



NORTHERN TERRITORY PASTORAL LAND BOARD APPLICATION TO CLEAR PASTORAL LAND

I Clearing application:

Full Name: Waite River Holdings Pty Ltd. per Garry Alfred Dann

Position: Managing Director

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Postal address: Aileron Station via Alice Spring 0872

Details on Lease

Lease Name: Aileron Station

Location Pastoral: northern Alice Springs region

Lease #: NT Portion 703

Total area property: 4080 square kilometres

Clearing Application Payment

\$120.00 paid by cheque in mail

Cropping Proposal

Pasture crop: superdam forage sorghum; lucerne, and various pasture crops

Will the area be grazed: yes (occasionally from time to time)

It is proposed to develop an irrigated pasture cropping block in the north eastern corner of Aileron Station consisting of two cleared irrigation circles each 796 metres in diameter covering a cleared area totalling 99 hectares (see Aileron Pasture Block Locality Map – “Centreprise” Map 307 MFT 06 01 2012).

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The cropping circles will be irrigated from bore water using modern centre-pivot overhead irrigators. A series of production bores are to be constructed on Aileron Station in the eastern zone of the Ti Tree Basin to provide the water supply. The proponent has been advised by the Department Natural Resources Environment, the Arts and Sport (NRETAS) that 2,000 ML/yr is available for irrigation use from this sector of the basin. A water allocation for the development is being sought from the Northern Territory Government Controller of Water.

The preferred location of the pasture cropping block is in the north eastern corner of the property adjacent to the northern boundary with the Woodgreen Conservation Reserve and 2 kilometres west of the eastern boundary with Bushy Park Station. An alternate site has been selected about 10 kilometres to the south at the previously proposed site of the Majorca Prison Farm. This site was evaluated by the Northern Territory Government as a potential site for a prison farm and a successful groundwater investigation was completed in the area. The prison farm proposal was not followed through after it was decided to establish a small training market garden within the precincts of the Alice Springs Prison.

11 Environmental & Heritage Protection:

Provide details of any areas of sensitive or significant vegetation (e.g. riparian, monsoon vine forest or closed forest) to be protected

There are no known sensitive areas of vegetation within the proposed cleared cropping area. The proposed cleared area is over spinifex sand plain country with low shrubs and sparse trees.

The vegetation associations in the area are all common and widespread:

- **throughout Central Australia,**
- **the adjacent Woodgreen Conservation Reserve,**
- **other areas within the extensive Aileron Station,**
- **over many other Central Australian cattle stations.**

The area has been grazed by cattle for over 100 years and at previous times by sheep & horses. It also has been subject to grazing by feral camels, horses and occasional donkeys.

In recent decades the area has been subjected to frequent wildfires, some started by lightning but mainly by indigenous people travelling through the property, through adjacent properties and along the Sandover Highway to the east. In Central Australia there are remote areas with similar vegetation which has not been subjected to the same impacts from wildfire and grazing by stock and feral animals.

The area to be cleared is 99 hectares which is less than 0.1 % of the mapped 99,900 square kilometre Singleton land system¹.

¹ Perry RA et al 1 000 000 Map: Land Systems of the Alice Springs Area, CSIRO 1961 (reproduced Bowman AJ et al Department Lands Planning and Environment, 2000). Map part of report "General Report on Lands of the Alice Springs Area, Northern Territory, 1956-57". Land Research Series No 6 CSIRO Melbourne.

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The Singleton land system covers more than 99,900 square kilometres within the Northern Territory. The CSIRO 1956-57 land system mapping did not include all of this land system which occurs within the Northern Territory.

Additional background information

The **Aileron Station Pasture Block** will be a small paddock within the eastern sector of Aileron Station. It is to be located approximately 2 kilometres west of the eastern boundary with Bushy Park Station and 400 metres south of the northern boundary with the Woodgreen Conservation Reserve.

A sealed ore haulage road is to be constructed by Arafura Resources Ltd immediately north of the pasture block and south of the northern boundary. This haulage road will provide a link from a new railway siding to be constructed on the Adelaide to Darwin railway line easement to the east and a new rare earth's mine at Nolan bore 50 km to the west. The mine is due to commence operation in 2015.

The pasture cropping block to be cleared is within a large sand plain which covers the north eastern sector of Aileron Station, the eastern half of Pine Hill Station, most of the Woodgreen Conservation Reserve and south eastern sector of Ahakeye Aboriginal Land Trust property.

Over half Aileron Station is covered by the Singleton Land System (see "Centreprise" Map 281 DOL 06 12 11). There are two main areas of the property covered by the Singleton Land System: the northern and south eastern sectors.

The north eastern sector along the northern boundary of Aileron Station the Singleton Land system commences just east of the Stuart Highway and continues 57 kilometres beyond the eastern boundary. This land system continues a further 17 kilometres east on Bushy Park Station. The Singleton Land System continues south from the northern boundary of Aileron Station to 40 kilometres south. To the north of the northern boundary of Aileron Station (with the Woodgreen Conservation Reserve) it continues around 300 kilometres north though in places is a narrow corridor.

The sand plain is the major land form of the Singleton Land System. A description of the vegetation communities associated with this land system is set-out in the CSIRO 1962 report by Perry et al (attachment 1).

Addition information on the soils and vegetation is set-out in a Northern Territory Government report on the pasture condition of this property².

The surface gradient of the sand plain in the area is approximately 1:360 to the north.

It is believed that the most significant woody vegetation in this region of the property and adjacent areas are within:

1. Areas periodically inundated from flows in Allungra Creek and its flood-outs 10 kilometres to the west. At Allungra Creek water hole 20 kilometres to the west of the Pasture block there

² Range Condition Assessment Report , Department of Primary Production March 1984, Russell Grant

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are dense stands of Eucalypts within the drainage lines and groves of mulga adjacent to the flood channels.

2. Remnant small groves of mulga woodland associated with the relatively small mulga paleoplain land units occur about 40 kilometres to the west south west
3. Shallow soils over shallow basement outcrop adjacent hill and range rock outcrop country occurs about 35 kilometres to the south west
4. Alluvial "drainage" areas occur about 40 kilometres to the east and south east

Each of these areas are distant from the proposed cropping area.

Similar vegetation communities are well represented in the large Woodgreen Conservation Reserve immediately to the north east of the proposed pasture block.

The boundary of the cropping area will be at least 10 kilometres from creek drainage lines, 40 kilometres from ranges and 10 kilometres from the closest mulga woodland communities.

A search of the Department of Environment Water Heritage and Arts internet vegetation maps was carried out to determine whether any sensitive or significant vegetation was present in the proposed cropping area. No sensitive or significant species of flora communities were identified as present in this area of the property.

Similarly there is no record of endangered or rare species of plants in station records or searches of information on the internet posted by the Department of Natural Resources Environment the Arts and Sport (NRETAS) within the proposed pasture block.

If any endangered species are located in the clearing area then the clearing area can be adjusted to avoid damaging or avoid impacting on these plants and surrounding soils.

Multiple firebreaks are to be constructed and maintained around and within the pasture block to prevent fire damage to the pasture cropping area and the pasture block infrastructure.

A controlled groundcover and biomass reduction burning pattern program will be implemented (patchwork quilt approach) to imitate Aboriginal pre European burning practices. This program will be matched to rainfall seasons and biomass volume reduction to reduce fire and erosion hazards to the pasture block and adjacent areas. This approach should result in some restoration of the vegetation communities in the surrounding areas within the major firebreaks preventing the heavy impacts on the vegetation from the frequent wildfires which have been started by passing travellers.

Identify any declared heritage places or archaeological sites or other areas of cultural or heritage significance (attach supporting information)

There are no known declared heritage places or archaeological sites or other areas of cultural or heritage significance in the proposed pasture cropping area.

We have undertaken an internet search of the following Australian and Northern Territory Government heritage place registers:

- World Heritage Areas Australia
- Register of the Natural Estate

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- Commonwealth Heritage List
- Collaborative Australian Protective areas
- Territory Heritage list
- Station records

The nearest declared heritage places of major significance are Anna's Reservoir 56 kilometres to the west a registered historic site place ID7 (Anna's Reservoir Historical Reserve) and Ryan Well Historical Reserve 47 kilometres to the south west.

Heritage places not on the Northern Territory or National Heritage Register of interest are the restored Aileron Homestead (still in use by Aileron Station) 46 kilometres to the west, Conner's Well 47 kilometres to the south and the ruins of Woolla Downs 40 kilometres to the north.

There are several temporary waterholes on Allungra Creek 20 km to the south-west: Allungra Creek Waterhole, 2 mile water hole and the 3 mile waterhole. Soakages and temporary springs and rock-holes in basement rock outcrop occur associated within basement rock 40 kilometres to the south west.

Identify any declared Aboriginal Sites (attach supporting documentation)

Information from the Northern Territory Aboriginal Areas Protection Authority indicates there are no known registered and or declared sites in the proposed pasture cropping area.

Traditional owners advised the station owners that there are no significant sites in this area but that there are important sites 10 km to the north east on the Wood Green Conservation Reserve.

A scared site clearance application has been submitted to the Northern Territory Aboriginal Areas Protection Authority (AAPA).

Identify any areas containing rare or endangered fauna.

There are no known station records or local anecdotal evidence of rare or endangered fauna resident on the proposed area to be cleared.

The 99 hectares is less than 0.1% of the total area of this land system. Occasion Emu (*Dromaius novaehollandiae*) have been sighted on the sand plain but not to date within the pasture cropping area to be cleared. There is a wide range of avi-flora and small mammals and reptiles which are resident on the plains that are either are temporary residents or passing through. As there is no surface water on the area of the plain where the pasture block is planned this limits the variety of potential fauna sightings.

The Northern Territory Government agency responsible for fauna conservation previously identified records of the rare and endangered Bilby (*Macrotis lagotis*) in the region. Staff and aboriginals residents in the region have not sighted any Bilby for decades. No Bilby or tracks or evidence of Bilbies burrows have been sighted in the proposed area to be cleared.

Other faunal species which have previously been identified as a concern in this region include the Australia Bustard (*Ardeotis australis*) listed as a vulnerable threatened species. Bustards have been sighted in the general area and across the sand plain. They are a very mobile and will not be

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threatened by such small scale clearing. They are one of the favoured species to be hunted by the local aboriginals and aboriginals passing through the region. On the Orange Creek pasture cropping block south of Alice Springs they are protected from local hunting by the farmers and contribute to pest reduction with the crops. Significant numbers can be seen on this farm.

The southern Marsupial Mole (*Notoryctes typhlops*) is listed as a vulnerable threatened species. With the lack of sand dunes within the proposed pasture block their presence is unlikely. There are very large areas of sand dune country in Central Australia where the marsupial mole is known or believed to occur.

The Common Brushtail Possum Central Australian sub species (*Trichosurus vulpecular vulpecular*) is listed as an endangered species. The common brushtail possum was considered to be widespread in preferred habitat areas of Central Australia in the pre European era. These habitats included large flood-outs and may have included Allungra Creek flood-out. The proposed cropping area is on the sand plain some 20 kilometres east of the Allungra Creek and its flood-out. Station staff and Aboriginals resident in the Area have commented that they have not sighted any brushtail possums in Allungra Creek or its flood-out. If they are sighted in the future then the property will implement active measures for their conservation as advised by Government Agencies.

Identify any areas of national environmental significance under the Commonwealth Environmental Protection and Biodiversity Act (World Heritage Properties, Ramsar Wetlands of international significance and listed migratory species) within the proposed pasture cropping area.

These matters are largely covered in the sections above.

It is possible that the proposed area is used as a transit area for migratory avi-fauna species and the black flanked wallaby however it is within open sand plains country more than 10 kilometres east of the flood-out of Allungra Creek and 25 kilometres east north east of rocky slopes of Mount Lucy and 35 kilometres north east of the scree slopes of the Hann Range (Mount Ewart). Furthermore only 99 hectares is to be cleared of the several thousand square kilometres of the sand plains on and adjacent to the property.

111 MERITS OF THE PROPOSED DEVELOPMENT AND IMPACT ON PUBLIC INTEREST

Please provide an assessment of the potential impact the clearing and proposed development may have on the surrounding area and possible detriment to the public interest.

The availability of surface water from the irrigation and shelter in the growing crops may attract some species of avi fauna. There are already significant numbers flocks of zebra finches (*Taeniopygia guttata*) on the property and within the region as a result of the amount of surface water available following last year's major rainfall event and increased surface water in the region from dams and water tanks. The block is a very small area in comparison to the vast area of the sand plains and the Central Australian desert.

This project will have negligible detriment to the public interest.

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Please provide an assessment of the merits of the proposed development.

This project will enable the property to expand its operation and **deliver on a year round basis paddock to plate beef products**. It will assist in drought proofing the property. It will improve the station economics and provide additional direct and indirect employment; ease of management. It will provide the opportunity to more effectively manage the herd.

1V Other Comments:

The proponents have 50 year experience in operating successful cattle stations in Alice Springs, operating local abattoirs, butcheries and associated commercial operations.

Mr Garry Dann has provided a wide range of advisory services to various Northern Territory and Federal Government Agencies. He is the Central Australian chairman of the Northern Territory Cattleman's Association, Centralian Beef Breeders Association and Central Camel Association. During the 1970's with other Centralian Cattlemen Ted Hayes, Bruce Crowson, Grant Heaslip and Bill Turner he was a quota delegate for the big abattoirs; he was a delegate on the 1980's Indonesian study tour for the proposed West Timor abattoir. He was a delegate on the Northern Territory Cattleman's Association Italy study tour for a proposed tannery in Alice Springs

The proponents have been working with staff of the Alice Springs offices of NRETAS, Department of Resources (primary industries), Centralian Land Management Association and the Northern Territory Cattleman's Association and Centreprise Resource Group Pty Ltd (an indigenous local natural resource assessment and development consultancy) to:

- improve the sustainability of the property,
- as far as is possible drought proof the property,
- take advantage of the good quality groundwater in storage in the Ti Tree Basin in the eastern sector of the property which is recharged at discrete locations on Aileron Station,
- use the results of the 1980 Majorca Groundwater Investigation undertaken by the Northern Territory Government in this sector of the Ti Tree Basin in this area for a previously proposed prison farm. The investigations proved up the resource and suitability of the soils for intensive irrigated farm development using groundwater from the Ti Tree aquifers in the western sector of the station. It is believed that the Government of the day decided not to pursue this proposal due to its remoteness from the Alice Springs Prison. The Government considered other locations on Undoolya Station and adjacent to the prison and eventually established a small farm within the existing prison.

The property is also in a position to utilise some of the infrastructure being constructed for the Arafura Resources Ltd, Nolan Project, rare earth's mine being developed on the station.

The assessment work by NRETAS and its predecessors include:

- regional stratigraphic and aquifer assessment, drilling investigations across the Ti Tree Basin immediately north of the proposed pasture block site on Woodgreen Conservation reserve and south at the proposed Majorca prison farm site,
- provision of large scale geological, groundwater / bore satellite maps of the property

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- provision of a series of satellite maps identifying rocks, landform and vegetation,
- preliminary land resource investigations (land system mapping),
- preparation of a range of water resource assessments on the Ti Tree Basin,
- construction of a large number of investigation and monitoring bores across the Ti Tree Basin,
- provision of bore reports available on the NRETAS internet site,
- a series of water resource assessment reports on the water resources of the Ti Tree Basin,
- groundwater monitoring across the basin,
- surface water monitoring at Allungra Creek.

From the above information plus recent work undertaken by:

- Arafura Resources Limited
- Nu Power Ltd
- the railway construction bores and
- recent assessment by *Centreprise*,

there are known significant supplies of good quality groundwater available in the area from moderate yielding irrigation bores which can provide the 2,000 ML/an required for the pasture cropping operation in this location on the property.

The proposed pasture block is within the eastern water resource management zone of the Ti Tree Basin and 2,000 ML/yr is currently available for irrigation use in this zone.

The site for the 99 hectares of overhead spray irrigation (centre pivot) for the pasture crop has been selected based on the results of the NRETAS land and water assessments and the assessment of the suitability of the site, access, information from previous NRETAS land resource surveys and taking into account land clearing considerations, the environment, cultural and ecological sites.

The area falls within the Ti Tree, Water Control District, we have already been in discussions with the water management unit of NRETAS on the availability of groundwater from the eastern zone of the basin and that we are submitting an application for a water allocation and will be seeking licences to drill bores and extract groundwater for this operation once the clearing application has been approved.

We have selected a preferred site for the pasture cropping block and also an alternative location adjacent to the Majorca prison farm investigation production bore should unforeseen issues arise with the preferred location as a result of assessment by Government Agencies or the Pastoral Land Board in respect to this application.

In clearing the irrigated cropping area we will be complying with NRETAS land clearing guidelines 2006. Following approval to clear the proposed irrigation cropping area we will seek assistance from the relevant NRETAS units on the finalisation of the following resource management plans:

- Erosion and sediment control plan
- Weed management plan
- Exotic pastures species management plan

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- Fire management plan
- Native vegetation management plan.

Draft summaries of these plans are included in attachment 2

Applicant's signature

Graham Ride, Centreprise Resource Group Pty Ltd

On behalf of Mr Garry Dann, Aileron Station, Waite River Holdings Pty Ltd

Date 6th January 2011

Attachments:

1. Description of Natural Resources
2. Draft Summaries resource management plans
 - a. Erosion and sediment control plan
 - b. Weed management plan
 - c. Exotic pastures species management plan
 - d. Fire management plan
 - e. Native vegetation management plan.
 - f. A bore-field management, leachate and groundwater monitoring plans will be prepared after completion and testing of the production and monitoring bores.
3. Maps
 - a. Locality map –“Centreprise” map 294 DOL 15 12 11
 - b. Locality map 2 Alternative location –“Centreprise” map 307 MFT 06 01 2012
 - c. Aileron Station Land Systems –“Centreprise” map 281 DOL 06 12 11
 - d. Aileron Pasture Block Layout –“Centreprise” map 301 MFT 19 12 2011
4. Table. Map 301 Grid locations GR M 20 12 11

Company Profile

Waite River Holdings owns Aileron Station and other assets in Central Australia

Key People

Experience (with reference to pasture and development proposal)

Mr Garry Dann is an experienced businessman & Central Australian Pastoralist, abattoir operator, supplier of wholesale camel and beef meat to butchers and other outlets. He is also experienced in

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clearing and earthmoving, groundwater supply systems, fencing, built structures: remote housing, sheds and structures, construction of roads, rehabilitation of disturbed sites, diesel and gas generators, wind and solar power.

Once the pasture block development has been completed Mr Dann will employ an experienced pasture cropping farmer to manage the pasture cropping operation.

In respect to the pasture block development and its future operation Garry Dann is being advised by:

- Centreprise Resource Group Pty Ltd, who are providing consulting services covering the design, preparing submissions and seeking regulatory approvals, undertaking the groundwater development, hydrogeological assessments,
- Mr John Thompson a pump and irrigation specialist,
- Mr Hans Dreyer a research scientist and agribusiness farm manager experienced in pasture cropping in arid zones,
- Irrigation equipment suppliers Len Hall & Sons Narrabri NSW,
- Watershed, Alice Springs.

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Attachment 1: Description of the Natural Resources

1. Singleton Land system

The Singleton Land System is part of the partially dissected erosional weathered land surface. It is within the dune fields and sand plain group.

Within the mapped Alice Springs area of land systems it covers an area of 99,900 square kilometres. On Aileron Station it covers 2,254 square kilometres.

It consists of flat or gently undulating plain; red clayey sands and sands, and in the north west some sandy red earths in part lateritic; Spinifex.

The gradient of this sand plain on Aileron is to the north, along the eastern boundary of Aileron Station it is 1:360.

2. Geology

The pasture block is underlain by a deep paleovalley in the Arunta Complex basement rocks of the area (granites, gneiss, and schist, intrusive and other rock). The Arunta Complex basement rocks are metamorphic and igneous rock of the mid – Proterozoic period, 2500 million years old. The paleovalley is believed to be over 300 metres deep in this location and filled with Tertiary sediments (sandy clays, clays, weathered dolomite/ limestone, sands, lignite).

3. Physiography

The north eastern corner of Aileron Station is an aeolian (wind blown) sand plain with isolated occasional low sand dunes of strike north west – south east. Moist tropical climatic conditions over the Cainozoic period (last 58 million years) resulted in deep weathering of the basement rock erosion of deep valleys north of Mount Lucy draining into the Great Artesian Basin to the south east. Extensive deposits of calcrete (limestone) were precipitated in shallow depressions over the Quaternary period (less than 2 million years ago). Remnants of these thin calcrete deposits occur to the west and may occur in places below the proposed pasture block.

The aeolian sands are now generally stabilised as extensive spinifex covered sand plains. Some minor movement of the sand occurs over short periods when the vegetation is removed for example by wildfire.

Over the pasture block the sand-plain has a low gradient to the north. Outside the pasture block to the south and south west there is slightly undulating relief.

4. Soils

Two types of soils occur in the north eastern sector of Aileron Station:

Red Earths

Permeable red soils formed from silica rich parent materials such as granite, gneiss and quartzite by weathering and leaching. Over the pasture block they are slightly acid (pH 5.5).

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These soils have a small to moderate wind and surface water erosion hazard.

Deep Earthy Sands

Similar to the red earths but have a deep uniform profile consisting of loamy sands or sandy loams. They are the characteristic soils of the sand plains. In this area these soils exhibit good drainage by infiltration.

5. Vegetation

Feathertop spinifex (*Plectrachne schinzii*), and areas of hard spinifex (*Triodia basedowii*) are the dominant grasses on the sand plains. There is a sparse cover of low growing acacia (*Acacia dictyophleba*) occasional bloodwood (*Eucalyptus terminalis*), corkwood (*Hakea eyreana* & *Hakea subera*). Burnt areas support some kerosene grass (*Aristida browniana*), herbage, desert poplars (*Codonocarpus cotinifolius*), and broombush (*Senna nemophyila*).

Summary selected vegetation

Upper stratum	<i>Eucalyptus Terminalis</i>	Bloodwood
	<i>Hakea eyreana</i>	Corkwood
	<i>Hakea subera</i>	Corkwood
	<i>Condonocarpus cotinifolius</i>	Desert poplar
	<i>Hakea Longifolia</i>	Long leafed hakea
Mid Stratum	<i>Acacia dictyophleba</i>	Sandhill Wattle
	<i>Grevillia</i>	Desert grevillea
	<i>Acacia sp</i>	Colony Wattle
	<i>Senna nemophyila</i>	Broombush
	<i>Senna artemisoides</i>	broombush
	<i>Senna sp</i>	Chocolate Bush
Lower stratum	<i>Plectrachne schinzii</i>	Feathertop spinifex
	<i>Triodia basedowii</i>	Hard spinifex
	<i>Solanum sp</i>	Bush tomato
	<i>Aristida browniana</i>	Kerosene grass

6. Estimated grazing capacity

Average seasons 1.0 beast per square kilometre³. Note that use of salt blocks can significantly increase the productivity of the feathertop spinifex (*Plectrachne schinzii*), hard spinifex (*Triodia basedowii*) sand plains.

³ Range Condition Assessment Report, Department of Primary Production March 1984, Russell Grant

Attachment 2: Aileron Station Resource Management

Draft summaries of the pasture paddock resource management plans are set-out below:

1. Grazing and pasture management plan
2. Weed management plan
3. Exotic pastures species management plan
4. Fire management plan
5. Native vegetation management plan
6. Native animal management plan
7. Erosion and sediment control plan
8. Feral animal control plan.
9. A bore-field management, leachate and groundwater monitoring plans will be prepared after completion and testing of the production and monitoring bores.

1 Grazing and pasture management plan (periods of stocking, stocking rates, spelling, fertilizer and woody regrowth management)

- a. A 99 hectare irrigated pasture block is being establish to provide the maximum amount of hay from multiple annual cropping using fertilisers
- b. The paddock may be grazed by stock for short periods. The stocking rates will depend on the amount of feed available and herd management requirements
- c. Any regrowth within the irrigated area will be cleared.
- d. It is expected that any excess fertilizer nutrients will be used by the windbreak trees and shrubs. The intention will be to maximise fertilizer use by the crop and minimize loss to surrounding areas.
- e. Irrigation leachate, infiltration of rainwater and irrigation water in the unsaturated soil zone will be monitored to assist in managing fertiliser and irrigation water applications and avoiding polluting the aquifers.
- f. Woody regrowth within firebreaks will be slashed.

2 Weed management plan

- a. There are no known Class A or Class B weeds in the area of the proposed pasture paddock
- b. There is an outbreak of cactus near the Aileron Roadhouse and Racecourse areas 50 kilometres to the west
- c. Prickly acacia occurs in some flood-out areas on Cattle stations and Aboriginal properties in the region but not within the proposed pasture paddock
- d. Rubber bush (*Calotropis procera*) is growing on the Warrabri Land Trust property and Kelly Well area 100 to 200 kilometres to the north of the proposed pasture block but has not been sighted on these stations.
- e. If seedlings of rubber bush or other Class A or Class B weeds appear within the cropping pasture paddock or adjacent areas then they will be cleared and the area pegged for any follow up treatment that may be necessary.

3 Exotic Pasture Species Management Plan

- a. Within the paddock pasture species will be irrigated, these are unlikely to migrate outside the boundary fence due to the harsh conditions and normally lack of high rainfall in the area. Fire breaks are to be maintained within the pasture paddock, around the boundary fence and surrounding the block. These firebreaks will further reduce the ability of the pasture species to spread into the buffer area and beyond and will provide good visual access across the block and in adjacent areas.
- b. Tree and shrub wind breaks will be established around the cropping area which will further reduce spreading of pasture species outside the boundary fence.
- c. If infestation of the pasture species does occur outside the fences then measures will be implemented for its eradication/control.
- d. Buffel grass grows in drainage lines 40 kilometres to the west, around and within the mine site. It is rampant along the verges of the Stuart Highway and in various areas of the property west of the Highway. It is believed that buffel grass has already spread to its most preferred habitats. Buffel grass is likely to establish within the pasture paddock with the increased water and nutrient levels. It will be controlled within the pasture area. It is unlikely to establish outside the boundary fence due to the soils present and the low nutrient supply on the sand plain.

4 Fire Management Plan

- a. Fire suppression will be undertaken within the pasture paddock.
- b. A fire fighting unit and equipment will be located within the pasture paddock
- c. Fire breaks will be maintained within the pasture paddock, along the boundary fence and beyond the outer perimeter of the buffer area. Additional fire breaks will be maintained along the northern eastern and southern boundaries of the property.
- d. Biomass and litter reduction will be managed within the property buffer area by periodic burning on a long term patchwork quilt basis based on volumes of biomass, seasons, time of year and past seasonal rainfall and predicted future annual rainfall.

5 Native Vegetation Management plan (prevention of degradation to native vegetation, including vegetation buffers).

- a. The native vegetation will be removed over a 99 hectare area for the irrigated pasture circles.
- b. Selected exotic & native tree windbreaks will be grown around the irrigated area and within the pasture block amongst existing native shrubs and trees. The area has been subjected recently to a very hot bush fire but it is expected that some trees and shrubs will recover.
- c. It is planned to initially trickle irrigate some of the planted windbreak seedlings particularly over the first two or three summers. An advantage in planting native trees and shrubs is that they will not need irrigation after establishment though most of the long lived species tend to be slow growing.
- d. The surrounding buffer area will be patchwork burned on an appropriate program to reduce fire hazard and as far as possible replicate pre European burning patterns. This will reduce the undesirable impacts on this vegetation in this area

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from the excessive burning that has occurred in this paddock in recent years from fires lit by passing indigenous people.

- e. The sand plain is not heavily grazed by stock due to the normal lack of suitable pasture species. Following high rainfall events parakeelya grows on the sand plains
- f. If the fodder paddock attracts large numbers of animals such as kangaroos which then commence impacting on the native vegetation within the buffer area surrounding and within the pasture paddock then remedial steps will be taken.

6 Native animal management plan

- a. The pasture cropping irrigation areas will be fenced if necessary with high “pig” wire to exclude stock and large native animals e.g. wallabies and kangaroos. The boundary of the pasture paddocks will be fenced with standard barbed wire and star picket fences and electrified to exclude cattle and camels.
- b. A fire break and access track will be slashed around the boundary fence to provide a visual warning of the presence of the fence.
- c. The surrounding buffer area will be patchwork burned on an appropriate program to reduce fire hazard and as far as is possible replicate pre European burning patterns.
- d. If population of birds or small native animals explode within the fodder growing area then advice on the management will be sought from NRETAS experts.

7 Erosion and sediment control plan (erosion prevention and strategies for rehabilitation if erosion occurs)

- a. Within the paddock the clearing approach will adopt the approach set-out in NRETAS clearing guidelines and brochures.
- b. The cleared and levelled irrigated cropping area will be revegetated with pastures as soon as is possible
- c. Similarly within the surrounding buffer zone and firebreaks and access tracks the approach will conform with that identified in NRETAS clearing guidelines and brochures.
- d. Care will be taken in the siting of the outer fire breaks and access track so that there is not continuous straight grading or wheel ruts and any berms are to be knocked down. Firebreaks parallel to the slope of the plain will curve through the landscape avoiding existing trees. Observation of high intensity rain on this plain showed a lack of runoff and high infiltration rates.
- e. The main access track will be sited at relatively small angle to the northern boundary access road but consistent with road safety requirements.
- f. If necessary gravel rubble will be placed over all or parts of the main access track to prevent erosion. Whilst the area is fairly flat, sandy and highly permeable the intention will be to avoid impacting on any surface runoff.
- g. The station has its own earth moving plant (large loader, grader, water truck, etc) and will be purchasing tractors for use with the cropping area so will be able to undertake rehabilitation and remedial measures quickly if erosion does occur in this area. If erosion does occur then management will seek advice from NRETAS on rehabilitation and remedial measures.

8 Feral animal management plan

- a. There are few feral animal problems on the property. There are no pigs, donkeys or wild horses on the property. There are a few rabbits in some areas principally associated with calcrete and calcareous soils. Judging from burrows, droppings and current sightings their numbers are few probably affected from the calicivirus. Feral cats occur as everywhere in Australia, foxes are rarely sighted.
- b. The feral animal management plan for Aileron Station is simply to shoot or remove feral animals where located.

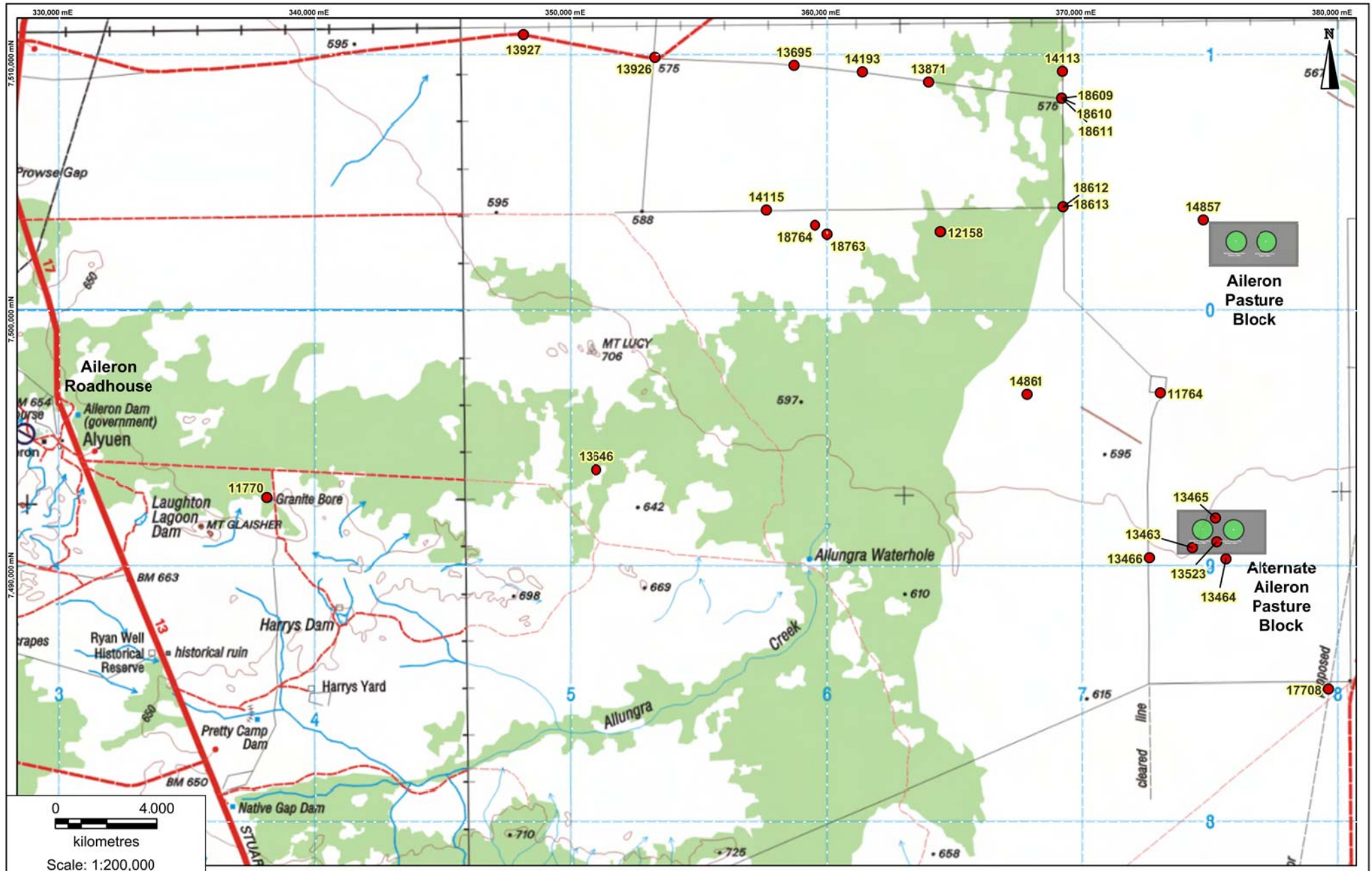
9 Bore-field management, leachate and groundwater monitoring plans will be prepared after completion and testing of the production and monitoring bores.

- a. The bore-field management plan to provide a sound basis for management of utilisation of the groundwater resources and to ensure they are utilised within sustainability principles. The plan will include: management and maintenance of the bores, pumping equipment, water storage and irrigation reticulation system. An objective will be to maximise crop yield (and crop quality) whilst minimising irrigation water use i.e. maximising value of the crop and effective use of the groundwater.
- b. The leachate in the unsaturated soil profile must be managed to avoid polluting the groundwater resources or affecting crops. Infiltrimeters and gypsum blocks will be installed within and adjacent to the irrigation areas to monitor:
 - i. rainfall and irrigation water infiltration
 - ii. movement of leachate and to
 - iii. provide the information required to manage the leachate.
- c. It is planned to construct monitoring bores, monitor the new production bores and some existing monitoring bores to monitor bore-field and groundwater resource standing water levels. Water samples from the new production bores will be regularly taken to monitor groundwater chemistry changes. This information is required for regulatory and bore-field management purposes.

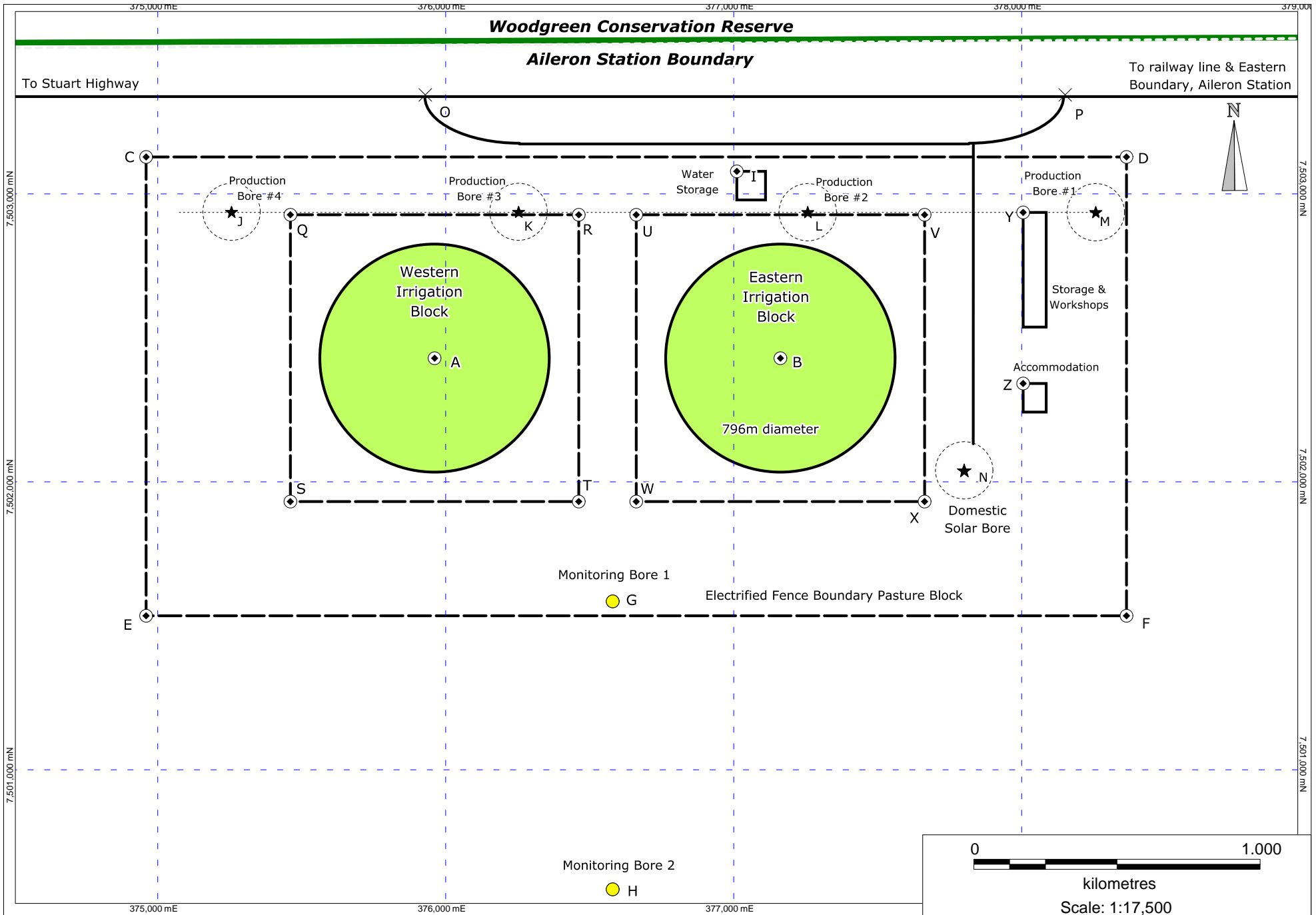
Clearing Application to the Pastoral Board to establish an Irrigated Pasture Block Aileron Station

Attachment 3: Maps Aileron Pasture Block

1. Locality map –“Centreprise” map 294 DOL 15 12 11
2. Locality map 2 Alternative location –“Centreprise” map 307 MFT 06 01 2012
3. Aileron Station Land Systems –“Centreprise” map 281 DOL 06 12 11
4. Aileron Pasture Block Layout –“Centreprise” map 301 MFT 19 12 2011



Aileron Pasture Block - Locality Map 2
 Alternative Location
 'Centreprise' Map 307 MFT 06 01 2012



Aileron Pasture Block - Layout
'Centreprise' Map 301 MFT 19 12 2011
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Attachment 4: Aileron Pasture Block Map 301: grid locations

Map 301 Grid locations GR M 20 12 11. Preliminary pegging of the pasture block and centre of the irrigation circles has been completed using a hand held GPS Garmin unit. The locations have been pegged using painted long star pickets.

ID	Easting	Northing	Comments
A	375961	7502429	Centre Western Irrigation Area
B	377163	7502429	Centre Eastern Irrigation Area
C	374959	7503128	NW Corner Fence
D	378364	7503128	NE Corner Fence
E	374959	7501535	SW Corner Fence
F	378364	7501535	SE Corner Fence
G	376580	7501585	Monitoring Bore 1
H	376580	7500585	Monitoring Bore 2
I	377011	7503078	Storage NW Corner
J	375256	7502938	Production Bore #4
K	376253	7502938	Production Bore #3
L	377257	7502938	Production Bore #2
M	378258	7502938	Production Bore #1
N	377801	7502040	Domestic Solar Bore
O	375929	7503344	Road West
P	378151	7503344	Road East
Q	375461	7502927	NW Corner Western Irrigation
R	376462	7502927	NE Corner Western Irrigation
S	375461	7501932	SW Corner Western Irrigation
T	376462	7501932	SE Corner Western Irrigation
U	376662	7502927	NW Corner Eastern Irrigation
V	377663	7502927	NE Corner Eastern Irrigation
W	376662	7501932	SW Corner Eastern Irrigation
X	377663	7501932	SE Corner Eastern Irrigation
Y	378005	7502936	Storage & Workshops NW Corner
Z	378005	7502342	Accommodation NW Corner

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