

**DRAFT PROPOSAL TO**  
**THE COMMISSIONER OF CROWN LANDS**  
**APPLICATION FOR EXCHANGE OF PROPERTY RIGHTS**

**Landcorp File:**  
**Office of Crown Lands File:**

**P221\223**

1st September 1993

**APPLICATION:**

1. To surrender pastoral leases Po221 and Po223 (Bendigo) from 1st January 1994.
2. To allocate approximately 1920 hectares to the Department of Conservation with provisions for grazing through a special lease issued under section 67 of the Land Act (1948).
3. To allocate approximately 1372 hectares to the Department of Conservation with no provisions for grazing.
4. To preferentially dispose of approximately 7992 hectares to the current lessees of Bendigo Station on freehold title.
5. To recognize that the Department of Conservation has negotiated conservation covenants over two areas of the proposed freehold to protect landscape and botanical values.
6. To recognize that the Department of Conservation has negotiated a conservation covenant over the entire freehold to protect historic mining sites.
7. To provide legal foot access at four locations.

**LEASE:**

**Legal Description:** P221 Part Run 238M Wakefield and Tarras Survey District.  
P223 Section 32 Run 238L, Wakefield Survey District.

**Area:** P221 6189.7337 hectares.  
P223 5094.5876 hectares.

**Lease Details:**

Tenure:	Pastoral Lease
Term:	33 years from 1 July 1992 (both leases)
Expiry:	30 June 2025
Rental Review:	1 July 2003
Rental Value:	P221 \$265,000 P223 \$270,000
Annual Rent:	P221 \$ 3,975 (1.5%) P223 \$ 4,050 (1.5%)

**Crown Improvements:** Nil

**Stock Limitation in Lease**

P221	2,695 sheep (inclusive of 880 breeding ewes) Approximately 2,150 su.
P223	2,118 sheep (inclusive of 660 breeding ewes) Approximately 1,680 su.

**Personal Stock Limit:** For the two leases run in conjunction with each other 13,000 sheep (including not more than 8,000 breeding ewes) plus 200 cattle and 100 game animals.

**LESSEE:** John Charles Perriam and Heather Lorna Perriam.

**LOCATION:** Bendigo Station is comprised of 2 Pastoral Leases. The base of the property runs parallel to State Highway 8 along the Clutha Valley floor. The top boundary is the summit of the Dunstan Range. The property is bounded by Northburn Station to the south, Matakanui to the east and Ardgour to the north. The homestead is approximately 16 km from Cromwell along State Highway 8.

**OTHER LAND HELD:** (FH and DPL lands total 339 hectares).

**GENERAL DESCRIPTION:**

- (a). **Aspect** North to north east.
- (b). **Altitude** 200 - 1550m a s l.
- (c). **Contour** 21% steep.  
59% moderate - rolling.  
20% flat - gentle.
- (d). **Area Ploughable** 200 hectares.
- (e). **Rainfall** Nearby Cromwell's mean annual rainfall is 407mm - progressively rises towards top of Dunstan Range to approximately 800mm.
- (f). **How Watered** Most Blocks have natural water. Ardgour Block has bore water (with pump).
- (g). **Subdivision** Divided into 29 Blocks (including FH, DPL and LIP) flats further subdivided into paddocks.
- (h). **Snow Risk** Sunny aspect ensures rapid clearance.
- (i). **Summer/Winter Balance** The property contains a large area of winter country which is extremely drought prone throughout the growing season.
- (j). **Shelter** Adequate natural shelter.
- (k). **Reversion** Extensive areas of kanuka at lower altitudes are gradually thickening and spreading. Briar abundant over lower warm slopes, thick in some gullies. Spaniard is dominant in the lower blue tussock/short tussock zone.
- (l). **Erosion** Wind, sheet and gully erosion wide spread on lower property. Middle altitude is predominantly stable. Wind, sheet, gully and land slip erosion with extensive frost heave occur at high altitude. Shady faces generally better covered and more stable.
- (m). **Weeds & Pests** Kanuka gradually spreading and thickening. Briar thick in gullies. Aciphylla dominant in a zone above the AOSTD area. Tussock hawkweed very common on shady faces in Upper Devils block and in Upper Castle Block. Other weeds present are horehound, gorse, wilding conifers, wild thyme, cotton thistle, oriental clematis, hawthorn and broom. Goats common in the upper Devils Creek area. Pigs are present. Very serious rabbit problem on the lower country.

**(n). Soils****Soils of Steeplands:**

Brown Grey Earth	-	Alexandra Steepland
Yellow Grey Earth	-	Arrow Steepland
Yellow Brown Earth	-	Dunstan Steepland

**Soils of Hills and Rolling Lands:**

Brown Grey Earth	-	Conroy Hill
Yellow Grey Earth	-	Blackstone Hill
Yellow Brown Earth	-	Carrick Hill

**Soils of Terraces:**

Brown Grey Terrace	-	Clyde
	-	Lowburn
	-	Molyneux
	-	Linnburn
	-	Tarras
	-	Fraser
	-	Galloway

**Soils of Fans:**

Brown Grey Terrace	-	Ardgour
	-	Lochar
	-	Waenga
	-	Blackmans

<b>Soils of Moraines:</b>	-	(moraine soils)
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**(o). Land Use Capability**

LUC Class	Area/Ha	% Property
III	257	2.3
IV	1449	12.9
V	334	3.0
VI	3531	31.4
VII	5432	48.2
VIII	<u>250</u>	<u>2.2</u>
	11253	100.0

## (p). Cover (As of July 1990) -

## P221

180 ha	Lucerne
160 ha	Lucerne, Cocksfoot mix.
60 ha	Cultivated area - unproductive due to rabbits.
150 ha	Kanuka scrub.
1000 ha	AOSTD in flatter mid altitude areas (good).
639 ha	AOSTD in lower dry areas - stressed.
200 ha	AOSTD next to native upper altitude blocks.
1400 ha	Lower native area very depleted.
<u>2400 ha</u>	Higher native country - ranges from strong blue tussock to very depleted.
6189 ha	

## P223

5 ha	Boarder dyked, grass pastures, good cover depending on availability of water.
100 ha	Lucerne - average condition.
145 ha	Lucerne, cocksfoot mix - poor condition.
140 ha	Cultivated area, unproductive due to rabbits.
330 ha	Kanuka scrub.
1054 ha	AOSTD in flatter mid altitude areas (good).
1050 ha	AOSTD in lower dry areas - stressed.
410 ha	AOSTD next to native upper altitude blocks.
1050 ha	Lower native area - very depleted.
<u>800 ha</u>	Higher native country - ranges from strong blue tussock to very depleted.
5094 ha	

## (q). General

Bendigo is one of the driest properties within the semi-arid lands region. The property's north - north east aspect accentuates the low annual rainfall. Cromwell only 16 kms away is New Zealand's second driest town and summer rainfall variability is greater than anywhere else in the country. The climate, aspect, topography and vegetation cover combine to make the property severely rabbit prone. Despite the rabbit problem Bendigo is one of the best known fine wool producers in New Zealand. The rabbit proneness has determined that 6789 ha of low and mid altitude country has been included in the Rabbit and Land Management Programme area. Bendigo would be a more financially robust enterprise without its most rabbit prone lands.

**PRODUCTION:**

Stock numbers increased from 10,500 su in 1981 to 15,000 su in 1988 in association with a comprehensive development programme. High rabbit numbers and unfavourable seasons have led to a 2,000 su reduction since this time.

**Stock as at 30/6/91:**

Sheep:	<u>Main Flock</u>		<u>Stud Flock</u>	
	Ewe hoggets	3,000	Ewes	500
	Wether hoggets	2,500	E/w hoggets	<u>500</u>
	2 Tooth ewes	1,800		1,000
	M.A ewes	5,700		
	M.A wethers	<u>1,300</u>		
		14,300		
	<b>Total Stock Units:</b>	<b>13,250</b>		

**Performance:**

Lambing: 95%  
 Wool per head: 4.0 kg  
 Supplementary feed: 1,000 large bales

**PREVIOUS HISTORY:**

Pre 1947, Bendigo was run by a Mr A C Begg. Brothers R F & A E Lucas took over the property in 1947. It was then considered to be in a very run down condition, with low lambing percentages, low wool weights and high death rates. Rabbits were a very serious problem causing widespread, extreme depletion on all areas below 610m. A fine-wool flock was run on the hill country with Romneys grazing the limited areas under irrigation on the LIP (homestead block). No winter feed was grown.

R F Lucas became the sole lessee from October 1953 and until 1978, during which time considerable development occurred bringing changes in management and vegetation improvement.

The present lessee J C Perriam, has proved to be very progressive and innovative. He has managed the property primarily for the continued production of fine merino wool (for which he has held an intensive, lifelong interest), and for lucrative hogget sales. He expanded considerably on the initial development commenced by R F Lucas, to a level where the property carried 15,430 stock units in 1986. The recent drier years and rabbit problems have led to a 2000 stock unit reduction. In 1991 the property carried 13250 stock units.

Mr Perriam has established a Game Park-Safari enterprise operated in connection with a Merino Shop at Tarras (the latter managed largely by Mrs Perriam); and of historical interest, has undertaken the restoration of the original Bendigo homestead which houses trophies and memorabilia.

The ownership of an outlet for their Merino wool products represents a move to control production and marketing in a totally integrated way. For example Bendigo knitting wool is produced in Napier and sold under the "Suprino" label.

An Historic Reserve of 115ha currently under the status of Protected Private Land centred on the remains of the old gold mining township of Logan town, was gazetted in March 1983.

### BOTANICAL VALUES:

Bendigo Station lies within the Dunstan Ecological District and forms part of the Central Otago Ecological Region. The Dunstan Ecological District contains broad river terraces on its western borders and well developed farmland, giving way to broad ridges rising to the Dunstan tops. The mid-altitude zone tends to be well modified before giving way to cushionfields, short tussock and tall tussock on the Dunstan tops.

The Dunstan Ecological District was subject to a PNAP survey in 1984. Seventeen areas were identified as having important conservation values, four of these are located on Bendigo Station. These recommended areas for protection (RAPs) included the Dunstan tops - 370 ha, two low altitude kanuka shrubland areas - 770 ha, and shrubland in Bendigo Creek - 100 ha. During PNAP implementation it was recommended that the Thomson's Saddle area should also be designated an RAP because of the high component of silver tussock. Some areas outside of these RAPs also have ecological values and have been included in this proposal.

Outside of the RAPs Bendigo Station can be divided into five broad categories:

- 1 River terraces - highly developed, irrigated and cultivated pasture and well subdivided.
- 2 Lower hill slopes, variety of grassland, scabweed and scattered shrubland.
- 3 Kanuka shrubland occupies a belt between 400-700 m zone. This area includes the RAPs A3 and B7 which will be dealt with in greater detail. This kanuka zone extends the full width of the property and includes a variety of hardwood species. Scattered amongst this zone are small pockets of pasture, along with a variety of weeds, sweet briar being the most prominent.
- 4 The Mid-altitude zone is dominated by sparse hard and silver tussock and has been extensively oversown and topdressed. Within this zone scattered clumps of kanuka occur along with matagouri. Also present are blue tussock, *Bromus tectorum*, a variety of pasture grasses and some clover. This zone provides important pasturage for Bendigo Station.

- 5 Dunstan tops - this zone includes mainly the top blocks on Bendigo Station running from 1100 m to 1500 m. A highly variable zone with ground cover comprising extensive bare ground, scattered *Chionochloa rigida*, *Poa colensoi* and extensive cushionfields. Cushionfields are dominated by *Celmisia viscosa* (a species which indicates heavy grazing in the past). This zone includes part of RAP A4 on the Dunstan tops.

The principal ecological values are encompassed in categories 3, 5 and part of 4 and around Mt Koinga (355 m) which is a known site locality for a rare sedge, *Carex inopinata*. It was last recorded in 1969 and requires further investigation - elsewhere the degree of modification to the indigenous vegetation is extremely high. The conservation interest identified on Bendigo therefore centres on these areas. A summary of their ecological values follows:

1 Bendigo Tops

This area encompasses the extensive broad Dunstan Mountains, including the summits of the range, Mt Apiti, Mt Moka and Mt Kinaki. In total DOC's interest in this area covers 1900 ha, and includes the Moka, Upper Castle, Castle Rock, and Sunny Devil's blocks. This area is above 1200 m and although it is highly modified, it still has a high natural component that is worthy of protection. The broad vegetation communities are cushionfield herbfield along the summit of the range. This hummocky periglacial feature is well developed with *Celmisia viscosa*, *Dracophyllum muscoides* and blue tussock. *Raoulia hectori* grows on the stonier, more exposed surfaces. The top of the range also has a sparse scattering of *Chionochloa macra*, which represents a vegetation type that occurred extensively over the summit at an earlier period. Within the cushionfield, wetland flushes occur around the headwaters of all the catchments which flow through Bendigo Station. Surrounding these wetlands at lower altitudes, *Poa colensoi* is dominant, with scattered *Chionochloa rigida*. This grades out into fescue tussock at about 1200 m. In the west, around Mt Kinaki, *Aciphylla* spp. dominate, along with the occasional patch of *Hieracium lepidulum* (tussock hawkweed). A variety of herbs and shrubs are also scattered throughout these tops. *Dracophyllum pronum*, *Hebe buechananii* are notable along with *Bulbinella angustifolia*.

The draft "Lindis, Pisa, Dunstan" PNAP report describes the RAP located within these blocks in greater detail. It is recognised that the summit of the Dunstan Mountains has been severely modified from a tall tussock community to a cushionfield regime. However, these tops represent the best of what remains on the range. The PNAP report ranks the vegetation highly from a representativeness, diversity and naturalness viewpoint. Enlarging the area provides for good ecological viability over the long term, giving it maximum size and an ideal "biological shape". Existing fencing will protect and control existing patterns of use.

## 2 Kanuka Shrubland

As described, this broad, very visible kanuka belt captures two RAPs, one a first priority known as Pigeon Creek and the other a second priority RAP, Chinaman's Creek. Both areas have similar vegetation and are fully described in the PNAP report.

This proposal has enlarged on these areas considerably and has identified the majority of the kanuka belt on these west-north-west facing slopes above State Highway 8. This zone extends from Devil's Creek in the south-west to Bendigo Creek in the north-east. Bendigo Creek contains an RAP identified as being representative of shrubby gully systems in this dry region. Within the kanuka belt, patches of fescue tussock and scabweed occur along with a stand of kowhai in the Pigeon Creek RAP. Briar and matagouri are also common. The entire area is virtually completely fenced and rabbit-proofed, which should allow regeneration to occur.

In the Bendigo Creek area, part of the RAP has been redefined with only the lower reaches of this steep-sided gully being included. The *Coprosma propinqua* and matagouri shrubland in Bendigo Creek's upper reaches are well represented in Perrys and Aurora Creek. Clearwater Creek contains mainly briar and willows and is included for incorporation into the DOC estate primarily for its historical significance.

## 3 Upper Rise and Shine

This area has special significance because of its historic sites and its landscape setting. These factors, combined with the silver tussock grassland, makes it worthy of inclusion in this proposal. PNAP surveys have largely ignored lower altitude short tussocklands. The only RAP which includes this vegetation community is on a river terrace near Clyde.

### FAUNA:

#### Bendigo Upland Invertebrates

The crest of the Dunstan Mountains contains a highly distinctive high alpine insect fauna. All the species are native and have evolved intricate relationships with their habitat and host plants. The fauna is distinctive because:

- a high percentage of species are diurnal;
- many are conspicuous because of their large body size;
- many species are brightly coloured;
- all species are adapted to the severe climate by synchronising their life-cycle to warmer months and often being dark and hairy to absorb available sunlight;
- some species are confined to Dunstan Mountains, eg, the diurnal moth *Gelophaulula*.sp, or Central Otago mountains as a whole;

- some species are flightless - so confined to area, eg, some caddisflies, stoneflies and chafer beetles.

Main components of this fauna are alpine:

- flies (grassland/herbfields)
- moths (grassland, cushionfields, tors)
- beetles (cushionfields, streams)
- caddisflies (in seepages and streams)
- stoneflies (streams)
- mayflies (streams)
- grasshoppers (herbfield/grasslands)
- cicadas (cushionfield)

A few wasps, one scorpionfly and some true bugs have also been recorded.

### Freshwater Fish

Records are sparse for the creeks on Bendigo Station, brown trout have been recorded in Devils Creek and Thomsons Creek. It could, however, be expected that the native galaxiid koaro (*Galaxias brevipinnis*) would be present in some of the creeks.

The koaro is a category "C" species for conservation actions, and providing no high vertical walls are built in these creeks the species should survive.

### Avi-fauna

The birdlife on Bendigo Station is "typical" of Central Otago with no known unusual species. Falcons can occasionally be observed on the property. Skylarks are common on the tops.

Bendigo Station is one of the premier upland game hunting locations in Central Otago for both Californian quail and chukar. The latter occurs on the Dunstan Tops and the former in the Kanuka shrubland and the Rise and Shine Creek.

### Feral Animals

Bendigo Station lies within the heart of the Rabbit and Land Management Programme area. Rabbits have traditionally been a major problem on the property.

In latter years a reduction in stock numbers has resulted from high rabbit numbers and a control programme in excess of \$0.5 million has been implemented.

A portion of this proposal includes rabbit-prone country in the kanuka belt - 1700 ha out of 6000 ha. The last major poison was in 1989, and the lessee is hoping to do another this year. Since 1989 shooting has been the major control measure. The lessee believes that a good poison operation would now be the most appropriate mechanism to lower the present rabbit population.

## VISUAL AND SCENIC VALUES:

A broad scale landscape appraisal has been carried out for the Dunstan Ranges as part of the assessment of conservation values undertaken for the Pisa Lindis Dunstan Ecological District. This appraisal categorized the Dunstans into six landscape management units. Bendigo Pastoral Lease is covered by three of these units. They include:

- 1 South Dunstan Crest Landscape Management Unit.
- 2 Central Dunstans Landscape Management Unit.
- 3 Cromwell Bendigo Landscape Management Unit.

The units represent areas with broadly homogeneous landscape character which require similar management to retain their character.

Within these units priority areas for landscape protection were identified. For Bendigo Pastoral Lease the following areas were identified:

### 1 South Dunstan Crest Landscape Priority Area

This area includes the South Dunstan Summit Plateau and extends below the crest to approximately the 1200 m contour. For Bendigo it includes all of the RAP A4 and an additional area on the south-west corner of the RAP. The high value placed on the South Dunstan Crest is derived from its natural characteristics - its landforms, rock tors, sequence of contrasting vegetation types, ephemeral characteristics and spectacular views in all directions.

### 2 Bendigo Hills

Bendigo Hills includes all of the distinctive craggy topography and the large area of kanuka vegetation which stands above and contrasts with the generally smooth ridges on the north-west slopes of the Dunstan Mountains. The priority area extends in a band from Bendigo Creek to Devils Creek. This area is a distinctive and important landscape feature in the upper Clutha. The kanuka vegetation makes an important contribution to landscape character and its diversity. It is one of the few remaining significant remnants of this vegetation type in Central Otago. From a landscape perspective it is important that protection is given to the entire area.

### 3 Upper Bendigo Creek (Rise and Shine Creek)

Rise and Shine Creek is a small valley in the upper Bendigo Creek catchment, immediately west of Thomson's Saddle. The valley is enclosed and easily defined by topography. Its landscape character is derived from its smooth rounded landform (with an absence of rock outcrops), its vegetation pattern and cultural history.

Silver tussock forms the dominant vegetation cover and is relatively intact throughout the valley. Speargrass is common on the south faces and on higher ridges. Wetlands occupy the valley floor with a mix of exotic and native species including toetoe.

Remains of early sluice workings line the lower valley. These form part of a network of gold workings in the upper Bendigo Creek.

Poplars, both lombardy and silver, are cultural plantings left from the gold mining era. Rabbit numbers are high throughout the valley.

Despite a degree of degradation evident on drier faces (aggravated by rabbits) this valley contains important landscape values. It represents one of the few remaining areas with relatively intact short tussock from valley floor to ridge top. The historic/cultural overlay contributes to its character and appeal.

### CULTURAL VALUES:

#### (a) Historic

##### 1 Maori Sites

Ritchie, 1980, provided a useful summary of known Maori sites in the Clutha Valley. No sites were recorded on Bendigo, however, it would be logical to assume that the area was extensively used. Thomson's Gorge would also have been a logical route through the Dunstan Mountains. Hamel (1993) indicates that there is a high probability that undiscovered material is preserved in some dry rocky clefts on Bendigo.

##### 2 European History

Bendigo has been researched and written about over many years. The most recent report, titled "The Rich Fields of Bendigo" by Jill Hamel, February 1993, provides a well documented account of the history of Bendigo. While this report is not exhaustive, it provides a comprehensive account of the Bendigo goldfield.

Bendigo Station's history is primarily associated with gold mining, however it is important to note that Bendigo Station once formed part of the giant Morven Hills Station which was established in 1858. Today, field evidence remains in the form of stone cottages, mud brick cottages and stone yards. The latter, near Shepherds Creek, are associated with a stone hut and water races that probably provided water to the hut and yards.

The advent of pastoralism in 1858 slightly pre-dates gold mining at Bendigo, gold miners arrived four years later in 1862. Miners numbered 105 in early 1863 and were alluvial miners concentrating on Bendigo and the Rise and Shine Creeks. Alluvial gold deposits were exhausted by 1866. Today, field evidence reveals tailings in all the creeks, scattered settlements of relic stone mining huts and water races. Bendigo became a name on the map during this period, principally as a shanty town, with a stone pub, built by William Goodall, being the only permanent fixture.

Following the decline in alluvial gold mining, quartz reefs were discovered and the Cromwell Quartz Mining Company was formed. The Solway battery was set up along with water races, water wheels and a dray road from the battery to the reef. This precipitated a second gold rush, which resulted in a further six main reefs being discovered and worked. In total

some 50 claims were staked out involving 214 shareholders. The main reefs were the "Auroa" and "Lucknow", "Alta", "Rise and Shine" and the "Come in Time". All of these reefs had a complex of batteries, drives, shafts, tracks, races and revetments scattered throughout the area. The workings are inter-linked and have a complex and colourful history. Today field evidence still exists in various forms. The "Come in Time" Battery is still largely intact, along with a complex of aerial ropeways, reverted tracks and water races. Elsewhere cottages and drives are hidden by briar and other scrub which covers parts of the property.

The main reserve of Bendigo which is currently under DOC control incorporates many of the earlier workings and townships, however many sites remain outside of this area. This proposal will amalgamate the majority of sites under formal protection.

The mining history of Bendigo spans half a century (1863-1938) and includes alluvial mining, sluicing, quartz mining and dredging. Some of the operations were highly successful, both financially and industrially. In some instances families were involved for several generations.

Bendigo's historic significance revolves around all the features described. The remaining field evidence should be protected as a complex, not as a series of disjointed sites. Protection of the historic evidence to ensure the sites' integrity is important and will allow for better management as visitor numbers to the area increase.

### **RECREATION:**

Currently recreation in Bendigo is centred around the existing Bendigo Reserve (protected private land) and the Dunstan tops. The Bendigo Reserve has been in existence since 1981 and forms part of the Otago Goldfields Park. This reserve encompasses some of the historic relics of the area and has become a major attraction for tourists. Vehicle access and the development of walking tracks and interpretation panels have encouraged public use. This proposal incorporates additional mining sites which may stimulate further public interest in the area.

Potential exists to expand the tracking systems to link mining sites together and form tracks through the kanuka forest. Opening up access into the "Come in Time Battery" and clearing of the reverted road up the Rise and Shine Creek would attract considerable interest.

The Bendigo field has considerable potential for interpretation and tourism. This tenure exchange will allow these sites to be managed as a complex and not just as isolated sites.

Aside from passive viewing or wanderings through the lower Bendigo area, Thomsons Gorge road provides access to the mining sites in the upper Rise and Shine Creek and access on to the tops. Thomson's Gorge road (a legal road) is on an old mining route through to Alexandra and although rough in places and is often not passable during winter months, is being used fairly frequently and could form part of a circular route from Alexandra or Cromwell.

From the saddle legal access is also available on to the tops past Mt Moka, however, there is a gap in the legal paper road to Mt Matariri. Under this tenure change proposal the formation of conservation land will link these paper roads and will allow better access on to the Dunstan tops. Primary use of the tops is by 4WD vehicles, tramping and cross-country skiers. The latter can be unreliable because of the snow shadow that forms over the Dunstan Mountains. Other opportunities, such as mountain biking, will increase in time.

Upland game-bird and rabbit shooting on Bendigo Station for recreation occurs frequently on the property and the game-bird shooting is some of the best in Central Otago.

### **PUBLIC COMMENT:**

The proposal has not yet been advertised for public comment. This will be done with the consent of the Commissioner of Crown Lands. The concept has been discussed with representatives of Forest and Bird, Fish and Game, Public Access NZ and Federated Mountain Clubs. Most feedback has been positive. There was a consensus that if grazing is to remain on the Dunstan tops, there should be provision to exclude stock from the RAP should it be deemed necessary.

Mr Howse representing the Ngai Tahu Trust Board visited the property on August 12, 1993, he will comment when requested by the Commissioner.

### **DETAILED PROPOSAL:**

The Department of Conservation's interest on Bendigo involves four areas:

#### 1 Dunstan Mountains

Encompasses approximately 1920 ha of the Dunstan Tops and is an extension of RAP A4; the broad vegetation communities are similar and require sensitive management. The lower margin of the proposed DOC estate mainly follows existing fencelines as these are considered to form a practical boundary.

Public walking access will be available from the Thomson Gorge Road via a farm track on the legal roadline and via a 4WD track on the southern boundary of Bendigo Station. Once on the tops the public can utilise the area for recreation purposes at all times.

Perpetual grazing rights within the conservation estate will be available under a special lease at a commercial rental. The lease will cater for a conservative level of grazing. There will be a provision for the lowering of stock numbers should results from a monitoring programme indicate that vegetation cover or composition has deteriorated.

Photo One depicts the Upper Castle Block and Photo Two, the Lower Castle Block. These areas are within the proposed DOC special lease.



**Photo One**



**Photo Two**

## 2 Thomsons Gorge

This area of 576 ha will be protected by a conservation covenant under the Reserves Act. The covenant will be designed to maintain the area in its present state. The aim is to protect the landscape of the upper Rise and Shine Creek, the historic gold mining cottages, dams, etc, and the silver tussock grassland. Patch burning of shrubland is considered acceptable, along with OSTD. Mining, forestry and tracking would be excluded from the area.

Photo Three depicts a large part of the area to be protected by the covenant.



**Photo Three**

## 3 Kanuka Shrubland

This area which is proposed for incorporation into the DOC estate comprises the lower altitude kanuka belt on Bendigo and covers approximately 1372 ha. The area includes substantial mining complexes. The topography and vegetation combine to create a unique landscape feature in this dry environment. Early photos show a very depleted landscape around the turn of the century, however since this time the recovery has been remarkable. Once the area is fenced and destocked, this trend will accelerate. Mr Perriam has indicated that he would not be opposed to some DOC interpretation (ie sign posts and information plaques) down either side of the Bendigo-Logan Town road within the area to be freeholded below the kanuka belt.

An area in Bendigo and Clearwater Creeks will also be incorporated into the DOC estate. This area will not be fenced as it is primarily intended to protect and provide public access to several historic mining features. Native vegetation present in these gorges is protected from stock by the steep nature of the terrain.

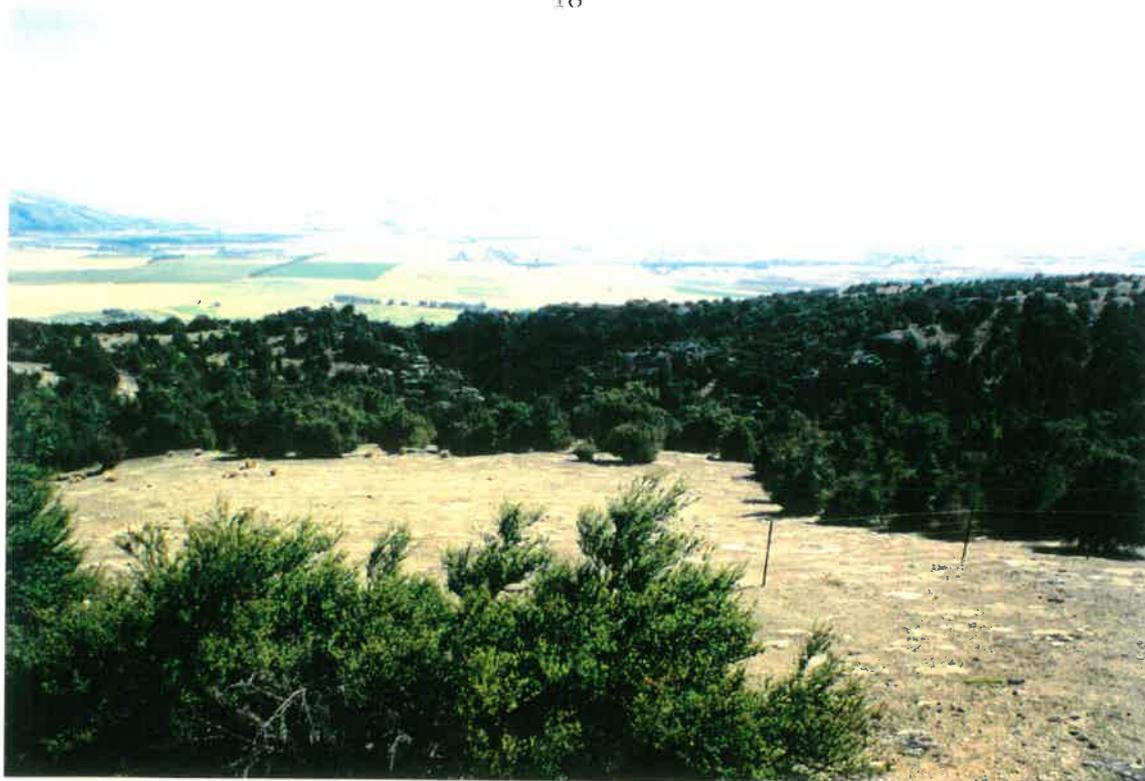
Photo four depicts a large area of the proposed reserve in the background. Photos five and six are taken within the proposed reserve.



**Photo Four**



**Photo Five**



**Photo Six**

4 Kanuka shrubland in the vicinity of Mount Koinga.

This small area (approximately 107 hectares) will be protected by a conservation covenant issued under the Reserves Act (1977). This covenant is intended to protect the character of the area. Any future development will require consultation with DOC who must be satisfied that vegetation disturbance is minimal and that any structures erected are in sympathy with the landscape. An easement will give the public access through this area to the adjoining DOC estate from SH8.

4 Historic Sites

The majority of historic sites on Bendigo will become conservation estate under this proposal. However, outside of these areas a number of important historic sites occur which should be formally protected. It is proposed that an umbrella conservation covenant be drawn up that encompasses all of the remaining historic sites on the property.

## MANAGEMENT CONSIDERATIONS:

Management considerations on Bendigo are extremely complex and will require an ongoing commitment by DOC. This commitment will be directed towards land management issues, historic site conservation and recreation management.

### 1 Rabbits

As outlined earlier, rabbits are a major ongoing problem on Bendigo. All of the historic sites and the kanuka belt lie within the RLMP area. Under this programme the majority of the land has been fenced with rabbit netting and an extensive secondary control programme of shooting has been implemented. This programme has been partially successful. In parts of the kanuka belt area rabbit numbers are low, elsewhere on the property numbers are at a point where a primary poison would drastically reduce numbers and allow secondary control to be more effective.

There is currently some debate as to whether a primary poison is allowable as part of the RLMP. If a poisoning was to be carried out, seedlings in the kanuka belt will have a chance to respond under a virtually nil grazing regime; this could in time make the kanuka belt a less attractive environment for rabbits. If a primary poison occurs and is successful, the ongoing management costs may not be high. It will be important that rabbit fences are maintained in order to be able to effectively control the population within the kanuka belt and to prevent rabbits living outside the fenced area from seeking refuge. Poisoning every few years until the environment becomes less favourable for rabbits will probably be necessary. Alternatively it may be determined that rabbits within the kanuka belt are not causing any harm to conservation values and that it is appropriate to allow rabbit numbers to fluctuate in a natural cycle. This approach would necessitate vigilant fence maintenance.

Costs of a primary poison are in the order of \$36/ha, which equates to \$49,392 over 1372 ha. It is possible that over a decade two poisonings will be necessary; however given that the fenced off kanuka area may be unfavourable for rabbits the period between poisonings may be prolonged. It is possible that over the next decade, advances may be made in terms of cost efficient rabbit control, ie biological control may have been implemented.

Some pockets of rabbits will persist within the area proposed for incorporation into the DOC estate. These will require secondary control methods or the occasional poison.

The current RLMP still has two years to run. An apportionment of this funding will be available for the area of proposed DOC estate within the RLMP boundaries. The remaining caps money is approximately \$60 000 which could be entitled to a 70% subsidy with DOC contributing the remaining 30%. The exact apportionment of costs is difficult to determine and will largely depend on negotiations during this exercise.

## 2 Fencing

Boundaries of the proposed DOC estate largely correspond with existing fences. The Dunstan Tops are fenced into four blocks. A short 1.5 km fence (standard) will be required in the upper true left of the Devils Ck catchment.

The kanuka belt has over the last three years been mostly fenced and rabbit-proofed. In order to separate conservation land, 2 km of fencing (rabbit proof) in the vicinity of Pigeon Creek will be required. Along Clearwater Creek it is not envisaged that fencing will be necessary as the area is being incorporated into the DOC estate primarily for its historic values.

All fencing will be paid for by the lessee and discounted from the cost of freeholding.

## 3 Grazing

The kanuka belt will effectively be destocked under this proposal to allow regeneration of existing vegetation to occur. Some grazing for management purposes may be required in the existing reserve to keep vegetation down around mining sites and to control weeds. The conservation area in Clearwater and Bendigo Creeks will receive some continued grazing as it will not be fenced.

Grazing will be permitted within the DOC estate on the Dunstan Tops. This land will be managed to encourage a change in vegetation composition towards a more natural state. While status quo management may achieve this, some scientific opinion suggests that grazing on areas such as this may not be sustainable. However it is recognised that the area is extremely important to the overall balance of the property and that the vegetation cover has probably improved since the Perriams purchased Bendigo. For these reasons perpetual rights to grazing will be issued subject to results from a vegetation monitoring programme indicating that vegetation composition and cover is being maintained or is improving. The lease will confer only the rights to grazing. Rental will be set on a per stock unit basis (annualized) and will be at a commercial rate. The RAP area may be fenced off from grazing at a later date to exclude stock from this area.

The two blocks in the upper Rise and Shine Creek which will be subject to a conservation covenant will continue to be grazed. The rationale behind this covenant will be to prevent vegetation change through inappropriate management practices.

This area has been OSTD in the past. The existing management regime does not conflict with the covenant as continuing inputs are probably necessary to ensure the vigour of the silver tussock in the area. Judicious patch burning may be required to control woody weeds.

#### 4 Woody Vegetation

Regeneration within the kanuka belt should continue, however, woody weed growth such as briar will also occur. Over much of the proposed DOC estate a woody weed component will be acceptable. However, in key areas this regrowth may restrict public access, cover historic sites or cause damage to the latter. Removal will be required in these key areas, incurring an ongoing cost. This cost will depend on restoration of the historic sites.

The occasional pine tree may also necessitate removal from within the reserve area. Other trees, such as willows and poplars, occur within the area, removal will require close scrutiny as some trees may have historical significance.

#### 5. Historic Sites.

A draft Otago Goldfields Strategy states as its objective for Bendigo - "To optimise the potential for public use and enjoyment of the historic sites at Bendigo". The policy encourages use, safety and tourism. All these can be developed over time and in a programmed manner. Combining the majority of the sites together will allow the full potential for the area to be developed with greater flexibility than the existing reserve would have allowed.

The conservation and restoration of historic sites will be of considerable importance. The "Come in Time Battery" will require public access, interpretation and structural repairs. The latter could become a major cost in the future. Examples such as this exist throughout the area, and while they do not affect the outcome of the proposal, should be noted.

**DISCUSSION:**

This proposal represents a major step towards developing appropriate tenure arrangements in the semi-arid lands region. Major benefits of the proposal are:

- (i) It will ensure the protection of a large area of kanuka shrubland with very high conservation and landscape values. In the long term this area is likely to transform from a favourable to an unfavourable rabbit habitat.
- (ii) An area which is part of New Zealand's cultural heritage will be preserved and made available for all to enjoy.
- (iii) Covenants will protect other historic and conservation values which are located on land inherently suited to freeholding.
- (iv) The establishment of a special lease over the Dunstan tops will ensure that future grazing of the area is at a level which protects existing conservation values. In addition to the ability by the Crown to reduce or halt grazing if monitoring results indicate a deterioration in vegetation condition, a commercial rental will be charged which will serve to encourage conservative use of the area. Public access to the area will be as of right.
- (v) The freeholding of a large part of the property will allow for greater security and for the diversification of landuses. The development of alternative landuses on areas which are highly rabbit prone under pastoralism will represent a major step towards sustainable landuse.
- (vi) While there is a considerable area of class VII land being freeholded, it is believed that it can be justifiably classified as farmland. This land is in the low to mid altitude belt and has been oversown and topdressed in the past. Whilst much of it is depleted, potential restoration will rely on considerable expenditure in the form of rabbit control, AOSTD or investment in alternative land uses such as viticulture. Freehold tenure may encourage investment in land restoration initiatives. Sensitive high altitude Class VII land with high conservation values where investment is neither likely or desirable has been excluded from freeholding.

**DESCRIPTION OF AREA TO BE FREEHOLDED:**

- (a) **Area**                      Approximately 7992 hectares.
- (b) **Aspect**                      Predominantly north to northeast.
- (c) **Altitude**                      200-1262 metres
- (d) **Contour**                      (Estimates)
- Flat to gentle - 24 %  
Moderate        - 53 %  
Steep             - 17 %
- (e) **Area Ploughable**
- (f) **Rainfall**                      410mm (lower area) - approximately 700mm (upper area).
- (g) **Water Supply**                Most blocks have natural water. Ardgour block has bore.
- (h) **Shelter**                      Adequate natural shelter.
- (i) **Reversion**                      Some areas of Kanuka. Briar is abundant on lower slopes and thick in some gullies.
- (j) **Erosion**                      Wind, sheet and gully erosion wide spread on lower property. Middle altitudes predominantly stable.
- (k) **Weeds & Pests**                See reversion. Tussock hawkweed becoming a problem (especially on mid to upper altitude shady aspects). Other weed species are horehound, gorse, wilding conifers, wild thyme, cotton thistle, oriental clematis, hawthorn and broom. Goats common in the upper Devils Creek area. Pigs observed in the West Castle Block. Very serious rabbit problem on the lower country.
- (l) **Landuse Capability**            Approximate Areas.
- |         |         | %   |
|---------|---------|-----|
| Class 2 | 4 ha    | < 1 |
| Class 3 | 79 ha   | 1   |
| Class 4 | 1063 ha | 13  |
| Class 5 | 312 ha  | 4   |
| Class 6 | 3756 ha | 47  |
| Class 7 | 2719 ha | 34  |
| Class 8 | 59 ha   | < 1 |

Photographs seven, eight and nine depict parts of the area to be freeholded. Photo seven is of the Green Valley Block, photo eight is taken near the historic dam keepers hut. Photo nine depicts an area proposed for freeholding in the foreground and part of the proposed DOC special lease in the background.



**Photo Seven**



**Photo Eight**



**Photo Nine**

**RECOMMENDATION:**

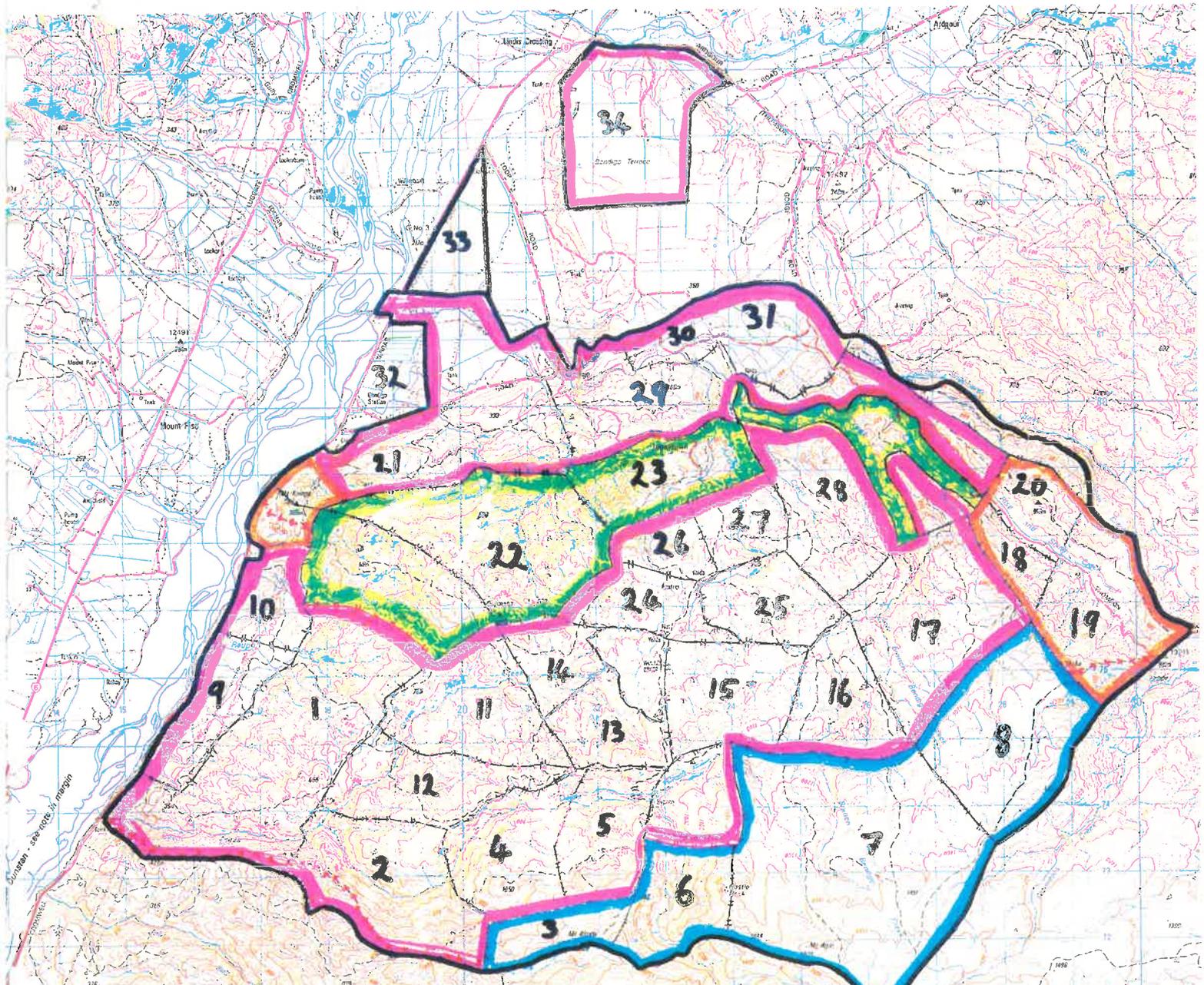
That you approve the proposal being advertised with the following outcomes being recommended.

- 1 That 11284 ha comprising Po221 and Po223 be surrendered by the current lessees.
- 2 That approximately 7992 ha be classified as farmland and be preferentially disposed to the current lessees of Bendigo Station as freehold title under section 51 of the Land Act 1948.
- 3 That approximately 3292 ha be allocated to the Department of Conservation.
- 4 That prior to transfer to DOC a special lease under section 67 of the Land Act 1948 be issued over approximately 1920 hectares known as the Dunstan Tops. This lease will allow for perpetual grazing subject to results from a monitoring programme indicating that vegetation condition is being maintained or is improving. Rental will be set at a commercial level. The lease will be for grazing only. There will be provision for the exclusion of stock from the area known as RAP A4 identified in the Lindis, Pisa and Dunstan Survey Report for the Protected Natural Areas Programme. The public will have right of access to the area. These conditions will be transferred to the Department of Conservation as a commitment.
- 5 That the remaining 1370 ha (approximately) of land being allocated to the Department of Conservation (the kanuka shrubland extending from near Pigeon Creek to Clearwater Creek) have no provisions for future grazing.
- 6 That it is recognized that the Department of Conservation has negotiated a conservation covenant to be issued under section 77 of the Reserves Act 1977 over approximately 576 ha approximately in the upper Rise and Shine Creek area.
- 4 That it is recognized that the Department of Conservation has negotiated a conservation covenant to be issued under section 77 of the Reserves Act 1977 over approximately 107 ha adjoining SH8 and the Burma Road Block. This area incorporates Mt Koinga.
- 5 That it is recognized that the Department of Conservation has negotiated an umbrella conservation covenant to be issued under section 77 of the Reserves Act 1977 which protects all historic sites on the area to be freeholded.
- 6 That easements be registered under section 60 of the Land Act 1948 against the freehold title to cater for walking access into the kanuka belt near Mt Koinga, up the southern (Northburn) boundary of the property, from Thomsons Gorge road into the Clearwater Creek and from Thomsons Gorge road onto the Dunstan tops.
- 7 That a legal agreement give Bendigo Station the right to use some existing tracks through the proposed conservation estate for farm access purposes.

Prepared by:

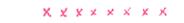
**Rob Wardle  
for Manager, Alexandra  
LANDCORP PROPERTY LIMITED**

**Mike Clare  
for Regional Conservator  
DEPT OF CONSERVATION**



**BENDIGO**

1. Lower Devil's, Six Devils and Burma Devil's (1076ha)	18 Sunny Shine (116 ha)
2. Devil's Ck (495 ha)	19 Upper Shine (260)
3. Sunny Devil's (173 ha)	20 Battery (172 ha)
4. Wong's (265)	21 Chinaman's (332 ha)
5. Syphon (181 ha)	22 Burma Rd (574 ha)
6. Proposed Fence, Castle Rock & West Castle Blocks (354 ha)	23 Reserve (243 ha)
7. Upper Castle Block (1205 ha)	24 Airstrip (164 ha)
8. Moka Block (560 ha)	25 Aurora (272 ha)
9. Devil's Ck Terrace (231 ha)	26 Mines (134 ha)
10. Crippletown Terrace (220 ha)	27 Bucket Gully (142 ha)
11. Lower Green Valley (283 ha)	28 Perry's (760)
12. Stoncyard (324 ha)	29 School Terrace (271 ha)
13. Green Valley (336 ha)	30 Airstrip Plat (142 ha)
14. Deer Park (185 ha)	31 Shine Flat (97) ha
15. Lower Castle (314)	32 Freehold
16. Clearwater 205ha	33 Freehold (142 ha)
17. Alta (520 ha)	34 Ardour Block (430) ha

-  DOC ESTATE
-  SPECIAL LEASE (DOC ESTATE)
-  FREEHOLD
-  FREEHOLD WITH COVENANT
-  PROPOSED FENCE
-  ACCESS EASEMENT