grass (*Astrebla spp.)* grassland on the Barkly Tableland. The climate is semi-arid with annual rainfall between 400 and 500 mm.

4.2 Previous Surveys

AECOM has previously undertaken weed surveys in the Beetaloo Sub-basin approximately 80 – 100 km east and north-east of Sweetpea's exploration area. Surveys carried out in August 2018, indicated that weed abundance was low overall. *Hyptis suaveolens* (Hyptis), was identified along the access tracks. *Parkinsonia aculeata* (Parkinsonia) and *Calotropis procera* (Rubber Bush) have been previously identified along the Beetaloo access track. Parkinsonia is listed as a Weed of National Significance (WONS).

Recent weed surveys have been undertaken in November 2019 and May 2020 (refer Figure 2). No weeds were encountered during the November 2019 field survey which covered the northern exploration area. The May 2020 survey covered both the northern and southern exploration areas. A patch of Hyptis was recorded within a creek line intersecting the eastern end of seismic line 7 in the northern exploration area. This section of the seismic line has been removed from the exploration program to prevent Hyptis from spreading outside the creekline. No weeds were recorded within the southern exploration area.

Gamba Grass (*Andropogon gayanus*) is known to be in the Beetaloo region and is used by some Pastoralists for wet season pasture. The pastoral properties using Gamba would be required to control the growth and spread to neighbouring areas (NTG, 2000).



N

AECOM
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Projection: GDA 1994 MGA Zone 53

5 2.5 0 5 km

1:528,000 (when printed at A3)

Weed Name

- Unknown
- Barnyard grass - colona
- Buffel grass
- Burr - Noogoora
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- Hyptis
- Lovegrass - amabilis
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- Mesquite
- Mission grass - annual
- Parkinsonia
- Prickly acacia
- Rubber bush
- Sesame
- Sida - Spiny head
- Stylo - caribbean
- Urochloa - Sabi grass

- November 2019 Weed Survey Tracks
- May 2020 Weed Survey Tracks

Seismic Lines

- Vegetation Clearing Required
- Existing Track/Gravel Road
- Proposed Accomodation Camp Area
- Petroleum Exploration Permit

Data sources:
Imagery: Bing (c)
Permit Area, Cadastre - NT Gov 2019.
Places, Vegetation - Aust Gov 2019

Sweetpea Petroleum Pty Ltd, Environmental Management Plan

Weed Survey Tracks

PROJECT ID	60611666
CREATED BY	sam.schroder
LAST MODIFIED	16-Jul-2020
VERSION	1

Figure 2

Filename: \\aumel1fp003.au.aecomnet.com\GIS\Projects\2019\Sweetpea_GIS\02_MXD\Land_Condition_Assessment\06\Appendix I\Figure2_Weed_Survey_Tracks.mxd

A3 size

4.3 Potential Weeds in Project Area

Database searches identified 17 weed species known or likely to occur within the proposed northern and southern seismic exploration areas including four weeds of National significance (WONS) and six declared species in the Northern Territory (under the *NT Weeds Management Act 2001*). Declared weed species likely to occur within the project area are listed in Table 1.

Table 1 Weeds recorded within the proposed seismic exploration area

Scientific Name	Common Name	Status
Alternanthera pungens	Khaki Weed	Class B and C
Andropogon gayanus	Gamba Grass	Class A and C, WoNS
Azadirachta indica	Neem	Class B and C
Calotropis procera	Rubber Bush	Class B and C
Cenchrus echinatus	Mossman River Grass	Class B and C
Datura ferox	Fierce Thornapple	Class A and C
Echium plantagineum	Paterson's Curse	Class A and C
Hyptis suaveolens	Hyptis	Class B and C
Parkinsonia aculeata	Parkinsonia	WoNS / Class B and C
Prosopis spp.	Mesquites	WoNS / Class A and C
Sida cordifolia	Flannel Weed	Class B and C
Sida rhombifolia	Paddy's Lucerne	Class B and C
Tamarix aphylla	Athel Pine	WoNS / Class A, B and C
Themeda quadrivalvis	Grader Grass	Class B and C, WoNS
Tribulus terrestris	Caltrop	Class B and C
Vachellia nilotica (syn. *Acacia nilotica* ssp. *indica*)	Prickly Acacia	WoNS / Class A and C
Xanthium occidentale	Noogoora Burr	Class B and C

*Status: Cmwlth: WONS = Weed of National Significance; NT Weeds Management Act 2013: Class A = weed is to be eradicated, Class B = weed is to have its growth and spread controlled, Class C = weed is not to be introduced to the NT.

Parkinsonia aculeata (Parkinsonia), *Hyptis suaveolens* (Hyptis) and *Calotropis procera* (Rubber Bush) are known to occur throughout the region.

Parkinsonia is considered a Weed of National Significance (WoNS), which are weed species that are the focus of national management programs for restricting their spread and/or eradicating them from parts of Australia.

5.0 Weed Management

5.1 Mitigation Methods (prevention)

The following mitigation methods will be implemented for the seismic exploration program to prevent the introduction and spread of weeds in the project area:

- All equipment will have certified equipment wash-down completed prior to entry to the field. Wash-down would occur at Contractors deport or a commercial wash facility prior to mobilisation in a manner that prevents pollution of the surrounding environment.
- Machinery to be preferentially sourced locally, with machinery sourced from surrounding areas or Queensland being the 2nd and 3rd preferred option respectively.
- Weeds will be actively controlled in cleared/ hardstand areas.
- All materials will be inspected to ensure they are free of weeds prior to being transported to another site.
- All staff, including field staff, contractors and machinery operators, will be educated on hygiene protocols and weed identification as part of their site induction.

5.2 Monitoring

Sweetpea will implement a regular weed monitoring program to determine the extent of weed infestations occurring within the project area, and to inform the approach to weed control.

A baseline survey was completed in November 2019 and a follow up survey is scheduled for February/March 2020 following the wet season to confirm extent of weeds within the project area prior to plant and equipment being transported onto site. The initial baseline survey in November 2019 did not identify weeds.

Weed monitoring should involve regular weed surveys undertaken prior to each round of weed treatment. These surveys should gather information in relation to weed species density, distribution and reproductive status. Results from these surveys can be used to assess the effectiveness of the on-ground weed treatment and identify where improvements can be made for the following round of treatment.

As part of the 2020 Annual Weed Management Action Plan, Sweetpea will undertake weed survey and mapping of the areas that will be impacted by the seismic exploration activities and where required undertake weed control.

5.3 Weed Control

The success of weed control depends on the timing of treatment. Treatment should aim to control target weeds during their active growth stage and before viable seed formation. The ideal timing of weed control is as follows:

- Round 1: Pre exploration, late wet season - April. To control all germinations from the wet season and prevent weeds from becoming established and spreading
- Round 2: Post exploration, dry season – June. To control all germinations and any weeds that may have been missed in earlier control, and weeds that may have been introduced during the project.

5.3.1 Hyptis (*Hyptis suaveolens*)

Hyptis is a widespread weed in the Northern Territory, including the Gulf district. It readily colonises disturbed areas such as roadsides and overgrazed areas and will grow on most soil types (DENR, 2019).

The best time to treat Hyptis is from December to March.

Chemical control

Table 2 outlines the chemical control methods that have been recommended by the Weeds Branch of the Northern Territory Department of Environment and Natural Resources (DENR) (DENR, 2019).

Table 2 Chemical treatment options for Hyptis

Chemical and Concentration	Rate	Notes
2, 4-D amine 625 g/L Various trade names	320ml / 100L	Seedling or adult (individuals or infestation): Foliar spray - apply when actively growing
Glyphosate 360 g/L Various trade names and formulations	15ml / 1L	Seedling or adult (individuals or infestation): Foliar spray - apply when actively growing

Non-chemical control

Table 3 outlines the various non-chemical control methods recommended by the NT Weeds Branch for Hyptis.

Table 3 Non-chemical control methods for Hyptis

Method	Notes
Hand pulling and grubbing	Weeds, including their roots, are physically pulled out of the ground by hand or using hand tools. This is an effective method of control for individual weeds and recent outbreaks that are yet to release seeds, but it is labour intensive.
Slashing	A brush-cutter, slasher or mower can be used to cut weeds off above the ground level. This is effective in suppressing flower and seed development.

5.3.2 Parkinsonia (*Parkinsonia aculeata*)

Parkinsonia is found in established thickets throughout semi-arid Australia. It has become well-established in the Barkly Tableland and Gulf regions and occurs in various densities across most of the NT (DENR, 2019).

The best time tom treat Parkinsonia is from March to May.

Chemical control

Table 4 outlines the various chemical control methods that have been recommended by the NT Weeds Branch (DENR, 2019).

Table 4 Chemical treatment options for Parkinsonia

Chemical and Concentration	Rate	Notes
Aminopyralid 8g/L + Triclopyr 300g/L + Picloram 100g/L Grazon® Extra	350ml / 100L 3L / ha	**Seedling (individuals and infestation):** Foliar spray - avoid spraying if plants are stressed or bearing pods, uptake spraying oil required Foliar spray - plants up to 2m or two years old, Uptake Spraying Oil required
Triclopyr 240g/L + Picloram 120g/L Access®	1L / 60L (diesel) 1L / 60L (diesel)	**Seedling (individuals and infestation):** Basal bark < 5cm stem diameter Cut stump > 5cm stem diameter
Tebuthiuron 200 g/kg	1.5g / m^2	**Seedling (individuals and infestation):**

Chemical and Concentration	Rate	Notes
		Granulated herbicide - ground applied Do not use within 30m of desirable trees or apply to continuous area > 0.5 ha Do not use if fire is eminent Apply when there is soil moisture or prior to rain

Non-chemical control

Table 5 outlines the various non-chemical control methods recommended by the NT Weeds Branch for Parkinsonia.

Table 5 Non-chemical control options for Parkinsonia

Method	Notes
Hand pulling and grubbing	Weeds, including their roots, are physically pulled out of the ground by hand or using hand tools. This is an effective method of control for individual weeds and recent outbreaks that haven't released seeds yet, but it requires a lot of labour.
Blade ploughing	A blade plough is used to push over some woody shrubs and sever their roots underground.
Bulldozing	Bulldozers, chopper rollers or graders are used to clear large weed infestations. This leaves large areas of soil exposed so follow up control or revegetation should be considered.
Stick raking	A large blade with teeth attached to a bulldozer is used to clear large weed infestations. This leaves large areas of soil exposed so follow up control or revegetation should be considered.
Chaining	A large heavy chain is dragged across the ground by heavy machinery to push over and pull out large weeds. This method is useful for removing roots and providing access for burning. It works best at the end of the wet season when the ground is soft and roots are easier to pull from the soil, but has been successful in prickly acacia control where dense stands are dry or in drought.
Fire	Fire as a management technique is most effective when it is used together with other methods. It is useful for mass seedling control if there is a sufficient fuel load.
Revegetation	Re-planting native vegetation or desirable pasture or crop species creates competition for the weeds that are present and is especially useful when weeds have been removed as an established desirable plant will compete with the new weed seedlings as they emerge.

5.3.3 Rubber Bush (*Calotropis procera*)

Rubber bush poses a significant risk to grazing land in the NT. It has the potential to colonise large parts of the Barkly Tablelands, where it competes with native pastures (DENR, 2109).

The best time to treat Rubber Bush is from October to March

Chemical control

Table 6 outlines the various chemical control methods for Rubber Bush that have been recommended by the NT Weeds Branch (DENR, 2019).

Table 6 Chemical treatment options for Rubber Bush

Chemical and Concentration	Rate	Notes
Triclopyr 300g/L + Picloram 100g/L Conqueror® **+ Aminopyralid 8g/L** Grazon™ Extra	750ml / 100L (water) 500 - 750ml / 100L (water)	**Seedling (individuals or infestation):** Foliar spray. Check label for recommended adjuvant product. More effective on plants < 2m as thorough coverage on all leaves is required.
Triclopyr 240g/L + Picloram 120g/L Access™	1L / 60L (diesel) 1L / 60L (diesel) 1L / 60L (diesel)	**Adult (individual and infestation):** Basal bark < 5cm stem diameter. Spray all stems. Spray to point of runoff. Thin line up to 5cm stem diameter Cut stump > 5cm stem diameter
Tebuthiuron (200g/kg) Graslan - Pending registration. Please check with Weed Management Branch for status confirmation.	1.5 – 2g / m^2	**Seedling or adult:** Application to black clay soils in conjunction with seasonal rainfall. Spread granules according to density of the infestation.
Fluroxypyr (333 g/L) Starane™ Advanced	3L / 100L (diesel)	**Adult:** Cut stump method for plants up to 10cm diameter and 3m high.

6.0 Reporting

6.1 Notification to Government

The Regional Weed Officer – Onshore Shale Oil Gas Development at the Weed Management Branch of DENR should be notified within 48 hours of the discovery of a new weed species in the Project Area.

Initial notification may be verbal, with follow-up written notification provided within seven working days. The notification should include a preliminary species identification and location information. The Regional Weed Officer will advise what further action is required.

It is noted that some species spread rapidly so immediate action may be required to control spread. For example, as stated above Parthenium (*Parthenium hysterophorus*) is a Class A (to be eradicated) and Class C (not to be introduced) weed in the Northern Territory as well as being classified as a Weed of National Significance. Early detection is crucial in not allowing this species to spread in the Northern Territory (DPIR, 2016).

In addition, it is noted that under the *Weeds Management Act* that:

'The owner and occupier of land must… within 14 days after becoming aware of a declared weed that has not previously been, or known to have been, present on the land, notify an officer of the presence of the declared weed'.

All weed outbreak incidents will be reported in Sweetpea's incident reporting system and corrective action initiated.

6.2 Recording

Records of weed inspections will be maintained by Sweetpea and their contractors.

Data on weed distribution will be maintained within Sweetpea's program GIS database and provided to the Weeds Officer at DENR as part of the annual report on performance against the Weed Management Plan, or as requested.

Data will be collected as per the requirements of the Northern Territory Weed Data Collection Manual - Section One Technical Data Description (Weed Management Branch, 2015).

Data will be recorded using the guidelines provided in Appendix A using the data sheets provided.

The Northern Territory Weed ID Deck (Northern Territory Government, 2017) will be referenced to assist with identification of species that have been identified as likely or know to occur in the Permit Area.

Field data will be submitted directly to the Weed Management Branch in a shapefile format or as an Excel spreadsheet, including incidental identification of weeds and following completion of field surveys.

6.3 Reporting

All weed outbreak incidents will be reported in Sweetpea's incident reporting system and corrective action initiated.

A report on the performance against this Weed Management Plan will be submitted to DENR on an annual basis.

At a minimum, this should include:

a. Details of activities implemented to address weed spread and introduction risks (e.g. vehicle wash down/ blow down locations, examples of track construction from working from weed free areas into weed infested areas to reduce spread).

b. Details of survey and monitoring events, including dates, personnel, maps and track data.

c. Submission of all weed data collected.

d. Overview of weed control events and success rates (weed control should be captured in detail through the data collection process and submitted as a component of (a)).

7.0 References

AECOM Australia Pty Ltd. 2020. *Land Condition Assessment, Beetaloo & Tanumbirini EP136 – Beetaloo Sub-Basin, NT* prepared for Sweetpea Petroleum Pty Ltd.

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Northern Territory of Australia. 2017. *Northern Territory Weed ID Deck*.

Weed Management Branch, Northern Territory Government. 2015. *Northern Territory Weed Data Collection Manual - Section One Technical Data Description*. Department of Environment and Natural Resources, Palmerston, NT.

Appendix I1

Weed Data Collection Methodology

Appendix I1 Weed Data Collection Methodology

Field data collection for weed infestations

The following is a guide to efficiently evaluating and recording a weed site in the field.

Each record must identify the person or organisation taking the record, as well as the details explained below.

How to record weed area as a point record

1. Record the species.

When a weed is sighted, move to the area and confirm identification of the weed. If you cannot positively identify the weed record it as “Unknown weed” and take a sample or photograph, do not try to guess. If more than one weed species is present, then repeat the process with separate records for each species.

2. Assess the size of the weed patch.

Look across the area of weeds to the furthest weed plant and decide the diameter. Decide if the area is best fits in a circle of either 20, 50 or 100 metres. If it is a single plant or small patch you would choose 20 metres. The size 100 metres extends about as far as you can see on the ground, if the weeds extend out of sight you will need to make another point further on. You may place overlapping circle areas to reflect different densities.

3. Assess the density of weeds within the circle.

Decide how much of the area is covered by weeds. Assign a score from 2 to 5 based on the percentage table below. It will be useful (if possible) to move into the centre of the weed circle. Consider the whole circle size chosen in step 2 deciding on the density score. Area covered should be determined by a ‘projected canopy’ method.

Density categories

1 = Absent, no weeds of this species in this area.

2 = < 1%, Very few, not many weeds *e.g.*: single plant, perhaps with seedlings.

3 = 1 -10%, More than one or two isolated plants but not a lot *e.g.*: a few small plants.

4 = 11-50%, A lot, up to half the area covered *e.g.*: a tree, dense patches of weeds.

5 = > 50%, Dominant cover is weed, more than half covered *e.g.*: thickets, monocultures.

4. Record the location.

Take the GPS location (ideally) from the centre of the circle. If weed seeds may be spread or it is difficult to access the centre it is acceptable to take the reading from the location as close to the centre as practical.

5. Record the treatment.

Record the method you apply a treatment to the weeds, or record ‘No Treatment’.

Choose from the list of treatment methods

i.e.: No treatment, Unknown, Treated, Foliar spray etc.

How to record weed area as a line (polyline) record

1. Record the species.

When a weed is sighted, move to the area and confirm identification of the weed. If you cannot positively identify the weed record it as “Unknown weed” and take a sample or photograph, do not try to guess. If more than one weed species is present then repeat the process with separate records for each species.

2. Assess the ‘best fit’ width in metres of the linear weed area.

Look along the area of weeds to the furthest weed plant and decide a width that best sums up the width of the infestation from values of 5, 20, 50 or 100 metres. If the width is too variable you may need to make more than one line or consider recording as points or as a polygon.

3. Assess the density of weeds within the line.

For the area of the line, being from start to finish at the designated width, decide the area covered by weeds. Assign a score from 2 to 5 based on the percentage table below. Consider the whole line area when deciding on the density score. Area covered should be determined by a ‘projected canopy’ method.

Density categories

1 = Absent, no weeds of this species in this area.

2 = < 1%, Very few, not many weeds *e.g.*: single plant, perhaps with seedlings.

3 = 1 -10%, More than one or two isolated plants but not a lot *e.g.*: a few small plants.

4 = 11-50%, A lot, up to half the area covered *e.g.*: a tree, dense patches of weeds.

5 = > 50%, Dominant cover is weed, more than half covered *e.g.*: thickets, monocultures.

4. Record the location.

Start the GPS track, or line sketch from one end of the linear weed area. Walk or sketch a line as best fit through the middle of the linear weed area and finish at the end point.

5. Record the treatment.

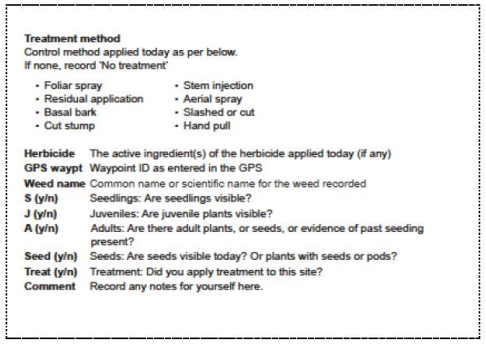
Record the method you apply a treatment to the weeds, or record ‘No Treatment’.

Choose from the list of treatment methods

i.e.: No treatment, Unknown, Treated, Foliar spray etc.

RECORDER:					PROJECT:							LOCALITY:		
ORG_NAME:					GPS NAME/MODEL:							RECORDING METHOD :		
SITE_ID	DATE_REC	LAT_G94	LONG_G94	WEED_NAME	SIZE_DIA_M	DENS_CAT	SEEDLINGS	JUVENILES	ADULTS	SEED_PRES	PAST_TREAT	TREATMENT	HERBICIDE	COMMENTS

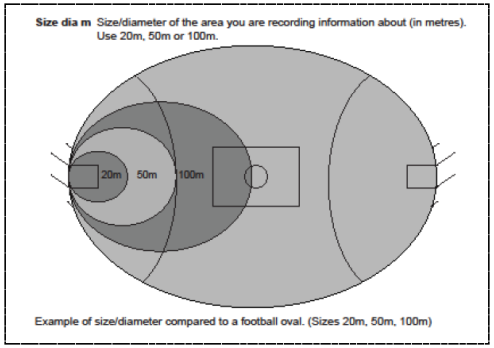
Notes:

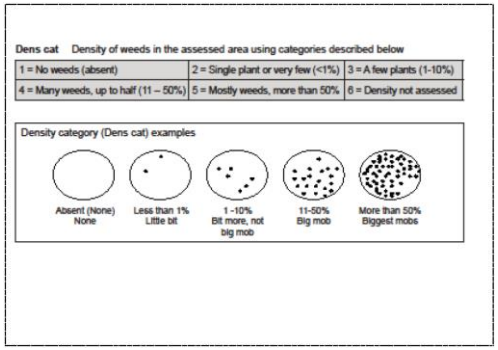


Treatment method
Control method applied today as per below.
If none, record 'No treatment'

- Foliar spray
- Residual application
- Basal bark
- Cut stump
- Stem injection
- Aerial spray
- Slashed or cut
- Hand pull

Herbicide The active ingredient(s) of the herbicide applied today (if any)
GPS waypt Waypoint ID as entered in the GPS
Weed name Common name or scientific name for the weed recorded
S (y/n) Seedlings: Are seedlings visible?
J (y/n) Juveniles: Are juvenile plants visible?
A (y/n) Adults: Are there adult plants, or seeds, or evidence of past seeding present?
Seed (y/n) Seeds: Are seeds visible today? Or plants with seeds or pods?
Treat (y/n) Treatment: Did you apply treatment to this site?
Comment Record any notes for yourself here.





(extracted from *Northern Territory Weed Data Collection Manual - Section One Technical Data Description.*

Appendix J

Erosion and Sediment Control Plan

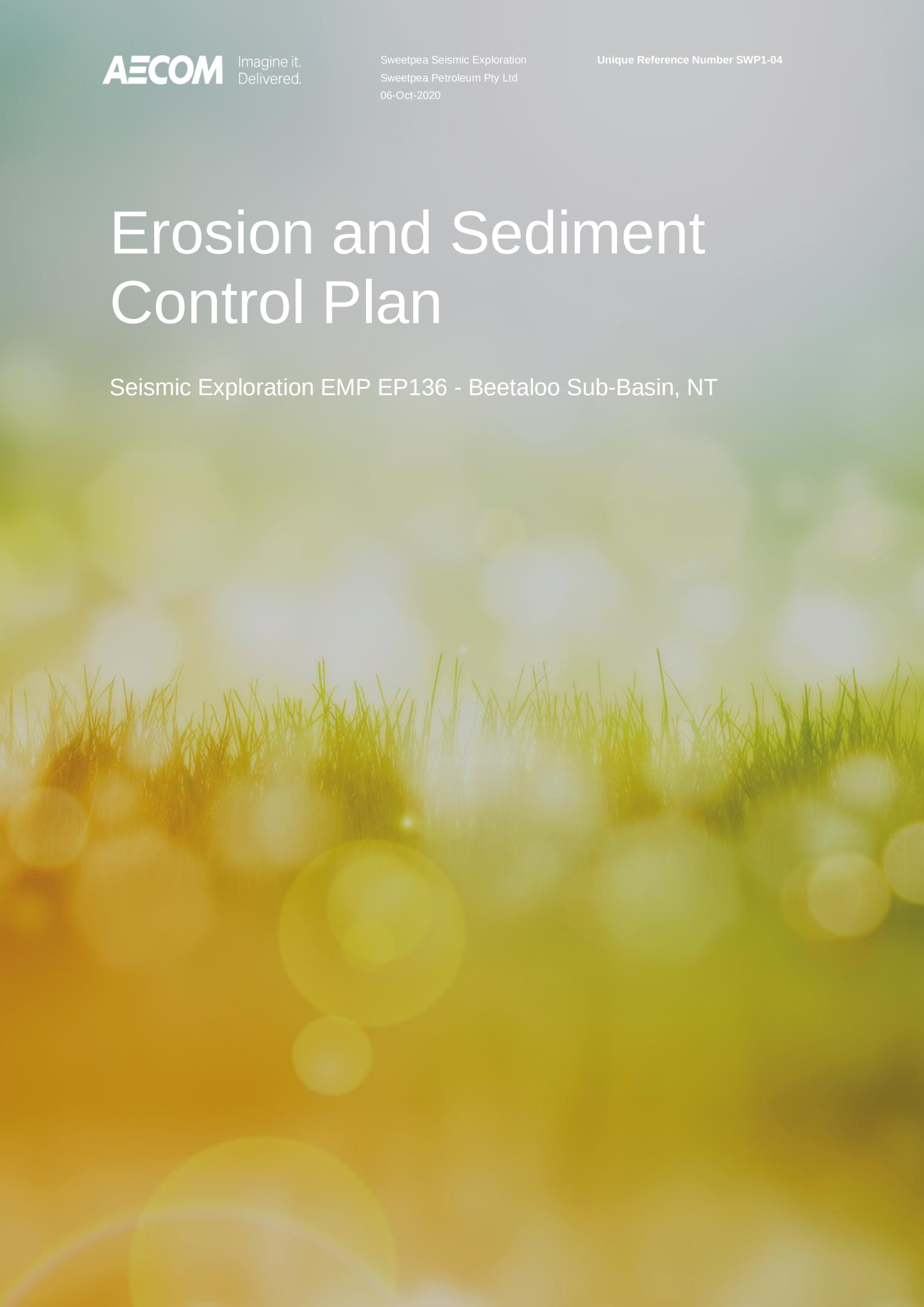
AECOM Imagine it. Delivered.

Sweetpea Seismic Exploration
Sweetpea Petroleum Pty Ltd
06-Oct-2020

Unique Reference Number SWP1-04

Erosion and Sediment Control Plan

Seismic Exploration EMP EP136 - Beetaloo Sub-Basin, NT



Erosion and Sediment Control Plan

Seismic Exploration EMP EP136 - Beetaloo Sub-Basin, NT

Client: Sweetpea Petroleum Pty Ltd

ABN: 42074750879

Prepared by

AECOM Australia Pty Ltd
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06-Oct-2020

Job No.: 60611666

DENR Unique Reference No.: SWP1-04

AECOM in Australia and New Zealand is certified to ISO9001, ISO14001 AS/NZS4801 and OHSAS18001.

Quality Information

Document	Erosion and Sediment Control Plan
Ref	60611666 DENR Unique Reference No.: SWP1-04
Date	06-Oct-2020
Prepared by	William Riddell, Lydia Laouris
Reviewed by	James Jentz

Revision History

Rev	Revision Date	Details	Authorised	
			Name/Position	Signature
0	22-Jul-2020	Appendix to Seismic Exploration EMP	Alana Court Associate Director - Environment	Signed previously
1	05-Aug-2020	CPESC Signature Added	Alana Court Associate Director - Environment	Signed previously
2	07-Sep-2020	Updated for review comments	Alana Court Associate Director - Environment	Signed previously
3	24-Sep-2020	Updated for review comments received from DENR 16 Sept 2020	Alana Court Associate Director - Environment	
	06-Oct-2020	Update from comments received from DENR (now DEPWS) on 1 Oct 2020	Alana Court Associate Director - Environment	

Date	CPESC Name / Position	Signature
05-Aug-2020	Tim Anderson MAgrSc, BAgrSc (Hons), CPESC (#2723), CEnvP (#002).	
07-Sep-2020		
24-Sep-2020		

Table of Contents

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List of Figures

1.0 Introduction

1.1 Background

The focus of this Primary Erosion and Sediment Control Plan (ESCP) is to provide strategies to minimise impacts of soil and erosion during the proposed seismic exploration program and water bore drilling and monitoring program.

The objectives of this Primary ESCP include:

- To avoid, or minimise and control, soil erosion and discharge of sediment or soil into waterways or established drainage systems.
- To minimise disturbance of soil, vegetation and drainage during site activities.
- To minimise the creation of dust.

1.2 Project Context

This plan covers all seismic exploration activities undertaken by Sweetpea within permit EP136. The extent of the seismic survey program and water bore drilling activities is shown in Figure 1 to Figure 3.

The primary activities subject to this ESCP are:

- seismic line preparation use and maintenance
- seismic exploration activities
- water bore drilling and monitoring at two exploration drilling lease pads
- routine access, maintenance and monitoring of all exploration areas subject to this plan
- survey team camp area.

1.3 Location and Disturbance Areas

The location and disturbance area of the program is provided in Table 1 and Table 2. The extent of the seismic survey program and water bore drilling activities is shown in Figure 1 to Figure 3.

Table 1 Geographical coordinates of 2020 Seismic Lines and Field Camps and Area of Disturbance

Activity Area	Station	Coordinates of Seismic Line				Total Length (km)	Total Area (ha)*	Area and % of Vegetation Disturbance Required (ha) (%)^
		Start of Line		End of Line				
		Lat	Long	Lat	Long			
Northern Survey Area								
Line 1	Beetaloo	-16.86660	134.45300	-16.86660	134.66800	22.92	11.46	1.39 (0.57%)
Line 2	Beetaloo	-16.81160	134.44300	-16.81160	134.82900	41.10	20.55	4.92 (2.03%)
Line 3	Beetaloo	-16.75830	134.45300	-16.75830	134.76500	33.32	16.66	3.34 (1.38%)
Line 4	Beetaloo	-16.71090	134.48700	-16.71070	134.81800	35.31	17.66	2.51 (1.04%)
Line 5	Beetaloo	-16.67080	134.45500	-16.67100	134.79100	35.88	17.94	4.23 (1.75%)
Line 6	Tanumbirini	-16.63940	134.48700	-16.64070	134.77300	30.50	15.25	6.36 (2.63%)
Line 7	Tanumbirini	-16.60040	134.48700	-16.60130	134.74300	27.31	13.66	6.08 (2.51%))
Line 8	Tanumbirini	-16.55620	134.48700	-16.55660	134.70900	23.72	11.86	5.70 (2.35%)
Line 9	Tanumbirini	-16.51710	134.41900	-16.51820	134.68000	27.89	13.95	6.85 (2.83%)

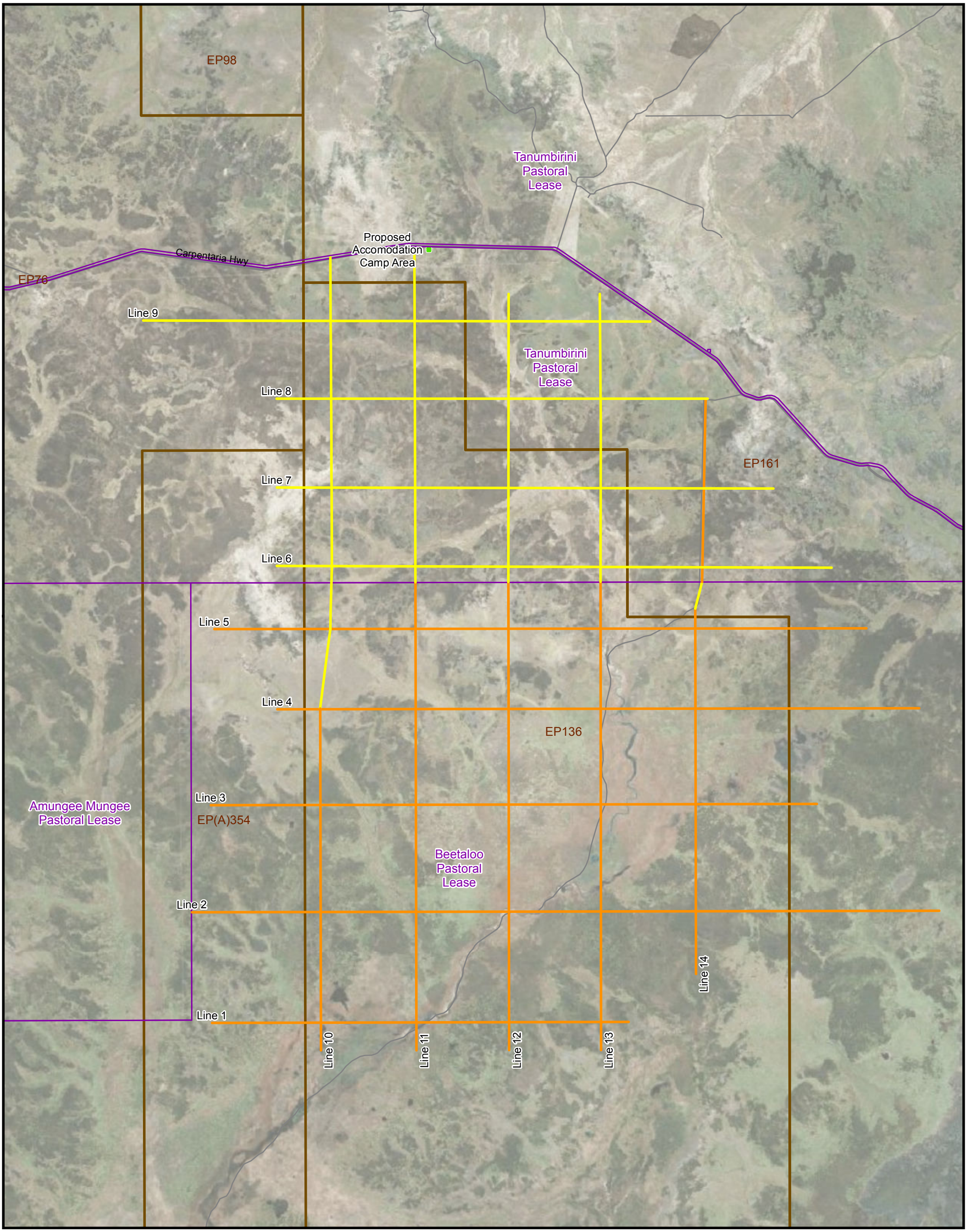
Activity Area	Station	Coordinates of Seismic Line				Total Length (km)	Total Area (ha)*	Area and % of Vegetation Disturbance Required (ha) (%)^
		Start of Line		End of Line				
		Lat	Long	Lat	Long			
Line 10	Beetaloo & Tanumbirini	-16.48600	134.51500	-16.88040	134.50900	43.66	21.83	4.97 (2.05%)
Line 11	Beetaloo & Tanumbirini	-16.48510	134.55800	-16.88040	134.55900	43.75	21.88	6.88 (2.84%)
Line 12	Beetaloo & Tanumbirini	-16.50440	134.60700	-16.88050	134.60600	41.61	20.81	4.69 (1.94%)
Line 13	Beetaloo & Tanumbirini	-16.50440	134.65400	-16.88070	134.65400	41.61	20.81	5.88 (2.43%)
Line 14	Beetaloo & Tanumbirini	-16.55610	134.70800	-16.84290	134.70300	31.71	15.86	1.45 (0.60%)
Field Camp	Tanumbirini	-16.48601	134.56757	-	-	-	2.00	0.2 (0.08%)
Northern Footprint Total						**480.29**	**242.15**	**65.45 (27.03%)**
Southern Survey Area								
Line 1	Anthony Lagoon	-18.00350	134.48700	-17.97020	134.76600	30.19	15.10	0.74 (2.03%)
Line 10	Eva Downs	-17.62810	134.70400	-17.97660	134.69800	38.80	19.40	1.03 (2.82%)
Field Camp	Eva Downs	-17.96507	134.69708	-	-	-	2.00	-
Southern Footprint Total						**68.99**	**36.50**	**1.77 (4.85%)**
Total Footprint						**549.28**	**278.65**	**67.22 (24.12%)**

* Footprint area based on 5 m wide seismic lines. # Area km2 not included in total length for the two field camp locations.
^ Total area of clearing required has been calculated off GIS modelling of shrub and tree vegetation types only (Refer to Appendix D of the Seismic EMP).

Table 2 Geographical coordinates of Water Bore Lease Areas

Lease Area	Station	Lat	Long	Total Area (ha)*	Area of Vegetation Clearing Required (ha)^
Pad 1	Tanumbirini	-16.518242°	134.516026°	0.35	0.35
Pad 3	Tanumbirini	-16.559192°	134.556496°	0.35	0.35
Water Bore Activity Footprint Total				**0.70**	**0.70**

* Total area based on one by 50 x 50 m wide water monitoring bore pads at each lease area, 0.1 ha access track for each lease pad.



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Projection: GDA 1994 MGA Zone 53

5 2.5 0 5 km

1:192,500 (when printed at A3)

Seismic Lines

- Vegetation Clearing Required
- Existing Pastoral Track
- Native Title Register
- Petroleum Exploration Permit
- Proposed Accomodation Camp Area
- Roads

Data sources:
Imagery: Bing (c)
Permit Area, Cadastre - NT Gov 2019.
Places, Vegetation - Aust Gov 2019

Sweetpea Petroleum Pty Ltd Environmental Management Plan

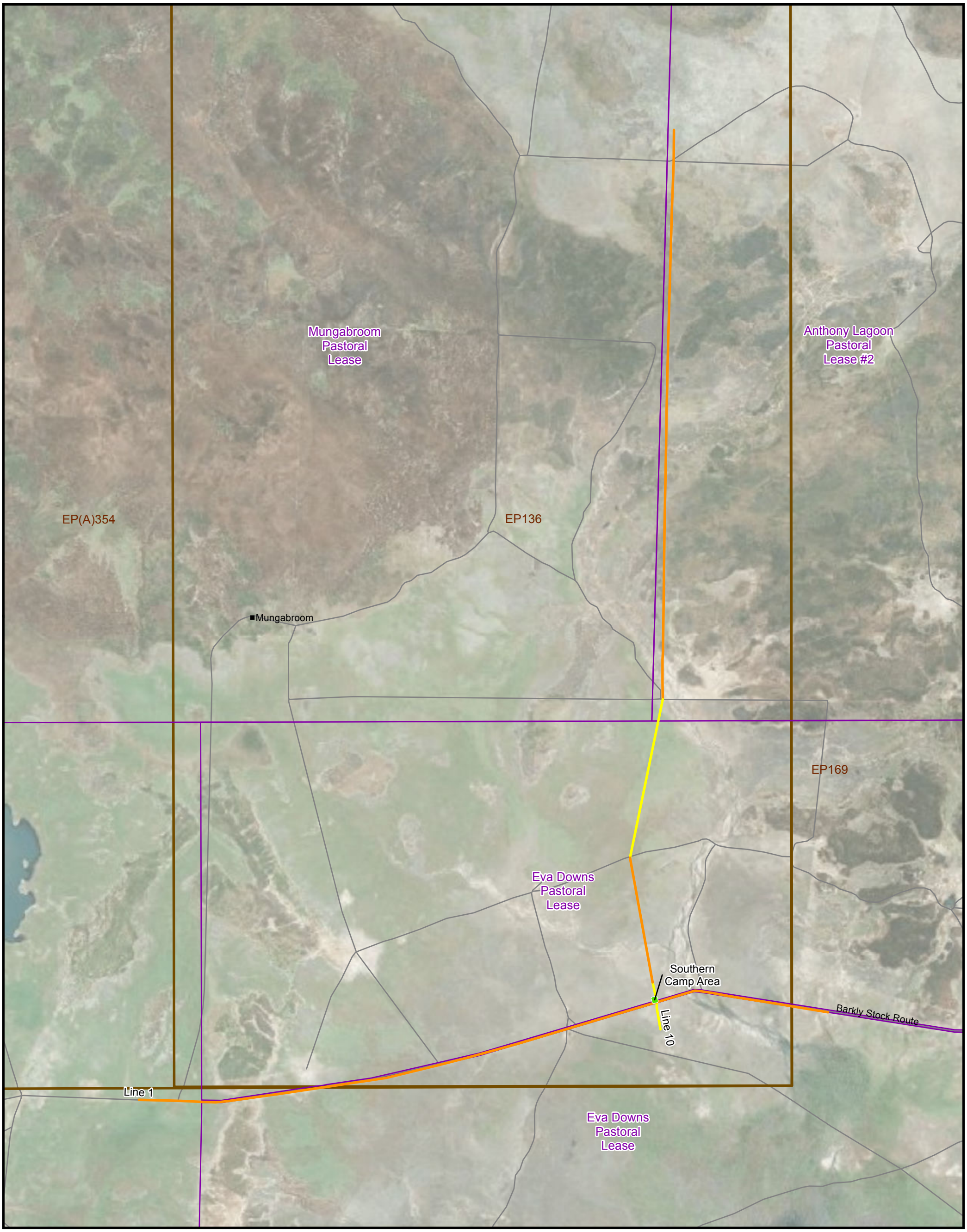
Location of Northern Seismic Exploration Lines and Field Camp

PROJECT ID	60611666
CREATED BY	sam.schroder
LAST MODIFIED	15-Jul-2020
VERSION	1

Figure 1

Filename: T:\Projects\2019\Sweetpea_GIS\02_MXD\Land_Condition_Assessment\06\Figure2_Nth_Location&FieldCamp.mxd

A3 size



AECOM
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N

Projection: GDA 1994 MGA Zone 53

4 2 0 4 km

1:150,000 (when printed at A3)

Seismic Lines

- Vegetation Clearing Required
- Existing Pastoral Track/Road
- Accomodation Camp Area
- Native Title Register
- Petroleum Exploration Permit
- Roads

Data sources:
Co-ordinate system: GDA_1994_MGA_Zone_53
Permit Area, Cadastre - NT Gov 2019.
Places, Vegetation - Aust Gov 2019

Sweetpea Petroleum Pty Ltd Environmental Management Plan

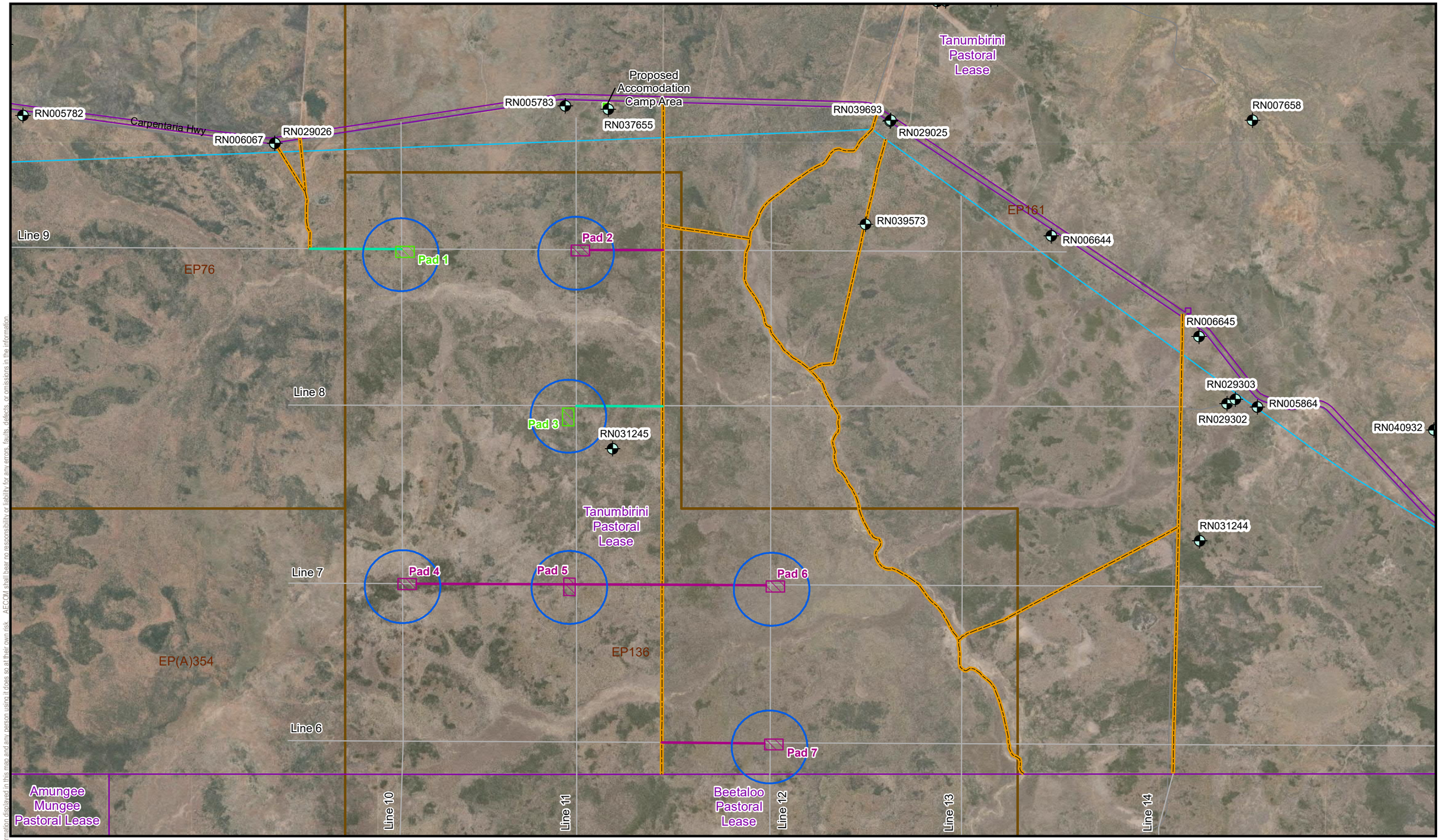
Location of Southern Seismic Exploration Lines and Field Camp

PROJECT ID	60611666
CREATED BY	sam.schroder
LAST MODIFIED	15-Jul-2020
VERSION	1

Figure 2

Filename: \\aumel1fp003.au.aecomnet.com\GIS\Projects\2019\Sweetpea_GIS\02_MXD\Land_Condition_Assessment\06\Figure3_Sth_Location&FieldCamp.mxd

A3 size



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Projection: GCS GDA 1994

2 1 0 2 km

1:100,000 (when printed at A3)

- Water Bores
- Well Lease Areas for Initial Phase bores
- Well Lease Areas for Subsequent Phase bores
- 1 km Bore Buffer
- Seismic Lines repurposed as Access Track for Pads 1&3
- Access Tracks for Pads 2,4,5,6,7
- Pastoral Track
- Seismic Lines - progressively rehabilitated
- Gas Pipeline Corridor
- Native Title Register
- Petroleum Exploration Permit
- Proposed Accomodation Camp Area
- Highway
- Roads

Data sources:
Imagery: Digital Globe
Permit, Cadastre, Places, Bores - NT Gov 2019.
Pastora Infrstructure - AECOM 2020

Sweetpea Petroleum Pty Ltd, Environmental Management Plan

Water Bore Location and Access Tracks, Tanumbirini Station

PROJECT ID	60611666
CREATED BY	prachi.kulkarni1
LAST MODIFIED	24-Sep-2020
VERSION	1

A3 size

Figure 3

Filename: \\aumel1fp003.au.aecomnet.com\GIS\Projects\2019\Sweetpea_GIS\02_MXD\EMP\Figure6_WaterBore&AccessTrack_L.mxd

1.4 Legislation

The activities outlined within the EMP, which this management sub-plan is a component of, aim to comply with relevant guidelines associated with exploration activities, such as *International Erosion Control Association (IECA) Best Practice for Erosion and Sediment Control (2008)*, *IECA Appendix P: Land Based Pipeline Construction December 2015* (Addendum to IECA 2008), the *Australian Pipeline Industry Association Code of Environmental Practice for Onshore Pipelines 2017* and the *Code of Practice for Onshore Petroleum Activities in the Northern Territory 2019*.

1.4.1 *Code of Practice for Onshore Petroleum Activities in the Northern Territory 2019*

The *Code of Practice for Petroleum Activities in the Northern Territory* is a mandatory code of practice for the petroleum industry to ensure that petroleum activities in the Northern Territory are managed according to minimum acceptable standards to ensure that risks to the environment can be managed to a level that is as low as reasonably practical (ALARP) and acceptable.

Under these regulations Sweetpea is required to submit an EMP prior to any petroleum exploration or production activity. The EMP for a petroleum activity must include a primary Erosion and Sediment Control Plan (ESCP) outlining all activities. This should be developed by a suitably qualified person in accordance with relevant guidelines including specific environmental outcomes and environmental performance standards to be included in the Implementation Strategy in the EMP. The ESCP must include:

- A risk assessment in relation to the potential impact to the environment from erosion and sedimentation associated with the proposed activities. Including an assessment of site-specific conditions and the nature and timing of works with the Land Clearing Guidelines as published on the DENR website and any amendments.
- Where the Primary ESCP requires it, a further ESCP (being the Secondary ESCP) must be developed by a suitably qualified person in relation to the relevant matters identified in the Primary ESCP and implemented by the interest holder.
- Road and pipeline designs must:
    - minimise erosion of exposed road surfaces and drains
    - ensure that roads and pipeline surface water flow paths minimise erosion of all exposed surfaces and drains
    - Comply with legislative requirements.
- The requirements of the Land Clearing Guidelines as published on the Department of Environment and Natural Resources (DENR) website and amended from time to time must be complied with in relation to protection of natural waterways as a result of land disturbance and ensure the following:
    - appropriate buffers are implemented around natural waterways
    - disturbance in the wet season is minimised
    - the number of crossing points is minimised
    - crossings are established as close as practicable to right angles to the waterway
    - material changes in the shape of the waterway are avoided
    - material changes in the volume, speed or direction of flow or likely flow of water in the waterway are avoided
    - alteration to the stability of the bed or banks of the waterway (including by removal of vegetation) is avoided
    - erosion risk, sedimentation and pollution of waterways is minimised through the appropriate design and implementation of best practice erosion and sediment control measures.

1.5 Objective

The Primary ESCP aims to:

- Address key soil and water management issues, including legislative and client requirements.
- Determine the “Type” of erosion and sediment control to be implemented during operations, post operations and until exploration activities are completed.
- Where practical identify, eliminate and reduce hazards and associated risks inherent in specific work activities, which if untreated could lead to a diminished product or create the potential for an accident, dangerous occurrence or environmental incident.

The objective of this Primary ESCP is to manage Sweetpea’s activities within the project area in a manner that minimises the impacts upon soil, vegetation and surface water which may result from soil disturbance activities including seismic line preparation, land clearing associated with water bore drilling activities and camp site establishment.

The Primary ESCP may be amended as required, in response to the monitoring and maintenance programs described herein to avoid significant and/or sustained deterioration in downstream water quality. Standard drawings are provided as a guide, with the responsible person making final determination on site with input from the Certified Professional in Erosion and Sediment Control (CPESC).

Due to the timing of the survey being scheduled close to the onset of the wet season, wet weather contingencies have been identified in this plan and the overarching EMP (BOM, 2012). It is anticipated that due to the known ground conditions across the region, ground conditions following rainfall events can make access impossible. The primary mitigation will be to monitor weather forecasts daily during the program and where rainfall is likely to result in an event that has potential to limit access, the subcontractor will stabilise the current work areas and go into standby mode until such time can assess the track conditions to recommence activities.

Further strategies shall be developed, implemented and reviewed on a regular basis, so that risks are identified, measured and recorded throughout the course of the project.

2.0 Schedule

Two timing scenarios are being considered for the commencement of the seismic surveys, either commencing in Quarter 4 (Q4) 2020 or 2021. The seismic surveys are estimated to take up to 65 days:

- Line preparation: 14 days, with contingency of 4 days
- Data recording: 35 days, with contingency of 10 days
- Line rehabilitation: progressively over 30 days, with contingency of 3 days.

The ground gravity survey proposed for the northern survey area will be undertaken both during and just after the seismic survey. Gravity measurements are proposed to be taken in a 2 km grid spacing within the northern survey area. In addition, several high-density (measurements every 200 m) gravity transects will be taken along seismic lines. The grid survey and transects are estimated to take 20-25 days.

In addition, two timing scenarios are also considered for the commencement of the initial phase of water bore installation, either commencing in Quarter 4 (Q4) 2020 or 2021. The initial phase is estimated to take up to 45 days, including contingency, to complete the installation of four bores at Pad 1 and Pad 3 (two bores at each pad).

The remaining water bores will be installed over the period 2021 – 2023 and will be subject to a separate, future EMP approval.

The program will have overlap of the line preparation, data recording and progressive rehabilitation activities. It is anticipated that as soon as one line is completed, the rehabilitation and/or track maintenance would commence on that line.

Upon completion of the seismic data recording and line rehabilitation, an ongoing monitoring program will be conducted to ensure successful remediation of the disturbance areas. It is anticipated that the ongoing monitoring program will be required over 5 years post activity. An indicative activity schedule for the program is provided in Figure 4, including additional days for wet weather contingency.

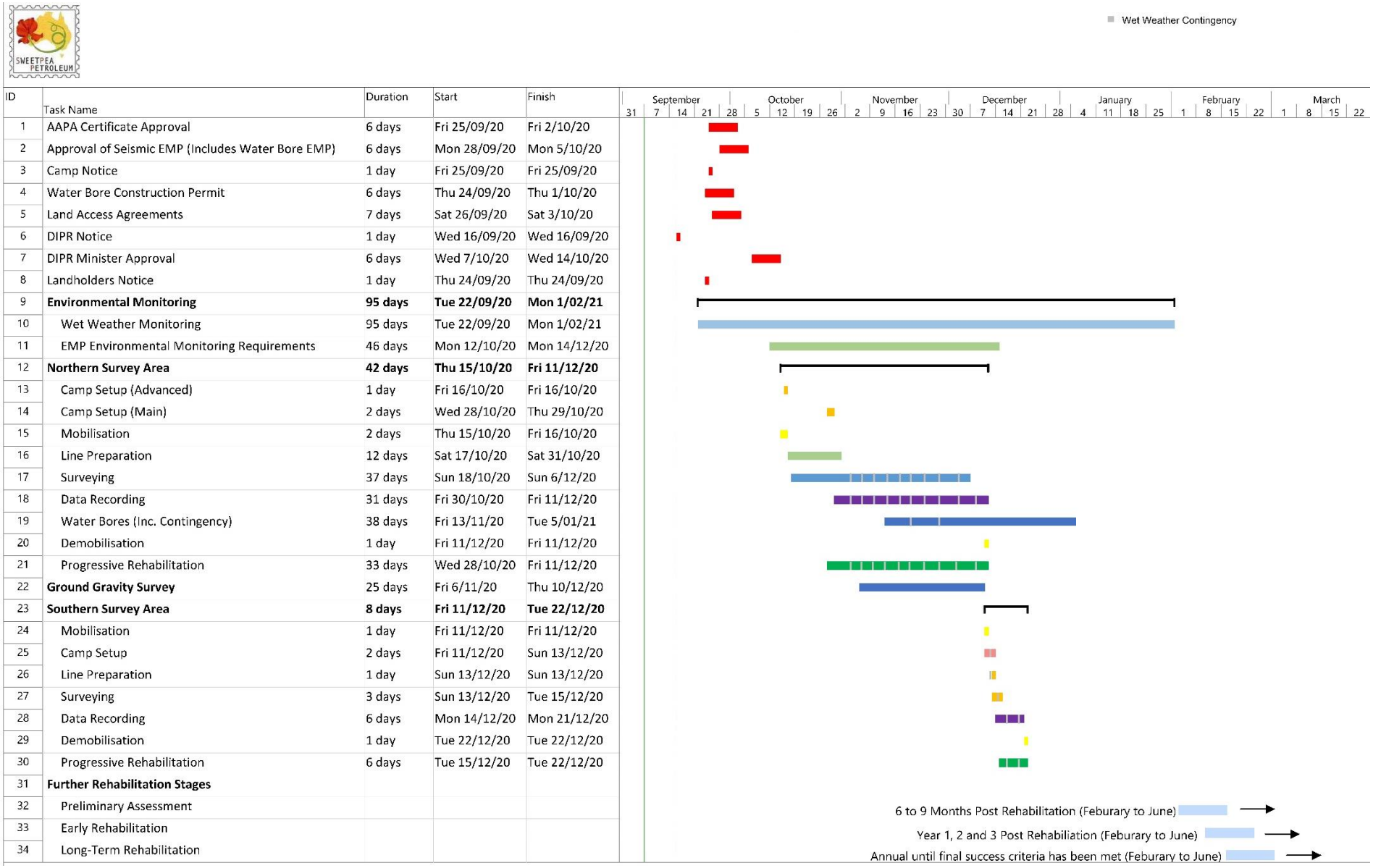
The program will have overlap of the line preparation, data recording and rehabilitation activities as detailed in the Scenario 1 Gantt chart on the following page (Figure 4). The alternative Scenario for 2021 is also provided in Figure 5.

An AAPA certificate will be in place prior to the seismic program commencing. The program will avoid all Sacred Sites and Restricted Work Areas (RWA) in accordance with the conditions detailed in the certificate.

Based on the current approval time frames, it is anticipated that the commencement of the exploration program will occur during the late dry season / early wet season during Quarter 4 2020. Should the wet weather in the permit area commence during the seismic program, the specific controls detailed in the wet season contingency plan will be implemented.

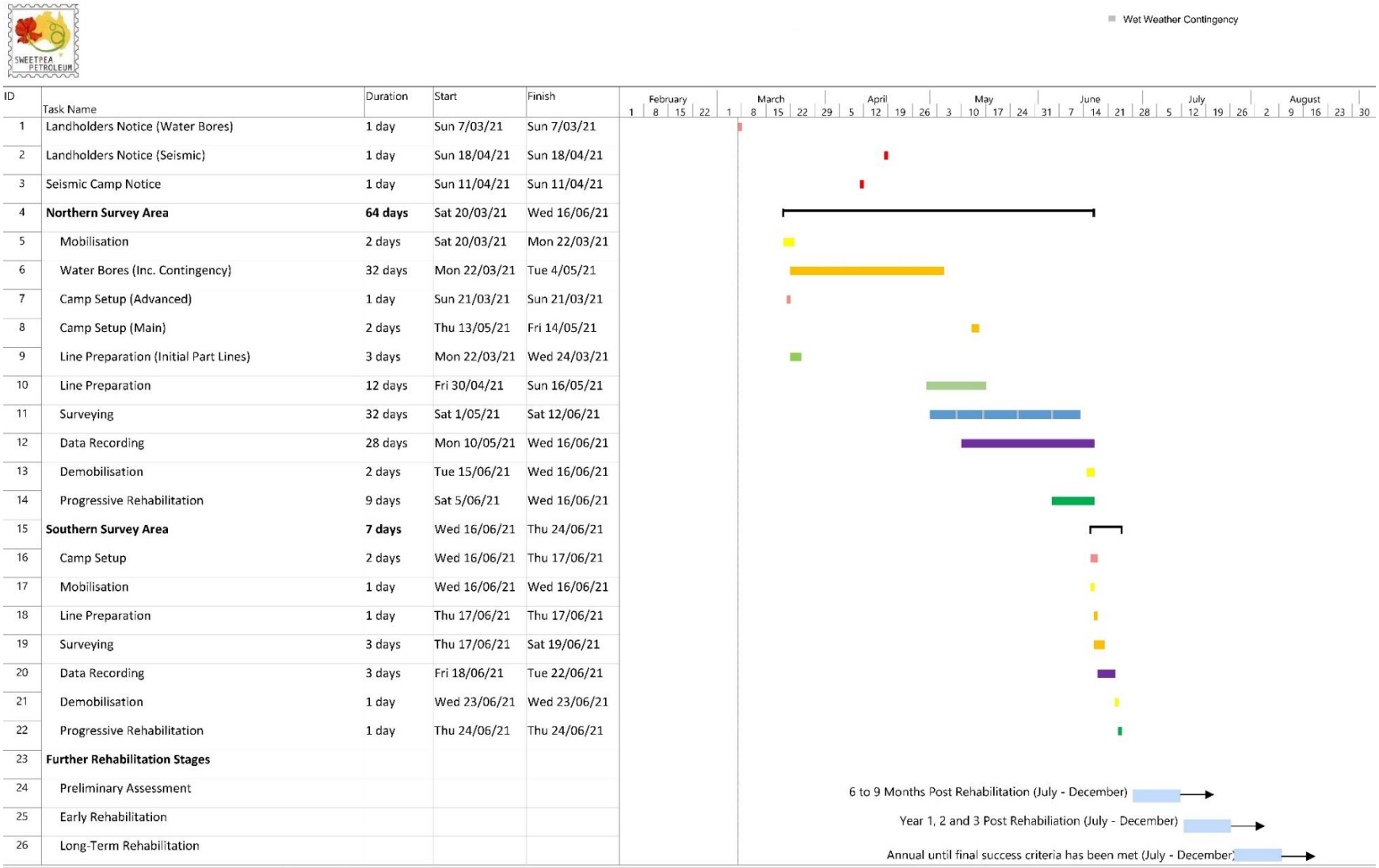
Wet season contingencies are proposed, as outlined in Section 5.2.1. An erosion hazard assessment has been completed (Section 3.2) and indicates site conditions do not reach trigger point levels for any of the Erosion Hazard Assessment criteria with the exception of waterway disturbance. The proposed disturbance of the waterways is not anticipated to provide long term impacts with the re-instatement of creek and drainage line crossings to original topography immediately after the activity. Past experience in the permit areas indicates that extended rainfall events that will limit access usually don't start until mid-December.

Where forecasts indicate rainfall is likely to result in an event that has potential to limit access to the work area, the seismic contractor will stabilise the current work areas and go into standby mode until such time they can assess the track condition after an event to recommence activities. If conditions do not allow the survey to resume in the current schedule, the decision will be made to either curtail the program or resume the survey in 2021 dry season.



ID	Task Name	Duration	Start	Finish
1	AAPA Certificate Approval	6 days	Fri 25/09/20	Fri 2/10/20
2	Approval of Seismic EMP (Includes Water Bore EMP)	6 days	Mon 28/09/20	Mon 5/10/20
3	Camp Notice	1 day	Fri 25/09/20	Fri 25/09/20
4	Water Bore Construction Permit	6 days	Thu 24/09/20	Thu 1/10/20
5	Land Access Agreements	7 days	Sat 26/09/20	Sat 3/10/20
6	DIPR Notice	1 day	Wed 16/09/20	Wed 16/09/20
7	DIPR Minister Approval	6 days	Wed 7/10/20	Wed 14/10/20
8	Landholders Notice	1 day	Thu 24/09/20	Thu 24/09/20
9	**Environmental Monitoring**	**95 days**	**Tue 22/09/20**	**Mon 1/02/21**
10	Wet Weather Monitoring	95 days	Tue 22/09/20	Mon 1/02/21
11	EMP Environmental Monitoring Requirements	46 days	Mon 12/10/20	Mon 14/12/20
12	**Northern Survey Area**	**42 days**	**Thu 15/10/20**	**Fri 11/12/20**
13	Camp Setup (Advanced)	1 day	Fri 16/10/20	Fri 16/10/20
14	Camp Setup (Main)	2 days	Wed 28/10/20	Thu 29/10/20
15	Mobilisation	2 days	Thu 15/10/20	Fri 16/10/20
16	Line Preparation	12 days	Sat 17/10/20	Sat 31/10/20
17	Surveying	37 days	Sun 18/10/20	Sun 6/12/20
18	Data Recording	31 days	Fri 30/10/20	Fri 11/12/20
19	Water Bores (Inc. Contingency)	38 days	Fri 13/11/20	Tue 5/01/21
20	Demobilisation	1 day	Fri 11/12/20	Fri 11/12/20
21	Progressive Rehabilitation	33 days	Wed 28/10/20	Fri 11/12/20
22	**Ground Gravity Survey**	25 days	Fri 6/11/20	Thu 10/12/20
23	**Southern Survey Area**	**8 days**	**Fri 11/12/20**	**Tue 22/12/20**
24	Mobilisation	1 day	Fri 11/12/20	Fri 11/12/20
25	Camp Setup	2 days	Fri 11/12/20	Sun 13/12/20
26	Line Preparation	1 day	Sun 13/12/20	Sun 13/12/20
27	Surveying	3 days	Sun 13/12/20	Tue 15/12/20
28	Data Recording	6 days	Mon 14/12/20	Mon 21/12/20
29	Demobilisation	1 day	Tue 22/12/20	Tue 22/12/20
30	Progressive Rehabilitation	6 days	Tue 15/12/20	Tue 22/12/20
31	**Further Rehabilitation Stages**			
32	Preliminary Assessment			
33	Early Rehabilitation			
34	Long-Term Rehabilitation			

Figure 4 Scenario 1 2020 Indicative Schedule



ID	Task Name	Duration	Start	Finish
1	Landholders Notice (Water Bores)	1 day	Sun 7/03/21	Sun 7/03/21
2	Landholders Notice (Seismic)	1 day	Sun 18/04/21	Sun 18/04/21
3	Seismic Camp Notice	1 day	Sun 11/04/21	Sun 11/04/21
4	**Northern Survey Area**	**64 days**	Sat 20/03/21	Wed 16/06/21
5	Mobilisation	2 days	Sat 20/03/21	Mon 22/03/21
6	Water Bores (Inc. Contingency)	32 days	Mon 22/03/21	Tue 4/05/21
7	Camp Setup (Advanced)	1 day	Sun 21/03/21	Sun 21/03/21
8	Camp Setup (Main)	2 days	Thu 13/05/21	Fri 14/05/21
9	Line Preparation (Initial Part Lines)	3 days	Mon 22/03/21	Wed 24/03/21
10	Line Preparation	12 days	Fri 30/04/21	Sun 16/05/21
11	Surveying	32 days	Sat 1/05/21	Sat 12/06/21
12	Data Recording	28 days	Mon 10/05/21	Wed 16/06/21
13	Demobilisation	2 days	Tue 15/06/21	Wed 16/06/21
14	Progressive Rehabilitation	9 days	Sat 5/06/21	Wed 16/06/21
15	**Southern Survey Area**	**7 days**	Wed 16/06/21	Thu 24/06/21
16	Camp Setup	2 days	Wed 16/06/21	Thu 17/06/21
17	Mobilisation	1 day	Wed 16/06/21	Wed 16/06/21
18	Line Preparation	1 day	Thu 17/06/21	Thu 17/06/21
19	Surveying	3 days	Thu 17/06/21	Sat 19/06/21
20	Data Recording	3 days	Fri 18/06/21	Tue 22/06/21
21	Demobilisation	1 day	Wed 23/06/21	Wed 23/06/21
22	Progressive Rehabilitation	1 day	Thu 24/06/21	Thu 24/06/21
23	**Further Rehabilitation Stages**			
24	Preliminary Assessment			
25	Early Rehabilitation			
26	Long-Term Rehabilitation			

Figure 5 Scenario 2 2021 Indicative Schedule

3.0 Permit Area Erosion Susceptibility

3.1 Project Area Risk Rating/Matrix

Erosion susceptibility varies throughout the Sweetpea project area, dependent upon the soil types, slope and extent of ground disturbance. Apart from the erosive impact of climatic conditions, soil erosion is influenced mainly by the inherent properties of the soils and the processes which occurred during the formation of the landscapes.

Erosion will occur in the permit area if the land is used beyond its capacity, as is seen if land is overstocked or vehicle movements not controlled, for example. The locations of the proposed exploration areas for the 2020 program have been examined in the field to determine the risk of erosion occurring from Sweetpea activities.

Factors considered include the following:

- Season – The timing of the project works will be Quarter 4 2020, prior to the onset of the wet season (BOM, 2020). Due to the timing of the survey close to the onset of the wet season additional mitigation will be required for wet season contingency. Based on the average rainfall the timing of the survey will occur during very low risk factor periods, increasing to high risk factor in November in the northern permit area and very low risk factor to moderate risk factor in the southern permit area. See Table 3 and Table 4 for risk levels of rainfall within project region.

Table 3 Erosion Risk Rating based on average monthly rainfall at Daly Waters

Item	Jan	Feb	Mar	Apr	May	June	Jul	Aug	Sep	Oct	Nov	Dec
Rainfall (mm)	165.4	165.4	120.1	23.6	5.0	5.6	1.5	1.7	4.9	22.5	59.4	110.0
Erosion Risk*	H	H	H	VL	VL	VL	VL	VL	VL	VL	M	H

** E = Extreme (>225 mm); H = High (100+ to 225 mm); M = Moderate (45+ to 100 mm); L = Low (30+ to 45 mm); VL = Very Low (0 to 30 mm)*

Table 4 Erosion Risk Rating based on average monthly rainfall at Newcastle Waters

Item	Jan	Feb	Mar	Apr	May	June	Jul	Aug	Sep	Oct	Nov	Dec
Rainfall (mm)	125.5	130.9	93.7	24.6	9.3	5.3	3.4	1.0	5.4	20.9	35.7	77.3
Erosion Risk*	H	H	M	L	VL	VL	VL	VL	VL	VL	L	M

** E = Extreme (>225 mm); H = High (100+ to 225 mm); M = Moderate (45+ to 100 mm); L = Low (30+ to 45 mm); VL = Very Low (0 to 30 mm)*

- Soil type – Soils with higher clay content are prone to generation of bulldust and are easily eroded by wind and water. Gravelly soils tend to be more robust to disturbance on the scale expected for Sweetpea exploration activities. The primary soil type encountered during the baseline investigations for the 2020 project area can be described as silty SAND, SM with some gravel. These soils are considered to have a low to medium erodibility potential when the soils are disturbed.
- Slope – The slope of the site is one of the characteristics that will help to determine the risk of erosion during rainfall events, with steeply inclined areas a higher risk than small undulations in the landform. The Sweetpea project area is not considered to be at risk from erosion regarding slope, there is slight undulation that occurs throughout the region, generally being less than 2% gradient, however, some isolated areas in excess of 2% do exist and a rating has been applied for this.

  Treatments are defined for sections less than 2% and greater than 2%. The relevant treatment will need to be selected on a case by case basis on site.
- Groundcover – Minimal clearing will be conducted. The line preparation method that will be used will consist of a dozer and grader, ensuring that topsoil and root stock is retained.

- Creek and drainage line crossings – 20 of the 41 waterway crossings are existing tracks that have been created by the pastoralists and are trafficable without modification. The balance of the crossings, while new, are trafficable without modifications to the profile of the creeks. The only disturbance will be wheel ruts from vehicles moving through the crossing (refer Appendix J1). Following completion of the activity of each line the waterways (the creek and drainage lines) will be reinstated to the original profile at completion.

3.2 Erosion Hazard Assessment for Permit Area (EP136)

An Erosion Hazard Assessment for the EP136 lease exploration area, Carpentaria Highway turn in, proposed camp area and water bore lease pads and access tracks to the pads has been conducted to inform the specific issues and actions that will be required for conducting activities within the permit area. Table 5 presents the results of the assessment. The IECA (2008) Explanatory Notes were used for the assessment (Appendix J2).

Table 5 Erosion Hazard Assessment for EP136.

Condition (as described by IECA, 2008)	Points	Score EP136		Trigger value
		Seismic Survey	Water Bore*	
AVERAGE SLOPE OF DISTURBANCE AREA [1]				
• not more than 3% [3% = 33H:1V]	0	**1**	**1**	4
• more than 3% but not more than 5% [5% = 20H:1V]	1	**Comment** - Topographical data of lease areas indicated (low relief) with a slope <1-2%. Isolated areas increase to 3% to 5%. Value of 1 adopted as worse as scenario.		
• more than 5% but not more than 10% [10% = 10H:1V]	2			
• more than 10% but not more than 15% [15% = 6.7H:1V]	4			
• more than 15%	6			
SOIL CLASSIFICATION GROUP (AS1726) [2]				
• GW, GP, GM, GC	0	**2**	**2**	-
• SW, SP, OL, OH	1	**Comment** – Initial soil testing during the baseline survey indicated SM - Silty sands, poorly graded sand-silt mixtures (refer EMP).		
• SM, SC, MH, CH	2			
• ML, CL, or if imported fill is used, or if soils are untested	3			
EMERSON (DISPERSION) CLASS NUMBER [3]				
• Class 4, 6, 7, or 8	0	**4**	**4**	6
• Class 5	2	**Comment** – Class 3 – Specific testing for Emerson Class not conducted. Therefore, default value used.		
• Class 3, (default value if soils are untested)	4			
• Class 1 or 2	6			
DURATION OF SOIL DISTURBANCE [4]				
• not more than 1 month	0	**2**	**2**	6
• more than 1 month but not more than 4 months	2	**Comment** – Line preparation to rehabilitation will be less than 1-month duration, however worst-case allowance used.	**Comment** – Water bore lease pad and access tracks will be formed within 1-month of disturbance and appropriate ESC measures in place.	
• more than 4 months but not more than 6 months	4			
• more than 6 months	6			

Condition (as described by IECA, 2008)	Points	Score EP136		Trigger value
		Seismic Survey	Water Bore*	
AREA OF DISTURBANCE [5]				
• not more than 1000 m^2	0	**1**	**4**	6
• more than 1,000 m^2 but not more than 5,000 m^2	1	**Comment –** Due to the tread lightly approach of the line preparation using existing tracks and minimising tree and shrub clearing and the re-instatement of topsoil and vegetation immediately after acquisition, results in no more than 5,000 m^2 assessed at any one time.	**Comment** – Each water bore lease pad will be less than 2,500 m^2. The access track to Pad 1 and Pad 3 will require linear disturbance no more than 1.25 ha for each line.	
• more than 5,000 m^2 but not more than 1 ha	2			
• more than 1 ha but not more than 4 ha	4			
• more than 4 ha	6			
WATERWAY DISTURBANCE [6]				
• No disturbance to a watercourse, open drain or channel	0	**2**	**0**	2
• Involves disturbance to a constructed open drain or channel	1	**Comment –** Activities require crossing of creeks and drainage lines. Refer to Appendix J1. Not considered to be major works and will be re-instated as completion of acquisition	**Comment** – Water bore lease pads and access to lease pads avoids water crossings.	
• Involves disturbance to a natural watercourse	2			
REHABILITATION METHOD [7] Percentage of area (relative to total disturbance) revegetated by seeding without light mulching (i.e. worst-case revegetation method).				
• not more than 1%	1	**1**	**4**	-
• more than 1% but not more than 5%	2	**Comment –** Topsoil and vegetated material to be replaced over disturbance immediately post activity for natural regeneration (refer EMP and Appendix F).	**Comment –** Lease pad and access tracks to be stabilised post development to provide adequate degree of protection.	
• more than 5% but not more than 10%	3			
• more than 10%	4			
RECEIVING WATERS [8]				
• Saline waters only	0	**2**	**2**	-
• Freshwater body (e.g. creek or freshwater lake or river)	2	**Comment –** no new disturbances within major flow pathway of Newcastle Creek and the small intermittent streams (refer Appendix J1).	**Comment –** no new disturbances within major flow pathways (refer Appendix J1).	

Condition (as described by IECA, 2008)	Points	Score EP136		Trigger value
		Seismic Survey	Water Bore*	
SUBSOIL EXPOSURE [9]				
• No subsoil exposure except of service trenches	0	**0**	**0**	-
• Subsoils are likely to be exposed	2			
EXTERNAL CATCHMENTS [10]				
• No external catchment	0	**0**	**1**	-
• External catchment diverted around the soil disturbance	1	**Comment –** Not considered applicable based on the activities being completed are temporary seismic lines.	**Comment –** External catchment diverted around soil disturbance (Appendix J5).	
• External catchment not diverted around the soil disturbance	2			
ROAD CONSTRUCTION [11]				
• No road construction	0	**0**	**2**	-
• Involves road construction works	2	**Comment –** only temporary seismic lines required. No construction of new tracks is necessary. Existing pastoral tracks to be treated post activity.	**Comment –** Pad 1 (2.43 km) and Pad 3 (2.28 km) linear tracks will require construction to access water bore lease pad for monitoring (Appendix J6).	
pH OF SOILS TO BE REVEGETATED [12]				
• more than pH 5.5 but less than pH 8	0	**1**	**1**	-
• other pH values, or if soils are untested	1	**Comment –** Majority soils recorded within Soil pH range 5.5-8 across exploration area. Some areas recorded outside range but considered minimal risk to seismic program and water bore drilling activities.		
Total Score [13]		**16**	**23**	

For guidance purposes only: [13] A primary ESCP must be submitted to the local government for approval during the planning phase for any development that obtains a total point score of 17 or greater or when any trigger value is scored or exceeded.

** Water bore calculations only for Pad 1 and Pad 3 and the 2.5 km access track required to maintain access for q4 2020 only. Future water bore activities at remaining pads will be calculated at the time of development.*

3.3 Erosion Risk and Determination of ESC

Table 5 demonstrates that site conditions do not reach trigger point levels for any of the Erosion Hazard Assessment criteria with the exception of waterway disturbance for the seismic line preparation. The proposed disturbance of the waterways is expected to be minimal as physical works to disturb the banks and creek beds will not be undertaken. Any disturbance (e.g. wheel tracks) will be re-instated to original topography within five (5) days of completion of the measurement activities. Additionally, all the proposed site activities for the exploration program are proposed to be completed during Quarter 4 2020 or 2021, with wet weather contingencies to be implemented if rainfall events occur during the program.

The erosion risk rating based on rainfall shows that rainfall related constraints are not likely until November, when the erosion risk rating for rainfall is low to moderate (refer to Table 3 and Table 4). Past experience in the permit area also shows that extended rainfall events that will limit access onto the ground usually don't start until mid-December.

The final implementation of the ESC controls will be dependent on decisions made in the field by the Seismic contractor and site conditions at the time of the survey, however ESC treatments that are to be implemented are detailed in Appendix J3.

For the water bore activities, if the water bores are installed **after** the seismic lines have been prepared, access to the water bore pads will use existing pastoral tracks and 2.43 km of seismic line 8 and 2.28 km of seismic line 9 will be **retained** and formed as a class 5 pastoral 1 (type c) unsealed track in accordance with NTG standard drawing CS3003 *Typical of cross sections for urban and rural environments* (2017) (refer Figure 3 and Appendix J6).

Should the installation of water bores occur **before** the seismic lines have been prepared, access to the water bore pads will still use existing pastoral tracks and 2.43 km of seismic line 8 and 2.28 km of seismic line 9 will be **prepared** and formed as a class 5 pastoral 1 (type c) unsealed track in accordance with NTG standard drawing CS3003 *Typical of cross sections for urban and rural environments* (2017) (refer Figure 3 and Appendix J6).

It is noted that no creek or drainage lines are required to be constructed for access to Pad 1 and Pad 3. The only crossing is on the existing pastoral access track which is already constructed.

Specific ESC for each of the water bore lease pads are detailed in Appendix J5. The fundamental requirement for water bore lease pads is to:

- Diverting flow (as shown in Appendix J5) around the water bore lease pad
- Minimising disturbance (single controlled access point, limit bore hole disturbance areas, position bore holes to suit site specific constraints/opportunities (i.e. move the lease pad to avoid large habitat tree, rather than clear the tree).

3.3.1 Modifying the ESC measures

It is possible that some ESC measures will require modification as the project is constructed and in response to the performance of ESC measures or changes in project circumstances. The modifications may be considered minor, moderate or significant. Moderate and minor changes will occur, and it is expected that significant modifications will be the exception. If significant erosion events occur, significant changes to the measures used will be required and should be approved by a CPESC or suitably qualified consulting engineer.

To accommodate the range of circumstances likely to occur, a change management decision matrix is presented in Table 6.

Table 6 Change management decision matrix

Authority required	Minor	Moderate		Significant
	Maintenance of all measures	Removal or relocation of minor temporary controls	Permanent measure relocation	Permanent measure removal / revisions to ESCP
Site Supervisor	✓	✗	✗	✗
Responsible Person	-	✓	✗	✗
CPESC	-	-	✓	✓
Consulting Engineer	-	-	✓	✓

✓ Authorised to undertake, ✗ Not authorised to undertake, - Denotes that authority level is not required.

If ESC measures are observed to be ineffective (*e.g.* obvious sediment deposition has occurred, or is occurring in waterway), the source of the sediment must be identified, and effective ESC measures implemented.

4.0 Erosion and Sediment Controls

4.1 Erosion and Sediment Control Measures

Table 7 Measures to be implemented for Sediment and Erosion Control

<table>
<tr><th>Activity</th><th>Management Controls</th></tr>
<tr><td>Vegetation clearing</td><td>

Undertake selective clearing (only clearing areas that are necessary for surveying lines and only where an alternative route is unavoidable), using lighter machinery such as graders or smaller bulldozers, taking care not to overwork tracks. Overworking the site can lead to the loss of topsoil, compaction, formation of windrows and wheel rutting. Refer to the first dot point in the Seismic Line Preparation and access track and camp establishment/maintenance section below.
Ground surface to be stabilised before the onset of the wet season (November to March).
Undertake clearing for each stage in small units over time, keeping the disturbed areas small and exposure time short, in conjunction with progressive re-vegetation (assisted natural regeneration using available topsoil and removed vegetation).
Take all reasonable and practicable measures to minimise the removal of, or disturbance to, trees, shrubs and ground covers (organic or inorganic) that are to be retained for both seismic survey and water bore drilling activities.
All vegetation clearing must be in accordance with the Federal, Territory and local government vegetation clearing requirements and IECA Table 4.4.7 Best practice land clearing and rehabilitation requirements (refer Appendix J4) and this ESCP.
Best practice erosion control measures will be implemented in accordance with the ESCP following earthworks and site stabilised prior to anticipated rainfall. Disturbed areas will be stabilised in accordance with the Rehabilitation Plan. Reference should be made to Appendix F of the EMP for EP136 Rehabilitation Plan 2020/21.

</td></tr>
<tr><td>Creek and Drainage Line Crossings</td><td>
A total of 41 ephemeral creeks and drainage lines (also referred to as intermittent streams) will be crossed in the northern exploration area. Of these crossings, 20 occur on existing pastoral access tracks and those crossing shall be used for this program. The remaining 21 (on Tanumbirini Station) will be new crossings. No works are to be undertaken to disturb either the creek bank or bed. A total of five ephemeral creeks and drainages lines will be crossed along the southern exploration area. All creek crossings are proposed along existing fence lines, tracks and roadways or require minimal disturbance to acquire seismic data.

Minimise disturbance in the riparian buffers in accordance with the stream order of the encountered drainage line in accordance with the buffers provided below:

<table>
<tr><th>Riparian class</th><th>Stream order</th><th>Minimum buffer width</th><th>Measured from</th></tr>
<tr><td>Drainage depression</td><td>Not applicable</td><td>25</td><td>The outer edge of the drainage depression, which is the extent of the associated poorly drained soils and associated vegetation</td></tr>
</table>
</td></tr>
</table>

<table>
<tr><th>Activity</th><th>Management Controls</th></tr>
<tr><td></td><td>
<table>
<tr><td>Intermittent streams</td><td>First</td><td>25</td><td>The outer edge of the riparian vegetation or levee (whichever is greater). If braided channels are present, the edge of the outer most stream channel</td></tr>
<tr><td>Intermittent streams</td><td>Second</td><td>50</td><td>As above</td></tr>
<tr><td>Creeks</td><td>Third and fourth</td><td>100</td><td>As above</td></tr>
<tr><td>Rivers</td><td>Fifth or higher</td><td>250</td><td>As above</td></tr>
</table>

No additional material will be used for the seismic acquisition to cross over the creek crossing. Existing crossings will not be altered.
The activities shall be completed in a manner that does not cause a:

material change to the shape of a waterway,
material change to the volume, speed or direction of flow or likely flow of water in or into a waterway, or
alteration to the stability of the bed or banks of a waterway, including by removal of vegetation.

Ongoing monitoring of creek and drainage crossing condition prior to, during and at completion of rehabilitation.
Reinstate the original topography of the creek or drainage bed following seismic acquisition.
Only one creek crossing is required to access Pad 3 on the existing pastoral lease track. No other creeks or drainage lines require disturbance as result of the water bore drilling activity.

</td></tr>
<tr><td>Seismic Line Preparation, Camp establishment/maintenance and water bore pad and tracks.</td><td>

The seismic line disturbance area assessment has indicated 73% of the northern survey area and 95% of the southern survey area occur within bare earth, dry grass and grass lands. The estimated area of the permit which will require a level of tree and shrub disturbance is 27% of the northern survey area, primarily within Tanumbirini Station and only 5% disturbance in the southern survey area. The method for line preparation described in the EMP is to use existing pastoral station tracks wherever practicable, or minimise the complete removal of the vegetation, with vehicles to traverse over or around the vegetation instead, leaving as much intact as possible. Assessment of the survey area indicates that in the order of 90 to 95% of the undisturbed areas will be traversed as a blade up exercise.
Minimising vegetation and soil disturbance is the default position for the seismic and water bore drilling program. Wherever possible vegetation and soil shall not be disturbed when establishing survey lines (i.e. blade up) or water bore pads. If disturbance is required, establishment of survey lines or lease pads that could form a runoff channel are to be avoided.
Exploration vehicles that enter and exit the site will be constrained in such a manner to prevent dropping or tracking material on the Highway in accordance with the Road Agency Approval.
Monitor Carpentaria Highway during operation. Where tracked material on the road pavement becomes a potential safety issue, Sweetpea and its contractors will sweep and clean material off the road. If Carpentaria Highway Turn-in results in dust, dirt creating hazard to road users, additional ESC will be considered including installation of shaker grid or rock pad.

</td></tr>
</table>

Activity	Management Controls
	• Place scrub and vegetation cleared from the route adjacent to the route where practical to facilitate its return to the disturbed area. Where this occurs, spread the material out rather than form windrows. Allow disturbed areas to be stabilised and natural regeneration of the native grasses to occur. • The actual location of each water bore pad may vary within ~100 m to accommodate localised on-ground factors when the bore pads are being constructed. Access to the water bores requires 2.43 km of seismic line 8 and 2.28 km of seismic line 9 to be retained and formed as a class 5 pastoral 1 (type c) unsealed track in accordance with NTG standard drawing CS3003 *Typical of cross sections for urban and rural environments* (2017) (refer to Appendix J6). • Water bore pad establishment is to be in accordance with best practice erosion control measures as detailed in Appendix J5 and J6.
Site management	• All plant and equipment brought to site is to be certified a “free” of weeds, soil pathogens and pests. • All disturbed areas identified as very low, low, medium or high erosion risk must be suitably stabilised prior to anticipated rainfall, from the day that soil disturbances on the area have been finalised - IECA Table 4.4.7 in Appendix J4. • Tracks to be regularly inspected for early signs of compaction, erosion and soil degradation (generation of bulldust). Ongoing maintenance and repair work should be implemented as required on tracks. • Monitor road conditions to ensure deterioration does not occur. Assist in the maintenance and repair work on roads and tracks used. • No off-lease or off-road driving. • Land-disturbing activities must: - allow stormwater to pass through the site in a controlled manner and at non-erosive flow velocities. Where this cannot be achieved, reference should be made to installing controls as detailed in the following section. - minimise soil erosion resulting from rain, water flow and/or wind. - minimise adverse effects of sediment runoff, including safety issues. - prevent, or at least minimise, environmental harm resulting from work-related soil erosion and sediment runoff. - ensure that the value and use of land/properties adjacent to the site (including access roads) are not diminished as a result of the adopted ESC measures. • Additional and/or alternative ESC measures must be implemented in the event that unacceptable off-site sedimentation is occurring as a result of the work activities. • Sediment deposited off the site as a direct result of an on-site activity, must be collected and the area appropriately rehabilitated as soon as reasonable and practicable, and in a manner that gives appropriate consideration to the safety and environmental risks associated with the sediment deposition.

Activity	Management Controls
Wet weather contingency	• 7-day forecast from the Bureau of Meteorology (BOM) to be monitored and the seismic exploration activities planned around the forecasts. • Where forecasts indicate rainfall is likely to result in an event that has potential to limit access to the work area, the seismic contractor will stabilise the current work areas and go into standby mode until such time they can assess the track condition after an event to recommence activities. • Emergency response - a post-rainfall/flood damage reconnaissance and assessment will be undertaken as soon as area becomes accessible. Any damage observed would be repaired as soon as practicable after the event.
Site rehabilitation	• Within 5 days of the activities being completed on any part of the site, disturbed areas are to be restored and/or rehabilitated. Reference should be made to Appendix F of the EMP for EP136 Rehabilitation Plan 2020/21. • All compacted areas will be ripped and scarified to promote regeneration of vegetation. • All disturbed areas will be allowed to naturally regenerate or be revegetated on completion of use. • At completion of activities, establish vegetation to the standard of that registered in the pre-assessment, or better. • All disturbed areas identified as very low, low, medium or high erosion risk must be suitably stabilised prior to anticipated rainfall, from the day that soil disturbances on the area have been finalized as per the requirements of IECA Table 4.4.7 (appendix J4). • Stabilise disturbed areas quickly to reduce the potential for erosion. • Previously removed vegetation and topsoil will be uniformly re-spread over disturbed area to assist with rehabilitation process through agencies of increased infiltration and return of seed-bearing topsoil. If required, additional native seed mix from the area could be respread to speed up rehabilitation process. This will be confirmed during rehabilitation monitoring activities. • Windrows to be removed as soon as practicable. • The type of ground cover applied to completed earthworks is compatible with the anticipated long-term land use, environmental risk, and site rehabilitation measures. • At completion of the water bore pad and access tracks use, the disturbed areas are to be restored and/or rehabilitated to original pre-disturbed condition consistent with surrounding landuse.

4.1.1 ESC Treatment Options for Specific Situations

Appendix J3 contains typical erosion and sediment control measures that are to be applied throughout the project when required. Treatments are identified for specific situations and should be applied appropriately. Five different seismic line treatments are identified below.

- Blade up areas where only wheel tracks will develop – no treatments required.
- Surface bladed by grader to smooth out ground surface to allow vehicle movements. No tree removal. Topsoil will be bladed off by grader and windrowed for later respreading at completion of data recording, to preserve the soil structure. Whoa boys or roll over banks to be provided as per details in Appendix J3.
    - At the conclusion of activities, or as part of progressive rehabilitation, or the anticipated onset of a significant rainfall event which will require the site to be abandoned, topsoil would be respread and ripped into the soil surface.
    - Works on grade (>2%)– Surface bladed by grader to smooth out ground surface to allow vehicle movements. No tree removal. Topsoil will be bladed off by grader and windrowed for later respreading at completion of data recording, to preserve the soil structure. Whoa boys or roll over banks to be provided as per details in Appendix J3.
    - At the conclusion of activities, or as part of progressive rehabilitation, or the anticipated onset of a significant rainfall event which will require the site to be abandoned, topsoil would be respread and ripped into the soil surface.
- Wooded communities e.g. Lancewood/Bullwaddy – For the majority of the program wherever practical, activities should be planned to avoid impacts to Lancewood and Bullwaddy vegetation communities. Where this is not possible, the vegetation community would require measures as follows:
    - A survey line of 5 m maximum should be cleared by the dozer removing the trees. Felled trees should be pushed to the side to enable vehicle access through the site.
    - Following clearing the topsoil bladed off by grader and windrowed for later respreading with the vegetated material at completion of data recording.
    - The line preparation will require blading to a sufficient depth, no greater than 150 mm, to enable the safe access of the vehicles. The purpose of the blading is to reduce the risk of tyre puncture from the Lancewood which is known to snap off at ground level leaving a spike protruding.
    - Whoa boys or roll over banks to be provided as per detail in Appendix J3.
    - At the conclusion of activities, or as part of progressive rehabilitation, or the anticipated onset of a significant rainfall event which will require the site to be abandoned, topsoil would be respread at a thickness of 150 mm and ripped into the soil surface.
    - Felled vegetation will be evenly spread over the top soiled area to provide additional protection against erosion.
- Seasonally inundated areas - Similar to the wooded communities described above, high clay content soils (vertosols) are also found in seasonally inundated areas and in the southern survey area. Unlike the wooded areas these clays continue at depth, making the scraping back of topsoil less effective in keeping bulldust down and preserving soil structure. The recommendation in these locations is that line preparation would consist primarily of the vehicles traversing directly of the annual grasses, flattening or slashing for data acquisition i.e. blade up.

5.0 Monitoring

5.1 General

Monitoring for soil erosion and related issues will be undertaken at critical stages, such as:

- During the Baseline land condition assessment.
- During seismic line preparation and acquisition when there is the greatest opportunity to avoid erosion problems.
- During water bore drilling and access track development when there is greatest opportunity to avoid erosion problems.
- At completion of rehabilitation works.
- If permit accessible, after the first rainfall event.
- Pre- and post-wet season inspections following completion of activities.

When accessing the site after the wet season, all disturbed areas should be inspected for signs of erosion. If significant impacts are identified remediation works may need to be conducted.

5.2 Operations

Visual inspections will be undertaken throughout the survey activities to assess the impact risk level of the regulated activities being undertaken and the likelihood of erosion occurring. A review of mitigation measures that are implemented throughout the project phase will be conducted regularly to assess the efficacy and that the standard is maintained.

Inspections of all disturbed areas is required before and after the wet season to identify the occurrence of erosion and sedimentation. Where erosion is observed, maintenance activities shall be undertaken. Monitoring will occur throughout the rehabilitation period to ensure that sediment and erosion mitigation measures have been effective, with special consideration during the wet season when erosion impacts will have a higher effect.

5.2.1 Wet Weather Contingency

The monitoring requirements for undertaking seismic exploration activities from 7 days prior to establishment on site which is planned for the fourth quarter of 2020 and will include the following:

- Monitoring of the 7-day forecast to determine the seismic works program around the forecasts.
- The positioning of monsoonal troughs in Northern Australia to be monitored and tracked.
- Potential high rainfall incidents such as tropical lows, cyclones will be monitored and tracked using BOM information.
- Daily inspections of all disturbance areas during activities.

A log of information monitored will be kept for duration of seismic exploration activities.

In addition, the following monitoring is required:

- Routine visual inspections of the creek and drainage line crossings and the wastewater containment system at the camp weekly or following a rainfall event (i.e. greater than 20 mm in a 24-hour period). Any damage observed would be repaired as soon as practicable after the event.
- Routine monitoring of access track, seismic lines and camp site conditions.

Where a 7-day forecast identifies the high potential for rainfall over the lease area, the contractor shall undertake all necessary actions to ensure site rehabilitation and protections are in place. Refer Section 4.1.1 for proposed treatments.

5.3 Rehabilitation

Rehabilitation will be undertaken along all newly cleared survey lines concurrently with the completion of the survey process. Reference should be made to Appendix F of the EMP for the EP136 Rehabilitation Plan 2020/21. Rehabilitation of all areas must be undertaken in accordance with the methodologies described in the Rehabilitation Plan and treatments in section 4.1 and Appendix J3 of this document.

Rehabilitation monitoring will be undertaken before and after the initial wet season and then annually for 5 years to assess the rehabilitation success and determine whether additional remedial works are required. Success criteria are defined in the relevant EMP and include:

- safe for humans and wildlife
- non-polluting
- stable, with appropriate vegetation cover
- waterways are not materially changed.
- land condition suitable for existing pastoral land use.

5.4 Incident Reporting

The seismic contractor must follow incident reporting requirements covered in the Sweetpea Incident Management Procedure and detailed in *Section 8.2* of the Seismic EMP.

5.5 Records

Records shall be retained demonstrating area have been inspected. Georeferenced photographic records will be maintained over the duration of the activities for documenting soil disturbance.

All environmentally relevant incidents are to be recorded in a field log that must remain accessible to all relevant regulatory authorities.

Minimum records to be retained for each site include:

Location of disturbance	Area of disturbance	Date	Close out

5.6 ESCP Revisions (refer to change management table)

Changes to ESCP over the delivery of the seismic survey and water bore drilling and access track activities may occur as a result of the following:

- identification of opportunities for improvement
- following recommendations from site audits/inspections
- changes to operations or activities within the permit areas
- changes to legislation.

Implementation of the ESCP will be continually monitored and the ESCP reviewed with regards to monitoring and audit results, complaints, employee and stakeholder feedback and change to the program, as per *Section 8.7* of the EMP. A formal management review will be undertaken annually on all Sweetpea's Environmental documentation.

Should changes to the risk/impact due to the audit and reviews, then an assessment must be undertaken to re-evaluate risk and impact.

- If no change in risk or impact occurs, then no revision to the plan is required and only notice is to be given to the Minister.
- If there is a change in risk or impact or a new risk or impact occurs due to activity change that is not covered in the ESCP, then a new revised plan must be submitted to the minister within 30 days for re-approval.

Should the exploration activities progress into the Wet Season, the wet weather contingency plan will be implemented.

5.7 Maintenance

All temporary erosion and sediment control measures, including drainage control measures, must be fully operational and maintained in proper working order at all times during the project.

When undertaking activities in the permit, erosion and sediment control measures must be inspected:

- at least daily (when work is occurring on-site)
- within 24 hours of expected rainfall
- within 18 hours of a rainfall event of sufficient intensity and duration to cause runoff on-site or greater than 20mm in 24 hours.

Once operational, inspections of the survey lines will continue daily while onsite, and before and after the wet season. Where erosion is observed, maintenance activities shall be undertaken.

Prior to the completion of activities on the ground, the activity areas will be stabilised to the satisfaction of the seismic supervisor and Sweetpea.

References

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Appendix J1

Creek Crossing Assessment

Appendix J1 Creek Crossing Assessment

The following provides the assessment of the creeks and drainage lines that will be accessed as part of the Seismic Exploration Program.

A total of 41 ephemeral creeks and drainage lines (also referred to as intermittent streams) will be crossed in the northern exploration area. Of these crossings, 20 occur on existing pastoral access tracks while the remaining 21 (on Tanumbirini Station) will be new disturbances. A total of five ephemeral creeks and drainages lines will be crossed along the southern exploration area. All creek crossings are proposed along existing fence lines, tracks and roadways. The location of creek crossings are shown in Figure 6 for the northern seismic survey area and Figure 7 for the southern seismic survey area. Table 8 outlines the creek reference number and line number, location, stream order, condition description and field photos (Plate 1 to Plate 58) for each of the proposed crossing points.

All creeks and drainage lines were considered easily trafficable with only some that require some specific controls to minimise disturbance from the movement of the exploration vehicles (i.e. deeper depressions, minor gully erosion or lined with vegetation).

At the time of the May 2020 field survey, a number of crossings along the existing tracks on Beetaloo Station in the northern exploration area were cut off due to the seasonal presence of water. The pastoral station has existing detours already in place for access along these sections of the proposed seismic line.

Table 8 Creek crossings in both the northern and southern exploration areas

Creek Reference Line Number Station	Location		Stream Order	Condition Description	Plate
	Latitude	Longitude			
Northern Exploration Area					
NC1 Line 9 (E-W) Tanumbirini Station	-16.517940°	134.602306°	Intermittent Stream (1)	Overland flow following rainfall. No clearing of vegetation necessary for vehicle access during seismic exploration.	 Plate 1 NC01 - Line 9
NC2 Line 9 (E-W) Tanumbirini Station	-16.518087°	134.638753°	Not assigned	Overland flow path following rainfall. No clearing of vegetation necessary for vehicle access during seismic exploration.	 Plate 2 NC02 - Line 9

Creek Reference Line Number Station	Location		Stream Order	Condition Description	Plate
	Latitude	Longitude			
NC3 Line 10 (N-S) Tanumbirini Station	-16.529349°	134.515187°	Not assigned	Shallow depression holding water following 2019-2021 wet season. Generally considered an overland flow path following rainfall. No clearing of vegetation necessary for vehicle access during seismic exploration.	 Plate 3 NC03 – Line 10
NC4 Line 11 (N-S) Tanumbirini Station	-16.535721°	134.558630°	Intermittent Stream (1)	Shallow depression holding water following 2019-2021 wet season. Generally considered an overland flow path following rainfall. No clearing of vegetation necessary for vehicle access during seismic exploration.	 Plate 4 NC04 – Line 11

Creek Reference Line Number Station	Location		Stream Order	Condition Description	Plate
	Latitude	Longitude			
NC5 Line 12 (N-S) Tanumbirini Station	-16.532457°	134.606784°	Intermittent Stream (1) Newcastle Creek	Overland flow with some shallow depressions holding water following 2019-2021 wet season. Pastoral activity in area with existing tracks. No clearing of vegetation necessary for vehicle access during seismic exploration.	 Plate 5 NC05 – Line 12
NC6 Line 9 (E-W) Tanumbirini Station	-16.553430°	134.606736°	Intermittent Stream (1) Newcastle Creek	Shallow depression holding water following 2019-2021 wet season. No clearing of vegetation necessary for vehicle access during seismic exploration.	 Plate 6 NC06 – Line 12

Creek Reference Line Number Station	Location		Stream Order	Condition Description	Plate
	Latitude	Longitude			
NC7 Line 8 (E-W) Tanumbirini Station	-16.556496°	134.621824°	Intermittent Stream (2) Newcastle Creek	Shallow channel evident with shallow depression holding water following wet season. Trafficable with no vegetation clearance necessary.	 Plate 7 NC07 – Line 8
NC8 Line 8 (E-W) Tanumbirini Station	-16.556558°	134.667130°	Intermittent Stream (1)	Shallow channel evident with shallow depression holding water following wet season. Trafficable with no vegetation clearance necessary.	 Plate 8 NC08 – Line 8

Creek Reference Line Number Station	Location		Stream Order	Condition Description	Plate
	Latitude	Longitude			
NC9 Line 14 (N-S) Tanumbirini Station	-16.573355°	134.708028°	Not assigned	Shallow channel evident with shallow depression holding water following wet season. Trafficable with no vegetation clearance necessary.	 Plate 9 NC09 – Line 14
NC10 Line 13 (N-S) Tanumbirini Station	-16.580307°	134.654208°	Intermittent Stream (1)	Seismic line passes parallel nearby to the drainage channel. The channel will be avoided. Crossing is not required	 Plate 10 NC10 – Line 13

Creek Reference Line Number Station	Location		Stream Order	Condition Description	Plate
	Latitude	Longitude			
NC11 Line 13 (N-S) Tanumbirini Station	-16.585358°	134.654190°	Intermittent Stream (1)	Shallow channel evident with shallow depression holding water following wet season. Trafficable with no vegetation clearance necessary.	 Plate 11 NC11 – Line 13
NC12 Line 7 (E-W) Tanumbirini Station	-16.601016°	134.645299°	Creek (3) Newcastle Creek	Shallow depression holding water following 2019-2021 wet season. No clearing of vegetation necessary for vehicle access during seismic exploration.	 Plate 12 NC12 – Line 7

Creek Reference Line Number Station	Location		Stream Order	Condition Description	Plate
	Latitude	Longitude			
NC13 Line 7 (E-W) Tanumbirini Station	-16.601318°	134.739667°	Intermittent Stream (2)	Hyptis was recorded at the proposed creek crossing. It is recommended this creek crossing be avoided by the seismic program.	 Plate 13 NC13 – Line 7  Plate 14 NC13 – Line 7, ground

Creek Reference Line Number Station	Location		Stream Order	Condition Description	Plate
	Latitude	Longitude			
NC14 Line 13 (N-S) Tanumbirini Station	-16.611534°	134.654097°	Creek (3) Newcastle Creek	Overland flow with some shallow depressions holding water following 2019-2021 wet season. Pastoral activity in area with existing tracks. No clearing of vegetation necessary for vehicle access during seismic exploration.	 Plate 15 NC14 – Line 13
NC15 Line 13 (N-S) Tanumbirini Station	-16.620775°	134.654064°	Creek (3) Newcastle Creek	Overland flow with some shallow depressions holding water following 2019-2021 wet season. Pastoral activity in area with existing tracks. No clearing of vegetation necessary for vehicle access during seismic exploration.	 Plate 16 NC15 – Line 13

Creek Reference Line Number Station	Location		Stream Order	Condition Description	Plate
	Latitude	Longitude			
NC16 Line 12 (N-S) Tanumbirini Station	-16.616920°	134.606589°	Intermittent Stream (2)	Shallow channel evident with shallow depression holding water following wet season. Trafficable with no vegetation clearance necessary.	 Plate 17 NC16 – Line 12  Plate 18 NC16 – Line 12, ground

Creek Reference Line Number Station	Location		Stream Order	Condition Description	Plate
	Latitude	Longitude			
NC17 Line 10 (N-S) Tanumbirini Station	-16.635308°	134.515523°	Intermittent Stream (1)	Shallow channel evident with shallow depression holding water following wet season. Trafficable with no vegetation clearance necessary.	 Plate 19 NC17 – Line 10  Plate 20 NC17 – Line 10, ground

Creek Reference Line Number Station	Location		Stream Order	Condition Description	Plate
	Latitude	Longitude			
NC18 Line 6 (E-W) Tanumbirini Station	-16.639638°	134.526308°	Intermittent Stream (1)	Shallow channel evident with shallow depression holding water following the 2019 – 2020 wet season. Trafficable with no vegetation clearance necessary.	 Plate 21 NC18 – Line 6
NC19 Line 11 (N-S) Tanumbirini Station	-16.634210°	134.558580°	Intermittent Stream (2)	Shallow channel evident with shallow depression holding water following the 2019 – 2020 wet season. Trafficable with no vegetation clearance necessary.	 Plate 22 NC19 – Line 11

Creek Reference Line Number Station	Location		Stream Order	Condition Description	Plate
	Latitude	Longitude			
NC20 Line 6 (E-W) Tanumbirini Station	-16.640301°	134.666486°	Creek (3) Newcastle Creek	Overland flow with some shallow depressions holding water following 2019-2021 wet season. No clearing of vegetation necessary for vehicle access during seismic exploration.	 Plate 23 NC20 – Line 6
NC21 Line 5 (E-W) Beetaloo Station	-16.671021°	134.658055°	Creek (3) Newcastle Creek	Overland flow with some shallow depressions holding water following the wet season. Pastoral activity in area with existing tracks. No clearing of vegetation necessary for vehicle access during seismic exploration.	 Plate 24 NC21 – Line 5

Creek Reference Line Number Station	Location		Stream Order	Condition Description	Plate
	Latitude	Longitude			
NC22 Line 13 (E-W) Beetaloo Station	-16.687064°	134.653983°	Intermittent Stream (1)	Existing pastoral track crossing a minor watercourse that flows into nearby Newcastle Creek. No clearing of vegetation necessary for vehicle access during seismic exploration.	 Plate 25 NC22 – Line 13

Creek Reference Line Number Station	Location		Stream Order	Condition Description	Plate
	Latitude	Longitude			
NC23 Line 10 (E-W) Beetaloo Station	-16.685810°	134.512589°	Intermittent Stream (1)	Shallow channel evident with shallow depression holding water following wet season. Trafficable with no vegetation clearance necessary.	 Plate 26 NC23 – Line 10  Plate 27 NC23 – Line 10, ground

Creek Reference Line Number Station	Location		Stream Order	Condition Description	Plate
	Latitude	Longitude			
NC24 Line 4 (E-W) Beetaloo Station	-16.710781°	134.504429°	Intermittent Stream (1)	Existing pastoral track crossing a minor watercourse. No clearing of vegetation necessary for vehicle access during seismic exploration.	 Plate 28 NC24 – Line 4
NC25 Line 10 (E-W) Beetaloo Station	-16.713949°	134.509250°	Intermittent Stream (1)	Existing pastoral track crossing a minor watercourse. No clearing of vegetation necessary for vehicle access during seismic exploration.	 Plate 29 NC25 – Line 10

Creek Reference Line Number Station	Location		Stream Order	Condition Description	Plate
	Latitude	Longitude			
NC26 Line 10 (E-W) Beetaloo Station	-16.710784°	134.512664°	Intermittent Stream (2)	Existing pastoral track crossing a minor watercourse. No clearing of vegetation necessary for vehicle access during seismic exploration.	 Plate 30 NC26 – Line 10
NC27 Line 4 (E-N) Beetaloo Station	-16.710810°	134.663682°	Creek (3) Newcastle Creek	Existing pastoral track crossing major watercourse. Overland flow with some shallow depressions holding water following 2019-2021 wet season. No clearing of vegetation necessary for vehicle access during seismic exploration.	 Plate 31 NC27 – Line 4

Creek Reference Line Number Station	Location		Stream Order	Condition Description	Plate
	Latitude	Longitude			
NC28 Line 10 (E-W) Beetaloo Station	-16.727088°	134.509267°	Intermittent Stream (2) Yaroo Creek	Existing pastoral track crossing a minor watercourse. No clearing of vegetation necessary for vehicle access during seismic exploration.	 Plate 32 NC28 – Line 10
NC29 Line 3 (E-W) Beetaloo Station	-16.758336°	134.531569°	Intermittent Stream (2) Yaroo Creek	Existing pastoral track crossing a minor watercourse. Detour in place around depression holding water from the 2019-2020 wet season. No clearing of vegetation necessary for vehicle access during seismic exploration.	 Plate 33 NC29 – Line 3

Creek Reference Line Number Station	Location		Stream Order	Condition Description	Plate
	Latitude	Longitude			
NC30 Line 3 (E-W) Beetaloo Station	-16.758387°	134.667117°	Creek (3) Newcastle Creek	Existing pastoral track crossing major watercourse. Overland flow with some shallow depressions holding water following 2019-2021 wet season. No clearing of vegetation necessary for vehicle access during seismic exploration.	 Plate 34 NC30 – Line 3
NC31 Line 13 (N-S) Beetaloo Station	-16.782209°	134.653958°	Creek (3) Newcastle Creek	Existing pastoral track crossing major watercourse. Overland flow with some shallow depressions holding water following 2019-2021 wet season. No clearing of vegetation necessary for vehicle access during seismic exploration.	 Plate 35 NC31 – Line 13

Creek Reference Line Number Station	Location		Stream Order	Condition Description	Plate
	Latitude	Longitude			
NC32 Line 13 (N-S) Beetaloo Station	-16.797492°	134.653953°	Extent of Creek (3) Newcastle Creek	Existing pastoral track crossing a minor watercourse. Detour in place around depression holding water from the 2019-2020 wet season. No clearing of vegetation necessary for vehicle access during seismic exploration.	 Plate 36 NC32 – Line 13

Creek Reference Line Number Station	Location		Stream Order	Condition Description	Plate
	Latitude	Longitude			
NC33 Line 2 (E-W) Beetaloo Station	-16.811604°	134.622306°	Creek (3) Newcastle Creek	Existing pastoral track crossing a major watercourse. Detour in place around depression holding water from the 2019-2020 wet season. No clearing of vegetation necessary for vehicle access during seismic exploration.	 Plate 37 NC33 - Line 2  Plate 38 NC33 - Line 2, ground

Creek Reference Line Number Station	Location		Stream Order	Condition Description	Plate
	Latitude	Longitude			
NC34 Line 2 (E-W) Beetaloo Station	-16.811613°	134.609790°	Creek (3) Newcastle Creek	Existing pastoral track crossing a major watercourse. Detour in place around depression holding water from the 2019-2020 wet season. No clearing of vegetation necessary for vehicle access during seismic exploration.	 Plate 39 NC34 – Line 2  Plate 40 NC34 – Line 2, ground

Creek Reference Line Number Station	Location		Stream Order	Condition Description	Plate
	Latitude	Longitude			
NC35 Line 2 (E-W) Beetaloo Station	-16.811608°	134.601864°	Creek (3) Newcastle Creek	Existing pastoral track crossing a minor watercourse. Detour in place around depression holding water from the 2019-2020 wet season. No clearing of vegetation necessary for vehicle access during seismic exploration.	 Plate 41 NC35 – Line 2  Plate 42 NC35 – Line 2, ground

Creek Reference Line Number Station	Location		Stream Order	Condition Description	Plate
	Latitude	Longitude			
NC36 Line 2 (E-W) Beetaloo Station	-16.811560°	134.554040°	Intermittent Stream (2) Yaroo Creek	Existing pastoral track crossing a minor watercourse. No clearing of vegetation necessary for vehicle access during seismic exploration.	 Plate 43 NC36 – Line 2

Creek Reference Line Number Station	Location		Stream Order	Condition Description	Plate
	Latitude	Longitude			
NC37 Line 11 (N-S) Beetaloo Station	-16.822944°	134.558535°	Intermittent Stream (2) Yaroo Creek	Existing pastoral track crossing a minor watercourse. No clearing of vegetation necessary for vehicle access during seismic exploration.	 Plate 44 NC37 - Line 11  Plate 45 NC37 - Line 11, ground

Creek Reference Line Number Station	Location		Stream Order	Condition Description	Plate
	Latitude	Longitude			
NC38 Line 11 (N-S) Beetaloo Station	-16.836419°	134.558530°	Intermittent Stream (2) Yaroo Creek	Existing pastoral track crossing a minor watercourse. No clearing of vegetation necessary for vehicle access during seismic exploration.	 Plate 46 NC38 – Line 11  Plate 47 NC38 – Line 11, ground

Creek Reference Line Number Station	Location		Stream Order	Condition Description	Plate
	Latitude	Longitude			
NC39 Line 11 (N-S) Beetaloo Station	-16.853759°	134.558524°	Intermittent Stream (2) Yaroo Creek	Existing pastoral track crossing a minor watercourse. No clearing of vegetation necessary for vehicle access during seismic exploration.	 Plate 48 NC39 – Line 11
NC40 Line 1 (E-W) Beetaloo Station	-16.866681°	134.562520°	Creek (3) Newcastle Creek	Existing pastoral track crossing a watercourse. Detour in place around depression holding water from the 2019-2020 wet season. No clearing of vegetation necessary for vehicle access during seismic exploration.	 Plate 49 NC40 – Line 1

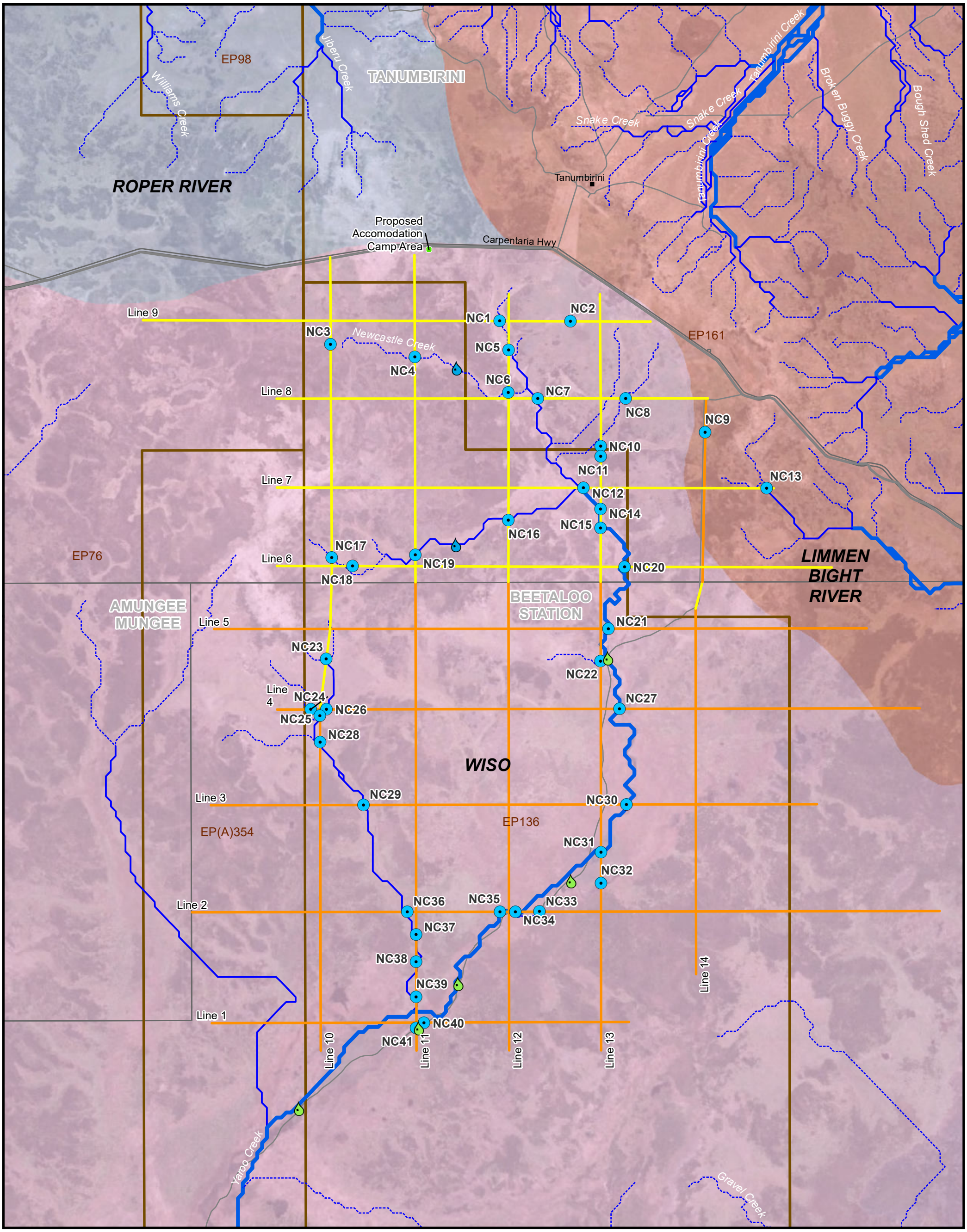
Creek Reference Line Number Station	Location		Stream Order	Condition Description	Plate
	Latitude	Longitude			
NC41 Line 11 (N-S) Beetaloo Station	-16.869353°	134.558519°	Creek (3) Newcastle Creek	Existing pastoral track crossing a watercourse. Detour in place around depression holding water from the 2019-2020 wet season. No clearing of vegetation necessary for vehicle access during seismic exploration.	 Plate 50 NC41 – Line 11

Creek Reference Line Number Station	Location		Stream Order	Condition Description	Plate
	Latitude	Longitude			
Southern Creek Crossings					
SC1 Line 10 (south) Anthony Lagoon Station	-17.727180°	134.701408°	Intermittent Stream (1)	Existing pastoral track crossing a major watercourse. No clearing of vegetation necessary for vehicle access during seismic exploration.	 Plate 51 SC01 – Line 10 (south)  Plate 52 SC01 – Line 10 (south), ground

Creek Reference Line Number Station	Location		Stream Order	Condition Description	Plate
	Latitude	Longitude			
SC2 Line 10 (south) Anthony Lagoon	-17.692102°	134.702228°	Intermittent Stream (2)	Existing pastoral track crossing a major watercourse. No clearing of vegetation necessary for vehicle access during seismic exploration.	 Plate 53 SC02 - Line 10 (south)  Plate 54 SC02 – Line 10 (south), ground

Creek Reference Line Number Station	Location		Stream Order	Condition Description	Plate
	Latitude	Longitude			
SC3 Line 10 (south) Anthony Lagoon Station	-17.842060°	134.699065°	Creek (3) Broad Creek	Existing pastoral track crossing a major watercourse. No clearing of vegetation necessary for vehicle access during seismic exploration.	 Plate 55 SC03 – Line 10 (south)  Plate 56 SC03 – Line 10 (south), ground

Creek Reference Line Number Station	Location		Stream Order	Condition Description	Plate
	Latitude	Longitude			
SC4 Line 10 (south) Eva Downs Station/Barkly Stock Route	-17.943113°	134.692035°	Creek (2) Billycan Creek	Existing pastoral track crossing a minor watercourse. No clearing of vegetation necessary for vehicle access during seismic exploration.	 Plate 57 SC04 – Line 10 (south)
SC5 Line 10 (south) Eva Downs Station/Barkly Stock Route	-17.964019°	134.709447°	Creek (3) Billycan Creek	Existing Barkly Stock Route track crossing a major watercourse. No clearing of vegetation necessary for vehicle access during seismic exploration.	 Plate 58 SC05 – Line 1 (south)



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Projection: GDA 1994 MGA Zone 53

5 2.5 0 5 km

1:192,400 (when printed at A3)

- Creek Crossings
- Surface Water 2007
- Surface Water 2015

Seismic Lines
- Vegetation Clearing Required
- Unsealed Road/ Pastoral Track

Stream Order

Intermittant Streams
- 1
- 2

Creeks
- 3
- Petroleum Exploration Permit
- Proposed Accomodation Camp Area
- Roads
- Cadastre

River basins
- Limmen Bight River
- Roper River
- Wiso

Data sources:
Co-ordinate system: GDA_1994_MGA_Zone_53
Permit Area, Cadastre - NT Gov 2019.
Places, Vegetation - Aust Gov 2019

Sweetpea Petroleum Pty Ltd Environmental Management Plan

Location of Proposed Northern Seismic Line Creek Crossings

PROJECT ID	N/A
CREATED BY	sam.schroder
LAST MODIFIED	15-Jul-2020
VERSION	1

Figure 6

Filename: T:\Projects\2019\Sweetpea_GIS\02_MXD\Land_Condition_Assessment\06\Figure7_Creek_Nth.mxd

A3 size

MUNGABROOM

WISO

ANTHONY LAGOON

SC1

SC2

EP136

EP(A)354

Mungabroom

SC3

BARKLY

Broad Creek

Sandy Creek

Billycan Creek

EVA DOWNS

EP169

HELEN SPRINGS

SC4

Billycan Creek

Southern Camp Area

SC5

Line 10

Barkly Stock Route

Line 1

Billycan Creek

Cherub Creek

AECOM
www.aecom.com

N

Projection: GDA 1994 MGA Zone 53

4 2 0 4 km

1:162,000 (when printed at A3)

Creek Crossings

Seismic Lines

- Vegetation Clearing Required
- Existing Pastoral Track/Road

Stream Order

- 1
- 2
- 3
- 4

- Petroleum Exploration Permit
- Proposed Accomodation Camp Area
- Roads
- Cadastre

River basins

- Barkly
- Wiso

DARWIN

EP136

Data sources:
Imagery: Bing (c)
Permit Area, Cadastre - NT Gov 2019.
Places, Vegetation - Aust Gov 2019

Sweetpea Petroleum Pty Ltd, Environmental Management Plan

Location of Proposed Southern Seismic Line Creek Crossings

PROJECT ID	N/A
CREATED BY	sam.schroder
LAST MODIFIED	15-Jul-2020
VERSION	1

Figure 7

Filename: T:\Projects\2019\Sweetpea_GIS\02_MXD\Land_Condition_Assessment\06\Figure8_Creek_Sth.mxd

A3 size

Appendix J2

Erosion Hazard Assessment Explanatory Notes

Appendix J2 Erosion Hazard Assessment Explanatory Notes

reference: IECA, 2008, *Best Practice Erosion and Sediment Control Hazard Assessment Form)*

Requirements: Specific issues or actions required by the proponent.

Warnings: Issues that should be considered by the proponent.

Comments: General information relating to the topic.

[1] **REQUIREMENTS:**

For sites with an average slope of proposed land disturbance greater than 10%, a preliminary ESCP must be submitted to the regulatory authority for approval during planning negotiations.

Proponents must demonstrate that adequate erosion and sediment control measures can be implemented on-site to effectively protect downstream environmental values.

If site or financial constraints suggest that it is not reasonable or practicable for the prescribed water quality objectives to be achieved for the proposal, then the proponent must demonstrate that alternative designs or construction techniques (e.g. pole homes, suspended slab) cannot reasonably be implemented on the site.

WARNINGS:

Steep sites usually require more stringent drainage and erosion controls than flatter grade sites.

COMMENTS:

The steeper the land, the greater the need for adequate drainage controls to prevent soil and mulch from being washed from the site.

[2] **REQUIREMENTS:**

If the actual soil K-factor is known from soil testing, then the Score shall be determined from Table 1.

If a preliminary ESCP is required during planning negotiations, then it must be demonstrated that adequate space is available for the construction and operation of any major sediment traps, including the provision for any sediment basins and their associated embankments and spillways. It must also be demonstrated that all reasonable and practicable measures can be taken to divert the maximum quantity of sediment-laden runoff (up to the specified design storm) to these sediment traps throughout the construction phase and until the contributing catchment is adequately stabilised against erosion.

WARNINGS:-

The higher the point score, the greater the need to protect the soil from raindrop impact and thus the greater the need for effective erosion control measures. A point score of 2 or greater will require a greater emphasis to be placed on revegetation techniques that do not expose the soil to direct rainfall contact during vegetation establishment, e.g. turfing and *Hydromulching*.

COMMENTS:

Table 2 provides an *indication* of soil conditions likely to be associated with a particular Soil group based on a statistical analysis of soil testing across NSW. This table provides only an initial estimate of the likely soil conditions.

The left-hand-side of the table provides an indication of the type of sediment basin that will be required (Type C, F or D). The right-hand-side of the table provides an indication of the likely erodibility of the soil based on the Revised Universal Soil Loss Equation (RUSLE) K-factor.

Table 3 provides some general comments on the erosion potential of the various soil groups.

Table 1 – Score if soil K-factor is known

	RUSLE soil erodibility K-factor			
	K < 0.02	0.02<K<0.04	0.04<K<0.06	K > 0.06
Score	0	1	2	3

Table 2 – Statistical analysis of NSW soil data [1]

Unified Soil Class System	Likely sediment basin classification (%)			Probable soil erodibility K-factor (%) [2]			
	Dry	Wet		Low	Moderate	High	Very High
	Type C	Type F	Type D	K < 0.02	0.02<K<0.04	0.04<K<0.06	K > 0.06
GM	30	**58**	12	12	**51**	26	12
GC	**42**	33	25	13	**71**	17	0
SW	40	**48**	12	**49**	39	12	0
SP	**53**	32	15	**76**	18	5	1
SM	21	**67**	12	26	**48**	25	1
SC	26	**50**	24	16	**64**	18	2
ML	5	**63**	32	4	35	**45**	16
CL	9	**51**	39	12	**56**	19	13
OL	2	**80**	18	34	**61**	5	1
MH	12	41	**48**	15	19	**41**	25
CH	5	44	**51**	39	**43**	11	7

Notes: [1] Analysis of soil data presented in Landcom (2004).

[2] Soil erodibility based on Revised Universal Soil Loss Equation (RUSLE) K-factor.

Unified Soil Classification System (USCS)

GW Well graded gravels, gravel-sand mixtures, little or no fines

GP Poorly graded gravels, gravel-sand mixture, little or no fines

GM Silty gravels, poorly graded gravel-sand-silt mixtures

GC Clayey gravels, poorly graded gravel-sand-clay mixtures

SW Well graded sands, gravelly sands, little or no fines

SP Poorly graded sands, gravelly sands, little or no fines

SM Silty sands, poorly graded sand-silt mixtures

SC Clayey sands, poorly graded sand-clay mixtures

ML Inorganic silts & very fine sands, rock flour, silty or clayey fine sands with slight plasticity

CL Inorganic clays, low–medium plasticity, gravelly clays, sandy clays, silty clays, lean clays

OL Organic silts and organic silt-clays of low plasticity

MH Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts

CH Inorganic clays of high plasticity, fat clays

OH Organic clays of medium to high plasticity

Table 3 – Typical properties of various soil groups [1]

Soil Groups	Typical properties [2]
GW, GP	• Low erodibility potential.
GM, GC	• Low to medium erodibility potential. • May create turbid runoff if disturbed as a result of the release of silt and clay particles.
SW, SP	• Low to medium erodibility potential.
SM, SC	• Medium erodibility potential. • May create turbid runoff if disturbed as a result of the release of silt and clay particles.
MH, CH	• Highly variable (low to high) erodibility potential. • Will generally create turbid runoff if disturbed.
ML, CL	• High erodibility potential. • Tendency to be dispersive. • May create some turbidity in runoff if disturbed.

Note: [1] After Soil Services & NSW DLWC (1998).

[2] Any soil can represent a high erosion risk if the binding clays or silts are unstable.

Table 4 provides **general** guidelines on the suitability of various soil groups to various engineering applications.

Table 4 – Engineering suitability based on Unified Soil Classification [1]

Unified Soil Class	USC Group	Embankments		Fill	Slope stability	Untreated roads
		Water retaining	Non-water retaining			
Well graded gravels	GW	Unsuitable	Excellent	Excellent	Excellent	Average
Poorly graded gravel	GP	Unsuitable	Average	Excellent	Average	Unsuitable
Silty gravels	GM	Unsuitable	Average	Good	Average	Average
Clayey gravels	GC	Suitable	Average	Good	Average	Excellent
Well graded sands	SW	Unsuitable	Excellent	Excellent	Excellent	Average
Poorly graded sands	SP	Unsuitable	Average	Good	Average	Unsuitable
Silty sands	SM	Suitable [2]	Average	Average	Average	Poor
Clayey sands	SC	Suitable	Average	Average	Average	Good
Inorganic silts	ML	Unsuitable	Poor	Average	Poor	Unsuitable
Inorganic clays	CL	Suitable [2]	Good	Average	Good	Poor

Organic silts	OL	Unsuitable	Unsuitable	Poor	Unsuitable	Unsuitable
Inorganic silts	MH	Unsuitable	Poor	Poor	Poor	Unsuitable
Inorganic clays	CH	Suitable [2]	Average	Unsuitable	Average	Unsuitable
Organic clays	OH	Unsuitable	Unsuitable	Unsuitable	Unsuitable	Unsuitable
Highly organic soils	Pt	Unsuitable	Unsuitable	Unsuitable	Unsuitable	Unsuitable

Notes: [1] Modified from Hazelton & Murphy (1992)

[2] Suitable only after modifications to soil such as compaction and/or erosion protection

[3] If the soils have not been tested for Emerson Class, then adopt a score of 4.

REQUIREMENTS:

Works proposed on sites containing Emerson Class 1 or 2 soils have a very high pollution potential and must submit a conceptual ESCP to the regulatory authority for review and/or approval (as required by the authority) during planning negotiations.

WARNINGS:

Class 3 and 5 soils disturbed by cut and fill operations or construction traffic are highly likely to discolour stormwater (i.e. cause turbid runoff). Chemical stabilisation will likely be required if these soils are placed immediately adjacent to a retaining wall. Any disturbed Class 1, 2, 3 and 5 soils that are to be revegetated must be covered with a non-dispersive topsoil as soon as possible (unless otherwise agreed by the regulatory authority).

Class 1 and 2 soils are highly likely to discolour (pollute) stormwater if exposed to rainfall or flowing water. Treatment of these soils with gypsum (or other suitable substance) will most likely be required. These soils should not be placed directly behind a retaining wall unless it has been adequately treated (stabilised) or covered with a non-dispersible soil.

[4] The duration of disturbance refers to the total duration of soil exposure to rainfall up until a time when there is at least 70% coverage of all areas of soil.

REQUIREMENTS:

All land developments with an expected soil disturbance period greater than 6 months must submit a conceptual ESCP to the regulatory authority for review and/or approval (as required by the authority) during planning negotiations.

COMMENTS:

Construction periods greater than 3 months will generally experience at least some significant storm events, independent of the time of year that the construction (soil disturbance) occurs.

[5] **REQUIREMENTS:**

Development proposals with an expected soil disturbance in excess of 1ha must submit a conceptual ESCP to the regulatory authority for review and/or approval (as required by the regulatory authority) during planning negotiations.

The area of disturbance refers to the total area of soil exposed to rainfall or dust-producing winds either as a result of:

(a) the removal of ground cover vegetation, mulch or sealed surfaces;
(b) past land management practices;
(c) natural conditions.

WARNINGS:

A *Sediment Basin* will usually be required if the disturbed area exceeds 0.25ha (2500m^2) within any sub-catchment (i.e. land flowing to one outlet point).

COMMENTS:

For soil disturbances greater than 0.25ha, the revegetation phase should be staged to minimise the duration for which soils are exposed to wind, rain and concentrated runoff.

[6] **REQUIREMENTS:**

All developments that involve earthworks or construction within a natural watercourse (whether that watercourse is in a natural or modified condition) must submit a conceptual ESCP to the regulatory authority for review and/or approval (as required by the regulatory authority) during planning negotiations.

Permits and/or licences may be required from the State Government, including possible submission of the ESCP to the relevant Government department.

[7] **REQUIREMENTS:**

No areas of soil disturbance shall be left exposed to rainfall or dust-producing winds at the end of a development without an adequate degree of protection and/or an appropriate action plan for the establishment of at least 70% cover.

COMMENTS:

Grass seeding without the application of a light mulch cover is considered the least favourable revegetation technique. A light mulch cover is required to protect the soil from raindrop impact, excessive temperature fluctuations, and the loss of essential soil moisture.

[8] **COMMENTS:**

All receiving waters can be adversely affected by unnatural quantities of sediment-laden runoff. Freshwater ecosystems are generally more susceptible to ecological harm resulting from the inflow of fine or dispersible clays than saline water bodies. The further inland a land disturbance is, the greater the potential for the released sediment to cause environmental harm as this sediment travels towards the coast.

For the purpose of this clause it is assumed that all sediment-laden runoff will eventually flow into saline waters. Thus, sediment-laden discharges that flow first into freshwater are likely to adversely affect both fresh and saline water bodies and are therefore considered potentially more damaging to the environment.

This clause does **not** imply that sediment-laden runoff will not cause harm to saline waters.

[9] **COMMENTS:**

This clause refers to subsoils exposed during the construction phase either as a result of past land practices or proposed construction activities. The exposure of subsoils resulting from the excavation of minor service trenches should not be considered.

[10] **WARNINGS:**

The greater the extent of external catchment, the greater the need to divert up-slope stormwater runoff around any soil disturbance.

COMMENTS:

The ability to separate “clean” (i.e. external catchment) stormwater runoff from “dirty” site runoff can have a significant effect on the size, efficiency and cost of the temporary drainage, erosion, and sediment control measures.

[11] **REQUIREMENTS:**

Permission must be obtained from the owner of a road reserve before placing any erosion and sediment control measures within the road reserve.

WARNINGS:

Few sediment control techniques work efficiently when placed on a road and/or around roadside stormwater inlets. Great care must be taken if sediment control measures are located on a public roadway, specifically:

- safety issues relating to road users;
- the risk of causing flooding on the road or within private property.

The construction of roads (whether temporary or permanent) will usually modify the flow path of stormwater runoff. This can affect how "dirty" site runoff is directed to the sediment control measures.

COMMENTS:

"On-road" sediment control devices are at best viewed as secondary or supplementary sediment control measures. Only in special cases and/or on very small projects (e.g. kerb and channel replacement) might these controls be considered as the "primary" sediment control measure.

[12] **WARNINGS:**

Soils with a pH less than 5.5 or greater than 8 will usually require treatment in order to achieve satisfactory revegetation. Soils with a pH of less than 5 (whether naturally acidic or in acid sulfate soil areas) may also limit the choice of chemical flocculants (e.g. Alum) for use in the flocculation of *Sediment Basins*.

[13] **REQUIREMENTS:**

A preliminary ESCP must be submitted to the local government for approval during the planning phase for any development that obtains a total point score of 17 or greater or when any trigger value is scored or exceeded.

Appendix J3

Erosion Control Treatments

Blade up erosion controls

The figure below shows the condition of land following blade up traverse of survey area.

No treatment required.

Figure 1 Typical condition 'blade up' treatment

Surface bladed by grader (including woodland areas)

Erosion control treatments as follows:

- A diversion bank shall be installed along sections of the survey lines where material has been stripped from the surface (refer Table 9).
- The bank shall be constructed as a cut and push operation. Lines shall be ripped across the area at a grade of 0.3%. A shallow channel should be cut along this line (approximately 0.6 metres deep). Excavated material is dumped on the down slope side of the channel then compacted and smoothed out to form a bank with even batters and a level top (refer Figure 8).
- To aid trafficability, an approach and departure ramp shall be shaped during construction of the bank.
- The bank should direct runoff into undisturbed vegetation or into an existing drain (care needs to taken to ensure that erosion does not occur where the water runs down into the drain).
- Ensure the diversion bank is not eroded by traffic.
- Undertake maintenance as necessary.

Table 9 Bank Spacing Requirements (m)

Slope		Diversion bank spacing (m)
%	Gradient	
0.5	1:200	170-180
1	1:100	120-130
2	1:50	90-100
3	1:33	70-80
4	1:25	60-70
5	1:20	55-60
6	1:17	40-45

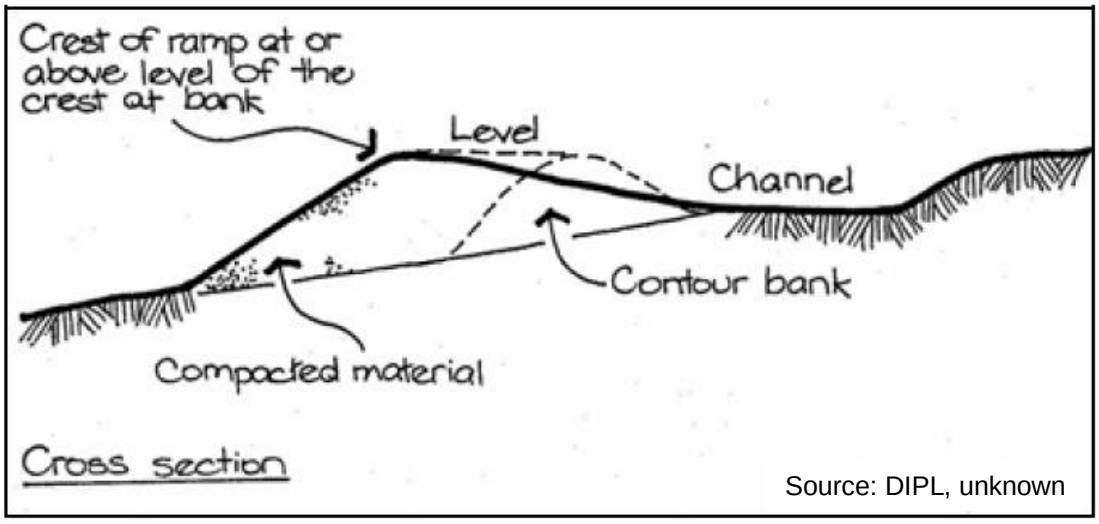


Figure 8 Whoa boys or roll over banks drawing

Woodland area erosion controls

The figure below shows the expected final rehabilitation treatment for woodland areas disturbed by the seismic survey activities. In the event of an expected significant rainfall event which will require the site to be abandoned, a similar treatment is to be adopted.

- Step 1. Respread windrowed topsoil of disturbed area and ripped into the soil surface.
- Step 2. Spread vegetation over top soiled area in an even layer.

Felled vegetation will be evenly spread over the top soiled area to provide additional protection against erosion.

Figure 2 Treatment for woodland areas

Typical Offlet Drain Detail for Access Tracks

- Construct access tracks with table drains that are free draining.
- Avoid road crowning to allow water to naturally cross the road.
- Form tracks to allow off-road drainage. Where track intercepts the direction of overland flow and re-directs this flow to a non-natural drainage line, install erosion control works to minimise potential erosion.
- The design and position of erosion control measures to be determined by experienced operator and site engineer, based on the site characteristics of the access track location.
- Where construction of table drains are deemed necessary, they should have a broad flat base at least 1 m wide and should not be graded to produce a 'V' shape. To minimise erosion, the slope should be no greater than 0.5% on erodible soils or 1% on stable soils.
- Where encounter dispersive / erosive soils they should be stabilised with gypsum or other stabiliser, as determined by laboratory analysis of soils.
- Where cut-out drains are required, they should be spaced based on the slope of the area i.e. 0.5% slope, allow for cut-out draining every 170-180 m or 1 % slope, allow for cut-out drainage every 120-130 m etc. (refer to NT Road Drainage Fact Sheet). It is noted that the recommended distance between turn-out drains is a guide and may not apply to all locations along the access track.
- Monitor road conditions to ensure deterioration does not occur. Assist in the maintenance and repair work on roads and tracks used.

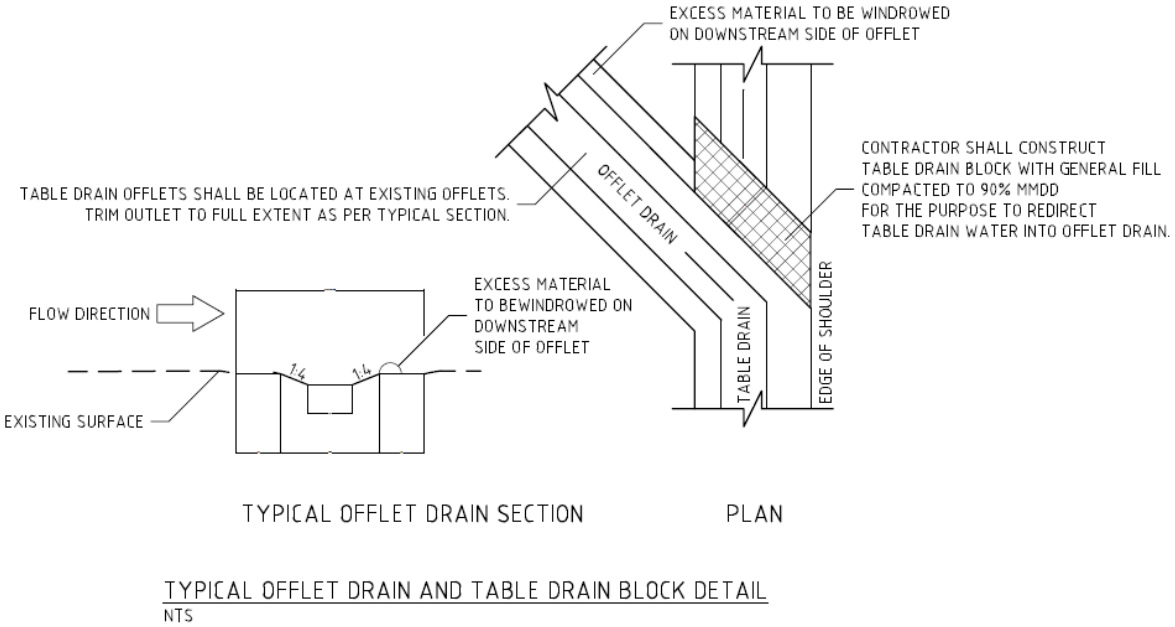


Figure 9 Typical offlet drain and table drain block detail

Appendix J4

Table 4.4.7 IECA

Table 10 Table 4.4.7 Best practice land clearing and rehabilitation requirements

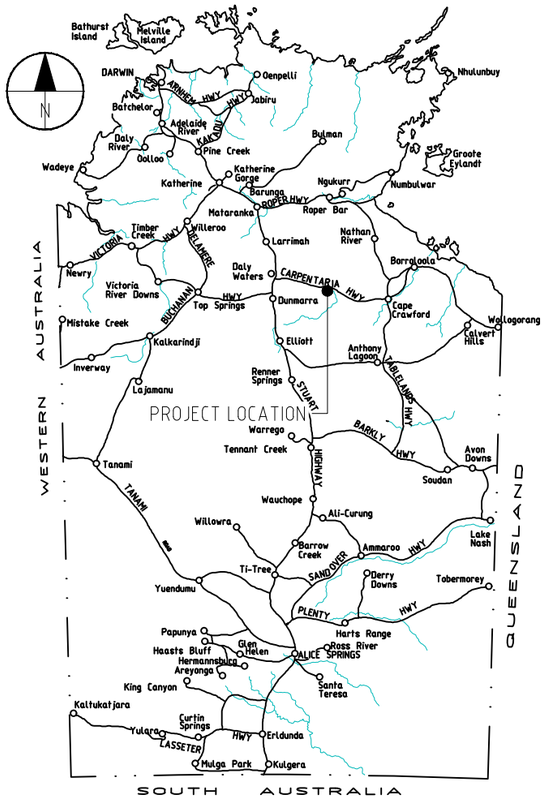
Risk[1]	Best practice requirements
All cases	• All reasonable and practicable steps taken to apply best practice erosion control measures to completed earth works, or otherwise stabilise such works, prior to anticipated rainfall – including existing unstable, undisturbed, soil surfaces under the management or control of the building/construction works.
Very low	• Land clearing limited to 8 weeks of work if rainfall is reasonably possible. • Disturbed soil surfaces stabilised with minimum 60% cover[2] within 30 days of completion of works if rainfall is reasonably possible. • Unfinished earthworks are suitably stabilised if rainfall is reasonably possible, and disturbance is expected to be suspended for a period exceeding 30 days.
Low	• Land clearing limited to maximum 8 weeks of work. • Disturbed soil surfaces stabilised with minimum 70% cover[2] within 30 days of completion of works within any area of a work site. • Unfinished earthworks are suitably stabilised if rainfall is reasonably possible and disturbance is expected to be suspended for a period exceeding 30 days. • Appropriate protection of all planned garden beds is strongly recommended.
Moderate	• Land clearing limited to a maximum 6 weeks of work. • Disturbed soil surfaces stabilised with minimum 70% cover[2] within 20 days of completion of work within any area of a work site. • All planned garden beds protected with a minimum 75mm layer of organic *Mulching*, heavy *Erosion Control Blanket, Rock Mulching,* or the equivalent. • Staged construction and stabilisation of earth batters (steeper than 6H:1V) in maximum 3m vertical increments wherever reasonable and practicable. • The use of turf to form grassed surfaces given appropriate consideration. • Soil stockpiles and unfinished earthworks are suitably stabilised if disturbance is expected to be suspended for a period exceeding 10 days.
High	• Land clearing limited to a maximum 4 weeks of work. • Disturbed soil surface stabilised with minimum 75% cover[2] within 10 days of completion of works within any area of a work site. • All planned garden beds protected with a minimum 75mm layer of organic *Mulching*, heavy *Erosion Control Blanket, Rock Mulching,* or the equivalent. • Staged construction and stabilisation of earth batters (steeper than 6H:1V) in maximum 3m vertical increments wherever reasonable and practicable. • The use of turf to form grassed surfaces given appropriate consideration. • Soil stockpiles and unfinished earthworks are suitably stabilised if disturbance is expected to be suspended for a period exceeding 10 days.
Extreme	• Land clearing limited to maximum 2 weeks of work. • Disturbed soil surfaces stabilised with minimum 80% cover[2] within 5 days of completion of works within any area of a work site. • All planned garden beds protected with a minimum 75mm layer of organic *Mulching*, heavy *Erosion Control Blanket, Rock Mulching,* or the equivalent. • Staged construction and stabilisation of earth batters (steeper than 6H:1V) in maximum 2m vertical increments wherever reasonable and practicable. • High priority given to the use of turf to form grassed surfaces. • Soil stockpiles and unfinished earthworks are suitably stabilised if disturbance is expected to be suspended for a period exceeding 5 days.

1. Erosion risk based on monthly erosivity (Table 4.4.1), average monthly rainfall depth (Table 4.4.2), or soil loss rate (Table 4.4.3) as directed by the regulatory authority.
2. Minimum cover requirements may be redirected if the natural cover of the immediate land is less than the nominated value, for example in arid and semi-arid areas or on coastal sand dunes.

Appendix J5

Water Bore Lease Pad 1 and Pad 3 ESCP

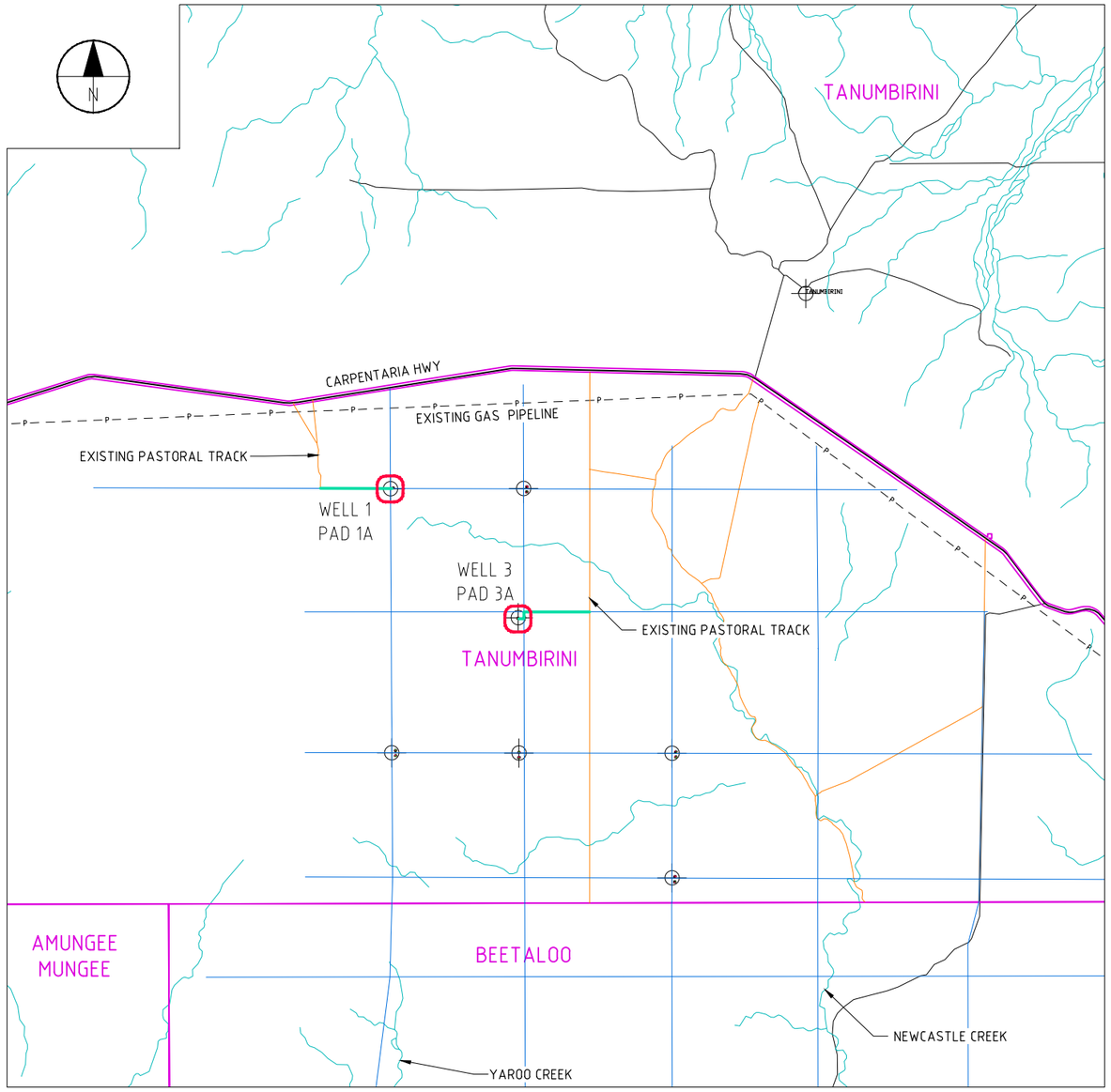
Appendix J5 Water Monitoring Bore Lease Pad and Access Track ESCP



LOCALITY MAP

0 100 150 200 250 300

SCALE Kilometers



LOCALITY PLAN

0 1 2 3 4 5

SCALE (km) 1:100,000 (A1)

LEGEND

EXISTING

- PIPELINE
- PRINCIPAL ROAD
- UNSEALED TRACK
- PASTORAL TRACK
- WATERCOURSE
- SEISMIC LINES
- NATIVE TITLE REGISTER

PROPOSED

- ACCESS TRACK

GENERAL NOTES

1. ALL DIMENSIONS ARE IN METRES UNLESS NOTED OTHERWISE.
2. ALL WORKS TO BE CARRIED OUT IN ACCORDANCE WITH THE APPROVED MANAGEMENT PLAN REQUIREMENTS.
3. NO CONSTRUCTION WORKS ARE TO BE CARRIED OUT OUTSIDE THE APPROVED WORK CORRIDOR BOUNDARIES.
4. CONSTRUCTION FACILITY AREA LOCATIONS TO BE APPROVED BY THE SUPERINTENDENT PRIOR TO WORKS COMMENCING.
5. THE CONTRACTOR IS TO LIAISE WITH SERVICE PROVIDERS AND THE RELEVANT AUTHORITIES TO ENSURE ALL CONSTRUCTION WORKS ARE CARRIED OUT IN ACCORDANCE WITH SERVICE PROVIDERS AND RELEVANT AUTHORITIES REQUIREMENTS.
6. OSD ASSET SERVICES APPROVAL HAS BEEN PROVIDED AND WILL BE ENFORCED FOR THE EXISTING GAS PIPELINE CROSSING AT THE EXISTING TRACKS.
7. NO SERVICES, OTHER THAN THE GAS PIPELINE WERE PRESENT AT THE TIME OF DESIGN AND ARE THEREFORE NOT SHOWN, HOWEVER THE CONTRACTOR IS RESPONSIBLE TO ENSURE THE CONDITIONS DETAILED IN THE DBYD WORKS APPROVAL FORM ARE IMPLEMENTED AND ENSURE SUPPLEMENTARY DBYD SEARCHES ARE COMPLETED PRIOR TO COMMENCING WORKS ONSITE.
8. THE CONTRACTOR IS TO CARRY OUT A DBYD, LOCATE AND MARK SERVICES ON SITE. ANY DAMAGE TO EXISTING SERVICES IS TO BE RE-INSTATED AT THE CONTRACTORS EXPENSE.
9. SIGNAGE TO BE INSTALLED PRIOR TO ROAD USE.

Last modified: 06 Oct 20 - 17:42
CAD Ref: P:\606x\60611666\900_CAD_GIS\910_CAD\25_Sketches\Water Bore Pad - ESC\60611666-SK-WLAT-001.dwg

60611666
ISSUE 1
06/10/20

ISSUED FOR CONSTRUCTION
J Jentz RPEQ 5587

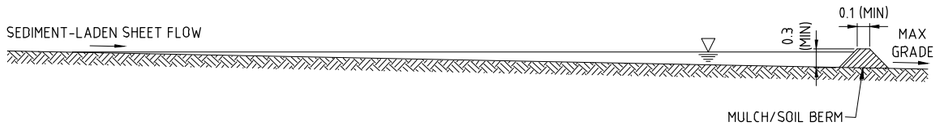
SWEETPEA EXPLORATION DRILL CAMPAIGN
WATER BORE PADS
LOCATION AND ACCESS TRACKS PLAN
60611666-SK-WLAT-001

EROSION AND SEDIMENT CONTROL NOTES:

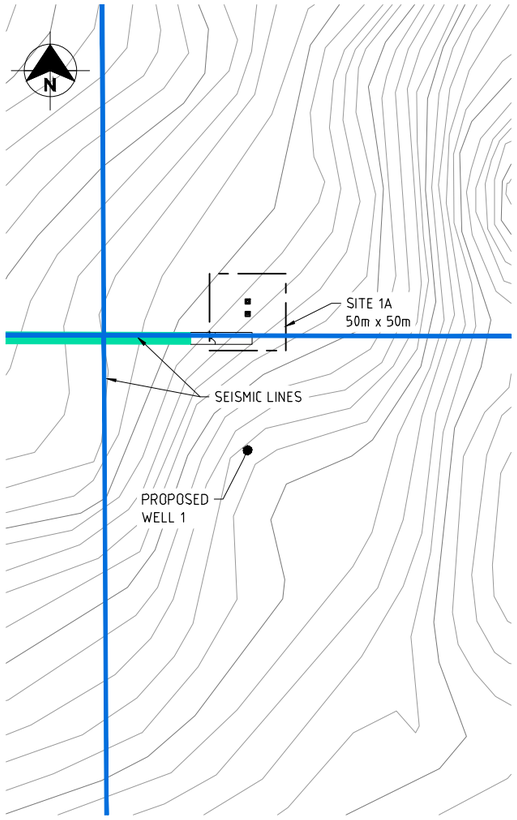
1. ALL WORKS TO BE IN ACCORDANCE WITH THE INTERNATIONAL EROSION CONTROL ASSOCIATION (IECA) GUIDELINES.
2. BEST PRACTICE EROSION CONTROL MEASURES WILL BE IMPLEMENTED IN ACCORDANCE WITH THE PROJECT ESCP (TABLE 7 MEASURES TO BE IMPLEMENTED FOR EROSION AND SEDIMENT CONTROL (ESC), APPENDIX J) FOLLOWING EARTHWORKS AND STABILISED PRIOR TO ANTICIPATED RAINFALL.
3. PRIOR TO COMMENCEMENT OF CONSTRUCTION, A SITE INSPECTION IS TO BE UNDERTAKEN WITH THE SUPERVISING ENGINEER TO DETERMINE IF TOPSOIL STRIPPING IS REQUIRED. DETERMINATION TO BE BASED ON ASSESSMENT OF STABILITY OF GRASS COVER, SLOPE AND PROPOSED DISTURBANCE. IF TOPSOIL STRIPPING IS NOT REQUIRED, THEN ASSESSMENT BY THE SUPERVISING ENGINEER CAN BE MADE TO REMOVE CLEAN WATER AND DIRTY WATER MULCH/SOIL BERMS.
4. WHERE IT IS AGREED WITH THE SUPERVISING ENGINEER THAT TOPSOIL STRIPPING WILL BE UNDERTAKEN, THEN A TOPSOIL STRIPPING DEPTH ASSESSMENT MUST BE UNDERTAKEN, AND AMELIORATION RATES AGREED WITH THE ENVIRONMENTAL FIELD ADVISOR. THE EXPECTED NOMINAL TOPSOIL DEPTH FOR THE LEASE PAD IS 150 MM. FINAL STRIP DEPTH TO BE CONFIRMED IN THE FIELD.
5. FOLLOWING COMPLETION OF ACTIVITIES, THE LAND SURROUNDING OR IMPACTED BY THE WATER BORE LEASE AREAS SHALL BE RESTORED IN ACCORDANCE WITH THE SITE-SPECIFIC REHABILITATION PLAN.
6. MAINTENANCE OF ESC DEVICES:
   a. THE CONTRACTOR SHALL INSPECT ALL ENVIRONMENTAL DEVICES WITHIN 24 HRS PRECEDING AN EXPECTED STORMWATER EVENT AND WITHIN 24 HRS AFTER EACH RUNOFF PRODUCING STORM EVENT. ANY RECTIFICATION OF DAMAGE TO THE ENVIRONMENTAL CONTROL DEVICES OR CLEANING OUT OF THE DEVICES IS TO BE CARRIED OUT BY THE CONTRACTOR AS REQUIRED. DEVICES ARE TO BE INSPECTED ON A REGULAR BASIS.
   b. REGULAR MAINTENANCE SHALL BE UNDERTAKEN UNTIL SUFFICIENT GROUND COVER IS ESTABLISHED TO PROVIDE STABILISATION TO ALL DISTURBED AREAS.
7. THE CONSTRUCTION PLAN ESC MEASURES ARE THE SAME AS THE OPERATION PLAN ESC MEASURES.

LEGEND

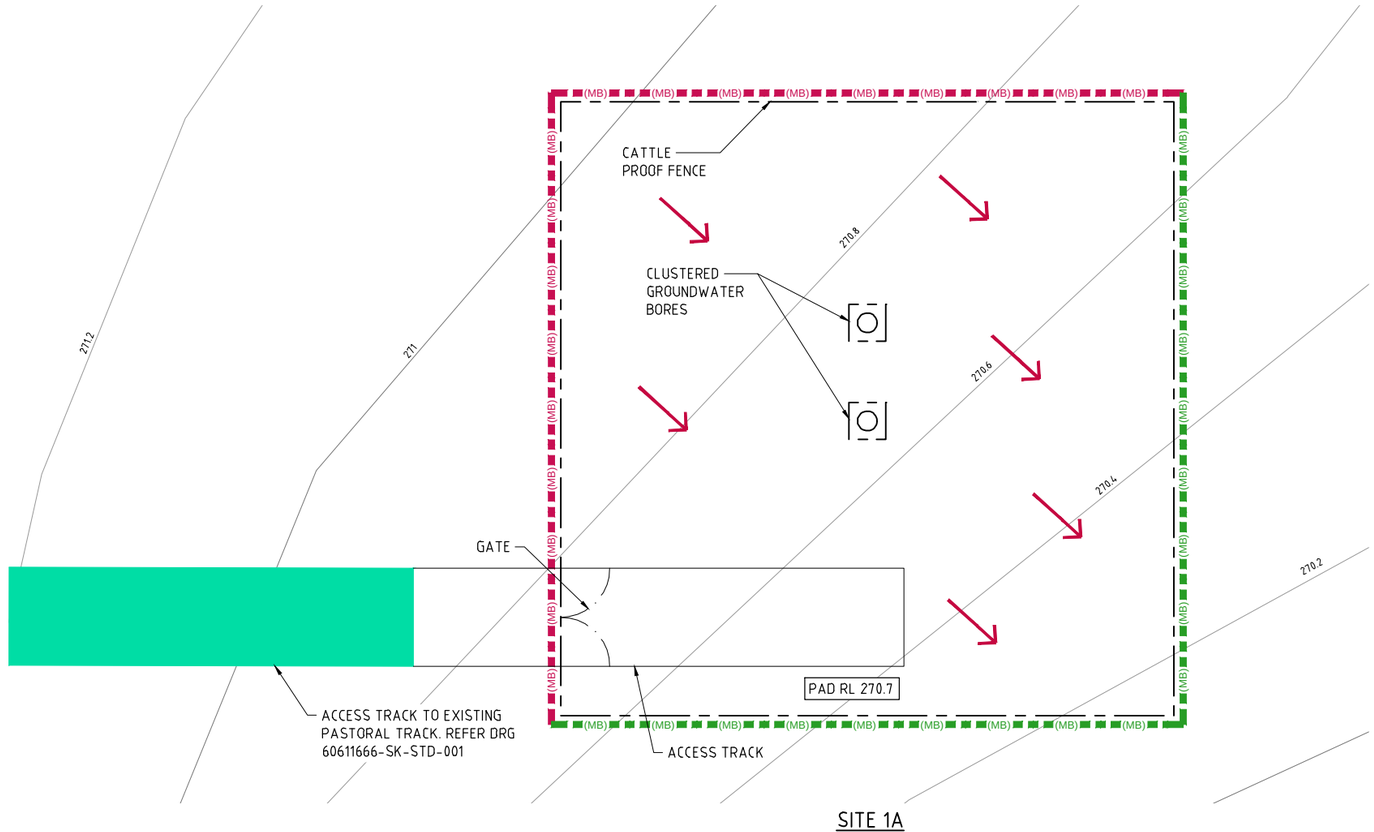
- FLOW DIRECTION
- (MB) MULCH/SOIL BERM (DIRTY WATER)
- (MB) MULCH/SOIL BERM (CLEAN WATER)
- 270 EXISTING CONTOURS (0.2m INT.)
- ACCESS TRACK



TYPICAL SECTION- MULCH/SOIL BERM PLACEMENT
Scale N.T.S.



OVERALL PLAN
SCALE: Z



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60611666
ISSUE 2
06/10/20

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ISSUED FOR CONSTRUCTION
J Jentz RPEQ 5587

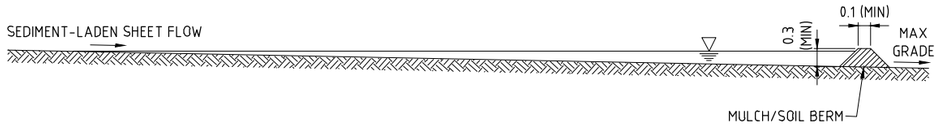
SWEETPEA EXPLORATION DRILL CAMPAIGN
WATER BORE PADS - SITE 1A
EROSION AND SEDIMENT CONTROL PLAN
60611666-SK-WESC-001

EROSION AND SEDIMENT CONTROL NOTES:

1. ALL WORKS TO BE IN ACCORDANCE WITH THE INTERNATIONAL EROSION CONTROL ASSOCIATION (IECA) GUIDELINES.
2. BEST PRACTICE EROSION CONTROL MEASURES WILL BE IMPLEMENTED IN ACCORDANCE WITH THE PROJECT ESCP (TABLE 7 MEASURES TO BE IMPLEMENTED FOR EROSION AND SEDIMENT CONTROL (ESC), APPENDIX J) FOLLOWING EARTHWORKS AND STABILISED PRIOR TO ANTICIPATED RAINFALL.
3. PRIOR TO COMMENCEMENT OF CONSTRUCTION, A SITE INSPECTION IS TO BE UNDERTAKEN WITH THE SUPERVISING ENGINEER TO DETERMINE IF TOPSOIL STRIPPING IS REQUIRED. DETERMINATION TO BE BASED ON ASSESSMENT OF STABILITY OF GRASS COVER, SLOPE AND PROPOSED DISTURBANCE. IF TOPSOIL STRIPPING IS NOT REQUIRED, THEN ASSESSMENT BY THE SUPERVISING ENGINEER CAN BE MADE TO REMOVE CLEAN WATER AND DIRTY WATER MULCH/SOIL BERMS.
4. WHERE IT IS AGREED WITH THE SUPERVISING ENGINEER THAT TOPSOIL STRIPPING WILL BE UNDERTAKEN, THEN A TOPSOIL STRIPPING DEPTH ASSESSMENT MUST BE UNDERTAKEN, AND AMELIORATION RATES AGREED WITH THE ENVIRONMENTAL FIELD ADVISOR. THE EXPECTED NOMINAL TOPSOIL DEPTH FOR THE LEASE PAD IS 150 MM. FINAL STRIP DEPTH TO BE CONFIRMED IN THE FIELD.
5. FOLLOWING COMPLETION OF ACTIVITIES, THE LAND SURROUNDING OR IMPACTED BY THE WATER BORE LEASE AREAS SHALL BE RESTORED IN ACCORDANCE WITH THE SITE-SPECIFIC REHABILITATION PLAN.
6. MAINTENANCE OF ESC DEVICES:
   a. THE CONTRACTOR SHALL INSPECT ALL ENVIRONMENTAL DEVICES WITHIN 24 HRS PRECEDING AN EXPECTED STORMWATER EVENT AND WITHIN 24 HRS AFTER EACH RUNOFF PRODUCING STORM EVENT. ANY RECTIFICATION OF DAMAGE TO THE ENVIRONMENTAL CONTROL DEVICES OR CLEANING OUT OF THE DEVICES IS TO BE CARRIED OUT BY THE CONTRACTOR AS REQUIRED. DEVICES ARE TO BE INSPECTED ON A REGULAR BASIS.
   b. REGULAR MAINTENANCE SHALL BE UNDERTAKEN UNTIL SUFFICIENT GROUND COVER IS ESTABLISHED TO PROVIDE STABILISATION TO ALL DISTURBED AREAS.
7. THE CONSTRUCTION PLAN ESC MEASURES ARE THE SAME AS THE OPERATION PLAN ESC MEASURES.

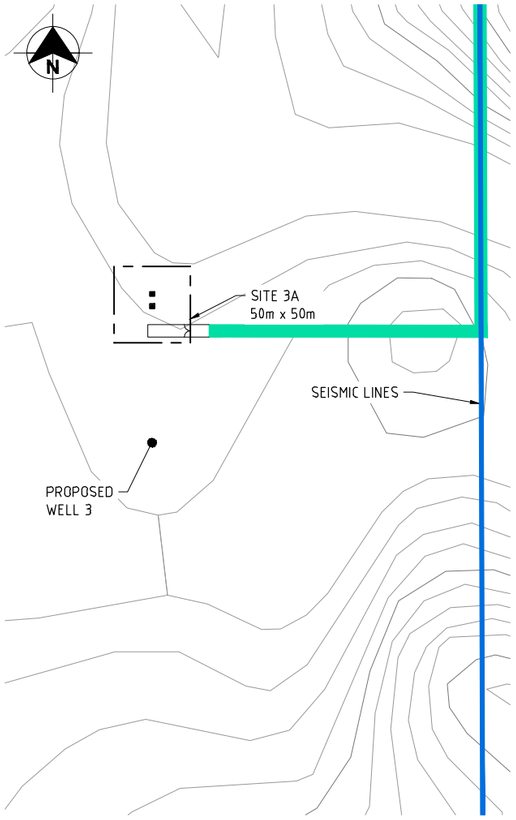
LEGEND

- FLOW DIRECTION
- (MB) MULCH/SOIL BERM (DIRTY WATER)
- (MB) MULCH/SOIL BERM (CLEAN WATER)
- 270 EXISTING CONTOURS (0.2m INT.)
- ACCESS TRACK



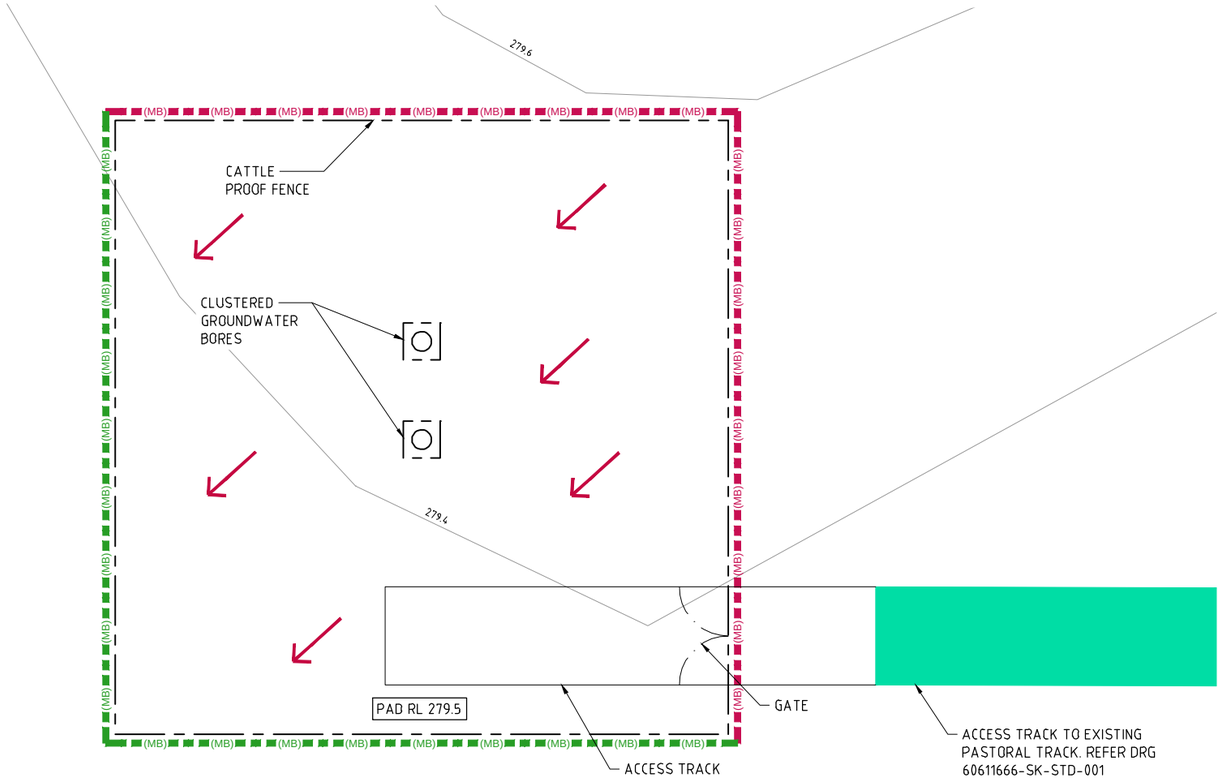
TYPICAL SECTION- MULCH/SOIL BERM PLACEMENT

Scale N.T.S.



OVERALL PLAN

SCALE: Z



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ISSUE 2
06/10/20

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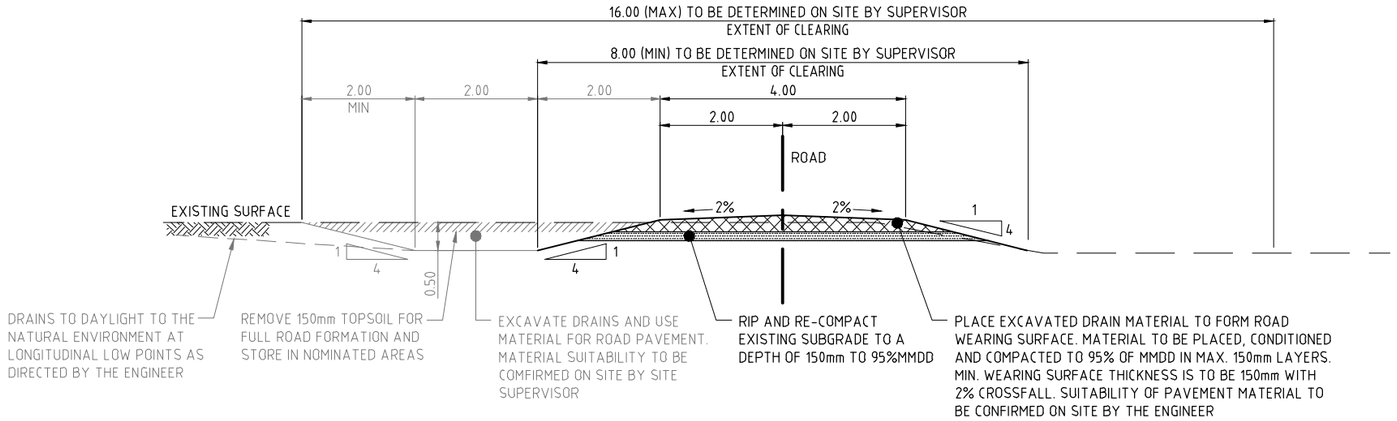
ISSUED FOR CONSTRUCTION
J Jentz RPEQ 5587

SWEETPEA EXPLORATION DRILL CAMPAIGN
WATER BORE PADS - SITE 3A
EROSION AND SEDIMENT CONTROL PLAN
60611666-SK-WESC-003



ACCESS ROAD - TYPICAL CROSS SECTION

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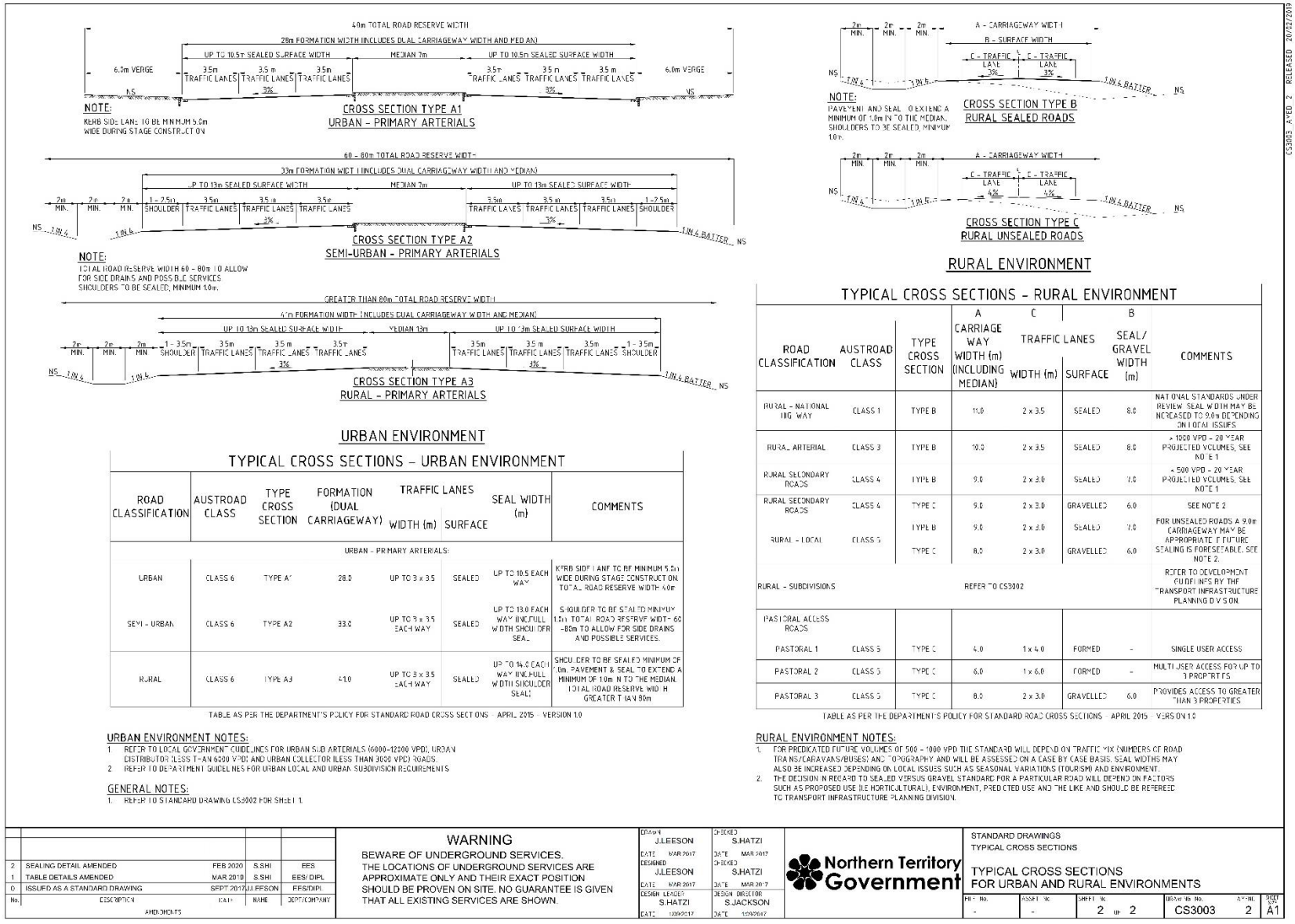
Appendix J6

Typical Cross Section for Urban and Rural Environments



URBAN ENVIRONMENT

TYPICAL CROSS SECTIONS – URBAN ENVIRONMENT

ROAD CLASSIFICATION	AUSTROAD CLASS	TYPE CROSS SECTION	FORMATION (DUAL CARRIAGEWAY)	TRAFFIC LANES WIDTH (m)	TRAFFIC LANES SURFACE	SEAL WIDTH (m)	COMMENTS
URBAN – PRIMARY ARTERIALS:							
URBAN	CLASS 6	TYPE A1	28.0	UP TO 3 x 3.5	SEALED	UP TO 10.5 EACH WAY	KERB SIDE LANE TO BE MINIMUM 5.0m WIDE DURING STAGE CONSTRUCTION. TOTAL ROAD RESERVE WIDTH 40m
SEMI - URBAN	CLASS 6	TYPE A2	33.0	UP TO 3 x 3.5 EACH WAY	SEALED	UP TO 13.0 EACH WAY (INCLFULL WIDTH SHOULDER SEAL	SHOULDER TO BE SEALED MINIMUM 1.0m. TOTAL ROAD RESERVE WIDTH 60 -80m TO ALLOW FOR SIDE DRAINS AND POSSIBLE SERVICES.
RURAL	CLASS 6	TYPE A3	41.0	UP TO 3 x 3.5 EACH WAY	SEALED	UP TO 14.0 EACH WAY (INCLFULL WIDTH SHOULDER SEAL	SHOULDER TO BE SEALED MINIMUM OF 1.0m. PAVEMENT & SEAL TO EXTEND A MINIMUM OF 1.0m IN TO THE MEDIAN. TOTAL ROAD RESERVE WIDTH GREATER THAN 80m

TABLE AS PER THE DEPARTMENT'S POLICY FOR STANDARD ROAD CROSS SECTIONS – APRIL 2015 – VERSION 1.0

URBAN ENVIRONMENT NOTES:

1. REFER TO LOCAL GOVERNMENT GUIDELINES FOR URBAN SUB ARTERIALS (6000-12000 VPD), URBAN DISTRIBUTOR (LESS THAN 6000 VPD) AND URBAN COLLECTOR (LESS THAN 3000 VPD) ROADS.
2. REFER TO DEPARTMENT GUIDELINES FOR URBAN LOCAL AND URBAN SUBDIVISION REQUIREMENTS

GENERAL NOTES:

1. REFER TO STANDARD DRAWING CS3002 FOR SHEET 1.

RURAL ENVIRONMENT

TYPICAL CROSS SECTIONS – RURAL ENVIRONMENT

ROAD CLASSIFICATION	AUSTROAD CLASS	TYPE CROSS SECTION	A CARRIAGE WAY WIDTH (m) (INCLUDING MEDIAN)	C TRAFFIC LANES WIDTH (m)	TRAFFIC LANES SURFACE	B SEAL/ GRAVEL WIDTH (m)	COMMENTS
RURAL – NATIONAL HIGHWAY	CLASS 1	TYPE B	11.0	2 x 3.5	SEALED	8.0	NATIONAL STANDARDS UNDER REVIEW. SEAL WIDTH MAY BE INCREASED TO 9.0m DEPENDING ON LOCAL ISSUES
RURAL ARTERIAL	CLASS 3	TYPE B	10.0	2 x 3.5	SEALED	8.0	> 1000 VPD – 20 YEAR PROJECTED VOLUMES, SEE NOTE 1
RURAL SECONDARY ROADS	CLASS 4	TYPE B	9.0	2 x 3.0	SEALED	7.0	> 500 VPD – 20 YEAR PROJECTED VOLUMES, SEE NOTE 1
RURAL SECONDARY ROADS	CLASS 4	TYPE C	9.0	2 x 3.0	GRAVELLED	6.0	SEE NOTE 2
RURAL – LOCAL	CLASS 5	TYPE B	9.0	2 x 3.0	SEALED	7.0	FOR UNSEALED ROADS A 9.0m CARRIAGEWAY MAY BE APPROPRIATE IF FUTURE SEALING IS FORESEEABLE, SEE NOTE 2.
		TYPE C	8.0	2 x 3.0	GRAVELLED	6.0	
RURAL – SUBDIVISIONS			REFER TO CS3002				REFER TO DEVELOPMENT GUIDELINES BY THE TRANSPORT INFRASTRUCTURE PLANNING DIVISION.
PASTORAL ACCESS ROADS							
PASTORAL 1	CLASS 5	TYPE C	4.0	1 x 4.0	FORMED	-	SINGLE USER ACCESS
PASTORAL 2	CLASS 5	TYPE C	6.0	1 x 6.0	FORMED	-	MULTI USER ACCESS FOR UP TO 3 PROPERTIES
PASTORAL 3	CLASS 5	TYPE C	8.0	2 x 3.0	GRAVELLED	6.0	PROVIDES ACCESS TO GREATER THAN 3 PROPERTIES

TABLE AS PER THE DEPARTMENT'S POLICY FOR STANDARD ROAD CROSS SECTIONS – APRIL 2015 – VERSION 1.0

RURAL ENVIRONMENT NOTES:

1. FOR PREDICATED FUTURE VOLUMES OF 500 – 1000 VPD THE STANDARD WILL DEPEND ON TRAFFIC MIX (NUMBERS OF ROAD TRAINS/CARAVANS/BUSES) AND TOPOGRAPHY AND WILL BE ASSESSED ON A CASE BY CASE BASIS. SEAL WIDTHS MAY ALSO BE INCREASED DEPENDING ON LOCAL ISSUES SUCH AS SEASONAL VARIATIONS (TOURISM) AND ENVIRONMENT.
2. THE DECISION IN REGARD TO SEALED VERSUS GRAVEL STANDARD FOR A PARTICULAR ROAD WILL DEPEND ON FACTORS SUCH AS PROPOSED USE (IE HORTICULTURAL), ENVIRONMENT, PREDICTED USE AND THE LIKE AND SHOULD BE REFERED TO TRANSPORT INFRASTRUCTURE PLANNING DIVISION.

No.	DESCRIPTION	DATE	NAME	DEPT/COMPANY
2	SEALING DETAIL AMENDED	FEB 2020	S.SHI	EES
1	TABLE DETAILS AMENDED	MAR 2019	S.SHI	EES/DIPL
0	ISSUED AS A STANDARD DRAWING	SEPT 2017	J.LEESON	EES/DIPL

AMENDMENTS

WARNING
BEWARE OF UNDERGROUND SERVICES.
THE LOCATIONS OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN.

DRAWN J.LEESON DATE MAR 2017
DESIGNED J.LEESON DATE MAR 2017
DESIGN LEADER S.HATZI DATE 10/9/2017
CHECKED S.HATZI DATE MAR 2017
CHECKED S.HATZI DATE MAR 2017
DESIGN DIRECTOR S.JACKSON DATE 10/9/2017

Northern Territory Government

STANDARD DRAWINGS
TYPICAL CROSS SECTIONS

TYPICAL CROSS SECTIONS FOR URBAN AND RURAL ENVIRONMENTS

PH - No. -
ASSET No. -
SHEET No. 2 OF 2
DRAWING No. CS3003
REVISION 2
SIZE A1

CS3003_REV ED_2 RELEASED 20/12/2019

Figure 10 Water Bore Access Track Cross Section

Appendix K

Traffic Impact Statement

Appendix K Traffic Impact Statement

AECOM Imagine it. Delivered.

Sweetpea Petroleum - Environmental and Heritage Services

Unique Reference Number: SWP1-04

Sweetpea Petroleum Pty Ltd

01-Sep-2020

Traffic Impact Statement

Sweetpea Petroleum Beetaloo Seismic Survey

Traffic Impact Statement

Sweetpea Petroleum Beetaloo Seismic Survey

Client: Sweetpea Petroleum Pty Ltd

ABN: 42074750879

Prepared by

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01-Sep-2020

Job No.: 60611666

Unique Reference Number: SWP1-04

AECOM in Australia and New Zealand is certified to ISO9001, ISO14001 AS/NZS4801 and OHSAS18001.

Quality Information

Document	Traffic Impact Statement
	60611666
Ref	DENR Unique Reference No.: SWP1-04
Date	01-Sep-2020
Prepared by	Tyler Hill
Reviewed by	James Jentz

Revision History

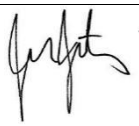
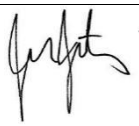
Rev	Revision Date	Details	Authorised	
			Name/Position	Signature
1	29-June-2020	Final for DIPL Review	James Jentz Darwin Office Manager	
2	01-Sep-2020	Final incorporating comments	James Jentz Darwin Office Manager	

Table of Contents

1.0 Executive Summary

The proposed activity is located along the Carpentaria Highway, approximately 132 km east of the Stuart Highway. A second location is also proposed along the Barkly Stock Route, approximately 129 km east of the Stuart Highway. Average daily traffic flows in the area, according to traffic counts undertaken from the DIPL Annual Traffic Report 2018, are about 108 vehicles per day for the Carpentaria Highway and 7 vehicles per day for the Barkly Stock Route. The peak additional traffic generated by the proposed activities will be approximately 8.5 vehicles per hour for the Carpentaria Highway and 2 Vehicles per hour for the Barkly Stock Route. These levels are well below the 544 vehicle per hour capacities calculated for each road in the subsequent sections.

It is concluded that with the low traffic volumes, impacts of the proposed activities on existing traffic on the both roads will be minimal.

2.0 Introduction

2.1 General

The purpose of this document is to discuss the potential traffic management issues associated with Sweetpea Petroleum's (Sweetpea) 2020/21 seismic survey program. The following discussion looks at the impact of the additional traffic loads to the Carpentaria Highway and the Barkly Stock Route in the vicinity of the proposed activities.

Although the traffic associated with seismic survey programs is generally small and of short duration, this Traffic Impact Assessment (TIA) has been completed to determine the potential impact on pastoralist and tourism amenity and experience.

The TIA involved the following steps:

- Identification of project traffic movements; including approach and departure direction
- Existing traffic levels and road Level of Service
- Assessment of total traffic levels and potential impacts
- Determine required impact mitigating treatments

2.2 Project Description

The Beetaloo Basin is located in the Barkly Region, approximately 500 km South-east of Darwin in the Northern Territory.

The 2020/21 seismic survey program relates to two-dimensional (2D) seismic acquisition survey and ground gravity survey to delineate prospective hydrocarbon areas within the northern part of EP136. The 2D seismic exploration program is located within the Beetaloo Station and Tanumbirini Station pastoral leases

Two access points will be utilised. The access point for the Yaroo Creek seismic survey will utilise the existing pastoral access and have minimal impact on the Carpentaria Highway itself. The proposed project campsite is located adjacent the Carpentaria Highway and will interact with the highway, which will be discussed in further sections.

The second access point will be along the Barkly Stock Route. A portion of the survey will also be performed along the road, which will impact the traffic along the stock route.

The location of the activity and access points is outlined in Figure 1.

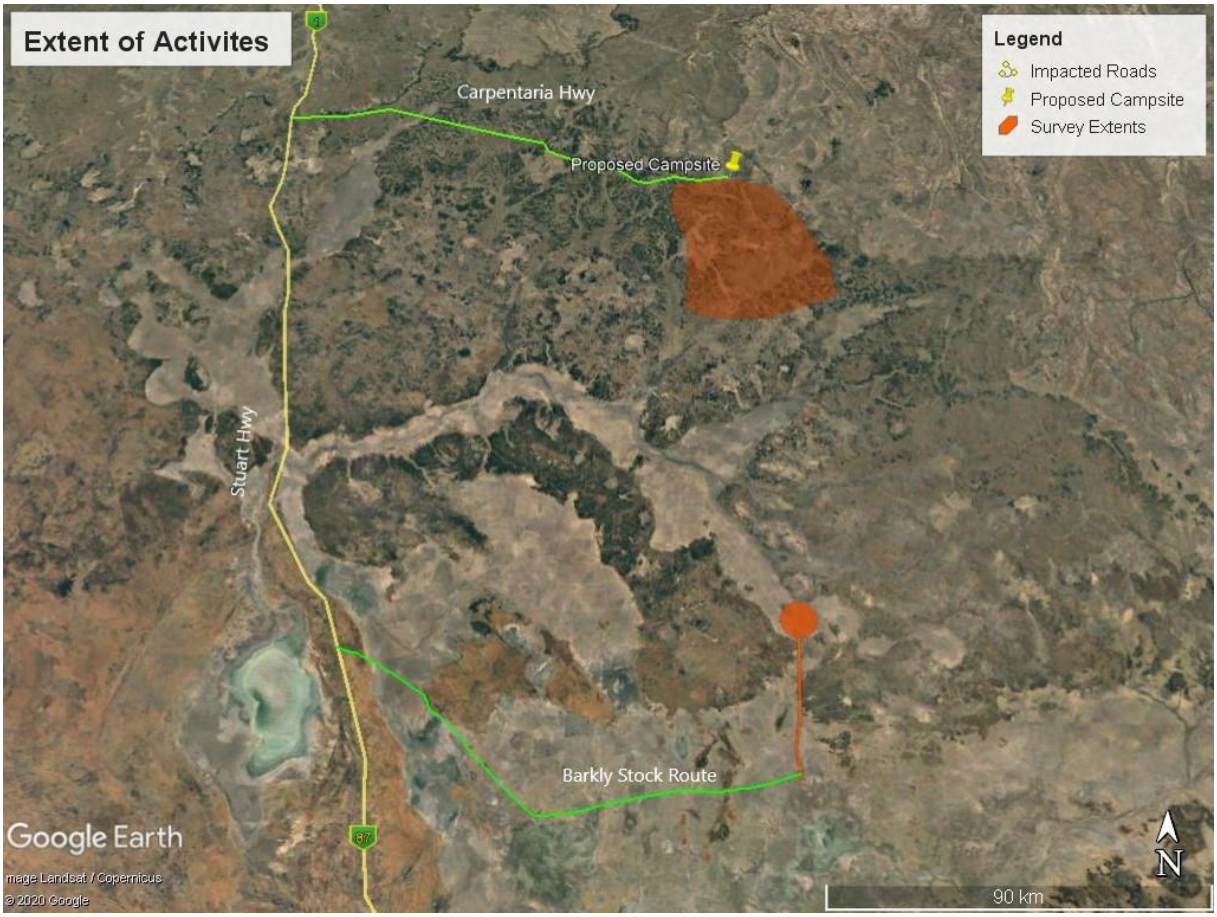


Figure 1: Locality Map

The location of the site accesses can be found at:

1. Carpentaria Hwy access -16.480103, 134.567017.

A photo of this access point is in the figure below.

Figure 2: Site entry off Carpentaria Highway

The proposed camp site is located close to this access point at -16.480750, 134.566123 and is located on the Taninbrini property.

2. Barkly Stock Route access: -17.976094, 134.66115

3.0 Traffic Generation Figures

3.1 Vehicles Movement

A conservative estimate of traffic movement for the site is presented in Table 1 for the Carpentaria Highway and Table 2 for the Barkly Stock Route. The busiest time for traffic accessing the sites on both the Carpentaria Highway and the Barkly Stock Route will be during seismic acquisition. It is estimated that an additional 5 trucks per day and 15 light vehicles per day (20 vehicles in total) will be generated from the sites during the survey.

Whilst the exact configuration of the camp is still to be determined, the camp will comprise of 10 sleeper caravans, kitchen and dining facilities, ablutions, site office, waste treatment and storage, potable water tanks, diesel storage and a diesel generation. The mobilisation and demobilisation of these facilities will only impact the Carpentaria Highway. All subsequent activities will then conduct from the established camp and will not require access via the Carpentaria Highway. However, access to the area adjacent the Barkly Stock Route will require the vehicles to leave the camp, travel along the Carpentaria Highway, Stuart Highway and the Barkly Stock Route before reaching the site. The movement along the Stuart Highway has been assumed to be a one-time movement and therefore has not been including with this Traffic Impact Assessment.

The line clearing is to be achieved using a grader and a D6 dozer. A surveyor will accompany the preparation crew in a light four wheel drive (4WD) vehicle.

During the seismic acquisition, there will be approximately 16 – 20 vehicles on the permit area during the seismic program. Approximately 13 of these vehicles will be operating on the seismic lines at any time. These vehicles will comprise of three vibrator trucks, a service truck, a recording truck and up to eight tray 4WD drive vehicles.

The gravity survey will be carried out using Utility Terrain Vehicles (UTVs). The gravity survey will be conducted independent of the seismic survey, to avoid interference. This will occur either before or after the seismic survey.

Line clearing, seismic acquisition and the gravity survey will be conducted across the Barkly Stock Route and the potential traffic risks and mitigation measures are discussed in Section 5.0.

Table 1 Indicative Traffic Flows Carpentaria Highway

Activity	Duration	Average heavy vehicles per day (return trips)	Light vehicles per day	Total trips per day
Camp Construction and establishment	5 days	20	15	Once at Mobilisation and Demobilisation
Line clearing*	25 days	2	1	2
Seismic acquisition*	53 days	5	15	2
Ground gravity survey*	16 days		2	2

*These activities will mobilize from the camp site and will not impact traffic.

Table 2: Indicative Traffic Flow Barkly Stock Route

Activity	Duration	Average heavy vehicles per day (return trips)	Light vehicles per day	Total trips per day
Line clearing	25 days	2	1	2

Activity	Duration	Average heavy vehicles per day (return trips)	Light vehicles per day	Total trips per day
Seismic acquisition	53 days	5	15	2
Ground gravity survey	16 days		2	2

4.0 Analysis of Traffic Flows

4.1 Impact of Additional Traffic Volumes Generated

The preceding section identifies that the maximum anticipated traffic flow increases associated with the seismic survey program will be approximately 35 vehicles per day.

In assessing the additional traffic flow generated by the proposed activities. AUSTRAODS guidelines were used to determine the typical level of service operating conditions that would be expected by traffic on rural roads, such as the Carpentaria Highway and the Barkly Stock Route and using that information to determine the impact of the anticipated additional traffic that will be generated by the site. For roads such as the Carpentaria Highway and the Barkly Stock Route, that contain traffic flow that is constrained to a single lane without overtaking, equation 5 from AUSROADS Guide to Traffic Management part 3 (AGTM03) can be used to determine the capacity of each road. This equation is described below.

$$C = 1800 f_w f_{HV}$$

where

C = capacity in veh/h under prevailing roadway and traffic conditions

f_W = adjustment factor for narrow lanes and lateral clearances, obtained from Table 5.1 AGTM03

f_{HV} = adjustment factor for heavy vehicles $= \frac{1}{1+P_{HV}(E_{HV}-1)}$

P_{HV} = the proportion of heavy vehicles in the traffic stream, expressed as a decimal

E_{HV} = the average passenger car equivalents for heavy vehicles obtained from Table 5.2 AGTM03.

From Table 5.1 AGTM03, $f_w = 0.63$ will be taken for both the Carpentaria Highway and the Barkly Stock Route. This is a conservative estimate based on a lane width of 2.7 m and a lateral clearance of 1m on each side of the road.

The proportion of heavy vehicles for the Carpentaria Highway is taken from the DIPL Annual Traffic Report 2018. The results from the traffic report are outlined in Figure 3, and by summing the proportions of vehicles with AUSTROAD classifications of 3 and above, the total proportion of heavy vehicles along the Carpentaria Highway is 36%. There is no information on vehicle classifications for the Barkly Stock Route. It will be assumed that the proportion of heavy vehicles is the same as the Carpentaria Highway. This will provide a conservative estimate, as due to the unsealed road surface, the heavy vehicle use along this section of road is most likely minor.

Road Name/Location	Station	Month (Days)	Direction	1	2	3	4	5	6	7	8	9	10	11	12
Carpentaria Highway 2km East of Stuart Highway	RKVDP008	All (365)	Inbound	49.67	14.15	9.24	1.65	0.29	1.28	1.67	0.81	2.78	1.02	5.11	12.31
		All (365)	Outbound	50.24	14.05	9.16	1.85	0.24	1.31	1.70	0.73	2.68	1.10	4.84	12.09
		All (365)	Both	49.96	14.10	9.20	1.75	0.27	1.29	1.68	0.77	2.73	1.06	4.98	12.20

Figure 3: Heavy Vehicle Proportions Carpentaria Highway

Finally, the E_{HV} for each road was determined using Table 5.2 from AGTM03. For this case $E_{HV} = 4$ f was taken for each road as a conservative approach.

This results in a capacity of 544 vehicles per hour for both the Carpentaria Highway and Barkly Stock Route.

The anticipated traffic flows calculated above were added to the measured flows to determine the impacts. Figure 4 and Figure **5**, below are extracts from the DIPL Annual Traffic Report 2018 showing the AADT figures from the closest traffic count station to each site. Given the limited access opportunities between the site of the traffic counts and the site access locations it can be assumed that the traffic figures at the site will be similar. For the Carpentaria Highway, the peak monthly flow will be used. As monthly data is not available for the Barkly Stock Route, the most recent yearly AADT will be used.

The most recent traffic figures from 2018 show that the daily traffic flows are in the order of 108 vehicles per day for the Carpentaria Highway and 7 vehicles per day for the Barkly Stock Route. This traffic flow is split evenly between both the inbound and outbound lanes. These counts can be considered an average daily flow.

In a study undertaken for the *"Mt Todd Gold Project Traffic and Transport Impact Assessment June 2013"* by GHD, physical counts indicated that the peak traffic flows could be up to 50% higher than the average daily flows. To take that into account, a peaking factor of 50% has been applied to the average daily flows presented in Figure 4 and Figure **5** bringing the estimated peak daily traffic flow to 162 vehicles per day and 11 vehicles per day respectively. This represents a worst case scenario for traffic flows in the vicinity of the sites.

Road Name / Location	Station No	Direction	Units	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	AADT
Carpentaria Highway	RKVDP008	Inbound	Veh	12	13	20	31	36	46	56	47	39	35	29	24	33
2km East of Stuart Highway		Outbound	Veh	11	12	17	29	38	44	52	43	38	33	32	27	31
		Both	Veh	23	25	37	60	74	90	108	90	77	68	61	51	64

Figure 4: Calculated AADT for Carpentaria Highway

Road Name / Location	ADT Station	Direction	Units	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Barkly Stock Route	RTVDC024	Inbound	Veh	7		6		4		17		4	
5km East of Stuart Highway		Outbound	Veh	5		7		6		15		3	
		Both	Veh	12		13		10		32		7	

Figure 5: Calculated AADT for Barkly Stock Route

The peak additional traffic flow produced by the project activities is expected to be 40 vehicles per day (20 vehicles completing 2 trips per day). The addition traffic brings the worst case scenario flows to 202 vehicles per day for the Carpentaria Highway and 51 vehicles per day for the Barkly Stock Route. Based on the typical capacity determined for each road of 544 vehicles per hour (using AGTM03, section 5.1), the daily traffic flows are well within the capacity of each road (approximately 8.5 vehicles per hour for the Carpentaria Highway and 2 vehicles per hour for the Barkly Stock Route) . It is therefore expected that impacts on traffic flows are to be negligible.

4.2 Impact of Composition of Traffic

The current split of vehicles based on the AUSTROADS vehicle classification system for the Carpentaria Highway is as follows:

1. Short 54 vpd (49.96%)
2. Medium 27 vpd (25.32%)
3. Long 7 vpd (6.47%)
4. Medium combination 7 vpd (6.04%)
5. Large combination 13 vpd (12.2%)

Traffic Level of Service may also be impacted through changes in traffic compositions, with the volume of trucks affecting the road capacity greater than light vehicles. To assess the changes in traffic composition, vehicle category data obtained from the DIPL Annual Traffic Report 2018 were assessed against expected total project traffic figures. Taking into consideration the period with the largest

increase in traffic flow (Seismic acquisition) the split of vehicles for the Carpentaria Highway changes to the following;

1. Short 30 additional vehicles 84 (56.75%)
2. Medium 10 additional vehicles 37 (25%)
3. Long 0 additional vehicles 7 (4.72%)
4. Medium combination 0 additional vehicles 7 (4.72%)
5. Large combination 0 additional vehicles 13 (8.78%)

The results demonstrate that the traffic composition associated with the project, increase the proportion of short vehicles and decreases the number of long, medium combination and large combination. This change in percentage is unlikely to negatively impact upon the road's capacity and LOS.

There is no information of the current vehicle split of the Barkly Stock Route. However, due to the nature of the road, it can be assumed that will either be short or medium. As all of the vehicles that will utilise the Barkly Stock Route through the duration of the project activities are also short or medium. It can be assumed that the overall change in composition will not significantly impact the roads capacity or LOS.

5.0 Other Potential Risks and Mitigations

5.1 Activities within the Barkly Stock Route

Several of the activities associated with these works will be completed within the Barkly Stock Route. These include line clearing, seismic acquisition and the ground gravity survey. To mitigate the risks associated with working with traffic, the necessary provisions will be taken as per the DIPL Roadworks Master Specification - Section 1; Provisions for Traffic. This will include the appropriate traffic management and signage as required to alter road uses of the project activities.

5.2 Camp adjacent the Carpentaria Highway

The location of the camp is approximately 125m off the highway alignment. The site is an existing clearing used as a camp for road construction and maintenance crews through the year. Potentially it may cause distractions for road user, particularly with the use of lights at night. The below photo shows the camp site is surrounded by a well vegetated buffer which will assist in shielding the camp from the Carpentaria Highway. Traffic entering and exiting the site will also be using this access point. To mitigate these impacts, appropriate signage will be placed before the camp to inform road uses of the camps location. All traffic management protocols as per the DIPL Roadworks Master Specification - Section 1; Provisions for Traffic will be followed.

Figure 6: Proposed camp site

6.0 Summary and Conclusions

The proposed activities are located in an isolated location on the Carpentaria Highway and Barkly Stock Routes approximately 132 km east of the Stuart Highway and approximately 129 km east of the Stuart Highway respectively. Average daily traffic flows in the area, according to traffic counts undertaken from the DIPL Annual Traffic Report 2018, are about 108 vehicles per day for the Carpentaria Highway and 7 Vehicles per day for the Barkly Stock Route. A peaking factor of 50% was also applied.

The peak additional traffic generated by the proposed activities will be approximately 40 vehicles per day. The existing daily flows, plus the anticipated additional traffic, totaling approximately 204 vehicles per day for the Carpentaria Highway and 51 vehicles per day for the Barkly Stock Route, are well below the flows that have been calculated from AUSROADS Guide to Traffic Management part 3 (AGTM03) for this type of road.

It is concluded that with the low traffic volumes and management practices to be put in place, impacts of the proposed intersection on existing traffic both roads will be minimal.

Appendix L

Emergency Response Plan and Interface

Appendix L Emergency Response Plan

Sweetpea Oil and Gas Exploration Program, Northern Territory

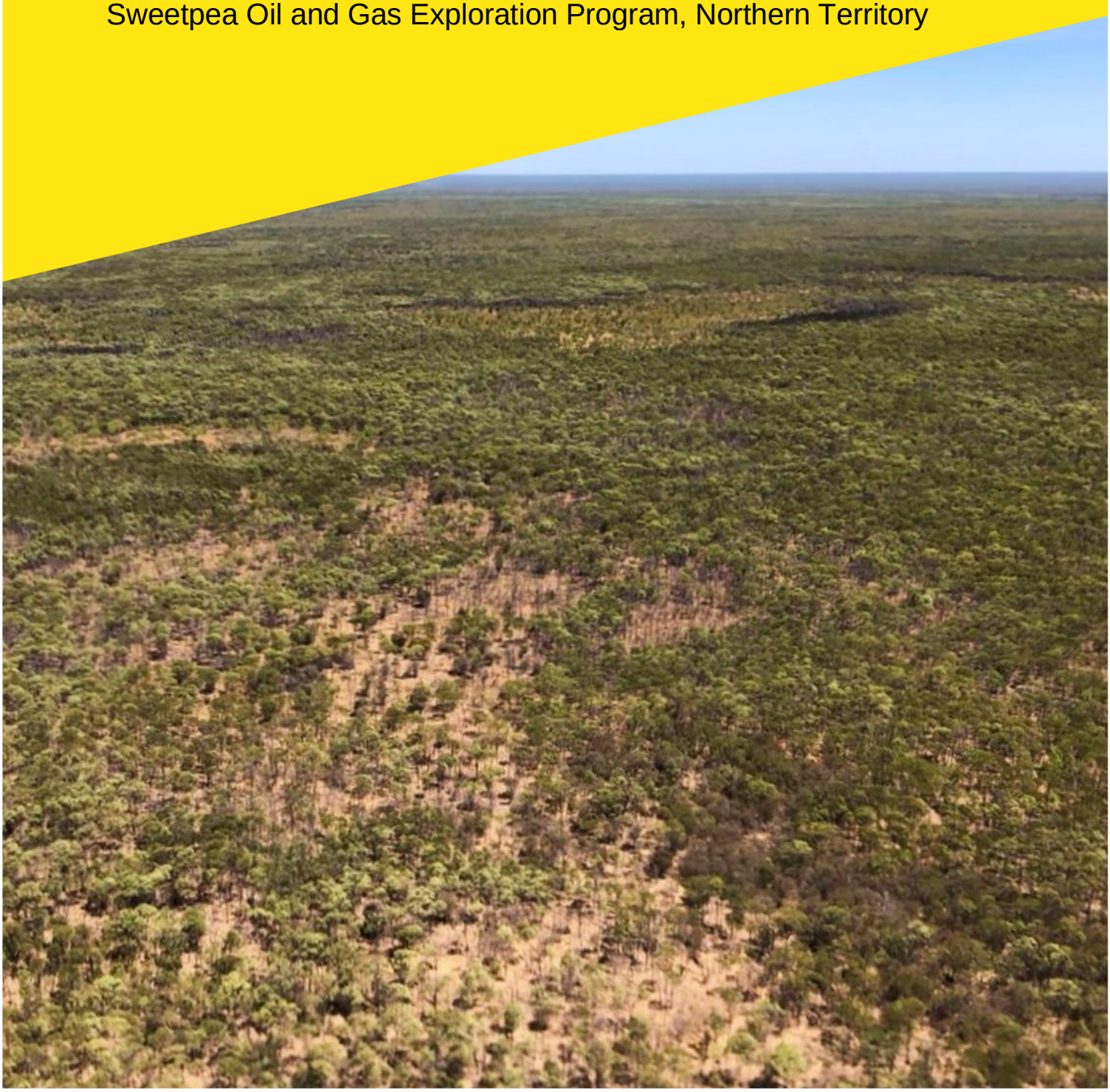
Sweetpea Petroleum Pty Ltd

01-Sep-2020

DENR Unique Reference No.: SWP1-04

Emergency Response Plan

Sweetpea Oil and Gas Exploration Program, Northern Territory



Emergency Response Plan

Sweetpea Oil and Gas Exploration Program, Northern Territory

Client: Sweetpea Petroleum Pty Ltd

ABN: 42 074 750 879

Prepared by

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01-Sep-2020

Job No.: 60611666

DENR Unique Reference No.: SWP01-04

AECOM in Australia and New Zealand is certified to ISO9001, ISO14001 AS/NZS4801 and OHSAS18001.

Quality Information

Document	Emergency Response Plan
Ref	60611666
Date	01-Sep-2020
Prepared by	Tyler Hill
Reviewed by	Alana Court

Revision History

Rev	Revision Date	Details	Authorised	
			Name/Position	Signature
0	14-Jul-2020	Appendix L	Alana Court Associate Director - Environment	
1	01-Sep-2020	Appendix L for EMP Formal Submission. Updated based on comments received on 26 August 2020.	Alana Court Associate Director - Environment	

Table of Contents

1.0 Introduction

1.1 Project Overview

The Beetaloo Basin is located in the Barkly Region, approximately 500 km south-east of Darwin in the Northern Territory.

The 2020/21 seismic survey program relates to two-dimensional seismic acquisition survey and ground gravity survey to delineate prospective hydrocarbon areas within the northern part of EP136. The location of the seismic exploration program occurs within two distinct areas, referenced as the northern exploration area and the southern exploration area.

Access to the northern survey area will be via the Carpentaria Highway located approximately 132 km east from the Stuart Highway turnoff. The access to carry out the seismic program is anticipated to be either from the proposed camp area at the northern end of Line 11 and from the existing pastoral track at Line 14.

Access to the southern survey area will be via the Barkly Stock Route Road, approximately 206 km south of the Highway Inn, Daly Waters and 129 km east from the Stuart Highway turnoff. At the boundary of Eva Downs Station, the Barkly Stock Route becomes part of Eva Downs pastoral lease.

1.2 Proponent

Sweetpea Petroleum Pty Ltd Limited is the proponent and the company taking the action for seismic survey activities in the Beetaloo Sub-basin Permit Areas. The contact details are provided below:

Table 1 Contact Details

Company	Sweetpea Petroleum Pty Ltd
ABN	42 074 750 879
DENR Unique Identity No.	SWP1-03
Primary Contact	Andrew Logan Chief Executive Officer
Phone	+61 413 151 052
Email	andrew@longview-sweetpeapetroleum.com
Registered Postal Address	C/o Wardell Nominees GPO Box 3996 Darwin, NT 0801 Australia

1.3 Purpose

The purpose of this Emergency Response Plan (ERP) is to provide high-level guidance to enable all management and employees of Sweetpea Petroleum Pty Ltd (Sweetpea) and its contractors to develop emergency response and security procedures that will assist in controlling and reducing the impact of emergency incidents should they occur on Sweetpea's exploration permit area(s).

In preparing the ERP, the following assumptions were made:

- Scope is limited to incidents reasonably foreseeable at the time of the review.
- The ERP was completed based on current industry best practice and knowledge, and to the standard of skill, care and diligence as is reasonably expected of Sweetpea and its contractors performing the same or similar services.
- Any construction, operation, maintenance or demolition activities will be carried out by Sweetpea and its contractors and/or personnel with appropriate knowledge, competence and skills to undertake such tasks.

- Any organisation or person responsible for any of construction, operation, maintenance or demolition will review and update/incorporate any new risks into the emergency response and security procedures developed for the site as and when required.
- Relevant parties will also refer to other safety documentation included with the EMP, such as the bushfire management plan (*Appendix E* of the EMP), spill prevention and response management plan (*Section 7.5* of the EMP), health safety and environment management plan (*Appendix H* of the EMP) and the erosion and sediment control plan (*Appendix J* of the EMP).

1.4 Scope

This ERP provides guidance to employees of Sweetpea, and extends to contractors, sub-contractors and their employees, if and when engaged by Sweetpea. It identifies potential emergencies, the responsibilities of emergency team members, training and emergency requirements.

1.5 Document Control and Review

It is the intention that the ERP is a live document and will be updated as required. Updates will be controlled using the revision page on the cover. It is necessary that the document remains live and has a controlled update status, as one of the main audit parameters will be compliance with this document.

1.6 References

- NT *Workplace Health and Safety (National Uniform Legislation) Act 2014*
- NT *Workplace Health and Safety (National Uniform Legislation) Regulations 2014*
- NT *Petroleum Act 2015*
- NT *Dangerous Goods Act 2012*
- *AS 3745 Emergency Control - organisation and procedure for buildings*
- *AS 1851 maintenance of fire protection equipment*
- *AS 1221 Fire Hose Reels*
- *AS 1841 portable fire extinguishers*

1.6.1 Work, Health and Safety Regulations (National Uniform Legislation)

Duty to prepare, maintain and implement emergency plan

- A person conducting a business or undertaking at a workplace must ensure that an emergency plan is prepared for the workplace, that provides for the following:
  - emergency procedures, including:
    - an effective response to an emergency
    - evacuation procedures
    - notifying emergency service organisations at the earliest opportunity
    - medical treatment and assistance
    - effective communication between the person authorised by the person conducting the business or undertaking to coordinate the emergency response and all persons at the workplace
  - testing of the emergency procedures, including the frequency of testing
  - information, training and instruction to relevant workers in relation to implementing the emergency procedures.
- A person conducting a business or undertaking at a workplace must maintain the emergency plan for the workplace so that it remains effective.

- For the purposes of sub-regulations (1) and (2), the person conducting the business or undertaking must consider all relevant matters, including the following:
  - the nature of the work being carried out at the workplace
  - the nature of the hazards at the workplace
  - the size and location of the workplace
  - the number and composition of the workers and other persons at the workplace.

1.6.2 NT DPIR Schedule of Onshore Petroleum Exploration and Production Requirements 2019

Clause 203: Emergency Response Manual

Section 1: Operations shall not be carried out unless there is an approved Emergency Response Manual, which sets out procedures to be followed, actions to be taken and personnel responsibilities.

2.0 Administration, Appointments and Resources

Administration, appointments and resources proposed for the Sweetpea 2020 Seismic program are presented in the following section.

While Sweetpea and its contractors shall take all reasonable and practical steps to minimise the risks of accident (particularly fire, explosion and chemical release and other situations where there may be significant risks to personnel and property), it is acknowledged that, despite these measures, it cannot be assumed that a major incident will never occur. In consideration of the circumstance where an emergency incident does occur, the primary objective is to provide a practised, swift and effective response to that and any potential emergency situation.

2.1 Organisational Commitment

Sweetpea is committed to providing a safe place of work and safe systems of work, as well as protecting the health and safety of people during reasonably foreseeable emergency situations. Sweetpea and its principal contractors, involved in seismic and survey activities, shall maintain a fully documented Emergency Response Manual (ERM) that:

- identifies all reasonably foreseeable emergency scenarios for the site
- prescribes the emergency organisation (people and responsibilities)
- specifies the arrangements to be implemented (systems and procedures).

Securing the safety of all personnel and others who may be affected by an emergency involving Sweetpeas activities is to be accorded the highest priority. Having ensured this, management shall remain fully committed to containing the consequences of any emergency situation until that emergency situation has been fully controlled.

2.2 Appointments

Sweetpea is to appoint an Onsite Operating Company Representative, who will oversee the entire program. They will directly report to the Sweetpea Project Manager.

The Onsite Operating Company Representative will also have a dual role as the Principal Officer (Emergency Response and Security Co-ordinator or EHS manager) and will be responsible for the maintenance and administration of the Program's Emergency Response and Security System, and for that of its contractors.

Sweetpea's principal contractors will be required to provide the Emergency Response Team for the duration of the Program. The contractor shall appoint in writing, suitably qualified and experienced personnel to the following site/office-based Emergency Response positions:

- Emergency Co-ordinator: Senior Contractor Supervisor to co-ordinate emergency response at the site.

- Duty First Aid personnel: Qualified and trained employees who are emergency response team members.
- Communications, Services and Utilities Co-ordinator: Trained employees to man communications systems, keep log, contact personnel, act as runner if required.
- First Aid and Fire Rescue Teams: Trained employees who are directed by the Emergency co-ordinator.

2.3 Resources

The necessary resources (people, facilities, equipment and financial) shall be made available by Sweetpea and the contractors in order to ensure the Emergency Response Plan:

- complies with all relevant legislation
- meets the onshore oil industry exploration standards
- ensures suitable emergency response training for employees.

3.0 Emergency Response Planning

3.1 Emergency Planning

All potential emergency situations need to be identified and emergency procedures need to be documented in order to prevent and minimise potential injury, illness, damage to the environment and/or property. These plans are outlined with this ERP and the following plans of the EMP - bushfire management plan (*Appendix E* of the EMP), spill prevention and response management plan (*Section 7.5* of the EMP), health safety and environment management plan (*Appendix H* of the EMP) and the erosion and sediment control plan (*Appendix J* of the EMP).

As a priority, Sweetpea shall ensure that the ERP and all other safety management plans are maintained and regularly tested in order to aid the process of continuous improvement. Sweetpea and the principal contractors shall also endeavour to provide information and training as often as is necessary to all employees and visitors to facilitate a better understanding of the emergency response arrangements and procedures in place.

The Sweetpea Project Manager or his designate shall review all contractors' emergency plans before commencement of their operations to ensure that contractors plans merge with, and do not conflict with either Sweetpea's ERP or that of other contractors engaged on the same scope of works. Should this unlikely scenario occur, the Onsite Operating Company Representative, as Sweetpea's Site Emergency Response Co-ordinator, shall develop a specific Emergency Response Plan for that site in conjunction with the principal contractors.

All personnel shall be made aware of the potential hazards that exist at or around the survey area and within field offices and campsites, which may cause an emergency. This shall be done initially by the respective Supervisors at the employees' induction, then at the daily pre-start/ tool-box meetings.

Examples of some potential emergency situations are:

Survey site:

- vehicle collision or roll-over
- major malfunction, structural or mechanical failure of equipment
- explosives: unplanned initiation
- security: theft, sabotage
- bomb threat
- major trauma, due to personal injury, personal medical condition, allergy
- chemical spill / leak

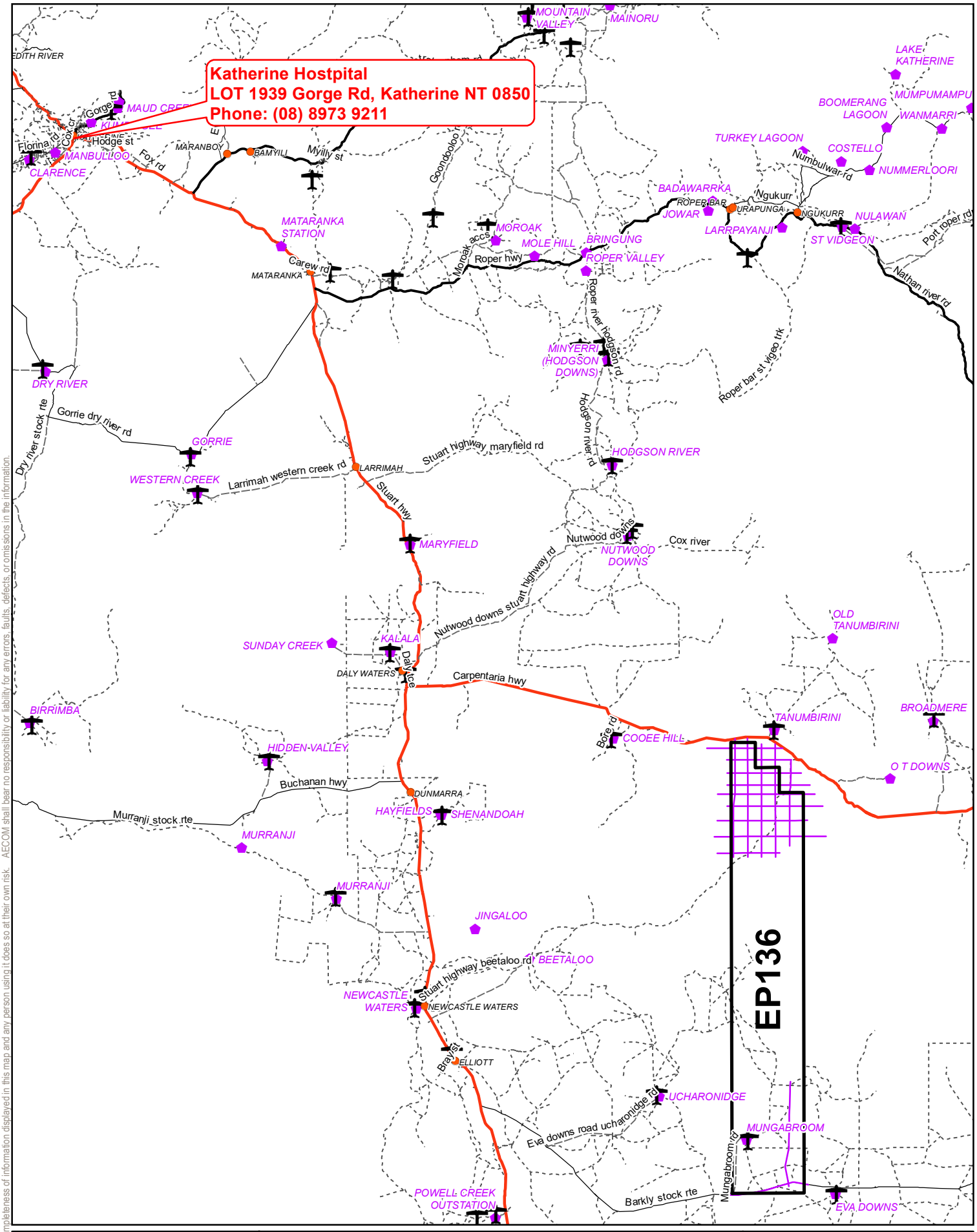
- civil disorder
- aircraft emergency
- late arrival: aircraft or vehicle
- bush fire, and/or
- storms/wet season (dust, erosion and sediment, stormwater flooding, cyclones).

Field offices and camp sites:

- bomb threat
- kitchen oil fire
- electrical fire
- vehicle collision or roll-over
- security: theft, sabotage
- chemical spill/leak
- civil disorder
- aircraft emergency
- late arrival: aircraft or vehicle
- gas leak/toxic smell
- major trauma, due to personal injury, or medical condition including allergy
- bush fire
- community/ off-site emergency, and/or
- storms/wet season (dust, erosion and sediment, stormwater flooding, cyclones).

Any concerns which employees may have regarding the emergency procedures should be reported to the Onsite Operating Company Representative immediately. Sweetpea's management shall then take the necessary measures to investigate and remedy the situation, as is appropriate.

An example of the proposed camp and Survey extent layout for the Sweetpea's 2020 Seismic exploration program is presented in below.



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N

DATUM GDA 1994, PROJECTION MGA ZONE 53

0 15,000 30,000 60,000

metres

1:1,800,000 (when printed at A4)

1:1,800,000

- Towns
- EP136
- Seismic Lines
- Airstrips
- Homesteads
- Highway
- Major Road
- Local Connector
- Sealed
- Unsealed
- Vehicle Track

Data sources:

Base Data: Map compiled using MapInfo Streetpro data (c) 2004

Sweetpea Petroleum Pty Ltd, Environmental Managment Plan

2020 Emergency Response Plan

PROJECT ID	60611666
CREATED BY	david.vandenhoek
LAST MODIFIED	14-Jul-2020
VERSION	1

Figure 1

Filename: P:\606x\60611666\900_CAD_GIS\920_GIS\MXD\First Aid.mxd

A4 size

4.0 Emergency Response Procedure

4.1 Emergency Conditions

Following are examples of what would be considered an emergency condition; however, this list is not exhaustive, and the appropriate emergency response will be made by the Site Safety Officer/Fieldwork Coordinator at the time of any emergency, should one occur:

- An injury to any employees requiring more than first aid treatment.
- Any situation where an emergency is signalled by Sweetpea.
- Excessively strong or abnormal odours indicating a high exposure to contaminants.
- Any situation arising which may cause excessive environmental damage or create an immediate unsafe situation.
- Bushfire in the immediate vicinity of the regulated activity and camp site.

It is noted that a standalone Bushfire Management Plan has been prepared as a standalone document and is a requirement to conform to Bushfire management plan in addition to the procedures below.

4.2 General Emergency Procedure

In the event of any incident, the first priority shall be the safety of all personnel and the community in the immediate vicinity. Following this, all practical steps should be taken to minimise the risk of further incidents/accidents as soon as possible after the event. The situation should be stabilised following the appropriate incident management or contingency plan procedures.

In the event of a serious emergency, the following procedure will be followed:

1) Stop work.
2) All personnel shall leave the work zone via established entry/exit routes.
3) Leave the site and assemble at the emergency assembly area (which will be designated on the day of induction) and name ticked off on the Emergency Evacuation Roll Call sheet (Appendix L3).
4) If required transport the injured individuals(s) to the nearest medical facility or contact Royal Flying Doctors to medivac.

The Emergency Response Team will form and implement the procedure and notify the relevant services as to the details regarding any emergency:

- Fire Brigade
- Ambulance
- Police
- Department of Mines and Energy – Petroleum Operations
- NT Environment Protection Authority.

Contact with Sweetpea Management will be maintained throughout any emergency situation.

4.3 Medical Emergency Procedure

First Aid; DRABCD

Danger

Respond

Airway

Breathing

Circulation

Defibrillator

1) Assess the Danger (to yourself, patient and others). Shut down machinery. Check all personnel on site are accounted for (Appendix L3).
2) Evacuate spectators away from accident site. Delegate spectators to access First Aid kits, phones etc.
3) Check the response of the injured person/s (consciousness level; breathing).
4) Administer First Aid to injured person.

Phone for Help

Phone Head Office or supervisors on Emergency Contact List to report accident and request assistance. Head Office to coordinate the emergency response after getting information about the nature and severity of the accident. DO NOT HANG UP UNLESS REQUESTED by Head Office.

1) IN LIFE THREATENING SITUATIONS, IT MAY BE ESSENTIAL TO CALL EMERGENCY SERVICES PRIOR TO THE HEAD OFFICE BEING NOTIFIED (See Emergency Contacts List - Appendix L1) BUT CONTACT WITH HEAD OFFICE SHOULD BE MADE ASAP.
2) If unable to reach Head Office; then try A/H numbers on Emergency Contacts List (Appendix L1) and follow the same procedure as above.
3) Head Office will contact Emergency Services.
4) Discuss evacuation procedures with Head Office or after-hours emergency contacts. Patient should not be moved if there is any danger of spinal injury unless discussed with paramedics. Evacuation procedures may involve use of Royal Flying Doctor Service NT; site vehicles on station tracks etc.

4.4 Bushfire Emergency Procedure

In addition to the standard bushfire response below, refer to the bushfire management plan in *Appendix E* of the EMP. The Standard bush fire response includes the follow;

1) Contact Head Office to report bushfire. Arrange to call back in 10 minutes after Head Office has obtained information on the bushfire.
2) Contact land owners via the Emergency Contact List (Appendix L1) to report bushfire
3) Talk to Head Office about evacuation and discuss the plan of action. Arrange a time/location to contact Head Office if evacuating the site
4) Check that all personnel are accounted for by ticking off the Emergency Evacuation Roll Call sheet (Appendix L3).
5) Contact land owners via Emergency Contact List (Appendix L1) to advise of personnel/rig movements.

Information on fires in the Barkly Region can be obtained from:

Bushfires NT

T 08 8962 4577

Fire can threaten property and life without notice, so being prepared is crucial.

When a bushfire threatens, Bushfires NT will broadcast information and warnings under three categories:

- Bushfire Advice
- Bushfire Watch and Act
- Bushfire Emergency Warning.

Fire can move fast, so it is vital that landowners monitor the threat in addition to these broadcasts.

Table 2: Standard Bushfire Response Broadcasts

Bushfire Advice	• A fire has started but there is no immediate danger. • An information-only message that generally relates to small, controllable fires, a planned burn or a fire burning a long way from homes. • Advice distributed via the Bushfires NT website and local media
Bushfire Watch and Act	• A fire is approaching and it could threaten property and life if not controlled. • The fire is most likely burning in severe, extreme or catastrophic fire danger conditions, and fire authorities' resources will be stretched in controlling it. • Initiate your bushfire survival plan now to protect yourself, your family and your property. • Information distributed with some urgency via local radio, particularly ABC.
Bushfire Emergency Warning	• A bushfire is about to affect you and you must take immediate action to protect your life. • The warning message will identify where the fire is currently located, its severity, the estimated time to impact and what you should do immediately. • Information distributed with extreme urgency via local radio, particularly ABC. Programming interrupted for immediate broadcast. • May also be distributed via SMS and voice recording to mobile phones and landlines in the danger area. • Sometimes, particularly in 'catastrophic' fire danger conditions, the warning is preceded by the Standard Emergency Warning Signal, a wailing siren sound used throughout Australia for emergency events, including cyclone warnings

4.5 Severe Weather Event Emergency Procedure

Standard severe weather event forecast response:

1) Contact Head Office to report a severe weather event forecasted for the site.
2) Talk to Head Office about preparation of the site and discuss the plan of action. Arrange a time/location to contact Head Office if evacuating the site.
3) Check that all personnel are accounted for (Appendix L3).

Information on severe weather in the Barkly Region can be obtained from:

Bureau of Meteorology

Website http://www.bom.gov.au/nt

Cyclone 1300 659 211

Weather forecast 08 8920 3826

In the event of a severe weather emergency at the sites, the following procedure will be followed:

1) Continue to monitor BOM website to track the movement of the severe weather
2) Inspect water storage on site and make preparation as necessary to secure the site and equipment
3) Assemble personnel as needed in preparation for any further action needed.

The Emergency Response Team will form and implement the procedure and notify the relevant services as to the details regarding any severe weather emergency.

5.0 External Emergencies

As a good corporate citizen who is working in remote regions of Australia, Sweetpea recognises its obligations to local communities and other industries working in close proximity. Sweetpea and its contractors will cooperate with and participate in broader Emergency Response Plans, and where reasonably practical, will provide emergency assistance to local communities and other industries working in close proximity.

Accordingly, Sweetpea's EHS Manager and the contractors' Senior Emergency Response Personnel shall, on commencement of exploration operations, make themselves known to the local community and will advise them of what aid and assistance can be provided.

As part of the ERP, Sweetpea shall maintain an Emergency Communications list with emergency contact numbers (Appendix L1), which shall include all neighbours, community settlements, names, telephone numbers, radio call sign frequencies of local property owners, other exploration or production sites, and indigenous communities.

6.0 Contractual Obligations

The principal contractors of Sweetpea, conducting exploration activities or camp management, shall have available as part of their contractual agreement, an Emergency Response and Security Manual that meets Oil Industry "Onshore" Exploration Standards and complies with the Northern Territory *Work, Health and Safety Regulations* 2014 and the Department of Mines and Energy *Schedule of Onshore Petroleum Exploration and Production Requirements 2012*. These plans shall reasonably identify all potential emergencies that may occur during the seismic survey and/or within the confines of a camp.

The contractor's ERM shall contain:

1. position descriptions and responsibilities for all emergency response team members
2. an emergency communication list and response procedures for all identified emergencies listed in this document
3. evacuation areas for their respective areas of operations.

Ten days prior to commencing operations the principal contractors shall provide Sweetpea's Project Manager with a generic risk assessment covering the operational scope of work that will occur under their contractual obligations. These risk assessment shall be reviewed and approved by the Onsite Operating Company Representative. Immediately prior to commencing on-site operations (in the field) the principle contractors, shall conduct risk assessments for all tasks that have the potential to cause serious injury, major property damage, or environmental damage.

Note: These risk assessments shall be approved by Sweetpea's Project Manager or competent designate, prior to the commencement of the said job.

7.0 Emergency Communication

To ensure that clear, up-to-date information on emergency arrangements is made available to all employees, contractors and visitors, Sweetpea's site shall provide:

1. A notice board labelled “Emergency Information” shall be provided in a location accessible to all employees.
2. The following information shall be on the notice board at all times:
   - name(s) of emergency co-ordinator
   - name(s) of first aid personnel
   - emergency phone numbers, and
   - emergency evacuation plan.
3. No other notices shall be placed on the “Emergency Information” notice board.
4. The Onsite Operations Manager shall be responsible for ensuring information is displayed and is current.
5. The accuracy of notices shall be checked as part of the monthly workplace inspection and recorded in the inspection report.

The Emergency Co-ordinator shall formulate an Emergency Response – Contact Numbers List. This should be carried out for each site, field office and campsite and maintained monthly. The Emergency Communications List should be posted throughout the site, on all emergency notice boards, beside each emergency alarm, intercom, beside each telephone/ radio, in each vehicle, bedroom and office. See Appendix L1 for emergency contact numbers. A laminated (wallet size) copy should be given to each employee.

The Emergency Co-ordinator shall appoint a suitable competent person to act as the communications co-ordinator during an emergency. The Communications Co-ordinator during the emergency is responsible for maintaining the Emergency Communication Log among other related responsibilities.

8.0 Emergency alarms, protective and rescue systems

A suitable number of automated emergency alarms with an independent power source and manual emergency alarms shall be installed within close proximity to main work stations and common employee recreation areas, such as mess rooms, crib rooms, as well as maintenance areas and offices. The maintenance supervisor shall test these alarms weekly and record the results.

Sweetpea and its principal contractors shall maintain an adequate supply of emergency equipment and reserve supplies to suit operational and logistic requirements.

Protective and rescue equipment is to be provided. The EHS manager and the principle contractor’s emergency controllers shall determine the correct needs through consultation with Emergency Team Members and supply consultants.

Note: It is essential when ordering emergency equipment that all team members are fitted with the correct sizes.

9.0 Sweetpea’s Organisational Structure

The following provides details of the Sweetpea’s Organisational Structure and their roles and responsibility in an event of an emergency situation

9.1 The Project Manager

The Project Manager is to:

- maintain open communications with the Onsite Operations Manager throughout the program
- ensure appropriate emergency response controls and resources are available to the Onsite Operations Manager and principal contractors
- follow up with Government agencies to ensure adequacy of the emergency response carried out on site.

9.2 Onsite Operating Company Representative

Sweetpea will appoint an Onsite Operating Company Representative to manage the day-to-day operations of the program. The Onsite Operating Company Representative in an event of an Emergency is to:

- notify the Sweetpea Project Manager of the emergency and provide regular updates on the situation
- provide Contract Managers with technical and emergency back-up, as required
- in consultation with Contract Managers, evaluate options and recommend action to the Sweetpea Project Manager.
- Obtain a list of any casualties and details of injuries and pass to the Sweetpea Project Manager.
- Obtain details of damage to equipment or the environment and pass information to the Sweetpea Project Manager.
- Authorise responses as appropriate.
- Co-ordinate Medivac operations as required.
- Document all communications, instructions and reports.
- Notify appropriate Government agencies, keeping them informed as the situation unfolds.

9.3 The Environment Health and Safety Manager

Sweetpea would designate the role of EHS Manager to the on-site contractor. The EHS Manager when aware of an emergency shall take the following actions:

- ascertain the nature of the emergency and determine appropriate action
- ensure that the appropriate emergency service has been notified
- ensure that area wardens are advised of the situation
- initiate evacuation and controlled entry procedures, if necessary
- brief emergency services personnel upon arrival, the type, scope and location of the emergency, the status of the evacuation and thereafter act on the senior emergency services officer's instructions.

9.4 The Site Occupational First-Aid Officer

The Site Occupational First-Aid Officer is responsible for the overall co-ordination of all first aid services on site, particularly those injuries that are deemed critical and require treatment by a physician, including co-ordinating medical evacuation. The person is responsible for ensuring an Incident Report Form (Appendix L2) is completed for each injured/ill employee.

This role is also responsible for ordering and maintaining all First Aid and Emergency Equipment. The duty first aid person shall report to the Occupational First Aid officer during an emergency.

Note: This position requires the person to be a qualified first aid officer, with a minimum of five years oil/ mining industry experience, Sweetpea's EHS Manager shall direct the principal contractors to appoint a suitably qualified person.

10.0 Emergency response teams, training and drills

Every exploration site, field office and campsite shall establish and maintain an Emergency Response Team (ERT). Contractors shall provide documented evidence in writing, that personnel appointed to these positions have received suitable training. Examples of the ERT positions are listed below:

- Emergency Co-ordinator

- Duty First Aid personnel
- Site Occupational First-Aid Officer
- Communications, Services and Utilities Coordinator
- First Aid and Fire Rescue Teams.

Specialised Emergency Training: i.e. Fire Warden Training including Senior First-Aid training and basic fire-fighting training shall be provided, as appropriate, on an annual basis to all ERT members.

Emergency Roles and Responsibilities (for example): The Emergency Response and Security Co-ordinator (EHS manager) shall ensure that roles and responsibilities are designated in the principal contractor's emergency response plan. The following designations can be used as a guideline in reviewing the contractor's plan.

- At all times the Onsite Operations Manager should ensure that all emergency procedures implemented are in accordance with Government Regulations, and good oil field exploration practice is carried out.
- The above personnel shall ensure all Hazardous Substances and Dangerous Goods including explosives and initiation systems are stored in accordance with the NT Work Health and Safety Act and Dangerous Goods Regulations and in a responsible manner.

11.0 Emergency Drills and Evacuations

The company's EHS Manager is to maintain an emergency drill and evacuation schedule based on the following guide in Table 3.

Table 3: Emergency Drill Evacuation Schedule Guide

DRILL TYPE	FREQUENCY	COMMENTS
Full drill and evacuation • Medivac Medical Evacuation • Employee Collapse – Heat Stress • Major Trauma – must include recovery and evacuation of incapacitated casualty	Once per program 6 monthly	All sites/ facilities
Fire drills,	Monthly	Exploration site and test drill site
Fire drills	Bi-monthly	Field office and camp site

The Company and its Contractors shall conduct testing of its emergency drills and evacuation exercises as per the above schedule.

Note: At the commencement of operations Sweetpea's EHS Manager shall ensure that the principal contractor conducts drills on a frequent basis until all employees, including contractors and sub-contractors are competent in all facets of the emergency plan.

The testing shall take place to ensure the plan is current, is known to all members of the workforce and all workforce members will be able to deal with emergencies should they arise.

Following each emergency drill, training exercise and evacuation, the contractors EHS Manager or other designate shall carry out debriefings individually in a discrete manner to minimise ongoing disruptions to the operations. Each person shall be fully debriefed and the plan re-evaluated by the Emergency Co-ordinator as to its accuracy and effectiveness.

The Emergency Co-ordinator, or designate, shall pass copies of all reports generated by emergency drills and evacuation exercises to the EHS Manager for evaluation and review.

Muster (Emergency Assembly) Points - All sites/ facilities shall have, as a minimum, a clearly designated muster point. In determining a suitable location for a muster point, consideration must be given to its access for the majority of personnel on foot, for vehicle access and also the prevailing wind direction.

11.1 Emergency "After the Event" planning, review and follow up

To ensure an efficient and effective return to normal operations, Sweetpea and its principal contractors shall maintain a current list of organisations that would be called upon to replace "key" damaged plant and equipment and consumables including dangerous goods.

Every emergency incident, no matter how small or insignificant shall be thoroughly investigated as soon as practical after the incident has been controlled and made safe. An independent third party should review the findings / recommendations if there was, or if the potential existed for a permanent disabling injury or fatality, major fire, explosion or chemical release.

All emergency drills, training exercises and evacuations, shall be reviewed thoroughly as part of the exercise.

A critical part of any incident or exercise review is the follow-up. Recommendations from the incident or exercise should be implemented, after which, the Onsite Operating Company Representative accompanied by the EHS Manager shall observe and discuss the recommendations to ensure successful implementation and that new hazards and/or risks will not be created.

12.0 Procedure Responsibility

The EHS Manager, as the appointed officer, has been assigned responsibility to ensure this procedure is maintained and updated to meet industry and legislative changes. Minimum Requirement: 1 review per year or after each drill/ exercise or emergency.

The EHS Manager shall monitor and review all emergency drills and exercises according to the agreed schedule.

13.0 Regularity Obligations

13.1 Northern Territory Specific Regulatory Obligations

The following is the list of Northern Territory Acts and Regulations applicable to Sweetpea permit areas:

- Schedule of Onshore Petroleum Exploration and Production Requirements 2012.
- NT *Workplace Health and Safety (National Uniform Legislation) Act* 2011.
- NT Workplace Health and Safety *(National Uniform Legislation) Regulations*, 2014.
- NT *Petroleum Act* 2010
- NT *Waste Management and Pollution Control Act 2013* (events external to survey area).

13.2 Emergency Reporting

As required under the legislation listed above, Sweetpea is required in any emergency situation to report to the relevant Designated Authority (DA) which includes, but is not limited to:

- Department of Mines and Energy (DME)
- NT WorkSafe
- NT Environmental Protection Authority (NT EPA).

A summary of the regulatory reporting requirements is provided in Table 3.

Table 4: Reporting Requirements

Type of Emergency Situation	Agency to report to	Incident classification	Reporting requirement
Fatality	DPIR	Immediately notifiable work related injury	ASAP, by phone or fax
	NT WorkSafe	Serious incident	ASAP, by phone or fax, followed by written report
Incident that has led to hospitalisation - injury and/or acute symptoms due to exposure to substances at worksite	DPIR	Immediately notifiable work related injury	ASAP, by phone or fax
	NT WorkSafe	Serious incident	ASAP, by phone or fax, followed by written report
Potential hazardous event - incident that might have led to injury or death	DPIR	Notifiable dangerous occurrence	ASAP, by phone or fax, followed by written report
	NT WorkSafe	Serious incident	ASAP, by phone or fax, followed by written report
Loss of Well Control / Blowout	DPIR/DENR	Notifiable dangerous occurrence	ASAP, by phone or fax, followed by written report
		Serious incident	ASAP, by phone or fax, followed by written report
Minor environmental incident (spill<200L)	DPIR/DENR	Reportable incident	ASAP, by phone or fax, followed by written report during working hours
	NT WorkSafe	Reportable incident	Quarterly reporting
Major environmental incident	DPIR/DENR	Notifiable dangerous occurrence	ASAP, by phone or fax, followed by written report
	NT EPA	Pollution Incidents that have potential to impact external to the site	ASAP, by phone or fax, followed by written report
	NT WorkSafe	Serious incident	ASAP, by phone or fax, followed by written report

Appendix L1

Emergency Contact List

Appendix L1 Emergency Contact List

Contact	Name	Contact No.
Primary Emergency Contacts		
POLICE / EMERGENCY		000
AFP DARWIN		+61 8 8980 1300
Katherine Police		+61 8 8973 8000
Mataranka Police		+61 8 8975 4511
ROYAL FLYING DOCTOR NT		+61 8 8648 9555
Katherine Hospital		+61 8 8973 9211
NT Emergency Services		+61 8 **8922 3630**
Bushfire NT (Tennant Creek)	Tennant Creek (Barkly Region)	+61 8 8962 4577
Information Services		
Poisons Information Centre		+61 1 13 11 26
Bureau of Meteorology	Cyclone Warnings Forecasts & Warnings	+61 1 1300 659 211 +61 8 8920 3826
Project Contacts		
Andrew Logan	Client and CEO of Sweetpea Petroleum Pty Ltd	0413 151 052
Regulators Contacts		
NT DPIR – Emergency Contact		+61 1 1300 935 250
NT DENR -		
NT Worksafe		+61 1 1800 019 115
NT EPA Pollution Hotline		+61 1 1800 064 567
NT Health Direct		+61 1 1800 186 026
Pastoralists Contacts		
[redacted]	Tanumbirini Station Manager	[redacted]
[redacted]	Beetaloo Station Manager	[redacted]
[redacted]	Anthony Lagoon Manager	[redacted]
	Eva Downs Manager	

Appendix L2

Incident Report Form

Appendix L2 Incident Report Form

Date:_____ **Form Number**:_____

Name of Person Reporting:_____

Occupation of Person Reporting:_____

Date of Birth of Person Reporting:_____

Name of Person recording report (if different to person reporting incident):_____

Description of Incident/Hazard/Accident:-
_____
_____
_____
_____
_____

Location of Incident (use coordinates if necessary):_____

Date / Time of Incident:_____

Type of Hazard / Incident – Medical / Environmental / Both (circle one)

Number of people injured:_____

Type of Injury (circle where necessary):
FATAL URGENT
MEDICAL TREATMENT REQD
FIRST AID INJURY (NON-MEDICAL TREATMENT)

Description of Injury:_____
_____
_____

Names of people injured (if known):
_____
_____

Is there a danger of further injury to others? Y/N_____

Can the injured person be moved? Y/N:_____

Is the injured person in a stable condition? Y/N

Is everyone on site accounted for? Y/N

Type of Environmental Emergency (bushfire / chemical spillage / rig fire / other)

Does the emergency still pose a hazard (i.e; approaching bushfire)?
_____
_____

Steps taken to remove/minimize hazard / incident (if any):
_____

_____
_____
_____

Has the incident been reported to Sweetpea Management? (Specify name and date/time)

_____
_____

Has the incident been reported to DME? (specify name, date/time, communication method)

_____
_____

Follow-up recommendations (ie; accident investigation, procedures review; toolbox meeting):

_____
_____
_____
_____

Signature of Report

Originator:_____Date:_____

Signature of Sweetpea Manager/Supervisor:_____Date:_____

Appendix L3

Emergency Evacuation Roll Call For Template

Appendix L3 Emergency Evacuation Roll-call Form Template

Staff name	Employer	Present (Tick)

Appendix L Emergency Response Interface Plan

EMERGENCY RESPONSE INTERFACE PLAN

for the

EP136 Seismic Survey

TAMBORAN RESOURCES INTEGRATED MANAGEMENT SYSTEM		
DOCUMENT TITLE:	Emergency Response Interface Plan for the EP136 Seismic Survey	
DOCUMENT NO:	TRL-HSE-PL-07	REVISION NO: A
DOCUMENT CUSTODIAN:	Project Manager	REVISION DATE: 01/09/2020

REVISION

Revision No.	Revised By	Revision Justification	Revision Date
A	Nick Merdith	Draft issued for review	01/09/2020
0			

DOCUMENT APPROVAL

APPROVALS	Responsibility	Signed
Approved	Ensure this document is consistent with the Project objectives, compliant with regulation and provides a clear overview of the management systems and processes under which the Project will be executed.	_____ Mark Jenkins Well Project Manager
CONCURRENCE	**Responsibility**	**Signed**
Accepted	As the ultimate owner of the Project and this Emergency Response Interface Plan for the EP136 Seismic Survey.	_____ Erik Vik VP Operations & Engineering

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Attention: Mark Jenkins
Level 3, 1138 Hay Street
West Perth 6005
Email: mjenkins@aztechwc.com.au

This document will be revised:

- when there is a significant change to the Project scope that impacts the execution plan and it is not reasonably captured within the existing document;
- when there is a significant change to the applicable Legislation;
- when there is a significant change in the systems and processes under which operations are conducted;
- if it becomes technically out-dated;
- if it is unable to provide the level of assurance required to safeguard the safety and health of personnel including employees, contractors or visitors, or sound environmental practices;
- every two years where the project is ongoing or if no revision for other reason occurs prior.

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Field Representative	Tamboran (Sweetpea Petroleum)
Well Project Manager	Tamboran (Sweetpea Petroleum)
Velseis Project Manager	Velseis

ABBREVIATIONS AND DEFINITIONS

Acronym / Word	Meaning
Activity	The 2D seismic survey and associated operational activities to be conducted in EP 136
ALARP	As low as reasonably practicable. Broadly synonymous with so far as is reasonably practicable
CMP	Crisis Management Plan (TRL corporate document)
CMT	TRL Crisis Management Team
Emergency	An event or physical situation connected with work which may result in major harm, including death or injury to people, damage to property or the environment
EMP	Environment Management Plan
EMT	TRL Emergency Management Team – office
EMTL	TRL EMT Leader (Project Manager)
ERCL	Emergency Response Contact List
ERG	Lead Contractor's (Velseis) on-site Emergency Response Group
ERIP	Emergency Response Interface Plan (this document)
ERO	Emergency Response Officer – TRL Seismic Operations Supervisor
ERP	Emergency Response Plan
HAZID	Hazard identification [workshop]
HSEMP	Health, safety and environment management plan
HSEMS	Health, safety and environment management system
Lead Contractor	The contractor whose HSEMS will be in force at the Project Site for the Activity, in this case Velseis with overall responsibility for the Seismic Survey operations.
MAE	Major accident event
PIC	Lead Contractor's Senior Site Supervisor (Person in Charge)

Acronym / Word	Meaning
Project	The planning, preparation, execution and close out of exploration Activities for EP136 in the Beetaloo Sub-Basin
Project Team	All personnel, whether TRL/SPP or their contractors and consultants, involved in the delivery of the Project.
Site	Location(s) at which the Project operations are being undertaken.
TRL	Tamboran Resources Limited (parent company of Sweetpea Petroleum)

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1. INTRODUCTION

1.1. Project Overview

Sweetpea Petroleum Pty Ltd (Sweetpea), a wholly owned subsidiary of Tamboran Resources Limited (TRL), plans to conduct two 2D seismic surveys and a ground gravity survey (the Activity) to define the petroleum prospectivity of EP136 in the Beetaloo Sub-basin, Northern Territory.

Sweetpea have contracted Velseis Pty Ltd to conduct the 481 km Yaroo Creek Seismic Survey in the northern part of EP136, and the 69 km Shandon Downs Seismic Survey in the southern part of the permit.

The northern section of EP136, and proposed future well sites, is approximately 730 km by road southeast of Darwin. The nearest major town is Daly Waters, 150 km by road.

1.2. Purpose

The purpose of this plan is to;

- Protect the health safety and welfare of Project personnel, contractors and visitors; and
- Protect the surrounding community and the environment

In any emergency the priorities shall be as follows;

1. People: Protection of human life
2. Environment: Protection of the environment
3. Assets: Protection and preservation of plant, product and equipment
4. Reputation: Protection of Company reputation
5. Liability: Protection of Company legal responsibilities

This Emergency Response Interface Plan (ERIP):

- Describes the TRL / SPP project-based emergency response system
- Identifies the interfaces between the Velseis Site Specific Emergency Response Plan (the ERP in-force on site) and the TRL system

1.3. Supporting Documents

- Velseis Site Emergency Response Plan
- Velseis Bushfire Management Plan
- Velseis COVID-19 Management Plan
- Sweetpea Spill Management Plan – included in the Seismic Environment Management Plan
- Sweetpea Bushfire Management Plan – included in the Seismic Environment Management Plan
- Sweetpea Project Emergency Response Contact List (ECRL)

1.4. Scope

This ERIP applies to all activities associated with the 2D seismic survey and ground gravity survey.

Activities will be conducted under the Velseis HSE Management System which has been assessed by TRL as a system under which operations can be undertaken safely within the existing legislative guidelines and that hazards and risks will be mitigated or managed to ALARP.

This document outlines how TRL and Velseis (as the Lead Contractor) will respond to an emergency at the Site in a manner that will minimise the impact of the incident on the environment, ensure the safety of all personnel and minimise damage to property.

1.5. Revisions

The TRL Project Manager is responsible for ensuring the suitability and maintenance of this document.

The TRL Project Manager is responsible for any changes to this ERIP.

The ERIP will be reviewed / revised when there is a significant change in the operations that are covered by this ERIP. If applicable, the ERIP will be modified as a result of changes to Velseis' emergency response process, otherwise the ERIP will be reviewed every two years whilst Velseis provides a service to TRL.

2. PROJECT LOCATION

The northern end of EP136, and proposed future well sites, is about 730 km by road southeast of Darwin. The nearest town is Daly Waters, 150 km by road. The nearest hospital at Katherine is approximately 410 km by road.

An airstrip is located at the Tanumbirini Station (16°27'37.07"S, 134°39'0577"E), about 10 km drive from the northern survey camp site.

Refer Figures 1 and 2 for maps showing the above.

Figure 1. EP136 Location

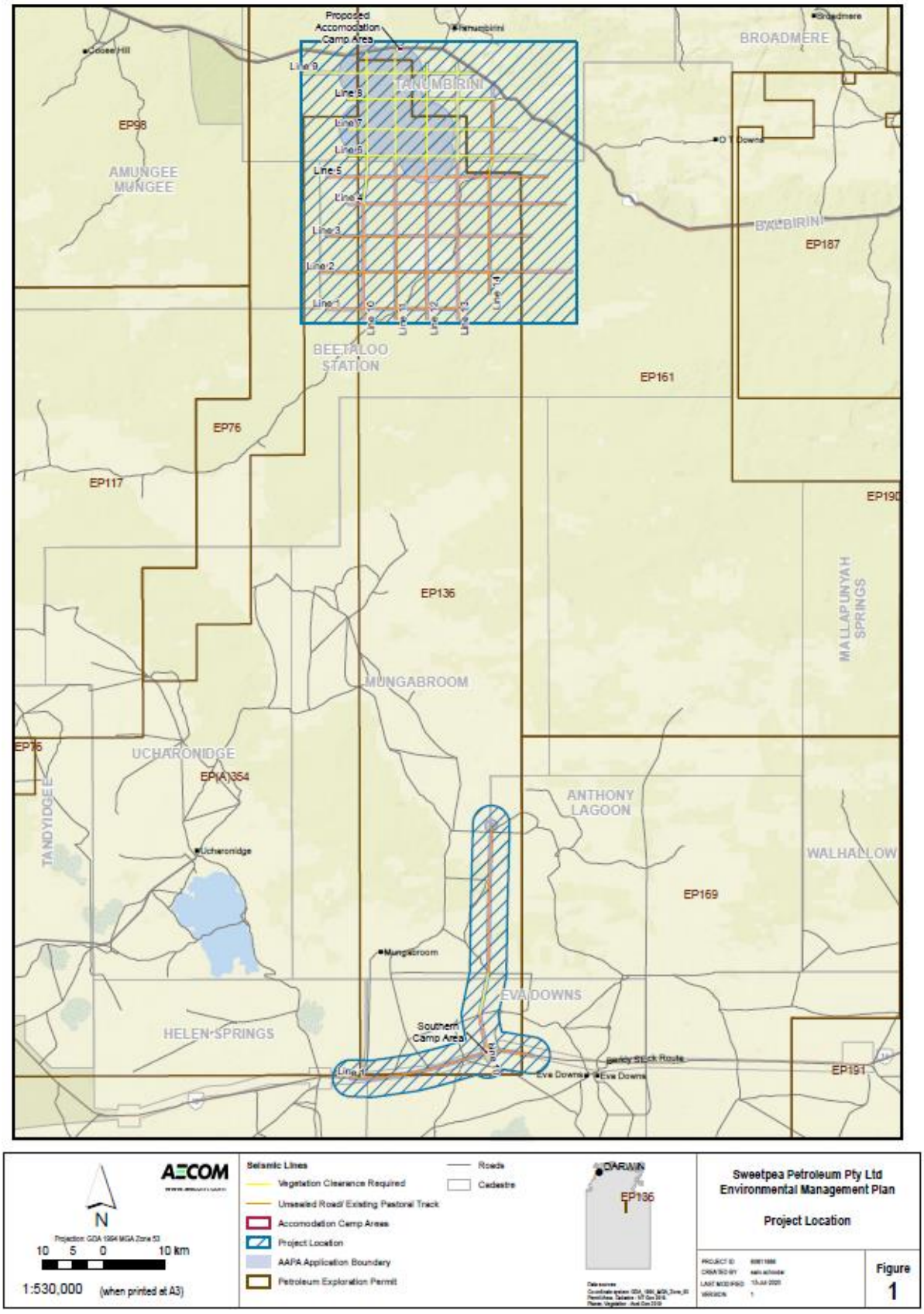

Figure 2. Survey Locations

3. EMERGENCY RESPONSE MANAGEMENT AND ORGANISATION

3.1. Emergency Management Structure

TRL has overall accountability for any incident that occurs during operations. Velseis as Lead Contractor has the immediate responsibility for the management of all incidents at the Site.

A key function of this document is to establish a clear instruction to persons as to the extent of their responsibilities in the event of an emergency occurring.

The emergency response organisation structure applying to the operations is shown below in Figure 3.

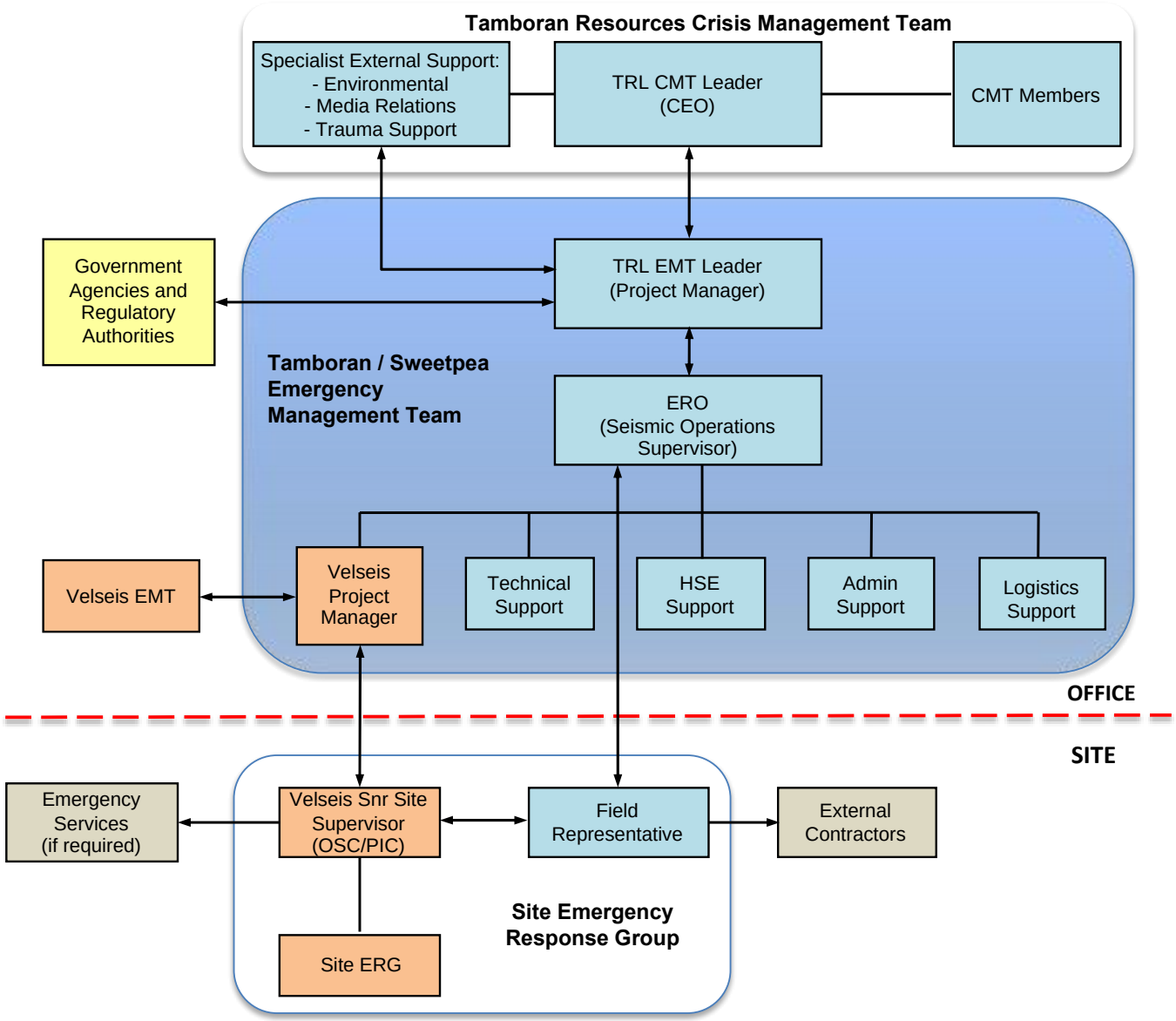

Figure 3: Emergency Response Organisation Structure

3.2. Site Based Emergency Response

Velseis will manage emergency response in accordance with the Velseis Site Emergency Response Plan. The Velseis Senior Supervisor will assume the role of On Scene Commander (OSC).

The Sweetpea Field Representative will provide the primary communication channel from the site to the TRL office based EMT.

3.3. TRL Emergency Management Team

The office based EMT will mobilise as required (see Table 2).

The purpose of the EMT is to:

- Provide technical and logistics support on request
- Improve resource coordination and communications
- Facilitate the cooperation and integration of responding organisations
- Liaise with the Department of Environment and Natural Resources for environmental incidents
- Mobilise specialist resources such as well control or waste management
- Develop and coordinate the release of information on the situation and response efforts to the media and public
- Record and document the emergency response

3.4. Roles and Responsibilities

Responsibilities for personnel in the organisation involved with an emergency associated with the Seismic Survey are listed in Table 1 below.

Table 1: Roles & Responsibilities

Role	Responsibility
Initial Responder	• Conduct initial assessment • Immediately report to the Site Supervisor
Site OSC: **(Velseis Senior Site Supervisor-PIC)**	• Execute the ERP in effect at the Site. • Ensure all personnel are aware of the ERP and its requirements through inductions. • Ensure all emergency equipment is maintained and accessible in the event of an emergency. • Coordinate all aspects of the incident (e.g. safety, response and recovery) at a field level. • Immediately notify the Sweetpea / TRL Field Representative of any incidents or emergency situations. • Have a working knowledge of the Sweetpea Project EMP and HSEMP. • Initiate evacuation of injured personnel.

Role	Responsibility
	• Initiate evacuation in case of an emergency situation. • Investigate and report all incidents, as required.
Velseis HSE Site Representative / Paramedic	• Administer first aid medical treatment. • Contact relevant medical support service regarding personnel injury and first aid medical treatment required; determine medivac requirement. • Discuss medivac options with the OSC.
Sweetpea Field Representative	• Assist the Site OSC in the management of an incident, as required • Immediately notify the TRL ERO of any emergency situation. • Execute this Project ERIP. • Have a working knowledge of the TRL Project EMP and HSEMP. • Coordinate external resources on site, if required. • Act as the Site focal point for TRL communication and information.
TRL ERO (Seismic Operations Supervisor)	• Assist the Field Representative and OSC in the execution of this ERP and effective onsite response. • Liaise with the Field Representative and OSC. • Immediately notify the Emergency Management Team Leader (EMTL) of any emergency situation. • As a member of the EMT, keep the team informed of the situation on Site. • When required, help establish the Crisis Management Team (CMT) in the TRL office. • Arrange additional resources and incident services where not readily available to the OSC (in consultation with the EMTL) as per the procedure laid out in this ERP. • Investigate and report incidents.
TRL EMTL (Project Manager)	• Ensure appropriate emergency response resources are identified and allocated – both in the planning/preparation phase and during incident response. • With input from the ERO, determine whether to form the EMT. • Immediately notify the relevant NT authorities of any emergency situation and incident. • Coordinate information from the Site and other sources, and disseminate to: – TRL CEO – Authorities – EMT Members • Manage the interface between TRL emergency services and external contractors. **Note:** all external enquiries from media or relatives must be redirected to the TRL CEO. • Liaise between the EMT and the CMT. • Participate in investigation of significant incidents.

Role	Responsibility
TRL CEO	• Approve all outside communications during the incident. • Respond to all outside enquiries, particularly from the media or relatives of the injured. • Communicate to the TRL Board, any Joint Venture Partners, government, community stakeholders and public. • Participate in investigation of significant incidents.
TRL CMT	• Assist the CEO and EMT in the execution of this Project ERP.

3.5. EMT Roster

With the Seismic Survey activities being for a relatively short duration only, the personnel in the EMT will always be on duty when the operations are underway. As a result there is no requirement for a roster specific to the Seismic Survey. If the Emergency is such that additional resources are required, other Company / contractor personnel may be called in to assist. Where an EMT member is unavailable for any period, they should advise the Company EMTL, and an alternative representative identified for that period of unavailability.

3.6. Lines of Communication

Lines of communication between the field and office-based support are described in Figure 4 below.

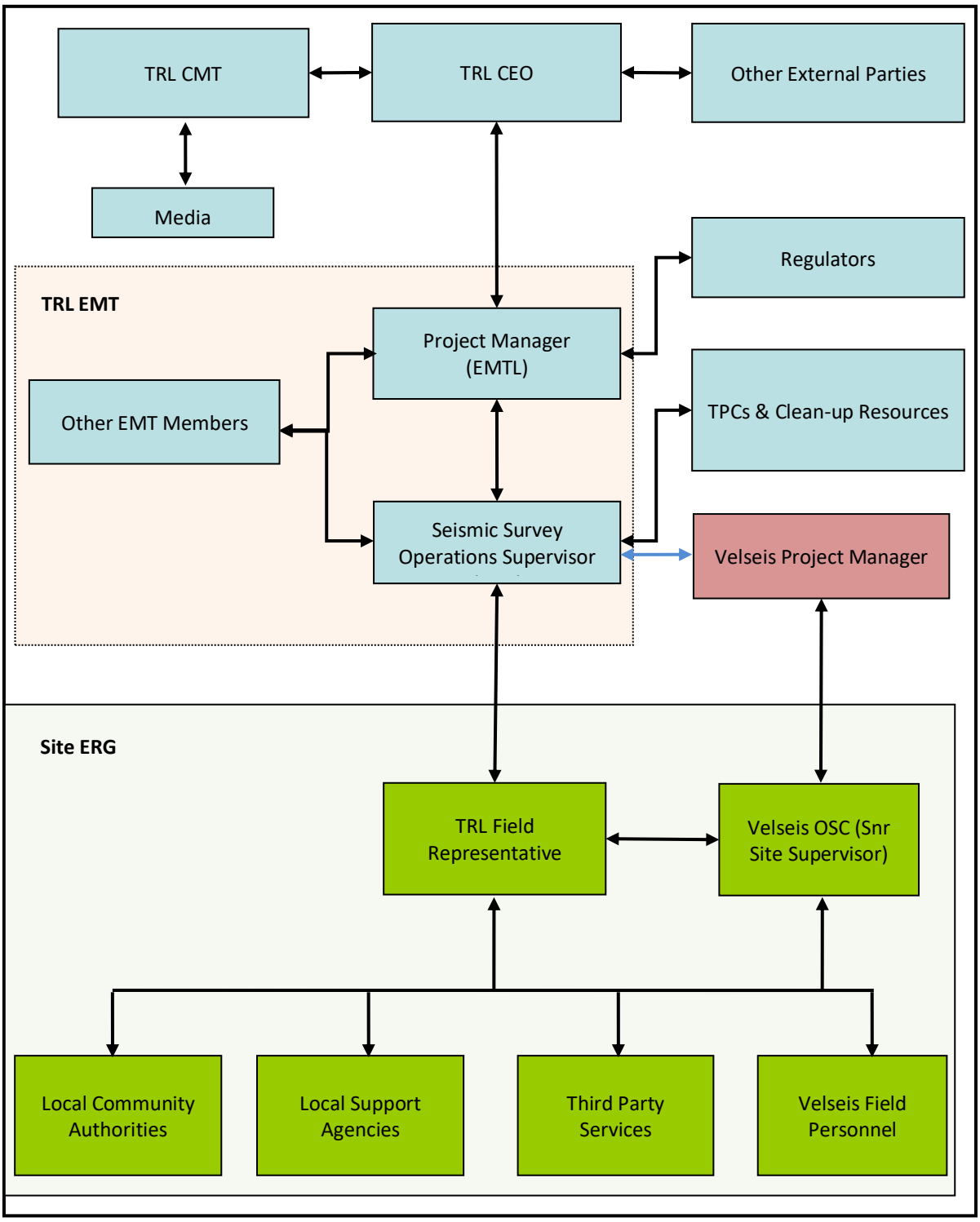

Figure 4. Emergency Response Communication Lines

4. ACTIVATION AND NOTIFICATION

The level of activation and notification is based on the nature and severity of the emergency – refer table below.

Table 2. Emergency Levels, Notification and Activation

Level	Description	Examples	Notification	Activation
1	The emergency situation presents danger, but there is no immediate threat to areas outside the vicinity of the emergency. The site-based ERP is activated but does not require a response from an outside agency.	Non-urgent medivac Unplanned alarm and muster Minor fire	Seismic Operations Supervisor Regulator	Site ERG
2	A situation that could go beyond the abilities of the first responders and require the attendance of an outside emergency response agency. Impact expected to spread to or affect all parts of the facility, but not off-site.	Urgent medivac Significant release but contained on site Major fire but within capability of ERT to contain Precautionary site evacuation	As well as above Seismic Project Manager EMT Leader	EMT
3	Situation is expected to impact both within the facility and beyond the boundary A serious situation with the possibility of developing into a critical situation.	Fatality Missing person Total loss of well control (blowout) Major environmental impact beyond site boundaries National public concern	As well as above CMT Leader OSC to notify police immediately in case of a fatality	CMT

If emergency involves a:	Regulator	Requirement	Responsibility
Notifiable incident	NT WorkSafe	1800 019 115	Velseis Site Supervisor (OSC)
Fatality	NT Police	Immediately on 000	Velseis Site Supervisor (OSC)
Reportable incident (Environment)*	Department of Primary Industry and Resources	Within 2 hours on 1300 935 250	TRL/SPP Seismic Project Manager
Detailed regulator notification requirements are described in the EP136 Seismic Survey Project Health, Safety and Environment Management Plan.			

4.1. Emergency Response Activation

In the event an emergency arises at the Site, initial notification of the responsible personnel will take place through the emergency response chain of command. The following flowchart shows the emergency activation process applicable during the Project.

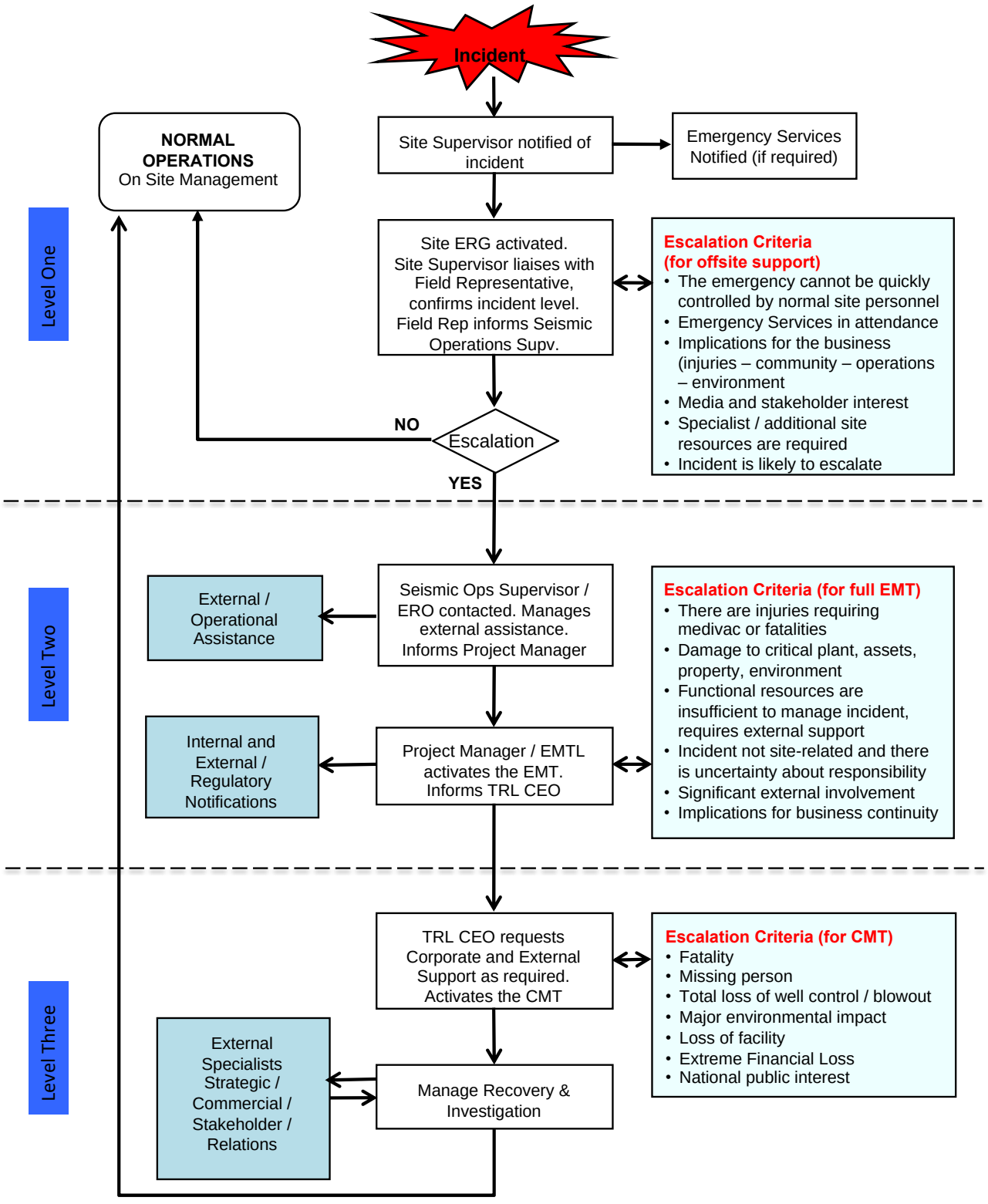

Figure 5: Emergency Activation Pathway

5. EMERGENCY RESPONSE – INITIAL ACTIONS

The person who discovers the emergency, or potential emergency situation, must act safely and quickly to minimise harm to people, property and the environment. The emergency response is based on:

- escape;
- containment; and
- rescue.

5.1. Emergency Alarm Activation

The Site PIC, or delegate, will activate the emergency alarm during any incident where people, property or the environment may be harmed. The Site PIC will then become the On Scene Commander (OSC) for the purposes of emergency response at Site.

During Seismic Survey activities the emergency alarm may be communicated via radios used in every site vehicle.

Emergency shutdown (ESD) buttons available on any plant or equipment may be activated by anyone witnessing an incident that is process-related or liable to escalate if the situation continues.

5.2. Emergency Alarm Actions

When the emergency alarm sounds, all personnel shall:

- immediately cease work;
- shut down equipment;
- secure their work area, if safe to do so;
- move quickly and orderly to the designated muster points; and
- wait for a muster count and further instructions from the Site Supervisor.

5.3. Relaying Incident Information

When calling for assistance or to report an emergency, be prepared to provide the following information:

- that it is an emergency;
- who you are;
- the exact location of the occurrence (including GPS coordinates, when available);
- the type of occurrence;
- the number of personnel on Site / involved, and number accounted for;
- the number of casualties, if any;
- if known, the suspected types of injuries;
- any potential or existing hazards; and
- the emergency services that have been called or are required to be initiated.

Advise the receiver to repeat all information for confirmation.

6. EMERGENCY RESPONSE

6.1. Operational Management Priorities

The OSC will have overall responsibility for the direct control of emergencies at the Site.

After accounting for the safety of all personnel, the OSC (or delegate) shall undertake the following:

1. Immediately assume control of the situation.
2. Implement and coordinate the relevant emergency response procedure.
3. Assess the extent, nature and cause of the emergency in respect of the following:
    - actual or potential cause of damage or harm to personnel, equipment and environment;
    - possibility of escalation;
    - actual or potential escape of hydrocarbon
    - actual or potential fire and/or explosion.
4. Decide on immediate actions to contain or overcome the emergency, including directing site personnel to:
    - shut down all or part of the operations;
    - activate rescue or fire-fighting equipment;
    - proceed to muster stations;
    - evacuate all non-essential personnel depending on the risk to personnel safety;
    - carry out any rescue activities;
    - isolate or barricade area, if possible;
    - isolate / shut down mobile equipment and machinery;
    - relocate mobile equipment and machinery, if necessary;
    - marshall traffic; or
    - undertake any task that is deemed necessary to control the situation.
5. Establish communications with relevant local emergency services for assistance in controlling the emergency, medical support or evacuation.
6. Ensure all personnel are accounted for.
7. Coordinate the rescue and/or medical treatment of any injured personnel.
8. Notify Velseis senior management and keep them updated on the status of the emergency.
9. Contact the TRL Field Representative to facilitate communications with the TRL ERO and external authorities, and to arrange additional support, if required.
10. Coordinate additional personnel for emergency operations, as necessary.
11. Coordinate and organise emergency services upon their arrival.
12. Document all events.
13. Take photos of damage to equipment, the location, etc, if possible.
14. Provide appropriate reports after the event.
15. Assist TRL management and government representatives on arrival at the Site, as required.

6.2. Evacuation

Following any incident that may become threatening to life, the OSC (or delegate) shall identify personnel that are not essential for incident management and oversee their evacuation.

6.3. Casualty Management

The OSC (or delegate) shall oversee the organisation of first aid and/or emergency medical treatment, including undertaking the following:

- deploying personnel, including First Aiders or paramedic, so that injured personnel receive prompt and appropriate care;
- communicating with external emergency medical services, as required;
- arranging medical evacuations;
- ensuring personnel are not exposed to further dangers; and
- ensuring casualty numbers, personal details and injury types are accurately recorded.

In the event a medivac is required Emergency Services will be called out to medivac IP to nearest hospital

The Medivac Emergency Flowchart shown in Figure 6 demonstrates the communication and alert processes when the Emergency Services are to be involved.

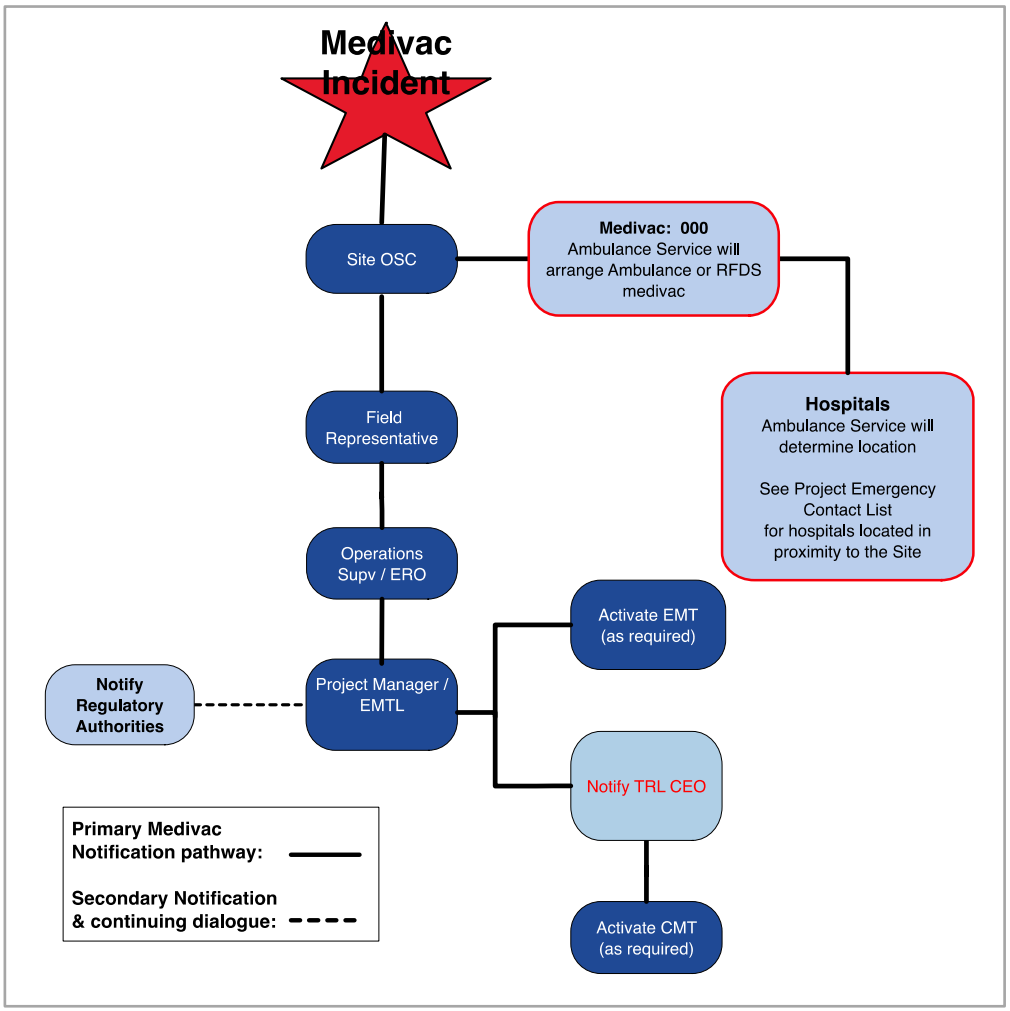

Figure 6: Medivac Emergency Flowchart

6.4. Next-of-Kin

The Velseis Project Manager and TRL EMTL will ensure that where any injured personnel are medically evacuated from the Site, their next-of-kin is informed of their destination and estimated arrival time.

Where the injured personnel are **NOT** Velseis personnel, the TRL EMT will be responsible for ensuring the movements of such personnel are tracked and with keeping the relevant employer informed of any changes so they can advise the family of the destination.

Appropriate agencies will be used to notify the next-of-kin based on the seriousness of the injuries (e.g. the Police, trauma councillors, etc).

6.5. Spill Response

Response to an oil or chemical spill on the Site will be as per the Sweetpea Seismic Environment Management Plan (Section 7.5) and is managed in conjunction with the incident management processes specified in this ERIP and the Lead Contractor's ERP.

In the event of a spill requiring external assistance, the external resources and response will initially be arranged by the Seismic Operations Supervisor (ERO) in conjunction with the Project Manager (EMTL). Management of the incident may be assumed by TRL's EMT until handover to a Regulatory Authority, if required.

6.6. Fire Response

6.6.1. Preventative Measures

Grass and bush provide a potential for fire on the Site. Grass and bush fires can start quickly and spread rapidly, catching people off-guard. The following preventative actions shall therefore be undertaken to minimise this risk occurring on the Site:

- ensure the Site, especially around plant, are kept free of combustible materials;
- maintain good housekeeping practices within and around the Site, ensuring that all combustible rubbish is disposed of appropriately;
- never leave ignition sources unattended;
- maintain equipment in good working order;
- prior to any machinery maintenance, clear the immediate area of flammable materials;
- smoking is only permitted in designated smoking areas;
- take care when disposing of matches and cigarette butts;
- do not smoke when walking on the access tracks;
- in addition to the normal fire-fighting equipment maintained as part of the site plant and equipment, a mobile fire cart will be maintained at the Site for the initial response to small-scale localised fires;
- the Site Supervisor will check and communicate on each day's fire alert status with NAFI (https://firenorth.org.au/nafi3/), Secure NT (https://securent.nt.gov.au/alerts), and will monitor local ABC and other radio stations.

6.6.2. Response Guidelines

Fires are considered to be a subset of emergency incidents and will therefore be managed as per other emergencies in accordance with this ERIP, the Lead Contractor's ERP and Bushfire Management Plan.

In the event of a grass or bush fire occurring in the vicinity of the Site, personnel located at the Site shall follow the procedure outlined below:

1. If in a life-threatening situation and it is safe to do so, cease activities, shut down plant, and flee the area.
2. If the fire is in the distance or in close proximity, contact Bushfire NT to report the fire unless the Site Supervisor has already been advised of the fire.
3. Activate the Site ERG.
4. Initiate this ERIP and the Lead Contractor's ERP.
5. Be on the alert for spot-fires.
6. Evacuate if and when advised.
7. Return to the Site only when cleared by the emergency services.
8. Coordinate the clean-up and begin site remediation.

Throughout the incident, the Site Supervisor, with input from local emergency services, will continue to assess the severity of the emergency and will adapt the fire response management accordingly.

6.6.3. Evacuation

If advised by emergency services' personnel, evacuate the Site immediately and ensure that no one is left behind.

If the Site Supervisor considers that staying at the Site is too dangerous, inform Bushfire NT and, if possible the Velseis office and TRL Seismic Operations Supervisor, of the planned departure. Before leaving the Site, obtain advice from emergency services' personnel on whether it is safe to leave and in which direction to drive to avoid the bush fire.

6.7. Crisis Management

In line with the TRL Crisis Management Plan, if required the CMT will be established in the TRL office to provide support and assistance to the EMT.

Additional details of this procedure are described in the TRL Crisis Management Plan.

7. EMERGENCY RESPONSE PREPARATION

7.1. Emergency Equipment

All emergency response equipment, such as first aid kids, fire extinguishers, PPE and spill kits will be kept in strategic places around the Site. Equipment will be inspected on a scheduled basis.

7.2. Registration of Personnel

- All personnel will complete an induction on arrival at the Site.
- The induction will identify emergency response actions and muster point locations.
- A Personnel On-Site Register is maintained at Site, recording each person's name, company and whether they are on Site or off Site.

7.3. Accounting for Personnel

In the event of an emergency alert, the Site Supervisor, or delegate, shall perform the following after the alarm has been sounded:

- ensure all personnel have evacuated the immediate area and proceeded to the designated muster points;
- confirm against the Personnel On-Site Register:
  - personnel accounted for;
  - personnel unaccounted for; and
  - any casualties and their injuries
- initiate steps to locate any missing personnel;
- initiate steps to control the emergency;
- inform the TRL Field Representative of all events; and
- advise personnel of the "all-clear" and the return to normal activities once the incident is under control.

7.4. Emergency Access & Egress

The Site Supervisor shall ensure that emergency access and egress are established and maintained at the Site.

7.5. Muster Points

The Site Supervisor shall ensure that the muster points at the Site are identified to all personnel during their induction.

All primary muster points are clearly signposted with secondary muster points available. All muster points can be reached unimpeded during an emergency.

In all instances, personnel shall become familiar with the safest route from their work area to the designated assembly areas.

All persons shall remain at the designated muster point until further instructions or the "all-clear" is given.

7.6. Emergency Exercises

The Site Supervisor shall ensure that an ERP is in place and emergency exercises are practiced at commencement of operation and scheduled in the emergency exercise schedule;

8. EMERGENCY EXERCISES

8.1. Pre-start Drill

The TRL Project Manager is responsible for arranging that a desktop exercise is held at least once per year for ongoing operations and prior to new operations commencing that the major contacts within the ERCL will be tested.

8.2. Frequency of Drills

Regular emergency training exercises and drills will be conducted on a schedule and documented accordingly, noting deficiencies in response and areas for improvement.

Exercises shall be specific emergency scenarios addressing identified risks specific to the Seismic Survey operations. Emergency response drills, type and frequency, will be performed as detailed in the Velseis Site Specific Emergency Response Plan.

A summary report shall be submitted to the TRL Seismic Operations Supervisor on the day following the exercise, describing the exercise, listing participants and lessons learnt.

8.3. Drill Responsibilities

The TRL Project Manager shall ensure that:

- the Velseis Site Supervisor, TRL Seismic Survey Operations Supervisor and TRL Field Representative are aware of their responsibilities;
- the TRL EMT is involved in exercises at least once per year for ongoing operations; and
- the results of exercises are recorded and filed.

The Velseis Site Supervisor shall ensure that:

- a Site ERP is in place and included in the emergency exercise schedule;
- all personnel are informed of the ERP via inductions.
- the emergency communications element of the ERP is included in the exercise schedule, with participation by field personnel; and
- a post-exercise debrief is conducted, and improvement opportunities or deficiencies noted and acted upon.

9. EMERGENCY RESPONSE COMMUNICATIONS

The management of information flow and communications is vital to effective emergency response. The emergency response communication and reporting relationships for the Site are illustrated in Figure 4.

9.1. Emergency Contact Methods

The primary method of voice communication during emergencies will be via radios (in each site vehicle) or satellite phones available in the Seismic Survey Recording Vehicle (Dogbox) and with the TRL Field Representative.

9.2. Emergency Contact Details

Refer to the TRL Emergency Response Contact List for the Project. This is a live document and maintained and updated throughout the course of the Project.

The ERCL will be distributed to key Site and office-based Project Team members, Velseis and other 3rd party contractor personnel and will be updated as required.

9.3. External Emergency Services

In an emergency situation the OSC, or delegate, will be responsible for:

- contacting the appropriate local emergency service agencies to initiate external response;

- delegating responsibilities and authorities to help the emergency services once they have arrived on site, as appropriate; and
- providing local emergency services with specialist advice regarding plant/equipment operating requirements and hazards.

9.4. Liaison with Local Emergency Services & Community Authorities

The Site PIC will ensure the Emergency services have a precise location for the Site at which the incident has occurred, including coordinates and a guide map.

The Site PIC will stay up-to-date with local Emergency services and community authorities on their:

- Availability;
- Capabilities;
- Distances and modes of transport;
- Communication requirements;
- Vested interest in any onsite Incident.

The Site PIC shall provide information to the local Emergency service relating to:

- The standard of medical care available on site;
- Hazardous substances list;
- Safety Data Sheets.

9.5. Communications' Responsibilities

Once notified of an incident, the TRL ERO will:

- notify the TRL EMTL;
- liaise with appropriate parties as needed to provide necessary resources and assistance, as requested by the Site OSC and Field Representative;
- advise the Site OSC and Field Representative of decisions made and actions taken by the EMT;
- continue to update the EMT on the situation on the Site.

Once notified of an incident by the TRL ERO, the TRL EMTL, in consultation with the TRL CMT, shall coordinate the following communications, including:

- notifying the TRL CEO of the situation;
- issuing all communications to regulators during the incident, after consultation with the CEO; and
- feeding back information and plans to the ERO.

Once notified of an incident by the TRL EMTL, the TRL CEO will consult with the CMT and coordinate communications to the following:

- external parties, including the media, relatives and others as described in the TRL Crisis Management Plan; and
- the Coroner's Representative (Police), as required by law in the case of a fatality.

9.6. News Media & Designated Emergency Contact Notification

- All communication with the media is the responsibility of the TRL CEO, in consultation with the TRL Board of Directors.
- No operational, project or contract employee of TRL or its contractors (including Velseis) shall have communications with the news media.
- News media attempting to communicate with any operational, project or contract employees of TRL or its contractors are to be directed to the TRL CEO.
- No names of any casualties will be released to the news media by any person other than the TRL CEO, in consultation with the TRL Board of Directors.

9.7. Ending an Emergency

The Site PIC will declare the emergency ended when:

- the Site has been returned to a safe condition;
- all personnel have been accounted for; and
- injured personnel have been stabilised and /or evacuated.

The TRL EMTL is responsible for declaring an end to a TRL-managed emergency (Level 2 or 3) once:

- the Site PIC has advised that the Site has been returned to a safe condition;
- notification has been received from the PIC that all personnel have been accounted for;
- injured personnel have been stabilised and/or evacuated; and
- confirmation has been received that all relevant authorities and support organisations have been advised the emergency is over.

On standing down from an emergency, the EMT is to consider the following issues:

- on-going resources for incident control and recovery, if required;
- final information release and/or notification to some, or all, of the following:
    - Site ERG and TRL EMT;
    - emergency services;
    - employees (on- and off-duty);
    - regulatory authorities;
    - employees' families and friends;
    - local community and pressure groups;
    - neighbours and third parties;
    - suppliers and contractors;
    - environmental agencies;
    - media; and
    - mutual aid
- debriefing all personnel (including people currently relieved or stood down);
- closing down additional security arrangements;
- finalising additional catering and other services;
- counselling for those involved in the incident, if required;

- compiling and filing all documents relating to the response;
- arranging for a full incident investigation and analysis;
- approving or commenting on the incident debriefing reports and recommended actions;
- carrying out a follow-up review to ascertain the effectiveness of:
    - incident call-out;
    - overall emergency response;
    - interface with emergency services; and
    - Site's ERG functions
- recommending revisions to ERPs, if required.

10. INCIDENT REPORTING & INVESTIGATION

All personnel will be required to report all incidents or near-misses to the Site PIC. The Site PIC is responsible for ensuring that all reported incidents and near-misses are promptly reported to TRL via the Field Representative, investigated and that appropriate corrective actions have been completed.

10.1. Incident Reporting

Following an emergency, the Site PIC shall immediately:

- ensure the area is secured, and photos are taken of the immediate area and/or problem;
- secure the area until approval to resume work has been authorised by the Seismic Operations Supervisor;
- in consultation with the Field Representative, initiate an investigation of the incident;
- complete an Incident Reporting Form if the incident occurred at the Site;
- complete a chronological record of the emergency, detailing the event and all emergency response activities related to the incident.

The incident report is to include:

- witness statements;
- detailed drawings; and
- photographs, as appropriate.

Depending on the severity of the incident, the Site PIC will provide the Field Representative and Operations Supervisor with a copy of the initial incident report within 24 hours of the occurrence. This report will be forwarded by the Operations Supervisor to the Project Manager.

The final report containing all information will be completed and forwarded to the Operations Supervisor and Project Manager within three days of the investigation completion.

10.2. Regulator Reporting

All incidents that trigger an emergency response activation will be investigated as described in the EP 136 Seismic Survey Project Health, Safety and Environment Management Plan.