Modification Application - Regulation 22

Interest Holder	Central Petroleum Limited	EMP Title	NT Drilling Campaign	Unique EMP ID No.	CTP 3.4	Mod No.	3	Date	11 August 2021
Brief Description	The NT Drilling Campaign EMP was approved by the Minister on 29 November 2020. The description of activities included construction of access tracks, vehicle turnarounds, etc. In relation to the PV12 well, Central would like to widen the existing access track to the new well pad location. The access track is currently in operation and within the existing Palm Valley field. The modification is necessary to ensure the drill rig and the associated infrastructure can be safely mobilised and to provide a suitable area where vehicles and can pass safely. The widening of the existing track will result in an additional 0.05 hectares (approximately) area needing to be cleared, highlighted in purple in Appendix A. An ecology survey has recently been undertaken (Appendix C) and based on the results, they concluded that 'the environmental impact of widening the loop will be minimal and will have no significant impact on plant species populations in the area, region or nationally'. In addition the access track and a significant buffer area has been cleared by AAPA (Appendix D) as part of the PV12 well development program. It is envisaged that the newly cleared and widened area will be maintained post drilling for any future campaigns and be managed under the Palm Valley Field EMP. This area will also form part of Central's progressive rehabilitation and closure planning at Palm Valley. Attachment A is to be included in the NT Drilling EMP as Figure 4-5a to supplement Figure 4-5. These combined figures (4-5 and 4-5a) provide details of the areas to be cleared in relation to the PV12 drilling program.								
Geospatial Files Included?	The file shows new cleared area (in pink) required to widen the access track associated with this modification (Appendix B).								

Does the proposed change result in a new, or increased, potential or actual environmental impact or risk?	If a new potential or actual environmental impact or risk, is it provided for in the approved EMP?	If an increase in an existing potential or actual environmental impact or risk is it provided for in the approved EMP?	Does the proposed change require additional mitigation measures to be included?	Has additional stakeholder engagement been conducted?	Does it require additional environmental performance standards and measurement criteria?	Does it affect compliance with Sacred Site Authority Certificates?	Does it affect current rehabilitation, weed, fire, wastewater, erosion and sediment control, spill or emergency response plans?	Will the environmental outcome continue to be achieved and will the impacts and risks be managed to ALARP and acceptable?
Note 1.	N/A	Note 2.	Note 3.	Note 4.	Note 5.	Note 6.	Note 7.	Note 8.

Current EMP Text	Amended EMP Text
4.3 Civil works The civil works required to support the drilling campaign includes: ▪ Construction of access tracks to the well leases as outlined in Figure 4-1 to Figure 4-6 Width of the access track will be up to 8 m dependent upon the constraints at each location. Passing turnouts will be located intermittently along the track so that vehicles can safely pass each other. The turnouts will be located in areas with no constraints.	**4.3 Civil works** The civil works required to support the drilling campaign includes: ▪ Construction of access tracks to the well leases as outlined in Figure 4-1 to Figure 4-6 Width of the access track will be up to 16 m dependent upon the constraints at each location. Passing turnouts will be located intermittently along the track so that vehicles can safely pass each other. The turnouts will be located in areas with no constraints.
Table 4-1 Proposed Ground Disturbance Areas See Appendix 1	**Table 4-1 Proposed Ground Disturbance Areas** See Appendix 2
	Figure 4-5a Palm Valley 6 Intersection This figure has been added to supplement Figure 4-5. These combined figures provide details of the areas to be cleared in relation to the PV12 drilling program.

Note1: Yes, there would be a minor increase in risk given there is an additional 0.05 hectares to be cleared. The additional disturbance will only have minimal cumulative impacts as clearing is estimated to take a couple of days, will be undertaken concurrently with pad development and the area will form part of the operational road and post drilling be managed under the Palm Valley FEMP.

Note 2: Yes, all of the proposed activities are currently included as part of the approved NT Drilling Campaign (CTP3-4) EMP. Activities including civil works, and the associated controls are currently considered in the risk section of the EMP. The estimated duration of activities is only expected to increase slightly as a result of the activities.

Note 3: No additional mitigation measures are considered necessary. The planned works are within the scope of the current activities and Central plans on executing the activities aligned with approved controls.

Note 4: No, the area is within a current operating field and will not have an impact on stakeholders.

Note 5: No additional environmental performance standards and measurement criteria are required. A review of the existing standards and criteria in the EMP identified that all elements will be able to be met and the proposed works will not impact compliance.

Note 6: No, there are currently no SSCC in place over the Palm Valley field. However AAPA and CLC clearances were granted for the recent PV12 and PV13 drilling programs which included the access roads.

Note 7: Yes , it does affect some plans in place as outlined below. The widened track will become permanent (post drilling) and will be managed under the Palm Valley FEMP, therefore:

- Rehabilitation – additional rehabilitation works will be necessary at the end of the filed life on the additional areas disturbed
- Weeds – regular inspections and annual survey
- Fire – all fire related controls are valid and will be in place during planned works. In addition, any hot works will be undertaken under permit conditions aligned with existing fire controls in the EMP
- Wastewater – no wastewater will be generated as a result of the proposed works
- Erosion and sediment – controls will be implemented during construction and the area monitoring during operational activities
- Spill – spill response plans are valid for these activities
- Emergency response plans – these plans are valid, and plans address risks associated with the proposed works

Note 8: The environmental outcomes outlined in the EMP associated with civil works will continue to be achieved. In addition, all of the impacts and risks will be managed to ALARP. An assessment has been undertaken and for each key elements of the works to determine whether potential environmental risks are 'acceptable'. CP's has revalidated the risk assessment in the EMP related to civil works and determined that there is no increased risk as a result of the activities. Rationale to support the ALARP decision is included in the existing NT Drilling EMP (3-4).

Appendix 1

Well Location	Survey Clearance Area (Ha)	Access disturbance area (Ha)	Flowline disturbance area (Ha)	Camp disturbance area (Ha)	Area (Ha)	Total Disturbance (Ha)	% of permit
PV12	12	0.14	0.29	-	2.21	2.64	0.004%

Appendix 2

Well Location	Survey Clearance Area (Ha)	Access disturbance area (Ha)	Flowline disturbance area (Ha)	Camp disturbance area (Ha)	Area (Ha)	Total Disturbance (Ha)	% of permit
PV12	12	0.19	0.29	-	2.21	2.69	0.004%

ID: 0566-001
Rev: H
Date: 10/09/2021

Map Scale is 1:460 when printed at A4
Coordinate System: GDA 1994 MGA Zone 53

Palm Valley 6 intersection

- Proposed access track revision (11/08/2021)
- AAPA cleared area (C2020/061)
- Proposed revised access clearance (11/08/2021)
- Pipelines

Central Petroleum

Level 7, 369 Ann St Brisbane QLD 4000
T +61 3181 3800 F +61 3181 3855
W centralpetroleum.com.au

Low Ecological Services P/L
ABN 55 064 311 502
PO Box 3130, Alice Springs, NT 0871, Australia
Phone: (08) 89 555 222
Email: LowEcol@LowEcol.com.au Web: www.LowEcol.com.au

ENVIRONMENTAL ASSESMENT OF WIDENING ROAD AT PV6 – PV7 ROAD JUNCTION

Scope

Assess environmental impact of widening the main access road at the PV6 to PV7 junction to allow a large drilling rig to travel to the proposed PV12 Well Site east of PV 7 to negotiate the corner without interfering with the Gas Pipeline infrastructure between PV6/7 and the Gas Plant.

Widening of the road will require removal of several trees and Hermannsburg sandstone to a depth of 1 to 3 m. Figure 1 shows the location.

Methods

Examination of the site to be cleared was done on August 25, 2021 to determine the trees and shrubs that will need to be removed or pruned. All plant species were well known to the surveyor and were common perennial species. Modest rains had occurred three months earlier and few annual plants were present.

Results

Figure 1 shows the road around the PV6 and PV7 road junction with several critical points marked along the expansion area by CTP to provide reference points. These are further described in Table 1 with the relative impact assessed.

The area to be widened extends for about 100m and tapers from 0m at the west end to about 10m wide opposite the intersection at the east end.

The tree species to be removed or pruned are Witchetty bushes at 30 m from the west end, an old Mulga at 60m (possibly prune only) and young MacDonnell Range Mulga at 80m from the west end. Shrubs and grasses which will be removed are all common and relatively widespread and include *Aizothamnus, Triodia bryzoides*, Broad leafed native currant, *Gastrolobium* (1080 plant) and *Aristida holathera*.

Mature and immature trees on the opposite side of the road includes mature and immature Mulga and MacDonnell Range Mulga, Desert Mulga, Broad leafed currant. The surface gas pipeline prevents ready access to the area. This area will not be disturbed.

Discussion

Clearing of the vegetation will be required to allow the large drilling rig and trailers to manoeuvre the junction without interfering with existing pipeline infrastructure. Impact will be minimal with the road cut through solid sandstone up to 2 m thick for widening. A single mature Mulga tree (*Acacia aneura*), a young MacDonnell Range Mulga (*Acacia macdonnelliensis*), a mature 1080 pea *Gastrolobium grandiflorum* and several young Witchetty bushes (*Acacia kempeana*) trees will require removal or heavy pruning.

Much of the vegetation is growing in the area disturbed during the road widening in 2001. The species are all locally common and there will be no impact on plant species populations consequently they can be removed if necessary. The tree and shrub species present in the area, but not all in the area to be cleared, include *Acacia aneura*, *Acacia kempeana, Acacia macdonnelliensis, Acacia aneura var. desertorum, and Eucalyptus sessilis,* as well as young shrubs, forbs and grasses including: *Ozothamnus kempei, Goodenia uraceae, Petalostyus casiodes, Senna art ssp. filifolia, Streptoglossa decurens, Triodia bryzoides, Trichodesma zeylanicum, and Aristida holathera*.

The area is a fire shadow area and the large mulga at point 2 should be conserved if possible, possibly by pruning the parts of the tree overhanging into the turning area. In all areas, every effort should be made to minimise the total area affected. In no case is a vehicle to be driven off the road except at the existing turn around and passing points.

Recommendations

Only those trees and shrubs which impinge into the parts of the road to be widened should be removed or pruned. Trees and shrubs which are felled or pushed with the dozer or grader should be placed into the adjacent bush and allowed to decompose naturally. Any topsoil recovered should be used in areas requiring rehabilitation or restoration of vegetation.

Conclusion

The environmental impact of widening the loop will be minimal and will have no significant impact on plant species populations in the area, region or nationally.

W.A. Low,

12/09/21

Fig 1: The Road requires widening to permit a large drilling rig and trailers to negotiate the PV6 – PV7 road junction and avoid existing pipeline infrastructure. Point numbers are described in Table 1.

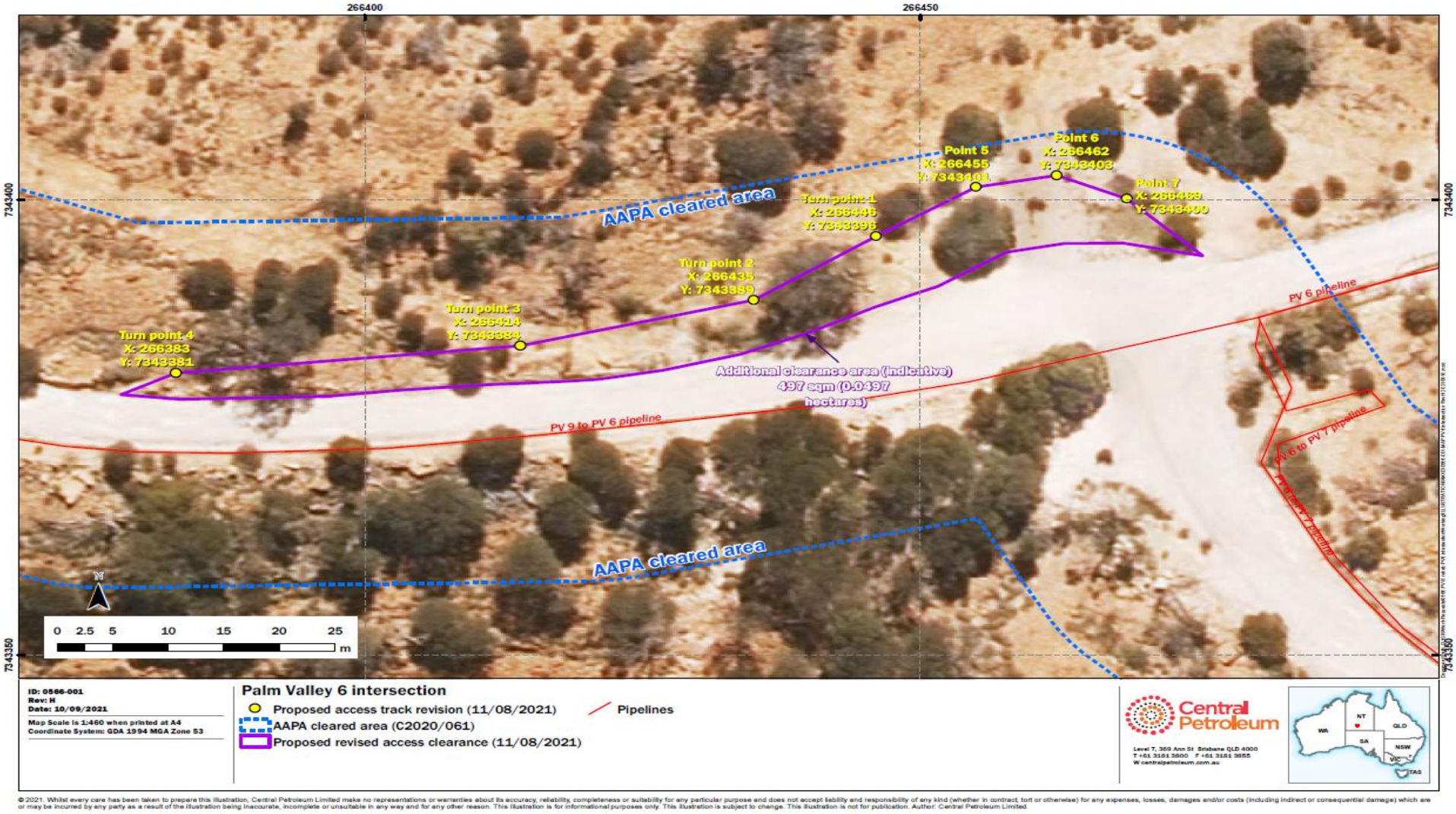

Table 1: Clearing points for widening turning radius of PV12 access road at PV6 junction beginning from western approach with possible vegetation removal. Refer Figure 1 for location.

Point No.	Location	Environmental considerations
4	0266383-7343381	Previously disturbed Hermannsburg sandstone cut back 1 to 2 m deep, Scattered shrub and spinifex removal
3	0266414-7343384	Previously disturbed Hermannsburg sandstone cut back 2 to 3 m deep, Scattered shrub and spinifex removal, including Witchetty and Gastrolobium brevipes
2	0266435-7343389	Removal or pruning of large old Mulga Acacia aneura, Hermannsburg sandstone cut back 1 to 2 m deep
1	0266435-7343389	Hermannsburg sandstone cut back 1 to 2 m deep. Insignificant vegetation removal
5	0266455-7343401	Hermannsburg sandstone cut back 1 to 2 m deep. Young *Acacia macdonnelliensis* vegetation removal
6	0266462-7343403	Hermannsburg sandstone cut back 1 to 2 m deep. Insignificant vegetation removal
7	0266469-7343400	Hermannsburg sandstone cut back 1 to 2 m deep. Insignificant vegetation removal
Outer centre	0266458-7343405	18m from centre of turning apex. Hermannsburg sandstone cut back 1 to 2 m deep. Insignificant vegetation removal.

Tree and shrub species requiring removal or pruning include a mature Mulga (*Acacia aneura*), an immature MacDonnell Range Mulga *Acacia macdonnelliensis,* small Witchetty Bushes (*Acacia kempeana*), Spinifex (Triodia bryzoides) and several large Daisies *Ozothamnus kempei* growing in the rock in order to expand the turning circle.

Fig 2: This old Acacia aneura, Mulga, is within the proposed clearing corridor. While it may be possible to prune the tree to allow the road train clearance, removal of the sandstone base will likely remove significant roots. The species is common, but the tree occurs in a fire shadow area and has been able to survive for a hundred or more years.

Figure 3: A young Witchetty bush at 30 m from the west end will require removal and the spinifex Triodia bryzoides will also be removed. If any top soil and shrubbery can be salvaged during initial clearing, it should be used as top soil for rehabilitation of cleared sites in nearby locations.

Figure 4: Bush daisy (Ozothamnus kempei) and spinifex Triodia bryzoides material can be removed to bare locations for revegetation.